

IBM WebSphere Application Server Network Deployment
for IBM i, Version 8.5

Scripting various types of applications

IBM

Note

Before using this information, be sure to read the general information under “Notices” on page 719.

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Chapter 1. Scripting for data access resources

This page provides a starting point for finding information about data access. Various enterprise information systems (EIS) use different methods for storing data. These backend data stores might be relational databases, procedural transaction programs, or object-oriented databases.

The flexible IBM® WebSphere® Application Server provides several options for accessing an information system backend data store:

- Programming directly to the database through the JDBC 4.0 API, JDBC 3.0 API, or JDBC 2.0 optional package API.
- Programming to the procedural backend transaction through various J2EE Connector Architecture (JCA) 1.0 or 1.5 compliant connectors.
- Programming in the bean-managed persistence (BMP) bean or servlets indirectly accessing the backend store through either the JDBC API or JCA-compliant connectors.
- Using container-managed persistence (CMP) beans.
- Using the IBM data access beans, which also use the JDBC API, but give you a rich set of features and function that hide much of the complexity associated with accessing relational databases.

Service Data Objects (SDO) simplify the programmer experience with a universal abstraction for messages and data, whether the programmer thinks of data in terms of XML documents or Java objects. For programmers, SDOs eliminate the complexity of the underlying data access technology such as, JDBC, RMI/IIOP, JAX-RPC, and JMS, and message transport technology such as, `java.io.Serializable`, DOM Objects, SOAP, and JMS.

Configuring data access with wsadmin scripting

Use these topics to learn about using wsadmin scripting to configure data access.

About this task

This topic contains the following tasks:

Procedure

- “Configuring a JDBC provider using wsadmin” on page 2
- “Configuring new data sources using wsadmin” on page 3
- “Configuring new connection pools using wsadmin” on page 5
- “Changing connection pool settings with the wsadmin tool” on page 5
- “Configuring new data source custom properties using wsadmin” on page 10
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- “Testing data source connections using wsadmin scripting” on page 25

Configuring a JDBC provider using wsadmin

You can configure a JDBC provider using the wsadmin scripting tool.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic “Starting the wsadmin scripting client” for more information.

Procedure

1. There are two ways to perform this task. Perform one of the following:

- Using the AdminTask object:

- Using Jacl:

```
$AdminTask createJDBCProvider {-interactive}
```

- Using Jython:

```
AdminTask.createJDBCProvider (['-interactive'])
```

- Using the AdminConfig object:

- a. Identify the parent ID and assign it to the node variable. The following example uses the node configuration object as the parent. You can modify this example to use the cell, cluster, server, or application configuration object as the parent.

- Using Jacl:

```
set node [$AdminConfig getid /Cell:mycell/Node:mynode/]
```

- Using Jython:

```
node = AdminConfig.getid('/Cell:mycell/Node:mynode/')  
print node
```

Example output:

```
mynode(cells/mycell/nodes/mynode|node.xml#Node_1)
```

- b. Identify the required attributes:

Fast path: For supported JDBC drivers, you can also script JDBC providers according to the same pre-configured templates that are used by the administrative console logic. Consult the article [Creating configuration objects using the wsadmin tool](#) for details.

- Using Jacl:

```
$AdminConfig required JDBCProvider
```

- Using Jython:

```
print AdminConfig.required('JDBCProvider')
```

Example output:

```
Attribute      Type  
name           String  
implementationClassName  String
```

- c. Set up the required attributes and assign it to the jdbcAttrs variable. You can modify the following example to setup non-required attributes for JDBC provider.

- Using Jacl:

```
set n1 [list name JDBC1]  
set implCN [list implementationClassName myclass]  
set jdbcAttrs [list $n1 $implCN]
```

Example output:

```
{name {JDBC1}} {implementationClassName {myclass}}
```

- Using Jython:

```
n1 = ['name', 'JDBC1']
implCN = ['implementationClassName', 'myclass']
jdbcAttrs = [n1, implCN]
print jdbcAttrs
```

Example output:

```
[[ 'name', 'JDBC1'], [ 'implementationClassName', 'myclass']]
```

d. Create a new JDBC provider using node as the parent:

– Using Jacl:

```
$AdminConfig create JDBCProvider $node $jdbcAttrs
```

– Using Jython:

```
AdminConfig.create('JDBCProvider', node, jdbcAttrs)
```

Example output:

```
JDBC1(cells/mycell/nodes/mynode|resources.xml#JDBCProvider_1)
```

2. Save the configuration changes. See the topic [Saving configuration changes with the wsadmin tool](#) for more information.
3. In a network deployment environment only, synchronize the node. See the topic [Synchronizing nodes with the wsadmin tool](#) for more information.

What to do next

If you modify the class path or native library path of a JDBC provider: After saving your changes (and synchronizing the node in a network deployment environment), you must restart every application server within the scope of that JDBC provider for the new configuration to work. Otherwise, you receive a data source failure message.

Configuring new data sources using wsadmin

You can configure new data sources using the wsadmin scripting tool.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic [Starting the wsadmin scripting client](#) for more information.

In WebSphere Application Server, any JDBC driver properties that are required by your database vendor must be set as data source properties. Consult the article [Data source minimum required settings](#), by vendor/Vendor-specific data sources minimum required settings in the *Troubleshooting and support* PDF to see a list of these properties and setting options, ordered by JDBC provider type. Consult your database vendor documentation to learn about available optional data source properties. Script them as *custom properties* after you create the data source. In the Related links section of this article, click the “Configuring new data source custom properties using scripting” link for more information.

About this task

There are two ways to perform this task; use either of the following wsadmin scripting objects:

- AdminTask object
- AdminConfig object

AdminConfig gives you more configuration control than the AdminTask object. When you create a data source using AdminTask, you supply universally required properties only, such as a JNDI name for the data source. (Consult the article [JDBCProviderManagement](#) command group for the AdminTask object for more information.) Other properties that are required by your JDBC driver are assigned default values by Application Server. You cannot use AdminTask commands to set or edit these properties; you must use AdminConfig commands.

Procedure

- Using the AdminConfig object to configure a new data source:
 1. Identify the parent ID, which is the name and location of the JDBC provider that supports your data source.

- Using Jacl:

```
set newjdbc [$AdminConfig getid /Cell:mycell/Node:mynode/JDBCProvider:JDBC1/]
```

- Using Jython:

```
newjdbc = AdminConfig.getid('/Cell:mycell/Node:mynode/JDBCProvider:JDBC1/')  
print newjdbc
```

Example output:

```
JDBC1(cells/mycell/nodes/mynode|resources.xml#JDBCProvider_1)
```

2. Obtain the required attributes.

Fast path: For supported JDBC drivers, you can also script data sources according to the same pre-configured templates that are used by the administrative console logic. For more information, see the topic [Creating configuration objects using the wsadmin scripting tool](#).

- Using Jacl:

```
$AdminConfig required DataSource
```

- Using Jython:

```
print AdminConfig.required('DataSource')
```

Example output:

```
Attribute Type  
name String
```

Tip: If the database vendor-required properties (which are referenced in the topic [Data source minimum required settings, by vendor](#)) are not displayed in the resulting list of required attributes, script these properties as data source custom properties after you create the data source.

3. Set up the required attributes.

- Using Jacl:

```
set name [list name DS1]  
set dsAttrs [list $name]
```

- Using Jython:

```
name = ['name', 'DS1']  
dsAttrs = [name]
```

4. Create the data source.

- Using Jacl:

```
set newds [$AdminConfig create DataSource $newjdbc $dsAttrs]
```

- Using Jython:

```
newds = AdminConfig.create('DataSource', newjdbc, dsAttrs)  
print newds
```

Example output:

```
DS1(cells/mycell/nodes/mynode|resources.xml#DataSource_1)
```

- Using the AdminTask object to configure a new data source:

- Using Jacl:

```
$AdminTask createDatasource {-interactive}
```

- Using Jython:

```
AdminTask.createDatasource (['-interactive'])
```

- Save the configuration changes. See the topic [Saving configuration changes with the wsadmin tool](#) for more information.
- In a network deployment environment only, synchronize the node. For more information, see the topic [Synchronizing nodes with the wsadmin tool](#).

What to do next

To set additional properties that are supported by your JDBC driver, script them as data source custom properties.

Configuring new connection pools using wsadmin

You can use wsadmin scripting tool to configure new connection pools.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic [Starting the wsadmin scripting client](#) article for more information.

About this task

Perform the following steps:

Procedure

1. Identify the parent ID:

- Using Jacl:

```
set newds [$AdminConfig getid /Cell:mycell/Node:mynode/JDBCProvider:JDBC1/DataSource:DS1/]
```

- Using Jython:

```
newds = AdminConfig.getid('/Cell:mycell/Node:mynode/JDBCProvider:JDBC1/DataSource:DS1/')

```

Example output:

```
DS1(cells/mycell/nodes/mynode|resources.xml$DataSource_1)
```

2. Creating connection pool:

- Using Jacl:

```
$AdminConfig create ConnectionPool $newds {}
```

- Using Jython:

```
print AdminConfig.create('ConnectionPool', newds, [])
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#ConnectionPool_1)
```

3. Save the configuration changes. See the topic [Saving configuration changes with the wsadmin tool](#) for more information.
4. In a network deployment environment only, synchronize the node. See the topic [Synchronizing nodes with the wsadmin tool](#) for more information.

Changing connection pool settings with the wsadmin tool

You can use the wsadmin scripting tool to change connection pool settings.

About this task

The wsadmin tool runs scripts. You can use the wsadmin tool to manage a WebSphere Application Server installation and configuration, application deployment, and server runtime operations. The product supports the Jacl and Jython scripting languages. To learn more about the wsadmin tool see the topic [Starting the wsadmin scripting client](#).

To use the wsadmin tool to change connection pool settings:

Procedure

1. Launch a scripting command. There are several options for you to run scripting commands, ranging from running them interactively to running them in a profile.

To change connection pool settings, you use the **getAttribute** and **setAttribute** commands, run against the various settings objects.

For example, to change the connection timeout setting, the commands are:

```
$AdminControl getAttribute $objectname connectionTimeout  
$AdminControl setAttribute $objectname connectionTimeout 200
```

where:

- \$ is a Jacl operator for substituting a variable name with its value
 - **getAttribute** and **setAttribute** are the commands
 - connectionTimeout is the object whose value you are resetting
2. For Jacl code examples of each of the connection pool settings, see the topic Example: Changing connection pool settings with the wsadmin tool.

Example: Changing connection pool settings with the wsadmin tool.

Using the wsadmin AdminControl object, you can script changes to connection pool settings.

The wsadmin tool runs scripts in the Jacl and Jython languages only. You must start the wsadmin scripting client to perform any scripting task. For more information, see the topic Starting the wsadmin scripting client.

For more information about the AdminControl scripting object, see the topic Using the AdminControl object for scripted administration.

The Connection timeout can be changed at any time while the pool is active. When you change the connection timeout value, the connection timeout for all connection requests that are waiting is changed to the new value minus the time that connection has already waited, and requests are returned to the wait state if there are no available connections.

For example, if the connection timeout is changed to 300 seconds and a connection request has waited 100 seconds, the connection request waits for 200 more seconds if no connection becomes available.

```
$AdminControl getAttribute $objectname connectionTimeout  
$AdminControl setAttribute $objectname connectionTimeout 200
```

For more information about this setting, see the topic Connection pool settings. The Connection pool settings topic is in the *Administering applications and their environment* PDF.

The maximum connections can be changed at any time except in the case where stuck connection support is active.

If stuck connection support is active, an attempt to change the maximum connections is made. If the attempt fails, an `IllegalStateException` occurs. See the topic Connection pool advanced settings for more information.

If stuck connection support is not active, the maximum connections are changed to the new value. If the new value is greater than the current value, the number of connections increases to the new value and any requests waiting are notified. If the new value is less than the current value and Aged Timeout or Reap Time is used, the number of connections decreases to the new value depending on pool activity. If agedTimeout or Reap Time are not used, no automatic attempt made to reduce the total number of connections. To manually reduce the number of connections to the new maximum connections, use the Mbean function `purgePoolContents`.


```
$AdminControl getAttribute $objectname maxConnections  
$AdminControl setAttribute $objectname maxConnections 200
```

For more information about this setting, see the topic [Connection pool settings](#).

The minimum connections can be changed at any time.

```
$AdminControl getAttribute $objectname minConnections  
$AdminControl setAttribute $objectname minConnections 200
```

For more information about this setting, see the topic [Connection pool settings](#).

The reap time can be changed at any time. The reap time interval is changed to the new value at the next interval.

```
$AdminControl getAttribute $objectname reapTime  
$AdminControl setAttribute $objectname reapTime 30
```

Unused Timeout

The unused timeout can be changed at any time.

```
$AdminControl getAttribute $objectname unusedTimeout  
$AdminControl setAttribute $objectname unusedTimeout 900
```

For more information about this setting, see the topic [Connection pool settings](#).

The Aged Timeout can be changed at any time.

```
$AdminControl getAttribute $objectname agedTimeout  
$AdminControl setAttribute $objectname agedTimeout 900
```

For more information about this setting, see the topic [Connection pool settings](#).

The purge policy can be changed at any time.

```
$AdminControl getAttribute $objectname purgePolicy  
$AdminControl setAttribute $objectname purgePolicy "Failing Connection Only"
```

For more information about this setting, see the topic [Connection pool settings](#).

Surge connection support starts if `surgeThreshold` is > -1 and `surgeCreationInterval` is > 0 . The surge protection properties can be changed at any time.

```
$AdminControl getAttribute $objectname surgeCreationInterval  
$AdminControl setAttribute $objectname surgeCreationInterval 30  
$AdminControl getAttribute $objectname surgeThreshold  
$AdminControl setAttribute $objectname surgeThreshold 15
```

For more information about this setting, see the topic [Connection pool settings](#).

An attempt is made to change the `stuckTime`, `stuckTimerTime` or `stuckThreshold` properties. If the attempt fails, an `IllegalStateException` occurs. The pool cannot have any active requests or active connections during this request. For the stuck connection support to start, all three stuck property values must be greater than 0, and the maximum connections value must be > 0 .

If the connection pool is stuck, you cannot change the stuck or the maximum connection properties. If you are stuck, there are active connections.

```
$AdminControl getAttribute $objectname stuckTime  
$AdminControl setAttribute $objectname stuckTime 30  
$AdminControl getAttribute $objectname stuckTimerTime  
$AdminControl setAttribute $objectname stuckTimerTime 15  
$AdminControl getAttribute $objectname stuckThreshold  
$AdminControl setAttribute $objectname stuckThreshold 10
```

For more information about this setting, see the topic [Connection pool advanced settings](#).

The test connection support starts when the `testConnection` property is set to true, and the interval is > 0 . The test connection properties can be changed at any time.

```
$AdminControl getAttribute $objectname testConnection
$AdminControl setAttribute $objectname testConnection 30
$AdminControl getAttribute $objectname testConnectionInterval
$AdminControl setAttribute $objectname testConnectionInterval 15
```

For more information about this setting, see the topic [Test connection service](#).

```
$AdminControl invoke $objectname freePoolDistributionTableSize
$AdminControl invoke $objectname numberOfFreePoolPartitions
$AdminControl invoke $objectname numberOfSharedPoolPartitions
$AdminControl invoke $objectname gatherPoolStatisticalData
$AdminControl invoke $objectname enablePoolStatisticalData
```

For more information about this setting, see the topic [Connection pool settings](#).

The show pool operations can be changed at any time.

```
$AdminControl invoke $objectname showAllPoolContents
$AdminControl invoke $objectname showPoolContents
$AdminControl invoke $objectname showAllocationHandleList
```

`PurgePool` can be changed at any time.

```
$AdminControl invoke $objectname purgePoolContents normal
$AdminControl invoke $objectname purgePoolContents immediate
```

For both data sources and connection factories, if the normal option is selected, the purged pool behaves as follows after the purge call:

- Existing in-flight transactions continue to work.
- Shared connection requests are honored.
- Free connections are cleaned up and destroyed.
- In-use connections (connections in transactions) are cleaned up and destroyed when returned to the connection pool.
- `close()` calls issued on any connections obtained prior to the `purgePoolContents` call are done synchronously (they wait for the jdbc driver to return before proceeding).
- Requests for new connections (not handles to existing old connections) are honored.

For data sources based on the built-in WebSphere relational resource adapter, if the immediate option is selected, the purged pool behaves as follows after the purge call:

- No new transactions are allowed to start on any connections obtained prior to the `purgePoolContents` call. Instead, a `StaleConnectionException` is thrown.
- No new handles are allowed to be handed out on any connections obtained prior to the `purgePoolContents` call. Instead, a `StaleConnectionException` is thrown.
- Existing in-flight transactions continue to work, but any new activities on the purged connection cause a `StaleConnectionException` or an `XAER_FAIL` exception.
- `close()` calls issued on any connections obtained prior to the `purgePoolContents()` call are done asynchronously (no wait time).
- Requests for new connections (not handles to existing old connections) are honored.
- The number of connections are decremented immediately. This might cause the total number of connections in the application server to be temporarily out of sync with the total number of connections in the database.

For data sources not based on the built-in WebSphere relational resource adapter and all connection factories, if the immediate option is selected, the purged pool behaves as follows after the purge call:

- close() calls issued on any connections obtained prior to the purgePoolContents() call are done asynchronously (no wait time)
- Requests for new connections (not handles to existing old connections) are honored.
- The number of connections are decremented immediately. This might cause the total number of connections in the application server to be temporarily out of sync with the total number of connections in the backend resource.

Pause and resume can be changed at any time.

```
$AdminControl invoke $objectname pause
$AdminControl invoke $objectname resume
```

Wsadmin commands are used to access connection factory and data source MBeans. MBeans can retrieve or update properties for a connection factory or data source.

To get a list of J2C connection factory or data source Mbean object names, from the wsadmin command-line use one of the following administrative control commands:

```
$AdminControl queryNames *:type=J2CConnectionFactory,*
$AdminControl queryNames *:type=DataSource,*
```

Example output from DataSource query:

```
wsadmin>$AdminControl queryNames *:type=DataSource,*
"WebSphere:name=Default Datasource,process=server1,platform=dynamicproxy,node=
system1Node01,JDBCProvider=Derby JDBC Provider,j2eeType=JDBCDataSource,J2EESe
rver=server1,Server=server1,version=6.0.0.0,type=DataSource,mbeanIdentifier=cell
s/system1Node01Cell/nodes/system1Node01/servers/server1/resources.xml#DataSource
_1094760149902,JDBCResource=Derby JDBC Provider,cell=system1Node01Cell"
```

By using the J2C connection factory or data source MBean object name, you can access the MBean. The name follows the webSphere:name= expression. In the following example, for the first set, the default data source name is set on variable name. For the second set, the object name is set on variable objectName.

Example using the Default DataSource:

```
- wsadmin>set name [list Default Datasource]
```

```
Default Datasource
```

```
- wsadmin>set objectName [$AdminControl queryNames *:name=$name,*]
```

```
"WebSphere:name=Default Datasource,process=server1,platform=dynamicproxy,node=
system1Node01,JDBCProvider=Derby JDBC Provider,j2eeType=JDBCDataSource,J2EESe
rver=server1,Server=server1,version=6.0.0.0,type=DataSource,mbeanIdentifier=cell
s/system1Node01Cell/nodes/system1Node01/servers/server1/resources.xml#DataSource
_1094760149902,JDBCResource=Derby JDBC Provider,cell=system1Node01Cell"
```

Now you can use the objectName for getting help on attributes and operations available for this Mbean.

```
$Help attributes $objectName
$Help operations $objectName
```

To get or set an attribute or to use an operation, use one of the following commands:

```
$AdminControl getAttribute $objectName "attribute name"
$AdminControl setAttribute $objectName "attribute name" value
$AdminControl invoke $objectName "operation"
```

Attribute, operation examples:

Get and set an attribute maxConnections. If you get no value, a null value, or a java.lang.IllegalStateException, the connection factory or data source for this MBean has not been created. The connection factory or data source is created at first JNDI lookup. For this example, the Default DataSource must be used before get, set and invoke will work.

```

wsadmin>$AdminControl getAttribute $ObjectName maxConnections
10

wsadmin>$AdminControl setAttribute $ObjectName maxConnections 20

wsadmin>$AdminControl getAttribute $ObjectName maxConnections
20

Using invoke

wsadmin>$AdminControl invoke $ObjectName showPoolContents

PoolManager name:DefaultDatasource
PoolManager object:746354514
Total number of connections: 3 (max/min 20/1, reap/unused/aged 180/1800/0,
connectiontimeout/purge 1800/EntirePool)
(testConnection/inteval false/0, stuck timer/time
/threshold 0/0/0, surge time/connections 0/-1)
Shared Connection information (shared partitions 200)
  No shared connections

Free Connection information (free distribution table/partitions 5/1)
(2)(0)MCWrapper id 5c6af75b Managed connection WSRdbManagedConnectionImpl@4b5
a775b State:STATE_ACTIVE_FREE
(2)(0)MCWrapper id 3394375a Managed connection WSRdbManagedConnectionImpl@328
5f75a State:STATE_ACTIVE_FREE
(2)(0)MCWrapper id 4795b75a Managed connection WSRdbManagedConnectionImpl@46a
4b75a State:STATE_ACTIVE_FREE

Total number of connections in free pool: 3
UnShared Connection information
  No unshared connections

```

Configuring new data source custom properties using wsadmin

You can configure new data source custom properties using the wsadmin tool scripting tool.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure a new data source custom property:

Procedure

1. Identify the parent ID:

- Using Jacl:


```
set newds [$AdminConfig getid /Cell:mycell/Node:mynode/JDBCProvider:JDBC1/DataSource:DS1/]
```
- Using Jython:


```
newds = AdminConfig.getid('/Cell:mycell/Node:mynode/JDBCProvider:JDBC1/DataSource:DS1/')
print newds
```

Example output:

```
DS1(cells/mycell/nodes/mynode|resources.xml$DataSource_1)
```

2. Get the J2EE resource property set:

- Using Jacl:


```
set propSet [$AdminConfig showAttribute $newds propertySet]
```
- Using Jython:

```
propSet = AdminConfig.showAttribute(newds, 'propertySet')
print propSet
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#J2EEResourcePropertySet_8)
```

3. Get required attribute:

- Using Jacl:
\$AdminConfig required J2EEResourceProperty
- Using Jython:
print AdminConfig.required('J2EEResourceProperty')

Example output:

Attribute name	Type
	String

4. Set up attributes:

- Using Jacl:
set name [list name RP4]
set rpAttrs [list \$name]
- Using Jython:
name = ['name', 'RP4']
rpAttrs = [name]

5. Create a J2EE resource property:

- Using Jacl:
\$AdminConfig create J2EEResourceProperty \$propSet \$rpAttrs
- Using Jython:
print AdminConfig.create('J2EEResourceProperty', propSet, rpAttrs)

Example output:

```
RP4(cells/mycell/nodes/mynode|resources.xml#J2EEResourceProperty_8)
```

6. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.
7. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new Java 2 Connector authentication data entries using wsadmin

You can configure new Java 2 Connector (J2C) authentication data entries with the wsadmin scripting tool.

Before you begin

Before starting this task, the wsadmin tool must be running. Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure a new J2C authentication data entry:

Procedure

1. Identify the parent ID:
 - Using Jacl:
set security [\$AdminConfig getid /Cell:mycell/Security:/]
 - Using Jython:

```
security = AdminConfig.getid('/Cell:mycell/Security:/')
print security
```

Example output:

```
(cells/mycell|security.xml#Security_1)
```

2. Get required attributes:

- Using Jacl:

```
$AdminConfig required JAASAuthData
```

- Using Jython:

```
print AdminConfig.required('JAASAuthData')
```

Example output:

Attribute	Type
alias	String
userId	String
password	String

3. Set up required attributes:

- Using Jacl:

```
set alias [list alias myAlias]
set userid [list userId myid]
set password [list password secret]
set jaasAttrs [list $alias $userid $password]
```

Example output:

```
{alias myAlias} {userId myid} {password secret}
```

- Using Jython:

```
alias = ['alias', 'myAlias']
userid = ['userId', 'myid']
password = ['password', 'secret']
jaasAttrs = [alias, userid, password]
print jaasAttrs
```

Example output:

```
[['alias', 'myAlias'], ['userId', 'myid'], ['password', 'secret']]
```

4. Create JAAS auth data:

- Using Jacl:

```
$AdminConfig create JAASAuthData $security $jaasAttrs
```

- Using Jython:

```
print AdminConfig.create('JAASAuthData', security, jaasAttrs)
```

Example output:

```
(cells/mycell|security.xml#JAASAuthData_2)
```

5. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.

6. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new WAS40 data sources using wsadmin scripting

Use scripting to configure a new WAS40 data source.

Before you begin

Before starting this task, the wsadmin tool must be running. See the “Starting the wsadmin scripting client using wsadmin scripting” on page 563 article for more information.

About this task

Perform the following steps:

Procedure

1. Identify the parent ID:

- Using Jacl:

```
set newjdbc [$AdminConfig getid "/JDBCProvider:Apache Derby JDBC Provider/"]
```

- Using Jython:

```
newjdbc = AdminConfig.getid('/JDBCProvider:Apache Derby JDBC Provider/')  
print newjdbc
```

Example output:

```
JDBC1(cells/mycell/nodes/mynode|resources.xml$JDBCProvider_1)
```

2. Get required attributes:

- Using Jacl:

```
$AdminConfig required WAS40DataSource
```

- Using Jython:

```
print AdminConfig.required('WAS40DataSource')
```

Example output:

```
Attribute  Type  
name      String
```

3. Set up required attributes:

- Using Jacl:

```
set name [list name was4DS1]  
set ds4Attrs [list $name]
```

- Using Jython:

```
name = ['name', 'was4DS1']  
ds4Attrs = [name]
```

4. Create WAS40DataSource:

- Using Jacl:

```
set new40ds [$AdminConfig create WAS40DataSource $newjdbc $ds4Attrs]
```

- Using Jython:

```
new40ds = AdminConfig.create('WAS40DataSource', newjdbc, ds4Attrs)  
print new40ds
```

Example output:

```
was4DS1(cells/mycell/nodes/mynode|resources.xml#WAS40DataSource_1)
```

5. Save the configuration changes.

6. In a network deployment environment only, synchronize the node.

Configuring new WAS40 connection pools using wsadmin scripting

You can use scripting to configure a new WAS40 connection pool.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic on starting the wsadmin tool for more information.

About this task

Perform the following steps to configure a new WAS40 connection pool:

Procedure

1. Identify the parent ID:

- Using Jacl:

```
set new40ds [$AdminConfig getid /Cell:mycell/Node:mynode/  
Server:server1/JDBCProvider:JDBC1/WAS40DataSource:was4DS1/]
```

- Using Jython:

```
new40ds = AdminConfig.getid('/Cell:mycell/Node:mynode/  
Server:server1/JDBCProvider:JDBC1/WAS40DataSource:was4DS1/')  
print new40ds
```

Example output:

```
was4DS1(cells/mycell/nodes/mynodes:resources.xml$WAS40DataSource_1)
```

2. Get required attributes:

- Using Jacl:

```
$AdminConfig required WAS40ConnectionPool
```

- Using Jython:

```
print AdminConfig.required('WAS40ConnectionPool')
```

Example output:

Attribute	Type
minimumPoolSize	Integer
maximumPoolSize	Integer
connectionTimeout	Integer
idleTimeout	Integer
orphanTimeout	Integer
statementCacheSize	Integer

3. Set up required attributes:

- Using Jacl:

```
set mps [list minimumPoolSize 5]  
set minps [list minimumPoolSize 5]  
set maxps [list maximumPoolSize 30]  
set conn [list connectionTimeout 10]  
set idle [list idleTimeout 5]  
set orphan [list orphanTimeout 5]  
set scs [list statementCacheSize 5]  
set 40cpAttrs [list $minps $maxps $conn $idle $orphan $scs]
```

Example output:

```
{minimumPoolSize 5} {maximumPoolSize 30}  
{connectionTimeout 10} {idleTimeout 5}  
{orphanTimeout 5} {statementCacheSize 5}
```

- Using Jython:

```
minps = ['minimumPoolSize', 5]  
maxps = ['maximumPoolSize', 30]  
conn = ['connectionTimeout', 10]  
idle = ['idleTimeout', 5]  
orphan = ['orphanTimeout', 5]  
scs = ['statementCacheSize', 5]  
cpAttrs = [minps, maxps, conn, idle, orphan, scs]  
print cpAttrs
```

Example output:

```
[[minimumPoolSize, 5], [maximumPoolSize, 30],  
[connectionTimeout, 10], [idleTimeout, 5],  
[orphanTimeout, 5], [statementCacheSize, 5]]
```

4. Create was40 connection pool:

- Using Jacl:

```
$AdminConfig create WAS40ConnectionPool $new40ds $40cpAttrs
```

- Using Jython:

```
print AdminConfig.create('WAS40ConnectionPool', new40ds, 40cpAttrs)
```

Example output:

```
(cells/mycell/nodes/mynode:resources.xml#WAS40ConnectionPool_1)
```


5. Save the configuration changes.
6. In a network deployment environment only, synchronize the node.

Configuring custom properties for a Version 4.0 data source using wsadmin scripting

You can use scripting and the wsadmin tool to configure custom properties for a Version 4.0 data source.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic about starting the wsadmin tool.

About this task

Complete the steps in this topic to configure custom properties for a Version 4.0 data source.

Procedure

1. Identify the parent ID.

- Using Jacl:

```
set new40ds [$AdminConfig getid /Cell:mycell/Node:mynode/
JDBCProvider:JDBC1/WAS40DataSource:was4DS1/]
```

- Using Jython:

```
new40ds = AdminConfig.getid('/Cell:mycell/Node:mynode/
JDBCProvider:JDBC1/WAS40DataSource:was4DS1/')
print new40ds
```

Example output:

```
was4DS1(cells/mycell/nodes/mynodes|resources.xml$WAS40DataSource_1)
```

2. Get required attributes.

- Using Jacl:

```
set propSet [$AdminConfig showAttribute $new40ds propertySet]
```

- Using Jython:

```
propSet = AdminConfig.showAttribute(new40ds, 'propertySet')
print propSet
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#J2EEResourcePropertySet_9)
```

3. Optional: Set up attributes for the server name and port number.

Attention: This step describes optional attributes that might be required by your J2EE Resource Property. Other attributes might be required.

- Using Jacl to set up the server name:

```
set name [list name "serverName"]
set value [list value db2was.austin.ibm.com]
set rpAttrs1 [list $name $value]
```

- Using Jython to set up the server name:

```
name = ['name', 'serverName']
rpAttrs1 = [name]
```

- Using Jacl to set up the port number:

```
set name [list name "portNumber"]
set value [list value 50000]
set rpAttrs2 [list $name $value]
```

- Using Jython to set up the port number:

```
name = ['name', 'portNumber']
rpAttrs2 = [name]
```

4. Create a J2EE Resource Property.

- Using Jacl:

```
$AdminConfig create J2EEResourceProperty $propSet $rpAttrs1
$AdminConfig create J2EEResourceProperty $propSet $rpAttrs2
```

- Using Jython:

```
print AdminConfig.create('J2EEResourceProperty', propSet, rpAttrs1)
print AdminConfig.create('J2EEResourceProperty', propSet, rpAttrs2)
```

Example output:

```
serverName(cells/cell_name|resources.xml#J2EEResourceProperty_1236708692906)
serverName(cells/cell_name|resources.xml#J2EEResourceProperty_1236708728281)
```

5. Save the configuration changes.
6. Synchronize the node.

Configuring new J2C resource adapters using wsadmin scripting

Use the wsadmin scripting tool to configure Java 2 Connector resource adapters with Resource Adapter Archive (RAR) files. A RAR file provides the classes and other code to support a resource adapter for access to a specific enterprise information system (EIS), such as the Customer Information Control System (CICS®). Configure resource adapters for an EIS only after you install the appropriate RAR file.

Before you begin

A RAR file, which is often called a Java Connector Architecture (JCA) connector, must comply with the JCA 1.5 and 1.6 Specification. For resource adapters to support JCA Version 1.6, there is added support for Java annotations in RAR modules. For more information on annotation support and metadata, see the topic, JCA 1.6 support for annotations in RAR modules.

Meet these requirements by using a supported assembly tool (as described in the Assembly tools article) to assemble a collection of Java archive (JAR) files, other runnable components, utility classes, and so on, into a deployable RAR file. Then you are ready to install your RAR file in Application Server.

There are two ways to complete this task. This topic uses the AdminConfig object to install resource adapters. Alternatively, you can use the installJ2CResourceAdapter script in the AdminJ2C script library to install a J2C resource adapter in your configuration, as the following example demonstrates:

```
AdminJ2C.installJ2CResourceAdapter("myNode", "C:\temp\jca15cmd.rar", "J2CTest")
```

The scripting library provides a set of procedures to automate the most common administration functions. You can run each script procedure individually, or combine several procedures to quickly develop new scripts.

Procedure

1. Launch the wsadmin script. See the topic Starting the wsadmin scripting client article for more information.
2. Identify the configuration ID of the node to which the resource adapter is installed, as the following examples demonstrate:

- Using Jacl:

```
set node [$AdminConfig getid /Cell:mycell/Node:mynode/]
```

- Using Jython:

```
node = AdminConfig.getid('/Cell:mycell/Node:mynode/')
print node
```

Example output:

```
mynode(cells/mycell/nodes/mynode|node.xml#Node_1)
```

3. Identify the optional attributes.

The J2CResourceAdapter object does not require specific arguments. Use the following command to display the optional attributes for the J2CResourceAdapter object:

- Using Jacl:

```
$AdminConfig defaults J2CResourceAdapter
```

- Using Jython:

```
print AdminConfig.defaults('J2CResourceAdapter')
```

The following displays the command output that displays each optional attribute and the data type for the attribute, and denotes the default attributes:

Attribute	Type	Default
name	String	
description	String	
classpath	String	
nativepath	String	
providerType	String	
isolatedClassLoader	boolean	false
archivePath	String	
threadPoolAlias	String	Default
singleton	boolean	false
hACapability	ENUM	RA_NO_HA
isEnableHASupport	boolean	false
propertySet	J2EEResourcePropertySet	
jaasLoginConfiguration	JAASConfigurationEntry	
deploymentDescriptor	Connector	
connectionDefTemplateProps	ConnectionDefTemplateProps	
activationSpecTemplateProps	ActivationSpecTemplateProps	
j2cAdminObjects	J2CAdminObject	
adminObjectTemplateProps	AdminObjectTemplateProps	
j2cActivationSpec	J2CActivationSpec	
properties	Property	

4. Set up the attributes of interest.

Determine the attributes to configure for the J2C resource adapter. In the following examples, the commands set the RAR file path to the `rarFile` variable and the name and description configuration options to the option variable:

- Using Jacl:



```
set rarFile /currentScript/cicseci.rar
set option {-rar.name RAR1 -rar.desc "New resource adapter"}
```

- Using Jython:

5. Create a resource adapter.

Use the `installResourceAdapter` command for the `AdminConfig` object to install the resource adapter with the previously set configuration options, as the following examples demonstrate:

- Using Jacl:

```
$AdminConfig installResourceAdapter $rarFile mynode $option
```

- Using Jython:

```
AdminConfig.installResourceAdapter(rarFile, 'mynode', option)
```

Example output:

```
RAR1(cells/mycell/nodes/mynode|resources.xml#J2CResourceAdapter_1)
```

6. Save the configuration changes. See the topic [Saving configuration changes with the wsadmin tool](#) for more information.
7. In a network deployment environment only, synchronize the node. See the topic [Synchronizing nodes with the wsadmin tool](#) for more information.

Configuring custom properties for J2C resource adapters using wsadmin

You can configure custom properties for Java 2 Connector resource adapters using the `wsadmin` tool.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic [Starting the wsadmin scripting client](#) article for more information.

About this task

Perform the following steps to configure a new custom property for a J2C resource adapters:

Procedure

1. Identify the parent ID and assign it to the newra variable.

- Using Jacl:

```
set newra [$AdminConfig getid /Cell:mycell/Node:mynode/J2CResourceAdapter:RAR1/]
```

- Using Jython:

```
newra = AdminConfig.getid('/Cell:mycell/Node:mynode/J2CResourceAdapter:RAR1/')
print newra
```

Example output:

```
RAR1(cells/mycell/nodes/mynode|resources.xml#J2CResourceAdapter_1)
```

2. Get the J2EE resource property set:

- Using Jacl:

```
set propSet [$AdminConfig showAttribute $newra propertySet]
```

- Using Jython:

```
propSet = AdminConfig.showAttribute(newra, 'propertySet')
print propSet
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#PropertySet_8)
```

3. Identify the required attributes:

- Using Jacl:

```
$AdminConfig required J2EEResourceProperty
```

- Using Jython:

```
print AdminConfig.required('J2EEResourceProperty')
```

Example output:

Attribute	Type
name	String

4. Set up the required attributes:

- Using Jacl:

```
set name [list name RP4]
set rpAttrs [list $name]
```

- Using Jython:

```
name = ['name', 'RP4']
rpAttrs = [name]
```

5. Create a J2EE resource property:

- Using Jacl:

```
$AdminConfig create J2EEResourceProperty $propSet $rpAttrs
```

- Using Jython:

```
print AdminConfig.create('J2EEResourceProperty', propSet, rpAttrs)
```

Example output:

```
RP4(cells/mycell/nodes/mynode|resources.xml#J2EEResourceProperty_8)
```

6. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.
7. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new J2C connection factories using wsadmin scripting

Use the wsadmin scripting tool to configure new Java 2 Connector connection factories.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure a new J2C connection factory:

Procedure

1. Identify the parent ID and assign it to the newra variable.

- Using Jacl:

```
set newra [$AdminConfig getid /Cell:mycell/Node:mynode/J2CResourceAdapter:RAR1/]
```

- Using Jython:

```
newra = AdminConfig.getid('/Cell:mycell/Node:mynode/J2CResourceAdapter:RAR1/')
print newra
```

Example output:

```
RAR1(cells/mycell/nodes/mynode|resources.xml#J2CResourceAdapter_1)
```

2. There are two ways to configure a new J2C connection factory. Perform one of the following:

- Using the AdminTask object:

- a. List the connection factory interfaces:

- Using Jacl:

```
$AdminTask listConnectionFactoryInterfaces $newra
```

- Using Jython:

```
AdminTask.listConnectionFactoryInterfaces(newra)
```

Example output:

```
javax.sql.DataSource
```

- b. Create a J2CConnectionFactory:

- Using Jacl:

```
$AdminTask createJ2CConnectionFactory $newra { -name cf1
-jndiName eis/cf1 -connectionFactoryInterface
avax.sql.DataSource
```

- Using Jython:

```
AdminTask.createJ2CConnectionFactory(newra, ['-name', 'cf1',
'-jndiName', 'eis/cf1', '-connectionFactoryInterface',
'avax.sql.DataSource'])
```

- Using the AdminConfig object:

- a. Identify the required attributes:

- Using Jacl:

```
$AdminConfig required J2CConnectionFactory
```

- Using Jython:

```
print AdminConfig.required('J2CConnectionFactory')
```

Example output:

```
Attribute Type
connectionDefinition ConnectionDefinition@
```

- b. If your resource adapter is JCA1.5 and you have multiple connection definitions defined, it is required that you specify the ConnectionDefinition attribute. If your resource adapter is JCA1.5 and you have only one connection definition defined, it will be picked up automatically. If your resource adapter is JCA1.0, you do not need to specify the ConnectionDefinition attribute. Perform the following command to list the connection definitions defined by the resource adapter:

– Using Jacl:

```
$AdminConfig list ConnectionDefinition $newra
```

– Using Jython:

```
print AdminConfig.list('ConnectionDefinition', $newra)
```

- c. Set up the required attributes:

– Using Jacl:

```
set name [list name J2CCF1]
set jname [list jndiName eis/j2ccf1]
set j2ccfAttrs [list $name]
```

– Using Jython:

```
name = ['name', 'J2CCF1']
jname = ['jndiName', 'eis/j2ccf1']
j2ccfAttrs = [name, jname]
```

- d. If you are specifying the ConnectionDefinition attribute, also set up the following:

– Using Jacl:

```
set cdattr [list connectionDefinition $cd]
```

– Using Jython:

```
cdattr = ['connectionDefinition', $cd]
```

- e. Create a J2C connection factory:

– Using Jacl:

```
$AdminConfig create J2CConnectionFactory $newra $j2ccfAttrs
```

– Using Jython:

```
print AdminConfig.create('J2CConnectionFactory', newra, j2ccfAttrs)
```

Example output:

```
J2CCF1(cells/mycell/nodes/mynode|resources.xml#J2CConnectionFactory_1)
```

3. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.
4. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new J2C activation specifications using wsadmin scripting

You can configure new Java 2 Connector activation specifications using scripting and the wsadmin scripting tool.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client topic for more information.

About this task

Perform the following steps to configure a J2C activation specifications:

Procedure

1. Identify the parent ID and assign it to the newra variable.

- Using Jacl:

```
set newra [$AdminConfig getid /Cell:mycell/Node:mynode/J2CResourceAdapter:RAR1/]
```

- Using Jython:

```
newra = AdminConfig.getid('/Cell:mycell/Node:mynode/J2CResourceAdapter:RAR1/')
print newra
```

Example output:

```
RAR1(cells/mycell/nodes/mynode|resources.xml#J2CResourceAdapter_1)
```

2. There are two ways to configure a new J2C administrative object. Perform one of the following:

- Using the AdminTask object:

- a. List the administrative object interfaces:

Using Jacl:

```
$AdminTask listMessageListenerTypes $newra
```

Using Jython:

```
AdminTask.listMessageListenerTypes(newra)
```

Example output:

```
javax.jms.MessageListener
```

- b. Create a J2C administrative object:

Using Jacl:

```
$AdminTask createJ2CActivationSpec $newra { -name ac1
-jndiName eis/ac1 -messageListenerType
javax.jms.MessageListener}
```

Using Jython:

```
AdminTask.createJ2CActivationSpec(newra, ['-name', 'ao1',
'-jndiName', 'eis/ao1', '-messageListenerType',
'javax.jms.MessageListener'])
```

- Using the AdminConfig object:

- a. Using Jacl:

```
$AdminConfig required J2CActivationSpec
```

Using Jython:

```
print AdminConfig.required('J2CActivationSpec')
```

Example output:

```
Attribute Type
activationSpec ActivationSpec@
```

- b. If your resource adapter is JCA V1.5 and you have multiple activation specifications defined, it is required that you specify the activation specification attribute. If your resource adapter is JCA V1.5 and you have only one activation specification defined, it will be picked up automatically. If your resource adapter is JCA V1.0, you do not need to specify the activationSpec attribute. Perform the following command to list the activation specifications defined by the resource adapter:

Using Jacl:

```
$AdminConfig list ActivationSpec $newra
```

Using Jython:

```
print AdminConfig.list('ActivationSpec', $newra)
```

- c. Set the administrative object that you need to a variable:

Using Jacl:

```

set ac [$AdminConfig list ActivationSpec $newra]
set name [list name J2CAC1]
set jname [list jndiName eis/J2CAC1]
set j2cacAttrs [list $name $jname $cdcttr]

```

Using Jython:

```

ac = AdminConfig.list('ActivationSpec', $newra)
name = ['name', 'J2CAC1']
jname = ['jndiName', 'eis/j2cac1']
j2cacAttrs = [name, jname, cdattr]

```

- d. If you are specifying the ActivationSpec attribute, also set up the following:

Using Jacl:

```
set cdcttr [list activationSpec $ac]
```

Using Jython:

```
cdattr = ['activationSpec', ac]
```

- e. Create a J2C activation specification object:

Using Jacl:

```
$AdminConfig create J2CActivationSpec $newra $j2cacAttrs
```

Using Jython:

```
print AdminConfig.create('J2CActivationSpec', newra, j2cacAttrs)
```

Example output:

```
J2CAC1(cells/mycell/nodes/mynode|resources.xml#J2CActivationSpec_1)
```

3. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.
4. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new J2C administrative objects using wsadmin scripting

You can use scripting and the wsadmin tool to configure new J2C administrative objects.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic on starting the wsadmin tool.

About this task

Perform the following steps to configure a J2C administrative object:

Procedure

1. Identify the parent ID and assign it to the newra variable.

- Using Jacl:

```
set newra [$AdminConfig getid /Cell:mycell/Node:mynode/J2CResourceAdapter:RAR1/]
```

- Using Jython:

```
newra = AdminConfig.getid('/Cell:mycell/Node:mynode/J2CResourceAdapter:RAR1/')
print newra
```

Example output:

```
RAR1(cells/mycell/nodes/mynode|resources.xml#J2CResourceAdapter_1)
```

2. There are two ways to configure a new J2C administrative object. Perform one of the following:

- Using the AdminTask object:

- a. List the administrative object interfaces:

Using Jacl:

```
$AdminTask listAdminObjectInterfaces $newra
```


Using Jython:

```
AdminTask.listAdminObjectInterfaces(newra)
```

Example output:

```
com.ibm.test.message.FVTMessageProvider
```

- b. Create a J2C administrative object:

Using Jacl:

```
$AdminTask createJ2CAdminObject $newra { -name ao1 -jndiName eis/ao1  
-adminObjectInterface com.ibm.test.message.FVTMessageProvider }
```

Using Jython:

```
AdminTask.createJ2CAdminObject(newra, ['-name', 'ao1', '-jndiName', 'eis/ao1',  
'-adminObjectInterface', 'com.ibm.test.message.FVTMessageProvider'])
```

- Using the AdminConfig object:

- a. Using Jacl:

```
$AdminConfig required J2CAdminObject
```

Using Jython:

```
print AdminConfig.required('J2CAdminObject')
```

Example output:

```
Attribute Type  
adminObject AdminObject@
```

- b. If your resource adapter is JCA V1.5 and you have multiple administrative objects defined, it is required that you specify the administrative object attribute. If your resource adapter is JCA V1.5 and you have only one administrative object defined, it will be picked up automatically. If your resource adapter is JCA V1.0, you do not need to specify the administrative object attribute. Perform the following command to list the administrative objects defined by the resource adapter:

Using Jacl:

```
$AdminConfig list AdminObject $newra
```

Using Jython:

```
print AdminConfig.list('AdminObject', $newra)
```

- c. Set the administrative objects that you need to a variable:

Using Jacl:

```
set ao AdminObjectId  
set name [list name J2CA01]  
set jname [jndiName eis/j2cao1]  
set j2caoAttrs [list $name $jname]
```

Using Jython:

```
ao = AdminObjectId  
name = ['name', 'J2CA01']  
set jname = ['jndiName', 'eis/j2cao1']  
j2caoAttrs = [name, jname]
```

- d. If you are specifying the AdminObject attribute, also set up the following:

Using Jacl:

```
set cdatr [list adminObject $ao]
```

Using Jython:

```
cdattr = ['adminObject', ao]
```

- e. Create a J2C administrative object:

Using Jacl:

```
$AdminConfig create J2CAdminObject $newra $j2caoAttrs
```

Using Jython:

```
print AdminConfig.create('J2CAdminObject', newra, j2caoAttrs)
```

Example output:

```
J2CA01(cells/mycell/nodes/mynode|resources.xml#J2CAdminObject_1)
```

3. Save the configuration changes.
4. Synchronize the node.

Managing the message endpoint lifecycle using wsadmin scripting

Use the Jython scripting language to manage your message endpoints with the wsadmin tool. Use this topic to query your configuration for message endpoint properties, and to deactivate or reactivate a message endpoint.

About this task

The Java EE Connector Architecture (JCA) allows the application server to link inbound requests from messaging resource adapters to message endpoints. The message endpoint managed bean (MBean) is a Java Management Extensions (JMX) framework MBean that the application server associates with a message endpoint instance.

Use this topic to manage situations where messaging providers fail to deliver messages to their intended destinations. For example, a provider might fail to deliver messages to a message endpoint when its underlying Message Driven Bean attempts to commit transactions against a database server that is not responding. To troubleshoot the problem, use the wsadmin tool to temporarily disable the message endpoint from handling messages. After troubleshooting the issue, use the wsadmin tool to reactivate the message endpoint.

Also use this topic if you are connecting to WebSphere MQ and you have used the `WAS_EndpointInitialState` custom property in the activation specification to make a message endpoint start out in a deactivated state. Use the wsadmin tool when you are ready to activate the message endpoint.

The steps in this topic display how to use the AdminControl object and the wsadmin tool to invoke a Message Endpoint MBean to:

- Display properties of the a message endpoint
- Temporarily deactivate a message endpoint
- Reactivate a message endpoint

Note: Starting in Version 7.0, you can use the AdminControl object and the wsadmin tool to deactivate message endpoints to pause the endpoints from receiving messages, and to reactivate message endpoints to resume message handling. If you are connecting to WebSphere MQ, you can also use the `WAS_EndpointInitialState` custom property in the WebSphere MQ messaging provider activation specification to make a message endpoint start out in a deactivated state. Previously, the application server only activated and deactivated message endpoints when the application or resource adapter was started and stopped.

Procedure

- Display properties of a message endpoint.

Use the `queryNames` command to display a list of all message endpoints in your configuration:

```
AdminControl.queryNames('*:type=J2CMessageEndpoint,*')
```

For the previous example, the command returns the following information for the `JMSMDB_MessageEndpoint`:

```
WebSphere:name=JMSMDB_J2CMessageEndpoint,  
process=myServer,  
platform=dynamicproxy,  
cell=myNode01Cell,  
node=myNode01,  
version=6.1.0.0,  
type=J2CMessageEndpoint,  
mbeanIdentifier=cells/myNode01Cell/nodes/myNode01/servers/myServer/resources.xml#example#example.jar#JMSMDB_J2CMessageEndpoint,  
spec=1.0,  
Server=server1,  
diagnosticProvider=false,  
j2eeType=JCAMessageEndpoint,
```

```
J2EEApplication=example
J2EEServer=myServer,
J2CResourceAdapter=SIB JMS Resource Adapter,
MessageDrivenBean=example#example.jar#JMSMDBActivationSpec=3727AS1
```

- Temporarily deactivate the message endpoint.

Use the following commands to cache the instance and deactivate the message endpoint:

```
objectName=AdminControl.queryNames('*:name=JMSMDB_MessageEndpoint,*')
AdminControl.invoke(objectName, 'pause')
```

The command returns the following output:

```
Message Endpoint JMSMDB_J2CMessageEndpoint is deactivated
```

- Reactivate the message endpoint, or activate a message endpoint that started out in a deactivated state.

Use the following commands to cache the instance and reactivate the message endpoint:

```
objectName=AdminControl.queryNames('*:name=JMSMDB_MessageEndpoint,*')
AdminControl.invoke(objectName, 'resume')
```

The command returns the following output:

```
Message Endpoint JMSMDB_J2CMessageEndpoint is activated
```

Testing data source connections using wsadmin scripting

You can test connections for data sources with the wsadmin tool and scripting. After you have defined and saved a data source, you can test the data source connection to ensure that the parameters in the data source definition are correct.

About this task

You can use the testConnection command for the AdminControl object to test data source connections for a cell, node, server, application, or cluster scope. This topic provides an example that tests the data source connection for the application scope.

Procedure

- Test the data source connection for a cell, node, or server scope.
 1. Start the wsadmin scripting tool.
 2. Identify the DataSourceCfgHelper MBean and assign it to the ds helper variable.

– Using Jacl:

```
set ds [$AdminConfig getid /DataSource:DS1/]
$AdminControl testConnection $ds
```

– Using Jython:

```
ds = AdminConfig.getid('/DataSource:DS1/')
AdminControl.testConnection(ds)
```

Examples of output:

```
WASX7217I: Connection to provided datasource was successful.
DSRA0174W: Warning: GenericDataStoreHelper is being used.
WASX7015E: Exception running command: "$AdminControl testConnection
$ds1"; exception information:
com.ibm.websphere.management.exception.AdminException
javax.management.MBeanException
java.sql.SQLRecoverableException: java.sql.SQLRecoverableException: Io
exception: The Network Adapter could not establish the
connectionDSRA0010E: SQL State = 08006, Error Code = 17,002
```

3. Test the connection using testConnectionToDataSource.

The following example invokes the testConnectionToDataSource operation on the MBean, passing in the classname, userid, password, database name, JDBC driver class path, language, and country.

– Using Jacl:

```
$AdminControl invoke $dshelper testConnectionToDataSource
"COM.ibm.db2.jdbc.DB2XADataSource db2admin db2admin
{{databaseName sample}} /sqllib/java/db2java.zip en US"
```

– Using Jython:

```
print AdminControl.invoke(dshelper, 'testConnectionToDataSource',
'COM.ibm.db2.jdbc.DB2XADataSource dbuser1 dbpwd1
"{{databaseName jtest1}}" /sqllib/java12/db "\ " "\ "')
```

Example output:

```
WASX7217I: Connection to provided data source was successful.
```

• Test the data source connection for an application scope.

1. Start the wsadmin scripting tool.
2. Get the data source for the application of interest.

Use the AdminConfig object to determine the configuration IDs of the myApplication application and DSA1 data source, as the following examples demonstrate:

– Using Jacl:

```
set appID [$AdminConfig getid /Deployment:myApplication/]
set ds [$AdminConfig list DataSource $appID]
```

– Using Jython:

```
appID = AdminConfig.getid("/Deployment:myApplication/")
ds = AdminConfig.list("DataSource", appID)
```

3. Test the connection using testConnection.

Use the AdminConfig object to test the connection for the data source of interest, as the following examples demonstrate:

– Using Jacl:

```
$AdminControl testConnection $ds
```

– Using Jython:

```
AdminControl.testConnection(ds)
```

The command returns output that indicates whether the connection is successful, as demonstrated in the following sample output:

```
WASX7467I: Connection to provided datasource on node myNode processnodeagent was successful.
WASX7217I: Connection to provided datasource was successful.
```

• Test the data source connection for a cluster scope.

In the following example, the Cluster1 server cluster contains cluster members on the node1, node2, and node3 nodes. The Cluster1 server cluster contains the DSC1 data source.

1. Start the wsadmin scripting tool.
2. Get the data source configuration ID for the cluster of interest.

Use the AdminConfig object to determine the configuration IDs of the Cluster1 cluster and DSA1 data source, as the following examples demonstrate:

– Using Jacl:

```
set cluster [$AdminConfig getid /ServerCluster:Cluster1/]
set ds [$AdminConfig list DataSource $cluster]
```

– Using Jython:

```
cluster = AdminConfig.getid("/ServerCluster:Cluster1/")
ds = AdminConfig.list("DataSource", cluster)
```

3. Test the connection.

Use the AdminConfig object to test the connection for the data source of interest, as the following examples demonstrate:

– Using Jacl:

```
$AdminControl testConnection $ds
```

– Using Jython:

```
AdminControl.testConnection(ds)
```

The command returns output that indicates whether the connection is successful, as demonstrated in the following sample output:

```
WASX7467I: Connection to provided datasource on node node1 process nodeagent was successful.  
WASX7467I: Connection to provided datasource on node node2 process nodeagent was successful.  
WASX7467I: Connection to provided datasource on node node3 process nodeagent was successful.  
WASX7217I: Connection to provided datasource was successful.
```

JDBCProviderManagement command group for AdminTask object

You can use the Jython or Jacl scripting languages in interactive mode to configure data access and data sources with scripting. The commands and parameters in the JDBCProviderManagement group can be used to create or list data sources and Java database connectivity (JDBC) providers.

The JDBCProviderManagement command group for the AdminTask object includes the following commands:

- “createDatasource”
- “createJDBCProvider” on page 29
- “deleteDatasource ” on page 31
- “deleteJDBCProvider” on page 31
- “listDatasources” on page 32
- “listJDBCProviders” on page 33

createDatasource

The createDatasource command creates a new data source to access the back end data store. Application components use the data source to access connection instances to your database.

Target object

JDBC Provider Object ID - The configuration object of the JDBC provider to which the new data source will belong.

Required parameters

- name

The name of the data source. (String, required)

-jndiName

The Java Naming and Directory Interface (JNDI) name. (String, required)

-dataStoreHelperClassName

The name of the DataStoreHelper implementation class that extends the capabilities of the selected JDBC driver implementation class to perform data-specific functions. WebSphere Application Server provides a set of DataStoreHelper implementation classes for each of the JDBC provider drivers it supports. (String, required)

configureResourceProperties

This command step configures the resource properties that are required by the data source. (Required) You can specify the following parameters for this step:

name

The name of the resource property. (String, required)

type

The type of the resource property. (String, required)

value

The value of the resource property. (String, required)

Optional parameters

-description

The description of the data source. (String, optional)

-category

The category that you can use to classify a group of data sources. (String, optional)

-componentManagedAuthenticationAlias

The alias used for database authentication at run time. This alias is only used when the application resource reference is using res-auth=Application. (String, optional)

-containerManagedPersistence

Specifies if the data source is used for container managed persistence for enterprise beans. The default value is true. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createDatasource "DB2 Universal JDBC Driver Provider (XA) (cells/myCell|resources.xml#
JDBCProvider_1180538152781)" {-name
"DB2 Universal JDBC Driver XA DataSource" -jndiName s1 -dataStoreHelperClassName
com.ibm.websphere.rsadapter.DB2UniversalDataStoreHelper
-componentManagedAuthenticationAlias myCellManager01/a1 -xaRecoveryAuthAlias myCellManager01/a1
-configureResourceProperties
{{databaseName java.lang.String db1} {driverType java.lang.Integer 4} {serverName java.lang.String
dbserver1} {portNumber java.lang.Integer 50000}}}
```

- Using Jython string:

```
AdminTask.createDatasource('DB2 Universal JDBC Driver Provider(XA) (cells/myCell|resources.xml
#JDBCProvider_1180501752515)', ['-name
"DB2 Universal JDBC Driver XA DataSource 2" -jndiName ds2 -dataStoreHelperClassName
com.ibm.websphere.rsadapter.DB2UniversalDataStoreHelper
-componentManagedAuthenticationAlias myCellManager01/a1 -xaRecoveryAuthAlias myCellManager01/a1
-configureResourceProperties
[[databaseName java.lang.String db1] [driverType java.lang.Integer 4] [serverName java.lang.String
dbserver1] [portNumber java.lang.Integer 50000]]')
```

- Using Jython list:

```
AdminTask.createDatasource('DB2 Universal JDBC Driver Provider(XA) (cells/myCell|resources.xml#
JDBCProvider_1180501752515)', ['-name', '
DB2 Universal JDBC Driver XA DataSource 2', '-jndiName', 'ds2', '-dataStoreHelperClassName',
'com.ibm.websphere.rsadapter.DB2UniversalDataStoreHelper', '-componentManagedAuthenticationAlias',
'myCellManager01/a1',
'-xaRecoveryAuthAlias', 'myCellManager01/a1', '-configureResourceProperties', '[[databaseName
java.lang.String db1]
[driverType java.lang.Integer 4] [serverName java.lang.String dbserver1] [portNumber java.lang.Integer 50000]]')
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createDatasource {-interactive}
```

- Using Jython:

```
AdminTask.createDatasource({'-interactive'})
```

Note:

Be aware of the following issues with the createDatasource command:

- When you create a data source that supports container-managed persistence, the createDatasource command creates two objects in the configuration of the target scope: the intended data source and a CMP connector factory that is used expressly by the container. You must apply the remove command separately to the intended data source and the CMP connector factory objects in order to delete the data source from the configuration.

The following script illustrates how to use Jacl to remove the CMPConnectorFactory object from the configuration when you delete a data source that supports container-managed persistence:

```
# The following script removes a data source from the configuration,
# including the associated CMP connector factory
#
# Set this variable to the ID string of the data source to remove
```

```

set ds_to_remove "configID_of_my_data_source_to_remove"
puts "Data source to remove='${ds_to_remove}'"

# Find and remove the CMPConnectorFactory associated with the datasource to remove
foreach cmp_cf [$AdminConfig list CMPConnectorFactory] {
  set cmp_ds [lindex [$AdminConfig showAttribute $cmp_cf cmpDatasource] 0]
  if { [string compare $cmp_ds $ds_to_remove] == 0 } {
    puts "Found CMPConnectorFactory for data source $ds_to_remove"
    puts "Removing the CMPConnectorFactory '$cmp_cf'"
    $AdminConfig remove $cmp_cf
    puts "'$cmp_cf' is removed."
    break
  }
}

puts "Removing the data source '$ds_to_remove'"
$AdminConfig remove $ds_to_remove
puts "'$ds_to_remove' is removed."

#$AdminConfig save

```

- The createDatasource command will not complete successfully if you are creating a data source on a JDBC provider that does not exist or does not contain the providerType attribute. This error can be caused if you created the JDBC provider with the AdminConfig create JDBCProvider method of the JMX API. This method creates the JDBC provider, but it does not add a providerType attribute.

The createDatasource command will issue the following error:

```
"ADMF0006E: Step configureResourceProperties of command createDatasource is not found"
```

To resolve this issue, use commands from the JDBCProviderManagement group, which provides the AdminTask commands createJDBCProvider and createDatasource. The AdminTask commands are designed to be used together.

The AdminConfig JMX API methods "create JDBCProvider" and "create Datasource," which support Version 5.1 and later, are also designed to be used together. Scripts that use the JMX API methods should not use the AdminTask commands.

- The createDatasource command will not complete successfully if the JDBC provider object ID, which you specify when you create the data source, does not match the ID of the JDBC provider. If the JDBC provider object ID and the ID of the JDBC provider do not match, you can obtain the correct ID from the results of the createJDBCProvider command. Then, specify this ID when you use the createDatasource command. If you have already created the JDBC provider, use the listJDBCProviders command to list the correct ID.

createJDBCProvider

The createJDBCProvider command creates a new Java database connectivity provider (JDBC) that you can use to connect to a relational database for data access.

Target object

None

Required parameters

-scope

The scope for the new JDBC provider. Provide the scope in the form type=name. Type can be Cell, Node, Server, Application, or Cluster, and name is the name of the specific instance of the cell, node, server, application, or cluster that you are using. The default is none. (String, required)

-databaseType

The type of database that will be used by the JDBC provider. For example, DB2®, Derby, Informix®, Oracle, and so on. (String, required)

-providerType

The JDBC provider type that will be used by the JDBC provider. (String, required)

-implementationType

The implementation type for this JDBC provider. Use Connection pool data source if your application runs in a single phase or a local transaction. Otherwise, use XA data source to run in a global transaction. (String, required)

Optional parameters

-classpath

Specifies a list of paths or JAR file names that form the location for the resource provider classes. (String, optional)

-description

The description for the JDBC provider. (String, optional)

-implementationClassName

Specifies the Java class name for the JDBC driver implementation. (String, optional)

-name

The name of the JDBC provider. The default is the value from the provider template. (String, optional)

-nativePath

Specifies a list of paths that form the location for the resource provider native libraries. (String, optional)

-isolated

Specifies whether the JDBC provider loads within the class loader. The default value is false. You cannot specify a native path for an isolated JDBC provider. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createJDBCProvider {-scope Cell=my02Cell -databaseType DB2 -providerType "DB2 Universal JDBC Driver Provider"
-implementationType "XA data source" -name "DB2 Universal JDBC Driver Provider (XA)"-description
"XA DB2 Universal JDBC Driver-compliant Provider. Datasources created under this provider support the use of XA to perform
2-phase commit processing. Use of driver type 2 on WAS z/OS is not supported for datasources created under this provider."
-classpath {"${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc.jar;${UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc_license_cu.jar;
${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc_license_cisuz.jar"} -nativePath {"${DB2UNIVERSAL_JDBC_DRIVER_NATIVEPATH}"}}
```

- Using Jython string:

```
AdminTask.createJDBCProvider(['-scope Cell=myCell -databaseType DB2 -providerType "DB2 Universal JDBC Driver Provider"
-implementationType "XA data source" -name "DB2 Universal JDBC Driver Provider (XA)"
-description "XA DB2 Universal JDBC
Driver-compliant Provider.
Datasources created under this provider support the use of XA to perform 2-phase commit processing. Use of driver
type 2 on WAS z/OS is not supported for datasources created under this provider." -classpath
${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc.jar;${UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc_license_cu.jar;
${DB2UNIVERSAL_JDBC_DRIVER_PATH}/
db2jcc_license_cisuz.jar -nativePath ${DB2UNIVERSAL_JDBC_DRIVER_NATIVEPATH}'])
```

- Using Jython list:

```
AdminTask.createJDBCProvider(['-scope', 'Cell=myCell', '-databaseType', 'DB2', '-providerType',
'DB2 Universal JDBC Driver Provider',
'-implementationType', 'XA data source', '-name', 'DB2 Universal JDBC Driver Provider (XA)',
'-description', 'XA DB2 Universal
JDBC Driver-compliant Provider. Datasources created under this provider support the use of XA to perform 2-phase
commit processing. Use of
driver type 2 on WAS z/OS is not supported for datasources created under this provider.', '-classpath',
'${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc.jar;
${UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc_license_cu.jar;${DB2UNIVERSAL_JDBC_DRIVER_PATH}/
db2jcc_license_cisuz.jar', '-nativePath', '${DB2UNIVERSAL_JDBC_DRIVER_NATIVEPATH}'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createJDBCProvider {-interactive}
```

- Using Jython:

```
AdminTask.createJDBCProvider('-interactive')
```


deleteDatasource

The deleteDatasource command deletes a data source for an existing JDBC Provider at a specific scope.

Target object

DataSource Object ID - The configuration object of the DataSource to delete.

Required parameters

None.

Optional parameters

None.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteDatasource "DB2 Universal JDBC Driver Provider (XA)(cells/myCell1|resources.xml#DataSource_1170538153781)"
```

- Using Jython string:

```
AdminTask.deleteDatasource('DB2 Universal JDBC Driver Provider (XA)(cells/myCell1|resources.xml#DataSource_1170538153781)')
```

Result:

The DataSource is deleted at the specific scope. Also, if DataSource is a DB2 data source configured as a Type 4 JDBC driver and enabled for Client Reroute, the JNDI name specified in either the Client reroute server list JNDI name field or the clientRerouteServerListJNDIName data source custom property is unbound.

To save the changes made by the command, invoke the save command of the AdminConfig object. If the changes are not saved, the Client reroute server list JNDI name must be rebound by issuing a test connection on DataSource or by restarting the server.

deleteJDBCProvider

The deleteJDBCProvider command deletes a JDBC provider and its data sources from a specific scope.

Target object

JDBCProvider Object ID - The configuration object of the JDBCProvider to delete.

Required parameters

None.

Optional parameters

None.

Examples

Batch mode example usage:

- Using Jacl:


```
$AdminTask deleteJDBCProvider "DB2 Universal JDBC Driver Provider
(XA)(cells/myCell|resources.xml#JDBCProvider_1180538152781)"
```

- Using Jython string:


```
AdminTask.deleteJDBCProvider('DB2 Universal JDBC Driver Provider (XA)
(cells/myCell|resources.xml#JDBCProvider_1180538152781)')
```

Result:

The JDBCProvider is deleted at the specific scope. If JDBCProvider is a DB2 universal database provider, for each data source of JDBCProvider configured as a Type 4 JDBC driver and enabled for Client Reroute, the JNDI name specified in either the Client reroute server list JNDI name field or the clientRerouteServerListJNDIName data source custom property is unbound.

To save the changes made by the command, invoke the save command of the AdminConfig object. If the changes are not saved, the Client reroute server list JNDI names must be rebound by issuing test connections on the data sources of JDBCProvider or by restarting the server.

listDatasources

Use the listDatasources command to list data sources that are contained in the specified scope.

Target object

None

Required parameters

None.

Optional parameters

-scope

The scope for the data sources that will be listed. Provide the scope in the form `type=name`. Type can be Cell, Node, Server, Application, or Cluster, and name is the name of the specific instance of the cell, node, server, application, or cluster that you are using. The default is All. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:


```
$AdminTask listDatasources {-scope Cell=my02Cell}
```
- Using Jython string:


```
AdminTask.listDatasources('[-scope Cell=my02Cell]')
```
- Using Jython list:


```
AdminTask.listDatasources('-scope', 'Cell=my02Cell')
```

Interactive mode example usage:

- Using Jacl:


```
$AdminTask listDatasources {-interactive}
```
- Using Jython:


```
AdminTask.listDatasources('-interactive')
```

listJDBCProviders

The listJDBCProviders command lists JDBC providers that are contained in the specified scope.

Target object

None

Required parameters

None.

Optional parameters

-scope

The scope for the JDBC providers that will be listed. Provide the scope in the form type=name. Type can be Cell, Node, Server, Application, or Cluster, and name is the name of the specific instance of the cell, node, server, application, or cluster that you are using. The default is All. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listJDBCProviders {-scope Cell=my02Cell}
```
- Using Jython string:

```
AdminTask.listJDBCProviders('-scope Cell=my02Cell')
```
- Using Jython list:

```
AdminTask.listJDBCProviders(['-scope', 'Cell=my02Cell'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listJDBCProviders {-interactive}
```
- Using Jython:

```
AdminTask.listJDBCProviders('-interactive')
```

Chapter 2. Scripting for Mail, URLs, and other Java EE resources

This page provides a starting point for finding information about resources that are used by applications that are deployed on a Java Enterprise Edition (Java EE)-compliant application server. They include:

- JavaMail support for applications to send Internet mail
- URLs, for describing logical locations
- Resource environment entries, for mapping logical names to physical names
- Java DataBase Connectivity (JDBC) resources and other technology for data access (discussed elsewhere)
- Java Message Service (JMS) resources and other messaging system support (discussed elsewhere)

Configuring mail, URLs, and resource environment entries with wsadmin scripting

Use scripting to configure mail, URLs, and resource environment entries.

About this task

This topic contains the following tasks:

Procedure

- “Configuring new mail providers using wsadmin scripting”
- “Configuring new mail sessions using wsadmin scripting” on page 36
- “Configuring new protocols using scripting” on page 37
- “Configuring new custom properties using wsadmin scripting” on page 39
- “Configuring new resource environment providers using wsadmin scripting” on page 40
- “Configuring custom properties for resource environment providers using wsadmin scripting” on page 41
- “Configuring new referenceables using wsadmin scripting” on page 42
- “Configuring new resource environment entries using wsadmin scripting” on page 43
- “Configuring custom properties for resource environment entries using wsadmin scripting” on page 45
- “Configuring new URL providers using wsadmin scripting” on page 46
- “Configuring custom properties for URL providers using wsadmin” on page 47
- “Configuring new URLs using wsadmin scripting” on page 48
- “Configuring custom properties for URLs using wsadmin” on page 49

Configuring new mail providers using wsadmin scripting

You can use scripting and the wsadmin tool to configure new mail providers.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure a new mail provider:

Procedure

1. Identify the parent ID:

- Using Jacl:

```
set node [$AdminConfig getid /Cell:mycell/Node:mynode/]
```

- Using Jython:

```
node = AdminConfig.getid('/Cell:mycell/Node:mynode/')  
print node
```

Example output:

```
mynode(cells/mycell/nodes/mynode|node.xml#Node_1)
```

2. Get required attributes:

- Using Jacl:

```
$AdminConfig required MailProvider
```

- Using Jython:

```
print AdminConfig.required('MailProvider')
```

Example output:

```
Attribute      Type  
name          String
```

3. Set up required attributes:

- Using Jacl:

```
set name [list name MP1]  
set mpAttrs [list $name]
```

- Using Jython:

```
name = ['name', 'MP1']  
mpAttrs = [name]
```

4. Create the mail provider:

- Using Jacl:

```
set newmp [$AdminConfig create MailProvider $node $mpAttrs]
```

- Using Jython:

```
newmp = AdminConfig.create('MailProvider', node, mpAttrs)  
print newmp
```

Example output:

```
MP1(cells/mycell/nodes/mynode|resources.xml#MailProvider_1)
```

5. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.

6. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new mail sessions using wsadmin scripting

You can use scripting and the wsadmin tool to configure new mail sessions.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure a new mail session:

Procedure

1. Identify the parent ID:

- Using Jacl:

```
set newmp [$AdminConfig getid /Cell:mycell/Node:mynode/MailProvider:MP1/]
```

- Using Jython:

```
newmp = AdminConfig.getid('/Cell:mycell/Node:mynode/MailProvider:MP1/')
print newmp
```

Example output:

```
MP1(cells/mycell/nodes/mynode|resources.xml#MailProvider_1)
```

2. Get required attributes:

- Using Jacl:

```
$AdminConfig required MailSession
```

- Using Jython:

```
print AdminConfig.required('MailSession')
```

Example output:

Attribute	Type
name	String
jndiName	String

3. Set up required attributes:

- Using Jacl:

```
set name [list name MS1]
set jndi [list jndiName mail/MS1]
set msAttrs [list $name $jndi]
```

Example output:

```
{name MS1} {jndiName mail/MS1}
```

- Using Jython:

```
name = ['name', 'MS1']
jndi = ['jndiName', 'mail/MS1']
msAttrs = [name, jndi]
print msAttrs
```

Example output:

```
[[name, MS1], [jndiName, mail/MS1]]
```

4. Create the mail session:

- Using Jacl:

```
$AdminConfig create MailSession $newmp $msAttrs
```

- Using Jython:

```
print AdminConfig.create('MailSession', newmp, msAttrs)
```

Example output:

```
MS1(cells/mycell/nodes/mynode|resources.xml#MailSession_1)
```

5. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.

6. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new protocols using scripting

You can configure new protocols with scripting and the wsadmin tool.

Before you begin

Before starting this task, the wsadmin tool must be running. See the “Starting the wsadmin scripting client using wsadmin scripting” on page 563 article for more information.

About this task

Perform the following steps to configure a new protocol:

Procedure

1. Identify the parent ID:

- Using Jacl:

```
set newmp [$AdminConfig getid /Cell:mycell/Node:mynode/MailProvider:MP1/]
```

- Using Jython:

```
newmp = AdminConfig.create('MailProvider', node, mpAttrs)
print newmp
```

Example output:

```
MP1(cells/mycell/nodes/mynode|resources.xml#MailProvider_1)
```

2. Get required attributes:

- Using Jacl:

```
$AdminConfig required ProtocolProvider
```

- Using Jython:

```
print AdminConfig.required('ProtocolProvider')
```

Example output:

Attribute	Type
protocol	String
classname	String

3. Set up required attributes:

- Using Jacl:

```
set protocol [list protocol "Put the protocol here"]
set classname [list classname "Put the class name here"]
set ppAttrs [list $protocol $classname]
```

Example output:

```
{protocol protocol1} {classname classname1}
```

- Using Jython:

```
protocol = ['protocol', "Put the protocol here"]
classname = ['classname', "Put the class name here"]
ppAttrs = [protocol, classname]
print ppAttrs
```

Example output:

```
[[protocol, protocol1], [classname, classname1]]
```

4. Create the protocol provider:

- Using Jacl:

```
$AdminConfig create ProtocolProvider $newmp $ppAttrs
```

- Using Jython:

```
print AdminConfig.create('ProtocolProvider', newmp, ppAttrs)
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#ProtocolProvider_4)
```

5. Save the configuration changes.

6. In a network deployment environment only, synchronize the node.

Configuring new custom properties using wsadmin scripting

You can use scripting and the wsadmin tool to configure new custom properties.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic [Starting the wsadmin scripting client](#) article for more information.

About this task

Perform the following steps to configure a new custom property:

Procedure

1. Identify the parent ID:

- Using Jacl:

```
set newmp [$AdminConfig getid /Cell:mycell/Node:mynode/MailProvider:MP1/]
```

- Using Jython:

```
newmp = AdminConfig.create('MailProvider', node, mpAttrs)
print newmp
```

Example output:

```
MP1(cells/mycell/nodes/mynode|resources.xml#MailProvider_1)
```

2. Get the J2EE resource property set:

- Using Jacl:

```
set propSet [$AdminConfig showAttribute $newmp propertySet]
```

- Using Jython:

```
propSet = AdminConfig.showAttribute(newmp, 'propertySet')
print propSet
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#PropertySet_2)
```

3. Get required attributes:

- Using Jacl:

```
$AdminConfig required J2EEResourceProperty
```

- Using Jython:

```
print AdminConfig.required('J2EEResourceProperty')
```

Example output:

Attribute	Type
name	String

4. Set up the required attributes:

- Using Jacl:

```
set name [list name CP1]
set cpAttrs [list $name]
```

Example output:

```
{name CP1}
```

- Using Jython:

```
name = ['name', 'CP1']
cpAttrs = [name]
print cpAttrs
```

Example output:

```
[[name, CP1]]
```

5. Create a J2EE resource property:

- Using Jacl:


```
$AdminConfig create J2EEResourceProperty $propSet $cpAttrs
```

- Using Jython:


```
print AdminConfig.create('J2EEResourceProperty', propSet, cpAttrs)
```

Example output:

```
CP1(cells/mycell/nodes/mynode|resources.xml#J2EEResourceProperty_2)
```

6. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.
7. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new resource environment providers using wsadmin scripting

You can use the wsadmin tool and scripting to configure new resources environment providers.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure a new resource environment provider:

Procedure

1. Identify the parent ID and assign it to the node variable.

- Using Jacl:


```
set node [$AdminConfig getid /Cell:mycell/Node:mynode/]
```

- Using Jython:


```
node = AdminConfig.getid('/Cell:mycell/Node:mynode/')
print node
```

Example output:

```
mynode(cells/mycell/nodes/mynode|node.xml#Node_1)
```

2. Identify the required attributes:

- Using Jacl:


```
$AdminConfig required ResourceEnvironmentProvider
```
- Using Jython:


```
print AdminConfig.required('ResourceEnvironmentProvider')
```

Example output:

```
Attribute Type
name      String
```

3. Set up the required attributes and assign it to the repAttrs variable:

- Using Jacl:


```
set n1 [list name REP1]
set repAttrs [list $n1]
```

- Using Jython:


```
n1 = ['name', 'REP1']
repAttrs = [n1]
```

4. Create a new resource environment provider:

- Using Jacl:

```
set newrep [$AdminConfig create ResourceEnvironmentProvider $node $repAttrs]
```

- Using Jython:

```
newrep = AdminConfig.create('ResourceEnvironmentProvider', node, repAttrs)
print newrep
```

Example output:

```
REP1(cells/mycell/nodes/mynode|resources.xml#ResourceEnvironmentProvider_1)
```

5. Save the configuration changes. See the topic [Saving configuration changes with the wsadmin tool](#) for more information.
6. In a network deployment environment only, synchronize the node. See the topic [Synchronizing nodes with the wsadmin tool](#) for more information.

Configuring custom properties for resource environment providers using wsadmin scripting

You can use scripting to configure custom properties for a resource environment provider.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic [Starting the wsadmin scripting client](#) article for more information.

About this task

Perform the following steps to configure a new custom property for a resource environment provider:

Procedure

1. Identify the parent ID and assign it to the newrep variable.

- Using Jacl:

```
set newrep [$AdminConfig getid /Cell:mycell/Node:mynode/ResourceEnvironmentProvider:REP1/]
```

- Using Jython:

```
newrep = AdminConfig.getid('/Cell:mycell/Node:mynode/ResourceEnvironmentProvider:REP1/')
print newrep
```

Example output:

```
REP1(cells/mycell/nodes/mynode|resources.xml#ResourceEnvironmentProvider_1)
```

2. Identify the required attributes:

- Using Jacl:

```
$AdminConfig required J2EEResourceProperty
```

- Using Jython:

```
print AdminConfig.required('J2EEResourceProperty')
```

Example output:

Attribute	Type
name	String

3. Set up the required attributes and assign it to the repAttrs variable:

- Using Jacl:

```
set name [list name RP]
set rpAttrs [list $name]
```

- Using Jython:

```
name = ['name', 'RP']
rpAttrs = [name]
```

4. Get the J2EE resource property set:

- Using Jacl:

```
set propSet [$AdminConfig showAttribute $newrep propertySet]
```

- Using Jython:

```
propSet = AdminConfig.showAttribute(newrep, 'propertySet')  
print propSet
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#PropertySet_1)
```

If the command returns None as the value for the propSet variable, create a new property set. The command returns None if the property set does not exist in your environment. Use the following examples to create a new property set:

Using Jacl:

```
set newPropSet [$AdminConfig create $newrep {}]
```

Using Jython:

```
newPropSet = AdminConfig.create('J2EEResourcePropertySet',newrep,[])
```

After setting the newPropSet variable, retry the command to get the J2EE resource property set before going to the next step.

5. Create a J2EE resource property:

- Using Jacl:

```
$AdminConfig create J2EEResourceProperty $propSet $rpAttrs
```

- Using Jython:

```
print AdminConfig.create('J2EEResourceProperty', propSet, rpAttrs)
```

Example output:

```
RP(cells/mycell/nodes/mynode|resources.xml#J2EEResourceProperty_1)
```

6. Save the configuration changes.

Using Jacl:

```
$AdminConfig save
```

Using Jython:

```
AdminConfig.save()
```

7. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new referenceables using wsadmin scripting

You can use scripting and the wsadmin tool to configure new referenceables.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure a new referenceable:

Procedure

1. Identify the parent ID and assign it to the newrep variable.

- Using Jacl:

```
set newrep [$AdminConfig getid /Cell:mycell/Node:mynode/  
ResourceEnvironmentProvider:REP1/]
```

- Using Jython:

```

newrep = AdminConfig.getid('/Cell:mycell/Node:mynode/
ResourceEnvironmentProvider:REP1/')
print newrep

```

Example output:

```
REP1(cells/mycell/nodes/mynode|resources.xml#ResourceEnvironmentProvider_1)
```

2. Identify the required attributes:

- Using Jacl:


```
$AdminConfig required Referenceable
```
- Using Jython:


```
print AdminConfig.required('Referenceable')
```

Example output:

```

Attribute      Type
factoryClassname String
classname      String

```

3. Set up the required attributes:

- Using Jacl:


```

set fcn [list factoryClassname REP1]
set cn [list classname NM1]
set refAttrs [list $fcn $cn]

```
- Using Jython:


```

fcn = ['factoryClassname', 'REP1']
cn = ['classname', 'NM1']
refAttrs = [fcn, cn]
print refAttrs

```

Example output:

```
{factoryClassname {REP1}} {classname {NM1}}
```

4. Create a new referenceable:

- Using Jacl:


```
set newref [$AdminConfig create Referenceable $newrep $refAttrs]
```
- Using Jython:


```

newref = AdminConfig.create('Referenceable', newrep, refAttrs)
print newref

```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#Referenceable_1)
```

5. Save the configuration changes. See the topic [Saving configuration changes with the wsadmin tool](#) for more information.
6. In a network deployment environment only, synchronize the node. See the topic [Synchronizing nodes with the wsadmin tool](#) for more information.

Configuring new resource environment entries using wsadmin scripting

You can use wsadmin scripting to configure a new resource environment entry.

Before you begin

Before starting this task, the wsadmin tool must be running. For more information, see “Starting the wsadmin scripting client using wsadmin scripting” on page 563. Also, you must create a resource environment provider. For more information, see the configuration topic on new resource environment providers.

About this task

Perform the following steps to configure a new resource environment entry:

Procedure

1. Identify the parent ID and assign it to the newrep variable.

- Using Jacl:

```
set newrep [$AdminConfig getid /Cell:mycell/Node:mynode/ResourceEnvironmentProvider:REP1/]
```

- Using Jython:

```
newrep = AdminConfig.getid('/Cell:mycell/Node:mynode/ResourceEnvironmentProvider:REP1/')
print newrep
```

Example output:

```
REP1(cells/mycell/nodes/mynode|resources.xml#ResourceEnvironmentProvider_1)
```

2. Identify the required ResourceEnvEntry attribute:

- Using Jacl:

```
$AdminConfig required ResourceEnvEntry
```

- Using Jython:

```
print AdminConfig.required('ResourceEnvEntry')
```

Example output:

Attribute	Type
name	String
jndiName	String

3. Set up the required attributes:

- Using Jacl:

```
set name [list name REE1]
set jndiName [list jndiName myjndi]
```

- Using Jython:

```
name = ['name', 'REE1']
jndiName = ['jndiName', 'myjndi']
```

4. Identify the required Referenceable attribute:

- Using Jacl:

```
$AdminConfig required Referenceable
```

- Using Jython:

```
print AdminConfig.required('Referenceable')
```

Example output:

Attribute	Type
factoryClassname	String
classname	String

5. Set up the required attributes and configure the new reference:

- Using Jacl:

```
set f1 [list factoryClassname fClass1]
set c1 [list classname Class1]
set refAttrs [list $f1 $c1]
set newref [$AdminConfig create Referenceable $newrep $refAttrs]
```

- Using Jython:

```
f1 = ['factoryClassname', 'fClass1']
c1 = ['classname', 'Class1']
refAttrs = [f1, c1]
newref = AdminConfig.create('Referenceable', newrep, refAttrs)
print newref
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#Referenceable_1)
```

6. Save the configuration changes. For more information, see the Saving configuration changes with the wsadmin tool topic.
7. In a network deployment environment only, synchronize the node. For more information, see the Synchronizing nodes with the wsadmin tool topic.

Configuring custom properties for resource environment entries using wsadmin scripting

You can use wsadmin scripting to configure a new custom property for a resource environment entry.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure a new custom property for a resource environment entry:

Procedure

1. Identify the parent ID and assign it to the newree variable.

- Using Jacl:

```
set newree [$AdminConfig getid /Cell:mycell/Node:mynode/ResourceEnvEntry:REE1/]
```

- Using Jython:

```
newree = AdminConfig.getid('/Cell:mycell/Node:mynode/ResourceEnvEntry:REE1/')  
print newree
```

Example output:

```
REE1(cells/mycell/nodes/mynode|resources.xml#ResourceEnvEntry_1)
```

2. Create the J2EE custom property set:

- Using Jacl:

```
set propSet [$AdminConfig showAttribute $newree propertySet]
```

- Using Jython:

```
propSet = AdminConfig.showAttribute(newree, 'propertySet')  
print propSet
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#J2EEResourcePropertySet_5)
```

3. Identify the required attributes:

- Using Jacl:

```
$AdminConfig required J2EEResourceProperty
```

- Using Jython:

```
print AdminConfig.required('J2EEResourceProperty')
```

Example output:

```
Attribute      Type  
name          String
```

4. Set up the required attributes:

- Using Jacl:

```
set name [list name RP1]  
set rpAttrs [list $name]
```

- Using Jython:

```
name = ['name', 'RP1']
rpAttrs = [name]
```

5. Create the J2EE custom property:

- Using Jacl:

```
$AdminConfig create J2EEResourceProperty $propSet $rpAttrs
```

- Using Jython:

```
print AdminConfig.create('J2EEResourceProperty', propSet, rpAttrs)
```

Example output:

```
RPI(cells/mycell/nodes/mynode|resources.xml#J2EEResourceProperty_1)
```

6. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.

7. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new URL providers using wsadmin scripting

You can use scripting and the wsadmin tool to configure new URL providers.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure a new URL provider:

Procedure

1. Identify the parent ID and assign it to the node variable.

- Using Jacl:

```
set node [$AdminConfig getid /Cell:mycell/Node:mynode/]
```

- Using Jython:

```
node = AdminConfig.getid('/Cell:mycell/Node:mynode/')
print node
```

Example output:

```
mynode(cells/mycell/nodes/mynode|node.xml#Node_1)
```

2. Identify the required attributes:

- Using Jacl:

```
$AdminConfig required URLProvider
```

- Using Jython:

```
print AdminConfig.required('URLProvider')
```

Example output:

Attribute	Type
streamHandlerClassName	String
protocol	String
name	String

3. Set up the required attributes:

- Using Jacl:

```
set name [list name URLP1]
set shcn [list streamHandlerClassName "Put the stream handler classname here"]
set protocol [list protocol "Put the protocol here"]
set urlpAttrs [list $name $shcn $protocol]
```


Example output:

```
{name URLP1} {streamHandlerClassName {Put the stream handler classname here}}
{protocol {Put the protocol here}}
```

- Using Jython:

```
name = ['name', 'URLP1']
shcn = ['streamHandlerClassName', "Put the stream handler classname here"]
protocol = ['protocol', "Put the protocol here"]
urlpAttrs = [name, shcn, protocol]
print urlpAttrs
```

Example output:

```
[[name, URLP1], [streamHandlerClassName, "Put the stream handler classname here"],
[protocol, "Put the protocol here"]]
```

4. Create a URL provider:

- Using Jacl:

```
$AdminConfig create URLProvider $node $urlpAttrs
```

- Using Jython:

```
print AdminConfig.create('URLProvider', node, urlpAttrs)
```

Example output:

```
URLP1(cells/mycell/nodes/mynode|resources.xml#URLProvider_1)
```

5. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.
6. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring custom properties for URL providers using wsadmin

You can use the wsadmin scripting tool to configure custom properties for URL providers.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure custom properties for URL providers:

Procedure

1. Identify the parent ID and assign it to the newurlp variable.

- Using Jacl:

```
set newurlp [$AdminConfig getid /Cell:mycell/Node:mynode/URLProvider:URLP1/]
```

- Using Jython:

```
newurlp = AdminConfig.getid('/Cell:mycell/Node:mynode/URLProvider:URLP1/')
print newurlp
```

Example output:

```
URLP1(cells/mycell/nodes/mynode|resources.xml#URLProvider_1)
```

2. Get the J2EE resource property set:

- Using Jacl:

```
set propSet [$AdminConfig showAttribute $newurlp propertySet]
```

- Using Jython:

```
propSet = AdminConfig.showAttribute(newurlp, 'propertySet')
print propSet
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#PropertySet_7)
```

3. Identify the required attributes:

- Using Jacl:
\$AdminConfig required J2EEResourceProperty
- Using Jython:
print AdminConfig.required('J2EEResourceProperty')

Example output:

Attribute name	Type
	String

4. Set up the required attributes:

- Using Jacl:
set name [list name RP2]
set rpAttrs [list \$name]
- Using Jython:
name = ['name', 'RP2']
rpAttrs = [name]

5. Create a J2EE resource property:

- Using Jacl:
\$AdminConfig create J2EEResourceProperty \$propSet \$rpAttrs
- Using Jython:
print AdminConfig.create('J2EEResourceProperty', propSet, rpAttrs)

Example output:

```
RP2(cells/mycell/nodes/mynode|resources.xml#J2EEResourceProperty_1)
```

6. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.
7. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring new URLs using wsadmin scripting

You can use scripting and the wsadmin tool to configure new URLs.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following example to configure a new URL:

Procedure

1. Identify the parent ID and assign it to the newurlp variable.

- Using Jacl:
set newurlp [\$AdminConfig getid /Cell:mycell/Node:mynode/URLProvider:URLP1/]
- Using Jython:
newurlp = AdminConfig.getid('/Cell:mycell/Node:mynode/URLProvider:URLP1/')
print newurlp

Example output:

```
URLP1(cells/mycell/nodes/mynode|resources.xml#URLProvider_1)
```

2. Identify the required attributes:

- Using Jacl:
`$AdminConfig required URL`
- Using Jython:
`print AdminConfig.required('URL')`

Example output:

Attribute	Type
name	String
spec	String

3. Set up the required attributes:

- Using Jacl:
`set name [list name URL1]
set spec [list spec "Put the spec here"]
set urlAttrs [list $name $spec]`

Example output:

```
{name URL1} {spec {Put the spec here}}
```

- Using Jython:
`name = ['name', 'URL1']
spec = ['spec', "Put the spec here"]
urlAttrs = [name, spec]`

Example output:

```
[[name, URL1], [spec, "Put the spec here"]]
```

4. Create a URL:

- Using Jacl:
`$AdminConfig create URL $newurlp $urlAttrs`
- Using Jython:
`print AdminConfig.create('URL', newurlp, urlAttrs)`

Example output:

```
URL1(cells/mycell/nodes/mynode|resources.xml#URL_1)
```

5. Save the configuration changes. For more information, see the documentation about saving configuration changes with the wsadmin tool.
6. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Configuring custom properties for URLs using wsadmin

Use the wsadmin scripting tool to set custom properties for URLs.

Before you begin

Before starting this task, the wsadmin tool must be running. See the topic Starting the wsadmin scripting client article for more information.

About this task

Perform the following steps to configure a new custom property for a URL:

Procedure

1. Identify the parent ID and assign it to the newurl variable.

- Using Jacl:
`set newurl [$AdminConfig getid /Cell:mycell/Node:mynode/URLProvider:URLP1/URL:URL1/]`

- Using Jython:

```
newurl = AdminConfig.getid('/Cell:mycell/Node:mynode/URLProvider:URLP1/URL:URL1/')
print newurl
```

Example output:

```
URL1(cells/mycell/nodes/mynode|resources.xml#URL_1)
```

2. Create a J2EE resource property set:

- Using Jacl:

```
set propSet [$AdminConfig showAttribute $newurl propertySet]
```

- Using Jython:

```
propSet = AdminConfig.showAttribute(newurl, 'propertySet')
print propSet
```

Example output:

```
(cells/mycell/nodes/mynode|resources.xml#J2EEResourcePropertySet_7)
```

3. Identify the required attributes:

- Using Jacl:

```
$AdminConfig required J2EEResourceProperty
```

- Using Jython:

```
print AdminConfig.required('J2EEResourceProperty')
```

Example output:

Attribute name	Type String
-------------------	----------------

4. Set up the required attributes:

- Using Jacl:

```
set name [list name RP3]
set rpAttrs [list $name]
```

- Using Jython:

```
name = ['name', 'RP3']
rpAttrs = [name]
```

5. Create a J2EE resource property:

- Using Jacl:

```
$AdminConfig create J2EEResourceProperty $propSet $rpAttrs
```

- Using Jython:

```
print AdminConfig.create('J2EEResourceProperty', propSet, rpAttrs)
```

Example output:

```
RP3(cells/mycell/nodes/mynode|resources.xml#J2EEResourceProperty_7)
```

6. Save the configuration changes. See the topic Saving configuration changes with the wsadmin tool for more information.
7. In a network deployment environment only, synchronize the node. See the topic Synchronizing nodes with the wsadmin tool for more information.

Provider command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure mail settings with the wsadmin tool. The commands and parameters in the provider group can be used to create, delete, and manage providers.

The Provider command group for the AdminTask object includes the following commands:

- “deleteProvider” on page 51
- “getProviderInfo” on page 51
- “getProviderInstance” on page 51
- “getProviders” on page 52

deleteProvider

The **deleteProvider** command deletes a provider from the model given the providerName.

Target object

None

Parameters and return values

- Parameters: None
- Returns: true if the provider was deleted, false if not.

Examples

Interactive mode example usage:

- Using Jacl:
`$AdminTask deleteProvider {-interactive}`
- Using Jython string:
`AdminTask.deleteProvider ('[-interactive]')`
- Using Jython list:
`AdminTask.deleteProvider (['-interactive'])`

getProviderInfo

The **getProviderInfo** command returns a ProviderInfo object defined in the model given the providerName.

Target object

None

Parameters and return values

- Parameters: None
- Returns: A ProviderInfo object defined in the model given the providerName.

Examples

Interactive mode example usage:

- Using Jacl:
`$AdminTask getProviderInfo {-interactive}`
- Using Jython string:
`AdminTask.getProviderInfo ('[-interactive]')`
- Using Jython list:
`AdminTask.getProviderInfo (['-interactive'])`

getProviderInstance

The **getProviderInstance** command returns a java.security.Provider for the providerName specified.

Target object

None

Parameters and return values

- Parameters: None
- Returns: A `java.security.Provider` for the `providerName` specified.

Examples

Interactive mode example usage:

- Using Jacl:
`$AdminTask getProviderInsta nce {-interactive}`
- Using Jython string:
`AdminTask.getProviderIns tance ('[-interactive]')`
- Using Jython list:
`AdminTask.getProviderInst ance (['-interactive'])`

getProviders

The **getProviders** command returns a List of `ProviderInfo` objects from the model.

Target object

None

Parameters and return values

- Parameters: None
- Returns: A list of `ProviderInfo` objects from the model.

Examples

Interactive mode example usage:

- Using Jacl:
`$AdminTask getProviders {-interactive}`
- Using Jython string:
`AdminTask.getProviders ('[-interactive]')`
- Using Jython list:
`AdminTask.getProviders (['-interactive'])`

Chapter 3. Scripting for Messaging resources

This page provides a starting point for finding information about the use of asynchronous messaging resources for enterprise applications with WebSphere Application Server.

WebSphere Application Server supports asynchronous messaging based on the Java Message Service (JMS) and the Java EE Connector Architecture (JCA) specifications, which provide a common way for Java programs (clients and Java EE applications) to create, send, receive, and read asynchronous requests, as messages.

JMS support enables applications to exchange messages asynchronously with other JMS clients by using JMS destinations (queues or topics). Some messaging providers also allow WebSphere Application Server applications to use JMS support to exchange messages asynchronously with non-JMS applications; for example, WebSphere Application Server applications often need to exchange messages with WebSphere MQ applications. Applications can explicitly poll for messages from JMS destinations, or they can use message-driven beans to automatically retrieve messages from JMS destinations without explicitly polling for messages.

WebSphere Application Server supports the following messaging providers:

- The WebSphere Application Server default messaging provider (which uses service integration as the provider).
- The WebSphere MQ messaging provider (which uses your WebSphere MQ system as the provider).
- Third-party messaging providers that implement either a JCA Version 1.5 resource adapter or the ASF component of the JMS Version 1.0.2 specification.

Configuring messaging with wsadmin scripting

Use these topics to learn about configuring messaging with the wsadmin tool. You can configure the message listener service, Java Messaging Service settings, queue and connection factories, and WebSphere MQ settings.

About this task

You can use the wsadmin tool to configure various messaging connections and settings.

Procedure

- Configure the message listener service.

The message listener service is an extension to the JMS functions of the JMS provider. It provides a listener manager that controls and monitors one or more JMS listeners, which each monitor a JMS destination on behalf of a deployed message-driven bean.

- Configure Java Messaging Service (JMS) providers, destinations, and connections.

The application server supports asynchronous messaging through the use of a JMS provider and its related messaging system. You can use the wsadmin tool to configure new JMS providers, destinations, and connections.

A JMS destination is used to configure the properties for the associated messaging provider. Connections to the JMS destination are created by the associated JMS connection factory. A JMS connection factory is used to create connections to the associated JMS provider of JMS destinations, for both point-to-point and publish/subscribe messaging.

- Configure queue and topic connection factories for the application server. Use queue and topic connection factories to create connections between providers and destinations. A queue connection factory creates a connection to the associated JMS provider of the JMS queue destinations, for point-to-point messaging. A topic connection factory creates a connection to the associated JMS provider of JMS topic destinations, for publish and subscribe messaging.

- Configure WebSphere MQ settings. A WebSphere MQ server represents either a WebSphere MQ queue manager or a WebSphere MQ queue sharing group. It is used by service integration bus messaging to define properties used for connecting to WebSphere MQ. Setting up a WebSphere MQ server involves using the administrative console to create the server definition, add it to a service integration bus, and create a WebSphere MQ queue type destination.

Configuring resources for the default messaging provider by using the wsadmin tool


You can use these commands to manage JMS resources for the default messaging provider.

About this task

These commands provide an alternative to using the administrative console or the more complex syntax of wsadmin and JACL.

Procedure

1. Open a wsadmin command session in local mode. For example, enter `wsadmin -conntype none`.

Note:  The wsadmin scripting client is run from Qshell. For more information, see [Configuring Qshell to run WebSphere scripts using wsadmin scripting](#).

2. Create the required resource by entering the appropriate command:
 - To create an activation specification use the `createSIBJMSActivationSpec` command. For more information see, [createSIBJMSActivationSpec](#) command.
 - To create a connection factory use the `createSIBJMSConnectionFactory` command. For more information see, [createSIBJMSConnectionFactory](#) command.
 - To create a queue use the `createSIBJMSQueue` command. For more information see, [createSIBJMSQueue](#) command.
 - To create a topic use the `createSIBJMSTopic` command. For more information see, [createSIBJMSTopic](#) command.

Configuring resources for WebSphere MQ messaging provider


You can use these commands to manage JMS resources for the WebSphere MQ messaging provider.

About this task

You can enter commands into a wsadmin command session to create connection factories, activation specifications, queues, and topics. These commands provide an alternative to using the administrative console or the more complex syntax of wsadmin and JACL.

Procedure

1. Open a wsadmin command session in local mode. For example, enter: `wsadmin -conntype none`.

Note:  The wsadmin scripting client is run from Qshell. For more information, see [Configuring Qshell to run WebSphere scripts using wsadmin scripting](#).

2. Create the required resource by entering the appropriate command:
 - To create a connection factory, queue connection factory or topic connection factory use the `createWMQConnectionFactory` command. For more information, see [createWMQConnectionFactory](#) command.
 - To create an activation specification use the `createWMQActivationSpec` command. For more information, see: [createWMQActivationSpec](#) command.
 - To create a queue use the `createWMQQueue` command. For more information, see [createWMQQueue](#) command.

- To create a topic use the `createWMQTopic` command. For more information, see `createWMQTopic` command.

Configuring the message listener service by using scripting

Use scripting to configure the message listener service.

Before you begin

Before starting this task, the `wsadmin` tool must be running.

About this task

Complete the following steps to configure the message listener service for an application server:

Note: In the following examples, code blocks beginning with `wsadmin>` show code that is entered by the user. Lines that do not begin with `wsadmin>` show code that has been returned by the console.

Procedure

1. Identify the application server and assign it a variable. For this example the variable is named `server`.

- Using Jacl:

```
wsadmin>set server [$AdminConfig getid /Cell:mycell/Node:mynode/Server:server1/]
```

- Using Jython:

```
wsadmin>server = AdminConfig.getid("/Server:server1/")
wsadmin>print server
```

Example output:

```
server1(cells/mycell/nodes/mynode/servers/server1|server.xml#Server_1183122130078)
```

2. Identify the message listener service for the server and assign it to a variable. In this example the variable is named `mIs`.

- Using Jacl:

```
wsadmin>set mIs [$AdminConfig list MessageListenerService $server]
```

- Using Jython:

```
wsadmin>mIs = AdminConfig.list('MessageListenerService', server)
wsadmin>print mIs
```

Example output:

```
(cells/mycell/nodes/mynode/servers/server1|server.xml#MessageListenerService_1183122130078)
```

3. Modify various attributes with one of the following examples:

- This example command changes the attributes of the thread pool for the message listener service:

- Using Jacl:

```
wsadmin>$AdminConfig modify $mIs {{threadPool {{inactivityTimeout 4000}
{isGrowable true} {maximumSize 100} {minimumSize 25}}}}
```

- Using Jython:

```
wsadmin>AdminConfig.modify(mIs, [['threadPool', [['inactivityTimeout', 4000],
['isGrowable', 'true'], ['maximumSize', 100], ['minimumSize', 25]]])
```

- Creating a listener port using the `server` and `mIs` variables to provide information about the server and the message listener service:

- Using Jacl:

```
wsadmin>set new [$AdminConfig create ListenerPort $mIs {{name my}
{destinationJNDIName di} {connectionFactoryJNDIName jndi/fs}}]
wsadmin>$AdminConfig create StateManageable $new {{initialState START}}
```

- Using Jython:

```
wsadmin>new = AdminConfig.create('ListenerPort',m1s,[[['name','myLP']
,['destinationJNDIName','jms/myqueue'],['connectionFactoryJNDIName','jms/myCF']]])
wsadmin>print new
```

Example output:

```
myLP(cells/mycell/nodes/mynode/servers/server1|server.xml#ListenerPort_1318513831827)
```

- Assign a variable to the 'State Manageable' property on the listener port and use it to change the **initialState** property on the listener port. In this example the variable is named *sm*.

– Using Jython:

```
wsadmin>sm = AdminConfig.list('StateManageable',new)
wsadmin>print sm
```

– Example output:

```
(cells/mycell/nodes/mynode/servers/server1|server.xml#StateManageable_1318513831827)
```

– Using Jython:

```
wsadmin>AdminConfig.modify(sm,[[['initialState','START']]])
```

- Modifying a property on the first listener port on the message listener service, using jython.

– Return a list of the listener ports on the message listener service:

```
wsadmin>lports = AdminConfig.showAttribute(m1s,'listenerPorts')
wsadmin>print lports
```

A list of the listener ports on the message listener service is returned in a string:

```
myLP(cells/mycell/nodes/mynode/servers/server1|server.xml#ListenerPort_1318504021702)
myLP1(cells/mycell/nodes/mynode/servers/server1|server.xml#ListenerPort_1318504495733)
myLP2(cells/mycell/nodes/mynode/servers/server1|server.xml#ListenerPort_1318513831827)]
```

– Remove the first and last character of each listener port in the list string, so that wsadmin can use the returned information:

```
wsadmin>clp = lports[1:len(lports)-1]
wsadmin>print clp
```

The result is returned:

```
myLP(cells/mycell/nodes/mynode/servers/server1|server.xml#ListenerPort_1318504021702)
myLP1(cells/mycell/nodes/mynode/servers/server1|server.xml#ListenerPort_1318504495733)
myLP2(cells/mycell/nodes/mynode/servers/server1|server.xml#ListenerPort_1318513831827)
```

– Select the first listener port in the list:

```
wsadmin>lport =clp.split(" ")[0]
wsadmin>print lport
```

Result:

```
myLP(cells/mycell/nodes/mynode/servers/server1|server.xml#ListenerPort_1318504021702)
```

– Alter a property on the listener port. In this example the **maxRetries** property has been altered:

```
wsadmin>AdminConfig.modify(lport, [[['maxRetries', 2]])
```

- Modifying a property on the first listener port on the message listener service, using jacl:

```
wsadmin>set lports [$AdminConfig showAttribute $m1s listenerPorts]
wsadmin>set lport [lindex $lports 0]
wsadmin>$AdminConfig modify $lport {{maxRetries 2}}
```

4. Save the configuration changes.

5. In a network deployment environment only, synchronize the node.

Configuring new JMS providers by using scripting

You can use the wsadmin tool and scripting to configure a new Java Message Service (JMS) provider.

Before you begin

Before starting this task, the wsadmin tool must be running.

About this task

Perform the following steps to configure a new JMS provider:

Note: In the following examples, code blocks beginning with `wsadmin>` show code that is entered by the user. Lines that do not begin with `wsadmin>` show code that has been returned by the console.

Procedure

1. Identify the parent ID and assign it to a variable. In this example the variable is named `node`.

- Using Jacl:

```
wsadmin>set node [$AdminConfig getid /Cell:mycell/Node:mynode/]
```

- Using Jython:

```
wsadmin>node = AdminConfig.getid("/Cell:mycell/Node:mynode/")
wsadmin>print node
```

Example output:

```
mynode(cells/mycell/nodes/mynode|node.xml#Node_1)
```

2. Get required attributes:

- Using Jacl:

```
wsadmin>$AdminConfig required JMSPProvider
```

- Using Jython:

```
wsadmin>print AdminConfig.required('JMSPProvider')
```

Example output:

Attribute	Type
name	String
externalInitialContextFactory	String
externalProviderURL	String

3. Set up required attributes:

- Using Jacl:

```
wsadmin>set name [list name JMSP1]
wsadmin>set extICF [list externalInitialContextFactory
"Put the external initial context factory here"]
wsadmin>set extPURL [list externalProviderURL "Put the external provider URL here"]
wsadmin>set jmsAttrs [list $name $extICF $extPURL]
```

- Using Jython:

```
wsadmin>name = ['name', 'JMSP1']
wsadmin>extICF = ['externalInitialContextFactory',
"Put the external initial context factory here"]
wsadmin>extPURL = ['externalProviderURL', "Put the external provider URL here"]
wsadmin>jmsAttrs = [name, extICF, extPURL]
wsadmin>print jmsAttrs
```

Example output:

```
{name JMSP1} {externalInitialContextFactory {Put the external
initial context factory here }} {externalProviderURL
{Put the external provider URL here}}
```

4. Create the JMS provider:

- Using Jacl:

```
wsadmin>set newjmsp [$AdminConfig create JMSPProvider $node $jmsAttrs]
```

- Using Jython:

```
wsadmin>newjmsp = AdminConfig.create('JMSPProvider', node, jmsAttrs)
wsadmin>print newjmsp
```

Example output:

```
JMSP1(cells/mycell/nodes/mynode|resources.xml#JMSPProvider_1)
```

5. Save the configuration changes.
6. In a network deployment environment only, synchronize the node.

Configuring new JMS destinations by using scripting

You can use scripting and the wsadmin tool to configure a new Java Message Service (JMS) destination.

Before you begin

Before starting this task, the wsadmin tool must be running.

About this task

Perform the following steps to configure a new JMS destination:

Note: In the following examples, code blocks beginning with wsadmin> show code that is entered by the user. Lines that do not begin with wsadmin> show code that has been returned by the console.

Procedure

1. Identify the parent ID and assign it to a variable. In this example the variable is named *newjmsp*.

- Using Jacl:

```
wsadmin>set newjmsp [$AdminConfig getid /Cell:mycell/Node:myNode/JMSProvider:JMSP1]
```

- Using Jython:

```
wsadmin>newjmsp = AdminConfig.getid("/Cell:mycell/Node:myNode/JMSProvider:JMSP1")
wsadmin>print newjmsp
```

Example output:

```
JMSP1(cells/mycell/nodes/mynode|resources.xml#JMSProvider_1)
```

2. Get required attributes:

- Using Jacl:

```
wsadmin>$AdminConfig required GenericJMSDestination
```

- Using Jython:

```
wsadmin>print AdminConfig.required('GenericJMSDestination')
```

Example output:

Attribute	Type
name	String
jndiName	String
externalJNDIName	String

3. Set up required attributes:

- Using Jacl:

```
wsadmin>set name [list name JMSP1]
wsadmin>set jndi [list jndiName jms/JMSDestination1]
wsadmin>set extJndi [list externalJNDIName jms/extJMSP1]
wsadmin>set jmsdAttrs [list $name $jndi $extJndi]
```

- Using Jython:

```
wsadmin>name = ['name', 'JMSP1']
wsadmin>jndi = ['jndiName', 'jms/JMSDestination1']
wsadmin>extJndi = ['externalJNDIName', 'jms/extJMSP1']
wsadmin>jmsdAttrs = [name, jndi, extJndi]
wsadmin>print jmsdAttrs
```

Example output:

```
{name JMSP1} {jndiName jms/JMSDestination1} {externalJNDIName jms/extJMSP1}
```

4. Create generic JMS destination:

- Using Jacl:

```
wsadmin>$AdminConfig create GenericJMSDestination $newjmsp $jmsdAttrs
```

- Using Jython:

```
wsadmin>print AdminConfig.create('GenericJMSDestination', newjmsp, jmsdAttrs)
```

Example output:

```
JMSD1(cells/mycell/nodes/mynode|resources.xml#GenericJMSDestination_1)
```

5. Save the configuration changes.
6. In a network deployment environment only, synchronize the node.

Configuring new JMS connections by using wsadmin scripting

Use the wsadmin scripting tool to configure a new Java Message Service (JMS) connection.

Before you begin

Before starting this task, the wsadmin tool must be running.

About this task

Perform the following steps to configure a new JMS connection:

Note: In the following examples, code blocks beginning with wsadmin> show code that is entered by the user. Lines that do not begin with wsadmin> show code that has been returned by the console.

Procedure

1. Identify the parent ID:

- Using Jacl:

```
wsadmin>set newjmsp [$AdminConfig getid /Cell:mycell/Node:myNode/JMSProvider:JMSP1]
```

- Using Jython:

```
wsadmin>newjmsp = AdminConfig.getid('/Cell:mycell/Node:myNode/JMSProvider:JMSP1')
wsadmin>print newjmsp
```

Example output:

```
JMSP1(cells/mycell/nodes/mynode|resources.xml#JMSProvider_1)
```

2. Get required attributes:

- Using Jacl:

```
wsadmin>$AdminConfig required GenericJMSConnectionFactory
```

- Using Jython:

```
wsadmin>print AdminConfig.required('GenericJMSConnectionFactory')
```

Example output:

Attribute	Type
name	String
jndiName	String
externalJNDIName	String

3. Set up required attributes:

- Using Jacl:

```
wsadmin>set name [list name JMSCF1]
wsadmin>set jndi [list jndiName jms/JMSConnFact1]
wsadmin>set extJndi [list externalJNDIName jms/extJMSCF1]
wsadmin>set jmscfAttrs [list $name $jndi $extJndi]
```

Example output:

```
{name JMSCF1} {jndiName jms/JMSConnFact1} {externalJNDIName jms/extJMSCF1}
```

- Using Jython:

```
wsadmin>name = ['name', 'JMSCF1']
wsadmin>jndi = ['jndiName', 'jms/JMConnFact1']
wsadmin>extJndi = ['externalJNDIName', 'jms/extJMSCF1']
wsadmin>jmscfAttrs = [name, jndi, extJndi]
wsadmin>print jmscfAttrs
```

Example output:

```
[[name, JMSCF1], [jndiName, jms/JMConnFact1], [externalJNDIName, jms/extJMSCF1]]
```

4. Create generic JMS connection factory and assign it to a variable. In this example the variable is *cf*.

- Using Jacl:

```
wsadmin>set cf [$AdminConfig create GenericJMSConnectionFactory $newjmsp $jmscfAttrs]
```

- Using Jython:

```
wsadmin>cf = AdminConfig.create('GenericJMSConnectionFactory', newjmsp, jmscfAttrs)
wsadmin>print cf
```

Example output:

```
JMSCF1(cells/mycell/nodes/mynode|resources.xml#GenericJMSConnectionFactory_1)
```

5. Configure a connection pool for your generic connection factories.

Because Java 2 Connector (J2C) manages the generic connection factories, you must configure a connection pool to indicate the policy for connection management by J2C. Use the variable assigned to your generic connection factory to include it in the connection pool. The following example commands configure a connection pool in your environment:

- Using Jacl:

```
wsadmin>set connectionPool [$AdminConfig create ConnectionPool $cf {} connectionPool]
wsadmin>set sessionPool [$AdminConfig create ConnectionPool $cf {} sessionPool]
```

- Using Jython:

```
wsadmin>connectionPool = AdminConfig.create('ConnectionPool', cf, '', 'connectionPool')
wsadmin>sessionPool = AdminConfig.create('ConnectionPool', cf, '', 'sessionPool')
```

6. Save the configuration changes.
7. In a network deployment environment only, synchronize the node.

Configuring new queue connection factories by using scripting

You can use scripting and the wsadmin tool to configure new queue connection factories in WebSphere Application Server.

Before you begin

Before starting this task, the wsadmin tool must be running.

About this task

Perform the following steps to configure a new WebSphere queue connection factory:

Note: In the following examples, code blocks beginning with wsadmin> show code that is entered by the user. Lines that do not begin with wsadmin> show code that has been returned by the console.

Procedure

1. Identify the parent ID and assign it to a variable. In this example the variable is named *v5jmsp*.

- Using Jacl:

```
wsadmin>set v5jmsp [$AdminConfig getid "/Cell:mycell/Node:mynode/JMSProvider:WebSphere JMS Provider/"]
```

- Using Jython:

```
wsadmin>v5jmsp = AdminConfig.getid("/Cell:mycell/Node:myNode/JMSProvider:WebSphere JMS Provider/")
wsadmin>print v5jmsp
```

Example output:

```
"WebSphere JMS Provider(cells/mycell/nodes/mynode|resources.xml#builtin_jmsprovider)"
```

2. Get required attributes:

- Using Jacl:

```
wsadmin>$AdminConfig required WASQueueConnectionFactory
```

- Using Jython:

```
wsadmin>print AdminConfig.required('WASQueueConnectionFactory')
```

Example output:

```
Attribute      Type
name           String
jndiName       String
```

3. Set up required attributes:

- Using Jacl:

```
wsadmin>set name [list name WASQCF]
wsadmin>set jndi [list jndiName jms/WASQCF]
wsadmin>set mqcfAttrs [list $name $jndi]
```

Example output:

```
{name WASQCF} {jndiName jms/WASQCF}
```

- Using Jython:

```
wsadmin>name = ['name', 'WASQCF']
wsadmin>jndi = ['jndiName', 'jms/WASQCF']
wsadmin>mqcfAttrs = [name, jndi]
wsadmin>print mqcfAttrs
```

Example output:

```
[[name, WASQCF], [jndiName, jms/WASQCF]]
```

4. Set up a template:

- Using Jacl:

```
wsadmin>set template [lindex [$AdminConfig listTemplates WASQueueConnectionFactory] 0]
```

- Using Jython:

```
wsadmin>lineSeparator = java.lang.System.getProperty('line.separator')
wsadmin>template = AdminConfig.listTemplates('WASQueueConnectionFactory').split(lineSeparator)[0]
wsadmin>print template
```

5. Create was queue connection factories:

- Using Jacl:

```
wsadmin>$AdminConfig createUsingTemplate WASQueueConnectionFactory $v5jmsp $mqcfAttrs $template
```

- Using Jython:

```
wsadmin>AdminConfig.createUsingTemplate('WASQueueConnectionFactory', v5jmsp, mqcfAttrs, template)
```

Example output:

```
WASQCF(cells/mycell/nodes/mynode|resources.xml#WASQueueConnectionFactory_1)
```

6. Save the configuration changes.

7. In a WebSphere Application Server, Network Deployment environment only, synchronize the node.

Configuring new topic connection factories by using scripting

Use scripting and the wsadmin tool to configure new topic connection factories.

Before you begin

Before starting this task, the wsadmin tool must be running.

About this task

Complete the following steps to configure a new WebSphere topic connection factory:

Note: In the following examples, code blocks beginning with `wsadmin>` show code that is entered by the user. Lines that do not begin with `wsadmin>` show code that has been returned by the console.

Procedure

1. Identify the parent ID and assign it to a variable. In this example the variable is named `v5jmsp`.

- Using Jacl:

```
wsadmin>set v5jmsp [AdminConfig getid "/Cell:mycell/Node:mynode/JMSProvider:WebSphere JMS Provider/"]
```

- Using Jython:

```
wsadmin>v5jmsp = AdminConfig.getid("/Cell:mycell/Node:myNode/JMSProvider:WebSphere JMS Provider/")
wsadmin>print v5jmsp
```

Example output:

```
"WebSphere JMS Provider(cells/mycell/nodes/mynode|resources.xml#builtin_jmsprovider)"
```

2. Get required attributes:

- Using Jacl:

```
wsadmin>$AdminConfig required WASTopicConnectionFactory
```

- Using Jython:

```
wsadmin>print AdminConfig.required('WASTopicConnectionFactory')
```

Example output:

Attribute	Type
name	String
jndiName	String
port	ENUM(DIRECT, QUEUED)

3. Set up required attributes:

- Using Jacl:

```
wsadmin>set name [list name WASTCF]
wsadmin>set jndi [list jndiName jms/WASTCF]
wsadmin>set port [list port QUEUED]
wsadmin>set mtcfAttrs [list $name $jndi $port]
```

Example output:

```
{name WASTCF} {jndiName jms/WASTCF} {port QUEUED}
```

- Using Jython:

```
wsadmin>name = ['name', 'WASTCF']
wsadmin>jndi = ['jndiName', 'jms/WASTCF']
wsadmin>port = ['port', 'QUEUED']
wsadmin>mtcfAttrs = [name, jndi, port]
wsadmin>print mtcfAttrs
```

Example output:

```
[[name, WASTCF], [jndiName, jms/WASTCF], [port, QUEUED]]
```

4. Create was topic connection factories:

- Using Jacl:

```
wsadmin>$AdminConfig create WASTopicConnectionFactory $v5jmsp $mtcfAttrs
```

- Using Jython:

```
wsadmin>print AdminConfig.create('WASTopicConnectionFactory', v5jmsp, mtcfAttrs)
```

Example output:

```
WASTCF(cells/mycell/nodes/mynode|resources.xml#WASTopicConnectionFactory_1)
```

5. Save the configuration changes.

6. In a network deployment environment only, synchronize the node.

Configuring new queues by using scripting

You can use scripting to configure a new queue.

Before you begin

Before starting this task, the wsadmin tool must be running.

About this task

Complete the following steps to configure a new WebSphere queue:

Note: In the following examples, code blocks beginning with wsadmin> show code that is entered by the user. Lines that do not begin with wsadmin> show code that has been returned by the console.

Procedure

1. Identify the parent ID and assign it to a variable. In this example the variable is named *v5jmsp*.

- Using Jacl:

```
wsadmin>set v5jmsp [$AdminConfig getid "/Cell:mycell/Node:mynode/JMSProvider:WebSphere JMS Provider/"]
```

- Using Jython:

```
wsadmin>v5jmsp = AdminConfig.getid("/Cell:mycell/Node:myNode/JMSProvider:WebSphere JMS Provider/")
wsadmin>print v5jmsp
```

Example output:

```
"WebSphere JMS Provider(cells/mycell/nodes/mynode|resources.xml#builtin_jmsprovider)"
```

2. Get required attributes:

- Using Jacl:

```
wsadmin>$AdminConfig required WASQueue
```

- Using Jython:

```
wsadmin>print AdminConfig.required('WASQueue')
```

Example output:

Attribute	Type
name	String
jndiName	String

3. Set up required attributes:

- Using Jacl:

```
wsadmin>set name [list name WASQ1]
wsadmin>set jndi [list jndiName jms/WASQ1]
wsadmin>set wqAttrs [list $name $jndi]
```

Example output:

```
{name WASQ1} {jndiName jms/WASQ1}
```

- Using Jython:

```
wsadmin>name = ['name', 'WASQ1']
wsadmin>jndi = ['jndiName', 'jms/WASQ1']
wsadmin>wqAttrs = [name, jndi]
wsadmin>print wqAttrs
```

Example output:

```
[[name, WASQ1], [jndiName, jms/WASQ1]]
```

4. Create the queue:

- Using Jacl:

```
wsadmin>$AdminConfig create WASQueue $v5jmsp $wqAttrs
```

- Using Jython:

```
wsadmin>print AdminConfig.create('WASQueue', v5jmsp, wqAttrs)
```

Example output:

```
WASQ1(cells/mycell/nodes/mynode|resources.xml#WASQueue_1)
```

5. Save the configuration changes.
6. In a network deployment environment only, synchronize the node.

Configuring new topics by using scripting

You can configure new topics by using the wsadmin tool and scripting.

Before you begin

Before starting this task, the wsadmin tool must be running.

About this task

Complete the following steps to configure a new WebSphere queue:

Note: In the following examples, code blocks beginning with wsadmin> show code that is entered by the user. Lines that do not begin with wsadmin> show code that has been returned by the console.

Procedure

1. Identify the parent ID and assign it to a variable. In this example the variable is named *v5jmsp*.

- Using Jacl:

```
wsadmin>set v5jmsp [$AdminConfig getid "/Cell:mycell/Node:mynode/JMSProvider:WebSphere JMS Provider/"]
```

- Using Jython:

```
wsadmin>v5jmsp = AdminConfig.getid("/Cell:mycell/Node:myNode/JMSProvider:WebSphere JMS Provider/")
wsadmin>print v5jmsp
```

Example output:

```
"WebSphere JMS Provider(cells/mycell/nodes/mynode|resources.xml#builtin_jmsprovider)"
```

2. Get required attributes:

- Using Jacl:

```
wsadmin>$AdminConfig required WASQueue
```

- Using Jython:

```
wsadmin>print AdminConfig.required('WASQueue')
```

Example output:

```
Attribute      Type
name           String
jndiName       String
```

3. Set up required attributes:

- Using Jacl:

```
wsadmin>set name [list name WASQ1]
wsadmin>set jndi [list jndiName jms/WASQ1]
wsadmin>set wqAttrs [list $name $jndi]
```

Example output:

```
{name WASQ1} {jndiName jms/WASQ1}
```

- Using Jython:

```
wsadmin>name = ['name', 'WASQ1']
wsadmin>jndi = ['jndiName', 'jms/WASQ1']
wsadmin>wqAttrs = [name, jndi]
wsadmin>print wqAttrs
```

Example output:

```
[[name, WASQ1], [jndiName, jms/WASQ1]]
```

4. Create the queue:

- Using Jacl:

```
wsadmin>$AdminConfig create WASQueue $v5jmsp $wqAttrs
```

- Using Jython:

```
wsadmin>print AdminConfig.create('WASQueue', v5jmsp, wqAttrs)
```

Example output:

```
WASQ1(cells/mycell/nodes/mynode|resources.xml#WASQueue_1)
```

5. Save the configuration changes.
6. In a network deployment environment only, synchronize the node.

JCAManagement command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure messaging with scripting. The commands and parameters in the JCA management group can be used to create and manage resource adapters, Java EE Connector Architecture (J2C) activation specifications, administrative objects, connection factories, administrative object interfaces, and message listener types.

The JCAManagement command group for the AdminTask object includes the following commands:

- “copyResourceAdapter”
- “createJ2CActivationSpec” on page 66
- “createJ2CAdminObject” on page 67
- “createJ2CConnectionFactory” on page 67
- “listAdminObjectInterfaces” on page 68
- “listConnectionFactoryInterfaces” on page 69
- “listJ2CActivationSpecs” on page 69
- “listJ2CAdminObjects” on page 70
- “listJ2CConnectionFactories” on page 70
- “listMessageListenerTypes” on page 71

copyResourceAdapter

Use the copyResourceAdapter command to create a Java 2 Connector (J2C) resource adapter under the scope that you specify.

Target object

J2C Resource Adapter object ID

Parameters and return values

-name

Indicates the name of the new J2C resource adapter. This parameter is required.

-scope

Indicates the scope object ID. This parameter is required.

-useDeepCopy

If you set this parameter to true, all of the J2C connection factory, J2C activation specification, and J2C administrative objects will be copied to the new J2C resource adapter (deep copy). If you set this parameter to false, the objects are not created (shallow copy). The default is false.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask copyResourceAdapter $ra [subst {-name newRA -scope $scope}]
```

- Using Jython string:

```
AdminTask.copyResourceAdapter(ra, ['-name newRA -scope scope'])
```

- Using Jython list:

```
AdminTask.copyResourceAdapter(ra, ['-name', 'newRA', '-scope', 'scope'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask copyResourceAdapter {-interactive}
```

- Using Jython:

```
AdminTask.copyResourceAdapter('-interactive')
```

createJ2CActivationSpec

Use the createJ2CActivationSpec command to create a Java 2 Connector (J2C) activation specification under a J2C resource adapter and the attributes that you specify. Use the messageListenerType parameter to indicate the activation specification that is defined for the J2C resource adapter.

Target object

J2C Resource Adapter object ID

Parameters and return values

- messageListenerType

Identifies the activation specification for the J2C activation specification to be created. Use this parameter to identify the activation specification template for the J2C resource adapter that you specify.

-name

Indicates the name of the J2C activation specification that you are creating.

-jndiName

Indicates the name of the Java Naming and Directory Interface (JNDI).

-destinationJndiName

Indicates the name of the Java Naming and Directory Interface (JNDI) of corresponding destination.

-authenticationAlias

Indicates the authentication alias of the J2C activation specification that you are creating.

-description

Description of the created J2C activation specification.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createJ2CActivationSpec $ra {-name J2CAct Spec -jndiName eis/ActSpec1
-messageListenerType javax.jms.MessageListener }
```

- Using Jython string:

```
AdminTask.createJ2CActivationSpec(ra, ['-name J2CActSpec -jndiName eis/ActSpec1
-messageListenerType javax.jms.MessageListener'])
```

- Using Jython list:

```
AdminTask.createJ2CActivationSpec(ra, ['-name', 'J2CActSpec', '-jndiName', 'eis/ActSpec1',
'-messageListenerType', 'javax.jms.MessageListener'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createJ2CActivationSpec {-interactive}
```

- Using Jython:

```
AdminTask.createJ2CActivationSpec('-interactive')
```

createJ2CAdminObject

Use the `createJ2CAdminObject` command to create an administrative object under a resource adapter with attributes that you specify. Use the administrative object interface to indicate the administrative object that is defined in the resource adapter.

Target object

J2C Resource Adapter object ID

Parameters and return values

-adminObjectInterface

Specifies the administrative object interface to identify the administrative object for the resource adapter that you specify. This parameter is required.

-name

Indicates the name of the administrative object.

-jndiName

Specifies the name of the Java Naming and Directory Interface (JNDI).

-description

Description of the created J2C admin object.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createJ2CAdminObject $ra {-adminObjectInterface fvt.adapter.message.FVTMessageProvider  
-name J2CA01 -jndiName eis/J2CA01}
```

- Using Jython string:

```
AdminTask.createJ2CAdminObject(ra, ['-adminObjectInterface fvt.adapter.message.FVTMessageProvider  
-name J2CA01 -jndiName eis/J2CA01'])
```

- Using Jython list:

```
AdminTask.createJ2CAdminObject(ra, ['-adminObjectInterface',  
'fvt.adapter.message.FVTMessageProvider', '-name', 'J2CA01', '-jndiName', 'eis/J2CA01'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createJ2CAdminObject {-interactive}
```

- Using Jython:

```
AdminTask.createJ2CAdminObject('-interactive')
```

createJ2CConnectionFactory

Use the `createJ2CConnectionFactory` command to create a Java 2 connection factory under a Java 2 resource adapter and the attributes that you specify. Use the connection factory interfaces to indicate the connection definitions that are defined for the Java 2 resource adapter.

Target object

J2C Resource Adapter object ID

Parameters and return values

-connectionFactoryInterface

Identifies the connection definition for the Java 2 resource adapter that you specify. This parameter is required.

-name

Indicates the name of the connection factory.

-jndiName

Indicates the name of the Java Naming and Directory Interface (JNDI).

-description

Description of the created J2C connection factory.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createJ2CConnectionFactory $ra {-connectionFactoryInterface javax.sql.DataSource  
-name J2CCF1 -jndiName eis/J2CCF1}
```

- Using Jython string:

```
AdminTask.createJ2CConnectionFactory(ra, ['-connectionFactoryInterface javax.sql.DataSource  
-name J2CCF1 -jndi Name eis/J2CCF1'])
```

- Using Jython list:

```
AdminTask.createJ2CConnectionFactory(ra, ['-connectionFactoryInterface',  
'javax.sql.DataSource', '-name', 'J2CCF1', '-jndiName', 'eis/J2CCF1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createJ2CConnectionFactory {-interactive}
```

- Using Jython:

```
AdminTask.createJ2CConnectionFactory('-interactive')
```

listAdminObjectInterfaces

Use the listAdminObjectInterfaces command to list the administrative object interfaces that are defined under the resource adapter that you specify.

Target object

J2C Resource Adapter object ID

Parameters and return values

- Parameters: None
- Returns: A list of administrative object interfaces.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listAdminObjectInterfaces $ra
```

- Using Jython string:

```
AdminTask.listAdminObjectInterfaces(ra)
```

- Using Jython list:

```
AdminTask.listAdminObjectInterfaces(ra)
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listAdminObjectInterfaces {-interactive}
```

- Using Jython:

```
AdminTask.listAdminObjectInterfaces('-interactive')
```

listConnectionFactoryInterfaces

Use the listConnectionFactoryInterfaces command to list all of the connection factory interfaces that are defined under the Java 2 connector resource adapter that you specify.

Target object

J2C Resource Adapter object ID

Parameters and return values

- Parameters: None
- Returns: A list of connection factory interfaces.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listConnectionFactoryInterfaces $ra
```

- Using Jython string:

```
AdminTask.listConnectionFactoryInterfaces(ra)
```

- Using Jython list:

```
AdminTask.listConnectionFactoryInterfaces(ra)
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listConnectionFactoryInterfaces {-interactive}
```

- Using Jython:

```
AdminTask.listConnectionFactoryInterfaces('-interactive')
```

listJ2CActivationSpecs

Use the listJ2CActivationSpecs command to list the activation specifications that are contained under the resource adapter and message listener type that you specify.

Target object

J2C Resource Adapter object ID

Parameters and return values

-messageListenerType

Specifies the message listener type for the resource adapter for which you are making a list. This parameter is required.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listJ2CActivationSpecs $ra {-messageListener Type javax.jms.MessageListener}
```

- Using Jython string:

```
AdminTask.listJ2CActivationSpecs(ra, '[-messageListener Type javax.jms.MessageListener]')
```

- Using Jython list:

```
AdminTask.listJ2CActivationSpecs(ra, ['-messageListener Type', 'javax.jms.MessageListener'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listJ2CActivationSpecs {-interactive}
```

- Using Jython:

```
AdminTask.listJ2CActivationSpecs('-interactive')
```

listJ2CAdminObjects

Use the listJ2CAdminObjects command to list administrative objects that contain the administrative object interface that you specify.

Target object

J2C Resource Adapter object ID

Parameters and return values

-adminObjectInterface

Specifies the administrative object interface for which you want to list. This parameter is required.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listJ2CAdminObjects $ra {-adminObjectInterface  
  fvt.adaptor.message.FVTMessageProvider}
```

- Using Jython string:

```
AdminTask.listJ2CAdminObjects(ra, '[-adminObjectInterface  
  fvt.adaptor.message.FVTMessageProvider]')
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listJ2CAdminObjects {-interactive}
```

- Using Jython:

```
AdminTask.listJ2CAdminObjects('-interactive')
```

listJ2CConnectionFactory

Use the listJ2CConnectionFactory command to list the Java 2 connector connection factories under the resource adapter and connection factory interface that you specify.

Target object

J2C Resource Adapter object ID

Parameters and return values

-connectionFactoryInterface

Indicates the name of the connection factory that you want to list. This parameter is required.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listJ2CConnectionFactories $ra {-connectionFactoryInterface javax.sql.DataSource}
```

- Using Jython string:

```
AdminTask.listJ2CConnectionFactories(ra, '[-connectionFactoryInterface javax.sql.DataSource']')
```

- Using Jython list:

```
AdminTask.listJ2CConnectionFactories(ra, ['-connectionFactoryInterface',  
'javax.sql.DataSource'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listJ2CConnectionFactories {-interactive}
```

- Using Jython:

```
AdminTask.listJ2CConnectionFactories('-interactive')
```

listMessageListenerTypes

Use the `listMessageListenerTypes` command to list the message listener types that are defined under the resource adapter that you specify.

Target object

J2C Resource Adapter object ID

Parameters and return values

- Parameters: None
- Returns: A list of message listener types.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listMessageListenerTypes $ra
```

- Using Jython string:

```
AdminTask.listMessageListenerTypes(ra)
```

- Using Jython list:

```
AdminTask.listMessageListenerTypes(ra)
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listMessageListenerTypes {-interactive}
```

- Using Jython:

```
AdminTask.listMessageListenerTypes('-interactive')
```

Chapter 4. Scripting for naming and directory

This page provides a starting point for finding information about naming support. Naming includes both server-side and client-side components. The server-side component is a Common Object Request Broker Architecture (CORBA) naming service (CosNaming). The client-side component is a Java Naming and Directory Interface (JNDI) service provider. JNDI is a core component in the Java Platform, Enterprise Edition (Java EE) programming model.

The product JNDI service provider can be used to interoperate with any CosNaming name server implementation. Yet product name servers implement an extension to CosNaming, and the JNDI service provider uses those WebSphere extensions to provide greater capability than CosNaming alone. Some added capabilities are binding and looking up of non-CORBA objects.

Java EE applications use the JNDI service provider supported by WebSphere Application Server to obtain references to objects related to server applications, such as enterprise bean (EJB) homes, which have been bound into a CosNaming name space.

Configuring namespace bindings using the wsadmin scripting tool

Use this topic to configure name space bindings with the Jython or Jacl scripting languages and the wsadmin tool.

About this task

Use this task and the following examples to configure string, Enterprise JavaBeans (EJB), CORBA, or indirect name space bindings on a cell.

Procedure

1. Start the wsadmin scripting tool.
2. Identify the cell and assign it to the cell variable.

Using Jacl:

```
set cell [$AdminConfig getid /Cell:mycell/]
```

Example output:

```
mycell(cells/mycell|cell.xml#Cell_1)
```

Using Jython:

```
cell = AdminConfig.getid('/Cell:mycell/')
print cell
```

You can change this example to configure on a node or server here.

3. Add a new name space binding on the cell. There are four binding types to choose from when configuring a new name space binding. They are string, EJB, CORBA, and indirect.
 - To configure a string type name space binding:

Using Jacl:

```
$AdminConfig create StringNameSpaceBinding $cell {{name binding1} {nameInNameSpace
myBindings/myString} {stringToBind "This is the String value that gets bound"}}
```

Example output:

```
binding1(cells/mycell|namebindings.xml#StringNameSpaceBinding_1)
```

Using Jython:

```
print AdminConfig.create('StringNameSpaceBinding', cell, [['name', 'binding1'],
['nameInNameSpace', 'myBindings/myString'], ['stringToBind', "This is the String value that gets bound"]])
```

- To configure an EJB type name space binding:

Using Jacl:

```
$AdminConfig create EjbNameSpaceBinding $cell {{name binding2} {nameInNameSpace myBindings/myEJB}
{applicationNodeName mynode} {bindingLocation SINGLESERVER} {applicationServerName server1}
{ejbJndiName ejb/myEJB}}
```

Using Jython:

```
print AdminConfig.create('EjbNameSpaceBinding', cell, [['name', 'binding2'], ['nameInNameSpace',
'myBindings/myEJB'], ['applicationNodeName', 'mynode'], ['bindingLocation', 'SINGLESERVER'],
['applicationServerName', 'server1'], ['ejbJndiName', 'ejb/myEJB']])
```

This example is for an EJB located in a server. For an EJB in a cluster, change the configuration example to:

Using Jacl:

```
$AdminConfig create EjbNameSpaceBinding $cell {{name binding2} {nameInNameSpace myBindings/myEJB}
{bindingLocation SERVERCLUSTER} {applicationServerName cluster1} {ejbJndiName ejb/myEJB}}
```

Using Jython:

```
print AdminConfig.create('EjbNameSpaceBinding', cell, [['name', 'binding2'],
['nameInNameSpace', 'myBindings/myEJB'], ['bindingLocation', 'SERVERCLUSTER'],
['applicationServerName', 'cluster1'], ['ejbJndiName', 'ejb/myEJB']])
```

Example output:

```
binding2(cells/mycell|namebindings.xml#EjbNameSpaceBinding_1)
```

- To configure a CORBA type name space binding:

Using Jacl:

```
$AdminConfig create CORBAObjectNameSpaceBinding $cell {{name binding3} {nameInNameSpace
myBindings/myCORBA} {corbanameUrl corbaname:iiop:somehost.somecompany.com:2809#stuff/MyCORBAObject}
{federatedContext false}}
```

Example output:

```
binding3(cells/mycell|namebindings.xml#CORBAObjectNameSpaceBinding_1)
```

Using Jython:

```
print AdminConfig.create('CORBAObjectNameSpaceBinding', cell, [['name', 'binding3'], ['nameInNameSpace',
'myBindings/myCORBA'], ['corbanameUrl', 'corbaname:iiop:somehost.somecompany.com:2809#stuff/MyCORBAObject'],
['federatedContext', 'false']])
```

- To configure an indirect type name space binding:

Using Jacl:

```
$AdminConfig create IndirectLookupNameSpaceBinding $cell
{{name binding4} {nameInNameSpace myBindings/myIndirect} {providerURL
corbaloc::myCompany.com:9809/NameServiceServerRoot} {jndiName jndi/name/for/EJB}}
```

Example output:

```
binding4(cells/mycell|namebindings.xml#IndirectLookupNameSpaceBinding_1)
```

Using Jython:

```
print AdminConfig.create('IndirectLookupNameSpaceBinding', cell, [['name', 'binding4'],
['nameInNameSpace', 'myBindings/myIndirect'], ['providerURL', 'corbaloc::myCompany.com:9809/NameServiceServerRoot'],
['jndiName', 'jndi/name/for/EJB']])
```

4. Save the configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Chapter 5. Scripting for security

Configuring security with scripting

You can configure security with scripting and the wsadmin tool.

Before you begin

Before starting this task, the wsadmin tool must be running. Read about Starting the wsadmin scripting client for more information.

About this task

If you enable security for an application server cell, supply authentication information to communicate with servers. The `sas.client.props` and the `soap.client.props` files are located in the following properties directory for each application server profile:

- `profile_root/properties`

Procedure

- The nature of the properties file updates required for running in secure mode depend on whether you connect with a Remote Method Invocation (RMI) connector, a JSR160RMI connector, an Inter-Process Communications (IPC) or a SOAP connector:
 - If you use a Remote Method Invocation (RMI) connector or a JSR160RMI connector, set the following properties in the `sas.client.props` file with the appropriate values:

```
com.ibm.CORBA.loginUserId=  
com.ibm.CORBA.loginPassword=
```

Also, set the following property:

```
com.ibm.CORBA.loginSource=properties
```

The default value for this property is `prompt` in the `sas.client.props` file. If you leave the default value, then a dialog box is displayed with a password prompt. If the script is running unattended, then the system stops.

- If you use a SOAP connector, set the following properties in the `soap.client.props` file with the appropriate values:

```
com.ibm.SOAP.securityEnabled=true  
com.ibm.SOAP.loginUserId=  
com.ibm.SOAP.loginPassword=
```

- If you use an IPC connector, set the following properties in the `ipc.client.props` file with the appropriate values:

```
com.ibm.IPC.loginUserId=  
com.ibm.IPC.loginPassword=
```

- Specify user and password information. Choose one of the following methods:
 - Specify user name and password on a command line, using the **-user** and **-password** commands, as the following examples demonstrate:

```
IBM i
```

```
wsadmin -conntype JSR160RMI -port 2809 -user ul -password secret1
```

- Specify user name and password in the `sas.client.props` file for an RMI connector, the `ipc.client.props` file for the IPC connector, or the `soap.client.props` file for a SOAP connector.

If you specify user and password information on a command line and in the `sas.client.props` file or the `soap.client.props` file, the command line information overrides the information in the props file.

Enabling and disabling security using scripting

You can use scripting to enable or disable application security, global security, administrative security based on the LocalOS registry, and authentication mechanisms.

Before you begin

Before starting this task, the wsadmin tool must be running. See the Starting the wsadmin scripting client article for more information.

About this task

The default profile sets up procedures so that you can enable and disable administrative security based on LocalOS registry.

Procedure

- Use the `isAppEnabled` command to determine if application security is enabled or disabled, as the following example demonstrates:

- Using Jacl:

```
$AdminTask isAppSecurityEnabled {}
```

- Using Jython:

```
AdminTask.isAppSecurityEnabled()
```

This command returns a value of `true` if `appEnabled` is set to `true`. Otherwise, returns a value of `false`.

- Use the `isGlobalSecurityEnabled` command to determine if administrative security is enabled or disabled, as the following example demonstrates:

- Using Jacl:

```
$AdminTask isGlobalSecurityEnabled{}
```

- Using Jython:

```
AdminTask.isGlobalSecurityEnabled()
```

Returns a value of `true` if `enabled` is set to `true`. Otherwise, returns a value of `false`.

- Use the `setGlobalSecurity` command to set administrative security based on the passed in value, as the following example demonstrates:

- Using Jacl:

```
$AdminTask setGlobalSecurity {-enabled true}
```

- Using Jython:

```
AdminTask.setGlobalSecurity ('[-enabled true]')
```

Returns a value of `true` if the `enabled` field in the WCCM security model is successfully updated. Otherwise, returns a value of `false`.

- Use the **help** command to find out the arguments that you need to provide with this call, as the following example demonstrates:

- Using Jacl:

```
securityon help
```

Example output:

```
Syntax: securityon user password
```

- Using Jython:

```
securityon()
```

Example output:

```
Syntax: securityon(user, password)
```

- Enable administrative security based on the LocalOS registry, as the following example demonstrates:

- Using Jacl:

```
securityon user1 password1
```

- Using Jython:

```
securityon('user1', 'password1')
```

- Disable administrative security based on the LocalOS registry, as the following example demonstrates:

- Using Jacl:

securityoff

- Using Jython:

securityoff()

- Enable and disable LTPA and Kerberos authentication.

Use the `setActiveAuthMechanism` command to set Kerberos as the authentication mechanism in the security configuration, as the following example demonstrates:

```
AdminTask.setActiveAuthMechanism('-authMechanismType KRB5')
```

Use the `setActiveAuthMechanism` command to set LTPA as the authentication mechanism in the security configuration, as the following example demonstrates:

```
AdminTask.setActiveAuthMechanism('-authMechanismType LTPA')
```

Additionally, there are sample scripts located in the `<WAS_ROOT>/bin` directory on how to enable and disable LTPA authentication. The scripts are:

- `LTPA_LDAPSecurityProcs.py` (python script)
- `LTPA_LDAPSecurityProcs.jacl` (jacl script)

Note: The scripts hard code the type of LDAP server and base distinguished name (baseDN). The LDAP server type is hardcoded as `IBM_DIRECTORY_SERVER` and the baseDN is hardcoded as `o=ibm,cn=us`.

Enabling and disabling Java 2 security using scripting

You can enable or disable Java 2 security with scripting and the `wsadmin` tool.

About this task

There are two ways to enable or disable Java 2 security. You can use the commands for the `AdminConfig` object, or you can use the `setAdminActiveSecuritySettings` command for the `AdminTask` object.

Procedure

1. Use the `setAdminActiveSecuritySettings` command for the `AdminTask` object to enable or disable Java 2 security.
 - a. Launch the `wsadmin` scripting tool using the Jython scripting language. See the [Starting the wsadmin scripting client](#) article for more information.
 - b. Use the `getActiveSecuritySettings` command to display the current security settings, including custom properties for global security, as the following example demonstrates:

- Using Jacl:

```
$AdminTask getActiveSecuritySettings
```

- Using Jython:

```
AdminTask.getActiveSecuritySettings()
```

- c. Use the `setAdminActiveSecuritySettings` command to enable or disable Java 2 security.

The following examples enable Java 2 security:

- Using Jacl:

```
$AdminTask setAdminActiveSecuritySettings {-enforceJava2Security true}
```

- Using Jython:

```
AdminTask.setAdminActiveSecuritySettings('-enforceJava2Security true')
```

The following examples disable Java 2 security:

- Using Jacl:

```
$AdminTask setAdminActiveSecuritySettings {-enforceJava2Security false}
```

- Using Jython:

```
AdminTask.setAdminActiveSecuritySettings('-enforceJava2Security false')
```

- d. Save the configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

e. Synchronize the node.

Use the `syncActiveNode` or `syncNode` scripts in the `AdminNodeManagement` script library to propagate the configuration changes to node or nodes.

- Use the `syncActiveNodes` script to propagate the changes to each node in the cell, as the following example demonstrates:

```
AdminNodeManagement.syncActiveNodes()
```

- Use the `syncNode` script to propagate the changes to a specific node, as the following example demonstrates:

```
AdminNodeManagement.syncNode("myNode")
```

2. Use the `AdminConfig` object to enable Java 2 security.

a. Start the `wsadmin` scripting tool.

b. Identify the security configuration object and assign it to the security variable, as the following example demonstrates:

- Using Jacl:

```
set security [$AdminConfig list Security]
```

- Using Jython:

```
security = AdminConfig.list('Security')
print security
```

Example output:

```
(cells/mycell|security.xml#Security_1)
```

c. Modify the `enforceJava2Security` attribute to enable or disable Java 2 security, as the following examples demonstrates:

- To enable Java 2 security:

– Using Jacl:

```
$AdminConfig modify $security {{enforceJava2Security true}}
```

– Using Jython:

```
AdminConfig.modify(security, [['enforceJava2Security', 'true']])
```

- To disable Java 2 security:

– Using Jacl:

```
$AdminConfig modify $security {{enforceJava2Security false}}
```

– Using Jython:

```
AdminConfig.modify(security, [['enforceJava2Security', 'false']])
```

d. Save the configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

e. Synchronize the node.

Use the `syncActiveNode` or `syncNode` scripts in the `AdminNodeManagement` script library to propagate the configuration changes to node or nodes.

- Use the `syncActiveNodes` script to propagate the changes to each node in the cell, as the following example demonstrates:

```
AdminNodeManagement.syncActiveNodes()
```

- Use the `syncNode` script to propagate the changes to a specific node, as the following example demonstrates:

```
AdminNodeManagement.syncNode("myNode")
```

WizardCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the `wsadmin` tool. The commands and parameters in the `WizardCommands` group can be used to configure security using similar actions to the security wizard panels in the administrative console.

The WizardCommands command group for the AdminTask object includes the following commands:

- “addToAdminAuthz”
- “applyWizardSettings”
- “getCurrentWizardSettings” on page 82
- “isAdminLockedOut” on page 82
- “isAppSecurityEnabled” on page 83
- “isGlobalSecurityEnabled” on page 83
- “setGlobalSecurity” on page 84
- “setUseRegistryServerId” on page 84
- “validateAdminName” on page 85
- “validateLDAPConnection” on page 86
- “WIMCheckPassword” on page 88

addToAdminAuthz

The **addToAdminAuthz** command adds a new administrative user to your configuration.

Required parameters

adminUser

Specifies the name of the administrative user that you want to add to your configuration.

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask addToAdminAuthz {-adminUser user_name}`
- Using Jython string:
`AdminTask.addToAdminAuthz ('[-adminUser user_name]')`
- Using Jython list:
`AdminTask.addToAdminAuthz (['-adminUser', 'user_name'])`

Interactive mode example usage:

- Using Jacl:
`$AdminTask addToAdminAuthz {-interactive}`
- Using Jython string:
`AdminTask.addToAdminAuthz ('[-interactive]')`
- Using Jython list:
`AdminTask.addToAdminAuthz (['-interactive'])`

applyWizardSettings

The **applyWizardSettings** command applies the current security wizard settings from the workspace.

Required parameters

adminName

Specifies the name of the user with administrative privileges that is defined in the registry.

secureApps

Specifies whether to set application-level security. This type of security provides application isolation and requirements for authenticating application users.

You can specify a true or false value.

Note: The value that you set for this parameter might be overridden by a value at the server level.

secureLocalResources

Specifies whether to set Java 2 security. If you enable Java 2 security and an application requires more Java 2 security permissions than are granted in the default policy, then the application might fail to run properly. By default, access to local resources is not restricted. You can choose to disable Java 2 security, even when application security is enabled.

You can specify a true or false value.

userRegistryType

Specifies a valid user registry type. The following type values are valid:

- **LDAPUserRegistry**
This registry type uses the Lightweight Directory Access Protocol (LDAP) user registry settings when users and groups exist in an external LDAP directory.
- **CustomUserRegistry**
This type specifies a custom registry that implements the `UserRegistry` interface in the `com.ibm.websphere.security` package. If you specify this user registry type, use the **customRegistryClass** parameter to specify the class name for the user registry.
- **WIMUserRegistry**
This value has the same effect as the Federated repositories option in the Security Configuration Wizard on the administrative console. A registry type manages identities in a single, virtual realm that is stored in multiple repositories.
- **LocalOSUserRegistry**
This value specifies the registry for the local operating system of the application server.

Optional parameters

adminPassword

Specifies a password for the user with administrative privileges that is defined in the registry.

customProps

Specifies a custom property.

customRegistryClass

Specifies a dot-separated class name that implements the `UserRegistry` interface in the `com.ibm.websphere.security` package. Include this parameter if you specify `CustomUserRegistry` for the **userRegistryType** parameter.

ignoreCase

Indicates that when an authorization check is performed, the check is not case-sensitive.

You can specify a true or false value.

ldapServerType

Specifies a valid Lightweight Directory Access Protocol (LDAP) server type. The following type values are valid:

- **IBM_DIRECTORY_SERVER**
This value refers to a supported IBM Tivoli® Directory Server version.
- **IPLANET**
This value refers to a supported Sun Java System Directory Server version.
- **NDS**
This value refers to a supported Novell eDirectory version.
- **DOMIN0502**

This value refers to a supported IBM Lotus® Domino® server version.

- SECUREWAY

This value refers to an IBM SecureWay Directory Server version.

- ACTIVE_DIRECTORY

This value refers to a supported Microsoft Active Directory version.

- CUSTOM

This value refers to a custom registry implementation.

For more information about the supported LDAP server versions, see the WebSphere Application Server detailed system requirements documentation.

ldapBaseDN

Specifies the base distinguished name of the directory service, which indicates the starting point for Lightweight Directory Access Protocol (LDAP) searches in the directory service. For example, ou=Rochester, o=IBM, c=us.

ldapBindDN

Specifies the distinguished name for the application server, which is used to bind to the directory service.

ldapBindPassword

Specifies the password for the application server, which is used to bind to the directory service.

ldapHostName

Specifies the (LDAP server host name. This host name is either an IP address or a domain name service (DNS) name.

ldapPort

Specifies a valid LDAP server port number.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask applyWizardSettings {-secureLocalResources true_or_false -secureApps true_or_false
-ignoreCase true_or_false -ldapServerType server_type -ldapBaseDN base_DN_value
-ldapBindDN bind_DN_value -ldapBindPassword bind_DN_password
-ldapHostName host_name -ldapPort port_number -userRegistryType
user_registry_type
-adminName administrator_user_name -adminPassword administrator_password}
```

- Using Jython string:

```
AdminTask.applyWizardSettings (['-secureLocalResources true_or_false -secureApps true_or_false
-ignoreCase true_or_false -ldapServerType server_type -ldapBaseDN base_DN_value
-ldapBindDN bind_DN_value -ldapBindPassword bind_DN_password
-ldapHostName host_name -ldapPort port_number -userRegistryType
user_registry_type
-adminName administrator_user_name -adminPassword administrator_password'])
```

- Using Jython list:

```
AdminTask.applyWizardSettings (['-secureLocalResources', 'true_or_false',
'-secureApps', 'true_or_false', '-ignoreCase', 'true_or_false',
'-ldapServerType', 'server_type', '-ldapBaseDN', 'base_DN_value',
'-ldapBindDN', 'bind_DN_value', '-ldapBindPassword', 'bind_DN_password',
'-ldapHostName', 'host_name', '-ldapPort', 'port_number',
'-userRegistryType', 'user_registry_type', '-adminName', 'administrator_user_name',
'-adminPassword', 'administrator_password'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask applyWizardSettings {-interactive}
```

- Using Jython string:

```
AdminTask.applyWizardSettings ('[-interactive]')
```

- Using Jython list:

```
AdminTask.applyWizardSettings (['-interactive'])
```

getCurrentWizardSettings

The **getCurrentWizardSettings** command retrieves the current security wizard settings from the workspace.

Parameters

None

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getCurrentWizardSettings
```
- Using Jython string:

```
AdminTask.getCurrentWizardSettings
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getCurrentWizardSettings {-interactive}
```
- Using Jython string:

```
AdminTask.getCurrentWizardSettings ('[-interactive]')
```

isAdminLockedOut

The **isAdminLockedOut** command verifies that at least one administrative user exists in the input user registry.

Required parameters

registryType

Specifies a valid user registry type. The following type values are valid:

- LDAPUserRegistry
This registry type uses the Lightweight Directory Access Protocol (LDAP) user registry settings when users and groups exist in an external LDAP directory.
- CustomUserRegistry
This type specifies a custom registry.
- WIMUserRegistry
This value has the same effect as the Federated repositories option in the Security Configuration Wizard on the administrative console. This registry type manages identities in a single, virtual realm that is stored in multiple repositories.
- LocalOSUserRegistry
This value specifies the registry for the local operating system of the application server.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask isAdminLockedOut {-registryType user_registry_type}
```
- Using Jython string:

```
AdminTask.isAdminLockedOut ('[-registryType user_registry_type]')
```

- Using Jython list:

```
AdminTask.isAdminLockedOut (['-registryType', 'user_registry_type'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask isAdminLockedOut {-interactive}
```

- Using Jython string:

```
AdminTask.isAdminLockedOut ('[-interactive]')
```

- Using Jython list:

```
AdminTask.isAdminLockedOut (['-interactive'])
```

isAppSecurityEnabled

The **isAppSecurityEnabled** command returns a true or false value that indicates whether application security is enabled.

Parameters

None

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask isAppSecurityEnabled
```

- Using Jython string:

```
AdminTask.isAppSecurityEnabled
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask isAppSecurityEnabled {-interactive}
```

- Using Jython string:

```
AdminTask.isAppSecurityEnabled ('[-interactive]')
```

isGlobalSecurityEnabled

The **isGlobalSecurityEnabled** command returns a true or false value that indicates whether administrative security is enabled.

Parameters

None

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask isGlobalSecurityEnabled
```

- Using Jython string:

```
AdminTask.isGlobalSecurityEnabled
```

Interactive mode example usage:

- Using Jacl:
`$AdminTask isGlobalSecurityEnabled {-interactive}`
- Using Jython string:
`AdminTask.isGlobalSecurityEnabled ('[-interactive]')`

setGlobalSecurity

The **setGlobalSecurity** command changes whether administrative security is enabled.

Required parameters

enabled

Specifies whether to enable administrative security. This **enabled** parameter is equivalent to the Enable application security option on the administrative console.

You must specify either a true or false value.

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask setGlobalSecurity {-enabled true_or_false}`
- Using Jython string:
`AdminTask.setGlobalSecurity ('[-enabled true_or_false]')`
- Using Jython list:
`AdminTask.setGlobalSecurity (['-enabled', 'true_or_false'])`

Interactive mode example usage:

- Using Jacl:
`$AdminTask setGlobalSecurity {-interactive}`
- Using Jython string:
`AdminTask.setGlobalSecurity ('[-interactive]')`
- Using Jython list:
`AdminTask.setGlobalSecurity (['-interactive'])`

setUseRegistryServerId

The **setUseRegistryServerId** command updates the `useRegistryServerId` field in the user registry object within the `security.xml` file with a true or false value. If you set the field value to true, the application server uses a user-specified server ID for interprocess communications.

Required parameters

useRegistryServerId

Specifies a true or false value for the `useRegistryServerId` setting.

useRegistryType

Specifies a valid user registry type. The following type values are valid:

- `LDAPUserRegistry`
This registry type uses the Lightweight Directory Access Protocol (LDAP) user registry settings when users and groups exist in an external LDAP directory.
- `CustomUserRegistry`
This type specifies a custom registry.

- `WIMUserRegistry`
This value has the same effect as the `Federated repositories` option in the Security Configuration Wizard on the administrative console. A registry type manages identities in a single, virtual realm that is stored in multiple repositories.
- `LocalOSUserRegistry`
This value specifies the registry for the local operating system of the application server.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setUseRegistryServerId {-userRegistryType user_registry_type -useRegistryServerId true_or_false}
```

- Using Jython string:

```
AdminTask.setUseRegistryServerId ('[-userRegistryType user_registry_type -useRegistryServerId true_or_false]')
```

- Using Jython list:

```
AdminTask.setUseRegistryServerId (['-userRegistryType', 'user_registry_type', '-useRegistryServerId', 'true_or_false'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setUseRegistryServerId {-interactive}
```

- Using Jython string:

```
AdminTask.setUseRegistryServerId ('[-interactive]')
```

- Using Jython list:

```
AdminTask.setUseRegistryServerId (['-interactive'])
```

validateAdminName

The **validateAdminName** command verifies whether an administrator name exists in the input user registry.

Required parameters

adminUser

Specifies an administrative user name.

registryType

Specifies a valid user registry type. The following type values are valid:

- `LDAPUserRegistry`
This registry type uses the Lightweight Directory Access Protocol (LDAP) user registry settings when users and groups exist in an external LDAP directory.
- `CustomUserRegistry`
This type specifies a custom registry.
- `WIMUserRegistry`
This value has the same effect as the `Federated repositories` option in the Security Configuration Wizard on the administrative console. A registry type manages identities in a single, virtual realm that is stored in multiple repositories.
- `LocalOSUserRegistry`
This value specifies the registry for the local operating system of the application server.

Optional parameters

ldapServerType

Specifies a valid LDAP server type. The following type values are valid:

- **IBM_DIRECTORY_SERVER**
This value refers to a supported IBM Tivoli Directory Server version.
- **IPLANET**
This value refers to a supported Sun Java System Directory Server version.
- **NDS**
This value refers to a supported Novell eDirectory version.
- **DOMINO502**
This value refers to a supported IBM Lotus Domino server version.
- **SECUREWAY**
This value refers to an IBM SecureWay Directory Server version.
- **ACTIVE_DIRECTORY**
This value refers to a supported Microsoft Active Directory version.
- **CUSTOM**
This value refers to a custom registry implementation.

For more information about the supported LDAP server versions, see the WebSphere Application Server detailed system requirements documentation.

Examples

Batch mode example usage:

- **Using Jacl:**

```
$AdminTask validateAdminName {-ldapServerType server_type -registryType user_registry_type  
-adminUser administrator}
```

- **Using Jython string:**

```
AdminTask.validateAdminName ('[-ldapServerType server_type -registryType user_registry_type  
-adminUser administrator]')
```

- **Using Jython list:**

```
AdminTask.validateAdminName (['-ldapServerType', 'server_type', '-registryType',  
'user_registry_type',  
'-adminUser', 'administrator'])
```

Interactive mode example usage:

- **Using Jacl:**

```
$AdminTask validateAdminName {-interactive}
```

- **Using Jython string:**

```
AdminTask.validateAdminName ('[-interactive]')
```

- **Using Jython list:**

```
AdminTask.validateAdminName (['-interactive'])
```

validateLDAPConnection

The **validateLDAPConnection** command validates the connection to a specified LDAP server.

Required parameters

hostname

Specifies the LDAP server host name. This host name is either an IP address or a domain name service (DNS) name.

sslEnabled

Specifies whether secure socket communications is enabled with the Lightweight Directory Access Protocol (LDAP) server. When this option is selected, LDAP Secure Sockets Layer (SSL) settings are used, if specified.

type

Specifies a valid LDAP registry type. The following type values are valid:

- **IBM_DIRECTORY_SERVER**
This value refers to a supported IBM Tivoli Directory Server version.
- **IPLANET**
This value refers to a supported Sun Java System Directory Server version.
- **NDS**
This value refers to a supported Novell eDirectory version.
- **DOMINO502**
This value refers to a supported IBM Lotus Domino server version.
- **SECUREWAY**
This value refers to an IBM SecureWay Directory Server version.
- **ACTIVE_DIRECTORY**
This value refers to a supported Microsoft Active Directory version.
- **CUSTOM**
This value refers to a custom registry implementation.

For more information about the supported LDAP server versions, see the WebSphere Application Server detailed system requirements documentation.

Optional parameters**baseDN**

Specifies the base distinguished name of the directory service, which indicates the starting point for LDAP searches in the directory service. For example, ou=Rochester, o=IBM, c=us

bindDN

Specifies the distinguished name for the application server, which is used to bind to the directory service.

bindPassword

Specifies the password for the application server, which is used to bind to the directory service.

port

Specifies the LDAP server port number.

securityDomainName

Specifies the name that is used to uniquely identify the security domain.

sslAlias

Specifies which SSL configuration to use for LDAP.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask validateLDAPConnection {-baseDN base_ND_value -bindDN bind_DN_value  
-bindPassword bind_password -hostname host_name -securityDomainName  
security_domain_name  
-port port_number -sslAlias alias -sslEnabled true_or_false  
-type LDAP_registry_type}
```

- Using Jython string:

```
AdminTask.validateLDAPConnection ('[-baseDN base_ND_value -bindDN bind_DN_value
-bindPassword bind_password -hostname host_name -securityDomainName
security_domain_name
-port port_number -sslAlias alias -sslEnabled true_or_false
-type LDAP_registry_type']')
```

- Using Jython list:

```
AdminTask.validateLDAPConnection (['-baseDN', 'base_ND_value', '-bindDN', 'bind_DN_value',
'-bindPassword', 'bind_password', '-hostname', 'host_name', '-securityDomainName',
'security_domain_name', '-port', 'port_number', '-sslAlias', 'alias',
'-sslEnabled', 'true_or_false', '-type', 'LDAP_registry_type'])
```

Interactive mode example usage:

- Using Jacl:
`$AdminTask validateLDAPConnection {-interactive}`
- Using Jython string:
`AdminTask.validateLDAPConnection ('[-interactive]')`
- Using Jython list:
`AdminTask.validateLDAPConnection (['-interactive'])`

WIMCheckPassword

The **WIMCheckPassword** command validates the user name and password in the federated repository.

Required parameters

username

Specifies the name of the user.

password

Specifies the password for the user.

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask.WIMCheckPassword {-username user_name -password password}`
- Using Jython string:
`AdminTask.WIMCheckPassword ('[-username user_name -password password]')`
- Using Jython list:
`AdminTask.WIMCheckPassword (['-username', 'user_name', '-password', 'password'])`

Interactive mode example usage:

- Using Jacl:
`$AdminTask WIMCheckPassword {-interactive}`
- Using Jython string:
`AdminTask.WIMCheckPassword ('[-interactive]')`
- Using Jython list:
`AdminTask.WIMCheckPassword (['-interactive'])`

Configuring multiple security domains using scripting

You can customize your security configuration at the cell, sever, or cluster level by configuring multiple security domains.

Before you begin

Users assigned to the administrator role can configure security domains. Verify that you have the appropriate administrative role before configuring security domains. Also, enable global security in your environment before configuring multiple security domains.

About this task

You can create multiple security domains to customize your security configuration. Use multiple security domains to achieve the following goals:

- Configure different security attributes for administrative and user applications within a cell
- Consolidate server configurations by managing different security configurations within a cell
- Restrict access between applications with different user registries, or configure trust relationships between applications to support communication across registries

Procedure

1. Create a security domain. Create multiple security domains in your configuration. By creating multiple security domains, you can configure different security attributes for administrative and user applications within a cell environment.
2. Assign the security domain to one or a set of resources or scopes. Assign management resources to security domains. Set management resources to your security domains to customize your security configuration for a cell, server, or cluster.
3. Customize your security configuration by specifying attributes for your security domain. See the following examples of security attributes:
 - User registries to validate user credentials
 - Authorization for validating access to resources
 - Trust association interceptor (TAI) to authenticate a web user using a reverse proxy server
 - Application and system JAAS login configurations
 - LTPA timeout settings
 - Application security enablement to provide application isolation and requirements for authenticating application users
 - Java 2 Security to increase overall system integrity by checking for permissions before allowing access to certain protected system resources
 - Remote Method Invocation over Internet Inter-ORB Protocol (RMI/IIOP) to invoke web services through remote procedure calls
 - Custom properties

Configuring security domains using scripting

Use this topic to create multiple security domains in your configuration. By creating multiple security domains, you can configure different security attributes for administrative and user applications within a cell environment.

Before you begin

You must have the administrator role to configure security domains. Also, enable global security in your environment before configuring multiple security domains.

About this task

You can create multiple security domains to customize your security configuration. Use multiple security domains to achieve the following goals:

- Configure different security attributes for administrative and user applications within a cell

- Consolidate server configurations by managing different security configurations within a cell
- Restrict access between applications with different user registries, or configure trust relationships between applications to support communication across registries

Use the following steps to create a new security domain with the wsadmin tool:

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.
2. Create a security domain.

To create a security domain, you can create a new security domain, copy an existing security domain, or copy the existing global security configuration.

- Use the createSecurityDomain command to create the domain-security.xml and domain-security-map.xml security files in the `profile_root/config/waspolices/default/security_configuration_name` directory. No configuration data is added to the domain-security.xml file. Use the following Jython command example to create a security domain:

```
AdminTask.createSecurityDomain('-securityDomainName securityDomain1 -securityDomainDescription "handles user applications"')
```

The command returns the object name of the security domain that was created, as the following example output demonstrates:

```
'waspolices/default/securitydomains/mydomain:domain-security.xml#AppSecurity_1183132319126'
```

- Use the copySecurityDomain command to create a new security domain with the attributes of an existing security domain. If the security configuration of the existing domain has an active user registry defined, then a new realm name for that registry must be used in the new security configuration. If a realm name is not specified with the copySecurityDomain command, then the command assigns a name.

Table 1. copySecurityDomain command parameter descriptions. Specify the following parameters to copy an existing security domain:

Parameter	Description
-securityDomainName	Specifies the name of the new security domain to create (String, required)
-copyFromSecurityDomainName	Specifies the name of the existing security domain to copy (String, required)
-realmName	Specifies the name of the realm in the security domain to create. The system assigns the realm name to the active user registry in the security domain (String, optional)
-securityDomainDescription	Specifies a description for the security domain to create (String, optional)

Use the following Jython command to copy an existing security domain:

```
AdminTask.copySecurityDomain('-securityDomainName copyOfDomain1 -copyFromSecurityDomainName securityDomain1')
```

The command returns the object name of the new security domain, as the following example output demonstrates:

```
'waspolices/default/securitydomains/copyOfDomain1:domain-security.xml#AppSecurity_1183132319186'
```

- Use the copySecurityDomainFromGlobalSecurity command to create a security domain by copying the global security configuration. If the global security configuration has an active user registry defined, then a new realm name for that registry must be used for the security domain to create. If you do not specify a realm name, then the command assigns a name.

Table 2. copySecurityDomainFromGlobalSecurity command parameter descriptions. Specify the following parameters to copy the global security configuration:

Parameter	Description
-securityDomainName	Specifies the name of the new security domain to create (String, required)
-realmName	Specifies the name of the realm in the security domain to create. The system assigns the realm name to the active user registry in the security domain (String, optional)
-securityDomainDescription	Specifies a description for the security domain to create (String, optional)

Use the following Jython command to copy the global security configuration:

```
AdminTask.copySecurityDomainFromGlobalSecurity('-securityDomainName Gscopy')
```

The command returns the object name of the new security domain, as the following example output demonstrates:

```
'waspolicies/default/securitydomains/copyOfDomain1:domain-security.xml#AppSecurity_1183132319186'
```

3. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

What to do next

Use the wsadmin tool to map a scope to your security domain. Additionally, you can configure security artifacts in the newly created domain, by:

- configuring user registries.
- enabling application and Java EE security.
- setting Lightweight Third-Party Authentication (LTPA) timeout.
- configuring System and Application Java™ Authentication and Authorization Service (JAAS) login.
- configuring Java 2 Connector (J2C) authorization data.
- configuring Remote Method Invocation over Internet Inter-ORB Protocol (RMI/IIOP) security.

Configuring local operating system user registries using scripting

Use this topic to configure user registries for global security and security domain configurations using the wsadmin tool. You can define user registries at the global level and for multiple security domains.

Before you begin

You must meet the following requirements before configuring local operating system user registries:

- You must have the administrator or new admin role.
- Enable global security in your environment.
- To configure local operating system user registries for multiple security domains, you must configure at least one security domain.

About this task

Configure local operating system user registries to support use of the authentication mechanism with the user accounts database of the local operating system. You can specify local operating system user registries at the global level and at the security domain.

When you configure a user registry in the global security configuration, the administrator does not specify a realm name for the user registry. The system determines the realm name from the security runtime. The system typically specifies the hostname for local operating system registries.

In security domains, you can configure a different realm for a user registry configuration. For example, you can configure two registries that use the same LDAP server listening on the same port, but use different base distinguished names (baseDN). This allows the configuration to serve different sets of users and groups. To use this type of scenario, you must specify a realm name for each user registry configured for a domain. Because there can be multiple realms in your configuration, you can also specify a list of trusted realms. This allows communication between applications that use different realms.

Use the following steps to configure local operating system user registries for your global security configuration and for multiple security domains:

Procedure

- Configure local operating system registries for global security configurations.

1. Use the `configureAdminLocalOSUserRegistry` command and the following optional parameters to configure a local operating system user registry in your global security configuration.

Note: This command is not supported in a local mode.

Table 3. Optional parameters. This table lists the `configureAdminLocalOSUserRegistry` command and its optional parameters:

Parameter	Description	Data type
<code>-autoGenerateServerId</code>	Specifies whether to automatically generate the server identity to use for internal process communication. To set a specific server identity, specify the <code>-serverId</code> parameter.	Boolean
<code>-serverId</code>	Specifies the user identity in the repository to use for internal process communication.	String
<code>-serverIdPassword</code>	Specifies the password that corresponds to the user identity.	String
<code>-primaryAdminId</code>	Specifies the name of the user with administrative privileges as defined in the registry. This parameter does not apply to security configurations. The user name must exist in the user registry repository.	String
<code>-customProperties</code>	Specifies a list of attribute and value pairs to store as custom properties on the user registry. Separate each attribute and value pair with a comma character (,), as the following syntax displays: "attribute1=value1", "attribute2=value2"	String
<code>-verifyRegistry</code>	Specifies whether to verify the user registry. The default value is <code>true</code> and verification is automatically performed.	Boolean
<code>-ignoreCase</code>	Specifies whether to perform the case-sensitive authorization check. This only applies to the z/OS® local operating system user registry.	Boolean

Use the following Jython example command to configure the local operating system registry for global security:

```
AdminTask.configureAdminLocalOSUserRegistry('-autoGenerateServerId true -primaryAdminId gsAdmin')
```

2. Configure the user registry to be the active user registry for the server.

For example, the following Jython command sets the active user registry as the `LocalOSUserRegistry` registry for your global security configuration:

```
AdminTask.setAdminActiveSecuritySettings('-activeUserRegistry LocalOSUserRegistry')
```

3. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

- Configure local operating system registries for security domains.

1. Determine the name of the security domain to configure.

Use the `listSecurityDomains` command to list all security domains on the server, as the following Jython example demonstrates:

```
AdminTask.listSecurityDomains()
```

If you want to configure the local operating system registry for a specific server, cluster, or cell, use the `getSecurityDomainForResource` command to display the security domain name for the management scope of interest. The following Jython example displays the name of the security domain configured at the cell-level:

```
AdminTask.getSecurityDomainForResource('-resourceName Cell=:Node=myNode:Server=myServer')
```

For this example, the command returns the following output:

```
domain2
```

2. Configure a local operating system user registry for a security domain. Use the `configureAppLocalOSUserRegistry` command and the following optional parameters to configure a local operating system user registry.

Note: This command is not supported in a local mode.

Table 4. Optional parameters. This table describes the `configureAppLocalOSUserRegistry` command and its optional parameters:

Parameter	Description	Data type
<code>-securityDomainName</code>	Specifies the unique name that identifies the security domain of interest.	String
<code>-realmName</code>	Specifies the name of the realm of the user registry.	String
<code>-customProperties</code>	Specifies a list of attribute and value pairs to store as custom properties on the user registry object. Separate each attribute and value pair with a comma character (,).	String
<code>-verifyRegistry</code>	Specifies whether to verify the user registry. The default value is true, and verification is automatically performed.	Boolean
<code>-ignoreCase</code>	Specifies whether to perform the case-sensitive authorization check. This only applies to the z/OS local operating system user registry.	Boolean

Use the following Jython command to configure the local operating system user registry for the `domain2` security domain:

```
AdminTask.configureAppLocalOSUserRegistry('-securityDomainName domain2 -realmName domain2Realm')
```

3. Configure the user registry to be the active user registry for the server.

For example, the following Jython command sets the active user registry as the `LocalOSUserRegistry` registry for your security domain configuration:

```
AdminTask.setAppActiveSecuritySettings('-securityDomainName domain2 -activeUserRegistry LocalOSUserRegistry')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

What to do next

Configuring custom user registries using scripting

Use this topic to configure custom user registries for global security and security domain configurations using the `wsadmin` tool. You can define custom user registries at the global level and for multiple security domains.

Before you begin

You must meet the following requirements before configuring custom user registries:

- You must have the administrator or new admin role.
- Enable global security in your environment.
- Implement and build the `UserRegistry` interface and configure a custom registry.
- To configure custom user registries for multiple security domains, you must configure at least one security domain.

About this task

WebSphere Application Server security supports stand-alone custom registries in addition to the local operating system registry, standalone Lightweight Directory Access Protocol (LDAP) registries, and federated repositories for authentication and authorization. A stand-alone custom-implemented registry uses the `UserRegistry` Java interface as provided by the product. A stand-alone custom registry can

support any type of account repository from a relational database, flat file, and so on. You can specify custom user registries at the global level and at the security domain.

When you configure a user registry in the global security configuration, the administrator does not specify a realm name for the user registry. The system determines the realm name from the security run time. The realm name for custom registries is set by the custom registry.

Use the following command to make a specific user registry the active user registry in the global security configuration:

Jython

```
AdminTask.setAdminActiveSecuritySettings ('[-activeUserRegistry CustomUserRegistry]')
```

Jacl

```
$AdminTask setAdminActiveSecuritySettings {-activeUserRegistry CustomUserRegistry}
```

Use the following command to make a specific user registry the active user registry in the security domain configuration:

Jython

```
AdminTask.setAppActiveSecuritySettings ('[-securityDomainName domain2 -activeUserRegistry CustomUserRegistry]')
```

Jacl

```
$AdminTask setAppActiveSecuritySettings {-securityDomainName domain2 -activeUserRegistry CustomUserRegistry}
```

In security domains, you can configure a different realm for a user registry configuration. For example, you can configure two registries that use the same LDAP server listening on the same port, but use different base distinguished names (baseDN). This method supports the configuration to serve different sets of users and groups. To use this type of scenario, you must specify a realm name for each user registry configured for a domain. Multiple realms can exist in your configuration, and you can also specify a list of trusted realms. Communications between applications that use different realms is supported.

Use the following steps to configure custom user registries for your global security configuration and for multiple security domains:

Procedure

- Configure custom user registries for global security configurations.

Note: This command is not supported in a local mode.

Table 5. Optional parameters. Use the configureAdminCustomUserRegistry command and the following optional parameters to configure a custom user registry in your global security configuration:

Parameter	Description	Data Type
-autoGenerateServerId	Specifies whether to automatically generate the server identity to use for internal process communication. To set a specific server identity, specify the -serverId parameter.	Boolean
-serverId	Specifies the user identity in the repository to use for internal process communication.	String
-serverIdPassword	Specifies the password that corresponds to the user identity.	String
-primaryAdminId	Specifies the name of the user with administrative privileges as defined in the registry. This parameter does not apply to security configurations. The user name must exist in the user registry repository.	String
-customRegClass	Specifies the class name that implements the UserRegistry interface in the com.ibm.websphere.security class.	String
-ignoreCase	Specifies whether to require case sensitive authorization. Specify true to ignore case during authorization.	Boolean

Table 5. Optional parameters (continued). Use the `configureAdminCustomUserRegistry` command and the following optional parameters to configure a custom user registry in your global security configuration:

Parameter	Description	Data Type
-customProperties	Specifies a list of attribute and value pairs to store as custom properties on the user registry object. Separate each attribute and value pair with a comma character. Also, separately surround the attribute and value pairs with bracket characters ([]) for the Jython programming language and brace characters ({} for the Jacl programming language. For example: Jython <code>-customProperties ["attribute1=value1", "attribute2=value2"]</code> Jython <code>-customProperties {"attribute1=value1", "attribute2=value2"}</code>	String
-verifyRegistry	Specifies whether to verify the user registry. The default value is true and verification is automatically performed.	Boolean

Use the following example command to configure the custom user registry for global security:

Jython

```
AdminTask.configureAdminCustomUserRegistry ('[-autoGenerateServerId true -primaryAdminId gsAdmin
-customProperties ["attribute1=value1","attribute2=value2"]')
```

Jacl

```
$AdminTask configureAdminCustomUserRegistry {-autoGenerateServerId true -primaryAdminId gsAdmin
-customProperties {"attribute1=value1","attribute2=value2"}}
```

- Configure custom user registries for security domains.

1. Determine the name of the security domain to configure.

Use the `listSecurityDomains` command to list all security domains on the server:

Jython

```
AdminTask.listSecurityDomains()
```

Jacl

```
$AdminTask listSecurityDomains
```

2. Configure a custom user registry for a security domain.

Note: This command is not supported in a local mode.

Table 6. Optional parameters. Use the `configureAppCustomUserRegistry` command and the following optional parameters to configure a custom user registry:

Parameter	Description	Data type
-securityDomainName	Specifies the unique name that identifies the security domain of interest.	String
-realmName	Specifies the name of the realm of the user registry.	String
-customRegClass	Specifies the class name that implements the UserRegistry interface in the <code>com.ibm.websphere.security</code> class.	String
-ignoreCase	Specifies whether to require case sensitive authorization. Specify true to ignore case during authorization.	Boolean
-customProperties	Specifies a list of attribute and value pairs to store as custom properties on the user registry object. Separate each attribute and value pair with a comma character. Also, separately surround the attribute and value pairs with bracket characters ([]) for the Jython programming language and brace characters ({} for the Jacl programming language. For example: Jython <code>-customProperties ["attribute1=value1", "attribute2=value2"]</code> Jython <code>-customProperties {"attribute1=value1", "attribute2=value2"}</code>	String
-verifyRegistry	Specifies whether to verify the user registry. The default value is true and verification is automatically performed.	Boolean

Use the following example command to configure the custom user registry for the domain2 security domain:

Jython

```
AdminTask.configureAppCustomUserRegistry ('[-securityDomainName domain2 -realmName domain2Realm -customProperties ["attribute1=value1","attribute2=value2"]']')
```

Jacl

```
$AdminTask configureAppCustomUserRegistry {-securityDomainName domain2 -realmName domain2Realm -customProperties {"attribute1=value1","attribute2=value2"}}
```

What to do next

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Configuring JAAS login modules using wsadmin scripting

Use this topic to use the wsadmin tool to configure and manage Java Authentication and Authorization Service (JAAS) login entries to allow communication between realms in a multiple security domain environment.

Before you begin

You must meet the following requirements before configuring local operating system user registries:

- You must have the administrator or new admin role.
- Enable global security in your environment.
- Configure multiple realms using security domains in your environment.

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client topic for more information.
2. Configure a JAAS login module.

Use the configureJAASLoginEntry command to configure a Java Authentication and Authorization Service (JAAS) login entry in a security domain or in the global security configuration. You can use this command to modify existing JAAS login entries or to create new login entries.

Specify the following parameters to configure the JAAS login module:

Table 7. Command parameters. Run the configureJAASLoginEntry command to configure a JAAS login module.

Parameter	Description
-loginEntryAlias	Specifies an alias that identifies the JAAS login entry in the configuration. (String, required)
-loginType	Specifies the type of JAAS login entry of interest. Specify system for the system login type or application for the application login type. (String, required)
-securityDomainName	Specifies the name of the security configuration. If you do not specify a security domain name, the system updates the global security configuration. (String, optional)
-loginModules	Specifies a comma (,) separated list of login module class names. Specify the list in the order that the system calls them. (String, optional)

Table 7. Command parameters (continued). Run the `configureJAASLoginEntry` command to configure a JAAS login module.

Parameter	Description
-authStrategies	<p>Optionally specifies the authentication behavior as authentication proceeds down the list of login modules. (String, optional)</p> <p>Specify one or many of the following values in a comma (,) separated list:</p> <ul style="list-style-type: none"> • REQUIRED Specifies that the LoginModule module is required to succeed. Whether authentication succeeds or fails, the process still continues down the LoginModule list for each realm. • REQUISITE Specifies that the LoginModule module is required to succeed. If authentication is successful, the process continues down the LoginModule list in the realm entry. If authentication fails, control immediately returns to the application. Authentication does not proceed down the LoginModule list. • SUFFICIENT Specifies that the LoginModule module is not required to succeed. If authentication succeeds, control immediately returns to the application. Authentication does not proceed down the LoginModule list. If authentication fails, the process continues down the list. • OPTIONAL Specifies that the LoginModule module is not required to succeed. Whether authentication succeeds or fails, the process still continues down the LoginModule list.

Use the `configureJAASLoginEntry` command to configure the JAAS login module, as the following Jython example demonstrates:

```
AdminTask.configureJAASLoginEntry(['-securityDomainName testDomain
-loginType application -loginEntryAlias testLoginEntry -loginModules
"com.ibm.ws.security.common.auth.module.WSLoginModuleImpl" -authStrategies "REQUIRED"]')
```

3. Set custom properties for the JAAS login module.

Use the `configureLoginModule` command to specify custom properties, modify the authentication strategy, or set the module to use a login module proxy. The following Jython command sets the debug and delegate custom properties for the `testLoginEntry` JAAS login entry:

```
AdminTask.configureLoginModule(['-securityDomainName testDomain -loginType application
-loginEntryAlias testLoginEntry -loginModule com.ibm.ws.security.common.auth.module.WSLoginModuleImpl
-customProperties ["debug=true","delegate=WSLogin"]'])
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Configuring Common Secure Interoperability authentication using scripting

Use this topic to use the `wsadmin` tool to configure inbound and outbound communications using the Common Secure Interoperability protocol. Common Secure Interoperability Version 2 (CSIv2) supports increased vendor interoperability and additional features.

Before you begin

You must meet the following requirements before configuring local operating system user registries:

- You must have the administrator or new admin role.
- Enable global security in your environment.
- Configure multiple realms using security domains in your environment.

Procedure

- Configure CSI inbound communication authentication.

Inbound authentication refers to the configuration that determines the type of accepted authentication for inbound requests. This authentication is advertised in the interoperable object reference (IOR) that the client retrieves from the name server.

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.
2. Determine the settings to specify for CSI inbound communication.

The `configureCSIIInbound` command configures various settings for CSI inbound communication.

Table 8. Command parameters. Review the following list of optional parameters to determine the attributes to set in your configuration:

Parameter	Description
<code>-securityDomainName</code>	Specifies the name of the security configuration. If you do not specify a security domain name, the command modifies the global security configuration. (String)
<code>-messageLevelAuth</code>	Specifies whether clients connecting to this server must specify a user ID and password. Specify <code>Never</code> to disable the user ID and password requirement. Specify <code>Supported</code> to accept a user ID and password. Specify <code>Required</code> to require a user ID and password. (String)
<code>-supportedAuthMechList</code>	Specifies the authentication mechanism to use. Specify <code>KRB5</code> for Kerberos authentication, <code>LTPA</code> for Lightweight Third-Party Authentication, <code>BasicAuth</code> for basic authentication, and <code>custom</code> to use your own authentication token implementation. You can specify more than one, separated by the pipe character (<code> </code>). (String)
<code>-clientCertAuth</code>	Specifies whether a client that connects to the server must connect using an SSL certificate. Specify <code>Never</code> to allow clients to connect without SSL certificates. Specify <code>Supported</code> to accept clients connecting with and without SSL certificates. Specify <code>Required</code> to require clients to use SSL certificate. (String)
<code>-transportLayer</code>	Specifies the transport layer support level. Specify <code>Never</code> to disable transport layer support. Specify <code>Supported</code> to enable transport layer support. Specify <code>Required</code> to require transport layer support. (String)
<code>-sslConfiguration</code>	Specifies the SSL configuration alias to use for inbound transport. (String)
<code>-enableIdentityAssertion</code>	Specifies whether to enable identity assertion. When using the identity assertion authentication method, the security token generated is a <code><wsse:UsernameToken></code> element that contains a <code><wsse:Username></code> element. Specify <code>true</code> for the <code>-enableIdentityAssertion</code> parameter to enable identity assertion. (Boolean)
<code>-trustedIdentities</code>	Specifies a list of trusted server identities, separated by the pipe character (<code> </code>). To specify a null value, set the value of the <code>-trustedIdentities</code> parameter as an empty string (<code>""</code>). (String)
<code>-statefulSession</code>	Specifies whether to enable a stateful session. Specify <code>true</code> to enable a stateful session. (Boolean)
<code>-enableAttributePropagation</code>	Specifies whether to enable security attribute propagation. Security attribute propagation allows the application server to transport authenticated subject contents and security context information from one server to another in your configuration. Specify <code>true</code> to enable security attribute propagation. (Boolean)

3. Configure CSI inbound communication authentication.

The `configureCSIIInbound` command configures the CSIv2 Inbound authentication on a security domain or on the global security configuration. When configuring CSI Inbound in a security domain for the first time, the CSI objects are copied from global security. Then, the changes are applied to configuration.

Use the `configureCSIIInbound` command to configure CSI inbound authentication for a security domain or the global security configuration, as the following Jython example demonstrates:

```
AdminTask.configureCSIIInbound('-securityDomainName testDomain -messageLevelAuth Supported
-supportedAuthMechList KRB5|LTPA -clientCertAuth Supported -statefulSession true')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

- Configure CSI outbound communication authentication.

Outbound authentication refers to the configuration that determines the type of authentication that is performed for outbound requests to downstream servers.

1. Start the wsadmin scripting tool.
2. Determine the settings to specify for CSI outbound communication.

The `configureCSIOutbound` command configures various settings for CSI outbound communication.

Table 9. Command parameters. Review the following list of optional parameters to determine the attributes to set in your configuration:

Parameter	Description
<code>-securityDomainName</code>	Specifies the name of the security configuration. If you do not specify a security domain name, the command modifies the global security configuration. (String)

Table 9. Command parameters (continued). Review the following list of optional parameters to determine the attributes to set in your configuration:

Parameter	Description
-enableAttributePropagation	Specifies whether to enable security attribute propagation. Security attribute propagation allows the application server to transport authenticated subject contents and security context information from one server to another in your configuration. Specify <code>true</code> to enable security attribute propagation. (Boolean)
-enableIdentityAssertion	Specifies whether to enable identity assertion. When using the identity assertion authentication method, the security token generated is a <code><wsse:UsernameToken></code> element that contains a <code><wsse:Username></code> element. Specify <code>true</code> for the -enableIdentityAssertion parameter to enable identity assertion. (Boolean)
-useServerIdentity	Specifies whether to use the server identity to establish trust with the target server. Specify <code>true</code> to use the server identity. (Boolean)
-trustedId	Specifies the trusted identity that the application server uses to establish trust with the target server. (String)
-trustedIdentityPassword	Specifies the password of the trusted server identity. (String)
-messageLevelAuth	Specifies whether clients connecting to this server must specify a user ID and password. Specify <code>Never</code> to disable the user ID and password requirement. Specify <code>Supported</code> to accept a user ID and password. Specify <code>Required</code> to require a user ID and password. (String)
-supportedAuthMechList	Specifies the authentication mechanism to use. Specify <code>KRB5</code> for Kerberos authentication, <code>LTPA</code> for Lightweight Third-Party Authentication, <code>BasicAuth</code> for basic authentication, and <code>custom</code> to use your own authentication token implementation. You can specify more than one, separated by the pipe character (<code> </code>). (String)
-clientCertAuth	Specifies whether a client that connects to the server must connect using an SSL certificate. Specify <code>Never</code> to allow clients to connect without SSL certificates. Specify <code>Supported</code> to accept clients connecting with and without SSL certificates. Specify <code>Required</code> to require clients to use SSL certificate. (String)
-transportLayer	Specifies the transport layer support level. Specify <code>Never</code> to disable transport layer support. Specify <code>Supported</code> to enable transport layer support. Specify <code>Required</code> to require transport layer support. (String)
-sslConfiguration	Specifies the SSL configuration alias to use for inbound transport. (String)
-statefulSession	Specifies whether to enable a stateful session. Specify <code>true</code> to enable a stateful session. (Boolean)
-enableCacheLimit	Specifies whether to limit the size of the CSIV2 session cache. If you specify a true value, a limit is added to the cache size. The value of the limit is determined by the values that you set with the -maxCacheSize and -idleSessionTimeout parameters. A false value, which is the default, does not limit the cache size. Consider adding a true value for this parameter if your environment uses Kerberos authentication and the clock skew for the configured key distribution center (KDC) is small. A small clock skew is defined as less than 20 minutes. This parameter applies when you set the -statefulSession parameter to true. (Boolean)
-maxCacheSize	Specifies the maximum size of the session cache after which expired sessions are deleted from the cache. Expired sessions are sessions that are idle longer than the time that you specify for the -idleSessionTimeout parameter. Consider specifying a value for this parameter if your environment uses Kerberos authentication and the clock skew for the configured key distribution center (KDC) is small. A small clock skew is defined as less than 20 minutes. Consider increasing the value of this parameter if the small cache size causes the garbage collection to run so frequently that it impacts the performance of the application server. This parameter applies when you set the -statefulSession and -enableCacheLimit parameters to true and set a value for the -idleSessionTimeout parameter. The valid range of values for this parameter is 100 to 1000. (Integer)
-idleSessionTimeout	Specifies the time, in milliseconds, that a CSIV2 session can remain idle before being deleted. The session is deleted if you set the -enableCacheLimit parameter to true and the value of the -maxCacheSize parameter is exceeded. Consider decreasing the value for this parameter if your environment uses Kerberos authentication and the clock skew for the KDC is small. A small clock skew can result in a greater number of rejected CSIV2 sessions. However, with a smaller value for this parameter, the application server can clean out the rejected sessions more often and reduce the possibility of a resource shortage. The valid range of values for this parameter is 60,000 to 86,400,000 milliseconds. (Integer)
-enableOutboundMapping	Specifies whether to enable custom outbound identity mapping. Specify <code>true</code> to enable custom outbound identity mapping. (Boolean)
-trustedTargetRealms	Specifies a list of target realms to trust. Separate each realm name with the pipe character (<code> </code>). (String)

3. Configure CSI outbound communication authentication.

The `configureCSIOutbound` command configures the CSIV2 outbound authentication in a security domain or in the global security configuration. When configuring CSI outbound authentication in a security domain for the first time, the application server copies the CSI objects from global security. Then, the application server applies the changes to that configuration.

Use the `configureCSIOutbound` command to configure CSI outbound authentication for a security domain or the global security configuration, as the following Jython example demonstrates:

```
AdminTask.configureCSIOutbound('-securityDomainName testDomain -enableIdentityAssertion true
-trustedId myID -trustedIdentityPassword myPassword123 -messageLevelAuth Required
-trustedTargetRealms realm1|realm2|realm3')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Configuring trust association using scripting

Use the wsadmin tool to configure and manage trust association configurations in a multiple security domain environment. Trust association enables the integration of the application server security and third-party security servers. More specifically, a reverse proxy server can act as a front-end authentication server while the product applies its own authorization policy onto the resulting credentials that are passed by the proxy server.

Before you begin

You must meet the following requirements before configuring a trust association:

- You must have the administrator or new admin role.
- Enable global security in your environment.
- Configure multiple realms using security domains in your environment.

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.

2. Configure a trust association.

Use the `configureTrustAssociation` command to enable the trust association. You can also use this command to create or modify a trust association interceptor.

The following Jython command creates a trust association for the `testDomain` security domain and configures the trust association to act as a reverse proxy server:

```
AdminTask.configureTrustAssociation('-securityDomainName testDomain -enable true')
```

3. Configure the trust association interceptor.

Use the `configureInterceptor` command to modify an existing interceptor. The following Jython command uses a WebSEAL interceptor to configure single sign-on for the `testDomain` security domain:

```
AdminTask.configureInterceptor('[-interceptor com.ibm.ws.security.web.TAMTrustAssociationInterceptorPlus  
-securityDomainName testDomain -customProperties  
["com.ibm.websphere.security.trustassociation.types=webseal",  
"com.ibm.websphere.security.webseal.loginId=websealLoginID",  
"com.ibm.websphere.security.webseal.id=iv-user"]]')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Mapping resources to security domains using scripting

Use this topic to assign management resources to security domains. Set management resources to your security domains to customize your security configuration for a cell, server, or cluster.

Before you begin

Users assigned to the administrator role can configure security domains. Verify that you have the appropriate administrative role before configuring security domains. Also, create a security domain, or copy an existing security domain before assigning resources to a security domain.

About this task

After creating a security domain, you can map management resources to the security domain. You can assign resources to a security domain at the server, cell, and cluster level. Use the following steps to assign a resource to a security domain:

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.
2. Determine which security domain to map a resource.

Use the `listSecurityDomains` command to view a list of security domains in your configuration. Specify `true` for the optional `-listDescription` parameter to list the description for each security domain, as the following Jython example demonstrates:

```
print AdminTask.listSecurityDomains('-listDescription true')
```

The command returns the following example attribute list output:

```
{{name myDomain}
{description {security domain for administrative applications}}}
{{name domain2}
{description {new domain for cell1123}}}
```

3. Assign a resource to a security domain.

Use the `mapResourceToSecurityDomain` command to assign a management resource to the security domain. For example, use the following Jython command to secure all applications on the `server1` cell with the security attributes in the `domain2` security domain:

```
AdminTask.mapResourceToSecurityDomain('-securityDomainName domain2 -resourceName Cell=myCell:Node=myNode:Server=server1')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Results

Your security domain is updated in your configuration. All applications in the specified resource use the security attributes specified by the security domain. If the security domain does not contain all security attributes, then the missing attributes are obtained from the global security configuration.

What to do next

Restart each resource that you assigned to a security domain.

Removing resources from security domains using scripting

Use this topic to remove management resources from security domains. Remove all resources from a security domain before deleting the security domain from your configuration.

Before you begin

Users assigned to the administrator role can configure security domains. Verify that you have the appropriate administrative role before configuring security domains.

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.
2. Determine the security domain to edit.

Use the `listSecurityDomains` command to view a list of security domains in your configuration. Specify `true` for the optional `-listDescription` parameter to list the description for each security domain, as the following Jython example demonstrates:

```
print AdminTask.listSecurityDomains('-listDescription true')
```

The command returns the following example output:

```
myDomain - security domain for administrative applications
domain2 - new domain for cell1123
```

3. Verify the management resources that are assigned to the security domain.

Use the `listResourcesInSecurityDomain` command to view a list of resources that are mapped to the security domain of interest, as the following Jython example demonstrates:

```
print AdminTask.listResourcesInSecurityDomain('-securityDomainName domain2')
```

The command returns the following example output:

```
"Cell=myhostCell101"
```

4. Remove the resource from the security domain.

Use the `removeResourceFromSecurityDomain` command to remove a management resource from the security domain. For example, use the following Jython command to remove the `Cell101` cell resource from the `domain2` security domain:

```
AdminTask.removeResourceFromSecurityDomain('-securityDomainName domain2 -resourceName Cell=myhostCell101')
```

5. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

What to do next

Restart each management resource that you removed from a security domain.

Removing security domains using scripting

Use this topic to delete security domains from your configuration using the `wsadmin` tool. Remove security domains that are not needed in your security configuration.

Before you begin

Users assigned to the administrator role can configure security domains. Verify that you have the appropriate administrative role before configuring security domains. A security domain must exist in your configuration.

Procedure

1. Start the `wsadmin` scripting tool.
2. Determine the security domain to delete.

Use the `listSecurityDomains` to view a list of security domains in your configuration. Specify `true` for the optional `-listDescription` parameter to list the description for each security domain, as the following Jython example demonstrates:

```
print AdminTask.listSecurityDomains('-listDescription true')
```

The command returns the following example output:

```
{{name myDomain}
 {description {security domain for administrative applications}}}
{{name domain2}
 {description {new domain for cell123}}}
```

3. Verify that no resources are assigned to the security domain to delete.

You can use this step to manually remove resources from the security domain of interest. You do not need to complete this step if you want to delete the security domain and each assigned resource. Use the `listResourcesInSecurityDomain` command to view a list of resources that are mapped to the security domain of interest, as the following Jython example demonstrates:

```
print AdminTask.listResourcesInSecurityDomain('-securityDomainName domain2')
```

If the command returns the name of a resource, use the `removeResourceFromSecurityDomain` command to remove a resource from the security domain. For example, use the following Jython command to remove the `Cell101` cell resource from the `domain2` security domain:

```
"AdminTask.removeResourceFromSecurityDomain('-securityDomainName domain2 -resourceName Cell=myhostCell101')"
```

4. Delete the security domain from your configuration.

Use the `deleteSecurityDomain` command to delete the security domain. If a resource associated with the domain was deleted from the system but the mapping was not removed from the domain, specify the optional `-force` parameter to remove the domain, as the following Jython example demonstrates:


```
AdminTask.deleteSecurityDomain('-securityDomainName domain2 -force true')
```

5. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Removing user registries using scripting

You can use the wsadmin tool to remove user registries from global security or security domain configurations. Use the steps in this topic to remove Lightweight Directory Access Protocol (LDAP), local operating system, custom, or federated repository user registries from your global security or security domain configurations.

Before you begin

You must meet the following requirements before configuring local operating system user registries:

- You must have the administrator or new admin role.
- Enable global security in your environment.

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.

2. Determine the registry to remove.

Use the `getUserRegistryInfo` command to display information about a user registry from the global security configuration or in a security domain. You must specify the type of user registry of interest. Valid values are `LDAPUserRegistry`, `WIMUserRegistry`, `CustomUserRegistry`, and `LocalOSUserRegistry`. The following command returns a list of values in the local operating system user registry object for the `domain2` security domain, as the following example Jython demonstrates:

```
AdminTask.getUserRegistryInfo('-securityDomainName domain2 -userRegistryType LocalOSUserRegistry')
```

3. Determine whether the registry of interest is the active user registry.

You cannot remove the active user registry. Use the `getActiveSecuritySettings` command to see check if the user registry is the active user registry before removing it.

4. Remove the registry of interest.

Use the `unconfigureUserRegistry` command to remove the registry of interest. If you remove the user registry from the global security configuration, then the command reduces the registry object to the minimum values for the configuration. If you remove the user registry from a security domain, then the command removes the configuration object from the security domain. The following Jython example removes the local operating system user registry configuration from the `domain2` security domain:

```
AdminTask.unconfigureUserRegistry('-securityDomainName domain2 -userRegistryType LocalOSUserRegistry')
```

5. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

SecurityDomainCommands command group for the AdminTask object

You can use the Jython scripting language to configure and administer security domains with the wsadmin tool. Use the commands and parameters in the `SecurityDomainCommands` group to create and manage security domains, assign servers and clusters to security domains as resources, and to query the security domain configuration.

Use the following commands to administer the security domain configuration:

- “`convertServerSecurityToSecurityDomain`” on page 104
- `copySecurityDomain`
- `copySecurityDomainFromGlobalSecurity`
- `createSecurityDomain`

- deleteSecurityDomain
- getSecurityDomainForResource
- listResourcesInSecurityDomain
- listSecurityDomains
- “listSecurityDomainsForResource” on page 109
- mapResourceToSecurityDomain
- modifySecurityDomain
- removeResourceFromSecurityDomain

convertServerSecurityToSecurityDomain

Starting in WebSphere Application Server Version 7.0, the use of security domains can be used in place of server level security configurations. If a server level security configuration is currently being used then the convertServerSecurityToSecurityDomain command can be used to convert it to a security domain.

The command creates a security domain and adds any security settings that are specified in the server level security configuration to the newly-created security domain. The server resources are mapped to the security domain.

Target object

None.

Required parameters

-serverResource

The resource name of the server to be converted to a security domain. (String)

-securityDomain

The name of the security domain to be created and that will contain the settings from the server level security configuration. (String)

Optional parameters

-securityDomainDescription

Specifies a description for the new security domain. (String)

-deleteServer

Specify true to remove the server level security configuration and false to leave the server level security configuration. (String)

Batch mode example usage

- Using Jython:

```
wsadmin> AdminTask.convertServerSecurityToSecurityDomain ('[serverResource Cell=:Node=myNode:Server=server1
  -securityDomain secDomain1 -securityDomainDescription "Migrated from
  server security configuration"
  -deleteServer true ]')
```

- Using Jacl:

```
wsadmin> $AdminTask convertServerSecurityToSecurityDomain {-serverResource Cell=:Node=myNode:Server=server1
  -securityDomain secDomain1 -securityDomainDescription "Migrated from
  server security configuration"
  -deleteServer true }
```

copySecurityDomain

The copySecurityDomain command creates a new security domain by copying an existing security domain. If the security configuration defines an active user registry, provide a realm name for the newly create security domain. If you do not specify a realm name, the system creates a realm name.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the new security domain that the system creates by copying another security domain. (String)

-copyFromSecurityDomainName

Specifies the name of the existing security domain that the system uses to create the new security domain. (String)

Optional parameters

-securityDomainDescription

Specifies a description for the new security domain. (String)

-realmName

Specifies the name of the realm in the new security domain. The system creates a name for the realm if you do not specify a value for this parameter. (String)

Return value

The command returns the configuration ID of the new security domain.

Batch mode example usage

- Using Jython string:

```
AdminTask.copySecurityDomain('-securityDomainName copyOfDomain2 -copyFromSecurityDomainName Domain2')
```

- Using Jython list:

```
AdminTask.copySecurityDomain('-securityDomainName', 'copyOfDomain2', '-copyFromSecurityDomainName', 'Domain2')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.copySecurityDomain('-interactive')
```

copySecurityDomainFromGlobalSecurity

The `copySecurityDomainFromGlobalSecurity` command creates a security domain by copying the global security configuration. If an active user registry exists for the global security configuration, provide a realm name for the newly created security domain. If you do not specify a realm name, then the system creates a realm name.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the new security domain that the system copies from the global security configuration. (String)

Optional parameters

-securityDomainDescription

Specifies a description for the new security domain. (String)

-realmName

Specifies the name of the realm in the new security configuration. The system creates a name for the realm if you do not specify a value for the `-realmName` parameter. (String)

Return value

The command returns the configuration ID of the new security domain.

Batch mode example usage

- Using Jython string:

```
AdminTask.copySecurityDomainFromGlobalSecurity('-securityDomainName GSCopy -securityDomainDescription  
"copy of global security" -realmName myRealm')
```

- Using Jython list:

```
AdminTask.copySecurityDomainFromGlobalSecurity('-securityDomainName', 'GSCopy', '-securityDomainDescription',  
"copy of global security", '-realmName myRealm')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.copySecurityDomainFromGlobalSecurity('-interactive')
```

createSecurityDomain

The `createSecurityDomain` command creates the `security-domain-security.xml` and `domain-security-map.xml` files under the `profile_root/config/cells/cellName/securityDomain/configurationName` directory. The system creates an empty `domain-security.xml` file.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the new security domain to create. (String)

Optional parameters

-securityDomainDescription

Specifies a description of the new security domain. (String)

Return value

The command returns the configuration ID of the new security domain.

Batch mode example usage

- Using Jython string:

```
AdminTask.createSecurityDomain('-securityDomainName newDomain -securityDomainDescription "new security domain"')
```

- Using Jython list:

```
AdminTask.createSecurityDomain('-securityDomainName', 'newDomain', '-securityDomainDescription',  
"new security domain")
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createSecurityDomain('-interactive')
```

deleteSecurityDomain

The `deleteSecurityDomain` command removes the `domain-security.xml` and `domain-security-map.xml` files from the security domain directory. The command returns an error if resources are mapped to the security domain of interest. To delete the security domain when resources are mapped to the security domain of interest, specify the value for the `-force` parameter as `true`.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security domain to delete. (String)

Optional parameters

-force

Specifies that the system deletes the security domain without checking for resources that are associated with the domain. Use this option when the resources in the security domains are not valid resources. The default value for the `-force` parameter is `false`. (Boolean)

Return value

The command does not return output if the system successfully removes the security domain configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteSecurityDomain('-securityDomainName mySecurityDomain -force true')
```

- Using Jython list:

```
AdminTask.deleteSecurityDomain('-securityDomainName', 'mySecurityDomain', '-force', 'true')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteSecurityDomain('-interactive')
```

getSecurityDomainForResource

The `getSecurityDomainForResource` command displays the security domain for a specific resource. If the resource is not mapped to a domain, the command does not return output.

Target object

None.

Required parameters

-resourceName

Specifies the name of the resource of interest. Specify the value in the following format:
`Cell=:Node=myNode:Server=myServer` (String)

Optional parameters

-getEffectiveDomain

Specifies whether the command returns the effective domain of the resource if the resource is not

directly mapped to a domain. The default value is true. Specify false if you do not want to display the effective domain if the resource is not directly mapped to a domain. (Boolean)

Return value

The command returns the security domain name as a string.

Batch mode example usage

- Using Jython string:

```
AdminTask.getSecurityDomainForResource('-resourceName Cell=:Node=myNode:Server=myServer')
```

- Using Jython list:

```
AdminTask.getSecurityDomainForResource('-resourceName', 'Cell=:Node=myNode:Server=myServer')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getSecurityDomainForResource('-interactive')
```

listResourcesInSecurityDomain

The listResourcesInSecurityDomain command displays the servers or clusters that are associated with a specific security domain.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security domain of interest. (String)

-expandCell

Specifies whether to display the servers in the cell. Specify true to display the specific servers, or specify false to list the cell information only. (Boolean)

Return value

The command returns an array that contains the names of the resources that are mapped to the security domain of interest in the format: Cell=cell name:Node=node name:Server=server name.

Batch mode example usage

- Using Jython string:

```
AdminTask.listResourcesInSecurityDomain('-securityDomainName myDomain')
```

- Using Jython list:

```
AdminTask.listResourcesInSecurityDomain('-securityDomainName', 'myDomain')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listResourcesInSecurityDomain('-interactive')
```

listSecurityDomains

The listSecurityDomains command lists each security domain configured for the server.

Target object

None.

Optional parameters

-listDescription

Specifies whether to display the description of the security domains. Specify `true` to display the descriptions of the security domains. (Boolean)

-doNotDisplaySpecialDomains

Specifies whether to exclude special domains. Specify `true` to exclude the special domains in the command output, or `false` to display the special domains. (Boolean)

Return value

The command returns an array that contains the names of security domains that are configured for the server. The command returns an array of attribute lists that contain the name and description for each security domain if the `-listDescription` parameter is specified.

Batch mode example usage

- Using Jython string:

```
AdminTask.listSecurityDomains('-listDescription true')
```

- Using Jython list:

```
AdminTask.listSecurityDomains('-listDescription', 'true')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listSecurityDomains('-interactive')
```

listSecurityDomainsForResources

The `listSecurityDomainsForResources` command lists the security domains that are associated with the resources of interest.

Target object

None.

Required parameters

-resourceNames

Specifies one or more resources for which the command returns the associated security domains. Specify each resource separated by the plus sign character (+). (String)

Return value

The command returns the list of resources specified by the `-resourceNames` parameter and the security domains to which each resource is mapped.

Batch mode example usage

- Using Jython string:

```
AdminTask.listSecurityDomainsForResources('-resourceNames resource1+resource2+resource3')
```

- Using Jython list:

```
AdminTask.listSecurityDomainsForResources('-resourceNames', 'resource1+resource2+resource3')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listSecurityDomainsForResources('-interactive')
```

mapResourceToSecurityDomain

The `mapResourceToSecurityDomain` command maps a resource to a security domain. The system adds an entry for each resource to the `domain-security-map.xml` file.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security domain of interest. (String)

-resourceName

Specifies the name of the resource to which the system maps the security domain of interest. Specify the value in the following format: `Cell=:Node=myNode:Server=myServer` (String)

Return value

The command does not return output if the system successfully assigns the resource to the security domain of interest.

Batch mode example usage

- Using Jython string:

```
AdminTask.mapResourceToSecurityDomain('-securityDomainName mySecurityDomain -resourceName  
-resourceName Cell=:Node=myNode:Server=myServer')
```

- Using Jython list:

```
AdminTask.mapResourceToSecurityDomain('-securityDomainName', 'mySecurityDomain', '-resourceName',  
'-resourceName Cell=:Node=myNode:Server=myServer')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.mapResourceToSecurityDomain('-interactive')
```

modifySecurityDomain

The `modifySecurityDomain` command changes the description of a security domain.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security domain to edit. (String)

Optional parameters

-securityDomainDescription

Specifies the new description for the security domain of interest. (String)

Return value

The command does not return output if the system successfully modifies the security domain.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifySecurityDomain('-securityDomainName myDomain -securityDomainDescription  
"my new description"')
```

- Using Jython list:

```
AdminTask.modifySecurityDomain('-securityDomainName', 'myDomain', '-securityDomainDescription',=  
"my new description"')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifySecurityDomain('-interactive')
```

removeResourceFromSecurityDomain

The `removeResourceFromSecurityDomain` command removes a resource from a security domain mapping. The command removes the resource entry from the `domain-security-map.xml` file.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security domain from which to remove the resource. (String)

-resourceName

Specifies the name of the resource to remove. Specify the value in the following format:

Cell=:Node=*myNode*:Server=*myServer* (String)

Return value

The command does not return output if the system successfully removes the resource from the security domain.

Batch mode example usage

- Using Jython string:

```
AdminTask.removeResourceFromSecurityDomain('-securityDomainName myDomain -resourceName  
Cell=:Node=myNode:Server=myServer')
```

- Using Jython list:

```
AdminTask.removeResourceFromSecurityDomain('-securityDomainName', 'myDomain', '-resourceName',  
'Cell=:Node=myNode:Server=myServer')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.removeResourceFromSecurityDomain('-interactive')
```

SecurityConfigurationCommands command group for the AdminTask object

You can use the Jython scripting language to configure security with the `wsadmin` tool. Use the commands and parameters in the `SecurityConfigurationCommands` group to configure and manage user registries, single sign-on, data entries, trust association, login modules, and interceptors.

Use the following command to administer user registry configurations:

- `configureAdminCustomUserRegistry`
- `configureAdminLDAPUserRegistry`
- `configureAdminLocalOSUserRegistry`

- configureAdminWIMUserRegistry
- configureAppCustomUserRegistry
- configureAppLDAPUserRegistry
- configureAppLocalOSUserRegistry
- configureAppWIMUserRegistry
- getLTPATimeout
- setLTPATimeout
- getUserRegistryInfo
- unconfigureUserRegistry

Use the following commands to administer Java Authentication and Authorization Service (JAAS) login configurations:

- configureLoginEntry
- configureLoginModule
- getJAASLoginEntryInfo
- listJAASLoginEntries
- listLoginModules
- unconfigureJAASLoginEntry
- unconfigureLoginModule

Use the following commands to administer data entry configurations:

- createAuthDataEntry
- deleteAuthDataEntry
- getAuthDataEntry
- “modifyAuthDataEntry” on page 135
- “clearAuthCache” on page 136
- “purgeUserFromAuthCache” on page 136

Use the following commands to administer Common Secure Interoperability Version 2 (CSIV2) configurations:

- configureCSIIInbound
- configureCSIOutbound
- getCSIIInboundInfo
- getCSIOutboundInfo
- unconfigureCSIIInbound
- unconfigureCSIOutbound

Use the following commands to administer trust association configurations:

- configureInterceptor
- configureTrustAssociation
- getTrustAssociationInfo
- listInterceptors
- unconfigureInterceptor
- unconfigureTrustAssociation

Use the following commands to manage your security configuration:

- “applyWizardSettings” on page 145

- `configureAuthzConfig`
- `configureSingleSignon`
- `getActiveSecuritySettings`
- “`getAuthzConfigInfo`” on page 149
- “`getSingleSignon`” on page 149
- `setAdminActiveSecuritySettings`
- `setAppActiveSecuritySettings`
- `unconfigureAuthzConfig`
- `unsetAppActiveSecuritySettings`

configureAdminCustomUserRegistry

The `configureAdminCustomUserRegistry` command configures a custom user registry in the global security configuration.

Note: This command is not supported in a local mode.

Target object

None.

Optional parameters

-autoGenerateServerId

Specifies whether the command automatically generates the server identity that the system uses for internal process communication. Specify `true` to automatically generate the server identity. (Boolean)

-serverId

Specifies the server identity in the repository that the system uses for internal process communication. (String)

-serverIdPassword

Specifies the password that corresponds to the server identity. (String)

-primaryAdminId

Specifies the name of the user with administrative privileges that is defined in the registry. This parameter does not apply to security configurations. (String)

-customRegClass

Specifies the class name that implements the `UserRegistry` interface in `com.ibm.websphere.security` property. (String)

-verifyRegistry

Specifies whether to verify that the user registry configuration is correct. If you set this parameter to `true`, then the system verifies the registry by making a call to the user registry to verify the admin ID. If you specify a server ID and password, then the system verifies the user and password with the user registry. Set the parameter to `false` to store the attributes in the configuration without validation. The command verifies the registry configuration by default. (Boolean)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: `"attr1=value1","attr2=value2"` (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureAdminUserRegistry('-autoGenerateServerId true -serverIdPassword password4server  
-primaryAdminId serverAdmin')
```

- Using Jython list:

```
AdminTask.configureAdminCustomUserRegistry(['-autoGenerateServerId', 'true', '-serverIdPassword', 'password4server',  
'-primaryAdminId', 'serverAdmin'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureAdminCustomUserRegistry('-interactive')
```

configureAdminLDAPUserRegistry

The `configureAdminLDAPUserRegistry` command configures a Lightweight Directory Access Protocol (LDAP) user registry in the global security configuration.

Note: This command is not supported in a local mode.

Target object

None.

Optional parameters

-autoGenerateServerId

Specifies whether the command automatically generates the server identity used for internal process communication. Specify `true` to automatically generate the server identity. (Boolean)

-serverId

Specifies the server identity in the repository that the system uses for internal process communication. (String)

-serverIdPassword

Specifies the password that corresponds to the server identity. (String)

-primaryAdminId

Specifies the name of the user with administrative privileges that is defined in the registry. This parameter does not apply to security configurations. (String)

-verifyRegistry

Specifies whether to verify that the user registry configuration is correct. If you set this parameter to `true`, then the system verifies the registry by making a call to the user registry to verify the admin ID. If you specify a server ID and password, then the system verifies the user and password with the user registry. Set the parameter to `false` to store the attributes in the configuration without validation. The command verifies the registry configuration by default. (Boolean)

-ldapServerType

Specifies the type of LDAP server. The default type is `IBM_DIRECTORY_SERVER`. (String)

Specify one of the following valid values:

- `IBM_DIRECTORY_SERVER`
- `IPLANET`
- `NETSCAPE`
- `NDS`
- `DOMIN0502`
- `SECUREWAY`
- `ACTIVE_DIRECTORY`

- CUSTOM

-ldapHost

Specifies the host name of the LDAP server. (String)

-ldapPort

Specifies the port that the system uses to access the LDAP server. The default value is 389. (String)

-baseDN

Specifies the base distinguished name (DN) of the directory service, which indicates the starting point for LDAP searches of the directory service. In most cases, bind DN and bind password are needed. However, when anonymous bind can satisfy all of the required functions, bind DN and bind password are not needed. (String)

-bindDN

Specifies the distinguished name for the application server, which is used to bind to the directory service. (String)

-bindPassword

Specifies the binding DN password for the LDAP server. (String)

-searchTimeout

Specifies the timeout value in seconds for an LDAP server to respond before stopping a request. The default value is 120 seconds. (Long)

-reuseConnection

Specifies whether the server reuses the LDAP connection. By default, this option is enabled. Specify `false` for this parameter only in rare situations where a router is used to distribute requests to multiple LDAP servers and when the router does not support affinity. (Boolean)

Note: When you disable the reuse of the LDAP connection, the application server creates a new LDAP connection for every LDAP search request. This situation impacts system performance if your environment requires extensive LDAP calls. This option is provided because the router is not sending the request to the same LDAP server. The option is also used when the idle connection timeout value or firewall timeout value between the application server and LDAP is too small.

-userFilter

Specifies the LDAP filter clause that the system uses to search the user registry for users. The default value is the default user filter for the LDAP server type. (String)

-groupFilter

Specifies the LDAP filter clause that the system uses to search the user registry for groups. The default value is the default group filter for the LDAP server type. (String)

-userIdMap

Specifies the LDAP filter that maps the short name of a user to an LDAP entry. The default value is the default user filter for the LDAP server type. (String)

-groupIdMap

Specifies the LDAP filter that maps the short name of a group to an LDAP entry. The default value is the default group filter for the LDAP server type. (String)

-groupMemberIdMap

Specifies the LDAP filter that identifies users to group memberships. (String)

-certificateMapMode

Specifies whether to map X.509 certificates into an LDAP directory by `EXACT_DN` or `CERTIFICATE_FILTER`. Specify `CERTIFICATE_FILTER` to use the specified certificate filter for the mapping. (String)

-certificateFilter

Specifies the filter certificate mapping property for the LDAP filter. The filter is used to map attributes in the client certificate to entries in the LDAP registry. (String)

The syntax or structure of this filter is: (&(uid=\${SubjectCN})(objectclass=inetOrgPerson)). The left side of the filter specification is an LDAP attribute that depends on the schema that your LDAP server is configured to use. The right side of the filter specification is one of the public attributes in your client certificate. The right side must begin with a dollar sign (\$) and open bracket (()) and end with a close bracket ()). You can use the following certificate attribute values on the right side of the filter specification. The case of the strings is important:

- \${UniqueKey}
- \${PublicKey}
- \${Issuer}
- \${NotAfter}
- \${NotBefore}
- \${SerialNumber}
- \${SigAlgName}
- \${SigAlgOID}
- \${SigAlgParams}
- \${SubjectCN}
- \${Version}

-krbUserFilter

Specifies that the default value is the default user filter for the LDAP server type. (String)

-nestedGroupSearch

Specifies whether to perform a recursive nested group search. Specify `true` to perform a recursive nested group search, or specify `false` to disable recursive nested group searching. (Boolean)

-sslEnabled

Specifies whether to enable Secure Sockets Layer (SSL). Specify `true` to enable an SSL connection to the LDAP server. (Boolean)

-sslConfig

Specifies the SSL configuration alias to use for the secure LDAP connection. (String)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: "attr1=value1","attr2=value2" (String)

-resetDefaultFilters

Specify `true`, to reset all of the filter values to the default value of the LDAP server type. The default value for this parameter is `false`. The LDAP filter attributes reset are: `userFilter`, `groupFilter`, `userIdMap`, `groupIdMap`, `groupMemberIdMap` and `krbUserFilter`. If any of the other filter flags are used to specify a filter value on the command line at the same time `resetDefaultFilter` is set to `true`, the filter value specified is used. Any filter not specified on the command line at the time is reset to the default value of the LDAP server type.

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureAdminCustomUserRegistry('-autoGenerateServerId true -serverIdPassword password4server  
-primaryAdminId serverAdmin -ldapServerType NETSCAPE -ldapHost 195.168.1.1')
```

- Using Jython list:

```
AdminTask.configureAdminCustomUserRegistry(['-autoGenerateServerId', 'true', '-serverIdPassword', 'password4server',
'-primaryAdminId', 'serverAdmin', '-ldapServerType', 'NETSCAPE', '-ldapHost', '195.168.1.1'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureAdminLDAPUserRegistry('-interactive')
```

configureAdminLocalOSUserRegistry

The `configureAdminLocalOSUserRegistry` command configures a local operating system user registry in the global security configuration.

Note: This command is not supported in a local mode.

Target object

None.

Optional parameters

-autoGenerateServerId

Specifies whether the command automatically generates the server identity used for internal process communication. Specify `true` to automatically generate the server identity. (Boolean)

-serverId

Specifies the server identity in the repository that the system uses for internal process communication. (String)

-serverIdPassword

Specifies the password that corresponds to the server identity. (String)

-primaryAdminId

Specifies the name of the user with administrative privileges that is defined in the registry. This parameter does not apply to security configurations. (String)

-verifyRegistry

Specifies whether to verify that the user registry configuration is correct. If you set this parameter to `true`, then the system verifies the registry by making a call to the user registry to verify the admin ID. If you specify a server ID and password, then the system verifies the user and password with the user registry. Set the parameter to `false` to store the attributes in the configuration without validation. The command verifies the registry configuration by default. (Boolean)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: `"attr1=value1","attr2=value2"` (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureAdminLocalOSUserRegistry('-autoGenerateServerId true -serverIdPassword password4server
-primaryAdminId serverAdmin')
```

- Using Jython list:

```
AdminTask.configureAdminLocalOSUserRegistry(['autoGenerateServerId', 'true', '-serverIdPassword', 'password4server',
'-primaryAdminId', 'serverAdmin'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureAdminLocalOSUserRegistry('-interactive')
```

configureAdminWIMUserRegistry

The `configureAdminWIMUserRegistry` command configures a federated repository user registry in the administrative security configuration.

Note: This command is not supported in a local mode.

Target object

None.

Optional parameters

-autoGenerateServerId

Specifies whether the command automatically generates the server identity used for internal process communication. Specify `true` to automatically generate the server identity. (Boolean)

-serverId

Specifies the server identity in the repository that the system uses for internal process communication. (String)

-serverIdPassword

Specifies the password that corresponds to the server identity. (String)

-primaryAdminId

Specifies the name of the user with administrative privileges that is defined in the registry. This parameter does not apply to security configurations. (String)

-realmName

Specifies the realm of the user registry. The system automatically generates a realm name if you do not specify a value for the `-realmName` parameter. (String)

-verifyRegistry

Specifies whether to verify that the user registry configuration is correct. If you set this parameter to `true`, then the system verifies the registry by making a call to the user registry to verify the admin ID. If you specify a server ID and password, then the system verifies the user and password with the user registry. Set the parameter to `false` to store the attributes in the configuration without validation. The command verifies the registry configuration by default. (Boolean)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: `"attr1=value1","attr2=value2"` (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureAdminWIMUserRegistry('-autoGenerateServerId true -serverIdPassword password4server -primaryAdminId serverAdmin')
```

- Using Jython list:

```
AdminTask.configureAdminWIMUserRegistry(['autoGenerateServerId', 'true', '-serverIdPassword', 'password4server', '-primaryAdminId', 'serverAdmin'])
```


Interactive mode example usage

- Using Jython:

```
AdminTask.configureAdminWIMUserRegistry('-interactive')
```

configureAppCustomUserRegistry

The `configureAppCustomUserRegistry` command configures a custom user registry in an application security domain.

Note: This command is not supported in a local mode.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security configuration. (String)

Optional parameters

-realmName

Specifies the realm of the user registry. The system automatically generates a realm name if you do not specify a value for the `-realmName` parameter. (String)

-customRegClass

Specifies the class name that implements the `UserRegistry` interface in `com.ibm.websphere.security` property. (String)

-verifyRegistry

Specifies whether to verify that the user registry configuration is correct. If you set this parameter to `true`, then the system verifies the registry by making a call to the user registry to verify the admin ID. If you specify a server ID and password, then the system verifies the user and password with the user registry. Set the parameter to `false` to store the attributes in the configuration without validation. The command verifies the registry configuration by default. (Boolean)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: `"attr1=value1","attr2=value2"` (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
IBM i
```

```
AdminTask.configureAppCustomUserRegistry('-securityDomainName testDomain -realmName server_name.domain:port_number')
```

- Using Jython list:

```
IBM i
```

```
AdminTask.configureAppCustomUserRegistry(['-securityDomainName', 'testDomain', '-realmName', 'server_name.domain:port_number'])
```

Interactive mode example usage

- Using Jython:

AdminTask.configureAppCustomUserRegistry('-interactive')

configureAppLDAPUserRegistry

The configureAppLDAPUserRegistry command configures LDAP user registries in a security configuration or a global security configuration.

Note: This command is not supported in a local mode.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security configuration. (String)

Optional parameters

-realmName

Specifies the realm of the user registry. The system automatically generates a realm name if you do not specify a value for the -realmName parameter. (String)

-verifyRegistry

Specifies whether to verify that the user registry configuration is correct. If you set this parameter to true, then the system verifies the registry by making a call to the user registry to verify the admin ID. If you specify a server ID and password, then the system verifies the user and password with the user registry. Set the parameter to false to store the attributes in the configuration without validation. The command verifies the registry configuration by default. (Boolean)

-ldapServerType

Specifies the type of LDAP server. The default type is IBM_DIRECTORY_SERVER. (String)

Specify one of the following valid values:

- IBM_DIRECTORY_SERVER
- IPLANET
- NETSCAPE
- NDS
- DOMINO502
- SECUREWAY
- ACTIVE_DIRECTORY
- CUSTOM

-ldapHost

Specifies the host name of the LDAP server. (String)

-ldapPort

Specifies the port that the system uses to access the LDAP server. The default value is 389. (String)

-baseDN

Specifies the base distinguished name (DN) of the directory service, which indicates the starting point for LDAP searches of the directory service. In most cases, bind DN and bind password are needed. However, when anonymous bind can satisfy all of the required functions, bind DN and bind password are not needed. (String)

-bindDN

Specifies the distinguished name for the application server, which is used to bind to the directory service. (String)

-bindPassword

Specifies the binding DN password for the LDAP server. (String)

-searchTimeout

Specifies the timeout value in seconds for an LDAP server to respond before stopping a request. The default value is 120 seconds. (Long Integer)

-reuseConnection

Specifies whether the server reuses the LDAP connection. By default, this option is enabled. Specify `false` for this parameter only in rare situations where a router is used to distribute requests to multiple LDAP servers and when the router does not support affinity. (Boolean)

Note: When you disable the reuse of the LDAP connection, the application server creates a new LDAP connection for every LDAP search request. This situation impacts system performance if your environment requires extensive LDAP calls. This option is provided because the router is not sending the request to the same LDAP server. The option is also used when the idle connection timeout value or firewall timeout value between the application server and LDAP is too small.

-userFilter

Specifies the LDAP filter clause that the system uses to search the user registry for users. The default value is the default user filter for the LDAP server type. (String)

-groupFilter

Specifies the LDAP filter clause that the system uses to search the user registry for groups. The default value is the default group filter for the LDAP server type. (String)

-userIdMap

Specifies the LDAP filter that maps the short name of a user to an LDAP entry. The default value is the default user filter for the LDAP server type. (String)

-groupIdMap

Specifies the LDAP filter that maps the short name of a group to an LDAP entry. The default value is the default group filter for the LDAP server type. (String)

-groupMemberIdMap

Specifies the LDAP filter that identifies users to group memberships. (String)

-certificateMapMode

Specifies whether to map X.509 certificates into an LDAP directory by `EXACT_DN` or `CERTIFICATE_FILTER`. Specify `CERTIFICATE_FILTER` to use the specified certificate filter for the mapping. (String)

-certificateFilter

Specifies the filter certificate mapping property for the LDAP filter. The filter is used to map attributes in the client certificate to entries in the LDAP registry. (String)

The syntax or structure of this filter is: `(&(uid=${SubjectCN})(objectclass=inetOrgPerson))`. The left side of the filter specification is an LDAP attribute that depends on the schema that your LDAP server is configured to use. The right side of the filter specification is one of the public attributes in your client certificate. The right side must begin with a dollar sign (\$) and open bracket (()) and end with a close bracket (}). You can use the following certificate attribute values on the right side of the filter specification. The case of the strings is important:

- `${UniqueKey}`
- `${PublicKey}`
- `${Issuer}`
- `${NotAfter}`
- `${NotBefore}`
- `${SerialNumber}`

- `${SigAlgName}`
- `${SigAlgOID}`
- `${SigAlgParams}`
- `${SubjectCN}`
- `${Version}`

-krbUserFilter

Specifies the default value is the default user filter for the LDAP server type. (String)

-nestedGroupSearch

Specifies whether to perform a recursive nested group search. Specify `true` to perform a recursive nested group search, or specify `false` to disable recursive nested group searching. (Boolean)

-sslEnabled

Specifies whether to enable Secure Sockets Layer (SSL). Specify `true` to enable an SSL connection to the LDAP server. (Boolean)

-sslConfig

Specifies the SSL configuration alias to use for the secure LDAP connection. (String)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: `"attr1=value1","attr2=value2"` (String)

-resetDefaultFilters

Specify `true`, to reset all of the filter values to the default value of the LDAP server type. The default value for this parameter is `false`. The LDAP filter attributes reset are: `userFilter`, `groupFilter`, `userIdMap`, `groupIdMap`, `groupMemberIdMap` and `krbUserFilter`. If any of the other filter flags are used to specify a filter value on the command line at the same time `resetDefaultFilter` is set to `true`, the filter value specified is used. Any filter not specified on the command line at the time is reset to the default value of the LDAP server type.

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureAppLDAPUserRegistry('-securityDomainName testDomain -ldapServerType NETSCAPE -ldapHost 195.168.1.1 -searchTimeout 300')
```

- Using Jython list:

```
AdminTask.configureAppLDAPUserRegistry(['-securityDomainName', 'testDomain', '-ldapServerType', 'NETSCAPE', '-ldapHost', '195.168.1.1', '-searchTimeout', '300'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureAppLDAPUserRegistry('-interactive')
```

configureAppLocalOSUserRegistry

The `configureAppLocalOSUserRegistry` command configures a local operating system user registry in a security domain.

Note: This command is not supported in a local mode.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security configuration. (String)

Optional parameters

-realmName

Specifies the realm of the user registry. The system automatically generates a realm name if you do not specify a value for the `-realmName` parameter. (String)

-verifyRegistry

Specifies whether to verify that the user registry configuration is correct. If you set this parameter to `true`, then the system verifies the registry by making a call to the user registry to verify the admin ID. If you specify a server ID and password, then the system verifies the user and password with the user registry. Set the parameter to `false` to store the attributes in the configuration without validation. The command verifies the registry configuration by default. (Boolean)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: `"attr1=value1","attr2=value2"` (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
IBM i
```

```
AdminTask.configureAppLocalOSUserRegistry('-securityDomainName testDomain')
```

- Using Jython list:

```
IBM i
```

```
AdminTask.configureAppLocalOSUserRegistry(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureAppLocalOSUserRegistry('-interactive')
```

configureAppWIMUserRegistry

The `configureAppWIMUserRegistry` command configures federated repository user registries in a security domain.

Note: This command is not supported in a local mode.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security configuration. (String)

Optional parameters

-realmName

Specifies the realm of the user registry. The system automatically generates a realm name if you do not specify a value for the `-realmName` parameter. (String)

-verifyRegistry

Specifies whether to verify that the user registry configuration is correct. If you set this parameter to `true`, then the system verifies the registry by making a call to the user registry to verify the admin ID. If you specify a server ID and password, then the system verifies the user and password with the user registry. Set the parameter to `false` to store the attributes in the configuration without validation. The command verifies the registry configuration by default. (Boolean)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: `"attr1=value1","attr2=value2"` (String)

-useGlobalFederatedRepository

Specifies whether to use the same instance of federated repository for the domain as is defined in the global domain. Specify `true` to use the same instance as defined in the global domain. (Boolean)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureAppWIMUserRegistry('-securityDomainName testDomain -realmName testRealm')
```

- Using Jython list:

```
AdminTask.configureAppWIMUserRegistry(['securityDomainName', 'testDomain', '-realmName', 'testRealm'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureAppWIMUserRegistry('-interactive')
```

getLTPATimeout

The `getLTPATimeout` command displays the number of seconds that the system waits before the LTPA request reaches timeout.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

Return value

The command returns the number of seconds that the server waits before the LTPA request is cancelled.

Batch mode example usage

- Using Jython string:

```
AdminTask.getLTPATimeout('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.getLTPATimeout(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getLTPATimeout('-interactive')
```

setLTPATimeout

The setLTPATimeout command sets the amount of time that the system waits before the LTPA request becomes invalid.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter. (String)

-timeout

Specifies the amount of time, in seconds, before the request times out. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.setLTPATimeout('-timeout 120')
```

- Using Jython list:

```
AdminTask.setLTPATimeout(['timeout', '120'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setLTPATimeout('-interactive')
```

getUserRegistryInfo

The getUserRegistryInfo command displays information about a user registry in a security domain or in the global security configuration. If you do not specify a value for the -userRegistryType parameter, the command returns the active user registry information.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter. (String)

-userRegistryType

Specifies the type of user registry. Specify `LDAPUserRegistry` for LDAP user registries. Specify `WIMUserRegistry` for federated repository user registries. Specify `CustomUserRegistry` for custom user registries. Specify `LocalOSUserRegistry` for local operating system user registries. (String)

Return value

The command returns configuration information in the form of attribute and value pairs for the user registry object of interest.

Batch mode example usage

- Using Jython string:

```
AdminTask.getUserRegistryInfo('-securityDomainName testDomain -userRegistryType LDAPUserRegistry')
```

- Using Jython list:

```
AdminTask.getUserRegistryInfo(['securityDomainName', 'testDomain', '-userRegistryType', 'LDAPUserRegistry'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getUserRegistryInfo('-interactive')
```

unconfigureUserRegistry

The `unconfigureUserRegistry` command modifies the user registry. For a global security configuration, the command reduces the user registry to the minimum registry values. For application-level security, the command removes the user registry from the security domain of interest.

Target object

None.

Required parameters

-userRegistryType

Specifies the type of user registry. Specify `LDAPUserRegistry` for LDAP user registries. Specify `WIMUserRegistry` for federated repository user registries. Specify `CustomUserRegistry` for custom user registries. Specify `LocalOSUserRegistry` for local operating system user registries. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.unconfigureUserRegistry('-userRegistryType WIMUserRegistry -securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.unconfigureUserRegistry(['userRegistryType', 'WIMUserRegistry', '-securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

AdminTask.unconfigureUserRegistry('-interactive')

configureJAASLoginEntry

The configureJAASLoginEntry command configures a Java Authentication and Authorization Service (JAAS) login entry in a security domain or in the global security configuration. You can use this command to modify existing JAAS login entries or to create new login entries.

Target object

None.

Required parameters

-loginType

Specifies the type of JAAS login entry of interest. Specify `system` for the system login type or `application` for the application login type. (String)

-loginEntryAlias

Specifies an alias that identifies the JAAS login entry in the configuration. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. If you do not specify a security domain name, the system updates the global security configuration. (String)

-loginModules

Specifies a comma (,) separated list of login module class names. Specify the list in the order that the system calls them. (String)

-authStrategies

Specifies a comma-separated list of authentication strategies that sets the authentication behavior as authentication proceeds down the list of login modules. You must specify one authentication strategy for each login module. (String)

Specify one or many of the following values in a comma (,) separated list:

- REQUIRED

Specifies that the LoginModule module is required to succeed. Whether authentication succeeds or fails, the process still continues down the LoginModule list for each realm.

- REQUISITE

Specifies that the LoginModule module is required to succeed. If authentication is successful, the process continues down the LoginModule list in the realm entry. If authentication fails, control immediately returns to the application. Authentication does not proceed down the LoginModule list.

- SUFFICIENT

Specifies that the LoginModule module is not required to succeed. If authentication succeeds, control immediately returns to the application. Authentication does not proceed down the LoginModule list. If authentication fails, the process continues down the list.

- OPTIONAL

Specifies that the LoginModule module is not required to succeed. Whether authentication succeeds or fails, the process still continues down the LoginModule list.

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureJAASLoginEntry(['-loginType application -loginEntryAlias JAASLoginEntry1 -authStrategies "
REQUIRED,REQUISITE"]')
```

- Using Jython list:

```
AdminTask.configureJAASLoginEntry(['loginType', 'application', '-loginEntryAlias', 'JAASLoginEntry1', '-authStrategies',
'REQUIRED,REQUISITE'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureJAASLoginEntry('-interactive')
```

configureLoginModule

The configureLoginModule command modifies an existing login module or creates a new login module on an existing JAAS login entry in the global security configuration or in a security domain.

Target object

None.

Required parameters

-loginType

Specifies the type of JAAS login entry of interest. Specify system for the system login type or application for the application login type. (String)

-loginEntryAlias

Specifies an alias that identifies the JAAS login entry in the configuration. (String)

-loginModule

Specifies the name of the login module. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. (String)

-useLoginModuleProxy

Specifies that the JAAS loads the login module proxy class. JAAS then delegates calls to the login module classes that are defined in the Module class name field. Specify true to use the login module proxy. (Boolean)

-authStrategy

Specifies the authentication behavior as authentication proceeds down the list of login modules. (String)

Specify one of the following values:

- REQUIRED

Specifies that the LoginModule module is required to succeed. Whether authentication succeeds or fails, the process still continues down the LoginModule list for each realm.

- REQUISITE

Specifies that the LoginModule module is required to succeed. If authentication is successful, the process continues down the LoginModule list in the realm entry. If authentication fails, control immediately returns to the application. Authentication does not proceed down the LoginModule list.

- SUFFICIENT

Specifies that the LoginModule module is not required to succeed. If authentication succeeds, control immediately returns to the application. Authentication does not proceed down the LoginModule list. If authentication fails, the process continues down the list.

- **OPTIONAL**
Specifies that the LoginModule module is not required to succeed. Whether authentication succeeds or fails, the process still continues down the LoginModule list.

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: ["attr1=value1", "attr2=value2"] (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureLoginModule('-loginType application -loginEntryAlias JAASLoginEntry1 -loginModule class1')
```

- Using Jython list:

```
AdminTask.configureLoginModule(['loginType', 'application', '-loginEntryAlias', 'JAASLoginEntry1', '-loginModule', 'class1'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureLoginModule('-interactive')
```

getJAASLoginEntryInfo

The getJAASLoginEntryInfo command displays configuration for a specific JAAS login entry.

Target object

None.

Required parameters

-loginType

Specifies the type of JAAS login entry of interest. Specify system for the system login type or application for the application login type. (String)

-loginEntryAlias

Specifies an alias that identifies the JAAS login entry in the configuration. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter. (String)

Return value

The command returns an attribute list that contains configuration information for the JAAS login entry of interest.

Batch mode example usage

- Using Jython string:

```
AdminTask.getJAASLoginEntryInfo('-loginType application -loginEntryAlias JAASLoginEntry -securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.getJAASLoginEntryInfo(['loginType', 'application', '-loginEntryAlias', 'JAASLoginEntry', '-securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getJAASLoginEntryInfo('-interactive')
```

listJAASLoginEntries

The listJAASLoginEntries command displays each defined JAAS login modules for given type in a security domain or the global security configuration.

Target object

None.

Required parameters

-loginType

Specifies the type of JAAS login entry of interest. Specify system for the system login type or application for the application login type. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter. (String)

Return value

The command returns an array of attribute lists that contain the login entries for the login type of interest.

Batch mode example usage

- Using Jython string:

```
AdminTask.listJAASLoginEntries('-loginType application -securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.listJAASLoginEntries(['loginType', 'application', '-securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listJAASLoginEntries('-interactive')
```

listLoginModules

The listLoginModules command displays the class names and associated options for a specific JAAS login module in a security domain or in the global security configuration.

Target object

None.

Required parameters

-loginType

Specifies the type of JAAS login entry of interest. Specify system for the system login type or application for the application login type. (String)

-loginEntryAlias

Specifies an alias that identifies the JAAS login entry in the configuration. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter. (String)

Return value

The command returns an array that contains the login modules in a specific login entry.

Batch mode example usage

- Using Jython string:

```
AdminTask.listLoginModules('-loginType system -loginEntryAlias JAASLoginEntry')
```

- Using Jython list:

```
AdminTask.listLoginModules(['loginType', 'system', '-loginEntryAlias', 'JAASLoginEntry'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listLoginModules('-interactive')
```

unconfigureJAASLoginEntry

The unconfigureJAASLoginEntry command removes a JAAS login entry from the global security configuration or a security domain. You cannot remove all login entries. The command returns an error if it cannot remove the login entry of interest.

Target object

None.

Required parameters

-loginType

Specifies the type of JAAS login entry of interest. Specify `system` for the system login type or `application` for the application login type. (String)

-loginEntryAlias

Specifies an alias that identifies the JAAS login entry in the configuration. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.unconfigureJAASLoginEntry('-loginType application -loginEntryAlias myLoginEntry')
```

- Using Jython list:

```
AdminTask.unconfigureJAASLoginEntry(['loginType', 'application', '-loginEntryAlias', 'myLoginEntry'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.unconfigureJAASLoginEntry('-interactive')
```

unconfigureLoginModule

The unconfigureLoginModule command removes a login module class from a login module entry.

Target object

None.

Required parameters

-loginType

Specifies the type of JAAS login entry of interest. Specify *system* for the system login type or *application* for the application login type. (String)

-loginEntryAlias

Specifies an alias that identifies the JAAS login entry in the configuration. (String)

-loginModule

Specifies the name of the login module class to remove from the configuration. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the *-securityDomainName* parameter. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.unconfigureLoginModule('-loginType system -loginEntryAlias systemLoginEntry -loginModule moduleClass')
```

- Using Jython list:

```
AdminTask.unconfigureLoginModule(['loginType', 'system', '-loginEntryAlias', 'systemLoginEntry', '-loginModule', 'moduleClass'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.unconfigureLoginModule('-interactive')
```

createAuthDataEntry

The createAuthDataEntry command creates an authentication data entry for a J2EE Connector architecture (J2C) connector in the global security or security domain configuration.

Target object

None.

Required parameters

-alias

Specifies the name that uniquely identifies the authentication data entry. (String)

-user

Specifies the J2C authentication data user ID. (String)

-password

Specifies the password to use for the target enterprise information system (EIS). (String)

Optional parameters

-securityDomainName

Specifies the name of the security domain configuration. The application server uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

-description

Specifies a description of the authentication data entry. (String)

Return value

The command returns the object name of the new authentication data entry object.

Batch mode example usage

- Using Jython string:

```
AdminTask.createAuthDataEntry('-alias dataEntry1 -user userID -password userIDpw')
```

- Using Jython list:

```
AdminTask.createAuthDataEntry(['alias', 'dataEntry1', '-user', 'userID', '-password', 'userIDpw'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createAuthDataEntry('-interactive')
```

deleteAuthDataEntry

The `deleteAuthDataEntry` command removes an authentication data entry for a J2C connector in a global security or security domain configuration.

Target object

None.

Required parameters

-alias

Specifies the name that uniquely identifies the authentication data entry. (String)

Optional parameters

-securityDomainName

Specifies the name of the security domain configuration. The application server uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuthDataEntry('-alias dataEntry1')
```

- Using Jython list:

```
AdminTask.deleteAuthDataEntry(['alias', 'dataEntry1'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuthDataEntry('-interactive')
```

getAuthDataEntry

The `getAuthDataEntry` command displays information about an authentication data entry for the J2C connector in the global security configuration or for a specific security domain.

Target object

None.

Required parameters

-alias

Specifies the name that uniquely identifies the authentication data entry. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

Return value

The command returns an attribute list that contains the authentication data entry attributes and values.

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuthDataEntry('-alias authDataEntry1 -securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.getAuthDataEntry(['alias', 'authDataEntry1', '-securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuthDataEntry('-interactive')
```

listAuthDataEntries

The `listAuthDataEntries` command displays each authentication data entry in the global security configuration or in a security domain.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

Return value

The command returns an array of attribute lists for each authentication data entry.

Batch mode example usage

- Using Jython string:

```
AdminTask.listAuthDataEntries('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.listAuthDataEntries(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listAuthDataEntries('-interactive')
```

modifyAuthDataEntry

The `modifyAuthDataEntry` command modifies an authentication data entry for a J2C connector in the global security or security domain configuration.

Target object

None.

Required parameters

-alias

Specifies the name that uniquely identifies the authentication data entry. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

-user

Specifies the J2C authentication data user ID. (String)

-password

Specifies the password to use for the target enterprise information system (EIS). (String)

-description

Specifies a description for the authentication data entry. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyAuthDataEntry('-alias dataEntry1 -user userID1 -password newPassword')
```

- Using Jython list:

```
AdminTask.modifyAuthDataEntry(['alias', 'dataEntry1', '-user', 'userID1', '-password', 'newPassword'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyAuthDataEntry('-interactive')
```

clearAuthCache

The clearAuthCache command purges the entire security authentication cache of the associated security domain.

Target object

None.

Optional parameters

-securityDomainId

Specifies the unique identifier for the security domain. If no security domain ID is specified, the authentication cache of the admin domain is cleared. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.clearAuthCache('-securityDomainId descurity_domain_id')

```

- Using Jython list:

```
AdminTask.clearAuthCache(['securityDomainId', 'security_domain_id', '-user', 'userIDI', '-password', 'newpassword'])

```

Interactive mode example usage

- Using Jython:

```
AdminTask.clearAuthCache('-interactive')

```

purgeUserFromAuthCache

The purgeUserFromAuthCache command removes a user from the security authentication cache associated with a security domain

Target object

None.

Required parameters

-user

Specifies the user Id associated with an authentication cache data entry (String)

Optional parameters

-securityDomainID

Specifies the unique identifier of the security domain. If no security domain ID is specified, the authentication cache of admin domain is cleared. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.purgeUserFromAuthCache('-user userIDI -securityDomainId security_domain_id')

```

- Using Jython list:

```
AdminTask.purgeUserFromAuthCache(['user' 'userID1 ', 'securityDomainId', 'security_domain_id1', '-user', 'userID2', '-password', 'newPassword'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.purgeUserFromAuthCache('-interactive')
```

configureCSInbound

The `configureCSInbound` command configures CSIv2 inbound authentication on a security domain or on the global security configuration. When configuring CSI inbound authentication in a security domain for the first time, the CSI objects are copied from global security so that any changes to that configuration are applied.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. If one is not provided the task will work on the global security user registry configuration. (String)

-messageLevelAuth

Specifies whether clients connecting to this server must specify a user ID and password. Specify `Never` to disable the user ID and password requirement. Specify `Supported` to accept a user ID and password. Specify `Required` to require a user ID and password. (String)

-supportedAuthMechList

Specifies the authentication mechanism to use. Specify `KRB5` for Kerberos authentication, `LTPA` for Lightweight Third-Party Authentication, `BasicAuth` for BasicAuth authentication, and `custom` to use your own authentication token implementation. You can specify more than one in a space-separated list. (String)

-clientCertAuth

Specifies whether a client that connects to the server must connect using an SSL certificate. Specify `Never` to allow clients to connect without SSL certificates. Specify `Supported` to accept clients connecting with and without SSL certificates. Specify `Required` to require clients to use SSL certificate. (String)

-transportLayer

Specifies the transport layer support level. Specify `Never` to disable transport layer support. Specify `Supported` to enable transport layer support. Specify `Required` to require transport layer support. (String)

-sslConfiguration

Specifies the SSL configuration alias to use for inbound transport. (String)

-enableIdentityAssertion

Specifies whether to enable identity assertion. When using the identity assertion authentication method, the security token generated is a `<wsse:UsernameToken>` element that contains a `<wsse:Username>` element. Specify `true` for the `-enableIdentityAssertion` parameter to enable identity assertion. (Boolean)

-trustedIdentities

Specifies a list of trusted server identities, separated by the pipe character (`|`). To specify a null value, set the value of the `-trustedIdentities` parameter as an empty string (`""`). (String)

-statefulSession

Specifies whether to enable a stateful session. Specify true to enable a stateful session. (Boolean)

-enableAttributePropagation

Specifies whether to enable security attribute propagation. Security attribute propagation allows the application server to transport authenticated Subject contents and security context information from one server to another in your configuration. Specify true to enable security attribute propagation. (Boolean)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureCSIInbound(['-securityDomainName testDomain -messageLevelAuth Required
-supportedAuthMechList "KRB5 LTPA"]')
```

- Using Jython list:

```
AdminTask.configureCSIInbound(['-securityDomainName', 'testDomain', '-messageLevelAuth', 'Required',
-supportedAuthMechList', 'KRB5 LTPA'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureCSIInbound('-interactive')
```

configureCSIOutbound

The configureCSIOutbound command configures the CSIv2 outbound authentication in a security domain or in the global security configuration. When configuring CSI Outbound in a security domain for the first time, the application server copies the CSI objects from global security. Then, the application server applies the changes to that configuration from the command.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. (String)

-enableAttributePropagation

Specifies whether to enable security attribute propagation. Security attribute propagation allows the application server to transport authenticated Subject contents and security context information from one server to another in your configuration. Specify true to enable security attribute propagation. (Boolean)

-enableIdentityAssertion

Specifies whether to enable identity assertion. When using the identity assertion authentication method, the security token generated is a <wsse:UsernameToken> element that contains a <wsse:Username> element. Specify true for the -enableIdentityAssertion parameter to enable identity assertion. (Boolean)

-useServerIdentity

Specifies whether to use the server identity to establish trust with the target server. Specify true to use the server identity. (Boolean)

- trustedId**
Specifies the trusted identity that the application server uses to establish trust with the target server. (String)
- trustedIdentityPassword**
Specifies the password of the trusted server identity. (String)
- messageLevelAuth**
Specifies whether clients connecting to this server must specify a user ID and password. Specify `includeNever` to disable the user ID and password requirement. Specify `Supported` to accept a user ID and password. Specify `Required` to require a user ID and password. (String)
- supportedAuthMechList**
Specifies the authentication mechanism to use. Specify `KRB5` for Kerberos authentication, `LTPA` for Lightweight Third-Party Authentication, `BasicAuth` for BasicAuth authentication, and `custom` to use your own authentication token implementation. You can specify more than one in a space-separated list. (String)
- clientCertAuth**
Specifies whether a client that connects to the server must connect using an SSL certificate. Specify `Never` to allow clients to connect without SSL certificates. Specify `Supported` to accept clients connecting with and without SSL certificates. Specify `Required` to require clients to use SSL certificate. (String)
- transportLayer**
Specifies the transport layer support level. Specify `Never` to disable transport layer support. Specify `Supported` to enable transport layer support. Specify `Required` to require transport layer support. (String)
- sslConfiguration**
Specifies the SSL configuration alias to use for inbound transport. (String)
- statefulSession**
Specifies whether to enable a stateful session. Specify `true` to enable a stateful session. (Boolean)
- enableOutboundMapping**
Specifies whether to enable custom outbound identity mapping. Specify `true` to enable custom outbound identity mapping. (Boolean)
- trustedTargetRealms**
Specifies a list of target realms to trust. Separate each realm name with the pipe character (`|`). (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureCSIOutbound('-securityDomainName testDomain -useServerIdentity true -messageAuthLevel Supported')
```

- Using Jython list:

```
AdminTask.configureCSIOutbound(['securityDomainName', 'testDomain', '-useServerIdentity', 'true', '-messageAuthLevel', 'Supported'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureCSIOutbound('-interactive')
```

getCSII inboundInfo

The `getCSII inboundInfo` command displays information about the Common Secure Interoperability (CSI) inbound settings for the global security configuration or for a security domain.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

-displayModel

Specifies the output format of the configuration information. Specify `true` to return an attribute list of the model. Specify `false` to display an attribute of the value used to create the object. (Boolean)

Return value

The command returns an attribute list of the attributes and values of the CSI inbound object.

Batch mode example usage

- Using Jython string:

```
AdminTask.getCSII inboundInfo('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.getCSII inboundInfo(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getCSII inboundInfo('-interactive')
```

getCSIOutboundInfo

The `getCSIOutboundInfo` command displays information for the CSI outbound settings for the global security configuration or for a security domain.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

-displayModel

Specifies the output format of the configuration information. Specify `true` to return an attribute list of the model. Specify `false` to display an attribute of the value used to create the object. (Boolean)

Return value

The command returns an attribute list that contains the attributes and values of the CSI outbound configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.getCSIOutboundInfo('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.getCSIOutboundInfo(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getCSIOutboundInfo('-interactive')
```

unconfigureCSIInbound

The unconfigureCSIInbound command removes the CSI inbound information from a security domain.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security configuration. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.unconfigureCSIInbound('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.unconfigureCSIInbound(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.unconfigureCSIInbound('-interactive')
```

unconfigureCSIOutbound

The unconfigureCSIOutbound command removes the CSI outbound information from a security domain.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security configuration. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.unconfigureCSIOutbound('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.unconfigureCSIOutbound(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.unconfigureCSIOutbound('-interactive')
```

configureInterceptor

The configureInterceptor command modifies an existing interceptor or creates an interceptor if one does not exist.

Target object

None.

Required parameters

-interceptor

Specifies the trust association interceptor class name. (String)

Optional parameters

-securityDomainName

Specifies the name of the security domain. If you do not specify a security domain, the command assigns the global security configuration. (String)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: "attr1=value1","attr2=value2" (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureInterceptor('-interceptor com.ibm.ws.security.web.TAMTrustAssociationInterceptorPlus
-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.configureInterceptor(['interceptor', 'com.ibm.ws.security.web.TAMTrustAssociationInterceptorPlus',
'-securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureInterceptor('-interactive')
```

configureTrustAssociation

The configureTrustAssociation command enables or disable the trust association. If the security domain does not have a trust association defined, the application server copies each trust association and its interceptors from the global security configuration.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. (String)

-enable

Specifies whether to enable trust association to act as a reverse proxy server. (Boolean)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureTrustAssociation('-securityDomainName testDomain -enable true')
```

- Using Jython list:

```
AdminTask.configureTrustAssociation(['securityDomainName', 'testDomain', '-enable', 'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureTrustAssociation('-interactive')
```

getTrustAssociationInfo

The getTrustAssociationInfo command displays configuration information for trust association.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter. (String)

Return value

The command returns an attribute list that contains attributes and values for trust association.

Batch mode example usage

- Using Jython string:

```
AdminTask.getTrustAssociationInfo('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.getTrustAssociationInfo(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getTrustAssociationInfo('-interactive')
```

listInterceptors

The listInterceptors command displays the trust association interceptors that are configured in the global security or security domain configuration.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter. (String)

Return value

The command returns an array list of each interceptor and the associated custom properties.

Batch mode example usage

- Using Jython string:

```
AdminTask.listInterceptors('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.listInterceptors(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listInterceptors('-interactive')
```

unconfigureInterceptor

The unconfigureInterceptor command removes a trust association interceptor from the global security configuration or from a security domain.

Target object

None.

Required parameters

-interceptor

Specifies the trust association interceptor class name. (String)

Optional parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.unconfigureInterceptor('-interceptor com.ibm.ws.security.web.TAMTrustAssociationInterceptorPlus  
-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.unconfigureInterceptor(['interceptor', 'com.ibm.ws.security.web.TAMTrustAssociationInterceptorPlus',  
-securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.unconfigureInterceptor('-interactive')
```

unconfigureTrustAssociation

The unconfigureTrustAssociation command removes the trust association object from a security domain.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security configuration. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.unconfigureTrustAssociation('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.unconfigureTrustAssociation(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.unconfigureTrustAssociation('
```

applyWizardSettings

The applyWizardSettings command can be used to automate the global security configuration.

Target object

None.

Optional parameters

-secureApps

Specifies to secure applications.

-secureLocalResources

Specifies to secure local resources such as data sets and MVS™ commands.

-userRegistryType

Specifies whether the user is a user, a group, or a group member.

-ldapServerType

Specifies the type of LDAP server that is being used. The default value is IDS51.

-ldapHostName

Specifies the LDAP host name.

-ldapPort

Specifies the LDAP port name.

-ldapBaseDN

Specifies the LDAP base dynamic member attribute.

-ldapBindDN

Dynamically updates LDAP binding information.

-ldapBindPassword

Dynamically updates LDAP binding password information.

-adminName

Refers to the name of an administrator account on the remote target machine.

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.applyWizardSettings(['-secureApps true -secureLocalResources false
-userRegistryType LDAPUserRegistry -ldapServerType IBM_DIRECTORY_SERVER
-ldapHostName '+ldapServer+' -ldapPort 389 -ldapBaseDN o=ibm,c=us -ldapBindDN
cn=root -ldapBindPassword a1x4meok -adminName '+adminUsername+' ]')
```

configureAuthzConfig

The configureAuthzConfig command configures an external Java Authorization Contract for Containers (JACC) authorization provider in a security domain or the global security configuration.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security configuration. (String)

-useJACCProvider

Specifies whether to use a JACC provider. Specify true to use a JACC provider. (Boolean)

-name

Specifies the name of the JACC provider to use. (String)

-description

Specifies a description of the JACC provider. (String)

-j2eePolicyImplClassName

Specifies the class name of an implementation class that represents the javax.security.jacc.policy.provider property according to the specification. (String)

-policyConfigurationFactoryImplClassName

Specifies the class name of an implementation class that represents the javax.security.jacc.PolicyConfigurationFactory.provider property. (String)

-roleConfigurationFactoryImplClassName

Specifies the class name of an implementation class that implements the com.ibm.wsspi.security.authorization.RoleConfigurationFactory interface. (String)

-requiresEJBArgumentsPolicyContextHandler

Specifies whether policy providers require the Enterprise JavaBeans arguments policy context handler to make access decisions. Specify true to enable this option. (Boolean)

-initializeJACCProviderClassName

Specifies the class name of an implementation class that implements the `com.ibm.wsspi.security.authorization.InitializeJACCProvider` interface. (String)

-supportsDynamicModuleUpdates

Specifies whether the provider supports dynamic changes to the web modules. Specify `true` to enable this option. (Boolean)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: `"attr1=value1","attr2=value2"` (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureAuthzConfig(['-securityDomainName testDomain -useJACCProvider true -name testProvider -description "JACC provider for testing"'])
```

- Using Jython list:

```
AdminTask.configureAuthzConfig(['securityDomainName', 'testDomain', '-useJACCProvider', 'true', '-name', 'testProvider', '-description', 'JACC provider for testing'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureAuthzConfig('-interactive')
```

configureSingleSignon

The `configureSingleSignon` command configures a single sign-on object in global security.

Target object

None.

Optional parameters

-enable

Specifies whether to enable single sign-on. Specify `true` to enable single sign-on, or `false` to disable single sign-on. (Boolean)

-requiresSSL

Specifies whether single sign-on requests send through HTTPS. Specify `true` to enable this option. (Boolean)

-domainName

Specifies the domain name that contains a set of hosts to which the single sign-on applies. (String)

-interoperable

Specifies interoperability options. Specify `true` to send an interoperable cookie to the browser to support back-level servers. Specify `false` to disable the sending of interoperable cookies. (Boolean)

-attributePropagation

Specifies whether to enable inbound security attribute propagation. Specify `true` to enable web inbound security attribution propagation. Specify `false` to use the single sign-on token to log in and recreate the Subject from the user registry. (Boolean)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureSingleSignon('-enable true -domainName mycompany.com')
```

- Using Jython list:

```
AdminTask.configureSingleSignon(['enable', 'true', '-domainName', 'mycompany.com'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.configureSingleSignon('-interactive')
```

getActiveSecuritySettings

The `getActiveSecuritySettings` command displays the active security settings for global security or a specific security domain.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security domain configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

Return value

The command returns the active security settings for the security domain of interest or the global security configuration, which includes the following settings:

- `cacheTimeout`
- `issuePermissionWarning`
- `activeAuthMechanism`
- `enforceJava2Security`
- `appSecurityEnabled`
- `enableGlobalSecurity` (global security only)
- `adminPreferredAuthMech` (global security only)
- `activeAuthMechanism` (global security only)
- `activeUserRegistry`
- `enforceFineGrainedJCA Security`
- `dynUpdateSSLConfig` (global security only)
- `useDomainQualifiedUserNames`
- `customProperties`

Batch mode example usage

- Using Jython string:

```
AdminTask.getActiveSecuritySettings('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.getActiveSecuritySettings(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getActiveSecuritySettings('-interactive')
```

getAuthzConfigInfo

The `getAuthzConfigInfo` command displays information about an external JACC authorization provider in a security domain or the global security configuration.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security domain configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

Return value

The command returns an attribute list that contains the attributes and values that are associated with the JACC authorization provider.

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuthzConfigInfo('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.getAuthzConfigInfo(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuthzConfigInfo('-interactive')
```

getSingleSignon

The `getSingleSignon` command displays configuration information about the single sign-on object as defined in the global security configuration.

Target object

None.

Optional parameters

None.

Return value

The command returns an attribute list that contains the attributes and values of the single sign-on configuration.

Batch mode example usage

- Using Jython:

```
AdminTask.getSingleSignon()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getSingleSignon('-interactive')
```

setAdminActiveSecuritySettings

The `setAdminActiveSecuritySettings` command sets the active security settings on the global security object.

Note: To set the security settings for a security domain, see the `setAppActiveSecuritySettings` command.

Target object

None.

Optional parameters

-enableGlobalSecurity

Specifies whether to enable global security. Specify `true` to enable global security, or specify `false` to disable global security. (Boolean)

-cacheTimeout

Specifies the amount of time, in seconds, before authentication data becomes invalid. (Integer)

-issuePermissionWarning

Specifies whether to issue a warning during application installation if the application requires security permissions. Specify `true` to enable the warning notification, or specify `false` to disable the warning notification. (Boolean)

-enforceJava2Security

Specifies whether to enable Java Platform, Enterprise Edition (Java EE) security. Specify `true` to enable Java EE security permissions checking, or specify `false` to disable Java EE security. (Boolean)

-enforceFineGrainedJCASecurity

Specifies whether to restrict application access. Specify `true` to restrict application access to sensitive Java EE Connector Architecture (JCA) mapping authentication data. (Boolean)

-appSecurityEnabled

Specifies whether to enable application-level security. Specify `true` to enable application level security, or specify `false` to disable application-level security. (Boolean)

-dynUpdateSSLConfig

Specifies whether to dynamically update SSL configuration changes. Specify `true` to update SSL configuration changes dynamically, or specify `false` to update the SSL configuration when the server starts. (Boolean)

-activeAuthMechanism

Specifies the active authentication mechanism. Specify `LTPA` for LTPA authentication, `KRB5` for Kerberos authentication, or `RSAToken` for RSA token authorization. (String)

-adminPreferredAuthMech

Specifies the preferred authentication mechanism. Specify `LTPA` for LTPA authentication, `KRB5` for Kerberos authentication, or `RSAToken` for RSA token authorization. (String)

-activeUserRegistry

Specifies the active user registry for the server. (String)

Specify one of the following values:

CustomUserRegistry

This option enables you to specify a custom user registry as the active user registry for the server.

LDAPUserRegistry

This option enables you to specify an LDAP user registry as the active user registry for the server.

LocalOSUserRegistry

This option enables you to specify the local operating system user registry as the active user registry for the server.

WIMUserRegistry

This option enables you to specify a federated repository as the active user registry for the server.

-useDomainQualifiedUserNames

Specifies the type of user name to use. Specify `true` to use domain qualified user names, or specify `false` to use the short name. (Boolean)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: `"attr1=value1","attr2=value2"` (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.setAdminActiveSecuritySettings('-enableGlobalSecurity true -cacheTimeout 300  
-enforceJava2Security true -appSecurityEnabled true -activeUserRegistry LDAPUserRegistry')
```

- Using Jython list:

```
AdminTask.setAdminActiveSecuritySettings(['enableGlobalSecurity', 'true', '-cacheTimeout',  
'300', '-enforceJava2Security', 'true', '-appSecurityEnabled', 'true', '-activeUserRegistry',  
'LDAPUserRegistry'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setAdminActiveSecuritySettings('-interactive')
```

setAppActiveSecuritySettings

The `setAppActiveSecuritySettings` command sets the active security settings on a security domain.

Note: To set the security settings for global security, see the `setAdminActiveSecuritySettings` command.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

Optional parameters

-cacheTimeout

Specifies the amount of time, in seconds, before authentication data becomes invalid. (Integer)

-issuePermissionWarning

Specifies whether to issue a warning during application installation if the application requires security permissions. Specify `true` to enable the warning notification, or specify `false` to disable the warning notification. (Boolean)

-enforceJava2Security

Specifies whether to enable Java Platform, Enterprise Edition (Java EE) security. Specify `true` to enable Java EE security permissions checking, or specify `false` to disable Java EE security. (Boolean)

-enforceFineGrainedJCASecurity

Specifies whether to restrict application access. Specify `true` to restrict application access to sensitive Java EE Connector Architecture (JCA) mapping authentication data. (Boolean)

-appSecurityEnabled

Specifies whether to enable application-level security. Specify `true` to enable application level security, or specify `false` to disable application-level security. (Boolean)

-activeUserRegistry

Specifies the active user registry for the server. (String)

-useDomainQualifiedUserNames

Specifies the type of user name to use. Specify `true` to use domain qualified user names, or specify `false` to use the short name. (Boolean)

-customProperties

Specifies a comma separated list of quoted attribute and value pairs that the system stores as custom properties on the user registry object. For example, use the format: `"attr1=value1","attr2=value2"` (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.setAppActiveSecuritySettings('-securityDomainName testDomain -issuePermissionWarning false  
-enforceFineGrainedJCASecurity true')
```

- Using Jython list:

```
AdminTask.setAppActiveSecuritySettings(['securityDomainName', 'testDomain', '-issuePermissionWarning',  
'false', '-enforceFineGrainedJCASecurity', 'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setAppActiveSecuritySettings('-interactive')
```

unconfigureAuthzConfig

The `unconfigureAuthzConfig` command removes an external JACC authorization provider from the global security configuration or a security domain.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.unconfigureAuthzConfig('-securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.unconfigureAuthzConfig(['securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.unconfigureAuthzConfig('-interactive')
```

unsetAppActiveSecuritySettings

The `unsetAppActiveSecuritySettings` command removes an attribute from the global security configuration or a security domain.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security configuration. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter. (String)

Optional parameters

-unsetAppSecurityEnabled

Specifies whether to remove the attribute that enables application security. Specify `true` to remove the attribute. (Boolean)

-unsetActiveUserRegistry

Specifies whether to remove the active user registry attribute. Specify `true` to remove the attribute. (Boolean)

-unsetUseDomainQualifiedUserNames

Specifies whether to remove the user domain qualified user names attribute. Specify `true` to remove the attribute. (Boolean)

-unsetEnforceJava2Security

Specifies whether to remove the Java EE security attribute. Specify `true` to remove the attribute. (Boolean)

-unsetEnforceFineGrainedJCASecurity

Specifies whether to remove the fine-grained JCA security attribute. Specify `true` to remove the attribute. (Boolean)

-unsetIssuePermissionWarning

Specifies whether to remove the attribute that issues user permission warnings. Specify `true` to remove the attribute. (Boolean)

-unsetCacheTimeout

Specifies whether to remove the cache timeout attribute. Specify `true` to remove the attribute. (Boolean)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.unsetAppActiveSecuritySettings('-securityDomainName testDomain -unsetAppSecurityEnabled true  
-unsetPermissionWarning true')
```

- Using Jython list:

```
AdminTask.unsetAppActiveSecuritySettings(['securityDomainName', 'testDomain', '-unsetAppSecurityEnabled',  
'true', '-unsetPermissionWarning', 'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.unsetAppActiveSecuritySettings('-interactive')
```

SecurityRealmInfoCommands command group for the AdminTask object

You can use the Jython scripting language to manage security realm configurations with the wsadmin tool. Use the commands and parameters in the SecurityRealmInfoCommands group to query and manage trusted realms.

Use the following commands to manage trusted realms in your security configuration:

- “addTrustedRealms”
- “configureTrustedRealms” on page 155
- “listRegistryGroups” on page 156
- “listRegistryUsers” on page 157
- “listSecurityRealms” on page 158
- “listTrustedRealms” on page 158
- “removeTrustedRealms” on page 159
- “unconfigureTrustedRealms” on page 160

addTrustedRealms

The addTrustedRealms command adds a realm or list of realms to the list of trusted realms for global security or in a security domain.

Target object

None.

Required parameters

-communicationType

Specifies whether to trusted realms to inbound or outbound communication. Specify inbound to configure inbound communication. Specify outbound to configure outbound communication. (String)

Optional parameters

-securityDomainName

Specifies the name of the security domain of interest. If you do not specify a value for this parameter, the command uses the global security configuration. (String)

-realmList

Specifies a realm or list of realms to configure as trusted realms. (String)

Separate each realm in the list with the pipe character (|) as the following example demonstrates:
realm1|realm2|realm3

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.addTrustedRealms('-communicationType inbound -securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.addTrustedRealms(['-communicationType', 'inbound', '-securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.addTrustedRealms('-interactive')
```

configureTrustedRealms

The `configureTrustedRealms` command configures trusted realms. Use this command to replace the list of trusted realms and to clear each realm from the list. To add realms to the trusted realm list, use the `addInboundTrustedRealm` command.

Target object

None.

Required parameters

-communicationType

Specifies whether to configure the security domains, realms, or global security configuration for inbound or outbound communication. Specify `inbound` to configure inbound communication. Specify `outbound` to configure outbound communication. (String)

Optional parameters

-securityDomainName

Specifies the name of the security domain of interest. If you do not specify a value for this parameter, the command uses the global security configuration. (String)

-realmList

Specifies a list of realms to configure as trusted realms. (String)

Separate each realm in the list with the pipe character (|) as the following example demonstrates:
realm1|realm2|realm3

-trustAllRealms

Specifies whether to trust all realms. Specify `true` to trust all realms. If you specify `true` for this parameter, the command does not use the `-realmList` parameter. (Boolean)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.configureTrustedRealms('-communicationType inbound -realmList realm1|realm2|realm3')
```

- Using Jython list:

```
AdminTask.configureTrustedRealms(['-communicationType', 'inbound', '-realmList', 'realm1|realm2|realm3'])
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.configureTrustedRealms('-interactive')
```

- Using Jython list:

listRegistryGroups

The listRegistryGroups command displays the groups in the user registry that belong to the security realm, security domain, or resource name of interest.

Target object

None.

Optional parameters

-securityRealmName

Specifies name of the security realm of interest. The securityDomainName, resourceName, and securityRealmName parameters are mutually exclusive. Do not specify more than one of these parameters. (String)

-resourceName

Specifies the name of the resource of interest. The securityDomainName, resourceName, and securityRealmName parameters are mutually exclusive. Do not specify more than one of these parameters. (String)

-securityDomainName

Specifies the name of the security domain of interest. The securityDomainName, resourceName, and securityRealmName parameters are mutually exclusive. Do not specify more than one of these parameters. (String)

-displayAccessIds

Specifies whether to display the access IDs for each group. Specify true to display the access ID and group name for each group that the command returns. (Boolean)

-groupFilter

Specifies a filter that the command uses to query for groups. For example, specify test* to return groups that begin with the test string. By default, the command returns all groups. (String)

-numberOfGroups

Specifies the number of groups to return. The default number of groups that the command displays is 20. (Integer)

Return value

The command returns an array of group names. If you specified the -displayAccessId parameter, the command returns an array of attribute lists which contain the group name and group access ID.

Batch mode example usage

- Using Jython string:

```
AdminTask.listRegistryGroups('-securityDomainName myTestDomain -groupFilter test* -numberOfGroups 10')
```

- Using Jython list:

```
AdminTask.listRegistryGroups(['-securityDomainName', 'myTestDomain', '-groupFilter', 'test*', '-numberOfGroups', '10'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listRegistryGroups('-interactive')
```

listRegistryUsers

The listRegistryUsers command displays the users in the user registry for a specific security realm, resource name, or domain name.

Target object

None.

Optional parameters

-securityDomainName

Specifies the name of the security domain of interest. The securityDomainName, resourceName, and securityRealmName parameters are mutually exclusive. Do not specify more than one of these parameters. If you do not specify the securityDomainName, resourceName, or securityRealmName parameter, the system uses the active user registry from the global security configuration. (String)

-resourceName

Specifies the name of the resource of interest. The securityDomainName, resourceName, and securityRealmName parameters are mutually exclusive. Do not specify more than one of these parameters. If you do not specify the securityDomainName, resourceName, or securityRealmName parameter, the system uses the active user registry from the global security configuration. (String)

-securityRealmName

Specifies the name of the security realm of interest. The securityDomainName, resourceName, and securityRealmName parameters are mutually exclusive. Do not specify more than one of these parameters. If you do not specify the securityDomainName, resourceName, or securityRealmName parameter, the system uses the active user registry from the global security configuration. (String)

-displayAccessIds

Specifies whether to display the access IDs for each group. Specify true to display the access ID and group name for each group that the command returns. (Boolean)

-userFilter

Specifies the filter that the command uses to query for users. For example, specify test* to display each user name that starts with the test string. By default, the command returns all users. (String)

-numberOfUsers

Specifies the number of users to return. The default number of groups that the command displays is 20. (Integer)

Return value

The command returns an array of user names. If you specify the -displayAccessId parameter, the command returns an array of attribute lists that contain the user ID and user access IDs.

Batch mode example usage

- Using Jython string:

```
AdminTask.listRegistryUsers('-securityRealmName defaultWIMFileBasedRealm -displayAccessIds true')
```

- Using Jython list:

```
AdminTask.listRegistryUsers(['-securityRealmName', 'defaultWIMFileBasedRealm', '-displayAccessIds', 'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listRegistryUsers('-interactive')
```

listSecurityRealms

The listSecurityRealms command displays each security realm from global security configuration and the security domains.

Target object

None.

Return value

The command returns an array of realm names.

Batch mode example usage

- Using Jython string:

```
AdminTask.listSecurityRealms()
```

- Using Jython list:

```
AdminTask.listSecurityRealms()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listSecurityRealms('-interactive')
```

listTrustedRealms

The listTrustedRealms command displays a list of trusted realms for a security domain, resource, or realm. If you do not specify a security domain, resource name, or realm name, then the command returns a list of trusted realms from the global security configuration. The securityRealmName, resourceName, and securityDomainName parameters are mutually exclusive.

Target object

None.

Required parameters

-communicationType

Specifies whether to list the trusted realms for inbound or outbound communication. Specify inbound to configure inbound communication. Specify outbound to configure outbound communication. (String)

Optional parameters

-securityRealmName

Specifies name of the security realm of interest. If you use this parameter, do not use the resourceName or securityDomainName parameters. (String)

-resourceName

Specifies the name of the resource of interest. If you use this parameter, do not use the securityRealmName or securityDomainName parameters. (String)

-securityDomainName

Specifies the name of the security domain of interest. If you use this parameter, do not use the resourceName or securityRealmName parameters. (String)

-expandRealmList

Specifies whether to return each realm name when the trustAllRealms property is enabled. Specify true to return each realm name. Specify false to return the trustAllRealms property. (Boolean)

-includeCurrentRealm

Specifies whether to include the current realm in the list of trusted realms. Specify `true` to include the current realm, or specify `false` to exclude the current realm from the list of trusted realms. (Boolean)

Return value

The command returns an array of trusted realm names. If the realm, resource, or security domain of interest is configured to trust all realms, the command returns the `trustAllRealms` string.

Batch mode example usage

- Using Jython string:

```
AdminTask.listTrustedRealms('-communicationType inbound -resourceName myApplication')
```

- Using Jython list:

```
AdminTask.listTrustedRealms(['-communicationType', 'inbound', '-resourceName', 'myApplication'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listTrustedRealms('-interactive')
```

removeTrustedRealms

The `removeTrustedRealms` command removes realms from a trusted realm list in a security domain or in the global security configuration.

Target object

None.

Required parameters

-communicationType

Specifies whether to remove trusted realms from inbound or outbound communication. Specify `inbound` to configure inbound communication. Specify `outbound` to configure outbound communication. (String)

-realmList

Specifies a list of realms to remove from trusted realms. (String)

Separate each realm in the list with the pipe character (`|`) as the following example demonstrates:

```
realm1|realm2|realm3
```

Optional parameters

-securityDomainName

Specifies the name of the security domain of interest. If you do not specify a security domain, the command uses the global security configuration. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.removeTrustedRealms('-communicationType inbound -realmList realm1|realm2|realm3')
```

- Using Jython list:

```
AdminTask.removeTrustedRealms(['-communicationType inbound -realmList realm1|realm2|realm3'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.removeTrustedRealms('-interactive')
```

unconfigureTrustedRealms

The `unconfigureTrustedRealms` command removes the trusted realm object from the configuration.

Target object

None.

Required parameters

-communicationType

Specifies whether to unconfigure the trusted realms for inbound or outbound communication. Specify `inbound` to remove inbound communication configurations. Specify `outbound` to remove outbound communication configurations. (String)

Optional parameters

-securityDomainName

Specifies the name of the security domain of interest. If you do not specify a security domain, the command uses the global security configuration. (String)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.unconfigureTrustedRealms('-communicationType inbound -securityDomainName testDomain')
```

- Using Jython list:

```
AdminTask.unconfigureTrustedRealms(['-communicationType', 'inbound', '-securityDomainName', 'testDomain'])
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.unconfigureTrustedRealms('-interactive')
```

NamingAuthzCommands command group for the AdminTask object

You can use the Jython scripting language to configure naming roles for groups and users with the `wsadmin` tool. Use the commands and parameters in the `NamingAuthzCommands` group to assign, remove, and query naming role configuration. `CosNaming` security offers increased granularity of security control over `CosNaming` functions.

A number of naming roles are defined to provide the degrees of authority that are needed to perform certain application server naming service functions. The authorization policy is only enforced when global security is enabled.

Use the following commands to manage the naming service functions:

- `listGroupsForNamingRoles`
- `listUsersForNamingRoles`
- `mapGroupsToNamingRole`
- `mapUsersToNamingRole`
- `removeGroupsFromNamingRole`

- `removeUsersFromNamingRole`

listGroupsForNamingRoles

The `listGroupsForNamingRoles` command displays the groups and special subjects that are mapped to the naming roles.

Target object

None.

Return value

The command returns a list of the groups and special subjects associated with each naming role.

Batch mode example usage

- Using Jython:

```
AdminTask.listGroupsForNamingRoles()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listGroupsForNamingRoles('-interactive')
```

listUsersForNamingRoles

The `listUsersForNamingRoles` command displays the users that are mapped to the naming roles.

Target object

None.

Return value

The command returns a list of the users associated with each naming role.

Batch mode example usage

- Using Jython:

```
AdminTask.listUsersForNamingRoles()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listUsersForNamingRoles('-interactive')
```

mapGroupsToNamingRole

The `mapGroupsToNamingRole` command maps groups, special subjects, or groups and special subjects to the naming roles.

Target object

None.

Required parameters

-roleName

Specifies the name of the naming role. (String)

Table 10. Name space security roles. Four name space security roles are available: *CosNamingRead*, *CosNamingWrite*, *CosNamingCreate*, and *CosNamingDelete*. The roles have authority levels from low to high, as the following table defines:

Role name	Description
CosNamingRead	You can query the application server name space using, for example, the Java Naming and Directory Interface (JNDI) lookup method. The EVERYONE special-subject is the default policy for this role.
CosNamingWrite	You can perform write operations such as JNDI bind, rebind, or unbind, and CosNamingRead operations.
CosNamingCreate	You can create new objects in the name space through operations such as JNDI createSubcontext and CosNamingWrite operations.
CosNamingDelete	You can destroy objects in the name space, for example using the JNDI destroySubcontext method and CosNamingCreate operations.

Optional parameters

-groupids

Specifies the names of the groups to map to the naming roles. (String[])

-accessids

Specifies the access IDs of the users in the format <group:realmName/uniqueID>. (String[])

-specialSubjects

Specifies the special subjects to map. (String[])

Table 11. Special subjects. The special subjects include *EVERYONE*, *ALLAUTHENTICATED*, *ALLAUTHENTICATEDINTRUSTEDREALMS*, as the following table defines:

Header	Header
EVERYONE	Maps everyone to a specified role. When you map everyone to a role, anyone can access the resources that are protected by this role and, essentially, there is no security.
ALLAUTHENTICATED	Maps each authenticated user to a specified role. When you map each authenticated user to a specified role, each valid user in the current registry who has been authenticated can access resources that are protected by this role.
ALLAUTHENTICATEDINTRUSTEDREALMS	Maps each authenticated user to a specified role. When you map each authenticated user to a specified role, each valid user in the current registry who has been authenticated can access resources that are protected by this role in the trusted realm.

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.mapGroupsToNamingRole(['-roleName CosNamingCreate -groupids [group1, group2]'])
```

- Using Jython list:

```
AdminTask.mapGroupsToNamingRole(['-roleName', 'CosNamingCreate', '-groupids', '[group1, group2]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.mapGroupsToNamingRole('-interactive')
```

mapUsersToNamingRole

The mapUsersToNamingRole command maps users to the naming roles.

Target object

None.

Required parameters

-roleName

Specifies the name of the naming role. (String)

Table 12. Name space security roles. Four name space security roles are available: CosNamingRead, CosNamingWrite, CosNamingCreate, and CosNamingDelete. The roles have authority levels from low to high, as the following table defines:

Role name	Description
CosNamingRead	You can query the application server name space using, for example, the Java Naming and Directory Interface (JNDI) lookup method. The EVERYONE special-subject is the default policy for this role.
CosNamingWrite	You can perform write operations such as JNDI bind, rebind, or unbind, and CosNamingRead operations.
CosNamingCreate	You can create new objects in the name space through operations such as JNDI createSubcontext and CosNamingWrite operations.
CosNamingDelete	You can destroy objects in the name space, for example using the JNDI destroySubcontext method and CosNamingCreate operations.

Optional parameters

-userids

Specifies the user IDs to map to the naming roles of interest. (String[])

-accessids

Specifies the access IDs of the users in the format <user:realmName/uniqueID>. (String[])

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.mapUsersToNamingRole(['-roleName CosNamingDelete -userids [user1, user2, user3]'])
```

- Using Jython list:

```
AdminTask.mapUsersToNamingRole(['-roleName', 'CosNamingDelete', '-userids', '[user1, user2, user3]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.mapUsersToNamingRole('-interactive')
```

removeGroupsFromNamingRole

The removeGroupsFromNamingRole command removes groups, special subjects, or groups and special subjects from a naming role.

Target object

None.

Required parameters

-roleName

Specifies the name of the naming role. (String)

Table 13. Name space security roles. Four name space security roles are available: *CosNamingRead*, *CosNamingWrite*, *CosNamingCreate*, and *CosNamingDelete*. The roles have authority levels from low to high, as the following table defines:

Role name	Description
CosNamingRead	You can query the application server name space using, for example, the Java Naming and Directory Interface (JNDI) lookup method. The EVERYONE special-subject is the default policy for this role.
CosNamingWrite	You can perform write operations such as JNDI bind, rebind, or unbind, and CosNamingRead operations.
CosNamingCreate	You can create new objects in the name space through operations such as JNDI createSubcontext and CosNamingWrite operations.
CosNamingDelete	You can destroy objects in the name space, for example using the JNDI destroySubcontext method and CosNamingCreate operations.

Optional parameters

-groupids

Specifies the names of the groups to remove from the naming roles of interest. (String[])

-specialSubjects

Specifies the special subjects to remove. (String[])

Table 14. Special subjects. The special subjects include *EVERYONE*, *ALLAUTHENTICATED*, *ALLAUTHENTICATEDINTRUSTEDREALMS*, as the following table defines:

Header	Header
EVERYONE	Maps everyone to a specified role. When you map everyone to a role, anyone can access the resources that are protected by this role and, essentially, there is no security.
ALLAUTHENTICATED	Maps each authenticated user to a specified role. When you map each authenticated user to a specified role, each valid user in the current registry who has been authenticated can access resources that are protected by this role.
ALLAUTHENTICATEDINTRUSTEDREALMS	Maps each authenticated user to a specified role. When you map each authenticated user to a specified role, each valid user in the current registry who has been authenticated can access resources that are protected by this role in the trusted realm.

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.removeGroupsFromNamingRole('-roleName CosNamingRead -groupids [group1, group2] -specialSubjects EVERYONE')
```

- Using Jython list:

```
AdminTask.removeGroupsFromNamingRole(['-roleName', 'CosNamingRead', '-groupids', '[group1, group2]', '-specialSubjects', 'EVERYONE'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.removeGroupsFromNamingRole('-interactive')
```

removeUsersFromNamingRole

The `removeUsersFromNamingRole` command removes users from a naming role.

Target object

None.

Required parameters

-roleName

Specifies the name of the naming role. (String)

Table 15. Name space security roles. Four name space security roles are available: CosNamingRead, CosNamingWrite, CosNamingCreate, and CosNamingDelete. The roles have authority levels from low to high, as the following table defines:

Role name	Description
CosNamingRead	You can query the application server name space using, for example, the Java Naming and Directory Interface (JNDI) lookup method. The EVERYONE special-subject is the default policy for this role.
CosNamingWrite	You can perform write operations such as JNDI bind, rebind, or unbind, and CosNamingRead operations.
CosNamingCreate	You can create new objects in the name space through operations such as JNDI createSubcontext and CosNamingWrite operations.
CosNamingDelete	You can destroy objects in the name space, for example using the JNDI destroySubcontext method and CosNamingCreate operations.

Optional parameters

-userids

Specifies the user IDs to remove from the naming roles of interest. (String[])

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.removeUsersFromNamingRole('-roleName CosNamingRead')
```

- Using Jython list:

```
AdminTask.removeUsersFromNamingRole(['-roleName', 'CosNamingRead'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.removeUsersFromNamingRole('-interactive')
```

Utility scripts

The scripting library provides multiple script procedures to automate your application configurations. This topic provides usage information for scripts that set notification options, save configuration changes, and display scripting library information.

Each utility script procedure is located in the *app_server_root/scriptLibraries/utilities/V70* directory. Use the following script procedures to perform utility functions:

- “convertToList” on page 166
- “debugNotice” on page 166
- “getExceptionText” on page 166
- “fail” on page 167
- “fileSearch” on page 167
- “getResourceBundle” on page 167
- “getScriptLibraryFiles” on page 168
- “getScriptLibraryList” on page 168
- “getScriptLibraryPath” on page 168
- “help” on page 168
- “infoNotice” on page 168

- “save” on page 169
- “setDebugNotices” on page 169
- “setFailOnErrorDefault” on page 169
- “sleepDelay” on page 169
- “warningNotice” on page 170
- “configureAutoSave” on page 170

convertToList

This script converts a string to a list. For example, the `AdminApp.list()` command returns a string of application names. Use the `convertToList` script to change the output to a list format, such as `['DefaultApplication', 'a1', 'a2', 'ivtApp', 'query']`.

Table 16. convertToList argument description. Run the script to return a string output and set the output to a variable.

Argument	Description
<i>variable</i>	Specifies the name of the variable that contains the string to convert to a list.

Syntax

```
AdminUtilities.convertToList(variable)
```

Example usage

```
apps=AdminApp.list()
AdminUtilities.convertToList(apps)
```

debugNotice

This script sets the debug notice text.

Table 17. debugNotice argument description. Run the script to specify the message argument.

Argument	Description
<i>message</i>	Specifies the message text for the debug notice.

Syntax

```
AdminUtilities.debugNotice(message)
```

Example usage

```
AdminUtilities.debugNotice("Server is started")
```

getExceptionText

This script displays the exception message for a specific exception type, exception value, or traceback information.

Table 18. getExceptionText argument descriptions. Run the script to specify the type, value, or traceback arguments.

Argument	Description
<i>type</i>	Specifies the exception type of interest. The exception type represents the class object of the exception.
<i>value</i>	Specifies the exception value of interest. The value represents the instance object that is the argument of the exception or the second argument of the raise statement.
<i>traceback</i>	Specifies the traceback information of interest. The traceback object contains special attributes, including the line number where the error occurred. Do not assign <i>traceback</i> to a local variable in the function that handles the exception, as this assignment creates a circular reference.

Syntax

```
AdminUtilities.getExceptionText(type, value, traceback)
```

Example usage

```
AdminUtilities.getExceptionText("com.ibm.ws.scripting.ScriptingException"  
, "com.ibm.ws.scripting.ScriptingException: AdminControl service not available"  
, "")
```

fail

This script sets the failure message.

Table 19. fail argument description. Run the script to specify the message argument.

Argument	Description
<i>message</i>	Specifies the message text for the failure notice.

Syntax

```
AdminUtilities.fail(message)
```

Example usage

```
AdminUtilities.fail("The script failed")
```

fileSearch

This script searches the file system based on a specific path or directory.


Table 20. fileSearch argument descriptions. Run the script to specify the path or directory arguments.

Argument	Description
<i>path</i>	Specifies the file path to search for a specific file.
<i>directory</i>	Specifies the directory to search for a specific file.

Syntax

```
AdminUtilities.fileSearch(path, directory)
```

Example usage

```
  
Paths = []  
Directory = java.io.File("//WebSphere//AppServer//scriptLibraries")  
AdminUtilities.fileSearch(directory, paths)
```

getResourceBundle

This script displays an instance for the resource bundle of interest.

Table 21. getResourceBundle argument description. Run the script to specify the bundle name argument.

Argument	Description
<i>bundleName</i>	Specifies the name of the bundle of interest. For example, to get a message object from the ScriptingLibraryMessage resource bundle, specify com.ibm.ws.scripting.resources.scriptLibraryMessage.

Syntax

```
AdminUtilities.getResourceBundle(bundleName)
```

Example usage

```
AdminUtilities.getResourceBundle("com.ibm.ws.scripting.resources.scriptLibraryMessage")
```

getScriptLibraryFiles

This script displays the file path and file names for each script library file.

Syntax

```
AdminUtilities.getScriptLibraryFiles()
```

Example usage

```
AdminUtilities.getScriptLibraryFiles()
```

getScriptLibraryList

This script displays each script name in the script library.

Syntax

```
AdminUtilities.getScriptLibraryList()
```

Example usage

```
AdminUtilities.getScriptLibraryList()
```

getScriptLibraryPath

This script displays the file path to get to the script library files on your file system.

Syntax

```
AdminUtilities.getScriptLibraryPath()
```

Example usage

```
AdminUtilities.getScriptLibraryPath()
```

help

This script displays help information for the AdminUtilities script library, including general library information, script names, and script descriptions.

Table 22. help argument description. Run the script to obtain information about the script of interest.

Argument	Description
<i>scriptName</i>	Optionally specifies the name of the AdminUtilities script of interest.

Syntax

```
AdminUtilities.help(scriptName)
```

Example usage

```
AdminUtilities.help("sleepDelay")
```

infoNotice

This script sets the text for the information notice of a command or script.

Table 23. infoNotice argument description. Run the script to specify the message argument.

Argument	Description
<i>message</i>	Specifies the message text or a message ID such as "Application is installed" or <code>resourceBundle.getString("WASX7115I")</code> .

Syntax

```
AdminUtilities.infoNotice(message)
```

Example usage

```
AdminUtilities.infoNotice(resourceBundle.getString("WASX7115I"))
```

save

This script saves the configuration changes to your system.

Syntax

```
AdminUtilities.save()
```

Example usage

```
AdminUtilities.save()
```

setDebugNotices

This script enables and disables debug notices.

Table 24. setDebugNotices argument description. Run the script to specify the debug argument.

Argument	Description
<i>debug</i>	Specifies whether to enable or disable debug notices. Specify true to enable debug notices, or false to disable debug notices.

Syntax

```
AdminUtilities.setDebugNotices(debug)
```

Example usage

```
AdminUtilities.setDebugNotices("true")
```

setFailOnErrorDefault

This script enables or disables the fail on error behavior.

Table 25. setFailOnErrorDefault argument description. Run the script to specify the fail on error argument.

Argument	Description
<i>failOnError</i>	Specifies whether to enable or disable the fail on error behavior. Specify true to enable the fail on error behavior, or false to disable the behavior.

Syntax

```
AdminUtilities.setFailOnErrorDefault(failOnError)
```

Example usage

```
AdminUtilities.setFailOnErrorDefault("false")
```

sleepDelay

This script sets the number of seconds that the system waits for completion during two operations.

Table 26. sleepDelay argument description. Run the script to specify the delay seconds argument.

Argument	Description
<i>delaySeconds</i>	Specifies the number of seconds to wait for completion.

Syntax

```
AdminUtilities.sleepDelay(delaySeconds)
```

Example usage

```
AdminUtilities.sleepDelay("10")
```

warningNotice

This script sets the text to display as the warning message.

Table 27. *warningNotice* argument description. Run the script to specify the message argument.

Argument	Description
<i>message</i>	Specifies the non-translated text for the warning notice or a message ID such as <code>resourceBundle.getString("WASX7411W")</code> .

Syntax

```
AdminUtilities.warningNotice(message)
```

Example usage

```
AdminUtilities.warningNotice(resourceBundle.getString("WASX7411W"))
```

configureAutoSave

This script enables and disables the automatic saving of configuration changes to the master configuration repository.

Table 28. *configureAutoSave* argument description. Run the script to specify the autosave argument.

Argument	Description
<i>autosave</i>	Specifies whether to save configuration changes to the master configuration repository automatically. The default value is true.

Syntax

```
AdminUtilities.configureAutoSave(autosave)
```

Example usage

```
AdminUtilities.configureAutoSave(false)
```

Configuring the JACC provider for Tivoli Access Manager using the wsadmin utility

You can use the `wsadmin` utility to configure Tivoli Access Manager security for WebSphere Application Server.

About this task

Verify that all the managed servers, including node agents, are started. The following configuration is performed once on the deployment manager server. The configuration parameters are forwarded to managed servers, including node agents, when a synchronization is performed. The managed servers require their own restart for the configuration changes to take effect.

Procedure

1. Start WebSphere Application Server.
2. At the `wsadmin` prompt, enter the following command:

```
$AdminTask configureTAM -interactive
```

Table 29. Commands for configuring, reconfiguring, and unconfiguring Tivoli Access Manager. The following table lists the information that you are asked to provide for the `configureTAM` command. The table also lists the properties that apply to the `unconfigureTAM` and `reconfigureTAM` commands.

Property	Default	Relevant command	Description
Websphere Application Server node name	*	<ul style="list-style-type: none"> configureTAM reconfigureTAM unconfigureTAM 	Specify a single node or enter an asterisk (*) to run the configuration task on all of the application server instances including the deployment manager, node agents, and servers.
Tivoli Access Manager Policy Server	Default port: 7135	<ul style="list-style-type: none"> configureTAM reconfigureTAM 	Enter the name of the Tivoli Access Manager policy server and the connection port. Use the format, <code>policy_server : port</code> . The policy server communication port is set at the time of Tivoli Access Manager configuration.
Tivoli Access Manager Authorization Server	Default port: 7136	<ul style="list-style-type: none"> configureTAM reconfigureTAM 	Enter the name, port, and priority of each configured Tivoli Access Manager authorization server. Use the format <code>auth_server : port : priority</code> . The authorization server communication port is set at the time of Tivoli Access Manager configuration. You can specify more than one authorization server by separating the entries with commas. Having more than one authorization server configured is useful for failover and performance. The priority value is the order of authorization server use. For example: <code>auth_server1:7136:1,auth_server2:7137:2</code> . A priority of 1 is still required when you use a single authorization server.
Websphere Application Server administrator's distinguished name		<ul style="list-style-type: none"> configureTAM reconfigureTAM 	Enter the full distinguished name of the security primary administrator ID for WebSphere Application Server as created in the "Creating the security administrative user" topic in the <i>Securing applications and their environment</i> PDF. For example: <code>cn=wasadmin,o=organization,c=country</code>
Tivoli Access Manager user registry distinguished name suffix		<ul style="list-style-type: none"> configureTAM reconfigureTAM 	Enter the suffix that you have set up in the user registry to contain the user and groups for Tivoli Access Manager. For example: <code>o=organization,c=country</code>
Tivoli Access Manager administrator's user name	sec_master	<ul style="list-style-type: none"> configureTAM reconfigureTAM unconfigureTAM 	Enter the Tivoli Access Manager administration user ID that you created when you configured Tivoli Access Manager. This ID is usually <code>sec_master</code> .
Tivoli Access Manager administrator's user password		<ul style="list-style-type: none"> configureTAM reconfigureTAM unconfigureTAM 	Enter the password that is associated with the Tivoli Access Manager administration user ID.
Tivoli Access Manager security domain	Default	<ul style="list-style-type: none"> configureTAM reconfigureTAM 	Enter the name of the Tivoli Access Manager security domain that is used to store users and groups. If a security domain is not already established at the time of Tivoli Access Manager configuration, click Return to accept the default.
Embedded Tivoli Access Manager listening port set	8900:8999	<ul style="list-style-type: none"> configureTAM reconfigureTAM 	WebSphere Application Server needs to listen on a TCP/IP port for authorization database updates from the policy server. More than one process can run on a particular node and machine so a list of ports is required for the processes. Enter the ports that are used as listening ports by Tivoli Access Manager clients, separated by a comma. If you specify a range of ports, separate the lower and higher values by a colon. For example, <code>7999, 9990:9999</code> .
Defer	No	<ul style="list-style-type: none"> configureTAM reconfigureTAM unconfigureTAM 	Set this option to <i>yes</i> if you want to defer the configuration of the management server until the next restart. Set the option to <i>no</i> if you want the configuration of the management server to occur immediately. Managed servers are configured on their next restart.
Force	No	<ul style="list-style-type: none"> reconfigureTAM unconfigureTAM 	Set this value to <i>yes</i> if you want to ignore errors during the unconfiguration process and allow the entire process to complete. Set the value to <i>no</i> if you want errors to stop the unconfiguration process. This option is especially useful if the environment needs to be cleaned up and problems are occurring that do not allow the entire cleanup process to complete successfully.

- When all information is entered, select **F** to save the configuration properties or **C** to cancel from the configuration process and discard entered information.

What to do next

Now enable the JACC provider for Tivoli Access Manager - see the Enabling the JACC provider for Tivoli Access Manager article for more information.

Securing communications using the wsadmin tool

The application server provides several methods to secure communication between a server and a client. Use this topic to configure Secure Sockets Layer (SSL), keystores, certificate authorities, key sets and groups, and certificates.

Procedure

- Configure secure communications using SSL.

Use the `SSLConfigCommands`, `SSLConfigGroupCommands`, `DynamicSSLConfigSelections` and `SSLTransport` command groups for the `AdminTask` object, and complete the following tasks to create and administer SSL configurations:

- Create an SSL configuration at the node scope using scripting.
- Automate SSL configurations using scripting.
- Create a keystore configuration.

Use the `KeyStoreCommands` command group for the `AdminTask` object, and complete the following tasks to create and administer keystore configurations.

- Update default key store passwords using scripting
- Create a certificate authority (CA) client configuration.

A CA client object contains all of the configuration information necessary to connect to a third-party CA server. Use the `CAClientCommands` command group for the `AdminTask` object, and complete the following tasks to create and administer CA client objects in your configuration:

- Configure CA clients using scripting
- Administer CA clients using scripting
- Administer certificate configurations.

Use the `CertificateRequestCommands`, `PersonalCertificateCommands`, and `SignerCertificateCommands` command groups for the `AdminTask` object, and complete the following tasks to administer personal certificates, CA certificates, and self-signed certificates:

- Create self-signed certificates using scripting
- Configure CA certificates using scripting
- Create key sets and key groups.

Use the `KeySetCommands`, `KeySetGroupCommands`, and `KeyReferenceCommands` command groups for the `AdminTask` object to create and administer key set and group configurations.

Creating an SSL configuration at the node scope using scripting

A Secure Socket Layer (SSL) configuration references many other configuration objects. To help you make valid selections for the new SSL configuration before you create it, view information about existing configuration objects. Information about existing objects is also useful when you create a node scoped SSL configuration using the `createSSLConfig` command of the `AdminTask` object.

Before you begin

Before starting this task, the `wsadmin` tool must be running. See the [Starting the wsadmin scripting client](#) article for more information.

gotcha: The `security.xml` file is restricted. Therefore, if you need to make changes to the `security.xml` file, verify that your user ID has administrator role authorization. If you are using a user ID with operator role authorization, you can perform a node synchronization, but any changes that you made to the `security.xml` file are not synchronized.

About this task

To use the information in this task effectively, familiarize yourself with the instructions in the [Creating a Secure Sockets Layer configuration](#) topic.

Perform the following task to create an Secure Socket Layer (SSL) configuration at the node scope:

Procedure

1. List the existing configuration objects. Perform any of the following:
 - List some of the configuration objects that you may need when you create a new SSL configuration.

For example, you want to see which management scopes have already been defined. If the one you need does not exist you will need to create it.

- Using Jacl:

```
$AdminTask listManagementScopes {-scopeName (cell):BIRKT40Cell102:(node):BIRKT40Node02}
```

- Using Jython:

```
AdminTask.listManagementScopes ('[-scopeName (cell):BIRKT40Cell102:(node):BIRKT40Node02]')
```

This shows an existing cell scope and existing node scope that you can use. If you want to create a different scope, use the **createManagementScope** command of the AdminTask object to define a different one. The valid scope parameters are cell, nodegroup, node, server, cluster, and endpoint. See the Central management of SSL configurations article for more information on scope limitations.

- List the key stores that exist in the configuration including key stores and trust stores.

- Using Jacl:

```
$AdminTask listKeyStores -all true
```

- Using Jython:

```
AdminTask.listKeyStores('-all true')
```

Example output:

```
CellDefaultKeyStore(cells/BIRKT40Cell102|security.xml#KeyStore_1)
CellDefaultTrustStore(cells/BIRKT40Cell102|security.xml#KeyStore_2)
CellLTPAKeys(cells/BIRKT40Cell102|security.xml#KeyStore_3)
```

The previous example only lists the key stores for the default management scope which is also known as the cell scope. To obtain key stores for other scopes, specify the scopeName parameter, for example:

- Using Jacl:

```
$AdminTask listKeyStores {-scopeName (cell):BIRKT40Cell102:(node):BIRKT40Node02 }
```

- Using Jython:

```
$AdminTask listKeyStores ('[-scopeName (cell):BIRKT40Cell102:(node):BIRKT40Node02]')
```

Example output:

```
CellDefaultKeyStore(cells/BIRKT40Cell102|security.xml#KeyStore_1)
CellDefaultTrustStore(cells/BIRKT40Cell102|security.xml#KeyStore_2)
CellLTPAKeys(cells/BIRKT40Cell102|security.xml#KeyStore_3)
NodeDefaultKeyStore(cells/BIRKT40Cell102|security.xml#KeyStore_1134610924357)
NodeDefaultTrustStore(cells/BIRKT40Cell102|security.xml#KeyStore_1134610924377)
```

- List specific trust or key managers. Be sure to display the object name for the trust managers. You will need the object name for the SSL configuration because you can specify multiple trust manager instances.

- Using Jacl:

```
$AdminTask listTrustManagers {-scopeName (cell):BIRKT40Cell102:(node):BIRKT40Node02 -displayObjectName true }
```

- Using Jython:

```
AdminTask.listTrustManagers ('[-scopeName (cell):BIRKT40Cell102:(node):BIRKT40Node02 -displayObjectName true]')
```

Example output:

```
IbmX509(cells/BIRKT40Cell102|security.xml#TrustManager_1)
IbmPKIX(cells/BIRKT40Cell102|security.xml#TrustManager_2)
IbmX509(cells/BIRKT40Cell102|security.xml#TrustManager_1134610924357)
IbmPKIX(cells/BIRKT40Cell102|security.xml#TrustManager_1134610924377)
```

2. Create the node-scoped SSL configuration in interactive mode. Now that we have the information we need to choose from, we need to decide if these objects are sufficient or if we need to create new ones. For now, we will reuse what we've already got in the configuration and save creating new instances to task documents specific to those objects.

- Using Jacl:

```
$AdminTask createSSLConfig -interactive
```

- Using Jython:

```
AdminTask.createSSLConfig ('[-interactive]')
```

Example output:

Create a SSL Configuration.

```
*SSL Configuration Alias (alias): BIRKT40Node02SSLConfig
Management Scope Name (scopeName): (cell1):BIRKT40Cell102:(node):BIRKT40Node02
Client Key Alias (clientKeyAlias): default
Server Key Alias (serverKeyAlias): default
SSL Type (type): [JSSE]
Client Authentication (clientAuthentication): [false]
Security Level of the SSL Configuration (securityLevel): [HIGH]
Enabled Ciphers SSL Configuration (enabledCiphers):
JSSE Provider (jsseProvider): [IBMJSE2]
Client Authentication Support (clientAuthenticationSupported): [false]
SSL Protocol (sslProtocol): [SSL_TLS]
Trust Manager Object Names (trustManagerObjectNames): (cells/BIRKT40Cell102|security.xml#TrustManager_1)
*Trust Store Name (trustStoreName): NodeDefaultTrustStore
Trust Store Scope (trustStoreScopeName): (cell1):BIRKT40Cell102:(node):BIRKT40Node02
*Key Store Name (keyStoreName): NodeDefaultKeyStore
Key Store Scope Name (keyStoreScopeName): (cell1):BIRKT40Cell102:(node):BIRKT40Node02
Key Manager Name (keyManagerName): IbmX509
Key Manager Scope Name (keyManagerScopeName): (cell1):BIRKT40Cell102:(node):BIRKT40Node02
```

Create SSL Configuration

F (Finish)
C (Cancel)

Select [F, C]: [F] F

```
WASX7278I: Generated command line: $AdminTask createSSLConfig {-alias BIRKT40Node02SSLConfig -scopeName
(cell1):BIRKT40Cell102:(node):BIRKT40Node02 -clientKeyAlias default -serverKeyAlias default
-trustManagerObjectNames (cells/BIRKT40Cell102|security.xml#TrustManager_1) -trustStoreName
NodeDefaultTrustStore -trustStoreScopeName (cell1):BIRKT40Cell102:(node):BIRKT40Node02 -keyStoreName
NodeDefaultKeyStore -keyStoreScopeName (cell1):BIRKT40Cell102:(node):BIRKT40Node02 -keyManagerName
IbmX509 -keyManagerScopeName (cell1):BIRKT40Cell102:(node):BIRKT40Node02 }
```

3. Save the configuration changes. See the Saving configuration changes with the wsadmin article for more information.
4. In a network deployment environment only, synchronize the node. See the Synchronizing nodes with the wsadmin tool article for more information.

Results

The name of the SSL configuration object that you created, for example, (cells/BIRKT40Cell102|security.xml#SSLConfig_1136652770753), appears in the security.xml file.

Example security.xml file output:

```
<repertoire xmi:id="SSLConfig_1136652770753" alias="BIRKT40Node02SSLConfig" type="JSSE"
managementScope="ManagementScope_1134610924357">
<setting xmi:id="SecureSocketLayer_1136652770924" clientKeyAlias="default" serverKeyAlias="default"
clientAuthentication="false" securityLevel="HIGH" jsseProvider="IBMJSE2" sslProtocol="SSL_TLS"
keyStore="KeyStore_1134610924357" trustStore="KeyStore_1134610924377" trustManager="TrustManager_1"
keyManager="KeyManager_1134610924357"/>
</repertoire>
```

What to do next

Once you create the SSL configuration object, the next step is to use it. There are several different ways that you can associate SSL configurations with protocols, for example:

- Set the SSL configuration on the thread programmatically.
- Associate the SSL configuration with an outbound protocol or a target host and port.
- Directly associating the SSL configuration using the alias.
- Centrally managing the SSL configurations by associating them with SSL configuration groups or zones so that they are used based upon the group from where the end point exists.

Automating SSL configurations using scripting

SSL configuration is needed for WebSphere to perform SSL connections with other servers. A SSL configuration can be configured through the Admin Console. But if an automated way to create a SSL configuration is desired then AdminTask should be used.

Before you begin

Before starting this task, the wsadmin tool must be running. See the Starting the wsadmin scripting client article for more information.

About this task

AdminTask can be used in a interactive mode and batch mode. For automation the batch mode options should be used. AdminTask batch mode can be called in a JACL or Python script. Interactive mode will step through all the parameter the task needs, requires ones are marked with a '*'. Before the interactive task executes the task it echoes the batch mode syntax of the task to the screen. This can be helpful when writing batch mode scripts.

There attributes needed to create an ssl configurations:

- A key store
- Default client certificate alias
- Default server certificate alias
- Trust store
- The handshake protocol
- The ciphers needed during handshake
- Supporting client authentication or not

If automating the creation of a SSL Configuration it may be needed to create some of the attribute values needed like the key store, trust store, key manager, and trust managers.

Procedure

- To create a SSL configuration the createSSLConfig AdminTask can be used. To make changes to the SSL configurations use the modifySSLConfig AdminTask.

– Interactive mode:

Interactive mode steps you through all attributes and tell you the default value of the attribute if there is one. The default value is in '[']' on the prompt line. The actual flag used in batch mode is in '(')' on each prompt line. If you are using the default value then the flag will not show up on the batch command line.

Using Jacl:

```
$AdminTask createSSLConfig -interactive
```

– Using Jython:

```
AdminTask.createSSLConfig ('[interactive]')
```

Example output:

```
*SSL Configuration Alias (alias): testSSLConfig
Management Scope Name (scopeName): (cell):HOSTNode01Cell:(node):HOSTNode01
Client Key Alias (clientKeyAlias): clientCert
Server Key Alias (serverKeyAlias): serverCert
SSL Type (type): [JSSE]
Client Authentication (clientAuthentication): [false]
Security Level of the SSL Configuration (securityLevel): [HIGH] HIGH
Enabled Ciphers SSL Configuration (enabledCiphers):
JSSE Provider (jsseProvider): [IBMJSSE2]
Client Authentication Support (clientAuthenticationSupported): [false]
SSL Protocol (sslProtocol): [SSL_TLS] SSL_TLS
Trust Manager Object Names (trustManagerObjectNames):
*Trust Store Name (trustStoreName): testTrustStore
Trust Store Scope (trustStoreScopeName): (cell):HOSTNode01Cell:(node):HOSTNode01
*Key Store Name (keyStoreName): testKeyStore
Key Store Scope Name (keyStoreScopeName): (cell):HOSTNode01Cell:(node):HOSTNode01
Key Manager Name (keyManagerName): IbmX509
Key Manager Scope Name (keyManagerScopeName): (cell):HOSTNode01Cell:(node):HOSTNode01
```

Create SSL Configuration

F (Finish)
C (Cancel)

```
Select [F, C]: [F]
WASX7278I: Generated command line: $AdminTask createSSLConfig {-alias testSSLConfig
-scopeName (cell):HOSTNode01Cell:(node):HOSTNode01 -clientKeyAlias clientCert
-serverKeyAlias serverCert -trustStoreName testTrustStore
-trustStoreScopeName (cell):HOSTNode01Cell:(node):HOSTNode01
-keyStoreName testKeyStore -keyStoreScopeName (cell):HOSTNode01Cell:(node):HOSTNode01
-keyManagerName IbmX509 -keyManagerScopeName (cell):HOSTNode01Cell:(node):HOSTNode01 }
(cells/HOSTNode01Cell|security.xml#SSLConfig_1137687301834)
```

At the end of the output, the batch mode parameters are provided.

– Batch mode:

Using Jacl:

```
$AdminTask createSSLConfig {-alias testSSLConfig
-scopeName (cell):HOSTNode01Cell:(node):HOSTNode01 -clientKeyAlias clientCert
-serverKeyAlias serverCert -trustStoreName testTrustStore
-trustStoreScopeName (cell):HOSTNode01Cell:(node):HOSTNode01
-keyStoreName testKeyStore -keyStoreScopeName (cell):HOSTNode01Cell:(node):HOSTNode01
-keyManagerName IbmX509 -keyManagerScopeName (cell):HOSTNode01Cell:(node):HOSTNode01}
```

– Using Jython:

```
AdminTask.createSSLConfig ('[-alias testSSLConfig
-scopeName (cell):HOSTNode01Cell:(node):HOSTNode01 -clientKeyAlias clientCert
-serverKeyAlias serverCert -trustStoreName testTrustStore
-trustStoreScopeName (cell):HOSTNode01Cell:(node):HOSTNode01
-keyStoreName testKeyStore -keyStoreScopeName (cell):HOSTNode01Cell:(node):HOSTNode01
-keyManagerName IbmX509 -keyManagerScopeName (cell):HOSTNode01Cell:(node):HOSTNode01]')
```

Example output:

```
(cells/HOSTNode01Cell|security.xml#SSLConfig_1137687301834)
```

- **Key Stores and Trust Stores** The key store and trust store may already exist or a new one may need to be created. To create a new key store or trust store use the `createKeyStore` AdminTask. It will create a key store file and store the configuration object in the system configuration. A trust store is just a key store that usually only has signer certificates in it. To create a key store enter:

– Using Jacl:

```
$AdminTask createKeyStore {-keyStoreName testKeyStore -keyStoreType PKCS12
-keyStoreLocation $(USER_INSTALL_ROOT)\testKeyStore.p12 -keyStorePassword abcd
-keyStorePasswordVerify abcd -keyStoreIsFileBased true -keyStoreReadOnly false}
```

– Using Jython:

```
AdminTask.createKeyStore ('[-keyStoreName testKeyStore -keyStoreType PKCS12
-keyStoreLocation $(USER_INSTALL_ROOT)\testKeyStore.p12 -keyStorePassword abcd
-keyStorePasswordVerify abcd -keyStoreIsFileBased true -keyStoreReadOnly false]')
```

To populate the key store with certificates see “Managing Certificates using AdminConsole and Admin Task” The key store and trust store are required to create a SSL configuration. Use the `'-keyStoreName'` and `'-trustStoreName'` flags on the `createSSLConfig`. There scopes can be added with the `'-keyStoreScope'` flag and `'-trustStoreScope'` flags.

- **Key Manager** Key manager are used to determine how a certificate is selected. The `IbmX509` key manager is in the security configuration by default. If a different key manager is needed then use `createKeyManager` AdminTask to create it. To create a key manager enter:

– Using Jacl:

```
$AdminTask createKeyManager {-name testKeyManager
-scopeName (cell):HOSTNode01Cell:(node):HOSTNode01
-provider IBMJSSE2 -algorithm specialAlgorithm }
```

– Using Jython:

```
AdminTask.createKeyManager ('[-name testKeyManager
-scopeName (cell):HOSTNode01Cell:(node):HOSTNode01
-provider IBMJSSE2 -algorithm specialAlgorithm]')
```

To supply a key manager on the `createSSLConfig` AdminTask use the `'-keyManagerName'` along with the `'-keyManagerScope'` flag.

- **Trust Manager** Trust managers are use to determine how trust is established during ssl communication. The `IbmX509` and `IbmPKIX` are trust managers are in the security configuration by default. If a different or additional trust manager is needed then use the `createTrustManger` AdminTask to create it. To create a trust manager enter:

– Using Jacl:

```
$AdminTask createTrustManager {-name testTrustManager
-scopeName (cell):HOSTNode01Cell:(node):HOSTNode01
-provider IBMJSSE2 -algorithm specialAlgorithm }
```

– Using Jython:

```
AdminTask.createTrustManager ('[-name testTrustManager
-scopeName (cell):HOSTNode01Cell:(node):HOSTNode01
-provider IBMJSSE2 -algorithm specialAlgorithm]')
```

The SSL Configuration can have multiple trust managers. To supply multiple trust managers give a comma separated list of the trust managers configuration IDs with the `-trustManagerObjectNames` flag. When you create a trust manager the configuration object ID is returned. To get a list of trust managers object IDs use the **listTrustManagers** command of the AdminTask object with the `-displayObjectName true` flag. For example:

```
wsadmin>$AdminTask listTrustManagers -interactive
List Trust Managers

List trust managers.

Management Scope Name (scopeName):
Display list in ObjectName Format (displayObjectName): [false] true

List Trust Managers

F (Finish)
C (Cancel)

Select [F, C]: [F]
Inside generate script command
WASX7278I: Generated command line: $AdminTask listTrustManagers {-displayObjectName true }
IbmX509(cells/IBM-0AF8DABCF16Node01Cell|security.xml#TrustManager_IBM-0AF8DABCF16Node01_1)
IbmPKIX(cells/IBM-0AF8DABCF16Node01Cell|security.xml#TrustManager_IBM-0AF8DABCF16Node01_2)
```

Updating default key store passwords using scripting

Use the Jython or Jacl scripting language to change the default key store passwords. A key store file is created with a default password when you install the application server. Change this password to protect your security configuration.

Before you begin

Before starting this task, the wsadmin tool must be running. See the Starting the wsadmin scripting client article for more information.

About this task

When you install the application server, each server creates a key store and trust store for the default SSL configuration with the default password WebAS. To protect the security of the key store files and the SSL configuration, you must change the password. The following examples update the default password:

Procedure

- Change multiple key stores passwords. The **changeMultipleKeyStorePasswords** command updates all of the key stores that have the same password. For example:

– Using Jacl:

```
$AdminTask changeMultipleKeyStorePasswords {-keyStorePassword WebAS
-newKeyStorePassword secretPwd -newKeyStorePasswordVerify secretPwd}
```

– Using Jython:

```
AdminTask.changeMultipleKeyStorePasswords ('[-keyStorePassword WebAS
-newKeyStorePassword secretPwd -newKeyStorePasswordVerify secretPwd]')
```

- Change the password of a single key store. The **changeKeyStorePassword** command updates the password of an individual key store. For example:

– Using Jacl:

```
$AdminTask changeKeyStorePassword {-keyStoreName testKS
-scopeName (cell):localhost:(server):server1
-keyStorePassword WebAS -newKeyStorePassword secretPwd
-newKeyStorePasswordVerify secretPwd}
```

– Using Jython:

```
AdminTask.changeKeyStorePassword ('[-keyStoreName testKS
-scopeName (cell):localhost:(server):server1
-keyStorePassword WebAS -newKeyStorePassword secretPwd
-newKeyStorePasswordVerify secretPwd]')
```

Configuring certificate authority client objects using the wsadmin tool

Use this topic to create a certificate authority (CA) client object. The client object contains all of the configuration information necessary to connect to your third-party CA server. A CA client must exist in your configuration before you can issue a request to the CA to create personal certificates with the `requestCACertificate` command.

Before you begin

A CA client object contains information that the system uses to connect to a certificate authority. Implement the `com.ibm.ws.WSPKIClient` interface to connect to the certificate authority and provide the `com.ibm.ws.WSPKIClient` class when creating the CA client object.

About this task

If a CA client does not exist in your configuration, use the steps in this topic to create a new CA client.

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.

2. Determine if a CA client exists in your configuration.

Use the following `listCAClients` command to list all certificate authority clients in your configuration:

```
print AdminTask.listCAClients()
```

3. If no CA clients exist, then create a new CA client.

Use the `createCAClient` command to create a new CA client object. The application server connects to a CA server through the `WSPKIClient()` implementation, which handles all connections and communications with the CA server.

Table 30. Required parameter. You must specify the following configuration information for a new CA client object:

Parameter	Description	Data Type
-CAClientName	Specify a name to uniquely identify the CA client object.	String

Table 31. Additional parameters. You can specify additional configuration information using the following parameters:

Parameter	Description	Data Type
-scopeName	Specify the management scope of the CA client. For a deployment manager profile, the system uses the cell scope as the default value. For an application server profile, the system uses the node scope as the default value.	String
-pkiClientImplClass	Specify the class path that implements the <code>WSPKIClient</code> interface. The system uses this path to connect to the CA and to issue requests to the CA. The default value is <code>com.ibm.wsspi.ssl.WSPKIClient</code> .	String
-host	Specify the host name in your system where the CA resides.	String
-port	Specify the port on the server where the CA listens.	String
-userName	Specify the user name to use to authenticate to the CA.	String
-password	Specify the password for the user name that authenticates to the CA.	String
-frequencyCheck	Specify how often, in minutes, the system checks with the CA to determine if a certificate has been created.	String

Table 31. Additional parameters (continued). You can specify additional configuration information using the following parameters:

Parameter	Description	Data Type
-retryCheck	Specify the number of times to check with the CA to determine if a certificate has been created.	String
-customProperties	Specifies a comma separated list of attribute and value (attribute=value) custom property pairs to add to the CA client object.	String

Use the following example command to create a new CA client object:

```
AdminTask.createCAClient('[-caClientName clientObj01 -pkIClientImplClass com.ibm.wsspi.ssl.WSPKIClient -host machine011 -port 9022 -userName admin -password pw4admin]')
```

The command returns the object name of the CA client that has been created.

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

What to do next

If the CA client object was successfully created, then you can configure the application server to use a personal certificate created by an external CA.

Administering certificate authority clients using the wsadmin tool

Use this topic to modify certificate authority (CA) client objects. The client object contains all of the configuration information necessary to connect to your third-party CA server.

Before you begin

You must configure a CA client object in your environment.

About this task

For existing CA client objects, use the steps in this topic to view, modify, or delete existing CA client object configurations.

Procedure

- View existing CA client objects and configuration data. Use the listCAClients and getCAClient commands to query your environment for your existing CA clients.

- Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.
- List all CA client objects in your configuration.

Use the listCAClients command to list all certificate authority clients in your configuration. If you do not provide a value for the -scopeName parameter, then the command queries the cell if you use a deployment manager profile or queries the node if you use an application server profile. Use the -all parameter to query your environment without using a specific scope, as the following example demonstrates:

```
print AdminTask.listCAClients('-all true')
```

The command returns an array of attribute lists, displaying one attribute list for each CA client, as the following example output displays:

```
'[ [backupCAs ] [managementScope (cells/myCell101|security.xml#ManagementScope_1) ] [scopeName (cell):myCell101] [name jenCAClient] [baseDn ] [_Websphere_Config_Data_Id cells/myCell101|security.xml#CAClient_1181834566881] [port 2950] [CACertificate ] [pkIClientImplClass com.ibm.wsspi.ssl.WSPKIClient] [userId ] [_Websphere_Config_Data_Type CAClient] [retryCheck 0] [properties ] [frequencyCheck 0] [password ] [host ] ]'
```

```
'[ [backupCAs ] [managementScope (cells/myCell101|security.xml#ManagementScope_1)
```

```

] [scopeName (cell):myCell01] [name myCAClient] [baseDn ] [_Websphere_Config_Dat
a_Id cells/myCell01|security.xml#CAClient_1181834566882] [port 2951] [CACertific
ate ] [pkiClientImplClass com.ibm.wsspi.ssl.WSPKIClient] [userId ] [_Websphere
_Config_Data_Type CAClient] [retryCheck 0] [properties ] [frequencyCheck 0] [pas
sword ] [host ] ]'

```

3. List the configuration attributes for a specific CA client.

Use the `getCAClient` command to view the list of attributes for a specific CA client, as the following example demonstrates:

```
print AdminTask.getCAClient('-caClientName myCAClient')
```

The command returns an attribute list that contains the attribute and value pairs for the specific CA client, as the following example demonstrates:

```

'[ [backupCAs ] [managementScope (cells/myCell01|security.xml#ManagementSc
ope_1)] [scopeName (cell):myCell01] [name myCAClient] [baseDn ] [_Websphe
re_Config_Data_Id cells/myCell01|security.xml#CAClient_1181834566882] [por
t 2951] [CACertificate ] [pkiClientImplClass com.ibm.wsspi.ssl.WSPKIClient] [u
serId ] [_Websphere_Config_Data_Type CAClient] [retryCheck 0] [properties ] [fre
quencyCheck 0] [password ] [host ] ]'

```

- Modify your existing CA client object configuration data. Use the `modifyCAClient` command to change one or more configuration attributes for a specific CA client.

1. Start the `wsadmin` scripting tool.
2. Determine which configuration attributes to edit.

The `modifyCAClient` modifies all attributes that you specify with the command parameters. If you do not specify a parameter, then its corresponding attribute does not change.

Table 32. Command parameters. You can edit the following configuration data with the `modifyCAClient` command:

Parameter	Description	Data Type
-scopeName	Specify the management scope of the CA client. For a deployment manager profile, the system uses the cell scope as the default. For an application server profile, the system uses the node scope as the default.	String
-pkiClientImplClass	Specify the class path that implements the WSPKIClient interface. The system uses this path to connect to the CA and to issue requests to the CA.	String
-host	Specify the host name in your system where the CA resides.	String
-port	Specify the port on the server where the CA listens.	String
-userName	Specify the user name to use to authenticate to the CA.	String
-password	Specify the password for the user name that authenticates to the CA.	String
-frequencyCheck	Specify how often, in minutes, the system should check with the CA to determine if a certificate has been created.	String
-retryCheck	Specify the number of times to check with the CA to determine if a certificate has been created.	String
-customProperties	Specifies a comma separated list of attribute and value (attribute=value) custom property pairs to modify on the CA Client object. You can create, modify, or remove properties. To remove a property specify attribute= attribute as equal to no value.	String

3. Modify specific configuration attributes for a CA client object.

Use the following example command to modify the port number of the CA, the user name, and password attributes for the `myCAClient` CA client object:

```
AdminTask.modifyCAClient(['-caClientName myCAClient -port 4060 -userName admin
-password password4admin -pkiClientImplClass com.ibm.wsspi.ssl.WSPKIClient'])
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

- Remove a CA client object from your configuration. Use the `deleteCAClient` command to delete a CA client object from your configuration. The command does not delete the CA client object if the CA client to delete is referenced by a certificate object.

1. Start the `wsadmin` scripting tool.
2. Determine the CA client object to delete.

Use the `listCAClients` command to list all certificate authority clients in your configuration. If you do not provide a value for the `-scopeName` parameter, then the command queries the cell if you use a deployment manager profile or queries the node if you use an application server profile. Use the `-all` parameter to query your environment without using a specific scope, as the following example demonstrates:

```
print AdminTask.listCAClients('-all true')
```

3. Delete the CA client object of interest.

Use the `deleteCAClient` command to delete the CA client object from your configuration. Use the `-caClientName` parameter to specify the CA client to delete. You can optionally specify the management scope of the CA client object with the `scopeName` parameter. The following example command removes the `myCAClient` CA client object:

```
AdminTask.deleteCAClient('[-caClientName myCAClient]')
```

If you receive an error message, then verify that the CA client object of interest exists in your configuration and that it is not referenced by a certificate object in your security configuration.

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Setting a certificate authority certificate as the default certificate using the `wsadmin` tool

Use this topic to make a request to an external certificate authority (CA) to create a personal certificate. After the CA returns the certificate and the certificate is saved in the keystore, then you can use it as the server default personal certificate.

Before you begin

You must configure a CA client object in your environment. The client object contains all of the configuration information necessary to connect to your third-party CA server.

About this task

After profile creation, the system is assigned a default chained personal certificate. Use the following steps to modify the application server to use a default personal certificate created by an external CA.

Procedure

1. Launch the `wsadmin` scripting tool using the Jython scripting language. See the `Starting the wsadmin scripting client` article for more information.
2. Verify that a certificate authority client exists in your configuration. Use the `listCAClients` command to query your environment for all existing certificate authority clients and configuration attributes, or the `getCAClient` command to return the configuration attributes for a specific certificate authority client. If the `listCAClients` or `getCAClient` commands do not return any attributes, then you must create a certificate authority client object before you can complete the remaining steps.

- List all certificate authority client objects in your configuration.

Use the `listCAClients` command to list all certificate authority clients in your configuration. If you do not provide a value for the `-scopeName` parameter, then the command queries the cell if you use a

deployment manager profile or queries the node if you use an application server profile. Use the `-all` parameter to query your environment without using a specific scope, as the following example demonstrates:

```
print AdminTask.listCAClients('-all true')
```

The command returns an array of attribute lists, displaying one attribute list for each CA client, as the following example output displays:

```
'[ [backupCAs ] [managementScope (cells/myCell101|security.xml#ManagementScope_1)
] [scopeName (cell):myCell101] [name jenCAClient] [baseDn ] [_Websphere_Config_Da
ta_Id cells/myCell101|security.xml#CAClient_1181834566881] [port 2950] [CACertifi
cate ] [pkIClientImplClass com.ibm.wsspi.ssl.WSPKIClient] [userId ] [_Webspher
e_Config_Data_Type CAClient] [retryCheck 0] [properties ] [frequencyCheck 0] [pa
ssword ] [host ] ]'
'[ [backupCAs ] [managementScope (cells/myCell101|security.xml#ManagementScope_1)
] [scopeName (cell):myCell101] [name myCAClient] [baseDn ] [_Websphere_Config_Dat
a_Id cells/myCell101|security.xml#CAClient_1181834566882] [port 2951] [CACertific
ate ] [pkIClientImplClass com.ibm.wsspi.ssl.WSPKIClient] [userId ] [_Websphere
_Config_Data_Type CAClient] [retryCheck 0] [properties ] [frequencyCheck 0] [pas
sword ] [host ] ]'
```

- List the configuration attributes for a specific certificate authority client.

Use the `getCAClient` command to view the list of attributes for a specific certificate authority client, as the following example demonstrates:

```
print AdminTask.getCAClient('-caClientName myCAClient')
```

The command returns an attribute list that contains the attribute and value pairs for the specific certificate authority client, as the following example demonstrates:

```
'[ [backupCAs ] [managementScope (cells/myCell101|security.xml#ManagementSc
ope_1)] [scopeName (cell):myCell101] [name myCAClient] [baseDn ] [_Websphe
re_Config_Data_Id cells/myCell101|security.xml#CAClient_1181834566882] [por
t 2951] [CACertificate ] [pkIClientImplClass com.ibm.wsspi.ssl.WSPKIClient] [u
serId ] [_Websphere_Config_Data_Type CAClient] [retryCheck 0] [properties ] [fre
quencyCheck 0] [password ] [host ] ]'
```

3. Optional: If a certificate authority client does not exist in your environment, then configure a CA client object.
4. Optional: View the current default personal certificate.

Use the following `listPersonalCertificates` command to display the current default personal certificate to replace:

```
AdminTask.listPersonalCertificates('[-keyStoreName CellDefaultKeyStore -keyStoreScope (cell):myCell101]')
```

5. Request a certificate from a certificate authority.

Before the current default personal certificate can be replaced, you must request a certificate from a certificate authority. You can create a new certificate request or use the `createCertificateRequest` command to use a predefined certificate request. The system uses the certificate request and the certificate authority configuration information from the CA client object to request the certificate from the certificate authority. If the certificate authority returns a certificate, then the `requestCACertificate` command stores the certificate in the specified key store and returns a message of `COMPLETE`.

Table 33. Required parameters. Use the `requestCACertificate` command and the following required parameters to request a certificate from a certificate authority:

Parameter	Description	Data Type
<code>-certificateAlias</code>	Specifies the alias of the certificate. You can specify a predefined certificate request.	String
<code>-keyStoreName</code>	Specifies the name of the keystore object that stores the CA certificate. Use the <code>listKeyStores</code> command to display a list of available keystores.	String
<code>-caClientName</code>	Specifies the name of the CA client that was used to create the CA certificate.	String
<code>-revocationPassword</code>	Specifies the password to use to revoke the certificate at a later date.	String

Table 34. Optional parameters. You can also use the following parameters to specify additional certificate request options. If you do not specify an optional parameter, then the command uses the default value.

Parameter	Description	Data Type
-keyStoreScope	Specifies the management scope of the keystore. For a deployment manager profile, the default value is the cell scope. For an application server profile, the default value is the node scope.	String
-caClientScope	Specifies the management scope of the CA client. For a deployment manager profile, the default value is the cell scope. For an application server profile, the default value is the node scope.	String
-certificateCommonName	Specifies the common name (CN) part of the full distinguished name (DN) of the certificate. This common name can represent a person, company, or machine. For websites, the common name is frequently the DNS host name where the server resides.	String
-certificateSize	Specifies the size of the certificate key. The valid values are 512, 1024, 2048, 4096 and 8192. The default value is 2048.	String
-certificateOrganization	Specifies the organization portion of the distinguished name.	String
-certificateOrganizationalUnit	Specifies the organizational unit portion of the distinguished name.	String
-certificateLocality	Specifies the locality portion of the distinguished name.	String
-certificateState	Specifies the state portion of the distinguished name.	String
-certificateZip	Specifies the zip code portion of the distinguished name.	String
-certificateCountry	Specifies the country portion of the distinguished name.	String

Use the following example command syntax to request a certificate from a certificate authority:

```
AdminTask.requestCACertificate('-certificateAlias newCertificate -keyStoreName
CellDefaultKeyStore -caClientName myCAClient -revocationPassword revokeCApw
-pkiClientImplClass com.ibm.wsspi.ssl.WSPKIClient')
```

The command returns one of two values: Certificate COMPLETE or certificate PENDING. If the command returns the Certificate COMPLETE message, the certificate authority returned the requested certificate and the default personal certificate is replaced. If the command returns the certificate PENDING message, the certificate authority did not yet return a certificate. Use the queryCACertificate command to view the current status of the certificate request, as the following example demonstrates:

```
AdminTask.queryCACertificate('-certificateAlias newCertificate -keyStoreName
CellDefaultKeyStore -pkiClientImplClass com.ibm.wsspi.ssl.WSPKIClient')
```

6. Replace the server default personal certificate.

Use the following replaceCertificate command example to replace the existing default personal certificate with the newly created CA personal certificate:

```
AdminTask.replaceCertificate('-keyStoreName CellDefaultKeyStore -certificateAlias
defaultPersonalCertificate -replacementCertificateAlias newCertificate')
```

7. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Results

The default personal certificate for the server is a certificate that is created by an external CA.

What to do next

If the CA client object was successfully created, then you can configure the application server to use a personal certificate created by an external CA.

Creating certificate authority (CA) personal certificates using the wsadmin tool

Use this topic to create CA certificates from a certificate authority (CA).

Before you begin

You must configure a CA client object in your environment. The client object contains all of the configuration information necessary to connect to your third-party CA server.

About this task

Use the following information to create a CA personal certificate using a CA client.

Procedure

1. Optional: Query your configuration for keystores to determine where system stores the new CA certificate.

Use the `listKeyStores` command to list all keystores for a specific management scope. Specify the `-scopeName` parameter to display keystores within a specific management scope, or set the `-all` parameter to `true` to display all keystores regardless of scope. The following example lists all keystores in your configuration:

```
AdminTask.listKeyStores('-all true')
```

The command returns the following sample output:

```
CellDefaultKeyStore(cells/myCell|security.xml#KeyStore_1)
CellDefaultTrustStore(cells/myCell|security.xml#KeyStore_2)
CellLTPAKeys(cells/myCell|security.xml#KeyStore_3)
NodeDefaultKeyStore(cells/myCell|security.xml#KeyStore_1598745926544)
NodeDefaultTrustStore(cells/myCell|security.xml#KeyStore_1476529854789)
```

Use the `getKeyStoreInfo` command and specify the `-keyStoreName` parameter to return additional information about the keystore of interest, as the following example displays:

```
AdminTask.getKeyStoreInfo('[-keyStoreName CellDefaultKeyStore]')
```

The command returns the following configuration information for the keystore of interest:

```
[ [location ${CONFIG_ROOT}/cells/myCell/key.p12] [password ****] [_Websphere
e_Config_Data_Id cells/myCell|security.xml#KeyStore_1] [_Websphere_Config_Da
ta_Version ] [useForAcceleration false] [slot 0] [type PKCS12] [additionalKeySto
reAttrs ] [fileBased true] [_Websphere_Config_Data_Type KeyStore] [customProvide
rClass ] [hostList ] [createStashFileForCMS false] [description [Default key sto
re for JenbCell101]] [readOnly false] [initializeAtStartup false] [managementScop
e (cells/JenbCell101|security.xml#ManagementScope_1)] [usage SSLKeys] [provider I
BMJCE] [name CellDefaultKeyStore] ]
```

2. Optional: Determine which CA client to use.

Use the `listCAClients` command to list the CA clients that exist in your configuration. Specify the `-scopeName` parameter to display CA clients within a specific management scope, or set the `-all` parameter to `true` to display all CA clients regardless of scope. The following example lists all CA clients in your configuration:

```
AdminTask.listCAClients('-all true')
```

3. Create a CA personal certificate.

Use the `requestCACertificate` command to create a new CA personal certificate in your environment. The system uses the certificate request and the certificate authority configuration information from the CA client object to request the certificate from the certificate authority. If the certificate authority returns a certificate, the `requestCACertificate` command stores the certificate in the specified key store and returns a message of COMPLETE.

Table 35. Required parameters. Use the requestCACertificate command and the following required parameters to request a certificate from a certificate authority:

Parameter	Description	Data type
-certificateAlias	Specifies the alias of the certificate. You can specify a predefined certificate request.	String
-keyStoreName	Specifies the name of the keystore object that stores the CA certificate. Use the listKeyStores command to display a list of available keystores.	String
-caClientName	Specifies the name of the CA client that was used to create the CA certificate.	String
-revocationPassword	Specifies the password to use to revoke the certificate at a later date.	String

Table 36. Additional parameters. You can also use the following parameters to specify additional certificate request options. If you do not specify an optional parameter, the command uses the default value.

Parameter	Description	Data type
-keyStoreScope	Specifies the management scope of the keystore. For a deployment manager profile, the default value is the cell scope. For an application server profile, the default value is the node scope.	String
-caClientScope	Specifies the management scope of the CA client. For a deployment manager profile, the default value is the cell scope. For an application server profile, the default value is the node scope.	String
-certificateCommonName	Specifies the common name (CN) part of the full distinguished name (DN) of the certificate. This common name can represent a person, company, or machine. For websites, the common name is frequently the DNS host name where the server resides.	String
-certificateSize	Specifies the size of the certificate key. The valid values are 512, 1024, 2048, 4096 and 8192. The default value is 2048.	String
-certificateOrganization	Specifies the organization portion of the distinguished name.	String
-certificateOrganizationalUnit	Specifies the organizational unit portion of the distinguished name.	String
-certificateLocality	Specifies the locality portion of the distinguished name.	String
-certificateState	Specifies the state portion of the distinguished name.	String
-certificateZip	Specifies the zip code portion of the distinguished name.	String
-certificateCountry	Specifies the country portion of the distinguished name.	String

Use the following example command syntax to request a certificate from a certificate authority:

```
AdminTask.requestCACertificate('-certificateAlias newCertificate -keyStoreName CellDefaultKeyStore
-CAClientName myCAClient -revocationPassword revokeCApw')
```

The command returns one of two values: Certificate COMPLETE or certificate PENDING. If the command returns the Certificate COMPLETE message, the certificate authority returned the requested certificate and the default personal certificate is replaced. If the command returns the certificate PENDING message, the certificate authority did not yet return a certificate. Use the queryCACertificate command to view the current status of the certificate request, as the following example displays:

```
AdminTask.queryCACertificate('-certificateAlias newCertificate -keyStoreName CellDefaultKeyStore')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Results

The default personal certificate for the server is a certificate that is created by an external CA.

Revoking certificate authority personal certificates using the wsadmin tool

You can revoke CA certificates from a certificate authority (CA). Revoke personal certificates that are no longer being used in your configuration.

Before you begin

Use the `requestCACertificate` command to create a personal certificate with the `requestCACertificate` task before you can request that the certificate authority revoke the certificate. Certificates created with the `requestCACertificate` command have an associated reference object in the configuration that you can use to submit the certificate revocation request to the certificate authority.

About this task

This topic uses the `revokeCACertificate` command to submit a request to revoke a certificate on the certificate authority. You can only revoke a certificate that was created with the `requestCACertificate` command. You must specify the revocation password that was provided when the certificate was created. Use the same password to revoke the certificate on the certificate authority.

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.
2. Determine the CA personal certificate to revoke.

Use the `listPersonalCertificates` command to view a list of all personal certificates and associated attributes for a specific keystore, as the following example demonstrates:

```
AdminTask.listPersonalCertificates('-keyStoreName CellDefaultKeyStore')
```

The command returns an attribute list for each personal certificate, including CA personal certificates. CA personal certificates only return the status attribute. You can revoke each CA personal certificates that returns a COMPLETE status. Determine which CA personal certificate to revoke.

3. Revoke a CA personal certificate.

Use the `revokeCACertificate` command to revoke the CA personal certificate of interest. You must specify the name of the keystore, certificate alias, and revocation password using the following parameters:

Table 37. Required parameters. This table describes the `revokeCACertificate` command and its optional parameters:

Parameter	Description	Data Type
-keyStoreName	Specifies the name of the keystore where the CA personal certificate is stored. The value of this field is not a path to the keystore file.	String
-certificateAlias	Specifies the unique name that identifies the CA personal certificate object and the alias name of the certificate in the keystore.	String
-revocationPassword	Specifies the password needed to revoke the certificate. This is the same password that was provided when the certificate was created.	String

You can specify additional information with the following optional parameters:

Table 38. Optional parameters. This table describes the revokeCACertificate command and its additional optional parameters

Parameter	Description	Data Type
-keyStoreScope	Specifies the management scope of the keystore. For a deployment manager profile, the system uses the cell scope as the default value. For an application server profile, the system uses the node scope as the default value. To obtain a list of the keystore scope values, see the listManagementScopes command, which is part of the ManagementScopeCommands command group.	String
-revocationReason	Specifies the reason for revoking the certificate of interest. The default value for this parameter is unspecified.	String

The following example revokes a CA personal certificate:

```
AdminTask.revokeCACertificate('[-keyStoreName CellDefaultKeyStore -certificateAlias myCertificate -revocationPassword pw4revoke]')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

CAClientCommands command group for the AdminTask object

You can use the Jython scripting language to manage your certificate authority (CA) client configurations with the wsadmin tool. Use the commands and parameters in the CAClientCommands group to create, modify, query, and remove connections to a third-party CA server.

Use the following commands to manage your certificate authority (CA) client configurations:

- “createCAClient”
- “modifyCAClient” on page 188
- “getCAClient” on page 189
- “deleteCAClient” on page 190
- “listCAClients” on page 191

createCAClient

The createCAClient command creates a new CA client object in your configuration. The application server connects to a CA server through the WSPKIClient() implementation, which handles all connections and communications with the CA server.

Target object

None.

Required parameters

-caClientName

Specifies a name to uniquely identify the CA client object. (String, required)

-pkiClientImplClass

Specifies the class path that implements the WSPKIClient interface. The system uses this path to connect to the CA and to issue requests to the CA. (String, required)

Optional parameters

-scopeName

Specifies the management scope of the CA client. For a deployment manager profile, the system uses the cell scope as the default value. For an application server profile, the system uses the node scope as the default value. (String, optional)

-host

Specifies the host name in your system where the CA resides. (String, optional)

-port

Specifies the port on the server where the CA listens. (String, optional)

-userName

Specifies the user name to use to authenticate to the CA. (String, optional)

-password

Specifies the password for the user name that authenticates to the CA. (String, optional)

-frequencyCheck

Specifies how often, in minutes, the system communicates with the CA to determine if a certificate has been created. (String, optional)

-retryCheck

Specifies the number of times to communicate with the CA to determine if a certificate has been created. (String, optional)

-customProperties

Specifies a comma-separated list of attribute and value custom property pairs to add to the CA client object, using the following format: attribute=value,attribute=value. (String, optional)

Return value

The command returns the object name of the CA client that the system creates.

Batch mode example usage

- Using Jython string:

```
AdminTask.createCAClient(['-caClientName clientObj01 -pkIClientImplClass
com.ibm.wsspi.ssl.WSPKIClient -host machine011 -port 9022
-userName admin -password pw4admin'])
```

- Using Jython list:

```
AdminTask.createCAClient(['-caClientName', 'clientObj01', '-pkIClientImplClass',
'com.ibm.wsspi.ssl.WSPKIClient', '-host', 'machine011', '-port', '9022',
'-userName', 'admin', '-password', 'pw4admin'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createCAClient('-interactive')
```

modifyCAClient

The `modifyCAClient` command modifies your existing CA client object configuration data. You can modify one or multiple configuration attributes for a specific CA client.

Target object

None.

Required parameters

-caClientName

Specifies the name of the CA client of interest. (String, required)

Optional parameters

-scopeName

Specifies the management scope of the CA client. For a deployment manager profile, the system uses the cell scope as the default. For an application server profile, the system uses the node scope as the default. (String, optional)

-pkIClientImplClass

Specifies the class path that implements the WSPKIClient interface. The system uses this path to connect to the CA and to issue requests to the CA. (String, optional)

-host

Specifies the host name in your system where the CA resides. (String, optional)

-port

Specifies the port on the server where the CA listens. (String, optional)

-userName

Specifies the user name to use to authenticate to the CA. (String, optional)

-password

Specifies the password for the user name that authenticates to the CA. (String, optional)

-frequencyCheck

Specifies how often, in minutes, the system should check with the CA to determine if a certificate has been created. (String, optional)

-retryCheck

Specifies the number of times to check with the CA to determine if a certificate has been created. (String, optional)

-customProperties

Specifies a comma separated list of attribute and value (attribute=value) custom property pairs to modify on the CA Client object. You can create, modify, or remove properties. To remove a property specify the attribute and value as attribute=. (String, optional)

Return value

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyCAClient(['-caClientName myCAClient -port 4060  
-userName admin -password password4admin'])
```

- Using Jython list:

```
AdminTask.modifyCAClient(['-caClientName', 'myCAClient', '-port', '4060',  
'-userName', 'admin', '-password', 'password4admin'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyCAClient('-interactive')
```

getCAClient

The getCAClient command displays a list of attributes for a specific CA client.

Target object

None.

Required parameters

-caClientName

Specifies the CA client name of interest. (String, required)

Optional parameters

-scopeName

Specifies the management scope of CA client of interest. (String, optional)

Return value

The command returns an attribute list that contains the attribute and value pairs for the specific CA client, as the following example displays:

```
'[ [backupCAs ] [managementScope (cells/myCell101|security.xml#ManagementScope_1)] [scopeName (cell):myCell101] [name myCAClient] [baseDn ] [_Websphere_Config_Data_Id cells/myCell101|security.xml#CAClient_1181834566882] [port 2951] [CACertificate ] [pkIClientImplClass com.ibm.wsspi.ssl.WSPKIClient] [userId ] [_Websphere_Config_Data_Type CAClient] [retryCheck 0] [properties ] [frequencyCheck 0] [password ] [host ] ]'
```

Batch mode example usage

- Using Jython string:

```
print AdminTask.getCAClient('-caClientName myCAClient')
```

- Using Jython list:

```
print AdminTask.getCAClient('-caClientName', 'myCAClient')
```

Interactive mode example usage

- Using Jython string:

```
print AdminTask.getCAClient('-interactive')
```

deleteCAClient

The deleteCAClient command removes the CA client object of interest from your configuration. Use the -caClientName parameter to specify the CA client to delete. You can optionally specify the management scope of the CA client object with the scopeName parameter.

Target object

None.

Required parameters

-caClientName

Specifies the name of the CA client of interest. (String, required)

Optional parameters

-scopeName

Specifies the management scope of the CA client of interest. (String, optional)

Return value

The command does not return output if the system successfully removes the CA client of interest. If you receive an error message, verify that the CA client object of interest exists in your configuration and that it is not referenced by a certificate object in your security configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteCAClient('[-caClientName myCAClient]')
```


- Using Jython list:

```
AdminTask.deleteCAClient(['-caClientName', 'myCAClient'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteCAClient('-interactive')
```

listCAClients

The listCAClients command lists all CA clients in your configuration or within a specific scope. If you do not provide a value for the -scopeName parameter, the command queries the cell if you use a deployment manager profile or queries the node if you use an application server profile. Use the -all parameter to query your environment without using a specific scope.

Target object

None.

Optional parameters

-scopeName

Specifies the management scope to search for CA clients. (String, optional)

-all

Specifies whether the system queries for CA clients without a specific scope. (Boolean, optional)

Return value

The command returns an array of attribute lists, displaying one attribute list for each CA client, as the following example output displays:

```
'[ [backupCAs ] [managementScope (cells/myCell101|security.xml#ManagementScope_1)
] [scopeName (cell1):myCell101] [name jenCAClient] [baseDn ] [_Websphere_Config_Data_Id cells/myCell101|security.xml#CAClient_1181834566881] [port 2950] [CACertificate ] [pkIClientImplClass com.ibm.wsspi.ssl.WSPKIClient] [userId ] [_Websphere_Config_Data_Type CAClient] [retryCheck 0] [properties ] [frequencyCheck 0] [password ] [host ] ]'
'[ [backupCAs ] [managementScope (cells/myCell101|security.xml#ManagementScope_1)
] [scopeName (cell1):myCell101] [name myCAClient] [baseDn ] [_Websphere_Config_Data_Id cells/myCell101|security.xml#CAClient_1181834566882] [port 2951] [CACertificate ] [pkIClientImplClass com.ibm.wsspi.ssl.WSPKIClient] [userId ] [_Websphere_Config_Data_Type CAClient] [retryCheck 0] [properties ] [frequencyCheck 0] [password ] [host ] ]'
```

Batch mode example usage

- Using Jython string:

```
print AdminTask.listCAClients('-all true')
```

- Using Jython list:

```
print AdminTask.listCAClients('-all', 'true')
```

Interactive mode example usage

- Using Jython:

```
print AdminTask.listCAClients('-interactive')
```

Creating self-signed certificates using scripting

Use the Jython or Jacl scripting language to create self-signed certificates with the wsadmin tool.

Before you begin

Before starting this task, the wsadmin tool must be running. See the Starting the wsadmin scripting client article for more information.

About this task

You can create self-signed certificates using the scripting and the AdminTask object. You can run the commands in interactive or batch mode. Interactive mode provides a way to discover the flags that you need to run the task in batch mode.

Certificates reside inside of key stores. To run the commands, you will need the name of the key store to be supplied. Use the **listKeyStore** command of the AdminTask object to get a list of key stores. If you need a new key store, use the **createKeyStore** command of the AdminTask object.

To create a personal key store, use the following examples:

Procedure

- Interactive mode:

- Using Jython:

```
AdminTask.createSelfSignedCertificate ('[-interactive]')
```

- Using Jacl:

```
$AdminTask createSelfSignedCertificate -interactive
```

Example output:

```
*Key Store Name (keyStoreName): keyStore
Key Store Scope Name (keyStoreScope):
*Certificate Alias (certificateAlias): newCert
"Certificate Version" (certificateVersion): 3
*Key Size (certificateSize): [1024]
*Common Name (certificateCommonName): localhost
*Organization (certificateOrganization): workgroup
Organizational Unit (certificateOrganizationalUnit): testing
certLocality (certificateLocality): austin
State (certificateState): Texas
Zip (certificateZip): 78757
Country (certificateCountry): [US]
Validity Period (certificateValidDays): [365]
Create Self-Signed Certificate
```

```
F (Finish)
C (Cancel)
```

```
Select [F, C]: [F]
```

```
WASX7278I: Generated command line: $AdminTask createSelfSignedCertificate
{-keyStoreName keyStore -certificateAlias newCert -certificateVersion 3
-certificateCommonName localhost -certificateOrganization ibm
-certificateOrganizationalUnit testing -certificateLocality austin
-certificateState Texas -certificateZip 78757 }
true
```

At the end of the output, the batch mode parameters are provided.

- Batch mode:

- Using Jython:

```
AdminTask.createSelfSignedCertificate ('[-keyStoreName keyStore
-certificateAlias newCert -certificateVersion 3 -certificateSize 1024
-certificateCommonName localhost -certificateOrganization ibm
-certificateOrganizationalUnit testing -certificateLocality austin
-certificateState Texas -certificateZip 78757]')
```

- Using Jacl:

```
$AdminTask createSelfSignedCertificate {-keyStoreName keyStore
-certificateAlias newCert -certificateVersion 3 -certificateSize 1024
-certificateCommonName localhost -certificateOrganization ibm
-certificateOrganizationalUnit testing -certificateLocality austin
-certificateState Texas -certificateZip 78757 }
```

keyManagerCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security. The commands and parameters in the keyManagerCommands group can be used to manage key manager settings. You can use these commands to create, modify, list, or obtain information about key managers.

The keyManagerCommands command group for the AdminTask object includes the following commands:

- “createKeyManager”
- “deleteKeyManager”
- “getKeyManager” on page 194
- “listKeyManagers” on page 195
- “modifyKeyManager” on page 195

createKeyManager

The **createKeyManager** command creates a key manager in the configuration.

Target object

None

Parameters and return values

- name**
The name that uniquely identifies the key manager. (String, required)
- scopeName**
The name of the scope. (String, optional)
- provider**
Specifies the provider. (String, optional)
- algorithm**
Specifies the algorithm name of the key manager. (String, optional)
- keyManagerClass**
Specifies the custom class that implements the KeyManager interface. (String, optional)

Examples

Batch mode example usage:

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createKeyManager {-interactive}
```

- Using Jython string:

```
AdminTask.createKeyManager ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createKeyManager (['-interactive'])
```

deleteKeyManager

The **deleteKeyManager** command deletes the key manager settings from the configuration.

Target object

None.

Required parameters

- name**
Specifies the name that uniquely identifies the key manager. (String, required)

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteKeyManager {-name testKM}
```

- Using Jython string:

```
AdminTask.deleteKeyManager(['-name testKM'])
```

- Using Jython list:

```
AdminTask.deleteKeyManager(['-name', 'testKM'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteKeyManager {-interactive}
```

- Using Jython:

```
AdminTask.deleteKeyManager('-interactive')
```

getKeyManager

The **getKeyManager** command displays a properties object that contains the key manager attributes and values.

Target object

None.

Required parameters

-name

Specifies the name that uniquely identifies the key manager. (String, required)

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getKeyManager {-name testKM}
```

- Using Jython string:

```
AdminTask.getKeyManager(['-name testKM'])
```

- Using Jython list:

```
AdminTask.getKeyManager(['-name', 'testKM'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getKeyManager {-interactive}
```

- Using Jython:

```
AdminTask.getKeyManager('-interactive')
```

listKeyManagers

The **listKeyManagers** command lists the key managers within a particular management scope.

Target object

None.

Required parameters

None.

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

-displayObjectName

Set the value of this parameter to `true` to list the key manager objects within the scope. Set the value of this parameter to `false` to list the strings that contain the key manager name and the management scope. (Boolean, optional)

-all

Specify the value of this parameter as `true` to list all key managers. This parameter overrides the `scopeName` parameter. The default value is `false`. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listKeyManagers
```

- Using Jython:

```
AdminTask.listKeyManagers()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listKeyManagers {-interactive}
```

- Using Jython:

```
AdminTask.listKeyManagers('-interactive')
```

modifyKeyManager

The **modifyKeyManager** command changes existing key manager settings.

Target object

None.

Required parameters

-name

The name that uniquely identifies the key manager. (String, required)

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

-provider

Specifies the provider name of the key manager. (String, optional)

-algorithm

Specifies the algorithm name of the key manager. (String, optional)

-keyManagerClass

Specifies the name of the key manager implementation class. You cannot use this parameter with the provider or the algorithm parameter. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask modifyKeyManager {-name testKM -provider IBMJSSE2 -algorithm IbmX509}
```

- Using Jython string:

```
AdminTask.modifyKeyManager(['-name testKM -provider IBMJSSE2 -algorithm IbmX509'])
```

- Using Jython list:

```
AdminTask.modifyKeyManager(['-name', 'testKM', '-provider', 'IBMJSSE2', '-algorithm', 'IbmX509'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask modifyKeyManager {-interactive}
```

- Using Jython:

```
AdminTask.modifyKeyManager('-interactive')
```

KeyStoreCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure keystores with the wsadmin tool. A keystore is created by the application server during install and can contain cryptographic keys or certificates. The commands and parameters in the KeyStoreCommands group can be used to create, delete, and manage keystores.

The KeyStoreCommands command group for the AdminTask object includes the following commands:

- “changeKeyStorePassword”
- “changeMultipleKeyStorePasswords” on page 197
- “createKeyStore” on page 198
- “createCMSKeyStore” on page 199
- “deleteKeyStore” on page 200
- “exchangeSigners” on page 201
- “getKeyStoreInfo” on page 202
- “listKeyFileAliases” on page 202
- “listKeyStores” on page 203
- “listKeyStoreTypes” on page 203
- “listSignatureAlgorithms ” on page 204
- “modifyKeyStore” on page 205

changeKeyStorePassword

The **changeKeyStorePassword** command modifies the password of a keystore. The command automatically saves the new password to the configuration.

Required parameters

-keyStoreName

Specifies the name of the password to change. (String, required)

-keyStorePassword

Specifies the name of the password to change. (String, required)

-newKeyStorePassword

Specifies the new password that to use to access the keystore. (String, required)

-newKeyStorePasswordVerify

Specifies the new password to confirm the new keystore password. (String, required)

Optional parameters

-scopeName

Specifies the management scope of the keystore. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask changeKeyStorePassword {-keystoreName myKeystore -keyStorePassword
WebAS -newKeyStorePassword newpwd -newKeyStorePasswordVerify newpwd}
```

- Using Jython string:

```
AdminTask.changeKeyStorePassword(['-keystoreName myKeystore -keyStorePassword
WebAS -newKeyStorePassword newpwd -newKeyStorePasswordVerify newpwd'])
```

- Using Jython list:

```
AdminTask.changeKeyStorePassword(['-keystoreName', 'myKeystore', '-keyStorePassword',
'WebAS', '-newKeyStorePassword', 'newpwd', '-newKeyStorePasswordVerify', 'newpwd'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask changeKeyStorePassword {-interactive}
```

- Using Jython:

```
AdminTask.changeKeyStorePassword('-interactive')
```

changeMultipleKeyStorePasswords

The **changeMultipleKeyStorePasswords** command updates the passwords for each keystores in the configuration that has a specific password. This is useful because when you create keystore files on the system, they will have WebAS as a password by default.

Required parameters

-keyStorePassword

Specifies the name of the password that you want to change. (String, required)

-newKeyStorePassword

Specifies the new password that you will use to access the keystore. (String, required)

-newKeyStorePasswordVerify

Confirms the new keystore password. (String, required)

Optional parameters

None.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask.changeMultipleKeyStorePasswords {-keyStorePassword WebAS  
-newKeyStorePassword newpwd -newKeyStorePasswordVerify newpwd}
```

- Using Jython string:

```
AdminTask.changeMultipleKeyStorePasswords(['-keyStorePassword WebAS  
-newKeyStorePassword newpwd -newKeyStorePasswordVerify newpwd'])
```

- Using Jython list:

```
AdminTask.changeMultipleKeyStorePasswords(['-keyStorePassword', 'WebAS',  
'-newKeyStorePassword', 'newpwd', '-newKeyStorePasswordVerify', 'newpwd'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask.changeMultipleKeyStorePasswords {-interactive}
```

- Using Jython:

```
AdminTask.changeMultipleKeyStorePasswords('-interactive')
```

createKeyStore

The **createKeyStore** command creates the keystore settings in the configuration and the keystore database.

Required parameters

-keyStoreName


The name that uniquely identifies the keystore configuration object. (String, required)

-keyStoreType

The implementation of the keystore management. (String, required)

-keyStoreLocation

The location of the keystore. For file based, the location is the files system path to the keystore database. For hardware keystore, the location is the path to the token library. (String, required)

 If you create the IBMi5OSKeyStore keystore, the keystore location must include the .kdb file extension.

-keyStorePassword

The password that protects the keystore. (String, required)

-keyStorePasswordVerify

The password that protects the keystore. (String, required)

Optional parameters

-keyStoreProvider

The provider used to implement the keystore. (String, optional)

-keyStoreIsFileBased

Set the value of this parameter to true if the keystore is file based. Set the value of this parameter to false for hardware crypto keystores. (Boolean, optional)

-keyStoreHostList

A list of host names that indicate from where the keystore is remotely managed, separated by commas. (String, optional)

-keyStoreInitAtStartup

Set the value of this parameter to true if the keystore is initialized at startup. Otherwise, set the value of this parameter to false. (Boolean, optional)

-keyStoreReadOnly

Set the value of this parameter to `true` if you cannot write to the keystore. Otherwise, set the value of this parameter to `false`. (Boolean, optional)

-keyStoreStashFile

Set the value of this parameter to `true` if you want to create stash files for CMS type keystore. Otherwise, set the value of this parameter to `false`. (Boolean, optional)

-enableCryptoOperations

Specifies if the keystore object will be used for hardware cryptographic operations or not. The default value is `false`. (Boolean, optional)

-keyStoreDescription

Specifies user defined text to describe the keystore of interest. (String, optional)

-keyStoreUsage

Specifies the keystore usage of interest. Specify `SSLKeys`, `KeySetKeys`, `RootKeys`, `DeletedKeys`, `DefaultSigners`, or `RSATokenKeys`. (String, optional)

-scopeName

The name that uniquely identifies the management scope, for example: `(cell):localhostNode01Cell`. (String, optional)

-controlRegionUser

Specifies the control region user to create a writable keystore object for the control regions key ring. Specify this option for SAF key rings when SAF writable key rings is enabled. (String, optional)

-servantRegionUser

Specifies the servant region user to create a writable keystore object for the servant regions key ring. Specify this option for SAF key rings when SAF writable key rings is enabled. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createKeyStore {-keyStoreName testKS -keyStoreType JCEKS
-keyStoreLocation c:/temp/testKeyFile.p12 -keyStorePassword testpwd
-keyStorePasswordVerify testpwd -keyStoreIsFileBased true -keyStoreInitAtStartup
true -keyStoreReadOnly false}
```

- Using Jython string:

```
AdminTask.createKeyStore(['-keyStoreName testKS -keyStoreType JCEKS -keyStoreLocation
c:/temp/testKeyFile.p12 -keyStorePassword testpwd -keyStorePasswordVerify testpwd
-keyStoreIsFileBased true -keyStoreInitAtStartup true -keyStoreReadOnly false'])
```

- Using Jython list:

```
AdminTask.createKeyStore(['-keyStoreName', 'testKS', '-keyStoreLocation', '-keyStoreType',
'JCEKS', 'c:/temp/testKeyFile.p12', '-keyStorePassword', 'testpwd',
'-keyStorePasswordVerify', 'testpwd', '-keyStoreIsFileBased', 'true',
'-keyStoreInitAtStartup', 'true', '-keyStoreReadOnly', 'false'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createKeyStore {-interactive}
```

- Using Jython:

```
AdminTask.createKeyStore('-interactive')
```

createCMSKeyStore

The **createCMSKeyStore** command creates a CMS keystore database and the keystore settings in the configuration.

Required parameters

-cmsKeyStoreURI

The URI of the CMS keystore. (String, required)

-pluginHostName

The host name of the plug-in. (String, required)

Optional parameters

None.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createCMSKeyStore {-cmsKeyStoreURI CMSKeystoreURI -pluginHostName myHostName}
```

- Using Jython string:

```
AdminTask.createCMSKeyStore(['-cmsKeyStoreURI CMSKeystoreURI -pluginHostName myHostName'])
```

- Using Jython list:

```
AdminTask.createCMSKeyStore(['-cmsKeyStoreURI', 'CMSKeystoreURI', '-pluginHostName', 'myHostName'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createCMSKeyStore {-interactive}
```

- Using Jython:

```
AdminTask.createCMSKeyStore('-interactive')
```

deleteKeyStore

The **deleteKeyStore** command deletes the settings of a keystore from the configuration and the keystore file.

Required parameters

-keyStoreName

The name that uniquely identifies the keystore that you want to delete. (String, required)

Optional parameters

-scopeName

The name that uniquely identifies the management scope, for example: (cell):localhostNode01Cell. (String, optional)

-removeKeyStoreFile

Specifies whether to remove the keystore file. Specify `true` to remove the keystore file or `false` to keep the keystore file in your configuration. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteKeyStore {-keyStoreName testKS}
```

- Using Jython string:

```
AdminTask.deleteKeyStore(['-keyStoreName testKS'])
```

- Using Jython list:

```
AdminTask.deleteKeyStore(['-keyStoreName', 'testKS'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteKeyStore {-interactive}
```

- Using Jython:

```
AdminTask.deleteKeyStore('-interactive')
```

exchangeSigners

The **exchangeSigners** command exchange signer certificate between keystores.

Required parameters

-keyStoreName1

The name that uniquely identifies a keystore. You must specify a second keystore name using the keyStoreName2 parameter. (String, required)

-keyStoreName2

The name that uniquely identifies a keystore. You must specify a second keystore name using the keyStoreName1 parameter. (String, required)

Optional parameters

-keyStoreScope1

The scope name of the keystore that you specified with the keyStoreName1 parameter. (String, optional)

-keyStoreScope2

The scope name of the keystore that you specified with the keyStoreName2 parameter. (String, optional)

-certificateAliasList1

A list of aliases separated by a comma. (String, optional)

-certificateAliasList2

A list of aliases separated by a comma. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask exchangeSigners {-keyStoreName1 testKS -certificateAliasList1 testCert1  
-keyStoreName2 secondKS -certificateAliasList2 certAlias}
```

- Using Jython string:

```
AdminTask.exchangeSigners(['-keyStoreName1 testKS -certificateAliasList1 testCert1  
-keyStoreName2 secondKS -certificateAliasList2 certAlias'])
```

- Using Jython list:

```
AdminTask.exchangeSigners(['-keyStoreName1', 'testKS', '-certificateAliasList1',  
'testCert1', '-keyStoreName2', 'secondKS', '-certificateAliasList2',  
'certAlias'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask exchangeSigners {-interactive}
```

- Using Jython:

```
AdminTask.exchangeSigners('-interactive')
```

getKeyStoreInfo

The **getKeyStoreInfo** command displays the settings of a particular keystore.

Required parameters

-keyStoreName

The name that uniquely identifies the keystore. (String, required)

Optional parameters

-scopeName

The name that uniquely identifies the management scope, for example: (cell):localhostNode01Cell.
(String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getKeyStoreInfo {-name testKS}
```

- Using Jython string:

```
AdminTask.getKeyStoreInfo(['-name testKS'])
```

- Using Jython list:

```
AdminTask.getKeyStoreInfo(['-name', 'testKS'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getKeyStoreInfo {-interactive}
```

- Using Jython:

```
AdminTask.getKeyStoreInfo('-interactive')
```

listKeyFileAliases

The **listKeyFileAliases** command lists the certificates in a keystore file.

Required parameters

-keyFilePath

The path of the key file. (String, required)

-keyFilePassword

The password for the key file. (String, required)

-keyFileType

The key file type. (String, required)

Optional parameters

None.

Examples

Batch mode example usage:

- Using Jacl:



```
$AdminTask listKeyFileAliases {-keyFilePath /temp/testKeyFile.p12  
-keyFilePassword testPwd -keyFileType PKCS12}
```

- Using Jython string:



```
AdminTask.listKeyFileAliases(['-keyFilePaht /temp/testKeyFile.p12',
-keyFilePassword testPwd -keyFileType PKCS12'])
```

- Using Jython list:



```
AdminTask.listKeyFileAliases(['-keyFilePaht', '/temp/testKeyFile.p12',
'-keyFilePassword', 'testPwd', '-keyFileType', 'PKCS12'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listKeyFileAliases {-interactive}
```

- Using Jython:

```
AdminTask.listKeyFileAliases('-interactive')
```

listKeyStores

The **listKeyStores** command lists the keystore for a particular scope.

Required parameters

None.

Optional parameters

-scopeName

Specifies the name that uniquely identifies the management scope, for example: (cell):localhostNode01Cell. (String, optional)

-all

Specify the value of this parameter as true to list all keystores. This parameter overrides the scopeName parameter. The default value is false. (Boolean, optional)

-keyStoreUsage

Specifies the keystore usage of interest. Specify SSLKeys, KeySetKeys, RootKeys, DeletedKeys, DefaultSigners, or RSATokenKeys. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listKeyStores
```

- Using Jython:

```
AdminTask.listKeyStores()
```

Interactive mode example usage:

listKeyStoreTypes

The **listKeyStoreTypes** command lists all valid keystore types.

Required parameters

None.

Optional parameters

None.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listKeyStoreTypes
```

- Using Jython:

```
AdminTask.listKeyStoreTypes()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listKeyStoreTypes {-interactive}
```

- Using Jython string:

```
AdminTask.listKeyStoreTypes('-interactive')
```

listSignatureAlgorithms

The **listSignatureAlgorithms** command lists the signature algorithms that are valid for the current security level configured. If a security standard is not enabled, all signature algorithms are returned; otherwise, the valid signature algorithms for the configured security level is returned.

Required parameters

None.

Optional parameters

None.

Table 39. FIPS Level and compliant signature algorithms

Security mode	Available signature algorithms
Fips not enabled	SHA1withRSA SHA1withDSA SHA256withRSA SHA384withRSA SHA512withRSA SHA256withECDSA SHA384withECDSA SHA512withECDSA Note: SHA512withECDSA requires Java unrestricted policy installed.
FIPS140-2	SHA1withRSA SHA1withDSA SHA256withRSA SHA384withRSA SHA512withRSA
SP800-131 - Transition	SHA1withRSA SHA1withDSA SHA256withRSA SHA384withRSA SHA512withRSA SHA256withECDSA SHA384withECDSA SHA512withECDSA Note: SHA512withECDSA requires Java unrestricted policy installed.
SP800-131 - Strict	SHA256withRSA SHA384withRSA SHA512withRSA SHA256withECDSA SHA384withECDSA SHA512withECDSA Note: SHA512withECDSA requires Java unrestricted policy installed.

Table 39. FIPS Level and compliant signature algorithms (continued)

Security mode	Available signature algorithms
Suite B 128	SHA256withECDSA
Suite B 192	SHA256withECDSA SHA384withECDSA

modifyKeyStore

The **modifyKeyStore** command modifies attributes for an existing keystore. Only some keystore attributes are modifiable, depending on what you are modifying. Use the following guidelines to use the command:

- To use this command to change the keystore file that the keystore object references, specify the `keyStoreName`, `keyStoreLocation`, `keyStoreType`, and `keyStorePassword` parameters.

Required parameters

-keyStoreName

Specifies the unique name that identifies the keystore. (String, required)

Optional parameters

-scopeName

Specifies the management scope of the keystore. (String, optional)

-keyStoreProvider

Specifies the provider for the keystore. (String, optional)

-keyStoreType

Specifies one of the predefined keystore types. Valid values are JCEKS, CMSKS, PKCS12, PKCS11, and JKS. (String, optional)

-keyStoreLocation

Specifies the fully qualified location of the keystore file. To modify the location of the keystore file, you must specify the `keyStoreLocation`, `keyStoreType`, `keyStorePassword`, and `keyStoreName` parameters. (String, optional)

-keyStorePassword

Specifies the password to open the keystore. Use the `changeKeystorePassword` command to change the password of the keystore. (String, optional)

-keyStoreIsFileBased

Specifies whether the keystore is file based. To modify whether the keystore is file-based, specify the `keyStoreIsFileBased` and `keyStoreName` parameters. (Boolean, optional)

-keyStoreInitAtStartup

Specifies whether the keystore initiates at server startup. To modify whether the keystore initiates at server startup, specify the `keyStoreInitAtStartup` and `keyStoreName` parameters. (Boolean, optional)

-keyStoreReadOnly

Specifies whether the keystore is writable. To modify whether the keystore is read-only, specify the `keyStoreReadOnly` and `keyStoreName` parameters. (Boolean, optional)

-keyStoreDescription

Specifies a statement that describes the keystore. To modify the keystore description, specify the `keyStoreDescription` and `keyStoreName` parameters. (String, optional)

-keyStoreUsage


Specifies the keystore usage of interest. Specify `SSLKeys`, `KeySetKeys`, `RootKeys`, `DeletedKeys`, `DefaultSigners`, or `RSATokenKeys`. (String, optional)

Examples

Batch mode example usage:

- Using Jacl: 

```
$AdminTask modifyKeyStore {-keyStoreName CellDefaultKeyStore  
-keyStoreLocation c:/temp/testKeyFile.p12 -keyStoreType JCEKS  
-keyStorePassword my1password}
```

- Using Jython: 

```
AdminTask.modifyKeyStore('-keyStoreName CellDefaultKeyStore -keyStoreLocation  
c:/temp/testKeyFile.p12 -keyStoreType JCEKS -keyStorePassword my1password')
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask modifyKeyStore {-interactive}
```

- Using Jython:

```
AdminTask.modifyKeyStore('-interactive')
```

SSLConfigCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the SSLConfigCommands group can be used to create and manage Secure Sockets Layer (SSL) configurations and properties.

The SSLConfigCommands command group for the AdminTask object includes the following commands:

- “createSSLConfig”
- “createSSLConfigProperty” on page 208
- “deleteSSLConfig” on page 209
- “getInheritedSSLConfig” on page 210
- “getSSLConfig” on page 210
- “getSSLConfigProperties” on page 211
- “listSSLCiphers” on page 212
- “listSSLConfigs” on page 213
- “listSSLConfigProperties” on page 213
- “listSSLProtocolTypes” on page 214
- “listSSLRepertoires” on page 215
- “modifySSLConfig” on page 216

createSSLConfig

The createSSLConfig command creates an SSL configuration that is based on key store and trust store settings. You can use the SSL configuration settings to make the SSL connections.

Target object

None.

Required parameters

-alias

The name of the alias. (String, required)

-trustStoreNames

The key store that holds trust information used to validate the trust from remote connections. (String, required)

- keyStoreName**
The key store that holds the personal certificates that provide identity for the connection. (String, required)
- Optional parameters
- scopeName**
The name of the scope. (String, optional)
- clientKeyAlias**
The certificate alias name for the client. (String, optional)
- serverKeyAlias**
The certificate alias name for the server. (String, optional)
- type**
The type of SSL configuration. (String, optional)
- clientAuthentication**
Set the value of this parameter to `true` to request client authentication. Otherwise, set the value of this parameter to `false`. (Boolean, optional)
- securityLevel**
The cipher group that you want to use. Valid values include: HIGH, MEDIUM, LOW, and CUSTOM. (String, required)
- enabledCiphers**
A list of ciphers used during SSL handshake. (String, optional)
- jsseProvider**
One of the JSSE providers. (String, optional)
- clientAuthenticationSupported**
Set the value of this parameter to `true` to support client authentication. Otherwise, set the value of this parameter to `false`. (Boolean, optional)
- sslProtocol**
The protocol type for the SSL handshake. Valid values include: SSL_TLS, SSL, SSLv2, SSLv3, TLS, TLSv1. (String, optional)
- trustManagerObjectNames**
A list of trust managers separated by commas. (String, optional)
- trustStoreScopeName**
The management scope name of the trust store. (String, optional)
- keyStoreScopeName**
The management scope name of the key store. (String, optional)
- keyManagerName**
- Specifies the name of the Key Manager. (String, optional)
- keyManagerScopeName**
Specifies the scope of the key manager. (String, optional)
- sslKeyRingName**
Specifies a system SSL (SSSL) key ring name. The value for this parameter has no affect unless the SSL configuration type is SSSL. (String, optional)
- v3timeout**
- Specifies the time out in seconds for System SSL configuration types. Values range from 1 to 86400. (String, optional)

Example output

The command returns the configuration object name of the new SSL configuration object.

Examples:

Batch mode example usage:

- Using Jacl:

```
$AdminTask createSSLConfig {-alias testSSLCfg -clientKeyAlias key1  
-serverKeyAlias key2 -trustStoreNames trustKS -keyStoreName  
testKS -keyManagerName testKeyMgr}
```

- Using Jython string:

```
AdminTask.createSSLConfig(['-alias testSSLCfg -clientKeyAlias key1  
-serverKeyAlias key2 -trustStoreNames trustKS -keyStoreName  
testKS -keyManagerName testKeyMgr'])
```

- Using Jython list:

```
AdminTask.createSSLConfig(['-alias', 'testSSLCfg', '-clientKeyAlias',  
'key1', '-serverKeyAlias', 'key2', '-trustStoreNames', 'trustKS',  
'-keyStoreName', 'testKS', '-keyManagerName', 'testKeyMgr'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createSSLConfig {-interactive}
```

- Using Jython:

```
AdminTask.createSSLConfig('-interactive')
```

createSSLConfigProperty

The createSSLConfigProperty command creates a property for an SSL configuration. Use this command to set SSL configuration settings that are different than the settings in the SSL configuration object.

Target object

None.

Required parameters

-sslConfigAliasName

The alias name of the SSL configuration. (String, required)

-propertyName

The name of the property. (String, required)

-propertyValue

The value of the property. (String, required)

Optional parameters

-scopeName

The name of the scope. (String, optional)

Example output

The command does not return output.

Examples:

Batch mode example usage:

- Using Jacl:

```
$AdminTask createSSLConfigProperty {-sslConfigAliasName NodeDefaultSSLSettings  
-scopeName (cell):localhostNode01Cell:(node):localhostNode01 -propertyName  
test.property -propertyValue testValue}
```

- Using Jython string:

```
AdminTask.createSSLConfigProperty(['-sslConfigAliasName NodeDefaultSSLSettings
-scopeName (cell):localhostNode01Cell:(node):localhostNode01 -propertyName
test.property -propertyValue testValue'])
```

- Using Jython list:

```
AdminTask.createSSLConfigProperty(['-sslConfigAliasName', 'NodeDefaultSSLSettings',
'-scopeName', '(cell):localhostNode01Cell:(node):localhostNode01', '-propertyName',
'test.property', '-propertyValue', 'testValue'])
```

Examples:

Batch mode example usage:

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createSSLConfigProperty {-interactive}
```

- Using Jython:

```
AdminTask.createSSLConfigProperty('-interactive')
```

deleteSSLConfig

The deleteSSLConfig command deletes the SSL configuration object that you specify from the configuration.

Target object

None.

Required parameters and return values

-alias

The name of the alias. (String, required)

Optional parameters

-scopeName

The name of the scope. (String, optional)

Example output

The command does not return output.

Examples:

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteSSLConfig {-alias NodeDefaultSSLSettings -scopeName
(cell):localhostNode01Cell:(node):localhostNode01}
```

- Using Jython string:

```
AdminTask.deleteSSLConfig(['-alias NodeDefaultSSLSettings -scopeName
(cell):localhostNode01Cell:(node):localhostNode01'])
```

- Using Jython list:

```
AdminTask.deleteSSLConfig(['-alias', 'NodeDefaultSSLSettings', '-scopeName',
'(cell):localhostNode01Cell:(node):localhostNode01'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteSSLConfig {-interactive}
```

- Using Jython:

```
AdminTask.deleteSSLConfig('-interactive')
```

getInheritedSSLConfig

The `getInheritedSSLConfig` command returns the SSL configuration alias and certificate alias from which a given management scope and direction inherits its SSL configuration information. This command only returns inheritance information; it does not return information about an SSL configuration that is effective for a give scope.

For example, by default in a Network Deployment environment, there are different SSL configuration effective at the cell and node levels. If you issue the `getInheritedSSLConfig` command, specifying the nodes management scope, you get the name of the SSL configuration for the cell, not the effective SSL configuration of the node, because the node inherits its configuration information from the cell.

Target object

None.

Required parameters and return values

-scopeName

The name of the management scope for which you want to find out where that management schope will inherit its SSL configuration. (String, required)

Optional parameters

None.

Example output

The command returns the SSL configuration alias and certificate alias from which the specified management scope and direction inherits its SSL configuration information.

Examples:

- Using Jacl:

```
$AdminTask getInheritedSSLConfig {-scopeName (cell):localhostNode01Cell:(node):localhostNode01 -direction inbound}  
CellDefaultSSLSettings,null
```

- Using Jython string:

```
AdminTask.getInheritedSSLConfig('[-scopeName  
(cell):localhostNode01Cell:(node):localhostNode01 -direction inbound]')  
CellDefaultSSLSettings,null
```

getSSLConfig

The `getSSLConfig` command obtains information about an SSL configuration and displays the settings.

Target object

None.

Required parameters and return values

-alias

The name of the alias. (String, required)

Optional parameters

-scopeName
The name of the scope. (String, optional)

Example output:

The command returns information about the SSL configuration of interest.

Examples:

Batch mode example usage:

- Using Jacl:

```
$AdminTask getSSLConfig {-alias NodeDefaultSSLSettings -scopeName  
(cell):localhostNode01Cell:(node):localhostNode01}
```

- Using Jython string:

```
AdminTask.getSSLConfig(['-alias NodeDefaultSSLSettings -scopeName  
(cell):localhostNode01Cell:(node):localhostNode01'])
```

- Using Jython list:

```
AdminTask.getSSLConfig(['-alias', 'NodeDefaultSSLSettings', '-scopeName',  
'(cell):localhostNode01Cell:(node):localhostNode01'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getSSLConfig {-interactive}
```

- Using Jython:

```
AdminTask.getSSLConfig('-interactive')
```

getSSLConfigProperties

The `getSSLConfigProperties` command obtains information about SSL configuration properties.

Target object

None.

Required parameters and return values

-alias
The name of the alias. (String, required)

Optional parameters

-scopeName
The name of the scope. (String, optional)

Example output

The command returns additional information about the SSL configuration properties.

Examples:

Batch mode example usage:

- Using Jacl:

```
$AdminTask getSSLConfigProperties {-sslConfigAliasName NodeDefaultSSLSettings  
-scopeName (cell):localhostNode01Cell:(node):localhostNode01}
```

- Using Jython string:

```
AdminTask.getSSLConfigProperties(['-sslConfigAliasName NodeDefaultSSLSettings  
-scopeName (cell):localhostNode01Cell:(node):localhostNode01'])
```

- Using Jython list:

```
AdminTask.getSSLConfigProperties(['-sslConfigAliasName', 'NodeDefaultSSLSettings',
'-scopeName', '(cell):localhostNode01Cell:(node):localhostNode01'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getSSLConfigProperties {-interactive}
```

- Using Jython:

```
AdminTask.getSSLConfigProperties('-interactive')
```

listSSLCiphers

The listSSLCiphers command lists the SSL ciphers.

Target object

None.

Required parameters

-securityLevel

The cipher group that you want to use. Valid values include: HIGH, MEDIUM, LOW, and CUSTOM. (String, required)

Optional parameters

-sslConfigAliasName

The alias name of the SSL configuration. (String, optional)

-scopeName

The name of the scope. (String, optional)

Example output

The command returns a list of SSL ciphers.

Examples:

Batch mode example usage:

- Using Jacl:

```
$AdminTask listSSLCiphers {-sslConfigAliasName testSSLCfg
-securityLevel HIGH}
```

- Using Jython string:

```
AdminTask.listSSLCiphers(['-sslConfigAliasName testSSLCfg
-securityLevel HIGH'])
```

- Using Jython list:

```
AdminTask.listSSLCiphers(['-sslConfigAliasName', 'testSSLCfg',
'-securityLevel', 'HIGH'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listSSLCiphers {-interactive}
```

- Using Jython:

```
AdminTask.listSSLCiphers('-interactive')
```

listSSLConfigs

The listSSLConfigs command lists the defined SSL configurations within a management scope.

Target object

None.

Optional parameters

-scopeName

The name of the scope. (String, optional)

-displayObjectName

Set the value of this parameter to true to list the SSL configuration objects within the scope. Set the value of this parameter to false to list the strings that contain the SSL configuration alias and management scope. (Boolean, optional)

-all

Specify the value of this parameter as true to list all SSL configurations. This parameter overrides the scopeName parameter. The default value is false. (Boolean, optional)

Example output

The command returns a list of defined SSL configurations.

Examples:

Batch mode example usage:

- Using Jacl:

```
$AdminTask listSSLConfigs {-scopeName (cell):localhostNode01Cell:(node):localhostNode01  
-displayObjectName true}
```

- Using Jython string:

```
AdminTask.listSSLConfigs(['-scopeName (cell):localhostNode01Cell:(node):localhostNode01  
-displayObjectName true'])
```

- Using Jython list:

```
AdminTask.listSSLConfigs(['-scopeName', '(cell):localhostNode01Cell:(node):localhostNode01',  
'-displayObjectName', 'true'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listSSLConfigs {-interactive}
```

- Using Jython:

```
AdminTask.listSSLConfigs('-interactive')
```

listSSLConfigProperties

The listSSLConfigProperties command lists the properties for a SSL configuration.

Target object

None.

Required parameters

-alias

The alias name of the SSL configuration. (String, required)

Optional parameters

-scopeName

The name of the scope. (String, optional)

-displayObjectName

Set the value of this parameter to `true` to list the SSL configuration objects within the scope. Set the value of this parameter to `false` to list the strings that contain the SSL configuration alias and management scope. (Boolean, optional)

Example output

The command returns SSL configuration properties.

Examples:

Batch mode example usage:

- Using Jacl:

```
$AdminTask listSSLConfigProperty {-alias SSL123 -scopeName  
(cell):localhostNode01Cell:(node):localhostNode01 -displayObjectName true}
```

- Using Jython string:

```
AdminTask.listSSLConfigProperty(['-alias SSL123 -scopeName  
(cell):localhostNode01Cell:(node):localhostNode01 -displayObjectName true'])
```

- Using Jython list:

```
AdminTask.listSSLConfigProperty(['-alias', 'SSL123', '-scopeName',  
'(cell):localhostNode01Cell:(node):localhostNode01', '-displayObjectName', 'true'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listSSLConfigProperties {-interactive}
```

- Using Jython:

```
AdminTask.listSSLConfigProperties('-interactive')
```

listSSLProtocolTypes

The `listSSLProtocolTypes` command lists the SSL protocols valid for the current configured security level. If a security standard is not enabled, the full list of valid protocols are returned. Otherwise, the list of appropriate protocols for the configured security level is returned.

Target object

None.

Required parameters

None.

Returns

This command lists all available protocols for the current FIPS level.

Table 40. FIPSLevel and protocolTypes. Following are the available protocol types for each FIPS level.

Security mode	Available protocol types
FIPS not enabled	SSL_TLS SSL SSLv2 SSLv3 TLS TLSv1 SSL_TLSv2 TLSv1.1 TLSv1.2
FIPS140-2	TLS TLSv1 TLSv1.1 TLSv1.2
SP800-131 - Transition	TLS TLSv1 TLSv1.1 TLSv1.2
SP800-131 - Strict	TLSv1.2
Suite B 128	TLSv1.2
SP800-131 - Suite B 192	TLSv1.2

Examples:

Batch mode example usage:

- Using Jacl:

```
$AdminTask listSSLProtocolTypes
TLSv1.2
```

listSSLRepertoires

The listSSLRepertoires command lists all of the Secure Sockets Layer (SSL) configuration instances that you can associate with an SSL inbound channel. If you create a new SSL alias using the administrative console, the alias name is automatically created in the *node_name/alias_name* format. However, if you create a new SSL alias using the wsadmin tool, you must create the SSL alias and specify both the node name and alias name in the *node_name/alias_name* format.

Target object

SSLInboundChannel instance for which the SSLConfig candidates are listed.

Required parameters

None.

Optional parameters

None.

Sample output

The command returns a list of eligible SSL configuration object names.

Examples:

Batch mode example usage:

- Using Jacl:

```
$AdminTask listSSLRepertoires SSL_3(cells/mybuildCell01/nodes/mybuildNode01/servers/
server2|server.xml#SSLInboundChannel_1093445762330)
```

- Using Jython string:

```
print AdminTask.listSSLRepertoires('SSL_3(cells/mybuildCell01/nodes/mybuildNode01/
servers/server2|server.xml#SSLInboundChannel_1093445762330)')
```

- Using Jython list:

```
print AdminTask.listSSLRepertoires('SSL_3(cells/mybuildCell01/nodes/mybuildNode01/
servers/server2|server.xml#SSLInboundChannel_1093445762330)')
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listSSLRepertoires {-interactive}
```

- Using Jython:

```
print AdminTask.listSSLRepertoires('-interactive')
```

modifySSLConfig

The modifySSLConfig command modifies the settings of an existing SSL configuration.

Target object

None.

Required parameters

-alias

The name of the alias. (String, required)

Optional parameters

-scopeName

The name of the scope. (String, optional)

-clientKeyAlias

The certificate alias name for the client. (String, optional)

-serverKeyAlias

The certificate alias name for the server. (String, optional)

-clientAuthentication

Set the value of this parameter to true to request client authentication. Otherwise, set the value of this parameter to false. (Boolean, optional)

-securityLevel

The cipher group that you want to use. Valid values include: HIGH, MEDIUM, LOW, and CUSTOM. (String, required)

-enabledCiphers

A list of ciphers used during SSL handshake. (String, optional)

-jsseProvider

One of the JSSE providers. (String, optional)

-clientAuthenticationSupported

Set the value of this parameter to true to support client authentication. Otherwise, set the value of this parameter to false. (Boolean, optional)

-sslProtocol

The protocol type for the SSL handshake. Valid values include: SSL_TLS, SSL, SSLv2, SSLv3, TLS, TLSv1. (String, optional)

-trustManagerObjectNames

A list of trust managers separated by commas. (String, optional)

-trustStoreName

The key store that holds trust information used to validate the trust from remote connections. (String, optional)

-trustStoreScopeName

The management scope name of the trust store. (String, optional)

-keyStoreName

The key store that holds the personal certificates that provide identity for the connection. (String, optional)

-keyStoreScopeName

The management scope name of the key store. (String, optional)

-keyManagerName

- Specifies the name of the Key Manager. (String, optional)

-keyManagerScopeName

Specifies the scope of the key manager. (String, optional)

-sslKeyRingName

Specifies a system SSL (SSSL) key ring name. The value for this parameter has no affect unless the SSL configuration type is SSSL. (String, optional)

-v3timeout

- Specifies the time out in seconds for System SSL configuration types. Values range from 1 to 86400. (String, optional)

Example output

The command does not return output.

Examples:**Batch mode example usage:**

- Using Jacl:

```
$AdminTask modifySSLConfig {-alias testSSLCfg -clientKeyAlias tstKey1
-serverKeyAlias tstKey2 -securityLevel LOW}
```

- Using Jython string:

```
AdminTask.modifySSLConfig(['-alias testSSLCfg -clientKeyAlias tstKey1
-serverKeyAlias tstKey2 -securityLevel LOW'])
```

- Using Jython list:

```
AdminTask.modifySSLConfig(['-alias', 'testSSLCfg', '-clientKeyAlias', 'tstKey1',
'-serverKeyAlias', 'tstKey2', '-securityLevel', 'LOW'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask modifySSLConfig {-interactive}
```

- Using Jython:

```
AdminTask.modifySSLConfig('-interactive')
```

SSLConfigGroupCommands group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the SSLConfigGroupCommands group can be used to create and manage SSL configuration groups.

The SSLConfigGroupCommands command group for the AdminTask object includes the following commands:

- “deleteSSLConfigGroup”
- “getSSLConfigGroup”
- “listSSLConfigGroups” on page 219
- “modifySSLConfigGroup” on page 220

deleteSSLConfigGroup

The deleteSSLConfigGroup command deletes a SSL configuration group from the configuration.

Target object

None.

Required parameters

-name

Specifies the name that uniquely identifies the SSL configuration group. (String, required)

-direction

Specifies the direction to which the SSL configuration applies. Valid values include inbound or outbound. (String, required)

Optional parameters

-scopeName

Specifies the name that uniquely identifies the management scope. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteSSLConfigGroup {-name createSSLCfgGrp -direction inbound}
```

- Using Jython string:

```
AdminTask.deleteSSLConfigGroup(['-name createSSLCfgGrp -direction inbound'])
```

- Using Jython list:

```
AdminTask.deleteSSLConfigGroup(['-name', 'createSSLCfgGrp', '-direction', 'inbound'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteSSLConfigGroup {-interactive}
```

- Using Jython:

```
AdminTask.deleteSSLConfigGroup('-interactive')
```

getSSLConfigGroup

The getSSLConfigGroup command returns information about a SSL configuration setting.

Target object

None.

Required parameters

-name

Specifies the name that uniquely identifies the SSL configuration group. (String, required)

-direction

Specifies the direction to which the SSL configuration applies. Valid values include inbound or outbound. (String, required)

Optional parameters

-scopeName

Specifies the name that uniquely identifies the management scope. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getSSLConfigGroup {-name createSSLCfgGrp -direction inbound}
```

- Using Jython string:

```
AdminTask.getSSLConfigGroup(['-name createSSLCfgGrp -direction inbound'])
```

- Using Jython list:

```
AdminTask.getSSLConfigGroup(['-name', 'createSSLCfgGrp', '-direction', 'inbound'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getSSLConfigGroup {-interactive}
```

- Using Jython:

```
AdminTask.getSSLConfigGroup('-interactive')
```

listSSLConfigGroups

The listSSLConfigGroups command lists the SSL configuration groups within a scope and a direction.

Target object

None.

Required parameters

None.

Optional parameters

-direction

Specifies the direction to which the SSL configuration applies. Valid values include inbound or outbound. (String, optional)

-scopeName

Specifies the name that uniquely identifies the management scope. (String, optional)

-displayObjectName

If you set this parameter to true, the command returns a list of all of the SSL configuration group objects within the scope. If you set this parameter to false, the command returns a list of strings that contain the SSL configuration name and management scope. (Boolean, optional)

-all

Specify the value of this parameter as `true` to list all SSL configuration groups. This parameter overrides the `scopeName` parameter. The default value is `false`. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listSSLConfigGroups {-displayObjectName true}
```

- Using Jython string:

```
AdminTask.listSSLConfigGroups(['-displayObjectName true'])
```

- Using Jython list:

```
AdminTask.listSSLConfigGroups(['-displayObjectName' 'true'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listSSLConfigGroups {-interactive}
```

- Using Jython:

```
AdminTask.listSSLConfigGroups('-interactive')
```

modifySSLConfigGroup

The `modifySSLConfigGroup` command modifies the setting of an existing SSL configuration group.

Target object

None.

Required parameters

-name

Specifies the name that uniquely identifies the SSL configuration group. (String, required)

-direction

Specifies the direction to which the SSL configuration applies. Valid values include `inbound` or `outbound`. (String, required)

Optional parameters

-certificateAlias

Specifies a unique name to identify a certificate. (String, optional)

-scopeName

Specifies the name that uniquely identifies the management scope. (String, optional)

-sslConfigAliasName

Specifies the alias that uniquely identifies the SSL configurations in the group. (String, optional)

-sslConfigScopeName

Specifies the scope that uniquely identifies the SSL configurations in the group. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask modifySSLConfigGroup {-name createSSLCfgGrp -direction inbound -certificateAlias alias2}
```

- Using Jython string:

```
AdminTask.modifySSLConfigGroup(['-name createSSLCfgGrp -direction inbound -certificateAlias alias2'])
```

- Using Jython list:

```
AdminTask.modifySSLConfigGroup(['-name', 'createSSLCfgGrp', '-direction', 'inbound', '-certificateAlias', 'alias2'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask modifySSLConfigGroup {-interactive}
```

- Using Jython:

```
AdminTask.modifySSLConfigGroup({'-interactive'})
```

TrustManagerCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the TrustManagerCommands group can be used to create, delete, and query trust manager settings in your configuration. You can also use these commands to create a custom trust manager for a pure client.

The TrustManagerCommands command group for the AdminTask object includes the following commands:

- “createTrustManager”
- “deleteTrustManager” on page 222
- “getTrustManager” on page 222
- “listTrustManagers” on page 223
- “modifyTrustManager” on page 224

createTrustManager

The **createTrustManager** command creates a trust manager in the configuration.

Target object

None

Parameters and return values

-name

The name that uniquely identifies the trust manager. (String, required)

-scopeName

The name of the scope. (String, optional)

-provider

Specifies the provider. (String, optional)

-algorithm

Specifies the algorithm name of the trust manager or key manager. (String, optional)

-trustManagerClass

Specifies the custom class that implements the javax.net.ssl.TrustManager interface. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createTrustManager {-name testTM}
```

- Using Jython string:

```
AdminTask.createTrustManager ('[-name testTM]')
```

- Using Jython list:

```
AdminTask.createTrustManager (['-name', 'testTM'])
```

Interactive mode example usage:

- Using Jacl:
`$AdminTask createTrustManager {-interactive}`
- Using Jython string:
`AdminTask.deleteTrustManager (['-interactive'])`
- Using Jython list:
`AdminTask.createTrustManager (['-interactive'])`

deleteTrustManager

The **deleteTrustManager** command deletes the trust manager settings from the configuration.

Target object

None.

Required parameters

- name**
Specifies the name that uniquely identifies the trust manager. (String, required)

Optional parameters

- scopeName**
Specifies the name of the scope. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask deleteTrustManager {-name testTM}`
- Using Jython string:
`AdminTask.deleteTrustManager(['-name testTM'])`
- Using Jython list:
`AdminTask.deleteTrustManager(['-name', 'testTM'])`

Interactive mode example usage:

- Using Jacl:
`$AdminTask deleteTrustManager {-interactive}`
- Using Jython:
`AdminTask.deleteTrustManager('-interactive')`

getTrustManager

The **getTrustManager** command obtains the setting of a trust manager.

Target object

None.

Required parameters

-name

Specifies the name that uniquely identifies the trust manager. (String, required)

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask getTrustManager {-name testTM}`
- Using Jython string:
`AdminTask.getTrustManager('[-name testTM]')`
- Using Jython list:
`AdminTask.getTrustManager(['-name', 'testTM'])`

Interactive mode example usage:

- Using Jacl:
`$AdminTask getTrustManager {-interactive}`
- Using Jython:
`AdminTask.getTrustManager('-interactive')`

listTrustManagers

The **listTrustManagers** command lists the trust managers within a particular management scope.

Target object

None.

Required parameters

None.

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

-displayObjectName

Set the value of this parameter to true to list the trust manager objects within a scope. Set the value of this parameter to false to list the strings that contain the trust manager name and management scope. (Boolean, optional)

-all

Specify the value of this parameter as true to list all trust managers. This parameter overrides the scopeName parameter. The default value is false. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask listTrustManagers {-displayObjectName true}`

- Using Jython string:
AdminTask.listTrustManagers('[-displayObjectName true]')
- Using Jython list:
AdminTask.listTrustManagers(['-displayObjectName', 'true'])

Interactive mode example usage:

- Using Jacl:
\$AdminTask listTrustManagers {-interactive}
- Using Jython:
AdminTask.listTrustManagers('-interactive')

modifyTrustManager

The **modifyTrustManager** command changes existing trust manager settings.

Target object

None.

Required parameters

- name**
Specifies the name that uniquely identifies the trust manager. (String, required)

Optional parameters

- scopeName**
Specifies the unique name that identifies the management scope. (String, optional)
- provider**
Specifies the provider name of the trust manager. (String, optional)
- algorithm**
Specifies the algorithm name of the trust manager. (String, optional)
- trustManagerClass**
Specifies a class that implements the `javax.net.ssl.X509TrustManager` interface. You cannot use this parameter with the provider or algorithm parameters. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:
\$AdminTask modifyTrustManager {-name *testTM* -trustManagerClass *test.trust.manager*}
- Using Jython string:
AdminTask.modifyTrustManager('[-name *testTM* -trustManagerClass *test.trust.manager*]')
- Using Jython list:
AdminTask.modifyTrustManager(['-name', '*testTM*', '-trustManagerClass', '*test.trust.manager*'])

Interactive mode example usage:

- Using Jacl:
\$AdminTask modifyTrustManager {-interactive}
- Using Jython:
AdminTask.modifyTrustManager('-interactive')

KeySetCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the KeySetCommands group can be used to create, delete, and query for key set settings in your configuration.

The KeySetCommands command group for the AdminTask object includes the following commands:

- “createKeySet”
- “deleteKeySet” on page 226
- “generateKeyForKeySet” on page 227
- “getKeySet” on page 228
- “listKeySets” on page 228
- “modifyKeySet” on page 229

createKeySet

The **createKeySet** command creates the key set settings in the configuration. Use this command to control key instances that have the same type.

Target object

None.

Required parameters

-name

Specifies the name that uniquely identifies the key set. (String, required)

-aliasPrefix

Specifies the prefix for the key alias when a new key generates. (String, required)

-password

Specifies the password that protects the key in the keystore. (String, required)

-maxKeyReferences

Specifies the maximum number of key references from the returned keys in the key set of interest. (Integer, required)

-keyStoreName

Specifies the keystore that contains the keys. (String, required)

Optional parameters

-scopeName

Specifies the unique name of the management scope. (String, optional)

-deleteOldKeys

Set the value of this parameter to `true` to delete old keys when new keys are generated. Otherwise, set the value of this parameter to `false`. (Boolean, optional)

-keyGenerationClass

Specifies the class that is used to generate new keys in the key set. (String, optional)

-keyStoreScopeName

Specifies the management scope where the keystore is located. (String, optional)

-isKeyPair

Set the value of this parameter to `true` if the keys in the key set are key pairs. Otherwise, set the value of this parameter to `false`. (Boolean, optional)

Example output

The command returns the configuration object name of the key set object that you created.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createKeySet {-name testKeySet -aliasPrefix test -password pwd  
-maxKeyReferences 2 -deleteOldKeys true -keyStoreName testKeyStore -isKeyPair false}
```
- Using Jython string:

```
AdminTask.createKeySet(['-name testKeySet -aliasPrefix test -password pwd  
-maxKeyReferences 2 -deleteOldKeys true -keyStoreName testKeyStore -isKeyPair false'])
```
- Using Jython list:

```
AdminTask.createKeySet(['-name', 'testKeySet', '-aliasPrefix', 'test',  
'-password', 'pwd', '-maxKeyReferences', '2', '-deleteOldKeys', 'true',  
'-keyStoreName', 'testKeyStore', '-isKeyPair', 'false'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createKeySet {-interactive}
```
- Using Jython string:

```
AdminTask.createKeySet (['-interactive'])
```
- Using Jython list:

```
AdminTask.createKeySet (['-interactive'])
```

deleteKeySet

The **deleteKeySet** command deletes the settings of a key set from the configuration.

Target object

None.

Required parameters

- name**
The name that uniquely identifies the key set. (String, required)

Optional parameters

- scopeName**
Specifies the unique name of the management scope. (String, optional)

Example output

The command does not return output.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteKeySet{ -name testKeySet}
```
- Using Jython string:

```
AdminTask.deleteKeySet(['-name testKeySet'])
```

- Using Jython list:

```
AdminTask.deleteKeySet(['-name', 'testKeySet'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteKeySet {-interactive}
```

- Using Jython string:

```
AdminTask.deleteKeySet ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteKeySet (['-interactive'])
```

generateKeyForKeySet

The **generateKeyForKeySet** command generates keys for the keys in the key set.

Target object

None.

Required parameters

-keySetName

Specifies the name of the key set. (String, required)

Optional parameters

-keySetScope

Specifies the scope of the key set. (String, optional)

-keySetSaveConfig

Set the value of this parameter to true to save the configuration of the key set. Otherwise, set the value of this parameter to false. (Boolean, optional)

Example output

The command does not return output.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask generateKeyForKeySet{ -keySetName testKeySet }
```

- Using Jython string:

```
AdminTask.generateKeyForKeySet(['-keySetName testKeySet'])
```

- Using Jython list:

```
AdminTask.generateKeyForKeySet(['-keySetName', 'testKeySet'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask generateKeyForKeySet {-interactive}
```

- Using Jython string:

```
AdminTask.generateKeyForKeySet ('[-interactive]')
```

- Using Jython list:

```
AdminTask.generateKeyForKeySet (['-interactive'])
```

getKeySet

The **getKeySet** command displays the settings of a particular key set.

Target object

None.

Required parameters

-name

Specifies the name that uniquely identifies the key set. (String, required)

Optional parameters

-scopeName

Specifies the unique name of the management scope. (String, optional)

Example output

The command returns the settings of the specified key set group.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getKeySet {-name testKeySet}
```
- Using Jython string:

```
AdminTask.getKeySet (['-name testKeySet'])
```
- Using Jython list:

```
AdminTask.getKeySet (['-name', 'testKeySet'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getKeySet {-interactive}
```
- Using Jython string:

```
AdminTask.getKeySet (['-interactive'])
```
- Using Jython list:

```
AdminTask.getKeySet (['-interactive'])
```

listKeySets

The **listKeySets** command lists the key sets in a particular scope.

Target object

None.

Required parameters

None.

Optional parameters

- scopeName**
Specifies the unique name of the management scope. (String, optional)
- displayObjectName**
Set the value of this parameter to `true` to list the key set configuration objects within the scope. Set the value of this parameter to `false` if you want to list the strings that contain the key set group name and management scope. (Boolean, optional)
- all**
Specify the value of this parameter as `true` to list all key sets. This parameter overrides the `scopeName` parameter. The default value is `false`. (Boolean, optional)

Example output

The command returns the key sets for the scope that you specified.

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask listKeySets {-displayObjectName true}`
- Using Jython string:
`AdminTask.listKeySets ('[-displayObjectName true]')`
- Using Jython list:
`AdminTask.listKeySets (['-displayObjectName', 'true'])`

Interactive mode example usage:

- Using Jacl:
`$AdminTask listKeySets {-interactive}`
- Using Jython string:
`AdminTask.listKeySets ('[-interactive]')`
- Using Jython list:
`AdminTask.listKeySets (['-interactive'])`

modifyKeySet

The **modifyKeySet** command changes the settings of an existing key set.

Target object

None.

Required parameters

- name**
Specifies the name that uniquely identifies the key set. (String, required)

Optional parameters

- scopeName**
Specifies the unique name of the management scope. (String, optional)
- aliasPrefix**
Specifies the prefix for the key alias when a new key generates. (String, optional)

- password**
Specifies the password that protects the key in the keystore. (String, optional)
- maxKeyReferences**
Specifies the maximum number of key references from the returned keys in the key set of interest. (Integer, optional)
- deleteOldKeys**
Set the value of this parameter to `true` to delete old keys when new keys are generated. Otherwise, set the value of this parameter to `false`. (Boolean, optional)
- keyGenerationClass**
Specifies the class that is used to generate new keys in the key set. (String, optional)
- keyStoreName**
Specifies the keystore that contains the keys. (String, optional)
- keyStoreScopeName**
Specifies the management scope where the keystore is located. (String, optional)
- isKeyPair**
Set the value of this parameter to `true` if the keys in the key set are key pairs. Otherwise, set the value of this parameter to `false`. (Boolean, optional)

Example output

The command does not return output.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask modifyKeySet {-name testKeySet -maxKeyReferences 3  
-deleteOldKeys false}
```
- Using Jython string:

```
AdminTask.modifyKeySet ('[-name testKeySet -maxKeyReferences 3  
-deleteOldKeys false]')
```
- Using Jython list:

```
AdminTask.modifyKeySet (['-name', 'testKeySet', '-maxKeyReferences', '3',  
'-deleteOldKeys', 'false'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask modifyKeySet {-interactive}
```
- Using Jython string:

```
AdminTask.modifyKeySet (['-interactive'])
```
- Using Jython list:

```
AdminTask.modifyKeySet (['-interactive'])
```

KeyReferenceCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the `wsadmin` tool. The commands and parameters in the `KeyReferenceCommands` group can be used to create and manage the key reference settings for key set objects in your configuration.

The `KeyReferenceCommands` command group for the `AdminTask` object includes the following commands:

- “`createKeyReference`” on page 231
- “`deleteKeyReference`” on page 232

- “getKeyReference” on page 232
- “listKeyReferences” on page 233

createKeyReference

The **createKeyReference** command creates the key reference setting in the configuration for key set objects.

Target object

None.

Parameters and return values

-keySetName

The name that uniquely identifies the key set to which the key reference belongs. (String, required)

-keySetScope

The management scope of the key set. (String, optional)

-keyAlias

The alias name that identifies the key for the key set that you specify. (String, required)

-keyPassword

The password used for encrypting the key. (String, optional)

-keyPasswordVerify

The password used for encrypting the key. (String, optional)

-version

The version of the key reference. (String, optional)

-keyReferenceSaveConfig

Set the value of this parameter to true to save the key reference to the configuration. Otherwise, set the value to false. (String, optional)

- Returns: The configuration object name of the key reference scope object that you created.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createKeyReference {-keySetName testKeySet -keyAlias testKey
-password testPWD -passwordVerify testPWD -keyReferenceSaveConfig true}
```

- Using Jython string:

```
AdminTask.createKeyReference ('[-keySetName testKeySet -keyAlias testKey
-password testPWD -passwordVerify testPWD -keyReferenceSaveConfig true]')
```

- Using Jython list:

```
AdminTask.createKeyReference (['-keySetName', 'testKeySet', '-keyAlias', 'testKey',
'-password', 'testPWD', '-passwordVerify', 'testPWD', '-keyReferenceSaveConfig', 'true'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createKeyReference {-interactive}
```

- Using Jython string:

```
AdminTask.createKeyReference ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createKeyReference (['-interactive'])
```

deleteKeyReference

The **deleteKeyReference** command deletes a key reference object from the key set object in the configuration.

Target object

None.

Parameters and return values

-keySetName

The name that uniquely identifies the key set to which the key reference belongs. (String, required)

-keySetScope

The management scope of the key set. (String, optional)

-keyAlias

The alias name that identifies the key for the key set that you specify. (String, required)

- Returns: None.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteKeyReference { -keySetName testKeySet -keyAlias testKey }
```
- Using Jython string:

```
AdminTask.deleteKeyReference ('[-keySetName testKeySet -keyAlias testKey]')
```
- Using Jython list:

```
AdminTask.deleteKeyReference (['-keySetName', 'testKeySet', '-keyAlias', 'testKey'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteKeyReference {-interactive}
```
- Using Jython string:

```
AdminTask.deleteKeyReference ('[-interactive]')
```
- Using Jython list:

```
AdminTask.deleteKeyReference (['-interactive'])
```

getKeyReference

The **getKeyReference** command displays the setting of a key reference object.

Target object

None.

Parameters and return values

-keySetName

The name that uniquely identifies the key set to which the key reference belongs. (String, required)

-keySetScope

The management scope of the key set. (String, optional)

-keyAlias

The alias name that identifies the key for the key set that you specify. (String, required)

- Returns: The settings of the key reference object.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getKeyReference { -keySetName testKeySet -keyAlias testKey }
```
- Using Jython string:

```
AdminTask.getKeyReference ('[-keySetName testKeySet -keyAlias testKey]')
```
- Using Jython list:

```
AdminTask.getKeyReference (['-keySetName', 'testKeySet', '-keyAlias', 'testKey'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getKeyReference {-interactive}
```
- Using Jython string:

```
AdminTask.getKeyReference ('[-interactive]')
```
- Using Jython list:

```
AdminTask.getKeyReference (['-interactive'])
```

listKeyReferences

The **listKeyReferences** command lists the key references for a particular key set in the configuration.

Target object

None.

Parameters and return values

-keySetName

The name that uniquely identifies the key set to which the key reference belongs. (String, required)

-keySetScope

The management scope of the key set. (String, optional)

- Returns: The configuration object name of the key reference scope object that you created.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listKeyReferences { -keySetName testKeySet }
```
- Using Jython string:

```
AdminTask.listKeyReferences ('[-keySetName testKeySet]')
```
- Using Jython list:

```
AdminTask.listKeyReferences (['-keySetName', 'testKeySet'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listKeyReferences {-interactive}
```

- Using Jython string:
AdminTask.listKeyReferences ('[-interactive]')
- Using Jython list:
AdminTask.listKeyReferences (['-interactive'])

KeySetGroupCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the KeySetGroupCommands group can be used to create and manage key set groups. Use these commands to manage groups of public, private, and shared keys.

The KeySetGroupCommands command group for the AdminTask object includes the following commands:

- “deleteKeySetGroup”
- “generateKeyForKeySetGroup” on page 235
- “getKeySetGroup” on page 236
- “listKeySetGroups” on page 236
- “modifyKeySetGroup” on page 237

deleteKeySetGroup

The **deleteKeySetGroup** command deletes the settings of a key set group from the configuration.

Target object

None.

Required parameters

- name
Specifies the name that uniquely identifies the key set group. (String, required)

Optional parameters

- scopeName
Specifies the unique name that identifies the management scope. (String, optional)

To list the valid management scopes, you can run the listManagementScope task. For example:

```
wsadmin>$AdminTask listManagementScopes
"scopeName: (cell):IBM-2143376CB9ECe1103 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ECe11Manager03 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode02 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode04 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode05 "
```

Examples

Batch mode example usage:

- Using Jacl:
\$AdminTask deleteKeySetGroup {-name *keySetGrp* }
- Using Jython string:
AdminTask.deleteKeySetGroup ('[-name *keySetGrp*]')
- Using Jython list:
AdminTask.deleteKeySetGroup (['-name', '*keySetGrp*'])

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteKeySetGroup {-interactive}
```

- Using Jython:

```
AdminTask.deleteKeySetGroup('-interactive')
```

generateKeyForKeySetGroup

The **generateKeyForKeySetGroup** command generates keys for all of the keys in the key sets that make up the key set group.

Target object

None.

Required parameters

-keySetGroupName

Specifies the name of the key set group. (String, required)

Optional parameters

-keySetGroupScope

Specifies the scope of the key set group. (String, optional)

To list the valid management scopes, you can run the listManagementScope task. For example:

```
wsadmin>$AdminTask listManagementScopes
"scopeName: (cell):IBM-2143376CB9ECe1103 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ECe11Manager03 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode02 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode04 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode05 "
```

-keySetGroupUpdateRuntime

Specifies to update the environment to use the newly generated keys at run time. (Boolean, optional)

-keySetGroupSaveConfig

Specifies to automatically save the change to the security configuration. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask generateKeyForKeySetGroup {-keySetGroupName keySetGrp}
```

- Using Jython string:

```
AdminTask.generateKeyForKeySetGroup ('[-keySetGroupName keySetGrp']')
```

- Using Jython list:

```
AdminTask.generateKeyForKeySetGroup (['-keySetGroupName', 'keySetGrp'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask generateKeyForKeySetGroup {-interactive}
```

- Using Jython:

```
AdminTask.generateKeyForKeySetGroup('-interactive')
```

getKeySetGroup

The **getKeySetGroup** command displays the settings of a particular key set group.

Target object

None.

Required parameters

-name

Specifies the name that uniquely identifies the key set group. (String, required)

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

To list the valid management scopes, you can run the listManagementScope task. For example:

```
wsadmin>$AdminTask listManagementScopes
"scopeName: (cell):IBM-2143376CB9ECe1103 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ECe11Manager03 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode02 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode04 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode05 "
```

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask getKeySetGroup { -name keySetGrp }`
- Using Jython string:
`AdminTask.getKeySetGroup ('[-name keySetGrp']')`
- Using Jython list:
`AdminTask.getKeySetGroup (['-name', 'keySetGrp'])`

Interactive mode example usage:

- Using Jacl:
`$AdminTask getKeySetGroup {-interactive}`
- Using Jython:
`AdminTask.getKeySetGroup('-interactive')`

listKeySetGroups

The **listKeySetGroups** command lists the key set groups for a particular scope.

Target object

None.

Required parameters

None.

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

To list the valid management scopes, you can run the `listManagementScope` task. For example:

```
wsadmin>$AdminTask listManagementScopes
"scopeName: (cell):IBM-2143376CB9ECe1103 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ECe11Manager03 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode02 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode04 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode05 "
```

-displayObjectNames

If you set the value of this parameter to `true`, the command returns a list of all of the key set group objects within a scope. If you set the value of this parameter to `false`, the command returns a list of strings that contain the key set group name and management scope. (Boolean, optional)

-all

Specify the value of this parameter as `true` to list all key set groups. This parameter overrides the `scopeName` parameter. The default value is `false`. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:


```
$AdminTask listKeySetGroups {-displayObjectName true}
```
- Using Jython string:


```
AdminTask.listKeySetGroups ('[-displayObjectName true]')
```
- Using Jython list:


```
AdminTask.listKeySetGroups (['-displayObjectName', 'true'])
```

Interactive mode example usage:

- Using Jacl:


```
$AdminTask listKeySetGroups {-interactive}
```
- Using Jython:


```
AdminTask.listKeySetGroups('-interactive')
```

modifyKeySetGroup

The **modifyKeySetGroup** command changes the settings of an existing key set group.

Target object

None.

Required parameters

-name

Specifies the name that uniquely identifies the key set group. (String, required)

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

To list the valid management scopes, you can run the `listManagementScope` task. For example:

```
wsadmin>$AdminTask listManagementScopes
"scopeName: (cell):IBM-2143376CB9ECe1103 "
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ECe11Manager03 "
```

```
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode02 "  
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode04 "  
"scopeName: (cell):IBM-2143376CB9ECe1103:(node):IBM-2143376CB9ENode05 "
```

-autoGenerate

Set the value of this parameter to true if you want to automatically generate keys. If not, set the value to false. (Boolean, optional)

-wsScheduleName

Specifies the name of the scheduler to use to perform key generation. (String, optional)

-keySetObjectNames

A list of key set configuration names separated by colons (:). (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask modifyKeySetGroup {-name keySetGrp -autoGenerate false}
```
- Using Jython string:

```
AdminTask.modifyKeySetGroup ('[-name keySetGrp -autoGenerate false]')
```
- Using Jython list:

```
AdminTask.modifyKeySetGroup (['-name', 'keySetGrp', '-autoGenerate', 'false'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask modifyKeySetGroup {-interactive}
```
- Using Jython:

```
AdminTask.modifyKeySetGroup('-interactive')
```

DynamicSSLConfigSelections command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the DynamicSSLConfigSelections group can be used to create, delete, and query dynamic SSL configuration selection objects.

The DynamicSSLConfigSelections command group for the AdminTask object includes the following commands:

- “deleteDynamicSSLConfigSelection”
- “getDynamicSSLConfigSelection” on page 239
- “listDynamicSSLConfigSelections” on page 239

deleteDynamicSSLConfigSelection

The **deleteDynamicSSLConfigSelection** command deletes the dynamic SSL configuration selection from the configuration.

Target object

None.

Required parameters

-dynSSLConfigSelectionName

Specifies the name that uniquely identifies the dynamic SSL configuration selection. (String, required)

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteDynamicSSLConfigSelection {-dynSSLConfigSelectionName sampleConfigSelection}
```

- Using Jython:

```
AdminTask.deleteDynamicSSLConfigSelection(-dynSSLConfigSelectionName sampleConfigSelection)
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteDynamicSSLConfigSelection {-interactive}
```

- Using Jython:

```
AdminTask.deleteDynamicSSLConfigSelection('-interactive')
```

getDynamicSSLConfigSelection

The **getDynamicSSLConfigSelection** command obtains information about a particular dynamic SSL configuration selection.

Target object

None.

Required parameters

-dynSSLConfigSelectionName

Specifies the name that uniquely identifies the dynamic SSL configuration selection. (String, required)

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getDynamicSSLConfigSelection {-dynSSLConfigSelectionName sampleConfigSelection}
```

- Using Jython:

```
AdminTask.getDynamicSSLConfigSelection(-dynSSLConfigSelectionName sampleConfigSelection)
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getDynamicSSLConfigSelection {-interactive}
```

- Using Jython:

```
AdminTask.getDynamicSSLConfigSelection('-interactive')
```

listDynamicSSLConfigSelections

The **listDynamicSSLConfigSelections** command lists the configuration objects name for a dynamic SSL configuration selection.

Target object

None.

Required parameters

None.

Optional parameters

-scopeName

Specifies the unique name that identifies the management scope. (String, optional)

-all

Specify the value of this parameter as `true` to list all dynamic SSL configuration selections. This parameter overrides the `scopeName` parameter. The default value is `false`. (String, optional)

Example output

The command does not return output.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listDynamicSSLConfigSelections
```

- Using Jython:

```
AdminTask.listDynamicSSLConfigSelections()
```

- Using Jacl:

```
$AdminTask listDynamic SSLConfigSelections
```

- Using Jython:

```
AdminTask.listDynamic SSLConfigSelections()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listDynamicSSLConfigSelections {-interactive}
```

- Using Jython:

```
AdminTask.listDynamicSSLConfigSelections('-interactive')
```

PersonalCertificateCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the `wsadmin` tool. The commands and parameters in the `PersonalCertificateCommands` group can be used to create and manage personal or signer certificates.

The `PersonalCertificateCommands` command group for the `AdminTask` object includes the following commands:

- “`createChainedCertificate`” on page 241
- “`createSelfSignedCertificate`” on page 242
- “`deleteCertificate`” on page 243
- “`exportCertificate`” on page 244
- “`exportCertToManagedKS`” on page 245
- “`extractCertificate`” on page 246
- “`getCertificate`” on page 246
- “`getCertificateChain`” on page 247

- “importCertificate” on page 248
- “importCertFromManagedKS” on page 249
- “listKeySizes” on page 249
- “listPersonalCertificates” on page 250
- “queryCACertificate” on page 251
- “receiveCertificate” on page 252
- “renewCertificate” on page 253
- “replaceCertificate” on page 253
- “requestCACertificate” on page 254
- “revokeCACertificate” on page 256

createChainedCertificate

The createChainedCertificate command creates a new self-signed certificate and stores the certificate in a keystore.

Note: To use the IBMi5OSKeyStore key store, verify that the signer for each part of the chain exists in the keystore before creating the new certificate. You must import the signer into the IBMi5OSKeyStore keystore before creating the new certificate.

Target object

None.

Required parameters

-keyStoreName

Specifies the name that uniquely identifies the keystore configuration object. (String, required)

-certificateAlias

Specifies the name that uniquely identifies the certificate request in a keystore. (String, required)

-certificateSize

Specifies the size of the certificate. (Integer, required)

-certificateCommonName

Specifies the common name of the certificate. (String, required)

-certificateOrganization

Specifies the organization of the certificate. (String, optional)

Optional parameters

-rootCertificateAlias

Specifies a unique name to identify the root certificated to use for signing. The default root certificate alias is root. (String, optional)

-certificateVersion

Specifies the version of the certificate. (String, optional)

-keyStoreScope

Specifies the scope name of the keystore. (String, optional)

-certificateOrganization

Specifies the organization of the certificate. (String, optional)

-certificateOrganizationalUnit

Specifies the organizational unit of the certificate. (String, optional)

-certificateLocality

Specifies the locality of the certificate. (String, optional)

-certificateState

Specifies the state of the certificate. (String, optional)

-certificateZip

Specifies the zip code of the certificate. (String, optional)

-certificateCountry

Specifies the country of the certificate. (String, optional)

-certificateValidDays

Specifies the amount of time in days for which the certificate is valid. (Integer, optional)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.createChainedCertificate('-keyStoreName myKeystore -certificateAlias
newCertificate -certificateSize 10 -certificateCommonName localhost
-certificateOrganization ibm')
```

- Using Jython list:

```
AdminTask.createChainedCertificate(['-keyStoreName', 'myKeystore', '-certificateAlias',
'newCertificate', '-certificateSize', '10', '-certificateCommonName', 'localhost',
'-certificateOrganization', 'ibm'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createChainedCertificate('-interactive')
```

createSelfSignedCertificate

The createSelfSignedCertificate command creates a self-signed personal certificate in a keystore.

Target object

None.

Required parameters

-keyStoreName

The name that uniquely identifies the keystore configuration object. (String, required)

-certificateAlias

The name that uniquely identifies the certificate request in a keystore. (String, required)

-certificateVersion

The version of the certificate. (String, required)

-certificateSize

The size of the certificate. (Integer, required)

-certificateCommonName

The common name of the certificate. (String, required)

Optional parameters

-keyStoreScope

The scope name of the keystore. (String, optional)

- certificateOrganization**
The organization of the certificate. (String, optional)
- certificateOrganizationalUnit**
The organizational unit of the certificate. (String, optional)
- certificateLocality**
The locality of the certificate. (String, optional)
- certificateState**
The state of the certificate. (String, optional)
- certificateZip**
The zip code of the certificate. (String, optional)
- certificateCountry**
The country of the certificate. (String, optional)
- certificateValidDays**
The amount of time in days for which the certificate is valid. (Integer, optional)
- signatureAlgorithm**
The signature algorithm used to create the self-signed certificate. The list of valid signature algorithms can be retrieved using the listSignatureAlgorithms command. (String, optional)

Elliptical Curve signature algorithms require specific sizes, so the size parameter is ignored if SHA256withECDSA, SHA384withECDSA, or SHA512withECDSA is specified. SHA256withECDSA will have a size of 256, SHA384withECDSA will have a size of 384, and SHA512withECDSA will have a size of 521.

Example output

The command does not return output.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createSelfSignedCertificate {-keyStoreName testKeyStore -certificateAlias default -certificateCommonName localhost -certificateOrganization ibm}
```

- Using Jython string:

```
AdminTask.createSelfSignedCertificate(['-keyStoreName testKeyStore -certificateAlias default -certificateCommonName localhost -certificateOrganization ibm'])
```

- Using Jython list:

```
AdminTask.createSelfSignedCertificate(['-keyStoreName', 'testKeyStore', '-certificateAlias', 'default', '-certificateCommonName', 'localhost', '-certificateOrganization', 'ibm'])
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.createSelfSignedCertificate('-interactive')
```

deleteCertificate

The deleteCertificate command deletes a personal certificate from a keystore. The command saves a copy of the certificate in the delete keystore.

Target object

None.

Required parameters

-keyStoreName

The name that uniquely identifies the keystore configuration object. (String, required)

-certificateAlias

The name that uniquely identifies the certificate request in a keystore. (String, required)

Optional parameters

-keyStoreScope

The scope name of the keystore. (String, optional)

Example output

The command does not return output.

Examples

Interactive mode example usage:

- Using Jython:

```
AdminTask.deleteCertificate('-interactive')
```

exportCertificate

The exportCertificate command exports a personal certificate from one keystore to another.

Target object

None.

Required parameters

-keyStoreName

The name that uniquely identifies the keystore configuration object. (String, required)

-keyStorePassword

The password to the keystore. (String, required)

-keyFilePath

The full path to a keystore file that is located in a file system. The store from where a certificate will be imported or exported. (String, required)

-keyFilePassword

The password to the keystore file. (String, required)

-keyFileType

The type of the key file. (String, required)

-certificateAlias

The name that uniquely identifies the certificate request in a keystore. (String, required)

Optional parameters

-keyStoreScope

The scope name of the keystore. (String, optional)

-aliasInKeyStore

(String, optional)

Example output

The command does not return output.

Examples

Interactive mode example usage:

- Using Jython:

```
AdminTask.exportCertificate('-interactive')
```

exportCertToManagedKS

The `exportCertToManagedKS` command exports a personal certificate to a managed keystore in the configuration.

Target object

None.

Required parameters

-keyStoreName

Specifies the name that uniquely identifies the keystore configuration object. (String, required)

-keyStorePassword

The password to the keystore. (String, required)

-toKeyStoreName

Specifies the unique name of the keystore to export the certificate to. (String, required)

-certificateAlias

Specifies the alias of the certificate of interest. (String, required)

Optional parameters

-keyStoreScope

Specifies the keystore of the certificate of interest. (String, optional)

-toKeyStoreScope

Specifies the scope of the keystore to export to. (String, optional)

-aliasInKeyStore

Specifies the alias that identifies the certificate in the keystore. (String, optional)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.exportCertificateToManagedKS(['-keyStoreName myKS -keyStorePassword myKSpw  
-toKeyStoreName myKS2 -certificateAlias testingKeyStore'])
```

- Using Jython list:

```
AdminTask.exportCertificateToManagedKS(['-keyStoreName', 'myKS', '-keyStorePassword',  
'myKSpw', '-toKeyStoreName', 'myKS2', '-certificateAlias', 'testingKeyStore'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.exportCertificateToManagedKS('-interactive')
```

extractCertificate

The `extractCertificate` command extracts the signer part of a personal certificate to a certificate file. The certificate in the file can later be added to a keystore to establish trust.

Target object

None.

Required parameters

-keyStoreName

The name that uniquely identifies the keystore configuration object. (String, required)

-certificateAlias

The name that uniquely identifies the certificate request in a keystore. (String, required)

-certificateFilePath

The full path of the request file that contains the certificate. (String, required)

-base64Encoded

Set the value of this parameter to `true` if the certificate is a Base64 encoded ASCII file type. Set the value of this parameter to `false` if the certificate is binary. (Boolean, required)

Optional parameters

-keyStoreScope

The scope name of the keystore. (String, optional)

Example output

The command does not return output.

Examples

Batch mode example usage:

- Using Jacl:

IBM i

```
$AdminTask extractCertificate {-keyStoreName testKeyStore -certificateFilePath /temp/CertFile.arm -certificateAlias testCertificate}
```

- Using Jython string:

IBM i

```
AdminTask.extractCertificate(['-keyStoreName testKeyStore -certificateFilePath /temp/CertFile.arm -certificateAlias testCertificate'])
```

- Using Jython list:

IBM i

```
AdminTask.extractCertificate(['-keyStoreName', 'testKeyStore', '-certificateFilePath', '/temp/CertFile.arm', '-certificateAlias', 'testCertificate'])
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.extractCertificate('-interactive')
```

getCertificate

The `getCertificate` command obtains information about a particular personal certificate in a keystore. If the certificate of interest was created with the `requestCACertificate` command, the certificate can be in the

COMPLETE or REVOKED state. Certificate requests can be in the PENDING state. Use the `getCertificateRequest` command to determine if a certificate request is in the PENDING state.

Target object

None.

Required parameters

-keyStoreName

The name that uniquely identifies the keystore configuration object. (String, required)

-certificateAlias

The name that uniquely identifies the certificate request in a keystore. (String, required)

Optional parameters

-keyStoreScope

The scope name of the keystore. (String, optional)

Example output

The command returns information about the certificate request.

Examples

Interactive mode example usage:

- Using Jython:

```
AdminTask.getCertificate('-interactive')
```

getCertificateChain

The `getCertificateChain` command queries your configuration for information about each personal certificate in a certificate chain.

Target object

None.

Required parameters and return values

-keyStoreName

Specifies the name of the keystore object that stores the CA certificate. Use the `listKeyStores` command to display a list of available keystores. (String, required)

-certificateAlias

Specifies the unique alias of the certificate. (String, required)

Optional parameters

-keyStoreScope

Specifies the management scope of the keystore. For a deployment manager profile, the default value is the cell scope. For an application server profile, the default value is the node scope. (String, optional)

Example output

The command returns an array of attribute lists that contain configuration information for each certificate in a chain.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getCertificateChain {-certificateAlias newCertificate  
-keyStoreName CellDefaultKeyStore}
```

- Using Jython string:

```
AdminTask.getCertificateChain('-certificateAlias newCertificate  
-keyStoreName CellDefaultKeyStore')
```

- Using Jython list:

```
AdminTask.getCertificateChain(['-certificateAlias', 'newCertificate',  
'-keyStoreName', 'CellDefaultKeyStore'])
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.getCertificateChain('-interactive')
```

importCertificate

The importCertificate command imports a personal certificate from a keystore.

Target object

None.

Required parameters

-keyStoreName

The name that uniquely identifies the keystore configuration object. (String, required)

-keyFilePath

The full path to a keystore file that is located in a file system. The store from where a certificate will be imported or exported. (String, required)

-keyFilePassword

The password to the keystore file. (String, required)

-keyFileType

The type of the key file. (String, required)

-certificateAliasFromKeyFile

The certificate alias in the key file from which the certificate is being imported. (String, required)

-certificateAlias

The name that uniquely identifies the certificate request in a keystore. (String, required)

Optional parameters

-keyStoreScope

The scope name of the keystore. (String, optional)

Example output

The command does not return output.

Examples

Interactive mode example usage:

- Using Jython:

```
AdminTask.importCertificate('-interactive')
```

importCertFromManagedKS

The `importCertFromManagedKS` command imports a personal certificate from a managed keystore in the configuration.

Target object

None.

Required parameters

-keyStoreName

Specifies the name that uniquely identifies the keystore configuration object. (String, required)

-fromKeyStoreName

Specifies the name that uniquely identifies the keystore from which the system imports the certificate. (String, required)

-fromKeyStorePassword

Specifies the password for the keystore from which the system imports the certificate. (String, required)

-certificateAliasFromKeyStore

Specifies the alias of the certificate in the keystore. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope of the keystore to import the certificate to. (String, optional)

-fromKeyStoreScope

Specifies the scope of the keystore to import the certificate from. (String, optional)

-certificateAlias

Specifies the alias of the certificate for the destination keystore. (String, optional)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.importCertFromManagedKS('-keyStoreName myKeystore -fromKeyStoreName  
oldKeystore -fromKeyStorePassword my122password -certificateAliasFromKeyStore  
myCertificate')
```

- Using Jython list:

```
AdminTask.importCertFromManagedKS('-keyStoreName', 'myKeystore', '-fromKeyStoreName',  
'oldKeystore', '-fromKeyStorePassword', 'my122password', '-certificateAliasFromKeyStore',  
'myCertificate')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.importCertFromManagedKS('-interactive')
```

listKeySizes

The `listKeySizes` command is an administrative console helper task used to display the set of certificate key sizes that are allowed when creating a personal certificate.

By default, the set of valid key sizes include 512, 1024, 2048, 4096 and 8192. You can customize the list of comma-separated key sizes in the `com.ibm.websphere.customKeySizeList` security custom property. The `com.ibm.websphere.customKeySizeList` custom property can be set using the `setAdminActiveSecuritySettings` command.

Valid key sizes must be 512 or larger, but no larger than 16384, and must be multiples of 8. Any values in `com.ibm.websphere.customKeySizeList` that do not meet the size requirements are ignored. If the custom list does not contain anything in it when it is finished processing then the list of default sizes is returned.

Target object

None.

Required parameters

None.

Optional parameters

None.

Example output

Returns an `ArrayList` of sizes. The sizes are strings:

```
512
1024
2048
4096
8192
```

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listKeySize
```

- Using Jython string:

```
AdminTask.listKeySizes()
```

listPersonalCertificates

The `listPersonalCertificates` command lists the personal certificates in a particular keystore.

Target object

None.

Required parameters

-keyStoreName

The name that uniquely identifies the keystore configuration object. The value of this field is not a path to the keystore file. (String, required)

Optional parameters

-keyStoreScope

The scope name of the keystore. To obtain a list of the keystore scope values, see the **listManagementScopes** command, which is part of the **ManagementScopeCommands** command group. (String, optional)

Example output

The command returns a list of attributes for each personal certificate in a keystore.

Examples

Batch mode example usage:

- Using Jython string:

```
AdminTask.listPersonalCertificates('-keyStoreName myKS')
```

- Using Jython list:

```
AdminTask.listPersonalCertificates(['-keyStoreName', 'myKS'])
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.listPersonalCertificates('-interactive')
```

queryCACertificate

The **queryCACertificate** command queries your configuration to determine if the CA has completed the certificate. If the CA returns a personal certificate, then the system marks the certificate as **COMPLETE**. Otherwise, it remains marked as **PENDING**.

Target object

None.

Required parameters and return values

-keyStoreName

Specifies the name of the keystore object that stores the CA certificate. Use the **listKeyStores** command to display a list of available keystores. (String, required)

-certificateAlias

Specifies the unique alias of the certificate. (String, required)

Optional parameters

-keyStoreScope

Specifies the management scope of the keystore. For a deployment manager profile, the default value is the cell scope. For an application server profile, the default value is the node scope. (String, optional)

Example output

The command returns one of two values: **Certificate COMPLETE** or **certificate PENDING**. If the command returns the **Certificate COMPLETE** message, the certificate authority returned the requested certificate and the default personal certificate is replaced. If the command returns the **certificate PENDING** message, the certificate authority did not yet return a certificate.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask queryCACertificate {-certificateAlias newCertificate
-keyStoreName CellDefaultKeyStore}
```

- Using Jython string:

```
AdminTask.queryCACertificate('-certificateAlias newCertificate
-keyStoreName CellDefaultKeyStore')
```

- Using Jython list:

```
AdminTask.queryCACertificate(['-certificateAlias', 'newCertificate',
'-keyStoreName', 'CellDefaultKeyStore'])
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.queryCACertificate('-interactive')
```

receiveCertificate

The receiveCertificate command receives a signer certificate from a file to a personal certificate.

Target object

None.

Required parameters

-keyStoreName

The name that uniquely identifies the keystore configuration object. (String, required)

-certificateAlias

The name that uniquely identifies the certificate request in a keystore. (String, required)

-certificateFilePath

The full path of the file that contains the certificate. (String, required)

-base64Encoded

Set the value of this parameter to true if the certificate is ascii base 64 encoded. Set the value of this parameter to false if the certificate is binary. (Boolean, required)

Optional parameters

-keyStoreScope

The scope name of the keystore. (String, optional)

Example output

The command does not return output.

Examples

Batch mode example usage:

- Using Jacl:

```
IBM i
```

```
$AdminTask receiveCertificate {-keyStoreName testKeyStore
-certificateFilePath /temp/CertFile.arm}
```

- Using Jython string:

```
IBM i
```

```
AdminTask.receiveCertificate(['-keyStoreName testKeyStore
-certificateFilePath /temp/CertFile.arm'])
```

- Using Jython list:

```
AdminTask.receiveCertificate(['-keyStoreName', 'testKeyStore',
'-certificateFilePath', '/temp/CertFile.arm'])
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.receiveCertificate('-interactive')
```

renewCertificate

The `renewCertificate` command renews a certificate with a new generated certificate.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name that identifies the keystore. (String, required)

-certificateAlias

Specifies the unique name that identifies the certificate. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope of the keystore. (String, optional)

-deleteOldSigners

Specifies whether to delete the old signers that are associated with the old certificate. Specify `false` to retain the old signers. (Boolean, optional)

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.renewCertificate('-keyStoreName myKS -certificateAlias
testCertificate')
```

- Using Jython list:

```
AdminTask.renewCertificate(['-keyStoreName', 'myKS', '-certificateAlias',
'testCertificate'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.renewCertificate('-interactive')
```

replaceCertificate

The `replaceCertificate` command replaces a personal certificate with another personal certificate. The command finds each reference to the old certificate alias in the configuration and replaces the alias with the new one. The command also replaces each signer certificate from the old personal certificate with the signer from the new personal certificate.

Target object

None.

Required parameters and return values

-keyStoreName

The name that uniquely identifies the keystore configuration object. (String, required)

-certificateAlias

The name that uniquely identifies the certificate request in a keystore. (String, required)

-replacementCertificateAlias

The alias of the certificate that is used to replace a different certificate. (String, required)

Optional parameters

-keyStoreScope

The scope name of the keystore. (String, optional)

-deleteOldCert

Set the value of this parameter to `true` if you want to delete the old signer certificates during certificate replacement. Otherwise, set the value of this parameter to `false`. (Boolean, optional)

-deleteOldSigners

Set the value of this parameter to `true` if you want to delete the old certificates during certificate replacement. Otherwise, set the value of this parameter to `false`. (Boolean, optional)

Example output

The command does not return output.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask replaceCertificate {-keyStoreName testKeyStore -certificateAlias
default -replacementCertificateAlias replaceCert -deleteOldCert true
-deleteOldSigners true}
```

- Using Jython string:

```
AdminTask.replaceCertificate(['-keyStoreName testKeyStore -certificateAlias
default -replacementCertificateAlias replaceCert -deleteOldCert true
-deleteOldSigners true'])
```

- Using Jython list:

```
AdminTask.replaceCertificate(['-keyStoreName', 'testKeyStore', '-certificateAlias',
'default', '-replacementCertificateAlias', 'replaceCert', '-deleteOldCert',
'true', '-deleteOldSigners', 'true'])
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.replaceCertificate('-interactive')
```

requestCACertificate

The `requestCACertificate` command creates a certificate request and sends the request to a certificate authority (CA). If the certificate authority returns a personal certificate, then the returned certificate replaces the certificate request in the keystore. The command also works with a preexisting certificate request that was created with the `createCertificateRequest` command. When the CA returns a personal certificate, the system marks the certificate as `COMPLETE` and the command returns a message stating that the certificate is complete. If the CA does not return a personal certificate, then the system marks the certificate request as `PENDING` and the command returns a message stating that the certificate is `PENDING`.

Note: To use the IBMi5OSKeyStore key store, verify that the signer for each part of the chain exists in the keystore before creating the new certificate. You must import the signer into the IBMi5OSKeyStore keystore before creating the new certificate.

Target object

None.

Required parameters and return values

-certificateAlias

Specifies the alias of the certificate. You can specify a predefined certificate request. (String, required)

-keyStoreName

Specifies the name of the keystore object that stores the CA certificate. Use the listKeyStores command to display a list of available keystores. (String, required)

-caClientName

Specifies the name of the CA client that was used to create the CA certificate. (String, required)

-revocationPassword

Specifies the password to use to revoke the certificate at a later date. (String, required)

Optional parameters

-keyStoreScope

Specifies the management scope of the keystore. For a deployment manager profile, the default value is the cell scope. For an application server profile, the default value is the node scope. (String, optional)

-caClientScope

Specifies the management scope of the CA client. For a deployment manager profile, the default value is the cell scope. For an application server profile, the default value is the node scope. (String, optional)

-certificateCommonName

Specifies the common name (CN) part of the full distinguished name (DN) of the certificate. This common name can represent a person, company, or machine. For websites, the common name is frequently the DNS host name where the server resides. (String, optional)

-certificateOrganization

Specifies the organization part of the full distinguished name (DN) of the certificate. (String, optional)

-certificateOrganizationalUnity

Specifies the organization unit part of the full distinguished name (DN) of the certificate. (String, optional)

-certificateLocality

Specifies the locality part of the full distinguished name (DN) of the certificate. (String, optional)

-certificateState

Specifies the state part of the full distinguished name (DN) of the certificate. (String, optional)

-certificateZip

Specifies the zip code part of the full distinguished name (DN) of the certificate. (String, optional)

-certificateCountry

Specifies the country part of the full distinguished name (DN) of the certificate. (String, optional)

-certificateSize

Specifies the size of the certificate key. The valid values are 512, 1024, 2048, 4096, and 8192. The default value is 2048. (String, optional)

Example output

The command returns one of two values: Certificate COMPLETE or certificate PENDING.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask requestCACertificate {-certificateAlias newCertificate -keyStoreName  
CellDefaultKeyStore -CAclientName myCAclient -revocationPassword revokeCApw}
```

- Using Jython string:

```
AdminTask.requestCACertificate('-certificateAlias newCertificate -keyStoreName  
CellDefaultKeyStore -CAclientName myCAclient -revocationPassword revokeCApw')
```

- Using Jython list:

```
AdminTask.requestCACertificate(['-certificateAlias','newCertificate','-keyStoreName',  
'CellDefaultKeyStore','-CAclientName','myCAclient','-revocationPassword',  
'revokeCApw'])
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.requestCACertificate('-interactive')
```

revokeCACertificate

The revokeCACertificate command sends a request to the CA to revoke the CA personal certificate of interest.

Target object

None.

Required parameters and return values

-certificateAlias

Specifies the unique name that identifies the CA personal certificate object and the alias name of the certificate in the keystore. (String, required)

-keyStoreName

Specifies the name of the keystore where the CA personal certificate is stored. (String, required)

-revocationPassword

Specifies the password needed to revoke the certificate. This is the same password that was provided when the certificate was created. (String, required)

Optional parameters

-keyStoreScope

Specifies the management scope of the keystore. For a deployment manager profile, the default value is the cell scope. For an application server profile, the default value is the node scope. (String, optional)

-revocationReason

Specifies the reason for revoking the certificate of interest. The default value for this parameter is unspecified. (String, optional)

Example output

The command does not return output. Use the getCertificate command to view the current status of the certificate, as the following example displays:

```
AdminTask.getCertificate('-certificateAlias myCertificate -keyStoreName CellDefaultKeyStore')
```

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask revokeCACertificate {-keyStoreName CellDefaultKeyStore -certificateAlias myCertificate -revocationPassword pw4revoke}
```

- Using Jython string:

```
AdminTask.revokeCACertificate(['-keyStoreName CellDefaultKeyStore -certificateAlias myCertificate -revocationPassword pw4revoke'])
```

- Using Jython list:

```
AdminTask.revokeCACertificate(['-keyStoreName', 'CellDefaultKeyStore', '-certificateAlias', 'myCertificate', '-revocationPassword', 'pw4revoke'])
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.revokeCACertificate('-interactive')
```

WSCertExpMonitorCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the WSCertExpMonitorCommands group can be used to start or update the certificate expiration monitor.

The WSCertExpMonitorCommands command group for the AdminTask object includes the following commands:

- “createWSCertExpMonitor”
- “deleteWSCertExpMonitor” on page 258
- “getWSCertExpMonitor” on page 259
- “listWSCertExpMonitor” on page 259
- “modifyWSCertExpMonitor” on page 260
- “startCertificateExpMonitor” on page 261

createWSCertExpMonitor

The **createWSCertExpMonitor** command creates the certificate expiration monitor settings in the configuration.

Target object

None.

Required parameters and return values

-name

The name that uniquely identifies the certificate expiration monitor. (String, required)

-autoReplace

Set the value of this parameter to true if you want to replace a certificate within a certificate expiration date. If not, set the value of this parameter to false. (Boolean, required)

-deleteOld

Set the value of this parameter to true if you want to delete an old certificate during certificate expiration monitoring. If not, set the value of this parameter to false. (Boolean, required)

-daysBeforeNotification

The number of days before a certificate expires that you want to be notified of the expiration. (Integer, required)

-wsScheduleName

The name of the scheduler to use for certificate expiration. (String, required)

-wsNotificationName

The name of the notifier to use for certificate expiration. (String, required)

-isEnabled

Set the value of this parameter to true if the certificate expiration monitor is enabled. If not, set the value of this parameter to false. (Boolean, optional)

- Returns: The configuration object name of the certificate expiration monitor object that you created.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createWSCertExpMonitor {-name testCertMon -autoReplace true -deleteOld true
-daysBeforeNotification 30 -wsScheduleName testSchedule -wsNotificationName testNotifier
-isEnabled false}
```

- Using Jython string:

```
AdminTask.createWSCertExpMonitor ('[-name testCertMon -autoReplace true -deleteOld true
-daysBeforeNotification 30 -wsScheduleName testSchedule -wsNotificationName testNotifier
-isEnabled false]')
```

- Using Jython list:

```
AdminTask.createWSCertExpMonitor (['-name', 'testCertMon', '-autoReplace', 'true', '-deleteOld',
'true', '-daysBeforeNotification', '30', '-wsScheduleName', 'testSchedule', '-wsNotificationName',
'testNotifier', '-isEnabled', 'false'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createWSCertExpMonitor {-interactive}
```

- Using Jython string:

```
AdminTask.createWSCertExpMonitor ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createWSCertExpMonitor (['-interactive'])
```

deleteWSCertExpMonitor

The **deleteWSCertExpMonitor** command deletes the settings of a scheduler from the configuration.

Target object

None.

Required parameters and return values

-name

The name that uniquely identifies the certificate expiration monitor. (String, required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteWSCertExpMonitor {-name testCertMon}
```

- Using Jython string:

```
AdminTask.deleteWSCertExpMonitor ('[-name testCertMon]')
```

- Using Jython list:

```
AdminTask.deleteWSCertExpMonitor (['-name', 'testCertMon'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteWSCertExpMonitor {-interactive}
```

- Using Jython string:

```
AdminTask.deleteWSCertExpMonitor ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteWSCertExpMonitor (['-interactive'])
```

getWSCertExpMonitor

The **getWSCertExpMonitor** command displays the settings of a particular scheduler.

Target object

None.

Required parameters and return values

-name

The name that uniquely identifies the certificate expiration monitor. (String, required)

- Returns: The scheduler in the configuration.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getWSCertExpMonitor {-name testCertMon}
```

- Using Jython string:

```
AdminTask getWSCertExpMonitor ('[-name testCertMon]')
```

- Using Jython list:

```
AdminTask getWSCertExpMonitor (['-name', 'testCertMon'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getWSCertExpMonitor {-interactive}
```

- Using Jython string:

```
AdminTask.getWSCertExpMonitor ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getWSCertExpMonitor (['-interactive'])
```

listWSCertExpMonitor

The **listWSCertExpMonitor** command lists the scheduler in the configuration.

Target object

None.

Required parameters and return values

-displayObjectNames

If you set the value of this parameter to true, the command returns the certificate expiration monitor configuration object. If you set the value of this parameter to false, the command returns the name of the certificate expiration monitor. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listWSCertExpMonitor {-displayObjectName false}
```

- Using Jython string:

```
AdminTask.listWSCertExpMonitor ('[-displayObjectName false]')
```

- Using Jython list:

```
AdminTask.listWSCertExpMonitor (['-displayObjectName', 'false'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listWSCertExpMonitor {-interactive}
```

- Using Jython string:

```
AdminTask.listWSCertExpMonitor (['-interactive'])
```

- Using Jython list:

```
AdminTask.listWSCertExpMonitor (['-interactive'])
```

modifyWSCertExpMonitor

The **modifyWSCertExpMonitor** command changes the setting of an existing scheduler.

Target object

None.

Required parameters and return values

-name

The name that uniquely identifies the certificate expiration monitor. (String, required)

-autoReplace

Set the value of this parameter to true if you want to replace a certificate within a certificate expiration date. If not, set the value of this parameter to false. (Boolean, required)

-deleteOld

Set the value of this parameter to true if you want to delete an old certificate during certificate expiration monitoring. If not, set the value of this parameter to false. (Boolean, required)

-daysBeforeNotification

The number of days before a certificate expires that you want to be notified of the expiration. (Integer, required)

-wsScheduleName

The name of the scheduler to use for certificate expiration. (String, required)

-wsNotificationName

The name of the notifier to use for certificate expiration. (String, required)

-isEnabled

Set the value of this parameter to true if the certificate expiration monitor is enabled. If not, set the value of this parameter to false. (Boolean, optional)

- Returns: None

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask modifyWSCertExpMonitor {-name testCertMon -autoReplace false -deleteOld false -daysBeforeNotification 20 -isEnabled true}
```

- Using Jython string:

```
AdminTask.modifyWSCertExpMonitor ('[-name testCertMon -autoReplace false -deleteOld false -daysBeforeNotification 20 -isEnabled true]')
```

- Using Jython list:

```
AdminTask.modifyWSCertExpMonitor (['-name', 'testCertMon', '-autoReplace', 'false', '-deleteOld', 'false', '-daysBeforeNotification', '20', '-isEnabled', 'true'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask modifyWSCertExpMonitor {-interactive}
```

- Using Jython string:

```
AdminTask.modifyWSCertExpMonitor ('[-interactive]')
```

- Using Jython list:

```
AdminTask.modifyWSCertExpMonitor (['-interactive'])
```

startCertificateExpMonitor

The **startCertificateExpMonitor** command performs certificate monitoring. This command visits all key stores and checks to see if they are within certificate expiration range.

Target object

None.

Required parameters and return values

- Parameters: None
- Returns: None

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask startCertificateExpMonitor
```

- Using Jython:

```
AdminTask.startCertificateExpMonitor()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask startCertificateExpMonitor {-interactive}
```

- Using Jython string:

```
AdminTask.startCertificateExpMonitor ('[-interactive]')
```

- Using Jython list:

```
AdminTask.startCertificateExpMonitor (['-interactive'])
```

SignerCertificateCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the SignerCertificateCommands group can be used to create and modify signer certificates in relation to the key store file and to query for signer information on ports of remote hosts.

The SignerCertificateCommands command group for the AdminTask object includes the following commands:

- “addSignerCertificate”
- “deleteSignerCertificate” on page 263
- “extractSignerCertificate” on page 264
- “getSignerCertificate” on page 264
- “listSignerCertificates” on page 265
- “retrieveSignerFromPort” on page 265
- “retrieveSignerInfoFromPort” on page 266

addSignerCertificate

The **addSignerCertificate** command add a signer certificate from a certificate file to a keystore.

Target object

None.

Required parameters

-keyStoreName

Specifies the name that uniquely identifies the keystore configuration object. (String, required)

-certificateAlias

Specifies the name that uniquely identifies the certificate request in a keystore. (String, required)

-certificateFilePath

Specifies the full path of the request file that contains the certificate. (String, required)

-base64Encoded

Specifies that the certificate is a Base64 encoded ASCII data file type if the value is set to `true`. Set the value of this parameter to `false` if the certificate is a binary DER data file type. (Boolean, required)

Optional parameters

-keyStoreScope

Specifies the scope name of the keystore. (String, optional)

Example output

The command does not return output.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addSignerCertificate {-keyStoreName testKeyStore -certificateAlias default -certificateFilePath <file path> -base64Encoded true}
```

- Using Jython string:

```
AdminTask.addSignerCertificate(['-keyStoreName testKeyStore -certificateAlias default -certificateFilePath <file path> -base64Encoded true'])
```


- Using Jython list:

```
AdminTask.addSignerCertificate(['-keyStoreName', 'testKeyStore', '-certificateAlias',
'default', '-certificateFilePath', '<file path>', '-base64Encoded', 'true'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addSignerCertificate {-interactive}
```

- Using Jython string:

```
AdminTask.addSignerCertificate ('[-interactive]')
```

deleteSignerCertificate

The **deleteSignerCertificate** command delete a signer certificate from a certificate file from a keystore.

Target object

None.

Required parameters

-keyStoreName

Specifies the name that uniquely identifies the keystore configuration object. (String, required)

-certificateAlias

Specifies the name that uniquely identifies the certificate request in a keystore. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope name of the keystore. (String, optional)

Example output

The command does not return output.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteSignerCertificate {-keyStoreName testKeyStore -certificateAlias
default}
```

- Using Jython string:

```
AdminTask.deleteSignerCertificate(['-keyStoreName testKeyStore -certificateAlias
default'])
```

- Using Jython list:

```
AdminTask.deleteSignerCertificate(['-keyStoreName', 'testKeyStore', '-certificateAlias',
'default'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteSignerCertificate {-interactive}
```

- Using Jython string:

```
AdminTask.deleteSignerCertificate ('[-interactive]')
```

extractSignerCertificate

The **extractSignerCertificate** command extracts a signer certificate from a key store to a file.

Target object

None

Parameters and return values

-keyStoreName

The name of the key store where the signer certificate is located. (String, required)

-keyStoreScope

The management scope of the key store. (String, optional)

-certificateAlias

The alias name of the signer certificate in the key store. (String, required)

-certificateFilePath

The full path name of the file that contains the signer certificate. (String, required)

-base64Encoded

Set the value of this parameter to true if the certificate is ascii base 64 encoded. Set the value of this parameter to false if the certificate is binary. (String, required)

Examples

Interactive mode example usage:

- Using Jacl:

```
$AdminTask extractSigner Certificate {-interactive}
```

- Using Jython string:

```
AdminTask.extractSignerCertificate ['-interactive']
```

- Using Jython list:

```
AdminTask.extractSignerCertificate (['-interactive'])
```

getSignerCertificate

The **getSignerCertificate** command obtains information about a signer certificate from a key store.

Target object

None

Parameters and return values

-keyStoreName

The name of the key store where the signer certificate is located. (String, required)

-keyStoreScope

The management scope of the key store. (String, optional)

-certificateAlias

The alias name of the signer certificate in the key store. (String, required)

Examples

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getSignerCertificate {-interactive}
```

- Using Jython string:

```
AdminTask.getSignerCertificate ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getSignerCertificate (['-interactive'])
```

listSignerCertificates

The **listSignerCertificates** command lists all signer certificates in a particular key store.

Target object

None

Parameters and return values

-keyStoreName

The name of the key store where the signer certificate is located. (String, required)

-keyStoreScope

The management scope of the key store. (String, optional)

Examples

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listSignerCertificates {-interactive}
```

- Using Jython string:

```
AdminTask.listSignerCertificates ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listSignerCertificates (['-interactive'])
```

retrieveSignerFromPort

The **retrieveSignerFromPort** command retrieves a signer from a remote host and stores the signer in a key store.

Target object

None

Parameters and return values

-host

The host name of the system from where the signer certificate will be retrieved. (String, required)

-port

The port of the remote system from where the signer certificate will be retrieved. (Integer, required)

-certificateAlias

Specifies a unique name to identify a certificate. (String, required)

-keyStoreName

The name of the key store where the signer certificate is located. (String, required)

-keyStoreScope

The management scope of the key store. (String, optional)

-sslConfigName

The name of the SSL configuration object. (String, optional)

-sslConfigScopeName

The management scope where the SSL configuration object is located. (String, optional)

Examples

Batch mode example usage:

• Using Jacl:

```
$AdminTask retrieveSigner FromPort {-host serverHost -port 443 -keyStoreName testKeyStore
-certificate Alias serverHostSigner}
```

• Using Jython string:

```
AdminTask.retrieveSigner FromPort ('[-host server Host -port 443 -keyStore Name testKeyStore
-certificat eAlias serverHost Signer]')
```

• Using Jython list:

```
AdminTask.retrieveSigner FromPort (['-host', 'serverHost', '-port', '443', '-keyStoreName',
'testKeyStore', '-certificat eAlias', 'serverHost Signer'])
```

Interactive mode example usage:

• Using Jacl:

```
$AdminTask retrieveSigner FromPort {-interactive}
```

• Using Jython string:

```
AdminTask.retrieveSigner FromPort ('[-interactive]')
```

• Using Jython list:

```
AdminTask.retrieveSigner FromPort (['-interactive'])
```

retrieveSignerInfoFromPort

The **retrieveSigner InfoFromPort** command retrieves signer information from a port on a remote host.

Target object

None

Parameters and return values

-host

The host name of the system from where the signer certificate will be retrieved. (String, required)

-port

The port of the remote system from where the signer certificate will be retrieved. (Integer, required)

-sslConfigName

The name of the SSL configuration object. (String, optional)

-sslConfigScopeName

The management scope where the SSL configuration object is located. (String, optional)

Examples

Interactive mode example usage:

• Using Jacl:

```
$AdminTask retrieveSigner InfoFromPort {-interactive}
```

• Using Jython string:

```
AdminTask.retrieveSigner InfoFromPort ('[-interactive]')
```

• Using Jython list:

CertificateRequestCommands command group of the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the CertificateRequestCommands group can be used to create and manage certificate requests.

The CertificateRequestCommands command group for the AdminTask object includes the following commands:

- “createCertificateRequest”
- “deleteCertificateRequest” on page 268
- “extractCertificateRequest” on page 269
- “getCertificateRequest” on page 270
- “listCertificateRequests” on page 271

createCertificateRequest

The **createCertificateRequest** command creates a certificate request that is associated with a particular key store.

Target object

None.

Parameters and return values

-keyStoreName

The name that uniquely identifies the key store configuration object. (String, required)

-keyStoreScope

The scope name of the key store. (String, optional)

-certificateAlias

The name that uniquely identifies the certificate request in a key store. (String, required)

-certificateVersion

The certificate version. (String, required)

-certificateSize

(Integer, required)

-certificateCommonName

(String, required)

-certificateOrganization

(String, optional)

-certificateOrganizationalUnit

(String, optional)

-certificateLocality

(String, optional)

-certificateState

The state code for the certificate. (String, optional)

-certificateZip

The zip code for the certificate. (String, optional)

-certificateCountry

The country for the certificate. (String, optional)

-certificateValidDays

The amount of time in days for which the certificate is valid. (Integer, optional)

-certificateRequestFilePath

The file location of the certificate request that can be sent to a certificate authority. (String, required)

-signatureAlgorithm

The signature algorithm used to create the self-signed certificate. The list of valid signature algorithms can be retrieved using the listSignatureAlgorithms command. (String, optional)

- Returns: The configuration object name of the key store object that you created.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createCertificateRequest {-keyStoreName testKeyStore
-certificateAlias certReq -certificateSize 1024 -certificate
CommonName localhost -certificate Organization testing -certificate
RequestFilePath c:/temp/testCertReq.arm}
```

- Using Jython string:

```
AdminTask.createCertificateRequest ('[-keyStoreName testKeyStore
-certificateAlias certReq -certificateSize 1024 -certificate
CommonName localhost -certificate Organization testing -certificate
RequestFilePath c:/temp/testCertReq.arm]')
```

- Using Jython list:

```
AdminTask.createCertificateRequest (['-keyStoreName', 'testKeyStore',
'-certificateAlias', 'certReq', '-certificateSize', '1024',
'-certificateCommonName', 'localhost', '-certificateOrganization',
'testing', '-certificateRequestFilePath', 'c:/temp/testCertReq.arm'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createCertificateRequest {-interactive}
```

- Using Jython string:

```
AdminTask.createCertificateRequest ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createCertificateRequest (['-interactive'])
```

deleteCertificateRequest

The **deleteCertificateRequest** command deletes a certificate request from a key store.

Target object

None.

Parameters and return values

-keyStoreName

The name that uniquely identifies the key store configuration object. (String, required)

-keyStoreScope

The scope name of the key store. (String, optional)

-certificateAlias

The name that uniquely identifies the certificate request in a key store. (String, required)

- Returns: None.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteCertificateRequest {-keyStoreName testKeyStore  
-certificateAlias certReq}
```

- Using Jython string:

```
AdminTask.deleteCertificateRequest ('[-keyStoreName testKeyStore  
-certificateAlias certReq]')
```

- Using Jython list:

```
AdminTask.deleteCertificateRequest (['-keyStoreName', 'testKeyStore',  
'-certificateAlias', 'certReq'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteCertificateRequest {-interactive}
```

- Using Jython string:

```
AdminTask.deleteCertificateRequest ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteCertificateRequest (['-interactive'])
```

extractCertificateRequest

The **extractCertificateRequest** command extracts a certificate request to a file.

Target object

None.

Parameters and return values

-keyStoreName

The name that uniquely identifies the key store configuration object. (String, required)

-keyStoreScope

The scope name of the key store. (String, optional)

-certificateAlias

The name that uniquely identifies the certificate request in a key store. (String, required)

-certificateRequestFilePath

The file location of the certificate request that can be sent to a certificate authority. (String, required)

Optional parameters

-signatureAlgorithm

The signature algorithm used to create the self-signed certificate. The list of valid signature algorithms can be retrieved using the `listSignatureAlgorithms` command. (String, optional)

Elliptical Curve signature algorithms require specific sizes, so the size parameter is ignored if `SHA256withECDSA`, `SHA384withECDSA`, or `SHA512withECDSA` is specified. `SHA256withECDSA` will have a size of 256, `SHA384withECDSA` will have a size of 384, and `SHA512withECDSA` will have a size of 521.

- Returns: A certificate request file is created that contains the extracted certificate.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask extractCertificateRequest {-keyStoreName testKeyStore  
-certificateAlias certReq -certificateRequestFilePath c:/temp/testCertReq.arm}
```

- Using Jython string:

```
AdminTask.extractCertificateRequest ('[-keyStoreName testKeyStore
-certificateAlias certReq -certificateRequestFilePath c:/temp/testCertReq.arm]')
```

- Using Jython list:

```
AdminTask.extractCertificateRequest (['-keyStoreName', 'testKeyStore',
'-certificateAlias', 'certReq', '-certificateRequestFilePath', 'c:/temp/testCertReq.arm'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask extractCertificateRequest {-interactive}
```

- Using Jython string:

```
AdminTask.extractCertificateRequest ('[-interactive]')
```

- Using Jython list:

```
AdminTask.extractCertificateRequest (['-interactive'])
```

getCertificateRequest

The **getCertificateRequest** command obtains information about a particular certificate request in a key store.

Target object

None.

Parameters and return values

-keyStoreName

The name that uniquely identifies the key store configuration object. (String, required)

-keyStoreScope

The scope name of the key store. (String, optional)

-certificateAlias

The name that uniquely identifies the certificate request in a key store. (String, required)

- Returns: Information about the certificate request.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getCertificateRequest {-keyStoreName testKeyStore
-certificateAlias certReq}
```

- Using Jython string:

```
AdminTask.getCertificateRequest ('[-keyStoreName testKeyStore
-certificateAlias certReq]')
```

- Using Jython list:

```
AdminTask.getCertificateRequest (['-keyStoreName', 'testKeyStore',
'-certificateAlias', 'certReq'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getCertificateRequest {-interactive}
```

- Using Jython string:

```
AdminTask.getCertificateRequest ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getCertificateRequest (['-interactive'])
```


listCertificateRequests

The **listCertificateRequests** command lists all the certificate requests associated with a particular key store.

Target object

None.

Parameters and return values

-keyStoreName

The name that uniquely identifies the key store configuration object. (String, required)

-keyStoreScope

The scope name of the key store. (String, optional)

- Returns: An attribute list for each certificate request in a key store.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listCertificateRequest {-keyStoreName testKeyStore}
```

- Using Jython string:

```
AdminTask.listCertificateRequest ('[-keyStoreName testKeyStore]')
```

- Using Jython list:

```
AdminTask.listCertificateRequest (['-keyStoreName', 'testKeyStore'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listCertificateRequests {-interactive}
```

- Using Jython string:

```
AdminTask.listCertificateRequests ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listCertificateRequests (['-interactive'])
```

Enabling authentication in the file transfer service using scripting

The file transfer service provides role-based authentication. You can enable authentication in the file transfer service using scripting and the wsadmin tool.

Before you begin

Before starting this task, the wsadmin tool must be running. See *Starting the wsadmin scripting client* for more information.

About this task

IBM i There are two versions of the file transfer Web application: a secured version and an unsecured version. The secured version of this file, which is the version that authenticates its caller, is installed by default. The secured version is located in the *app_server_root/systemApps/filetransferSecured.ear* directory. The unsecured version, which is the version that does not authenticate its caller, is located in the *app_server_root/systemApps/filetransfer.ear* directory

IBM i In WebSphere Application Server a mixed cell environments, file transfer is a system application. You can activate authentication in the file transfer service by redeploying the file transfer Web

application at the deployment manager level. 


Procedure

1. Run the `redeployFileTransfer.jacl` script to help you redeploy the file transfer Web application. This `wsadmin` script is located in the `app_server_root/bin` directory. Run the script from the `app_server_root/bin` directory using the following syntax:

```
wsadmin -conntype NONE -lang jacl -profile redeployFileTransfer.jacl -c  
"fileTransferAuthenticationXxx cell_name node_name dmgr"
```

In this example, the variables represent the following:

- *Xxx* is On or Off.
- *cell_name* is the name of your cell.
- *node_name* is the name of your node.
- *dmgr* is the server type. This script will work only on the deployment manager.

 Use `wsadmin`. Review the following examples on how to run the script with the different authentication options:

- To run the script with authentication, which uses the `filetransfer.ear` file, use a command similar to the following:

```
wsadmin -conntype NONE -lang jacl -profile redeployFileTransfer.jacl -c  
"fileTransferAuthenticationOn managedCell managedCellNode dmgr"
```

- To run the script and file transfer service without authentication, use a command similar to the following:

```
wsadmin -conntype NONE -lang jacl -profile redeployFileTransfer.jacl -c  
"fileTransferAuthenticationOff managedCell managedCellNode dmgr"
```

In the previous examples, the following values apply:

- `managedCell` the names of the cell.
 - `managedCellNode` is the names of your node.
 - `dmgr` is the server type.
2. If you receive an error related to the file transfer service, troubleshoot the problem by reviewing the `systemapps.xml` file. You might receive the following error if you attempt to set authentication to a state in which it is already configured:

```
Error: com.ibm.ws.scripting.ScriptingException: WASX7280E: An  
application with name "filetransfer" does not exist.
```

This error will be displayed, for example, when you try to set authentication to on when it is already on or off when it is already off.

To determine the current state of the file transfer authentication, see the `systemapps.xml` file in the `app_server_root/AppServer/profiles/dmgr_profile/config/cells/cell_name/nodes/node_name` directory:

- This entry indicates that authentication is on:

```
<deployedApplications>${app_server_root}/  
systemApps/filetransferSecured.ear</deployedApplications>
```
- This entry indicates that authentication is off:

```
<deployedApplications>${app_server_root}/  
systemApps/filetransfer.ear</deployedApplications>
```

What to do next

You must restart the server for the change to take affect.

Propagating security policy of installed applications to a JACC provider using wsadmin scripting

It is possible that you have applications installed prior to enabling the Java Authorization Contract for Containers (JACC)-based authorization. You can start with default authorization and then move to an external provider-based authorization using JACC later.

Before you begin

Note: Use the wsadmin tool to propagate information to the JACC provider independent of the application installation process, avoiding the need to reinstall applications. Also, during application installation or modification you might have had problems propagating the security policy information to the JACC provider. For example, network problems might occur, the JACC provider might not be available, and so on. For these cases, the security policy of the previously installed applications does not exist in the JACC provider to make the access decisions. One choice is to reinstall the applications involved. However, you can avoid reinstalling by using the wsadmin scripting tool. Use this tool to propagate information to the JACC provider independent of the application installation process. The tool eliminates the need for reinstalling the applications.

The tool uses the SecurityAdmin MBean to propagate the policy information in the deployment descriptor of any installed application to the JACC provider. You can invoke this tool using wsadmin at the base application server for base and deployment manager level for WebSphere Application Server, Network Deployment. Note that the SecurityAdmin MBean is available only when the server is running.

Use `propagatePolicyToJACCProvider{-appNames appNames}` to propagate the policy information in the deployment descriptor or annotations of the enterprise archive (EAR) files to the JACC provider. If the `RoleConfigurationFactory` and the `RoleConfiguration` interfaces are implemented by the JACC provider, the authorization table information in the binding file of the EAR files is also propagated to the provider. See the *Securing applications and their environment* PDF for more information about these interfaces.

The `appNames` String contains the list of application names, delimited by a colon (:), whose policy information must be stored in the provider. If `appNames` is not present, the policy information of all the deployed applications is propagated to the provider.

Also, be aware of the following items:

- Before migrating applications to the Tivoli Access Manager JACC provider, create or import the users and groups that are in the applications to Tivoli Access Manager.
- Depending on the application or the number of applications that are propagated, you might have to increase the request time-out period either in the `soap.client.props` file in the directory `profile_root/properties` (if using SOAP) or in the `sas.client.props` file (if using RMI) for the command to complete. You can set the request time-out value to 0 to avoid the timeout problem, and change it back to the original value after the command is run.

Procedure

1. Configure your JACC provider in WebSphere Application Server.
See the *Authorizing access to J2EE resources using Tivoli Access Manager* article for more information.
See the *Securing applications and their environment* PDF for more information.
2. Restart the server.
3. Enter the following commands:

```
wsadmin>$AdminTask propagatePolicyToJACCProvider {-appNames appNames}
```

JACCUtilityCommands command group for the AdminTask object

Use this topic as a reference for the commands for the JACCUtilityCommands group for the AdminTask object. Use these commands to determine whether Java Authorization Contract for Containers (JACC) is enabled and whether the runtime uses a single security domain. You can also use these commands to propagate the security policies for application to the JACC provider.

The following commands are available for the JACCUtilityCommands group of the AdminTask object.

- “isJACCEnabled”
- “isSingleSecurityDomain”
- “propagatePolicyToJACCProvider ” on page 275

isJACCEnabled

The isJACCEnabled command displays whether JACC is enabled or disabled in the global security domain when the server was started. The command does not indicate dynamic changes. Instead, it displays the JACC status at server startup.

Target object

None.

Required parameters

None.

Return value

The command returns true if JACC is enabled. The command returns false if JACC is disabled.

Batch mode example usage

Using Jython string:

```
AdminTask.isJACCEnabled()
```

Interactive mode example usage

Using Jython:

```
AdminTask.isJACCEnabled('-interactive')
```

isSingleSecurityDomain

The isSingleSecurityDomain command displays whether the environment is configured to use a single security domain when the server was started. The command does not indicate dynamic changes. Instead, it displays the security domain status at server startup.

Target object

None.

Required parameters

None.

Return value

The command returns `true` if the environment uses a single security domain. The command returns the `false` string if the environment uses multiple security domains.

Batch mode example usage

Using Jython:

```
AdminTask.isSingleSecurityDomain()
```

Interactive mode example usage

Using Jython:

```
AdminTask.isSingleSecurityDomain('-interactive')
```

propagatePolicyToJACCProvider

The `propagatePolicyToJACCProvider` command propagates the security policies of the applications of interest to the JACC provider. This command is supported in a single security domain environment only.

Target object

None.

Required parameters

None.

Optional parameters

-appNames

Specifies a list of application names delimited with a colon character (:). (String, optional)

The command uses all applications if you do not specify a value for this parameter, as the following syntax demonstrates: `AdminTask.propagatePolicyToJACCProvider()`

Return value

The command does not return output.

Batch mode example usage

Using Jython string:

```
AdminTask.propagatePolicyToJACCProvider ('-appNames "app1:app2:app3"')
```

Using Jython list:

```
AdminTask.propagatePolicyToJACCProvider ('-appNames', '"app1:app2:app3"')
```

Interactive mode example usage

Using Jython:

```
AdminTask.propagatePolicyToJACCProvider ('-interactive')
```

Configuring custom adapters for federated repositories using wsadmin

You can use the Jython or Jacl scripting language with the `wsadmin` tool to define custom adapters in the federated repositories configuration file.

Before you begin

Shut down the WebSphere Application Server and the wsadmin command window.

About this task

Use the following steps to add a custom adapter to any federated repositories configuration file and to any realm defined within the configuration file.

The following examples use the **SampleFileRepository** repository as the identifier for the custom repository.

Note: For additional information about the commands to use for this topic, see the `IdMgrRepositoryConfig` command group for the `AdminTask` object topic.

Procedure

1. Enter the following command to start the wsadmin tool:

```
wsadmin -conntype none
```

2. Use the **createIdMgrCustomRepository** command to add a custom repository and specify the adapter class.

The following example configures a custom repository to use the **com.ibm.ws.wim.adapter.sample.SampleFileAdapter** class and sets the **SampleFileRepository** repository as the identifier.

Using Jython:

```
AdminTask.createIdMgrCustomRepository('-id SampleFileRepository  
-adapterClassName com.ibm.ws.wim.adapter.sample.SampleFileAdapter')
```

Using Jacl:

```
createIdMgrCustomRepository {-id SampleFileRepository  
-adapterClassName com.ibm.ws.wim.adapter.sample.SampleFileAdapter}
```

3. Copy the `vmmsampleadapter.jar` file that is provided to `app_server_root/lib`.
4. Disable paging in the common repository configuration. Set the `supportPaging` parameter for the **updateIdMgrRepository** command to `false` to disable paging.

Note: You must perform this step because the sample adapter does not support paging.

The following examples use the **SampleFileRepository** repository as the identifier for the custom repository.

Using Jython:

```
AdminTask.updateIdMgrRepository('-id SampleFileRepository -supportPaging false')
```

Using Jacl:

```
$AdminTask updateIdMgrRepository {-id SampleFileRepository -supportPaging  
false}
```

Note: A warning will appear until the configuration of the sample repository is complete.

5. Add the necessary custom properties for the adapter. Use the **setIdMgrCustomProperty** command repeatedly to add multiple properties. Use this command once per property to add multiple properties to your configuration. You must use both the **name** and **value** parameters to add the custom property for the specified repository. For example, to add a custom property of **fileName**, enter the following command.

Using Jython:

```
AdminTask.setIdMgrCustomProperty('-id SampleFileRepository -name fileName  
-value "c:\sampleFileRegistry.xml"')
```

Using Jacl:

```
$AdminTask setIdMgrCustomProperty {-id SampleFileRepository -name fileName  
-value "c:\sampleFileRegistry.xml"}
```

6. Add a base entry to the adapter configuration. Use the `addIdMgrRepositoryBaseEntry` command to specify the name of the base entry for the specified repository. For example:

Using Jython:

```
AdminTask.addIdMgrRepositoryBaseEntry('-id SampleFileRepository -name
o=sampleFileRepository')
```

Using Jacl:

```
$AdminTask addIdMgrRepositoryBaseEntry {-id SampleFileRepository -name
o=sampleFileRepository}
```

7. Use the `addIdMgrRealmBaseEntry` command to add the base entry to the realm, which will link the realm with the repository:

Using Jython:

```
AdminTask.addIdMgrRealmBaseEntry('-name defaultWIMFileBasedRealm -baseEntry o=sampleFileRepository')
```

Using Jacl:

```
$AdminTask addIdMgrRealmBaseEntry {-name defaultWIMFileBasedRealm -baseEntry o=sampleFileRepository}
```

8. Save your configuration changes. Enter the following commands to save the new configuration and close the wsadmin tool.

Using Jython:

```
AdminConfig.save()
exit
```

Using Jacl:

```
$AdminConfig save
exit
```

The following example displays the complete text of the newly-revised `wimconfig.xml` file:

Note: The federated repositories configuration file, `wimconfig.xml`, is located in the `app_server_root/profiles/profile_name/config/cells/cell_name/wim/config` directory.

```
<!--
Begin Copyright

Licensed Materials - Property of IBM

virtual member manager

(C) Copyright IBM Corp. 2005 All Rights Reserved.

US Government Users Restricted Rights - Use, duplication or
disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

End Copyright
-->
<sdo:datagraph xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:config="http://www.ibm.com/websphere/wim
/config" xmlns:sdo="commonj.sdo">
<config:configurationProvider maxPagingResults="500" maxSearchResults="4500"
maxTotalPagingResults="1000"
pagedCacheTimeOut="900" pagingEntityObject="true" searchTimeOut="600000">
<config:dynamicModel xsdFileName="wimdatagraph.xsd"/>
<config:supportedEntityTypes defaultParent="o=defaultWIMFileBasedRealm" name="Group">
<config:rdnProperties>cn</config:rdnProperties>
</config:supportedEntityTypes>
<config:supportedEntityTypes defaultParent="o=defaultWIMFileBasedRealm" name="OrgContainer">
<config:rdnProperties>o</config:rdnProperties>
<config:rdnProperties>ou</config:rdnProperties>
<config:rdnProperties>dc</config:rdnProperties>
<config:rdnProperties>cn</config:rdnProperties>
</config:supportedEntityTypes>
<config:supportedEntityTypes defaultParent="o=defaultWIMFileBasedRealm" name="PersonAccount">
<config:rdnProperties>uid</config:rdnProperties>
</config:supportedEntityTypes>
<config:repositories xsi:type="config:FileRepositoryType" adapterClassName="com.ibm.
ws.wim.adapter.file.was.FileAdapter"
id="InternalFileRepository" supportPaging="false" supportSorting="false" messageDigestAlgorithm="SHA-1">
<config:baseEntries name="o=defaultWIMFileBasedRealm"/>
</config:repositories>
<config:repositories adapterClassName="com.ibm.ws.wim.adapter.sample.SampleFileAdapter"
id="SampleFileRepository">
<config:CustomProperties name="fileName" value="c:\sampleFileRegistry.xml"/>
<config:baseEntries name="o=sampleFileRepository"/>
</config:repositories>
<config:realmConfiguration defaultRealm="defaultWIMFileBasedRealm">
<config:realms delimiter="@" name="defaultWIMFileBasedRealm" securityUse="active">
<config:participatingBaseEntries name="o=defaultWIMFileBasedRealm"/>
<config:participatingBaseEntries name="o=sampleFileRepository"/>
</config:realms>
</config:realmConfiguration>
</sdo:datagraph>
```

```

<config:uniqueUserIdMapping propertyForInput="uniqueName" propertyForOutput="uniqueName"/>
<config:userSecurityNameMapping propertyForInput="principalName" propertyForOutput="principalName"/>
<config:userDisplayNameMapping propertyForInput="principalName" propertyForOutput="principalName"/>
<config:uniqueGroupIdMapping propertyForInput="uniqueName" propertyForOutput="uniqueName"/>
<config:groupSecurityNameMapping propertyForInput="cn" propertyForOutput="cn"/>
<config:groupDisplayNameMapping propertyForInput="cn" propertyForOutput="cn"/>
</config:realms>
</config:realmConfiguration>
</config:configurationProvider></sdo:datagraph>

```

9. Restart the application server.

Disabling embedded Tivoli Access Manager client using wsadmin

Follow these steps to unconfigure the Java Authorization Contract for Containers (JACC) provider for Tivoli Access Manager.

About this task

In a WebSphere Application Server, Network Deployment architecture, ensure that all the managed servers, including node agents, are started. Perform the following process once on the deployment management server. Details of the unconfiguration are forwarded to managed servers, including node agents, when a synchronization is performed. The managed servers require their own reboot for the configuration changes to take effect.

Note: It is also possible to unconfigure using the administrative console. For details on unconfiguring the embedded Tivoli Access Manager client using the WebSphere Application Server administrative console, refer to the Disabling embedded Tivoli Access Manager client using the administrative console article.

Procedure

1. Restart the deployment manager process.
2. Start the wsadmin command-line utility. The wsadmin command is found in the `install_dir/bin` directory
3. From the **wsadmin** prompt, enter the following command:

```
WSADMIN>$AdminTask unconfigureTAM -interactive
```

The following table lists the information that you are asked to provide for the unconfigureTAM command. The table also lists the properties that apply to the configureTAM and reconfigureTAM commands.

Table 41. Commands for configuring, reconfiguring, and unconfiguring Tivoli Access Manager. The following table lists the information that you are asked to provide for the configureTAM command. The table also lists the properties that apply to the unconfigureTAM and reconfigureTAM commands.

Property	Default	Relevant command	Description
WebSphere Application Server node name	*	<ul style="list-style-type: none"> • configureTAM • reconfigureTAM • unconfigureTAM 	Specify a single node or enter an asterisk (*) to run the configuration task on all of the application server instances including the deployment manager, node agents, and servers.
Tivoli Access Manager Policy Server	Default port: 7135	<ul style="list-style-type: none"> • configureTAM • reconfigureTAM 	Enter the name of the Tivoli Access Manager policy server and the connection port. Use the format, <code>policy_server : port</code> . The policy server communication port is set at the time of Tivoli Access Manager configuration.
Tivoli Access Manager Authorization Server	Default port: 7136	<ul style="list-style-type: none"> • configureTAM • reconfigureTAM 	Enter the name, port, and priority of each configured Tivoli Access Manager authorization server. Use the format <code>auth_server : port : priority</code> . The authorization server communication port is set at the time of Tivoli Access Manager configuration. You can specify more than one authorization server by separating the entries with commas. Having more than one authorization server configured is useful for failover and performance. The priority value is the order of authorization server use. For example: <code>auth_server1:7136:1,auth_server2:7137:2</code> . A priority of 1 is still required when you use a single authorization server.
WebSphere Application Server administrator's distinguished name		<ul style="list-style-type: none"> • configureTAM • reconfigureTAM 	Enter the full distinguished name of the security primary administrator ID for WebSphere Application Server as created in the "Creating the security administrative user" topic in the <i>Securing applications and their environment</i> PDF. For example: <code>cn=wasadmin,o=organization,c=country</code>

Table 41. Commands for configuring, reconfiguring, and unconfiguring Tivoli Access Manager (continued). The following table lists the information that you are asked to provide for the `configureTAM` command. The table also lists the properties that apply to the `unconfigureTAM` and `reconfigureTAM` commands.

Property	Default	Relevant command	Description
Tivoli Access Manager user registry distinguished name suffix		<ul style="list-style-type: none"> configureTAM reconfigureTAM 	Enter the suffix that you have set up in the user registry to contain the user and groups for Tivoli Access Manager. For example: <code>o=organization,c=country</code>
Tivoli Access Manager administrator's user name	sec_master	<ul style="list-style-type: none"> configureTAM reconfigureTAM unconfigureTAM 	Enter the Tivoli Access Manager administration user ID that you created when you configured Tivoli Access Manager. This ID is usually <code>sec_master</code> .
Tivoli Access Manager administrator's user password		<ul style="list-style-type: none"> configureTAM reconfigureTAM unconfigureTAM 	Enter the password that is associated with the Tivoli Access Manager administration user ID.
Tivoli Access Manager security domain	Default	<ul style="list-style-type: none"> configureTAM reconfigureTAM 	Enter the name of the Tivoli Access Manager security domain that is used to store users and groups. If a security domain is not already established at the time of Tivoli Access Manager configuration, click Return to accept the default.
Embedded Tivoli Access Manager listening port set	8900:8999	<ul style="list-style-type: none"> configureTAM reconfigureTAM 	WebSphere Application Server needs to listen on a TCP/IP port for authorization database updates from the policy server. More than one process can run on a particular node and machine so a list of ports is required for the processes. Enter the ports that are used as listening ports by Tivoli Access Manager clients, separated by a comma. If you specify a range of ports, separate the lower and higher values by a colon. For example, 7999, 9990:9999.
Defer	No	<ul style="list-style-type: none"> configureTAM reconfigureTAM unconfigureTAM 	Set this option to <i>yes</i> if you want to defer the configuration of the management server until the next restart. Set the option to <i>no</i> if you want the configuration of the management server to occur immediately. Managed servers are configured on their next restart.
Force	No	<ul style="list-style-type: none"> reconfigureTAM unconfigureTAM 	Set this value to <i>yes</i> if you want to ignore errors during the unconfiguration process and allow the entire process to complete. Set the value to <i>no</i> if you want errors to stop the unconfiguration process. This option is especially useful if the environment needs to be cleaned up and problems are occurring that do not allow the entire cleanup process to complete successfully.

- When all information is entered, enter `F` to save the properties or `C` to cancel from the unconfiguration process and discard the entered information.
- Optional: Synchronize all nodes.
- Restart all WebSphere Application Server instances for the changes to take effect.

Configuring security auditing using scripting

Security auditing provides tracking and archiving of auditable events. This topic uses the `wsadmin` tool to enable and administer your security auditing configurations.

About this task

While security authentication and authorization ensures that users must have access to view protected resources, security auditing provides a mechanism to validate the integrity of a security computing environment. Security auditing collects and logs authentication, authorization, system management, security, and audit policy events in audit event records. You can analyze audit event records to determine possible security breaches, threats, attacks, and potential weaknesses in the security configuration of your environment. Enable security auditing in your environment. For example, the following list displays a sample of events to audit:

- Determine the time that a specific user attempted to access a resource.
- View information for successful and unsuccessful attempts to access resources.
- Review changes to resources that were made by a specific user.
- Determine the cause of unsuccessful login attempts.

Use the following task outline to enable and configure security auditing in your environment:

Procedure

- Enable administrative security in your environment.

2. Configure auditable events. The security auditing configuration provides four default auditable filters. Use this topic to configure filters for additional audit events.
3. Configure audit event factories. The security auditing configuration provides a default event factory. Use this topic to configure additional audit event factories.
4. Configure audit service providers. The security auditing configuration provides a default service provider. Use this topic to configure additional audit service providers.
5. Set the global audit policy. After setting up audit event factories, service providers, and events, use this topic to enable security auditing.

Results

After completing the steps to enable and configure security auditing, the profile of interest audits your security configurations for specific auditable event types.

What to do next

To further configure security auditing, you can:

- Configure audit notifications.
- Encrypt audit records.
- Sign audit records.

Configuring audit service providers using scripting

Before enabling security auditing, use this task to configure audit service providers using the wsadmin tool. Security auditing provides tracking and archiving of auditable events.

Before you begin

Before configuring security audit service providers, enable administrative security in your environment.

Note: This topic references one or more of the application server log files. As a recommended alternative, you can configure the server to use the High Performance Extensible Logging (HPEL) log and trace infrastructure instead of using `SystemOut.log`, `SystemErr.log`, `trace.log`, and `activity.log` files on distributed and IBM i systems. You can also use HPEL in conjunction with your native z/OS logging facilities. If you are using HPEL, you can access all of your log and trace information using the LogViewer command-line tool from your server profile bin directory. See the information about using HPEL to troubleshoot applications for more information on using HPEL.


About this task

In order to enable security auditing in your environment, you must configure an audit service provider. The audit service provider writes the audit records and data to the back-end repository associated with the service provide implementation. The security auditing configuration provides a default service provider. Use this topic to customize your security auditing subsystem by creating additional audit service providers.

Use the following steps to configure your security auditing subsystem using the wsadmin tool:

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.
2. Configure an audit service provider. You can use the default binary-based audit service provider, or use this step to create a new audit service provider.

 There are binary file-based and third-party audit service providers. In addition to the default binary file-based service provider, you can configure a third-party audit service provider.

Choose the type of audit service provider to create.

- Use the createBinaryEmitter command and the following required parameters to create a default audit service provider:

Table 42. Command parameters. This table describes the createBinaryEmitter command parameters.

Parameter	Description	Data Type	Required
-uniqueName	Specifies a unique name that identifies the audit service provider.	String	Yes
-className	Specifies the class implementation of the audit service provider interface.	String	Yes
-fileLocation	Specifies the file location for the audit service provider to write the audit logs.	String	Yes
-auditFilters	Specifies a reference or a group of references to predefined audit filters, using the following format: reference, reference, reference	String	Yes
-wrapBehavior	<p>Specifies a string representing the customizable behavior for binary audit log wrapping.</p> <p>There are three values for this parameter: WRAP, NOWRAP and SILENT_FAIL</p> <p>If you use the WRAP option, when the maximum logs are reached, the oldest audit log is rewritten; notification is not sent to the auditor.</p> <p>The NOWRAP option does not rewrite over the oldest audit log. It stops the audit service, sends a notification to the SystemOut.log, and quiesces the application server.</p> <p>The SILENT_FAIL option does not rewrite over the oldest audit log. It also stops the audit service, but does allow the WebSphere process to continue. Notifications are not posted in the SystemOut.log.</p>	String	Yes
-maxFileSize	Specifies the maximum size each audit log reaches before the system saves it with a timestamp and creates a new file. Specify the file size in megabytes. If you do not specify this parameter, the system sets the maximum file size to 10 megabytes.	Integer	No
-maxLogs	Specifies the maximum number of audit logs to create before rewriting the oldest log. If you do not specify this parameter, the system allows up to 100 audit logs before overwriting the oldest log.	Integer	No

The following example creates a new audit service provider in your security auditing configuration:

```
AdminTask.createBinaryEmitter('-uniqueName newASP -wrapBehavior NOWRAP
-className com.ibm.ws.security.audit.BinaryEmitterImpl -fileLocation /AUDIT_logs
-auditFilters "AuditSpecification_1173199825608, AuditSpecification_1173199825609,
AuditSpecification_1173199825610, AuditSpecification_1173199825611"')
```

- Use the createThirdPartyEmitter command to use a third-party audit service provider.

Table 43. Command parameters. Use the following parameters with the createThirdPartyEmitter command:

Parameter	Description	Data Type	Required
-uniqueName	Specifies a unique name that identifies the audit service provider.	String	Yes
-className	Specifies the class implementation of the audit service provider interface.	String	Yes
-eventFormatterClass	Specifies the class that implements how the audit event is formatted for output. If you do not specify this parameter, the system uses the standard text format for output.	String	Yes
-auditFilters	Specifies a reference identifier or a group of reference identifiers to pre-defined audit filters, using the following format: reference, reference, reference.	String	Yes
-customProperties	Specifies any custom properties that might be required to configure a third party audit service provider.	String	No

The following example creates a new third party audit service provider in your security auditing configuration:

```
AdminTask.createThirdPartyEmitter('-uniqueName myAuditServiceProvider -className  
com.mycompany.myclass -fileLocation /auditLogs -auditFilters  
"AuditSpecification_1173199825608, AuditSpecification_1173199825609,  
AuditSpecification_1173199825610, AuditSpecification_1173199825611"')
```

3. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

What to do next

Enable security auditing in your environment.

Configuring audit event factories using scripting

Before enabling security auditing, use this task to configure audit event factories using the wsadmin tool. Security auditing provides tracking and archiving of auditable events.

Before you begin

Before configuring security auditing event factories, enable administrative security in your environment.

About this task

In order to enable security auditing in your environment, you must configure an audit event factory. The audit event factory gathers the data that is associated with security events. The security auditing configuration provides a default event factory. Use this topic to customize your security auditing subsystem by creating additional audit event factories.

Use the following steps to configure your security auditing subsystem using the wsadmin tool:

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.
2. Configure event filters. You can use the default event filters or use this step to create additional filters to customize your security auditing configuration.

Table 44. Event filters in the audit.xml file. The application server provides the following event filters by default in the audit.xml template file:

Event Name	Outcome of event
SECURITY_AUTHN	SUCCESS
SECURITY_AUTHN	DENIED
SECURITY_RESOURCE_ACCESS	SUCCESS
SECURITY_AUTHN	REDIRECT

You can configure additional audit event types to track and archive various events. Use the following command to list all supported auditable events:

```
print AdminTask.getSupportedAuditEvents()
```

Use the createAuditFilter command with the -eventType and -outcome parameters to enable one or multiple audit events and outcomes. You can specify multiple event types and multiple outcomes separated by a comma with one command invocation. The following list describes each valid auditable event that you can specify with the -eventType parameter:

Table 45. Event types. Valid auditable events can be specified as an enabled event type when creating an event filter:

Event name	Description
SECURITY_AUTHN	Audits all authentication events
SECURITY_AUTHN_MAPPING	Audits events that record mapping of credentials where two user identities are involved
SECURITY_AUTHN_TERMINATE	Audits authentication termination events such as a timeout, terminated session, or user-initiated logging out
SECURITY_AUTHZ	Audits events related to authorization checks when the system enforces access control policies
SECURITY_RUNTIME	Audits runtime events such as the starting and the stopping of security servers. This event type is not meant for administrative operations performed by a system administrator as such operations need to use the other SECURITY_MGMT_* event types.
SECURITY_MGMT_AUDIT	Audits events that record operations related to the audit subsystem such as starting audit, stopping audit, turning audit on or off, changing configuration of audit filters or level, archiving audit data, purging audit data, and so on.
SECURITY_RESOURCE_ACCESS	Audits events that record all accesses to a resource. Examples are all accesses to a file, all HTTP requests and responses to a given web page, and all accesses to a critical database table
SECURITY_SIGNING	Audits events that record signing such as signing operations used to validate parts of a SOAP Message for web services
SECURITY_ENCRYPTION	Audits events that record encryption information such as encryption for web services
SECURITY_AUTHN_DELEGATION	Audits events that record delegation, including identity assertion, RunAs, and low assertion. Used when the client identity is propagated or when delegation involves the use of a special identity. This event type is also used when switching user identities within a given session.
SECURITY_AUTHN_CREDS_MODIFY	Audits events to modify credentials for a given user identity

Important: The following security audit event types are not used in this release of WebSphere Application Server:

- SECURITY_MGMT_KEY
- SECURITY_RUNTIME_KEY
- SECURITY_MGMT_PROVISIONING
- SECURITY_MGMT_REGISTRY
- SECURITY_RUNTIME

For each audit event type, you must specify an outcome. Valid outcomes include SUCCESS, FAILURE, REDIRECT, ERROR, DENIED, WARNING, and INFO. The following command example creates an audit filter to log users who receive an error when modifying credentials:

```
AdminTask.createAuditFilter('-name uniqueFilterName -eventType
SECURITY_AUTHN_CREDS_MODIFY,SECURITY_AUTHN_DELEGATION -outcome ERROR,REDIRECT')
```

3. Create an audit event factory. You can use the default audit event factory or use this step to create a new audit event factory.

Use the createAuditEventFactory command to create an audit event factory in your security configuration. You can use the default implementation of the audit event factory or use a third-party implementation. To configure a third-party implementation, use the optional -customProperties parameter to specify any properties necessary to configure the audit event factory implementation.

Table 46. Required parameters. Specify the following required parameters with the createAuditEventFactory to configure your audit event factory:

Parameter	Description	Data type	Required
-uniqueName	Specifies a unique name that identifies the audit event factory.	String	Yes
-className	Specifies the class implementation of the audit event factory interface.	String	Yes
-auditFilters	Specifies a reference or a group of references to predefined audit filters, using the following format: "reference, reference, reference"	String	Yes
-provider	Specifies a reference to a predefined audit service provider implementation.	String	Yes

Table 46. Required parameters (continued). Specify the following required parameters with the `createAuditEventFactory` to configure your audit event factory:

Parameter	Description	Data type	Required
-customProperties	Specifies a comma (,) separated list of custom property pairs to add to the security object in the following format: <code>attribute=value,attribute=value</code>	String	No

The following sample command creates an enables an audit event factory:

```
AdminTask.createAuditEventFactory('-uniqueName eventFactory1 -className
com.ibm.ws.security.audit.AuditEventFactoryImpl -auditFilters
"AuditSpecification_1173199825608, AuditSpecification_1173199825609, AuditSpecification_1173199825610,
AuditSpecification_1173199825611" -provider newASP')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

What to do next

Configure the audit service provider.

Configuring auditable events using scripting

Before enabling security auditing, use this task to configure event filters using the `wsadmin` tool. Security auditing provides tracking and archiving of auditable events.

Before you begin

Before configuring security auditing filters, enable administrative security in your environment.

About this task

Before configuring an audit event factory and audit service provider, configure event filters. The audit service provider writes audit records to the back end repository associated with the provider implementation. The audit event factory generates security events. Event filters specify which event types and outcomes the system audits and records. Each event type has up to seven possible outcomes, including success, failure, denied, error, warning, info, and redirect. The security auditing configuration provides four default filters. Use this topic to customize your security auditing subsystem by creating additional audit event filters.

Use the following steps to configure your security auditing subsystem using the `wsadmin` tool:

Procedure

1. Launch the `wsadmin` scripting tool using the Jython scripting language. See the Starting the `wsadmin` scripting client article for more information.
2. Configure event filters. You can use the default event filters or use this step to create additional filters to customize your security auditing configuration.

Table 47. Provided event filters. The application server provides the following event filters by default in the `audit.xml` template file:

Event Name	Outcome of event
SECURITY_AUTHN	SUCCESS
SECURITY_AUTHN	DENIED
SECURITY_RESOURCE_ACCESS	SUCCESS
SECURITY_AUTHN	REDIRECT

You can configure additional audit event types to capture various events. Use the following command to list all supported auditable events:

```
print AdminTask.getSupportedAuditEvents()
```

Use the `createAuditFilter` command with the `-name`, `-eventType`, and `-outcome` parameters to enable one or multiple audit events and outcomes. You can specify multiple event types and multiple outcomes separated by a comma with one command invocation.

Table 48. Event types. The following list describes each valid auditable event that you can specify with the `-eventType` parameter:

Event name	Description
SECURITY_AUTHN	Audits all authentication events
SECURITY_AUTHN_MAPPING	Audits events that record mapping of credentials where two user identities are involved
SECURITY_AUTHZ	Audits events related to authorization checks when the system enforces access control policies
SECURITY_MGMT_AUDIT	Audits events that record operations related to the audit subsystem such as starting audit, stopping audit, turning audit on or off, changing configuration of audit filters or level, archiving audit data, purging audit data, and so on.
SECURITY_RESOURCE_ACCESS	Audits events that record all accesses to a resource. Examples are all accesses to a file, all HTTP requests and responses to a given web page, and all accesses to a critical database table
SECURITY_AUTHN_DELEGATION	Audits events that record delegation, including identity assertion, RunAs, and low assertion. Used when the client identity is propagated or when delegation involves the use of a special identity. This event type is also used when switching user identities within a given session.

For each audit event type, you must specify an outcome. Valid outcomes include `SUCCESS`, `FAILURE`, `REDIRECT`, `ERROR`, `DENIED`, `WARNING`, and `INFO`. The following command example creates an audit filter to log users who receive an error when modifying credentials:

```
AdminTask.createAuditFilter('-name myUniqueName -eventType SECURITY_AUTHN_CREDS_MODIFY,SECURITY_AUTHN_DELEGATION -outcome ERROR,REDIRECT')
```

3. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

What to do next

Enable security auditing in your environment.

Enabling security auditing using scripting

Use this task to enable and configure security auditing in your environment with the `wsadmin` tool. Security auditing provides tracking and archiving of auditable events.

Before you begin

Before enabling security auditing, enable administrative security in your environment.

If you previously configured security auditing and do not want to modify configuration settings, use the `enableAudit` and `disableAudit` commands to start and stop security auditing. After enabling or disabling security auditing, restart the server to apply the configuration changes.

About this task

Security auditing ensures the integrity of a security computing environment. Security auditing collects and logs authentication, authorization, system management, security, and audit policy events in audit event records. You can analyze audit event records to determine possible security breaches, threats, attacks, and potential weaknesses in the security configuration of your environment.

Use the following steps to enable and configure security auditing in your environment:

Procedure

1. Launch the `wsadmin` scripting tool using the Jython scripting language. See the [Starting the wsadmin scripting client](#) article for more information.
2. Verify that the security auditing subsystem is configured.

To enable security auditing, you must configure event filters, an audit emitter, and an audit event factory. Event filters specify which event types the system audits and records, and the outcome of the event. The audit service provider writes the audit records to the backend repository that is associated with the implementation. The audit event factory generates security events.

By default, the security auditing system includes one audit service provider and one audit event factory.

The audit command groups provide several commands to query for event filters, audit emitters, event factories, and their respective configuration attributes. Use the audit command reference to use specific query commands. The following example commands query your security auditing configuration at a high level.

- Use the `getAuditFilters` command to display a list of references to all audit filters defined in your configuration, as the following example demonstrates:

```
AdminTask.getAuditFilters()
```

- Use the `listAuditEmitters` command to display a list of all audit emitters in your configuration, as the following example demonstrates:

```
AdminTask.listAuditEmitters()
```

- Use the `listAuditEventFactories` command to display a list of all audit event factories in your configuration, as the following example demonstrates:

```
AdminTask.listAuditEventFactories()
```

3. Enable security auditing in your environment. Use the `modifyAuditPolicy` command to enable security auditing in your environment.

Table 49. Command parameters. Use the following optional parameters for the `modifyAuditPolicy` command to customize your security auditing configuration:

Parameter	Description	Data type	Required
-auditEnabled	Specifies whether to enable security auditing.	Boolean	No
-auditPolicy	Specifies the behavior of the server process if the audit subsystem fails. Valid values are: WARN, NOWARN and FATAL. The WARN setting notifies the auditor when an error occurs and ceases auditing when an error occurs in the audit sub-system, but continues to run the application server process. The NOWARN setting does not notify the auditor when an error occurs and ceases auditing, but continues to run the application server process. The FATAL setting notifies the auditor of the error and stops the application server process. By default, the command assigns the NOWARN setting.	String	No
-auditorId	Specifies the ID of the user to assign to the auditor role.	String	No
-auditorPwd	Specifies the password for the auditor role.	String	No
-sign	Specifies whether to sign audit records. By default, the security auditing system does not sign audit records. You must configure the signing of audit records before you can specify this parameter.	Boolean	No
-encrypt	Specifies whether to encrypt audit records. By default, the security auditing system does not encrypt audit records. You must configure encryption for audit records before you can specify this parameter.	Boolean	No

Table 49. Command parameters (continued). Use the following optional parameters for the `modifyAuditPolicy` command to customize your security auditing configuration:

Parameter	Description	Data type	Required
<code>-verbose</code>	Specifies whether to capture verbose audit data. By default, the security auditing system does not capture verbose audit data.	Boolean	No
<code>-encryptionCert</code>	Specifies the reference ID of the certificate to use for encryption. Specify this parameter if you set the <code>-encrypt</code> parameter to <code>true</code> .	String	No

The following example command enables security auditing, and identifies the primary auditor by assigning a user and password.

```
AdminTask.modifyAuditPolicy('-auditEnabled true -auditorId securityAdmin -auditorPwd security4you')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

5. Restart the server.

Results

After completing the steps to enable and configure security auditing, the profile of interest audits your security configurations for specific auditable event types.

What to do next

After you configure the audit policy for the first time, use the `enableAudit` and `disableAudit` commands to turn the security auditing system on and off. The system maintains the settings that you define with the `modifyAuditPolicy` command when you enable and disable the security auditing system.

Note: You must restart the server to apply the configuration changes.

Configuring security audit notifications using scripting

Configure the security auditing system to send email notifications to a distribution list, system log, or both a distribution list and a system log if a failure occurs in the audit subsystem. Security auditing provides tracking and archiving of auditable events.

Before you begin

Before configuring a notification object in the `audit.xml` configuration file, verify that you set up a security auditing subsystem and configured the security auditing policy.

About this task

You can configure the security auditing system to notify a specific person or group when a failure occurs in the audit subsystem. Use the following steps to enable security auditing email notifications, set the format of notification email, and secure email:

Note: This topic references one or more of the application server log files. As a recommended alternative, you can configure the server to use the High Performance Extensible Logging (HPEL) log and trace infrastructure instead of using `SystemOut.log`, `SystemErr.log`, `trace.log`, and `activity.log` files on distributed and IBM i systems. You can also use HPEL in conjunction with your native z/OS logging facilities. If you are using HPEL, you can access all of your log and trace information using the LogViewer command-line tool from your server profile bin directory. See the information about using HPEL to troubleshoot applications for more information on using HPEL.

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.
2. Customize and enable security auditing email notifications.

Table 50. Command parameters. Use the createAuditNotification command and the following parameters to configure notifications:

Parameter	Description	Data Types	Required
-notificationName	Specifies a unique name to assign the audit notification object in the audit.xml file.	String	Yes
-logToSystemOut	Specifies whether to log the notification to the SystemOut.log file.	Boolean	Yes
-sendEmail	Specifies whether to email notifications.	Boolean	Yes
-emailList	Specifies the email address or email distribution list to email notifications. The format for this parameter is: admin@company.com(smtp-server.mycompany.com)	String	No
-emailFormat	Specifies whether to send the email be HTML or TEXT format.	String	No

To create the audit notification object, you must specify the -notificationName, -logToSystemOut, and -sendEmail parameters, as the following example demonstrates:

```
AdminTask.createAuditNotification('-notificationName defaultEmailNotification
-logToSystemOut true -sendEmail true -emailList administrator@mycompany.com(smtp-server.mycompany.com)
-emailFormat HTML')
```

3. Create an audit notification monitor object.

Create an audit notification monitor object to monitor the security auditing subsystem for possible failure.

Table 51. Command parameters. Use the createAuditNotificationMonitor command and the following parameters to create a monitor object for the security auditing system:

Parameter	Description	Data Types	Required
-notificationName	Specifies a unique name to assign the audit notification object in the audit.xml file.	String	Yes
-logToSystemOut	Specifies whether to log the notification to the SystemOut.log file.	Boolean	Yes
-sendEmail	Specifies whether to email notifications.	Boolean	Yes
-emailList	Specifies the email address or email distribution list to email notifications. The format for this parameter is: admin@company.com(smtp-server.mycompany.com)	String	No
-emailFormat	Specifies whether to send the email be HTML or TEXT format.	String	No

To create the audit notification monitor object, you must specify the -notificationName, -logToSystemOut, and -sendEmail parameters, as the following example demonstrates:

```
AdminTask.createAuditNotificationMonitor('-notificationName defaultEmailNotification
-logToSystemOut true -sendEmail true -emailList administrator@mycompany.com(smtp-server.mycompany.com)
-emailFormat HTML')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Results

The security auditing system notifies the specified recipients if a failure occurs in the security auditing system.

What to do next

Use the `modifyAuditNotification` command and the Audit Notification Commands command group for the `AdminTask` object to manage your notification configuration.

Encrypting security audit data using scripting

You can use the `wsadmin` tool to configure the security auditing system to encrypt security audit records. Security auditing provides tracking and archiving of auditable events.

Before you begin

Before configuring encryption, set up your security auditing subsystem. You can enable security auditing before or after completing the steps in this topic.

Verify that you have the appropriate administrative role. To complete this topic, you must have the auditor administrative role. If you are importing a certificate from a keystore that exists in the `security.xml` file, you must have the auditor and administrator administrative roles.

About this task

When configuring encryption, the auditor can select one of the following choices:

- Allow the application server to automatically generate a certificate or use an existing self-signed certificate generated by the auditor.
- Use an existing keystore to store this certificate, or create a new keystore to store this certificate.

Note: To ensure that there is a separation of privileges between the administrator role and the auditor role, the auditor can create a self-signed certificate outside of the application server process and maintain the private key of that certificate.

Use the following task steps to encrypt security audit data:

Procedure

1. Launch the `wsadmin` scripting tool using the Jython scripting language. See the Starting the `wsadmin` scripting client article for more information.
2. Configure encryption settings for security audit data.

Use the `createAuditEncryptionConfig` command and the following parameters to create the audit encryption model to encrypt your audit records. You must specify the `-enableAuditEncryption`, `-certAlias`, and `-encryptionKeyStoreRef` parameters, and either the `-autogenCert` or `-importCert` parameters.

Table 52. Command parameters. This table describes the `createAuditEncryptionConfig` command and its parameters:

Parameter	Description	Data Type	Required
<code>-enableAuditEncryption</code>	Specifies whether to encrypt audit records. This parameter modifies your audit policy configuration.	Boolean	Yes
<code>-certAlias</code>	Specifies the alias name that identifies the generated or imported certificate.	String	Yes
<code>-encryptionKeyStoreRef</code>	Specifies the reference ID of the keystore to import the certificate to.	String	Yes

Table 52. Command parameters (continued). This table describes the createAuditEncryptionConfig command and its parameters:

Parameter	Description	Data Type	Required
-autogenCert	Specifies whether to automatically generate the certificate used to encrypt the audit records. You must specify either this parameter or the -importCert parameter, but you cannot specify both.	Boolean	No
-importCert	Specifies whether to import an existing certificate to encrypt the audit records. You must specify either this parameter or the -autogenCert parameter, but you cannot specify both.	Boolean	No
-certKeyFileName	Specifies the unique name of the key file from which the certificate is imported.	String	No
-certKeyFilePath	Specifies the key file location from which the certificate is imported.	String	No
-certKeyFileType	Specifies the key file type from which the certificate is imported.	String	No
-certKeyFilePassword	Specifies the key file password from which the certificate is imported.	String	No
-certAliasToImport	Specifies the alias from which the certificate is imported.	String	No

The following command example configures encryption and supports the system to automatically generate the certificate:

```
AdminTask.createAuditEncryptionConfig('-enableAuditEncryption true -certAlias auditCertificate
-autogenCert true -encryptionKeyStoreRef auditKeyStore')
```

The following command example configures encryption and imports a certificate:

```
AdminTask.createAuditEncryptionConfig('-enableAuditEncryption true -certAlias auditCertificate
-importCert true -certKeyFileName MyServerKeyFile.p12 -certKeyFilePath
install_root/etc/MyServerKeyFile.p12 -certKeyFileType PKCS12 -certKeyFilePassword password4key
-certAliasToImport defaultCertificate -encryptionKeyStoreRef auditKeyStore')
```

3. You must restart the server to apply configuration changes.

Results

Encryption is configured for security audit data. If you set the -enableAuditEncryption parameter to true, then your security auditing system encrypts security audit data when security auditing is enabled.

What to do next

After you configure the encryption model for the first time, then you may use the enableAuditEncryption and disableAuditEncryption commands to turn encryption on and off.

The following example uses the enableAuditEncryption command to turn on encryption:

```
AdminTask.enableAuditEncryption()
```

The following example uses the disableAuditEncryption command to turn off encryption:

```
AdminTask.disableAuditEncryption()
```

Signing security audit data using scripting

You can use the wsadmin tool to configure the security auditing system to sign security audit records. Security auditing provides tracking and archiving of auditable events.

Before you begin

Verify that you have the appropriate administrative role. To complete this topic, you must have the auditor and administrator administrative roles.

About this task

When configuring the signing of audit data, the auditor can choose between the following options:

- Allow the application server to automatically generate a certificate.
- Use an existing self-signed certificate that the auditor previously generated.
- Use the same self-signed certificate as the system uses to encrypt the audit records.
- Use an existing keystore to store this certificate.
- Create a new keystore to store this certificate.
- Use an existing self-signed certificate in an existing keystore.

Use the following task steps to configure the signing of security audit data:

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. See the Starting the wsadmin scripting client article for more information.
2. Configure signing settings for security audit data.

Use the `createAuditSigningConfig` command to create the signing model to sign your audit records.

You can import the certificate from an existing key file name that contains that certificate, automatically generate the certificate, or use the same certificate as used to encrypt the audit records. The signing keystore must exist in the `security.xml` file. The system updates this keystore with the certificate to use to sign the audit records.

Table 53. Command parameters. Use the parameters in the following table with the `createAuditSigningConfig` command. You must specify the `-enableAuditSigning`, `-certAlias`, and `-signingKeyStoreRef` parameters.

Parameter	Description	Data Type	Required
<code>-enableAuditSigning</code>	Specifies whether to sign audit records. This parameter modifies your audit policy configuration.	Boolean	Yes
<code>-certAlias</code>	Specifies the alias name that identifies the generated or imported certificate.	String	Yes
<code>-signingKeyStoreRef</code>	Specifies the reference ID of the keystore to import the certificate to.	String	Yes
<code>-useEncryptionCert</code>	Specifies whether to use the same certificate for encryption and signing. You must specify the <code>-useEncryptionCert</code> , <code>-autogenCert</code> , or <code>-importCert</code> parameter.	Boolean	No
<code>-autogenCert</code>	Specifies whether to automatically generate the certificate used to sign the audit records. You must specify the <code>-useEncryptionCert</code> , <code>-autogenCert</code> , or <code>-importCert</code> parameter.	Boolean	No
<code>-importCert</code>	Specifies whether to import an existing certificate to sign the audit records. You must specify the <code>-useEncryptionCert</code> , <code>-autogenCert</code> , or <code>-importCert</code> parameter.	Boolean	No
<code>-certKeyFileName</code>	Specifies the unique name of the key file for the certificate to import.	String	No
<code>-certKeyFilePath</code>	Specifies the key file location for the certificate to import.	String	No

Table 53. Command parameters (continued). Use the parameters in the following table with the `createAuditSigningConfig` command. You must specify the `-enableAuditSigning`, `-certAlias`, and `-signingKeyStoreRef` parameters.

Parameter	Description	Data Type	Required
<code>-certKeyFileType</code>	Specifies the key file type for the certificate to import.	String	No
<code>-certKeyFilePassword</code>	Specifies the key file password for the certificate to import.	String	No
<code>-certAliasToImport</code>	Specifies the alias of the certificate to import.	String	No

The following command example configures signing and allows the system to automatically generate the certificate:

```
AdminTask.createAuditSigningConfig('-enableAuditSigning true -certAlias auditSigningCert
-autogenCert true -signingKeyStoreRef Ref_Id_of_KeyStoreInSecurityXML')
```

The following command example configures signing and imports a certificate:

```
AdminTask.createAuditSigningConfig('-enableAuditSigning true -certAlias auditSigningCert
-importCert true -certKeyFileName MyServerKeyFile.p12 -certKeyFilePath install_root/etc/MyServerKeyFile.p12
-certKeyFileType PKCS12 -certKeyFilePassword password4key -certAliasToImport defaultCertificate
-signingKeyStoreRef Ref_Id_of_KeyStoreInSecurityXML')
```

The following command example uses the same certificate for signing and encryption:

```
AdminTask.createAuditSigningConfig('-enableAuditSigning true -certAlias auditSigningCert
-useEncryptionCert true -signingKeyStoreRef Ref_Id_of_KeyStoreInSecurityXML')
```

3. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

4. Restart the server to apply the configuration changes.

Results

Signing is configured for your security audit data. If you set the `-enableAuditSigning` parameter to `true`, your security auditing system signs security audit data when security auditing is enabled.

What to do next

Once you configure the signing model for the first time, use the `enableAuditSigning` and `disableAuditSigning` commands to quickly turn signing on and off. The following example uses the `enableAuditSigning` command to turn signing on:

```
AdminTask.enableAuditSigning()
```

The following example uses the `disableAuditSigning` command to turn signing off:

```
AdminTask.disableAuditSigning()
```

AuditKeyStoreCommands command group for the AdminTask object

You can use the Jython scripting language to configure the security auditing system with the `wsadmin` tool. Use the commands and parameters in the `AuditKeyStoreCommands` group to configure audit keystores in the security auditing system.

Use the following commands to manage audit key stores in the `audit.xml` configuration file:

- `createAuditKeyStore`
- `deleteAuditKeyStore`
- `getAuditKeyStoreInfo`
- `listAuditKeyStores`
- `modifyAuditKeyStore`

createAuditKeyStore

Creates a keystore in the `audit.xml` file. The system uses this keystore to encrypt audit records.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the keystore. (String, required)

-keyStoreType

Specifies a valid keystore type. The default keystore type is PKCS12. (String, required)

-keyStoreLocation

Specifies the location where the system creates the keystore. (String, required)

-keyStorePassword

Specifies the password for the keystore. (String, required)

-keyStorePasswordVerify

Verifies the password for the keystore. (String, required)

Optional parameters

-keyStoreProvider

Specifies a provider for the keystore. (String, optional)

-keyStoreIsFileBased

Specifies if the keystore is file-based. The default is `true`. (Boolean, optional)

-keyStoreHostList

Specifies the host list for the keystore. (String, optional)

-keyStoreInitAtStartup

Specifies whether the system initializes the keystore on startup. The default is `false`. (Boolean, optional)

-keyStoreReadOnly

Specifies whether the keystore is read-only or not. Default is `false`. (Boolean, optional)

-keyStoreStashFile

Specifies whether the keystore needs a stash file. (Boolean, optional)

-enableCryptoOperations

Specifies whether the keystore is an acceleration keystore. False default. (Boolean, optional)

-scopeName

Specifies the scope for the keystore. (String, optional)

-keyStoreDescription

Specifies a description for the keystore. (String, optional)

Return value

The command returns the ID of the new keystore, as the following example displays:

```
KeyStore_1173199825578
```

Batch mode example usage

- Using Jython string:

```
AdminTask.createAuditKeyStore('-keyStoreName mynewkeystore -keyStoreLocation
c:\install_root\appserver\profiles\AppSrv01\config\cells -keyStorePassword
myPwd -keyStorePasswordVerify myPwd -keyStoreProvider IBMJCE -scopeName (cell):Node04Cell')
```

- Using Jython list:

```
AdminTask.createAuditKeyStore(['-keyStoreName', 'mynewkeystore', '-keyStoreLocation',
'c:\install_root\appserver\profiles\AppSrv01\config\cells', '-keyStorePassword',
'myPwd', '-keyStorePasswordVerify', 'myPwd', '-keyStoreProvider', 'IBMJCE',
'-scopeName', '(cell):Node04Cell'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createAuditKeyStore('-interactive')
```

deleteAuditKeyStore

The `deleteAuditKeyStore` command removes the reference to an audit keystore from the `audit.xml` configuration file.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the name of the keystore. (String, required)

Optional parameters

-scopeName

Specifies the management scope of the keystore. (String, optional)

-removeKeyStoreFile

Specifies whether to remove the keystore from the configuration. Specify this parameter if the keystore of interest is not in use. (Boolean, optional)

Return value

The command returns a value of `true` if the system successfully removes the reference to the keystore from the `audit.xml` configuration file.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditKeyStore('-keyStoreName AuditDefaultKeyStore -scopeName
(cell):Node04Cell -removeKeyStoreFile false')
```

- Using Jython list:

```
AdminTask.deleteAuditKeyStore(['-keyStoreName', 'AuditDefaultKeyStore', '-scopeName',
'(cell):Node04Cell', '-removeKeyStoreFile', 'false'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditKeyStore('-interactive')
```


getAuditKeyStoreInfo

The `getAuditKeyStoreInfo` command returns a list of attributes for the keystore that the system uses to encrypt audit records.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name to identify the keystore. (String, required)

Optional parameters

-scopeName

Specifies the management scope of the keystore. (String, optional)

Return value

The command returns a list of attributes for the keystore, as the following sample output displays:

```
{{location ${CONFIG_ROOT}/audittrust.p12}
{password *****}
{_Websphere_Config_Data_Id cells/Node04Cell|audit.xml#KeyStore_1173199825578}
{_Websphere_Config_Data_Version {}}
{useForAcceleration false}
{slot 0}
{type PKCS12}
{additionalKeyStoreAttrs {}}
{fileBased true}
{_Websphere_Config_Data_Type KeyStore}
{customProviderClass {}}
{hostList {}}
{createStashFileForCMS false}
{description {keyStore description}}
{readOnly false}
{initializeAtStartup true}
{managementScope (cells/Node04Cell|audit.xml#ManagementScope_1173199825608)}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditKeyStoreInfo('-keyStoreName AuditDefaultKeyStore')
```

- Using Jython list:

```
AdminTask.getAuditKeyStoreInfo(['-keyStoreName', 'AuditDefaultKeyStore'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditKeyStoreInfo('-interactive')
```

listAuditKeyStores

The `listAuditKeyStores` command lists the attributes for the audit keystores within a specific management scope or for all audit keystores.

The user must have the monitor administrative role to run this command.

Target object

None.

Optional parameters

-scopeName

Specifies the management scope associated with the keystores of interest. (String, optional)

-all

Specifies whether to list all keystores. When the `-all` parameter is set as `true`, it overrides the `-scopeName` parameter. (Boolean, optional)

Return value

The command returns a list of attributes for the scope of interest, as the following sample output displays:

```
{{location ${CONFIG_ROOT}/audittrust.p12}
{password ****}
{_Websphere_Config_Data_Id cells/Node04Cell|audit.xml#KeyStore_1173199825578}
{_Websphere_Config_Data_Version {}}
{useForAcceleration false}
{slot 0}
{type PKCS12}
{additionalKeyStoreAttrs {}}
{fileBased true}
{_Websphere_Config_Data_Type KeyStore}
{customProviderClass {}}
{hostList {}}
{keyStoreRef KeyStore_1173199825578}
{createStashFileForCMS false}
{description {keyStore description}}
{managementScope (cells/Node04Cell|audit.xml#ManagementScope_1173199825608)}
{readOnly false}
{initializeAtStartup true}
{usage {}}
{provider IBMJCE}{name AuditDefaultKeyStore}}
{{location c:\install_root\appserver\profiles\AppSrv01\config\cells}
{password ****}
{_Websphere_Config_Data_Id cells/Node04Cell|audit.xml#KeyStore_1184700968484}
{_Websphere_Config_Data_Version {}}
{useForAcceleration false}
{slot 0}
{type PKCS12}
{additionalKeyStoreAttrs {}}
{fileBased true}
{_Websphere_Config_Data_Type KeyStore}
{customProviderClass {}}
{hostList {}}
{keyStoreRef KeyStore_1184700968484}
{createStashFileForCMS false}
{description {}}
{managementScope {}}
{readOnly false}
{initializeAtStartup false}
{usage {}}
{provider IBMJCE}
{name mykeystore}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.listAuditKeyStores('-scopeName (cell):Node04Cell')
```

- Using Jython list:

```
AdminTask.listAuditKeyStores(['-scopeName', '(cell):Node04Cell'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listAuditKeyStores('-interactive')
```

modifyAuditKeyStore

The `modifyAuditKeyStore` command modifies the keystore reference in the `audit.xml` file. The command edits keystore that encrypts audit records.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the keystore. (String, required)

Optional parameters

-scopeName

Specifies the scope name of this keystore. (String, optional)

-keyStoreType

Specifies valid keystore type. (String, optional)

-keyStoreLocation

Specifies the location where the system creates the keystore. (String, optional)

-keyStorePassword

Specifies the password for this keystore. (String, optional)

-keyStoreIsFileBased

Specifies whether the keystore is file based. (Boolean, optional)

-keyStoreInitAtStartup

Specifies whether the system should initialize the keystore at startup. (Boolean, optional)

-keyStoreReadOnly

Specifies whether the keystore is read-only or editable. (Boolean, optional)

-keyStoreDescription

Specifies a description for the keystore. (String, optional)

Return value

The command returns a value of `true` if the system successfully modifies the keystore.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyAuditKeyStore('-keyStoreName AuditDefaultKeyStore -scopeName  
(cell):Node04Cell -keyStoreType PKCS12 -keyStoreLocation  
c:\install_root\appserver\profiles\AppSrv01\config\cells\Node04Cell\audittrust.p12  
-keyStorePassword myPwd')
```

- Using Jython list:

```
AdminTask.modifyAuditKeyStore(['-keyStoreName', 'AuditDefaultKeyStore', '-scopeName',  
(cell):Node04Cell', '-keyStoreType', 'PKCS12', '-keyStoreLocation',  
'c:\install_root\appserver\profiles\AppSrv01\config\cells\Node04Cell\audittrust.p12',  
-keyStorePassword', 'myPwd'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyAuditKeyStore('-interactive')
```

AuditEmitterCommands for the AdminTask object

You can use the Jython scripting language to configure audit service providers with the `wsadmin` tool. Use the commands and parameters in the `AuditEmitterCommands` group to create, manage, and remove audit service providers from your security auditing system configuration.

Use the following commands to configure audit service providers:

- “`createBinaryEmitter`” on page 298

- “createSMFEmitter” on page 299
- “createThirdPartyEmitter” on page 300
- “deleteAuditEmitterByRef” on page 301
- “deleteAuditEmitterByName” on page 302
- “getAuditEmitter” on page 302
- “getBinaryFileLocation” on page 303
- “getAuditEmitterFilters” on page 303
- “getBinaryFileSize” on page 304
- “getEmitterClass” on page 305
- “getEmitterUniqueld” on page 305
- “getMaxNumBinaryLogs” on page 306
- “listAuditEmitters” on page 306
- “modifyAuditEmitter” on page 307
- “setAuditEmitterFilters” on page 308

Note: This topic references one or more of the application server log files. As a recommended alternative, you can configure the server to use the High Performance Extensible Logging (HPEL) log and trace infrastructure instead of using `SystemOut.log`, `SystemErr.log`, `trace.log`, and `activity.log` files on distributed and IBM i systems. You can also use HPEL in conjunction with your native z/OS logging facilities. If you are using HPEL, you can access all of your log and trace information using the LogViewer command-line tool from your server profile bin directory. See the information about using HPEL to troubleshoot applications for more information on using HPEL.

createBinaryEmitter

The `createBinaryEmitter` command creates an entry in the `audit.xml` file to reference the configuration of the binary file emitter implementation of the audit service provider interface.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-uniqueName

Specifies a name to uniquely identify this implementation of the audit service provider interface. (String, required)

-className

Specifies the class that implements the audit service provider interface. (String, required)

-fileLocation

Specifies the location where the system writes the audit logs. (String, required)

-auditFilters

Specifies a reference or a group of references to predefined audit filters. Use the following format to specify multiple references: `reference,reference,reference` (String, required)

-wrapBehavior

Specifies a string representing the customizable behavior for binary audit log wrapping. (String, required).

There are three values for this parameter: `WRAP`, `NOWRAP` and `SILENT_FAIL`

If you use the WRAP option, when the maximum logs are reached, the oldest audit log is rewritten; notification is not sent to the auditor.

The NOWRAP option does not rewrite over the oldest audit log. It stops the audit service, sends a notification to the SystemOut.log, and quiesces the application server.

The SILENT_FAIL option does not rewrite over the oldest audit log. It also stops the audit service, but does allow the WebSphere process to continue. Notifications are not posted in the SystemOut.log.

Note: If you use the NOWRAP or SILENT_FAIL options, when the server is stopped as a result of the logs being maxed-out, a stopserver is performed, or because the server abends in some way, you must archive the binary audit logs before you restart the server.

Optional parameters

-eventFormatterClass

Specifies the class that implements how the system formats the audit event for output. If you want to use the default audit service provider, do not specify this parameter. (String, optional)

-maxFileSize

Specifies the maximum size that each log reaches before the system saves the audit log with a timestamp. Specify the size in megabytes. The default value is 10 MB. (Integer, optional)

-maxLogs

Specifies the maximum number of log files to create before the system rewrites the oldest audit log. The default value is 100 logs. (Integer, optional)

Return value

The command returns the shortened reference ID for the audit service provider, as the following sample output displays:

```
AuditServiceProvider_1184686384968
```

Batch mode example usage

- Using Jython string:

```
AdminTask.createBinaryEmitter('-uniqueName mybinaryemitter -className  
com.ibm.ws.security.audit.BinaryEmitterImpl -fileLocation  
c:\wasinstall\appserver\profiles\AppSrv01\logs\server1 -maxFileSize 20 -maxLogs  
100 -wrapBehavior NOWRAP -auditFilters AuditSpecification_1173199825608')
```

- Using Jython list:

```
AdminTask.createBinaryEmitter(['-uniqueName', 'mybinaryemitter', '-className',  
'com.ibm.ws.security.audit.BinaryEmitterImpl', '-fileLocation',  
'c:\wasinstall\appserver\profiles\AppSrv01\logs\server1', '-maxFileSize',  
'20', '-maxLogs', '100', '-wrapBehavior', 'NOWRAP', '-auditFilters',  
'AuditSpecification_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createBinaryEmitter('-interactive')
```

createSMFEmitter

The createSMFEmitter command creates an entry in the audit.xml file to reference the configuration of an SMF implementation of the audit service provider interface. The encryption and signing of audit records is not supported for SMF implementations.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-uniqueName

Specifies a name to uniquely identify this implementation of the audit service provider interface. (String, required)

-auditFilters

Specifies a reference or a group of references to predefined audit filters. Use the following format to specify multiple references: reference,reference,reference (String, required)

Return value

The command returns the shortened reference ID for the audit service provider, as the following sample output displays:

```
AuditServiceProvider_1184686384968
```

Batch mode example usage

- Using Jython string:

```
AdminTask.createSMFEmitter('-uniqueName mySMFEmitter -auditFilters  
AuditSpecification_1173199825608')
```

- Using Jython list:

```
AdminTask.createSMFEmitter(['-uniqueName', 'mySMFEmitter', '-auditFilters',  
'AuditSpecification_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createSMFEmitter('-interactive')
```

createThirdPartyEmitter

The createThirdPartyEmitter command creates an entry in the audit.xml configuration file to reference the configuration of a third party emitter implementation of the audit service provider interface. The encryption and signing of audit records is not supported for third party implementations.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-uniqueName

Specifies a name to uniquely identify this implementation of the audit service provider interface. (String, required)

-className

Specifies the class that implements the audit service provider interface. (String, required)

-auditFilters

Specifies a reference or a group of references to predefined audit filters. Use the following format to specify multiple references: reference,reference,reference (String, required)

Optional parameters

-eventFormatterClass

Specifies the class that implements how the system formats the audit event for output. (String, optional)

-customProperties

Specifies any custom properties that the system might need to configure the third party implementation of the audit service provider. Use the following format to specify the custom properties:

name=value,name=value (String, optional)

Return value

The command returns the shortened reference ID to the audit service provider, as the following example output displays:

```
AuditServiceProvider_1184686638218
```

Batch mode example usage

- Using Jython string:

```
AdminTask.createThirdPartyEmitter('-uniqueName myThirdPartyEmitter -className  
com.mycompany.myemitterclass -eventFormatterClass com.mycompany.myeventformatterclass  
-auditFilters AuditSpecification_1173199825608')
```

- Using Jython list:

```
AdminTask.createThirdPartyEmitter(['-uniqueName', 'myThirdPartyEmitter', '-className',  
'com.mycompany.myemitterclass', '-eventFormatterClass', 'com.mycompany.myeventformatterclass',  
'-auditFilters', 'AuditSpecification_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createThirdPartyEmitter('-interactive')
```

deleteAuditEmitterByRef

The `deleteAuditEmitterByRef` command deletes the audit service provider implementation that the system references with the reference id. If an event factory is using the audit service provider, the system generates an error that indicates that the system cannot remove the audit service provider.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies the reference identifier of the audit service provider implementation to delete. (String, required)

Return value

The command returns a value of `true` if the system successfully removes the audit service provider.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditEmitterByRef('-emitterRef AuditServiceProvider_1173199825608')
```

- Using Jython list:

```
AdminTask.deleteAuditEmitterByRef(['-emitterRef', 'AuditServiceProvider_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditEmitterByRef('-interactive')
```

deleteAuditEmitterByName

The `deleteAuditEmitterByName` command deletes the audit service provider implementation that the system references with the unique name. If an event factory is using the audit service provider, the system generates an error that indicates that the system cannot remove the audit service provider.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-uniqueName

Specifies the name that uniquely identifies this implementation of the audit service provider interface to delete. (String, required)

Return value

The command returns a value of `true` if the system successfully deletes the audit service provider implementation.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditEmitterByName('-uniqueName mybinaryemitter')
```

- Using Jython list:

```
AdminTask.deleteAuditEmitterByName(['-uniqueName', 'mybinaryemitter'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditEmitterByName('-interactive')
```

getAuditEmitter

The `getAuditEmitter` command returns the attributes for the audit service provider of interest.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies a reference to a audit service provider implementation. (String, required)

Return value

The command returns an attribute list for the audit service provider specified by the `-emitterRef` parameter, as the following example output displays:


```
{auditSpecifications myfilter(cells/CHEYENNENode04Cell|audit.xml#AuditSpecification_1184598886859)}
{name auditServiceProviderImpl_1}
{websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#AuditServiceProvider_1173199825608}
{maxFileSize 1}
{websphere_Config_Data_Type AuditServiceProvider}
{fileLocation ${PROFILE_ROOT}/logs/server1}
{className com.ibm.ws.security.audit.BinaryEmitterImpl}
{properties {}}
{eventFormatterClass {}}
{maxLogs 100}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditEmitter('-emitterRef AuditServiceProvider_1173199825608')
```

- Using Jython list:

```
AdminTask.getAuditEmitter(['-emitterRef AuditServiceProvider_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getEmitterClass('-interactive')
```

getBinaryFileLocation

The `getBinaryFileLocation` command returns the file location of the binary file audit logs.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies a reference to a binary file audit service provider implementation. (String, required)

Return value

The command returns the file path of the audit log, as the following example displays:

```
$profile_root/logs/server1
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getBinaryFileLocation('-emitterRef AuditServiceProvider_1173199825608')
```

- Using Jython list:

```
AdminTask.getBinaryFileLocation(['-emitterRef', 'AuditServiceProvider_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getBinaryFileLocation('-interactive')
```

getAuditEmitterFilters

The `getAuditEmitterFilters` command returns a list of defined filters for the audit service provider implementation of interest.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies the audit service provider implementation of interest. You can specify a reference to the service provider object. (String, required)

Return value

The command returns a list of defined filters in a shortened format, as the following example output displays:

```
AUTHN:SUCCESS,AUTHN:INFO,AUTHZ:SUCCESS,AUTHZ:INFO
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditEmitterFilters('-emitterRef AuditServiceProvider_1173199825608')
```

- Using Jython list:

```
AdminTask.getAuditEmitterFilters(['-emitterRef', 'AuditServiceProvider_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditEmitterFilters('-interactive')
```

getBinaryFileSize

The `getBinaryFileSize` command returns the maximum file size of the binary audit log that is defined for the audit service provider of interest in the `audit.xml` configuration file.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies a reference to a binary file audit service provider implementation. (String, required)

Return value

The command returns the integer value of the maximum file size in megabytes.

Batch mode example usage

- Using Jython string:

```
AdminTask.getBinaryFileSize('-emitterRef AuditServiceProvider_1173199825608')
```

- Using Jython list:

```
AdminTask.getBinaryFileSize(['-emitterRef', 'AuditServiceProvider_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getBinaryFileSize('-interactive')
```

getEmitterClass

The `getEmitterClass` command returns the class name of the audit service provider emitter implementation.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies a reference to a audit service provider implementation. (String, required)

Return value

The command returns the class name of the audit service provider implementation.

Batch mode example usage

- Using Jython string:

```
AdminTask.getEmitterClass('-emitterRef AuditServiceProvider_1173199825608')
```

- Using Jython list:

```
AdminTask.getEmitterClass(['-emitterRef', 'AuditServiceProvider_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getEmitterClass('-interactive')
```

getEmitterUniqueld

The `getEmitterUniqueld` command returns the unique identifier of the audit service provider implementation.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies a reference to a service provider implementation. (String, required)

Return value

The command returns the unique ID of the audit service provider of interest.

Batch mode example usage

- Using Jython string:

```
AdminTask.getEmitterUniqueId('-emitterRef AuditServiceProvider_1173199825608')
```

- Using Jython list:

```
AdminTask.getEmitterUniqueId(['-emitterRef', 'AuditServiceProvider_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getEmitterUniqueId('-interactive')
```

getMaxNumBinaryLogs

The `getMaxNumBinaryLogs` command returns the maximum number of binary audit logs that is defined for the audit service provider of interest in the `audit.xml` configuration file.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies a reference to a binary file audit service provider implementation. (String, required)

Return value

The command returns the integer value that represents the maximum number of binary audit logs in the configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.getMaxNumBinaryLogs('-emitterRef AuditServiceProvider_1173199825608')
```

- Using Jython list:

```
AdminTask.getMaxNumBinaryLogs(['-emitterRef', 'AuditServiceProvider_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getMaxNumBinaryLogs('-interactive')
```

listAuditEmitters

The `listAuditEmitters` command returns a list of configured audit service provider implementation objects and the corresponding attributes.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns an array list of audit service provider implementation objects and attributes, as the following example output displays:

```
{{auditSpecifications myfilter(cells/CHEYENNENode04Cell|audit.xml#AuditSpecification_1184598886859)}}
{name auditServiceProviderImpl_1}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#AuditServiceProvider_1173199825608}
{maxFileSize 1}
{_Websphere_Config_Data_Type AuditServiceProvider}
{fileLocation ${PROFILE_ROOT}/logs/server1}
```

```

{className com.ibm.ws.security.audit.BinaryEmitterImpl}
{properties {}}
{auditSpecRef1 AuditSpecification_118459886859}
{eventFormatterClass {}}
{maxLogs 100}
{emitterRef AuditServiceProvider_1173199825608}
{{auditSpecifications DefaultAuditSpecification_1(cells/CHEYENNE04Cell|audit.xml#AuditSpecification_1173199825608)}}
{name mythirdpartyemitter}
{_Websphere_Config_Data_Id cells/CHEYENNE04Cell|audit.xml#AuditServiceProvider_1184686638218}
{maxFileSize 0}
{_Websphere_Config_Data_Type AuditServiceProvider}
{fileLocation {}}
{className com.mycompany.myemitterclass}
{properties {}}
{auditSpecRef1 AuditSpecification_1173199825608}
{eventFormatterClass com.mycompany.myeventformatterclass}
{maxLogs 0}
{emitterRef AuditServiceProvider_1184686638218}}

```

Batch mode example usage

- Using Jython string:

```
AdminTask.listAuditEmitters()
```

- Using Jython list:

```
AdminTask.listAuditEmitters()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listAuditEmitters('-interactive')
```

modifyAuditEmitter

The `modifyAuditEmitter` command modifies the attributes of an audit service provider implementation object.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies a reference to a audit service provider implementation. (String, required)

Optional parameters

-className

Specifies the class name to use to identify the implementation. (String, optional)

-eventFormatterClass

Specifies the class that implements how the system formats the audit event for output. If you want to use the default audit service provider, do not specify this parameter. (String, optional)

-customProperties

Specifies a list of custom properties formatted as name and value pairs in the following format: `name=value,name=value`. (String, optional)

-auditFilters

Specifies a reference or a group of references to predefined audit filters. Use the following format to specify multiple references: `reference,reference,reference` (String, optional)

-fileLocation

Specifies the location where the system writes the audit logs. (String, optional)

-maxFileSize

Specifies the maximum size that each log reaches before the system saves the audit log with a timestamp. Specify the size in megabytes. The default value is 10 MB. (Integer, optional)

-maxLogs

Specifies the maximum number of log files to create before the system rewrites the oldest audit log. The default value is 100 logs. (Integer, optional)

-wrapBehavior

Specifies a string representing the customizable behavior for binary audit log wrapping. (String, optional).

There are three values for this parameter: WRAP, NOWRAP and SILENT_FAIL

If you use the WRAP option, when the maximum logs are reached, the oldest audit log is rewritten; notification is not sent to the auditor.

The NOWRAP option does not rewrite over the oldest audit log. It stops the audit service, sends a notification to the SystemOut.log, and quiesces the application server.

The SILENT_FAIL option does not rewrite over the oldest audit log. It also stops the audit service, but does allow the WebSphere process to continue. Notifications are not posted in the SystemOut.log.

Return value

The command returns a value of true if the system successfully modifies the audit service provider of interest.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyAuditEmitter('-emitterRef AuditServiceProvider_1184686638218
-wrapBehavior NOWRAP -auditFilters AuditSpecification_1173199825608
-fileLocation c:\wasinstall\appserver\profiles\AppSrv01\mylogs -maxFileSize
14 -maxLogs 200')
```

- Using Jython list:

```
AdminTask.modifyAuditEmitter(['-emitterRef', 'AuditServiceProvider_1184686638218',
'-wrapBehavior', 'NOWRAP' '-auditFilters', 'AuditSpecification_1173199825608', '-fileLocation',
'c:\wasinstall\appserver\profiles\AppSrv01\mylogs', '-maxFileSize', '14', '-maxLogs',
'200'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyAuditEmitter('-interactive')
```

setAuditEmitterFilters

The setAuditEmitterFilters command sets the filters for an audit service provider implementation.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies a reference to a audit service provider implementation. (String, required)

-filtersRef

Specifies one or more references to defined audit filters. Use the following format to specify more than one filter reference: reference,reference,reference (String, required)

Return value

The command returns a value of `true` if the system successfully sets the filters for the audit service provider.

Batch mode example usage

- Using Jython string:

```
AdminTask.setAuditEmitterFilters('-emitterRef AuditServiceProvider_1173199825608  
-filtersRef AuditSpecification_1184598886859')
```

- Using Jython list:

```
AdminTask.setAuditEmitterFilters(['-emitterRef', 'AuditServiceProvider_1173199825608',  
'-filtersRef', 'AuditSpecification_1184598886859'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setAuditEmitterFilters('-interactive')
```

AuditSigningCommands command group for the AdminTask object

You can use the Jython scripting language to configure the signing of audit records with the `wsadmin` tool. Use the commands and parameters in the `AuditSigningCommands` group to enable, disable, and configure the security audit system to sign audit records.

Use the following commands to configure audit signing:

- “`createAuditSigningConfig`”
- “`deleteAuditSigningConfig`” on page 311
- “`disableAuditSigning`” on page 311
- “`enableAuditSigning`” on page 311
- “`getAuditSigningConfig`” on page 312
- “`importEncryptionCertificate`” on page 312
- “`isAuditSigningEnabled`” on page 313
- “`modifyAuditSigningConfig`” on page 314

createAuditSigningConfig

The `createAuditSigningConfig` command creates the signing model that the system uses to sign the audit records. Use this command to configure your audit signing configuration for the first time. If you have already configured audit signing, use the `enableAuditSigning` and `disableAuditSigning` commands to turn audit signing on and off.

You can import the certificate from an existing key file name containing that certificate, automatically generate the certificate, or use the same certificate as the application server uses to encrypt the audit records. To use an existing certificate in an existing keystore, specify input values for the `-enableAuditEncryption`, `-certAlias`, and `-signingKeyStoreRef` parameters. Also, set the value of the `-useEncryptionCert`, `-autogenCert`, and `-importCert` parameters as `false` for this scenario.

The user must have the administrator and auditor administrative roles to run this command.

Target object

None.

Required parameters

-enableAuditSigning

Specifies whether to sign audit records. This parameter modifies your audit policy configuration. (Boolean, required)

-certAlias

Specifies the alias name that identifies the generated or imported certificate. (String, required)

-signingKeyStoreRef

Specifies the reference ID of the key store that system imports the certificate to. The signing keystore must already exist in the security.xml file. The system updates this keystore with the certificate that is used to sign the audit records. (String, required)

Optional parameters

-useEncryptionCert

Specifies whether to use the same certificate for encryption and signing. (Boolean, optional)

-autogenCert

Specifies whether to automatically generate the certificate used to sign the audit records. (Boolean, optional)

-importCert

Specifies whether to import an existing certificate to sign the audit records. (Boolean, optional)

-certKeyFileName

Specifies the unique name of the key file for the certificate to import. (String, optional)

-certKeyFilePath

Specifies the key file location for the certificate to import. (String, optional)

-certKeyFileType

Specifies the key file type for the certificate to import. (String, optional)

-certKeyFilePassword

Specifies the key file password for the certificate to import. (String, optional)

-certAliasToImport

Specifies the alias of the certificate to import. (String, optional)

Return value

If successful, returns the shortened form of the keystore where the signing certificate has been added to. Remember, this keystore is in the security.xml file, not the audit.xml file.

Batch mode example usage

- Using Jython string:

```
AdminTask.createAuditSigningConfig(['-enableAuditSigning true -certAlias  
auditSigningCert -autogenCert true -signingKeyStoreRef Ref_Id_of_KeyStoreInSecurityXML'])
```

- Using Jython list:

```
AdminTask.createAuditSigningConfig(['-enableAuditSigning', 'true', '-certAlias',  
'auditSigningCert', '-autogenCert', 'true -signingKeyStoreRef',  
'Ref_Id_of_KeyStoreInSecurityXML'])
```

Interactive mode example usage

- Using Jython :

```
AdminTask.createAuditSigningConfig(['-interactive'])
```


deleteAuditSigningConfig

The `deleteAuditSigningConfig` command deletes the signing model that the system uses to sign the audit records. When the system deletes the audit signing configuration, it does not delete the key store file in the `security.xml` or the signer certificate for the keystore.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system successfully removes the audit signing configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditSigningConfig()
```

- Using Jython list:

```
AdminTask.deleteAuditSigningConfig()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditSigningConfig('-interactive')
```

disableAuditSigning

The `disableAuditSigning` command disables audit record signing for the security auditing system.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system successfully disables audit signing.

Batch mode example usage

- Using Jython string:

```
AdminTask.disableAuditSigning()
```

- Using Jython list:

```
AdminTask.disableAuditSigning()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.disableAuditSigning('-interactive')
```

enableAuditSigning

The `enableAuditSigning` command enables audit record signing in the security auditing system.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system successfully enables audit signing in the security auditing system.

Batch mode example usage

- Using Jython string:

```
AdminTask.enableAuditSigning()
```

- Using Jython list:

```
AdminTask.enableAuditSigning()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.enableAuditSigning()
```

getAuditSigningConfig

The `getAuditSigningConfig` command retrieves the signing model that the system uses to sign the audit records.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a list of attributes that are associated with the signing model, as the following sample output displays:

```
{securityXmlSignerScopeName (cell):Node04Cell:(node):Node04}
{securityXmlSignerCertAlias mysigningcert}
{securityXmlSignerKeyStoreName NodeDefaultRootStore}
{signerKeyStoreRef KeyStore_Node04_4}
{enabled true}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditSigningConfig()
```

- Using Jython list:

```
AdminTask.getAuditSigningConfig()
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.getAuditSigningConfig('-interactive')
```

importEncryptionCertificate

The `importEncryptionCertificate` command imports the self-signed certificate used for encrypting audit data from the encryption keystore into another keystore. Use this command internally to automatically generate a certificate for either encryption or signing. You can also use this command to import the certificate into the keystore by specifying the `keyStoreName` and `keyStoreScope` parameters.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name to identify the keystore. (String, required)

-keyFilePath

Specifies the keystore path name that contains the certificate to import. (String, required)

-keyFilePassword

Specifies the password of the keystore that contains the certificate to import. (String, required)

-keyFileType

Specifies the type of the keystore. (String, required)

-certificateAliasFromKeyFile

Specifies the alias of the certificate to import from the keystore file. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope name of the keystore. (String, optional)

-certificateAlias

Specifies a unique name to identify the imported certificate. (String, optional)

Return value

The command returns a value of true if the system successfully imports the encryption certificate.

Batch mode example usage

- Using Jython string:

```
AdminTask.importEncryptionCertificate({'-keyStoreName AuditDefaultKeyStore -keyStoreScope  
(cell):Node04Cell -keyFilePath c:/install_root/appserver/profiles/AppSrv01/config/cells/Node04Cell/nodes/Node04/trust.p12  
-keyFilePassword WebAS -keyFileType PKCS12 -certificateAliasFromKeyFile root -certificateAlias myimportcert'})
```

- Using Jython list:

```
AdminTask.importEncryptionCertificate(['{-keyStoreName', 'AuditDefaultKeyStore', '-keyStoreScope',  
'(cell):Node04Cell', '-keyFilePath', 'c:/install_root/appserver/profiles/AppSrv01/config/cells/Node04Cell/nodes/Node04/trust.p12',  
'-keyFilePassword', 'WebAS', '-keyFileType', 'PKCS12', '-certificateAliasFromKeyFile',  
'root', '-certificateAlias', 'myimportcert'})
```

Interactive mode example usage

- Using Jython:

```
AdminTask.importEncryptionCertificate('-interactive')
```

isAuditSigningEnabled

The isAuditSigningEnabled command indicates whether audit signing is enabled or disabled in the security audit system.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if signing is configured in the security auditing system.

Batch mode example usage

- Using Jython string:

```
AdminTask.isAuditSigningEnabled()
```

- Using Jython list:

```
AdminTask.isAuditSigningEnabled()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.isAuditSigningEnabled('-interactive')
```

modifyAuditSigningConfig

The `modifyAuditSigningConfig` command modifies the signing model that the system uses to sign the audit records.

The certificate may either be imported from an existing key file name containing that certificate, automatically generated, or be the same certificate used to encrypt the audit records. To use an existing certificate in an existing keystore, specify input values for the `-enableAuditEncryption`, `-certAlias`, and `-signingKeyStoreRef` parameters. Also, set the value the `-useEncryptionCert`, `-autogenCert`, and `-importCert` parameters as `false` for this scenario.

The user must have the administrator and auditor administrative roles to run this command.

Target object

None.

Required parameters

-enableAuditSigning

Specifies whether to sign audit records. This parameter modifies your audit policy configuration. (Boolean, required)

-certAlias

Specifies the alias name that identifies the generated or imported certificate. (String, required)

-signingKeyStoreRef

Specifies the reference ID of the key store that system imports the certificate to. The signing keystore must already exist in the `security.xml` file. The system updates this keystore with the certificate that is used to sign the audit records. (String, required)

Optional parameters

-useEncryptionCert

Specifies whether to use the same certificate for encryption and signing. (Boolean, optional)

-autogenCert

Specifies whether to automatically generate the certificate used to sign the audit records. (Boolean, optional)

-importCert

Specifies whether to import an existing certificate to sign the audit records. (Boolean, optional)

-certKeyFileName

Specifies the unique name of the key file for the certificate to import. (String, optional)

- certKeyFilePath**
Specifies the key file location for the certificate to import. (String, optional)
- certKeyFileType**
Specifies the key file type for the certificate to import. (String, optional)
- certKeyFilePassword**
Specifies the key file password for the certificate to import. (String, optional)
- certAliasToImport**
Specifies the alias of the certificate to import. (String, optional)

Return value

The command returns a value of `true` if the system successfully modifies the security auditing system configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyAuditSigningConfig(['-enableAuditSigning true -certAlias auditSigningCert
-autogenCert true -signingKeyStoreRef Ref_Id_of_KeyStoreInSecurityXML'])
```

- Using Jython list:

```
AdminTask.modifyAuditSigningConfig(['-enableAuditSigning', 'true', '-certAlias',
'auditSigningCert', '-autogenCert', 'true', '-signingKeyStoreRef', 'Ref_Id_of_KeyStoreInSecurityXML'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyAuditSigningConfig('-interactive')
```

AuditEncryptionCommands command group for the AdminTask object

You can use the Jython scripting language to configure the security auditing system with the `wsadmin` tool. Use the commands and parameters in the `AuditEncryptionCommands` group to configure the security audit system to encrypt audit records.

Use the following commands to enable, disable, and configure audit record encryption:

- “`createAuditEncryptionConfig`” on page 316
- “`createAuditSelfSignedCertificate`” on page 317
- “`deleteAuditCertificate`” on page 318
- “`deleteAuditEncryptionConfig`” on page 319
- “`disableAuditEncryption`” on page 319
- “`enableAuditEncryption`” on page 320
- “`exportAuditCertificate`” on page 320
- “`exportAuditCertToManagedKS`” on page 321
- “`getAuditCertificate`” on page 322
- “`getAuditEncryptionConfig`” on page 323
- “`getEncryptionKeyStore`” on page 323
- “`importAuditCertFromManagedKS`” on page 324
- “`importAuditCertificate`” on page 325
- “`importEncryptionCertificate`” on page 326
- “`isAuditEncryptionEnabled`” on page 327
- “`listAuditEncryptionKeyStores`” on page 327
- “`listCertAliases`” on page 328
- “`modifyAuditEncryptionConfig`” on page 329

- “renewAuditCertificate” on page 330

createAuditEncryptionConfig

The createAuditEncryptionConfig command creates the encryption model used to encrypt the audit records.

You can import the certificate from an existing key file name containing that certificate or automatically generate a certificate.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-enableAuditEncryption

Specifies whether to encrypt audit records. This parameter modifies your audit policy configuration. (Boolean, required)

-certAlias

Specifies the alias name that identifies the generated or imported certificate. (String, required)

-encryptionKeyStoreRef

Specifies the reference ID of the keystore to import the certificate to. (String, required)

Optional parameters

-autogenCert

Specifies whether to automatically generate the certificate used to encrypt the audit records. You must specify either this parameter or the -importCert parameter, but you cannot specify both. (Boolean, optional)

-importCert

Specifies whether to import an existing certificate to encrypt the audit records. You must specify either this parameter or the -autogenCert parameter, but you cannot specify both. (Boolean, optional)

-certKeyFileName

Specifies the unique name of the key file for the certificate to import. (String, optional)

-certKeyFilePath

Specifies the key file location for the certificate to import. (String, optional)

-certKeyFileType

Specifies the key file type for the certificate to import. (String, optional)

-certKeyFilePassword

Specifies the key file password for the certificate to import. (String, optional)

-certAliasToImport

Specifies the alias of the certificate to import. (String, optional)

Return value

The command returns the shortened form of the reference ID of the created encryption keystore if the system successfully creates the audit encryption configuration, as the following example output displays:

```
KeyStore_1173199825578
```

Batch mode example usage

- Using Jython string:

```
AdminTask.createAuditEncryptionConfig('-enableAuditEncryption true -certAlias
auditCertificate -autogenCert true -encryptionKeyStoreRef auditKeyStore')
```

- Using Jython list:

```
AdminTask.createAuditEncryptionConfig(['-enableAuditEncryption', 'true', '-certAlias',
'auditCertificate', '-autogenCert', 'true', '-encryptionKeyStoreRef', 'auditKeyStore'])
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.createAuditEncryptionConfig('-interactive')
```

createAuditSelfSignedCertificate

The `createAuditSelfSignedCertificate` command creates a self-signed certificate. Use this command internally to automatically generate a certificate for encryption and signing or to import that certificate into the keystore.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the keystore where the system imports the self-signed certificate to. (String, optional)

-certificateAlias

Specifies a unique alias name for the certificate. (String, required)

-certificateSize

Specifies the size that the private key uses for the personal certificate. The default value is 1024. (Integer, required)

-certificateCommonName

Specifies the common name portion of the distinguished name. (String, required)

Optional parameters

-certificateOrganization

Specifies the organizational part of the distinguished name. (String, optional)

-keyStoreScope

Specifies the scope of the keystore that the system imports the self-signed certificate to. (String, optional)

-certificateVersion

Specifies the version of the personal certificate. (String, optional)

-certificateOrganizationalUnit

Specifies the organization unit part of the distinguished name. (String, optional)

-certificateLocality

Specifies the locality portion of the distinguished name. (String, optional)

-certificateState

Specifies the state portion of the distinguished name. (String, optional)

-certificateZip

Specifies the zip code portion of the distinguished name. (String, optional)

-certificateCountry

Specifies the country portion of the distinguished name. The default value is US. (String, optional)

-certificateValidDays

Specifies the length of time, in days, which the certificate is valid. The default value is 365 days. (Integer, optional)

Return value

The command returns a value of `true` if the system successfully creates the self-signed certificate.

Batch mode example usage

- Using Jython string:

```
AdminTask.createAuditSelfSignedCertificate('-keyStoreName AuditDefaultKeyStore -keyStoreScope
(cell):Node04Cell -certificateAlias myNew -certificateCommonName cn=oet -certificateOrganization mycompany')
```

- Using Jython list:

```
AdminTask.createAuditSelfSignedCertificate(['-keyStoreName', 'AuditDefaultKeyStore', '-keyStoreScope',
'(cell):Node04Cell', '-certificateAlias', 'myNew', '-certificateCommonName', 'cn=oet',
'-certificateOrganization', 'mycompany'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createAuditSelfSignedCertificate('-interactive')
```

deleteAuditCertificate

The `deleteAuditCertificate` command deletes a self-signed certificate from an audit keystore.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the keystore from which the system deletes the self-signed certificate. (String, required)

-certificateAlias

Specifies a unique alias name for the certificate to delete. (String, required)

Optional parameters

-keyStoreScope

Specifies a unique alias name for the certificate. (String, optional)

Return value

The command returns a value of `true` if the system successfully deletes the audit certificate.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditCertificate('-keyStoreName myKeystore -certificateAlias oldCertificate')
```

- Using Jython list:

```
AdminTask.deleteAuditCertificate(['-keyStoreName', 'myKeystore', '-certificateAlias', 'oldCertificate'])
```


Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditCertificate('-interactive')
```

deleteAuditEncryptionConfig

The `deleteAuditEncryptionConfig` command deletes the encryption model used to encrypt the audit records. The command does not remove keystore files or the certificates.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system successfully deletes the audit encryption configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditEncryptionConfig()
```

- Using Jython list:

```
AdminTask.deleteAuditEncryptionConfig()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditEncryptionConfig('-interactive')
```

disableAuditEncryption

The `disableAuditEncryption` command disables the encryption of audit records.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system successfully disables audit record encryption.

Batch mode example usage

- Using Jython string:

```
AdminTask.disableAuditEncryption()
```

- Using Jython list:

```
AdminTask.disableAuditEncryption()
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.disableAuditEncryption('-interactive')
```

enableAuditEncryption

The enableAuditEncryption command enables the encryption of audit records.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of true if the system successfully enables audit record encryption.

Batch mode example usage

- Using Jython string:

```
AdminTask.enableAuditEncryption()
```

- Using Jython list:

```
AdminTask.enableAuditEncryption()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.enableAuditEncryption()
```

exportAuditCertificate

The exportAuditCertificate command exports a self-signed certificate from a keystore. To use this command, you must adhere to the following user role and privilege guidelines:

- You must have audit privileges to export the certificate from an audit keystore.
- You must have the auditor and administrator roles to export the certificate to a security keystore.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the keystore. (String, required)

-keyStorePassword

Specifies the password that the system uses to access the keystore specified with the -keyStoreName parameter. (String, required)

-keyFilePath

Specifies the key store path name that contains the certificate to export. (String, required)

-keyFilePassword

Specifies the password of the keystore that contains the certificate to export. (String, required)

-keyFileType

Specifies the type of the keystore. (String, required)

-certificateAlias

Specifies the alias of the certificate to export from the keystore. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope name of the keystore. (String, optional)

-aliasInKeyStore

Specifies a new unique name to identify the exported certificate. (String, optional)

Return value

The command returns a value of `true` if the system successfully exports the audit certificate.

Batch mode example usage

- Using Jython string:

```
AdminTask.exportAuditCertificate('-keyStoreName AuditDefaultKeyStore -keyStoreScope
(cell):Node04Cell -keyFilePath c:/wasinstall/appserver/profiles/AppSrv01/config/cells/Node04Cell/nodes/Node04/trust.p12
-keyFilePassword myPwd -keyFileType PKCS12 -certificateAlias root')
```

- Using Jython list:

```
AdminTask.exportAuditCertificate(['-keyStoreName', 'AuditDefaultKeyStore', '-keyStoreScope',
'(cell):Node04Cell', '-keyFilePath', 'c:/wasinstall/appserver/profiles/AppSrv01/config/cells/Node04Cell/nodes/Node04/trust.p12',
'-keyFilePassword', 'myPwd', '-keyFileType', 'PKCS12', '-certificateAlias', 'root'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.exportAuditCertificate('-interactive')
```

exportAuditCertToManagedKS

The `exportAuditCertToManagedKS` command exports a self-signed certificate from an audit keystore to a managed audit keystore.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the managed keystore. (String, required)

-keyStorePassword

Specifies the password of the managed keystore that contains the certificate to export. (String, required)

-toKeyStoreName

Specifies the unique name of the managed keystore that contains the certificate to export. (String, required)

-certificateAlias

Specifies a unique name to identify the exported certificate. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope name of the keystore. (String, optional)

-toKeyStoreScope

Specifies the scope of the managed keystore that contains the certificate to export. (String, optional)

-aliasInKeyStore

Specifies the new unique name to identify the exported certificate. If you do not specify a value for this parameter, the system sets the unique name to the value specified for the `-certificateAlias` parameter. (String, optional)

Return value

The command returns a value of `true` if the system successfully exports the audit certificate.

Batch mode example usage

- Using Jython string:

```
AdminTask.exportAuditCertToManagedKS('-keyStoreName auditEncryptionKeyStore -keyStorePassword myPwd  
-toKeyStoreName AuditTrustStore -toKeyStoreScope (cell):my03Cell -certificateAlias newauditcert  
-aliasInKeyStore newauditcert1')
```

- Using Jython list:

```
AdminTask.exportAuditCertToManagedKS(['-keyStoreName', 'auditEncryptionKeyStore', '-keyStorePassword', 'myPwd',  
'-toKeyStoreName', 'AuditTrustStore', '-toKeyStoreScope', '(cell):my03Cell', '-certificateAlias', 'newauditcert',  
'-aliasInKeyStore', 'newauditcert1'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.exportAuditCertToManagedKS('-interactive')
```

getAuditCertificate

The `getAuditCertificate` command retrieves the attributes for an audit self-signed certificate in an audit keystore.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the managed keystore of interest. (String, required)

-certificateAlias

Specifies a unique name to identify the exported certificate of interest. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope name of the keystore of interest. (String, optional)

Return value

The command returns a list of attributes associated with the audit certificate.

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditCertificate('-keyStoreName auditEncryptionKeyStore -certificateAlias  
newauditcert')
```

- Using Jython list:

```
AdminTask.getAuditCertificate(['-keyStoreName', 'auditEncryptionKeyStore', '-certificateAlias',  
'newauditcert'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditCertificate('-interactive')
```

getAuditEncryptionConfig

The `getAuditEncryptionConfig` command retrieves the encryption model that the system uses to encrypt the audit records.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a list of attributes associated with the encryption model, as the following example output displays:

```
{certRef Certificate_1184698729015}
{keystoreRef KeyStore_1173199825578}
{keyStore AuditDefaultKeyStore(cells/CHEYENNENode04Cell|audit.xml#KeyStore_1173199825578)}
{enabled true}
{alias mycertalias}
{_Websphere_Config_Data_Version {}}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#Certificate_1184698729015}
{_Websphere_Config_Data_Type Certificate}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditEncryptionConfig()
```

- Using Jython list:

```
AdminTask.getAuditEncryptionConfig()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditEncryptionConfig('-interactive')
```

getEncryptionKeyStore

The `getEncryptionKeyStore` command retrieves the attributes for the keystore that contains the certificate that the system uses to encrypt the audit records.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a list of attributes for the keystore of interest, as the following example displays:

```
{location ${CONFIG_ROOT}/audittrust.p12}
{password *****}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#KeyStore_1173199825578}
{_Websphere_Config_Data_Version {}}
{useForAcceleration false}
{slot 0}
{type PKCS12}
{additionalKeyStoreAttrs {}}
{fileBased true}
```

```
{_Websphere_Config_Data_Type KeyStore}
{customProviderClass {}}
{hostList {}}
{keystoreRef KeyStore_1173199825578}
{createStashFileForCMS false}
{description {keyStore description}}
{managementScope (cells/CHEYENNE04Cell|audit.xml#ManagementScope_1173199825608)}
{readOnly false}
{initializeAtStartup true}
{usage {}}
{provider IBMJCE}
{name AuditDefaultKeyStore}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getEncryptionKeyStore()
```

- Using Jython list:

```
AdminTask.getEncryptionKeyStore()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getEncryptionKeyStore('-interactive')
```

importAuditCertFromManagedKS

The `importAuditCertFromManagedKS` command imports a self-signed certificate into a keystore from a managed audit keystore. Use this command internally to automatically generate a certificate for encryption or signing and to import a certificate into the keystore.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the managed keystore. (String, required)

-fromKeyStoreName

Specifies the unique name of the managed keystore that contains the certificate to import. (String, required)

-fromKeyStorePassword

Specifies the password of the managed keystore that contains the certificate to import. (String, required)

-certificateAliasFromKeyFile

Specifies the alias of the certificate to import from the managed keystore file. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope name of the keystore. (String, optional)

-fromKeyStoreScope

Specifies the scope of the managed keystore that contains the certificate to import. (String, optional)

-certificateAlias

Specifies a unique name to identify the imported certificate. (String, optional)

Return value

The command returns a value of `true` if the system successfully imports the audit certificate.

Batch mode example usage

- Using Jython string:

```
AdminTask.importAuditCertFromManagedKS('-keyStoreName AuditDefaultKeyStore -keyStoreScope  
(cell):myNode03Cell -fromKeyStoreName AuditSecondDefaultKeyStore -fromKeyStoreScope  
(cell):myNode03Cell -fromKeyStorePassword myPwd  
-certificateAliasFromKeyFile root -certificateAlias myimportcert')
```

- Using Jython list:

```
AdminTask.importAuditCertFromManagedKS(['-keyStoreName', 'AuditDefaultKeyStore', '-keyStoreScope',  
'(cell):Node04Cell', '-fromKeyStoreName', 'AuditSecondDefaultKeyStore', '-fromKeyStoreScope',  
'(cell):myNode03Cell', '-fromKeyStorePassword', 'myPwd', '-certificateAliasFromKeyFile',  
'root', '-certificateAlias', 'myimportcert'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.importAuditCertFromManagedKS('-interactive')
```

importAuditCertificate

The `importAuditCertificate` command imports a self-signed certificate into a keystore. Use this command internally to automatically generate a certificate for encryption or signing and to import a certificate into the keystore. To use this command, you must adhere to the following user role and privilege guidelines:

- You must have audit privileges to import the certificate to an audit keystore.
- You must have the auditor and administrator roles to import the certificate to a security keystore.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the keystore. (String, required)

-keyFilePath

Specifies the key store path name that contains the certificate to import. (String, required)

-keyFilePassword

Specifies the password of the keystore that contains the certificate to import. (String, required)

-keyFileType

Specifies the type of the keystore. (String, required)

-certificateAliasFromKeyFile

Specifies the alias of the certificate to import from the keystore file. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope name of the keystore. (String, optional)

-certificateAlias

Specifies a unique name to identify the imported certificate. (String, optional)

Return value

The command returns a value of `true` if the system successfully imports the audit certificate.

Batch mode example usage

- Using Jython string:

```
AdminTask.importAuditCertificate('-keyStoreName AuditDefaultKeyStore -keyStoreScope
(cell):Node04Cell -keyFilePath c:/wasinstall/appserver/profiles/AppSrv01/config/cells/Node04Cell/nodes/Node04/trust.p12
-keyFilePassword myPwd -keyFileType PKCS12 -certificateAliasFromKeyFile root -certificateAlias myimportcert')
```

- Using Jython list:

```
AdminTask.importAuditCertificate(['-keyStoreName', 'AuditDefaultKeyStore', '-keyStoreScope', '(cell):Node04Cell',
'-keyFilePath', 'c:/wasinstall/appserver/profiles/AppSrv01/config/cells/Node04Cell/nodes/Node04/trust.p12',
'-keyFilePassword', 'myPwd', '-keyFileType', 'PKCS12', '-certificateAliasFromKeyFile', 'root',
'-certificateAlias', 'myimportcert'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.importAuditCertificate('-interactive')
```

importEncryptionCertificate

The importEncryptionCertificate command imports the self-signed certificate that the system uses to encrypt audit data from the encryption keystore into a managed keystore in security.xml.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the keystore. (String, required)

-keyFilePath

Specifies the key store path name that contains the certificate to import. (String, required)

-keyFilePassword

Specifies the password of the keystore that contains the certificate to import. (String, required)

-keyFileType

Specifies the type of the keystore. (String, required)

-certificateAliasFromKeyFile

Specifies the alias of the certificate to import from the keystore file. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope name of the keystore. (String, optional)

-certificateAlias

Specifies a unique name to identify the imported certificate. (String, optional)

Return value

The command returns a value of true if the system successfully imports the encryption certificate.

Batch mode example usage

- Using Jython string:

```
AdminTask.importEncryptionCertificate('-keyStoreName DefaultKeyStore -keyStoreScope (cell):Node04Cell
-keyFilePath c:/wasinstall/appserver/profiles/AppSrv01/config/cells/Node04Cell/nodes/Node04/trust.p12
-keyFilePassword myPwd -keyFileType PKCS12 -certificateAliasFromKeyFile root -certificateAlias myimportcert')
```

- Using Jython list:


```
AdminTask.importEncryptionCertificate(['-keyStoreName', 'DefaultKeyStore', '-keyStoreScope', '(cell):Node04Cell',
'-keyFilePath', 'c:/wasinstall/appserver/profiles/AppSrv01/config/cells/Node04Cell/nodes/Node04/trust.p12',
'-keyFilePassword', 'myPwd', '-keyFileType', 'PKCS12', '-certificateAliasFromKeyFile', 'root',
'-certificateAlias', 'myimportcert'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.importEncryptionCertificate('-interactive')
```

isAuditEncryptionEnabled

The `isAuditEncryptionEnabled` command determines if audit record encryption is enabled.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if audit record encryption is enabled.

Batch mode example usage

- Using Jython string:

```
AdminTask.isAuditEncryptionEnabled()
```

- Using Jython list:

```
AdminTask.isAuditEncryptionEnabled()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.isAuditEncryptionEnabled('-interactive')
```

listAuditEncryptionKeyStores

The `listAuditEncryptionKeyStores` command retrieves the attributes for each configured encryption keystore from the `audit.xml` file. The command returns attributes for active and inactive keystores.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a list of attributes for each configured keystore, as the following example output displays:

```
{location ${CONFIG_ROOT}/audittrust.p12}
{password *****}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#KeyStore_1173199825578}
{useForAcceleration false}
{slot 0}
{type PKCS12}
{additionalKeyStoreAttrs {}}
{fileBased true}
{_Websphere_Config_Data_Type KeyStore}
{customProviderClass {}}
{hostList {}}
{keystoreRef KeyStore_1173199825578}
{createStashFileForCMS false}
```

```
{description {keyStore description}}
{readOnly false}
{initializeAtStartup true}
{managementScope (cells/CHEYENNENode04Cell|audit.xml#ManagementScope_1173199825608)}
{usage {}}
{provider IBMJCE}
{name AuditDefaultKeyStore}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.listAuditEncryptionKeyStores()
```

- Using Jython list:

```
AdminTask.listAuditEncryptionKeyStores()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listAuditEncryptionKeyStores('-interactive')
```

listCertAliases

The `listCertAliases` command retrieves a list of the personal certificates in the keystore, as specified by the keystore name and scope of interest.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-keyStoreName

Specifies the unique name of the keystore. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope of the keystore. The default value is the cell scope. (String, optional)

Return value

The command returns a list of certificate aliases for the personal certificates that are configured for the keystore, as the following sample output displays:

```
mycertalias
```

Batch mode example usage

- Using Jython string:

```
AdminTask.listCertAliases('-keyStoreName AuditDefaultKeyStore -keyStoreScope (cell):Node04Cell')
```

- Using Jython list:

```
AdminTask.listCertAliases(['-keyStoreName AuditDefaultKeyStore -keyStoreScope (cell):Node04Cell'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listCertAliases('-interactive')
```

modifyAuditEncryptionConfig

The `modifyAuditEncryptionConfig` command modifies the encryption model that the system uses to encrypt the audit records. Specify values for the `-enableAuditEncryption`, `-certAlias`, and `encryptionKeyStoreRef` parameters to use an existing keystore. Do not specify the `-importCert` or `-autogenCert` parameters if you use an existing keystore.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

None

Optional parameters

-enableAuditEncryption

Specifies whether to encrypt audit records. This parameter modifies your audit policy configuration. (Boolean, optional)

-autogenCert

Specifies whether to automatically generate the certificate used to encrypt the audit records. You must specify either this parameter or the `-importCert` parameter, but you cannot specify both. (Boolean, optional)

-importCert

Specifies whether to import an existing certificate to encrypt the audit records. You must specify either this parameter or the `-autogenCert` parameter, but you cannot specify both. (Boolean, optional)

-certKeyFileName

Specifies the unique name of the key file for the certificate to import. (String, optional)

-certKeyFilePath

Specifies the key file location for the certificate to import. (String, optional)

-certKeyFileType

Specifies the key file type for the certificate to import. (String, optional)

-certKeyFilePassword

Specifies the key file password for the certificate to import. (String, optional)

-certAliasToImport

Specifies the alias of the certificate to import. (String, optional)

-certAlias

Specifies the alias name that identifies the generated or imported certificate. (String, optional)

-encryptionKeyStoreRef

Specifies the reference ID of the keystore to import the certificate to. (String, optional)

Return value

The command returns a value of `true` if the system successfully updates the configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyAuditEncryptionConfig('-enableAuditEncryption true -certAlias mycertalias  
-encryptionKeyStoreRef KeyStore_1173199825578')
```

- Using Jython list:

```
AdminTask.modifyAuditEncryptionConfig(['-enableAuditEncryption', 'true', '-certAlias', 'mycertalias',  
'-encryptionKeyStoreRef', 'KeyStore_1173199825578'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyAuditEncryptionConfig('-interactive')
```

renewAuditCertificate

The `renewAuditCertificate` command renews a self signed certificate in an audit keystore.

The user must have the auditor administrative role to run this command.

Target object

None.

-keyStoreName

Specifies the unique name of the managed keystore of interest. (String, required)

-certificateAlias

Specifies a unique name to identify the exported certificate to renew. (String, required)

Optional parameters

-keyStoreScope

Specifies the scope name of the keystore of interest. (String, optional)

Return value

The command returns a value of `true` if the system successfully updates the configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.renewAuditCertificate('-keyStoreName auditEncryptionKeyStore  
-certificateAlias newauditcert')
```

- Using Jython list:

```
AdminTask.renewAuditCertificate(['-keyStoreName', 'auditEncryptionKeyStore',  
'-certificateAlias', 'newauditcert'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.renewAuditCertificate('-interactive')
```

AuditEventFactoryCommands for the AdminTask object

You can use the Jython scripting language to configure the security auditing system with the `wsadmin` tool. Use the commands and parameters in the `AuditEventFactoryCommands` group to configure the default or a third-party audit event factory.

Use the following commands to configure the default audit event factory or a third-party audit event factory:

- “`createAuditEventFactory`” on page 331
- “`deleteAuditEventFactoryByName`” on page 332
- “`deleteAuditEventFactoryByRef`” on page 332
- “`getAuditEventFactory`” on page 333
- “`getAuditEventFactoryClass`” on page 333

- “getAuditEventFactoryFilters” on page 334
- “getAuditEventFactoryName” on page 335
- “getAuditEventFactoryProvider” on page 335
- “listAuditEventFactories” on page 336
- “modifyAuditEventFactory” on page 337
- “setAuditEventFactoryFilters” on page 338

createAuditEventFactory

The createAuditEventFactory command creates an audit event factory in your security auditing system configuration. You can use the default implementation of the audit event factory or use a third-party implementation. To configure a third-party implementation, use the optional -customProperties parameter to specify any properties necessary to configure the audit event factory implementation.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-uniqueName

Specifies a unique name that identifies the audit event factory. (String, required)

-className

Specifies the class implementation of the audit event factory interface. (String, required)

-provider

Specifies a reference to a predefined audit service provider implementation. (String, required)

-auditFilters

Specifies a reference or a group of references to predefined audit filters, using the following format: reference, reference, reference (String, required)

Optional parameters

-customProperties

Specifies any custom properties necessary to configure a third-party implementation. (String, optional)

Return value

The command returns the shortened reference ID for the newly created audit event factory.

Batch mode example usage

- Using Jython string:

```
AdminTask.createAuditEventFactory('-uniqueName myeventfactory -className
com.mycompany.myeventfactoryclass -provider AuditServiceProvider_1173199825608
-customProperties a=b -auditFilters AuditSpecification_1184598886859')
```

- Using Jython list:

```
AdminTask.createAuditEventFactory(['-uniqueName', 'myeventfactory', '-className',
'com.mycompany.myeventfactoryclass', '-provider', 'AuditServiceProvider_1173199825608',
'-customProperties', 'a=b', '-auditFilters', 'AuditSpecification_1184598886859'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createAuditEventFactory()
```

deleteAuditEventFactoryByName

The `deleteAuditEventFactoryByName` command deletes the audit event factory implementation in the `audit.xml` file that matches a specific unique name identifier.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-uniqueName

Specifies the unique name of the audit event factory implementation. (String, required)

Return value

The command returns a value of `true` if the system successfully deletes the audit event factory.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditEventFactoryByName('-uniqueName  
myeventfactory')
```

- Using Jython list:

```
AdminTask.deleteAuditEventFactoryByName(['-uniqueName', 'myeventfactory'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditEventFactoryByName('-interactive')
```

deleteAuditEventFactoryByRef

The `deleteAuditEventFactoryByRef` command deletes the audit event factory implementation that matches the reference ID of interest.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-eventFactoryRef

Specifies an audit event factory implementation. This parameter can be a reference to the event factory object. (String, required)

Return value

The command returns a value of `true` if the system successfully deletes the audit event factory.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditEventFactoryByRef('-eventFactoryRef  
AuditEventFactory_1184688293515')
```

- Using Jython list:

```
AdminTask.deleteAuditEventFactoryByRef(['-eventFactoryRef', 'AuditEventFactory_1184688293515'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditEventFactoryByRef('-interactive')
```

getAuditEventFactory

The `getAuditEventFactory` command retrieves the list of attributes for the audit event factory implementation in the `audit.xml` file for a specific reference id.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-eventFactoryRef

Specifies an audit event factory implementation. This parameter can be a reference to the event factory object. (String, required)

Return value

The command returns an attribute list for the audit event factory implementation of interest, as the following example output displays:

```
{{name myeventfactory}
{properties {{{validationExpression {}}
{name a}
{description {}}
{value b}
{_Websphere_Config_Data_Id cells/Node04Cell|audit.xml#Property_1184688593531}
{_Websphere_Config_Data_Type Property}
{required false}}}}
{className com.mycompany.myeventfactoryclass}
{auditServiceProvider auditServiceProviderImpl_1(cells/Node04Cell|audit.xml#AuditServiceProvider_1173199825608)}
{auditSpecifications DefaultAuditSpecification_1(cells/Node04Cell|audit.xml#AuditSpecification_1173199825608)}
{_Websphere_Config_Data_Id cells/Node04Cell|audit.xml#AuditEventFactory_1184688293515}
{_Websphere_Config_Data_Type AuditEventFactory}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditEventFactory('-eventFactoryRef AuditEventFactory_1184688293515')
```

- Using Jython list:

```
AdminTask.getAuditEventFactory(['-eventFactoryRef', 'AuditEventFactory_1184688293515'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditEventFactory('-interactive')
```

getAuditEventFactoryClass

The `getAuditEventFactoryClass` command retrieves the class name of the audit event factory implementation that matches a specific reference ID in the `audit.xml` configuration file.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-eventFactoryRef

Specifies an audit event factory implementation. This parameter can be a reference to the event factory object. (String, required)

Return value

The command returns the class name of the audit event factory of interest, as the following sample output displays:

```
com.mycompany.myeventfactoryclass
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditEventFactoryClass('-eventFactoryRef  
AuditEventFactory_1184688293515')
```

- Using Jython list:

```
AdminTask.getAuditEventFactoryClass(['-eventFactoryRef',  
'AuditEventFactory_1184688293515'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditEventFactoryClass('-interactive')
```

getAuditEventFactoryFilters

The `getAuditEventFactoryFilters` command retrieves a list of defined filters for the passed-in event factory.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-eventFactoryRef

Specifies an audit event factory implementation. This parameter can be a reference to the event factory object. (String, required)

Return value

The command returns a list of the defined filters for the event factory reference of interest in a shortened format, as the following sample output displays:

```
AUTHN:SUCCESS,AUTHN:INFO,AUTHZ:SUCCESS,AUTHZ:INFO
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditEventFactoryFilters('-eventFactoryRef  
AuditEventFactory_1184688293515')
```

- Using Jython list:

```
AdminTask.getAuditEventFactoryFilters(['-eventFactoryRef',  
'AuditEventFactory_1184688293515'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditEventFactoryFilters('-interactive')
```

getAuditEventFactoryName

The `getAuditEventFactoryName` command retrieves the unique name of the audit event factory implementation that matches a specific reference ID in the `audit.xml` configuration file.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-eventFactoryRef

Specifies an audit event factory implementation. This parameter can be a reference to the event factory object. (String, required)

Return value

The command returns the name of the audit event factory, as the following sample output displays:

```
myeventfactory
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditEventFactoryName(['-eventFactoryRef',  
AuditEventFactory_1184688293515'])
```

- Using Jython list:

```
AdminTask.getAuditEventFactoryName(['-eventFactoryRef',  
'AuditEventFactory_1184688293515'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditEventFactoryName('-interactive')
```

getAuditEventFactoryProvider

The `getAuditEventFactoryProvider` command retrieves the object name of the audit service provider that a specific audit event factory implementation uses in the `audit.xml` configuration file.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-eventFactoryRef

Specifies an audit event factory implementation. This parameter can be a reference to the event factory object. (String, required)

Return value

The command returns the object name of the audit service provider for the audit event factory of interest, as the following sample output displays:

```
auditServiceProviderImpl_1(cells/Node04Cell|audit.xml#AuditServiceProvider_1173199825608)
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditEventFactoryProvider('-eventFactoryRef  
AuditEventFactory_1184688293515')
```

- Using Jython list:

```
AdminTask.getAuditEventFactoryProvider(['-eventFactoryRef',  
'AuditEventFactory_1184688293515'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditEventFactoryProvider('-interactive')
```

listAuditEventFactories

The listAuditEventFactories command retrieves a list of audit event factory objects and their attributes that are defined in the audit.xml file.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns an array list of audit event factories and attributes, as the following example output displays:

```
{{auditSpecifications DefaultAuditSpecification_1(cells/Node04Cell|audit.xml#AuditSpecification_1173199825608)  
DefaultAuditSpecification_2(cells/Node04Cell|audit.xml#AuditSpecification_1173199825609)  
DefaultAuditSpecification_3(cells/Node04Cell|audit.xml#AuditSpecification_1173199825610)  
DefaultAuditSpecification_4(cells/Node04Cell|audit.xml#AuditSpecification_1173199825611)}  
{name auditEventFactoryImpl_1}  
{_Websphere_Config_Data_Id cells/Node04Cell|audit.xml#AuditEventFactory_1173199825608}  
{_Websphere_Config_Data_Type AuditEventFactory}  
{auditSpecRef4 AuditSpecification_1173199825611}  
{properties {}}  
{auditSpecRef3 AuditSpecification_1173199825610}  
{className com.ibm.ws.security.audit.AuditEventFactoryImpl}  
{auditServiceProvider auditServiceProviderImpl_1(cells/Node04Cell|audit.xml#AuditServiceProvider_1173199825608)}  
{auditSpecRef2 AuditSpecification_1173199825609}  
{auditSpecRef1 AuditSpecification_1173199825608}  
{auditEventFactoryRef AuditEventFactory_1173199825608}  
{emitterRef AuditServiceProvider_1173199825608}  
{{auditSpecifications myfilter(cells/Node04Cell|audit.xml#AuditSpecification_1184598886859)}  
{name myeventfactory}  
{_Websphere_Config_Data_Id cells/Node04Cell|audit.xml#AuditEventFactory_1184688293515}  
{_Websphere_Config_Data_Type AuditEventFactory}  
{className com.mycompany.myeventfactoryclass}  
{auditServiceProvider auditServiceProviderImpl_1(cells/Node04Cell|audit.xml#AuditServiceProvider_1173199825608)}  
{properties {{{validationExpression {}}  
{name a}  
{description {}}  
{value b}  
{_Websphere_Config_Data_Id cells/Node04Cell|audit.xml#Property_1184688293546}  
{_Websphere_Config_Data_Type Property}  
{required false}}}}}  
{auditSpecRef1 AuditSpecification_1184598886859}  
{auditEventFactoryRef AuditEventFactory_1184688293515}  
{emitterRef AuditServiceProvider_1173199825608}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.listAuditEventFactories()
```

- Using Jython list:

```
AdminTask.listAuditEventFactories()
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.listAuditEventFactories('-interactive')
```

modifyAuditEventFactory

The `modifyAuditEventFactory` command modifies the attributes of the audit event factory implementation that the command references with the reference id.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-eventFactoryRef

Specifies an audit event factory implementation. This parameter can be a reference to the event factory object. (String, required)

Optional parameters

-provider

Specifies the reference ID of an audit service provider implementation. (String, optional)

-className

Specifies the name of the class that implements the audit event factory interface. (String, optional)

-customProperties

Specifies one or more custom properties to associate with the audit event factory of interest. Use the following format: `name=value, name=value` (String, optional)

-auditFilters

Specifies a list of references to audit filters that exist in your configuration. You can separate each item in the list with a comma (`,`), a semicolon (`;`), or a space. (String, optional)

Return value

The command returns a value of `true` if the system successfully updates the security auditing system configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyAuditEventFactory('-eventFactoryRef AuditEventFactory_1184688293515 -provider AuditServiceProvider_1173199825608 -customProperties b=c')
```

- Using Jython list:

```
AdminTask.modifyAuditEventFactory(['-eventFactoryRef', 'AuditEventFactory_1184688293515', '-provider', 'AuditServiceProvider_1173199825608', '-customProperties', 'b=c'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyAuditEventFactory('-interactive')
```

setAuditEventFactoryFilters

The setAuditEventFactoryFilters command sets the filters for an audit event factory implementation.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-eventFactoryRef

Specifies an audit event factory implementation. This parameter can be a reference to the event factory object. (String, required)

-filtersRef

Specifies a list of references to defined audit filters. (String, required)

Return value

The command returns a value of true if the system successfully sets the filters for the audit event factory.

Batch mode example usage

- Using Jython string:

```
AdminTask.setAuditEventFactoryFilters('-eventFactoryRef AuditEventFactory_1184688293515  
-filtersRef AuditSpecification_1173199825608')
```

- Using Jython list:

```
AdminTask.setAuditEventFactoryFilters(['-eventFactoryRef', 'AuditEventFactory_1184688293515',  
'-filtersRef', 'AuditSpecification_1173199825608'])
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.setAuditEventFactoryFilters('-interactive')
```

AuditFilterCommands command group for the AdminTask object

You can use the Jython scripting language to configure the security auditing system with the wsadmin tool. Use the commands and parameters in the AuditFilterCommands group to configure and manage auditable events.

Use the following commands to configure filters for auditable events in your security auditing configuration:

- “convertFilterRefToString” on page 339
- “convertFilterStringToRef” on page 339
- “createAuditFilter” on page 340
- “deleteAuditFilter” on page 341
- “deleteAuditFilterByRef” on page 342
- “disableAuditFilter” on page 343
- “enableAuditFilter” on page 343
- “getAuditFilter” on page 344
- “getAuditOutcomes” on page 345
- “getSupportedAuditEvents” on page 346
- “getSupportedAuditOutcomes” on page 346
- “isAuditFilterEnabled” on page 347
- “isEventEnabled” on page 348

- “listAuditFilters” on page 349
- “listAuditFiltersByEvent” on page 350
- “listAuditFiltersByRef” on page 350
- “modifyAuditFilter” on page 351

convertFilterRefToString

The `convertFilterRefToString` command converts a reference ID of a filter to a shortened string value such as `AUTHN:SUCCESS`.

Target object

None.

Required parameters

-filterRef

Specifies a reference ID for a specific audit filter in the `audit.xml` file. The system defines 4 default audit filters by default. Use the `createAuditFilter` command to create additional audit filters in your `audit.xml` configuration file. (String, required)

Return value

The command returns the string value of an event type in a shortened format, as the following sample output displays:

```
AUTHN:SUCCESS,AUTHN:INFO,AUTHZ:SUCCESS,AUTHZ:INFO
```

Batch mode example usage

- Using Jython string:

```
AdminTask.convertFilterRefToString('-filterRef AuditSpecification_1184598886859')
```

- Using Jython list:

```
AdminTask.convertFilterRefToString(['-filterRef', 'AuditSpecification_1184598886859'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.convertFilterRefToString('-interactive')
```

convertFilterStringToRef

The `convertFilterStringToRef` command converts the shortened name of an event type, such as `AUTHN:SUCCESS`, to the reference ID of the audit filter in the `audit.xml` configuration file.

The command accepts one event and outcome pair. The command does not accept multiple event and outcome pairs, such as `AUTHN:SUCCESS AUTHZ:SUCCESS`.

Target object

None.

Required parameters

-filter

Specifies a shortened form of a reference ID for an audit filter, such as `AUTHN:SUCCESS`. The event type must exist in your security auditing system configuration. (String, required)

Return value

The command returns the reference ID for the event type of interest, as the following example displays:

```
AuditSpecification_1173199825608
```

Batch mode example usage

- Using Jython string:

```
AdminTask.convertFilterStringToRef('-filter AUTHN:SUCCESS')
```

- Using Jython list:

```
AdminTask.convertFilterStringToRef(['-filter', 'AUTHN:SUCCESS'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.convertFilterStringToRef('-interactive')
```

createAuditFilter

The `createAuditFilter` command creates and enables a new audit event filter specification entry in the `audit.xml` configuration file.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-name

Specifies a unique name to associate with the audit event filter. (String, required)

-eventType

Specifies a list of one or more auditable events. To specify a list, separate each outcome with a comma (,) character. (String, required)

You can configure the following auditable events in your security auditing system:

Table 54. Event types. Valid auditable events can be specified as an enabled event type when creating an event filter:

Event name	Description
SECURITY_AUTHN	Audits all authentication events
SECURITY_AUTHN_MAPPING	Audits events that record mapping of credentials where two user identities are involved
SECURITY_AUTHN_TERMINATE	Audits authentication termination events such as a timeout, terminated session, or user-initiated logging out
SECURITY_AUTHZ	Audits events related to authorization checks when the system enforces access control policies
SECURITY_RUNTIME	Audits runtime events such as the starting and the stopping of security servers. This event type is not meant for administrative operations performed by a system administrator as such operations need to use the other SECURITY_MGMT_* event types.
SECURITY_MGMT_AUDIT	Audits events that record operations related to the audit subsystem such as starting audit, stopping audit, turning audit on or off, changing configuration of audit filters or level, archiving audit data, purging audit data, and so on.
SECURITY_RESOURCE_ACCESS	Audits events that record all accesses to a resource. Examples are all accesses to a file, all HTTP requests and responses to a given web page, and all accesses to a critical database table
SECURITY_SIGNING	Audits events that record signing such as signing operations used to validate parts of a SOAP Message for web services
SECURITY_ENCRYPTION	Audits events that record encryption information such as encryption for web services
SECURITY_AUTHN_DELEGATION	Audits events that record delegation, including identity assertion, RunAs, and low assertion. Used when the client identity is propagated or when delegation involves the use of a special identity. This event type is also used when switching user identities within a given session.
SECURITY_AUTHN_CREDS_MODIFY	Audits events to modify credentials for a given user identity

Important: The following security audit event types are not used in this release of WebSphere Application Server:

- SECURITY_MGMT_KEY
- SECURITY_RUNTIME_KEY
- SECURITY_MGMT_PROVISIONING
- SECURITY_MGMT_REGISTRY
- SECURITY_RUNTIME

-outcome

Specifies a list of one or multiple event outcomes. For each audit event type, you must specify an outcome. Valid outcomes include SUCCESS, FAILURE, REDIRECT, ERROR, DENIED, WARNING, and INFO. (String, required)

Return value

If the system is successful, the command returns the reference ID for the new audit event filter, as the following sample output displays:

```
AuditSpecification_1184689433421
```

Batch mode example usage

- Using Jython string:

```
AdminTask.createAuditFilter('-name myfilter -eventType  
"SECURITY_MGMT_PROVISIONING, SECURITY_MGMT_POLICY" -outcome SUCCESS')
```

- Using Jython list:

```
AdminTask.createAuditFilter(['-name', 'myfilter', '-eventType',  
"SECURITY_MGMT_PROVISIONING, 'SECURITY_MGMT_POLICY'", '-outcome', 'SUCCESS'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createAuditFilter('-interactive')
```

deleteAuditFilter

The deleteAuditFilter command deletes the audit event filter specification from the audit.xml file that the system references by an event type and outcome.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-eventType

Specifies the auditable event to delete. (String, required)

The following table displays all valid event types:

Table 55. Event types. Valid auditable events can be specified as an enabled event type when creating an event filter:

Event name	Description
SECURITY_AUTHN	Audits all authentication events
SECURITY_AUTHN_MAPPING	Audits events that record mapping of credentials where two user identities are involved
SECURITY_AUTHN_TERMINATE	Audits authentication termination events such as a timeout, terminated session, or user-initiated logging out

Table 55. Event types (continued). Valid auditable events can be specified as an enabled event type when creating an event filter:

Event name	Description
SECURITY_AUTHZ	Audits events related to authorization checks when the system enforces access control policies
SECURITY_RUNTIME	Audits runtime events such as the starting and the stopping of security servers. This event type is not meant for administrative operations performed by a system administrator as such operations need to use the other SECURITY_MGMT_* event types.
SECURITY_MGMT_AUDIT	Audits events that record operations related to the audit subsystem such as starting audit, stopping audit, turning audit on or off, changing configuration of audit filters or level, archiving audit data, purging audit data, and so on.
SECURITY_RESOURCE_ACCESS	Audits events that record all accesses to a resource. Examples are all accesses to a file, all HTTP requests and responses to a given web page, and all accesses to a critical database table
SECURITY_SIGNING	Audits events that record signing such as signing operations used to validate parts of a SOAP Message for web services
SECURITY_ENCRYPTION	Audits events that record encryption information such as encryption for web services
SECURITY_AUTHN_DELEGATION	Audits events that record delegation, including identity assertion, RunAs, and low assertion. Used when the client identity is propagated or when delegation involves the use of a special identity. This event type is also used when switching user identities within a given session.
SECURITY_AUTHN_CREDS_MODIFY	Audits events to modify credentials for a given user identity

-outcome

Specifies the event outcome. Valid outcomes include SUCCESS, FAILURE, REDIRECT, ERROR, DENIED, WARNING, and INFO. (String, required)

Return value

The command returns a value of true if the system successfully deletes the audit filter from your configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditFilter('-eventType SECURITY_AUTHN -outcome SUCCESS')
```

- Using Jython list:

```
AdminTask.deleteAuditFilter(['-eventType', 'SECURITY_AUTHN', '-outcome', 'SUCCESS'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditFilter('-interactive')
```

deleteAuditFilterByRef

The deleteAuditFilterByRef command deletes the audit filter that the system references by the referenced id.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-filterRef

Specifies the reference ID for an audit filter in your security auditing system configuration. (String, required)

Return value

The command returns a value of `true` if the system successfully deletes the audit filter specification from the `audit.xml` file.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditFilterByRef('-filterRef AuditSpecification_1173199825608')
```

- Using Jython list:

```
AdminTask.deleteAuditFilterByRef(['-filterRef', 'AuditSpecification_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditFilterByRef('-interactive')
```

disableAuditFilter

The `disableAuditFilter` command disables the audit filter specification that corresponds to a specific reference id.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-filterRef

Specifies a reference ID for a specific audit filter in the `audit.xml` file. The system defines 4 default audit filters by default. Use the `createAuditFilter` command to create additional audit filters in your `audit.xml` configuration file. (String, required)

Return value

The command returns a value of `true` if the system successfully disables the audit filter.

Batch mode example usage

- Using Jython string:

```
AdminTask.disableAuditFilter('-filterRef', 'AuditSpecification_1184689433421')
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.disableAuditFilter('-interactive')
```

enableAuditFilter

The `enableAuditFilter` command enables the audit filter specification that corresponds to a specific reference id. Use this command to enable a filter that was previously configured and disabled in your security auditing system configuration. To create a new audit filter specification, use the `createAuditFilter` command.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-filterRef

Specifies a reference ID for a specific audit filter in the `audit.xml` file. The system defines 4 default audit filters by default. Use the `createAuditFilter` command to create additional audit filters in your `audit.xml` configuration file. (String, required)

Return value

The command returns a value of `true` if the system successfully enables the audit filter.

Batch mode example usage

- Using Jython string:

```
AdminTask.enableAuditFilter('-filterRef AuditSpecification_1184689433421')
```

- Using Jython list:

```
AdminTask.enableAuditFilter(['-filterRef', 'AuditSpecification_1184689433421'])
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.enableAuditFilter('-interactive')
```

getAuditFilter

The `getAuditFilter` command retrieves the attributes that the system associates with the audit filter specification of interest.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-reference

Specifies the reference ID for an audit filter in your security auditing system configuration. (String, required)

Return value

The command returns a list of attributes for the audit filter specification of interest, as the following sample output displays:

```
{(enabled true)
{name DefaultAuditSpecification_1}
{event SECURITY_AUTHN
SECURITY_AUTHN_MAPPING}
{outcome FAILURE}
{_Websphere_Config_Data_Id cells/Node04Cell|audit.xml#AuditSpecification_1173199825608}
{_Websphere_Config_Data_Type AuditSpecification}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditFilter('-reference AuditSpecification_1173199825608')
```

- Using Jython list:

```
AdminTask.getAuditFilter(['-reference', 'AuditSpecification_1173199825608'])
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.getAuditFilter('-interactive')
```

getAuditOutcomes

The `getAuditOutcomes` command retrieves a list of the enabled outcomes for the auditable event type of interest.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-eventType

Specifies a list of one or more auditable events. To specify a list, separate each outcome with a comma (,) character. (String, required)

You can retrieve the event outcome for any of the following auditable events that might be configured in your security auditing system:

Table 56. Event types. Valid auditable events can be specified as an enabled event type when creating an event filter:

Event name	Description
SECURITY_AUTHN	Audits all authentication events
SECURITY_AUTHN_MAPPING	Audits events that record mapping of credentials where two user identities are involved
SECURITY_AUTHN_TERMINATE	Audits authentication termination events such as a timeout, terminated session, or user-initiated logging out
SECURITY_AUTHZ	Audits events related to authorization checks when the system enforces access control policies
SECURITY_RUNTIME	Audits runtime events such as the starting and the stopping of security servers. This event type is not meant for administrative operations performed by a system administrator as such operations need to use the other SECURITY_MGMT_* event types.
SECURITY_MGMT_AUDIT	Audits events that record operations related to the audit subsystem such as starting audit, stopping audit, turning audit on or off, changing configuration of audit filters or level, archiving audit data, purging audit data, and so on.
SECURITY_RESOURCE_ACCESS	Audits events that record all accesses to a resource. Examples are all accesses to a file, all HTTP requests and responses to a given web page, and all accesses to a critical database table
SECURITY_SIGNING	Audits events that record signing such as signing operations used to validate parts of a SOAP Message for web services
SECURITY_ENCRYPTION	Audits events that record encryption information such as encryption for web services
SECURITY_AUTHN_DELEGATION	Audits events that record delegation, including identity assertion, RunAs, and low assertion. Used when the client identity is propagated or when delegation involves the use of a special identity. This event type is also used when switching user identities within a given session.
SECURITY_AUTHN_CREDS_MODIFY	Audits events to modify credentials for a given user identity

Return value

The command returns one or multiple outcomes for the event type of interest, as the following sample output displays:

```
SUCCESS
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditOutcomes('-eventType SECURITY_MGMT_PROVISIONING')
```

- Using Jython list:

```
AdminTask.getAuditOutcomes(['-eventType', 'SECURITY_MGMT_PROVISIONING'])
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.getAuditOutcomes('-interactive')
```

getSupportedAuditEvents

The `getSupportedAuditEvents` command returns a list of each supported auditable event.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns the following list of possible event outcomes:

```
SECURITY_AUTHN SECURITY_AUTHN_CREDS_MODIFY  
SECURITY_AUTHN_DELEGATION SECURITY_AUTHN_MAPPING  
SECURITY_AUTHN_TERMINATE SECURITY_AUTHZ  
SECURITY_ENCRYPTION SECURITY_MGMT_AUDIT  
SECURITY_MGMT_CONFIG SECURITY_MGMT_KEY  
SECURITY_MGMT_POLICY SECURITY_MGMT_PROVISIONING  
SECURITY_MGMT_REGISTRY SECURITY_MGMT_RESOURCE  
SECURITY_RESOURCE_ACCESS SECURITY_RUNTIME  
SECURITY_RUNTIME_KEY SECURITY_SIGNING
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getSupportedAuditEvents()
```

- Using Jython list:

```
AdminTask.getSupportedAuditEvents()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getSupportedAuditEvents('-interactive')
```

getSupportedAuditOutcomes

The `getSupportedAuditOutcomes` command retrieves a list of each supported outcome for the auditable event filters.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns the following list of possible event outcomes:

```
SUCCESS  
INFO  
WARNING  
ERROR  
DENIED  
REDIRECT  
FAILURE
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getSupportedAuditOutcomes()
```

- Using Jython list:

```
AdminTask.getSupportedAuditOutcomes()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getSupportedAuditOutcomes('-interactive')
```

isAuditFilterEnabled

The `isAuditFilterEnabled` command determines if the audit filter of interest is enabled in the `audit.xml` configuration file.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-eventType

Specifies a list of one or more auditable events. To specify a list, separate each outcome with a comma (,) character. (String, required)

The following auditable events might be configured in your security auditing system:

Table 57. Event types. Valid auditable events can be specified as an enabled event type when creating an event filter:

Event name	Description
SECURITY_AUTHN	Audits all authentication events
SECURITY_AUTHN_MAPPING	Audits events that record mapping of credentials where two user identities are involved
SECURITY_AUTHN_TERMINATE	Audits authentication termination events such as a timeout, terminated session, or user-initiated logging out
SECURITY_AUTHZ	Audits events related to authorization checks when the system enforces access control policies
SECURITY_RUNTIME	Audits runtime events such as the starting and the stopping of security servers. This event type is not meant for administrative operations performed by a system administrator as such operations need to use the other SECURITY_MGMT_* event types.
SECURITY_MGMT_AUDIT	Audits events that record operations related to the audit subsystem such as starting audit, stopping audit, turning audit on or off, changing configuration of audit filters or level, archiving audit data, purging audit data, and so on.
SECURITY_RESOURCE_ACCESS	Audits events that record all accesses to a resource. Examples are all accesses to a file, all HTTP requests and responses to a given web page, and all accesses to a critical database table
SECURITY_SIGNING	Audits events that record signing such as signing operations used to validate parts of a SOAP Message for web services
SECURITY_ENCRYPTION	Audits events that record encryption information such as encryption for web services
SECURITY_AUTHN_DELEGATION	Audits events that record delegation, including identity assertion, RunAs, and low assertion. Used when the client identity is propagated or when delegation involves the use of a special identity. This event type is also used when switching user identities within a given session.
SECURITY_AUTHN_CREDS_MODIFY	Audits events to modify credentials for a given user identity

-outcome

Specifies the event outcome. Valid outcomes include SUCCESS, FAILURE, REDIRECT, ERROR, DENIED, WARNING, and INFO. (String, required)

Return value

The command returns a value of `true` if the event type of interest is enabled in your configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.isAuditFilterEnabled('-eventType SECURITY_MGMT_PROVISIONING  
-outcome SUCCESS')
```

- Using Jython list:

```
AdminTask.isAuditFilterEnabled(['-eventType', 'SECURITY_MGMT_PROVISIONING',  
'-outcome', 'SUCCESS'])
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.isAuditFilterEnabled('-interactive')
```

isEventEnabled

The `isEventEnabled` command determines if the system enabled at least one audit outcome for the event of interest.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-eventType

Specifies a list of one or more auditable events. To specify a list, separate each outcome with a comma (,) character. (String, required)

The following auditable events are available to configure in your security auditing system:

Table 58. Event types. Valid auditable events can be specified as an enabled event type when creating an event filter:

Event name	Description
SECURITY_AUTHN	Audits all authentication events
SECURITY_AUTHN_MAPPING	Audits events that record mapping of credentials where two user identities are involved
SECURITY_AUTHN_TERMINATE	Audits authentication termination events such as a timeout, terminated session, or user-initiated logging out
SECURITY_AUTHZ	Audits events related to authorization checks when the system enforces access control policies
SECURITY_RUNTIME	Audits runtime events such as the starting and the stopping of security servers. This event type is not meant for administrative operations performed by a system administrator as such operations need to use the other SECURITY_MGMT_* event types.
SECURITY_MGMT_AUDIT	Audits events that record operations related to the audit subsystem such as starting audit, stopping audit, turning audit on or off, changing configuration of audit filters or level, archiving audit data, purging audit data, and so on.
SECURITY_RESOURCE_ACCESS	Audits events that record all accesses to a resource. Examples are all accesses to a file, all HTTP requests and responses to a given web page, and all accesses to a critical database table
SECURITY_SIGNING	Audits events that record signing such as signing operations used to validate parts of a SOAP Message for web services
SECURITY_ENCRYPTION	Audits events that record encryption information such as encryption for web services
SECURITY_AUTHN_DELEGATION	Audits events that record delegation, including identity assertion, RunAs, and low assertion. Used when the client identity is propagated or when delegation involves the use of a special identity. This event type is also used when switching user identities within a given session.
SECURITY_AUTHN_CREDS_MODIFY	Audits events to modify credentials for a given user identity

Return value

The command returns a value of `true` if the audit filter of interest has at least one outcome configured in the `audit.xml` file.

Batch mode example usage

- Using Jython string:

```
AdminTask.isEventEnabled('-eventType SECURITY_AUTHN')
```

- Using Jython list:

```
AdminTask.isEventEnabled(['-eventType', 'SECURITY_AUTHN'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.isEventEnabled('-interactive')
```

listAuditFilters

The `listAuditFilters` command lists each audit filter and the corresponding attributes that the system defines in the `audit.xml` file.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a list of audit filters and the corresponding attributes, as the following example displays:

```
{(enabled true)
{name DefaultAuditSpecification_1}
{event SECURITY_AUTHN SECURITY_AUTHN_MAPPING}
{outcome FAILURE}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#AuditSpecification_1173199825608}
[_Websphere_Config_Data_Type AuditSpecification}
{filterRef AuditSpecification_1173199825608}}
{(enabled true)
{name DefaultAuditSpecification_2}
{event {}}
{outcome FAILURE}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#AuditSpecification_1173199825609}
[_Websphere_Config_Data_Type AuditSpecification}
{filterRef AuditSpecification_1173199825609}}
{(enabled true)
{name DefaultAuditSpecification_3}
{event SECURITY_RESOURCE_ACCESS}
{outcome FAILURE}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#AuditSpecification_1173199825610}
[_Websphere_Config_Data_Type AuditSpecification}
{filterRef AuditSpecification_1173199825610}}
{(enabled true)
{name DefaultAuditSpecification_4}
{event SECURITY_AUTHN_TERMINATE}
{outcome FAILURE}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#AuditSpecification_1173199825611}
[_Websphere_Config_Data_Type AuditSpecification}
{filterRef AuditSpecification_1173199825611}}
{(enabled true)
{name myfilter}
{event SECURITY_AUTHZ}
{outcome REDIRECT}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#AuditSpecification_1184365235250}
[_Websphere_Config_Data_Type AuditSpecification}
{filterRef AuditSpecification_1184365235250}}
{(enabled true)
{name myfilter1}
{event SECURITY_AUTHZ SECURITY_RESOURCE_ACCESS}
{outcome REDIRECT INFO}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#AuditSpecification_1184365353218}
[_Websphere_Config_Data_Type AuditSpecification}
{filterRef AuditSpecification_1184365353218}}
{(enabled true)
{name myfilter}
{event SECURITY_AUTHN SECURITY_AUTHZ}
{outcome SUCCESS INFO}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#AuditSpecification_1184598886859}
[_Websphere_Config_Data_Type AuditSpecification}
```

```
{filterRef AuditSpecification_1184598886859}}
{{enabled false}
{name myfilter}
{event SECURITY_MGMT_PROVISIONING SECURITY_MGMT_POLICY}
{outcome SUCCESS}
{ Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#AuditSpecification_1184689433421}
{ Websphere_Config_Data_Type AuditSpecification}
{filterRef AuditSpecification_1184689433421}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.listAuditFilters()
```

- Using Jython list:

```
AdminTask.listAuditFilters()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listAuditFilters('-interactive')
```

listAuditFiltersByEvent

The `listAuditFiltersByEvent` command retrieves a list of events and event outcomes for each audit filter that is configured in the `audit.xml` file.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a list of events and event outcomes for the audit filters of interest, as the following sample output displays:

```
{AuditSpecification_1173199825608 SECURITY_AUTHN:FAILURE}{AuditSpecification_1173199825608 SECURITY_AUTHN_MAPPING:FAILURE}{AuditSpecification_1173199825610 SECURITY_RESOURCE_ACCESS:FAILURE}{AuditSpecification_1173199825611 SECURITY_AUTHN_TERMINATE:FAILURE}{AuditSpecification_1184365235250 SECURITY_AUTHZ:REDIRECT}{AuditSpecification_1184365353218 SECURITY_AUTHZ:REDIRECT;SECURITY_AUTHZ:INFO}{AuditSpecification_1184365353218 SECURITY_RESOURCE_ACCESS:REDIRECT;SECURITY_RESOURCE_ACCESS:INFO}{AuditSpecification_1184598886859 SECURITY_AUTHN:SUCCESS;SECURITY_AUTHN:INFO}{AuditSpecification_1184598886859 SECURITY_AUTHZ:SUCCESS;SECURITY_AUTHZ:INFO}{AuditSpecification_1184689433421 SECURITY_MGMT_PROVISIONING:SUCCESS}{AuditSpecification_1184689433421 SECURITY_MGMT_POLICY:SUCCESS}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.listAuditFiltersByEvent()
```

- Using Jython list:

```
AdminTask.listAuditFiltersByEvent()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listAuditFiltersByEvent('-interactive')
```

listAuditFiltersByRef

The `listAuditFiltersByRef` command lists all reference ids that correspond to the audit filters that are defined in the `audit.xml` file.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a list of each reference that exists in the audit.xml configuration file, as the following sample output displays:

```
AuditSpecification_1173199825608 AuditSpecification_1173199825609
AuditSpecification_1173199825610 AuditSpecification_1173199825611
AuditSpecification_1184365235250 AuditSpecification_1184365353218
AuditSpecification_1184598886859 AuditSpecification_1184689433421
```

Batch mode example usage

- Using Jython string:

```
AdminTask.listAuditFiltersByRef()
```

- Using Jython list:

```
AdminTask.listAuditFiltersByRef()
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.listAuditFiltersByRef('-interactive')
```

modifyAuditFilter

The modifyAuditFilter command modifies the audit filter specification in the audit.xml configuration file.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-filterRef

Specifies the reference ID for the audit filter to modify in your security auditing system configuration. (String, required)

Optional parameters

-name

Specifies a unique name to associate with the audit event filter. (String, optional)

-eventType

Specifies a comma-separated list of one or more event types. (String, optional)

-outcome

Specifies a comma-separated list of one or multiple event outcomes. For each audit event type, you must specify an outcome. Valid outcomes include SUCCESS, FAILURE, REDIRECT, ERROR, DENIED, WARNING, and INFO. (String, optional)

-enableFilter

Specifies whether to enable the filter. Specify true to enable the filter, or false to disable the filter. (Boolean, optional).

Return value

The command returns a value of true if the system successfully updates the audit filter.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyAuditFilter(['-filterRef AuditSpecification_1173199825608 -name  
myname -eventType SECURITY_AUTHN -outcome SUCCESS -enableFilter true'])
```

- Using Jython list:

```
AdminTask.modifyAuditFilter(['-filterRef', 'AuditSpecification_1173199825608', '-name',  
'myname', '-eventType', 'SECURITY_AUTHN', '-outcome', 'SUCCESS', '-enableFilter',  
'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyAuditFilter('-interactive')
```

AuditNotificationCommands command group for the AdminTask object

You can use the Jython scripting language to manage the security auditing system with the wsadmin tool. Use the commands and parameters in the AuditNotificationCommands group to configure and manage audit notifications and audit notification monitors.

Note: This topic references one or more of the application server log files. As a recommended alternative, you can configure the server to use the High Performance Extensible Logging (HPEL) log and trace infrastructure instead of using SystemOut.log, SystemErr.log, trace.log, and activity.log files on distributed and IBM i systems. You can also use HPEL in conjunction with your native z/OS logging facilities. If you are using HPEL, you can access all of your log and trace information using the LogViewer command-line tool from your server profile bin directory. See the information about using HPEL to troubleshoot applications for more information on using HPEL.

Use the following commands to configure your security auditing system notifications:

- “createAuditNotification”
- “createAuditNotificationMonitor” on page 353
- “deleteAuditNotification” on page 354
- “deleteAuditNotificationMonitorByName” on page 355
- “deleteAuditNotificationMonitorByRef” on page 355
- “getAuditNotification” on page 356
- “getAuditNotificationMonitor” on page 356
- “getEmailList” on page 357
- “getSendEmail” on page 358
- “getAuditNotificationRef” on page 358
- “getAuditNotificationName” on page 359
- “isSendEmailEnabled” on page 359
- “isAuditNotificationEnabled” on page 360
- “listAuditNotifications” on page 360
- “listAuditNotificationMonitors” on page 361
- “modifyAuditNotification” on page 361
- “modifyAuditNotificationMonitor” on page 362
- “setEmailList” on page 363
- “setSendEmail” on page 363

createAuditNotification

The createAuditNotification command creates an audit notification object in the audit.xml configuration file.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-notificationName

Specifies the unique name to assign the audit notification object. (String, required)

-logToSystemOut

Specifies whether the system logs notifications to the SystemOut.log file. (Boolean, required)

-sendEmail

Specifies whether to email security auditing subsystem failure notifications. (Boolean, required)

Optional parameters

-emailList

Specifies the email list to send security auditing subsystem failure notifications. (String, optional)

-emailFormat

Specifies the email format. Specify HTML for HTML format or TEXT for text format. (String, optional)

Return value

The command returns the shortened reference ID of the new audit notification object, as the following sample output displays:

```
WSNotification_1184690835390
```

Batch mode example usage

- Using Jython string:

```
AdminTask.createAuditNotification(['-notificationName mynotification -logToSystemOut true -sendEmail true -emailList admin@mycompany.com(smtp-server.mycompany.com) -emailFormat HTML'])
```

- Using Jython list:

```
AdminTask.createAuditNotification(['-notificationName', 'mynotification', '-logToSystemOut', 'true', '-sendEmail', 'true', '-emailList', 'admin@mycompany.com(smtp-server.mycompany.com)', '-emailFormat', 'HTML'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createAuditNotification('-interactive')
```

createAuditNotificationMonitor

The createAuditNotificationMonitor command creates an audit notification monitor object for the security auditing system. This object monitors the security auditing subsystem for possible failure.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-monitorName

Specifies the unique name of the audit notification monitoring object. (String, required)

-notificationRef

Specifies the reference ID of the audit notification object. (String, required)

-enable

Specifies whether to enable the audit notification monitor. (Boolean, required)

Return value

The command returns the shortened form of the reference ID for the audit notification monitor, as the following sample output displays:

```
AuditNotificationMonitor_1184695615171
```

Batch mode example usage

- Using Jython string:

```
AdminTask.createAuditNotificationMonitor('-monitorName mymonitor -notificationRef  
WSNotification_1184690835390 -enable true')
```

- Using Jython list:

```
AdminTask.createAuditNotificationMonitor(['-monitorName', 'mymonitor', '-notificationRef',  
'WSNotification_1184690835390', '-enable', 'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createAuditNotificationMonitor('-interactive')
```

deleteAuditNotification

The `deleteAuditNotification` command deletes an audit notification object from the `audit.xml` configuration file.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-notificationRef

Specifies the reference ID of the audit notification object to delete. (String, required)

Return value

The command returns a value of `true` if the system successfully deletes the audit notification object from the `audit.xml` configuration file.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditNotification('-notificationRef WSNotification_1184690835390')
```

- Using Jython list:

```
AdminTask.deleteAuditNotification(['-notificationRef', 'WSNotification_1184690835390'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditNotification('-interactive')
```

deleteAuditNotificationMonitorByName

The `deleteAuditNotificationMonitorByName` command deletes the audit notification monitor that the user specifies with the unique name.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-monitorName

Specifies the unique name of the audit notification monitor to delete. (String, required)

Return value

The command returns a value of `true` if the system successfully deletes the audit notification monitor from the configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditNotificationMonitor('-monitorName mymonitor')
```

- Using Jython list:

```
AdminTask.deleteAuditNotificationMonitor(['-monitorName', 'mymonitor'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditNotificationMonitor('-interactive')
```

deleteAuditNotificationMonitorByRef

The `deleteAuditNotificationMonitorByRef` command deletes the audit notification monitor that the user specifies with the reference ID.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-monitorRef

Specifies the reference ID of the audit notification monitor object to delete. (String, required)

Return value

The command returns a value of `true` if the system successfully deletes the audit notification monitor of interest.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAuditNotificationMonitor('-monitorRef  
AuditNotificationMonitor_1184695615171')
```

- Using Jython list:

```
AdminTask.deleteAuditNotificationMonitor(['-monitorRef',
'AuditNotificationMonitor_1184695615171'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAuditNotificationMonitor('-interactive')
```

getAuditNotification

The `getAuditNotification` command retrieves the attributes for an audit notification object of interest.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-notificationRef

Specifies the reference ID of the audit notification object of interest. (String, required)

Return value

The command returns a list of attributes for the specific audit notification object, as the following sample output displays:

```
{name mynotification}
{sslConfig {}}
{logToSystemOut true}
{websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#WSNotification_1184690835390}
{emailList sweetshadow@us.ibm.com(smtp-server.us.ibm.com)}
{sendEmail true}
{websphere_Config_Data_Type WSNotification}
{properties {}}
{emailFormat HTML}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditNotification('-notificationRef WSNotification_1184690835390')
```

- Using Jython list:

```
AdminTask.getAuditNotification(['-notificationRef', 'WSNotification_1184690835390'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditNotification('-interactive')
```

getAuditNotificationMonitor

The `getAuditNotificationMonitor` command retrieves the attributes that the system associates with the audit notification monitor of interest.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-monitorRef

Specifies the reference ID of the audit notification monitor of interest. (String, required)

Return value

The command returns a list of attributes for the audit notification monitor of interest, as the following sample output displays:

```
{{name mymonitor}
{enabled true}
{_Websphere_Config_Data_Id cells/Node04Cell|audit.xml#AuditNotificationMonitor_1184695615171}
{_Websphere_Config_Data_Type AuditNotificationMonitor}
{wsNotification mynotification(cells/Node04Cell|audit.xml#WSNotification_1184690835390)}}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditNotificationMonitor('-monitorRef',
'AuditNotificationMonitor_1184695615171')
```

- Using Jython list:

```
AdminTask.getAuditNotificationMonitor(['-monitorRef',
'AuditNotificationMonitor_1184695615171'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditNotificationMonitor('-interactive')
```

getEmailList

The `getEmailList` command retrieves the email distribution list for the audit notification object. If the notification monitor is not configured, the audit notification object is not active and the command returns a null value.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns this email list for the active audit notification object, as the following sample output displays:

```
admin@mycompany.com(smtp-server.mycompany.com)
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getEmailList()
```

- Using Jython list:

```
AdminTask.getEmailList()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getEmailList('-interactive')
```

getSendEmail

The `getSendEmail` command displays whether or not the audit notification object sends an email if the audit subsystem fails. If the notification monitor is not configured, the audit notification object is not active and the command returns a null value.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system is configured to send an email to the distribution list.

Batch mode example usage

- Using Jython string:

```
AdminTask.getSendEmail()
```

- Using Jython list:

```
AdminTask.getSendEmail()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getSendEmail('-interactive')
```

getAuditNotificationRef

The `getAuditNotificationRef` command retrieves the reference ID for the active audit notification object. If the notification monitor is not configured, the audit notification object is not active and the command returns a null value.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns the reference ID of the audit notification object if it is active, as the following sample output displays:

```
WSNotification_1184690835390
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditNotificationRef()
```

- Using Jython list:

```
AdminTask.getAuditNotificationRef()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditNotificationRef('-interactive')
```


getAuditNotificationName

The `getAuditNotificationName` command retrieves the unique name for the active audit notification object. If the notification monitor is not configured, the audit notification object is not active and the command returns a null value.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns the unique name of the audit notification object, as the following sample output displays:

```
mynotification
```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditNotificationName()
```

- Using Jython list:

```
AdminTask.getAuditNotificationName()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditNotificationName('-interactive')
```

isSendEmailEnabled

The `isSendEmailEnabled` command determines if the system is configured to send an email if the security auditing subsystem fails.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if email notification is enabled.

Batch mode example usage

- Using Jython string:

```
AdminTask.isSendEmailEnabled()
```

- Using Jython list:

```
AdminTask.isSendEmailEnabled()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.isSendEmailEnabled('-interactive')
```

isAuditNotificationEnabled

The `isAuditNotificationEnabled` command determines whether the security auditing system notifications are enabled.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if security auditing system notifications are enabled.

Batch mode example usage

- Using Jython string:

```
AdminTask.isAuditNotificationEnabled()
```

- Using Jython list:

```
AdminTask.isAuditNotificationEnabled()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.isAuditNotificationEnabled()
```

listAuditNotifications

The `listAuditNotifications` command retrieves the attributes for each audit notification object that is configured in the `audit.xml` file.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a list of attributes for each configured audit notification object, as the following sample output displays:

```
{{name mynotification}
{sslConfig {}}
{logToSystemOut true}
{_Websphere_Config_Data_Id cells/CHEYENNENode04Cell|audit.xml#WSNotification_1184690835390}
{emailList sweetshadow@us.ibm.com(smtp-server.us.ibm.com)}
{sendEmail true}
{notificationRef WSNotification_1184690835390}
{ _Websphere_Config_Data_Type WSNotification}
{properties {}}
{emailFormat HTML}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.listAuditNotifications()
```

- Using Jython list:

```
AdminTask.listAuditNotifications()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listAuditNotifications('-interactive')
```

listAuditNotificationMonitors

The `listAuditNotificationMonitors` command lists the attributes for the audit notification monitor that is configured in the `audit.xml` file.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a list of attributes for the audit notification monitor, as the following sample output displays:

```
{(name mymonitor)
(enabled true)
{websphere_config_data_id cells/Node04Cell|audit.xml#AuditNotificationMonitor_1184695615171}
{websphere_config_data_type AuditNotificationMonitor}
{monitorRef AuditNotificationMonitor_1184695615171}
{wsNotification mynotification(cells/Node04Cell|audit.xml#WSNotification_1184690835390)}
{notificationRef WSNotification_1184690835390}}
```

Batch mode example usage

- Using Jython string:

```
AdminTask.listAuditNotificationMonitors()
```

- Using Jython list:

```
AdminTask.listAuditNotificationMonitors()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listAuditNotificationMonitors('-interactive'b)
```

modifyAuditNotification

The `modifyAuditNotification` command edits the audit notification object in the `audit.xml` configuration file.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-notificationRef

Specifies the reference ID of the audit notification object to edit. (String, required)

Optional parameters

-logToSystemOut

Specifies whether to log notifications to the `SystemOut.log` file. (Boolean, optional)

-sendEmail

Specifies whether to email notifications. (Boolean, optional)

-emailList

Specifies the email address of distribution list where the system sends email notifications. (String, optional)

-emailFormat

Specifies the email format. Specify HTML for HTML format or TEXT for text format. (String, optional)

Return value

The command returns a value of `true` if the system successfully updates the security auditing system configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyAuditNotification('-notificationRef WSNotification_1184690835390
-logToSystemOut false -sendEmail true -emailList admin@mycompany.com(smtp-server.mycompany.com)
-emailFormat TEXT')
```

- Using Jython list:

```
AdminTask.modifyAuditNotification(['-notificationRef', 'WSNotification_1184690835390',
'-logToSystemOut', 'false', '-sendEmail', 'true', '-emailList',
'admin@mycompany.com(smtp-server.mycompany.com)', '-emailFormat', 'TEXT'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyAuditNotification('-interactive')
```

modifyAuditNotificationMonitor

The `modifyAuditNotificationMonitor` command edits the audit notification monitor configuration for the security auditing system.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-monitorRef

Specifies the reference ID of the audit notification monitor of interest. (String, required)

Optional parameters

-notificationRef

Specifies the reference ID of the audit notification object. (String, optional)

-enable

Specifies whether to enable the audit notification monitor. (Boolean, optional)

Return value

The command returns a value of `true` if the system successfully updates the audit notification monitor configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyAuditNotificationMonitor('-monitorRef AuditNotificationMonitor_1184695615171
-notificationRef WSNotification_1184690835390 -enable true')
```

- Using Jython list:

```
AdminTask.modifyAuditNotificationMonitor(['-monitorRef', 'AuditNotificationMonitor_1184695615171',  
'-notificationRef', 'WSNotification_1184690835390', '-enable', 'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyAuditNotificationMonitor('-interactive')
```

setEmailList

The setEmailList command specifies the distribution list to send email notifications to if the security auditing subsystem fails.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-emailList

Specifies the email address or email distribution list to send audit notifications to. (String, required)

Return value

The command returns a value of `true` if the system successfully sets the email notification list for the notification object.

Batch mode example usage

- Using Jython string:

```
AdminTask.setEmailList(['-emailList admin@mycompany.com(smtp-server.mycompany.com)'])
```

- Using Jython list:

```
AdminTask.setEmailList(['-emailList', 'admin@mycompany.com(smtp-server.mycompany.com)'])
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.setEmailList('-interactive')
```

setSendEmail

The setSendEmail command enables or disables email notifications for the security auditing system.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-enable

Specifies whether to enable the system to send audit notifications by email. (Boolean, required)

Return value

The command returns a value of `true` if the system successfully modifies the configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.setSendEmail('-enable true')
```

- Using Jython list:

```
AdminTask.setSendEmail(['-enable', 'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setSendEmail('-interactive')
```

AuditPolicyCommands command group for the AdminTask object

You can use the Jython scripting language to manage the security auditing system with the `wsadmin` tool. Use the commands and parameters in the `AuditPolicyCommands` group to enable and configure the security auditing system.

Use the following commands to configure, query, and manage the security auditing system:

- “`disableAudit`”
- “`disableVerboseAudit`” on page 365
- “`enableAudit`” on page 365
- “`enableVerboseAudit`” on page 366
- “`getAuditPolicy`” on page 366
- “`getAuditSystemFailureAction`” on page 367
- “`getAuditorId`” on page 368
- “`isAuditEnabled`” on page 368
- “`isVerboseAuditEnabled`” on page 369
- “`mapAuditGroupIDsOfAuthorizationGroup`” on page 369
- “`modifyAuditPolicy`” on page 369
- “`setAuditSystemFailureAction`” on page 371
- “`resetAuditSystemFailureAction`” on page 371
- “`setAuditorId`” on page 372
- “`setAuditorPwd`” on page 372

disableAudit

The `disableAudit` command disables security auditing in the `audit.xml` configuration file.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system successfully disables security auditing.

Batch mode example usage

- Using Jython string:

```
AdminTask.disableAudit()
```

- Using Jython list:

```
AdminTask.disableAudit()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.disableAudit('-interactive')
```

disableVerboseAudit

The `disableVerboseAudit` command disables the verbose capture of audit data for the security auditing system.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system successfully disables the verbose capture of audit data.

Batch mode example usage

- Using Jython string:

```
AdminTask.disableVerboseAudit()
```

- Using Jython list:

```
AdminTask.disableVerboseAudit()
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.disableVerboseAudit('-interactive')
```

enableAudit

The `enableAudit` command enables security auditing in the `audit.xml` configuration file. By default, security auditing is disabled.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system successfully enables security auditing.

Batch mode example usage

- Using Jython string:

```
AdminTask.enableAudit()
```

- Using Jython list:

```
AdminTask.enableAudit()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.enableAudit('-interactive')
```

enableVerboseAudit

The `enableVerboseAudit` command sets the security auditing system to perform verbose capture of audit data.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system successfully sets the security auditing system to perform verbose capture of audit data.

Batch mode example usage

- Using Jython string:

```
AdminTask.enableVerboseAudit()
```

- Using Jython list:

```
AdminTask.enableVerboseAudit()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.enableVerboseAudit('-interactive')
```

getAuditPolicy

The `getAuditPolicy` command retrieves each attribute that is associated with the audit policy in the `audit.xml` configuration file.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a list of attributes for the security auditing system, as the following sample output displays:

```
{auditEventFactories {{name auditEventFactoryImpl_1
{properties {}
{className com.ibm.ws.security.audit.AuditEventFactoryImpl}
{auditServiceProvider auditServiceProviderImpl_1(cells/Node04Cell|audit.xml#AuditServiceProvider_1173199825608)}
{auditSpecifications DefaultAuditSpecification_1(cells/Node04Cell|audit.xml#AuditSpecification_1173199825608)
DefaultAuditSpecification_2(cells/Node04Cell|audit.xml#AuditSpecification_1173199825609)
DefaultAuditSpecification_3(cells/Node04Cell|audit.xml#AuditSpecification_1173199825610)
DefaultAuditSpecification_4(cells/Node04Cell|audit.xml#AuditSpecification_1173199825611)}
{websphere_config_data_id cells/Node04Cell|audit.xml#AuditEventFactory_1173199825608}
{websphere_config_data_type AuditEventFactory}}}}
{websphere_config_data_id cells/Node04Cell|audit.xml#AuditPolicy_1173199825608}
{auditServiceProviders {{auditSpecifications
DefaultAuditSpecification_1(cells/Node04Cell|audit.xml#AuditSpecification_1173199825608)
DefaultAuditSpecification_2(cells/Node04Cell|audit.xml#AuditSpecification_1173199825609)
DefaultAuditSpecification_3(cells/Node04Cell|audit.xml#AuditSpecification_1173199825610)
DefaultAuditSpecification_4(cells/Node04Cell|audit.xml#AuditSpecification_1173199825611)}
{name auditServiceProviderImpl_1}
{websphere_config_data_id cells/Node04Cell|audit.xml#AuditServiceProvider_1173199825608}
```



```

{maxFileSize 1}
{_Websphere_Config_Data_Type AuditServiceProvider}
{fileLocation ${PROFILE_ROOT}/logs/server1}
{className com.ibm.ws.security.audit.BinaryEmitterImpl}
{properties {}}
{eventFormatterClass {}}
{maxLogs 100}}}}
{securityXmlSignerCertAlias auditSignCert}
{properties {}}
{securityXmlSignerScopeName (cell):Node04Cell:(node):Node04}
{auditorPwd SweetShadowsPwd}
{ _Websphere_Config_Data_Type AuditPolicy}
{securityXmlSignerKeyStoreName NodeDefaultSignersStore}
{verbose false}
{auditPolicy WARN}
{encrypt false}
{managementScope {}}
{encryptionCert {}}
{batching false}
{auditorId SweetShadow}
{auditEnabled false}
{sign true}}

```

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditPolicy()
```

- Using Jython list:

```
AdminTask.getAuditPolicy()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditPolicy('-interactive')
```

getAuditSystemFailureAction

The `getAuditSystemFailureAction` command displays the action that the application server takes if a failure occurs in the security auditing subsystem.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a string that describes the action that the application server takes if the security auditing subsystem fails. Possible values are WARN, NOWARN, or FATAL.

Table 59. Application server actions if the security auditing subsystem fails. The following table describes the behavior associated with each action that the application server takes if the security auditing subsystem fails:

Action	Description
WARN	Specifies that the application server should notify the auditor, stop security auditing, and continue to run the application server process.
NOWARN	Specifies that the application server should not notify the auditor, but should stop security auditing and continue to run the application server process
FATAL	Specifies that the application server should notify the auditor, stop security auditing, and stop the application server process.

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditSystemFailureAction()
```

- Using Jython list:

```
AdminTask.getAuditSystemFailureAction()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditSystemFailureAction('-interactive')
```

getAuditorId

The `getAuditorId` command retrieves the name of the user who is assigned as the auditor.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns the name of the user who is assigned as the auditor.

Batch mode example usage

- Using Jython string:

```
AdminTask.getAuditorId()
```

- Using Jython list:

```
AdminTask.getAuditorId()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getAuditorId('-interactive')
```

isAuditEnabled

The `isAuditEnabled` command determines whether the security auditing is enabled in your configuration. By default, auditing is not enabled in the `audit.xml` configuration file.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if security auditing is enabled in your environment. If the command returns a value of `false`, security auditing is disabled.

Batch mode example usage

- Using Jython string:

```
AdminTask.isAuditEnabled()
```

- Using Jython list:

```
AdminTask.isAuditEnabled()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.isAuditEnabled('-interactive')
```

isVerboseAuditEnabled

The `isVerboseAuditEnabled` command determines whether or not the security auditing system verbosely captures audit data.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the security auditing system is configured to verbosely capture audit data.

Batch mode example usage

- Using Jython string:

```
AdminTask.isVerboseAuditEnabled()
```

- Using Jython list:

```
AdminTask.isVerboseAuditEnabled()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.isVerboseAuditEnabled('-interactive')
```

mapAuditGroupIDsOfAuthorizationGroup

The `mapAuditGroupIDsOfAuthorizationGroup` command maps the special subjects to users in the registry.

The user must have the monitor administrative role to run this command.

Target object

None.

Return value

The command does not return output.

Batch mode example usage

- Using Jython string:

```
AdminTask.mapAuditGroupIDsOfAuthorizationGroup()
```

- Using Jython list:

```
AdminTask.mapAuditGroupIDsOfAuthorizationGroup()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.mapAuditGroupIDsOfAuthorizationGroup('-interactive')
```

modifyAuditPolicy

The `modifyAuditPolicy` command modifies the audit policy attributes in the `audit.xml` configuration file. You can use this command to modify one or multiple attributes.

The user must have the auditor administrative role to run this command.

Target object

None.

Optional parameters

-auditEnabled

Specifies whether security auditing is enabled in your configuration. (Boolean, optional)

-auditPolicy

Specifies the action that the application server takes if the security auditing subsystem fails. (String, optional)

Table 60. *auditPolicy* parameter values. The following table describes the valid values for the *auditPolicy* parameter:

Value	Description
WARN	Specifies that the application server should notify the auditor, stop security auditing, and continue to run the application server process.
NOWARN	Specifies that the application server should not notify the auditor, but should stop security auditing and continue to run the application server process
FATAL	Specifies that the application server should notify the auditor, stop security auditing, and stop the application server process.

-auditorId

Specifies the name of the user that the system assigns as the auditor. (String, optional)

-auditorPwd

Specifies the password for the auditor id. (String, optional)

-sign

Specifies whether to sign audit records. Use the AuditSigningCommands command group to configure signing settings. (Boolean, optional)

-encrypt

Specifies whether to encrypt audit records. Use the AuditEncryptionCommands command group to configure encryption settings. (Boolean, optional)

-verbose

Specifies whether to capture verbose audit data. (Boolean, optional)

-encryptionCert

Specifies the reference ID of the certificate to use for encryption. Specify this parameter if you set the -encrypt parameter to true. (String, optional)

Return value

The command returns a value of `true` if the system successfully updates the security auditing system policy.

Batch mode example usage

- Using Jython string:

```
AdminTask.modifyAuditPolicy('-auditEnabled true -auditPolicy NOWARN -auditorId testuser -auditorPwd testuserpwd -sign false -encrypt false -verbose false')
```

- Using Jython list:

```
AdminTask.modifyAuditPolicy(['-auditEnabled', 'true', '-auditPolicy', 'NOWARN', '-auditorId', 'testuser', '-auditorPwd', 'testuserpwd', '-sign', 'false', '-encrypt', 'false', '-verbose', 'false'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.modifyAuditPolicy('-interactive')
```

setAuditSystemFailureAction

The `setAuditSystemFailureAction` command sets the action that the application server takes if the security auditing subsystem fails.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-action

Specifies the action to take if the security auditing subsystem fails. (String, required)

Table 61. Action parameters. The following table describes the valid values for the action parameter:

Value	Description
WARN	Specifies that the application server should notify the auditor, stop security auditing, and continue to run the application server process.
NOWARN	Specifies that the application server should not notify the auditor, but should stop security auditing and continue to run the application server process
FATAL	Specifies that the application server should notify the auditor, stop security auditing, and stop the application server process.

Return value

The command returns a value of `true` if the system successfully updates the security auditing system policy.

Batch mode example usage

- Using Jython string:

```
AdminTask.setAuditSystemFailureAction('-action NOWARN')
```

- Using Jython list:

```
AdminTask.setAuditSystemFailureAction(['-action', 'NOWARN'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setAuditSystemFailureAction('-interactive')
```

resetAuditSystemFailureAction

The `resetAuditSystemFailureAction` command sets the action that the application server takes if the security auditing system fails to the `NOWARN` setting.

The user must have the auditor administrative role to run this command.

Target object

None.

Return value

The command returns a value of `true` if the system successfully updates your configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.resetAuditSystemFailureAction()
```

- Using Jython list:

```
AdminTask.resetAuditSystemFailureAction()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.resetAuditSystemFailureAction('-interactive')
```

setAuditorId

The setAuditorId command sets the name of the user to assign as the auditor.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-name

Specifies the name of the user to assign as the auditor. (String, required)

Return value

The command returns a value of true if the system successfully updates your configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.setAuditorId('-name myAdmin')
```

- Using Jython list:

```
AdminTask.setAuditorId(['-name', 'myAdmin'])
```

Interactive mode example usage

- Using Jython string:

```
AdminTask.setAuditorId('-interactive')
```

setAuditorPwd

The setAuditorPwd command sets the password for the auditor.

The user must have the auditor administrative role to run this command.

Target object

None.

Required parameters

-password

Specifies the password for the user assigned as the auditor. (String, required)

Return value

The command returns a value of `true` if the system successfully updates your configuration.

Batch mode example usage

- Using Jython string:

```
AdminTask.setAuditorPwd('-password myAdminPassword')
```

- Using Jython list:

```
AdminTask.setAuditorPwd(['-password', 'myAdminPassword'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setAuditorPwd('-interactive')
```

AuditEventFormatterCommands command group for the AdminTask object

You can use the Jython scripting language to manage the security auditing system with the `wsadmin` tool. Use the commands and parameters in the `AuditEventFormatterCommands` group to manage the event formatter for the audit service provider.

Use the following commands to display information about the audit event formatter:

- “`getEventFormatterClass`”

getEventFormatterClass

The `getEventFormatterClass` command retrieves the class name of the event formatter specified by the reference ID of the binary file audit service provider of interest.

The user must have the monitor administrative role to run this command.

Target object

None.

Required parameters

-emitterRef

Specifies the reference ID of the audit service provider implementation of interest. (String, required)

Return value

The command returns a null value if the event formatter class is not defined for the audit service provider implementation of interest.

Batch mode example usage

- Using Jython string:

```
AdminTask.getEventFormatterClass('-emitterRef AuditServiceProvider_1173199825608')
```

- Using Jython list:

```
AdminTask.getEventFormatterClass(['-emitterRef', 'AuditServiceProvider_1173199825608'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getEventFormatterClass('-interactive')
```

AuditReaderCommands command group for the AdminTask object

You can use the Jython scripting language to manage the security auditing system with the `wsadmin` tool. Use the commands and parameters in the `AuditReaderCommands` group to display audit record information from the binary audit log.

Use the following commands to query the binary audit log:

- “binaryAuditLogReader”
- “showAuditLogEncryptionInfo” on page 376

binaryAuditLogReader

The binaryAuditLogReader command reads the default binary audit log and generates an HTML report based on the parameters you provide. You must use the auditor security role to use this command.

Target object

None.

Required parameters

-fileName

Specifies the fully qualified file name for the binary audit log. (String, required)

-outputLocation

Specifies the location of the HTML report that the command generates. (String, required)

Optional parameters

-reportMode

Specifies the type of report to generate. Valid values include basic, complete, or custom. The basic report provides the following configuration information:

- creationTime
- action
- progName
- registryType
- domain
- realm
- remoteAddr
- remotePort
- remoteHost
- resourceName
- resourceType
- resourceUniqueld

The complete report provides the data included by the default report type and each additional datapoint of interest. The custom report allows you to specify only the datapoints you choose to see generated in the report. The default value is basic. (String, optional)

See the Data point values table for the information that is available with each of the report types.

-eventFilter

Specifies the audit types to read and report. Specify one or more audit event types. If you specify more than one value for the eventFilter parameter, separate each audit event type with a colon character (:). (String, optional)

-outcomeFilter

Specifies the audit event outcomes to read and report. Specify one or more audit event outcomes. If you specify more than one value for the outcomeFilter parameter, separate each audit event outcome with a colon character (:). (String, optional)

-sequenceFilter

Specifies a list of beginning and ending sequence numbers. Use the a:b syntax, where a, the starting sequence number where the HTML report begins, and is less than or equal to b, the sequence number where the HTML report ends. A single sequence may also be specified, such as -sequenceFilter 10, to only generate a report for the tenth record. (String, optional)

-timeStampFilter

Specifies the time stamp range of records to read and report. Use the a:b syntax, where a and b are strings in the format java.text.SimpleDateFormat("MMddhhmmyyy"). You can also specify a single timestamp. (String, optional)

-keyStorePassword

Specifies password to open the keystore. (String, optional)

-dataPoints

Specifies a list of specific audit data to use to generate the report. Use this option only when you set the reportMode parameter as custom. If you specify multiple data points, separate each data point with a colon character (:). (String, optional)

Table 62. Data point values. The following table includes the available data points, the report mode, its context object name, its field name, and a description of the information:

Data point name	reportMode value	Context object name	Field name	Description
RemoteAddr	basic	SessionContextObj	remoteAddr	The data point provides the IP address for the default remote host.
RemotePort	basic	SessionContextObj	remotePort	The data point provides the port of the default remote host.
RemoteHost	basic	SessionContextObj	remoteHost	The data point provides the host name of the remote host.
RegistryType	basic	RegistryContextObj	type	The data point provides the type of user registry that is being used, such as Lightweight Directory Access Protocol (LDAP) or AIX®.
Domain	basic	ProcessContextObj	domain	The data point provides the domain to which the user belongs.
Realm	basic	ProcessContextObj	realm	The data point provides the registry partition to which the user belongs.
CreationTime	basic	EventContextObj	creationTime	The data point provides the date an event was created.
ProgName	basic	AccessContextObj	progName	The data point provides the name of the program that was involved in the event.
Action	basic	AccessContextObj	action	The data point provides the action being performed.
ResourceName	basic	AccessContextObj	resourceName	The data point provides the name of the resource in the context of the application.
ResourceType	basic	AccessContextObj	resourceType	The data point provides the type of resource.
ResourceUniqueld	basic	AccessContextObj	resourceUniqueld	The data point provides the unique identifier of the resource.
SessionId	complete	SessionContextObj	sessionId	The data point provides an identifier for the default user session.
FirstCaller	basic	PropagationContextObj	firstCaller	The data point provides the identity of the first user in the caller list.
DelegationType	complete	DelegationContextObj	delegationType	The data point provides the delegation type. The delegation types are no delegation, simple delegation, method delegation or switch user delegation information.
RoleName	complete	DelegationContextObj	roleName	The data point provides the Run as role that is being used. The Run as roles are runAsClient, runAsSpecified, runAsSystem, or own ID.
IdentityName	complete	DelegationContextObj	identityName	The data point provides information about the mapped user.
AuthnType	complete	AuthnContextObj	authnType	The data point provides the type of authentication that is being used.
Provider	complete	ProviderContextObj	provider	The data point returns the provider of the authentication or authorization service.
ProviderStatus	complete	ProviderContextObj	providerStatus	The data point provides the status of whether the authentication or authorization event was successfully processed by the provider.
MappedSecurityDomain	complete	AuthnMappingContextObj	mappedSecurityDomain	The data point provides the security domain after the mapping has occurred.
MappedRealm	complete	AuthnMappingContextObj	mappedRealm	The data point provides the realm name after the mapping has occurred.
MappedUserName	complete	AuthnMappingContextObj	mappedUserName	The data point provides the user name after the mapping has occurred.
TerminateReason	basic	AuthnTermContextObj	terminateReason	The data point provides the reason that authentication ended.
RegistryUserName	basic	AccessContextObj	registryUserName	The data point provides the name of the user in the registry.
AppUserName	basic	AccessContextObj	appUserName	The data point provides the name of the user within an application.
AccessDecision	complete	AccessContextObj	accessDecision	The data point provides the decision of the authorization call.
PermissionsChecked	complete	AccessContextObj	permissionsChecked	The data point provides the permissions that were checked during the authorization call.
PermissionsGranted	complete	AccessContextObj	permissionsGranted	The data point provides the permissions that were granted during the authorization call.
RolesChecked	complete	AccessContextObj	rolesChecked	The data point provides the roles that were checked during the authorization call.

Table 62. Data point values (continued). The following table includes the available data points, the report mode, its context object name, its field name, and a description of the information:

Data point name	reportMode value	Context object name	Field name	Description
RolesGranted	complete	AccessContextObj	rolesGranted	The data point provides the roles that were granted during the authorization call
PolicyName	complete	PolicyContextObj	policyName	The data point provides the name of the policy.
PolicyType	complete	PolicyContextObj	policyType	The data point provides the type of policy.
KeyLabel	basic	KeyContextObj	keyLabel	The data point provides the key or certificate label.
KeyLocation	basic	KeyContextObj	keyLocation	The data point provides the physical location of the key database.
CertLifetime	basic	KeyContextObj	certLifetime	The data point provides the date when a certificate expires.
MgmtType	complete	MgmtContextObj	mgmtType	The data point provides the type of management operation.
MgmtCommand	complete	MgmtContextObj	mgmtCommand	The data point provides the application-specific command that was performed.
Url	complete	ResponseContextObj	url	The data point provides the URL of the HTTP request.
CallerList	basic	PropagationContextObj	callerList	The data point provides a list of names that represent the identities of the users.
HttpRequestHeaders	complete	ResponseContextObj	httpRequestHeaders	The data point provides the HTTP request headers that are provided by the client.
HttpResponseHeaders	complete	ResponseContextObj	httpResponseHeaders	The data point provides the HTTP response headers that are returned by the server
TargetInfoName	complete	ResponseContextObj	httpResponseHeaders	The object the operation is targeted against
TargetInfoUniqueId	complete	ResponseContextObj	httpResponseHeaders	The unique identifier of the target
OutcomeReasonCode	complete	ResponseContextObj	httpResponseHeaders	A code mapping to an outcome decision 1 means a certificate parsing error 2 means a security context error

Return value

The command returns the HTML report based on the values specified for each parameter to the location specified by the outputLocation parameter.

Batch mode example usage

- Using Jython string:



```
AdminTask.binaryAuditLogReader(['-fileName myFileName -reportMode basic  
-keyStorePassword password123 -outputLocation /binaryLogs'])
```

- Using Jython list:



```
AdminTask.binaryAuditLogReader(['-fileName', 'myFileName', '-reportMode', 'basic',  
'-keyStorePassword', 'password123', '-outputLocation', '/binaryLogs'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.binaryAuditLogReader('-interactive')
```

showAuditLogEncryptionInfo

The showAuditLogEncryptionInfo command displays information about the keystore that the auditing system uses to encrypt audit records. Use this information as a hint of the keystore password in order to decrypt encrypted audit logs in the binary audit log.

Target object

None.

Required parameters

-fileName

Specifies the fully qualified path of the binary audit log. (String, required)

Return value

The command returns the certificate alias and the fully qualified path to the keystore of interest.

Batch mode example usage

- Using Jython string:

```
AdminTask.showAuditLogEncryptionInfo('-fileName myFileName')
```

- Using Jython list:

```
AdminTask.showAuditLogEncryptionInfo(['-fileName', 'myFileName'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.showAuditLogEncryptionInfo('-interactive')
```

SSLMigrationCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to migrate key store configurations. Use the commands in the SSLMigrationCommands group to convert self-signed certificates to chained personal certificates and to enable writable key rings.

The SSLMigrationCommands command group for the AdminTask object includes the following commands:

- “convertSelfSignedCertificatesToChained command”
- “enableWritableKeyrings command” on page 378
- “convertSSLConfig command” on page 379

convertSelfSignedCertificatesToChained command

The convertSelfSignedCertificatesToChained command converts specific self-signed certificates to chained personal certificates.

Note: Chained certificates are the default certificate type in Websphere Application Server Version 7.0. The convertSelfSignedCertificatesToChained command takes information from the self-signed certificate—such as issued-to DN, size, and life span—and creates a chained certificate with the same information. The new chained certificate replaces the self-signed certificate. Signer certificates from the self-signed certificate that are distributed across the security configuration are replaced with the signer certificates from the root certificate used to sign the chained certificate.

Syntax

The command has the following syntax:

```
wsadmin>$AdminTask convertSelfSignedCertificatesToChained
[-certificateReplacementOption ALL_CERTIFICATES | DEFAULT_CERTIFICATES | KEYSTORE_CERTIFICATES]
[-keyStoreName keystore_name]
[-keyStoreScope keystore_scope]
[-rootCertificateAlias alias_name]
```

Required parameters

certificateReplacementOption

Specifies the convert self-signed certificates replacement options. (String, required)

Specify the value for the parameter as one of the following options:

ALL_CERTIFICATES

This option looks for all self-signed certificates in all keystores with in the specified scope.

The scope can be provided in the `-keyStoreScope` parameter. If no scope is provided using the `-keyStoreScope` parameter, all scopes are visited.

DEFAULT_CERTIFICATES

This option looks for self-signed certificates in the default `CellDefaultKeyStore` and `NodeDefaultKeyStore` keystores within the specified scope.

The scope can be provided with the `-keyStoreScope` parameter. If no scope is provided using the `-keyStoreScope` parameter, all scopes are visited.

KEYSTORE_CERTIFICATES

This option replaces only those self-signed certificates in the keystore that are specified by the `-keyStoreName` parameter.

If no scope is provided using the `-keyStoreScope` parameter, the default scope is used.

Optional parameters

keyStoreName

Specifies the name of a keystore in which to look for self-signed certificates to convert. Use this parameter with the `KEYSTORE_CERTIFICATES` option on the `certificateReplacementOption` parameter. (String, optional)

keyStoreScope

Specifies the name of the scope in which to look for the self-signed certificates to convert. (String, optional)

rootCertificateAlias

Specifies the root certificate to use from the default root store used to sign the chained certificate. The default value is `root`. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask convertSelfSignedCertificatesToChained {-certificateReplacementOption ALL_CERTIFICATES -keyStoreName testKS}
```

- Using Jython string:

```
AdminTask.convertSelfSignedCertificatesToChained(['-certificateReplacementOption ALL_CERTIFICATES -keyStoreName testKS'])
```

- Using Jython list:

```
AdminTask.convertSelfSignedCertificatesToChained(['-certificateReplacementOption', 'ALL_CERTIFICATES', '-keyStoreName', 'testKS'])
```

Note: To ensure the migration is successful, go to the `security.xml` file and change the default of `dynamicallyUpdateSSLConfig` to `false` in the file. For more information, see the `Dynamic configuration updates in SSL` topic in the information center.

Interactive mode example usage:

- Using Jacl:

```
$AdminTask exchangeSigners {-interactive}
```

- Using Jython:

```
AdminTask.exchangeSigners('-interactive')
```

enableWritableKeyrings command

The `enableWritableKeyrings` command modifies the keystore and enables writable SAF support. The system uses this command during migration. The command creates additional writable keystore objects for the control region and servant region key rings for SSL keystores.

Required parameters

-keyStoreName

Specifies the name that uniquely identifies the keystore that you want to delete. (String, required)

Optional parameters

-controlRegionUser

Specifies the control region user to use to enable writable key rings. (String, optional)

-servantRegionUser

Specifies the servant region user to enable writable key rings. (String, optional)

-scopeName

Specifies the name that uniquely identifies the management scope, for example: (cell):localhostNode01Cell. (String, optional)

Examples

Batch mode example usage:

- Using Jython string:

```
AdminTask.enableWritableKeyrings(['-keyStoreName testKS -controlRegionUser CRUser1 -servantRegionUser SRUser1'])
```

- Using Jython list:

```
AdminTask.enableWritableKeyrings(['-keyStoreName', 'testKS', '-controlRegionUser', 'CRUser1', '-servantRegionUser', 'SRUser1'])
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.enableWritableKeyrings('-interactive')
```

convertSSLConfig command

The convertSSLConfig command migrates existing SSL configurations to the new configuration object format for SSL configurations.

Required parameters

-sslConversionOption

Specifies how the system converts the SSL configuration. Specify the CONVERT_SSLCONFIGS value to convert the SSL configuration objects from the previous SSL configuration object to the new SSL configuration object. Specify the CONVERT_TO_DEFAULT value to convert the SSL configuration to a centralized SSL configuration, which also removes the SSL configuration direct referencing from the servers.

Optional parameters

None.

Examples

Batch mode example usage:

- Using Jython string:

```
AdminTask.convertSSLConfig(['-keyStoreName testKS -controlRegionUser CRUser1 -servantRegionUser SRUser1'])
```

- Using Jython list:

```
AdminTask.convertSSLConfig(['-keyStoreName', 'testKS', '-controlRegionUser', 'CRUser1', '-servantRegionUser', 'SRUser1'])
```

Interactive mode example usage:

- Using Jython:

IdMgrConfig command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure the virtual member manager with the wsadmin tool. The commands and parameters in the IdMgrConfig group can be used to create and manage your entity type configuration.

The IdMgrConfig command group for the AdminTask object includes the following commands:

- “createIdMgrSupportedEntityType”
- “deleteIdMgrSupportedEntityType” on page 381
- “getIdMgrSupportedEntityType” on page 381
- “isIdMgrUseGlobalSchemaForModel” on page 382
- “listIdMgrSupportedEntityTypes” on page 383
- “listIdMgrGroupsForRoles” on page 383
- “listIdMgrUsersForRoles” on page 384
- “mapIdMgrUserToRole” on page 384
- “mapIdMgrGroupToRole” on page 385
- “removeIdMgrGroupsFromRole” on page 386
- “removeIdMgrUsersFromRole” on page 387
- “resetIdMgrConfig” on page 388
- “setIdMgrUseGlobalSchemaForModel” on page 388
- “showIdMgrConfig” on page 389
- “updateIdMgrLDAPBindInfo” on page 390
- “updateIdMgrSupportedEntityType” on page 390

createIdMgrSupportedEntityType

The **createIdMgrSupportedEntityType** command creates a supported entity type configuration.

Parameters

-name

The name of the supported entity type. The value of this parameter must be one of the supported entity types. (String, required)

-defaultParent

The default parent node for the supported entity type. (String, required)

-rdnProperties

The RDN[®] attribute name for the supported entity type in the entity domain name. To reset all values of the rdnProperties parameter, specify a blank string (“”) (String, required)

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrSupportedEntityType {-name entity1  
-defaultParent node1 -rdnProperties rdn1}
```

- Using Jython string:

```
AdminTask.createIdMgrSupportedEntityType ('[-name entity1
-defaultParent node1 -rdnProperties rdn1]')
```

- Using Jython list:

```
AdminTask.createIdMgrSupportedEntityType (['-name', 'entity1',
'-defaultParent', 'node1', '-rdnProperties', 'rdn1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrSupportedEntityType {-interactive}
```

- Using Jython string:

```
AdminTask.createIdMgrSupportedEntityType ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createIdMgrSupportedEntityType (['-interactive'])
```

deleteIdMgrSupportedEntityType

The **deleteIdMgr Supported EntityType** command deletes the supported entity type configuration that you specify.

Parameters

-name

The name of the supported entity type. The value of this parameter must be one of the supported entity types. (String, required)

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrSupported EntityType {-name entity1}
```

- Using Jython string:

```
AdminTask.deleteIdMgrSupported EntityType ('[-name entity1]')
```

- Using Jython list:

```
AdminTask.deleteIdMgr SupportedEntityType (['-name', 'entity1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgr SupportedEntityType {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgr SupportedEntityType ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteIdMgr SupportedEntityType (['-interactive'])
```

getIdMgrSupportedEntityType

The **getIdMgr Supported EntityType** command returns the configuration of the supported entity type that you specify.

Parameters

-name

The name of the supported entity type. The value of this parameter must be one of the supported entity types. (String, required)

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrSupported EntityType {-name entity1}
```

- Using Jython string:

```
AdminTask.getIdMgrSupported EntityType ('[-name entity1]')
```

- Using Jython list:

```
AdminTask.getIdMgrSupported EntityType (['-name', 'entity1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrSupported EntityType {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrSupported EntityType ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrSupported EntityType (['-interactive'])
```

isIdMgrUseGlobalSchemaForModel

The **isIdMgrUseGlobalSchemaForModel** command returns a boolean that indicates whether the global schema option is enabled for the data model for the specified domain in a multiple security domain environment.

Parameters

-securityDomainName

The name that uniquely identifies the security domain. (String, required)

Returns

A Boolean value that indicates whether global schema option is enabled for the data model for the specified domain.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask isIdMgrUseGlobalSchemaForModel {-securityDomainName mysecDomain}
```

- Using Jython string:

```
AdminTask.isIdMgrUseGlobalSchemaForModel ('[-securityDomainName mysecDomain]')
```

- Using Jython list:

```
AdminTask.isIdMgrUseGlobalSchemaForModel (['-securityDomainName', 'mysecDomain'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask isIdMgrUseGlobalSchemaForModel {-interactive}
```


- Using Jython string:

```
AdminTask.isIdMgrUseGlobalSchemaForModel ('[-interactive]')
```

- Using Jython list:

```
AdminTask.isIdMgrUseGlobalSchemaForModel (['-interactive'])
```

listIdMgrSupportedEntityTypes

The **listIdMgr Supported EntityTypes** command lists all of the supported entity types that are configured.

Parameters

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Returns

A list that contains the names of the supported entity types

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgr SupportedEntityTypes
```

- Using Jython string:

```
AdminTask.listIdMgr SupportedEntityTypes()
```

- Using Jython list:

```
AdminTask.listIdMgr SupportedEntityTypes()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrSupportedEntityTypes {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrSupported EntityTypes ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrSupported EntityTypes (['-interactive'])
```

listIdMgrGroupsForRoles

The **listIdMgrGroupsForRoles** command lists the mapping of groups to roles in federated repositories.

Parameters

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Returns

A Map object that contains roleName as the key, and the value of each key is a list of uniqueNames.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrGroupsForRoles
```

- Using Jython string:

```
AdminTask.listIdMgrGroupsForRoles ()
```

- Using Jython list:

```
AdminTask.listIdMgrGroupsForRoles ()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrGroupsForRoles {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrGroupsForRoles ('[interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrGroupsForRoles (['interactive'])
```

listIdMgrUsersForRoles

The **listIdMgrUsersForRoles** command lists the mapping of users to roles in federated repositories.

Parameters

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Returns

A Map object that contains roleName as the key, and the value of each key is a list of uniqueNames.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrUsersForRoles
```

- Using Jython string:

```
AdminTask.listIdMgrUsersForRoles ()
```

- Using Jython list:

```
AdminTask.listIdMgrUsersForRoles ()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrUsersForRoles {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrUsersForRoles ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrUsersForRoles (['-interactive'])
```

mapIdMgrUserToRole

The **mapIdMgrUserToRole** command maps a user to a specified role in federated repositories. You can map a user to only one role.

Parameters

-roleName

The name of the role. Valid values are IdMgrAdmin, IdMgrReader, or IdMgrWriter, which are the federated repositories pre-defined roles. (String, required)

-userId

The user ID or unique name of the user to whom you want to map the specified role. If you specify the user ID, it should correspond to a unique user in the repository. (String, required)

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask mapIdMgrUserRole {-roleName IdMgrWriter -userId uid=user1,o=customrealm}
```

- Using Jython string:

```
AdminTask.mapIdMgrUserRole ('[-roleName IdMgrWriter -userId user1,o=customrealm]')
```

- Using Jython list:

```
AdminTask.mapIdMgrUserRole (['-roleName', 'IdMgrWriter',  
-userId', 'uid=user1,o=customrealm'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask mapIdMgrUserRole {-interactive}}
```

- Using Jython string:

```
AdminTask.mapIdMgrUserRole ('[-interactive]')
```

- Using Jython list:

```
AdminTask.mapIdMgrUserRole (['-interactive'])
```

mapIdMgrGroupToRole

The **mapIdMgrGroupToRole** command maps a group to a specified role in federated repositories. You can map a group to only one role.

Parameters**-roleName**

The name of the role. Valid values are IdMgrAdmin, IdMgrReader, or IdMgrWriter, which are the federated repositories pre-defined roles. (String, required)

-groupId

The common name or unique name of the group to which you want to map the specified role. If you specify the common name, it should correspond to a unique group in the repository. Alternately, to map all logged-in users to the specified role, you can specify a special subject with the value ALLAUTHENTICATED. (String, required)

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl (example 1):

```
$AdminTask mapIdMgrGroupToRole {-roleName IdMgrReader  
-groupId cn=group1,o=customrealm}
```

Using Jacl (example 2):

```
$AdminTask mapIdMgrGroupToRole {-roleName IdMgrWriter  
-groupId ALLAUTHENTICATED}
```

- Using Jython string (example 1):

```
AdminTask.mapIdMgrGroupToRole ('[-roleName IdMgrReader  
-groupId cn=group1,o=customrealm]')
```

Using Jython string (example 2):

```
AdminTask.mapIdMgrGroupToRole ('[-roleName IdMgrWriter  
-groupId ALLAUTHENTICATED]')
```

- Using Jython list (example 1):

```
AdminTask.mapIdMgrGroupToRole (['-roleName', 'IdMgrReader',  
'-groupId', 'cn=group1,o=customrealm'])
```

Using Jython list (example 2):

```
AdminTask.mapIdMgrGroupToRole (['-roleName', 'IdMgrReader',  
'-groupId', 'ALLAUTHENTICATED'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask mapIdMgrGroupToRole {-interactive}
```

- Using Jython string:

```
AdminTask.mapIdMgrGroupToRole ('[-interactive]')
```

- Using Jython list:

```
AdminTask.mapIdMgrGroupToRole (['-interactive'])
```

removeIdMgrGroupsFromRole

The **removeIdMgrGroupsFromRole** command removes a group from a specified role in federated repositories.

Parameters

-roleName

The name of the role. Valid values are IdMgrAdmin, IdMgrReader, or IdMgrWriter, which are the federated repositories pre-defined roles. (String, required)

-groupId

The common name or unique name of the group to which you want to map the specified role. If you specify the common name, it should correspond to a unique group in the repository. Alternately, to remove the mapping of all logged-in users to the specified role, you can specify a special subject with the value ALLAUTHENTICATED. (String, required)

Note: You can specify an asterisk (*) to remove all users mapped to the specified role.

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl (example 1):

```
$AdminTask removeIdMgrGroupsFromRole {-roleName IdMgrReader  
-groupId cn=group1,o=customrealm}
```

Using Jacl (example 2):

```
$AdminTask removeIdMgrGroupsFromRole {-roleName IdMgrReader  
-groupId ALLAUTHENTICATED}
```

- Using Jython string (example 1):

```
AdminTask.removeIdMgrGroupsFromRole ('[-roleName IdMgrReader
-groupId cn=group1,o=customrealm]')
```

Using Jython string (example 2):

```
AdminTask.removeIdMgrGroupsFromRole ('[-roleName IdMgrReader
-groupId ALLAUTHENTICATED]')
```

- Using Jython list (example 1):

```
AdminTask.removeIdMgrGroupsFromRole (['-roleName', 'IdMgrReader',
'-groupId', 'cn=group1,o=customrealm'])
```

Using Jython list (example 2):

```
AdminTask.removeIdMgrGroupsFromRole (['-roleName', 'IdMgrReader',
'-groupId', 'ALLAUTHENTICATED'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask removeIdMgrGroupsFromRole {-interactive}
```

- Using Jython string:

```
AdminTask.removeIdMgrGroupsFromRole ('[-interactive]')
```

- Using Jython list:

```
AdminTask.removeIdMgrGroupsFromRole (['-interactive'])
```

removeIdMgrUsersFromRole

The **removeIdMgrUsersFromRole** command removes a user from a specified role in federated repositories.

Parameters

-roleName

The name of the role. Valid values are IdMgrAdmin, IdMgrReader, or IdMgrWriter, which are the federated repositories pre-defined roles. (String, required)

-userId

The user ID or unique name of the user whose mapping to the specified role you want to remove. If you specify the user ID, it should correspond to a unique user in the repository. (String, required)

Note: You can specify an asterisk (*) to remove all users mapped to the specified role.

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask removeIdMgrUsersFromRole {-roleName IdMgrWriter -userId uid=user1,o=customrealm}
```

- Using Jython string:

```
AdminTask.removeIdMgrUsersFromRole ('[-roleName IdMgrWriter -userId uid=user1,o=customrealm]')
```

- Using Jython list:

```
AdminTask.removeIdMgrUsersFromRole (['-roleName', 'IdMgrWriter',
'-userId', 'uid=user1,o=customrealm'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask removeIdMgrUsersFromRole {-interactive}
```

- Using Jython string:

```
AdminTask.removeIdMgrUsersFromRole ('[-interactive]')
```

- Using Jython list:

```
AdminTask.removeIdMgrUsersFromRole (['-interactive'])
```

resetIdMgrConfig

The **resetIdMgrConfig** command resets the current configuration to the last configuration that was saved.

Parameters

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Returns

None.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask resetIdMgrConfig
```

- Using Jython string:

```
AdminTask.resetIdMgrConfig()
```

- Using Jython list:

```
AdminTask.resetIdMgrConfig()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask resetIdMgrConfig {-interactive}
```

- Using Jython string:

```
AdminTask.resetIdMgrConfig (['-interactive'])
```

- Using Jython list:

```
AdminTask.resetIdMgrConfig (['-interactive'])
```

setIdMgrUseGlobalSchemaForModel

The **setIdMgrUseGlobalSchemaForModel** command sets the global schema option for the data model in a multiple security domain environment. Global schema refers to the schema of the admin domain.

Note: Application domains that are set to use global schema share the same schema of the admin domain. Hence, if you extend the schema for an application in one domain, you must take into consideration how that might affect applications of other domains as they are also bound by the same schema. For example, adding a mandatory property for one application might cause other applications to fail.

Parameters

-useGlobalSchema

Specifies whether the data model should use the global schema. Global schema refers to the schema of the admin domain. The default value of this parameter is false. (Boolean, required)

-securityDomainName

The name that uniquely identifies the security domain. (String, required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrUseGlobalSchemaForModel {-useGlobalSchema true  
-securityDomainName mysecDomain}
```

- Using Jython string:

```
AdminTask.setIdMgrUseGlobalSchemaForModel ('[-useGlobalSchema true  
-securityDomainName mysecDomain]')
```

- Using Jython list:

```
AdminTask.setIdMgrUseGlobalSchemaForModel (['-useGlobalSchema', 'true',  
-securityDomainName', 'mysecDomain'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrUseGlobalSchemaForModel {-useGlobalSchema true  
-securityDomainName mysecDomain}
```

- Using Jython string:

```
AdminTask.setIdMgrUseGlobalSchemaForModel ('[-useGlobalSchema true  
-securityDomainName mysecDomain]')
```

- Using Jython list:

```
AdminTask.setIdMgrUseGlobalSchemaForModel (['-useGlobalSchema', 'true',  
-securityDomainName', 'mysecDomain'])
```

showIdMgrConfig

The **showIdMgrConfig** command returns the current configuration XML in string format.

Parameters

-file

The name of the file where you want to save the configuration XML string. (String, optional)

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Returns

None.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask showIdMgrConfig
```

- Using Jython string:

```
AdminTask.showIdMgrConfig()
```

- Using Jython list:

```
AdminTask.showIdMgrConfig()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask showIdMgrConfig {-interactive}
```

- Using Jython string:

```
AdminTask.showIdMgrConfig ('[-interactive]')
```

- Using Jython list:

```
AdminTask.showIdMgrConfig (['-interactive'])
```

updateIdMgrLDAPBindInfo

The **updateIdMgrLDAPBindInfo** command dynamically updates the LDAP server bind information. If you specify a value for the **bindDN** parameter, then you must specify a value for the **bindPassword** parameter. If you specify the **id** parameter only, then the LDAP server information is refreshed.

Parameters

-id

The ID of the repository. (String, required)

-bindDN

The binding distinguished name for the LDAP server. (String, optional)

-bindPassword

The binding password for the LDAP server. (String, optional)

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jython:

```
AdminTask.updateIdMgrLDAPBindInfo(['-id id1 -bindDN cn=root -bindPassword myPassword22'])
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAPBindInfo(['-id id1 -bindDN cn=root -bindPassword myPassword22'])
```

- Using Jacl:

```
$AdminTask updateIdMgrLDAPBindInfo {-id id1 -bindDN cn=root -bindPassword myPassword22}
```

Interactive mode example usage:

- Using Jython:

```
AdminTask.updateIdMgrLDAPBindInfo(['-interactive'])
```

- Using Jacl:

```
$AdminTask updateIdMgrLDAPBindInfo {-interactive}
```

updateIdMgrSupportedEntityType

The **updateIdMgr Supported EntityType** command updates the configuration that you specify for a supported entity type.

Parameters

-name

The name of the supported entity type. The value of this parameter must be one of the supported entity types. (String, required)

-securityDomainName

The name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-defaultParent

The default parent node for the supported entity type. (String, optional)

-rdnProperties

The RDN attribute name for the supported entity type in the entity domain name. To reset all the values of the **rdnProperties** parameter, specify a blank string (""). (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrSupported EntityType {-name entity1}
```

- Using Jython string:

```
AdminTask.updateIdMgrSupported EntityType ('[-name entity1']')
```

- Using Jython list:

```
AdminTask.updateIdMgrSupported EntityType (['-name', 'entity1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrSupported EntityType {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrSupported EntityType ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrSupported EntityType (['-interactive'])
```

IdMgrRepositoryConfig command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security. The commands and parameters in the IdMgrRepositoryConfig group can be used to create and manage the virtual member manager and LDAP directory properties.

The IdMgrRepositoryConfig command group for the AdminTask object includes the following commands:

- “addIdMgrLDAPAttr” on page 393
- “addIdMgrLDAPAttrNotSupported” on page 394
- “addIdMgrLDAPBackupServer” on page 395
- “addIdMgrLDAPEntityType” on page 395
- “addIdMgrLDAPEntityTypeRDNAttr” on page 396
- “addIdMgrLDAPExternalIdAttr” on page 397
- “addIdMgrLDAPGroupDynamicMemberAttr” on page 398
- “addIdMgrLDAPGroupMemberAttr” on page 399
- “addIdMgrLDAPServer” on page 400
- “addIdMgrRepositoryBaseEntry” on page 401
- “createIdMgrCustomRepository” on page 402
- “createIdMgrDBRepository” on page 403
- “createIdMgrFileRepository” on page 404
- “createIdMgrLDAPRepository” on page 405
- “deleteIdMgrLDAPAttr” on page 407
- “deleteIdMgrLDAPAttrNotSupported” on page 408
- “deleteIdMgrLDAPEntityType” on page 409
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- “deleteIdMgrLDAPExternalIdAttr” on page 410
- “deleteIdMgrLDAPGroupConfig” on page 411
- “deleteIdMgrLDAPGroupMemberAttr” on page 411
- “deleteIdMgrLDAPGroupDynamicMemberAttr” on page 412
- “deleteIdMgrLDAPServer” on page 413
- “deleteIdMgrRepository” on page 413

- “deleteIdMgrRepositoryBaseEntry” on page 414
- “getIdMgrLDAPAttrCache” on page 415
- “getIdMgrLDAPContextPool” on page 415
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- “listIdMgrRepositories” on page 425
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- “listIdMgrSupportedDBTypes” on page 427
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- “removeIdMgrLDAPBackupServer” on page 428
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- “setIdMgrLDAPSearchResultCache” on page 434
- “setIdMgrEntryMappingRepository” on page 435
- “setIdMgrPropertyExtensionRepository” on page 436
- “updateIdMgrDBRepository” on page 437
- “updateIdMgrFileRepository” on page 438
- “updateIdMgrLDAPAttrCache” on page 439
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- “updateIdMgrLDAPEntityType” on page 442
- “updateIdMgrLDAPGroupDynamicMemberAttr” on page 443
- “updateIdMgrLDAPGroupMemberAttr” on page 444
- “updateIdMgrLDAPRepository” on page 445
- “updateIdMgrLDAPSearchResultCache” on page 446
- “updateIdMgrLDAPServer” on page 448
- “updateIdMgrRepository” on page 449
- “updateIdMgrRepositoryBaseEntry” on page 450

addIdMgrLDAPAttr

Use the `addIdMgrLDAPAttr` command to add an LDAP attribute configuration to the LDAP repository configuration.

Target object

None

Required parameters

-id

Use this parameter to specify the unique ID of the repository. (String, required)

-name

Use this parameter to specify the name of the LDAP attribute used in the repository LDAP adapter. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-propertyName

Use this parameter to specify the name of the corresponding federated repository property. (String, optional)

Note: You cannot add an LDAP attribute configuration for the federated repository properties, `principalName` and `realm`.

Note: If you define multiple login properties, the first login property is programmatically mapped to the federated repository's `principalName` property. For example, if you set `uid;mail` as the login properties, the LDAP attribute `uid` value is mapped to the federated repository's `principalName` property. If you define multiple login properties, after login, the first login property is returned as the value of the `principalName` property. For example, if you pass `joe@yourco.com` as the `principalName` value and the login properties are configured as `uid;mail`, the `principalName` is returned as `joe`.

-entityTypes

Use this parameter to specify the entity type which applies the attribute mapping. (String, optional)

-syntax

Use this parameter to specify the syntax of the LDAP attribute. The default value is `string`. For example, the syntax of the `unicodePwd` LDAP attribute is `octetString`. (String, optional)

-defaultValue

Use this parameter to specify the default value of the LDAP attribute. If you do not specify this LDAP attribute when you create an entity which this LDAP attribute applies to, the system adds the attribute using this default value. (String, optional)

-defaultAttr

Use this parameter to specify the default attribute of the LDAP attribute. If you do not specify this LDAP attribute when you create an entity which this LDAP attribute applies to, the system uses this value of the default attribute.

For example, the following configuration defines a `samAccountName` LDAP attribute with the `cn` default attribute:

```
<config:attributes name="samAccountName" defaultAttribute="cn">
<config:entityTypes>Group</config:entityTypes>
</config:attributes>
```

In this example, when you create the Group entity, the `samAccountName` LDAP attribute with the same value as the `cn` attribute is added to the corresponding LDAP entry.

(String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPAttr {-id id_name -name unicode_password -syntax octet_string}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPAttr ('[-id id_name -name unicode_password -syntax octet_string]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPAttr (['-id', 'id_name', '-name', 'unicode_password', '-syntax', 'octet_string'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPAttr {-interactive}
```

- Using Jython:

```
AdminTask.addIdMgrLDAPAttr('-interactive')
```

addIdMgrLDAPAttrNotSupported

Use the **addIdMgrLDAPAttrNotSupported** command to add a configuration for a federated repository property that the specified LDAP repository does not support.

Required parameters

-id

Use this parameter to specify the unique ID of the repository. (String, required)

-propertyName

Use this parameter to specify the name of the federated repository property. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-entityTypes

Use this parameter to specify one or more entity types. Use the semicolon (;) as the delimiter to specify multiple entity types. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPAttrNotSupported {-id id_name -propertyName property_name}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPAttrNotSupported ('[-id id_name -propertyName property_name]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPAttrNotSupported (['-id', 'id_name', '-propertyName', 'property_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPAttrNotSupported {-interactive}
```

- Using Jython:

```
AdminTask.addIdMgrLDAPAttrNotSupported('-interactive')
```

addIdMgrLDAPBackupServer

The **addIdMgrLDAPBackupServer** command sets a backup LDAP server in your configuration.

Required parameters

-id

Specifies the unique ID of the repository. (String, required)

-primary_host

Specifies the primary host of the LDAP server. (String, required)

-host

Specifies the host name for the LDAP server. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-port

Specifies the port number for the LDAP server. (Integer, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPBackupServer {-id id_name -primary_host host_name1 -host host_name2 -port port_number}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPBackupServer ('[-id id_name -primary_host host_name1 -host host_name2 -port port_number]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPBackupServer (['-id', 'id_name', '-primary_host', 'host_name1', '-host', 'host_name2', '-port', 'port_number'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPBackupServer {-interactive}
```

- Using Jython:

```
AdminTask.addIdMgrLDAPBackupServer('-interactive')
```

addIdMgrLDAPEntityType

The **addIdMgrLDAPEntityType** command adds an LDAP entity type definition.

Required parameters

-id

The ID of the repository. (String, required)

-name

The name of the entity type. (String, required)

-objectClasses

One or more object classes for the entity type. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-searchFilter

The search filter that you want to use to search the entity type. (String, optional)

-objectClassesForCreate

The object class to use when an entity type is created. If the value of this parameter is the same as the `objectClass` parameter, you do not need to specify this parameter. (String, optional)

-searchBases

The search base or bases to use while searching the entity type. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPEntity Type {-id id_name -name name_value -objectClasses object_class}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPEntity Type ('[-id id_name -name name_value -objectClasses object_class]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPEntity Type (['-id', 'id_name', '-name', 'name_value', '-objectClasses', 'object_class'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAP EntityType {-interactive}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAP EntityType ('[-interactive]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAP EntityType (['-interactive'])
```

addIdMgrLDAPEntityTypeRDNAttr

The **addId MgrLDAP EntityType RDNAttr** command adds RDN attribute configuration to an LDAP entity type definition.

Required parameters

-id

The ID of the repository. (String, required)

-entityTypeName

The name of the entity type. (String, required)

-name

The attribute name that is used to build the relative distinguished name (RDN) for the entity type. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-objectClass

The object class to use for the entity type for the relative distinguished name (RDN) attribute name that you specify. Use this parameter to map one entity type to multiple structural object classes. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPEntity TypeRDNAttr {-id id_name -entityTypeName entity_type -name name_value}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPEntity TypeRDNAttr ('[-id id_name -entityTypeName entity_type -name name_value']')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPEntity TypeRDNAttr (['-id', 'id_name', '-entityTypeName', 'entity_type', '-name', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPEntity TypeRDNAttr {-interactive}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPEntity TypeRDNAttr ('[-interactive]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPEntity TypeRDNAttr (['-interactive'])
```

addIdMgrLDAPExternalIdAttr

Use the **addIdMgrLDAPExternalIdAttr** command to add a configuration for an LDAP attribute that is used as an external ID in the specified LDAP repository.

Target object

None

Required parameters

-id

Use this parameter to specify the unique ID of the repository. (String, required)

-name

Use this parameter to specify the name of the external ID attribute of the LDAP repository. (String, required)

Important: Specify `distinguishedName` as the value of this parameter to indicate that the distinguished name (DN) of the entity is used as the external ID.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-entityTypes

Use this parameter to specify one or more entity types. Use a semicolon (;) as the delimiter to specify multiple entity types. (String, optional)

-syntax

Use this parameter to specify the syntax of the LDAP attribute. The default value is string. For example, the syntax of the `unicodePwd` LDAP attribute is `octetString`. (String, optional)

-wimGenerate

Use this parameter to indicate whether the federated repository generates the value of the LDAP attribute. The default value is false. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPExternalIdAttr {-id id_name -name unicodePwd -syntax octetString}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPExternalIdAttr ('[-id id_name -name unicode_password -syntax octet_string]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPExternalIdAttr (['-id', 'id_name', '-name', 'unicode_password', '-syntax', 'octet_string'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPExternalIdAttr {-interactive}
```

- Using Jython:

```
AdminTask.addIdMgrLDAPExternalIdAttr('-interactive')
```

addIdMgrLDAPGroupDynamicMemberAttr

The **addIdMgr LDAPGroup Dynamic Member Attr** command adds a dynamic member attribute configuration to an LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

-name

The name of the LDAP attribute that is used as the group member attribute. For example, member or uniqueMember. (String, required)

-objectClass

The group object class that contains the member attribute. For example, groupOfNames or groupOfUniqueNames. If you do not define this parameter, the member attribute applies to all group object classes. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPGroup DynamicMemberAttr {-id id_name -name name_value -objectClass object_class}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPGroup DynamicMemberAttr ('[-id id_name -name name_value -objectClass object_class]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPGroup DynamicMemberAttr (['-id', 'id_name', '-name', 'name_value', '-objectClass', 'object_class'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPGroup DynamicMemberAttr {-interactive}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPGroup DynamicMemberAttr ('[-interactive]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPGroup DynamicMemberAttr (['-interactive'])
```

addIdMgrLDAPGroupMemberAttr

The **addIdMgr LDAPGroup MemberAttr** command adds a member attribute configuration to an LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

-name

The name of the LDAP attribute that is used as the group member attribute. For example, member or uniqueMember. (String, required)

-scope

The scope of the member attribute. The valid values for this parameter include the following:

- direct - The member attribute only contains direct members, therefore, this value refers to the member directly contained by the group and not contained through the nested group. For example, if Group1 contains Group2 and Group2 contains User1, then Group2 is a direct member of Group1 but User1 is not a direct member of Group1. Both member and uniqueMember are direct member attributes.
- nested - The member attribute that contains the direct members and the nested members.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-dummyMember

Indicates that if you create a group without specifying a member, a dummy member will be filled in to avoid creating an exception about missing a mandatory attribute. (String, optional)

-objectClass

The group object class that contains the member attribute. For example, groupOfNames or groupOfUniqueNames. If you do not define this parameter, the member attribute applies to all group object classes. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPGroup MemberAttr {-id id_name -name name_value}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPGroup MemberAttr ('-id id_name -name name_value')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPGroup MemberAttr (['-id', 'id_name', '-name', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPGroup MemberAttr {-interactive}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPGroup MemberAttr ('[-interactive]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPGroup MemberAttr (['-interactive'])
```

addIdMgrLDAPServer

The **addId MgrLDAP Server** command adds an LDAP server to the LDAP repository ID that you specify.

Required parameters

-id

The ID of the repository. (String, required)

-host

The host name for the primary LDAP server. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-port

The port number for the LDAP server. (Integer, optional)

-bindDN

The binding distinguished name for the LDAP server. (String, optional)

-bindPassword

The binding password. (String, optional)

-authentication

Indicates the authentication method to use. The default value is `simple`. Valid values include: `none` or `strong`. (String, optional)

-referral

The LDAP referral. The default value is `ignore`. Valid values include: `follow`, `throw`, or `false`. (String, optional)

-dereferAliases

Controls how aliases are dereferenced. The default value is `always`. Valid values include:

- `never` - never deference aliases
- `finding` - deferences aliases only during name resolution
- `searching` - deferences aliases only after name resolution

(String, optional)

-sslEnabled

Indicates to enable SSL or not. The default value is `false`. (Boolean, optional)

-connectionPool

The connection pool. The default value is `false`. (Boolean, optional)

-connectTimeout

The connection timeout in seconds. The default value is 20. (Integer, optional)

Restriction: Due to a current JNDI limitation, the maximum connection timeout is 20 seconds. Even if you specify a value above 20 seconds, the connection still times out at 20 seconds.

-ldapServerType

The type of LDAP server being used. The default value is IDS51. (String, optional)

-sslConfiguration

The SSL configuration. (String, optional)

-certificateMapMode

Specifies whether to map X.509 certificates into a LDAP directory by exact distinguished name or by certificate filter. The default value is EXACT_DN. To use the certificate filter for the mapping, specify FILTERDESCRIPTORMODE. (String, optional)

-certificateFilter

If certificateMapMode has the value FILTERDESCRIPTORMODE, then this property specifies the LDAP filter which maps attributes in the client certificate to entries in LDAP. For more information, see the section Certificate filter in the topic, Lightweight Directory Access Protocol repository configuration settings. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAPServer {-id id_name -host myhost.ibm.com}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAPServer ('[-id id_name -host myhost.ibm.com]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAPServer (['-id', 'id_name', '-host', 'myhost.ibm.com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrLDAP Server {-interactive}
```

- Using Jython string:

```
AdminTask.addIdMgrLDAP Server ('[-interactive]')
```

- Using Jython list:

```
AdminTask.addIdMgrLDAP Server (['-interactive'])
```

addIdMgrRepositoryBaseEntry

The **addIdMgr Repository BaseEntry** command adds a base entry to the specified repository.

Required parameters

-id

The ID of the repository. (String, required)

-name

The distinguished name of a base entry. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-nameInRepository

The distinguished name in the repository that uniquely identifies the base entry name. (String, optional)

Note: The values specified for both **name** and **nameInRepository** parameters must be the same for a database repository.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrRepositoryBaseEntry {-id id_name -name name_value}
```

- Using Jython string:

```
AdminTask.addIdMgrRepositoryBaseEntry ('[-id id_name -name name_value]')
```

- Using Jython list:

```
AdminTask.addIdMgrRepositoryBaseEntry (['-id', 'id_name', '-name', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrRepositoryBaseEntry {-interactive}
```

- Using Jython string:

```
AdminTask.addIdMgrRepositoryBaseEntry ('[-interactive]')
```

- Using Jython list:

```
AdminTask.addIdMgrRepositoryBaseEntry (['-interactive'])
```

createIdMgrCustomRepository

The **createIdMgrCustomRepository** command creates a custom repository configuration.

Required parameters

-id

The ID of the repository. (String, required)

-adapterClassName

The implementation class name for the repository adapter. (String, required)

Examples

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Batch mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrCustomRepository {-id id_name -adapterClassName adapter_class_name}
```

- Using Jython string:

```
AdminTask.createIdMgrCustomRepository('-id id_name -adapterClassName adapter_class_name')
```

- Using Jython list:

```
AdminTask.createIdMgrCustomRepository(['-id', 'id_name', '-adapterClassName', 'adapter_class_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrCustomRepository {-interactive}
```

- Using Jython:

```
AdminTask.createIdMgrCustomRepository('-interactive')
```

createIdMgrDBRepository

The **createIdMgrDBRepository** command creates a database repository configuration.

Required parameters

- id**
The ID of the repository. (String, required)
- dataSourceName**
The name of the data source. The default value is jdbc/wimDS. (String, required)
- databaseType**
The type of the database. The default value is DB2. (String, required)
- dbURL**
The URL of the database. (String, required)
- dbAdminId**
The database administrator ID. (String, required if database type is not Apache Derby.)
- dbAdminPassword**
The database administrator password. (String, required if database type is not Apache Derby.)

Optional parameters

- securityDomainName**
Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)
- adapterClassName**
The default value is com.ibm.ws.wim.adapter.db.DBAdapter. (String, optional)
- JDBCDriverClass**
The JDBC driver class name. (String, optional)
- supportSorting**
Indicates if sorting is supported or not. The default value is false. (Boolean, optional)
- supportTransactions**
Indicates if transactions are supported or not. The default value is false. (Boolean, optional)
- isExtIdUnique**
Specifies if the external ID is unique. The default value is true. (Boolean, optional)
- supportExternalName**
Indicates if external names are supported or not. The default value is false. (Boolean, optional)
- supportAsyncMode**
Indicates if the adapter supports async mode or not. The default value is false. (Boolean, optional)
- readOnly**
Indicates if this is a read only repository. The default value is false. (Boolean, optional)
- entityRetrievalLimit**
Indicates the value of the retrieval limit on database entries. The default value is 200. (Integer, optional)
- saltLength**
The salt length in bits. The default value is 12. (Integer, optional)
- encryptionKey**
The default value is rZ15ws0e1y9yHk3zCs3sTMv/ho8fY17s. (String, optional)

IBM i -dbSchema

The database schema of the database repository that you want to configure. The schema should exist in the database. The default value is the default schema of the database according to the database type. Typically, the default schema is the namespace of the current database user. (String, optional).

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrDB Repository {-id id_name -dataSourceName datasource_name -databaseType database_type}
```

- Using Jython string:

```
AdminTask.createIdMgrDB Repository ('[-id id_name -dataSourceName datasource_name -databaseType database_type]')
```

- Using Jython list:

```
AdminTask.createIdMgrDB Repository (['-id', 'id_name', '-dataSourceName', 'datasource_name', '-databaseType', 'database_type'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrDB Repository {-interactive}
```

- Using Jython string:

```
AdminTask.createIdMgrDB Repository ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createIdMgrDB Repository (['-interactive'])
```

createIdMgrFileRepository

The **createId MgrFile Repository** command creates a file repository configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-messageDigest Algorithm

The message digest algorithm that will be used for hashing the password. The default value is SHA-1. Valid values include the following: SHA-1, SHA-384, or SHA-512. (String, optional)

-adapterClassName

The default value is `com.ibm.ws.wim.adapter.file.was.FileAdapter`. (String, optional)

-supportPaging

Indicates if paging is supported or not. The default value is `false`. (Boolean, optional)

-supportSorting

Indicates if sorting is supported or not. The default value is `false`. (Boolean, optional)

-supportTransactions

Indicates if transaction is supported or not. The default value is `false`. (Boolean, optional)

-isExtIdUnique

Specifies if the external ID is unique or not. The default value is `true`. (Boolean, optional)

-supportAsyncMode

Indicates if the adapter supports async mode or not. The default value is `false`. (Boolean, optional)

- supportExternalName**
Indicates if external names are supported or not. The default value is `false`. (Boolean, optional)
- baseDirectory**
The base directory where the file will be created in order to store the data. The default is to be dynamically built during run time using `user.install.root` and cell name. (String, optional)
- fileName**
The file name of the repository. The default value is `fileRegistry.xml`. (String, optional)
- saltLength**
The salt length of the randomly generated salt for password hashing. The default value is 12. (Integer, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrFile Repository {-id id_name -messageDigestAlgorithm algorithm_value}
```

- Using Jython string:

```
AdminTask.createIdMgrFile Repository ('{-id id_name -messageDigestAlgorithm algorithm_value}')
```

- Using Jython list:

```
AdminTask.createIdMgrFile Repository (['-id', 'id_name', '-messageDigestAlgorithm', 'algorithm_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrFile Repository {-interactive}
```

- Using Jython string:

```
AdminTask.createIdMgrFile Repository (['-interactive'])
```

- Using Jython list:

```
AdminTask.createIdMgrFile Repository (['-interactive'])
```

createIdMgrLDAPRepository

The **create IdMgrLDAP Repository** command creates an LDAP repository configuration.

Required parameters

- id**
The unique identifier for the repository. (String, required)
- ldapServerType**
The type of LDAP server that is being used. The default value is `IDS51`. (String, required)

Optional parameters

- securityDomainName**
Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)
- adapterClassName**
The default value is `com.ibm.ws.wim.adapter.ldap.LdapAdapter`. (String, optional)
- supportSorting**
Indicates if sorting is supported or not. The default value is `false`. (Boolean, optional)
- supportPaging**
Indicates if paging is supported or not. The default value is `false`. (Boolean, optional)

- supportTransactions**
Indicates if transactions are supported or not. The default value is `false`. (Boolean, optional)
- isExtIdUnique**
Specifies if the external ID is unique. The default value is `true`. (Boolean, optional)
- supportAsyncMode**
Indicates if the adapter supports async mode or not. The default value is `false`. (Boolean, optional)
- supportExternalName**
Indicates if external names are supported or not. The default value is `false`. (Boolean, optional)
- certificateMapMode**
Specifies whether to map X.509 certificates into a LDAP directory by exact distinguished name or by certificate filter. The default value is `exactdn`. To use the certificate filter for the mapping, specify the value as `certificatefilter`. (String, optional)
- certificateFilter**
If the `certificateMapMode` parameter has the value `certificatefilter`, then this property specifies the LDAP filter that maps attributes in the client certificate to entries in LDAP. (String, optional)
- loginProperties**
Indicates the property name used for login. (String , optional)
 - Note:** If you define multiple login properties, the first login property is programmatically mapped to the federated repositories `principalName` property. For example, if you set `uid;mail` as the login properties, the LDAP attribute `uid` value is mapped to the federated repositories `principalName` property. If you define multiple login properties, after login, the first login property is returned as the value of the `principalName` property. For example, if you pass `joe@yourco.com` as the `principalName` value and the login properties are configured as `uid;mail`, the `principalName` is returned as `joe`.
- sslConfiguration**
The SSL configuration. (String, optional)
- translateRDN**
Indicates to translate RDN or not. The default value is `false`. (Boolean, optional)
- searchTimeLimit**
The value of search time limit. (Integer, optional)
- searchCountLimit**
The value of search count limit. (Integer, optional)
- searchPageSize**
The value of search page size. (Integer, optional)
- returnToPrimaryServer**
(Integer, optional)
- primaryServerQueryTimeInterval**
(Integer, optional)
- default**
If you set this parameter to `true`, the default values will be set for the remaining configuration properties of the LDAP repository. (Boolean, optional)
- supportChangeLog**
This parameter indicates whether the repository supports change tracking. Valid values for this parameter are `none` or `native`. The default value is `none`. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrLDAP Repository {-id id_name -ldapServerType LDAP_server_type}
```

- Using Jython string:

```
AdminTask.createIdMgrLDAP Repository ('[-id id_name -ldapServerType LDAP_server_type']')
```

- Using Jython list:

```
AdminTask.createIdMgrLDAP Repository (['-id', 'id_name', '-ldapServerType', 'LDAP_server_type'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrLDAP Repository {-interactive}
```

- Using Jython string:

```
AdminTask.createIdMgrLDAP Repository ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createIdMgrLDAP Repository (['-interactive'])
```

deleteIdMgrLDAPAttr

Use the **deleteIdMgrLDAPAttr** command to delete the LDAP attribute configuration data for a specific entity type from the LDAP repository of interest.

Target object

None

Required parameters

-id

Use this parameter to specify the unique ID of the repository. (String, required)

Note: The **deleteIdMgrLDAPAttr** command also requires the name of either the LDAP attribute or federated repository property. Specify a value for either the **-name** or **-propertyName** parameter that is described in the next section. However, do not specify both parameters. Although the **-name** or **-propertyName** parameters are designated as optional parameters, an error occurs if you do not specify one of the parameters or if you specify both parameters.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-name

Use this parameter to specify the name of the LDAP attribute used in the repository LDAP adapter. (String, required)

-entityTypes

Use this parameter to specify the entity type which applies the attribute mapping. (String, optional)

-propertyName

Use this parameter to specify the name of the corresponding federated repository property. (String optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAPAttr {-id id_name -name unicode_password}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAPAttr ('[-id id_name -name unicode_password]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAPAttr (['-id', 'id_name', '-name', 'unicode_password'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAPAttr {-interactive}
```

- Using Jython:

```
AdminTask.deleteIdMgrLDAPAttr('-interactive')
```

deleteIdMgrLDAPAttrNotSupported

Use the **deleteIdMgrLDAPAttrNotSupported** command to delete the configuration for a federated repository property that the specified LDAP repository does not support.

Target object

None

Required parameters

-id

Use this parameter to specify the unique ID of the repository. (String, required)

-propertyName

Use this parameter to specify the name of the federated repository property. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-entityTypes

Use this parameter to specify one or more entity types. Use the semicolon (;) as the delimiter to specify multiple entity types. If you do not specify this parameter, the **deleteIdMgrLDAPAttrNotSupported** command deletes all the configuration data of the specified attribute. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAPAttrNotSupported {-id id_name -propertyName property_name}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAPAttrNotSupported ('[-id id_name -propertyName property_name]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAPAttrNotSupported (['-id', 'id_name', '-propertyName', 'property_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAPAttrNotSupported {-interactive}
```

- Using Jython:

```
AdminTask.deleteIdMgrLDAPAttrNotSupported('-interactive')
```

deleteIdMgrLDAPEntityType

The **deleteId MgrLDAP EntityType** command deletes the LDAP entity type configuration data for a specified entity type for a specific LDAP repository.

Parameters and return values

- id**
The ID of the repository. (String, required)
- name**
The name of the entity type. (String, required)

Optional parameters

- securityDomainName**
Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAP EntityType {-id id_name -name name_value}
```
- Using Jython string:

```
AdminTask.deleteIdMgrLDAP EntityType ('[-id id_name -name name_value']')
```
- Using Jython list:

```
AdminTask.deleteIdMgrLDAP EntityType (['-id', 'id_name', '-name', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAP EntityType {-interactive}
```
- Using Jython string:

```
AdminTask.deleteIdMgrLDAP EntityType ('[-interactive]')
```
- Using Jython list:

```
AdminTask.deleteIdMgrLDAP EntityType (['-interactive'])
```

deleteIdMgrLDAPEntityTypeRDNAttr

The **deleteId MgrLDAP EntityType RDNAttr** command deletes the relative distinguished name (RDN) attribute configuration from an LDAP entity type configuration.

Required parameters

- id**
The ID of the repository. (String, required)
- entityTypeName**
The name of the entity type. (String, required)
- name**
The attribute name that is used to build the relative distinguished name (RDN) for the entity type. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAPEntity TypeRDNAttr {-id id_name -name name_value -entityTypeName entity_type}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAP EntityTypeRDNAttr ('[-id id_name -name name_value -entityType Name entity_type']')
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAPEntity TypeRDNAttr (['-id', 'id_name', '-name', 'name_value', '-entity TypeName', 'entity_type'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAPEntity TypeRDNAttr {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAPEntity TypeRDNAttr ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAPEntity TypeRDNAttr (['-interactive'])
```

deleteIdMgrLDAPExternalIdAttr

Use the **deleteIdMgrLDAPExternalIdAttr** command to delete the configuration for an LDAP attribute that is used as an external ID in the specified LDAP repository.

Target object

None

Required parameters

-id

Use this parameter to specify the unique ID of the repository. (String, required)

-name

Use this parameter to specify the name of the external ID attribute of the LDAP repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-entityTypes

Use this parameter to specify one or more entity types. Use a semicolon (;) as the delimiter to specify multiple entity types. If you do not specify this parameter, the **deleteIdMgrLDAPExternalIdAttr** command deletes all the configuration data of the specified attribute. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAPExternalIdAttr {-id id_name -name unicode_password}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAPExternalIdAttr ('[-id id_name -name unicode_password]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAPExternalIdAttr (['-id', 'id_name', '-name', 'unicode_password'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAPExternalIdAttr {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAPExternalIdAttr ('-interactive')
```

deleteIdMgrLDAPGroupConfig

The **deleteIdMgrLDAP GroupConfig** command deletes the LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAP GroupConfig {-id id_name}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAP GroupConfig ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAP GroupConfig (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAP GroupConfig {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAP GroupConfig ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAP GroupConfig (['-interactive'])
```

deleteIdMgrLDAPGroupMemberAttr

The **deleteIdMgr LDAPGroup MemberAttr** command deletes a member attribute configuration from an LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

-name

The name of the LDAP attribute that is used as the group member attribute, for example, member or uniqueMember. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAPGroupMemberAttr {-id id_name -name attr_name}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAPGroupMemberAttr (['-id', 'id_name', '-name', 'attr_name'])
```

- Using Jython list:

```
$AdminTask deleteIdMgrLDAPGroupMemberAttr {-id id_name -name attr_name}
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAP GroupMemberAttr {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAP GroupMemberAttr (['-interactive'])
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAP GroupMemberAttr (['-interactive'])
```

deleteIdMgrLDAPGroupDynamicMemberAttr

The **deleteIdMgr LDAPGroup Dynamic MemberAttr** command deletes a dynamic member attribute configuration from an LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

-name

The name of the LDAP attribute that is used as the group member attribute. For example, memberURL. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAP GroupDynamicMemberAttr {-id id_name -name name_value}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAP GroupDynamicMemberAttr (['-id id_name -name name_value'])
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAP GroupDynamicMemberAttr (['-id', 'id_name', '-name', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAPGroup DynamicMemberAttr {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAPGroup DynamicMemberAttr ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAPGroup DynamicMemberAttr (['-interactive'])
```

deleteIdMgrLDAPServer

The **deleteId MgrLDAP Server** command deletes the configuration for the LDAP server that you specify from the LDAP repository ID that you specify.

Required parameters

-id

The ID of the repository. (String, required)

-host

The host name for the primary LDAP server. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAP Server {-id id_name -host myhost.ibm.com}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAP Server ('-id id_name -host myhost.ibm.com')
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAP Server (['-id', 'id_name', '-host', 'myhost.ibm.com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrLDAP Server {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrLDAP Server ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrLDAP Server (['-interactive'])
```

deleteIdMgrRepository

The **deleteIdMgr Repository** command deletes a repository that you specify.

Required parameters

-id

The ID of the repository. Valid values include existing repository IDs. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgr Repository {-id id_name}
```

- Using Jython string:

```
AdminTask.deleteIdMgr Repository ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.deleteIdMgr Repository (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrRepository {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrRepository ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrRepository (['-interactive'])
```

deleteIdMgrRepositoryBaseEntry

The **deleteIdMgr Repository BaseEntry** command deletes a base entry from the specified repository.

Required parameters

-id

The ID of the repository. (String, required)

-name

The distinguished name of a base entry. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrRepository BaseEntry {-id id_name -name name_value}
```

- Using Jython string:

```
AdminTask.deleteIdMgrRepository BaseEntry ('[-id id_name -name name_value]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrRepository BaseEntry (['-id', 'id_name', '-name', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrRepository BaseEntry {-interactive}
```


- Using Jython string:

```
AdminTask.deleteIdMgrRepository BaseEntry (['-interactive'])
```

- Using Jython list:

```
AdminTask.deleteIdMgrRepository BaseEntry (['-interactive'])
```

getIdMgrLDAPAttrCache

The **getIdMgr LDAPAttr Cache** command returns the LDAP attribute cache configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPAttr Cache {-id id_name}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPAttr Cache (['-id id_name'])
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPAttr Cache (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAP AttrCache {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPAttr Cache (['-interactive'])
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPAttr Cache (['-interactive'])
```

getIdMgrLDAPContextPool

The **getIdMgr LDAP Context Pool** command returns the LDAP context pool configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPContext Pool {-id id_name}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPContext Pool ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPContext Pool (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPCon textPool {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPCon textPool ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPCon textPool (['-interactive'])
```

getIdMgrLDAPEntityType

The **getIdMgr LDAP EntityType** command returns the LDAP entity type configuration data.

Required parameters

-id

The ID of the repository. (String, required)

-name

The name of the entity type. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPEntityType {-id id_name -name name_value}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPEntityType ('[-id id_name -name name_value]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPEntityType (['-id', 'id_name', '-name', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPEn tityType {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPEn tityType ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPEn tityType (['-interactive'])
```

getIdMgrLDAPEntityTypeRDNAttr

The **getIdMgr LDAPEntityType RDNAttr** command returns the relative distinguished name (RDN) attribute configuration for an LDAP entity type definition.

Required parameters

-id

The ID of the repository. (String, required)

-entityTypeName

The name of the entity name. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask.getIdMgrLDAPEntity TypeRDNAttr {-id id_name -entityTypeName name_value}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPEntity TypeRDNAttr ('[-id id_name -entityTypeName name_value]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPEntity TypeRDNAttr (['-id', 'id_name', '-entityTypeName', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask.getIdMgrLDAPEntity TypeRDNAttr {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPEntity TypeRDNAttr ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPEntity TypeRDNAttr (['-interactive'])
```

getIdMgrLDAPGroupConfig

The **getIdMgr LDAPG roupConfig** command returns the LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask.getIdMgrLDAPGroup Config {-id id_name}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPGroup Config ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPGroup Config (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPGroup Config {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPGroup Config ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPGroup Config (['-interactive'])
```

getIdMgrLDAPGroupDynamicMemberAttrs

The **getIdMgr LDAPGroup Dynamic Member Attrs** command returns the dynamic member attribute configuration from the LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPGroupDynamic MemberAttrs {-id id_name}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPGroupDynamic MemberAttrs ('-id id_name')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPGroupDynamic MemberAttrs (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPGroup DynamicMemberAttrs {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPGroup DynamicMemberAttrs ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPGroup DynamicMemberAttrs (['-interactive'])
```

getIdMgrLDAPGroupMemberAttrs

The **getIdMgr LDAPGroup MemberAttrs** command returns the member attribute configuration for the LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPGroup MemberAttrs {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPGroup MemberAttrs ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPGroup MemberAttrs (['-interactive'])
```

getIdMgrLDAPSearchResultCache

The **getIdMgr LDAPSearch ResultCache** command returns the LDAP search result cache configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAP SearchResultCache {-id id_name}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAP SearchResultCache ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPSearchResultCache (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPSearchResultCache {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPSearchResultCache ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPSearchResultCache (['-interactive'])
```

getIdMgrLDAPServer

The **getIdMgr LDAPServer** command returns the configuration for the LDAP server that you specify for the LDAP repository ID that you specify.

Required parameters

-id

The ID of the repository. (String, required)

-host

The host name for the primary LDAP server. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPServer {-id id_name -host myhost.ibm.com}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPServer (['-id id_name -host myhost.ibm.com'])
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPServer (['-id', 'id_name', '-host', 'myhost.ibm.com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrLDAPServer {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrLDAPServer (['-interactive'])
```

- Using Jython list:

```
AdminTask.getIdMgrLDAPServer (['-interactive'])
```

getIdMgrRepository

The **getIdMgr Repository** command returns the configuration of the specified repository.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrRepository {-id id_name}
```

- Using Jython string:

```
AdminTask.getIdMgrRepository (['-id id_name'])
```

- Using Jython list:

```
AdminTask.getIdMgrRepository (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrRepository {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrRepository ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrRepository (['-interactive'])
```

listIdMgrLDAPAttrs

Use the **listIdMgrLDAPAttrs** command to list the name of each configured attributes for the LDAP repository of interest.

Required parameters

-id

Use this parameter to specify the unique ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Return value

The command returns a list of HashMaps that contains parameters of the addIdMgrLDAPAttr command as keys. For the **entityTypes** parameter, which is multivalued, the value of the key is a string that is delimited by a semicolon (;). The return value includes an additional key called entityTypesList. The value of the entityTypesList key is a List object.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAPAttrs {-id id_value}
```

- Using Jython string:

```
AdminTask.listIdMgrLDAPAttrs ('[-id id_value]')
```

- Using Jython list:

```
AdminTask.listIdMgrLDAPAttrs (['-id', 'id_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAPAttrs {-interactive}
```

- Using Jython:

```
AdminTask.listIdMgrLDAPAttrs('-interactive')
```

listIdMgrLDAPAttrsNotSupported

Use the **listIdMgrLDAPAttrsNotSupported** command to list the details of all configured federated repository properties that the specified LDAP repository does not support.

Target object

None

Required parameters

-id

Use this parameter to specify the unique ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Return value

The command returns a List of HashMaps that contains parameters of the **addIdMgrLDAPAttrNotSupported** command as keys. For multivalued parameters such as **entityTypes**, the value of the key is a List object.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAPAttrNotSupported {-id id_name}
```

- Using Jython string:

```
AdminTask.listIdMgrLDAPAttrNotSupported ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.listIdMgrLDAPAttrNotSupported (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAPAttrNotSupported ('[-interactive]')
```

- Using Jython:

```
AdminTask.listIdMgrLDAPAttrNotSupported ('-interactive')
```

listIdMgrCustomProperties

The **listIdMgr Custom Properties** command returns a list of custom properties for the repository that you specify.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrCustomProperties {-id id_value}
```

- Using Jython string:

```
AdminTask.listIdMgrCustomProperties ('[-id id_value]')
```

- Using Jython list:


```
AdminTask.listIdMgrCustom Properties (['-id', 'id_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrCustom Properties {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrCustom Properties ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrCustom Properties (['-interactive'])
```

listIdMgrLDAPBackupServers

The **listIdMgr LDAPBackupServers** command returns a list of the backup LDAP server or servers.

Required parameters and return values

-id

The ID of the repository. (String, required)

-primary_host

The host name for the primary LDAP server. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAP BackupServer {-id id_value -primary_host host_name}
```

- Using Jython string:

```
AdminTask.listIdMgrLDAP BackupServer ('[-id id_value -primary_host host_name]')
```

- Using Jython list:

```
AdminTask.listIdMgrLDAP BackupServer (['-id', 'id_value', '-primary_host', 'host_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAP BackupServer {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrLDAP BackupServer ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrLDAP BackupServer (['-interactive'])
```

listIdMgrLDAPEntityTypeTypes

The **listIdMgr LDAPEntityTypeTypes** command lists the name of all of the configured LDAP entity type definitions.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAP EntityType {-id id_value}
```

- Using Jython string:

```
AdminTask.listIdMgrLDAP EntityType ('[-id id_value]')
```

- Using Jython list:

```
AdminTask.listIdMgrLDAP Entity Type (['-id', 'id_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAP EntityType {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrLDAP EntityType ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrLDAP EntityType (['-interactive'])
```

listIdMgrLDAPExternalIdAttrs

Use the **listIdMgrLDAPExternalIdAttrs** command to list the details of all LDAP attributes used as an external ID in the specified LDAP repository.

Target object

None

Required parameters

-id

Use this parameter to specify the unique ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Return value

The command returns a List of HashMaps that contains parameters of the **addIdMgrLDAPExternalIdAttr** command as keys. For multivalued parameters such as **entityTypes**, the value of the key is a List object.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAPExternalIdAttrs {-id id_name}
```

- Using Jython string:

```
AdminTask.listIdMgrLDAPExternalIdAttrs ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.listIdMgrLDAPExternalIdAttrs (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAPExternalIdAttrs (['-interactive'])
```

- Using Jython string:

```
AdminTask.listIdMgrLDAPExternalIdAttrs('-interactive')
```

listIdMgrLDAPServers

The **listIdMgr LDAP Servers** command lists all of the configured primary LDAP servers.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAP Servers {-id id_value}
```

- Using Jython string:

```
AdminTask.listIdMgrLDAP Servers (['-id id_value'])
```

- Using Jython list:

```
AdminTask.listIdMgrLDAP Servers (['-id', 'id_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrLDAP Servers {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrLDAP Servers (['-interactive'])
```

- Using Jython list:

```
AdminTask.listIdMgrLDAP Servers (['-interactive'])
```

listIdMgrRepositories

The **listIdMgr Repositories** command lists names and types of all configured repositories.

Required parameters and return values

None.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

- Returns: A hash map with key as the name of the repository and value as another hash map that includes the following keys:
 - repositoryType - The type of repository. For example, File, LDAP, DB, and so on.
 - specificRepositoryType - The specific type of repository. For example, LDAP, IDS51, NDS, and so on.
 - host - The host name where the repository resides. For File, it is LocalHost and for DB it is dataSourceName.

This command will not return the Property Extension and Entry Mapping repository data.

Examples

Batch mode example usage:

- Using Jacl:


```
$AdminTask listIdMgrRepositories
```
- Using Jython string:


```
AdminTask.listIdMgrRepositories()
```
- Using Jython list:


```
AdminTask.listIdMgrRepositories()
```

Interactive mode example usage:

- Using Jacl:


```
$AdminTask listIdMgrRepositories {-interactive}
```
- Using Jython string:


```
AdminTask.listIdMgrRepositories ('[-interactive]')
```
- Using Jython list:


```
AdminTask.listIdMgrRepositories (['-interactive'])
```

listIdMgrRepositoryBaseEntries

The **listIdMgr Repository BaseEntries** command lists the base entries for a specified repository.

Required parameters

- id
The ID of the repository. (String, required)

Optional parameters

- securityDomainName
Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:


```
$AdminTask listIdMgrRepository BaseEntries {-id id_value}
```
- Using Jython string:


```
AdminTask.listIdMgrRepository BaseEntries ('[-id id_value]')
```
- Using Jython list:


```
AdminTask.listIdMgrRepository BaseEntries (['-id', 'id_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrRepository BaseEntries {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrRepository BaseEntries ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrRepository BaseEntries (['-interactive'])
```

listIdMgrSupportedDBTypes

The **listIdMgr Supported DBTypes** command returns a list of supported database types.

Required parameters

None.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrSupportedDBTypes
```

- Using Jython string:

```
AdminTask.listIdMgrSupportedDBTypes()
```

- Using Jython list:

```
AdminTask.listIdMgrSupportedDBTypes()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrSupported DBTypes {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrSupported DBTypes ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrSupported DBTypes (['-interactive'])
```

listIdMgrSupportedMessageDigestAlgorithms

The **listIdMgr Supported Message Digest Algorithms** command returns a list of supported message digest algorithms.

None.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrSupported MessageDigestAlgorithms
```

- Using Jython string:

```
AdminTask.listIdMgrSupported MessageDigestAlgorithms()
```

- Using Jython list:

```
AdminTask.listIdMgrSupported MessageDigestAlgorithms()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrSupportedMessageDigestAlgorithms {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrSupportedMessageDigestAlgorithms ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrSupportedMessageDigestAlgorithms (['-interactive'])
```

listIdMgrSupportedLDAPServerTypes

The **listIdMgr Supported LDAP ServerTypes** command returns a list of supported LDAP server types.

Required parameters

None.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrSupported LDAPServerTypes
```

- Using Jython string:

```
AdminTask.listIdMgrSupported LDAPServerTypes()
```

- Using Jython list:

```
AdminTask.listIdMgrSupported LDAPServerTypes()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrSupported LDAPServerTypes {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrSupported LDAPServerTypes ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrSupported LDAPServerTypes (['-interactive'])
```

removeIdMgrLDAPBackupServer

The **removeIdMgr LDAPBack upServer** command removes the backup LDAP server or servers.

Required parameters

- id**
The ID of the repository. (String, required)
- primary_host**
The host name for the primary LDAP server. (String, required)
- host**
The name of the backup host name. Use a asterisk (*) if you want to remove all backup servers. (String, required)

Optional parameters

- securityDomainName**
Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)
- port**
The port number of the LDAP server. (Integer, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask removeIdMgrLDAP BackupServer {-id id_value -primary_host myprimaryhost.ibm.com -host myhost.ibm.com}
```
- Using Jython string:

```
AdminTask.removeIdMgrLDAPBackup Server ('[-id id_value -primary_host myprimaryhost.ibm.com -host myhost.ibm.com']')
```
- Using Jython list:

```
AdminTask.removeIdMgrLDAPBackupServer (['-id', 'id_value', '-primary_host', 'myprimaryhost.ibm.com', '-host', 'myhost.ibm.com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask removeIdMgrLDAP BackupServer {-interactive}
```
- Using Jython string:

```
AdminTask.removeIdMgrLDAP BackupServer ('[-interactive]')
```
- Using Jython list:

```
AdminTask.removeIdMgrLDAP BackupServer (['-interactive'])
```

setIdMgrCustomProperty

The **setIdMgr Custom Property** command : sets, adds or deletes a custom property to a repository configuration. If a value is not specified, or if there is an empty string, the property is deleted from the repository configuration. If a name does not exist it is added if a value is specified. If the name is "*" then all of the custom properties are deleted.

Required parameters

- id**
The unique identifier of the repository. Valid values include the existing repository IDs. (String, required)
- name**
The name of the additional property for the repository that are not defined OOTB.(String, required)

Optional parameters

- securityDomainName**
Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-value

The value of a property for the repository. If this parameter is an empty string, the property is deleted from the repository configuration. If this parameter is not an empty string, and a name does not exist, it is added. If a name is an empty string, all of the custom properties are deleted. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrCustomProperty {-id id_value -name name_value -value value}
```

- Using Jython string:

```
AdminTask.setIdMgrCustomProperty ('[-id id_name -name name_value -value value]')
```

- Using Jython list:

```
AdminTask.setIdMgrCustomProperty (['-id', 'id_name', '-name', 'name_value', '-value', 'value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrCustom Property {-interactive}
```

- Using Jython string:

```
AdminTask.setIdMgrCustom Property ('[-interactive]')
```

- Using Jython list:

```
AdminTask.setIdMgrCustom Property (['-interactive'])
```

setIdMgrLDAPAttrCache

The **setIdMgr LDAPAttrCache** command configures the LDAP attribute cache configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-cachesDiskOffLoad

(String, optional)

-enabled

Indicates if you want to enable attribute caching. The default value is true. (Boolean, optional)

-cacheSize

The maximum size of the attribute cache defined by the number of attribute objects that are permitted in the attribute cache. The minimum value of this parameter is 100. The default value is 4000. (Integer, optional)

-cacheTimeout

The amount of time in seconds before the cached entries that are located in the attributes cache can be not valid. The minimum value of this parameter is 0. The attribute objects that are cached will remain in the attributes cache until the virtual member manager changes the attribute objects. The default value is 1200. (Integer, optional)

-attributeSizeLimit

An integer that represents the maximum number of attribute object values that can cache in the attributes cache.

Some attributes, for example, the member attribute, contain many values. The `attributeSizeLimit` parameter prevents the attributes cache to cache large attributes. The default value is 2000. (Integer, optional)

-serverTTLAttribute

The name of the `ttl` attribute that is supported by the LDAP server. The attributes cache uses the value of this attribute to determine when the cached entries in the attributes cache will time out.

The `ttl` attribute contains the time, in seconds, that any information from the entry should be kept by a client before it is considered stale and a new copy is fetched. A value of 0 implies that the object will not be cached. For more information about this attribute, go to: <http://www.ietf.org/proceedings/98aug/I-D/draft-ietf-asid-ldap-cache-01.txt>.

The `ttl` attribute is not supported by all LDAP servers. If this attribute is supported by an LDAP server, you can set the value of the `serverTTLAttribute` parameter to the name of the `ttl` attribute in order to allow the value of the `ttl` attribute to determine when cached entries will time out. The time out value for different entries in attributes cache can be different.

For example, if the value of the `serverTTLAttribute` parameter is `ttl` and the attributes cache retrieves attributes of a user from an LDAP server, it will also retrieve the value of the `ttl` attribute of this user. If the value is 200, the WMM uses this value to set the time out for the attributes of the user in the attributes cache instead of using the value of `cacheTimeout`. You can set different `ttl` attribute values for different users. (String, optional)

-cacheDistPolicy

The distribution policy for the dynamic cache in a cluster environment.

The valid values are `none` (for `NOT_SHARED`), `push` (for `SHARED_PUSH`), and `push_pull` (for `SHARED_PUSH_PULL`) and the default value is `none`. The value of this parameter is read during the adapter startup process and the cache policy is set accordingly. (String, optional)

- Returns: None

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrLDAPAttr Cache {-id id_name}
```

- Using Jython string:

```
AdminTask.setIdMgrLDAPAttr Cache ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.setIdMgrLDAPAttr Cache (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrLDAPAttr Cache {-interactive}
```

- Using Jython string:

```
AdminTask.setIdMgrLDAPAttr Cache ('[-interactive]')
```

- Using Jython list:

```
AdminTask.setIdMgrLDAPAttr Cache (['-interactive'])
```

setIdMgrLDAPContextPool

The `setIdMgr LDAPContextPool` command sets up the LDAP context pool configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-enabled

By default, the context pool is enabled. If you set this parameter to `false`, the context pool is disabled. When the context pool is disabled, new context instances will be created for each request. The default value is `true`. (Boolean, optional)

-initPoolSize

The number of context instances that the virtual member manager LDAP adapter creates when it creates the pool. The valid range for this parameter is 1 to 50. The default value is 1. (Integer, optional)

-maxPoolSize

The maximum number of context instances that the context pool will maintain. Context instances that are in use and those that are idle contribute to this number. When the pool size reaches this number, new context instances cannot be created for new requests. The new request is blocked until a context instance is released by another request or is removed. The request checks periodically if there are context instances available in the pool according to the amount of time that you specify using the `poolWaitTime` parameter.

The minimum value for this parameter is 0. There is no maximum value. Setting the value of this parameter to 0 means that there is no maximum size and a request for a pooled context instance will use an existing pooled idle context instance or a newly created pooled context instance. The default value is 0. (Integer, optional)

-prefPoolSize

The preferred number of context instances that the context pool will maintain. Context instances that are in use and those that are idle contribute to this number. When there is a request for the use of a pooled context instance and the pool size is less than the preferred size, the context pool creates and uses a new pooled context instance regardless of whether an idle connection is available. When a request finishes with a pooled context instance and the pool size is greater than the preferred size, the context pool closes and removes the pooled context instance from the pool.

The valid range for this parameter is from 0 to 100. Setting the value of this parameter to 0 means that there is no preferred size and a request for a pooled context instance results in a newly created context instance only if no idle ones are available. The default value is 3. (Integer, optional)

-poolTimeout

An integer that represents the number of seconds that an idle context instance might remain in the pool without being closed and removed from the pool. When a context instance is requested from the pool, if this context already exists in the pool for more than the time defined by `poolTimeout`, this connection is closed no matter whether this context instance is stale or active. A new context instance is created and put back to the pool after it has been released from the request.

The minimum value for this parameter is 0. There is no maximum value. Setting the value of this parameter to 0 means that the context instances in the pool remain until they are staled. The context pool catches the communication exception and recreates a new context instance. The default value is 0. (Integer, optional)

-poolWaitTime

The time interval in milliseconds that the request waits until the context pool rechecks if there are idle context instances available in the pool when the number of context instances reaches the maximum pool size. If no idle context instance, the request will continue waiting for the same period of time until next checking.

The minimum value for the poolWaitout parameter is 0. There is no maximum value. A value of 0 for this parameter means that the context pool will not check if idle context exists. The request will be notified when a context instance releases from other requests. The default value is 3000.(Integer, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrLDAPCon textPool {-id id_name}
```

- Using Jython string:

```
AdminTask.setIdMgrLDAPCon textPool ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.setIdMgrLDAPCon textPool (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrLDAPCon textPool {-interactive}
```

- Using Jython string:

```
AdminTask.setIdMgrLDAPCon textPool ('[-interactive]')
```

- Using Jython list:

```
AdminTask.setIdMgrLDAPCon textPool (['-interactive'])
```

setIdMgrLDAPGroupConfig

The **setIdMgr LDAPGroupConfig** command sets up the LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-updateGroupMembership

Updates the group membership if the member is deleted or renamed. Some LDAP servers, for example, Domino server, do not clean up the membership of the user when a user is deleted or renamed. If you choose these LDAP server types in the ldapServerType property, the value of this parameter is set to true. Use this parameter to change the value. The default value is false. (Boolean, optional)

-name

The name of the membership attribute. For example, memberOf in an active directory server and ibm-allGroups in IDS. (String, optional)

-scope

The scope of the membership attribute. The following are the possible values for this parameter:

- direct - The membership attribute only contains direct groups. Direct groups contain the member and are not contained through a nested group. For example, if group1 contains group2, group2 contains user1, then group2 is a direct group of user1, but group1 is not a direct group of user1.
- nested - The membership attribute contains both direct groups and nested groups.
- all - The membership attribute contains direct groups, nested groups, and dynamic members.

The default value is `direct`. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrLDAP GroupConfig {-id id_name}
```

- Using Jython string:

```
AdminTask.setIdMgrLDAP GroupConfig ('[-id id_name']')
```

- Using Jython list:

```
AdminTask.setIdMgrLDAP GroupConfig (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrLDAPGroupConfig {-interactive}
```

- Using Jython string:

```
AdminTask.setIdMgrLDAPGroupConfig ('[-interactive]')
```

- Using Jython list:

```
AdminTask.setIdMgrLDAPGroupConfig (['-interactive'])
```

setIdMgrLDAPSearchResultCache

The **setIdMgr LDAPSearch ResultCache** command sets up the LDAP search result cache configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-cachesDiskOffload

Loads the attributes caches and the search results onto hard disk. By default, when the number of cache entries reaches the maximum size of the cache, cache entries are evicted to allow new entries to enter the caches. If you enable this parameter, the evicted cache entries will be copied to disk for future access. The default value is `false`. (Boolean, optional)

-enabled

Enables the search results cache. The default value is `true`. (Boolean, optional)

-cacheSize

The maximum size of the search results cache. The number of naming enumeration objects that can be put into the search results cache. The minimum value of this parameter is 100. The default value is 2000. (Integer, optional)

-cacheTimeout

The amount of time in seconds before the cached entries in the search results cache can be not valid. The minimum value for this parameter is 0. A value of 0 means that the cached naming enumeration objects will stay in the search results cache until there are configuration changes. The default value is 600. (Integer, optional)

-searchResultSizeLimit

The maximum number of entries contained in the naming enumeration object that can be cached in

the search results cache. For example, if the results from a search contains 2000 users, the search results will not cache in the search results cache if the value of the of this property is set to 1000. The default value is 1000. (Integer, optional)

-cacheDistPolicy

The distribution policy for the dynamic cache in a cluster environment.

The valid values are none (for NOT_SHARED), push (for SHARED_PUSH), and push_pull (for SHARED_PUSH_PULL) and the default value is none. The value of this parameter is read during the adapter startup process and the cache policy is set accordingly. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrLDAPSearch ResultCache {-id id_name}
```

- Using Jython string:

```
AdminTask.setIdMgrLDAPSearch ResultCache ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.setIdMgrLDAPSearch ResultCache (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrLDAPSearch ResultCache {-interactive}
```

- Using Jython string:

```
AdminTask.setIdMgrLDAPSearch ResultCache ('[-interactive]')
```

- Using Jython list:

```
AdminTask.setIdMgrLDAPSearch ResultCache (['-interactive'])
```

setIdMgrEntryMappingRepository

The **setIdMgr Entry Mapping Repository** command sets or updates an entry mapping repository configuration.

Required parameters

-dataSourceName

The name of the data source. The default value is jdbc/wimDS. The parameter is required if the property extension is not set. The parameter is not required if the command is used to update the existing configuration. (String)

-databaseType

The type of the database. The default value is DB2. The parameter is required if the property extension is not set. The parameter is not required if the command is used to update the existing configuration. (String)

-dbURL

The URL of the database. The parameter is required if the property extension is not set. The parameter is not required if the command is used to update the existing configuration. (String)

-dbAdminId

The database administrator ID. (String, required if database type is not Apache Derby.)

-dbAdminPassword

The database administrator password. (String, required if database type is not Apache Derby.)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-JDBCDriverClass

The JDBC driver class name. (String, optional)

IBM i -dbSchema

The database schema of the database repository that you want to configure. The schema should exist in the database. The default value is the default schema of the database according to the database type. Typically, the default schema is the namespace of the current database user. (String, optional).

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrEntry MappingRepository {-dbAdminId database_administrator_ID -dbAdminPassword database_administrator_password}
```

- Using Jython string:

```
AdminTask.setIdMgrEntry MappingRepository ('[-dbAdminId database_administrator_ID -dbAdminPassword database_administrator_password]')
```

- Using Jython list:

```
AdminTask.setIdMgrEntry MappingRepository (['-dbAdminId', 'database_administrator_ID', '-dbAdmin Password', 'database_administrator_password'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrEntryMapping Repository {-interactive}
```

- Using Jython string:

```
AdminTask.setIdMgrEntryMapping Repository ('[-interactive]')
```

- Using Jython list:

```
AdminTask.setIdMgrEntryMapping Repository (['-interactive'])
```

setIdMgrPropertyExtensionRepository

The **setIdMgr Property Extension Repository** command sets or updates the property extension repository configuration.

Important: The application server cannot validate the data source when you run this command in the local mode.

Required parameters

-dataSourceName

The name of the data source. The default value is jdbc/wimDS. The parameter is required if the property extension is not set. The parameter is not required if the command is used to update the existing configuration. (String)

-databaseType

The type of the database. The default value is DB2. The parameter is required if the property extension is not set. The parameter is not required if the command is used to update the existing configuration. (String)

-dbURL

The URL of the database. The parameter is required if the property extension is not set. The parameter is not required if the command is used to update the existing configuration. (String)

-dbAdminId

The database administrator ID. (String, required if database type is not Apache Derby.)

-dbAdminPassword

The database administrator password. (String, required if database type is not Apache Derby.)

-entityRetrievalLimit

The limit for the retrieval of entities. (Integer, required)

-JDBCDriverClass

The JDBC driver class name. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

IBM i

-dbSchema

The database schema of the database repository that you want to configure. The schema should exist in the database. The default value is the default schema of the database according to the database type. Typically, the default schema is the namespace of the current database user. (String, optional).

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrProperty ExtensionRepository {-entity RetrievalLimit limit_value -JDBC DriverClass class_name}
```

- Using Jython string:

```
AdminTask.setIdMgrProperty ExtensionRepository ('[-entity RetrievalLimit limit_value -JDBC DriverClass class_name']')
```

- Using Jython list:

```
AdminTask.setIdMgrProperty ExtensionRepository (['-entity RetrievalLimit', 'limit_value', '-JDBCDriverClass', 'class_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrProperty ExtensionRepository {-interactive}
```

- Using Jython string:

```
AdminTask.setIdMgrProperty ExtensionRepository ('[-interactive]')
```

- Using Jython list:

```
AdminTask.setIdMgrPropertyExt ensionRepository (['-interactive'])
```

updateIdMgrDBRepository

The **updateId MgrDB Repository** command updates the configuration for the database repository that you specify.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-dataSourceName

The name of the data source. The default value is jdbc/wimDS. (String, optional)

-databaseType

The type of the database. The default value is DB2. (String, optional)

- dbURL**
The URL of the database. (String, optional)
- dbAdminId**
The database administrator ID. (String, optional)
- dbAdminPassword**
The database administrator password. (String, optional)
- entityRetrievalLimit**
Indicates the value of the retrieval limit on database entries. The default value is 200. (Integer, optional)
- JDBCDriverClass**
The JDBC driver class name. (String, optional)
- saltLength**
The salt length in bits. The default value is 12. (Integer, optional)
- encryptionKey**
The default value is rZ15ws0e1y9yHk3zCs3sTMv/ho8fY17s. (String, optional)
- IBM i -dbSchema**
The database schema of the database repository that you want to configure. The schema should exist in the database. The default value is the default schema of the database according to the database type. Typically, the default schema is the namespace of the current database user. (String, optional).

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrDB Repository {-id id_name}
```

- Using Jython string:

```
AdminTask.updateIdMgrDB Repository ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.updateIdMgrDB Repository (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrDB Repository {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrDB Repository ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrDB Repository (['-interactive'])
```

updateIdMgrFileRepository

The **updateId MgrFile Repository** command updates the configuration for the file repository that you specify. To update other properties of the file repository use the **update IdMgr Repository** command.

Required parameters

- id**
The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-messageDigest Algorithm

The message digest algorithm that will be used for hashing the password. The default value is SHA-1. Valid values include the following: SHA-1, SHA-384, or SHA-512.(String, optional)

-baseDirectory

The base directory where the fill will be created in order to store the data. The default is to be dynamically built during run time using user.install.root and cell name. (String, optional)

-fileName

The file name of the repository. The default value is fileRegistry.xml. (String, optional)

-saltLength

The salt length of the randomly generated salt for password hashing. The default value is 12. (Integer, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrFile Repository {-id id_name}
```

- Using Jython string:

```
AdminTask.updateIdMgrFile Repository ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.updateIdMgrFile Repository (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrFile Repository {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrFile Repository ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrFile Repository (['-interactive'])
```

updateIdMgrLDAPAttrCache

The **updateId MgrLDAP AttrCache** command updates the LDAP attribute cache configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-cachesDiskOffload

(String, optional)

-enabled

Indicates if you want to enable attribute caching. The default value is true. (Boolean, optional)

-cacheSize

The maximum size of the attribute cache defined by the number of attribute objects that are permitted in the attribute cache. The minimum value of this parameter is 100. The default value is 4000. (Integer, optional)

-cacheTimeOut

The amount of time in seconds before the cached entries that are located in the attributes cache can be not valid. The minimum value of this parameter is 0. The attribute objects that are cached will remain in the attributes cache until the virtual member manager changes the attribute objects. The default value is 1200. (Integer, optional)

-attributeSizeLimit

An integer that represents the maximum number of attribute object values that can cache in the attributes cache.

Some attributes, for example, the member attribute, contain many values. The attributeSizeLimit parameter prevents the attributes cache to cache large attributes. The default value is 2000. (Integer, optional)

-serverTTLAttribute

The name of the ttl attribute that is supported by the LDAP server. The attributes cache uses the value of this attribute to determine when the cached entries in the attributes cache will time out.

The ttl attribute contains the time, in seconds, that any information from the entry should be kept by a client before it is considered stale and a new copy is fetched. A value of 0 implies that the object will not be cached. For more information about this attribute, go to: <http://www.ietf.org/proceedings/98aug/I-D/draft-ietf-asisd-ldap-cache-01.txt>.

The ttl attribute is not supported by all LDAP servers. If this attribute is supported by an LDAP server, you can set the value of the serverTTLAttribute parameter to the name of the ttl attribute in order to allow the value of the ttl attribute to determine when cached entries will time out. The time out value for different entries in attributes cache can be different.

-cacheDistPolicy

The distribution policy for the dynamic cache in a cluster environment.

The valid values are none (for NOT_SHARED), push (for SHARED_PUSH), and push_pull (for SHARED_PUSH_PULL) and the default value is none. The value of this parameter is read during the adapter startup process and the cache policy is set accordingly. (String, optional)

For example, if the value of the serverTTLAttribute parameter is ttl and the attributes cache retrieves attributes of a user from an LDAP server, it will also retrieve the value of the ttl attribute of this user. If the value is 200, the WMM uses this value to set the time out for the attributes of the user in the attributes cache instead of using the value of cacheTimeout. You can set different ttl attribute values for different users. (String, optional)

- Returns: None

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAP AttrCache {-id id_name}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAP AttrCache (['-id id_name'])
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAP AttrCache (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAP AttrCache {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAP AttrCache ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAP AttrCache (['-interactive'])
```

updateIdMgrLDAPContextPool

The **updateIdMgrLDAP ContextPool** command updates the LDAP context pool configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-enabled

By default, the context pool is enabled. If you set the value of this parameter to `false`, the context pool is disabled which means that a new context instance will be created for each request. The default value is `true`. (Boolean, optional)

-initPoolSize

The number of context instances that the virtual member manager LDAP adapter creates when it creates the pool. The valid range for this parameter is 1 to 50. The default value is 1. (Integer, optional)

-maxPoolSize

The maximum number of context instances that can be maintained concurrently by the context pool. Both in-use and idle context instances contribute to this number. When the pool size reaches this number, new context instances cannot be created for new requests. The new request is blocked until a context instance is released by another request or is removed. The request checks periodically if there are context instances available in the pool according to the value defined for the `poolWaitTime` parameter. The minimum value of the `maxPoolSize` parameter is 0. There is no maximum value. A maximum pool size of 0 means that there is no maximum size and that a request for a pooled context instance will use an existing pooled idle context instance or a newly created pooled context instance. The default value is 0. (Integer, optional)

-prefPoolSize

The preferred number of context instances that the Context Pool should maintain. Both in-use and idle context instances contribute to this number. When there is a request for the use of a pooled context instance and the pool size is less than the preferred size, Context Pool will create and use a new pooled context instance regardless of whether an idle connection is available. When a request is finished with a pooled context instance and the pool size is greater than the preferred size, the Context Pool will close and remove the pooled context instance from the pool. The valid range of the `prefPoolSize` parameter is 0 to 100. A preferred pool size of 0 means that there is no preferred size: A request for a pooled context instance will result in a newly created context instance only if no idle ones are available. The default value is 3. (Integer, optional)

-poolTimeout

An integer that represents the number of seconds that an idle context instance may remain in the pool without being closed and removed from the pool. When a context instance is requested from the pool, if this context already exists in the pool for more than the time defined by `poolTimeout`, this connection will be closed no matter if this context instance is stale or active. A new context instance will be created and put back to the pool after it has been released from the request. The minimum value of `poolTimeout` is 0. There is no maximum value. A `poolTimeout` of 0 means that the context instances in

the pool will remain in the pool until they are staled. In this case, Context Pool will catch the communication exception and recreate a new context instance. The default value is 0. (Integer, optional)

-poolWaitTime

The time interval (in milliseconds) that the request will wait until the Context Pool checks again if there are idle context instance available in the pool when the number of context instances reaches the maximum pool size. If there is still no idle context instance, the request will continue waiting for the same period of time until next checking. The minimum value of poolWaitout is 0. There is no maximum value. A poolWaitTime of 0 means the Context Pool will not check if there are idle context. Instead, the request will be notified when there is a context instance is released from other requests. The default value is 3000. (Integer, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAP ContextPool {-id id_name}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAP ContextPool ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAP ContextPool (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAP ContextPool {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAP ContextPool ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAP ContextPool (['-interactive'])
```

updateIdMgrLDAPEntityType

The **updateId MgrLDAP EntityType** command updates an existing LDAP entity type definition to LDAP repository configuration. You can use this command to add more values to multi-valued parameters. If the property already exists, the value of the property will be replaced. If the property does not exist, it will be added.

Required parameters

-id

The ID of the repository. (String, required)

-name

The name of the entity type. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-searchFilter

The search filter that you want to use to search the entity type. (String, optional)

-objectClasses

One or more object classes for the entity type. (String, optional)

-objectClassesForCreate

The object class that will be when you create an entity type object. You do not have to specify the value of this parameter if it is the same as the value of the objectClasses parameter. (String, optional)

-searchBases

The search base or bases to use while searching the entity type. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAPEntity Type {-id id_name -name name_value}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAPEntity Type ('[-id id_name -name name_value]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAPEntity Type (['-id', 'id_name', '-name', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAP EntityType {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAP EntityType ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAP EntityType (['-interactive'])
```

updateIdMgrLDAPGroupDynamicMemberAttr

The **updateIdMgr LDAPGroup Dynamic MemberAttr** command updates a dynamic member attribute configuration to an LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

-name

The name of the LDAP attribute that is used as the group member attribute. For example, memberURL. (String, required)

-objectClass

The group object class that contains the dynamic member attribute. For example groupOfURLs. If you do not define this parameter, the dynamic member attribute will apply to all group object classes. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAPGroup DynamicMemberAttr {-id id_name -name name_value -objectClass groupOfURLs}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAPGroup DynamicMemberAttr ('[-id id_name -name name_value -objectClass groupOfURLs]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAPGroup DynamicMemberAttr (['-id', 'id_name', '-name', 'name_value', '-objectClass', 'groupOfURLs'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAPGroup DynamicMemberAttr {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAPGroup DynamicMemberAttr ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAPGroup DynamicMemberAttr (['-interactive'])
```

updateIdMgrLDAPGroupMemberAttr

The **updateIdMgr LDAPGroup MemberAttr** command updates a member attribute configuration of an LDAP group configuration.

Required parameters

-id

The ID of the repository. (String, required)

-name

The name of the LDAP attribute that is used as the group member attribute. For example, member or uniqueMember. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-objectClass

The group object class that contains the member attribute. For example, groupOfNames or groupOfUniqueNames. If you do not define this parameter, the member attribute applies to all group object classes. (String, optional)

-scope

The scope of the member attribute. The following are the valid values:

- direct - The member attribute only contains direct members whereby the member is directly contained by the group and not contained in a nested group. For example, if group1 contains group2, group2 contains user1, then group2 is a direct member of group1 but user1 is not a direct member of group1. Both member and uniqueMember are direct member attributes.
- nested - The member attribute contains both direct members and nested members.

-dummyMember

When you create a group without specifying a member, a dummy member will be filled in automatically to avoid receiving an exception that indicates that there is a mandatory attribute missing. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAP GroupMemberAttr {-id id_name -name name_value}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAP GroupMemberAttr ('[-id id_name -name name_value]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAP GroupMemberAttr (['-id', 'id_name', '-name', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAPGroup MemberAttr {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAPGroup MemberAttr ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAPGroup MemberAttr (['-interactive'])
```

updateIdMgrLDAPRepository

The **updateId MgrLDAP Repository** command updates an LDAP repository configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-ldapServerType

The type of LDAP server that is being used. The default value is IDS51. (String, optional)

-adapterClassName

The default value is `com.ibm.ws.wim.adapter.ldap.LdapAdapter`. (String, optional)

-certificateMapMode

Specifies whether to map X.509 certificates into a LDAP directory by exact distinguished name or by certificate filter. The default value is `exactdn`. To use the certificate filter for the mapping, specify `certificatefilter`. (String, optional)

-certificateFilter

If `certificateMapMode` has the value `certificatefilter`, then this property specifies the LDAP filter which maps attributes in the client certificate to entries in LDAP. (String, optional)

-isExtIdUnique

Specifies if the external ID is unique. The default value is `true`. (Boolean, optional)

-loginProperties

Indicates the property name used for login. (String, optional)

Note: If you define multiple login properties, the first login property is programmatically mapped to the federated repositories `principalName` property. For example, if you set `uid;mail` as the login properties, the LDAP attribute `uid` value is mapped to the federated repositories `principalName` property. If you define multiple login properties, after login, the first login property is returned as the value of the `principalName` property. For example, if you pass `joe@yourco.com` as the `principalName` value and the login properties are configured as `uid;mail`, the `principalName` is returned as `joe`.

-primaryServerQueryTimeInterval

Indicates the polling interval for testing the primary server availability. The value of this parameter is specified in minutes. The default value is 15. (Integer, optional)

-returnToPrimaryServer

Indicates to return to the primary LDAP server when it is available. The default value is `true`. (Boolean, optional)

- searchCountLimit**
The value of search count limit. (Integer, optional)
- searchPageSize**
The value of search page size. (Integer, optional)
- searchTimeLimit**
The value of search time limit. (Integer, optional)
- sslConfiguration**
The SSL configuration. (String, optional)
- supportAsyncMode**
Indicates if the async mode is supported or not. The default value is `false`. (Boolean, optional)
- supportChangeLog**
This parameter indicates whether the repository supports change tracking. Valid values for this parameter are `none` or `native`. The default value is `none`. (String, optional)
- supportSorting**
Indicates if sorting is supported or not. The default value is `false`. (Boolean, optional)
- supportPaging**
Indicates if paging is supported or not. The default value is `false`. (Boolean, optional)
- supportTransactions**
Indicates if transactions are supported or not. The default value is `false`. (Boolean, optional)
- supportExternalName**
Indicates if external names are supported or not. The default value is `false`. (Boolean, optional)
- translateRDN**
Indicates to translate RDN or not. The default value is `false`. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask updateIdMgrLDAP Repository {-id id_name}`
- Using Jython string:
`AdminTask.updateIdMgrLDAP Repository ('[-id id_name]')`
- Using Jython list:
`AdminTask.updateIdMgrLDAP Repository (['-id', 'id_name'])`

Interactive mode example usage:

- Using Jacl:
`$AdminTask updateIdMgrLDAP Repository {-interactive}`
- Using Jython string:
`AdminTask.updateIdMgrLDAP Repository ('[-interactive]')`
- Using Jython list:
`AdminTask.updateIdMgrLDAP Repository (['-interactive'])`

updateIdMgrLDAPSearchResultCache

The **updateIdMgr LDAPSearch ResultCache** command updates the LDAP search result cache configuration.

Required parameters

-id
The ID of the repository. (String, required)

Optional parameters

-securityDomainName
Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-cachesDiskOffload
Loads the attributes caches and the search results onto hard disk. By default, when the number of cache entries reaches the maximum size of the cache, cache entries are evicted to allow new entries to enter the caches. If you enable this parameter, the evicted cache entries will be copied to disk for future access. The default value is `false`. (Boolean, optional)

-enabled
Enables the search results cache. The default value is `true`. (Boolean, optional)

-cacheSize
The maximum size of the search results cache. The number of naming enumeration objects that can be put into the search results cache. The minimum value of this parameter is 100. The default value is 2000. (Integer, optional)

-cacheTimeout
The amount of time in seconds before the cached entries in the search results cache can be not valid. The minimum value for this parameter is 0. A value of 0 means that the cached naming enumeration objects will stay in the search results cache until there are configuration changes. The default value is 600. (Integer, optional)

-searchResultSizeLimit
The maximum number of entries contained in the naming enumeration object that can be cached in the search results cache. For example, if the results from a search contains 2000 users, the search results will not cache in the search results cache if the value of the of this property is set to 1000. The default value is 1000. (Integer, optional)

-cacheDistPolicy
The distribution policy for the dynamic cache in a cluster environment.

The valid values are `none` (for NOT_SHARED), `push` (for SHARED_PUSH), and `push_pull` (for SHARED_PUSH_PULL) and the default value is `none`. The value of this parameter is read during the adapter startup process and the cache policy is set accordingly. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAP SearchResultCache {-id id_name}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAPSearch ResultCache ('[-id id_name']')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAPSearch ResultCache (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAP SearchResultCache {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAPSearch ResultCache ('[-interactive]')
```

- Using Jython list:

updateIdMgrLDAPServer

The **updateIdMgr LDAPServer** command updates an LDAP server configuration for the LDAP repository ID that you specify.

Required parameters and return values

-id

The ID of the repository. (String, required)

-host

The host name for the LDAP server that contains the properties that you want to modify. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-port

The port number for the LDAP server. (Integer, optional)

-authentication

Indicates the authentication method to use. The default value is `simple`. Valid values include: `none` or `strong`. (String, optional)

-bindDN

The binding domain name for the LDAP server. (String, optional)

-bindPassword

The binding password. The password is encrypted before it is stored. (String, optional)

-certificateMapMode

Specifies whether to map X.509 certificates into a LDAP directory by exact distinguished name or by certificate filter. The default value is `exactdn`. To use the certificate filter for the mapping, specify `certificatefilter`. (String, optional)

-certificateFilter

If `certificateMapMode` has the value `certificatefilter`, then this property specifies the LDAP filter which maps attributes in the client certificate to entries in LDAP. (String, optional)

-connectTimeout

The connection timeout measured in seconds. (Integer, optional)

Restriction: Due to a current JNDI limitation, the maximum connection timeout is 20 seconds. Even if you specify a value above 20 seconds, the connection still times out at 20 seconds.

-connectionPool

The connection pool. The default value is `false`. (Boolean, optional)

-dereferAliases

Controls how aliases are dereferenced. The default value is `always`. Valid values include:

- `never` - never deference aliases
- `finding` - deferences aliases only during name resolution
- `searching` - deferences aliases only after name resolution

(String, optional)

-ldapServerType

The type of LDAP server being used. The default value is `IDS51`. (String, optional)

-primary_host

The host name for the primary LDAP server. (String, optional)

-referral

The LDAP referral. The default value is `ignore`. Valid values include: `follow`, `throw`, or `false`. (String, optional)

-sslConfiguration

The SSL configuration. (String, optional)

-sslEnabled

Indicates to enable SSL or not. The default value is `false`. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAPServer {-id id_name -host myhost.ibm.com}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAPServer ('[-id id_name -host myhost.ibm.com]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAPServer (['-id', 'id_name', '-host', 'myhost.ibm.com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrLDAP Server {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrLDAP Server ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrLDAP Server (['-interactive'])
```

updateIdMgrRepository

The **updateIdMgr Repository** command updates the common repository configuration.

Required parameters

-id

The ID of the repository. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-adapterClassName

The implementation class name for the repository adapter. (String, optional)

-EntityTypesNot AllowCreate

The name of the entity type that should not be created in this repository. (String, optional)

-EntityTypesNotAllowUpdate

The name of the entity type that should not be updated in this repository. (String, optional)

-EntityTypesNotAllowRead

The name of the entity type that should not be read from this repository. (String, optional)

-EntityTypeNotAllowDelete

The name of the entity type that should not be deleted from this repository. (String, optional)

-isExtIdUnique

Specifies if the external ID is unique or not. (Boolean, optional)

-loginProperties

Indicates the property name used for login. (String, optional)

-readOnly

Indicates if this is a read only repository. The default value is false. (Boolean, optional)

-repositoriesForGroups

The repository ID where group data is stored. (String, optional)

-supportAsyncMode

Indicates if the adapter supports async mode or not. The default value is false. (Boolean, optional)

-supportChangeLog

This parameter indicates whether the repository supports change tracking. Valid values for this parameter are none or native. The default value is none. (String, optional)

-supportPaging

Indicates if the repository supports paging or not. (Boolean, optional)

-supportSorting

Indicates if the repository supports sorting or not. (Boolean, optional)

-supportTransactions

Indicates if the repository supports transaction or not. (Boolean, optional)

-supportedExternalName

Indicates if the repository supports external names or not. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrRepository {-id id_name}
```

- Using Jython string:

```
AdminTask.updateIdMgrRepository ('[-id id_name]')
```

- Using Jython list:

```
AdminTask.updateIdMgrRepository (['-id', 'id_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrRepository {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrRepository ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrRepository (['-interactive'])
```

updateIdMgrRepositoryBaseEntry

The **updateIdMgr Repository BaseEntry** command updates a base entry to the specified repository.

Required parameters

-id

The ID of the repository. (String, required)

-name

The distinguished name of a base entry. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-nameInRepository

The distinguished name in the repository that uniquely identifies the base entry name. (String, optional)

Note: The values specified for both **name** and **nameInRepository** parameters must be the same for a database repository.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrRepositoryBaseEntry {-id id_name name name_value}
```

- Using Jython string:

```
AdminTask.updateIdMgrRepositoryBaseEntry ('[-id id_name name name_value]')
```

- Using Jython list:

```
AdminTask.updateIdMgrRepositoryBaseEntry (['-id', 'id_name', 'name', 'name_value'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrRepositoryBaseEntry {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrRepositoryBaseEntry ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrRepositoryBaseEntry (['-interactive'])
```

IdMgrRealmConfig command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure federated repositories realms. The commands and parameters in the IdMgrRealmConfig group can be used to create and manage your realm configuration.

The IdMgrRealmConfig command group for the AdminTask object includes the following commands:

- “addIdMgrRealmBaseEntry” on page 452
- “createIdMgrRealm” on page 452
- “deleteIdMgrRealm” on page 453
- “deleteIdMgrRealmBaseEntry” on page 454
- “deleteIdMgrRealmDefaultParent” on page 455
- “getIdMgrDefaultRealm” on page 456
- “getIdMgrRepositoriesForRealm” on page 456
- “getIdMgrRealm” on page 457
- “listIdMgrRealms” on page 458
- “listIdMgrRealmBaseEntries” on page 458
- “listIdMgrRealmDefaultParents” on page 459
- “listIdMgrRealmURAttrMappings” on page 460

- “renameIdMgrRealm” on page 461
- “setIdMgrDefaultRealm” on page 461
- “setIdMgrRealmDefaultParent” on page 462
- “setIdMgrRealmURAttrMapping” on page 463
- “updateIdMgrRealm” on page 464

addIdMgrRealmBaseEntry

The **addIdMgrRealmBaseEntry** command adds a base entry to a specific realm configuration and links the realm with the repository.

Target Object

None.

Required parameters

-name

Specifies the name of the realm. (String, required)

-baseEntry

Specifies the name of the base entry. (String, optional)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrRealmBaseEntry {-name defaultWIMFileBasedRealm -baseEntry o=sampleFileRepository}
```

- Using Jython string:

```
AdminTask.addIdMgrRealmBaseEntry ('[-name defaultWIMFileBasedRealm -baseEntry o=sampleFileRepository]')
```

- Using Jython list:

```
AdminTask.addIdMgrRealmBaseEntry (['-name', 'defaultWIMFileBasedRealm', '-baseEntry', 'o=sampleFileRepository'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrRealmBaseEntry {-interactive}
```

- Using Jython string:

```
AdminTask.addIdMgrRealmBaseEntry ('[-interactive]')
```

- Using Jython list:

```
AdminTask.addIdMgrRealmBaseEntry (['-interactive'])
```

createIdMgrRealm

The **createIdMgrRealm** command creates a realm configuration.

Target Object

None.

Required parameters

-name

Specifies the name of the realm. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-securityUse

Specifies a string that indicates if this virtual realm will be used in security now, later, or never. The default value is `active`. Additional values includes: `inactive` and `nonSelectable`. (String, optional)

-delimiter

Specifies the delimiter used for this realm. The default value is `/`. (String, optional)

-allowOperationIfReposDown

Specifies whether the system allows a repository operation such as `get` or `search` to complete successfully, even if repositories in the realm are down. The default value is `false`. (Boolean, optional)

gotcha: Even if this parameter is specified, all repositories must be available when you start the server, or the federated repositories will not function properly.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrRealm {-name realm1 -allowOperationIfReposDown true}
```

- Using Jython string:

```
AdminTask.createIdMgrRealm ('[-name realm1 -allowOperationIfReposDown true]')
```

- Using Jython list:

```
AdminTask.createIdMgrRealm (['-name', 'realm1', '-allowOperationIfReposDown', 'true'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createIdMgrRealm {-interactive}
```

- Using Jython string:

```
AdminTask.createIdMgrRealm ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createIdMgrRealm (['-interactive'])
```

deleteIdMgrRealm

The **deleteIdMgrRealm** command deletes the realm configuration that you specified.

Target Object

None.

Required parameters

-name

The realm name. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrRealm {-name realm1}
```

- Using Jython string:

```
AdminTask.deleteIdMgrRealm ('[-name realm1]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrRealm (['-name', 'realm1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrRealm {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrRealm ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrRealm (['-interactive'])
```

deleteIdMgrRealmBaseEntry

The **deleteIdMgrRealmBaseEntry** command deletes a base entry from a realm configuration that you specified.

The realm must always contain at least one base entry, thus you cannot remove every entry.

Target Object

None.

Required parameters

-name

Specifies the name of the realm. (String, required)

-baseEntry

Specifies the name of a base entry. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrRealmBaseEntry {-name realm1 -baseEntry entry1}
```

- Using Jython string:

```
AdminTask.deleteIdMgrRealmBaseEntry ('[-name realm1 -baseEntry entry1]')
```

- Using Jython list:


```
AdminTask.deleteIdMgrRealmBaseEntry (['-name', 'realm1', '-baseEntry', 'entry1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrRealmBaseEntry {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrRealmBaseEntry ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrRealmBaseEntry (['-interactive'])
```

deleteIdMgrRealmDefaultParent

Use the **deleteIdMgrRealmDefaultParent** command to delete the mapping of the default parent of an entity type for a realm.

Target Object

None.

Required parameters

-entityTypeName

Use this parameter to specify the name of a valid supported entity type for which you want to delete the default parent mapping. You can specify an asterisk (*) to delete the default parent mapping for all entity types in the realm. (String, required)

Optional parameters

-name

Use this parameter to specify a valid realm name for which you want to delete the mapping. If you do not specify the **-name** parameter, the command deletes the mapping for defaultWIMFileBasedRealm, which is the default realm in the federated repository configuration. (String, optional)

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrRealmDefaultParent {-entityTypeName entity_type}
```

- Using Jython string:

```
AdminTask.deleteIdMgrRealmDefaultParent ('[-entityTypeName entity_type]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrRealmDefaultParent (['-entityTypeName', 'entity_type'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrRealmDefaultParent {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrRealmDefaultParent ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrRealmDefaultParent (['-interactive'])
```

getIdMgrDefaultRealm

The **getIdMgrDefaultRealm** command returns the default realm name.

Target Object

None.

Required parameters

None.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrDefaultRealm
```

- Using Jython string:

```
AdminTask.getIdMgrDefaultRealm()
```

- Using Jython list:

```
AdminTask.getIdMgrDefaultRealm()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrDefaultRealm {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrDefaultRealm (['-interactive'])
```

- Using Jython list:

```
AdminTask.getIdMgrDefaultRealm (['-interactive'])
```

getIdMgrRepositoriesForRealm

The **getIdMgrRepositoriesForRealm** command returns repository specific details for the repositories configured for a specified realm.

Target Object

None.

Required parameters

-name

Specifies the name of the realm. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrRepositoriesForRealm {-name realm1}
```

- Using Jython string:

```
AdminTask.getIdMgrRepositoriesForRealm ('[-name realm1]')
```

- Using Jython list:

```
AdminTask.getIdMgrRepositoriesForRealm (['-name', 'realm1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrRepositoriesForRealm {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrRepositoriesForRealm ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrRepositoriesForRealm (['-interactive'])
```

getIdMgrRealm

The **getIdMgrRealm** command returns the configuration parameters for the realm that you specified.

Target Object

None.

Required parameters

-name

Specifies the name of the realm. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrRealm {-name realm1}
```

- Using Jython string:

```
AdminTask.getIdMgrRealm ('[-name realm1]')
```

- Using Jython list:

```
AdminTask.getIdMgrRealm (['-name', 'realm1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrRealm {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrRealm ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrRealm (['-interactive'])
```

listIdMgrRealms

The **listIdMgrRealms** command returns all of the names of the configured realms.

Target Object

None.

Required parameters

None.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrRealms
```

- Using Jython string:

```
AdminTask.listIdMgrRealms()
```

- Using Jython list:

```
AdminTask.listIdMgrRealms()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrRealms {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrRealms ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrRealms (['-interactive'])
```

listIdMgrRealmBaseEntries

The **listIdMgrRealmBaseEntries** command returns all of the names of the configured realms.

Target Object

None.

Required parameters

-name

Specifies the name of the realm. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrRealmBaseEntries {-name realm1}
```

- Using Jython string:

```
AdminTask.listIdMgrRealmBaseEntries ('[-name realm1]')
```

- Using Jython list:

```
AdminTask.listIdMgrRealmBaseEntries (['-name', 'realm1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrRealmBaseEntries {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrRealmBaseEntries ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrRealmBaseEntries (['-interactive'])
```

listIdMgrRealmDefaultParents

Use the **listIdMgrRealmDefaultParents** command to list the mapping of the default parent `uniqueName` for all entity types in a specified realm.

Target Object

None.

Required parameters

None.

Optional parameters

-name

Use this parameter to specify a valid realm name for which you want to list the mapping. If you do not specify the **-name** parameter, the command returns the mapping for defaultWIMFileBasedRealm, which is the default realm in the federated repository configuration. (String, optional)

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Return values

The **listIdMgrRealmDefaultParents** command returns the mapping of each entity type to default parent **uniqueName** for the specified realm. The results are returned as a Map where the key is **entityType** and the value is **parentUniqueName**.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrRealmDefaultParents {-name realm_name}
```

- Using Jython string:

```
AdminTask.listIdMgrRealmDefaultParents ('[-name realm_name]')
```

- Using Jython list:

```
AdminTask.listIdMgrRealmDefaultParents (['-name', 'realm_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrRealmDefaultParents {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrRealmDefaultParents ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrRealmDefaultParents (['-interactive'])
```

listIdMgrRealmURAttrMappings

Use the **listIdMgrRealmURAttrMappings** command to list the mappings between the user or group attributes for a user registry and the federated repository properties of a specified realm.

Target object

None.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-name

Use this parameter to specify a valid realm name for which you want to list the mapping.

If you do not specify the **-name** parameter, the **listIdMgrRealmURAttrMappings** command returns the mapping of the default realm in the federated repository configuration.

(String, optional)

Return values

The **listIdMgrRealmURAttrMappings** command returns a HashMap that contains the following structure:

- The key is the user registry attribute name (**URAttrName** parameter).
- The value is another HashMap that contains the **propertyForInput** and **propertyForOutput** as keys and the corresponding mapping as the values.

The following example shows a sample output. The example is broken into multiple lines for illustration purposes only.

```
{userDisplayName={propertyForInput=principalName, propertyForOutput=principalName},
userSecurityName={propertyForInput=principalName, propertyForOutput=principalName},
uniqueUserId={propertyForInput=uniqueName, propertyForOutput=uniqueName},
uniqueGroupId={propertyForInput=uniqueName, propertyForOutput=uniqueName},
groupSecurityName={propertyForInput=cn, propertyForOutput=cn},
groupDisplayName={propertyForInput=cn, propertyForOutput=cn}}
```

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrRealmURAttrMappings
```

- Using Jython string:

```
AdminTask.listIdMgrRealmURAttrMappings()
```

- Using Jython list:

```
AdminTask.listIdMgrRealmURAttrMappings()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrRealmURAttrMappings {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrRealmURAttrMappings ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrRealmURAttrMappings (['-interactive'])
```

renameIdMgrRealm

The **renameIdMgrRealm** command renames the name of the realm that you specified.

Note: Renaming the federated repositories realm name does not update the realm name stored in the `security.xml` file.

Target Object

None.

Required parameters

-name

Specifies the name of the realm. (String, required)

-newName

Specifies the new name of the realm. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask renameIdMgrRealm {-name realm1 -newName realm2}
```

- Using Jython string:

```
AdminTask.renameIdMgrRealm ('[-name realm1 -newName realm2]')
```

- Using Jython list:

```
AdminTask.renameIdMgrRealm (['-name', 'realm1', '-newName', 'realm2'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask renameIdMgrRealm {-interactive}
```

- Using Jython string:

```
AdminTask.renameIdMgrRealm ('[-interactive]')
```

- Using Jython list:

```
AdminTask.renameIdMgrRealm (['-interactive'])
```

setIdMgrDefaultRealm

The **setIdMgrDefaultRealm** command sets the default realm name.

Required parameters

-name

Specifies the name of the realm that is used as a default realm when the caller does not specify any in context. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrDefaultRealm {-name realm1}
```

- Using Jython string:

```
AdminTask.setIdMgrDefaultRealm ('[-name realm1]')
```

- Using Jython list:

```
AdminTask.setIdMgrDefaultRealm (['-name', 'realm1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrDefaultRealm {-interactive}
```

- Using Jython string:

```
AdminTask.setIdMgrDefaultRealm ('[-interactive]')
```

setIdMgrRealmDefaultParent

Use the **setIdMgrRealmDefaultParent** command to set or modify the default parent uniqueName for an entity type in a specified realm.

Target object

None.

Required parameters

-entityTypeName

Use this parameter to specify the name of a valid supported entity type for which you want to set or modify the default parent. (String, required)

-parentUniqueName

Use this parameter to specify the default parent of the entity type in the specified realm. The default parent specified should be a valid uniqueName in this realm. (String, required)

Optional parameters

-name

Use this parameter to specify a valid realm name for which you want to set or modify the mapping. If you do not specify the **-name** parameter, the command sets or modifies the mapping for `defaultWIMFileBasedRealm`, which is the default realm in the federated repository configuration. (String, optional)

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrRealmDefaultParent {-entityTypeName entity_type -parentUniqueName unique_name}
```

- Using Jython string:

```
AdminTask.setIdMgrRealmDefaultParent ('[-entityTypeName entity_type -parentUniqueName unique_name]')
```

- Using Jython list:

```
AdminTask.setIdMgrRealmDefaultParent (['-entityTypeName', 'entity_type', '-parentUniqueName', 'unique_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrRealmDefaultParent {-interactive}
```

- Using Jython string:

```
AdminTask.setIdMgrRealmDefaultParent (['-interactive'])
```

- Using Jython list:

```
AdminTask.setIdMgrRealmDefaultParent (['-interactive'])
```

setIdMgrRealmURAttrMapping

Use the **setIdMgrRealmURAttrMapping** command to set or modify the mapping of the user or group attribute for a user registry to a federated repository property of a specified realm.

The **setIdMgrRealmURAttrMapping** command is available in both connected and local modes. If you run the **setIdMgrRealmURAttrMapping** command in connected mode, the realm attribute mapping changes take effect after you restart the server.

Target object

None.

Required parameters

-URAttrName

Use this parameter to specify the name of the user or group attribute in a user registry that you want to map. The following case-sensitive values are valid for the **URAttrName** parameter:

- uniqueUserId
- userSecurityName
- userDisplayName
- uniqueGroupId
- groupSecurityName
- groupDisplayName

Note: If you run the **setIdMgrRealmURAttrMapping** command multiple times for the same user registry attribute name, it overwrites the previous value.

(String, required)

-propertyForInput

Use this parameter to specify the name of the federated repository property that maps to the specified user registry attribute (**URAttrName** parameter) when it is an input parameter for the user registry interface. (String, required)

-propertyForOutput

Use this parameter to specify the name of the federated repository property that maps to the specified user registry attribute (**URAttrName** parameter) when it is an output parameter (return value) for the user registry interface. (String, required)

Attention: In most cases, the **propertyForInput** and **propertyForOutput** would be the same.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-name

Use this parameter to specify a valid realm name for which you want to set or modify the mapping. If you do not specify the name parameter, the **setIdMgrRealmURAttrMapping** command uses the default realm in the federated repository configuration. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrRealmURAttrMapping {-URAttrName unique_user_ID -propertyForInput unique_name -propertyForOutput unique_name}
```

- Using Jython string:

```
AdminTask.setIdMgrRealmURAttrMapping ('[-URAttrName unique_user_ID -propertyForInput unique_name -propertyForOutput unique_name]')
```

- Using Jython list:

```
AdminTask.setIdMgrRealmURAttrMapping (['-URAttrName', 'unique_user_ID', '-propertyForInput', 'unique_name', '-propertyForOutput', 'unique_name'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask setIdMgrRealmURAttrMapping {-interactive}
```

- Using Jython string:

```
AdminTask.setIdMgrRealmURAttrMapping ('[-interactive]')
```

- Using Jython list:

```
AdminTask.setIdMgrRealmURAttrMapping (['-interactive'])
```

updateIdMgrRealm

The **updateIdMgrRealm** command updates the configuration for a realm that you specify.

Target Object

None.

Required parameters

-name

Specifies the name of the realm. (String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-securityUse

Specifies a string that indicates if this realm will be used in security now, later, or never. The default value is `active`. Additional values includes: `inactive` and `nonSelectable`. (String, optional)

-delimiter

specifies the delimiter used for this realm. The default value is `/`. (String, optional)

-allowOperationIfReposDown

Specifies whether the system allows a repository operation such as `get` or `search` to complete successfully, even if repositories in the realm are down. (Boolean, optional)

gotcha: Even if this parameter is specified, all repositories must be available when you start the server, or the virtual member manager might not function properly.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrRealm {-name  
realm1}
```

- Using Jython string:

```
AdminTask.updateIdMgrRealm ('[-name  
realm1]')
```

- Using Jython list:

```
AdminTask.updateIdMgrRealm (['-name',  
'realm1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateIdMgrRealm {-interactive}
```

- Using Jython string:

```
AdminTask.updateIdMgrRealm ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateIdMgrRealm (['-interactive'])
```

IdMgrDataModel command group for the AdminTask object

You can use the Jython or Jacl scripting language to manage the federated repository schema using the `wsadmin` tool. Use the commands and parameters in the **IdMgrDataModel** group to manage the property extension repository. The commands are available in connected or local mode using the `-conntype NONE` option.

The **IdMgrDataModel** command group for the `AdminTask` object includes the following commands:

- “`addIdMgrPropertyToEntityTypes`”
- “`getIdMgrEntityTypeSchema`” on page 468
- “`getIdMgrPropertySchema`” on page 469
- “`listIdMgrPropertyExtensions`” on page 471

addIdMgrPropertyToEntityTypes

Use the **`addIdMgrPropertyToEntityTypes`** command to add a new property to one or more existing entity types with specified parameters.

Target Object

None.

Required parameters

-name

Use this parameter to specify the name of the new property that is added to one or more existing entity types.

(String, required)

-dataType

Use this parameter to specify the data type of the property. (String, required)

The default supported data types are:

- String
- Int
- Boolean
- Long
- Double
- Base64binary
- AnySimpleType
- AnyURI
- Byte
- DateTime
- Date
- Short
- Token
- IdentifierType

Note: To extend a property of the type Object, you must use AnySimpleType data type.

-entityTypeNames

This parameter specifies the name of one or more existing entity types to which the new property is added. Use a semicolon (;) as the delimiter to specify multiple entity types.

You can use a valid namespace prefix (nsPrefix) to refer to the entity type names in a specific namespace. The default namespace prefix is wim. Use a colon (:) to specify the namespace prefix. For example, you can use: *your_ext:Person_Account*

- *your_ext* is the namespace prefix, which is mapped to the <http://www.yourco.com/yourext> namespace URI.
- *Person_Account* is the entity type name.

(String, required)

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-nsURI

Use this parameter to specify the namespace to which the new property is added.

You must map each namespace URI (nsURI) value to a unique namespace prefix (nsPrefix) value the first time that you use the namespace URI. The new property is added to the default namespace if you do not specify a nsURI value. The default namespace is <http://www.ibm.com/websphere/wim>, which is mapped, by default, to the wim nsPrefix value.

(String, optional)

-nsPrefix

Use this parameter to specify the prefix for the namespace.

You must specify a namespace prefix (nsPrefix) value, if you specify a new namespace URI (nsURI) value, so that the new nsURI value is mapped to this nsPrefix value. The default nsPrefix value is wim, which is mapped, by default, to the http://www.ibm.com/websphere/wim nsURI value.

(String, optional)

-isMultiValued

Use this parameter to specify whether the new property accepts more than one value. The default value is false.

(Boolean, optional)

-repositoryIds

Use this parameter to specify the repository or repositories to which the new property is added.

Use a semicolon (;) as the delimiter to specify multiple repository identities. All of the configured repositories are included, if this parameter is not specified.

To add the new property into the property extension repository, specify LA as the value of this parameter.

To add the new property to the entity types for all the specified repositories, specify a list of repository identities and do not include LA in the list.

To extend the property to the property extension repository for particular Lightweight Directory Access Protocol (LDAP) repositories, specify a list that includes LA. The new extended property is then marked as not supported for the other LDAP repositories that are included in this list.

(String, optional)

-requiredEntityTypeNames

Use this parameter to specify one or more entity types for which the new property is required.

Use a semicolon (;) as the delimiter to specify multiple entity types.

You can use a valid namespace prefix (nsPrefix) to refer to the entity type names in a specific namespace. The default namespace prefix is wim. Use a colon (:) to specify the namespace prefix.

For example, you can use: *your_ext:Person_Account*

- *your_ext* is the namespace prefix, which is mapped to the http://www.yourco.com/yourext namespace URI.
- *Person_Account* is the entity type name.

For example, if you are adding the contactNumber property to the PersonAccount and Group entity types and you require that all PersonAccount entity types have a contactNumber value, then specify:

```
{-name contactNumber -entityTypeNames PersonAccount;Group -requiredEntityTypeNames PersonAccount}
```

(String, optional)

-applicationId

Use this parameter to indicate the ID of the application for which the property is extended.

You can use the “getIdMgrEntityTypeSchema” on page 468 command to retrieve the extended properties for a specific application ID, if you specify a value for the **applicationId** parameter.

(String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrPropertyToEntityTypes {-name property_name_1 -dataType string -entityTypeNames entity_type_1;entity_type_2}
```

- Using Jython string:

```
AdminTask.addIdMgrPropertyToEntityTypes ('[-name property_name_1 -dataType string -entityTypeNames entity_type_1;entity_type_2]')
```

- Using Jython list:

```
AdminTask.addIdMgrPropertyToEntityTypes (['-name', 'property_name_1', '-dataType', 'string' '-entityTypeNames', 'entity_type_1;entity_type_2'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addIdMgrPropertyToEntityTypes {-interactive}
```

- Using Jython string:

```
AdminTask.addIdMgrPropertyToEntityTypes (['-interactive']')
```

- Using Jython list:

```
AdminTask.addIdMgrPropertyToEntityTypes (['-interactive'])
```

getIdMgrEntityTypeSchema

The **getIdMgrEntityTypeSchema** command returns the entity type schema. This command is available in both connected and local modes.

Target Object

None.

Required parameters

None.

Optional parameters

-id

Use this parameter to specify the ID of the repository. If you do not specify this parameter, the default entity type schema of federated repositories is returned. (String, optional)

Important: If you specify LA as the repository ID, an error occurs because LA is a reserved ID for the property extension repository. Use the **listIdMgrPropertyExtension** command to retrieve the schema of the property extension repository. For more information, see the description of the “listIdMgrPropertyExtensions” on page 471 command.

-entityTypeNames

Use this parameter to specify the names of one or more entity types for which the entity type schema must be retrieved. If you are specifying multiple entity type names, use the semicolon (;) as a delimiter. If you do not specify this parameter the entity type schema for all entity types are returned. You must use a valid namespace prefix to refer to the entity type if it does not belong to the default namespace. (String, optional)

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Return values

The **getIdMgrEntityTypeSchema** command returns a HashMap that contains the following structure:

```
Map{entityType=Map{metadata}}
```

The **getIdMgrEntityTypeSchema** command returns a HashMap where the key is the entity type and the value is another HashMap that contains the entity type schema. This HashMap contains the keys **nsPrefix**, **nsURI** and **parentEntityName** and their corresponding values. The following example shows sample results of this command:

```
{PersonAccount={nsPrefix=wim, nsURI=http://www.ibm.com/websphere/wim, parentEntityName=loginAccount},
 test1:PersonAccount={nsPrefix=test1, nsURI=http://www.ibm.com/websphere/wim, parentEntityName=loginAccount},
 Group={nsPrefix=wim, nsURI=http://www.ibm.com/websphere/wim, parentEntityName=Party},
 MyExtendedEntity={nsPrefix=wim, nsURI=http://www.ibm.com/websphere/wim, parentEntityName=Person}}
```

Note: If the same entity type is defined in different name spaces, then it is listed for each of those name spaces in the output results with the namespace prefix (nsPrefix) prefixed to the entity type name, for example, test1:PersonAccount.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrEntityTypeSchema
```

- Using Jython string:

```
AdminTask.getIdMgrEntityTypeSchema()
```

- Using Jython list:

```
AdminTask.getIdMgrEntityTypeSchema()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrEntityTypeSchema {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrEntityTypeSchema (['-interactive'])
```

- Using Jython list:

```
AdminTask.getIdMgrEntityTypeSchema (['-interactive'])
```

getIdMgrPropertySchema

The **getIdMgrPropertySchema** command returns the property schema, including that of extended properties, of the specified entity type or all entity types. This command is available in both connected and local modes.

Target Object

None.

Required parameters

None.

Optional parameters

-id

Use this parameter to specify the ID of the repository. If you do not specify this parameter, the default properties schema of federated repositories is returned. (String, optional)

Specify 'LA' as the value of the **-id** parameter to retrieve the property schema of the property extension repository.

-entityTypeName

Use this parameter to specify the name of the entity type for which the property schema must be

retrieved. If you do not specify this parameter the property schema for all entity types are returned. You must use a valid namespace prefix to refer to the entity type if it does not belong to the default namespace. (String, optional)

-propertyNames

Use this parameter to specify one or more property names. If you are specifying multiple property names, use the semicolon (;) as a delimiter. If you do not specify this parameter, all of the properties are returned. You must use a valid namespace prefix to refer to the property names if they do not belong to the default namespace. (String, optional)

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Return values

The `getIdMgrPropertySchema` command returns a `HashMap` that contains the following structure:

```
Map{entityType=Map{propName=Map{metadata}}}
```

The `getIdMgrPropertySchema` command returns a `HashMap` where the key is the entity type and the value is another `HashMap` that contains the property schema. This `HashMap` contains the property name as the key and its value is yet another `HashMap` that contains the each attribute of the property and its value.

The following example shows sample results of this command:

```
{PersonAccount={prop1={isMultiValued=false, dataType=String, nsPrefix=wim, nsURI=http://www.ibm.com/websphere/wim, isRequired=true}, test1:prop1={isMultiValued=false, dataType=Integer, nsPrefix=test1, nsURI=http://www.ibm.com/websphere/test1, isRequired=true}, prop2={isMultiValued=false, dataType=Integer, nsPrefix=wim, nsURI=http://www.ibm.com/websphere/wim, isRequired=true }}, Group={prop3={isMultiValued=false, dataType=String, nsPrefix=wim, nsURI=http://www.ibm.com/websphere/wim, isRequired=false}}}
```

Note: If the same property is defined in different name spaces for an entity type, then it is listed for each of those name spaces in the output results with the namespace prefix (`nsPrefix`) prefixed to the property name, for example, `test1:prop1`. The `isRequired` attribute is returned as true for the property of an entity type, if that entity type is listed in the `requiredEntityTypeNames` list.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrPropertySchema
```

- Using Jython string:

```
AdminTask.getIdMgrPropertySchema()
```

- Using Jython list:

```
AdminTask.getIdMgrPropertySchema()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrPropertySchema {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrPropertySchema (['-interactive'])
```

- Using Jython list:

```
AdminTask.getIdMgrPropertySchema (['-interactive'])
```


listIdMgrPropertyExtensions

Use the `listIdMgrPropertyExtensions` command to list the properties extended for entity types.

Target Object

None.

Required parameters

None.

Optional parameters

-securityDomainName

Use this parameter to specify the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-applicationId

Use this parameter to indicate the ID of the application for which the extended properties are listed.

If you do not specify this parameter, all the extended properties are listed.

(String, optional)

Return value

This parameter returns a hash map that contains the property name as the key. The value of each key is another hash map, which contains the same keys as the input parameters of the “`addIdMgrPropertyToEntityTypes`” on page 465 command. For multivalued parameters, the value of the key is a List object.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrPropertyExtensions
```

- Using Jython string:

```
AdminTask.listIdMgrPropertyExtensions()
```

- Using Jython list:

```
AdminTask.listIdMgrPropertyExtensions()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listIdMgrPropertyExtensions {-interactive}
```

- Using Jython string:

```
AdminTask.listIdMgrPropertyExtensions ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listIdMgrPropertyExtensions (['-interactive'])
```

Note: This command lists the extended properties that are present in the `wimxml\extension.xml` file only.

IdMgrDBSetup command group for the AdminTask object

You can use the Jython or Jacl scripting language to manage the federated repository schema using the `wadmin` tool. Use the `deleteIdMgrPropertyExtensionEntityData` command and its parameters in the

IdMgrDBSetup group to manage the property extension repository. The command is available in both connected and local mode using the `-conntype NONE` option.

deleteIdMgrPropertyExtensionEntityData

The **deleteIdMgrPropertyExtensionEntityData** command deletes property data from the property extension repository. The command also releases the space that is held by the property data in the property extension repository.

Target Object

None.

Required parameters

-name

Use this parameter to specify the name of the property for which the data is to be deleted.

You can use a valid namespace prefix to refer to the property in a specific namespace. The default namespace prefix is `wim`. Use a colon (`:`) as the delimiter to specify the namespace prefix. For example, you can use `your_ext:contact_number`

- `your_ext` is the namespace prefix.
- `contact_number` is the property name.

(String, required)

Important: You must specify the same namespace prefix that you used to extend the property. You can use the **listIdMgrPropertyExtensions** command, which is part of the **IdMgrDataModel** command group, to retrieve this value.

Optional parameters

-entityTypeNames

Use this parameter to specify the name of one or more existing entity types for which the property data is to be deleted. Use the semicolon (`;`) as the delimiter to specify multiple entity types.

You can use a valid namespace prefix to refer to the entity type names in a specific namespace. The default namespace prefix used is `wim`. Use colon (`:`) to specify the namespace prefix. For example, you can use `your_ext:person_account`

- `your_ext` is the namespace prefix.
- `person_account` is the entity type name.

(String, optional)

Important: You must specify the same namespace prefix that you used to extend the property. You can use the **listIdMgrPropertyExtensions** command, which is part of the **IdMgrDataModel** command group, to retrieve this value.

-dbAdminId

Use this parameter to specify the login identity of the database administrator when you run this command in the local mode.

(String, optional)

-dbAdminPassword

Use this parameter to specify the password of the database administrator when you run this command in the local mode.

(String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrPropertyExtensionEntityData {-name property_name_1}
```

- Using Jython string:

```
AdminTask.deleteIdMgrPropertyExtensionEntityData ('[-name property_name_1']')
```

- Using Jython list:

```
AdminTask.deleteIdMgrPropertyExtensionEntityData (['-name', 'property_name_1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteIdMgrPropertyExtensionEntityData {-interactive}
```

- Using Jython string:

```
AdminTask.deleteIdMgrPropertyExtensionEntityData ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteIdMgrPropertyExtensionEntityData (['-interactive'])
```

JaspiManagement command group for the AdminTask object

Use the commands and parameters in the JaspiManagement command group to manage the configuration of authentication providers.

Note: WebSphere Application Server supports integration of message authentication providers that are compliant with the JASPI for Containers Version 1.0 specification. Use the Jython or JACL scripting languages to configure Java Authentication Service Provider Interface (JASPI) providers with the wsadmin tool.

JASPI is a new specification introduced in Java Platform, Enterprise Edition 6 (Java EE 6). It enables third-party security providers to perform authentication of messages for specific messaging runtime environments. JASPI extends the Java Authentication and Authorization Service (JAAS) architecture with standardized programming interfaces to make network messages available for processing by authentication providers.

If you want to use JASPI message authentication services, you must supply an implementation of the required interfaces as defined in the JASPI specification. Read about Developing a custom authentication provider for more information on these interfaces.

Note: WebSphere Application Server Version 8.5 supports only the Servlet Profile as defined in the JASPI specification.

When JASPI authentication providers are configured, and WebSphere Application Server receives a request message, the security runtime environment determines if the target application is configured to use JASPI authentication. If so, the runtime environment invokes the selected authentication provider to validate the received message. Otherwise, authentication of the message request is done according to the authentication mechanism provided by WebSphere Application Server for the appropriate messaging layer.

The JaspiManagement command group includes the following commands:

- “configureJaspi” on page 474
- “defineJaspiProvider” on page 474
- “displayJaspiProvider ” on page 475
- “displayJaspiProviderNames” on page 476
- “getJaspiInfo” on page 477

- “modifyJaspiProvider ” on page 478
- “removeJaspiProvider ” on page 479
- “unconfigureJaspi” on page 480

configureJaspi

The configureJaspi command is used to specify whether the Java Authentication SPI processing is to be enabled or disabled, and to set the default JASPI provider for a given security domain or the global security configuration.

Target object

None.

Required parameters

None.

Optional parameters

-enabled

Specify true to enable the JASPI configuration and false to disable the configuration.

-defaultProviderName

Specifies the name of an already configured JASPI provider that is to be used as the default JASPI provider for the security domain or global security configuration.

-securityDomainName

Specifies the name of the security domain. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter.

Return value

The command returns the object name of the JASPI configuration ID that the system creates, and is an instance of javax.management.ObjectName. The value displayed in the console is the JASPI configuration ID.

Batch mode example usage

Using Jython:

```
AdminTask.configureJaspi('[-enabled true -defaultProviderName testProvider]')
```

Using Jacl:

```
$AdminTask configureJaspi {-enabled true -defaultProviderName testProvider}
```

Interactive mode example usage

Using Jython:

```
AdminTask.configureJaspi('-interactive')
```

Using Jacl:

```
$AdminTask configureJaspi -interactive
```

defineJaspiProvider

The defineJaspiProvider command configures a new authentication provider for the given security domain or the global security configuration.

Target object

None.

Required parameters

-providerName

Specifies a name that uniquely identifies the authentication provider.

-className

Specifies the package-qualified name of the class that implements the authentication provider interface (javax.security.auth.message.config.AuthConfigProvider).

Optional parameters

-description

Specifies a textual description of the authentication provider.

-properties

Specifies additional custom configuration properties needed to initialize the authentication provider. This parameter is a list of key/value pairs.

-securityDomainName

Specifies the name of the security domain. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter.

Return value

The command returns a map of the authentication provider configuration attributes and their values, and is an instance of `java.util.Map<java.lang.String, java.lang.Object>` that contains the authentication provider configuration attributes. The value displayed in the console is the return value of the Map's `toString()` method.

Batch mode example usage

Note: For clarity, the command is shown below in multiple lines; it must be entered on a single line.

Using Jython:

```
AdminTask.defineJaspiProvider('-providerName jaspi_provider
-className com.ibm.sample.JaspiProvider -description "Sample authentication provider"
-properties [ [debug true] [user admin] ]')
```

Using Jacl:

```
$AdminTask defineJaspiProvider { -providerName jaspi_provider
-className com.ibm.JASPIProvider -description "Sample authentication provider"
-properties { {debug true} {user admin} } }
```

Interactive mode example usage

Using Jython:

```
AdminTask.defineJaspiProvider('-interactive')
```

Using Jacl:

```
$AdminTask defineJaspiProvider -interactive
```

displayJaspiProvider

The `displayJaspiProvider` command displays the configuration data for one or more given authentication providers for the given security domain or the global security configuration.

Target object

None.

Required parameters

-providerName

Specifies the unique name(s) of the authentication provider(s) to be displayed.

Optional parameters

-securityDomainName

Specifies the name of the security domain. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter.

Return value

The command displays the specified provider(s) along with their configuration attributes and values. The data returned is displayed as an instance of `java.util.Collection<java.util.Map<java.lang.String, java.lang.Object>>`. Each Map instance contains the configuration attributes of an authentication provider. The value displayed in the console is the return value of the Collection's `toString()` method.

Batch mode example usage

Using Jython:

```
AdminTask.displayJaspiProvider('-providerName jaspi_provider')
```

Using Jacl:

```
$AdminTask displayJaspiProvider {'-providerName jaspi_provider'}
```

Interactive mode example usage

Using Jython:

```
AdminTask.displayJaspiProvider('-interactive')
```

Using Jacl:

```
$AdminTask displayJaspiProvider -interactive
```

displayJaspiProviderNames

The `displayJaspiProviderNames` command displays the names of authentication providers in the security configuration. When the `securityDomainName` parameter is provided, only those providers in the given security domain are displayed. When the `securityDomainName` parameter is not provided, only the names of the providers in the global security configuration are displayed.

When the `securityDomainName` parameter is provided with the `getEffectiveProviderNames` parameter set to `true`, the list of authentication provider names from the given security domain and from the global security configuration are displayed as long as JASPI support is enabled.

Note: The combined list does not include duplicate provider names. For example, if the given security domain configuration has provider names of p1, p2 and p3, and the global security configuration has provider names of p3, p4 and p5, the combined list of provider names contains p1, p2, p3, p4 and p5.

When the `securityDomainName` parameter is provided with the `getEffectiveProviderNames` parameter set to `false`, only the list of authentication providers for the given security domain are displayed. The

getEffectiveProviderNames parameter only has an effect when used with the securityDomainName parameter; it is ignored if the securityDomainName provider is not provided.

Target object

None.

Required parameters

None.

Optional parameters

-getEffectiveProviderNames

Specify true to get the list of effective authentication provider names or false to get just the list of authentication providers for the security domain configuration. The default value for getEffectiveProviderName is false.

-securityDomainName

Specifies the name of the security domain. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter.

Return value

The command returns a list of JASPI provider names. The data returned is displayed as an instance of java.util.Collection<java.lang.String>.

Batch mode example usage

Using Jython:

```
AdminTask.displayJaspiProviderNames()
```

Using Jacl:

```
$AdminTask displayJaspiProviderNames
```

Interactive mode example usage

Using Jython:

```
AdminTask.displayJaspiProviderNames('-interactive')
```

Using Jacl:

```
$AdminTask displayJaspiProviderNames -interactive
```

getJaspiInfo

The getJaspiInfo command displays information about the JASPI configuration for the given security domain or the global security configuration.

Target object

None.

Required parameters

None.

Optional parameters

-securityDomainName

Specifies the name of the security domain. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter.

Return value

The command returns an indication of whether Java Authentication SPI processing is enabled. If the command is issued for a specific security domain and a value is customized for the domain, the command returns a value to indicate whether JASPI processing is enabled. If the command is issued for a specific domain and a value is not customized for the domain, it returns an empty list to indicate that the configuration is inherited from the global security configuration. The data returned is displayed as an instance of `java.util.Map<java.lang.String, java.lang.Object>` that contains the JASPI configuration attributes. The value displayed in the console is the return value of the Map's `toString()` method.

In addition, this command returns the value configured for the default provider. For example:

```
wsadmin>$AdminTask getJaspiInfo
{defaultProviderName=null, enabled=false}
```

Batch mode example usage

Using Jython:

```
AdminTask.getJaspiInfo()
```

Using Jacl:

```
$AdminTask getJaspiInfo
```

Interactive mode example usage

Using Jython:

```
AdminTask.getJaspiInfo('-interactive')
```

Using Jacl:

```
$AdminTask getJaspiInfo -interactive
```

modifyJaspiProvider

The `modifyJaspiProvider` command modifies configuration data for a given authentication provider for the given security domain or the global security configuration.

Target object

None.

Required parameters

-providerName

Specifies a name that uniquely identifies the authentication provider.

Optional parameters

-className

Specifies the package-qualified name of the class that implements the authentication provider interface (`javax.security.auth.message.config.AuthConfigProvider`).

-description

Specifies a textual description of the authentication provider.

-properties

Specifies additional custom configuration properties needed to initialize the authentication provider. This parameter is a list of key/value pairs.

-securityDomainName

Specifies the name of the security domain. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter.

Return value

An instance of `java.util.Map<java.lang.String, java.lang.Object>` that contains any modified configuration attributes in the given authentication provider or any given associated authentication modules. The value displayed in the console is the return value of the Map's `toString()` method.

Batch mode example usage

Using Jython:

```
AdminTask.modifyJaspiProvider('-providerName jaspi_provider  
-properties [ [debug false] ]')
```

Using Jacl:

```
$AdminTask modifyJaspiProvider { -providerName jaspi_provider  
-properties { {debug false} } }
```

Interactive mode example usage

Using Jython:

```
AdminTask.modifyJaspiProvider('-interactive')
```

Using Jacl:

```
$AdminTask modifyJaspiProvider -interactive
```

removeJaspiProvider

The `removeJaspiProvider` command removes one or more authentication providers from the security configuration for the given security domain or the global security configuration.

Target object

None.

Required parameters

-providerName

Specifies the unique name(s) of the authentication provider(s) to be removed.

Optional parameters

-securityDomainName

Specifies the name of the security domain. The command uses the global security configuration if you do not specify a value for the `-securityDomainName` parameter.

Return value

None.

Batch mode example usage

To remove a single provider using Jython:

```
AdminTask.removeJaspiProvider('-providerName jaspi_provider')
```

To remove multiple providers using Jython:

```
AdminTask.removeJaspiProvider('[-providerName [ Provider1;Provider2 ] ]' )
```

To remove a single user using Jacl:

```
$AdminTask removeJaspiProvider {'-providerName jaspi_provider'}
```

To remove multiple providers using Jacl:

```
$AdminTask removeJaspiProvider {-providerName {Provider1 Provider2 } }
```

Interactive mode example usage

Using Jython:

```
AdminTask.removeJaspiProvider('-interactive')
```

Using Jacl:

```
$AdminTask removeJaspiProvider -interactive
```

unconfigureJaspi

The unconfigureJaspi command is used to remove the JASPI configuration and all of its associated providers from a security domain.

Target object

None.

Required parameters

-securityDomainName

Specifies the name of the security domain. The command uses the global security configuration if you do not specify a value for the -securityDomainName parameter.

Optional parameters

None.

Return value

None.

Batch mode example usage

Using Jython:

```
AdminTask.unconfigureJaspi('-securityDomainName domain1')
```

Using Jacl:

```
$AdminTask unconfigureJaspi {-securityDomainName domain1}
```

Interactive mode example usage

Using Jython:

```
AdminTask.unconfigureJaspi('-interactive')
```

Using Jacl:

\$AdminTask unconfigureJaspi -interactive

LTPACommandGroup command group for the AdminTask object

You can use the Jython or Jacl scripting languages to import and export LTPA keys.

Use the importLTPAKeys command to import an LTPA key from a file and add it to the security runtime and configuration. The exportLTPAKeys command exports an LTPA key that is currently being used by the runtime to a file.

The LTPACommandGroup command group for the AdminTask object includes the following commands:

- “importLTPAKeys”
- “exportLTPAKeys”

importLTPAKeys

The importLTPAKeys command imports an LTPA key from a file and adds it to the security runtime and configuration. The command takes the key from the file specified and adds it to the ltpa.jceks keystore where LTPA keys are stored. The key then becomes the current LTPA key of the runtime.

Target object

None.

Required parameters

-ltpaKeyFile

Specifies the path to the file that contains the LTPA key that is to be imported into the configuration and runtime. The parameter takes the file path URL format or just the file path. (String, required)

-password

The password of the LTPA key. (String, required)

Optional parameters

None.

Batch mode example usage

- Using Jacl:

```
wsadmin> $AdminTask importLTPAKeys {-ltpaKeyFile c:\temp\ltpa.key -password keypassword }
```

```
wsadmin> $AdminTask importLTPAKeys {-ltpaKeyFile file:\temp\ltpa.key -password keypassword }
```

- Using Jython:

```
wsadmin> AdminTask.importLTPAKeys(['-ltpaKeyFile c:\temp\ltpa.key -password keypassword '])
```

```
wsadmin> AdminTask.importLTPAKeys(['-ltpaKeyFile file:\temp\ltpa.key -password keypassword '])
```

exportLTPAKeys

The exportLTPAKeys command exports an LTPA key that is currently being used by the runtime to a file. If the file where the key is to be stored does not exist, it is created. If it does not exist, then the file is overwritten.

Target object

None.

Required parameters

-ltpaKeyFile

Specifies the path to the file that contains the LTPA key that is to be imported into the configuration and runtime. The parameter takes the file path URL format or just the file path. (String, required)

-password

The password of the LTPA key. (String, required)

Optional parameters

None.

Batch mode example usage

- Using Jacl:

```
wsadmin> $AdminTask.exportLTPAKeys {-ltpaKeyFile c:\temp\write\ltpa.key -password keypassword }
```

```
wsadmin> $AdminTask.exportLTPAKeys {-ltpaKeyFile file:\temp\write\ltpa.key -password keypassword }
```

- Using Jython:

```
wsadmin> AdminTask.exportLTPAKeys('[-ltpaKeyFile c:\temp\write\ltpa.key -password keypassword ]')
```

```
wsadmin> AdminTask.exportLTPAKeys('[-ltpaKeyFile file:\temp\write\ltpa.key -password keypassword ]')
```

WIMManagementCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the WIMManagementCommands group can be used to create and manage groups, members, and users in the virtual member manager.

Note: If the Use global security settings option is selected for the user realm or the Global federated repositories option is selected as the realm type for the specified domain, the user and group management commands are executed on the federated repository of the admin domain. For example, if you run the createUser command for the specified domain, the user is created in the admin domain. However, configuration changes that are performed on the domain are applied to the security domain-specific configuration.

The WIMManagementCommands command group for the AdminTask object includes the following commands:

- “addMemberToGroup” on page 483
- “changeMyPassword” on page 483
- “clearIdMgrRepositoryCache” on page 485
- “clearIdMgrUserFromCache” on page 485
- “createGroup” on page 486
- “createUser” on page 487
- “deleteGroup” on page 488
- “deleteUser” on page 489
- “duplicateMembershipOfGroup” on page 489
- “duplicateMembershipOfUser” on page 490
- “getGroup” on page 491
- “getIdMgrSupportedDataTypes” on page 492
- “getMembershipOfGroup” on page 492
- “getMembershipOfUser” on page 493
- “getMembersOfGroup” on page 494
- “getUser” on page 495
- “removeMemberFromGroup” on page 496

- “searchGroups” on page 497
- “searchUsers” on page 498
- “updateGroup” on page 499
- “updateUser” on page 500

addMemberToGroup

The **addMemberToGroup** command adds a member to a group in the virtual member manager. If successful, the addMemberToGroup command returns the unique name of the added member.

Parameters and return values

-memberUniqueName

Specifies the unique name value for the user or group that you want to add to the specified group. This parameter maps to the uniqueName property in virtual member manager.

-groupUniqueName

Specifies the unique name value for the group to which you want to add the user or group that you specified in the memberUniqueName parameter. This parameter maps to the uniqueName property in virtual member manager.

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addMemberToGroup {-memberUniqueName uid=meyersd cn=users dc=yourco dc=com -groupUniqueName
cn=admins cn=groups dc=yourco dc=com}
```

- Using Jython string:

```
AdminTask.addMemberToGroup ('[-memberUniqueName uid=meyersd,cn=users,dc=yourco,dc=com groupUniqueName
cn=admins,cn=groups,dc=yourco,dc=com ]')
```

- Using Jython list:

```
AdminTask.addMemberToGroup (['-memberUniqueName', 'uid=meyersd', 'cn=users', 'dc=yourco', 'dc=com',
'roupUniqueName', 'cn=admins', 'cn=groups', 'dc=yourco', 'dc=com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addMemberToGroup {-interactive}
```

- Using Jython string:

```
AdminTask.addMemberToGroup ('[-interactive]')
```

- Using Jython list:

```
AdminTask.addMemberToGroup (['-interactive'])
```

changeMyPassword

The **changeMyPassword** command allows you to change your password when you are logged into WebSphere Application Server. It requires you to specify your old password and the new password, and then confirm your new password. If your old password is validated successfully, and the new password that you specify exactly matches your confirmation of the new password, then the password is changed.

Important: You can use the `changeMyPassword` command only for repositories that have a write adapter for federated repositories. It will not work for read-only adapters or the federated repositories user registry bridge that is configured with the local operating system user registry or a custom user registry.

Parameters and return values

-oldPassword

The old password of the user. The value of the `oldPassword` parameter is validated against the password of the user in the repository. (String, required)

-newPassword

The new password that must be set for the user. (String, required)

-confirmNewPassword

The new password that must be set for the user. The value of the `newPassword` and `confirmNewPassword` parameters must match. (String, required)

Note: After you change your password, your old password might continue to remain in effect, allowing you to login using your old password. This happens if both the authentication cache and basic authentication cache keys are enabled, causing the old password to remain valid according to the value specified for cache timeout or cache size.

You can clear the WebSphere Application Server security cache so that you do not have to wait for the `cacheTimeout` to expire. To clean entries from the `AuthCache`, you must use the `SecurityAdmin` `MBeanclearAuthCache` methods, `clearAuthCache` or `purgeUserFromCache`.

Call one of the following MBean methods on each WebSphere Application Server process that requires the subject of the user to be cleared from the cache. The `AuthCache` is a cache for each process, so every process (not just the `dmgr`) that has the user authenticated must have this method called:

-

```
/**
 * clearAuthCache
 */
public void clearAuthCache()
```

-

```
/**
 * purgeUserFromCache
 */
public void purgeUserFromAuthCache(String realm, String userid)
```

The following example shows how you can use `wsadmin` to call the `clearAuthCache` method on the `dmgr` process:

```
set sa [$AdminControl queryNames type=SecurityAdmin,process=dmgr,*]
$AdminControl invoke $sa clearAuthCache
```

For more information, read [Authentication cache settings](#).

Examples

Batch mode example usage:

- Using `Jacl`:

```
$AdminTask changeMyPassword {-oldPassword pwd1 -newPassword pwd2
-confirmNewPassword pwd2}
```

- Using `Jython` string:

```
AdminTask.changeMyPassword ('[oldPassword pwd1 -newPassword pwd2
-confirmNewPassword pwd2']')
```

- Using `Jython` list:

```
AdminTask.changeMyPassword (['oldPassword', 'pwd1', '-newPassword', 'pwd2',
'-confirmNewPassword', 'pwd2'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask changeMyPassword {-interactive}
```

- Using Jython string:

```
AdminTask.changeMyPassword ('[-interactive]')
```

- Using Jython list:

```
AdminTask.changeMyPassword (['-interactive'])
```

clearIdMgrRepositoryCache

Use the **clearIdMgrRepositoryCache** command to clear all the entities from all of the caches of a specified repository adapter or all repository adapters.

gotcha: Frequent use of this command to clear the cache may result in performance degradation. When the entire cache is cleared, the subsequent operation has to get the details from the repository and update the cache with this newly retrieved data; so the subsequent operation takes longer to complete.

Parameters and return values

-id

Use this parameter to specify the repository ID of the repository adapter whose cache must be cleared. If you do not specify this parameter all the caches of all of the repository adapters are cleared. (String, optional)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask clearIdMgrRepositoryCache {-id repository_ID}
```

- Using Jython string:

```
AdminTask.clearIdMgrRepositoryCache ('[-id repository_ID]')
```

- Using Jython list:

```
AdminTask.clearIdMgrRepositoryCache (['-id', 'repository_ID'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask clearIdMgrRepositoryCache {-interactive}
```

- Using Jython string:

```
AdminTask.clearIdMgrRepositoryCache ('[-interactive]')
```

- Using Jython list:

```
AdminTask.clearIdMgrRepositoryCache (['-interactive'])
```

clearIdMgrUserFromCache

Use the **clearIdMgrUserFromCache** command to clear the specified user from the cache of the repository adapter, if the user exists in the cache.

Important: The **clearIdMgrUserFromCache** command does not clear the group membership details of the user. To clear group membership information for a user from the cache, use the

getMembershipOfUser wsadmin command with the **-clearCache** parameter. For more information see the description of the “getMembershipOfUser” on page 493 command.

Parameters and return values

-principalName

Use this parameter to specify the login ID of the user to be cleared from the cache. If the user is in an LDAP repository, then the principalName must be the distinguished name (DN) of the entry. The user is removed from the cache of the adapter of the repository where the user exists. If more than one user is found for the same principal name, then all of them are cleared from the cache. If the user is not found in the cache, then cache is not cleared and no error message appears. (String, required)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask clearIdMgrUserFromCache {-principalName login_ID}
```

- Using Jython string:

```
AdminTask.clearIdMgrUserFromCache ('[-principalName login_ID]')
```

- Using Jython list:

```
AdminTask.clearIdMgrUserFromCache (['-principalName', 'login_ID'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask clearIdMgrUserFromCache {-interactive}
```

- Using Jython string:

```
AdminTask.clearIdMgrUserFromCache ('[-interactive]')
```

- Using Jython list:

```
AdminTask.clearIdMgrUserFromCache (['-interactive'])
```

createGroup

The **createGroup** command creates a new group in the virtual member manager. After the command completes, the new group will appear in the repository. For LDAP, a group must contain a member. The memberUniqueName parameter is optional in this case. If you set the memberUniqueName parameter to the unique name of a group or a user, the group or user will be added as a member of the group.

Parameters and return values

-cn

Specifies the common name for the group that you want to create. This parameter maps to the cn property in virtual member manager. (String, required)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-description

Specifies additional information about the group that you want to create. This parameter maps to the description property in a virtual member manager object. (String, optional)

-parent

Specifies the repository in which you want to create the group. This parameter maps to the parent property in the virtual member manager. (String, optional)

-memberUniqueName

Specifies the unique name value for the user or group that you want to add to the new group. This parameter maps to the uniqueName property in the virtual member manager. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createGroup {-cn groupA -description a group of admins}
```

- Using Jython string:

```
AdminTask.createGroup (['-cn groupA -description a group of admins'])
```

- Using Jython list:

```
AdminTask.createGroup (['-cn', 'groupA', '-description', 'a group of admins'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createGroup {-interactive}
```

- Using Jython string:

```
AdminTask.createGroup (['-interactive'])
```

- Using Jython list:

```
AdminTask.createGroup (['-interactive'])
```

createUser

The **createUser** command creates a new user in the default repository or a repository that the parent command parameter specifies. This command creates a person entity and a login account entity in the virtual member manager.

Parameters and return values

-uid

Specifies the unique ID for the user that you want to create. Virtual member manager then creates a uniqueId value and a uniqueName value for the user. This parameter maps to the uid property in the virtual member manager. (String, required)

-password

Specifies the password for the user. This parameter maps to the password property in the virtual member manager. (String, required)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-confirmPassword

Specifies the password again to validate how it was entered for the password parameter. This parameter maps to the password property in virtual member manager. (String, optional)

-cn

Specifies the first name or given name of the user. This parameter maps to the cn property in virtual member manager. (String, required)

-sn

Specifies the last name or family name of the user. This parameter maps to the sn property in virtual member manager. (String, required)

-mail

Specifies the email address of the user. This parameter maps to the ibm-PrimaryEmail property in the virtual member manager. (String, optional)

-parent

Specifies the repository in which you want to create the user. This parameter maps to the parent property in the virtual member manager. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createUser {-uid 123 -password tempPass -confirmPassword tempPass  
-cn Jane -sn Doe -mail janedoe@ acme.com}
```

- Using Jython string:

```
AdminTask.createUser ('[-uid 123 -password tempPass -confirmPassword tempPass  
-cn Jane -sn Doe -mail janedoe@ acme.com]')
```

- Using Jython list:

```
AdminTask.createUser (['-uid', '123', '-password', 'tempPass', '-confirmPassword',  
'tempPass', '-cn', 'Jane', '-sn', 'Doe', '-ibm -mail', 'janedoe@acme.com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createUser {-interactive}
```

- Using Jython string:

```
AdminTask.createUser ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createUser (['-interactive'])
```

deleteGroup

The **deleteGroup** command deletes a group in the virtual member manager. You cannot use this command to delete descendants. When this command completes, the group will be deleted from the repository.

Parameters and return values

-uniqueName

Specifies the unique name value for the group that you want to delete. This parameter maps to the uniqueName property in virtual member manager. (String, required)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteGroup {-uniqueName cn=opera tors,cn=users,dc=yourco, dc=com}
```

- Using Jython string:

```
AdminTask.deleteGroup ('[-uniqueName cn=ope rators,cn=users,dc=you rco,dc=com]')
```

- Using Jython list:

```
AdminTask.deleteGroup (['-uniqueName', 'cn =operators,cn=users,dc =yourco,dc=com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteGroup {-interactive}
```

- Using Jython string:

```
AdminTask.deleteGroup (['-interactive'])
```

- Using Jython list:

```
AdminTask.deleteGroup (['-interactive'])
```

deleteUser

The **deleteUser** command deletes a user from the virtual member manager. This includes a person object and an account object in the non-merged repositories.

Parameters and return values

-uniqueName

Specifies the unique name value for the user that you want to delete. This parameter maps to the uniqueName property in virtual member manager. (String, required)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteUser {-uniqueName uid=dmeyers,cn=users,dc=yourco, dc=com}
```

- Using Jython string:

```
AdminTask.deleteUser (['-uniqueName uid= dmeyers,cn=users,dc= yourco,dc=com'])
```

- Using Jython list:

```
AdminTask.deleteUser (['-uniqueName', 'uid=dm eyers,cn=users,dc=yourco, dc=com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteUser {-interactive}
```

- Using Jython string:

```
AdminTask.deleteUser (['-interactive'])
```

- Using Jython list:

```
AdminTask.deleteUser (['-interactive'])
```

duplicateMembershipOfGroup

Use the **duplicate Membership OfGroup** command to make a one group a member of all of the same groups as another group. For example, group A is in group B and group C. To add group D to the same groups as group A, use the **duplicate Membership OfGroup** command.

Parameters and return values

-copyToUniqueName

Specifies the name of the group to which you want to add the memberships of the group specified in the copyFromUniqueName parameter. (String, required)

-copyFromUniqueName

Specifies the name of the group from which you want to copy the group memberships for another group to use. (String, required)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask duplicateMembershipOfGroup {-copyToUniqueName cn=operators,cn=groups, dc=yourco,dc=com  
-copyFromUniqueName cn=admins,cn= groups,dc=yourco,dc=com}
```

- Using Jython string:

```
AdminTask.duplicateMembershipOfGroup ('[-copyToUniqueName cn=operators,cn=groups, dc=yourco,dc=com  
-copyFromUniqueName cn=admins,cn= groups,dc=yourco,dc=com]')
```

- Using Jython list:

```
AdminTask.duplicateMembershipOfGroup (['-copyToUniqueName', 'cn=operators,cn=groups, dc=yourco,dc=com',  
'-copyFromUniqueName', 'cn=admins,cn =groups,dc=yourco,dc=com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask duplicateMembershipOfGroup {-interactive}
```

- Using Jython string:

```
AdminTask.duplicateMembershipOfGroup ('[-interactive]')
```

- Using Jython list:

```
AdminTask.duplicateMembershipOfGroup (['-interactive'])
```

duplicateMembershipOfUser

Use the **duplicate Membership OfUser** command to make a one user a member of all of the same groups as another user. For example, user 1 is in group B and group C. To add user 2 to the same groups as user 1, use the **duplicate Membership OfUser** command.

Parameters and return values

-copyToUniqueName

Specifies the name of the user to which you want to add the memberships of the user specified in the copyFromUniqueName parameter. (String, required)

-copyFromUniqueName

Specifies the name of the user from which you want to copy the group memberships for another user to use. (String, required)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask duplicateMembershipOfUser {-copyToUniqueName uid=meyersd,cn=users,dc =yourco,dc=com  
-copyFromUniqueName uid=jhart,cn= users,dc=yourco,dc=com}
```

- Using Jython string:

```
AdminTask.duplicateMembershipOfUser ('[-copyToUniqueName uid=meyersd,cn=users,d c=yourco,dc=com  
-copyFromUniqueName uid=jhart,cn =users,dc=yourco,dc=com]')
```

- Using Jython list:

```
AdminTask.duplicateMembershipOfUser (['-copyToUniqueName', 'uid=meyersd,cn=users, dc=yourco,dc=com',  
'-copyFromUniqueName', 'uid= jhart,cn=users,dc=yourco, dc=com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask duplicateMembershipOfUser {-interactive}
```

- Using Jython string:

```
AdminTask.duplicateMember shipOfUser ('[-interactive]')
```

- Using Jython list:

```
AdminTask.duplicateMember shipOfUser (['-interactive'])
```

getGroup

The **getGroup** command retrieves the common name and description of a group.

Parameters and return values

-uniqueName

Specifies the unique name value for the group that you want to view. This parameter maps to the `uniqueName` property in virtual member manager. (String, required)

-clearCache

Specifies whether the repository adapter cache should be cleared before retrieving the specified group information. (String, optional)

Valid values are:

- `clearEntity`: Clears the cache for the specified group, if the group exists in the cache.
- `clearAll`: Clears cached information for all of the entities in the adapter of the repository where the specified group exists.

The values are not case-sensitive. There is no default value for this parameter. If you do not specify a value, or specify a value other than `clearEntity` or `clearAll`, an error message appears.

gotcha: Frequent use of this parameter to clear the cache may result in performance degradation. When the cache is cleared, the subsequent operation has to get the details from the repository and update the cache with this newly retrieved data. The impact on performance is more pronounced if you use the `clearAll` mode, as this invalidates the entire cache, and the subsequent operation takes longer to complete.

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getGroup {-uniqueName cn=operators, cn=groups,dc=yourco,dc=com}
```

- Using Jython string:

```
AdminTask.getGroup ('[-uniqueName cn=operators, cn=groups,dc=yourco, dc=com]')
```

- Using Jython list:

```
AdminTask.getGroup (['-uniqueName', 'cn=opera tors,cn=groups,dc=your co,dc=com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getGroup {-interactive}
```

- Using Jython string:

```
AdminTask.getGroup ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getGroup (['-interactive'])
```

getIdMgrSupportedDataTypes

The **getIdMgrSupportedDataTypes** command returns a list of all data types that are supported by a specified repository or all default data types that are supported by federated repositories. This command is available in both connected and local modes.

Parameters and return values

-id

Use this parameter to specify the ID of the repository. If you do not specify this parameter, the default data types that are supported by federated repositories are returned. (String, optional)

Specify LA as the value of the **-id** parameter to retrieve the data types supported by property extension repository.

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

The **getIdMgrSupportedDataTypes** command returns a list with the names of supported data types:

String
Int
Boolean
Long
Double
Base64binary
AnySimpleType
AnyURI
Byte
DateTime
Date
Short
Token
IdentifierType

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrSupportedDataTypes
```

- Using Jython string:

```
AdminTask.getIdMgrSupportedDataTypes ()
```

- Using Jython list:

```
AdminTask.getIdMgrSupportedDataTypes ()
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getIdMgrSupportedDataTypes {-interactive}
```

- Using Jython string:

```
AdminTask.getIdMgrSupportedDataTypes ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getIdMgrSupportedDataTypes (['-interactive'])
```

getMembershipOfGroup

The **getMembershipOfGroup** command retrieves the groups of which a group is a member.

Parameters and return values

-uniqueName

Specifies the unique name value for the group whose group memberships you want to view. This parameter maps to the uniqueName property in virtual member manager. (String, required)

-clearCache

Specifies whether the repository adapter cache should be cleared before retrieving the specified group information. (String, optional)

Valid values are:

- `clearEntity`: Clears the cache for the specified group, if the group exists in the cache.
- `clearAll`: Clears cached information for all of the entities in the adapter of the repository where the specified group exists.

The values are not case-sensitive. There is no default value for this parameter. If you do not specify a value, or specify a value other than `clearEntity` or `clearAll`, an error message appears.

gotcha: Frequent use of this parameter to clear the cache may result in performance degradation. When the cache is cleared, the subsequent operation has to get the details from the repository and update the cache with this newly retrieved data. The impact on performance is more pronounced if you use the `clearAll` mode, as this invalidates the entire cache, and the subsequent operation takes longer to complete.

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getMembership OfGroup {-uniqueName uid=dmeyers,cn=users, dc=yourco,dc=com}
```

- Using Jython string:

```
AdminTask.getMembership OfGroup ('[-uniqueName uid=dmeyers,cn=users, dc=yourco,dc=com]')
```

- Using Jython list:

```
AdminTask.getMembership OfGroup (['-uniqueName', 'uid=dmeyers,cn=users, dc=yourco,dc=com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getMembership OfGroup {-interactive}
```

- Using Jython string:

```
AdminTask.getMembership OfGroup ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getMembership OfGroup (['-interactive'])
```

getMembershipOfUser

The **getMembershipOfUser** command retrieves the groups of which a user is a member.

Parameters and return values

-uniqueName

Specifies the unique name value for the user whose group memberships you want to view. This parameter maps to the uniqueName property in virtual member manager. (String, required)

-clearCache

Specifies whether the repository adapter cache should be cleared before retrieving the specified user information. (String, optional)

Valid values are:

- `clearEntity`: Clears the cache for the specified user, if the user exists in the cache.
- `clearAll`: Clears cached information for all of the entities in the adapter of the repository where the specified user exists.

The values are not case-sensitive. There is no default value for this parameter. If you do not specify a value, or specify a value other than `clearEntity` or `clearAll`, an error message appears.

gotcha: Frequent use of this parameter to clear the cache may result in performance degradation. When the cache is cleared, the subsequent operation has to get the details from the repository and update the cache with this newly retrieved data. The impact on performance is more pronounced if you use the `clearAll` mode, as this invalidates the entire cache, and the subsequent operation takes longer to complete.

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getMember shipOfUser {-uniqueName uid=dmeyers,cn=users, dc=yourco,dc=com}
```

- Using Jython string:

```
AdminTask.getMembership OfUser ('[-uniqueName uid=dmeyers,cn=users, dc=yourco,dc=com]')
```

- Using Jython list:

```
AdminTask.getMembership OfUser (['-uniqueName', 'uid=dmeyers,cn=users ,dc=yourco,dc=com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getMembership OfUser {-interactive}
```

- Using Jython string:

```
AdminTask.getMembership OfUser ('[-interactive]')
```

- Using Jython list:

```
AdminTask.getMembership OfUser (['-interactive'])
```

getMembersOfGroup

The **getMembers OfGroup** command retrieves the members of a group.

Parameters and return values

-uniqueName

Specifies the unique name value for the group whose members you want to view. This parameter maps to the `uniqueName` property in virtual member manager. (String, required)

-clearCache

Specifies whether the repository adapter cache should be cleared before retrieving the specified group information. (String, optional)

Valid values are:

- `clearEntity`: Clears the cache for the specified group, if the group exists in the cache.
- `clearAll`: Clears cached information for all of the entities in the adapter of the repository where the specified group exists.

The values are not case-sensitive. There is no default value for this parameter. If you do not specify a value, or specify a value other than `clearEntity` or `clearAll`, an error message appears.

gotcha: Frequent use of this parameter to clear the cache may result in performance degradation. When the cache is cleared, the subsequent operation has to get the details from the repository and update the cache with this newly retrieved data. The impact on performance is more pronounced if you use the `clearAll` mode, as this invalidates the entire cache, and the subsequent operation takes longer to complete.

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getMembersOf Group {-uniqueName cn=operators,cn=groups ,dc=yourco,dc=com}
```

- Using Jython string:

```
AdminTask.getMembersOf Group ['-uniqueName cn=operators,cn=groups ,dc=yourco,dc=com']
```

- Using Jython list:

```
AdminTask.getMembersOf Group [['-uniqueName', 'cn=operators,cn=groups ,dc=yourco,dc=com']]
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getMembersOfGroup {-interactive}
```

- Using Jython string:

```
AdminTask.getMembersOfGroup ['-interactive']
```

- Using Jython list:

```
AdminTask.getMembersOfGroup ['-interactive']
```

getUser

The **getUser** command retrieves information about a user in the virtual member manager.

Parameters and return values

-uniqueName

Specifies the unique name value for the user that you want to view. This parameter maps to the `uniqueName` property in the virtual member manager. (String, required)

-clearCache

Specifies whether the repository adapter cache should be cleared before retrieving the specified user information. (String, optional)

Valid values are:

- `clearEntity`: Clears the cache for the specified user, if the user exists in the cache.
- `clearAll`: Clears cached information for all of the entities in the adapter of the repository where the specified user exists.

The values are not case-sensitive. There is no default value for this parameter. If you do not specify a value, or specify a value other than `clearEntity` or `clearAll`, an error message appears.

gotcha: Frequent use of this parameter to clear the cache may result in performance degradation. When the cache is cleared, the subsequent operation has to get the details from the repository and update the cache with this newly retrieved data. The impact on performance is more pronounced if you use the `clearAll` mode, as this invalidates the entire cache, and the subsequent operation takes longer to complete.

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask getUser {-user Name uid=dmeyers,cn=users,dc=yourco,dc=com}
```

- Using Jython string:

```
AdminTask.getUser ('[-userName uid=dmeyers,cn= users,dc=yourco,dc=com]')
```

- Using Jython list:

```
AdminTask.getUser (['-userName', 'uid=dmeyers,cn=users,dc=yourco,dc=com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getUser {-interactive}
```

- Using Jython string:

```
AdminTask.getUser (['-interactive'])
```

- Using Jython list:

```
AdminTask.getUser (['-interactive'])
```

removeMemberFromGroup

The **removeMember FromGroup** command removes a user or a group from a group.

Parameters and return values

-memberUniqueName

Specifies the unique name value for the user or group that you want to remove from the specified group. This parameter maps to the uniqueName property in virtual member manager. (String, required)

-groupUniqueName

Specifies the unique name value for the group from which you want to remove the user or group that you specified with the memberUniqueName paramter. This parameter maps to the uniqueName property in virtual member manager. (String, required)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask removeMember FromGroup {-memberUniqueName uid=meyersd,cn=users,dc=yourco,dc=com  
-groupUniqueName cn=admins,cn-groups,dc=yourco,dc=com}
```

- Using Jython string:

```
AdminTask.removeMemberFromGroup (['-memberUniqueName uid=meyersd,cn=users,dc=yourco,dc=com  
-groupUniqueName cn=admins,cn-groups,dc=yourco,dc=com']')
```

- Using Jython list:

```
AdminTask.removeMemberFromGroup (['-memberUniqueName', 'uid=meyersd,cn=users,dc=yourco,dc=com',  
'-groupUniqueName', 'cn=admins,cn-groups,dc=yourco,dc=com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask removeMember FromGroup {-interactive}
```

- Using Jython string:

```
AdminTask.removeMemberFromGroup ('[-interactive]')
```

- Using Jython list:

```
AdminTask.removeMemberFromGroup (['-interactive'])
```

searchGroups

Use the **searchGroups** command to find groups in the virtual member manager that match criteria that you provide. For example, you can use the **searchGroups** command to find all of the groups with a common name that begins with IBM. You can search for any virtual member manager property because the command is generic.

Parameters and return values

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-cn

The first name or given name of the user. This parameter maps to the cn property in the virtual member manager. You must set this parameter or the description parameter, but not both. (String, optional)

-description

Specifies information about the group. This parameter maps to the description entity in a virtual member manager object. You must set this parameter or the cn parameter, but not both. (String, optional)

-timeLimit

Specifies the maximum amount of time in milliseconds that the search can run. The default value is no time limit. (String, optional)

-countLimit

Specifies the maximum number of results that you want returned from the search. By default, all groups found in the search are returned. (String, optional)

-clearCache

Specifies whether the repository adapter cache should be cleared before performing the search operation for groups. (String, optional)

The valid value is `clearAll`, which clears all of the cached information in the repository adapter. The value is not case-sensitive. There is no default value for this parameter. If you do not specify a value, or specify a value other than `clearAll`, an error message appears.

gotcha: Frequent use of this parameter to clear the cache may result in performance degradation. When the cache is cleared, the subsequent operation has to get the details from the repository and update the cache with this newly retrieved data; so the subsequent operation takes longer to complete.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask searchGroups {-cn *IBM*}
```

- Using Jython string:

```
AdminTask.searchGroups ('[-cn *IBM*]')
```

- Using Jython list:

```
AdminTask.searchGroups (['-cn', '*IBM*'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask searchGroups {-interactive}
```

- Using Jython string:

```
AdminTask.searchGroups (['-interactive'])
```

- Using Jython list:

```
AdminTask.searchGroups (['-interactive'])
```

searchUsers

Use the **searchUsers** command to find users in the virtual member manager that match criteria that you provide. For example, you can use the **searchUsers** command to find all of the telephone numbers that contain 919. You can search for any virtual member manager property because the command is generic.

Parameters and return values

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-principalName

Specifies the principal name of the user that is used as the logon ID for the user in the system. This parameter maps to the principalName property in virtual member manager. You must specify only one of the following parameters: principalName, uid, cn, sn, or ibm-primaryEmail. (String, optional)

-uid

Specifies the unique ID value for the user for whom you want to search. This parameter maps to the uid property in virtual member manager. You must specify only one of the following parameters: principalName, uid, cn, sn, or ibm-primaryEmail. (String, optional)

-cn

Specifies the first name or given name of the user. This parameter maps to the cn property in virtual member manager. You must specify only one of the following parameters: principalName, uid, cn, sn, or ibm-primaryEmail. (String, optional)

-sn

Specifies the last name or family name of the user. This parameter maps to the sn property in virtual member manager. You must specify only one of the following parameters: principalName, uid, cn, sn, or ibm-primaryEmail. (String, optional)

-ibm-primaryEmail

Specifies the email address of the user. This parameter maps to the ibm-PrimaryEmail property in the virtual member manager. You must specify only one of the following parameters: principalName, uid, cn, sn, or ibm-primaryEmail. (String, optional)

-timeLimit

Specifies the maximum amount of time in milliseconds that the search can run. The default is not time limit. (String, optional)

-countLimit

Specifies the maximum number of results that you want returned from the search. By default, all users found in the search are returned. (String, optional)

-clearCache

Specifies whether the repository adapter cache should be cleared before performing the search operation for users. (String, optional)

The valid value is `clearAll`, which clears all of the cached information in the repository adapter. The value is not case-sensitive. There is no default value for this parameter. If you do not specify a value, or specify a value other than `clearAll`, an error message appears.

gotcha: Frequent use of this parameter to clear the cache may result in performance degradation. When the cache is cleared, the subsequent operation has to get the details from the repository and update the cache with this newly retrieved data; so the subsequent operation takes longer to complete.

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask searchUsers {-principalName */IBM/US*}
```

- Using Jython string:

```
AdminTask.searchUsers (' [-principalName */IBM/US*]')
```

- Using Jython list:

```
AdminTask.searchUsers (['-principalName', '*/IBM/US*'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask searchUsers {-interactive}
```

- Using Jython string:

```
AdminTask.searchUsers (' [-interactive]')
```

- Using Jython list:

```
AdminTask.searchUsers (['-interactive'])
```

updateGroup

The **updateGroup** command updates the common name or the description of a group.

Parameters and return values

-uniqueName

Specifies the unique name value for the group for which you want to modify the properties. This parameter maps to the `uniqueName` property in virtual member manager. (String, required)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-cn

Specifies the new common name used for the group. This parameter maps to the `cn` property in virtual member manager. (String, optional)

-description

Specifies the new information about the group. This parameter maps to the `description` entity in a virtual member manager object. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateGroup {-uniqueName cn=opera tors,cn=groups,dc=yourco ,dc=com -cn groupA}
```

- Using Jython string:

```
AdminTask.updateGroup (' [-uniqueName cn=oper ators,cn=groups,dc=your co,dc=com -cn groupA]')
```

- Using Jython list:

```
AdminTask.updateGroup (['-uniqueName', 'cn=oper ators,cn=groups,dc=yourco, dc=com', '-cn', 'groupA'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateGroup {-interactive}
```

- Using Jython string:

```
AdminTask.updateGroup ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateGroup (['-interactive'])
```

updateUser

The **updateUser** command updates the following properties: uniqueName, uid, password, cn, sn, or ibm-primaryEmail.

Parameters and return values

-uniqueName

Specifies the unique name value for the user for which you want to modify the properties. This parameter maps to the uniqueName property in virtual member manager. (String, required)

-securityDomainName

Specifies the name that uniquely identifies the security domain. If you do not specify this parameter, the command uses the global federated repository. (String, optional)

-uid

Specifies the new unique ID value for the user. This parameter maps to the uid property in virtual member manager. (String, optional)

-password

Specifies the new password for the user. This parameter maps to the password property in virtual member manager. (String, optional)

-confirmPassword

Specifies the password again to validate how it was entered on the password parameter. This parameter maps to the password property in virtual member manager. (String, optional)

-cn

Specifies the new first name or given name of the user. This parameter maps to the cn property in virtual member manager. (String, optional)

-surname

Specifies the new last name or family name of the user. This parameter maps to the sn property in virtual member manager. (String, optional)

-ibm-primaryEmail

Specifies the new email address of the user. This parameter maps to the mail property in virtual member manager. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask updateUser {-uniqueName uid=dmey ers,cn=users,dc=yourco, dc=com -uid 123}
```

- Using Jython string:

```
AdminTask.updateUser ('[-uniqueName uid= dmeyers,cn=users,dc= yourco,dc=com -uid 123]')
```

- Using Jython list:

```
AdminTask.updateUser (['-uniqueName', 'uid =dmeyers,cn=users,dc= yourco,dc=com', '-uid', '123'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask updateUser {-interactive}
```

- Using Jython string:

```
AdminTask.updateUser ('[-interactive]')
```

- Using Jython list:

```
AdminTask.updateUser (['-interactive'])
```

DescriptivePropCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the DescriptivePropCommands group can be used to create, delete, and manage key manager setting in your configuration.

The DescriptivePropCommands command group for the AdminTask object includes the following commands:

- “deleteDescriptiveProp”
- “getDescriptiveProp” on page 502
- “listDescriptiveProp” on page 502
- “modifyDescriptiveProp” on page 503

deleteDescriptiveProp

The **deleteDescriptiveProp** command deletes key manager settings from the configuration.

Target object

None

Parameters and return values

-parentDataType
(String, required)

-parentClassName
(String, required)

-parentScopeName
(String, optional)

-name
(String, required)

Examples

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteDescriptiveProp {-interactive}
```

- Using Jython string:

```
AdminTask.deleteDescriptiveProp ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteDescriptiveProp (['-interactive'])
```

getDescriptiveProp

The **getDescriptiveProp** command obtains information about key manager settings.

Target object

None

Parameters and return values

- parentDataType**
(String, required)
- parentClassName**
(String, required)
- parentScopeName**
(String, optional)
- name**
(String, required)

Examples

Interactive mode example usage:

- Using Jacl:

```
$AdminTask getDescriptiveProp {-interactive}
```

- Using Jython string:

```
AdminTask.getDescriptiveProp (['-interactive'])
```

- Using Jython list:

```
AdminTask.getDescriptiveProp (['-interactive'])
```

listDescriptiveProp

The **listDescriptiveProp** command lists the key managers within a particular management scope.

Target object

None

Parameters and return values

- parentDataType**
(String, required)
- parentClassName**
(String, required)
- parentScopeName**
(String, optional)
- displayObjectName**
Set the value of this parameter to `true` to list the key manager objects within the scope. Set the value of this parameter to `false` to list the strings that contain the key manager name and management scope. (Boolean, optional)

Examples

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listDescrip tiveProp {-interactive}
```

- Using Jython string:

```
AdminTask.listDescrip tiveProp ('[-interact ive]')
```

- Using Jython list:

```
AdminTask.listDescrip tiveProp (['-interact ive'])
```

modifyDescriptiveProp

The **modifyDescriptiveProp** command modifies the settings of an existing key manager.

Target object

None

Parameters and return values

-parentDataType
(String, required)

-parentClassName
(String, required)

-parentScopeName
(String, optional)

-name
(String, required)

-value
(String, optional)

-type
(String, optional)

-displayNameKey
(String, optional)

-nlsRangeKey
(String, optional)

-hoverHelpKey
(String, optional)

-range
(String, optional)

-inclusive
(Boolean, optional)

-firstClass
(Boolean, optional)

Examples

Interactive mode example usage:

- Using Jacl:

```
$AdminTask modifyDescrip tiveProp {-interactive}
```

- Using Jython string:

```
AdminTask.modifyDescrip tiveProp ('[-interacti ve]')
```

- Using Jython list:

ManagementScopeCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. Inbound and outbound management scopes represent opposing directions during the connection handshake process. The commands and parameters in the ManagementScopeCommands group can be used to create, delete, and list management scopes.

The ManagementScopeCommands command group for the AdminTask object includes the following commands:

- “deleteManagementScope”
- “getManagementScope”
- “listManagementScopes” on page 505

deleteManagementScope

The **deleteManagementScope** command deletes a management object from the configuration.

Target object

None

Parameters and return values

- **scopeName**
The name that uniquely identifies the management scope. (String, required)

Examples

Batch mode example usage:

Interactive mode example usage:

getManagementScope

The **getManagementScope** command displays the setting of a management scope object.

Target object

None

Parameters and return values

- **scopeName**
The name that uniquely identifies the management scope. (String, required)

Examples

Batch mode example usage:

Interactive mode example usage:

listManagementScopes

The **listManagementScopes** command lists the management scopes in the configuration.

Target object

None

Parameters and return values

- **displayObjectName**

Set the value to true to display the object names of the management scope. (Boolean, optional)

Examples

Batch mode example usage:

Interactive mode example usage:

AuthorizationGroupCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the AuthorizationGroupCommands group can be used to create and manage authorization groups.

The AuthorizationGroupCommands command group for the AdminTask object includes the following commands:

- “addResourceToAuthorizationGroup”
- “createAuthorizationGroup” on page 506
- “deleteAuthorizationGroup” on page 507
- “listAuthorizationGroups” on page 508
- “listAuthorizationGroupsForGroupID” on page 508
- “listAuthorizationGroupsForUserID” on page 509
- “listAuthorizationGroupsOfResource” on page 509
- “listResourcesOfAuthorizationGroup” on page 510
- “listResourcesForGroupID” on page 511
- “listResourcesForUserID” on page 512
- “mapGroupsToAdminRole” on page 512
- “mapUsersToAdminRole” on page 513
- “removeGroupsFromAdminRole” on page 514
- “removeResourceFromAuthorizationGroup” on page 515
- “removeUsersFromAdminRole” on page 516

addResourceToAuthorizationGroup

The **addResourceToAuthorizationGroup** command adds a resource instance to an existing authorization group. A resource instance cannot belong to more than one authorization group.

Target object

None

Parameters and return values

- **authorizationGroupName**
The name of the authorization group. (String, required)
- **resourceName**
The name of the resource instance that you want to add to an authorization group. (String, required)
The resourceName parameter should be in the following format:

ResourceType=ResourceName

where:

- ResourceType is one of the following values: Application, Server, ServerCluster, Node, NodeGroup
- ResourceName is the name of the resource instance, for example, server1.

The following are example uses of the resourceName parameter:

•

Node=node1:Server=server1

This example uniquely identifies server1. node1 is required if another server1 exists on a different node.

•

Application=app1

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addResourceToAuthorizationGroup {-authorizationGroupName groupName -resourceName Application=app1}
```

- Using Jython string:

```
AdminTask.addResourceToAuthorizationGroup(['-authorizationGroupName groupName -resourceName Application=app1'])
```

- Using Jython list:

```
AdminTask.addResourceToAuthorizationGroup(['-authorizationGroupName', 'groupName', '-resourceName', 'Application=app1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addResourceToAuthorizationGroup {-interactive}
```

- Using Jython string:

```
AdminTask.addResourceToAuthorizationGroup (['-interactive'])
```

- Using Jython list:

```
AdminTask.addResourceToAuthorizationGroup (['-interactive'])
```

createAuthorizationGroup

The **createAuthorizationGroup** command creates a new authorization group. When you create a new authorization group, no members are associated with it. Also, no user to administrative role mapping for the authorization table is associated with the authorization group.

Target object

None

Parameters and return values

- **authorizationGroupName**
The name of the authorization group that you want to create. (String, required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createAuthorizationGroup {-authorizationGroupName groupName}
```

- Using Jython string:

```
AdminTask.createAuthorizationGroup('[-authorizationGroupName groupName]')
```

- Using Jython list:

```
AdminTask.createAuthorizationGroup(['-authorizationGroupName', 'groupName'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createAuthorizationGroup -interactive
```

- Using Jython string:

```
AdminTask.createAuthorizationGroup ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createAuthorizationGroup (['-interactive'])
```

deleteAuthorizationGroup

The **deleteAuthorizationGroup** command deletes an existing authorization group. When you delete an authorization group, the authorization table that corresponds is also deleted.

Target object

None

Parameters and return values

- **authorizationGroup Name**

The name of the authorization group that you want to delete. (String, required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteAuthorizationGroup {-authorizationGroupName groupName}
```

- Using Jython string:

```
AdminTask.deleteAuthorizationGroup('[-authorizationGroupName groupName]')
```

- Using Jython list:

```
AdminTask.deleteAuthorizationGroup(['-authorizationGroupName', 'groupName'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteAuthorizationGroup {-interactive}
```

- Using Jython string:

```
AdminTask.deleteAuthorizationGroup ('[-interactive]')
```

- Using Jython list:

```
AdminTask.deleteAuthorizationGroup (['-interactive'])
```

listAuthorizationGroups

The **listAuthorizationGroups** command lists the existing authorization groups.

Target object

None

Parameters and return values

- Parameters: None
- Returns: A list of short names of all existing authorization groups. (String [])

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask listAuthorizationGroups`
- Using Jython:
`AdminTask.listAuthorizationGroups()`

Interactive mode example usage:

- Using Jacl:
`$AdminTask listAuthorizationGroups {-interactive}`
- Using Jython string:
`AdminTask.listAuthorizationGroups ('[-interactive]')`
- Using Jython list:
`AdminTask.listAuthorizationGroups (['-interactive'])`

listAuthorizationGroupsForGroupID

The **listAuthorizationGroupsForGroupID** command lists all of the authorization groups to which a given user group has access. This command lists the authorization groups and the granted roles for each authorization group. The group ID can be a short name or a fully qualified domain name if the LDAP user registry is being used. This command will list `cell` as a group if the user has cell level access.

Target object

None

Parameters and return values

- **groupid**
The ID of the user group. (String, required)

Examples

Batch mode example usage:

- Using Jacl:
`$AdminTask listAuthorizationGroupsForGroupID {-groupid userGroupName}`
- Using Jython string:
`AdminTask.listAuthorizationGroupsForGroupID(['-groupid userGroupName'])`
- Using Jython list:
`AdminTask.listAuthorizationGroupsForGroupID(['-groupid', 'userGroupName'])`

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listAuthorizationGroupsForGroupID {-interactive}
```

- Using Jython string:

```
AdminTask.listAuthorizationGroupsForGroupID ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listAuthorizationGroupsForGroupID (['-interactive'])
```

listAuthorizationGroupsForUserID

The **listAuthorizationGroupsForUserID** command lists all of the authorization groups to which a given user has access. This command lists the authorization groups and the granted roles for each authorization group. The user ID and the group ID can be a short name or a fully qualified domain name if the LDAP user registry is being used. This command will list `cell` as a group if the user has cell level access.

Target object

None

Parameters and return values

- **userid**
The ID of the user. (String, required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listAuthorizationGroupsForUserID{-userid userName}
```

- Using Jython string:

```
AdminTask.listAuthorizationGroupsForUserID('[-userid userName]')
```

- Using Jython list:

```
AdminTask.listAuthorizationGroupsForUserID(['-userid', 'userName'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listAuthorizationGroupsForUserID {-interactive}
```

- Using Jython string:

```
AdminTask.listAuthorizationGroupsForUserID ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listAuthorizationGroupsForUserID (['-interactive'])
```

listAuthorizationGroupsOfResource

The **listAuthorizationGroupsOfResource** command lists authorization groups for a given resource. If the value of the `traverseContainedObjects` parameter is false, only the authorization group of the resource is returned. If the value of the `traverseContainedObjects` parameter is true, it returns the authorization group of the resource and the authorization groups of all the parent resources in the containment tree.

Target object

None

Parameters and return values

- **resourceName**

The name of the resource. (String, required)

The resourceName parameter must be in the following format:

ResourceType=ResourceName

where:

- ResourceType can be any one of the following values: Application, Server, ServerCluster, Node, or NodeGroup.
- ResourceName is the name of the resource instance, for example, server1.

The following are examples of the resourceName parameter:

Node=node1:Server=server

This example uniquely identifies *server1*. The name of the node is required if a server on a different node uses the same server name.

Application=app1

- **traverseContained Resources**

Finds the authorization groups of all the parent resources by traversing the resource containment tree upwards. The default value is false. (Boolean, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listAuthorizationGroupsOfResource {-resourceName Application=app1}
```

- Using Jython string:

```
AdminTask.listAuthorizationGroupsOfResource(['-resourceName Application=app1'])
```

- Using Jython list:

```
AdminTask.listAuthorizationGroupsOfResource(['-resourceName', 'Application=app1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listAuthorizationGroupsOfResource {-interactive}
```

- Using Jython string:

```
AdminTask.listAuthorizationGroupsOfResource (['-interactive'])
```

- Using Jython list:

```
AdminTask.listAuthorizationGroupsOfResource (['-interactive'])
```

listResourcesOfAuthorizationGroup

The **listResourcesOfAuthorizationGroup** command lists all of the resources within the given authorization group.

Target object

None

Parameters and return values

- **authorizationGroupName**

The name of the authorization group. (String, required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listResourcesOfAuthorizationGroup {-authorizationGroupName groupName}
```

- Using Jython string:

```
AdminTask.listResourcesOfAuthorizationGroup(['-authorizationGroupName groupName'])
```

- Using Jython list:

```
AdminTask.listResourcesOfAuthorizationGroup(['-authorizationGroupName', 'groupName'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listResourcesOfAuthorizationGroup {-interactive}
```

- Using Jython string:

```
AdminTask.listResourcesOfAuthorizationGroup (['-interactive'])
```

- Using Jython list:

```
AdminTask.listResourcesOfAuthorizationGroup (['-interactive'])
```

listResourcesForGroupID

The **listResourcesForGroupID** command lists all the objects that a given group has access to. This command lists the resources and the granted roles for each resource. The resources that this command returns include the resources from the authorization groups to which the user group is granted roles and the resources that are descendants of the resources with in authorization groups to which the user group is granted access to any role. The group ID can be a short name or fully qualified domain name if a LDAP user registry is used.

Target object

None

Parameters and return values

- **groupid**

The ID of the user group. (String, required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listResourcesForGroupID {-groupid userGroupName}
```

- Using Jython string:

```
AdminTask.listResourcesForGroupID(['-groupid userGroupName'])
```

- Using Jython list:

```
AdminTask.listResourcesForGroupID(['-groupid', 'userGroupName'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listResourcesForGroupID {-interactive}
```

- Using Jython string:

```
AdminTask.listResourcesForGroupID (['-interactive'])
```

- Using Jython list:

```
AdminTask.listResourcesForGroupID (['-interactive'])
```

listResourcesForUserID

The **listResourcesForUserID** command lists all the objects that a given user has access to. This command lists the resources and the granted roles for each resource. The resources that this command returns include the resources from the authorization groups to which the user is granted roles and the resources that are descendants of the resources with in authorization groups to which the user is granted access to any role. The user ID can be a short name or fully qualified domain name if a LDAP user registry is used.

Target object

None

Parameters and return values

- **userid**
The ID of the user. (String, required).

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listResourcesForUserID {-userid userName }
```
- Using Jython string:

```
AdminTask.listResourcesForUserID(['-userid userName'])
```
- Using Jython list:

```
AdminTask.listResourcesForUserID(['-userid', 'userName'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listResourcesForUserID {-interactive}
```
- Using Jython string:

```
AdminTask.listResourcesForUserID ('[-interactive]')
```
- Using Jython list:

```
AdminTask.listResourcesForUserID (['-interactive'])
```

Example output:

```
{deployer=[], operator=[], administrator=[cells/IBM-LP1 6L31HVE8Ce1107/clusters/C1| cluster.xml,
cells/IBM-LP16L 31HVE8Ce1107/nodes/IBM-LP16L 31HVE8Node05/servers/cm1|ser ver.xml],
monitor=[], configurator=[]}
```

mapGroupsToAdminRole

The **mapGroupsToAdminRole** command maps group IDs to one or more administrative roles in an authorization group. The name of the authorization group that you provide determines which authorization table will be used. If you do not specify an authorization group name, the mapping is done to the cell level authorization table. The group ID can be a short name or a fully qualified domain name if the LDAP user registry is used.

Target object

None

Parameters and return values

- **authorizationGroup Name**
The name of the authorization group. If you do not specify this parameters, the cell level authorization group is assumed. (String, optional)
- **roleName**
The name of the administrative role. (String, required)
- **groupids**
The list of group IDs that will mapped to the administrative role. (String[], required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask mapGroupsToAdminRole {-authorizationGroupName groupName - roleName administrator -groupids group1}
```

- Using Jython string:

```
AdminTask.mapGroupsToAdminRole(['-authorizationGroupName groupName -roleName administrator -groupids group1'])
```

- Using Jython list:

```
AdminTask.mapGroupsToAdminRole(['-authorizationGroupName', 'groupName', '-roleName', 'administrator', '-groupids', 'group1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask mapGroupsToAdminRole {-interactive}
```

- Using Jython string:

```
AdminTask.mapGroupsToAdminRole ('[-interactive]')
```

- Using Jython list:

```
AdminTask.mapGroupsToAdminRole (['-interactive'])
```

mapUsersToAdminRole

The **mapUsersToAdminRole** command maps user IDs to one or more administrative roles in the authorization group. The name of the authorization group that you provide determines the authorization table. If you do not specify the name of the authorization group, the mapping is done to the cell level authorization table. The user ID can be a short name or fully qualified domain name in case LDAP user registry is used.

Target object

None

Parameters and return values

- **authorizationGroup Name**
The name of the authorization group. If you do not specify this parameter, the cell level authorization group is assumed. (String, optional)
- **roleName**
The name of the administrative role. (String, required)
- **userids**
The list of user IDs that will be mapped to the administrative role (String[], required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask mapUsersToAdminRole {-authorizationGroupName groupName - roleName administrator -userids user1}
```

- Using Jython string:

```
AdminTask.mapUsersToAdminRole(['-authorizationGroupName groupName -roleName administrator -userids user1'])
```

- Using Jython list:

```
AdminTask.mapUsersToAdminRole(['-authorizationGroupName', 'groupName', '-roleName', 'administrator', '-userids', 'user1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask mapUsersToAdminRole {-interactive}
```

- Using Jython string:

```
AdminTask.mapUsersToAdminRole ('[-interactive]')
```

- Using Jython list:

```
AdminTask.mapUsersToAdminRole (['-interactive'])
```

removeGroupsFromAdminRole

The **removeGroupsFromAdminRole** command removes previously mapped group IDs from administrative roles in the authorization group. The name of the authorization group that you provide determines which authorization table is involved. If you do not specify an authorization group name, the group IDs are removed from the cell level authorization table. The group ID can be a short name or fully qualified domain name if a LDAP user registry is used.

Target object

None

Parameters and return values

- **authorizationGroup Name**

The name of the authorization group. If you do not specify this parameter, the cell level authorization group is assumed. (String, optional)

- **roleName**

The name of the administrative role. (String, required)

- **userids**

A list of group IDs that you want to remove from the administrative role. (String[], required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask removeGroupsFromAdminRole {-authorizationGroupName groupName - roleName administrator -groupids group1}
```

- Using Jython string:

```
AdminTask.removeGroupsFromAdminRole(['-authorizationGroupName groupName -roleName administrator -groupids group1'])
```

- Using Jython list:

```
AdminTask.removeGroupsFromAdminRole(['-authorizationGroupName', 'groupName', '-roleName', 'administrator', '-groupids', 'group1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask removeGroupsFromAdminRole {-interactive}
```

- Using Jython string:

```
AdminTask.removeGroupsFromAdminRole ('[-interactive]')
```

- Using Jython list:

```
AdminTask.removeGroupsFromAdminRole (['-interactive'])
```

removeResourceFromAuthorizationGroup

The **removeResourceFromAuthorizationGroup** command removes resources from an existing authorization group. If you do not specify the authorization group, it will be determined and the resource will be removed from that authorization group.

Target object

None

Parameters and return values

- **authorizationGroup Name**

The name of the authorization group. (String, optional)

- **resourceName**

The name of the resource instance that you want to remove from the authorization group. (String, required)

The resourceName parameter must be in the following format:

```
ResourceType=ResourceName
```

where:

- ResourceType can be any of the following: Application, Server, ServerCluster, Node, or NodeGroup.
- The ResourceName is the name of the resource instance, for example, server1.

The following are examples of the resourceName parameter:

```
Node=node1:Server=server1
```

This example uniquely identifies server1. node1 is required if the name of the server exists on multiple nodes.

```
Application=app1
```

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask removeResourceFromAuthorizationGroup {-authorizationGroupName groupName -resourceName Application=app1}
```

- Using Jython string:

```
AdminTask.removeResourceFromAuthorizationGroup(['-authorizationGroupName groupName -resourceName Application=app1'])
```

- Using Jython list:

```
AdminTask.removeResourceFromAuthorizationGroup(['-authorizationGroupName', 'groupName', '-resourceName', 'Application=app1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask removeResourceFromAuthorizationGroup {-interactive}
```

- Using Jython string:

```
AdminTask.removeResourceFromAuthorizationGroup (['-interactive'])
```

- Using Jython list:

```
AdminTask.removeResourceFromAuthorizationGroup (['-interactive'])
```

removeUsersFromAdminRole

The **removeUsersFromAdminRole** command removes previously mapped user IDs from administrative roles in the authorization group. The name of the authorization group that you provide determines which authorization table is involved. If you do not specify an authorization group name, the user ID from the cell level authorization table will be used. The user ID can be a short name or a fully qualified domain name if a LDAP user registry is used.

Target object

None

Parameters and return values

- **authorizationGroup Name**
The name of the authorization group. If you do not specify this parameter, the cell level authorization group is assumed. (String, optional)
- **roleName**
The name of the administrative role. (String, required)
- **userids**
A list of user IDs that you want to remove from the administrative role. (String[], required)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask removeUsersFromAdminRole {-authorizationGroupName groupName - roleName administrator -userids user1}
```

- Using Jython string:

```
AdminTask.removeUsersFromAdminRole(['-authorizationGroupName groupName -roleName administrator -userids user1'])
```

- Using Jython list:

```
AdminTask.removeUsersFromAdminRole(['-authorizationGroupName', 'groupName', '-roleName', 'administrator', '-userids', 'user1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask removeUsersFromAdminRole {-interactive}
```

- Using Jython string:

```
AdminTask.removeUsersFromAdminRole ('[-interactive]')
```

- Using Jython list:

```
AdminTask.removeUsersFromAdminRole (['-interactive'])
```

ChannelFrameworkManagement command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security. The commands and parameters in the ChannelFrameworkManagement group can be used to create and manage transport channels and transport channel chains.

The ChannelFrameworkManagement command group for the AdminTask object includes the following commands:

- “createChain” on page 517
- “deleteChain” on page 517
- “listChainTemplates” on page 518
- “listChains” on page 519

createChain

The **createChain** command creates a new chain of transport channels that are based on a chain template.

Target object

The instance of the transport channel service under which the new chain is created. (ObjectName, required)

Required parameters and return values

- **template**
The chain template on which to base the new chain. (ObjectName, required)
- **name**
The name of the new chain. (String, required)
- **endPoint**
The name of the end point to be used by the instance of the TCP inbound channel in the new chain if the chain is an inbound chain. (ObjectName, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask createChain (cells/ rohitbuildCell01/nodes/rohit buildCellManager01/servers/  
dmgr|server.xml#TransportChannelService_1) {-template WebContainer(templates/chains|webcontainer-chains.xml #Chain_1)  
-name trialChain1}
```

```
$AdminTask createChain (cells/ rohitbuildCell01/nodes/rohit buildCellManager01/servers/dmgr  
|server.xml#TransportChannelService_1) {-template WebContainer(templates/chains|webcontainer-chains.xml# Chain_1)  
-name trialChain1 -endPoint (cells/rohitbuild Cell01/nodes/rohitbuildCellMa nager01|serverindex.xml#End Point_3) }
```

- Using Jython string:

```
AdminTask.createChain('cells/ rohitbuildCell01/nodes/rohitbu ildCellManager01/servers/dmgr|  
server.xml#TransportChannelService_1', ['-template "WebConta iner(templates/chains|webconta iner-chains.xml#Chain_1)" -name  
trialChain1'])
```

```
AdminTask.createChain('cells/ rohitbuildCell01/nodes/rohit buildCellManager01/servers/dmgr  
|server.xml#TransportChannelService_1', ['-template "WebCo ntainer(templates/chains|webc ontainer-chains.xml#Chain_1)" -name  
trialChain -endPoint "(cells/rohitbuildCell01/nodes/ rohitbuildCellManager01|server index.xml#EndPoint_3)"]')
```

- Using Jython list:

```
AdminTask.createChain('cells/ rohitbuildCell01/nodes/ rohitbuildCellManager01/serve  
rs/dmgr|server.xml# TransportChannelService_1', ['-template', "WebContainer (templates/chains|webcontaine  
r-chains.xml#Chain_1)", '-name', 'trialChain1'])
```

```
AdminTask.createChain('cells/ rohitbuildCell01/nodes/rohit buildCellManager01/servers/  
dmgr|server.xml#TransportChannelService_1', ['-template', "WebContainer(templates/chains |webcontainer-chains.xml#Cha in_1)",  
'-name', 'trialChain', '-endPoint', "(cells/rohitbu ildCell01/nodes/rohitbuildCe llManager01|serverindex.xml#  
EndPoint_3)"]')
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createChain {-interactive}
```

- Using Jython string:

```
AdminTask.createChain ('[-interactive]')
```

- Using Jython list:

```
AdminTask.createChain (['-interactive'])
```

deleteChain

The **deleteChain** command deletes an existing chain and, optionally, the transport channels in the chain.

Target object

The chain to be deleted. (Object name, required)

Required parameters and return values

- **deleteChannels**

If the value of this attribute is true, non-shared transport channels used by the specified chain will be deleted. (Boolean, optional)

Examples

Batch mode example usage:

• Using Jacl:

```
$AdminTask deleteChain trialChain1 (cells/rohitbuildCell101/nodes/rohitbuildCellManager01/servers/dmgr | server.xml#Chain_1093554462922)
$AdminTask deleteChain trialChain1 (cells/rohitbuildCell101/nodes/rohitbuildCellManager01/servers/dmgr | server.xml#Chain_1093554378078) {-deleteChannels true}
```

• Using Jython string:

```
AdminTask.deleteChain('trialChain1 (cells/rohitbuildCell101/nodes/rohitbuildCellManager01/servers/dmgr | server.xml#TransportChannelService_1)')
AdminTask.deleteChain('trialChain1 (cells/rohitbuildCell101/nodes/rohitbuildCellManager01/servers/dmgr | server.xml#TransportChannelService_1)', ['-deleteChannels true'])
```

• Using Jython list:

```
AdminTask.deleteChain('trialChain1 (cells/rohitbuildCell101/nodes/rohitbuildCellManager01/servers/dmgr | server.xml#TransportChannelService_1)')
AdminTask.deleteChain('trialChain1 (cells/rohitbuildCell101/nodes/rohitbuildCellManager01/servers/dmgr | server.xml#TransportChannelService_1)', ['-deleteChannels', 'true'])
```

Interactive mode example usage:

• Using Jacl:

```
$AdminTask deleteChain {-interactive}
```

• Using Jython string:

```
AdminTask.deleteChain ('[-interactive]')
```

• Using Jython list:

```
AdminTask.deleteChain (['-interactive'])
```

listChainTemplates

The **listChain Templates** command displays a list of templates that you can use to create chains in this configuration. All templates have a certain type of transport channel as the last transport channel in the chain.

Target object

None

Required parameters and return values

- **acceptorFilter**

The templates returned by this method all have a transport channel instance of the specified type as the last transport channel in the chain. (String, optional)

Examples

Batch mode example usage:

• Using Jacl:

```
$AdminTask listChainTemplates {}
$AdminTask listChainTemplates "-acceptorFilter WebContainer InboundChannel"
```


- Using Jython string:

```
AdminTask.listChainTemplates()
AdminTask.listChainTemplates ('[-acceptorFilter WebContainerInboundChannel]')
```

- Using Jython list:

```
AdminTask.listChainTemplates()
AdminTask.listChainTemplates (['-acceptorFilter', 'WebContainerInboundChannel'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listChainTemplates {-interactive}
```

- Using Jython string:

```
AdminTask.listChainTemplates ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listChainTemplates (['-interactive'])
```

listChains

The **listChains** command lists all the chains that are configured under a particular instance of the transport channel service.

Target object

The instance of the transport channel service under which the chains are configured. (ObjectName, required)

Required parameters and return values

- acceptorFilter

The chains that are returned by this parameter will have a transport channel instance of the type that you specify as the last transport channel in the chain. (String, optional)

- endPointFilter:

The chains returned by this parameter will have a TCP inbound channel using an end point with the name that you specify.(String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask listChains (cells/ rohitbuildCell01/nodes/rohit buildNode01/servers/server2|
server.xml#TransportChannel Service_1093445762328)
$AdminTask listChains (cells/ rohitbuildCell01/nodes/rohit buildNode01/servers/server2|
server.xml#TransportChannel Service_1093445762328) {-acceptorFilter WebContainerInboundChannel}
$AdminTask listChains (cells/ rohitbuildCell01/nodes/rohit buildNode01/servers/server2|
server.xml#TransportChannel Service_1093445762328) {-end PointFilter WC_adminhost}
```

- Using Jython string:

```
AdminTask.listChains('(cells/ rohitbuildCell01/nodes/rohit buildNode01/servers/server2|
server.xml#TransportChannel Service_1093445762328)')
AdminTask.listChains('(cells/ rohitbuildCell01/nodes/rohit buildNode01/servers/server2|
server.xml#TransportChannel Service_1093445762328)', ['-acceptorFilter WebContainerInboundChannel'])
AdminTask.listChains('(cells/ rohitbuildCell01/nodes/rohit buildNode01/servers/server2|
server.xml#TransportChannel Service_1093445762328)', ['-endPointFilter WC_adminhost'])
```

- Using Jython list:

```
AdminTask.listChains('(cells/ rohitbuildCell01/nodes/rohit buildNode01/servers/server2|
server.xml#TransportChannel Service_1093445762328)')
AdminTask.listChains('(cells/ rohitbuildCell01/nodes/rohit buildNode01/servers/server 2
|server.xml#TransportChannel Service_1093445762328)', ['-acceptorFilter', 'WebContainerInboundChannel'])
AdminTask.listChains('(cells/ rohitbuildCell01/nodes/rohit buildNode01/servers/server
2|server.xml #TransportChannel Service_1093445762328)', ['-endPointFilter', 'WC_adminhost'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask listChains {-interactive}
```

- Using Jython string:

```
AdminTask.listChains ('[-interactive]')
```

- Using Jython list:

```
AdminTask.listChains (['-interactive'])
```

FIPSCommands command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure Federal Information Processing Standards (FIPS) with the wsadmin tool.

FIPSCommands command group for the AdminTask object includes the following commands:

- “enableFips”
- “getFipsInfo” on page 521
- “listCertStatusForSecurityStandard” on page 522
- “convertCertForSecurityStandard” on page 523

enableFips

The enableFips command enables or disables a specified security level.

Target object

None.

Required parameters

-enableFips

If this flag is set to true , FIPS is enabled at the security level specified by other parameters . If the flag is set to false, FIPS is disabled and other parameters are ignored. The value of this parameter is set to com.ibm.security.useFIPS security custom property. (Boolean required)

Optional parameters

-fipsLevel

Specifies the level of the security standard to use. (String, optional). There is no default value. Valid values include:

FIPS140-2

If this value is set, the system is configured to comply with Fips 140-2 mode.

transition

If this value is set, the system is configured to comply with SP800-131 transition mode.

SP800-131

If this value is set, the system is configured to comply with SP800-131 strict mode.

The value provided is set on the com.ibm.websphere.security.FIPSLLevel security custom property.

Either fipsLevel or suiteBLevel must be specified.

-suiteBLevel

Specifies the level of the suiteBLevel. There is no default value. The value provided is set on the com.ibm.websphere.security.suiteb security custom property. (String, optional)

Valid values are:

- 128 – if this value is set, system is configured to comply with Suite B 128.

- 192 - if this value is set, system is configured to comply with Suite B 192.

-protocol

Sets the protocol for the Secure Sockets Layer (SSL) configuration. This parameter is used only when the -fipsLevel flag is set to transition. For other fipsLevels, SSL protocol is already defined by specification. Valid values for transition are: TLS, TLSv1.1 and TLSv1.2 . Note that the administrative console only shows TLS and TLSv1.2 as valid values. TLS1.1 can be specified on a command line. (String, optional)

Return values:

True (success) or false (fail). If false, a reason for the failure is logged in the System.Out.log.

Examples

- Using Jacl string:

```
$AdminTask enableFips {-enableFips true -fipsLevel transition }
true
```

getFipsInfo

The getFipsInfo command returns an attributeList with the FIPS setting. The settings are fipsEnabled, fipsLevel and suiteBLevel.

Target object

None.

Required parameters

None.

Return value:

The getFipsInfo command returns an attributeList with the FIPS setting. For example: If FIPS is disabled, then fipsLevel and suiteBLevel are empty strings. For example:

Table 63. Security mode and FIPS level

Security mode	Return values from getFipsInfo
Fips not enabled	fipsEnabled=false fipsLevel=(empty string) suiteBLevel=(empty string)
FIPS140-2	ipsEnabled=true fipsLevel=FIPS140-2 suiteBLevel=(empty string)
SP800-131 - Transition	fipsEnabled=true fipsLevel=transition suiteBLevel=(empty string)
SP800-131 - Strict	fipsEnabled=true fipsLevel=SP800-131 suiteBLevel=(empty string)
Suite B 128	fipsEnabled=true fipsLevel=(empty string) suiteBLevel=128

Table 63. Security mode and FIPS level (continued)

Security mode	Return values from getFipsInfo
Suite B 192	fipsEnabled=true fipsLevel=(empty string) suiteBLevel=192

Examples

- Using Jacl:

```
$AdminTask getFipsInfo
{fipsEnabled true} {fipsLevel SP800-131} {suiteBLevel {}}
```

listCertStatusForSecurityStandard

The listCertStatusForSecurityStandard command returns all certificates used by SSL configuration and plug-ins, and states whether they comply with the requested security level.

Target object

None.

Required parameters

None.

Optional parameters

-suiteBLevel

Enables or disables FIPS. There is no default value. When the flag is set to true, the com.ibm.security.useFips security custom property is set to true. If the flag is set to false, the com.ibm.security.useFips security custom property is set to false and the other flags are ignored. (String, optional)

-fipsLevel

Specifies the level of the security standard to use. (String, optional). There is no default value. Valid values include:

FIPS140-2

If this value is set, the system is configured to comply with Fips 140-2 mode.

transition

If this value is set, the system is configured to comply with SP800-131 transition mode.

SP800-131

If this value is set, the system is configured to comply with SP800-131 strict mode.

The value provided is set on the com.ibm.websphere.security.FIPSLLevel security custom property.

Either fipsLevel or suiteBLevel must be specified.

-suiteBLevel

Specifies the level of the suiteBLevel. There is no default value. The value provided is set on the com.ibm.websphere.security.suiteb security custom property. (String, optional)

Valid values are:

- 128 – if this value is set, system is configured to comply with Suite B 128.
- 192 - if this value is set, system is configured to comply with Suite B 192.

Return value:

An attributeList list that has three keys : CAN_NOT_CONVERT, CAN_CONVERT, and MEET_SECURITY_LEVEL. For each key, a list of attributeList is returned. One attributeList contains certificate information: keystore, managementScope, alias and reason. For example:

```
{conversionStatus=CAN_NOT_CONVERT
  certificateInfo = { keystore = <keystore name>
                    managementScope = <managementScope>
                    alias = <certificate alias>
                    reason = <reason why certificate can not be converted>
                  } ...
}
{conversionStatus= CAN_CONVERT
  certificateInfo = { keystore = <keystore name>
                    managementScope = <managementScope>
                    alias = <certificate alias>
                    reason = empty when certificate can be converted
                  } ...
}
{conversionStatus=MEET_SECURITY_LEVEL
  certificateInfo = { keystore = <keystore name>
                    managementScope = <managementScope>
                    alias = <certificate alias>
                    reason = empty when certificate already meets security level
                  } ...
}
```

Examples

- Using Jython:

```
wsadmin>$AdminTask listCertStatusForSecurityStandard {-fipsLevel SP800-131 -suiteBLevel 128 }
```

```
{CAN_CONVERT {{keystore NodeDefaultKeyStore} {managementScope (cell):testNode01Cell:(node):testNode01} {alias default} {reason {Current SignatureAlgorithm is SHA256withRSA. SignatureAlgorithm needs to be one of [SHA256withECDSA] to be compliant with SP 800-131 - Suite B 128. }}
{keystore NodeDefaultRootStore} {managementScope (cell):testNode01Cell:(node):testNode01} {alias root} {reason {Current SignatureAlgorithm is SHA256withRSA. SignatureAlgorithm needs to be one of [SHA256withECDSA] to be compliant with SP 800-131 - Suite B 128. }} }} {CAN_NOT_CONVERT {}} {MEET_SECURITY_STANDARD {}}
```

convertCertForSecurityStandard

The convertCertForSecurityStandard command converts all certificates used by SSL configuration and plug-ins.

Target object

None.

Required parameters

None.

Optional parameters

-fipsLevel

Specifies the level of the security standard to use. (String, optional). There is no default value. Valid values include:

FIPS140-2

If this value is set, the system is configured to comply with Fips 140-2 mode.

transition

If this value is set, the system is configured to comply with SP800-131 transition mode.

SP800-131

If this value is set, the system is configured to comply with SP800-131 strict mode.

The value provided is set on the com.ibm.websphere.security.FIPSLLevel security custom property.

Either fipsLevel or suiteBLevel must be specified.

-suiteBLevel

Specifies the level of the suiteBLevel. There is no default value. The value provided is set on the com.ibm.websphere.security.suiteb security custom property. (String, optional)

Valid values are:

- 128 – if this value is set, system is configured to comply with Suite B 128.
- 192 - if this value is set, system is configured to comply with Suite B 192.

-signatureAlgorithm

Checks if the signatureAlgorithm is compliant with FipsLevel and suiteB. If compliant, use signatureAlgorithm to convert certificates. If not, use a compliant signatureAlgorithm. (String, required)

-keySize

Checks if the keySize is compliant with FipsLevel and suiteB. If compliant, uses the keySize to convert certificates. If not, use the minimum value for the signatureAlgorithm.

Return value:

```
{conversionStatus=CAN_NOT_CONVERT
certificateInfo = {keystore = <keystore name>
                  managementScope = <managementScope>
                  alias = <certificate alias>
                  reason = <reason why certificate can not be converted>
                } ...
{conversionStatus=MEET_SECURITY_STANDARD
certificateInfo = {keystore = <keystore name>
                  managementScope = <managementScope>
                  alias = <certificate alias>
                  reason = empty when certificate meets security standard.
                } ...
```

Examples

- Using Jacl:

```
wsadmin> $AdminTask convertCertForSecurityStandard {-fipsLevel FIPS140-2 -signatureAlgorithm
SHA256withRSA -keySize 2048 }
```

```
{CAN_CONVERT {}} {CAN_NOT_CONVERT {}} {MEET_SECURITY_STANDARD {{keystore NodeDef
aultRootStore} {managementScope (cell):testNode01Cell:(node):testNode01} {
alias root} {reason {}}}
{keystore NodeDefaultKeyStore} {managementScope (cell):testNode01Cell:(node):
testNode01} {alias default} {reason {}}} }
```

SpnegoTAICommands group for the AdminTask object (deprecated)

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. The commands and parameters in the SpnegoTAICommands group can be used to create and manage configurations that are used by the Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) trust association interceptor (TAI).

Note:

In WebSphere Application Server Version 6.1, a trust association interceptor (TAI) that uses the Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) to securely negotiate and authenticate HTTP requests for secured resources was introduced. This function was deprecated in WebSphere Application Server Version 7.0. SPNEGO web authentication has taken its place to provide dynamic reload of the SPNEGO filters and to enable fallback to the application login method.

The SpnegoTAICommands command group for the AdminTask object includes the following commands:

- “addSpnegoTAIProperties” on page 525
- “deleteSpnegoTAIProperties” on page 526
- “modifySpnegoTAIProperties” on page 527

- “showSpnegoTAIProperties” on page 528
- “createKrbConfigFile” on page 528

addSpnegoTAIProperties

The **addSpnego TAI Properties** command adds properties in the configuration of the Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) trust association interceptor (TAI) for the application server.

Target object

None

Parameters and return values

-spnId

This is the SPN identifier for the group of custom properties that are to be defined with this command. If you do not specify this parameter, an unused SPN identifier is assigned. (String, optional)

-host

Specifies the host name portion in the SPN used by the SPNEGO TAI to establish a Kerberos secure context. (String, required)

-filter

Defines the filtering criteria used by the class specified with the above attribute. If no filter is specified, all HTTP requests are subject to SPNEGO authentication. (String, optional)

-filterClass

Specifies the name of the Java class used by the SPNEGO TAI to select which HTTP requests will be subject to SPNEGO authentication. If no filter class is specified, the default filter class, `com.ibm.ws.security.spnego.HTTPHeaderFilter`, is used. (String, optional)

-noSpnegoPage

Specifies the URL of a resource that contains the content the SPNEGO TAI will include in the HTTP response to be displayed by the (browser) client application if it does not support SPNEGO authentication. (String, optional).

If you do not specify the `noSpnegoPage` attribute then the default is used:

```
"<html><head><title> SPNEGO authentication is not supported. </title></head>" +
"<body>SPNEGO authentication is not supported on this client.</body> </html>";
```

-ntlmTokenPage

Specifies the URL of a resource that contains the content the SPNEGO TAI will include in the HTTP response to be displayed by the (browser) client application when the SPNEGO token received by the interceptor after the challenge-response handshake contains a NT LAN manager (NTLM) token instead of the expected SPNEGO token. (String, optional).

If you do not specify the `ntlmTokenPage` attribute then the default is used:

```
"<html><head><title> An NTLM Token was received.</title> </head>" + "<body>Your browser
configuration is correct, but you have not logged into a supported Windows Domain." +
"<p>Please login to the application using the normal login page.</html>";
```

-trimUserName

Specifies whether (`true`) or not (`false`) the SPNEGO TAI is to remove the suffix of the principal user name, starting from the `@` that precedes the Kerberos realm name. If this attribute is set to `true`, the suffix of the principal user name is removed. If this attribute is set to `false`, the suffix of the principal name is retained. The default value used is `true`. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask addSpnegoTAIProperties -host myhost.ibm.com -filter user-agent%=IE 6
```

- Using Jython string:

```
AdminTask.addSpnegoTAIProperties ('[-host myhost.ibm.com -filter user-agent%=IE 6]')
```

- Using Jython list:

```
AdminTask.addSpnegoTAIProperties (['-host', 'myhost.ibm.com', '-filter', 'user-agent%=IE', '6'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask addSpnegoTAIProperties -interactive
```

- Using Jython string:

```
AdminTask.addSpnegoTAIProperties (['-interactive'])
```

- Using Jython list:

```
AdminTask.addSpnegoTAIProperties ['-interactive'])
```

deleteSpnegoTAIProperties

The **deleteSpnego TAIProperties** command deletes properties in the configuration of the Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) trust association interceptor (TAI) for WebSphere Application Server.

Target object

None

Parameters and return values

-spnId

The SPN identifier for the group of custom properties that are to be deleted with this command. If you do not specify this parameter, all SPNEGO TAI custom properties are deleted. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask deleteSpnegoTAIProperties {-spnId 2}
```

- Using Jython string:

```
AdminTask.deleteSpnegoTAIProperties (['-spnId 2'])
```

- Using Jython list:

```
AdminTask.deleteSpnegoTAIProperties (['-spnId', '2'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask deleteSpnegoTAIProperties -interactive
```

- Using Jython string:

```
AdminTask.deleteSpnegoTAIProperties (['-interactive'])
```

- Using Jython list:

```
AdminTask.deleteSpnegoTAIProperties ['-interactive'])
```


modifySpnegoTAIProperties

The **modifySpnego TAIProperties** command modifies the properties in the configuration of the Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) trust association interceptor (TAI) for WebSphere Application Server.

Target object

None

Parameters and return values

-spnId

The SPN identifier for the group of custom properties that are to be defined with this command. (String, required)

-host

Specifies the host name portion in the SPN used by the SPNEGO TAI to establish a Kerberos secure context. (String, optional)

-filter

Defines the filtering criteria used by the class specified with the above attribute. (String, optional)

-filterClass

Specifies the name of the Java class used by the SPNEGO TAI to select which HTTP requests will be subject to SPNEGO authentication. If no class is specified, all HTTP requests will be subject to SPNEGO authentication. (String, optional)

-noSpnegoPage

Specifies the URL of a resource that contains the content the SPNEGO TAI will include in the HTTP response to be displayed by the (browser) client application if it does not support SPNEGO authentication. (String, optional)

-ntlmTokenPage

Specifies the URL of a resource that contains the content the SPNEGO TAI will include in the HTTP response to be displayed by the (browser) client application when the SPNEGO token received by the interceptor after the challenge-response handshake contains a NT LAN manager (NTLM) token instead of the expected SPNEGO token. (String, optional)

-trimUserName

Specifies whether (*true*) or not (*false*) the SPNEGO TAI is to remove the suffix of the principal user name, starting from the “@” that precedes the Kerberos realm name. If this attribute is set to *true*, the suffix of the principal user name is removed. If this attribute is set to *false*, the suffix of the principal name is retained. The default value used is *true*. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask modifySpnegoTAI PROPERTIES -spnId 1 -filter host==myhost.company.com
```

- Using Jython string:

```
AdminTask.modifySpnegoTAI PROPERTIES (['-spnId 1 -filter host==myhost.com pany.com'])
```

- Using Jython list:

```
AdminTask.modifySpnegoTAI PROPERTIES (['-spnId', '1', '-filter', 'host==my host.company.com'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask modifySpnegoTAI Properties -interactive
```

- Using Jython string:

```
AdminTask.modifySpnegoTAI Properties ('[-interactive]')
```

- Using Jython list:

```
AdminTask.modifySpnegoTAI Properties ['-interactive'])
```

showSpnegoTAIProperties

The **showSpnego TAI Properties** command displays the properties in the configuration of the Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) trust association interceptor (TAI) for WebSphere Application Server.

Target object

None

Parameters and return values

-spnId

The service principal name (SPN) identifier for the group of custom properties that are to be displayed with this command. If you do not specify this parameter, all SPNEGO TAI custom properties are displayed. (String, optional)

Examples

Batch mode example usage:

- Using Jacl:

```
$AdminTask showSpnegoTAI Properties -spnId 1
```

- Using Jython string:

```
AdminTask.showSpnegoTAI Properties ('[-spnId 1]')
```

- Using Jython list:

```
AdminTask.showSpnegoTAI Properties (['-spnId', '1'])
```

Interactive mode example usage:

- Using Jacl:

```
$AdminTask showSpnegoTAI Properties -interactive
```

- Using Jython string:

```
AdminTask.showSpnegoTAI Properties ('[-interact ive]')
```

- Using Jython list:

```
AdminTask.showSpnegoTAI Properties ['-interact ive'])
```

createKrbConfigFile

The **createKrb ConfigFile** command creates the Kerberos configuration file for use with the Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) trust association interceptor (TAI) for WebSphere Application Server.

Target object

None

Parameters and return values

-krbPath

Provides the fully qualified file system location of the Kerberos configuration (krb5.ini or krb5.conf) file. (String, required)

-realm

Provides the Kerberos realm name. The value of this attribute is used by the SPNEGO TAI to form the Kerberos service principal name for each of the hosts specified with the property `com.ibm.ws.security.spnego.SPN<id>.hostname` (String, required)

-kdcHost

Provides the host name of the Kerberos Key Distribution Center (KDC). (String, required)

-kdcPort

Provides the port number of the KDC. The default value, if not specified, is 88. (String, optional)

-dns

Provides the default domain name service (DNS) that is used to produce a fully qualified host name. (String, required)

-keytabPath

Provides the file system location of the Kerberos keytab file. (String, required)

-encryption

Identifies the list of supported encryption types, separated by a space. The specified value is used for the `default_tkt_encytypes` and `default_tgs_encytypes`. The default encryption types, if not specified, are `des-cbc-md5` and `rc4-hmac`. (String, optional)

Examples

Interactive mode example usage:

- Using Jacl:

```
$AdminTask createKrbCo nfigFile -interactive
```

- Using Jython string:

```
AdminTask.createKrbCon figFile ['-interactive']
```

- Using Jython list:

```
AdminTask.createKrbCon figFile ['-interactive']
```

The Kerberos configuration file

The Kerberos configuration properties, `krb5.ini` or `krb5.conf` files, must be configured on every WebSphere Application Server instance in a cell in order to use the Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) trust association interceptor (TAI) for WebSphere Application Server.

Note: In WebSphere Application Server Version 6.1, a trust association interceptor (TAI) that uses the Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) to securely negotiate and authenticate HTTP requests for secured resources was introduced. In WebSphere Application Server 7.0, this function is now deprecated. SPNEGO web authentication has taken its place to provide dynamic reload of the SPNEGO filters and to enable fallback to the application login method.

The default Kerberos configuration file name for Windows is `krb5.ini`. For other platforms is the default Kerberos configuration file name is `krb5.conf`. The default location for the Kerberos configuration file is shown later in this section:

Table 64. Default locations for Kerberos configuration file. This table describes default locations for the Kerberos configuration file.

Operating System	Default Location
Windows	<code>c:\winnt\krb5.ini</code> Note: If the <code>krb5.ini</code> file is not located in the <code>c:\winnt</code> directory it might be located in <code>c:\windows</code> directory.
Linux	<code>/etc/krb5.conf</code>
other UNIX-based	<code>/etc/krb5/krb5.conf</code>
z/OS	<code>/etc/krb5/krb5.conf</code>

Table 64. Default locations for Kerberos configuration file (continued). This table describes default locations for the Kerberos configuration file.

Operating System	Default Location
IBM i	/QIBM/UserData/OS400/NetworkAuthentication/krb5.conf

Note: If you do not use the default location and Kerberos configuration file name, then you have to update *.krb5ConfigFile properties in the soap.client.prop, ipc.client.props, and sas.client.props files. Also, if the client programmatic login uses the WSKRBLLogin module, you must also set the java.security.krb5.conf JVM property.

For SPNEGO TAI, if you do not use the default location and Kerberos configuration file name, then you must specify the java.security.krb5.conf JVM property.


The default Kerberos configuration file on Windows is /winnt/krb5.ini and on a distributed environment is /etc/krb5. If you specify another location path, then you must also specify the java.security.krb5.conf JVM property.

For example, if your krb5.conf file is specified at /opt/IBM/WebSphere/profiles/AppServer/etc/krb5.conf, then you need to specify -Djava.security.krb5.conf=/opt/IBM/WebSphere/profiles/AppServer/etc/krb5.conf.

The WebSphere runtime code searches for the Kerberos configuration file in the order as follows:

1. The file referenced by the Java property java.security.krb5.conf
2. <java.home>/lib/security/krb5.conf
3. c:\winnt\krb5.ini on Microsoft Windows platforms
4. /etc/krb5/krb5.conf on UNIX platforms
5. /etc/krb5.conf on Linux platforms.

Use the wsadmin utility to configure the SPNEGO TAI for WebSphere Application Server:

1. Start WebSphere Application Server.
2.  Start the command-line utility by running the wsadmin command from the app_server_root/bin directory from the Qshell command line.
3. At the wsadmin prompt, enter the following command:

```
$AdminTask createKrbConfigFile
```

You can use the following parameters with this command:

Table 65. Command parameters. This table describes parameters for the \$AdminTask createKrbConfigFile command.

Option	Description
<krbPath>	This parameter is required. It provides the fully qualified file system location of the Kerberos configuration (krb5.ini or krb5.conf) file.
<realm>	This parameter is required. It provides the Kerberos realm name. The value of this attribute is used by the SPNEGO TAI to form the Kerberos service principal name for each of the hosts specified with the property com.ibm.ws.security.spnego.SPNid.hostName.
<kdcHost>	This parameter is required. It provides the host name of the Kerberos Key Distribution Center (KDC).
<kdcPort>	This parameter is optional. It provides the port number of the KDC. The default value, if not specified, is 88.
<dns>	This parameter is required. It provides the default domain name service (DNS) that is used to produce a fully qualified host name.
<keytabPath>	This parameter is required. It provides the file system location of the Kerberos keytab file.
<encryption>	This parameter is optional. It identifies the list of supported encryption types, separated by a space. The specified value is used for the default_tkt_encetypes and default_tgs_encetypes. The default encryption types, if not specified, are des-cbc-md5 and rc4-hmac.

In the following example, the `wsadmin` command creates the `krb5.ini` file in the `c:\winnt` directory. The default Kerberos keytab file is also in `c:\winnt`. The actual Kerberos realm name is `WSSEC.AUSTIN.IBM.COM` and the KDC host name is `host1.austin.ibm.com`.

```
wsadmin>$AdminTask createKrbConfigFile {-krbPath
c:\winnt\krb5.ini -realm WSSEC.AUSTIN.IBM.COM -kdcHost host1.austin.ibm.com
-dns austin.ibm.com -keytabPath c:\winnt\krb5.keytab}
```

The previous `wsadmin` command creates a `krb5.ini` file as follows:

```
[libdefaults]
default_realm = WSSEC.AUSTIN.IBM.COM
    default_keytab_name = FILE:c:\winnt\krb5.keytab
    default_tkt_encypes = des-cbc-md5 rc4-hmac
    default_tgs_encypes = des-cbc-md5 rc4-hmac
[realms]
    WSSEC.AUSTIN.IBM.COM = {
        kdc = host1.austin.ibm.com:88
        default_domain = austin.ibm.com
    }
[domain_realm]
    .austin.ibm.com = WSSEC.AUSTIN.IBM.COM
```

Attention:

- **IBM i** A Kerberos keytab file contains a list of keys that are analogous to user passwords. It is important for hosts to protect their Kerberos keytab files by storing them on the local disk. The `krb5.conf` file permission must be 644, which means that you can read and write the file; however, members of the group that the file belongs to, and all others can only read the file.
- If the run time cannot read the `default_tkt_encypes` or `default_tgs_encypes` entries in the `krb5.ini` file, their values are missing, or their values are not supported, the DES-CBC-MD5 value is used by default.

IBM i The `krb5.conf` configuration file supports trigraphs to represent the `{`, `}`, `[`, and `]` characters. These characters depend on the language set. The natively generated keytabs cannot be read by the Kerberos client. If you have difficulty configuring SPNEGO TAI with the native `krb5.conf` or `krb5.keytab` files, complete one of the following scenarios to address the trigraphs issue:

- Replace the trigraphs in the `krb5.conf` file with the characters that they represent.
- Use the `krb5.conf` file that is generated by WebSphere Application Server.
- Use a Microsoft Windows or a key distribution center (KDC) generated keytab file.

Kerberos configuration settings, the Kerberos key distribution center (KDC) name, and realm settings for the Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) trust association interceptor (TAI) are provided in the Kerberos configuration file or through `java.security.krb5.kdc` and `java.security.krb5.realm` system property files.

SPNEGO web authentication configuration commands

Use `wsadmin` commands to configure, unconfigure, validate, or display Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) in the security configuration.

Configure SPNEGO web authentication

Note: You must first have a workable Kerberos configuration file and a Kerberos keytab file. For more information, read topics about creating a Kerberos configuration file and creating a Kerberos service principal name and keytab file.

Use the `configureSpnego` command to configure SPNEGO as a web authenticator in the security configuration.

At the `wsadmin` prompt, enter the following command for help:

```
Wsadmin>$AdminTask help configureSpnego
```

Table 66. Command parameters. You can use the following parameters with the **configureSpnego** command:

Option	Description
<enabled>	This parameter is optional. It enables SPNEGO web authentication.
<dynamicReload>	This parameter is optional. It enables dynamic reload of SPNEGO web authentication filters.
<allowAppAuthMethodFallback>	This parameter is optional. It allows fall back to the application authentication mechanism.
<krb5Config>	This parameter is required. It supplies the directory location and file name of the configuration (krb5.ini or krb5.conf) file.
<krb5Keytab>	This parameter is optional. It supplies the directory location and file name of the Kerberos keytab file. If you do not specify this parameter, the default keytab in the Kerberos configuration file is used.

Note: WebSphere variables can be used to specify the **krb5Config** and **krb5Keytab** file paths. If you have a mixed platform environment, you can use a variable `${CONF_OR_INI}` for the Kerberos configuration file. Security configuration will expand it to “ini” for Windows or “conf” for non-Windows platforms For example:

```
${WAS_INSTALL_ROOT}\etc\krb5\krb5.${CFG_OR_INI}
```

Note: The **configureSpnego** and **validateSpnegoConfig** commands verify the **krb5Config** and **krb5Keytab** files only when SPNEGO is enabled. If SPNEGO is not enabled, these commands only verify that the **krb5Config** and **krb5Keytab** files exist. This allows you to configure SPNEGO without enabling.

Unconfigure SPNEGO web authentication

Use the **unconfigureSpnego** command to unconfigure SPNEGO web authentication in the security configuration.

At the **wsadmin** prompt, enter the following command for help:

```
wsadmin>$AdminTask help unconfigureSpnego
```

Show SPNEGO web authentication

Use the **showSPNEGO** command to display the SPNEGO web authentication in the security configuration.

At the **wsadmin** prompt, enter the following command for help:

```
wsadmin>$AdminTask help showSpnego
```

Validate Kerberos configuration

Use the **validateKrbConfig** command to validate the Kerberos configuration data either in the global security file `security.xml` or specified as an input parameter.

At the **wsadmin** prompt, enter the following command for help:

```
wsadmin>$AdminTask help validateKrbConfig
```

You can use the following parameters with the **validateKrbConfig** command:

Table 67. Command parameters.

This table describes parameters for the **validateKrbConfig** command.

Option	Description
<checkConfigOnly>	Checks the Kerberos configuration without validating. You must use global security for this check.
<useGlobalSecurityConfig>	Uses the Global Security configuration data, <code>security.xml</code> , instead of input parameters.

Table 67. Command parameters (continued).

This table describes parameters for the `validateKrbConfig` command.

Option	Description
<validateKrbRealm>	Validates the Kerberos realm against the default Kerberos realm in the Kerberos configuration file (krb5.ini or krb5.conf).
<serverId>	Specifies the server identity that is used for internal process communications.
<serverIdPassword>	Specifies the password that is used for the server identity.
<krb5Spn>	Specifies the Kerberos service principal name in the Kerberos keytab file.
<krb5Config >	This parameter is required. It supplies the directory location and file name of the configuration (krb5.ini or krb5.conf) file.
<krb5Keytab>	This parameter is optional. It supplies the directory location and file name of the Kerberos keytab file. If you do not specify this parameter, the default keytab in the Kerberos configuration file is used.
<krb5Realm >	This parameter is required. It specifies the value for the Kerberos realm name.

Note: WebSphere variables can be used to specify the `krb5Config` and `krb5Keytab` file paths. If you have a mixed platform environment, you can use a variable `${CONF_OR_INI}` for the Kerberos configuration file. Security configuration will expand it to `ini` for Windows or `conf` for non-Windows platforms. For example:

```
${WAS_INSTALL_ROOT}\etc\krb5\krb5.${CFG_OR_INI}
```

Note: To validate the Kerberos configuration in the global security configuration file `security.xml`, run `validateKrbConfig` with no parameters or with `useGlobalSecurityConfig` set to `true`. To validate the Kerberos configuration with input parameters, set `useGlobalSecurityConfig` and `checkConfigOnly` to `false` and specify values for `krb5Spn`, `krb5Config`, `krb5Keytab`, and `krb5Realm`.

SPNEGO web authentication filter commands

Use `wsadmin` commands to add, modify, delete, or show Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) Web authentication filters in the security configuration.

Add SPNEGO web authentication filter

Use the `addSpnegoFilter` command to add a new SPNEGO web authentication filter in the security configuration.

At the `wsadmin` prompt, enter the following command for help:

```
wsadmin>$AdminTask help addSpnegoFilter
```

:

Table 68. Command parameters. You can use the following parameters with the `addSpnegoFilter` command

Option	Description
<hostName>	This parameter is required. Use to supply a fully-qualified host name.
<krb5Realm>	This parameter is not required. Use to supply a Kerberos realm name. If the <code>krb5Realm</code> parameter is not specified, the default Kerberos realm name in the Kerberos configuration file is used.
<filterCriteria>	This parameter is not required. Use to supply the HTTP request filter rules. If the <code>filterCriteria</code> parameter is not specified, all of the HTTP requests are authenticated by SPNEGO.
<filterClass>	This parameter is not required. Use to supply the HTTP request filter rules. If the <code>filterClass</code> parameter is not specified, the default filter class, <code>com.ibm.ws.security.spnego.HTTPHeaderFilter</code> , is used.
<trimUserName>	This parameter is not required. Use to indicate whether the Kerberos realm name is to be removed from the Kerberos principal name.
<enabledGssCredDelegate>	This parameter is not required. Use to indicate whether to extract and place the client GSS delegation credential in the subject. The default value is <code>true</code> .

Table 68. Command parameters (continued). You can use the following parameters with the **addSpnegoFilter** command

Option	Description
<spnegoNotSupportedPage>	This parameter is not required. Use to supply the uniform resource identifier (URI) of the resource with a response to be used when SPNEGO is not supported. If this parameter is not specified, the default SPNEGO not supported error page is used.
<ntlmTokenReceivedPage>	This parameter is not required. Use to supply the URI of the resource with a response to be used when an NT LAN manager (NTLM) token is received. If this parameter is not specified, the default NTLM token received error page is used.

The following is an example of the **addSpnegoFilter** command:

```
wsadmin>$AdminTask addSpnegoFilter {
  -hostName ks.austin.ibm.com
  -krb5Realm WSSEC.AUSTIN.IBM.COM}
```

Modify SPNEGO web authentication filter

Use the **modifySpnegoFilter** command to modify SPNEGO filter attributes in the security configuration.

At the **wsadmin** prompt, enter the following command for help:

```
wsadmin>$AdminTask help modifySpnegoFilter
```

Table 69. Command parameters. You can use the following parameters with the **modifySpnegoFilter** command:

Option	Description
<hostName>	This parameter is required. Use to supply a long host name. The hostname is an identifier, so you can not modify the hostname.
<krb5Realm>	This parameter is not required. Use to supply a Kerberos realm name. If the krb5Realm parameter is not specified, the default Kerberos realm name in the Kerberos configuration file is used.
<filterCriteria>	This parameter is not required. Use to supply the HTTP request filter rules. If the filterCriteria parameter is not specified, all of the HTTP requests are authenticated by SPNEGO. Note: For more information about filter criteria, read the topic Enabling and configuring SPNEGO web authentication using the administrative console.
<filterClass>	This parameter is not required. Use to supply the HTTP request filter rules. If the filterClass is not specified, the default filter class, com.ibm.ws.security.spnego.HTTPHeaderFilter, is used.
<trimUserName>	This parameter is not required. Use to indicate whether the Kerberos realm name is to be removed from the Kerberos principal name.
<enabledGssCredDelegate>	This parameter is not required. Use to indicate whether to extract and place the client GSS delegation credential in the subject. The default value is true.
<spnegoNotSupportedPage>	This parameter is not required. Use to supply the URI of the resource with a response to be used when SPNEGO is not supported. If this parameter is not specified, the default SPNEGO not supported error page is used.
<ntlmTokenReceivedPage>	This parameter is not required. Use to supply the URI of the resource with a response to be used when an NTLM token is received. If this parameter is not specified, the default NTLM token received error page is used.

The following is an example of the **modifySpnegoFilter** command:

```
wsadmin>$AdminTask modifySpnegoFilter {
  -hostName ks.austin.ibm.com
  -krb5Realm WSSEC.AUSTIN.IBM.COM}
```

Delete SPNEGO web authentication filter

Use the **deleteSpnegoFilter** command to remove SPNEGO a web authentication filter from the security configuration. If a host name is not specified, all of the SPNEGO web authentication filters are removed.

At the **wsadmin** prompt, enter the following command for help:

```
wsadmin>$AdminTask help deleteSpnegoFilter
```


Table 70. Command parameters. You can use the following parameter with the **deleteSpnegoFilter** command:

Option	Description
<hostname>	This parameter is required. If the hostname is not specified, all of the SPNEGO web authentication filters are deleted.

The following is an example of the **deleteSpnegoFilter** command:

```
wsadmin> $AdminTask deleteSpnegoFilter {-hostname ks.austin.ibm.com}
```

Show SPNEGO web authentication filter

Use the **showSpnegoFilter** command to display a SPNEGO web authentication filter in the security configuration. If a host name is not specified, all of the SPNEGO filters are displayed.

At the **wsadmin** prompt, enter the following command for help:

```
wsadmin>$AdminTask help showSpnegoFilter
```

Table 71. Command parameters. You can use the following parameter with the **showSpnegoFilter** command:

Option	Description
<hostname>	This parameter is optional. If a long host name is not specified, all of the SPNEGO web authentication filters are displayed.

The following is an example of the **showSpnegoFilter** command:

```
wsadmin> $AdminTask showSpnegoFilter {-hostname ks.austin.ibm.com}
```

Kerberos authentication commands

Use **wsadmin** commands to create, modify or delete Kerberos as the authentication mechanism for WebSphere Application Server.

Create Kerberos authentication mechanism

Note:

The following items are required before you attempt to use the **createKrbAuthMechanism** command to create the KRB5 authentication mechanism security object field in the security configuration file:

- If you do not already have a Kerberos configuration file (`krb5.ini` or `krb5.conf`), use the **createKrbConfigFile** command task to create the Kerberos configuration file. Read about creating a Kerberos configuration file for more information.
- You must have a Kerberos keytab file (`krb5.keytab`) that contains a Kerberos service principal name (SPN), `<service name>/<fully qualified hostname>@KerberosRealm`, for each machine that run WebSphere application servers. The service name can be anything; the default value is WAS.

For example, if you have two application server machines, `host1.austin.ibm.com` and `host2.austin.ibm.com`, the Kerberos keytab file must contain the `<service name>/host1.austin.ibm.com` and `<service name>/host2.austin.ibm.com` SPNs and their Kerberos keys.

Use the **createKrbAuthMechanism** command to create the KRB5 authentication mechanism security object field in the security configuration file.

At the **wsadmin** prompt, enter the following command:

```
$AdminTask help createKrbAuthMechanism
```

Table 72. Command parameters. You can use the following parameters with the `createKrbAuthMechanism` command.

Option	Description
<krb5Realm>	This parameter is optional. It indicates the Kerberos realm name. If you do not specify this parameter, the default Kerberos realm in the Kerberos configuration file is used.
<krb5Config>	This parameter is required. It indicates the directory location and file name of the configuration (krb5.ini or krb5.conf) file.
<krb5Keytab>	This parameter is optional. It indicates the directory location and file name of the Kerberos keytab file. If you do not specify this parameter, the default keytab in the Kerberos configuration file is used.
<serviceName>	This parameter is required. It indicates the Kerberos service name. The default Kerberos service name is WAS.
<trimUserName>	This parameter is optional. It removes the suffix of the principal user name, starting from the "@" that precedes the Kerberos realm name. This parameter is optional. The default value is true.
<enabledGssCredDelegate>	This parameter is not required. Use to indicate whether to extract and place the client GSS delegation credential in the subject. The default value is true.
<allowKrbAuthForCsiInbound>	This parameter is optional. It enables Kerberos authentication mechanism for Common Secure Interoperability (CSI) inbound. The default value is true.
<allowKrbAuthForCsiOutbound>	This parameter is required. It enables Kerberos authentication mechanism for CSI outbound. The default value is true.

Note: The Kerberos configuration file name and Kerberos keytab filename path do not have to be absolute paths. You can use WebSphere variables for the paths instead. If you have a mixed platform environment, you can use a variable `${CONF_OR_INI}` for the Kerberos configuration file. Security configuration will expand it to "ini" for Windows or "conf" for non-Windows platforms. For example:

```
${WAS_INSTALL_ROOT}\etc\krb5\krb5.${CFG_OR_INI}
```

The following is an example of the `createKrbAuthMechanism` command:

```
wsadmin>$AdminTask createKrbAuthMechanism {
  -krb5Realm WSSEC.AUSTIN.IBM.COM
  -krb5Config C:\\WINNT\\krb5.ini
  -krb5Keytab C:\\WINNT\\krb5.keytab
  -serviceName WAS }

```

Modify Kerberos authentication mechanism

Use the `modifyKrbAuthMechanism` command to make changes to the KRB5 authentication mechanism security object field in the security configuration file.

At the `wsadmin` prompt, enter the following command:

```
$AdminTask help modifyKrbAuthMechanism
```

Table 73. Command parameters. You can use the following parameters with the `modifyKrbAuthMechanism` command.

Option	Description
<krb5Realm>	This parameter is optional. It indicates the Kerberos realm name. If you do not specify this parameter, the default Kerberos realm in the Kerberos configuration file is used.
<krb5Config>	This parameter is required. It indicates the directory location and file name of the configuration (krb5.ini or krb5.conf) file.
<krb5Keytab>	This parameter is optional. It indicates the directory location and file name of the Kerberos keytab file. If you do not specify this parameter, the default keytab in the Kerberos configuration file is used.
<serviceName>	This parameter is required. It indicates the Kerberos service name. The default Kerberos service name is WAS.
<trimUserName>	This parameter is optional. It removes the suffix of the principal user name, starting from the "@" that precedes the Kerberos realm name. This parameter is optional. The default value is true.
<enabledGssCredDelegate>	This parameter is not required. Use to indicate whether to extract and place the client Kerberos and GSS delegation credential in the Kerberos authentication token (KRBAuthnToken). The default value is true. Note: If this parameter is true, and the runtime cannot extract the Kerberos GSS delegation credential, the runtime logs a warning message.
<allowKrbAuthForCsiInbound>	This parameter is optional. It enables Kerberos authentication mechanism for Common Secure Interoperability (CSI) inbound. The default value is true.
<allowKrbAuthForCsiOutbound>	This parameter is optional. It enables Kerberos authentication mechanism for CSI outbound. The default value is true.

Note: The Kerberos configuration file name and Kerberos keytab filename path do not have to be absolute paths. You can use WebSphere variables for the paths instead. If you have a mixed platform environment, you can use a variable `{CONF_OR_INI}` for the Kerberos configuration file. Security configuration will expand it to “ini” for Windows or “conf” for non-Windows platforms. For example:

```
{WAS_INSTALL_ROOT}\etc\krb5\krb5.{CFG_OR_INI}
```

The following is an example of the `modifyKrbAuthMechanism` command:

```
wsadmin>$AdminTask modifyKrbAuthMechanism {  
-krb5Realm WSSEC.AUSTIN.IBM.COM  
-krb5Config C:\\WINNT\\krb5.ini  
-krb5Keytab C:\\WINNT\\krb5.keytab  
-serviceName WAS }
```

Delete Kerberos authentication mechanism

Use the `deleteKrbAuthMechanism` command to remove the KRB5 authentication mechanism security object field in the security configuration file.

At the `wsadmin` prompt, enter the following command:

```
$AdminTask help deleteKrbAuthMechanism
```

The following is an example of the `deleteKrbAuthMechanism` command:

```
wsadmin>$AdminTask deleteKrbAuthMechanism
```

Set active authentication mechanism

Use the `setActiveAuthMechanism` command to set the active authentication mechanism attribute in the security configuration.

At the `wsadmin` prompt, enter the following command:

```
$AdminTask help setActiveAuthMechanism
```

Table 74. Command parameters. You can use the following parameter with the `setActiveAuthMechanism` command.

Option	Description
<authMechanismType>	This parameter is not required. It indicates the authentication mechanism type. The default is KRB5.

The following is an example of the `setActiveAuthMechanism` command:

```
wsadmin> $AdminTask setActiveAuthMechanism {-authMechanismType KRB5 }
```

Chapter 6. Scripting for Service integration

This page provides a starting point for finding information about service integration.

Service integration provides asynchronous messaging services. In asynchronous messaging, producing applications do not send messages directly to consuming applications. Instead, they send messages to destinations. Consuming applications receive messages from these destinations. A producing application can send a message and then continue processing without waiting until a consuming application receives the message. If necessary, the destination stores the message until the consuming application is ready to receive it.

Printing a summary of the runtime state of all messaging engines running in a cell

You can use scripting to list the details of all messaging engines in all buses.

About this task

The following script can be used to print a summary in XML form of the runtime state of all messaging engines running in a cell. It goes down as far as the depths of individual items, such as queue points, remote queue points, publication points, subscriptions, mediation points, and link transmitters. However, this script does not print out details of individual messages. It should be run against the deployment manager to list out all messaging engines in all buses.

Procedure

1. Create your script using a text editor.
2. Run the script against the deployment manager of the cell:

```
DMGR_PROFILE/bin/wsadmin.sh -lang jython -f printSIBusSummary.py output.xml
```

Example

This example provides a sample script, with sample output.

```
# Sample program
# * (C) COPYRIGHT International Business Machines Corp., 2008, 2011
# * All Rights Reserved * Licensed Materials - Property of IBM
# *
# * This sample program is provided AS IS and may be used, executed,
# * copied and modified without royalty payment by customer
# *
# * (a) for its own instruction and study,
# * (b) in order to develop applications designed to run with an IBM
# *   WebSphere product for the customer's own internal use.
#
# Version: 1.01
#
# Information:
# This script prints an XML summary of the runtime information available
# for all queue points, publication points, mediation points, SIBus
# links and WMQ links.
# The script should be run against the deployment manager of the cell,
# so that output is available from all running messaging engines in all buses.
# The script collects the same information that can be displayed in via the
# administrative console.
# The following output is only available when the script is executed against
# a WebSphere Application Server
# Version 7.0 or later environment:
# - Service integration bus link information
# - WebSphere MQ link information
#
# Usage:
# UNIX, Linux, z/OS:
# <DMGR_PROFILE>/bin/wsadmin.sh -lang jython -f printSIBusSummary.py <OUTFILE.XML>
# Windows:
# <DMGR_PROFILE>\bin\wsadmin.bat -lang jython -f printSIBusSummary.py <OUTFILE.XML>
#
# Class to print an error out in full (with stack) to STDERR, as well as a short summary
# within the XML output. An integer is assigned to each error, to help match up the two.
```

```

class ErrorTracker:
    errorCount = 0
    # Helper method to print exception details as an error attribute in a tag
    def printErrorAndCloseTag(self, exception_tuple, oneLine):
        self.errorCount += 1
        # Print the error to STDERR
        sys.stderr.write("ERROR [" + str(self.errorCount) + "]:\n")
        sys.excepthook(exception_tuple[0],exception_tuple[1],exception_tuple[2])
        # Print a summary of the error to the output file
        out.write(' error="' + str(self.errorCount) + ']: ')
        out.write(str(exception_tuple[0]).strip())
        if exception_tuple[1] != None: out.write(': ' + str(exception_tuple[1]).strip())
        if oneLine == 1: out.write('"/>\n')
        else: out.write('"/>\n')
# Single global instance of error tracker
et = ErrorTracker()

# Helper method to get a JMX attribute in string form
def getStrAttr(mBean, attr):
    val = AdminControl.getAttribute_jmx(mBean, attr)
    if val == None: val = ''
    else: val = str(val)
    return val

# Helper method to get the return value of JMX method in string form
def getStrRetVal(mBean, method):
    val = AdminControl.invoke_jmx(mBean, method, [], [])
    if val == None: val = ''
    else: val = str(val)
    return val

# Helper toString method to handle None values as empty strings
def toString(val):
    if val == None: val = ''
    else: val = str(val)
    return val

# Messaging engine class wraps an ME, maps its name to/from a UUID,
# and contains all the methods we used to print out the runtime state
# of that messaging engines
class MessagingEngine:
    "A class for printing a runtime summary of a messaging engine"
    # Constructor
    def __init__(self, bus, name, uuid):
        self.bus = bus
        self.name = name
        self.uuid = uuid

    # Method to print a summary of the runtime state of this messaging engine
    # - this is the entry point into the class (other methods are logically private)
    def printRuntimeStateXML(self, indent):
        # Print the start of the tag (leaving room for additional properties)
        out.write(indent + '<MessagingEngine name="' + self.name + '" uuid="' + self.uuid + '"')
        mBean = None
        try:
            # First lookup our MBean
            meLookupName = AdminControl.makeObjectName('WebSphere:type=SIBMessagingEngine,name=' + self.name + ',*')
            meMBeans = AdminControl.queryNames_jmx(meLookupName, None)
            if (meMBeans == None) or (meMBeans.size() == 0):
                # Just an empty messaging engine
                out.write(' state="Unknown (no MBean found)">\n')
            elif meMBeans.size() == 1:
                # Save a ref to the MBean
                mBean = meMBeans[0]
                # Complete the entry tag
                out.write(' state="' + AdminControl.invoke_jmx(mBean, "state", [], []) + '"')
                out.write(' activeServer="' + mBean.getKeyProperty("process") + '"')
                out.write('>\n')
            else:
                # We only expect to zero/one MBean
                raise Exception, "Found " + str(len(meMBeans)) + " MBeans for messaging engine. Expected 1"
        except:
            et.printErrorAndCloseTag(sys.exc_info(), 0)
        # Iterate through the contents
        if (mBean != None):
            self.printQueuePointsXML(mBean, indent + " ")
            self.printRemoteQueuePointsXML(mBean, indent + " ")
            self.printMediationPointsXML(mBean, indent + " ")
            self.printRemoteMediationPointsXML(mBean, indent + " ")
            self.printPublicationPointsXML(mBean, indent + " ")
            self.printBusLinks(mBean, indent + " ")
            self.printWMLinks(mBean, indent + " ")
        # Complete our tag
        out.write(indent + "</MessagingEngine>\n")

    # Print a summary of all the queue points for the messaging engine,
    # using the supplied ME MBean looked up by the caller
    def printQueuePointsXML(self, mBean, indent):
        qpMBeans = None
        out.write(indent + "<QueuePoints")

```

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try:
    # Get a list of queue point MBeans
    qpLookupName = AdminControl.makeObjectName('WebSphere:type=SIBQueuePoint,SIBMessagingEngine='
+ self.name + ',*')
    qpMBeans = AdminControl.queryNames_jmx(qpLookupName, None)
    out.write('>\n') # Complete the tag as lookup was successful
except:
    et.printStackTraceAndCloseTag(sys.exc_info(), 0)
# Run through each one
for qpMBean in qpMBeans:
    rqps = {} # Directory of all RQPs for this queue point
    oneLineTag = 0
    out.write(indent + " <QueuePoint")
    try:
        out.write(' name="' + qpMBean.getKeyProperty("name") + '@' + self.name + '"')
        qpState = getStrAttr(qpMBean, "state")
        out.write(' state="' + qpState + '"')
        out.write(' depth="' + getStrAttr(qpMBean, "depth") + '"')
        hmt = AdminControl.getAttribute_jmx(qpMBean, "highMessageThreshold")
        if (hmt != None) and (hmt == java.lang.Long.MAX_VALUE): hmt = "MAX_VALUE"
        out.write(' highMessageThreshold="' + str(hmt) + '"')
        out.write(' sendAllowed="' + getStrAttr(qpMBean, "sendAllowed") + '"')
        # Only attempt to get additional details for active queue points
        if qpState == 'ACTIVE':
            # Get a list of inbound receivers, for remote queue points
            inboundReceivers = AdminControl.invoke_jmx(qpMBean, "listInboundReceivers", [], [])
            # Get a list of remote consumer transmitters, for remote queue points
            consumerTransmitters = AdminControl.invoke_jmx(qpMBean, "listRemoteConsumerTransmitters", [], [])
            # Add RQPs for all inbound receivers
            for ir in inboundReceivers:
                uuid = ir.getRemoteEngineUuid()
                if rqps.has_key(uuid): rqp = rqps[uuid]
                else: rqp = KnownRemoteQueuePoint(qpMBean, uuid)
                rqps[uuid] = rqp
                rqp.inboundReceiver = ir
            # Add RQPs for all consumer transmitters
            for ct in consumerTransmitters:
                uuid = ct.getRemoteEngineUuid()
                if rqps.has_key(uuid): rqp = rqps[uuid]
                else: rqp = KnownRemoteQueuePoint(qpMBean, uuid)
                rqps[uuid] = rqp
                rqp.consumerTransmitter = ct
            # If we do not have any RQPs then we can terminate the tag on this line
            if len(rqps.keys()) == 0:
                out.write('</>\n')
                oneLineTag = 1
            else:
                out.write('>\n') # We need a full tag
        except:
            et.printStackTraceAndCloseTag(sys.exc_info(), 0)
        # Process each RQP we found
        for rqpUuid in rqps.keys():
            rqp = rqps[rqpUuid]
            rqp.printSummaryXML(indent + " ")
        # Complete our QueuePoint tag
        if oneLineTag == 0: out.write(indent + " </QueuePoint>\n")
    # Complete our QueuePoints tag
    out.write(indent + "</QueuePoints>\n")

# Print a summary of all the remote queue points for the messaging engine,
# using the supplied ME MBean looked up by the caller
def printRemoteQueuePointsXML(self, meMBean, indent):
    rqpMBeans = None
    out.write(indent + "<RemoteQueuePoints")
    try:
        # Get a list of remote queue point MBeans
        rqpLookupName = AdminControl.makeObjectName('WebSphere:type=SIBRemoteQueuePoint,
SIBMessagingEngine=' + self.name + ',*')
        rqpMBeans = AdminControl.queryNames_jmx(rqpLookupName, None)
        out.write('>\n') # Complete the tag as lookup was successful
    except:
        et.printStackTraceAndCloseTag(sys.exc_info(), 0)
    # Run through each one
    for rqpMBean in rqpMBeans:
        oneLineTag = 0
        out.write(indent + " <RemoteQueuePoint")
        try:
            out.write(' name="' + rqpMBean.getKeyProperty("name") + '@' + self.name + '"')
            remoteMEUuid = getStrAttr(rqpMBean, "remoteMessagingEngineUuid")
            if (mesByUUID.has_key(remoteMEUuid)): remoteMEName = mesByUUID[remoteMEUuid].name
            else: remoteMEName = "Unknown"
            out.write(' remoteME="' + remoteMEName + '"')
            out.write(' remoteMEUUID="' + remoteMEUuid + '"')

            # Get outbound transmitter details, if one exists
            currentOutboundMessages = 0
            outboundMessagesSent = 0
            outboundTransmitter = AdminControl.invoke_jmx(rqpMBean, "getOutboundTransmitter", [], [])
            if (outboundTransmitter != None):
                currentOutboundMessages = outboundTransmitter.getDepth()
                outboundMessagesSent = outboundTransmitter.getNumberOfMessagesSent()
            out.write(' currentOutboundMessages="' + str(currentOutboundMessages) + '"')

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out.write(' outboundMessageSent="' + str(outboundMessagesSent) + '"')

# Get remote consumer receiver, if one exists
remoteConsumerReceiver = AdminControl.invoke_jmx(rqpMBean, "getRemoteConsumerReceiver", [], [])
currentMessageRequests = 0
completedMessageRequests = 0
messageRequestsIssued = 0
if (remoteConsumerReceiver != None):
    currentMessageRequests = remoteConsumerReceiver.getNumberOfActiveRequests()
    completedMessageRequests = remoteConsumerReceiver.getNumberOfCompletedRequests()
    messageRequestsIssued = remoteConsumerReceiver.getNumberOfRequestsIssued()
out.write(' currentMessageRequests="' + str(currentMessageRequests) + '"')
out.write(' completedMessageRequests="' + str(completedMessageRequests) + '"')
out.write(' messageRequestsIssued="' + str(messageRequestsIssued) + '"')

# Always one line for remote queue points
out.write('/>\n')
except:
    et.printStackTraceAndCloseTag(sys.exc_info(), 1)
# Complete our QueuePoints tag
out.write(indent + "</RemoteQueuePoints>\n")

# Print a summary of all the mediation points for the messaging engine,
# using the supplied ME MBean looked up by the caller
def printMediationPointsXML(self, meMBean, indent):
    mpMBeans = None
    out.write(indent + "<MediationPoints>")
    try:
        # Get a list of mediation point MBeans
        mpLookupName = AdminControl.makeObjectName('WebSphere:type=SIBMediationPoint,SIBMessagingEngine='
+ self.name + ',*')
        mpMBeans = AdminControl.queryNames_jmx(mpLookupName, None)
        out.write('>\n') # Complete the tag as lookup was successful
    except:
        et.printStackTraceAndCloseTag(sys.exc_info(), 0)
    # Run through each one
    for mpMBean in mpMBeans:
        out.write(indent + "<MediationPoint>")
        try:
            out.write(' name="' + mpMBean.getKeyProperty("name") + '@' + self.name + '"')
            mpState = getStrAttr(mpMBean, "currentState")
            out.write(' status="' + mpState + '"')
            out.write(' depth="' + getStrAttr(mpMBean, "depth") + '"')
            hmt = AdminControl.getAttribute_jmx(mpMBean, "highMessageThreshold")
            if (hmt != None) and (hmt == java.lang.Long.MAX_VALUE): hmt = "MAX_VALUE"
            out.write(' highMessageThreshold="' + str(hmt) + '"')
            out.write(' sendAllowed="' + getStrAttr(mpMBean, "sendAllowed") + '"')
            out.write('/>\n')
        except:
            et.printStackTraceAndCloseTag(sys.exc_info(), 1)
    # Complete our QueuePoints tag
    out.write(indent + "</MediationPoints>\n")

# Print a summary of all the remote mediation points for the messaging engine,
# using the supplied ME MBean looked up by the caller
def printRemoteMediationPointsXML(self, meMBean, indent):
    rmpMBeans = None
    out.write(indent + "<RemoteMediationPoints>")
    try:
        # Get a list of remote mediation point MBeans
        rmpLookupName = AdminControl.makeObjectName('WebSphere:type=SIBRemoteMediationPoint,SIBMessagingEngine='
+ self.name + ',*')
        rmpMBeans = AdminControl.queryNames_jmx(rmpLookupName, None)
        out.write('>\n') # Complete the tag as lookup was successful
    except:
        et.printStackTraceAndCloseTag(sys.exc_info(), 0)
    # Run through each one
    for rmpMBean in rmpMBeans:
        oneLineTag = 0
        out.write(indent + "<RemoteMediationPoint>")
        try:
            out.write(' name="' + rmpMBean.getKeyProperty("name") + '@' + self.name + '"')
            remoteMEuid = getStrAttr(rmpMBean, "remoteMessagingEngineUuid")
            if (mesByUUID.has_key(remoteMEuid)): remoteMEName = mesByUUID[remoteMEuid].name
            else: remoteMEName = "Unknown"
            out.write(' remoteME="' + remoteMEName + '"')
            out.write(' remoteMEUID="' + remoteMEuid + '"')

            # Get outbound transmitter details, if one exists
            currentOutboundMessages = 0
            outboundMessagesSent = 0
            outboundTransmitter = AdminControl.invoke_jmx(rmpMBean, "getOutboundTransmitter", [], [])
            if (outboundTransmitter != None):
                currentOutboundMessages = outboundTransmitter.getDepth()
                outboundMessagesSent = outboundTransmitter.getNumberOfMessagesSent()
            out.write(' currentOutboundMessages="' + str(currentOutboundMessages) + '"')
            out.write(' outboundMessageSent="' + str(outboundMessagesSent) + '"')

            # Always one line for remote mediation points
            out.write('/>\n')
        except:
            et.printStackTraceAndCloseTag(sys.exc_info(), 1)

```



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# Complete our MediationPoints tag
out.write(indent + "</RemoteMediationPoints>\n")

# Print a summary of all the publication points for the messaging engine,
# using the supplied ME MBean looked up by the caller
def printPublicationPointsXML(self, meMBean, indent):
    ppMBeans = None
    out.write(indent + "<PublicationPoints")
    try:
        # Get a list of publication point MBeans
        ppLookupName = AdminControl.makeObjectName('WebSphere:type=SIBPublicationPoint,SIBMessagingEngine='
+ self.name + ',*')
        ppMBeans = AdminControl.queryNames_jmx(ppLookupName, None)
        out.write('>\n') # Complete the tag as lookup was successful
    except:
        et.printStackTrace(sys.exc_info(), 0)
    # Run through each one
    for ppMBean in ppMBeans:
        inboundReceivers = []
        subscriptions = []
        out.write(indent + " <PublicationPoint")
        depth = None
        try:
            depth = getStrAttr(ppMBean, "depth")
        except:
            # Attribute does not exist
            pass
        try:
            out.write(' name="' + ppMBean.getKeyProperty("name") + '@' + self.name + '"')
            if depth != None: out.write(' depth="' + depth + '"')
            hmt = AdminControl.getAttribute_jmx(ppMBean, "highMessageThreshold")
            if (hmt != None) and (hmt == java.lang.Long.MAX_VALUE): hmt = "MAX_VALUE"
            out.write(' highMessageThreshold="' + str(hmt) + '"')
            out.write(' sendAllowed="' + getStrAttr(ppMBean, "sendAllowed") + '"')
            # Get a list of inbound receivers (remote publication points)
            inboundReceivers = AdminControl.invoke_jmx(ppMBean, "listInboundReceivers", [], [])
            # Get a list of subscriptions
            subscriptions = AdminControl.invoke_jmx(ppMBean, "getSubscriptions", [], [])
            # Complete the tag
            out.write('>\n')
        except:
            et.printStackTrace(sys.exc_info(), 0)
    # Run through each remote publication point (inbound receiver)
    for ir in inboundReceivers:
        out.write(indent + ' <RemotePublicationPoint')
        try:
            remoteMEuid = ir.getRemoteEngineUuid()
            if mesByUUID.has_key(remoteMEuid): remoteMENAME = mesByUUID[remoteMEuid].name
            else: remoteMENAME = "Unknown"
            out.write(' me="' + remoteMENAME + '"')
            out.write(' meUUID="' + remoteMEuid + '"')
            out.write(' currentInboundMessages="' + str(ir.getDepth()) + '"')
            out.write(' inboundMessagesReceived="' + str(ir.getNumberofMessagesReceived()) + '"')
            out.write('/>\n')
        except:
            et.printStackTrace(sys.exc_info(), 1)
    # Run through each subscription
    for sub in subscriptions:
        oneLineTag = 0
        rsps = [] # remote subscription points
        out.write(indent + ' <Subscription')
        try:
            out.write(' subscriberId="' + toString(sub.getSubscriberId()) + '"')
            out.write(' depth="' + str(sub.getDepth()) + '"')
            # Write any selector
            selector = sub.getSelector()
            if selector != None: out.write(' selector="' + sub.getSelector() + '"')
            # Write topics
            topics = sub.getTopics()
            if (topics != None):
                out.write(' topics="')
                sep = ''
                for topic in topics:
                    if (topic == None): topic = ''
                    out.write(topic + sep)
                    sep = ', '
                out.write('")')
            # Get a list of remote subscription points
            rsps = AdminControl.invoke_jmx(ppMBean, "listRemoteConsumerTransmitters", [sub,
['com.ibm.websphere.sib.admin.SIBSubscription']])
            # Check if we have children, or can just close the tag here
            if len(rsps) == 0:
                out.write('/>\n')
                oneLineTag = 1
            else: out.write('>\n')
        except:
            et.printStackTrace(sys.exc_info(), 0)
    # Do we have remote sub points?
    for rsp in rsps:
        out.write(indent + ' <KnownRemoteSubscriptionPoint')
        try:

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        remoteMEuid = rsp.getRemoteEngineUuid()
        if mesByUUID.has_key(remoteMEuid): remoteMENAME = mesByUUID[remoteMEuid].name
        else: remoteMENAME = "Unknown"
        out.write(' me="' + remoteMENAME + '"')
        out.write(' meUUID="' + remoteMEuid + '"')
        out.write(' currentMessageRequests="' + str(rsp.getDepth()) + '"')
        out.write(' completedMessageRequests="' + str(rsp.getNumberOfCompletedRequests()) + '"')
        out.write(' messageRequestsReceived="' + str(rsp.getNumberOfRequestsReceived()) + '"')
        out.write('/>\n')
    except:
        et.printStackTraceAndCloseTag(sys.exc_info(), 1)
    # Close the subscription tag if required
    if oneLineTag == 0: out.write(indent + ' </Subscription>\n')
    # Complete our PublicationPoint tag
    out.write(indent + " </PublicationPoint>\n")
    # Complete our PublicationPoints tag
    out.write(indent + "</PublicationPoints>\n")

# Print a summary of all the SIBus links hosted on this messaging engine.
# using the supplied ME MBean looked up by the caller
def printBusLinks(self, mBean, indent):
    glMBeans = None
    out.write(indent + "<BusLinks")
    try:
        # Get a list of link transmitter MBeans - will be empty for <V7.0 MEs
        glLookupName = AdminControl.makeObjectName('WebSphere:type=SIBGatewayLink,SIBMessagingEngine=' +
self.name + ',*')
        glMBeans = AdminControl.queryNames_jmx(glLookupName, None)
        out.write('>\n') # Complete the tag as lookup was successful
    except:
        et.printStackTraceAndCloseTag(sys.exc_info(), 0)
    # Keep track of all link target UUIDs we've seen as local links, to exclude from the remote transmitter list
    localLinkUuids = {}
    # Run through each transmitter
    for glMBean in glMBeans:
        oneLineTag = 0
        linkReceivers = []
        targetUuid = glMBean.getKeyProperty("targetUuid")
        localLinkUuids[targetUuid] = 1
        out.write(indent + " <BusLink")
        # First check we can query the foreign bus name... if this fails we are
        # talking to a < V7 messaging engine
        foreignBusName = None
        oldVersion = 0
        try:
            foreignBusName = getStrReturnVal(glMBean, "getForeignBusName")
        except:
            oldVersion = 1
        # Get the name (sometimes the returned name includes quotes)
        virtualLinkName = toStr(glMBean.getKeyProperty("name"))
        if not (virtualLinkName.find('"') == 0): virtualLinkName = '"' + virtualLinkName + '"'
        # Print the correct information based on the version
        if oldVersion:
            try:
                out.write(' name=' + virtualLinkName)
                out.write(' state="' + getStrReturnVal(glMBean, "getStatus") + '"')
                out.write('>\n')
            except:
                et.printStackTraceAndCloseTag(sys.exc_info(), 0)
        else:
            try:
                out.write(' name=' + virtualLinkName )
                out.write(' foreignBus="' + foreignBusName + '"')
                stateString = AdminControl.invoke_jmx(glMBean, "getStatus", [], [])
                if stateString != None:
                    out.write(' state="' + stateString + '"')
                linkReceivers = AdminControl.invoke_jmx(glMBean, "listLinkReceivers", [], [])
                if linkReceivers == None: linkReceivers = []
                out.write('>\n')
            except:
                et.printStackTraceAndCloseTag(sys.exc_info(), 0)
        # Print out the link receivers for this link
        for lr in linkReceivers:
            out.write(indent + " <LinkReceiver")
            try:
                out.write(' state="' + lr.getState() + '"')
                receiverType = lr.getReceiverType()
                remoteMEuid = lr.getForeignEngineUuid()
                if mesByUUID.has_key(remoteMEuid): remoteMENAME = mesByUUID[remoteMEuid].name
                else: remoteMENAME = "Unknown"
                out.write(' me="' + remoteMENAME + '"')
                out.write(' meUUID="' + remoteMEuid + '"')
                out.write(' receiverType="' + receiverType + '"')
                if receiverType == "PUBLICATION":
                    out.write(' topicSpace="' + toStr(lr.getTargetDestination()) + '"')
                    out.write(' currentInboundMessages="' + str(lr.getDepth()) + '"')
                    out.write(' messagesReceived="' + str(lr.getNumberOfMessagesReceived()) + '"')
                    timeSinceLastMessageReceived = lr.getTimeSinceLastMessageReceived()
                    if timeSinceLastMessageReceived > 0:
                        out.write(' timeSinceLastMessageReceived="' + str(timeSinceLastMessageReceived) + 'ms"')
                out.write(indent + ">\n")

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        except:
            et.printStackTraceAndCloseTag(sys.exc_info(), 1)
            # Print out the link transmitters for this link
            self.printLinkTransmittersXML(meMBean, targetUuid, {}, indent + ' ')
            # End the link tag
            out.write(indent + ' </BusLink>\n')
            # Just in case we have any orphaned link mBeans, print these out here
            self.printLinkTransmittersXML(meMBean, None, localLinkUuids, indent + ' ')
            # Complete our SIBLinks tag
            out.write(indent + "</BusLinks>\n")

# Print a summary of SIBus link transmitters for the messaging engine,
# using the supplied ME MBean looked up by the caller.
# Either prints all transmitters with a particular target UUID, or
# prints all transmitters excluding keys that exist in the excludeUuids hash.
def printLinkTransmittersXML(self, meMBean, targetUuid, excludeUuids, indent):
    ltMBeans = None
    try:
        # Get a list of link transmitter MBeans - will be empty for <V7.0 MES
        lookupString = 'WebSphere:type=SIBLinkTransmitter,SIBMessagingEngine=' + self.name
        if targetUuid != None: lookupString += ',targetUuid=' + targetUuid
        lookupString += ',*'
        ltLookupName = AdminControl.makeObjectName(lookupString)
        ltMBeans = AdminControl.queryNames_jmx(ltLookupName, None)
    except:
        out.write('<SIBLinkTransmitters')
        et.printStackTraceAndCloseTag(sys.exc_info(), 1)
    # Run through each transmitter
    for ltMBean in ltMBeans:
        # Check this one shouldn't be excluded
        transmitterTargetUuid = ltMBean.getKeyProperty("targetUuid")
        if not excludeUuids.has_key(transmitterTargetUuid):
            out.write(indent + "<LinkTransmitter")
            try:
                if (targetUuid == None): out.write(' foreignBus="' + getStrReturnVal(ltMBean, "getForeignBusName") + '"')
                out.write(' state="' + getStrReturnVal(ltMBean, "getState") + '"')
                out.write(' linkType="' + getStrReturnVal(ltMBean, "getLinkType") + '"')
                transmitterType = getStrReturnVal(ltMBean, "getTransmitterType")
                out.write(' transmitterType="' + transmitterType + '"')
                if transmitterType == "PUBLICATION":
                    out.write(' topicSpace="' + getStrReturnVal(ltMBean, "getTargetDestination") + '"')
                    putInhibited = AdminControl.invoke_jmx(ltMBean, "isPutInhibited", [], [])
                    if putInhibited == 0: sendAllowed = 1
                    else: sendAllowed = 0
                    out.write(' sendAllowed="' + str(sendAllowed) + '"')
                    out.write(' currentOutboundMessages="' + getStrReturnVal(ltMBean, "getDepth") + '"')
                    out.write(' messagesSent="' + getStrReturnVal(ltMBean, "getNumberOfMessagesSent") + '"')
                    timeSinceLastMessageSent = AdminControl.invoke_jmx(ltMBean, "getTimeSinceLastMessageSent", [], [])
                    if timeSinceLastMessageSent > 0:
                        out.write(' timeSinceLastMessageSent="' + str(timeSinceLastMessageSent) + 'ms"')

                # Always one line for link transmitters
                out.write('/>\n')
            except:
                et.printStackTraceAndCloseTag(sys.exc_info(), 1)

# Print a summary of all the WMQ links hosted on this messaging engine
# using the supplied ME MBean looked up by the caller
def printWMQLinks(self, meMBean, indent):
    mqlMBeans = None
    out.write(indent + "<WMQLinks")
    try:
        # Get a list of WMQ Link MBeans - will be empty for <V7.0 MES
        mqlLookupName = AdminControl.makeObjectName('WebSphere:type=SIBMQLink,SIBMessagingEngine=' + self.name + ',*')
        mqlMBeans = AdminControl.queryNames_jmx(mqlLookupName, None)
        out.write('>\n') # Complete the tag as lookup was successful
    except:
        et.printStackTraceAndCloseTag(sys.exc_info(), 0)
    # Run through each WMQ Link MBean found
    for mqlMBean in mqlMBeans:
        schlMBeans = []
        rchlMBeans = []
        # We may not be able to query msgs received as introduced at v7.0
        msgsReceived = None
        try:
            msgsReceived = getStrReturnVal(mqlMBean, "getTotalLinkMessagesReceived")
        except:
            pass
        out.write(indent + " <WMQLink")
        try:
            # Get the targetUuid
            linkName = mqlMBean.getKeyProperty("name")
            out.write(' name="' + linkName + '"')
            out.write(' state="' + getStrReturnVal(mqlMBean, "getOverallStatus") + '"')
            if msgsReceived != None: out.write(' messagesReceived="' + msgsReceived + '"')
            # Get a list of WMQ link sender channel instances
            schlLookupName = AdminControl.makeObjectName('WebSphere:type=SIBMQLinkSenderChannel,SIBMessagingEngine='
+ self.name + ',name=' + linkName + 'SNDR,*')
            schlMBeans = AdminControl.queryNames_jmx(schlLookupName, None)
            # Get a list of WMQ link receiver channel instances

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    rch1LookupName = AdminControl.makeObjectName('WebSphere:type=SIBMQLinkReceiverChannel,SIBMessagingEngine='
+ self.name + ',name=' + linkName + 'RCVR,*')
    rch1MBeans = AdminControl.queryNames_jmx(rch1LookupName, None)
    out.write('>\n') # Complete the opening tag
except:
    et.printStackTraceAndCloseTag(sys.exc_info(), 0)
# Iterate through the sender channels
for sch1MBean in sch1MBeans:
    sxmlMBeans = []
    out.write(indent + " <SenderChannel")
    try:
        stateObject = AdminControl.invoke_jmx(sch1MBean, "getCurrentStatus", [], [])
        channelName = stateObject.getChannelName()
        out.write(' channelName="' + channelName + '"')
        out.write(' state="' + toString(stateObject.getState()) + '"')
        out.write(' virtualQmgr="' + stateObject.getQueueManager() + '"')
        out.write(' ipAddress="' + toString(stateObject.getIpAddress()) + '"')
        out.write(' messagesSent="' + toString(stateObject.getNumberOfMessagesSent()) + '"')
        out.write(' currentLUWID="' + toString(stateObject.getCurrentLUWID()) + '"')
        out.write(' currentSequenceNo="' + toString(stateObject.getCurrentSequenceNumber()) + '"')
        out.write(' inDoubt="' + toString(stateObject.getInDoubt()) + '"')
        # Get a list of WMQ link sender channel transmitter instances
        sxmlLookupName = AdminControl.makeObjectName('WebSphere:type=SIBMQLinkSenderChannelTransmitter,
SIBMessagingEngine=' + self.name + ',name=' + channelName + ',*')
        sxmlMBeans = AdminControl.queryNames_jmx(sxmlLookupName, None)
        out.write('>\n') # Complete the opening tag
    except:
        et.printStackTraceAndCloseTag(sys.exc_info(), 0)
# Iterate through the sender channel transmitters
for sxmitMBean in sxmitMBeans:
    out.write(indent + " <SenderChannelTransmitter")
    # List of the known link transmitters
    knownLinkTransmitters = []
    oneLineTag = 0
    try:
        out.write(' status="' + getStrReturnVal(sxmitMBean, "getState") + '"')
        out.write(' currentOutboundMessages="' + getStrReturnVal(sxmitMBean, "getDepth") + '"')
        out.write(' messagesSent="' + getStrReturnVal(sxmitMBean, "getNumberOfMessagesSent") + '"')
        timeSinceLastMessageSent = AdminControl.invoke_jmx(sxmitMBean, "getTimeSinceLastMessageSent", [], [])
        if timeSinceLastMessageSent > 0:
            out.write(' timeSinceLastMessageSent="' + str(timeSinceLastMessageSent) + 'ms"')
        # List the known link transmitters
        knownLinkTransmitters = AdminControl.invoke_jmx(sxmitMBean, "listInboundReceivers", [], [])
        # Complete the tag
        if (knownLinkTransmitters == None) or (len(knownLinkTransmitters) == 0):
            out.write('/>\n') # Complete the one-line tag
            oneLineTag = 1
        else: out.write('>\n')
    except:
        et.printStackTraceAndCloseTag(sys.exc_info(), 1)
# Print the known link transmitters
if (oneLineTag == 0):
    for ir in knownLinkTransmitters:
        out.write(indent + ' <KnownRemoteSenderChannelTransmitter')
        try:
            remoteMEuid = ir.getRemoteEngineUuid()
            if mesByUUID.has_key(remoteMEuid): remoteMENAME = mesByUUID[remoteMEuid].name
            else: remoteMENAME = "Unknown"
            out.write(' me="' + remoteMENAME + '"')
            out.write(' meUUID="' + remoteMEuid + '"')
            out.write(' currentInboundMessages="' + str(ir.getDepth()) + '"')
            out.write(' inboundMessagesReceived="' + str(ir.getNumberOfMessagesReceived()) + '"')
            out.write('>\n')
        except:
            et.printStackTraceAndCloseTag(sys.exc_info(), 1)
    # Close the transmitter tag
    out.write(indent + " </SenderChannelTransmitter>\n")
# Close the sender tag
out.write(indent + " </SenderChannel>\n")
# Iterate through the receiver channels
for rch1MBean in rch1MBeans:
    out.write(indent + " <ReceiverChannel")
    statusEntries = []
    try:
        out.write(' state="' + getStrReturnVal(rch1MBean, "getOverallStatus") + '"')
        # List the status of each instance
        statusEntries = AdminControl.invoke_jmx(rch1MBean, "getCurrentStatus", [], [])
        if (statusEntries == None): statusEntries = []
        out.write('>\n') # Complete the opening tag
    except:
        et.printStackTraceAndCloseTag(sys.exc_info(), 0)
# Print each entry
for statusEntry in statusEntries:
    out.write(indent + " <ReceiverChannelStatus")
    try:
        out.write(' channelName="' + toString(statusEntry.getChannelName()) + '"')
        out.write(' state="' + toString(statusEntry.getState()) + '"')
        out.write(' qmgr="' + toString(statusEntry.getQueueManager()) + '"')
        out.write(' ipAddress="' + toString(statusEntry.getIpAddress()) + '"')
        out.write(' messagesReceived="' + toString(statusEntry.getNumberOfMessagesReceived()) + '"')

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        out.write(' currentLUUID="' + toString(statusEntry.getCurrentLUUID()) + '"')
        out.write(' currentSequenceNo="' + toString(statusEntry.getCurrentSequenceNumber()) + '"')
        out.write('>\n') # Complete the tag
    except:
        et.printStackTraceAndCloseTag(sys.exc_info(), 1)
    # Close the tag
    out.write(indent + " </ReceiverChannel>\n")
    # Complete our WMQLink tag
    out.write(indent + " </WMQLink>\n")
    # Complete our WMQLinks tag
    out.write(indent + "</WMQLinks>\n")

# A small class to help us aggregate consumer-transmitter and
# inbound-receiver information on a queue point, and hence build a
# "known remote queue point" for each remote messaging engine
# UUID that we have remote put/get state for.
class KnownRemoteQueuePoint:
    "A class for printing a runtime summary of a known remote queue point"
    consumerTransmitter = None
    inboundReceiver = None
    def __init__(self, qpMBean, uuid):
        self.uuid = uuid
        if mesByUUID.has_key(uuid): self.name = mesByUUID[uuid].name
        else: self.name = "Unknown"
        self.qpMBean = qpMBean
    # Print an XML tag summarising this KnownRemoteQueuePoint
    def printSummaryXML(self, indent):
        out.write(indent + "<KnownRemoteQueuePoint me='" + self.name + "' meUUID='" + self.uuid + '"')
        try:
            currentInboundMessages = 0
            inboundMessagesReceived = 0
            if self.inboundReceiver != None:
                currentInboundMessages = self.inboundReceiver.getDepth()
                inboundMessagesReceived = self.inboundReceiver.getNumberofMessagesReceived()
            out.write(' currentInboundMessages="' + str(currentInboundMessages) + '"')
            out.write(' inboundMessagesReceived="' + str(inboundMessagesReceived) + '"')
            currentMessageRequests = 0
            completedMessageRequests = 0
            messageRequestsReceived = 0
            if self.consumerTransmitter != None:
                currentMessageRequests = self.consumerTransmitter.getDepth()
                completedMessageRequests = self.consumerTransmitter.getNumberofCompletedRequests()
                messageRequestsReceived = self.consumerTransmitter.getNumberofRequestsReceived()
            out.write(' currentMessageRequests="' + str(currentMessageRequests) + '"')
            out.write(' completedMessageRequests="' + str(completedMessageRequests) + '"')
            out.write(' messageRequestsReceived="' + str(messageRequestsReceived) + '"')
            # Only need one line for this
            out.write('>\n')
        except:
            et.printStackTraceAndCloseTag(sys.exc_info(), 1)

# Script execution starts here ...

# The only input parameter is the name of the output file.
# Default to STDOUT if not specified
if len(sys.argv) > 0:
    print "Writing output to", sys.argv[0]
    out = open(sys.argv[0], 'w')
    fileOpened = 1
else:
    out = sys.stdout
    fileOpened = 0

# Lookup all MEs in the configuration and build a ME UUID to name dictionary
mesByUUID = {}
mesByBus = {}
mes = AdminConfig.list("SIBMessagingEngine").split("\n")
for me in mes:
    # Remove carriage returns on Windows
    me = me.strip()
    # Construct an ME object
    meBus = AdminConfig.showAttribute(me, "busName")
    meName = AdminConfig.showAttribute(me, "name")
    meUUID = AdminConfig.showAttribute(me, "uuid")
    meObject = MessagingEngine(meBus, meName, meUUID)
    # Place the ME into the map by UUID
    mesByUUID[meUUID] = meObject
    # Place the ME into the list for this bus
    if (mesByBus.has_key(meBus)): meList = mesByBus[meBus]
    else: meList = []
    meList.append(meObject)
    mesByBus[meBus] = meList

# Iterate through the buses, and MEs within each bus
try:
    out.write('<?xml version="1.0"?>\n')
    out.write('<SIBSummary>\n')
    for busName in mesByBus.keys():
        indent = ' '
        out.write(indent + '<Bus name="' + busName + '">\n')

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    meList = mesByBus[busName]
    for me in meList:
        me.printRuntimeStateXML(indent + ' ')
        out.write(indent + '</Bus>\n')
    out.write('</SIBusSummary>\n')
finally:
    if (fileOpened): out.close()

```

The following example shows sample output for the script.

```

<?xml version="1.0"?>
<SIBusSummary>
  <Bus name="Bus2">
    <MessagingEngine name="Node1.server1-Bus2" uuid="B04215B7389FDA8F" state="Started" activeServer="server1">
      <QueuePoints>
        <QueuePoint name="Bus2Queue1@Node1.server1-Bus2" state="ACTIVE" depth="9" highMessageThreshold="50000"
sendAllowed="1"/>
        <QueuePoint name="RemoteMediatedQueue1@Node1.server1-Bus2" state="ACTIVE" depth="5" highMessageThreshold="50000"
sendAllowed="1">
          <KnownRemoteQueuePoint me="Node1.server2-Bus2" meUUID="CC8EAD412746BA2A" currentInboundMessages="0"
inboundMessagesReceived="0" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
        </QueuePoint>
        <QueuePoint name="_PSIMP.PROXY.QUEUE_B04215B7389FDA8F@Node1.server1-Bus2" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1">
          <KnownRemoteQueuePoint me="Node1.server2-Bus2" meUUID="CC8EAD412746BA2A" currentInboundMessages="0"
inboundMessagesReceived="2" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
        </QueuePoint>
        <QueuePoint name="_PTRM_B04215B7389FDA8F@Node1.server1-Bus2" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1"/>
        <QueuePoint name="_SYSTEM.Exception.Destination.Node1.server1-Bus2@Node1.server1-Bus2" state="ACTIVE"
depth="3" highMessageThreshold="50000" sendAllowed="1"/>
        <QueuePoint name="_PSIMP.TDRECEIVER_B04215B7389FDA8F@Node1.server1-Bus2" state="ACTIVE" depth="0" h
ighMessageThreshold="50000" sendAllowed="1"/>
      </QueuePoints>
      <RemoteQueuePoints>
        <RemoteQueuePoint name="_PSIMP.PROXY.QUEUE_CC8EAD412746BA2A@Node1.server1-Bus2"
remoteME="Node1.server2-Bus2" remoteMEUUID="CC8EAD412746BA2A" currentOutboundMessages="0"
outboundMessageSent="4" currentMessageRequests="0" completedMessageRequests="0" messageRequestsIssued="0"/>
      </RemoteQueuePoints>
      <MediationPoints>
      </MediationPoints>
      <RemoteMediationPoints>
        <RemoteMediationPoint name="RemoteMediatedQueue1@Node1.server1-Bus2" remoteME="Node1.server2-Bus2"
remoteMEUUID="CC8EAD412746BA2A" currentOutboundMessages="0" outboundMessageSent="0"/>
      </RemoteMediationPoints>
      <PublicationPoints>
        <PublicationPoint name="Default.Topic.Space@Node1.server1-Bus2" depth="0" highMessageThreshold="50000"
sendAllowed="1">
          </PublicationPoint>
        </PublicationPoints>
      <BusLinks>
        <BusLink name="Bus1Bus2Link" foreignBus="Bus1" state="STARTED">
          <LinkReceiver state="STARTED" me="Node1.server1-Bus1" meUUID="92FF69453638CD2F" receiverType="PUBLICATION"
topicSpace="" currentInboundMessages="0" messagesReceived="4" timeSinceLastMessageReceived="18809ms" />
          <LinkReceiver state="STARTED" me="cluster1.000-Bus1" meUUID="C96051A1F0F91AB3" receiverType="PUBLICATION"
topicSpace="" currentInboundMessages="0" messagesReceived="0" />
          <LinkReceiver state="STARTED" me="cluster1.001-Bus1" meUUID="122AAD73434FF5DA" receiverType="PUBLICATION"
topicSpace="" currentInboundMessages="0" messagesReceived="0" />
          <LinkReceiver state="STARTED" me="cluster1.000-Bus1" meUUID="C96051A1F0F91AB3" receiverType="PUBLICATION"
topicSpace="" currentInboundMessages="0" messagesReceived="2" timeSinceLastMessageReceived="20091ms" />
          <LinkReceiver state="STARTED" me="cluster1.001-Bus1" meUUID="122AAD73434FF5DA" receiverType="PUBLICATION"
topicSpace="" currentInboundMessages="0" messagesReceived="0" />
          <LinkTransmitter state="STARTED" linkType="SIBVirtualGatewayLink" transmitterType="QUEUE" sendAllowed="1"
currentOutboundMessages="0" messagesSent="3" timeSinceLastMessageSent="17509ms"/>
        </BusLink>
      </BusLinks>
      <WMQLinks>
        <WMQLink name="MQBus1Link" state="RUNNING" messagesReceived="0">
          <SenderChannel channelName="TO.PAB" state="STANDBY" virtualQmgr="WAS80" ipAddress="" messagesSent="0"
currentLUID="0" currentSequenceNo="0" inDoubt="0">
            <SenderChannelTransmitter status="STARTED" currentOutboundMessages="0" messagesSent="0">
              <KnownRemoteSenderChannelTransmitter me="Node1.server2-Bus2" meUUID="CC8EAD412746BA2A"
currentInboundMessages="0" inboundMessagesReceived="0"/>
            </SenderChannelTransmitter>
          </SenderChannel>
          <ReceiverChannel state="INACTIVE">
          </ReceiverChannel>
        </WMQLink>
      </WMQLinks>
    </MessagingEngine>
    <MessagingEngine name="Node1.server2-Bus2" uuid="CC8EAD412746BA2A" state="Started" activeServer="server2">
      <QueuePoints>
        <QueuePoint name="_SYSTEM.Exception.Destination.Node1.server2-Bus2@Node1.server2-Bus2" state="ACTIVE"
depth="0" highMessageThreshold="50000" sendAllowed="1"/>
        <QueuePoint name="_PSIMP.PROXY.QUEUE_CC8EAD412746BA2A@Node1.server2-Bus2" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1">
          <KnownRemoteQueuePoint me="Node1.server1-Bus2" meUUID="B04215B7389FDA8F" currentInboundMessages="0"
inboundMessagesReceived="12" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
        </QueuePoint>

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    <QueuePoint name=" PTRM_CC8EAD412746BA2A@Node1.server2-Bus2" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1"/>
  <QueuePoint name=" PSIMP_TDRECEIVER_CC8EAD412746BA2A@Node1.server2-Bus2" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1"/>
</QueuePoints>
<RemoteQueuePoints>
  <RemoteQueuePoint name="RemoteMediatedQueue1@Node1.server2-Bus2" remoteME="Node1.server1-Bus2"
remoteMEUUID="B04215B7389FDA8F" currentOutboundMessages="0" outboundMessageSent="2" currentMessageRequests="0"
completedMessageRequests="0" messageRequestsIssued="0"/>
  <RemoteQueuePoint name=" PSIMP_PROXY_QUEUE_B04215B7389FDA8F@Node1.server2-Bus2" remoteME="Node1.server1-Bus2"
remoteMEUUID="B04215B7389FDA8F" currentOutboundMessages="0" outboundMessageSent="8" currentMessageRequests="0"
completedMessageRequests="0" messageRequestsIssued="0"/>
</RemoteQueuePoints>
<MediationPoints>
  <MediationPoint name="RemoteMediatedQueue1@Node1.server2-Bus2" status="Started" depth="0"
highMessageThreshold="50000" sendAllowed="1"/>
</MediationPoints>
<RemoteMediationPoints>
</RemoteMediationPoints>
<PublicationPoints>
  <PublicationPoint name="Default.Topic.Space@Node1.server2-Bus2" depth="0" highMessageThreshold="50000"
sendAllowed="1">
</PublicationPoint>
</PublicationPoints>
<BusLinks>
  <BusLink name="Bus2:MQBus1" foreignBus="MQBus1">
    <LinkTransmitter state="STARTED" linkType="SIBVirtualMQLink" transmitterType="QUEUE" sendAllowed="1"
currentOutboundMessages="0" messagesSent="0"/>
  </BusLink>
</BusLinks>
<WMQLinks>
</WMQLinks>
</MessagingEngine>
</Bus>
<Bus name="Bus1">
  <MessagingEngine name="Node1.server1-Bus1" uuid="92FF69453638CD2F" state="Started" activeServer="server1">
    <QueuePoints>
      <QueuePoint name=" PTRM_92FF69453638CD2F@Node1.server1-Bus1" state="ACTIVE" depth="0" highMessageThreshold="50000"
sendAllowed="1"/>
      <QueuePoint name=" _SYSTEM.Exception.Destination.Node1.server1-Bus1@Node1.server1-Bus1" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1"/>
      <QueuePoint name=" PSIMP_PROXY_QUEUE_92FF69453638CD2F@Node1.server1-Bus1" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1">
        <KnownRemoteQueuePoint me="cluster1.001-Bus1" meUUID="122AAD73434FF5DA" currentInboundMessages="0"
inboundMessagesReceived="3" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
        <KnownRemoteQueuePoint me="cluster1.000-Bus1" meUUID="C96051A1F0F91AB3" currentInboundMessages="0"
inboundMessagesReceived="3" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
      </QueuePoint>
      <QueuePoint name=" PSIMP_TDRECEIVER_92FF69453638CD2F@Node1.server1-Bus1" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1"/>
      <QueuePoint name="Bus1Queue1@Node1.server1-Bus1" state="ACTIVE" depth="3" highMessageThreshold="50000"
sendAllowed="1">
        <KnownRemoteQueuePoint me="cluster1.001-Bus1" meUUID="122AAD73434FF5DA" currentInboundMessages="0"
inboundMessagesReceived="0" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
        <KnownRemoteQueuePoint me="cluster1.000-Bus1" meUUID="C96051A1F0F91AB3" currentInboundMessages="0"
inboundMessagesReceived="0" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
      </QueuePoint>
    </QueuePoints>
    <RemoteQueuePoints>
      <RemoteQueuePoint name=" PSIMP_PROXY_QUEUE_122AAD73434FF5DA@Node1.server1-Bus1" remoteME="cluster1.001-Bus1"
remoteMEUUID="122AAD73434FF5DA" currentOutboundMessages="0" outboundMessageSent="2" currentMessageRequests="0"
completedMessageRequests="0" messageRequestsIssued="0"/>
      <RemoteQueuePoint name=" PSIMP_PROXY_QUEUE_C96051A1F0F91AB3@Node1.server1-Bus1" remoteME="cluster1.000-Bus1"
remoteMEUUID="C96051A1F0F91AB3" currentOutboundMessages="0" outboundMessageSent="2" currentMessageRequests="0"
completedMessageRequests="0" messageRequestsIssued="0"/>
    </RemoteQueuePoints>
    <MediationPoints>
    </MediationPoints>
    <RemoteMediationPoints>
    </RemoteMediationPoints>
    <PublicationPoints>
      <PublicationPoint name="Default.Topic.Space@Node1.server1-Bus1" depth="10" highMessageThreshold="50000"
sendAllowed="1">
        <RemotePublicationPoint me="cluster1.001-Bus1" meUUID="122AAD73434FF5DA" currentInboundMessages="0"
inboundMessagesReceived="0"/>
        <RemotePublicationPoint me="cluster1.000-Bus1" meUUID="C96051A1F0F91AB3" currentInboundMessages="0"
inboundMessagesReceived="0"/>
        <Subscription subscriberId="MySubName1" depth="10" topics="" />
        <Subscription subscriberId="MySubName2" depth="5" topics="" />
      </PublicationPoint>
    </PublicationPoints>
    <BusLinks>
      <BusLink name="Bus1Bus2Link" foreignBus="Bus2" state="STARTED">
        <LinkReceiver state="STARTED" me="Node1.server1-Bus2" meUUID="B04215B7389FDA8F" receiverType="PUBLICATION"
topicSpace="" currentInboundMessages="0" messagesReceived="3" timeSinceLastMessageReceived="19311ms" />
        <LinkReceiver state="STARTED" me="Node1.server1-Bus2" meUUID="B04215B7389FDA8F" receiverType="PUBLICATION"
topicSpace="" currentInboundMessages="0" messagesReceived="0" />
        <LinkTransmitter state="STARTED" linkType="SIBVirtualGatewayLink" transmitterType="QUEUE" sendAllowed="1"
currentOutboundMessages="0" messagesSent="4" timeSinceLastMessageSent="20435ms"/>
      </BusLink>
    </BusLinks>
  </MessagingEngine>
</Bus>

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</BusLinks>
</WMQLinks>
</WMQLinks>
</MessagingEngine>
<MessagingEngine name="cluster1.000-Bus1" uuid="C96051A1F0F91AB3" state="Started" activeServer="clusServer1">
  <QueuePoints>
    <QueuePoint name=" PSIMP.TDRECEIVER_C96051A1F0F91AB3@cluster1.000-Bus1" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1"/>
    <QueuePoint name=" _SYSTEM.Exception.Destination.cluster1.000-Bus1@cluster1.000-Bus1" state="ACTIVE"
depth="0" highMessageThreshold="50000" sendAllowed="1"/>
    <QueuePoint name=" PTRM_C96051A1F0F91AB3@cluster1.000-Bus1" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1"/>
    <QueuePoint name=" PSIMP.PROXY.QUEUE_C96051A1F0F91AB3@cluster1.000-Bus1" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1">
    <KnownRemoteQueuePoint me="cluster1.001-Bus1" meUUID="122AAD73434FF5DA" currentInboundMessages="0"
inboundMessagesReceived="4" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
    <KnownRemoteQueuePoint me="Node1.server1-Bus1" meUUID="92FF69453638CD2F" currentInboundMessages="0"
inboundMessagesReceived="11" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
  </QueuePoint>
    <QueuePoint name="Bus2WLMQueue1@cluster1.000-Bus1" state="ACTIVE" depth="0" highMessageThreshold="50000"
sendAllowed="1"/>
  </QueuePoints>
  <RemoteQueuePoints>
    <RemoteQueuePoint name="Bus1Queue1@cluster1.000-Bus1" remoteME="Node1.server1-Bus1"
remoteMEUUID="92FF69453638CD2F" currentOutboundMessages="0" outboundMessageSent="1"
currentMessageRequests="0" completedMessageRequests="0" messageRequestsIssued="0"/>
    <RemoteQueuePoint name=" PSIMP.PROXY.QUEUE_122AAD73434FF5DA@cluster1.000-Bus1" remoteME="cluster1.001-Bus1"
remoteMEUUID="122AAD73434FF5DA" currentOutboundMessages="0" outboundMessageSent="4" currentMessageRequests="0"
completedMessageRequests="0" messageRequestsIssued="0"/>
    <RemoteQueuePoint name=" PSIMP.PROXY.QUEUE_92FF69453638CD2F@cluster1.000-Bus1" remoteME="Node1.server1-Bus1"
remoteMEUUID="92FF69453638CD2F" currentOutboundMessages="0" outboundMessageSent="11" currentMessageRequests="0"
completedMessageRequests="0" messageRequestsIssued="0"/>
  </RemoteQueuePoints>
  <MediationPoints>
  </MediationPoints>
  <RemoteMediationPoints>
  </RemoteMediationPoints>
  <PublicationPoints>
    <PublicationPoint name="Default.Topic.Space@cluster1.000-Bus1" depth="0" highMessageThreshold="50000"
sendAllowed="1">
    <Subscription subscriberId="MySubName3" depth="0" topics=""/>
  </PublicationPoint>
  </PublicationPoints>
  <BusLinks>
    <BusLink name="Bus1:Bus2" foreignBus="Bus2">
    <LinkTransmitter state="STOPPED" linkType="SIBVirtualGatewayLink" transmitterType="QUEUE" sendAllowed="1"
currentOutboundMessages="0" messagesSent="1" timeSinceLastMessageSent="3471037ms"/>
  </BusLink>
  </BusLinks>
  </WMQLinks>
  </WMQLinks>
</MessagingEngine>
<MessagingEngine name="cluster1.001-Bus1" uuid="122AAD73434FF5DA" state="Started" activeServer="clusServer2">
  <QueuePoints>
    <QueuePoint name=" PSIMP.TDRECEIVER_122AAD73434FF5DA@cluster1.001-Bus1" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1"/>
    <QueuePoint name=" PSIMP.PROXY.QUEUE_122AAD73434FF5DA@cluster1.001-Bus1" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1">
    <KnownRemoteQueuePoint me="Node1.server1-Bus1" meUUID="92FF69453638CD2F" currentInboundMessages="0"
inboundMessagesReceived="12" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
    <KnownRemoteQueuePoint me="cluster1.000-Bus1" meUUID="C96051A1F0F91AB3" currentInboundMessages="0"
inboundMessagesReceived="2" currentMessageRequests="0" completedMessageRequests="0" messageRequestsReceived="0"/>
  </QueuePoint>
    <QueuePoint name=" _SYSTEM.Exception.Destination.cluster1.001-Bus1@cluster1.001-Bus1" state="ACTIVE"
depth="0" highMessageThreshold="50000" sendAllowed="1"/>
    <QueuePoint name="Bus2WLMQueue1@cluster1.001-Bus1" state="ACTIVE" depth="0" highMessageThreshold="50000"
sendAllowed="1"/>
    <QueuePoint name=" PTRM_122AAD73434FF5DA@cluster1.001-Bus1" state="ACTIVE" depth="0"
highMessageThreshold="50000" sendAllowed="1"/>
  </QueuePoints>
  <RemoteQueuePoints>
    <RemoteQueuePoint name=" PSIMP.PROXY.QUEUE_92FF69453638CD2F@cluster1.001-Bus1"
remoteME="Node1.server1-Bus1" remoteMEUUID="92FF69453638CD2F" currentOutboundMessages="0"
outboundMessageSent="12" currentMessageRequests="0" completedMessageRequests="0" messageRequestsIssued="0"/>
    <RemoteQueuePoint name="Bus1Queue1@cluster1.001-Bus1" remoteME="Node1.server1-Bus1"
remoteMEUUID="92FF69453638CD2F" currentOutboundMessages="0" outboundMessageSent="1" currentMessageRequests="0"
completedMessageRequests="0" messageRequestsIssued="0"/>
    <RemoteQueuePoint name=" PSIMP.PROXY.QUEUE_C96051A1F0F91AB3@cluster1.001-Bus1" remoteME="cluster1.000-Bus1"
remoteMEUUID="C96051A1F0F91AB3" currentOutboundMessages="0" outboundMessageSent="2" currentMessageRequests="0"
completedMessageRequests="0" messageRequestsIssued="0"/>
  </RemoteQueuePoints>
  <MediationPoints>
  </MediationPoints>
  <RemoteMediationPoints>
  </RemoteMediationPoints>
  <PublicationPoints>
    <PublicationPoint name="Default.Topic.Space@cluster1.001-Bus1" depth="0" highMessageThreshold="50000"
sendAllowed="1">
    <Subscription subscriberId="MySubName4" depth="0" topics=""/>
  </PublicationPoint>

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</PublicationPoints>
<BusLinks>
  <BusLink name="Bus1:Bus2" foreignBus="Bus2">
    <LinkTransmitter state="STOPPED" linkType="SIBVirtualGatewayLink" transmitterType="QUEUE" sendAllowed="1"
currentOutboundMessages="0" messagesSent="1" timeSinceLastMessageSent="3471168ms"/>
  </BusLink>
</BusLinks>
<WMQLinks>
</WMQLinks>
</MessagingEngine>
</Bus>
</SIBusSummary>
```

Chapter 7. Scripting web applications

This page provides a starting point for finding information about web applications, which are comprised of one or more related files that you can manage as a unit, including HTML files; Servlets can support dynamic web page content, provide database access, serve multiple clients at one time, and filter data; and Java ServerPages (JSP) files enable the separation of the HTML code from the business logic in web pages. IBM extensions to the JSP specification make it easy for HTML authors to add the power of Java technology to web pages, without being experts in Java programming.

Configuring applications for session management using scripting

This task provides an example that uses the AdminConfig object to configure a session manager for the application.

Before you begin

An application must be installed on a running server.

About this task

You can use the AdminConfig object to set configurations in an application. Some configuration settings are not available through the AdminConfig object.

Procedure

1. Start the wsadmin scripting tool.
2. Identify the deployment configuration object for the application and assign it to the deployment variable.

Note: This step is not needed for an OSGi application. See Adding an EBA asset to a composition unit using wsadmin commands and Modifying the configuration of an EBA composition unit using wsadmin commands.

For example:

- Using Jacl:

```
set deployments [$AdminConfig getid /Deployment:myApp/]
```

- Using Jython:

```
deployments = AdminConfig.getid('/Deployment:myApp/')  
print deployments
```

where:

Table 75. getid command elements. Run the getid command to identify a deployment object.

Element	Description
set	is a Jacl command
deployments	is a variable name
\$	is a Jacl operator for substituting a variable name with its value
AdminConfig	is an object representing the WebSphere Application Server configuration
getid	is an AdminConfig command
Deployment	is an attribute
myApp	is the value of the attribute

Example output:

```
myApp(cells/mycell/applications/myApp.ear/deployments/myApp|deployment.xml#Deployment_1)
```

3. Retrieve the application deployment object and assign it to the appDeploy variable. For example:

- Using Jacl:

```
set appDeploy [$AdminConfig showAttribute $deployments deployedObject]
```

- Using Jython:

```
appDeploy = AdminConfig.showAttribute(deployments, 'deployedObject')
print appDeploy
```

Note: For an OSGi application, use the following jython code for this step:

```
appDeploy = AdminTask.getOSGiApplicationDeployedObject('-cuName cu_name')
```

where:

Table 76. set command elements. Run the set command to assign the deployment object a value.

Element	Description
set	is a Jacl command
appDeploy	is a variable name
\$	is a Jacl operator for substituting a variable name with its value
AdminConfig	is an object that represents the WebSphere Application Server configuration
showAttribute	is an AdminConfig command
deployments	evaluates the ID of the deployment object that is specified in step number 1
deployedObject	is an attribute
cu_name	is the name of the composition unit

Example output:

```
(cells/mycell/applications/myApp.ear/deployments/myApp|deployment.xml#ApplicationDeployment_1)
```

4. To obtain a list of attributes that you can set for a session manager, use the **attributes** command. For example:

- Using Jacl:

```
$AdminConfig attributes SessionManager
```

- Using Jython:

```
print AdminConfig.attributes('SessionManager')
```

where:

Table 77. attributes command elements. Run the attributes command to list attributes of a session manager.

Element	Description
\$	is a Jacl operator for substituting a variable name with its value
AdminConfig	is an object that represents the WebSphere Application Server configuration
attributes	is an AdminConfig command
SessionManager	is an attribute

Example output:

```
"accessSessionOnTimeout Boolean"
"allowSerializedSessionAccess Boolean"
"context ServiceContext@"
"defaultCookieSettings Cookie"
"enable Boolean"
"enableCookies Boolean"
"enableProtocolSwitchRewriting Boolean"
"enableSSLTracking Boolean"
"enableSecurityIntegration Boolean"
"enableUrlRewriting Boolean"
```

```
"maxWaitTime Integer"
"properties Property(TypedProperty)*"
"sessionDRSPersistence DRSSettings"
"sessionDatabasePersistence SessionDatabasePersistence"
"sessionPersistenceMode ENUM(DATABASE, DATA_REPLICATION, NONE)"
"tuningParams TuningParams"
```

When you configure an application for session management, it is recommended that you specify each attribute.

gotcha: If you are setting up the session management attributes for a cluster, you must also update the `targetMappings` element of the `AdminConfig` object for the cluster before the settings you specify for the `sessionManagement` element become effective. If you do not update the `targetMappings` element, the settings are not effective even though they appear in the `deployment.xml` file.

5. Set up the attributes for the session manager.

The following example sets four top-level attributes in the session manager. You can modify the example to set other attributes of the session manager, including the nested attributes in `DRSSettings`, `SessionDataPersistence`, and `TuningParams` object types.

gotcha: The session manager requires that you set both the `defaultCookieSettings` and `tuningParams` attributes before you initialize an application. If you do not set these attributes, the session manager cannot initialize the application, and the application does not start.

To list the attributes for those object types, use the `attributes` command of the `AdminConfig` object.

- Using Jacl:

```
set attr1 [list enableSecurityIntegration true]
set attr2 [list maxWaitTime 30]
set attr3 [list sessionPersistenceMode NONE]
set kuki [list maximumAge -1]
set cookie [list $kuki]
set cookieSettings [list defaultCookieSettings $cookie]
set attrs [list $attr1 $attr2 $attr3 $cookieSettings]
set sessionMgr [list sessionManagement $attrs]
```

Example output using Jacl:

```
sessionManagement {{enableSecurityIntegration true} {maxWaitTime 30} {sessionPersistenceMode NONE}
{defaultCookieSettings {{maximumAge -1}}}}
```

- Using Jython:

```
attr1 = ['enableSecurityIntegration', 'true']
attr2 = ['maxWaitTime', 30]
attr3 = ['sessionPersistenceMode', 'NONE']
kuki = ['maximumAge', -1]
cookie = [kuki]
cookieSettings = ['defaultCookieSettings', cookie]
attrs = [attr1, attr2, attr3, cookieSettings]
sessionMgr = [['sessionManagement', attrs]]
```

Example output using Jython:

```
[[sessionManagement, [[enableSecurityIntegration, true], [maxWaitTime, 30], [sessionPersistenceMode, NONE],
[defaultCookieSettings [[maximumAge, -1]]]]]
```

where:

Table 78. set command elements. Run the set command to set attributes for a session manager.

Element	Description
set	is a Jacl command
attr1, attr2, attr3, attrs, sessionMgr	are variable names
\$	is a Jacl operator for substituting a variable name with its value
enableSecurityIntegration	is an attribute
true	is a value of the enableSecurityIntegration attribute

Table 78. set command elements (continued). Run the set command to set attributes for a session manager.

Element	Description
maxWaitTime	is an attribute
30	is a value of the maxWaitTime attribute
sessionPersistenceMode	is an attribute
NONE	is a value of the sessionPersistenceMode attribute

6. Perform one of the following:

- Create the session manager for the application. For example:
 - Using Jacl:

```
$AdminConfig create ApplicationConfig $appDeploy [list $sessionMgr]
```

- Using Jython:

```
print AdminConfig.create('ApplicationConfig', appDeploy, sessionMgr)
```

where:

Table 79. create command elements. Run the create command to create a session manager.

Element	Description
\$	is a Jacl operator for substituting a variable name with its value
AdminConfig	is an object that represents the WebSphere Application Server configuration
create	is an AdminConfig command
ApplicationConfig	is an attribute
appDeploy	evaluates the ID of the deployed application that is specified in step number 2
list	is a Jacl command
sessionMgr	evaluates the ID of the session manager that is specified in step number 4

Example output:

```
(cells/mycell/applications/myApp.ear/deployments/myApp|deployment.xml#ApplicationConfig_1)
```

- If a session manager already exists, use the **modify** command of the AdminConfig object to update the configuration of the session manager. For example:

- Using Jacl:

```
set configs [lindex [$AdminConfig showAttribute $appDeploy configs] 0]
set appConfig [lindex $configs 0]
set SM [$AdminConfig showAttribute $appConfig sessionManagement]
$AdminConfig modify $SM $attrs
```

- Using Jython:

```
configs = AdminConfig.showAttribute (appDeploy, 'configs')
appConfig = configs[1:len(configs)-1]
SM = AdminConfig.showAttribute (appConfig, 'sessionManagement')
AdminConfig.modify (SM, attrs)
```

7. Save the configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

8. Synchronize the node.

Use the syncActiveNode or syncNode scripts in the AdminNodeManagement script library to propagate the configuration changes to node or nodes.

- Use the syncActiveNodes script to propagate the changes to each node in the cell, as the following example demonstrates:

```
AdminNodeManagement.syncActiveNodes()
```

- Use the syncNode script to propagate the changes to a specific node, as the following example demonstrates:

```
AdminNodeManagement.syncNode("myNode")
```

Configuring applications for session management in web modules using scripting

Use scripting and the wsadmin tool to configure applications for session management in web modules.

About this task

You can use the AdminApp object to set configurations in an application. Some configuration settings are not available through the AdminApp object. The following task uses the AdminConfig object to configure a session manager for a web module in the application.

Procedure

1. Start the wsadmin scripting tool.
2. Identify the deployment configuration object for the application and assign it to the deployment variable. For example:
 - Using Jacl:

```
set deployments [$AdminConfig getid /Deployment:myApp/]
```

- Using Jython:

```
deployments = AdminConfig.getid('/Deployment:myApp/')  
print deployments
```

where:

Table 80. Deployment configuration values. The following table describes the elements of the getid command.

Element	Definition
set	is a Jacl command
deployments	is a variable name
\$	is a Jacl operator for substituting a variable name with its value
AdminConfig	is an object that represents the WebSphere Application Server configuration
getid	is an AdminConfig command
Deployment	is an attribute
<i>myApp</i>	is the value of the attribute

Example output:

```
myApp(cells/mycell/applications/myApp.ear/deployments/myApp|deployment.xml#Deployment_1)
```

3. Get all the modules in the application and assign them to the modules variable. For example:
 - Using Jacl:

```
set appDeploy [$AdminConfig showAttribute $deployments deployedObject]  
set mod1 [$AdminConfig showAttribute $appDeploy modules]  
set mod1 [lindex $mod1 0]
```

Example output:

```
(cells/mycell/applications/myApp.ear/deployments/myApp:deployment.xml#WebModuleDeployment_1)  
(cells/mycell/applications/myApp.ear/deployments/myApp:deployment.xml#EJBModuleDeployment_1)  
(cells/mycell/applications/myApp.ear/deployments/myApp:deployment.xml#WebModuleDeployment_2)
```

- Using Jython:

```
appDeploy = AdminConfig.showAttribute(deployments, 'deployedObject')
mod1 = AdminConfig.showAttribute(appDeploy, 'modules')
print mod1
```

Example output:

```
[(cells/mycell/applications/myApp.ear/deployments/myApp|deployment.xml#WebModuleDeployment_1)
(cells/mycell/applications/myApp.ear/deployments/myApp|deployment.xml#EJBModuleDeployment_1)
(cells/mycell/applications/myApp.ear/deployments/myApp|deployment.xml#EJBModuleDeployment_2)]
```

where:

Table 81. Application module values. The following table describes the elements of the showAttribute AdminConfig command.

Element	Definition
set	is a Jacl command
appDeploy	is a variable name
mod1	is a variable name
\$	is a Jacl operator for substituting a variable name with its value
AdminConfig	is an object that represents the WebSphere Application Server configuration
showAttribute	is an AdminConfig command
deployments	evaluates the ID of the deployment object that is specified in step number 1
deployedObject	is an attribute

4. To obtain a list of attributes that you can set for a session manager, use the **attributes** command. For example:

- Using Jacl:

```
$AdminConfig attributes SessionManager
```

- Using Jython:

```
print AdminConfig.attributes('SessionManager')
```

where:

Table 82. attributes AdminConfig command. The following table describes the elements for the attributes AdminConfig command.

Element	Definition
\$	is a Jacl operator for substituting a variable name with its value
AdminConfig	is an object that represents the WebSphere Application Server configuration
attributes	is an AdminConfig command
SessionManager	is an attribute

Example output:

```
"accessSessionOnTimeout Boolean"
"allowSerializedSessionAccess Boolean"
"context ServiceContext@"
"defaultCookieSettings Cookie"
"enable Boolean"
"enableCookies Boolean"
"enableProtocolSwitchRewriting Boolean"
"enableSSLTracking Boolean"
"enableSecurityIntegration Boolean"
"enableUrlRewriting Boolean"
"maxWaitTime Integer"
"properties Property(TypedProperty)*"
```



```
"sessionDRSPersistence DRSSettings"
"sessionDatabasePersistence SessionDatabasePersistence"
"sessionPersistenceMode ENUM(DATABASE, DATA_REPLICATION, NONE)"
"tuningParams TuningParams"
```

5. Set up the attributes for session manager. The following example sets four top-level attributes in the session manager.

You can modify the example to set other attributes in the session manager, including the nested attributes in Cookie, DRSSettings, SessionDataPersistence, and TuningParams object types. To list the attributes for those object types, use the **attributes** command of AdminConfig object.

gotcha: The session manager requires that you set both the defaultCookieSettings and tuningParams attributes before you initialize an application. If you do not set these attributes, the session manager cannot initialize the application, and the application does not start.

- Using Jacl:

```
set attr0 [list enable true]
set attr1 [list enableSecurityIntegration true]
set attr2 [list maxWaitTime 30]
set attr3 [list sessionPersistenceMode NONE]
set attr4 [list enableCookies true]
set attr5 [list invalidationTimeout 45]
set tuningParamsDetailList [list $attr5]
set tuningParamsList [list tuningParams $tuningParamsDetailList]
set pwdList [list password 95ee608]
set userList [list userId Administrator]
set dsNameList [list datasourceJNDIName jdbc/session]
set dbPersistenceList [list $dsNameList $userList $pwdList]
set sessionDBPersistenceList [list $dbPersistenceList]
set sessionDatabasePersistenceList [list sessionDatabasePersistence $dbPersistenceList]
set kuki [list maximumAge 1000]
set cookie [list $kuki]
set cookieSettings [list defaultCookieSettings $cookie]
set sessionManagerDetailList [list $attr0 $attr1 $attr2 $attr3 $attr4 $cookieSettings
$tuningParamsList $sessionDBPersistenceList]
set sessionMgr [list sessionManagement $sessionManagerDetailList]
set id [$AdminConfig create ApplicationConfig $appDeploy [list $sessionMgr] configs]
set targetMappings [lindex [$AdminConfig showAttribute $appDeploy targetMappings] 0]
set attrs [list config $id]
$AdminConfig modify $targetMappings [list $attrs]
```

Note: The last five lines in the sample above assume that you deployed the web module to only one target server. You can target a module to multiple servers or clusters, by using a loop, if you want to apply the update to each target. Replace the last six lines of the sample above with the following code to apply updates to multiple targets:

```
set id [$AdminConfig create ApplicationConfig $appDeploy [list $sessionMgr] configs]
set targetMappings [lindex [$AdminConfig showAttribute $appDeploy targetMappings] 0]

foreach target $targetMappings {
    if {[regexp DeploymentTargetMapping $target] == 1} {
        set attrs [list config $id]
        $AdminConfig modify $target [list $attrs]
    }
}
```

Example output using Jacl:

```
sessionManagement {enableSecurityIntegration true} {maxWaitTime 30}
{sessionPersistenceMode NONE} {enabled true}
```

- Using Jython:

```
attr0 = ['enable', 'true']
attr1 = ['enableSecurityIntegration', 'true']
attr2 = ['maxWaitTime', 30]
attr3 = ['sessionPersistenceMode', 'NONE']
attr4 = ['enableCookies', 'true']
attr5 = ['invalidationTimeout', 45]
tuningParamsDetailList = [attr5]
tuningParamsList = ['tuningParams', tuningParamsDetailList]
pwdList = ['password', '95ee608']
```

```

userList = ['userId', 'Administrator']
dsNameList = ['datasourceJNDIName', 'jdbc/session']
dbPersistenceList = [dsNameList, userList, pwdList]
sessionDBPersistenceList = [dbPersistenceList]
sessionDBPersistenceList = ['sessionDatabasePersistence', dbPersistenceList]
kuki = ['maximumAge', 1000]
cookie = [kuki]
cookieSettings = ['defaultCookieSettings', cookie]
sessionManagerDetailList = [attr0, attr1, attr2, attr3, attr4, cookieSettings,
tuningParamsList, sessionDBPersistenceList]
sessionMgr = ['sessionManagement', sessionManagerDetailList]
id = AdminConfig.create('ApplicationConfig', appDeploy,[sessionMgr], 'configs')
targetMappings = AdminConfig.showAttribute(appDeploy, 'targetMappings')
targetMappings = targetMappings[1:len(targetMappings)-1]
print targetMappings
attrs = ['config', id]
AdminConfig.modify(targetMappings,[attrs])

```

Note: The last six lines in the sample above assume that you deployed the web module to only one target server. You can target a module to multiple servers or clusters, by using a loop, if you want to apply the update to each target. Replace the last six lines of the sample above with the following code to apply updates to multiple targets:

```

id = AdminConfig.create('ApplicationConfig', appDeploy,[sessionMgr], 'configs')

targetMappings = AdminConfig.showAttribute(appDeploy, 'targetMappings')
targetMappings = targetMappings[1:len(targetMappings)-1].split(" ")
for target in targetMappings:
    if target.find('DeploymentTargetMapping') != -1:
        attrs = ['config', id]
        AdminConfig.modify(target,[attrs])
    #endif
#endfor

```

Example output using Jython:

```
[sessionManagement, [[enableSecurityIntegration, true], [maxWaitTime, 30], [sessionPersistenceMode, NONE]]]
```

6. Set up the attributes for the web module. For example:

- Using Jacl:

```

set nameAttr [list name myWebModuleConfig]
set descAttr [list description "Web Module config post create"]
set webAttrs [list $nameAttr $descAttr $sessionMgr]

```

Example output:

```
{name myWebModuleConfig} {description {Web Module config post create}}
{sessionManagement {{enableSecurityIntegration true} {maxWaitTime 30}
{sessionPersistenceMode NONE} {enabled true}}}
```

- Using Jython:

```

nameAttr = ['name', 'myWebModuleConfig']
descAttr = ['description', "Web Module config post create"]
webAttrs = [nameAttr, descAttr, sessionMgr]

```

Example output:

```
[[name, myWebModuleConfig], [description, "Web Module config post create"],
[sessionManagement, [[enableSecurityIntegration, true], [maxWaitTime, 30],
[sessionPersistenceMode, NONE], [enabled, true]]]]
```

where:

Table 83. Setting the attributes for the web module. The following table describes the elements for setting the attributes of the web module.

Element	Definition
set	is a Jacl command
nameAttr, descAttr, webAttrs	are variable names
\$	is a Jacl operator for substituting a variable name with its value
name	is an attribute

Table 83. Setting the attributes for the web module (continued). The following table describes the elements for setting the attributes of the web module.

Element	Definition
<code>myWebModuleConfig</code>	is a value of the name attribute
description	is an attribute
<code>Web Module config post create</code>	is a value of the description attribute

7. Create the session manager for each web module in the application. You can modify the following example to set other attributes of the session manager in a web module configuration. You must also define a target mapping for this step.

- Using Jacl:

```
foreach module $mod1 {
  if {[regexp WebModuleDeployment $module] == 1} {
    set moduleConfig [$AdminConfig create WebModuleConfig $module $webAttrs]
    set targetMappings [lindex [$AdminConfig showAttribute $module targetMappings] 0]
    set attrs [list config $moduleConfig]
    $AdminConfig modify $targetMappings [list $attrs]
  }
}
```

Note: You can add an optional, additional loop to assign new web module configuration to each target, if the web module is deployed to more than one target server:

```
foreach module $mod1 {
  if {[regexp WebModuleDeployment $module] == 1} {
    set moduleConfig [$AdminConfig create WebModuleConfig $module $webAttrs]
    set targetMappings [lindex [$AdminConfig showAttribute $module targetMappings] 0]
    foreach target $targetMappings {
      if {[regexp DeploymentTargetMapping $target] == 1} {
        set attrs [list config $moduleConfig]
        $AdminConfig modify $target [list $attrs]
      }
    }
  }
}
```

- Using Jython:

```
arrayModules = mod1[1:len(mod1)-1].split(" ")
for module in arrayModules:
  if module.find('WebModuleDeployment') != -1:
    AdminConfig.create('WebModuleConfig', module, webAttrs)
    targetMappings = targetMappings[1:len(targetMappings)-1]
    attrs = ['config', moduleConfig]
    AdminConfig.modify (targetMappings, [attrs])
```

Note: You can add an optional, additional loop to assign new web module configuration to each target, if the web module is deployed to more than one target server:

```
arrayModules = mod1[1:len(mod1)-1].split(" ")
for module in arrayModules:
  if module.find('WebModuleDeployment') != -1:
    moduleConfig = AdminConfig.create('WebModuleConfig', module, webAttrs)
    attrs = ['config', moduleConfig]
    targetMappings = AdminConfig.showAttribute(appDeploy, 'targetMappings')
    targetMappings = targetMappings[1:len(targetMappings)-1].split(" ")
    for target in targetMappings:
      if target.find('DeploymentTargetMapping') != -1:
        attrs = ['config', moduleConfig]
        AdminConfig.modify(target, [attrs])
```

Example output:

```
myWebModuleConfig(cells/mycell/applications/myApp.ear/deployments/myApp|deployment.xml#WebModuleConfiguration_1)
```

If you do not specify the `tuningParamsList` attribute when you create the session manager, you will receive an error when you start the deployed application.

8. Save the configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

9. In a network deployment environment only, synchronize the node.

Use the `syncActiveNode` or `syncNode` scripts in the `AdminNodeManagement` script library to propagate the configuration changes to node or nodes.

- Use the `syncActiveNodes` script to propagate the changes to each node in the cell, as the following example demonstrates:

```
AdminNodeManagement.syncActiveNodes()
```

- Use the `syncNode` script to propagate the changes to a specific node, as the following example demonstrates:

```
AdminNodeManagement.syncNode("myNode")
```

Chapter 8. Scripting for web services

This page provides a starting point for finding information about web services.

Web services are self-contained, modular applications that can be described, published, located, and invoked over a network. They implement a services oriented architecture (SOA), which supports the connecting or sharing of resources and data in a very flexible and standardized manner. Services are described and organized to support their dynamic, automated discovery and reuse.

Starting the wsadmin scripting client using wsadmin scripting

You can use the wsadmin tool to configure and administer application servers, application deployment, and server runtime operations.

About this task

The wsadmin tool provides the ability to automate configuration tasks for your environment by running scripts. However, there are some limitations for using the wsadmin tool, including:

- The wsadmin tool only supports the Jython and Jacl scripting languages.

The Version 6.1 release of WebSphere Application Server represented the start of the deprecation process for the Jacl syntax that is associated with the wsadmin tool. The Jacl syntax for the wsadmin tool continues to remain in the product and is supported for at least two major product releases. After that time, the Jacl language support might be removed from the wsadmin tool. The Jython syntax for the wsadmin tool is the strategic direction for WebSphere Application Server administrative automation. The application server provides significantly enhanced administrative functions and tooling that support product automation and the use of the Jython syntax.

gotcha: Not all of the WebSphere Application Server component classes are packaged in the same .jar file. If you are going to be using the wsadmin tool to run Jython scripts, include the jython.package.path system property on your wsadmin command to ensure that all of the required JAR files are set to the jython package path during wsadmin startup.

```
./wsadmin.sh -lang jython -javaoption  
"-Djython.package.path=/usr/WebSphere70/AppServer/plugins/com.ibm.ws.wlm.jar"
```

If you want to invoke WebSphere Application Server functions from different WebSphere Application Server classes that are packaged in .jar files other than runtime.jar and admin.jar, you can include multiple jar files in the path specified for the jython.package.path system property, and separate them with a semicolon (;).

```
./wsadmin.sh -lang jython -javaoption  
"-Djython.package.path=/usr/WebSphere70/AppServer/plugins/com.ibm.ws.wlm.jar;com.ibm.ws.wccm.jar"
```

If you want to invoke WebSphere Application Server functions in a jython script using ws_ant, you can create a .prop text file, and include the following line in this file:

```
jython.package.path=/usr/WebSphere70/AppServer/plugins/com.ibm.ws.wlm.jar
```

Then include the property file in the ant script xml file. For example:

```
<taskdef name="wsadmin" classname="com.ibm.websphere.ant.tasks.WSAdmin"/>  
<target name="main" >  
  <wsadmin conntype="NONE" lang="jython" failonerror="true" properties="/tmp/jython.prop"  
    script="/home/fsgapp/MSTWasBuild/project/scripts/socr/socr/jython/configure.py">  
  </wsadmin>  
</target>
```

- The wsadmin tool manages the installation, configuration, deployment, and runtime operations for application servers, deployment managers, administrative agents, and job managers that run the same version or a higher version of the product. The wsadmin tool cannot connect to an application server, deployment manager, administrative agent, or job manager that runs a product version which is older

than the version of the wsadmin tool. For example, a Version 7.x wsadmin client cannot connect to a Version 6.x application server. However, a Version 6.x wsadmin client can connect to a Version 7.x application server. This limitation exists because new functionality is added to the wsadmin tool in each product release. You cannot use new command functionality on application servers running previous product versions.

- The wsadmin tool operates at the deployment manager node level in a mixed-cell environment. Do not run wsadmin at the application server node level to ensure that all command functionality is available.

In a flexible management environment, you can connect the wsadmin tool to a base application server, deployment manager, administrative agent, or job manager process. If you do not specify the port of the base application server or the profile name assigned to the job manager, the wsadmin tool automatically connects to the administrative agent.

gotcha: The application management design does not allow you to install an EE specification level EAR or module that is at a higher level than the client. Client code that runs in wsadmin reads the EAR file and uses introspection of the content to generate the deployment configuration options that are applicable to that application. The client side code cannot process a specification level that is higher than what that client supports.

Procedure

1. Locate the command that starts the wsadmin scripting client.



Choose one of the following:

- Invoke the scripting process using a specific profile. The QShell command for invoking a scripting process is located in the *profile_root/bin* directory. The name of the QShell script is *wsadmin*. If you use this option, you do not need to specify the *-profileName profile_name* parameter.
 - Invoke the scripting process using the default profile. The *wsadmin* Qshell command is located in the *app_server_root/bin* directory. If you do not want to connect to the default profile, you must specify the *-profileName profile_name* parameter to indicate the profile that you want to use.
2. In a flexible management environment, determine whether to connect to a base application server, administrative agent, or job manager process.
 - Connect to the administrative agent process.

Connect the wsadmin tool to the administrative agent to configure, manage, and administer servers. If you do not specify connection options, the wsadmin tool automatically connects to the administrative agent process. Use the following command to connect to the administrative agent:

```
wsadmin -lang jython
```
 - Connect to a base application server process.

Connect the wsadmin tool to a base application server to manage settings for a specific server of interest. Use this connection type when connecting to a node that contains one server and is registered with the administrative agent. Use a command such as the following to connect to a base application server:

```
wsadmin -conntype SOAP [-port 4213] -lang jython
```
 - Connect to the job manager process.

Connect the wsadmin tool to the job manager to submit, monitor, and manage administrative jobs. Use a command such as the following to connect to the job manager:

```
wsadmin -profileName JobMgr01 -lang jython
```
 3. Review additional connection options for the wsadmin tool.

You can start the wsadmin scripting client in several different ways. To specify the method for running scripts, perform one of the following wsadmin tool options:

Run scripting commands interactively

Run wsadmin with an option other than *-f* or *-c* or without an option. The wsadmin tool starts and displays an interactive shell with a wsadmin prompt. From the wsadmin prompt, enter any

Jacl or Jython command. You can also invoke commands using the AdminControl, AdminApp, AdminConfig, AdminTask, or Help wsadmin objects. To leave an interactive scripting session, use the `quit` or `exit` commands. These commands do not take any arguments.

The following examples launch the wsadmin tool:

- Launch the wsadmin tool using Jython:

```
IBM i
wsadmin -lang jython
```

- Launch the wsadmin tool using Jython when security is enabled:

```
IBM i
wsadmin -lang jython -user user_name -password password
```

- Launch the wsadmin tool using Jacl with no options:

```
IBM i
wsadmin -lang jac1
```

Run scripting commands as individual commands

Run the wsadmin tool with the `-c` option.

The following examples run commands individually:

- Run the `list` command for the AdminApp object using Jython:

```
IBM i
wsadmin -lang jython -c "AdminApp.list()"
```

- Run the `list` command for the AdminApp object using Jacl:

```
IBM i
wsadmin -c "$AdminApp list"
```

Run scripting commands in a script

Run the wsadmin tool with the `-f` option, and place the commands that you want to run into the file.

The following examples run scripts:

- Run the `a1.py` script using Jython:

```
IBM i
wsadmin -lang jython -f a1.py
```

where the `a1.py` file contains the following commands:

```
apps = AdminApp.list()
print apps
```

Run scripting commands in a profile script

A *profile script* is a script that runs before the main script, or before entering interactive mode. You can use profile scripts to set up a scripting environment that is customized for the user or the installation.

By default, the following profile script files might be configured for the `com.ibm.ws.scripting.profiles` property in the `app_server_root/properties/wsadmin.properties` file:

- `app_server_root/bin/securityProcs.jacl`
- `app_server_root/bin/LTPA_LDAPSecurityProcs.jacl`

By default, these files are in ASCII. If you use the `profile.encoding` option to run EBCDIC encoded profile script files, change the encoding of the files to EBCDIC.

To run scripting commands in a profile script, run the wsadmin tool with the `-profile` option, and include the commands that you want to run into the profile script.

To customize the script environment, specify one or more profile scripts to run.

Do not use parenthesis in node names when creating profiles.

The following examples run profile scripts:

- Run the a1prof.py script using Jython:

IBM i

```
wsadmin -lang jython -profile a1prof.py
```

where the a1prof.py file contains the following commands:

```
apps = AdminApp.list()
print "Applications currently installed:\n " + apps
```

- Run the a1prof.py script using Jacl:

IBM i

```
wsadmin -profile a1prof.jacl
```

where the a1prof.py file contains the following commands:

```
set apps [$AdminApp list]
puts "Applications currently installed:\n$app" 
```

Results

The wsadmin returns the following output when it establishes a connection to the server process:

Jython example output:

```
Applications currently installed:
  DefaultApplication
  ivtApp
  query
WASX70311: For help, enter: "print Help.help()"
wsadmin>
```

Jacl example output:

```
Applications currently installed:
  DefaultApplication
  ivtApp
  query
WASX70311: For help, enter: "$Help help"
wsadmin>
```

Configuring web services applications using wsadmin scripting

You can use the wsadmin scripting tool to complete the several tasks for a web services application.

Before you begin

Develop a web services application. To learn more, see the implementing web services applications information.

About this task

The WebSphere Application Server wsadmin tool provides the ability to run scripts. You can use the wsadmin tool to manage a WebSphere Application Server installation, as well as configuration, application deployment, and server run-time operations. The WebSphere Application Server only supports the Jacl and Jython scripting languages.

To use the wsadmin tool to configure a web services application, publish a Web Services Description Language (WSDL) file, or to configure policy sets:

Procedure

1. Launch a scripting command. To learn more, see the starting the wsadmin scripting client information.
2. Follow the steps in one of the following topics, depending on what task you want to complete:
 - Publish WSDL files.
 - Configure web services client deployed WSDL file names.
 - Configure web services client preferred port mappings .
 - Configure web services client port information .
 - Configure the scope of a web services port .

Results

You have configured web services applications with the wsadmin tool.

Enabling WSDM using wsadmin scripting

Use the wsadmin tool with the AdminConfig object to enable Web Services Distributed Management (WSDM) in your environment. WSDM is an OASIS approved standard that supports managing resources through a standardized web service interface.

About this task

The WSDM application is installed as a system application and is disabled by default. In order to use the WSDM functionality, use the script in this topic to enable WSDM.

In a multinode environment, the management code runs across a distributed network of Java virtual machines with a central access point as the deployment manager process for the entire network or cell. Enable WSDM on the deployment manager to manage Java virtual machines within a cell. The WSDM application acts as an administrative client to the managed application server. You can manage the WSDM application from the application server on which it is deployed only.

Procedure

1. Launch a scripting command. To learn more, see the starting the wsadmin scripting client information.
2. Determine the configuration ID of the WSDM application.
Use the `getid` option for the AdminConfig object to retrieve the configuration ID and set the value to the `deployment` variable, as the following example demonstrates:

```
deployment = AdminConfig.getid('/Deployment:WebSphereWSDM/')
```
3. Determine the deployed object of the WSDM configuration ID.
Use the `showAttribute` option for the AdminConfig object to retrieve the `deployedObject` attribute and set the value to the `deployedObject` variable, as the following example demonstrates:

```
deployedObject = AdminConfig.showAttribute(deployment, 'deployedObject')
```
4. Determine the target mappings for the WSDM deployed object.
Use the `showAttribute` option for the AdminConfig object to retrieve the `targetMappings` attribute and set the value to the `targetMappings` variable, as the following example demonstrates:

```
targetMappings = AdminConfig.showAttribute(deployedObject, "targetMappings")
```
5. Enable WSDM.
Assign each mapping to the `target` variable, then set the `enable` attribute to `true` in the target mapping, as the following example demonstrates:

```
mappings = targetMappings[1:len(targetMappings)-1].split(" ")
AdminConfig.modify(target, '[[enable true]]')
```
6. Save the configuration changes.
Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Example

The following samples provide Jython and Jacl scripts that enable WSDM in your environment:

- Using Jython:

```
deployment = AdminConfig.getid('/Deployment:WebSphereWSDM/')
deployedObject = AdminConfig.showAttribute(deployment, 'deployedObject')
targetMappings = AdminConfig.showAttribute(deployedObject, "targetMappings")
mappings = targetMappings[1:len(targetMappings)-1].split(" ")
for target in mappings:
AdminConfig.modify(target, '[[enable true]]')
AdminConfig.save()
```

- Using Jacl:

```
set deployment [$AdminConfig getid /Deployment:WebSphereWSDM]
set deployedObject [$AdminConfig showAttribute $deployment deployedObject]
set targetMappings [lindex [$AdminConfig showAttribute $deployedObject targetMappings] 0]
$AdminConfig modify $targetMappings {{enable true}}
$AdminConfig save
```

Querying web services using wsadmin scripting

You can use the Jython or Jacl scripting language to query for web services properties with the wsadmin tool. Use the commands in the WebServicesAdmin group to list all web services, service references and attributes, find attributes of a specific web service, determine the web service endpoint, and determine the operation name of a Web service.

Before you begin

The wsadmin administrative scripting program supports two scripting languages, Jacl and Jython. The Jacl syntax is deprecated. This topic includes examples written only in the Jython scripting language.

Before you can complete the procedure for the commands in the WebServicesAdmin group, you must launch the wsadmin tool.

About this task

Use the following commands to query for web services and web service attributes. If you receive a `NoItemFoundException` error, the specified application, module, service, or endpoint cannot be found. Verify that all parameters are correct.

You can optionally specify the client parameter for any command in the WebServicesAdmin command group. The client parameter indicates whether to return service providers or service clients. Specify `false` to request service providers and `true` to request service clients.

Procedure

- Query the configuration for all installed web services for all enterprise applications.

Enter the following command. You do not need to specify the application parameter for this command.

```
AdminTask.listWebServices()
```

This command returns all installed web services. The command also returns the application name, module name, service name, and service type for each web service.

Sample output:

```
'[ [service {http://www.ibm.com}service1] [client false] [application
application1] [module webappl.war] [type JAX-WS] ]'
```

- Query the configuration for all installed web services for a specific enterprise application.

Enter the following command, and specify the name of the application you want to query:

```
AdminTask.listWebServices('[-application application_name -client false']')
```

This command returns all installed web services for the *application_name* that you specify. The command also returns the application name, module name, service name, and service type for each web service.

Sample output:

```
'[ [service {http://www.ibm.com}service1] [client false] [application application1] [module webappl.war] [type JAX-WS] ]'
```

- Query the configuration for the web service name and type for an enterprise application.

Enter the following command, and specify the application name, module name, and web service name. The **client** parameter is optional.

```
AdminTask.getWebService(['-application application_name -module module_name -service webservice_name -client false'])
```

The command returns the web service name and web service type.

Sample output:

```
'[ [service {http://www.ibm.com}service1] [client false] [type JAX-WS] ]'
```

- Query the configuration for the web service endpoints for an enterprise application.

The logical endpoint name is the port name in the Web Services Description Language (WSDL) document. Enter the following command, and specify the application name, module name, and web service name. The **client** parameter is optional.

```
AdminTask.listWebServiceEndpoints(['-application application_name -module module_name -service webservice_name -client false'])
```

This command returns the port on which the web service is installed.

Sample output:

```
'[logicalEndpoint QuotePort01]'
```

- Query the configuration for the web service operation names for an enterprise application.

Enter the following command, and specify the application name, module name, web service name, and endpoint name. The logical endpoint name is the port name in the Web Services Description Language (WSDL) document. The **client** parameter is optional.

```
AdminTask.listWebServiceOperations(['-application application_name -module module_name -service webservice_name -logicalEndpoint endpoint_name -client false'])
```

This command returns all web service operations.

Sample output:

```
'[operation ivt_app_op1] [operation ivt_app_op2]'
```

- Query the configuration for the service providers, endpoints, and operations from each deployed asset.

The `listServices` command provides generic query functions. Use the following command to display information about service providers, endpoints, and operations for enterprise applications and Web Services Notification (WSN) clients. Each parameter is optional. If you do not specify the `queryProps` parameter, the command returns each service provider in your configuration. If you do not specify the `expandResources` parameter, the command does not return the logical endpoints or operations for each service.

The following command example returns each service provider and the corresponding endpoints for the `myApplication` application:

```
AdminTask.listServices('-queryProps "[[CompositionUnit=myApplication][client=false]" -expandResources endpoint')
```

The following command example returns each JAX-WS service provider and the corresponding endpoints and operations within a cell:

```
AdminTask.listServices(['-queryProps "[[serviceType JAX-WS][client false]]"'])
```

This command returns the service providers that match the search query.

Sample output:

```
'[ [service {http://www.ibm.com}EchoService] [assetType [J2EE Application]] [client false] [application WSSampleServicesSei] [module SampleServicesSei.war] [serviceType JAX-WS] ]'
```

```
[ [service {http://www.ibm.com}EchoService12] [assetType [J2EE Application]] [client false]
[application WSSampleServicesSei]
[module SampleServicesSei.war] [serviceType JAX-WS] ]

[service {http://www.ibm.com}PingService] [assetType [J2EE Application]] [client false]
[application WSSampleServicesSei]
[module SampleServicesSei.war] [serviceType JAX-WS] ]

[ [service {http://www.ibm.com}PingService12] [assetType [J2EE Application]] [client false]
[application WSSampleServicesSei]
[module SampleServicesSei.war] [serviceType JAX-WS]]'
```

Use the `listServices` command to learn about service references. You can use the `serviceRef` property with the `queryProps` parameter with the `listServices` command to query all service references or a specific service reference. This parameter is only applicable for service clients. If you specify an asterisk (*) as a wildcard as the name of the service reference, all of the service references for the matching service client are returned. You can also query a specific service reference by specifying the name of the service reference that you want. To return detailed service reference information for endpoints and operations, specify the `expandResource` property.

The following command example lists all service clients and service references in a cell:

```
AdminTask.listServices('[-queryProps [[client true] [serviceRef *]]]')
```

This command returns the service references that match the search query.

In the following sample output, the `EchoService` and `Echoservice12` service clients are listed and these clients do not have service references in the cell. However, `TestService` and `TestService2` service clients do have service references. There is one properties object for each service reference in the service client. The component name is only available for an EJB module.

```
'[ [service {http://www.ibm.com}EchoService] [assetType [J2EE Application]] [client true]
[application JaxWSServicesSamples] [module SampleClientSei.war] [serviceType JAX-WS] ]

[ [service {http://www.ibm.com}EchoService12] [assetType [J2EE Application]] [client true]
[application JaxWSServicesSamples] [module SampleClientSei.war] [serviceType JAX-WS] ]

[ [service {http://www.ibm.com}TestService] [assetType [J2EE Application]] [client true]
[application JaxWSServicesSamples] [module SampleClientSei.war] [serviceType JAX-WS] ]

[ [serviceRef testRef] [assetType [J2EE Application]] [service {http://www.ibm.com}TestService]
[client true] [application JaxWSServicesSamples] [module SampleClientSei.war] [serviceType JAX-WS] ]

[ [service {http://www.ibm.com}TestService2] [assetType [J2EE Application]] [client true]
[application JaxWSServicesSamples] [module SampleClientSei.war] [serviceType JAX-WS] ]

[ [serviceRef testRef2] [assetType [J2EE Application]] [service {http://www.ibm.com}TestService2]
[client true] [application JaxWSServicesSamples] [module SampleClientSei.war] [serviceType JAX-WS] ]'
```

The following command example lists a specific service reference by expanding endpoints and operations:

```
AdminTask.listServices('[-queryProps [[client true] [application JaxWSServicesSamples]
[module SampleClientSei.war] [serviceRef testRef] -expandResource logicalEndpoint]')
```

This command returns the specified service references for `testRef` and the `serviceRef` property is included in each properties object; for example:

```
'[ [serviceRef testRef] [service {http://www.ibm.com}TestService] [assetType [J2EE Application]]
[client true] [application JaxWSServicesSamples] [module SampleClientSei.war] [serviceType JAX-WS] ]

[ [serviceRef testRef] [module SampleClientSei.war] [serviceType JAX-WS] [client true]
[service {http://www.ibm.com}TestService] [assetType [J2EE Application]] [logicalEndpoint portA] [application JaxWSServicesSamples] ]

[ [serviceRef testRef] [module SampleClientSei.war] [serviceType JAX-WS] [client true]
[service {http://www.ibm.com}TestService] [assetType [J2EE Application]]
[logicalEndpoint portB] [application JaxWSServicesSamples] ]'
```

The following command example returns each WSN service client and the corresponding endpoints and operations within a cell:

```
AdminTask.listServices('[-queryProps "[[serviceType [JAX-WS (WSN)]] [client true]]" -expandResource logicalEndpoint]')
```

This command returns the service providers that match the search query.

Sample output:

```
'[ [service {http://www.ibm.com/websphere/wsn/out/remote-publisher}OutboundRemotePublisherService] [assetType [WSN Service]] [client true]
[bus bus1] [WSNService wsn1] [serviceType [JAX-WS (WSN)]] ]'
```

```
[ [assetType [WSN Service]] [service {http://www.ibm.com/websphere/wsn/out/remote-publisher}OutboundRemotePublisherService]
[bus bus1] [client true] [WSNService wsn1] [serviceType [JAX-WS (WSN)]] [logicalEndpoint OutboundRemotePublisherPort] ]

[ [service {http://www.ibm.com/websphere/wsn/out/notification}OutboundNotificationService] [assetType [WSN Service]] [client true]
[bus bus1] [WSNService wsn1] [serviceType [JAX-WS (WSN)]] ]

[ [assetType [WSN Service]] [service {http://www.ibm.com/websphere/wsn/out/notification}OutboundNotificationService]
[bus bus1] [client true] [WSNService wsn1] [serviceType [JAX-WS (WSN)]] [logicalEndpoint OutboundNotificationPort] ]'
```

WebServicesAdmin command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the wsadmin tool. Use the commands in the WebServicesAdmin group to list all web services, service references and attributes, find attributes of a specific web service, determine the web service endpoint, and determine the operation name of a Web service.

Use the commands in the WebServicesAdmin group to query information for installed web services. For more information about the AdminTask object, see the Commands for the AdminTask object information.

The following commands are available for the WebServicesAdmin group of the AdminTask object:

- “getWebService”
- “listServices” on page 572
- “listWebServices” on page 574
- “listWebServiceEndpoints ” on page 575
- “listWebServiceOperations” on page 576

getWebService

The getWebService command retrieves the attributes for a web service. This command applies to enterprise applications only.

Target object

None.

Required parameters

-application

Specifies the name of the deployed enterprise application. (String, required)

-module

Specifies the name of the module. (String, required)

-service

Specifies the name of the web service. (String, required)

Optional parameters

-client

Specifies whether the web service is a provider or a client. The default value is false (service provider). When set to true, the command only returns web service clients. (Boolean, optional)

Return value

Returns a list of attributes, including service name, whether the service is a provider or client, and service type. The service type attribute is only applicable for service providers.

Batch mode example usage

Using Jython string:

```
AdminTask.getWebService(['-application application_name -module module_name -service webservice_name
-client false'])
```

Sample output:

```
'[[service {http://www.ibm.com}service1][type JAX-WS][client false]]'
```

Interactive mode example usage

Using Jython:

```
AdminTask.getWebService ('-interactive')
```

listServices

The listServices command queries the configuration for services, endpoints, and operations. This command provides more generic query functions than the rest of commands in this command group. It is applicable to Java™ applications as well as other assets such as Web Services Notification (WSN) clients.

Target object

None.

Optional parameters

-queryProps

Specifies properties used to locate the service provider or client of interest. For example, if you specify `[[type=JAX-WS][client=true]]`, the command returns each JAX-WS client reference in the enterprise applications. (Properties, optional)

The -queryProps parameter accepts several properties. You can use one or multiple properties to specify your query criteria. Do not mix the query properties between different asset types. For example, if you specify application and bus, the command reports an error.

- Specify the following properties with the -queryProps parameter to query enterprise applications:

Table 84. Properties for the -queryProps parameter for enterprise applications. Use these properties to query enterprise applications.

Property and value	Description
assetType=J2EE Application	Queries each Java EE application.
application=application_name	Queries a specific Java EE application.
module=module_name	Queries a specific Java EE application module. You must specify the application and module properties to query for application modules.

- Specify the following properties with the -queryProps parameter to query for WSN clients:

Table 85. Properties to query WSN clients. Use these properties to query WSN clients.

Property and value	Description
assetType=WSN Service	Queries each WSN service client.
bus=bus_name	Queries a specific bus.
WSNService=WSN_service_name	Queries a specific WSN service. You must specify the bus and WSNService properties to query for a specific WSN service.

- Specify the following properties with the -queryProps parameter to query all assets:

Table 86. Properties for the `-queryProps` parameter to query all assets. Use these properties to query all assets.

Property and value	Description
<code>serviceType=service_type</code>	Queries by service type. Specify JAX-WS to query for Java™ API for XML-Based Web Services assets. Specify JAX-WS (WSN) to query for Web Services Notification assets.
<code>client=Boolean</code>	Queries for clients or providers. Specify true to query for clients. Specify false to query for providers.
<code>service=service_name</code>	Queries for the logical endpoints and operations for a specific service.

- Specify the following properties with the `-queryProps` parameter to query all service references or a specific service reference when `client=true`:

Table 87. Properties for the `-queryProps` parameter to query service references. Use these properties to query all service references for service clients.

Property and value	Description
<code>serviceRef=serviceref_name</code>	Queries for a specific service reference. You can also use an asterisk (*) as a wildcard character to specify to return all the service references under the matching service client.

-expandResource

Specifies whether to return service names only or services and detailed resource information. Specify `logicalEndpoint` or `operation`. If you specify the `logicalEndpoint` value, the command returns the matching services and each endpoint in the services. If you specify the `operation` value, the command returns the matching services and the corresponding endpoints and operations. (String, optional)

You can use the `expandResource` parameter to return detailed resource information for the endpoints and operations under the service reference.

Return value

The command returns a list of properties for each service, as well as detailed endpoint and operation information if you query for endpoints and operations.

Batch mode example usage

The following examples query each service provider in the `myApplication` application. The examples return the logical endpoints for each service because the `-expandResources` parameter is set as `logicalEndpoint`, as the following example output demonstrates:

```
[ [service {http://www.ibm.com}EchoService] [assetType [J2EE Application]]
  [client false] [application MyWSApplication] [module ServicesModule.war] [serviceType JAX-WS] ]
[ [assetType [J2EE Application]] [service {http://www.ibm.com}EchoService]
  [client false] [application MyWSApplication] [module ServicesModule.war] [serviceType JAX-WS]
  [logicalEndpoint EchoServicePort] ]
[ [service {http://www.ibm.com}PingService] [assetType [J2EE Application]]
  [client false] [application MyWSApplication] [module ServicesModule.war] [serviceType JAX-WS] ]
[ [assetType [J2EE Application]] [service {http://www.ibm.com}PingService]
  [client false] [application MyWSApplication] [module ServicesModule.war] [serviceType JAX-WS]
  [logicalEndpoint PingServicePort] ]
```

Using Jython string:

```
AdminTask.listServices(['-queryProps [[application MyWSApplication][client false]] -expandResource
  logicalEndpoint'])
```

Using Jython list:


```
AdminTask.listServices(['-queryProps', '[[application myApplication][client false]]', '-expandResource',
'logicalEndpoint'])
```

The following examples query each service client under the `myBus` bus. The examples do not return logical endpoints or operations for each service client because it does not specify the `-expandResource` parameter.

Using Jython string:

```
AdminTask.listServices(['-queryProps [[bus myBus][client true]]'])
```

Using Jython list:

```
AdminTask.listServices(['-queryProps', '[[bus myBus][client true]]'])
```

The following examples query service references with the name `testRef` for each service client for the `JaxWSServicesSamples` application. The examples return detailed resource information for the logical endpoints or operations for each service reference because the `-expandResource` parameter is specified.

Using Jython string:

```
AdminTask.listServices(['-queryProps [[client true] [application JaxWSServicesSamples] [module SampleClientSei.war]
[serviceRef testRef] -expandResource logicalEndpoint'])
```

Using Jython list:

```
AdminTask.listServices(['-queryProps', '[[application JaxWSServicesSamples][client true][module SampleClientSei.war]
[serviceRef testRef]', '-expandResource', 'logicalEndpoint'])
```

Sample output:

```
'[ [serviceRef testRef] [service {http://www.ibm.com}TestService] [assetType [J2EE Application]] [client true]
[application JaxWSServicesSamples] [module SampleClientSei.war] [serviceType JAX-WS] ]

[ [serviceRef testRef] [module SampleClientSei.war] [serviceType JAX-WS] [client true]
[service {http://www.ibm.com}TestService] [assetType [J2EE Application]] [logicalEndpoint portA]
[application JaxWSServicesSamples] ]

[ [serviceRef testRef] [module SampleClientSei.war] [serviceType JAX-WS] [client true]
[service {http://www.ibm.com/}TestService] [assetType [J2EE Application]] [logicalEndpoint portB]
[application JaxWSServicesSamples] ]'
```

Interactive mode example usage

Using Jython:

```
AdminTask.listServices('-interactive')
```

listWebServices

The `listWebServices` command retrieves a list of available web services for one or all applications. If an application name is not supplied, the command lists all of the web services. This command applies to enterprise applications only.

Target object

None.

Required parameters

None.

Optional parameters

-application

Specifies the name of the deployed enterprise application. If you do not specify this parameter, the command returns all web services in the cell. (String, optional)

-client

Specifies whether the web service is a provider or a client. The default value is `false` (service provider). When set to `true`, the command only returns web service clients. (Boolean, optional)

Return value

All web services for the application specified. For each web service, the command returns the following attributes and corresponding values: application name, module name, service name, whether the web service is a service provider or client, and service type. The service type is only specified if the web service is a service provider.

Batch mode example usage

Using Jython string:

```
AdminTask.listWebServices(['-application application1 -client false'])
```

Using Jython list:

```
AdminTask.listWebServices(['-application', 'application1', '-client', 'false'])
```

Sample output:

```
'[[service {http://www.ibm.com}service1][application application1][module webappl.war][type JAX-WS][client false]]'
```

Interactive mode example usage

Using Jython:

```
AdminTask.listWebServices('-interactive')
```

listWebServiceEndpoints

The `listWebServiceEndpoints` command returns a list of logical endpoints for a web service. The logical endpoint name is the port name in the Web Services Description Language (WSDL) document. This command applies to enterprise applications only.

Target object

None.

Required parameters

-application

Specifies the name of the deployed enterprise application. (String, required)

-module

Specifies the name of the module. (String, required)

-service

Specifies the name of the web service. (String, required)

Optional parameters

-client

Specifies whether the web service is a provider or a client. The default value is `false` (service provider). When set to `true`, the command only returns web service clients. (Boolean, optional)

Return value

Returns the logical endpoint name for the web service specified.

Batch mode example usage

Using Jython string:

```
AdminTask.listWebServiceEndpoints(['-application application_name -module module_name  
-service webservice_name -client false'])
```

Using Jython list:

```
AdminTask.listWebServiceEndpoints(['-application', 'application_name', '-module', 'module_name',  
'-service', 'webservice_name', '-client', 'false'])
```

Sample output:

```
'[[logicalEndpoint QuotePort01]]'
```

Interactive mode example usage

Using Jython:

```
AdminTask.listWebServiceEndpoints('-interactive')
```

listWebServiceOperations

The `listWebServiceOperations` command returns a list of web service operations. This command applies to enterprise applications only.

Target object

None.

Required parameters

-application

Specifies the name of the deployed enterprise application. (String, required)

-module

Specifies the name of the module. (String, required)

-service

Specifies the name of the web service. (String, required)

-logicalEndpoint

The port name in the Web Services Description Language (WSDL) document. (String, required)

Optional parameters

-client

Whether the web service is a provider or a client. The default value is `false` (service provider). When set to `true`, the command only returns web service clients. (Boolean, optional)

Return value

Returns the operation name for the web service specified.

Batch mode example usage

Using Jython string:

```
AdminTask.listWebServiceOperations(['-application application_name -module  
module_name -service webservice_name -client false  
-logicalEndpoint endpoint_name'])
```

Using Jython list:

```
AdminTask.listWebServiceOperations(['-application', 'application_name', '-module',  
'module_name', '-service', 'webservice_name', '-client',  
'false', '-logicalEndpoint', 'endpoint_name'])
```

Sample output:

```
'[[operation ivt_app_op1][operation ivt_app_op2]]'
```

Interactive mode example usage

Using Jython:

```
AdminTask.listWebServiceOperations('-interactive')
```

Configuring a web service client deployed WSDL file name using wsadmin scripting

When a web service application is deployed into WebSphere Application Server, an instance is created for each application or module. The instance contains deployment information for the web module or Enterprise JavaBeans (EJB) module, including the client bindings.

Before you begin

You should have the web service application ready for deployment or already deployed the web service into WebSphere Application Server before starting this task.

To complete this task, you need to know the topology of the URL endpoint address of the web services servers and which web service the client depends upon. You can view the deployment descriptors in the administrative console to find topology information. To learn more, see the viewing web services server deployment descriptors in the administrative console information.

For more information about the wsadmin tool options, see the information on options for the AdminApp object install, installInteractive, edit, editInteractive, update, and updateInteractive commands.

About this task

The client bindings define the Web Services Description Language (WSDL) file name and preferred ports. The relative path of a web service in a module is specified within a compatible WSDL file that contains the actual URL to be used for requests. The address is only needed if the original WSDL file did not contain a URL, or when a different address is needed. For a service endpoint with multiple ports, you need to define an alternative WSDL file name.

The following steps describe how to edit bindings for a web service after these bindings are deployed on a server. When one web service communicates with another web service, you must configure the client bindings to access the downstream web service.

You can use the **WebServicesClientBindDeployedWsd** command-line option in this task to change the endpoint. One of the benefits to using the command-line option is that you can avoid uninstalling, modifying enterprise archive (EAR) files and reinstalling applications to make binding configuration changes. Another benefit is the ability to customize the web service bindings applications for different environments during installation, and to avoid the need to create different application EAR files for each version.

Several versions of WSDL files, each with different service endpoints, can be provided during the development and assembly of a web service module that is acting as a client to a web service. During or after the installation, when you are configuring the installed application, the **WebServicesClientBindDeployedWsd** option can be used to specify which of the WSDL files to use.

Because the WSDL file defines all the service endpoints or implementations for all of the port types and ports that the client can use, the deployed WSDL file can group a set of choices into one WSDL. You can override the endpoint by port.

You can use Jacl or Jython scripts, but this task assumes that you are using Jacl. For more information about deploying and managing using scripting, see the getting started with scripting information.

To configure client bindings with the wsadmin tool, proceed with the following steps:

Procedure

1. Launch a scripting command. To learn more, see the starting the wsadmin scripting client information.
2. At the **wsadmin** command prompt, enter the command syntax. You can use `install`, `installInteractive`, `edit` or `editInteractive` options. The following example presents the syntax:

```
$AdminApp edit <app_name> {  
-WebServicesClientBindDeployedWsd1 {{<module_name> <EJB_name> <web_service>  
<deployed_WSDL_filename>}}...}
```

The example shows multiple nodules and URL endpoints because you can edit multiple URL fragments. where:

- *app_name* is the application name, for example `WebServicesSample.ear`
- *module_name* is the EJB or web module name, for example `AddressBookW2JE.jar`
- *EJB_name* is the name of the EJB if the module is not a web module, for example `Exchange`
- *web_service* is the name of the web service, for example `service/StockQuoteService`
- *deployed_WSDL_filename* identifies the WSDL file, relative to this module, for example, `META-INF/wsdl/AlternativeStockQuoteFetcher.wsdl`

3. Save the configuration changes with the **\$AdminConfig save** command:

Results

Your web service client bindings are configured.

Example

The following example presents the application, module and deployed WSDL file name as it is written in the command line:

```
$AdminApp edit MultiEjbJar {-WebServicesClientBindDeployedWSDL {{ejbclientonly.jar Exchange  
service/StockQuoteService META-INF/wsdl/AlternateStockQuoteFetcher.wsdl}}...}}
```

What to do next

Now you can finish any other configurations, start or restart the application, and verify the expected behavior of the web service.

Configuring web service client-preferred port mappings using wsadmin scripting

A client port type can be configured with ports that have different qualities of service. You can use the **WebServicesClientBindPreferredPort** command-line option to specify which port you want to use.

Before you begin

If you have not deployed the enterprise archive (EAR) file yet, you need to have it ready or already deployed to the application server.

About this task

For each port type that is configured, one or more ports are available that implement that port type. When a web service client calls a `getPort` method, the preferred port mapping determines which port to use. This determination occurs when more than one port can satisfy the `getPort` method call, such as, a `getPort` call that specifies the port type, but not the port. For example, suppose the web service client is configured to use both Java Message Service (JMS) and an HTTP implementation. During installation or management, you can use the **WebServicesClientBindPreferredPort** command to configure the preferred port of the application to use the transport of choice.

To configure the preferred port mapping with the `wsadmin` tool proceed with the following steps:

Procedure

1. Launch a scripting command. To learn more, see the starting the `wsadmin` scripting client information.
2. Configure web service client-preferred port mappings.

To use the existing listener port instead of using or creating a new activation specification, determine whether the EJB JAR version is lower than 2.1. The system automatically creates and uses an activation specification when you specify the `-usedefaultbindings` option to deploy an application. If an activation specification exists, the system ignores the listener port, and instead uses the activation specification. To deploy an application with an EJB JAR version greater than or equal to 2.1 using the defined listener ports instead of a new activation specification, set the `com.ibm.websphere.management.application.dfltbindng.mdb.preferexisting` system property to `true` in the `wsadmin.properties` file in the `properties` directory of the profile of interest.

Use the `install`, `installInteractive`, `edit` or `editInteractive` options to configure the web service client-preferred port mappings, as the following syntax demonstrates:

- Using Jython:

```
AdminApp.install('app_name', '[-usedefaultbindings -deployejb
-WebServicesClientBindPreferredPort {{module_name EJB_name Web_service port_type
port_name}]')
```

- Using Jacl:

```
$AdminApp install app_name {-usedefaultbindings -deployejb
-WebServicesClientBindPreferredPort {{module_name EJB_name Web_service port_type
port_name}}
```

The example shows multiple modules and URL endpoints, because you can edit multiple URL fragments where:

- `app_name` is the application name, for example `MultiEjbJar.ear`
- `EJB_name` is the name of the enterprise bean module that is not a web module, for example, `Exchange`
- `module_name` is the module name, for example `ejbclientonly.jar`
- `Web_service` is the name of the web service, for example `service/StockQuoteService`
- `port_type` is the port type information, for example `{http://stock.multiejbjar.test.wsfvt.ws.ibm.com}StockQuote`
- `port_name` is the port name, for example `{http://stock.multiejbjar.test.wsfvt.ws.ibm.com}StockQuote`

Results

You have configured web service client-preferred port mappings with the `wsadmin` tool.

Example

The following example includes the application, module, Web service, port type and port information as it is written in the command line:

```
$AdminApp install MultiEjbJar.ear {-WebServicesClientBindPreferredPort {{ejbclientonly.jar
Exchange service/StockQuoteService {http://stock.multiejbjar.test.wsfvt.ws.ibm.com}StockQuote
{http://stock.multiejbjar.test.wsfvt.ws.ibm.com}StockQuote}...}}
```

The port type information that drives the creation of the `WebServicesClientBindPreferredPort` option data resides in the client WSDL file. Because valid preferred port mappings are restricted to ports that implement the interface of the port type, validation requires the implementation type of each port. The client WSDL file must be accessed to determine both the type and the implementation information.

The client WSDL file name is in the `ServiceRef` attribute of the web service client deployment descriptor. Depending on the module type and version, the client deployment descriptor is located in either the `application-client.xml` file; the `web.xml` file, or the `ejb-jar.xml` file. If you are using J2EE 1.3, the client deployment descriptor information is located in the `webservices.xml` file.

What to do next

Now you can finish any other configurations, start or restart the application, and verify expected behavior of the web service.

Configuring web service client port information using wsadmin scripting

A web service can have multiple ports. You can view and configure the port attributes for each defined web service port.

Before you begin

If you have not deployed the enterprise archive (EAR) file yet, you need to have it ready or already deployed to the application server.

About this task

You can configure binding attributes that are associated with the web service client port, including synchronization timeout, overridden endpoint URL and transport attributes with the **WebServicesClientBindPortInfo** command-line option. A typical usage scenario for this command-line option is to customize the timeout value of the client so that the client waits longer when it is configured to use a Java Message Service (JMS) transport to access a web service.

Procedure

1. Launch a scripting command. To learn more, see the starting the wsadmin scripting client information.
2. Configure the web service client port information.

To use the existing listener port instead of using or creating a new activation specification, determine whether the EJB JAR version is lower than 2.1. The system automatically creates and uses an activation specification when you specify the `-usedefaultbindings` option to deploy an application. If an activation specification exists, the system ignores the listener port, and instead uses the activation specification. To deploy an application with an EJB JAR version greater than or equal to 2.1 using the defined listener ports instead of a new activation specification, set the `com.ibm.websphere.management.application.dfltbdng.mdb.preferexisting` system property to `true` in the `wsadmin.properties` file in the properties directory of the profile of interest.

Use `install`, `installInteractive`, `edit` or `editInteractive` options to configure the web service client port information, as the following example demonstrates:

```
$AdminApp install app_name {-usedefaultbindings
-deployejb -WebServicesClientBindPortInfo {{module_name EJB_name
Web_service port timeout basic_authentication_id basic_authentication_password
SSL_alias overridden_endpoint overridden_binding_namespace }...}}
```

The previous example indicates that the port information of multiple ports can be changed using one `WebServicesClientBindPortInfo` command, where:

- *app_name* is the application name, for example, `MultiEjbJar.ear`
- *module_name* is the module name, for example `ejbclientonly.jar`
- *EJB_name* is the name of the EJB that is not a web module, for example, `Exchange`
- *Web_service* is the name of the web service, for example `service/StockQuoteService`
- *port* is the name of the port, for example `StockQuote`
- *timeout* specifies the number of seconds that the client waits for a response
- *basic_authentication_id* is the basic authentication transport ID
- *basic_authentication_password* is the basic authentication transport password
- *SSL_alias* identifies the SSL alias for the port
- *overridden_endpoint* is the name of the endpoint that is used to override the current endpoint
- *overridden_binding_namespace* specifies the WSDL file binding namespace URI to use with the port

3. Save the configuration changes with the **\$AdminConfig save** command:

Results

The client port information that is associated with the web service client port are configured.

Example

```
$AdminApp installInteractive MultiEjbJar.ear {-WebServicesClientBindPortInfo
  {{ejbclientonly.jar Exchange service/StockQuoteService StockQuote 6000 jsmith js9password level3ssl
  http://fastball.houston.ibm.com/newURL http://fastball.houston.ibm.com/newBindName}}
  {ejbclientonly.jar Exchange service/StockQuoteService StockQuote2 9000 {}{}{}{}}
```

What to do next

Now you can finish any other configurations, start or restart the application, and verify expected behavior of the web service.

Configuring the scope of a web service port using wsadmin scripting

When a web service application is deployed into WebSphere Application Server, an instance is created for each application or module. The instance contains deployment information for the web module or Enterprise JavaBeans (EJB) module, including implementation scope, client bindings and deployment descriptor information. There are three levels of scope that can be set: application, session and request.

Before you begin

If you have not deployed the enterprise archive (EAR) file yet, you need to have it ready or already deployed to the application server.

About this task

The primary purpose of this task is to enable the configuration of the web service port scope. The scope originally specified when the JavaBeans object is enabled as a web service during the development process can be changed with the **WebServicesServerBindPort** command. The scope attribute does not apply to web services that use Java Message Service (JMS) transport or to enterprise beans.

Web Services for Java 2 platform Enterprise Edition (J2EE) specifies that web services implementations must be stateless. Therefore, to maintain specification compliance, the scope can remain at the application level because the state relevant to the individual sessions level or the requests level is not supposed to be maintained in the implementation. If you want to deviate from the specification and want to access a different JavaBeans instance, because you are looking for information that is located in another JavaBeans, the scope settings need to change.

The setting that you configure for the scope determines how frequently a new instance of a service implementation class is created for the web service ports in a module. The application scope causes the same instance of the implementation to be used for all requests on the application. The session scope causes the same instance to be used for all requests in each session. The request scope causes a new instance to be used for every request. For example, with the scope set to application, every message that comes to the server accesses the same Java bean instance.

To change the scope setting through the wsadmin tool:

Procedure

1. Launch a scripting command. To learn more, see the starting the wsadmin scripting client information.
2. Configure the scope of the web service port.

To use the existing listener port instead of using or creating a new activation specification, determine whether the EJB JAR version is lower than 2.1. The system automatically creates and uses an activation specification when you specify the `-usedefaultbindings` option to deploy an application. If an activation specification exists, the system ignores the listener port, and instead uses the activation specification. To deploy an application with an EJB JAR version greater than or equal to 2.1 using the defined listener ports instead of a new activation specification, set the `com.ibm.websphere.management.application.dfltbindng.mdb.preferexisting` system property to `true` in the `wsadmin.properties` file in the properties directory of the profile of interest.

Use the `install`, `installInteractive`, `edit`, or `editInteractive` options to configure the scope of the web service port, as the following syntax demonstrates:

```
$AdminApp install app_name {-usedefaultbindings -deployejb  
-WebServicesServerBindPort {{<module_name> <Web_service> <port><scope_setting>}...}}
```

The previous example indicates that the scope of multiple ports can be changed using one `WebServicesServerBindPort` command, where:

- *app_name* is the application name, for example `WebServicesSample.ear`
- *module_name* is the module name, for example `AddressBookW2JE.jar`
- *Web_service* is the name of the web service, for example `AddressBookW2JE service/WSLoggerService2`
- *port* is the name of the port, for example `AddressBook`
- *scope_setting* is the level of setting for scope, for example `Session`

Results

The scope for a web service port is configured.

Example

The following example of the presents the application, module, web service, port and scope as it is written in the command line:

```
$AdminApp install WebServicesSamples.ear {-usedefaultbindings -deployejb -deployws  
-WebServicesServerBindPort {{AddressBookJ2WB.war AddressBookService AddressBook request}  
{AddressBookW2JB.war AddressBookService AddressBook application}}}
```

What to do next

Now you can finish any other configurations, start or restart the application, and verify expected behavior of the web service.

Publishing WSDL files using wsadmin scripting

The Web Services Description Language (WSDL) files in each web services-enabled module are published to the file system location you specify. You can provide these WSDL files in the development and configuration process of web services clients so that they can invoke your web services.

Before you begin

Before you publish a WSDL file, you can configure web services to specify endpoint information in the form of URL fragments to enable full URL specification of WSDL ports. Refer to the tasks describing configuring endpoint URL information.

To publish a Web Services Description Language (WSDL) file you need an enterprise application, also known as an enterprise archive (EAR) file, that contains a Web services-enabled module and has been deployed into WebSphere Application Server. To learn more, see the deploying web services applications onto application servers information.

About this task

The purpose of publishing the WSDL file is to provide clients with a description of the web service, including the URL identifying the location of the service.

After installing a web services application, and optionally modifying the endpoint information, you might need WSDL files containing the updated endpoint information. You can obtain the updated WSDL files by publishing them to the file system. If you are a client developer or a system administrator, you can use WSDL files to enable clients to connect to a web service.

The `wsadmin` tool can publish the WSDL files in either local, for example, `-conntype NONE`, or remote mode. However, in local mode, locate the target application at the same node where the `wsadmin` command is invoked.

The following steps assume that the application has been deployed and that the application server is running.

Procedure

1. Start the `wsadmin` tool from the command prompt using the following commands:

- `IBM i profile_root/bin/wsadmin`

2. At the `wsadmin` command prompt, enter one of the two commands:

- `$AdminApp publishWSDLapp_name path_name`
- `$AdminApp publishWSDLapp_name path_name soapAddressPrefixes`

where:

- `app_name` is the application name
- `path_name` is the absolute path to the compressed file that contains the published WSDL files. The compressed file is saved on the machine that runs WebSphere Application Server, therefore, if the server is running on a different machine, you need to obtain the compressed file from that machine. The directory structure of the resulting compressed file is based on the following information:

`Application_file_name/module_file_name/META-INF/ or WEB-INF/wsdl/WSDL_file_name`

See the usage scenario for an example of this directory structure.

- `soapAddressPrefixes` is a parameter of the form `{{module {{binding partial-url}}}}`. This parameter describes the partial URL information for each binding on a per-module basis for the application.
 - `module` identifies the name of the module
 - `binding` is either `http` or `jms` (both are in lower case)
 - `partial-url` is the partial SOAP address for the associated SOAP binding. For an HTTP binding, the form is `http://host:port/` or `https://host:port`.

For Java Message Service (JMS) bindings, the form is

`jms:/queue?destination=dest&connectionFactory=cf`

or

`jms:/topic?destination=dest&connectionFactory=cf`

Use the **\$AdminApp publishWSDL *app_Name path_Name*** command to publish WSDL files with default endpoint URL addresses. If you want to modify the SOAP address prefixes of the WSDL file, use the other form of the command.

Use the **\$AdminApp publishWSDL *app_Name path_Name* {{module {{binding partial-url}}}}** command to customize the WSDL SOAP address for each module. You can specify a different address prefix for each SOAP binding.

Results

The WSDL files from web services are published to a specified compressed file. The compressed file can be used to create a web service client that accesses the deployed service. The published WSDL files do not contain Enterprise JavaBeans (EJB) binding information.

Example

The command to publish WSDL files for a web service named `WebServicesSamples` can be **\$AdminApp publishWSDL WebServicesSamples c:/temp/sampleswsdl.zip**

or

```
$AdminApp publishWSDL WebServicesSamples c:/temp/sampleswsdl.zip { {AddressBookJ2WB.war {{http http://localhost:9080}}}} {StockQuote.jar {{http https://localhost:9443}}}
```

The directory structure for this created compressed file is

```
WebServicesSamples.ear/StockQuote.jar/META-INF/wsdl/StockQuoteFetcher.wsdl
WebServicesSamples.ear/AddressBookW2JE.jar/META-INF/wsdl/AddressBookW2JE.wsdl
WebServicesSamples.ear/AddressBookJ2WE.jar/META-INF/wsdl/AddressBookJ2WE.wsdl
WebServicesSamples.ear/AddressBookJ2WB.war/WEB-INF/wsdl/AddressBookJ2WB.wsdl
WebServicesSamples.ear/AddressBookW2JB.war/WEB-INF/wsdl/AddressBookW2JB.wsdl
```

What to do next

Develop a web services client or configure the endpoint information for an existing web service.

Configuring application and system policy sets for web services using wsadmin scripting

Use the `wsadmin` tool, which supports the Jython and Jacl scripting languages, to configure application or system policy sets for web services. You can manage the policies for the Quality of Service (QoS) by creating policy sets and managing associated policies.

Before you begin

Develop a web services application. For additional information, see the web services applications topics in the information center.

If you develop an application that uses a custom policy set, the custom policy set configuration is not included in the application enterprise archive (EAR) file. Install the application and import the custom policy set separately.

About this task

The commands in the `PolicySetManagement` group for the `AdminTask` object configure both application and system policy sets. Use the following tasks to configure and manage policy sets for your web services.

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

Use the following guidelines to manage bindings in your environment:

- To display or modify default Version 6.1 bindings, Version 7.0 and trust service bindings, or to reference bindings by attachment for an application, specify the `attachmentId` and `bindingLocation` parameters with the `getBinding` or `setBinding` commands.
- To use or modify general Version 7.0 and later bindings, specify the `bindingName` parameter with the `getBinding` or `setBinding` commands.
- To display the version of a specific binding, specify the `version` attribute for the `getBinding` command.

Use a Version 6.1 binding for an application in a Version 7.0 and later environment if:

- The module in the application is installed on at least one Web Services Feature Pack server.
- The application contains at least one Version 6.1 application-specific binding. The application server does not assign general bindings to resource attachments for applications that are installed on a Web Services Feature Pack server. All application-specific bindings for an application must be at the same level.

General service provider and client bindings are not linked to a particular policy set and they provide configuration information that you can reuse across multiple applications. You can create and manage general provider and client policy set bindings and then select one of each binding type to use as the default for an application server. Setting the server default bindings is useful if you want the services that are deployed to a server to share binding configuration. You can also accomplish this sharing of binding configuration by assigning the binding to each application deployed to the server or by setting default bindings for a security domain and assigning the security domain to one or more servers. You can specify default bindings for your service provider or client that are used at the global security (cell) level, for a security domain, for a particular server. The default bindings are used in the absence of an overriding binding specified at a lower scope. The order of precedence from lowest to highest that the application server uses to determine which default bindings to use is as follows:

1. Server level default
2. Security domain level default
3. Global security (cell) default

The sample general bindings that are provided with the product are initially set as the global security (cell) default bindings. The default service provider binding and the default service client bindings are used when no application specific bindings or trust service bindings are assigned to a policy set attachment. For trust service attachments, the default bindings are used when no trust specific bindings are assigned. If you do not want to use the provided Provider sample as the default service provider binding, you can select an existing general provider binding or create a new general provider binding to meet your business needs. Likewise, if you do not want to use the provided Client sample as the default service client binding, you can select an existing general client binding or create a new general client binding.

Procedure

- Use the PolicySetManagement group of commands to configure application and client policy sets:
 - Create a new policy set or copy an existing policy set.
 - Add policies to your policy set.
 - Attach your policy set to an application, web service, endpoint, or operation.
 - Customize cell-wide, server-specific, or application binding configurations.
 - Manage and edit your policy set configurations.
 - Edit, enable, disable, or remove policies.
 - Add, edit, or remove policy set attachments.
 - Export and import policy sets.
 - Delete policy sets.
- Use the PolicySetManagement group of commands to configure system policy sets.
 - Create a new system policy set or copy an existing system policy set.
 - Add policy types for your policy set.
 - Add trust service attachments.
 - Customize binding configurations.
 - Manage and edit your policy set configurations.
 - Edit, enable, disable or remove policies.
 - Add, edit, or remove policy set attachments.
 - Export and import policy sets.
 - Delete policy sets.

Creating policy sets using wsadmin scripting

Create policy sets to centrally manage policies that are customized for your web services. Use the wsadmin tool, which supports the Jython and Jacl scripting languages, to create new policy sets, copy existing policy sets, or import a policy set configuration. You can also query for an existing policy set and respective attributes.

Before you begin

In order to complete this task, you must use the Administrator role with cell-wide access when administrative security is enabled.

About this task

There are three ways to create a new policy set using the wsadmin tool. You can create a new policy set and its configuration, copy an existing policy set, or import a policy set.

When you create a new policy set, you must add policies. If you copy an existing policy set, you can transfer the policies and attachments that are configured on the existing policy set. The command examples in this topic use batch mode syntax. You can use the `-interactive` option with all commands in the PolicySetManagement group.

Procedure

- Create a new policy set using the Jython scripting language.
 1. Start the wsadmin scripting tool.
 2. Determine the policy requirements for your web services.
 3. Enter the command syntax to create a new policy set with a given name.

Based on your configuration, there are two types of policy sets to create. You can use both application and system policy sets with Java API for XML-Based Web Services (JAX-WS)

applications. Use the `-policySetType` parameter to specify the type of policy set. To create an application policy set, specify `application` for the value of the `-policySetType` parameter. To create a policy set for the trust service, specify `system` or `system/trust` for the `-policySetType` parameter. For WS-MetadataExchange attachments, specify `system` for the `-policySetType` parameter. The `-policySetType` parameter is optional. The `wsadmin` tool creates an application policy set if the `-policySetType` parameter is not specified.

Enter the following command to create an application policy set:

```
AdminTask.createPolicySet('[-policySet PolicySet1 -description policySet_description')
```

Enter the following command to create a policy set for the trust service:

```
AdminTask.createPolicySet('[-policySet PolicySet1 -description policySet_description -policySetType system')
```

The command returns a success or failure message.

4. Add policies for your new policy set. Use this step to add a policy with default values for the specified policy set.

Enter the following command to add and enable a policy:

```
AdminTask.addPolicyType('[-policySet PolicySet1 -policyType policyType_name')
```

Enter the following command to add and disable a policy. Your configuration changes are contained within the policy set, but will have no effect on the system if the `-enabled` parameter is set to `false`.

```
AdminTask.addPolicyType('[-policySet PolicySet1 -policyType policyType_name -enabled false')
```

The command returns a success or failure message. Repeat this step to create additional policies for your configuration.

5. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

- Copy an existing policy set using the Jython scripting language.

1. Start the `wsadmin` scripting tool.
2. Determine the policy requirements for your web services.
3. Enter the command syntax to copy an existing policy set:

Set the `-transferAttachments` parameter to `true` to transfer the attachments from the existing policy set to the new policy set. The default value for the `-transferAttachments` parameter is `false`.

Enter the following command to create the new policy set and to transfer the attachments of the existing policy set:

```
AdminTask.copyPolicySet('[-sourcePolicySet existingPolicySet_name -newPolicySet PolicySet1 -newDescription PolicySet1_description -transferAttachments true')
```

The command returns a success or failure message.

4. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

- Import a policy set from an archive file or import a default policy set using the Jython scripting language.

1. Start the `wsadmin` scripting tool.
2. Determine the policy requirements for your web services.
3. Import a policy set.

Use the `importPolicySet` command to import the archive file containing the policy set configuration of interest to the destination environment. Specify the `verifyPolicySetType` parameter to verify that the policy set to import matches a specific type. Set the value as `application`, `system`, or `system/trust` to specify the policy set type. You cannot import a policy set onto a server or client environment if the policy set already exists in the destination environment.

For example, the following command creates a `customSecureConversation` policy set from the `customSC.zip` archive file:

```
AdminTask.importPolicySet('[-importFile /IBM/WebSphere/AppServer/bin/customSC.zip -verifyPolicySetType
system/trust]')
```

Additionally, you can also use the `importPolicySet` command to import a default policy set onto a server environment, as the following example demonstrates:

```
AdminTask.importPolicySet('[-defaultPolicySet SecureConversation -policySet copyOfdefaultSC
-verifyPolicySetType system]')
```

The command returns a success or failure message.

4. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

Results

If you receive a success message after entering the commands, you can now manage a policy set that is customized for your web services applications. You can further configure the policy set and policies.

What to do next

Use the `validatePolicySet` command to validate your policy set configurations after modifying attributes for policies. For example, enter the following command to validate the `PolicySet1` policy set:

```
AdminTask.validatePolicySet('-policySet PolicySet1')
```

Updating policy set attributes using wsadmin scripting

Use policy sets to centrally manage policies that are customized for your web services. Use the Jython or Jacl scripting language with the `wsadmin` tool to update policy set attributes. You can also query the configuration for an existing policy set and respective attributes.

Before you begin

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 88. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to update policy sets.
Configurator	The Configurator role cannot update policy sets.
Deployer	The Deployer role cannot update policy sets.
Operator	The Operator role cannot update policy sets.
Monitor	The Monitor role cannot update policy sets.

About this task

After creating a new policy set, you can update your policy set configuration with the `updatePolicySet` command. The command uses a properties object to update all attributes or a subset of attributes for the specified policy set.

Procedure

1. Launch the `wsadmin` scripting tool using the Jython scripting language. To learn more, see the starting the `wsadmin` scripting client information.
2. View the current attribute values for the policy set of interest.

Enter the following command to display the attribute values of the `policySet1` policy set:

```
AdminTask.getPolicySet('[-policySet policySet1 ]')
```

3. Modify attributes for the policy set of interest.

Enter the following command to modify the type and description attributes for the *policySet1* policy set.

```
AdminTask.updatePolicySet('-policySet policySet1 -attributes "[ [type application] [description  
[my custom policy set to manage WSSecurity] ]"'')
```

You can also use the `-interactive` option to update a policy set. To start `-interactive` mode, enter this command:

```
AdminTask.updatePolicySet('-interactive')
```

4. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

Results

If you received a success message after entering the commands, manage and customize the policy set for your web services applications.

What to do next

After updating policy set attributes, you can further configure policies and policy set attachments using the commands and parameters for the `PolicySetManagement` group of the `AdminTask` object.

Adding and removing policies using wsadmin scripting

You can use the Jython or Jacl scripting language and the `wsadmin` tool to query, add, and remove policies for your policy sets.

Before you begin

Before you use the commands in this topic, verify that you are using the most recent version of the `wsadmin` tool. The policy set management commands that accept a `properties` object as the value for the `attributes` or `bindingLocation` parameters are not supported on previous versions of the `wsadmin` tool. For example, the commands do not run on a Version 6.1.0.x node.

Additionally, if administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 89. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to create and remove policies.
Configurator	The Configurator role cannot create or remove policies.
Deployer	The Deployer role cannot create or remove policies.
Operator	The Operator role cannot create or remove policies.
Monitor	The Monitor role cannot create or remove policies.

About this task

Policies define which Qualities of Service (QoS) to manage within a policy set. Policy definitions are based on the standards set by the Organization for the Advancement of Structured Information (OASIS) and Web Services Security specifications.

For application policy sets, you can add the following policies:

- WSSecurity
- WSReliableMessaging
- WSAddressing
- HTTPTransport
- SSLTransport
- WSTransaction
- JMSTransport
- CustomProperties

For system policy sets, you can add the following policies:

- WSSecurity
- WSAddressing
- HTTPTransport
- SSLTransport
- WS-MetadataExchange
- JMSTransport
- CustomProperties

Use the following steps to add or remove policy types from your policy set configurations:

Procedure

- Add a policy to a policy set. Use this section to add a policy with default values to the specified policy set. You can create and enable or create and disable the policy.
 1. Launch the wsadmin scripting tool using the Jython scripting language. To learn more, see the starting the wsadmin scripting client information.
 2. List all policies for a specified policy set.
Enter the following command and specify the policy set of interest to list all policies that have been added to the policy set:
`AdminTask.listPolicyTypes(['-policySet PolicySet1'])`
Enter the following command to list all the available policies:
`AdminTask.listPolicyTypes()`
 3. Add the policy to your configuration.
Enter the following command to add and enable a policy:
`AdminTask.addPolicyType(['-policySet PolicySet1
-policyType policyType_name'])`
Enter the following command to add and disable a policy. Your configuration changes are contained within the policy set, these changes do not effect the system if the `-enabled` parameter is set to `false`.
`AdminTask.addPolicyType(['-policySet PolicySet1
-policyType policyType_name -enabled false'])`
 4. Enter the following command to save your changes:
`AdminConfig.save()`
 5. For your configuration changes to take effect, restart all applications with attachments to the policy set.

The command returns a success or failure message. Repeat this step to create additional policies for your configuration.

- Remove a policy from the policy set configuration. The `deletePolicyType` command removes the specified policy from the policy set. Applications with attachments to the policy set are not affected until the application restarts.

1. Start the wsadmin scripting tool.
2. Enter the following command to list all policies for the policy set of interest:

```
AdminTask.listPolicyTypes('[-policySet PolicySet1]')
```

3. Enter the following command to remove the policy:

```
AdminTask.deletePolicyType('[-policySet PolicySet1
-policyType policyType_name]')
```

The command returns a success or failure message.

4. Save the configuration changes.
Enter the following command to save your changes:

```
AdminConfig.save()
```

5. For your configuration changes to take effect, restart all applications with attachments to the policy set.

What to do next

Use the `validatePolicySet` command to validate your policy set configurations after modifying attributes for policies. For example, enter the following command to validate the `PolicySet1` policy set:

```
AdminTask.validatePolicySet('[-policySet PolicySet1]')
```

Editing policy configurations using wsadmin scripting

Use the wsadmin tool, which supports the Jython and Jacl scripting languages, to edit policy configurations for your policy sets.

Before you begin

Before you use the commands in this topic, verify that you are using the most recent version of the wsadmin tool. The policy set management commands that accept a properties object as the value for the **attributes** or **bindingLocation** parameters are not supported on previous versions of the wsadmin tool. For example, the commands do not run on a Version 6.1.0.x node.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 90. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to modify policies.
Configurator	The Configurator role cannot modify policies.
Deployer	The Deployer role cannot modify policies.
Operator	The Operator role cannot modify policies.
Monitor	The Monitor role cannot modify policies.

About this task

Policies define the type of policy to manage within a policy set. Policies are based on the Quality of Services (QoS), such as Web Services Security (WS-Security) and Web Services Addressing (WS-Addressing). Policy definitions are based on the standards set by the Organization for the Advancement of Structured Information (OASIS) and WS-Security specifications.

Use the following steps to edit existing policies in your policy set configurations:

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. To learn more, see the starting the wsadmin scripting client information.

2. Determine which policy set to edit.

To view a list of policies on a policy set, enter the `listPolicyTypes` command, specifying the policy set of interest.

```
AdminTask.listPolicyTypes('[-policySet PolicySet1]')
```

Enter the `listPolicyTypes` command without the `policySet` parameter to view a list of available policies for all policy sets in your configuration:

```
AdminTask.listPolicyTypes()
```

3. Review the policy attributes to edit.

Enter the `getPolicyType` command, specifying the policy and associated policy set of interest.

```
AdminTask.getPolicyType('[-policySet PolicySet1 -policyType myPolicyType]')
```

4. Modify the policy attributes.

Use the `setPolicyType` command to update the policy configuration. Update one or multiple attributes by passing a properties object for the `-attributes` parameter. The properties for the `-attributes` parameter are dependent on the policy type specified in the `-policyType` parameter. The following example modifies the enabled and provides properties:

```
AdminTask.setPolicyType('[-policySet PolicySet1 -policyType myPolicyType  
-attributes "[[enabled true][provides security]]"')
```

5. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

6. For your configuration changes to take effect, restart all applications with attachments to the policy set.

What to do next

Use the `validatePolicySet` to validate your policy set configurations after modifying attributes for policies. For example, enter the following command to validate the `PolicySet1` policy set:

```
AdminTask.validatePolicySet('[-policySet PolicySet1]')
```

Enabling secure conversation using wsadmin scripting

Use this topic and the commands in the `SecureConversation` group of the `AdminTask` object to enable secure conversation client cache by creating a new policy set and bindings to attach to your applications.

Before you begin

Verify that the `SecureConversation` policy set is available in your configuration. By default, the `SecureConversation` policy set is not available. Use the `importPolicySet` command to import the `SecureConversation` policy to your configuration, as the following example demonstrates:

```
AdminTask.importPolicySet('[-defaultPolicySet SecureConversation]')
```

Before you use the commands in this topic, verify that you are using the most recent version of the `wsadmin` tool. The policy set management commands that accept a properties object as the value for the `attributes` or `bindingLocation` parameters are not supported on previous versions of the `wsadmin` tool. For example, the commands do not run on a Version 6.1.0.x node.

About this task

This topic uses the default `SecureConversation` policy set and default `WS-Security` and `TrustServiceSecurityDefault` bindings to enable secure conversation.

The default SecureConversation policy set contains an application policy with the symmetric binding, and a bootstrap policy with the asymmetric binding. The application policy secures application messages. The bootstrap policy secures RequestSecurityToken (RST) messages. The trust service, which issues security context token providers, uses the TrustServiceSecurityDefault system policy and the TrustServiceSecurityDefault bindings. The trust policy secures RequestSecurityTokenResponse (RSTR) messages. If you modify the bootstrap policy, you must also modify the trust policy so that both of the configurations match.

Note: Use the following steps in development and test environments only. The WS-Security bindings in this procedure contain sample key files that you must customize before using the bindings in a production environment. Create custom bindings for your production environment.

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. To learn more, see the starting the wsadmin scripting client information.
2. Copy the existing SecureConversation policy set.

Use the following command example to create a new policy set by copying the existing SecureConversation policy set:

```
AdminTask.copyPolicySet('[-sourcePolicySet SecureConversation -newPolicySet CopyOfSCPolicySet']')
```

3. Change the binding for the global security domain. If you chose the **Create the server using the development template** option when you created your profile with the Profile Management Tool or the manageprofiles command utility, you can optionally skip this step.

- a. List each WS-Security policy attribute.

To modify the binding for the global security domain, use the getDefaultBindings command to determine the binding that is set as the default for the provider or client, as the following example demonstrates:

```
AdminTask.getDefaultBinding('-bindingType provider')
```

- b. Display the attributes for the binding.

Use the getBinding command to display the current attributes for the binding, as the following example demonstrates:

```
AdminTask.getBinding('-bindingLocation "" -bindingName myBinding')
```

- c. Modify the outbound configuration for the protection token.

Use the following commands to modify the outbound configuration for the protection token:

```
cmd1_attributes_value = "[ [application.securityoutboundbindingconfig.tokengenerator_5.callbackhandler
.key.name [CN=Bob,O=IBM,C=US]] [application.securityoutboundbindingconfig.tokengenerator_5.callbackhandler
.keystore.storepass storepass] [application.securityoutboundbindingconfig.tokengenerator_5.callbackhandler
.keystore.type JCEKS] [application.securityoutboundbindingconfig.tokengenerator_5.callbackhandler.key.alias bob]
[application.securityoutboundbindingconfig.tokengenerator_5.callbackhandler.keystore.path ${USER_INSTALL_ROOT}
/etc/ws-security/samples/enc-sender.jceks] ]"
```

```
AdminTask.setBinding('[-policyType WSSecurity -bindingLocation "" -attributes cmd1_attributes_value
-attachmentType application']')
```

```
cmd2_attributes_value = "[ [application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.keystore
.path ${USER_INSTALL_ROOT}/etc/ws-security/samples/dsig-sender.ks] [application.securityoutboundbindingconfig
.tokengenerator_0.callbackhandler.keystore.storepass client] [application.securityoutboundbindingconfig
.tokengenerator_0.callbackhandler.key.name [CN=SOAPRequester,OU=TRL,O=IBM,ST=Kanagawa,C=JP]] [application
.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.key.keypass client] [application
.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.key.alias soaprequester]
[application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.keystore.type JKS] ]"
```

```
AdminTask.setBinding('[-policyType WSSecurity -bindingLocation "" -attributes cmd2_attributes_value
-attachmentType application']')
```

4. Optional: Modify the TrustDefaultBindings binding. If you chose the **Create the server using the development template** option when you created your profile with the Profile Management Tool or the manageprofiles command utility, you can optionally skip this step.

If the TrustDefaultBindings are not yet customized, use the following commands to modify the TrustDefaultBindings binding:

```
cmd3_attributes_value = "[ [application.securityoutboundbindingconfig.tokengenerator_1.callbackhandler.keystore
.storepass storepass] [application.securityoutboundbindingconfig.tokengenerator_1.callbackhandler.key.alias bob]
[application.securityoutboundbindingconfig.tokengenerator_1.callbackhandler.keystore.type JCEKS] [application
.securityoutboundbindingconfig.tokengenerator_1.callbackhandler.keystore.path ${USER_INSTALL_ROOT}/etc
/ws-security/samples/enc-sender.jceks] [application.securityoutboundbindingconfig.tokengenerator_1.callbackhandler
.key.name [CN=Bob, O=IBM, C=US]] ]"
```

```
AdminTask.setBinding('[-policyType WSSecurity -bindingLocation "[attachmentId 2]"
-attributes cmd3_attributes_value -attachmentType system/trust]')
```

```
cmd4_attributes_value = "[ [application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.keystore.path
${USER_INSTALL_ROOT}/etc/ws-security/samples/dsig-sender.ks] [application.securityoutboundbindingconfig.tokengenerator_0
.callbackhandler.keystore.storepass client] [application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler
.key.name [CN=SOAPRequester, OU=TRL, O=IBM, ST=Kanagawa, C=JP]] [application.securityoutboundbindingconfig.tokengenerator_0
.callbackhandler.key.keypass client] [application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.key
.alias soaprequester] [application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.keystore.type JKS] ]"
```

```
AdminTask.setBinding('[-policyType WSSecurity -bindingLocation "[attachmentId 2]"
-attributes cmd4_attributes_value -attachmentType system/trust]')
```

5. Attach the policy set and binding to the application.

Use the `attachmentType` parameter for the `createPolicySetAttachment` command to specify if your application is a service client or a service provider. Use the following commands to attach the *CopyOfSCPPolicySet* policy set to the *myTestApp* service client application:

```
AdminTask.createPolicySetAttachment('[-applicationName myTestApp -policySet CopyOfSCPPolicySet
-resources WebService:/ -attachmentType client]')
```

Use the following commands to attach the *CopyOfSCPPolicySet* policy set to the *myTestApp* service provider application:

```
AdminTask.createPolicySetAttachment('[-applicationName myTestApp -policySet CopyOfSCPPolicySet
-resources WebService:/ -attachmentType application]')
```

This step automatically assigns the bindings.

Results

Your secure conversation configuration is updated in the `WSSCCache.xml` file located in the cell level directory.

What to do next

Manage your secure conversation configurations with the `SecureConversation` command group for the `AdminTask` object.

Managing WS-Security distributed cache configurations using wsadmin scripting

The distributed cache stores tokens on the client. Use this topic and the commands in the `WSSCacheManagement` group of the `AdminTask` object to query, update, and remove custom and non-custom properties for the distributed cache configuration.

Before you begin

Configure a policy set with WS-Security enabled.

About this task

The distributed cache stores tokens on both distributed and local clients. WebSphere Application Server supports only the security context token for the WS-Trust security token service client and the security trust service components.

You can use the administrative console or the `wsadmin` tool to manage your secure conversation distributed cache configuration. You can use the `wsadmin` tool and the Jython scripting language syntax to:

- Query your current distributed cache configuration settings.

- Set the value for the renewal time after token expiration.
- Enable or disable distributed cache for clustered servers.
- Add custom properties to your configuration.
- Remove custom properties from your configuration.

Procedure

- Query the configuration for your existing distributed cache configuration.

You can retrieve a list of your current distributed cache configuration settings and custom properties with the `queryWSSDistributedCacheConfig` and `queryWSSDistributedCacheCustomConfig` commands. There are no required or optional parameters for the query commands.

To list all non-custom configuration settings, run the following Jython command:

```
AdminTask.queryWSSDistributedCacheConfig()
```

To list all distributed cache custom properties, enter the following Jython command:

```
AdminTask.queryWSSDistributedCacheCustomConfig()
```

- Update your secure conversation distributed cache configuration settings and custom properties.

Use the following steps to update all non-custom distributed cache configuration settings:

1. Review your existing configuration settings by running the `queryWSSDistributedCacheConfig` command, as the following example demonstrates:

```
AdminTask.queryWSSDistributedCacheConfig()
```

The command returns a properties object that contains the configuration properties and values for the distributed cache configuration. The following table displays the configuration properties that the command returns:

Table 91. Returned configuration properties. Use the properties to determine the distributed cache configuration.

Property	Description
<code>tokenRecovery</code>	Specifies whether token recovery is enabled or disabled. If the <code>tokenRecovery</code> property is set to <code>true</code> , the <code>Datasource</code> property specifies the shared data source that is assigned to the distributed cache.
<code>distributedCache</code>	Specifies whether distributed caching is enabled or disabled.
<code>Datasource</code>	Specifies the name of the shared data source that is assigned to the distributed cache if token recovery is enabled.
<code>renewIntervalBeforeTimeoutMinutes</code>	Specifies the amount of time, in minutes, that the client waits before it attempts to renew the token.
<code>synchronousClusterUpdate</code>	Specifies whether the system performs a synchronous update of distributed caches on cluster members. By default, synchronous cluster updating is enabled.
<code>minutesInCacheAfterTimeout</code>	Specifies the amount of time that the token remains in the cache after the token times out.

2. Use the `updateWSSDistributedCacheConfig` command to enable or disable distributed cache and to modify the amount of time after token expiration when downstream calls are allowed to complete.

The following command example enables distributed cache, and sets the `mySharedDataSource` as the shared data source for token recovery:

```
AdminTask.updateWSSDistributedCacheConfig('[-tokenRecovery true -Datasource mySharedDataSource -distributedCache true']
```

3. Enter the following command to save your configuration changes:

```
AdminConfig.save()
```

Use the following steps to update custom properties for your distributed cache configuration:

1. Review your existing configuration settings by executing the `queryWSSDistributedCacheCustomConfig` command. For example:

```
AdminTask.queryWSSDistributedCacheCustomConfig()
```

The command returns a properties object that contains the name and value pairs that correspond to each custom property.

2. Use the `updateWSSDistributedCacheCustomConfig` command to add custom properties for your distributed cache configuration. Specify and define each custom property by passing a properties object with the `-customProperties` parameter using the following Jython format:

```
-customProperties [[property1 value1][property2 value2]]
```

For example, the following command adds the `cancelActionRST` custom property and defines the value as `http://schemas.xmlsoap.org/ws/2005/02/trust/RST/SCT/Cancel`:

```
AdminTask.updateWSSDistributedCacheCustomConfig(['-customProperties [[cancelActionRST  
http://schemas.xmlsoap.org/ws/2005/02/trust/RST/SCT/Cancel]]'])
```

3. Enter the following command to save your configuration changes:

```
AdminConfig.save()
```

- Remove custom properties from your distributed cache configuration. Use the following steps to remove custom properties from your distributed cache configuration:

1. Review your existing configuration settings by executing the `queryWSSDistributedCacheCustomConfig` command. For example:

```
AdminTask.queryWSSDistributedCacheCustomConfig()
```

2. Use the `deleteWSSDistributedCacheConfigCustomProperties` command to remove custom properties for your distributed cache configuration. Specify the custom properties to delete by passing a string array with the `-propertyNames` parameter. For example, the following command removes the `cancelActionRST` custom property:

```
AdminTask.deleteWSSDistributedCacheConfigCustomProperties(['-propertyNames  
[cancelActionRST]'])
```

3. Enter the following command to save your configuration changes:

```
AdminConfig.save()
```

Results

Your WS-Security distributed cache configuration is updated.

Configuring custom policies and bindings for security tokens using wsadmin scripting

Use the `setPolicyType` and `setBinding` commands for the `AdminTask` object to specify security tokens for custom policy and binding configurations.

Before you begin

Create a new custom policy set.

About this task

The following scenarios configure the custom policy and bindings to use a Kerberos token based on the Oasis Kerberos Token Profile V1.1 specification. You can also use the `setPolicyType` and `setBinding` commands to configure other binary security tokens, such as username tokens, Lightweight Third-Party Authentication (LTPA) and SecureConversation.

Procedure

- Configure custom policies for security tokens.
 1. Launch the `wsadmin` scripting tool using the Jython scripting language. To learn more, see the starting the `wsadmin` scripting client information.
 2. Display the properties of the policy of interest.

Use the `getPolicyType` command to display detailed property information for the WS-Security policy type, as the following command demonstrates:

```
AdminTask.getPolicyType('-policySet AuthenticationTokenService -policyType  
WSSecurity')
```


The `getPolicyType` command returns a properties object that contains name and value pairs for each property, as the following sample output displays:

```
'[ [SupportingTokens.request:krb_token.CustomToken.IncludeToken
http://docs.oasis-open.org/ws-sx/ws-securitypolicy/200512/IncludeToken/AlwaysToRecipient] [enabled true] [type WSSecurity]
[description [Policies for sending security tokens and providing message confidentiality and integrity, based on the OASIS Web
Service Security and Token Profiles specifications.]] [SupportingTokens.request:krb_token.CustomToken.WssCustomToken.uri ]
[provides ] [SupportingTokens.request:krb_token.CustomToken.WssCustomToken.localname
http://docs.oasis-open.org/wss/oasis-wss-kerberos-token-profile-1.1#GSS_Kerberosv5_AP_REQ] ]'
```

3. Specify the authentication token for the policy type.

Use the `setPolicyType` command to specify the Uniform Resource Identifier (URI) of the authentication token for services as the value for the `SupportingTokens.request:krb_token.CustomToken.WssCustomToken.uri` property. Use the `[]` syntax to specify an empty string. The following example specifies an empty string as the value for the authentication token:

```
AdminTask.setPolicyType('-policySet AuthenticationTokenService -policyType
WSSecurity -attributes "[ [SupportingTokens.request:krb_token.CustomToken.IncludeToken
http://docs.oasis-open.org/ws-sx/ws-securitypolicy/200512/IncludeToken/AlwaysToRecipient] [enabled true] [type
WSSecurity] [description [Policies for sending security tokens and providing message confidentiality and integrity,
based on the OASIS Web Services Security and Token Profiles specifications.]]
[SupportingTokens.request:krb_token.CustomToken.WssCustomToken.uri []] [provides []]
[SupportingTokens.request:krb_token.CustomToken.WssCustomToken.localname
http://docs.oasis-open.org/wss/oasis-wss-kerberos-token-profile-1.1#GSS_Kerberosv5_AP_REQ] ]"')
```

- Configure custom bindings for security tokens.

1. Start the `wsadmin` scripting tool.
2. Display the properties of the bindings of interest.

Use the `getBinding` command to display detailed property information for the binding of interest, as the following command demonstrates:

```
AdminTask.getBinding('-policyType WSSecurity -bindingLocation "" -bindingName
AuthenticationTokenService')
```

The `getBinding` command returns a properties object that contains name and value pairs for each property, as the following sample output displays:

```
'[ [application.securityinboundbindingconfig.tokenconsumer_0.properties_0.name
com.ibm.wsspi.wssecurity.krbtoken.serviceSPN] [application.securityinboundbindingconfig.tokenconsumer_0.valuetype.localname
http://docs.oasis-open.org/wss/oasis-wss-kerberos-token-profile-1.1#GSS_Kerberosv5_AP_REQ]
[application.securityinboundbindingconfig.tokenconsumer_0.valuetype.uri ]
[application.securityinboundbindingconfig.tokenconsumer_0.callbackhandler.classname
com.ibm.websphere.wssecurity.callbackhandler.KRBTokenConsumeCallbackHandler] [application.name
application] [application.securityinboundbindingconfig.tokenconsumer_0.value HTTP/derekhofirehorse.austin.ibm.com]
[application.securityinboundbindingconfig.tokenconsumer_0.jaasconfig.configname system.wss.consume.KRB5BST]
[application.securityinboundbindingconfig.tokenconsumer_0.name
con_krbtoken] [application.securityinboundbindingconfig.tokenconsumer_0.classname
com.ibm.ws.wssecurity.wssapi.token.impl.CommonTokenConsumer]
[application.securityinboundbindingconfig.tokenconsumer_0.securitytokenreference.reference request:krb_token] ]'
```

3. Specify the authentication token for the policy type.

Use the `setBinding` command to specify the Uniform Resource Identifier (URI) of the authentication token for services as the value for the `application.securityinboundbindingconfig.tokenconsumer_0.valuetype.uri` property. Use the `[]` syntax to specify an empty string. The following example specifies an empty string as the value for the authentication token:

```
AdminTask.setBinding('-policyType WSSecurity -bindingLocation ""
-bindingName AuthenticationTokenService -attributes "[
[application.securityinboundbindingconfig.tokenconsumer_0.properties_0.name com.ibm.wsspi.wssecurity.krbtoken.serviceSPN]
[application.securityinboundbindingconfig.tokenconsumer_0.valuetype.localname
http://docs.oasis-open.org/wss/oasis-wss-kerberos-token-profile-1.1#GSS_Kerberosv5_AP_REQ]
[application.securityinboundbindingconfig.tokenconsumer_0.valuetype.uri []]
[application.securityinboundbindingconfig.tokenconsumer_0.callbackhandler.classname
com.ibm.websphere.wssecurity.callbackhandler.KRBTokenConsumeCallbackHandler] [application.name
application] [application.securityinboundbindingconfig.tokenconsumer_0.properties_0.value
HTTP/derekhofirehorse.austin.ibm.com] [application.securityinboundbindingconfig.tokenconsumer_0.jaasconfig.configname
system.wss.consume.KRB5BST] [application.securityinboundbindingconfig.tokenconsumer_0.name
con_krbtoken] [application.securityinboundbindingconfig.tokenconsumer_0.classname
com.ibm.ws.wssecurity.wssapi.token.impl.CommonTokenConsumer]
[application.securityinboundbindingconfig.tokenconsumer_0.securitytokenreference.reference request:krb_token]
]"')
```

Results

If the `setPolicyType` and `setBinding` commands return a 'true' value, the system successfully updated the policy and binding configurations.

Creating policy set attachments using the wsadmin tool

Use the `wsadmin` tool, which supports the Jython and Jacl scripting languages, to define the policy set configuration for your web services applications.

Before you begin

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 92. Administrative roles. The administrative role determines if you can create policy set attachments.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to create policy set attachments. If you have access to a specific resource only, you can create policy set attachments for the resource for which you have access.
Configurator	The Configurator role must have cell-wide access to create policy set attachments. If you have access to a specific resource only, you can create policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can create policy set attachments for application resources only.
Operator	The Operator role cannot create policy set attachments.
Monitor	The Monitor role cannot create policy set attachments.

Before you use the commands in this topic, verify that you are using the most recent version of the `wsadmin` tool. The policy set management commands that accept a properties object as the value for the `attributes` or `bindingLocation` parameters are not supported on previous versions of the `wsadmin` tool. For example, the commands do not run on a Version 6.1.0.x node.

About this task

To use a new policy set to manage policies for your application, you must attach the policy set to an application artifact or artifacts. When the application restarts, the application uses the policies from the newly attached policy set.

Note: In a mixed cell environment, the following limitations apply to service reference attachments or resource attachments that are specified in name-value pair format:

- You must not create these types of attachments for applications that are deployed on an application server that is prior to WebSphere Application Server Version 8.0. Service reference attachments are only supported on WebSphere Application Server V8.0 and later.
- An application that contains these types of attachments must not be deployed on an application server that is prior to WebSphere Application Server Version 8.0.
- If an application that is deployed in a cluster environment contains these types of attachments, you must not add a member application server that is prior to WebSphere Application Server Version 8.0 to the cluster.

Procedure

1. Launch a scripting command. To learn more, read about starting the `wsadmin` scripting client.

2. Select an application with web services to update. Use the `listWebServices` command to list all web services and the associated applications. Enter the following command to list all web services and attributes:

```
AdminTask.listWebServices()
```

For each web service, the command returns the associated application name, module name, service name, and service type. For example, the following information is returned:

```
'[ [service {http://www.ibm.com}service1] [client false] [application application1]
[module webappl.war] [type JAX-WS ]'
```

3. Create a policy set attachment for an application.

For the commands in the `PolicySetManagement` group, the term **resource** refers to a web service artifact. For application and service client policy sets, the artifacts use the application hierarchy. The application hierarchy includes a web service, module name, endpoint, or operation. Enter the value for the `-resource` parameter as a string, with a backslash (/) character as a delimiter.

Note: When attempting to connect to a web service from a thin client, verify that the resources you are specifying are valid before running the `updatePolicySetAttachment` command. No configuration changes are made if the requested resource does not match a resource in the attachment file for the application.

Use the following format for application and client policy set attachments:

- `WebService:/`
Attaches all artifacts in the application to the policy set.
- `WebService:/webappl.war:{http://www.ibm.com}myService`
Attaches all artifacts within the web service `{http://www.ibm.com}myService` to the policy set. You must provide a fully qualified name (QName) for the service.
- `WebService:/webappl.war:{http://www.ibm.com}myService/endpointA`
Attaches all operations for the `endpointA` endpoint to the policy set.
- `WebService:/webappl.war:{http://www.ibm.com}myService/endpointA/operation1`
Attaches only the `operation1` operation to the policy set.

The format for the `-resource` string differs for service reference attachments. Use the following format for service reference attachments:

- `type=WebService:/`
Attaches all artifacts in the application to the policy set.
- `type=WebService:/,module=myModule.war,service={ http://www.mynamespace.com}myService`
Attaches all artifacts within the web service `{http://www.mynamespace.com}myService` to the policy set. You must provide a fully qualified name (QName) for the service.
- `type=WebService:/,module=myModule.war,service={ http://www.mynamespace.com }myService,serviceRef=myServiceRef`
Attaches all artifacts within the web service reference `myServiceRef` to the policy set.
- `type=WebService:/,module=myModule.war,service={namespace}myService,serviceRef=myServiceRef,endpoint=endpointA`
Attaches all operations for the service reference `endpointA` endpoint in the service reference `myServiceRef` to the policy set.
- `type=WebService:/,module=myModule.war,service={namespace}myService,serviceRef=myServiceRef,endpoint=endpointA operation=operation1`
Attaches only the `operation1` operation in the service reference `myServiceRef` to the policy set.

The format for the `-resource` string differs for system policy set attachments for the trust service. Use the following format for system policy set attachments:

- `Trust.opName:/`

The opName attribute can be issue, renew, cancel, or validate.

- Trust.opName:/url

The opName attribute can be issue, renew, cancel, or validate. You can specify any valid URL for the url attribute.

- a. Enter the command to attach the policy set to the application. This command attaches the policyset1 application policy set to all artifacts in the WebService application.

Note: Even though you can specify the application value for the -attachmentType parameter, use the provider value in place of the application value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the provider value for the attachmentType parameter and the "[systemType trustService]" value for the -attachmentProperties parameter. For WSNClient attachments, specify the client value for the attachmentType parameter and the bus and WSNService properties with the -attachmentProperties parameter.

To attach a policy set to a Web service application, specify the provider value for the -attachmentType parameter:

```
AdminTask.createPolicySetAttachment('[-policySet policyset1 -resources
"WebService:/" -applicationName WebService -attachmentType provider]')
```

To attach a policy set to a service client application, specify the client value for the -attachmentType parameter, as the following example demonstrates:

```
AdminTask.createPolicySetAttachment('[-policySet policyset1 -resources
"WebService:/" -applicationName WebService -attachmentType client]')
```

To create a trust service attachment for a system policy set, specify the provider value for the -attachmentType parameter and the [systemType trustService] value for the -attachmentProperties parameter, as the following example demonstrates:

```
AdminTask.createPolicySetAttachment('[-policySet policyset1 -resources
"WebService:/" -attachmentType provider -attachmentProperties "[systemType trustService]"']')
```

To attach a policy set to a service reference, enter the following command:

```
AdminTask.createPolicySetAttachment('[-resources "type=WebService:/,module=webappl.war,service=
{http://www.mynamespace.com}myService,serviceRef=myServiceRef" -applicationName application1
-attachmentType client -policySet PolicySet1 -inheritFromService false]')
```

This command returns an attachment ID number that you must use to reference this attachment. In the next step, use the attachment ID number to set the binding configuration. For this example, the attachment ID number is 124.

4. Run the command to set the binding.

To attach a policy set to a web services application, specify the provider value for the -attachmentType parameter.

The following example demonstrates how to set the timestamp expiration attribute on the SecureConversation123binding binding for the WSSecurity policy, on the WebService Web service application.

```
AdminTask.setBinding('[-policyType WSSecurity -bindingLocation "[[application WebService]
[attachmentId 124] ]" -attachmentType provider
-bindingName SecureConversation123binding -attributes
"[application.securityoutboundbindingconfig.timestampexpires.expires 5]"']')
```

To attach a policy set to a Web services application client or to a service reference, specify the client value for the -attachmentType parameter.

5. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

Results

You have attached the policy set to the application artifact or artifacts specified. Restart your application to use the policies from the newly attached policy set.

What to do next

Manage and update your attachments.

Listing policy sets available for attachment using the wsadmin tool

Use the wsadmin tool to list the supported policy sets that are available to attach to a web services resource. You can attach policy sets to an application, web service, endpoint, or specific operation.

Before you begin

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 93. Administrative roles. The administrative role determines if you can create policy set attachments.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to create policy set attachments. If you have access to a specific resource only, you can create policy set attachments for the resource for which you have access.
Configurator	The Configurator role must have cell-wide access to create policy set attachments. If you have access to a specific resource only, you can create policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can create policy set attachments for application resources only.
Operator	The Operator role cannot create policy set attachments.
Monitor	The Monitor role cannot create policy set attachments.

About this task

To use a new policy set to manage policies for your Web services application, you must attach the policy set to an asset or resource. When the application restarts, the application uses the policies from the newly attached policy set. The listSupportedPolicySets command lists the policy sets which are supported and can be attached to an application or other web services resource.

Procedure

1. Launch a scripting command.
2. Run the command to list supported policy sets. The following example demonstrates how to use the -assetProps parameter to display policy sets that can be attached to a specific type of resource.

List policy sets that can be attached to an application:

```
AdminTask.listSupportedPolicySets ('[-assetProps [[application myApplication]]]')
```

List policy sets that can be attached to a WS-Notification service client:

```
AdminTask.listSupportedPolicySets ('[-assetProps [[bus bus1] [WSNService service1]]]')
```

List policy sets that can be attached to a trust service resource:

```
AdminTask.listSupportedPolicySets ('[-assetProps [[systemType trustService]]]')
```

List policy sets that can be attached to a business-level application resource. You must specify the business-level application (BLA) name and composition unit (CU) name. Two other properties, BLA edition and CU edition, are optional.

```
AdminTask.listSupportedPolicySets ('[-assetProps [[blaNme myBLA] [cuName compositionUnit]]]')
```

This example uses the optional properties:

```
AdminTask.listSupportedPolicySets ('[-assetProps [[blaNme myBLA] [cuName compositionUnit] [blaNmeEdition BASE] [cuEdition 1.0]]]')
```

Results

The command output is a list of policy set names. Use this list to determine which policy sets to attach to your web services resources.

What to do next

Manage and update your policy set attachments. For more information, read about managing policy set attachments using the `wsadmin` tool.

Managing policy set attachments using the `wsadmin` tool

Use the `wsadmin` tool to manage your policy set attachment configurations. You can use the Jython or Jacl scripting language to list all attachments and attachment properties, add or remove resources for an existing attachment, and transfer attachments across policy sets.

Before you begin

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 94. Administrative roles. The administrative role determines if you can manage policy set attachments.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to manage policy set attachments. If you have access to a specific resource only, you can manage policy set attachments for the resource for which you have access.
Configurator	The Configurator role must have cell-wide access to manage policy set attachments. If you have access to a specific resource only, you can manage policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can manage policy set attachments for application resources only.
Operator	The Operator role cannot manage policy set attachments.
Monitor	The Monitor role cannot manage policy set attachments.

About this task

Policy set attachments define how a policy set is attached to resources and binding configurations.

Procedure

- Query the configuration for policy set attachments and attachment properties.

Before making configuration changes to your policy set attachments, use the `listAttachmentsForPolicySet` and `getPolicySetAttachments` commands to view current configuration information about your policy set attachments.

1. Start the `wsadmin` scripting tool.
2. Use the `listAttachmentsForPolicySet` command to view all applications to which a specific policy set is attached, for example:

```
AdminTask.listAttachmentsForPolicySet('[-policySet PolicySet1]')
```

Use the `-attachmentType` parameter to narrow your query. You can query for `provider` or `client` attachments.

Note: The application and system/trust values for the -attachmentType parameter are deprecated. Specify the provider value in place of the application value. For system policy set attachments, specify the provider value for the attachmentType parameter. For a trust client attachment, or a WSNClient attachment, specify the client value for the attachmentType parameter.

3. Use the getPolicySetAttachments command to view the properties for all policy set attachments in a specified application, for example:

```
AdminTask.getPolicySetAttachments('[-applicationName application1]')
```

Use the -attachmentType parameter to narrow your query. You can query for provider or client attachments.

- Determine the assets to which a specific policy set is attached.

Use the listAssetsAttachedToPolicySet command to display the assets that are attached to the policy set of interest, as the following example demonstrates:

```
AdminTask.listAssetsAttachedToPolicySet('[-policySet SecureConversation]')
```

The command returns a list of properties that describe each asset. Each properties object contains the assetType property, which specifies the type of asset.

- Modify resources that apply to a policy set attachment.

1. Start the wsadmin scripting tool.
2. Determine the resource of interest and review the command syntax for the updatePolicySetAttachment command.

For the commands in the PolicySetManagement group, the term **resource** refers to a web service artifact. For application and service client policy sets, the artifacts use the application hierarchy. The application hierarchy includes a web service, module name, endpoint, or operation. Enter the value for the -resource parameter as a string, with a backslash (/) character as a delimiter.

Note: When attempting to connect to a web service from a thin client, verify that the resources you are specifying are valid before running the updatePolicySetAttachment command. No configuration changes are made if the requested resource does not match a resource in the attachment file for the application.

Use the following format for application and client policy set attachments:

- WebService:/
Attaches all artifacts in the application to the policy set.
- WebService:/webapp1.war:{http://www.ibm.com}myService
Attaches all artifacts within the web service {http://www.ibm.com}myService to the policy set. You must provide a fully qualified name (QName) for the service.
- WebService:/webapp1.war:{http://www.ibm.com}myService/endpointA
Attaches all operations for the endpointA endpoint to the policy set.
- WebService:/webapp1.war:{http://www.ibm.com}myService/endpointA/operation1
Attaches only the operation1 operation to the policy set.

The format for the -resource string differs for system policy set attachments for the trust service.

Use the following format for system policy set attachments:

- Trust.opName:/
The opName attribute can be issue, renew, cancel, or validate.
- Trust.opName:/url
The opName attribute can be issue, renew, cancel, or validate. You can specify any valid URL for the url attribute.

3. Modify the attachment.

For example, the policy set attachment is connected to the operation1 operation, which is a specific single operation. To attach the 124 attachment to all operations for the endpointA endpoint, enter the following command:

```
AdminTask.updatePolicySetAttachment('[-attachmentId 124 -resources
"WebService:/webapp1.war:{http://www.ibm.com}myService/endpointA" -applicationName application1]')
```

Note: The updatePolicySetAttachment command replaces all existing resources for an attachment with the resources specified in the command. You can also update your policy set attachments using the addToPolicySetAttachment command to add resources to an existing attachment, or you can also use the createPolicySetAttachment command to create an attachment for a specific resource. For more information about these commands reference the commands for the PolicySetManagement group for the AdminTask object.

4. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

- Remove resources that apply to a policy set attachment.

1. Start the wsadmin scripting tool.
2. Determine which resources to remove with the command. You can remove a resource for each web service artifact, each operation for an endpoint, or for a specific operation. In the following example, the command removes the newAttach attachment from operation1, which is associated with the plantShop application.

```
AdminTask.removeFromPolicySetAttachment('[-attachmentId newAttach -resources
"WebService:/webapp1.war:{http://www.ibm.com}myPlantService/endpointA/operation1" -applicationName
plantShop]')
```

The command returns a success or failure message.

3. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

- Transfer attachments from one policy set to another policy set. This command detaches each web service from the source policy set and attaches those web services to the destination policy set. The destination policy set must have the same set of enabled policy types as the source policy set.

1. Enter the following command to transfer all attachments:

```
AdminTask.transferAttachmentsForPolicySet('[-sourcePolicySet PolicySet1
-destinationPolicySet PolicySet2]')
```

The command returns a success or failure message.

2. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

Managing policy set attachments for service references using the wsadmin tool

Use the wsadmin tool to manage your policy set attachment configurations for services and service references. You can use the Jython or Jacl scripting language to list all attachments and attachment properties, add or remove resources for an existing attachment, and transfer attachments across policy sets.

Before you begin

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 95. Administrative roles. The administrative role determines if you can manage policy set attachments.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to manage policy set attachments. If you have access to a specific resource only, you can manage policy set attachments for the resource for which you have access.
Configurator	The Configurator role must have cell-wide access to manage policy set attachments. If you have access to a specific resource only, you can manage policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource-specific access can manage policy set attachments for application resources only.
Operator	The Operator role cannot manage policy set attachments.
Monitor	The Monitor role cannot manage policy set attachments.

About this task

Policy set attachments define how a policy set is attached to resources and binding configurations.

Application components including application clients, web modules, and EJB modules, can define references to external web services by using logical names called web service references. Before Version 8.0, web service references always inherited the policy set attachment of the web service.

In Version 8.0 and later, you can specify a policy set and binding for a service reference that is different from the policy set attachment for the service. In addition, you can indicate to not attach a policy set to a service reference, even if a policy set is attached to the service. The default behavior is that a service reference, as well as its endpoints and operations, inherits the policy set attachment of the corresponding resources of the service. Service references are only valid for the client attachment type.

Note: In a mixed cell environment, the following limitations apply to service reference attachments or resource attachments that are specified in name-value pair format:

- You must not create these types of attachments for applications that are deployed on an application server that is prior to WebSphere Application Server Version 8.0. Service reference attachments are only supported on WebSphere Application Server V8.0 and later.
- An application that contains these types of attachments must not be deployed on an application server that is prior to WebSphere Application Server Version 8.0.
- If an application that is deployed in a cluster environment contains these types of attachments, you must not add a member application server that is prior to WebSphere Application Server Version 8.0 to the cluster.

Procedure

- Query the configuration for policy set attachments and attachment properties.

Before making configuration changes to your policy set attachments, use the `listAttachmentsForPolicySet` and `getPolicySetAttachments` commands to view current configuration information about your policy set attachments.

1. Start the `wsadmin` scripting tool.
2. Use the `listAttachmentsForPolicySet` command to view all applications to which a specific policy set is attached; for example:

```
AdminTask.listAttachmentsForPolicySet('[-policySet PolicySet1 -attachmentType client]')
```

3. Use the `getPolicySetAttachments` command to view the properties for all policy set attachments in a specified application; for example:

```
AdminTask.getPolicySetAttachments('[-applicationName application1 -attachmentType client]')
```

- Determine the assets to which a specific policy set is attached.

Use the `listAssetsAttachedToPolicySet` command to display the assets that are attached to the policy set of interest, as the following example demonstrates:


```
AdminTask.listAssetsAttachedToPolicySet('[-policySet SecureConversation]')
```

The command returns a list of properties that describe each asset. Each properties object contains the `assetType` property, which specifies the type of asset.

- Use the `createPolicySetAttachment` command to create the policy set attachment.

For the commands in the `PolicySetManagement` group, the term, *resource*, refers to a web service artifact. For service references, use name-value pairs to specify the resource name. You can also use this format instead of the application hierarchy format to specify service resources.

The following format for application and client policy set attachments is required for service reference resources. For resources that are not service references, you can use either this format or the format specified in the managing policy set attachments using the `wsadmin` tool documentation. Use the following format for application and client policy set attachments:

- `type=WebService:/`
Attaches all artifacts in the application to the policy set.
- `type=WebService:/,module=myModule.war,service={ http://www.mynamespace.com}myService`
Attaches all artifacts within the web service, `{http://www.mynamespace.com}myService`, to the policy set. You must provide a fully qualified name (QName) for the service.
- `type=WebService:/,module=myModule.war,service={ http://www.mynamespace.com }myService,serviceRef=myServiceRef`
Attaches all artifacts within the web service reference, `myServiceRef`, to the policy set.
- `type=WebService:/,module=myModule.war,service={namespace}myService,serviceRef=myServiceRef,endpoint=endpointA`
Attaches all operations for the service reference, `endpointA`, `endpoint` in the service reference, `myServiceRef`, to the policy set.
- `type=WebService:/,module=myModule.war,service={namespace}myService,serviceRef=myServiceRef,endpoint=endpointA,operation=operation1`
Attaches only the `operation1` operation in the service reference, `myServiceRef`, to the policy set.

Use the `inheritFromService` parameter and specify either `true` or `false` to indicate whether you want to inherit the policy set attachment from the service.

- If you specify a service reference resource with `inheritFromService=false` and no `policySet` parameter, all attachments for the service reference are removed and the service reference does not inherit the policy set attachments of the service.
- If you specify a service reference resource with `inheritFromService=false` and `policySet=<policySetName>`, an attachment for the service reference resource to the policy set is created. If you create an attachment to attach a service reference to a policy set, the service reference does not inherit the policy set of the service.
- If you specify a service reference resource with `inheritFromService=true`, the service reference inherits the attachments for the service. The `inheritFromService` parameter is only valid for service references. If no `policySet` parameter is specified, the `inheritFromService` parameter is only valid at the `serviceRef` level, not at the endpoint or operation level.

For example, to attach policy set `PolicySet1` to all operations and endpoints for the service reference, enter the following command:

```
AdminTask.createPolicySetAttachment('[-resources "type=WebService:/,module=webapp1.war,service={http://www.mynamespace.com}myService,serviceRef=myServiceRef" -applicationName application1 -attachmentType client -policySet PolicySet1 -inheritFromService false]')
```

To specify that the service reference does not have a policy set attachment and does not inherit the policy set from the service, enter the following command:

```
AdminTask.createPolicySetAttachment('[-resources "type=WebService:/,module=webapp1.war,service={http://www.mynamespace.com}myService,serviceRef=myServiceRef" -applicationName application1 -attachmentType client -inheritFromService false]')
```


- Modify resources that apply to a policy set attachment.

1. Start the wsadmin scripting tool.
2. Determine the resource of interest, and review the command syntax for the `updatePolicySetAttachment` command.
3. Modify the attachment.

For example, the policy set attachment is connected to the `operation1` operation, which is a specific single operation. To attach the `124` attachment to all operations for the `endpointA` endpoint in the service reference, enter the following command:

```
AdminTask.updatePolicySetAttachment('[-attachmentId 124 -resources
"type=WebService:/,module=webappl.war,service={http://www.mynamespace.com}myService,serviceRef=myServiceRef,
endpoint=endpointA" -applicationName application1 -attachmentType client]')
```

The `updatePolicySetAttachment` command replaces all existing resources for an attachment with the resources that are specified in the command. If you update an attachment to attach a service reference to a policy set, the service reference does not inherit the policy set of the service. You can also update your policy set attachments using the `addToPolicySetAttachment` command to add resources to an existing attachment, or you can also use the `createPolicySetAttachment` command to create an attachment for a specific resource. For more information about these commands reference the commands for the `PolicySetManagement` group for the `AdminTask` object. A resource for a service reference cannot be included in the same attachment as a resource for a service.

4. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

- Remove resources that apply to a policy set attachment.

1. Start the wsadmin scripting tool.
2. Determine which resources to remove with the command. You can remove a resource for each web service artifact, each endpoint operation, or for a specific operation. In the following example, the command removes the `newAttach` attachment from `operation1` in the service reference `myPlantServiceRef`, which is associated with the `plantShop` application and `myPlantService` service:

```
AdminTask.removeFromPolicySetAttachment('[-attachmentId newAttach -resources
"type=WebService:/,module=webappl.war,service={http://www.mynamespace.com}myPlantService,
serviceRef=myPlantServiceRef,endpoint=endpointA,operation=operation1" -applicationName plantShop
-attachmentType client]')
```

The command returns a success or failure message.

3. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

- Transfer attachments from one policy set to another policy set. This command detaches each web service from the source policy set and attaches those web services to the destination policy set. The destination policy set must have the same set of enabled policy types as the source policy set.

1. Enter the following command to transfer all attachments:

```
AdminTask.transferAttachmentsForPolicySet('[-sourcePolicySet PolicySet1
-destinationPolicySet PolicySet2]')
```

The command returns a success or failure message.

2. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

Configuring general, cell-wide bindings for policies using wsadmin scripting

You can use the Jython or Jacl scripting language to customize your cell-wide default binding configuration. Create multiple cell-wide general bindings that you can attach to applications.

Before you begin

Before you use the commands in this topic, verify that you are using the most recent version of the wsadmin tool. The policy set management commands that accept a properties object as the value for the **attributes** or **bindingLocation** parameters are not supported on previous versions of the wsadmin tool. For example, the commands do not run on a Version 6.1.0.x node.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 96. Administrative roles. The administrative role determines if you can configure or assign bindings.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to configure bindings. If you have access to a specific resource only, you can configure bindings for the resource for which you have access. Only the Administrator role can edit binding attributes.
Configurator	The Configurator role with cell-wide or resource specific access can assign or unassign bindings, but cannot edit attributes.
Deployer	The Deployer role with cell-wide or resource specific access can assign or unassign bindings, but cannot edit attributes.
Operator	The Operator role can view, but cannot configure bindings.
Monitor	The Monitor role can view, but cannot configure bindings.

About this task

Bindings are environment and platform-specific information such as key store information, keys used for signature and encryption, or authentication information.

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

Use the following guidelines to manage bindings in your environment:

- To display or modify default Version 6.1 bindings, Version 7.0 and trust service bindings, or to reference bindings by attachment for an application, specify the attachmentId and bindingLocation parameters with the getBinding or setBinding commands.
- To use or modify general Version 7.0 and later bindings, specify the bindingName parameter with the getBinding or setBinding commands.
- To display the version of a specific binding, specify the **version** attribute for the getBinding command.

Use a Version 6.1 binding for an application in a Version 7.0 and later environment if:

- The module in the application is installed on at least one Web Services Feature Pack server.

- The application contains at least one Version 6.1 application-specific binding. The application server does not assign general bindings to resource attachments for applications that are installed on a Web Services Feature Pack server. All application-specific bindings for an application must be at the same level.

General service provider and client bindings are not linked to a particular policy set and they provide configuration information that you can reuse across multiple applications. You can create and manage general provider and client policy set bindings and then select one of each binding type to use as the default for an application server. Setting the server default bindings is useful if you want the services that are deployed to a server to share binding configuration. You can also accomplish this sharing of binding configuration by assigning the binding to each application deployed to the server or by setting default bindings for a security domain and assigning the security domain to one or more servers. You can specify default bindings for your service provider or client that are used at the global security (cell) level, for a security domain, for a particular server. The default bindings are used in the absence of an overriding binding specified at a lower scope. The order of precedence from lowest to highest that the application server uses to determine which default bindings to use is as follows:

1. Server level default
2. Security domain level default
3. Global security (cell) default

The sample general bindings that are provided with the product are initially set as the global security (cell) default bindings. The default service provider binding and the default service client bindings are used when no application specific bindings or trust service bindings are assigned to a policy set attachment. For trust service attachments, the default bindings are used when no trust specific bindings are assigned. If you do not want to use the provided Provider sample as the default service provider binding, you can select an existing general provider binding or create a new general provider binding to meet your business needs. Likewise, if you do not want to use the provided Client sample as the default service client binding, you can select an existing general client binding or create a new general client binding.

Procedure

1. Start the wsadmin scripting tool.
2. Determine the policy to update.

To view a list of all available policies for a specific policy set, use the `listPolicyType` command. For example:

```
AdminTask.listPolicyTypes('[-policySet PolicySet1]')
```

3. Retrieve the current binding configuration for the policy to determine the attributes to update.

Use the `getBinding` command to display a Properties object containing all configuration attributes for a specific policy binding. Specify a Properties object for the `-bindingLocation` parameter using an empty Properties object. For example:

```
AdminTask.getBinding('-policyType WSAAddressing -bindingLocation "" -bindingName cellWideBinding1')
```

To return a specific configuration attribute for the policy, use the `-attributes` parameter. For example, enter this command to determine if the WSAAddressing policy has workload management enabled:

```
AdminTask.getBinding('-policyType WSAAddressing -bindingLocation "" -bindingName cellWideBinding1 -attributes "[preventWLM]')
```

The command returns a properties object which contains the value of the requested attribute, `preventWLM`.

4. Edit the binding configuration.

Use the `setBinding` command to update your binding configuration for a policy. To specify that you are editing a cell-wide binding, set the `-bindingLocation` parameter by passing a null or empty Properties object and specify the name of the binding with the `-bindingName` parameter. You can further customize your binding with the following parameters:

Table 97. Command parameters. Use the command to update the binding configuration.

Parameter	Description	Data type
-policyType	Specifies the policy of interest.	String, optional
-attributes	Specifies the attribute values to update. This parameter can include all binding attributes for the policy or a subset to update.	Properties, optional
-replace	Specifies whether to replace all of the existing binding attributes with the attributes specified in the command. Use this parameter to remove optional parts of the configuration for policies with complex data. The default value is false.	Boolean, optional
-remove	Use this parameter to remove a specific policy from the binding configuration. The default value for the remove parameter is false. If the policyType parameter is not specified, the command removes the custom binding from the attachment. To delete the binding configuration, provide a value for the bindingName parameter and an asterisk character (*) for the attachmentId.	Boolean, optional
-domainName	Specifies the domain name for the binding. Use this parameter to scope a binding to a domain other than the global security domain.	String, optional

You must use the -attributes parameter when editing your binding configuration for cell-wide bindings. The following example disables workload management within the cell-wide default binding for the WSAAddressing policy:

```
AdminTask.setBinding('-policyType WSAAddressing -bindingLocation "" -bindingName cellWideBinding1 -attributes "[preventWLM false]"')
```

5. Save your configuration changes.

```
AdminConfig.save()
```

Configuring Version 6.1 server-specific default bindings for policies using wsadmin scripting

You can use the Jython or Jacl scripting language to customize WebSphere Application Server Version 6.1 server-specific default bindings for policies to match your installation environment or requirements.

Before you begin

Server-specific default bindings use the WebSphere Application Server Version 6.1 namespace.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 98. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to configure bindings. If you have access to a specific resource only, you can configure bindings for the resource for which you have access. Only the Administrator role can edit binding attributes.
Configurator	The Configurator role with cell-wide or resource specific access can assign or unassign bindings, but cannot edit attributes.
Deployer	The Deployer role with cell-wide or resource specific access can assign or unassign bindings, but cannot edit attributes.
Operator	The Operator role can view, but cannot configure bindings.
Monitor	The Monitor role can view, but cannot configure bindings.

About this task

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured

general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

Use the following guidelines to manage bindings in your environment:

- To display or modify default Version 6.1 bindings, Version 7.0 and trust service bindings, or to reference bindings by attachment for an application, specify the `attachmentId` and `bindingLocation` parameters with the `getBinding` or `setBinding` commands.
- To use or modify general Version 7.0 and later bindings, specify the `bindingName` parameter with the `getBinding` or `setBinding` commands.
- To display the version of a specific binding, specify the `version` attribute for the `getBinding` command.

Use a Version 6.1 binding for an application in a Version 7.0 and later environment if:

- The module in the application is installed on at least one Web Services Feature Pack server.
- The application contains at least one Version 6.1 application-specific binding. The application server does not assign general bindings to resource attachments for applications that are installed on a Web Services Feature Pack server. All application-specific bindings for an application must be at the same level.

General service provider and client bindings are not linked to a particular policy set and they provide configuration information that you can reuse across multiple applications. You can create and manage general provider and client policy set bindings and then select one of each binding type to use as the default for an application server. Setting the server default bindings is useful if you want the services that are deployed to a server to share binding configuration. You can also accomplish this sharing of binding configuration by assigning the binding to each application deployed to the server or by setting default bindings for a security domain and assigning the security domain to one or more servers. You can specify default bindings for your service provider or client that are used at the global security (cell) level, for a security domain, for a particular server. The default bindings are used in the absence of an overriding binding specified at a lower scope. The order of precedence from lowest to highest that the application server uses to determine which default bindings to use is as follows:

1. Server level default
2. Security domain level default
3. Global security (cell) default

The sample general bindings that are provided with the product are initially set as the global security (cell) default bindings. The default service provider binding and the default service client bindings are used when no application specific bindings or trust service bindings are assigned to a policy set attachment. For trust service attachments, the default bindings are used when no trust specific bindings are assigned. If you do not want to use the provided Provider sample as the default service provider binding, you can select an existing general provider binding or create a new general provider binding to meet your business needs. Likewise, if you do not want to use the provided Client sample as the default service client binding, you can select an existing general client binding or create a new general client binding.

Procedure

1. Launch the `wsadmin` scripting tool using the Jython scripting language. To learn more, see the starting the `wsadmin` scripting client information.
2. Determine the policy to update.
To view a list of all available policies for a specific policy set, use the `listPolicyTypes` command, as the following example demonstrates:

```
AdminTask.listPolicyTypes('[-policySet WSAAddressing]')
```

3. Retrieve the current binding configuration for the policy to determine the attributes to update.

Use the `getBinding` command to display a Properties object containing all configuration attributes for a specific policy binding. Specify a Properties object for the `-bindingLocation` parameter using the property names `node` and `server`. For example:

```
AdminTask.getBinding('-policyType WSAAddressing -bindingLocation "[[node node1]
[server server1]]"')
```

To return a specific configuration attribute for the policy, use the `-attributes` parameter. For example, enter this command to determine if the policy is enabled:

```
AdminTask.getBinding('-policyType WSAAddressing -bindingLocation "[[node node1]
[server server1]]" -attributes "[[preventWLM]]"')
```

The command returns a properties object which contains the value of the requested attribute, `preventWLM`.

4. Edit the binding configuration.

Use the `setBinding` command to update your binding configuration for a policy. To specify that you are editing a server-specific default binding, set the `-bindingLocation` parameter using the `node` and `server` property names in a Properties object. You can further customize your binding with the following optional parameters:

Table 99. Optional parameters. Use the following optional parameters to customize bindings.

Parameter	Description	Data type
<code>-policyType</code>	Specifies the policy of interest.	String, optional
<code>-remove</code>	Use this parameter to remove a server-level binding configuration. The default value for the <code>-remove</code> parameter is <code>false</code> .	Boolean, optional
<code>-attributes</code>	Specifies the attribute values to update. This parameter can include all binding attributes for the policy or a subset to update. The <code>-attributes</code> parameter is not required if you are removing your server-level binding.	Properties, optional
<code>-replace</code>	Specifies whether to replace all of the existing binding attributes with the attributes specified in the command. Use this parameter to remove optional parts of the configuration for policies with complex data. The default value is <code>false</code> .	Boolean, optional
<code>-domainName</code>	Specifies the domain name for the binding. Use this parameter to scope a binding to a domain other than the global security domain.	String, optional

You should always specify the `-attributes` parameter when editing your configuration. The following example disables workload management within the server-specific default binding for the `WSAAddressing` policy:

```
AdminTask.setBinding('-policyType WSAAddressing -bindingLocation "[ [server server1] [node node01] ]" -attributes "[preventWLM false]"')
```

5. Save your configuration changes.

```
AdminConfig.save()
```

Configuring application-specific and system bindings using wsadmin scripting

Use the Jython or Jacl scripting language to edit custom application bindings and system bindings for policies to match your installation environment or system requirements.

Before you begin

Before you use the commands in this topic, verify that you are using the most recent version of the `wsadmin` tool. The policy set management commands that accept a properties object as the value for the `attributes` or `bindingLocation` parameters are not supported on previous versions of the `wsadmin` tool. For example, the commands do not run on a Version 6.1.0.x node.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 100. Administrative roles. The administrative role determines if you can configure, modify or assign bindings.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to configure bindings. If you have access to a specific resource only, you can configure bindings for the resource for which you have access. Only the Administrator role can edit binding attributes.
Configurator	The Configurator role with cell-wide or resource specific access can assign or unassign bindings, but cannot edit attributes.
Deployer	The Deployer role with cell-wide or resource specific access can assign or unassign bindings, but cannot edit attributes.
Operator	The Operator role can view, but cannot configure bindings.
Monitor	The Monitor role can view, but cannot configure bindings.

About this task

Binding configurations are environment- and platform-specific information such as keystore information, keys used for signature and encryption, or authentication information. You can use the default binding for each policy set or define application-specific bindings within an application.

There are three types of bindings to use with your policy sets, including cell-level, application server level, and application-level. Default bindings are used at the cell-level or application server level. This topic refers to system binding information or bindings that are defined at the application level, which overrides the cell-level or application server level definition.

Use default bindings only to develop and test applications. You must change signing and encryption keys before using your bindings in a production environment.

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

Use the following guidelines to manage bindings in your environment:

- To display or modify default Version 6.1 bindings, Version 7.0 and trust service bindings, or to reference bindings by attachment for an application, specify the `attachmentId` and `bindingLocation` parameters with the `getBinding` or `setBinding` commands.
- To use or modify general Version 7.0 and later bindings, specify the `bindingName` parameter with the `getBinding` or `setBinding` commands.
- To display the version of a specific binding, specify the `version` attribute for the `getBinding` command.

Use a Version 6.1 binding for an application in a Version 7.0 and later environment if:

- The module in the application is installed on at least one Web Services Feature Pack server.
- The application contains at least one Version 6.1 application-specific binding. The application server does not assign general bindings to resource attachments for applications that are installed on a Web Services Feature Pack server. All application-specific bindings for an application must be at the same level.

General service provider and client bindings are not linked to a particular policy set and they provide configuration information that you can reuse across multiple applications. You can create and manage general provider and client policy set bindings and then select one of each binding type to use as the default for an application server. Setting the server default bindings is useful if you want the services that are deployed to a server to share binding configuration. You can also accomplish this sharing of binding configuration by assigning the binding to each application deployed to the server or by setting default bindings for a security domain and assigning the security domain to one or more servers. You can specify default bindings for your service provider or client that are used at the global security (cell) level, for a security domain, for a particular server. The default bindings are used in the absence of an overriding binding specified at a lower scope. The order of precedence from lowest to highest that the application server uses to determine which default bindings to use is as follows:

1. Server level default
2. Security domain level default
3. Global security (cell) default

The sample general bindings that are provided with the product are initially set as the global security (cell) default bindings. The default service provider binding and the default service client bindings are used when no application specific bindings or trust service bindings are assigned to a policy set attachment. For trust service attachments, the default bindings are used when no trust specific bindings are assigned. If you do not want to use the provided Provider sample as the default service provider binding, you can select an existing general provider binding or create a new general provider binding to meet your business needs. Likewise, if you do not want to use the provided Client sample as the default service client binding, you can select an existing general client binding or create a new general client binding.

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language. To learn more, see the starting the wsadmin scripting client information.
2. Retrieve the current binding data for the attachment of interest.

Use the `getPolicySetAttachments` command to determine the attachment ID. You will need to specify the attachment ID in the `getBinding` and `setBinding` commands to specify that this is a application-specific binding configuration. Use the following command to retrieve the attachment ID:

```
AdminTask.getPolicySetAttachments('-applicationName application1')
```

Use the `getBinding` command to display a properties object that contains each configuration attribute for a specific policy binding configuration. For application and client policy set attachments, specify a properties object for the `-bindingLocation` parameter using the `application` and `attachmentId` property names. For a system policy set attachment for the trust service, specify only the `attachmentId` property name. The following example queries for an application policy set binding configuration:

```
AdminTask.getBinding('-policyType #WSAddressing -bindingLocation "[[application application1][attachmentId 123]]"')
```

To return a specific configuration attribute for the policy, use the `-attributes` parameter.

3. Edit the binding configuration.

Use the `setBinding` command to update your binding configuration for a policy. To specify that you are editing a application-specific binding configuration, set the `-bindingLocation` parameter by specifying the `application` and `attachmentId` property names in a properties object. You can additionally specify the `-attachmentType` parameter as `provider` or `client`.

Note: Even though you can specify the application value for the `-attachmentType` parameter, use the provider value in place of the application value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the provider value for the `attachmentType` parameter and the "[systemType trustService]" value for the `-attachmentProperties` parameter. For WSNClient attachments, specify the client value for the `attachmentType` parameter and the bus and WSNService properties with the `-attachmentProperties` parameter.

Customize your binding configuration with the following optional parameters:

Table 101. Optional parameters. Use the optional binding parameters to update the binding configuration.

Parameter	Description	Data type
<code>-policyType</code>	Specifies the policy of interest.	String, optional
<code>-remove</code>	Use this parameter to remove a specific policy from the binding configuration. The default value for the <code>-remove</code> parameter is <code>false</code> . If the <code>-policyType</code> parameter is not specified, the command removes the application-specific binding from the attachment. To delete the binding configuration, provide a value for the <code>-bindingName</code> parameter and an asterisk character (*) for the <code>-attachmentId</code> parameter.	Boolean, optional
<code>-attributes</code>	Specifies the attribute values to update. This parameter can include each binding configuration attribute for the policy or a subset of attributes to update. If you do not specify the <code>attributes</code> parameter, the command only updates the binding configuration location that the specified attachment uses.	Properties, optional
<code>-bindingName</code>	Specifies the name for the binding configuration. Use this parameter to specify a name for the binding when you create a new application-specific binding. You can also use this parameter to switch an attachment to use a different, existing application-specific binding configuration. Lastly, you must specify a value for this parameter to delete a binding configuration.	String, optional
<code>-replace</code>	Specifies whether to replace all of the existing binding configuration attributes with the attributes specified in the command. Use this parameter to remove optional parts of the configuration for policies with complex data. The default value is <code>false</code> .	Boolean, optional
<code>-domainName</code>	Specifies the domain name for the binding. Use this parameter to scope a binding to a domain other than the global security domain.	String, optional

The following example disables workload management for the `myApplication` application's binding configuration for the `WSAddressing` policy:

```
AdminTask.setBinding('[-policyType WSAddressing -bindingLocation "[ [application myApplication]
[attachmentId 123] ]"
-attributes "[preventWLM false]" -attachmentType provider']')
```

4. Save the configuration changes.

Enter the following command to save your changes.

```
AdminConfig.save()
```

Creating application-specific and trust service-specific bindings using the `wsadmin` tool

You can use the Jython or Jacl scripting language to create application-specific and trust service-specific bindings to match your installation environment or requirements.

Before you begin

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 102. Administrative roles. The administrative role determines if you can configure or assign bindings.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to configure bindings. If you have access to a specific resource only, you can configure bindings for the resource for which you have access. Only the Administrator role can configure binding attributes.
Configurator	The Configurator role with cell-wide or resource specific access can assign or unassign bindings, but cannot edit attributes.
Deployer	The Deployer role with cell-wide or resource specific access can assign or unassign bindings, but cannot edit attributes.
Operator	The Operator role can view, but cannot configure bindings.
Monitor	The Monitor role can view, but cannot configure bindings.

About this task

Policy set bindings specify the details about how your quality of service (QoS) is configured. For example, a policy set attachment determines that sign, encrypt, or reliable messaging should be enabled. The policy set binding specifies how the protection is configured, for example, the path of the keystore file, the class name of the token generator, or the Java™ Authentication and Authorization Service (JAAS) configuration name.

For application policy sets, you can specify the policy set bindings at the cell-level using default binding configurations, at the application level using application-specific binding configurations, or at the cell-level with general bindings. Server-level default bindings are deprecated. If no binding information is specified during policy set attachment, the policy set inherits the default binding. You can specify a general binding as the default for a server instead of server-default bindings.

For system policy sets, you can specify the bindings at the cell-level and the server-level. The available bindings for system policy sets are the `TrustServiceSymmetricDefault` and `TrustServiceSecurityDefault` bindings. If no custom binding information is specified by the attachment, the resources inherit the `TrustServiceSymmetricDefault` or `TrustServiceSecurityDefault` binding.

Note: Only use default binding for development and testing. You must customize the signing and encryption keys in your binding configurations for a production environment.

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

Use the following guidelines to manage bindings in your environment:

- To display or modify default Version 6.1 bindings, Version 7.0 and trust service bindings, or to reference bindings by attachment for an application, specify the attachmentId and bindingLocation parameters with the getBinding or setBinding commands.
- To use or modify general Version 7.0 and later bindings, specify the bindingName parameter with the getBinding or setBinding commands.
- To display the version of a specific binding, specify the **version** attribute for the getBinding command.

Use a Version 6.1 binding for an application in a Version 7.0 and later environment if:

- The module in the application is installed on at least one Web Services Feature Pack server.
- The application contains at least one Version 6.1 application-specific binding. The application server does not assign general bindings to resource attachments for applications that are installed on a Web Services Feature Pack server. All application-specific bindings for an application must be at the same level.

General service provider and client bindings are not linked to a particular policy set and they provide configuration information that you can reuse across multiple applications. You can create and manage general provider and client policy set bindings and then select one of each binding type to use as the default for an application server. Setting the server default bindings is useful if you want the services that are deployed to a server to share binding configuration. You can also accomplish this sharing of binding configuration by assigning the binding to each application deployed to the server or by setting default bindings for a security domain and assigning the security domain to one or more servers. You can specify default bindings for your service provider or client that are used at the global security (cell) level, for a security domain, for a particular server. The default bindings are used in the absence of an overriding binding specified at a lower scope. The order of precedence from lowest to highest that the application server uses to determine which default bindings to use is as follows:

1. Server level default
2. Security domain level default
3. Global security (cell) default

The sample general bindings that are provided with the product are initially set as the global security (cell) default bindings. The default service provider binding and the default service client bindings are used when no application specific bindings or trust service bindings are assigned to a policy set attachment. For trust service attachments, the default bindings are used when no trust specific bindings are assigned. If you do not want to use the provided Provider sample as the default service provider binding, you can select an existing general provider binding or create a new general provider binding to meet your business needs. Likewise, if you do not want to use the provided Client sample as the default service client binding, you can select an existing general client binding or create a new general client binding.

Procedure

1. Launch a scripting command. To learn more, see the starting the wsadmin scripting client information.
2. Determine the type of binding to create.

You can create application policy set bindings at the cell-level, server-level, or application-level, and trust service policy set bindings at the cell-level or server-level.

3. Retrieve the current binding configuration for the policy of interest.

Use the getBinding command to display a Properties object containing all configuration attributes for a specific binding. Specify the location of the binding by passing a properties object using the -bindingLocation parameter and the following reference table:

Table 103. Command parameters. Use the command to display attributes for a binding.

Type of binding	-bindingLocation parameter value
Server-level (deprecated)	-bindingLocation "[[node <i>node1</i>][server <i>server1</i>]]"
Application	-bindingLocation "[[application <i>application1</i>][attachmentId <i>123</i>]]"

Table 103. Command parameters (continued). Use the command to display attributes for a binding.

Type of binding	-bindingLocation parameter value
Trust service	-bindingLocation "[[systemType trustService] [attachmentId 123]]"
Trust client	-bindingLocation "[[systemType trustClient] [attachmentId 123]]"
WS-Notification client	-bindingLocation "[[bus myBus][WSNService myService][attachmentId 123]]"

For this example, the command displays the current binding configuration for the WSAddressing policy, with the 123 attachment ID, for the application1 application:

```
AdminTask.getBinding('-policyType WSAddressing -bindingLocation "[[application application1][attachmentId 123]]"')
```

To return a specific configuration attribute for the policy, use the -attributes parameter. For example, enter this command to determine if workload management is enabled:

```
AdminTask.getBinding('-policyType WSAddressing -bindingLocation "[[application application1][attachmentId 123]]" -attributes "[preventWLM]"')
```

The command returns a properties object which contains the value of the requested attribute, preventWLM. You might receive an error message if the binding does not exist in your configuration.

4. Create a new application-specific binding for the policy of interest.

Use the setBinding command to create a binding configuration for a policy. To specify that you are creating an application-specific binding, set the -bindingLocation parameter by passing the application and attachmentId property names in a properties object. If you are creating a system policy set binding for the trust service, you only need to specify the attachmentId property name. You can further customize your binding with the following parameters:

Table 104. Command parameters. Use the command to create a binding configuration.

Parameter	Description	Data type
-policyType	Specifies the policy of interest.	String, optional
-attachmentType	Specifies the type of policy set attachment. If the attachment is for an application, you do not need to specify this parameter. Note: Even though you can specify the application value for the -attachmentType parameter, use the provider value in place of the application value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the provider value for the attachmentType parameter and the "[systemType trustService]" value for the -attachmentProperties parameter. For WSNCClient attachments, specify the client value for the attachmentType parameter and the bus and WSNService properties with the -attachmentProperties parameter.	String, optional
-attributes	Specifies the attribute values to update. This parameter can include all binding attributes for the policy or a subset of attributes.	Properties, optional
-bindingName	Specifies the name for your new application-specific binding. A name is generated if it is not specified.	String, optional
-domainName	Specifies the domain name for the binding. Use this parameter to scope a binding to a domain other than the global security domain.	String, optional

The following example creates the WSAddressing1234binding attachment-specific binding for the WSAddressing policy, assigned to the application1 application attachment 123, and enables workload management:

```
AdminTask.setBinding('-policyType WSAddressing -bindingName WSAddressing123binding -bindingLocation "[ [application application1] [attachmentId 123] ]" -attributes "[preventWLM false]"')
```

5. Optional: Add application-specific binding properties.

Use the `setBinding` command to add any additional custom properties for your application-specific binding. The application server provides custom properties that are specific to each quality of service. Use the following format to specify custom properties for the binding:

```
AdminTask.setBinding('[-bindingLocation "[ [application application1] [attachmentId 123]
]" -policyType WSAAddressing -attributes "[[properties_x:name key_value] [properties_x:value
value]"']')
```

6. Save your configuration changes.

```
AdminConfig.save()
```

Deleting application-specific bindings from your configuration using wsadmin scripting

You can use the Jython or Jacl scripting language to delete a custom application or system policy set binding from your configuration. You cannot delete cell-level default bindings.

Before you begin

Before you use the commands in this topic, verify that you are using the most recent version of the `wsadmin` tool. The policy set management commands that accept a properties object as the value for the `attributes` or `bindingLocation` parameters are not supported on previous versions of the `wsadmin` tool. For example, the commands do not run on a Version 6.1.0.x node.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 105. Administrative roles. The administrative role determines if you can delete or modify bindings.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to modify bindings. If you have access to a specific resource only, you can modify bindings for the resource for which you have access.
Configurator	The Configurator role cannot modify bindings.
Deployer	The Deployer role cannot modify bindings.
Operator	The Operator role cannot modify bindings.
Monitor	The Monitor role cannot modify bindings.

About this task

Policy set bindings specify the details about how your quality of service (QoS) is configured. For example, a policy set attachment determines that sign, encrypt, or reliable messaging is enabled. The policy set binding specifies how the protection is configured, for example, the path of the keystore file, the class name of the token generator, or the Java Authentication and Authorization Service (JAAS) configuration name.

For application policy sets, policy set bindings exist at the cell-level and server-level using default binding configurations, or at the application level using application-specific binding configurations. You can also specify cell-level general bindings. For system policy sets, bindings exist at the cell level and server level, or you can create application-specific bindings.

Use the following procedure to delete application-specific bindings for trust policy sets and application level bindings for application policy sets:

Procedure

1. Launch a scripting command. To learn more, see the starting the `wsadmin` scripting client information.
2. Retrieve the current binding configuration for the policy of interest.

Use the `getBinding` command to display a properties object that contains all configuration attributes for a specific binding. Specify the location of the binding by passing a properties object using the `bindingLocation` parameter and the following reference table:

Table 106. *bindingLocation* parameter options. Use the parameter to control the output of the `getBinding` command.

Type of Binding	Value for the <code>-bindingLocation</code> parameter
Application	<code>-bindingLocation "[[application application1][attachmentId 123]]"</code>
Trust service	<code>-bindingLocation "[[attachmentId 123]]"</code>
WS-Notification client	<code>-bindingLocation "[[bus myBus][WSNService myService][attachmentId 123]]"</code>
General binding	<code>-bindingLocation []</code>

In this example, the command displays the current binding configuration for the `WSAddressing` policy, with the `123` attachmentId, for the `application1` application:

```
AdminTask.getBinding('[-policyType WSAddressing -bindingLocation "[[application application1][attachmentId 123]]"']')
```

To display general policy set bindings, identify the bindings by specifying the `-bindingName` parameter, as the following example demonstrates:

```
AdminTask.getBinding('[-bindingLocation [] -attachmentType application -bindingName "General Provider Binding"']')
```

3. Remove the binding of interest from each attachment.

You cannot remove a binding from your configuration if that binding is referenced by one or more attachments. Modify and use the following example command to remove a binding from an attachment:

```
AdminTask.setBinding('[-bindingLocation "[[application application1][attachmentId 123]]" -remove true']')
```

4. Delete the binding of interest.

Use the `setBinding` command to delete a application-specific binding configuration. Specify the binding of interest with the `-bindingName` parameter, an asterisk (*) for the `-attachmentId` property, and set the `-remove` parameter to `true`. The following example `setBinding` command removes the `WSAddressing123binding` application policy set binding:

```
AdminTask.setBinding('[-attachmentType application -bindingName WSAddressing123binding -bindingLocation "[[application application1][attachmentId *]]" -remove true']')
```

The following example `setBinding` command removes the `customTrust` trust service binding:

```
AdminTask.setBinding('[-attachmentType "system/trust" -bindingName customTrust -bindingLocation "[attachmentId *]" -remove true']')
```

The following example `setBinding` command removes the `General Provider Binding` general binding:

```
AdminTask.setBinding('[-attachmentType application -bindingName "General Provider Binding" -bindingLocation [] -bindingScope domain -remove true']')
```

Note: You cannot delete general bindings if an attachment references the binding, or if the binding is set as the default for a server or domain.

5. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Results

The application-specific binding of interest is removed from your configuration.

Importing and exporting policy sets to client or server environments using `wsadmin` scripting

Use the `wsadmin` tool, which supports the Jython and Jacl scripting languages, to export and import application or system policy sets for web services. The `exportPolicySet` command creates an archive file based on the policy set configuration, and the `importPolicySet` command imports a default policy set or policy set from an archive file.

Before you begin

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 107. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to import and export policy sets.
Configurator	The Configurator role cannot import and export policy sets.
Deployer	The Deployer role cannot import and export policy sets.
Operator	The Operator role cannot import and export policy sets.
Monitor	The Monitor role cannot import and export policy sets.

About this task

You can use the `exportPolicySet` and `importPolicySet` commands to exchange system or application policy sets between servers or between a client and a provider. To reuse a policy set on a new server or client, export the policy set to an archive file, then import the archive file on the destination server or client. This topic provides examples for exporting a policy set, importing a policy set from an archive file, and importing a default policy set.

Procedure

- Export an application or system policy set to an archive file.

Use the `exportPolicySet` command to create an archive file for the policy set of interest. For example, the following command creates the `customSC.zip` archive file in the `C:\IBM\WebSphere\AppServer\PolicySets\` directory for the `customSecureConversation` policy set:

```
AdminTask.exportPolicySet('[-policySet customSecureConversation  
-pathName C:/IBM/WebSphere/AppServer/PolicySets/customSC.zip]')
```

- Move the policy set archive file to the destination environment.

If you are exporting the policy set to a client environment, then place the archive file on the classpath of the client.

- Import a policy set from an archive file or import a default policy set.

Use the `importPolicySet` command to import the archive file containing the policy set configuration of interest to the destination environment. You cannot import a policy set onto a server or client environment if the policy set already exists in the destination environment.

For example, the following command creates a `customSecureConversation` policy set from the `customSC.zip` archive file:

```
AdminTask.importPolicySet('[-importFile C:\IBM\WebSphere\AppServer\bin\customSC.zip]')
```

Additionally, you can also use the `importPolicySet` command to import a default policy set onto a server environment, as the following example demonstrates:

```
AdminTask.importPolicySet('[-defaultPolicySet SecureConversation -policySet copyOfdefaultSC]')
```

- Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

Removing policy set bindings using wsadmin scripting

You can use the Jython or Jacl scripting language to remove binding configurations for policies and resources to match your installation environment or requirements.

Before you begin

Before you use the commands in this topic, verify that you are using the most recent version of the wsadmin tool. The policy set management commands that accept a properties object as the value for the **attributes** or **bindingLocation** parameters are not supported on previous versions of the wsadmin tool. For example, the commands do not run on a Version 6.1.0.x node.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 108. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to delete bindings. If you have access to a specific resource only, you can delete bindings for the resource for which you have access.
Configurator	The Configurator role can unassign bindings, but cannot delete bindings.
Deployer	The Deployer role can unassign bindings, but cannot delete bindings.
Operator	The Operator role cannot modify bindings.
Monitor	The Monitor role cannot modify bindings.

About this task

Use the following steps to remove specific policies from your application-specific binding configuration, or to remove your entire binding configuration. For both of these removal options, you must use the **-bindingLocation** parameter to specify whether you are deleting an application-specific binding, server-specific default binding, or a binding for the trust service. Use the following table for examples using Jython syntax when specifying the type of binding to modify or remove:

Table 109. bindingLocation parameter options. Use the following values for the -bindingLocation parameter for the associated types of bindings.

Type of binding	Value for the -bindingLocation parameter
Server-level (for Version 6.1 bindings only)	-bindingLocation "[[node <i>node1</i>][server <i>server1</i>]]"
Application	-bindingLocation "[[application <i>application1</i>][attachmentId 123]]"
Trust service binding	-bindingLocation "[[systemType trustService] [attachmentId 123]]"
WS-Notification client	-bindingLocation "[[bus myBus][WSNService myService][attachmentId 123]]"
General bindings	-bindingLocation []

Procedure

- Remove a policy from your application-specific binding configuration.

Use the following steps to remove a specific policy from your binding configuration. If you remove the last policy remaining in your binding configuration, the command removes binding information from all attachments and deletes it from your configuration.

- Launch the wsadmin scripting tool using the Jython scripting language. To learn more, see the starting the wsadmin scripting client information.
- Review the binding configuration to edit.

Use the `getBinding` command to view the attributes for the binding, as the following example demonstrates:

```
AdminTask.getBinding('-policyType #SAddressing -bindingLocation "[[application application1][attachmentId 1234]]"')
```


If the binding of interest is not referenced by an attachment ID, specify an asterisk character (*) for the attachmentId parameter to view the attributes for the binding, as the following example demonstrates:

```
AdminTask.getBinding('-policyType WSAddressing -bindingLocation "[[application application1][attachmentId *]]"')
```

3. Remove the policy from the binding configuration.

Use the setBinding command with the -policyType and -remove parameters to remove the policy of interest from the binding configuration. For example, use the following command to remove the WSAddressing policy from the binding configuration for the *application1* application:

```
AdminTask.setBinding('-policyType WSAddressing -remove true -bindingLocation "[[application application1][attachmentId 1234]]"')
```

If the binding to delete is not referenced by an attachment ID, specify an asterisk character (*) for the attachmentId parameter to delete the binding, as the following example demonstrates:

```
AdminTask.setBinding('-policyType WSAddressing -remove true -bindingLocation "[[application application1][attachmentId *]]"')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

- Remove binding configurations from an attachment.

Use the following steps to remove a server-specific default binding or a custom binding. You cannot remove cell-level default bindings from your configuration. When a binding is removed from an attachment, the resource it was removed from will inherit the server-level default binding, if one is present, or the cell-level default binding if the server-level binding is not present. Use the following steps to remove a binding configuration:

1. Start the wsadmin scripting tool.
2. Verify the current binding configuration to delete.

Before removing the binding from the attachment, use the getBinding command to view the attributes for the binding, as the following example demonstrates:

```
AdminTask.getBinding('-policyType WSAddressing -bindingLocation "[[application application1][attachmentId 123]]"')
```

3. Remove the current binding configuration from the attachment.

For this example, this command removes the bindings from the *123* attachment for the *application1* application:

```
AdminTask.setBinding('-bindingLocation "[[application application1][attachmentId 123]]" -remove true')
```

If the binding to delete is not referenced by an attachment ID, specify an asterisk character (*) for the -attachmentId parameter to remove the binding, as the following example demonstrates:

```
AdminTask.setBinding('-bindingLocation "[[application application1][attachmentId *]]" -remove true')
```

To remove a server-specific default binding, specify the node name and server name with the -bindingLocation parameter. Server specific default bindings are deprecated. For example, this command removes the server-level default binding for the WS-Addressing policy from the *server1* server on the *node1* node:

```
AdminTask.setBinding('-policyType WSAddressing -bindingLocation "[[node node1][server server1]]" -remove true')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

- Remove a policy from a general binding.

1. Start the wsadmin scripting tool.
2. Verify the current binding configuration to delete.

Before removing the binding from the attachment, use the getBinding command to view the attributes for the binding, as the following example demonstrates:

```
AdminTask.getBinding('-policyType WSAddressing -bindingName "General Provider Binding" -bindingLocation []')
```

3. Remove the general binding.

For this example, this command removes the General Provider Binding general binding:

```
AdminTask.setBinding('-bindingLocation [] -bindingName "General Provider Binding" -remove true')
```

4. Save your configuration changes.

Use the following command example to save your configuration changes:

```
AdminConfig.save()
```

Removing policy set attachments using the wsadmin tool

You can use the Jython or Jacl scripting language to remove and transfer policy sets from application artifacts. You can also remove resources that apply to a policy set attachment without deleting the policy set attachment.

Before you begin

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 110. Administrative roles. The administrative role determines if you can remove policy set attachments.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to remove policy set attachments. If you have access to a specific resource only, you can remove policy set attachments for the resource for which you have access.
Configurator	The Configurator role must have cell-wide access to remove policy set attachments. If you have access to a specific resource only, you can remove policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can remove policy set attachments for application resources only.
Operator	The Operator role cannot remove policy set attachments.
Monitor	The Monitor role cannot remove policy set attachments.

Determine which applications and policy sets to remove, detach, or transfer. Use the `listWebServices` command to list all Web services and for the application to edit. Enter the command to list all web services and attributes for a specific application.

```
AdminTask.listWebServices(['-application application_name'])
```

To view a list of all web services and associated applications, do not provide the `-application` parameter. For each web service, the command returns the associated application name, module name, service name, and service type. You can also use the `listAttachmentsForPolicySet` and `getPolicySetAttachments` administrative commands to view existing configuration data. For additional information about these commands, use the information center topic for the `PolicySetManagement` group of commands for the `AdminTask` object.

About this task

There are four ways to remove policy set attachments, including:

- Remove a policy set attachment from an application.
- Remove resources that apply to a policy set attachment.
- Remove all attachments for a specific policy set and application.
- Transfer attachments between policy sets for a specific application.

Choose the appropriate procedure to remove your policy set attachments.

Procedure

- Remove a policy set attachment from the application.
 1. Enter the following command to remove the policy set attachment from the application:

```
AdminTask.deletePolicySetAttachment('[-attachmentId attachment_name -applicationName
application_name']')
```

The command returns a success or failure message. If you receive a success message, the policy set attachment is successfully removed from your application. If you receive a failure message, verify that the chosen policy set attachment exists in your configuration.

2. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

- Remove resources that apply to a policy set attachment.

1. You can customize the command to remove resources for the web service, endpoint, or operation.

For the commands in the PolicySetManagement group, the term *resource* refers to a web service artifact. For application and service client policy sets, the artifacts use the application hierarchy: Web service, module name, endpoint, or operation. Enter the value for the *-resource* parameter as a string, with a backslash (/) character as a delimiter. Use the following format for application and client policy set attachments:

WebService:/

Refers to all artifacts in the application to the policy set.

WebService:/webapp1.war:{http://www.ibm.com}myService

Refers to all artifacts within the web service *{http://www.ibm.com}myService* to the policy set. You must provide a fully qualified name (QName) for the service.

WebService:/webapp1.war:{http://www.ibm.com}myService/endpointA

Refers to all operations for the *endpointA* endpoint to the policy set.

WebService:/webapp1.war:{http://www.ibm.com}myService/endpointA/operation1

Refers to only the *operation1* operation to the policy set.

The format for the **resource** string differs for system policy set attachments for the trust service. Use the following format for system policy set attachments:

Trust.<opName>:/

The *<opName>* attribute can be issue, renew, cancel, or validate.

Trust.<opName>:/url

The *<opName>* attribute can be issue, renew, cancel, or validate. You can specify any valid URL for the *url* attribute.

In the following example, the command removes the *attachment_name* attachment from the *operation1* operation, which is associated with the application, *application1*.

```
AdminTask.removeFromPolicySetAttachment('[-attachmentId attachment_name -resources
"WebService:/webapp1.war:{http://www.ibm.com}myService/endpointA/operation1" -applicationName
application1']')
```

The command returns a success or failure message. You can also use the **updatePolicySetAttachments** command to remove attached resources.

2. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

- Remove all attachments for a specific policy set.

1. Remove application attachments for the policy set. To remove an attachment from an application, use the following command:

```
AdminTask.deleteAttachmentsForPolicySet('[-policySet PolicySet1 -applicationName
application1']')
```

To remove all attachments from the policy set, use the following command:

```
AdminTask.deleteAttachmentsForPolicySet('[-policySet PolicySet1']')
```

Both commands return a success or failure message.

2. Save the configuration changes.

Enter the following command to save your changes:

```
AdminConfig.save()
```

- Transfer attachments from one policy set to another policy set. This command detaches all web services from the source policy set and attaches the web services to the destination policy set.
 1. Enter the `transferAttachmentsForPolicySet` command to transfer all attachments within an application. Use the following command to transfer the attachments from the *PolicySet1* policy set to the *PolicySet2* policy set within the *application1* application:

```
AdminTask.transferAttachmentsForPolicySet('[-sourcePolicySet PolicySet1  
-destinationPolicySet PolicySet2 -applicationName application1]')
```

The command returns a success or failure message.

2. Save the configuration changes.

Enter this command to save your changes:

```
AdminConfig.save()
```

Deleting policy sets using wsadmin scripting

Use the Jython or Jacl scripting language to delete policy sets from your configuration with the wsadmin tool. You must remove all policy set attachments before removing the policy set.

Before you begin

To complete this task, you must use the Administrator role with cell-wide access when administrative security is enabled.

Before deleting a policy set, you must delete or transfer all attachments to applications. You cannot delete default policy sets.

About this task

Use the following steps to delete custom policy sets from your configuration with the wsadmin tool:

Procedure

1. Launch a scripting command. To learn more, see the starting the wsadmin scripting client information.
2. List all policy sets in your configuration.

- Enter the following command to list all application policy sets:

```
AdminTask.listPolicySets()
```

- Enter the following command to list all policy sets for the trust service:

```
AdminTask.listPolicySets('[-policySetType system/trust]')
```

- Enter the following command to list all system policy sets:

```
AdminTask.listPolicySets('[-policySetType system]')
```

3. Determine which policy set to delete. Enter the following command to view the description and default indicator for a specific policy set:

```
AdminTask.getPolicySet('[-policySet policySet_name]')
```

4. Delete the policy set.

Enter the following command to delete a specific policy set.

```
AdminTask.deletePolicySet('[-policySet PolicySet1]')
```

The command returns a success or failure response. If you receive an error message, make sure that you have deleted all policy set attachments before entering the `deletePolicySet` command.

5. Save the configuration changes.

Enter the command to save your changes.

```
AdminConfig.save()
```

What to do next

If you deleted a policy set that was previously attached to an application, restart the affected application to update the configuration changes.

Refreshing policy set configurations using wsadmin scripting

Use the wsadmin tool to refresh the policy set configuration data. After refreshing the policy set configuration, the changes apply after restarting the application.

Procedure

1. Launch the wsadmin scripting tool using the Jython scripting language.
2. Get the object name of each PolicySetManager object.

Use the `completeObjectName` option for the AdminControl object to set the object name for each PolicySetManager type object to the `objNameString` variable, as the following example demonstrates:

```
objNameString = AdminControl.completeObjectName('type=PolicySetManager,*')
```

3. Connect to the Managed Bean (MBean).

The MBean supplies a remote interface to the MBean server that runs in the application server. The following example shows how to look up the MBean:

```
import javax.management as mgmt
```

4. Set the PolicySetManager MBean object name.

The following example sets the PolicySetManager MBean object name to the `mbeanObj` variable, parameters to the `param` variable, and signature settings to the `sig` variable:

```
mbeanObj = mgmt.ObjectName(objNameString)
param=[]
sig=[]
```

5. Refresh the PolicySetManager MBean.

The following example refreshes the policy set configuration:

```
AdminControl.invoke_jmx(mbeanObj, 'refresh', param, sig)
```

Example

The following example provides the Jython script that refreshes the policy set configuration:

```
objNameString = AdminControl.completeObjectName('type=PolicySetManager,*')
import javax.management as mgmt
mbeanObj = mgmt.ObjectName(objNameString)
param=[]
sig=[]
AdminControl.invoke_jmx(mbeanObj, 'refresh', param, sig)
```

Policy configuration properties for all policies

You can use the **attributes** parameter with the **setPolicyType** and **setBinding** commands to specify various properties for each quality of service (QoS) within a policy set. You can use the properties in this topic with each QoS within application and system policy sets.

Use the following commands and parameters in the PolicySetManagement group of the AdminTask object to customize your policy set configuration.

- Use the **-attributes** parameter for the `getPolicyType` and `getBinding` commands to view the properties for your policy and binding configuration. To get an attribute, pass the property name to the `getPolicyType` or `getBinding` command.
- Use the **-attributes** parameter for the `setPolicyType` and `setBinding` commands to add, update, or remove properties from your policy and binding configurations. To add or update an attribute, specify the property name and value. The `setPolicyType` and `setBinding` commands update the value if the attribute exists, or adds the attribute and value if the attribute does not exist. To remove an attribute, specify the value as an empty string (""). The **-attributes** parameter accepts a properties object.

Note: If a property name or value supplied with the **-attributes** parameter is not valid, then the `setPolicyType` and `setBinding` commands fail with an exception. The property that is not valid is logged as an error or warning in the `SystemOut.log` file. However, the command exception might not contain the detailed information for the property that caused the exception. When the `setPolicyType` and `setBinding` commands fail, examine the `SystemOut.log` file for any error and warning messages that indicate that the input for the **-attributes** parameter contains one or multiple properties that are not valid.

Note: This topic references one or more of the application server log files. As a recommended alternative, you can configure the server to use the High Performance Extensible Logging (HPEL) log and trace infrastructure instead of using `SystemOut.log`, `SystemErr.log`, `trace.log`, and `activity.log` files on distributed and IBM i systems. You can also use HPEL in conjunction with your native z/OS logging facilities. If you are using HPEL, you can access all of your log and trace information using the LogViewer command-line tool from your server profile bin directory. See the information about using HPEL to troubleshoot applications for more information on using HPEL.

Before you use the commands in this topic, verify that you are using the most recent version of the `wsadmin` tool. The policy set management commands that accept a properties object as the value for the **attributes** or **bindingLocation** parameters are not supported on previous versions of the `wsadmin` tool. For example, the commands do not run on a Version 6.1.0.x node.

Attributes to configure for all QoS policies

Use the following list of attributes to configure attributes across all QoS policies using the Jython scripting language and the `wsadmin` tool:

enabled

Specifies whether the policy type is enabled or disabled. The following example provides the format to enter the attributes parameter:

```
-attributes "[[enabled true]]"
```

provides

Provides a description for your configuration. The following example provides the format to enter the attributes parameter:

```
-attributes "[[provides [Messaging Security]]]"
```

The following example uses the `setPolicyType` command to set the `enabled` and `provides` properties for the `myCustomSecurityPS` custom policy set, which contains a `ReliableMessaging` policy:

```
AdminTask.setPolicyType('[-policySet myCustomSecurityPS -policyType  
WSReliableMessaging -attributes [[enabled true][provides  
[Messaging security]]]')
```

WSSecurity policy and binding properties

Use the **attributes** parameter for the `setPolicyType` and `setBinding` commands to specify additional configuration information for the WSSecurity policy and binding configurations. Application and system policy sets can use the WSSecurity policy and binding configuration.

Before you use the commands in this topic, verify that you are using the most recent version of the `wsadmin` tool. The policy set management commands that accept a properties object as the value for the **attributes** or **bindingLocation** parameters are not supported on previous versions of the `wsadmin` tool. For example, the commands do not run on a Version 6.1.0.x node.

Use the following commands and parameters in the `PolicySetManagement` group of the `AdminTask` object to customize your policy set configuration.

- Use the **-attributes** parameter for the `getPolicyType` and `getBinding` commands to view the properties for your policy and binding configuration. To get an attribute, pass the property name to the `getPolicyType` or `getBinding` command.
- Use the **-attributes** parameter for the `setPolicyType` and `setBinding` commands to add, update, or remove properties from your policy and binding configurations. To add or update an attribute, specify the property name and value. The `setPolicyType` and `setBinding` commands update the value if the attribute exists, or adds the attribute and value if the attribute does not exist. To remove an attribute, specify the value as an empty string (""). The **-attributes** parameter accepts a properties object.

Note: If a property name or value supplied with the **-attributes** parameter is not valid, then the `setPolicyType` and `setBinding` commands fail with an exception. The property that is not valid is logged as an error or warning in the `SystemOut.log` file. However, the command exception might not contain the detailed information for the property that caused the exception. When the `setPolicyType` and `setBinding` commands fail, examine the `SystemOut.log` file for any error and warning messages that indicate that the input for the **-attributes** parameter contains one or multiple properties that are not valid.

Note: This topic references one or more of the application server log files. As a recommended alternative, you can configure the server to use the High Performance Extensible Logging (HPEL) log and trace infrastructure instead of using `SystemOut.log`, `SystemErr.log`, `trace.log`, and `activity.log` files on distributed and IBM i systems. You can also use HPEL in conjunction with your native z/OS logging facilities. If you are using HPEL, you can access all of your log and trace information using the LogViewer command-line tool from your server profile bin directory. See the information about using HPEL to troubleshoot applications for more information on using HPEL.

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

If the **attributes** parameter is not specified for the `getPolicyType` or `getBinding` command, the command returns all properties. If a partial property name is passed to the `getPolicyType` or `getBinding` command, the command returns all properties with names that start with the partial property name. For example, If `SignatureProtection` is passed to the `getPolicyType` command, the command returns all properties with names that start with "SignatureProtection", which might include:

```
SignatureProtection.response:
  int_body.SignedParts.Body,SignatureProtection.response:int_body.SignedParts.Header_0.Name
```

and

```
SignatureProtection.response:int_body.SignedParts.Header_0.Namespace
```

There are an extensive number of combinations of settings that are available to secure your web service applications. Because of the number of attributes and configuration options from the WS-Security Version 1.0 specification, all attributes are not defined in this topic. The following sections explain the hierarchy structure for the WSSecurity policy and binding attributes:

- WSSecurity policy properties
- WSSecurity binding properties
- “setPolicyType and setBinding command examples” on page 635

WSSecurity policy properties

Use the `getPolicyType` command to review a properties object with the properties that are configured in your current WSSecurity policy file. Security policy schemata define the security assertions. Because the elements in the schema have hierarchical relationship, the property names for security policy also have the similar hierarchy. The hierarchical relationship between property names in the security policy is represented by a period (.) between two levels, concatenating the parent and child attributes. Examples of the properties include, but are not limited to, `IncludeToken`, `Name`, `Namespace`, `XPath`, `XPathVersion`. The following list describes the top-level assertion policy property names for the WSSecurity policy file:

AsymmetricBinding

You can specify zero or one binding assertion.

SymmetricBinding

You can specify zero or one binding assertion. `AsymmetricBinding` and `SymmetricBinding` cannot co-exist in a security policy file.

Wss11

You can specify zero or one `Wss11` assertion.

Wss10

You can specify zero or one `Wss10` assertion.

Trust10

You can specify zero or one `Trust10` assertion.

SignatureProtection

You can specify zero or any number of signature protection assertions.

EncryptionProtection

You can specify zero or any number of encryption protection assertions

SupportingTokens

You can specify zero or any number of supporting token assertions.

For example, the following policy file example displays an `AsymmetricBinding` assertion:

```
<sp:AsymmetricBinding>
  <wsp:Policy>
    <sp:InitiatorSignatureToken>
      <wsp:Policy>
        <sp:X509Token sp:IncludeToken="http://docs.oasis-open.org/ws-sx/ws-securitypolicy/200512/IncludeToken/AlwaysToRecipient">
          <wsp:Policy>
            <sp:WssX509V3Token10 />
          </wsp:Policy>
        </sp:X509Token>
      </wsp:Policy>
    </sp:InitiatorSignatureToken>
    <sp:RecipientSignatureToken>
      <wsp:Policy>
        <sp:X509Token sp:IncludeToken="http://docs.oasis-open.org/ws-sx/ws-securitypolicy/200512/IncludeToken/AlwaysToInitiator">
          <wsp:Policy>
            <sp:WssX509V3Token10 />
          </wsp:Policy>
        </sp:X509Token>
      </wsp:Policy>
    </sp:RecipientSignatureToken>
    <sp:AlgorithmSuite>
      <wsp:Policy>
        <sp:Basic256/>
      </wsp:Policy>
    </sp:AlgorithmSuite>
    <sp:Layout>
      <wsp:Policy>
        <sp:Strict/>
      </wsp:Policy>
    </sp:Layout>
  </wsp:Policy>
</sp:AsymmetricBinding>
```



```

    </sp:Layout>
  </wsp:Policy>
</sp:AsymmetricBinding><sp:AsymmetricBinding>
  <wsp:Policy>
    <sp:InitiatorSignatureToken>
      <wsp:Policy>
        <sp:X509Token sp:IncludeToken="http://docs.oasis-open.org/ws-sx/ws-securitypolicy
/200512/IncludeToken/AlwaysToRecipient">
          <wsp:Policy>
            <sp:WssX509V3Token10 />
          </wsp:Policy>
        </sp:X509Token>
      </wsp:Policy>
    </sp:InitiatorSignatureToken>
    <sp:RecipientSignatureToken>
      <wsp:Policy>
        <sp:X509Token sp:IncludeToken="http://docs.oasis-open.org/ws-sx/ws-securitypolicy
/200512/IncludeToken/AlwaysToInitiator">
          <wsp:Policy>
            <sp:WssX509V3Token10 />
          </wsp:Policy>
        </sp:X509Token>
      </wsp:Policy>
    </sp:RecipientSignatureToken>
  </wsp:Policy>
<sp:AlgorithmSuite>
  <wsp:Policy>
    <sp:Basic256/>
  </wsp:Policy>
</sp:AlgorithmSuite>
<sp:Layout>
  <wsp:Policy>
    <sp:Strict/>
  </wsp:Policy>
</sp:Layout>
</sp:AsymmetricBinding>

```

The `AsymmetricBinding` assertion returns the following property name and value pairs. The nested `wsp:Policy` layers are not displayed in the returned properties. Additionally, some properties return the `true` value which indicates that the WSSecurity configuration includes the related XML elements. To edit these properties, set the value as `true` to include the property, or set the value as an empty string, "", to remove the property.

```

AsymmetricBinding.Layout = Strict
AsymmetricBinding.AlgorithmSuite.Basic256 = true
AsymmetricBinding.RecipientSignatureToken.X509Token_0.IncludeToken = http://docs.oasis-open.org
/ws-sx/ws-securitypolicy/200512/IncludeToken/AlwaysToInitiator
AsymmetricBinding.InitiatorSignatureToken.X509Token_0.WssX509V3Token10 = true
AsymmetricBinding.InitiatorSignatureToken.X509Token_0.IncludeToken = http://docs.oasis-open.org
/ws-sx/ws-securitypolicy/200512/IncludeToken/AlwaysToRecipient
AsymmetricBinding.RecipientSignatureToken.X509Token_0.WssX509V3Token10 = true

```

Additionally, the following policy file example displays a `SupportingTokens` assertion:

```

<sp:SupportingTokens>
  <wsp:Policy wsu:Id="request:custom_auth">
    <spe:CustomToken sp:IncludeToken="http://docs.oasis-open.org/ws-sx/
ws-securitypolicy/200512/IncludeToken/AlwaysToRecipient">
      <wsp:Policy>
        <spe:WssCustomToken uri=http://bar.com/MyCustomToken localname="tokenv1">
          </spe:WssCustomToken>
        </wsp:Policy>
      </spe:CustomToken>
    </wsp:Policy>
  </sp:SupportingTokens>

```

The `SupportingTokens` assertion returns the following property name and value pairs. The nested `wsp:Policy` layers are not displayed in the returned property.

```

SupportingTokens.request:custom_auth.CustomToken_0.WssCustomToken.uri=http://bar.com
/MyCustomToken
SupportingTokens.request:custom_auth.CustomToken_0.IncludeToken=http://docs.oasis-open.org
/ws-sx/ws-securitypolicy/200512/IncludeToken/AlwaysToRecipient
SupportingTokens.request:custom_auth.CustomToken_0.WssCustomToken.localname=tokenv1

```

Note: The `CustomToken` property contains a subscript zero notation (`_0`) because the property might be displayed multiple times from the same type of token such as the `RecipientSignatureToken` or `InitiatorSignatureToken` tokens.

Although most property names follow the hierarchical relationship format described previously, the following exceptions exist:

- The `wsu:Id` element

This element uses the actual value for the ID instead of using `Id` as the attribute name. The following policy file example property:

```
<wsp:Policy wsu:Id="response:int_body">
  <sp:SignedParts>
    <sp:Body/>
  </sp:SignedParts>
</wsp:Policy>
```

The previous `wsu:Id` example returns the following properties:

```
SignatureProtection.response:int_body.SignedParts.Body = true
```

- The `Header` element

Because there can be multiple `Header` elements, the `Header_n` notation is used to represent this property. See the following policy file example:

```
<wsp:Policy wsu:Id="request:conf_body">
  <sp:EncryptedParts>
    <sp:Body/>
    <sp:Header Name="MyElement" Namespace="http://foo.com/MyNamespace" />
  </sp:EncryptedParts>
</wsp:Policy>
```

The previous `Header` example returns the following properties:

```
EncryptionProtection.request:conf_body.EncryptedParts.Header_0.Name=MyElement
EncryptionProtection.request:conf_body.EncryptedParts.Header_0.Namespace=http://
foo.com/MyNamespace
```

- The `XPath` element

The `XPath_n` notation is used to represent this property because there can be multiple `XPath` elements. See the following policy file example:

```
<wsp:Policy wsu:Id="request:int_body">
  <sp:SignedElements>
    <sp:XPath>SomeXPathExpression</sp:XPath>
    <sp:XPath>SomeOtherXPathExpression</sp:XPath>
  </sp:SignedElements>
</wsp:Policy>
```

The previous `XPath` example returns the following properties:

```
SignatureProtection.request:int_body.SignedElements.XPath_0=SomeXPathExpression
SignatureProtection.request:int_body.SignedElements.XPath_1=SomeOtherXPathExpression
```

- The `X509Token` element

Use the `X509Token_n` notation to represent this property because multiple `X509Token` elements can exist. For an example, see the `AsymmetricBinding` assertion.

- The `CustomToken` element

Use the `CustomToken_n` notation to represent this property because multiple `CustomToken` elements can exist. For an example, see the `SupportingTokens` assertion.

WSSecurity binding properties

Use the `getBinding` command to review a properties object with the properties that are configured in your current `WSecurity` binding configuration. You can also use the administrative console to configure your `WSecurity` bindings. Use the information center topics for configuring `WSecurity` bindings with administrative console for more information.

The properties defined in this section reflect the hierarchy of the binding schema. Each part of the property name is a lowercase version of the schema type. For example, the `application.security.inbound.binding.config.tokenconsumer_0.jaasconfig.configname` property follows the hierarchical format. The attributes begin with `application` or `bootstrap`. Attributes that begin with `application` represent bindings that are associated with the main `WS-Security` policy. Attributes that begin with `bootstrap` represent bindings that are associated with the `WS-Security` bootstrap policy, where the `WS-Security` policy uses `Secure Conversation`.

Some property names might have an `_n` notation appended to them. This notation represents a list of items. For example, multiple `tokenconsumer` properties exist and are listed from `tokenconsumer_0` through `tokenconsumer_n`, where the set of `tokenconsumer` values are:

```
application.securityinboundbindingconfig.tokenconsumer_0.callbackhandler.  
certpathsettings.certstoreref.reference  
application.securityinboundbindingconfig.tokenconsumer_0.callbackhandler.  
certpathsettings.trustanchorref.reference  
application.securityinboundbindingconfig.tokenconsumer_0.callbackhandler.classname  
application.securityinboundbindingconfig.tokenconsumer_0.classname  
application.securityinboundbindingconfig.tokenconsumer_0.jaasconfig.configname  
application.securityinboundbindingconfig.tokenconsumer_0.name  
application.securityinboundbindingconfig.tokenconsumer_0.valuetype.localname  
application.securityinboundbindingconfig.tokenconsumer_0.valuetype.uri
```

Additionally, some properties in the security binding file return a value of `true` when queried. To set these properties, set the value to `true` to include the property, or set the value to an empty string (`""`) to remove the property. For example, the `time stamp`, `nonce`, and `trustAnyCertificate` properties follow this pattern.

Use the `setBinding` command and the `attributes` parameter to add or remove properties to your `WSSecurity` binding configuration.

- To add a property, use the `setBinding` command to pass the property name with a non-zero length string value. To add a list item, use the `_n` notation to reflect a numeric value that is greater than any current numeric value for the property. For example, if the `tokenconsumer_0` and `tokenconsumer_1` properties exist in your configuration, specify the new `tokenconsumer` property as `tokenconsumer_2`. After adding a property, use the `getBinding` command to view the most recent list of configured properties.
- To remove a property, use the `setBinding` command to pass the property name with an empty string (`""`). For example, to remove all of the `tokenconsumer_0` properties, specify the following property with the `attributes` parameter:

```
application.securityinboundbindingconfig.tokenconsumer_0=""
```

The previous example removes all properties that begin with the `application.securityinboundbindingconfig.tokenconsumer_0` property name.

The following examples display several sets of properties to configure for your binding. This list does not include all properties to configure for the `WSSecurity` binding. Use this information as a reference to determine how to form specific property names.

signinginfo element

Use this property to configure signing information. For a custom binding, an unlimited number of `signinginfo` elements specified for the `securityoutboundbindingconfig` and `securityinboundbindingconfig` assertions can exist. In the default bindings, the system allows a maximum of two `signinginfo` elements for the `securityoutboundbindingconfig` and `securityinboundbindingconfig` assertions. The following example displays the format for two `signinginfo` elements:

```
application.securityinboundbindingconfig.signinginfo_0.signingkeyinfo_0  
.reference=con_signkeyinfo  
application.securityinboundbindingconfig.signinginfo_0.signingpartreference_0  
.reference=request:int_body  
application.securityoutboundbindingconfig.signinginfo_0.signingpartreference_0  
.reference=response:int_body  
application.securityoutboundbindingconfig.signinginfo_0.signingpartreference_0.timestamp=true
```

encryptioninfo element

Use this property to configure encryption information. For a custom binding, an unlimited number of `encryptioninfo` elements specified for the `securityoutboundbindingconfig` and `securityinboundbindingconfig` assertions can exist. In the default bindings, the system accepts a maximum of two `encryptioninfo` elements for the `securityoutboundbindingconfig` and `securityinboundbindingconfig` assertions. The following example displays the format for two `encryptioninfo` properties:

```
application.securityinboundbindingconfig.encryptioninfo_0.encryptionpartreference  
.nonce=true  
application.securityinboundbindingconfig.encryptioninfo_0.encryptionpartreference  
.reference=request:conf_body
```

```

application.securityoutboundbindingconfig.encryptioninfo_0.encryptionpartreference
.nonce=true
application.securityoutboundbindingconfig.encryptioninfo_0.encryptionpartreference
.timestamp=true

```

tokengenerator element

In the default bindings, the tokengenerator elements that the signinginfo or encryptioninfo elements do not reference are considered to be authentication token generators. Each authentication token generator must have a unique valuetype element. The following example displays an example of a generator for an X.509 protection token:

```

application.securityoutboundbindingconfig.tokengenerator_0.name=gen_sigtgen
application.securityoutboundbindingconfig.tokengenerator_0.classname=com.ibm.ws.security.wssapi.token
.impl.CommonTokenGenerator
application.securityoutboundbindingconfig.tokengenerator_0.valuetype.uri=
application.securityoutboundbindingconfig.tokengenerator_0.valuetype.localname=http://docs.oasis-open.org
/wss/2004/01/oasis-200401-wss-x509-token-profile-1.0#X509v3
application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.classname=com.ibm.websphere.wssecurity
.callbackhandler.X509GenerateCallbackHandler
application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.key.alias=soaprequester
application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.key.keypass={xor}PDM20jEr
application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.key.name=CN=SOAPRequester,
OU=TRL, O=IBM, ST=Kanagawa, C=JP
application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.keystore.path=${USER_INSTALL_ROOT}
/etc/ws-security/samples/dsig-sender.k5
application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.keystore.storepass={xor}PDM20jEr
application.securityoutboundbindingconfig.tokengenerator_0.callbackhandler.keystore.type=JKS
application.securityoutboundbindingconfig.tokengenerator_0.jaasconfig.configname=system.wss.generate.x509

```

The following example displays a generator for a username authentication token:

```

application.securityoutboundbindingconfig.tokengenerator_1.name=gen_usernetoken
application.securityoutboundbindingconfig.tokengenerator_1.classname=com.ibm.ws.security
.wssapi.token.impl.CommonTokenGenerator
application.securityoutboundbindingconfig.tokengenerator_1.valuetype.uri=
application.securityoutboundbindingconfig.tokengenerator_1.valuetype.localname=http://docs
.oasis-open.org/wss/2004/01/oasis-200401-wss-username-token-profile-1.0#UsernameToken
application.securityoutboundbindingconfig.tokengenerator_1.callbackhandler.classname=com.ibm
.websphere.wssecurity.callbackhandler.UNTGenerateCallbackHandler
application.securityoutboundbindingconfig.tokengenerator_1.callbackhandler.basicAuth.userid=user1
application.securityoutboundbindingconfig.tokengenerator_1.callbackhandler.basicAuth.password=myPassword
application.securityoutboundbindingconfig.tokengenerator_1.securityTokenReference.reference=request:uname_token
application.securityoutboundbindingconfig.tokengenerator_1.jaasconfig.configname=system.wss.generate.unt

```

tokenconsumer element

In the default bindings, the tokenconsumer elements that the signinginfo or encryptioninfo elements do not reference are authentication token consumers. Each authentication token consumer must have a unique valuetype element. The following example displays the format for a set of tokenconsumer elements:

```

application.securityinboundbindingconfig.tokenconsumer_0.name=con_unametoken
application.securityinboundbindingconfig.tokenconsumer_0.classname=com.ibm.ws.security.wssapi
.token.impl.CommonTokenConsumer
application.securityinboundbindingconfig.tokenconsumer_0.valuetype.localname=http://docs.oasis-open.org
/wss/2004/01/oasis-200401-wss-username-token-profile-1.0#UsernameToken
application.securityinboundbindingconfig.tokenconsumer_0.valuetype.uri=
application.securityinboundbindingconfig.tokenconsumer_0.callbackhandler.classname=com.ibm.websphere
.wssecurity.callbackhandler.UNTConsumeCallbackHandler
application.securityinboundbindingconfig.tokenconsumer_0.jaasconfig.configname=system.wss.consume.unt
application.securityinboundbindingconfig.tokenconsumer_0.securityTokenReference.reference=request:uname_token

```

actor element

Defines the actor uniform resource identifier (URI) to be included in the WSSecurity headers of a generated message, as displayed by the following example:

```

application.securityinboundbindingconfig.actor=http://myActor.com
application.securityoutboundbindingconfig.actor=http://myActor.com

```

certstorelist element

Defines certificate store configurations and signing information, as displayed by the following example:

```

application.securityinboundbindingconfig.certstorelist.collectioncertstores_0
.name=DigSigCertStore
application.securityinboundbindingconfig.certstorelist.collectioncertstores_0
.provider=IBMCertPath
application.securityinboundbindingconfig.certstorelist.collectioncertstores_0
.x509certificates_0.path=${USER_INSTALL_ROOT}/etc/ws-security/samples/intca2.cer

```

keyinfo element

Defines key information for signing and encryption configurations, as displayed by the following example:

```
application.securityinboundbindingconfig.keyinfo_0.classname=com.ibm.ws.wsssecurity.wssapi
.CommonContentConsumer
application.securityinboundbindingconfig.keyinfo_0.name=con_signkeyinfo
application.securityinboundbindingconfig.keyinfo_0.tokenreference.reference=con_tcon
application.securityinboundbindingconfig.keyinfo_0.type=STRREF
```

trustanchor property

Defines configuration information that is used to validate the trust of the signer certificate, as displayed by the following example:

```
application.securityinboundbindingconfig.trustanchor_0.keystore.path=${USER_INSTALL_ROOT}
/etc/ws-security/samples/dsig-receiver.ks
application.securityinboundbindingconfig.trustanchor_0.keystore.storepass={xor}LDotKTot
application.securityinboundbindingconfig.trustanchor_0.keystore.type=JKS
application.securityinboundbindingconfig.trustanchor_0.name=DigSigTrustAnchor
```

timestampexpires element

Defines an expiration date for the configuration, as displayed by the following example:

```
application.securityoutboundbindingconfig.timestampexpires.expires=5
```

application.securityinboundbindingconfig.caller_X.order

Specifies the order for a caller when using wsadmin scripts, where X is the unique string that identifies the instance of the caller:

```
-attributes [[application.securityinboundbindingconfig.caller_0.order 2]]
```

setPolicyType and setBinding command examples

Use the previous reference information with the setPolicyType and setBinding commands to modify your policy and binding configuration data.

Note: The administrative console command assistance provides incorrect Jython syntax for the setPolicyType command. The XPath expression for the response message part protection of the Username WSSecurity policy set contains single quotes (') within each XPath property value, which Jython does not support. To fix the command from the administrative console command assistance, add a backslash character (\) before each single quote to escape the single quote.

The following example uses the setBinding command to set the enabled and provides properties for the myCustomSecurityPS custom policy set, which contains a ReliableMessaging policy:

```
AdminTask.setBinding(['-bindingLocation "" -bindingName cellWideBinding2 -policyType
WSSecurity
-attributes [[application.securityinboundbindingconfig.caller_0.order 2]][inResponsewithSSL:configAlias
NodeDefaultSSLSettings]
[inResponsewithSSL:config properties_directory/ssl.client.props]
[outAsyncResponsewithSSL:configFile properties_directory/ssl.client.props]
[outAsyncResponsewithSSL:configAlias NodeDefaultSSLSettings]
[outRequestwithSSL:configFile properties_directory/ssl.client.props]
[outRequestwithSSL:configAlias NodeDefaultSSLSettings]]')
```

The following setPolicyType command enables the WSSecurity policy and creates a signature protection assertion:

```
AdminTask.setPolicyType('-policySet myPolicySet -policyType WSSecurity -attributes
"[[enabled true][provides
Some_amount_of_security][SignatureProtection.request:app_signparts.SignedElements.XPath_0
SignatureProtectionV2]]')
```

The following setBinding command specifies key information for a server-specific binding:

```
AdminTask.setBinding('-policyType WSSecurity -bindingLocation "[[server server1][node
node01]]"
-attributes "[[application.securityinboundbindingconfig.keyinfo_0.name dec_server_keyinfo]
[application.securityinboundbindingconfig.keyinfo_0.classname
com.ibm.ws.wsssecurity.wssapi.CommonContentGenerator]
[application.securityinboundbindingconfig.keyinfo_0.type STRREF]]')
```

The following setBinding command specifies key information for an attachment-specific binding:

```
AdminTask.setBinding('-policyType WSSecurity -bindingLocation "[[application PolicySet]
[attachmentId 999]]"
-attributes "[[application.securityinboundbindingconfig.keyinfo_0.name dec_app_keyinfo]
[application.securityinboundbindingconfig.keyinfo_0.classname
com.ibm.ws.wsssecurity.wssapi.CommonContentGenerator]
[application.securityinboundbindingconfig.keyinfo_0.type STRREF]]" -attachmentType application
-bindingName myBindingName')
```

The following setBinding command specifies trust anchor information for a cell-wide binding:

```
AdminTask.setBinding('-policyType WSSecurity -bindingLocation "" -attributes
"[application.securityinboundbindingconfig.trustanchor_0.name DigSigTrustAnchor2]"')
```

WSReliableMessaging policy and binding properties

Use the attributes parameter for the setPolicyType and setBinding commands to specify additional configuration information for the ReliableMessaging policy and policy set binding. The WSReliableMessaging quality of service (QoS) is only available for application policy sets.

WSReliableMessaging is an interoperability standard for the reliable transmission of messages between two endpoints. Use WSReliableMessaging to secure and verify transactions when using web services between businesses.

Use the following commands and parameters in the PolicySetManagement group of the AdminTask object to customize your policy set configuration.

- Use the **-attributes** parameter for the getPolicyType and getBinding commands to view the properties for your policy and binding configuration. To get an attribute, pass the property name to the getPolicyType or getBinding command.
- Use the **-attributes** parameter for the setPolicyType and setBinding commands to add, update, or remove properties from your policy and binding configurations. To add or update an attribute, specify the property name and value. The setPolicyType and setBinding commands update the value if the attribute exists, or adds the attribute and value if the attribute does not exist. To remove an attribute, specify the value as an empty string (""). The **-attributes** parameter accepts a properties object.

Note: If a property name or value supplied with the **-attributes** parameter is not valid, then the setPolicyType and setBinding commands fail with an exception. The property that is not valid is logged as an error or warning in the SystemOut.log file. However, the command exception might not contain the detailed information for the property that caused the exception. When the setPolicyType and setBinding commands fail, examine the SystemOut.log file for any error and warning messages that indicate that the input for the **-attributes** parameter contains one or multiple properties that are not valid.

Note: This topic references one or more of the application server log files. As a recommended alternative, you can configure the server to use the High Performance Extensible Logging (HPEL) log and trace infrastructure instead of using SystemOut.log, SystemErr.log, trace.log, and activity.log files on distributed and IBM i systems. You can also use HPEL in conjunction with your native z/OS logging facilities. If you are using HPEL, you can access all of your log and trace information using the LogViewer command-line tool from your server profile bin directory. See the information about using HPEL to troubleshoot applications for more information on using HPEL.

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

WSReliableMessaging policy properties

Configure the WSReliableMessaging policy by specifying the following properties with the `setPolicyType` command:

specLevel

Choose the WS-ReliableMessaging standard to use for reliable transmission of your messages. The WS-ReliableMessaging specification Version 1.1 is the default value. Use the following information to choose a specification level:

- Specify 1.0 as the value for the `specLevel` attribute to use the WS-ReliableMessaging specification Version 1.0, February 2005 specification level.
- Specify 1.1 as the value for the `specLevel` attribute to use the OASIS WS-ReliableMessaging specification Version 1.1, August 2006 specification level.

The following example code sets the `specLevel` property to the OASIS WS-ReliableMessaging specification Version 1.1, August 2006:

```
AdminTask.setPolicyType('[-policySet "CustomWSReliableMessaging" -policyType  
WSReliableMessaging -attributes "[[specLevel 1.1]]"]')
```

inOrderDelivery

Specifies whether to process messages in the order that they are received. If you use the `inOrderDelivery` property, then inbound messages might be queued while waiting for earlier messages.

The following example code enables the `inOrderDelivery` property:

```
AdminTask.setPolicyType('[-policySet "CustomWSReliableMessaging" -policyType WSReliableMessaging -attributes "[[inOrderDelivery true]]"]')
```

qualityOfService

Specifies the quality of the WSReliableMessaging service to use. Define one of the following three values for the `qualityOfService` attribute:

- `unmanagedNonPersistent`

This setting tolerates network and remote system failures. The `unmanagedNonPersistent` quality of service is non-transactional. With this setting configured, messages are lost if a server fails. This quality of service is supported for all environments only if the environment is configured as a web service requester.

- `managedNonPersistent`

This setting tolerates system, network, and remote system failures. However, the message state is discarded when the messaging engine restarts. The `managedNonPersistent` quality of service is non-transactional. This setting prevents message loss if a server fails. However, messages are lost if the messaging engine fails. Managed and thin client applications cannot use this quality of service.

- `managedPersistent`

This setting tolerates system, network, and remote system failures. With this setting, messages are processed within transactions, persisted at the web service requester and provider. Messages can be recovered if a server fails. Messages that are not successfully transmitted at the time of failure continue when the messaging engine or application restarts. Managed and thin client applications cannot use this quality of service.

The following example sets the `qualityOfService` property as `unmanaged nonpersistent`:

```
AdminTask.setPolicyType('[-policySet "CustomWSReliableMessaging" -policyType  
WSReliableMessaging -attributes "[[qualityOfService unmanagedNonPersistent]]"]')
```

The following example uses the `setPolicyType` command to set a value for each policy property:

```
AdminTask.setPolicyType('[-policySet "CustomWSReliableMessaging" -policyType
WSReliableMessaging -attributes "[[specLevel 1.1][inOrderDelivery true][qualityOfService
unmanagedNonPersistent]]"']')
```

WSReliableMessaging binding configuration attributes

If you set the `qualityOfService` policy property to `managedNonPersistent` or `managedPersistent`, configure the `WSReliableMessaging` binding by specifying values for the following properties with the `setBinding` command:

busName

The name of the service integration bus that contains the messaging engine to use for the `managedNonPersistent` or `managedPersistent` Quality of Service options.

The following example sets the `busName` property as `myBus`:

```
AdminTask.setBinding('[-bindingLocation "" -bindingName cellWideBinding2 -policyType
WSReliableMessaging -attributes "[[busName myBus]]"']')
```

messagingEngineName

The name of the messaging engine to use for the `managedNonPersistent` or `managedPersistent` quality of service options.

The following example sets the `messagingEngineName` property as `messagingEngine001`:

```
AdminTask.setBinding('[-bindingLocation "" -bindingName cellWideBinding2 -policyType
WSReliableMessaging -attributes "[[messageEngineName messagingEngine001]]"']')
```

The following code example demonstrates how to use the `setBinding` command to set values for each binding attribute:

```
AdminTask.setBinding('[-bindingLocation "" -bindingName cellWideBinding2 -policyType
WSReliableMessaging -attributes "[[busName myBus][messageEngineName messagingEngine001]]"']')
```

WSAddressing policy and binding properties

Use the `-attributes` parameter for the `setPolicyType` and `setBinding` commands to specify additional configuration information for the `WSAddressing` policy and policy set binding. Application and system policy sets use the `WSAddressing` policy and binding.

`WSAddressing` is an interoperability standard for addressing Web services and providing addressing information in messages. For more information, see the W3C Candidate Recommendation (CR) versions of the `WS-Addressing` core and `SOAP` specifications.

Use the following commands and parameters in the `PolicySetManagement` group of the `AdminTask` object to customize your policy set configuration.

- Use the **-attributes** parameter for the `getPolicyType` and `getBinding` commands to view the properties for your policy and binding configuration. To get an attribute, pass the property name to the `getPolicyType` or `getBinding` command.
- Use the **-attributes** parameter for the `setPolicyType` and `setBinding` commands to add, update, or remove properties from your policy and binding configurations. To add or update an attribute, specify the property name and value. The `setPolicyType` and `setBinding` commands update the value if the attribute exists, or adds the attribute and value if the attribute does not exist. To remove an attribute, specify the value as an empty string (""). The **-attributes** parameter accepts a properties object.

Note: If a property name or value supplied with the **-attributes** parameter is not valid, then the `setPolicyType` and `setBinding` commands fail with an exception. The property that is not valid is logged as an error or warning in the `SystemOut.log` file. However, the command exception might not contain the detailed information for the property that caused the exception. When the `setPolicyType` and `setBinding` commands fail, examine the `SystemOut.log` file for any error and warning messages that indicate that the input for the **-attributes** parameter contains one or multiple properties that are not valid.

Note: This topic references one or more of the application server log files. As a recommended alternative, you can configure the server to use the High Performance Extensible Logging (HPEL) log and trace infrastructure instead of using `SystemOut.log`, `SystemErr.log`, `trace.log`, and `activity.log` files on distributed and IBM i systems. You can also use HPEL in conjunction with your native z/OS logging facilities. If you are using HPEL, you can access all of your log and trace information using the LogViewer command-line tool from your server profile bin directory. See the information about using HPEL to troubleshoot applications for more information on using HPEL.

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

WSAddressing policy properties

Configure the WSAddressing policy by specifying the following properties with the `setPolicyType` command:

usingAddressing

Specifies whether a WS-Addressing SOAP header is included on messages. Use one of the following values:

required

WS-Addressing is mandatory. Servers return an error if they receive a message that does not contain a WS-Addressing header. Clients always include WS-Addressing headers in SOAP messages.

optional

WS-Addressing is not mandatory. Servers do not generate an error if they receive a message that does not contain a WS-Addressing header. Clients might not include WS-Addressing headers in SOAP messages, for example, if WS-Policy is enabled and the server does not specify that WS-Addressing is mandatory.

wsaMode

Specifies the messaging style that this policy set supports. Use one of the following values:

WSA_SYNC

Response messages must be targeted at the WS-Addressing anonymous URI.

WSA_ASYNC

Response messages must not be targeted at the WS-Addressing anonymous URI.

WSA_BOTH

The targeting of response messages is not restricted.

The following example uses the `setPolicyType` command to set WS-Addressing to mandatory, and the messaging style to synchronous, for the policy set `myPolicySet`:

```
AdminTask.setPolicyType('[-policySet "myPolicySet" -policyType WSAddressing
-attributes "[[usingaddressing required][wsaMode WSA_SYNC]]"')
```

WSAddressing binding properties

Configure the WSAddressing policy by specifying the following property with the setBinding command:

preventWLM

Specifies whether to prevent workload management for references to endpoints that were created by the application programming interface (API) in a cluster environment. Messages that target Endpoint References (EPRs) within a cluster environment are workload managed by default.

Preventing workload management routes messages that target EPRs to the node or server on which the EPR was created. You might disable workload management if the endpoint maintains the in-memory state, which has not been replicated across other nodes or servers within the cluster.

For example, the following command prevents workload management for a cell-wide general binding, from the WSAddressing policy.

```
AdminTask.setBinding('[-bindingLocation "" -bindingName cellWideBinding2 -policyType  
WSAddressing -attributes "[preventWLM true]"']')
```

SSLTransport policy and binding properties

Use the `-attributes` parameter for the `setPolicyType` and `setBinding` commands to specify additional configuration information for the SSLTransport policy and policy set binding. Application and system policy sets can use the SSLTransport policy and binding.

Use the following commands and parameters in the PolicySetManagement group of the AdminTask object to customize your policy set configuration.

- Use the **-attributes** parameter for the `getPolicyType` and `getBinding` commands to view the properties for your policy and binding configuration. To get an attribute, pass the property name to the `getPolicyType` or `getBinding` command.
- Use the **-attributes** parameter for the `setPolicyType` and `setBinding` commands to add, update, or remove properties from your policy and binding configurations. To add or update an attribute, specify the property name and value. The `setPolicyType` and `setBinding` commands update the value if the attribute exists, or adds the attribute and value if the attribute does not exist. To remove an attribute, specify the value as an empty string (`""`). The **-attributes** parameter accepts a properties object.

Note: If a property name or value supplied with the **-attributes** parameter is not valid, then the `setPolicyType` and `setBinding` commands fail with an exception. The property that is not valid is logged as an error or warning in the `SystemOut.log` file. However, the command exception might not contain the detailed information for the property that caused the exception. When the `setPolicyType` and `setBinding` commands fail, examine the `SystemOut.log` file for any error and warning messages that indicate that the input for the **-attributes** parameter contains one or multiple properties that are not valid.

Note: This topic references one or more of the application server log files. As a recommended alternative, you can configure the server to use the High Performance Extensible Logging (HPEL) log and trace infrastructure instead of using `SystemOut.log`, `SystemErr.log`, `trace.log`, and `activity.log` files on distributed and IBM i systems. You can also use HPEL in conjunction with your native z/OS logging facilities. If you are using HPEL, you can access all of your log and trace information using the LogViewer command-line tool from your server profile bin directory. See the information about using HPEL to troubleshoot applications for more information on using HPEL.

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured

general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

SSLTransport policy properties

Use the SSLTransport policy to ensure message security.

Configure the SSLTransport policy by specifying the following properties with the `setPolicyType` command:

outRequestSSLEnabled

Specifies whether to enable the SSL security transport for outbound service requests.

outAsyncResponseSSLEnabled

Specifies whether to enable the SSL security transport for asynchronous service responses.

inResponseSSLEnabled

Specifies whether to enable the SSL security transport for inbound service responses.

The following `setPolicyType` command example sets values for all SSLTransport policy properties:

```
AdminTask.setPolicyType('[-policySet "WSHTTPS default" -policyType SSLTransport
-attributes "[[inResponseSSLEnabled yes][outAsyncResponseSSLEnabled yes][outRequestSSLEnabled
yes]]"']')
```

SSLTransport binding properties

Use the SSLTransport policy type to ensure message security.

Configure the SSLTransport binding by specifying the following properties using the `setBinding` command:

outRequestwithSSL:configFile

outRequestwithSSL:configAlias

If you enable SSL outbound service requests, then these two attributes define the specific SSL security transport binding and location. The default value for the `outRequestwithSSL:configFile` attribute is the location of the `ssl.client.props` file. The default value for the `outRequestwithSSL:configAlias` attribute is `NodeDefaultSSLSettings`.

outAsyncResponsewithSSL:configFile

outAsyncResponsewithSSL:configAlias

If you enable SSL asynchronous service responses, then these two attributes define the specific SSL security transport binding and location. The default value for the `outAsyncRequestwithSSL:configFile` attribute is the location of the `ssl.client.props` file. The default value for the `outAsyncRequestwithSSL:configAlias` attribute is `NodeDefaultSSLSettings`.

inResponsewithSSL:configFile

inResponsewithSSL:configAlias

If you enable SSL inbound service responses, then these two attributes define the specific SSL security transport binding and location. The default value for the `inResponsewithSSL:configFile` attribute is the location of the `ssl.client.props` file. The default value for the `inResponsewithSSL:configAlias` property is `NodeDefaultSSLSettings`.

The following `setBinding` command example sets values for all SSLTransport binding attributes:

```
AdminTask.setBinding('[-bindingLocation "" -bindingName cellWideBinding2 -policyType
SSLTransport -attributes "[[inResponsewithSSL:configAlias NodeDefaultSSLSettings] [inResponsewithSSL:config
properties_directory/ssl.client.props][outAsyncResponsewithSSL:configFile properties_directory/ssl.client.props]
[outAsyncResponsewithSSL:configAlias NodeDefaultSSLSettings][outRequestwithSSL:configFile
properties_directory/ssl.client.props][outRequestwithSSL:configAlias NodeDefaultSSLSettings]]"')
```

HTTPTransport policy and binding properties

Use the `-attributes` parameter for the `setPolicyType` and `setBinding` commands to specify additional configuration information for the HTTPTransport policy and policy set binding. Application and system policy sets can use the HTTPTransport policy and binding.

Use the following commands and parameters in the PolicySetManagement group of the AdminTask object to customize your policy set configuration.

- Use the **-attributes** parameter for the `getPolicyType` and `getBinding` commands to view the properties for your policy and binding configuration. To get an attribute, pass the property name to the `getPolicyType` or `getBinding` command.
- Use the **-attributes** parameter for the `setPolicyType` and `setBinding` commands to add, update, or remove properties from your policy and binding configurations. To add or update an attribute, specify the property name and value. The `setPolicyType` and `setBinding` commands update the value if the attribute exists, or adds the attribute and value if the attribute does not exist. To remove an attribute, specify the value as an empty string (""). The **-attributes** parameter accepts a properties object.

Note: If a property name or value supplied with the **-attributes** parameter is not valid, then the `setPolicyType` and `setBinding` commands fail with an exception. The property that is not valid is logged as an error or warning in the `SystemOut.log` file. However, the command exception might not contain the detailed information for the property that caused the exception. When the `setPolicyType` and `setBinding` commands fail, examine the `SystemOut.log` file for any error and warning messages that indicate that the input for the **-attributes** parameter contains one or multiple properties that are not valid.

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To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

The following sections explain the policy and binding properties to configure:

- HTTPTransport policy properties

- HTTPTransport binding properties

HTTPTransport policy properties

The HTTPTransport policy set can be used for HTTPS, basic authorization, compression, and binary encoding transport methods.

Configure the HTTPTransport policy by specifying the following attributes with the **setPolicyType** command:

protocolVersion

Specifies the version of HTTP to use. The valid version values are HTTP/1.1 and HTTP/1.0.

maintainSession

Specifies whether the HTTP session is enabled when a message is sent. The valid values are yes or no.

chunkTransferEnc

Specifies whether to enable chunked transfer encoding. The valid values are yes or no.

sendExpectHeader

Specifies whether to send an expect 100-request header. The valid values are yes or no.

compressRequest:name

Specifies whether to compress the request. The valid values are gzip, x-gzip, deflate, or none.

compressResponse:name

Specifies whether to compress the response. The valid values are gzip, x-gzip, deflate, or none.

acceptRedirectionURL

Specifies whether to accept URL redirection automatically. The valid values are yes or no.

messageResendOnce

Specifies if a message can be sent more than once. The valid values are yes or no.

connectTimeout

Specifies the amount of time, in seconds, before a connection times out when sending a message. Specify an integer value that is greater than zero. If a value of zero or less is specified, the connectTimeout property is set to the default value of 180 seconds. No maximum value is set for this property.

writeTimeout

Specifies the amount of time, in seconds, before the write time out occurs. Specify an integer value. Specify an integer value that is greater than zero. If a value of zero or less is specified, the connectTimeout property is set to the default value of 300 seconds. No maximum value is set for this property.

readTimeout

Specifies the amount of time, in seconds, before the read time out occurs. Specify an integer value. Specify an integer value that is greater than zero. If a value of zero or less is specified, the connectTimeout property is set to the default value of 300 seconds. No maximum value is set for this property.

persistConnection

Specifies whether to use a persistent connection when sending messages. Valid values are yes or no.

The following setPolicyType example command sets values for each HTTPTransport binding property:

```
AdminTask.setPolicyType('[-policySet "WSHTTPS custom" -policyType HTTPTransport
-attributes "[[protocolVersion HTTP/1.1]
[sessionEnable yes][chunkTransferEnc yes][sendExpectHeader yes]
```

```
[compressRequest:name gzip][compressResponse:name
gzip][acceptRedirectionURL yes][messageResendOnce no][connectTimeout
300][writeTimeout 300]
[readTimeout 300][persistConnection yes]]"')
```

HTTPTransport binding properties

Configure the HTTPTransport binding by specifying the following attributes with the **setBinding** command:

outAsyncResponseBasicAuth:userid

Specifies the user name for basic authentication of outbound asynchronous responses.

outAsyncResponseBasicAuth:password

Specifies the password for basic authentication of outbound asynchronous responses.

outAsyncResponseProxy:userid

Specifies the user name for the outbound asynchronous service responses proxy.

outAsyncResponseProxy:password

Specifies the password for the outbound asynchronous service responses proxy.

outAsyncResponseProxy:port

Specifies the port number for the outbound asynchronous service responses proxy.

outAsyncResponseProxy:host

Specifies the host name for the outbound asynchronous service responses proxy.

outRequestBasicAuth:userid

Specifies the user name or basic authentication of outbound service requests.

outRequestBasicAuth:password

Specifies the password for basic authentication of outbound service requests.

outRequestProxy:userid

Specifies the user name for the outbound service request proxy.

outRequestProxy:password

Specifies the password for the outbound service request proxy.

outRequestProxy:port

Specifies the port number for the outbound service request proxy.

outRequestProxy:host

Specifies the host name for the outbound service request proxy.

The following **setBinding** example command sets values for each HTTPTransport binding property:

```
AdminTask.setBinding('[-bindingLocation "" -bindingName generalCellWideBind1 -policyType
HTTPTransport
-attributes "[[outAsyncResponseBasicAuth:userid myID][outAsyncResponseBasicAuth:password
myPW][outAsyncResponseProxy:host hostname]
[outAsyncResponseProxy:port 9060][outAsyncResponseProxy:userid myID]
[outAsyncResponseProxy:password myPW]
[outRequestBasicAuth:userid myID][outRequestBasicAuth:password myPW]
[outRequestProxy:userid myID]
[outRequestProxy:password myPW][outRequestProxy:port 9061][outRequestProxy:host
hostname]]"')
```

JMSTransport policy and binding properties

Use the **-attributes** parameter for the **setPolicyType** and **setBinding** commands to specify additional configuration information for the JMSTransport policy and policy set binding. Application policy sets can use the JMSTransport policy and binding.

Use the following commands and parameters in the **PolicySetManagement** group of the **AdminTask** object to customize your policy set configuration.

- Use the **-attributes** parameter for the **getPolicyType** and **getBinding** commands to view the properties for your policy and binding configuration. To get an attribute, pass the property name to the **getPolicyType** or **getBinding** command.

- Use the **-attributes** parameter for the `setPolicyType` and `setBinding` commands to add, update, or remove properties from your policy and binding configurations. To add or update an attribute, specify the property name and value. The `setPolicyType` and `setBinding` commands update the value if the attribute exists, or adds the attribute and value if the attribute does not exist. To remove an attribute, specify the value as an empty string (""). The **-attributes** parameter accepts a properties object.

Note: If a property name or value supplied with the **-attributes** parameter is not valid, then the `setPolicyType` and `setBinding` commands fail with an exception. The property that is not valid is logged as an error or warning in the `SystemOut.log` file. However, the command exception might not contain the detailed information for the property that caused the exception. When the `setPolicyType` and `setBinding` commands fail, examine the `SystemOut.log` file for any error and warning messages that indicate that the input for the **-attributes** parameter contains one or multiple properties that are not valid.

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Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

The following sections explain the policy and binding properties to configure:

- JMSTransport policy properties
- JMSTransport binding properties

JMSTransport policy properties

Use the JMSTransport policy set to configure JMS transport for applications that use the Java Messaging Service (JMS) to exchange request and response messages.

Configure the JMSTransport policy by specifying the following attributes with the `setPolicyType` command:

requestTimeout

Specifies the request timeout value. The request timeout value is the amount of time, in seconds, that the client waits for a response after sending the request to the server. The default value is 300 seconds. If you specify an integer value of zero or less, the system sets the `requestTimeout` property to the default value of 300 seconds. No maximum value exists for this property.

allowTransactionalAsyncMessaging

Specifies whether a client uses transactions in one-way or asynchronous two-way requests. The default value for this property is `false`. Set the value of this property to `true` to enable transactional messaging. When enabled, the client runtime exchanges SOAP request and response messages with the server over the JMS transport in a transactional manner if the client operates under a transaction.

The client transaction is used to send the SOAP request message to the destination queue or topic, and the server receives the request message only after the client commits the transaction. Similarly, the server receives the request message under the control of a container-managed transaction and sends the reply message, if applicable, back to the client using that same transaction. Then, the client receives the reply message after the server transaction is committed.

The following `setPolicyType` example command sets values for each `JMSTransport` binding property:

```
AdminTask.setPolicyType('[-policySet "JMS custom" -policyType JMSTransport
-attributes "[[requestTimeout 300][allowTransactionalAsyncMessaging false]]"')
```

JMSTransport binding properties

Configure the `JMSTransport` binding by specifying the following attributes with the `setBinding` command:

outRequestBasicAuth:userid

Specifies the user name or basic authentication of outbound service requests.

outRequestBasicAuth:password

Specifies the password for basic authentication of outbound service requests.

The following `setBinding` example command sets values for each `HTTPTransport` binding property:

```
AdminTask.setBinding('[-bindingLocation "" -bindingName generalCellWideBind1
-policyType JMSTransport -attributes "[[outRequestBasicAuth:userid myID] [outRequestBasicAuth:password myPW]]"')
```

CustomProperties policy and binding properties

Use the `-attributes` parameter for the `setBinding` command to specify additional configuration information for the `CustomProperties` policy set binding. Application and system policy sets can use the `CustomProperties` policy and binding.

This product supports using the `CustomProperties` policy and binding to set generic properties that are not supported in other policy types. The additional properties are set in the binding. You must only update existing properties, such as the `enabled` attribute, in the policy. The `CustomProperties` policy provides an alternative way to set a binding property instead of using the JAX-WS programming model to set the property on the `BindingProvider` object. The `CustomProperties` binding is only supported for service clients.

Use the following commands and parameters in the `PolicySetManagement` group of the `AdminTask` object to customize your policy set configuration.

- Use the `-attributes` parameter for the `getPolicyType` and `getBinding` commands to view the properties for your policy and binding configuration. To get an attribute, pass the property name to the `getPolicyType` or `getBinding` command.
- Use the `-attributes` parameter for the `setPolicyType` and `setBinding` commands to add, update, or remove properties from your policy and binding configurations. To add or update an attribute, specify the property name and value. The `setPolicyType` and `setBinding` commands update the value if the attribute exists, or adds the attribute and value if the attribute does not exist. To remove an attribute, specify the value as an empty string (`""`). The `-attributes` parameter accepts a properties object.

Note: If a property name or value supplied with the `-attributes` parameter is not valid, then the `setPolicyType` and `setBinding` commands fail with an exception. The property that is not valid is logged as an error or warning in the `SystemOut.log` file. However, the command exception might not contain the detailed information for the property that caused the exception. When the

setPolicyType and setBinding commands fail, examine the SystemOut.log file for any error and warning messages that indicate that the input for the **-attributes** parameter contains one or multiple properties that are not valid.

Note: This topic references one or more of the application server log files. As a recommended alternative, you can configure the server to use the High Performance Extensible Logging (HPEL) log and trace infrastructure instead of using SystemOut.log, SystemErr.log, trace.log, and activity.log files on distributed and IBM i systems. You can also use HPEL in conjunction with your native z/OS logging facilities. If you are using HPEL, you can access all of your log and trace information using the LogViewer command-line tool from your server profile bin directory. See the information about using HPEL to troubleshoot applications for more information on using HPEL.

The following **setBinding** example command demonstrates how you can use the CustomProperties binding to set a value for the WSADDRESSING_DESTINATION_EPR endpoint reference binding property:

```
AdminTask.setBinding('[-bindingLocation "" -bindingName generalCellWideBind1 -attachmentType client
-policyType CustomProperties -attributes "[[WSADDRESSING_DESTINATION_EPR addressValue]]"]')
```

Note: In a mixed cell environment, the following limitations apply to attachments to policy sets containing CustomProperties policy:

- You must not create attachments to policy sets containing CustomProperties policy for applications that are deployed on an application server that is prior to WebSphere Application Server Version 8.0. The CustomProperties policy is only supported on WebSphere Application Server Version 8.0 and later.
- An application that contains an attachment to a policy set containing CustomProperties policy must not be deployed on an application server that is prior to WebSphere Application Server Version 8.0.
- If an application that is deployed in a cluster environment contains an attachment to a policy set containing CustomProperties policy, you must not add a member application server that is prior to WebSphere Application Server Version 8.0 to the cluster.

SecureConversation command group for the AdminTask object (Deprecated)

Use this topic as a reference for the commands for the SecureConversation group of the AdminTask object. Use these commands with your administrative scripts to query, update, and remove secure conversation client cache configuration data.

Note: The commands in the SecureConversation command group are deprecated. Use the commands in the WSSCacheManagement command group to manage WS-Security distributed cache configurations.

Use the following commands in the SecureConversation group to manage your custom and non-custom secure conversation client cache configurations:

- “querySCClientCacheConfiguration command”
- “querySCClientCacheCustomConfiguration command” on page 648
- “updateSCClientCacheConfiguration command” on page 649
- “updateSCClientCacheCustomConfiguration command” on page 649
- “deleteSCClientCacheConfigurationCustomProperties command” on page 650

querySCClientCacheConfiguration command

The querySCClientCacheConfiguration command lists all non-custom client cache configuration data for WS-SecureConversation.

Target object

None

Required parameters

None.

Optional parameters

None.

Return value

This command returns a list of all non-custom client cache configuration data.

Batch mode example usage

- Using Jython:

```
print AdminTask.querySCClientCacheConfiguration()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.querySCClientCacheConfiguration('-interactive')
```

querySCClientCacheCustomConfiguration command

The querySCClientCacheCustomConfiguration command lists all custom client cache configuration data for WS-SecureConversation.

Target object

None.

Required parameters

None.

Optional parameters

None.

Return value

This command returns a list of all custom client cache configuration data.

Batch mode example usage

- Using Jython:

```
print AdminTask.querySCClientCacheCustomConfiguration()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.querySCClientCacheCustomConfiguration('-interactive')
```

updateSCClientCacheConfiguration command

The updateSCClientCacheConfiguration command sets the cache cushion time in minutes and enables or disables distributed cache.

Target object

None.

Required parameters

None.

Optional parameters

-distributedCache

Specifies whether distributed cache is enabled or disabled. If you set the -distributedCache parameter to true when you run the updateSCClientCacheConfiguration command, the system enables distributed cache for the WS-Security runtime. (Boolean, optional)

-minutesInCacheAfterTimeout

Specifies the amount of time, in minutes, that the token remains in the cache after it expires. The token is renewable for this amount of time. (Integer, optional)

-renewIntervalBeforeTimeoutMinutes

Specifies the amount of time, in minutes, that a renew request is allowed before the token expires. (Integer, optional)

Return value

This command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.updateSCClientCacheConfiguration('-minutesInCacheAfterTimeout 100 -distributedCache true')
```

- Using Jython list:

```
AdminTask.updateSCClientCacheConfiguration(['-minutesInCacheAfterTimeout', '100', '-distributedCache', 'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.updateSCClientCacheConfiguration('-interactive')
```

updateSCClientCacheCustomConfiguration command

The updateSCClientCacheCustomConfiguration command updates custom properties for the secure conversation client cache configuration.

Target object

None.

Required parameters

None.

Optional parameters

-customProperties

The custom properties for the secure conversation client cache configuration. (Properties, optional)

Return value

This command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.updateSCClientCacheCustomConfiguration(['-customProperties "[ [property2 value2] [property1 value1] ]"'])
```

- Using Jython list:

```
AdminTask.updateSCClientCacheCustomConfiguration(['-customProperties', '[ [property2 value2] [property1 value1] ]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.updateSCClientCacheCustomConfiguration('-interactive')
```

deleteSCClientCacheConfigurationCustomProperties command

The deleteSCClientCacheConfigurationCustomProperties command removes specific properties from a custom secure conversation client cache configuration.

Target object

None.

Required parameters

-propertyName

The names of the properties to delete. (String, required).

Optional parameters

None.

Return value

This command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteSCClientCacheConfigurationCustomProperties(['-propertyName [property1,property2]'])
```

- Using Jython list:

```
AdminTask.deleteSCClientCacheConfigurationCustomProperties(['-propertyName', '[property1,property2]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteSCClientCacheConfigurationCustomProperties('-interactive')
```

WSSCacheManagement command group for the AdminTask object

Use this topic as a reference for the commands for the WSSCacheManagement group of the AdminTask object. Use these commands with your administrative scripts to query, update, and remove distributed cache configuration data.

Use the following commands in the WSSCacheManagement group to manage your custom and non-custom distributed cache configurations:

- “deleteWSSDistributedCacheConfigCustomProperties command”
- “queryWSSDistributedCacheConfig command”
- “queryWSSDistributedCacheCustomConfig command” on page 652
- “updateWSSDistributedCacheConfig command” on page 653
- “updateWSSDistributedCacheCustomConfig command” on page 654

deleteWSSDistributedCacheConfigCustomProperties command

The deleteWSSDistributedCacheConfigCustomProperties command removes WS-Security distributed cache custom properties.

Target object

None

Required parameters

-propertyNames

Specifies the names of the custom properties to delete from the distributed cache configuration.
(String[])

Optional parameters

None.

Return value

This command returns a message that indicates the success or failure of the command.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteWSSDistributedCacheConfigCustomProperties(['-propertyNames  
[prop1,prop2,prop3]'])
```

- Using Jython list:

```
AdminTask.deleteWSSDistributedCacheConfigCustomProperties(['-propertyNames',  
[prop1,prop2,prop3]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteWSSDistributedCacheConfigCustomProperties('-interactive')
```

queryWSSDistributedCacheConfig command

The queryWSSDistributedCacheConfig command lists the WS-Security distributed cache configuration non-custom properties.

Target object

None.

Required parameters

None.

Optional parameters

None.

Return value

This command returns a properties object that contains the configuration properties and values for the distributed cache configuration. The following table displays the configuration properties that the command returns:

Table 111. Command properties. Use the command to list distributed cache configuration properties.

Property	Description
tokenRecovery	Specifies whether token recovery is enabled or disabled. If the tokenRecovery property is set to true, the Datasource property specifies the shared data source that is assigned to the distributed cache.
distributedCache	Specifies whether distributed caching is enabled or disabled.
Datasource	Specifies the name of the shared data source that is assigned to the distributed cache if token recovery is enabled.
renewIntervalBeforeTimeoutMinutes	Specifies the amount of time, in minutes, that the client waits before it attempts to renew the token.
synchronousClusterUpdate	Specifies whether the system performs a synchronous update of distributed caches on cluster members. By default, synchronous cluster updating is enabled.
minutesInCacheAfterTimeout	Specifies the amount of time that the token remains in the cache after the token times out.

Batch mode example usage

- Using Jython:

```
print AdminTask.queryWSSDistributedCacheConfig()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.queryWSSDistributedCacheConfig('-interactive')
```

queryWSSDistributedCacheCustomConfig command

The queryWSSDistributedCacheCustomConfig command lists the WS-Security distributed cache configuration custom properties.

Target object

None.

Required parameters

None.

Optional parameters

None.

Return value

This command returns a properties object that contains the name and value pairs that correspond to each custom property.

Batch mode example usage

- Using Jython:

```
AdminTask.queryWSSDistributedCacheCustomConfig()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.queryWSSDistributedCacheCustomConfig('-interactive')
```

updateWSSDistributedCacheConfig command

The updateWSSDistributedCacheConfig command updates the WS-Security distributed cache configuration non-custom properties.

Target object

None.

Required parameters

None.

Optional parameters

-renewIntervalBeforeTimeoutMinutes

Specifies the amount of time, in minutes, that a renew request is allowed before the token expires. (Integer)

-minutesInCacheAfterTimeout

Specifies the amount of time, in minutes, that the token remains in the cache after it expires. The token is renewable for this amount of time. (Integer)

-distributedCache

Specifies whether distributed cache is enabled or disabled. (Boolean)

-synchronousClusterUpdate

Specifies whether the system performs a synchronous update of distributed caches on cluster members. By default, synchronous cluster updating is enabled. Specify `false` to disable synchronous cluster updating. (Boolean)

-tokenRecovery

Specifies whether token recovery is enabled or disabled. If you set the tokenRecovery property to `true`, specify the shared data source to assign to the distributed cache with the `-Datasource` parameter. (Boolean)

-Datasource

Specifies the name of the shared data source that is assigned to the distributed cache if token recovery is enabled. (String)

Return value

This command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.updateWSSDistributedCacheConfig('[-customProperties "[ [property2 value2] [property1 value1] ]"')
```

- Using Jython list:

```
AdminTask.updateWSSDistributedCacheConfig(['-customProperties', '[ [property2 value2]
[property1 value1] ]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.updateWSSDistributedCacheConfig('-interactive')
```

updateWSSDistributedCacheCustomConfig command

The updateWSSDistributedCacheCustomConfig command updates the WS-Security distributed cache configuration custom properties.

Target object

None.

Required parameters

-customProperties

Specifies the name and value of each custom property to add or update in the WS-Security distributed cache configuration. (java.util.Properties)

Optional parameters

None.

Return value

This command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.updateWSSDistributedCacheCustomConfig(['-customProperties [[property1 value1]
[property2 value2]]'])
```

- Using Jython list:

```
AdminTask.updateWSSDistributedCacheCustomConfig(['-customProperties', '[[property1 value1]
[property2 value2]]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.updateWSSDistributedCacheCustomConfig('-interactive')
```

PolicySetManagement command group for the AdminTask object

You can use the Jython or Jacl scripting languages to manage policy set configurations with the wsadmin tool. Use the commands and parameters in the PolicySetManagement group to create, delete, and manage policy set, policy, and policy set attachment configurations.

Before you use the commands in this topic, verify that you are using the most recent version of the wsadmin tool. The policy set management commands that accept a properties object as the value for the **attributes** or **bindingLocation** parameters are not supported on previous versions of the wsadmin tool. For example, the commands do not run on a Version 6.1.0.x node.

Use the following commands to manage policy set configurations:

- “listPolicySets ” on page 655
- “getPolicySet ” on page 656

- “createPolicySet ” on page 657
- “copyPolicySet ” on page 657
- “deletePolicySet ” on page 658
- “updatePolicySet ” on page 659
- “validatePolicySet ” on page 661
- “exportPolicySet ” on page 661
- “importPolicySet ” on page 662

Use the following commands to manage policy settings:

- “addPolicyType ” on page 659
- “deletePolicyType ” on page 660
- “listPolicyTypes ” on page 662
- “getPolicyType ” on page 664
- “setPolicyType ” on page 664
- “getPolicyTypeAttribute ” on page 665
- “setPolicyTypeAttribute ” on page 666

Use the following commands to manage policy set attachments:

- “getPolicySetAttachments ” on page 667
- “createPolicySetAttachment ” on page 668
- “updatePolicySetAttachment ” on page 670
- “addToPolicySetAttachment ” on page 671
- “removeFromPolicySetAttachment ” on page 673
- “deletePolicySetAttachment ” on page 674
- “listAttachmentsForPolicySet ” on page 676
- “listAssetsAttachedToPolicySet” on page 676
- “deleteAttachmentsForPolicySet ” on page 677
- “transferAttachmentsForPolicySet ” on page 678
- “listSupportedPolicySets” on page 679

Use the following commands to manage policy set bindings:

- “getBinding ” on page 680
- “setBinding ” on page 681
- “getDefaultBindings” on page 683
- “getRequiredBindingVersion ” on page 684
- “setDefaultBindings” on page 685
- “exportBinding ” on page 685
- “importBinding ” on page 686
- “copyBinding ” on page 687
- “upgradeBindings” on page 688

listPolicySets

The listPolicySets command returns a list of all existing policy sets. If administrative security is enabled, each user role can use this command.

Target object

None.

Optional parameters

-policySetType

Specifies the type of policy set. Specify `application` to display application policy sets. Specify `system` to display system policy sets for trust service or `WS-MetadataExchange` attachments. Specify `system/trust` to display the policy sets for the trust service. Specify `default` to display the default policy sets. The default value for this parameter is `application`. (String, optional)

-fromDefaultRepository

Specifies whether to use the default repository. (Boolean, optional)

Return value

The command returns a list of all existing policy sets. Each entry in the list is the name of a policy set.

Batch mode example usage

- Using Jython string:

```
AdminTask.listPolicySets(['-policySetType system/trust'])
```

- Using Jython list:

```
AdminTask.listPolicySets(['-policySetType', 'system/trust'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listPolicySets('-interactive')
```

getPolicySet

The `getPolicySet` command returns general attributes, such as description and default indicator, for the specified policy set. If administrative security is enabled, each user role can use this command.

Target object

None.

Required parameters

-policySet

Specifies the policy set name. For a list of all policy set names, use the `listPolicySets` command. (String, required)

Optional parameters

-isDefaultPolicySet

Specifies whether to display a default policy set. The default value is `false`. (Boolean, optional)

-fromDefaultRepository

Specifies whether to use the default repository. (Boolean, optional)

Return value

The command returns a list of attributes for the specified policy set name.

Batch mode example usage

- Using Jython string:

```
AdminTask.getPolicySet(['-policySet SecureConversation'])
```

- Using Jython list:

```
AdminTask.getPolicySet(['-policySet', 'SecureConversation'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getPolicySet('-interactive')
```

createPolicySet

The createPolicySet command creates a new policy set. Policies are not created with the policy set. The default indicator is set to false.

If administrative security is enabled, you must use the Administrator role to create policy sets.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set. (String, required)

Optional parameters

-description

Adds a description for the policy set. (String, required)

-policySetType

Specifies the type of policy set. When the value is application, the command creates application policy sets. When the value is system, the command creates a policy set that you can use for trust service or WS-MetadataExchange attachments. When the value is system/trust, the command creates a policy set for the trust service. The default value for this parameter is application. (String, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.createPolicySet(['-policySet myCustomPS -description [my new custom policy set] -policySetType system/trust'])
```

- Using Jython list:

```
AdminTask.createPolicySet(['-policySet', 'myCustomPS', '-description', '[my new custom policy set]', '-policySetType', 'system/trust'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createPolicySet('-interactive')
```

copyPolicySet

The copyPolicySet command creates a copy of an existing policy set. By default, the policy set attachments are transferred to the new policy set.

If administrative security is enabled, you must use the Administrator role to copy policy sets.

Target object

None.

Required parameters

-sourcePolicySet

Specifies the name of the existing policy set to copy. (String, required)

-newPolicySet

Specifies the name of the new policy set you are creating. (String, required)

-newDescription

Specifies a description for the new policy set. (String, required)

Optional parameters

-transferAttachments

If this parameter is set to `true`, all attachments transfer from the source policy set to the new policy set. The default value is `false`. (Boolean, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.copyPolicySet(['-sourcePolicySet SecureConversation -newPolicySet  
CustomSecureConversation -newDescription [my new copied policy set] -transferAttachments true'])
```

- Using Jython list:

```
AdminTask.copyPolicySet(['-sourcePolicySet', 'SecureConversation', '-newPolicySet',  
'CustomSecureConversation', '-newDescription', '[my new copied policy set]', '-transferAttachments',  
'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.copyPolicySet('-interactive')
```

deletePolicySet

The `deletePolicySet` command deletes the specified policy set. If attachments exist for the policy set, the command returns a failure message.

If administrative security is enabled, you must use the Administrator role to delete policy sets.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set to delete. (String, required)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.deletePolicySet('[-policySet customSecureConversation]')
```

- Using Jython list:

```
AdminTask.deletePolicySet(['-policySet', 'customSecureConversation'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deletePolicySet('-interactive')
```

updatePolicySet

The `updatePolicySet` command enables you to input an attribute list to update the policy set. You can use this command to update all attributes for the policy set, or a subset of attributes.

If administrative security is enabled, you must use the Administrator role to update policy set configurations.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set to update. (String, required)

-attributes

Specifies a properties object that contains the attributes to update for the specified policy set. (Properties, required)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.updatePolicySet('[-policySet policySet1 -attributes [[type application]
[description [my policy set description]]]')
```

- Using Jython list:

```
AdminTask.updatePolicySet(['-policySet', 'policySet1', '-attributes', '[[type
application] [description [my policy set description]]]')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.updatePolicySet('-interactive')
```

addPolicyType

The `addPolicyType` command adds a policy with default values for the specified policy set. You must indicate whether to enable or disable the added policy.

If administrative security is enabled, you must use the Administrator role to add policies.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set to update. (String, required)

-policyType

Specifies the name of the policy to add to the policy set. (String, required)

-enabled

If this parameter is set to true, new policy is enabled in the policy set. If this parameter is set to false, the configuration is contained within the policy set but the configuration does not have an effect on the system. (Boolean, required)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.addPolicyType(['-policySet customPolicySet -policyType WSTransaction  
-enabled true'])
```

- Using Jython list:

```
AdminTask.addPolicyType(['-policySet', 'customPolicySet', '-policyType',  
'WSTransaction', '-enabled', 'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.addPolicyType('-interactive')
```

deletePolicyType

The deletePolicyType command deletes a policy from a policy set.

If administrative security is enabled, you must use the Administrator role to remove policies from your configuration.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set to update. (String, required)

-policyType

Specifies the name of the policy to remove from the policy set. (String, required)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.deletePolicyType(['-policySet customPolicySet -policyType WSTransaction'])
```

- Using Jython list:

```
AdminTask.deletePolicyType(['-policySet', 'customPolicySet', '-policyType',  
'WSTransaction'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deletePolicyType('-interactive')
```

validatePolicySet

The `validatePolicySet` command validates the policy set configuration.

If administrative security is enabled, you must use the Administrator role to validate policy sets.

Target object

None.

Required parameters

-policySet

Specifies the policy set to update. (String, required)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.validatePolicySet(['-policySet customSecureConversation'])
```

- Using Jython list:

```
AdminTask.validatePolicySet(['-policySet', 'customSecureConversation'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.validatePolicySet('-interactive')
```

exportPolicySet

The `exportPolicySet` command exports a policy set as an archive that can be copied onto a client environment.

If administrative security is enabled, you must use the Administrator role to export policy sets.

Target object

None.

Required parameters

-policySet

Specifies the policy set to export. (String, required)

-pathName

Specifies the path name of the archive file to create. (String, required)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.exportPolicySet(['-policySet customSecureConversation -pathName
C:/IBM/WebSphere/AppServer/PolicySets/customSC.zip'])
```

- Using Jython list:

```
AdminTask.exportPolicySet(['-policySet', 'customSecureConversation;', '-pathName', '
C:/IBM/WebSphere/AppServer/PolicySets/customSC.zip'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.exportPolicySet('-interactive')
```

importPolicySet

The `importPolicySet` command imports a policy set from a compressed archive file or from a selection of default policy sets onto the server environment.

If administrative security is enabled, you must use the Administrator role to import policy sets.

Target object

None.

Optional parameters

-importFile

Specifies the path name of the archive file to import. (String, optional)

-defaultPolicySet

Specifies the name of the default policy set to import. (String, optional)

-policySet

Specifies the name to assign to the new policy set. If you do not specify this parameter, the system uses the original name of the policy set. (String, optional)

-verifyPolicySetType

Specifies that the policy set type to import matches a specific type. Specify `system` or `system/trust` to verify that the policy set to import is a type of system policy set, including trust service policy sets. Specify `application` to verify that the policy set is an application policy set. (String, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.importPolicySet(['-importFile C:/IBM/WebSphere/AppServer/PolicySets/customSC.zip'])
```

- Using Jython list:

```
AdminTask.importPolicySet(['-importFile', 'C:/IBM/WebSphere/AppServer/PolicySets/customSC.zip'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.importPolicySet('-interactive')
```

listPolicyTypes

The `listPolicyTypes` command returns a list of the names of the policies configured on your system. The input parameters allow you to list each policy type configured in the system, the policy types configured in a policy set, or the policy types in a binding.

If administrative security is enabled, each administrative role can list policy types.

Target object

None.

Optional parameters

-policySet

Specifies the name of the policy set to query for policies. If the policy set is not specified, the command lists all policies defined in your configuration. (String, optional)

-bindingLocation

Specifies the location of the binding. This value is cell-wide default binding, server-specific default binding, or attachment-specific binding. Specify the bindingLocation parameter as a properties object following these guidelines:

- For cell-wide default binding, use a null or empty properties.
- For server-specific default binding, specify the node and server names in the properties. The property names are node and server. Server-specific default bindings are deprecated.
- For attachment-specific binding, specify the application name and attachment ID in the properties. The property names are application and attachmentId.
- For system/trust bindings, set the systemType property as trustService.
- For trust client bindings, specify the systemType property as trustClient. In addition, specify the attachment ID. If the bindings are for a specific application, also specify the application property.
- For WSNClient binding, specify the bus name, service name, and attachment ID in the properties. The property names are bus, WSNService, and attachmentId.

(Properties, optional)

-attachmentType

Specifies whether the attachment type is an application binding, client binding, trust service binding, trust client binding, or WS-Notification client binding. (String, optional)

Note: Even though you can specify the application value for the -attachmentType parameter, use the provider value in place of the application value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the provider value for the attachmentType parameter and the "[systemType trustService]" value for the -attachmentProperties parameter. For WSNClient attachments, specify the client value for the attachmentType parameter and the bus and WSNService properties with the -attachmentProperties parameter.

-bindingName

Specifies a specific general binding. If you specify this parameter, the system displays policy types in the specific binding. (String, optional)

-fromDefaultRepository

Specifies whether to use the default repository. (Boolean, optional)

Return value

The command returns a list of policy types.

Batch mode example usage

- Using Jython string:

```
AdminTask.listPolicyTypes(['-policySet customSecureConversation'])
```

- Using Jython list:

```
AdminTask.listPolicyTypes(['-policySet', 'customSecureConversation'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listPolicyTypes(['-interactive'])
```

getPolicyType

The `getPolicyType` command returns the attributes for a specified policy.

If administrative security is enabled, each administrative role can query attributes for policies.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set to query. (String, required)

-policyType

Specifies the name of the policy of interest. (String, required)

Optional parameters

-attributes

Specifies the specific attributes to display. If this parameter is not used, the command returns all attributes for the specified policy. (String[], optional)

-fromDefaultRepository

Specifies whether to use the default repository. (Boolean, optional)

Return value

The command returns a properties object containing the policy attributes.

Batch mode example usage

- Using Jython string:

```
AdminTask.getPolicyType(['-policySet customSecureConversation -policyType SecureConversation'])
```

- Using Jython list:

```
AdminTask.getPolicyType(['-policySet', 'customSecureConversation', '-policyType', 'SecureConversation'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getPolicyType(['-interactive'])
```

setPolicyType

The `setPolicyType` command updates the attributes of a specified policy.

Note: The administrative console command assistance provides incorrect Jython syntax for the `setPolicyType` command. The XPath expression for the response message part protection of the Username WSSecurity policy set contains single quotes (') within each XPath property value, which Jython does not support. To fix the command from the administrative console command assistance, add a backslash character (\) before each single quote to escape the single quote.

Also, if you are using a Jython script to update the attributes, the brackets should not be included if you want to get a list of elements and not a list of strings.

If administrative security is enabled, you must use the Administrator role to configure policies.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set of interest. (String, required)

-policyType

Specifies the name of the policy of interest. (String, required)

-attributes

Specifies the specific attributes to be updated. The properties could include all of the policy attributes or a subset of attributes. (Properties, required)

Optional parameters

-replace

Indicates whether the new attributes provided from the command replace the existing policy attributes. For policies with complex data, you can remove optional parts of the configuration when necessary. Use this parameter to get all attributes, perform edits, and replace the binding configuration with the edited data. The default value is `false`. (Boolean, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.setPolicyType(['-policySet customSecureConversation -policyType SecureConversation -attributes [[type application] [description [my new description]]]])'
```

- Using Jython list:

```
AdminTask.setPolicyType(['-policySet', 'customSecureConversation', '-policyType', 'SecureConversation', '-attributes', '[[type application] [description [my new description]]]])'
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setPolicyType('-interactive')
```

getPolicyTypeAttribute

The `getPolicyTypeAttribute` command returns the value for the specified policy attribute.

If administrative security is enabled, each administrative role can query policy type attribute values.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set of interest. (String, required)

-policyType

Specifies the name of the policy of interest. (String, required)

-attributeName

Specifies the name of the attribute of interest. (String, required)

-fromDefaultRepository

Specifies whether to use the default repository. (Boolean, optional)

Optional parameters

-fromDefaultRepository

Specifies whether to use the default repository. (Boolean, optional)

Return value

The command returns a string that contains the value of the specified attribute.

Batch mode example usage

- Using Jython string:

```
AdminTask.getPolicyTypeAttribute(['-policySet customSecureConversation -policyType
SecureConversation -attributeName type'])
```

- Using Jython list:

```
AdminTask.getPolicyTypeAttribute(['-policySet', 'customSecureConversation', '-policyType',
'SecureConversation', '-attributeName', 'type'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getPolicyTypeAttribute('-interactive')
```

setPolicyTypeAttribute

The setPolicyTypeAttribute command sets the value for the specified policy attribute.

If administrative security is enabled, you must use the Administrator role to configure policy attributes.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set of interest. (String, required)

-policyType

Specifies the name of the policy of interest. (String, required)

-attributeName

Specifies the name of the attribute of interest. (String, required)

-attributeValue

Specifies the value of the attribute of interest. (String, required)

Return value

If the attribute is successfully added to the policy, the command returns the true string value.

Batch mode example usage

- Using Jython string:

```
AdminTask.setPolicyTypeAttribute(['-policySet customPolicySet -policyType  
WSReliableMessaging -attributeName specLevel -attributeValue 1.0'])
```

- Using Jython list:

```
AdminTask.setPolicyTypeAttribute(['-policySet', 'customPolicySet', '-policyType',  
'WSReliableMessaging', '-attributeName', 'specLevel', '-attributeValue', '1.0'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setPolicyTypeAttribute('-interactive')
```

getPolicySetAttachments

The `getPolicySetAttachments` command lists the properties for all policy set attachments configured in a specified application.

If administrative security is enabled, each administrative role can query for policy set attachments.

Target object

None.

Optional parameters

-applicationName

Specifies the name of the application to query for policy set attachments. For application and client attachments, this parameter is required. This parameter is not required to query for trust service attachments. (String, optional)

-attachmentType

Specifies the type of policy set attachments. (String, optional)

Note: Even though you can specify the application value for the `-attachmentType` parameter, use the provider value in place of the application value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the provider value for the attachmentType parameter and the "[systemType trustService]" value for the `-attachmentProperties` parameter. For WSNClient attachments, specify the client value for the attachmentType parameter and the bus and WSNService properties with the `-attachmentProperties` parameter.

-expandResources

Provides expanded information that details the attachment properties for each resource. If you set this parameter to the name of the service, only the resources for that web service are returned. If you specify an asterisk (*) character, expanded information for all your Web services is returned. This parameter is valid if the value for the `-attachmentType` parameter is set to provider or client. (String, optional)

-attachmentProperties

Specifies information that is required to identify the location of the attachment. For WSNClient attachments, specify the attachmentType parameter as client, and use the `-attachmentProperties` parameter to specify the bus and WSNService properties. For system policy set attachments, specify the attachmentType parameter as provider, and use the `-attachmentProperties` parameter to set the systemType property value to trustService. If a trust client attachment is specified, the `-attachmentProperties` parameter contains a systemType property with a value of trustClient. (Properties, optional)

-serviceRef

Specifies the name of the service reference for which the attachments are returned. If specified, only

attachments for the service reference are returned. This parameter is only valid when the `expandResources` parameter value is the name of your service and when the `attachmentType` parameter is set to `client`. (String, optional)

Return value

The command returns a list of properties for each attachment in the application, including the policy set name, attachment ID, and resource list. If you specify the `expandResources` parameter, the command returns the resource, `attachmentId`, `policySet`, `binding`, and `directAttachment` properties. If a resource is not attached to a policy set, then the system only displays the resource property. The binding property only exists if the attachment contains a custom binding.

Batch mode example usage

- Using Jython string:

```
AdminTask.getPolicySetAttachments(['-attachmentType provider -attachmentProperties "[systemType trustService]"'])
```

- Using Jython list:

```
AdminTask.getPolicySetAttachments(['-attachmentType', 'provider', '-attachmentProperties', '[systemType trustService]'])
```

The following examples return policy set attachments information for the specified service reference, `myServiceRef`. The examples return detailed resource information for the logical endpoints or operations for each service reference because the `-expandResource` parameter is specified.

- Using Jython string:

```
AdminTask.getPolicySetAttachments(['-attachmentType client -applicationName application1 -expandResources {http://www.ibm.com}myService -serviceRef myServiceRef'])
```

- Using Jython list:

```
AdminTask.getPolicySetAttachments(['-attachmentType', 'client', '-applicationName', 'application1', '-expandResources', '{http://www.ibm.com}myService', '-serviceRef', 'myServiceRef'])
```

Interactive mode example usage

- Using Jython list:

```
AdminTask.getPolicySetAttachments('-interactive')
```

createPolicySetAttachment

The `createPolicySetAttachment` command creates a new policy set attachment for an application.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 112. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to create policy set attachments. If you have access to a specific resource only, you can create policy set attachments for the resource for which you have access.
Configurator	The Configurator role must have cell-wide access to create policy set attachments. If you have access to a specific resource only, you can create policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can create policy set attachments for application resources only.
Operator	The Operator role cannot create policy set attachments.
Monitor	The Monitor role cannot create policy set attachments.

Target object

None.

Required parameters

-resources

Specifies the name of the application resources to attach to the policy set. (String[], required)

Optional parameters

-applicationName

Specifies the name of the application of interest for policy set attachments. For application and client attachments, this parameter is required. This parameter is not required for trust service attachments. (String, optional)

-attachmentType

Specifies the type of policy set attachments. (String, optional)

Note: Even though you can specify the application value for the -attachmentType parameter, use the provider value in place of the application value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the provider value for the attachmentType parameter and the "[systemType trustService]" value for the -attachmentProperties parameter. For WSNCClient attachments, specify the client value for the attachmentType parameter and the bus and WSNService properties with the -attachmentProperties parameter.

-dynamicClient

Set this parameter to true, the system will not recognize the client resources. This option specifies that the client resources are not validated. (Boolean, optional)

-attachmentProperties

Specifies information that is required to identify the location of the attachment. For WSNCClient attachments, specify the attachmentType parameter as client, and use the -attachmentProperties parameter to specify the bus and WSNService properties. For system policy set attachments, specify the attachmentType parameter as provider, and use the -attachmentProperties parameter to set the systemType property value to trustService. If a trust client attachment is specified, the -attachmentProperties parameter contains a systemType property with a value of trustClient. (Properties, optional)

-inheritFromService

Specifies whether the resources for the service reference inherit the policy set attachments of the associated service. Use this parameter for service reference attachments only. The default value for this parameter is true. (Boolean, optional)

-policySet

Specifies the name of the policy set to attach. This parameter is required unless the resource specifies a service reference and the inheritFromService parameter is specified. If the policySet parameter is not specified and the inheritFromService parameter is false, all attachments for the service reference are removed, and the service reference does not have a policy set attachment. If the policySet parameter is not specified and the inheritFromService parameter is true, all attachments for the service reference are removed, and the service reference inherits the policy of the service. (String, optional)

Return value

The command returns a string with the ID of the new attachment.

Batch mode example usage

- Using Jython string:

```
AdminTask.createPolicySetAttachment(['-policySet policyset1 -resources "WebService:/" -applicationName
WebService -attachmentType provider'])
```

- Using Jython list:

```
AdminTask.createPolicySetAttachment(['-policySet', 'policyset1', '-resources', '"WebService:/"',
'-applicationName', 'WebService',
'-attachmentType', 'provider'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createPolicySetAttachment('-interactive')
```

Note: In a mixed cell environment, you must not create service reference attachments or resource attachments that are specified in name-value pair format for applications that are deployed on an application server that is prior to WebSphere Application Server Version 8.0. Service reference attachments are only supported on WebSphere Application Server Version 8.0 and later.

In a mixed cell environment, you must not create attachments to policy sets containing CustomProperties policy for applications that are deployed on an application server that is prior to WebSphere Application Server Version 8.0. The CustomProperties policy is only supported on WebSphere Application Server Version 8.0 and later.

updatePolicySetAttachment

The updatePolicySetAttachment command updates the resources that apply to a policy set attachment.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 113. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to configure policy set attachments. If you have access to a specific resource only, you can configure policy set attachments for the resource for which you have access.
Configurator	The Configurator role must have cell-wide access to configure policy set attachments. If you have access to a specific resource only, you can configure policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can configure policy set attachments for application resources only.
Operator	The Operator role cannot configure policy set attachments.
Monitor	The Monitor role cannot configure policy set attachments.

Target object

None.

Required parameters

-attachmentId

Specifies the name of the attachment to update. (String, required)

-resources

Specifies the names of the application resources to attach to the policy set. A resource for a service reference cannot be included in the same attachment as a resource for a service. (String, required)

Optional parameters

-applicationName

Specifies the name of the application of interest for policy set attachments. For application and client attachments, this parameter is required. This parameter is not required for trust service attachments. (String, optional)

-attachmentType

Specifies the type of policy set attachments. (String, optional)

Note: Even though you can specify the application value for the `-attachmentType` parameter, use the provider value in place of the application value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the provider value for the `attachmentType` parameter and the "[systemType trustService]" value for the `-attachmentProperties` parameter. For WSNClient attachments, specify the client value for the `attachmentType` parameter and the bus and WSNService properties with the `-attachmentProperties` parameter.

-dynamicClient

Set this parameter to true, the system will not recognize the client resources. This option specifies that the client resources are not validated. (Boolean, optional)

-attachmentProperties

Specifies information that is required to identify the location of the attachment. For WSNClient attachments, specify the `attachmentType` parameter as `client`, and use the `-attachmentProperties` parameter to specify the bus and WSNService properties. For system policy set attachments, specify the `attachmentType` parameter as `provider`, and use the `-attachmentProperties` parameter to set the `systemType` property value to `trustService`. If a trust client attachment is specified, the `-attachmentProperties` parameter contains a `systemType` property with a value of `trustClient`. (Properties, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.updatePolicySetAttachment(['-attachmentId 123 -resources "WebService:/"'])
```

- Using Jython list:

```
AdminTask.updatePolicySetAttachment(['-attachmentId', '123', '-resources',  
  '"WebService:/"'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.updatePolicySetAttachment ('-interactive')
```

Note: In a mixed cell environment, you must not create service reference attachments or resource attachments that are specified in name-value pair format for applications that are deployed on an application server that is prior to Version 8.0. Service reference attachments are only supported on Version 8.0 and later.

In a mixed cell environment, you must not create attachments to policy sets containing CustomProperties policy for applications that are deployed on an application server that is prior to WebSphere Application Server Version 8.0. The CustomProperties policy is only supported on WebSphere Application Server Version 8.0 and later.

addToPolicySetAttachment

The `addToPolicySetAttachment` command adds additional resources that apply to a policy set attachment.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 114. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to add resources to policy set attachments. If you have access to a specific resource only, you can add resources to policy set attachments for the resource for which you have access.
Configurator	The Configurator role must have cell-wide access to add resources to policy set attachments. If you have access to a specific resource only, you can add resources to policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can add resources to policy set attachments for application resources only.
Operator	The Operator role cannot add resources to policy set attachments.
Monitor	The Monitor role cannot add resources to policy set attachments.

Target object

None.

Required parameters

-attachmentId

Specifies the name of the attachment to update. (String, required)

-resources

Specifies the names of the application resources to attach to the policy set. A resource for a service reference cannot be included in the same attachment as a resource for a service. (String, required)

Optional parameters

-applicationName

Specifies the name of the application of interest for policy set attachments. For application and client attachments, this parameter is required. This parameter is not required for trust service attachments. (String, optional)

-attachmentType

Specifies the type of policy set attachments. (String, optional)

Note: Even though you can specify the `application` value for the `-attachmentType` parameter, use the `provider` value in place of the `application` value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the `provider` value for the `attachmentType` parameter and the `"[systemType trustService]"` value for the `-attachmentProperties` parameter. For WSNCClient attachments, specify the `client` value for the `attachmentType` parameter and the `bus` and `WSNService` properties with the `-attachmentProperties` parameter.

-dynamicClient

Set this parameter to `true`, the system will not recognize the client resources. This option specifies that the client resources are not validated. (Boolean, optional)

-attachmentProperties

Specifies information that is required to identify the location of the attachment. For WSNCClient attachments, specify the `attachmentType` parameter as `client`, and use the `-attachmentProperties` parameter to specify the `bus` and `WSNService` properties. For system policy set attachments, specify the `attachmentType` parameter as `provider`, and use the `-attachmentProperties` parameter to set the `systemType` property value to `trustService`. If a trust client attachment is specified, the `-attachmentProperties` parameter contains a `systemType` property with a value of `trustClient`. (Properties, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.addToPolicySetAttachment(['-attachmentId 123 -resources  
"WebService:/webapp1.war:{http://www.ibm.com}myService"'])
```

- Using Jython list:

```
AdminTask.addToPolicySetAttachment(['-attachmentId', '123', '-resources',  
"WebService:/webapp1.war:{http://www.ibm.com}myService"'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.addToPolicySetAttachment('-interactive')
```

Note: In a mixed cell environment, you must not create service reference attachments or resource attachments that are specified in name-value pair format for applications that are deployed on an application server that is prior to Version 8.0. Service reference attachments are only supported on Version 8.0 and later.

In a mixed cell environment, you must not create attachments to policy sets containing CustomProperties policy for applications that are deployed on an application server that is prior to WebSphere Application Server Version 8. The CustomProperties policy is only supported on WebSphere Application Server Version 8.0 and later.

removeFromPolicySetAttachment

The removeFromPolicySetAttachment command removes resources that apply to a policy set attachment.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 115. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to remove resources from policy set attachments. If you have access to a specific resource only, you can remove resources for which you have access.
Configurator	The Configurator role must have cell-wide access to remove resources from policy set attachments. If you have access to a specific resource only, you can remove the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can remove resources from policy set attachments for application resources only.
Operator	The Operator role cannot remove resources from policy set attachments.
Monitor	The Monitor role cannot remove resources from policy set attachments.

Target object

None.

Required parameters

-attachmentId

Specifies the name of the attachment to remove. (String, required)

-resources

Specifies the names of the application resources to attach to the policy set. (String, required)

Optional parameters

-applicationName

Specifies the name of the application of interest for policy set attachments. For application and client attachments, this parameter is required. This parameter is not required for trust service attachments. (String, optional)

-attachmentType

Specifies the type of policy set attachments. (String, optional)

Note: Even though you can specify the application value for the -attachmentType parameter, use the provider value in place of the application value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the provider value for the attachmentType parameter and the "[systemType trustService]" value for the -attachmentProperties parameter. For WSNClient attachments, specify the client value for the attachmentType parameter and the bus and WSNService properties with the -attachmentProperties parameter.

-attachmentProperties

Specifies information that is required to identify the location of the attachment. For WSNClient attachments, specify the attachmentType parameter as client, and use the -attachmentProperties parameter to specify the bus and WSNService properties. For system policy set attachments, specify the attachmentType parameter as provider, and use the -attachmentProperties parameter to set the systemType property value to trustService. If a trust client attachment is specified, the -attachmentProperties parameter contains a systemType property with a value of trustClient. (Properties, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.removeFromPolicySetAttachment(['-attachmentId 123 -resources  
"WebService:/webapp1.war:{http://www.ibm.com}myService"'])
```

- Using Jython list:

```
AdminTask.removeFromPolicySetAttachment(['-attachmentId', '123', '-resources',  
'"WebService:/webapp1.war:{http://www.ibm.com}myService"'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.removeFromPolicySetAttachment('-interactive')
```

deletePolicySetAttachment

The deletePolicySetAttachment command removes a policy set attachment from an application.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 116. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to delete policy set attachments. If you have access to a specific resource only, you can delete policy set attachments for the resource for which you have access.

Table 116. Administrative roles (continued). This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Configurator	The Configurator role must have cell-wide access to delete policy set attachments. If you have access to a specific resource only, you can delete policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can delete policy set attachments for application resources only.
Operator	The Operator role cannot delete policy set attachments.
Monitor	The Monitor role cannot delete policy set attachments.

Target object

None.

Required parameters

-attachmentId

Specifies the name of the attachment to delete. (String, required)

Optional parameters

-applicationName

Specifies the name of the application of interest for policy set attachments. For application and client attachments, this parameter is required. This parameter is not required for trust service attachments. (String, optional)

-attachmentType

Specifies the type of policy set attachments. (String, optional)

Note: Even though you can specify the application value for the -attachmentType parameter, use the provider value in place of the application value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the provider value for the attachmentType parameter and the "[systemType trustService]" value for the -attachmentProperties parameter. For WSNClient attachments, specify the client value for the attachmentType parameter and the bus and WSNService properties with the -attachmentProperties parameter.

-attachmentProperties

Specifies information that is required to identify the location of the attachment. For WSNClient attachments, specify the attachmentType parameter as client, and use the -attachmentProperties parameter to specify the bus and WSNService properties. For system policy set attachments, specify the attachmentType parameter as provider, and use the -attachmentProperties parameter to set the systemType property value to trustService. If a trust client attachment is specified, the -attachmentProperties parameter contains a systemType property with a value of trustClient. (Properties, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.deletePolicySetAttachment(['-attachmentId 123'])
```

- Using Jython list:

```
AdminTask.deletePolicySetAttachment(['-attachmentId', '123'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deletePolicySetAttachment('-interactive')
```

listAssetsAttachedToPolicySet

The `listAssetsAttachedToPolicySet` command lists the applications or WS-Notification service clients to which a specific policy set is attached.

If administrative security is enabled, each administrative role can list applications that are attached to policy sets.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set of interest. (String, required)

Optional parameters

-attachmentType

Specifies the type of policy set attachments. The value for this parameter must be `provider`, `client`, `WSNClient`, `WSMex`, `cuProvider`, `cuClient`, `binding` or `all`. The default value is `all`. (String, optional)

Return value

The command returns a list of properties that describe each asset. Each properties object contains the `assetType` property, which specifies the type of asset.

Batch mode example usage

- Using Jython string:

```
AdminTask.listAssetsAttachedToPolicySet(['-policySet SecureConversation'])
```

- Using Jython list:

```
AdminTask.listAssetsAttachedToPolicySet(['-policySet', 'SecureConversation'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listAssetsAttachedToPolicySet('-interactive')
```

listAttachmentsForPolicySet

The `listAttachmentsForPolicySet` command lists the applications to which a specific policy set is attached.

If administrative security is enabled, each administrative role can query for policy set attachments.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set of interest. (String, required)

Optional parameters

-attachmentType

Specifies the type of policy set attachments. The value for this parameter must be application, client, or system/trust. The default value is application. (String, optional)

Return value

The command returns a list of application names.

Batch mode example usage

- Using Jython string:

```
AdminTask.listAttachmentsForPolicySet(['-policySet SecureConversation'])
```

- Using Jython list:

```
AdminTask.listAttachmentsForPolicySet(['-policySet', 'SecureConversation'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listAttachmentsForPolicySet('-interactive')
```

deleteAttachmentsForPolicySet

The deleteAttachmentsForPolicySet command removes all attachments for a specific policy set.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 117. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to delete policy set attachments. If you have access to a specific resource only, you can delete policy set attachments for the resource for which you have access.
Configurator	The Configurator role must have cell-wide access to delete policy set attachments. If you have access to a specific resource only, you can delete policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can delete policy set attachments for application resources only.
Operator	The Operator role cannot delete policy set attachments.
Monitor	The Monitor role cannot delete policy set attachments.

Target object

None.

Required parameters

-policySet

Specifies the name of the policy set from which to remove the attachments. (String, required)

Optional parameters

-applicationName

Specifies the name of the application of interest. The command only deletes attachments for the application of interest if you specify this parameter. (String, optional)

-attachmentProperties

Specifies information that is required to identify the location of the attachment. You can specify values for the bus and WSNService properties. (Properties, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteAttachmentsForPolicySet(['-policySet customSecureConversation  
-applicationName newApp1'])
```

- Using Jython list:

```
AdminTask.deleteAttachmentsForPolicySet(['-policySet', 'customSecureConversation',  
'-applicationName', 'newApp1'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteAttachmentsForPolicySet('-interactive')
```

transferAttachmentsForPolicySet

The transferAttachmentsForPolicySet command transfers all attachments from one policy set to another policy set.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 118. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to transfer policy set attachments. If you have access to a specific resource only, you can transfer policy set attachments for the resource for which you have access.
Configurator	The Configurator role must have cell-wide access to transfer policy set attachments. If you have access to a specific resource only, you can transfer policy set attachments for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can transfer policy set attachments for application resources only.
Operator	The Operator role cannot transfer policy set attachments.
Monitor	The Monitor role cannot transfer policy set attachments.

Target object

None.

Required parameters

-sourcePolicySet

Specifies the source policy set from which to copy attachments. (String, required)

-destinationPolicySet

Specifies the name of the policy set to which the attachments are copied. (String, required)

Optional parameters

-applicationName

Specifies the name of the application of interest. The command only transfers attachments for the application of interest if you specify this parameter. (String, optional)

-attachmentProperties

Specifies information that is required to identify the location of the attachment. You can specify values for the bus and WSNService properties. (Properties, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.transferAttachmentsForPolicySet(['-sourcePolicySet SecureConversation  
-destinationPolicySet customSecureConversation -applicationName newApp1'])
```

- Using Jython list:

```
AdminTask.transferAttachmentsForPolicySet(['-sourcePolicySet', 'SecureConversation',  
'-destinationPolicySet', 'customSecureConversation', '-applicationName', 'newApp1'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.transferAttachmentsForPolicySet('-interactive')
```

listSupportedPolicySets

The listSupportedPolicySets command returns a list of supported policy sets to attach to your web services resources. If administrative security is enabled, each user role can use this command.

Target object

None.

Required parameters

-assetProps

Specifies the name of the asset of interest. Specify the name of the application as the value for the **application** property. (Properties, required)

Supported property and value pairs for the parameter are:

Property	Value
application	Application name, such as <i>myApplication</i>
WS-Notification service client: <ul style="list-style-type: none">• bus• WSNService	Service client names: <ul style="list-style-type: none">• Bus name, such as: <i>bus1</i>• Service name, such as <i>service1</i>
Trust service resource: <ul style="list-style-type: none">• systemType	Service resource name: <ul style="list-style-type: none">• trustService
SCA business-level application resource: <ul style="list-style-type: none">• blaName• cuName	Resource names: <ul style="list-style-type: none">• business-level application name, such as <i>myBLA</i>• composition unit name, such as <i>compositionUnit1</i>

Return value

The command returns a list of supported policy sets. Each entry in the list is the name of a policy set.

Batch mode example usage

- Using Jython string:

```
AdminTask.listSupportedPolicySets ('[-assetProps [[application myApplication]]]')
```

- Using Jython list:

```
AdminTask.listSupportedPolicySets (['-assetProps', '[[bus bus1] [WSNService service1]]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listSupportedPolicySets('-interactive')
```

getBinding

The `getBinding` command returns the binding configuration for a specified policy and scope. You can use the `getBinding` command to return a list of available custom bindings, which includes bindings that are and are not referenced by attachments.

If administrative security is enabled, each administrative role can query for binding configuration information.

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

Target object

None.

Required parameters

-policyType

Specifies the policy of interest. (String, required)

-bindingLocation

Specifies the location of the binding. (Properties, required)

Specify the `bindingLocation` parameter as a properties object following these guidelines:

- For WebSphere Application Server Version 7.0 and later server default bindings, specify a null or empty properties. Use the `bindingName` parameter to identify the binding location.
- For attachment-specific bindings, specify the application name and attachment ID in the properties. The property names are `application` and `attachmentId`.
- For WSNClient bindings, specify the bus name, service name, and attachment ID in the properties. The property names are `bus`, `WSNService`, and `attachmentId`. If you specify an asterisk character (*) as the attachment ID, then the command returns the list of binding names that corresponds to the attachment type of interest.

- For system/trust bindings, specify the `systemType` property as `trustService`.

Optional parameters

-attachmentType

Specifies the type of policy set attachment. Use this parameter to distinguish between types of attachment custom bindings. (String, optional)

Note: Even though you can specify the `application` value for the `-attachmentType` parameter, use the `provider` value in place of the `application` value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the `provider` value for the `attachmentType` parameter and the "[`systemType trustService`]" value for the `-attachmentProperties` parameter. For `WSNClient` attachments, specify the `client` value for the `attachmentType` parameter and the `bus` and `WSNService` properties with the `-attachmentProperties` parameter.

-attributes

Specifies the names of the attributes to return. If this parameter is not specified, the command returns all attributes. (String, optional)

-bindingName

Specifies the binding name of interest. Specify this parameter to display a general cell-level binding or a custom attachment binding. (String, optional)

Return value

The command returns a properties object that contains the requested configuration attributes for the policy binding.

Batch mode example usage

- Using Jython string:

The following example returns a list of application bindings:

```
AdminTask.getBinding(['-policyType WSAddressing -attachmentType provider
-bindingLocation [[application application_name] [attachmentId *]]'])
```

The following example returns a list of client bindings:

```
AdminTask.getBinding(['-policyType WSAddressing -attachmentType client
-bindingLocation [[application application_name] [attachmentId *]]'])
```

The following example returns a list of system bindings:

```
AdminTask.getBinding(['-policyType WSAddressing -attachmentType provider
-bindingLocation [[systemType trustService] [application application_name] [attachmentId *]]'])
```

- Using Jython list:

```
AdminTask.getBinding(['-policyType', 'WSAddressing', '-bindingLocation', ''])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getBinding(['-interactive'])
```

setBinding

The `setBinding` command updates the binding configuration for a specified policy. Use this command to add a server-specific binding, update an attachment to use a custom binding, edit binding attributes, or to remove a binding configuration.

When administrative security is enabled, verify that you use the correct administrative role, as the following table describes:

Table 119. Administrative roles. This table describes the administrative roles and associated authorization when administrative security is enabled.

Administrative role	Authorization
Administrator	The Administrator role must have cell-wide access to configure bindings. If you have access to a specific resource only, you can configure custom bindings for the resource for which you have access. The Administrator role is the only role that can modify binding configurations.
Configurator	The Configurator role must have cell-wide access to assign and unassign bindings. If you have access to a specific resource only, you can assign and unassign bindings for the resource for which you have access.
Deployer	The Deployer role with cell-wide or resource specific access can assign or unassign bindings for application resources only.
Operator	The Operator role cannot configure bindings.
Monitor	The Monitor role cannot configure bindings.

Note: In WebSphere Application Server Version 7.0 and later, the security model was enhanced to a domain-centric security model instead of a server-based security model. The configuration of the default global security (cell) level and default server level bindings has also changed in this version of the product. In the WebSphere Application Server Version 6.1 Feature Pack for Web Services, you can configure one set of default bindings for the cell and optionally configure one set of default bindings for each server. In Version 7.0 and later, you can configure one or more general service provider bindings and one or more general service client bindings. After you have configured general bindings, you can specify which of these bindings is the global default binding. You can also optionally specify general binding that are used as the default for an application server or a security domain.

To support a mixed-cell environment, WebSphere Application Server supports Version 7.0 and Version 6.1 bindings. General cell-level bindings are specific to Version 7.0 and later Application-specific bindings remain at the version that the application requires. When the user creates an application-specific binding, the application server determines the required binding version to use for application.

Target object

None.

Required parameters

-bindingLocation

Specifies the location of the binding. (Properties, required)

Specify the bindingLocation parameter as a properties object following these guidelines:

- For WebSphere Application Server Version 7.0 and later server default bindings, specify a null or empty properties. Use the bindingName parameter to identify the binding location.
- For attachment-specific, specify the application name and attachment ID in the properties. The property names are application and attachmentId.
- For WSNClient bindings, specify the bus name, service name, and attachment ID in the properties. The property names are bus, WSNService, and attachmentId. If you specify an asterisk character (*) as the attachment ID, then the command returns the list of binding names that corresponds to the attachment type of interest.
- For system/trust bindings, set the systemType property as trustService.

-policyType

Specifies the policy of interest. (String, required)

Optional parameters

-attachmentType

Specifies the type of policy set attachment. Use this parameter to distinguish between types of attachment custom bindings. (String, optional)

Note: Even though you can specify the application value for the `-attachmentType` parameter, use the provider value in place of the application value because the attachments are used for more than just applications, such as system attachments for trust service. For system policy set attachments, specify the provider value for the `attachmentType` parameter and the "[systemType trustService]" value for the `-attachmentProperties` parameter. For WSNClient attachments, specify the client value for the `attachmentType` parameter and the bus and WSNService properties with the `-attachmentProperties` parameter.

-attributes

Specifies the attribute values to update. This parameter can include all binding attributes for the policy or a subset to update. If the **attributes** parameter is not specified, the command only updates the binding location used by the specified attachment. (Properties, optional)

-bindingName

Specifies the name for the binding. Specify this parameter to assign a new name to an attachment binding or cell-level binding. A name is generated if it is not specified. (String, optional)

-domainName

Specifies the domain name for the binding. This parameter is required when using the command to create and scope a binding to a specific domain other than the administrative security domain. The default value is `global`. (String, optional)

-replace

Specifies whether to replace all of the existing binding attributes with the attributes specified in the command. Use this parameter to remove optional parts of the configuration for policies with complex data. The default value is `false`. (Boolean, optional)

-remove

Specifies whether to remove a server-specific default binding or to remove a custom binding from an attachment. You cannot remove cell-level default binding. The default value is `false`. (Boolean, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.setBinding(['-policyType WSAddressing -bindingLocation [[application myApplication]
[attachmentId 123]] -attributes "[preventWLM false]"
-attachmentType provider'])
```

- Using Jython list:

```
AdminTask.setBinding(['-policyType', 'WSAddressing', '-bindingLocation', '[[application myApplication]
[attachmentId 123]]', '-attributes', '[preventWLM
false]', '-attachmentType', 'provider'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setBinding('-interactive')
```

getDefaultBindings

The `getDefaultBindings` command displays the provider and client default bindings if the bindings are set. If the command does not return output, then the system default binding is the current default.

If administrative security is enabled, each administrative role can query for default bindings.

Target object

None.

Optional parameters

-bindingLocation

Specifies the location of the binding. Specify the bindingLocation parameter as a properties object with values for the node and server properties. (Properties, optional)

-domainName

Specifies the domain name for the binding of interest. This parameter is required if the domain of interest is not in the global security domain and you did not specify the bindingLocation parameter. The bindingLocation and domainName parameters are mutually exclusive. The default value is global. (String, optional)

Return value

The command returns a properties object that contains the names of the provider and client default bindings, if the bindings are set.

Batch mode example usage

- Using Jython string:

```
AdminTask.getDefaultBindings(['-bindingLocation [[node myNode] [server myServer]]'])
```

- Using Jython list:

```
AdminTask.getDefaultBindings(['-bindingLocation', '[[node myNode] [server myServer]]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getDefaultBindings('-interactive')
```

getRequiredBindingVersion

The getRequiredBindingVersion command displays the version number of the binding for a specific application.

Target object

None.

Optional parameters

-assetProps

Specifies the name of the application of interest. (Properties, optional)

Return value

The command returns the binding version number as a number, such as 7.0.0.0 or 6.1.0.0.

Batch mode example usage

- Using Jython string:

```
AdminTask.getRequiredBindingVersion(['-assetProps [[application myApplication]]'])
```

- Using Jython list:

```
AdminTask.getRequiredBindingVersion(['-assetProps', '[[application myApplication]]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.getRequiredBindingVersion('-interactive')
```

setDefaultBindings

The `setDefaultBindings` command to set a binding as the default binding.

If administrative security is enabled, you must use the Administrator role with cell-wide access to configure bindings. If you use the Administrator role and do not have cell-wide access, you can only configure bindings on resources for which you have access.

Target object

None.

Required parameters

-defaultBindings

Specifies the names of the default bindings for the provider, client, or both. (Properties, required)

Optional parameters

-bindingLocation

Specifies the location of the binding. Specify the `bindingLocation` parameter as a properties object with values for the node and server properties. (Properties, optional)

-domainName

Specifies the domain name for the binding of interest. This parameter is required if the domain of interest is not in the global security domain and you did not specify the `bindingLocation` parameter. The `bindingLocation` and `domainName` parameters are mutually exclusive. The default value is `global`. (String, optional)

Return value

The command returns a value of `true` if the command successfully sets the default binding.

Batch mode example usage

- Using Jython string:

```
AdminTask.setDefaultBindings(['-defaultBindings [[provider myDefaultProviderBinding]
[client myDefaultClientBinding]] -bindingLocation [[node myNode] [server myServer]]'])
```

- Using Jython list:

```
AdminTask.setDefaultBindings(['-defaultBindings', '[[provider myDefaultProviderBinding'
[client myDefaultClientBinding]]', '-bindingLocation', '[[node
myNode] [server myServer]]'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setDefaultBindings('-interactive')
```

exportBinding

The `exportBinding` command export a general, cell-level binding to an archive file. You can copy this file to a client environment or import the archive to a server environment.

If administrative security is enabled, you must use the Administrator role with cell-wide access to export bindings.

Target object

None.

Required parameters

-bindingName

Specifies the name of the binding to assign as the default binding. If you do not specify this parameter, the system specifies the system default as the default binding. (String, required)

-pathName

Specifies the file path for the archive file to create. (String, required)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.exportBinding(['-bindingName myDefaultBinding -pathName  
C:/IBM/WebSphere/AppServer/PolicySets/Bindings/'])
```

- Using Jython list:

```
AdminTask.exportBinding(['-bindingName', 'myDefaultBinding', '-pathName',  
'C:/IBM/WebSphere/AppServer/PolicySets/Bindings/'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.exportBinding('-interactive')
```

importBinding

The `importBinding` command imports a general, cell-level binding from a compressed archive file to a server environment.

If administrative security is enabled, you must use the Administrator role with cell-wide access to import bindings.

Target object

None.

Required parameters

-pathName

Specifies the file path for the archive file to import. (String, required)

Optional parameters

-bindingName

Specifies the name of the binding to assign as the imported binding. If you do not specify this parameter, the system specifies the binding name in the archive file. (String, optional)

-domainName

Specifies a new name of the domain of the binding to import. If you do not specify this parameter, the command uses the domain specified in the archive file. (String, optional)

-verifyBindingType

Verifies that the type of binding to import matches a specific binding type. Specify provider to verify that the binding to import is a provider binding, or specify client to verify that it is a client binding. (String, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.importBinding(['-bindingName myDefaultBinding -pathName  
C:/IBM/WebSphere/AppServer/PolicySets/Bindings/myBinding.ear'])
```

- Using Jython list:

```
AdminTask.importBinding(['-bindingName', 'myDefaultBinding', '-pathName',  
'C:/IBM/WebSphere/AppServer/PolicySets/Bindings/myBinding.ear'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.importBinding('-interactive')
```

copyBinding

The copyBinding command creates a new general, cell-level binding from an existing binding.

If administrative security is enabled, you must use the Administrator role with cell-wide access to copy bindings.

Target object

None.

Required parameters

-sourceBinding

Specifies the name of the existing binding that the system uses to create the new binding. (String, required)

-newBinding

Specifies the name of the binding to create. (String, required)

Optional parameters

-newDescription

Specifies the description text for the new binding. (String, optional)

-domainName

Specifies the domain name for the binding. This parameter is only required if you scope the binding to a domain other than the domain of the source binding. (String, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.copyBinding(['-sourceBinding mySourceBinding -newBinding mySourceCopyBinding'])
```

- Using Jython list:

```
AdminTask.copyBinding(['-sourceBinding', 'mySourceBinding', '-newBinding',  
'mySourceCopyBinding'])
```

Interactive mode example usage

- Using Jython list:

```
AdminTask.copyBinding('-interactive')
```

upgradeBindings

The `upgradeBindings` command upgrades application bindings for a specific asset to the latest version.

If administrative security is enabled, you must use the Administrator role with cell-wide access to import bindings.

Target object

None.

Required parameters

-assetProps

Specifies the name of the asset of interest. Specify the name of the application as the value for the **application** property. (Properties, required)

Optional parameters

None

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.upgradeBindings(['-assetProps [[application myApplication]]'])
```

- Using Jython list:

```
AdminTask.upgradeBindings(['-assetProps', '[[application myApplication]]'])
```

Interactive mode example usage


- Using Jython:

```
AdminTask.upgradeBindings('-interactive')
```

WS-Policy commands for the AdminTask object

You can manage WS-Policy settings for web service resources by using `wsadmin` scripting. You can view or manage how a service provider shares its policies, and how a service client obtains and applies the policies of a service provider.

To run these commands, use the `AdminTask` object of the `wsadmin` scripting client. Each command acts on multiple objects in one operation. The commands are provided to allow you to make the most commonly-required types of update in a consistent manner, where modifying the underlying objects directly would be error-prone.

 The `wsadmin` scripting client is run from Qshell. For more information, see the topic “Configure Qshell to run WebSphere Application Server scripts”.

These commands are valid only when they are used with WebSphere Application Server Version 7 and later application servers. Do not use them with earlier versions.

The commands to manage WS-Policy settings for web service resources are part of the PolicySetManagement command group for the AdminTask object.

For a list of the available policy set management administrative commands, plus a brief description of each command, enter the following command at the wsadmin prompt:

```
print AdminTask.help('PolicySetManagement')
```

For overview help on a given command, enter the following command at the wsadmin prompt:

```
print AdminTask.help('command_name')
```

After using these commands, save your changes to the master configuration. For example, use the following command:

```
AdminConfig.save()
```

The commands that are listed as subtopics are available to manage WS-Policy settings in the PolicySetManagement group of the AdminTask object.


The following commands are available to manage WS-Policy settings in the PolicySetManagement group of the AdminTask object:

- getProviderDynamicPolicyControl command
- setProviderDynamicPolicyControl command
- getProviderPolicySharingInfo command
- setProviderPolicySharingInfo command
- getClientDynamicPolicyControl command
- setClientDynamicPolicyControl command

getProviderPolicySharingInfo command:

Use the **getProviderPolicySharingInfo** command to find out whether an application or service that is a web service provider can share its policy configuration, and list the properties that apply to sharing that configuration.

To run the command, use the AdminTask object of the wsadmin scripting client.

 The wsadmin scripting client is run from Qshell. For more information, see the topic “Configure Qshell to run WebSphere Application Server scripts”.

This command is valid only when it is used with WebSphere Application Server Version 7 and later application servers. Do not use it with earlier versions.

For a list of the available policy set management administrative commands, plus a brief description of each command, enter the following command at the wsadmin prompt:

```
print AdminTask.help('PolicySetManagement')
```

For overview help on a given command, enter the following command at the wsadmin prompt:

```
print AdminTask.help('command_name')
```

After using the command, save your changes to the master configuration. For example, use the following command:

```
AdminConfig.save()
```

Purpose

Use the **getProviderPolicySharingInfo** command to find out how a web services application, or a service in a Web services application, shares its policy configuration with clients, service registries, or services that support the WS-Policy specification. The policy configuration is shared in WS-PolicyAttachments format.

The command returns properties that show whether the policy configuration of the resource can be shared with clients through a WS-MetadataExchange request or through Web Services Description Language (WSDL) that is obtained by a ?WSDL HTTP Get request.

Target object

None.

Required parameters

-applicationName

The name of the application for which you want to find out how it shares its policy configuration. The application must be a service provider. (String)

Optional parameters

-resource

The name of the resource for which you want to find out how it shares its policy configuration. If you specify this parameter, only the properties for that resource are returned. To retrieve information for the application, specify `WebService:/.` Alternatively, you can specify a service, endpoint or operation. However, policy sets are attached only at the application or service level, so the properties returned for an endpoint or operation are the settings that are inherited from the service. (String)

Return value

Returns a list of properties that include the resource name and that show whether the policy configuration of the resource can be shared. The following properties can be returned:

wsMexPolicySetName

The name of the policy set that specifies message-level security when the resource shares its policy configuration through a WS-MetadataExchange request. This property is returned if the value of the **sharePolicyMethods** property is `wsMex` and a policy set to provide message-level security was specified.

wsMexPolicySetBinding

The name of the binding that is applied when the resource shares its policy configuration through a WS-MetadataExchange request. This property is returned if the value of the **sharePolicyMethods** property is `wsMex` and a binding to provide message-level security was specified.

resource

The resource that you specified.

directSetting

How the properties apply to the resource. Valid values for this property are:

true

The properties apply directly to the resource.

false

The properties are inherited from the parent application or service.

sharePolicyMethods

How the policy configuration of the resource can be shared. Valid values for this property are:

httpGet

The resource shares its policy configuration through an HTTP Get request.

wsMex

The resource shares its policy configuration through a WS-MetadataExchange request.

Example


The following command displays the policy sharing configuration properties for the EchoService service in the WSSampleServices application. The provider is configured to share its policy through an HTTP Get request, and a WS-MetadataExchange request with message-level security. Message-level security for the WS-MetadataExchange request is provided by using the SystemWSSecurityDefault policy set and the “Provider sample” general binding.

```
AdminTask.getProviderPolicySharingInfo(['-applicationName', 'WSSampleServices',
'-resource', 'WebService:/SampleServicesSei.war:{http://example_path}/EchoService'])
.
.
[ [wsMexPolicySetName SystemWSSecurityDefault] [wsMexPolicySetBinding [Provider sample]]
[resource WebService:/SampleServicesSei.war:{http://example_path}/EchoService/]
[directSetting true] [sharePolicyMethods [httpGet wsMex]] ]
```

setProviderPolicySharingInfo command:

Use the **setProviderPolicySharingInfo** command to set how an application or service that is a web service provider can share its policy configuration with other clients, service registries, or services that support the WS-Policy specification. You can set or remove this information about how a provider policy is shared.

To run the command, use the AdminTask object of the wsadmin scripting client.

 The wsadmin scripting client is run from Qshell. For more information, see the topic “Configure Qshell to run WebSphere Application Server scripts”.

This command is valid only when it is used with WebSphere Application Server Version 7 and later application servers. Do not use it with earlier versions.

For a list of the available policy set management administrative commands, plus a brief description of each command, enter the following command at the wsadmin prompt:

```
print AdminTask.help('PolicySetManagement')
```

For overview help on a given command, enter the following command at the wsadmin prompt:

```
print AdminTask.help('command_name')
```

After using the command, save your changes to the master configuration. For example, use the following command:

```
AdminConfig.save()
```

Purpose

Use the **setProviderPolicySharingInfo** command to set how an application, or a service in an application, shares its policy configuration with clients, service registries, or services that support the WS-Policy specification. The policy configuration is shared in WS-PolicyAttachments format.

The policy configuration of the resource can be shared with clients through a WS-MetadataExchange request, through Web Services Description Language (WSDL) exported by a ?WSDL HTTP Get request, or through both methods.

Target object

None.

Required parameters

-applicationName

The name of the application for which you want to set how the provider policy is shared. (String)

-resource

The name of the resource for which you want to set how the provider policy is shared. For all resources in an application, specify `WebService:./`. For a service in an application, specify `WebService:/module:{namespace}service_name`. Endpoints or operations inherit the settings of the parent application or service. (String)

Optional parameters

-sharePolicyMethods

Specifies how the policy configuration of the resource can be shared. (String array)

Enter either or both of the following values:

httpGet

The resource can share its policy configuration through WSDL that is obtained by a ?WSDL HTTP Get request.

wsMex The resource can share its policy configuration through a WS-MetadataExchange request.

-wsMexProperties

Specifies that message-level security is required for WS-MetadataExchange requests and specifies the settings that provide the message-level security. (Properties)

Enter the following values, following each value with the setting that you require for that value:

wsMexPolicySetName

The name of the system policy set that specifies message-level security when the resource shares its policy configuration through a WS-MetadataExchange request. Specify a system policy set that contains only WS-Security policies, only WS-Addressing policies, or both. The default policy set is `SystemWSSecurityDefault`.

wsMexPolicySetBinding

The name of the general binding for the policy set attachment when the resource shares its policy configuration through a WS-MetadataExchange request. Specify a general binding that is scoped to the global domain, or scoped to the security domain of this service. If you do not specify this property, the default binding is used.

This parameter is valid only when you specify `wsMex` for the **sharePolicyMethods** parameter.

-remove

Specifies whether the information about how the provider policy is shared is removed from the resource. (Boolean)

This parameter takes the following values:

- true** The information about how the provider policy is shared is removed from the resource.
- false** This value is the default. The information about how the provider policy is shared is not removed from the resource.

Examples

The following example removes the information about how the provider policy is shared from the WSSampleServices application:

```
AdminTask.setProviderPolicySharingInfo('[-applicationName WSSampleServices  
-resource WebService:/ -remove true]')
```

The following example enables policy sharing, using WSDL exported by a ?WSDL HTTP Get request, for the EchoService service in the WSSampleServices application:

```
AdminTask.setProviderPolicySharingInfo('[-applicationName WSSampleServices  
-resource WebService:/WSSampleServicesSei.war:{http://example_path/}EchoService  
-sharePolicyMethods [httpGet ]]')
```


The following example enables policy sharing, using a WS-MetadataExchange request with message-level security, for the WSSampleServices application. Message level security is provided by the SystemWSSecurityDefault policy set and the “Provider sample” general binding.

```
AdminTask.setProviderPolicySharingInfo('[-applicationName WSSampleServices  
-resource WebService:/ -sharePolicyMethods [wsMex ]  
-wsMexProperties [ [wsMexPolicySetName [SystemWSSecurityDefault]]  
[wsMexPolicySetBinding [Provider sample]] ]]')
```

getClientDynamicPolicyControl command:

Use the **getClientDynamicPolicyControl** command to find out whether an application that is a web service client obtains the policy configuration of a web service provider, and to list the properties that apply to obtaining that configuration.

To run the command, use the AdminTask object of the wsadmin scripting client.

 The wsadmin scripting client is run from Qshell. For more information, see the topic “Configure Qshell to run WebSphere Application Server scripts”.

This command is valid only when it is used with WebSphere Application Server Version 7 and later application servers. Do not use it with earlier versions.

For a list of the available policy set management administrative commands, plus a brief description of each command, enter the following command at the wsadmin prompt:

```
print AdminTask.help('PolicySetManagement')
```

For overview help on a given command, enter the following command at the wsadmin prompt:

```
print AdminTask.help('command_name')
```

After using the command, save your changes to the master configuration. For example, use the following command:

```
AdminConfig.save()
```

Purpose

Use the `getClientDynamicPolicyControl` command to find out how an application, or a service in an application, obtains the policy configuration of a service provider. The client can obtain the policy configuration of the provider through a Web Services Metadata Exchange (WS-MetadataExchange) request or through an HTTP GET request.

Target object

None.

Required parameters

`-applicationName`

The name of the application for which you want to find out how it obtains the policy configuration of a service provider. The application must be a service client. (String)

Optional parameters

`-resource`

The name of the resource for which you want to find out how it obtains the policy configuration of a service provider. If you specify this parameter, only the properties for that resource are returned. To retrieve information for the application, specify `WebService:/`. Alternatively, you can specify a service, a service reference, an endpoint, or an operation. (String)

For further details, see the topic [Configuring the client policy to use a service provider policy by using wsadmin scripting](#).

Return value

Returns a list of properties that include the resource name and that show how it obtains the policy configuration of a service provider. The following properties can be returned:

`httpGetTargetURI`

The target URL of the HTTP GET request. This property is returned if the value of the `acquireProviderPolicyMethod` property is `httpGet`.

`httpGetPolicySetName`

The system policy set that contains the HTTP and SSL transport policy to use for the HTTP GET request. This property is returned if the `httpGetTargetURI` property has a value.

`httpGetPolicySetBinding`

The general binding that contains the HTTP and SSL transport bindings for the HTTP GET request. This property is returned if the `httpGetTargetURI` property has a value.

`wsMexPolicySetName`

The name of the policy set that specifies message-level security when the resource shares its policy configuration through a WS-MetadataExchange request. This property is returned if the value of the `acquireProviderPolicyMethod` property is `wsMex` and a policy set to provide message-level security was specified.

`wsMexPolicySetBinding`

The name of the binding that is used when the resource shares its policy configuration through a WS-MetadataExchange request. This property is returned if the value of the `acquireProviderPolicyMethod` property is `wsMex` and a binding to provide message-level security was specified.

`acquireProviderPolicyMethod`

How the policy configuration of the provider can be obtained. Valid values for this property are:

wsMex

The resource can obtain the policy configuration of a service provider through a WS-MetadataExchange request.

HttpGet

The resource can obtain the policy configuration of a service provider through an HTTP GET request.

resource

The resource that you specified.

directSetting

How the properties apply to the resource. Valid values for this property are:

true

The properties apply directly to the resource.

false

The properties are inherited from the parent application or service.

Examples

The following example displays the properties that control how the EchoService service of the WSPolicyClient application obtains the policy configuration of a service provider. The client is configured to retrieve the provider policy through a WS-MetadataExchange request with message-level security, by using the SystemWSSecurityDefault policy set and the “Client sample” general binding.

```
AdminTask.getClientDynamicPolicyControl(['-applicationName', 'WSPolicyClient',
'-resource', 'WebService:/WSPClient.war:{http://example_path}/EchoService'])
.
.
[ [wsMexPolicySetName SystemWSSecurityDefault] [wsMexPolicySetBinding [Client sample]]
[acquireProviderPolicyMethod [wsMex]]
[resource WebService:/WSPClient.war:{http://example_path}/EchoService/]
[directSetting true] ]
```


The following example displays the properties that control how the EchoService service of the WSPolicyClient application obtains the policy configuration of a service provider when the client is configured to retrieve the provider policy through an HTTP GET request.

```
AdminTask.getClientDynamicPolicyControl(['-applicationName', 'WSPolicyClient',
'-resource', 'WebService:/WSPClient.war:{http://example_path}/EchoService'])
.
.
[ [HttpGetTargetURI http://example_path/EchoService?wsdl]
[acquireProviderPolicyMethod [HttpGet]]
[resource WebService:/WSPClient.war:{http://example_path}/EchoService/]
[directSetting true] ]
```

***setClientDynamicPolicyControl* command:**

Use the **setClientDynamicPolicyControl** command to set how an application that is a web services client obtains the policy configuration of a web services provider. You can set, refresh, or remove this information about how a provider policy is obtained.

To run the command, use the AdminTask object of the wsadmin scripting client.

 The wsadmin scripting client is run from Qshell. For more information, see the topic “Configure Qshell to run WebSphere Application Server scripts”.

This command is valid only when it is used with WebSphere Application Server Version 7 and later application servers. Do not use it with earlier versions.

For a list of the available policy set management administrative commands, plus a brief description of each command, enter the following command at the wsadmin prompt:

```
print AdminTask.help('PolicySetManagement')
```

For overview help on a given command, enter the following command at the wsadmin prompt:

```
print AdminTask.help('command_name')
```

After using the command, save your changes to the master configuration. For example, use the following command:

```
AdminConfig.save()
```

Purpose

Use the **setClientDynamicPolicyControl** command to set how a client obtains the policy configuration of a service provider.

The client can obtain the policy configuration of the provider through a Web Services Metadata Exchange (WS-MetadataExchange) request or through an HTTP GET request. The service provider must publish its policy in WS-PolicyAttachment format in its Web Services Description Language (WSDL) and the client must be able to support those provider policies.

At run time, the client uses the information to establish a policy configuration that is acceptable to both the client and the service provider.

Target object

An application or service that is a web services client.

Required parameters

-applicationName

The name of the application for which you want to obtain the policy configuration of the provider. (String)

-resource

The name of the resource for which you want to obtain the policy configuration of the provider. For all resources in an application, specify `WebService:/.` Alternatively, you can specify a service or service reference .

See the Configuring the client policy to use a service provider policy by using wsadmin scripting topic for further details.

Optional parameters

-acquireProviderPolicyMethod

Specifies how the policy configuration of the provider can be obtained. (String)

Enter one of the following values:

httpGet

Obtain the policy configuration of the provider by using an HTTP GET request.

By default, the HTTP GET request is targeted at the URL for each service endpoint followed by `?WSDL`. If you specify a service for the **resource** parameter, and you want to specify a different location for the policy configuration of the provider, you can use the **httpGetProperties** parameter to change the target of the request.

By default, the HTTP GET request uses the same HTTP and SSL transport policies as the application request. If you use the **httpGetProperties** parameter to change the target of the request, and you want to specify different HTTP and SSL transport policies for the request, you can specify the system policy set and general binding that contains the HTTP and SSL transport policies you require.

wsMex Obtain the policy configuration of the provider by using a WS-MetadataExchange request.

By default, the WS-MetadataExchange request inherits the policy set and binding configuration from the application. You can specify the system policy set and general binding that contains the WS-Security policies you require.

-wsMexProperties

Specifies that message-level security is required for WS-MetadataExchange requests and specifies the settings that provide the message-level security. (Properties)

Enter the following values, following each value with the setting that you require for that value:

wsMexPolicySetName

The name of the system policy set that specifies message-level security for a WS-MetadataExchange request. Specify a system policy set that contains only WS-Security policies, only WS-Addressing policies, or both.

wsMexPolicySetBinding

The name of the general binding for the policy set attachment for a WS-MetadataExchange request. Specify a general binding that is scoped to the global domain, or scoped to the security domain of this service. If you do not specify this property, the default binding is used.

This value is valid only when you specify the **wsMexPolicySetName** value.

This parameter is valid only when you specify **wsMex** for the **acquireProviderPolicyMethod** parameter.

-httpGetProperties

Specifies the target for acquiring provider policy by using an HTTP GET request if the provider policy is at a different location from the target endpoint. Optionally specifies the system policy set and general binding that contains the HTTP and SSL transport policies you require. (Properties)

Enter the following values, followed by the setting that you require for each value:

httpGetTargetURI

The URL for the location of the provider policy. For example, the location might refer to policy held in a registry.

httpGetPolicySetName

The name of the system policy set that contains the HTTP and SSL transport policy to use for the HTTP GET request. If the specified system policy set contains policy types other than HTTP and SSL transport, these additional policy types are ignored.

This value is valid only when you specify the **httpGetTargetURI** value.

httpGetPolicySetBinding

The name of the general binding that contains the HTTP and SSL transport bindings for the HTTP GET request. If you do not specify this property, the default binding is used.

This value is valid only when you specify the **httpGetPolicySetName** value.

This parameter is valid only when you specify **httpGet** for the **acquireProviderPolicyMethod** parameter and the resource is a service. Do not use this parameter if the resource is an application.

-remove

Specifies whether to remove the information about how the client obtains the policy configuration of the provider. (Boolean)

This parameter takes the following values:

- true** Information about how the client obtains the policy configuration of the provider is removed.
- false** This value is the default. Information about how the client obtains the policy configuration of the provider is not removed.

Examples

The following example removes the information about how the client obtains the policy configuration of the provider from the EchoService service of the WSPolicyClient client application.

```
AdminTask.setClientDynamicPolicyControl(['-applicationName WSPolicyClient
-resource WebService:/WSPolicyClient.war:{http://example_path/}EchoService
-remove true'])
```

The following example configures the EchoService service of the WSPolicyClient client application to obtain the policy configuration of the provider by using an HTTP GET request.

```
AdminTask.setClientDynamicPolicyControl(['-applicationName WSPolicyClient
-resource WebService:/WSPolicyClient.war:{http://example_path/}EchoService
-acquireProviderPolicyMethod [httpGet ]
-httpGetProperties [httpGetTargetURI http://example_path]'])
```

The following example configures the EchoService service of the WSPolicyClient client application to obtain the policy configuration of the provider by using an HTTP GET request. The request uses the HTTP and SSL transport policies contained in the SystemWSecurityDefault policy set and the “Client sample” general binding.

```
AdminTask.setClientDynamicPolicyControl(['-applicationName WSPolicyClient
-resource WebService:/WSPolicyClient.war:{http://example_path/}EchoService
-acquireProviderPolicyMethod [httpGet ]
-httpGetProperties [ [httpGetTargetURI http://example_path]
[httpGetPolicySetName SystemWSecurityDefault]
[httpGetPolicySetBinding [Client sample]] ]'])
```

The following example configures the EchoService service of the WSPolicyClient client application to obtain the policy configuration of the provider through a WS-MetadataExchange request with message-level security, by using the SystemWSecurityDefault policy set and the “Client sample” general binding.

```
AdminTask.setClientDynamicPolicyControl(['-applicationName WSPolicyClient
-resource WebService:/WSPolicyClient.war:{http://example_path/}EchoService
-acquireProviderPolicyMethod [wsMex ]
-wsMexProperties [ [wsMexPolicySetName [SystemWSecurityDefault]]
[wsMexPolicySetBinding [Client sample]] ]'])
```

Configuring secure sessions between clients and services using wsadmin scripting

Use the wsadmin tool, which supports the Jython and Jacl scripting language, to edit trust service configurations. Use the STSManagement command group for the AdminTask object to specify details related to secure sessions between clients and target services.

About this task

The trust service uses the secure messaging mechanisms of the Web Services Trust (WS-Trust) specification to define additional extensions for issuing, exchanging, and validating security tokens. Use the STSManagement command group for the AdminTask object to configure the trust service using the wsadmin tool. Complete any of the following tasks using the STSManagement commands:

Procedure

- Manage token provider configurations.

Use the wsadmin tool to manage token providers. Customize token providers by defining properties such as token type schema URI, handler factory, cache cushion time, class name, and token timeout. You can also allow or restrict the use of post-dated tokens, distributed cache, and renewable tokens after timeout.

- Query existing token provider configurations.

Use the wsadmin tool to query the existing trust service token provider configuration.

- Manage endpoint token assignments.

Use the wsadmin tool to assign, unassign, and modify endpoint token assignments.

- Refresh your configuration changes.

Use the wsadmin tool to force the trust service to reload the token provider configuration during run time. Complete this action to use new configuration changes before you restart the application server.

What to do next

Use the information center topics for managing token providers using the STSManagement group of commands and the AdminTask object.

Querying the trust service using wsadmin scripting

Use the wsadmin tool, which supports the Jython and Jacl scripting languages, to query the trust service for existing configuration settings. Use the commands in this topic to view current trust service configurations before adding, removing, or editing token provider and endpoint configurations.

About this task

Query your current token provider configurations or endpoint configurations using the STSManagement group of commands. Use the following Jython syntax command examples when writing automation scripts to retrieve configuration attributes and set the output to a variable. Pass the newly set variable to administrative commands in the STSManagement group to automate the editing of token provider and endpoint configurations.

Procedure

- Use the following command examples to query the trust service for token provider configurations.

- Determine the local name of the default token provider and set it to the *myDefaultTokenType* variable.

The following command sets the *myDefaultTokenType* variable to the local name string for the default token provider:

```
myDefaultTokenType = AdminTask.querySTSDefaultTokenType()  
print myDefaultTokenType
```

- List the local names of each configured token provider.

The following command sets the *myTokenTypes* variable to an array containing the local names of the configured token providers:

```
myTokenTypes = AdminTask.listSTSConfiguredTokenTypes()  
print myTokenTypes
```

- Display the non-custom properties for the default token provider.

The following command returns a `java.util.Properties` instance that contains the values for each non-custom property for the default token provider stored in the *myDefaultTokenType* variable.

```
AdminTask.querySTSTokenTypeConfigurationDefaultProperties(myDefaultTokenType)
```

To use this command to query a specific token provider, use the following Jython syntax:

```
AdminTask.querySTSTokenTypeConfigurationDefaultProperties("Security Context Token")
```

- Display a properties object containing all custom properties for a token provider configuration.

The following command returns a `java.util.Properties` instance that contains the values for each of the custom properties for the token provider stored in the *myDefaultTokenType* variable.

```
AdminTask.querySTSTokenTypeConfigurationCustomProperties(myDefaultTokenType)
```

To use this command to query a specific token provider, use the following Jython syntax:

```
AdminTask.querySTSTokenTypeConfigurationCustomProperties("Security Context Token")
```

- Use the following command examples to query endpoint target configurations and security constraints for endpoint targets.

- Display each uniform resource identifier (URI) for each assigned endpoint.

The following command sets the *allMyURIs* variable to an array containing the URIs for each assigned endpoint:

```
allMyURIs = AdminTask.listSTSAssignedEndpoints()  
print allMyURIs
```

- Display the token provider that is assigned to a specific endpoint URI.

The following command sets the *myTokenType* variable to the name of the token provider that is assigned to the `http://myserver.mysom.com:9080/Example` endpoint URI:

```
myTokenType = AdminTask.querySTSEndpointTokenType('http://myserver.mysom.com:9080/Example')  
print myTokenType
```

What to do next

Use the `wsadmin` tool to manage and edit token provider and endpoint configurations.

Managing existing token providers using `wsadmin` scripting

You can use the `wsadmin` tool, which supports the Jython and Jacl scripting languages, to manage the trust service. Use this topic to modify token provider configuration data, and to add custom properties.

Before you begin

You must have an existing token provider configured in the trust service.

About this task

Use the commands in the `STSMangement` group of the `AdminTask` object to modify existing configuration data.

Use the `updateSTSTokenTypeConfiguration` command to update existing properties for a specific token provider configuration. If you specify the `-distributedCache` parameter, the security context token provider generates a warning and modifies the WS-Security distributed cache configuration. Do not specify a value for the `-distributedCache` parameter for custom tokens.

This topic includes examples for modifying existing non-custom configuration data.

Procedure

1. Determine the token provider configuration to edit.

Enter the following command to view the list of names of the configured token providers:

```
AdminTask.listSTSConfiguredTokenTypes()
```

2. Review the current configuration data for the token provider configuration to edit.

Enter the following command to view a `Properties` object containing all non-custom configuration data for the `Security Context Token` token provider:

```
AdminTask.querySTSTokenTypeConfigurationDefaultProperties('Security Context Token')
```

3. Update the token provider configuration with new configuration data.

Determine which parameters to update in your configuration, using the following table as a reference:

Table 120. Command parameters. Run the `updateSTSTokenTypeConfiguration` command with parameters to update the token provider configuration.

Parameter	Data type
LocalName Specifies the unique token provider name as the target object of the command.	String, required
-HandlerFactory Specifies the configuration class name, including package information.	String, required
-URI Specifies the unique token type schema URI.	String, required
-lifetimeMinutes Specifies the amount of time, in minutes, that the token is valid.	Integer, optional Default: 120 (minutes) Minimum: 10 (minutes)
-renewalWindowMinutes Specifies the amount of time after the token expires during which the token can be renewed.	Integer, optional Default: 120 (minutes) Minimum: 10 (minutes)
-postdatable Set to <code>true</code> to specify that tokens of the token provider are valid at a later time. Tokens can be created with or without a future start time.	Boolean, optional Default: <code>false</code>
-distributedCache (deprecated) Set to <code>true</code> to enable distributed cache. If you specify the <code>-distributedCache</code> parameter, the security context token provider generates a warning and modifies the WS-Security distributed cache configuration. Do not specify a value for the <code>-distributedCache</code> parameter for custom tokens.	Boolean, optional Default: <code>false</code>
-renewableAfterExpiration Set to <code>true</code> to specify that tokens of the token provider are renewable after expiration.	Boolean, optional Default: <code>false</code>
-tokenCacheFactory (deprecated) Specifies the fully qualified class name for the token provider. The secure conversation token handler class does not recognize this parameter.	String, optional Default: <code>com.ibm.ws.wssecurity.platform.websphere.trust.server.sts.ext.cache.STSTokenCacheFactoryImpl</code>

Use the **updateSTSTokenTypeConfiguration** command to update the configuration data for the Security Context Token token provider. The following example changes the time that the token is valid from 60 minutes to 100 minutes, disables token renewal after expiration, and enables distributed caching:

```
AdminTask.updateSTSTokenTypeConfiguration('Security Context Token', '[-lifetimeMinutes 100
-renewableAfterExpiration false -distributedCache true]')
```

The command returns a message indicating the success or failure of the operation.

4. Save your configuration changes.

Use the following command to save your changes:

```
AdminConfig.save()
```

5. Reload the modified configuration changes.

Use the following command to force the trust service to reload your modified configuration without restarting the application server:

```
AdminTask.refreshSTS()
```

Adding and removing token provider custom properties using wsadmin scripting

Use the `wsadmin` tool, which supports the Jython and Jacl scripting languages, to administer the trust service. Use this topic to set internal system configuration properties for your token provider configuration by adding or removing custom properties.

Before you begin

You must have an existing token provider configured for the trust service.

About this task

Use custom properties to set internal system configuration properties and specify these properties using the `customProperties` parameter. Custom properties are arbitrary name and value pairs of data, where the name can be a property key or a class implementation, and where the value might be a string or Boolean value. Use this topic and the commands in the `STSTokenTypeConfiguration` group for the `AdminTask` object to add or remove custom properties from your configuration with the Jython scripting language.

Procedure

- Add new custom properties to a specific token provider configuration.

Use the **updateSTSTokenTypeConfiguration** command to add or update custom properties to your token provider configuration. Do not use the **updateSTSTokenTypeConfiguration** command to remove custom properties. If you specify the `-distributedCache` parameter, the security context token provider generates a warning and modifies the WS-Security distributed cache configuration. Do not specify a value for the `-distributedCache` parameter for custom tokens.

1. Launch a scripting command. To learn more, see the starting the `wsadmin` scripting client information.
2. Determine the token provider configuration to edit.

Enter the following command to view a list of the names for each configured token provider:

```
AdminTask.listSTSTokenTypes()
```

3. Review the configured custom properties for the token provider of interest.

Enter the following command to view a properties object containing custom configuration data for the *Security Context Token* token provider:

```
AdminTask.querySTSTokenTypeConfigurationCustomProperties('Security Context Token')
```

4. Add custom properties to the token provider configuration.

Use the **updateSTSTokenTypeConfiguration** command to add the configuration data for the *Security Context Token* token provider. Use the following example to add the `com.ibm.ws.security.webChallengeIfCustomSubjectNotFound` custom property with a value of `false` and the `com.ibm.ws.security.defaultLoginConfig` custom property with a value of `system.DEFAULT` to the configuration:

```
AdminTask.updateSTSTokenTypeConfiguration('Security Context Token', '[-customProperties [[com.ibm.ws.security.webChallengeIfCustomSubjectNotFound false] [com.ibm.ws.security.defaultLoginConfig system.DEFAULT]] ]')
```

The command returns a message indicating the success or failure of the operation.

5. Save your configuration changes.

Use the following command to save your changes:

```
AdminConfig.save()
```

6. Reload the modified configuration changes.

Use the following command to force the trust service to reload your modified configuration without restarting the application server.

```
AdminTask.refreshSTS()
```

- Edit custom properties for a specific token provider configuration.

1. View configured custom properties for the token provider of interest.

Enter the following command to view a properties object containing custom configuration data for the *Security Context Token* token provider:

```
AdminTask.querySTSTokenTypeConfigurationCustomProperties('Security Context Token')
```

2. Modify the configuration data for the token provider of interest.

Use the **updateSTSTokenTypeConfiguration** command to modify the existing configuration data for the *Security Context Token* token provider. This example specifies that the *Security Context Token* token provider configuration includes the `com.ibm.ws.security.webChallengeIfCustomSubjectNotFound` custom property with a value of `false` and the `com.ibm.ws.security.defaultLoginConfig` custom property with a value of `system.DEFAULT`. Use the following command to change the value of the `com.ibm.ws.security.defaultLoginConfig` custom property from `system.DEFAULT` to `system.CUSTOM`, and does not change any other configured custom properties:

```
AdminTask.updateSTSTokenTypeConfiguration('Security Context Token', '[-customProperties [[com.ibm.ws.security.defaultLoginConfig system.CUSTOM]]]')
```

The command returns a message indicating the success or failure of the operation.

3. Save your configuration changes.

Use the following command to save your changes:

```
AdminConfig.save()
```

4. Reload the modified configuration changes.

Use the following command to force the trust service to reload your modified configuration without restarting the application server:

```
AdminTask.refreshSTS()
```

- Remove custom properties from token provider configurations.

1. View configured custom properties for the token provider of interest.

Enter the following command to view a properties object containing custom configuration data for the *Security Context Token* token provider:

```
AdminTask.querySTSTokenTypeConfigurationCustomProperties('Security Context Token')
```

2. Delete the custom property from the token provider configuration.

Use the **deleteSTSTokenTypeConfigurationCustomProperties** command to delete custom properties from your configuration. Specify the names of the custom properties to remove using the `propertyNames` parameter. If the specified name does not exist in the configuration, no configuration changes are made. The following command removes the `com.ibm.ws.security.webChallengeIfCustomSubjectNotFound` and `com.ibm.ws.security.defaultLoginConfig` custom properties from the *Security Context Token* token provider configuration:

```
AdminTask.deleteSTSTokenTypeConfigurationCustomProperties('Security Context Token', '[-propertyNames com.ibm.ws.security.webChallengeIfCustomSubjectNotFound com.ibm.ws.security.defaultLoginConfig]')
```

The command returns a message indicating the success or failure of the operation.

3. Save your configuration changes.

Use the following command to save your changes:

```
AdminConfig.save()
```

4. Reload the modified configuration changes.

Use the following command to force the trust service to reload your modified configuration without restarting the service:

```
AdminTask.refreshSTS()
```

Associating token providers with endpoint services (targets) using wsadmin scripting

You can use the `wsadmin` tool, which supports the Jython and Jacl scripting languages, to manage the association of endpoints and tokens. Use this topic to query, assign, and unassign the association of a token provider with an endpoint Uniform Resource Identifier (URI).

Before you begin

Before you can assign and manage endpoint configurations, at least one token provider configuration and a web service must exist.

About this task

Use the STSManagement group of commands to specify a custom service endpoint Uniform Resource Identifier (URI) and to assign and unassign the association of trust service token providers with endpoint configurations. Complete the steps in this topic to query the trust service for the existing endpoint configuration, associate the default token with an endpoint, and unassociate a token from an endpoint. You can perform these steps in any order.

Procedure

- Associate a token with a specific endpoint.

1. View a list of all endpoint URIs that are currently associated with a token provider.

Before invoking changes on your endpoint configurations, use the following `listSTSAssignedEndpoints` command to examine your current settings:

```
AdminTask.listSTSAssignedEndpoints()
```

If the endpoint of interest is currently associated with a token, do not use the `assignSTSEndpointTokenType` command. To update the token that is associated with the endpoint, use the `updateSTSEndpointTokenType` command in the next step.

2. Associate a token with an endpoint.

Use the `assignSTSEndpointTokenType` command to specify the token to issue for access to a specific endpoint. You do not need to specify the name of the token provider to assign if the token provider is set as the default configuration. For example, the following command assigns the Security Context Token default token to the `http://www.mycompany.com:8080/Ecommerce/Catalog` endpoint URI:

```
AdminTask.assignSTSEndpointTokenType('http://www.mycompany.com:8080/Ecommerce/Catalog')
```

If Security Context Token is not the default token provider, use the following command:

```
AdminTask.assignSTSEndpointTokenType('http://www.mycompany.com:8080/Ecommerce/Catalog',  
'-LocalName Security Context Token')
```

The command returns a message indicating the success of the operation.

3. Save your configuration changes.

Use the following command to save your changes:

```
AdminConfig.save()
```

4. Reload the modified configuration changes.

Use the following command to force the trust service to reload your modified configuration without restarting the application server:

```
AdminTask.refreshSTS()
```

- Disassociate a token from an endpoint.

1. Examine the current endpoint configuration.

Use the `listSTSAssignedEndpoints` to view a list of each endpoint URI with assigned token providers, as the following example describes:

```
AdminTask.listSTSAssignedEndpoints()
```

The following sample output is displayed:

```
'http://www.mycompany.com:8080/Ecommerce/Catalog'
```

2. Choose the endpoint to edit.

Use the `querySTSEndpointTokenType` to return the token provider associated with the endpoint of interest. Enter the following command to view the token provider associated with the `http://www.mycompany.com:8080/Ecommerce/Catalog` endpoint URI:

```
AdminTask.querySTSEndpointTokenType('http://www.mycompany.com:8080/Ecommerce/Catalog')
```

The following sample output is displayed:

```
'Security Context Token'
```

3. Disassociate the token type from the endpoint.

Use the **`unassignSTSEndpointTokenType`** command to disassociate the token provider and endpoint configuration. The following command removes the Security Context Token token provider that is associated with the `http://www.mycompany.com:8080/Ecommerce/Catalog` endpoint URI:

```
AdminTask.unassignSTSEndpointTokenType('http://www.mycompany.com:8080/Ecommerce/Catalog',  
'-LocalName Security Context Token')
```

The command returns a message indicating the success of the operation.

4. Save your configuration changes.

Use the following command to save your changes:

```
AdminConfig.save()
```

5. Reload the modified configuration changes.

Use the following command to force the trust service to reload your modified configuration without restarting the service:

```
AdminTask.refreshSTS()
```

STSMangement command group for the AdminTask object

You can use the Jython or Jacl scripting languages to configure security with the `wsadmin` tool. The commands and parameters in the STSMangement group can be used to manage and query trust service token provider configurations and endpoint configurations.

The STSMangement command group contains commands that allow you to configure existing token providers, assign token providers to endpoints, and modify general trust service configuration data. The commands in this group that perform configuration changes require that you execute the `save` command to commit the changes. No configuration changes are made if an exception is created when executing a command.

Use the following commands to modify and query token provider configurations:

- “`createSTSTokenTypeConfiguration`” on page 706
- “`deleteSTSTokenTypeConfigurationCustomProperties`” on page 707
- “`listSTSTokenTypeConfigurations`” on page 707
- “`querySTSTokenTypeConfigurationDefaultProperties`” on page 708
- “`querySTSTokenTypeConfigurationCustomProperties`” on page 709
- “`setSTSTokenTypeConfigurationDefaultProperties`” on page 709
- “`updateSTSTokenTypeConfiguration`” on page 710
- “`removeSTSTokenTypeConfiguration`” on page 711

Use the following commands to assign, unassign, and query endpoint configurations:

- “`assignSTSEndpointTokenType`” on page 712
- “`listSTSEndpointTokenTypes`” on page 712
- “`listSTSEndpointTokenTypes`” on page 713
- “`unassignSTSEndpointTokenType`” on page 713

- “updateSTSEndpointTokenType ” on page 714

Use the following commands to add, edit, delete, and list properties of the trust service:

- “addSTSPProperty” on page 715
- “deleteSTSPProperty” on page 715
- “editSTSPProperty” on page 716
- “listSTSPProperties” on page 716

Use the following command to force the trust service to reload your modified configuration without restarting the application server:

- “refreshSTS ” on page 717

createSTSTokenTypeConfiguration

The createSTSTokenTypeConfiguration command is used to create a token provider configuration.

Target object

Specify the LocalName object, which is used as an identifier for the various configurations. The value for the LocalName object must be unique.

Required parameters

-URI

The URI of the token provider. This value must be unique across all configuration token type URIs. (String, required)

-HandlerFactory

Provide the fully qualified class name of an implementation of the org.eclipse.higgins.sts.IObjectFactory interface. (String, required)

Optional parameters

-lifetimeMinutes

Specifies the maximum lifetime to assign to an issued token provider. The default value is 120 minutes. (Integer, optional)

-distributedCache

Specifies whether to enable or disable distributed cache. Specify true to enable distributed cache capability. The default value is false. If you specify this option, the security context token provider generates a warning and modifies the WS-Security distributed cache configuration. Do not specify a value for this parameter for custom tokens. (Boolean, optional)

-tokenCacheFactory

Specifies the fully qualified class name for the token provider. The secure conversation token handler class does not recognize this parameter. (String, optional).

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.createSTSTokenTypeConfiguration('myTokenType', '[-HandlerFactory  
test.ibm.samples.myTokenType -URI http://ibm.com/tokens/schema/myTokenType]')
```

- Using Jython list:

```
AdminTask.createSTSTokenTypeConfiguration('myTokenType', ['-HandlerFactory',
'test.ibm.samples.myTokenType', '-URI', 'http://ibm.com/tokens/schema/myTokenType'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.createSTSTokenTypeConfiguration('-interactive')
```

deleteSTSTokenTypeConfigurationCustomProperties

The `deleteSTSTokenTypeConfigurationCustomProperties` command is used to remove custom properties from a token provider configuration.

Target object

Specify the `LocalName` object of the token provider of interest.

Required parameters

None

Optional parameters

-propertyNames

Specify the names of the custom properties to delete from the configuration. If any of the specified properties do not exist in your configuration, you will receive an error message. (String[], optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.deleteSTSTokenTypeConfigurationCustomProperties('myTokenType', ['-propertyNames
com.ibm.ws.security.webChallengeIfCustomSubjectNotFound com.ibm.ws.security.defaultLoginConfig'])
```

- Using Jython list:

```
AdminTask.deleteSTSTokenTypeConfigurationCustomProperties('myTokenType', ['-propertyNames',
'com.ibm.ws.security.webChallengeIfCustomSubjectNotFound com.ibm.ws.security.defaultLoginConfig'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteSTSTokenTypeConfigurationCustomProperties('-interactive')
```

listSTSConfiguredTokenTypes

The `listSTSConfiguredTokenTypes` command is used to list the local names of all configured token providers.

Target object

None

Required parameters

None

Optional parameters

None

Return value

The command returns the local names of all configured token providers.

Batch mode example usage

- Using Jython:

```
AdminTask.listSTSConfiguredTokenTypes()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listSTSConfiguredTokenTypes('-interactive')
```

querySTSDefaultTokenType

The querySTSDefaultTokenType command is used to determine the local name of the default token provider.

Target object

None

Required parameters

None

Optional parameters

None

Return value

The command returns the local name of the default token provider.

Batch mode example usage

- Using Jython:

```
AdminTask.querySTSDefaultTokenType()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.querySTSDefaultTokenType('-interactive')
```

querySTSTokenTypeConfigurationDefaultProperties

The querySTSTokenTypeConfigurationDefaultProperties command is used to query the trust service for the non-custom properties of a token provider.

Target object

Specify the LocalName object of the token provider to query.

Required parameters

None

Optional parameters

None

Return value

The command returns a `java.util.Properties` instance which contains the values of the non-custom properties. Non-custom properties include `URI`, `HandlerFactory`, `lifetimeMinutes`, `distributedCache`, `postdatable`, `renewableAfterExpiration`, and `renewalWindowMinutes`.

Batch mode example usage

- Using Jython:

```
AdminTask.querySTSTokenTypeConfigurationDefaultProperties('TokenType2')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.querySTSTokenTypeConfigurationDefaultProperties('-interactive')
```

querySTSTokenTypeConfigurationCustomProperties

The `querySTSTokenTypeConfigurationCustomProperties` command is used to query the trust service.

Target object

Specify the `LocalName` object of the token provider of interest.

Required parameters

None

Optional parameters

None

Return value

The command returns a `java.util.Properties` instance containing the values of the custom properties.

Batch mode example usage

- Using Jython:

```
AdminTask.querySTSTokenTypeConfigurationCustomProperties('TokenType2')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.querySTSTokenTypeConfigurationCustomProperties('-interactive')
```

setSTSDefaultTokenType

The `setSTSDefaultTokenType` command is used to set the default token provider for the trust service.

Target object

Specify the `LocalName` object of the token provider as default.

Required parameters

None

Optional parameters

None

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython:

```
AdminTask.setSTSTokenType('TokenType2')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.setSTSTokenType('-interactive')
```

updateSTSTokenTypeConfiguration

The `updateSTSTokenTypeConfiguration` command is used to update configuration data for a token provider. All parameters are optional. The parameters that are specified are updated in the configuration if the property already exists. If the property does not exist, it is added to the configuration. To remove custom properties, use the `deleteSTSTokenTypeConfigurationCustomProperties` command.

Target object

Specify the `LocalName` object of the token provider of interest.

Required parameters

None

Optional parameters

-URI

The URI of the token provider. This value must be unique across all configuration token type URIs. (String, optional)

-HandlerFactory

Provide the fully qualified class name of an implementation of the `org.eclipse.higgins.sts.utilities.IObjectFactory` interface. (String, optional)

-lifetimeMinutes

The maximum lifetime to assign to an issued token provider. The default value is 120 minutes. (Integer, optional)

-distributedCache

Specifies whether to enable or disable distributed cache. Specify `true` to enable distributed cache capability. The default value is `false`. If you specify this option, the security context token provider generates a warning and modifies the WS-Security distributed cache configuration. Do not specify a value for this parameter for custom tokens. (Boolean, optional)

-postdatable

Set the value of this parameter to `true` to allow tokens of this token provider to be valid starting at a future time. The default value is `false`. (Boolean, optional)

-renewableAfterExpiration

Set the value of this parameter to `true` to allow tokens of this token provider to be renewable after expiration. The default value is `false`. (Boolean, optional)

-renewableWindowMinutes

Provide the number of minutes after a token has expired that a token of this token provider can be renewed. If this specified time has elapsed after expiration, then the token will no longer be available for renewal. The default value is 120 minutes. (Integer, optional)

-tokenCacheFactory

Specifies the fully qualified class name for the token provider. The secure conversation token handler class does not recognize this parameter. (String, optional).

-customProperties

Provide any additional custom properties. (`java.util.Properties`, optional).

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.updateSTSTokenTypeConfiguration('myTokenType', ['-lifetimeMinutes 100  
-renewableAfterExpiration false -distributedCache true'])
```

- Using Jython list:

```
AdminTask.updateSTSTokenTypeConfiguration('myTokenType', ['-lifetimeMinutes', '100', '  
-renewableAfterExpiration', 'false', '-distributedCache', 'true'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.updateSTSTokenTypeConfiguration('-interactive')
```

removeSTSTokenTypeConfiguration

The `removeSTSTokenTypeConfiguration` command removes a token provider configuration.

Target object

Specify the `LocalName` object of the token provider of interest.

Required parameters

None

Optional parameters

None

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython:

```
AdminTask.removeSTSTokenTypeConfiguration('myTokenType')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.removeSTSTokenTypeConfiguration ('-interactive')
```

assignSTSEndpointTokenType

The assignSTSEndpointTokenType command is used to give a token provider when a specific endpoint is accessed.

Target object

Specify the endpointURI object of the endpoint to assign a given token provider. If the specified endpoint has already been assigned a token provider, you will receive an error message.

Required parameters

None

Optional parameters

-LocalName

Specify the local name of the token provider to assign to the specified endpoint. If the token provider configuration does not exist, you will receive an error message. If this parameter is not specified, the default token provider is used. (String, optional)

-issuer

Specify the URI of the issuer that specifies the token provider to issue. This value can be null. (String, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.assignSTSEndpointTokenType('www.ibm.tokenService/Ecommerce/', ['-LocalName', 'tokenType1'])
```

- Using Jython list:

```
AdminTask.assignSTSEndpointTokenType('www.ibm.tokenService/Ecommerce/', ['-LocalName', 'tokenType1'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.assignSTSEndpointTokenType ('-interactive')
```

listSTSAssignedEndpoints

The listSTSAssignedEndpoints command is used to list the URIs of assigned endpoints.

Target object

None

Required parameters

None

Optional parameters

None

Return value

The command returns the URIs of all assigned endpoints.

Batch mode example usage

- Using Jython:

```
AdminTask.listSTSAssignedEndpoints()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listSTSAssignedEndpoints ('-interactive')
```

listSTSEndpointTokenTypes

The `listSTSEndpointTokenTypes` command is used to query the Trust Service for the token provider assigned to a specific endpoint.

Target object

Specify the `endpointURI` object of the endpoint to query. An exception is raised if the specified endpoint has not been assigned a token provider.

Required parameters

None

Optional parameters

None

Return value

The command returns the local name of the token provider assigned to the specified endpoint.

Batch mode example usage

- Using Jython:

```
AdminTask.listSTSEndpointTokenTypes()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listSTSEndpointTokenTypes ('-interactive')
```

unassignSTSEndpointTokenType

The `unassignSTSEndpointTokenType` command is used to unassign an endpoint from its token provider.

Target object

Specify the `endpointURI` object of the endpoint to unassign from a given token provider. An exception is raised if the specified endpoint has not been assigned a token provider.

Required parameters

-LocalName

Specify the local name of the token provider configuration to unassign from the specified endpoint. (String, required)

Optional parameters

-issuer

Specify the URI of the issuer in the token provider assignment to remove. (String, optional)

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.unassignSTSEndpointTokenType('www.ibm.tokenservice/Ecommerce/', ['-LocalName', 'tokenType2'])
```

- Using Jython list:

```
AdminTask.unassignSTSEndpointTokenType('www.ibm.tokenservice/Ecommerce/', ['-LocalName', 'tokenType2'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.unassignSTSEndpointTokenType ('-interactive')
```

updateSTSEndpointTokenType

The updateSTSEndpointTokenType command is used to assign a different token provider to a specified endpoint.

Target object

Specify the endpointURI object of the endpoint to update. An exception is raised if the specified endpoint has not been assigned a token provider.

Required parameters

-LocalName

Specify the local name of the token provider to assign to the specified endpoint. If the token provider configuration does not exist, you will receive an error message. If this parameter is not specified, the default token provider is used. (String, optional)

Optional parameters

None

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.updateSTSEndpointTokenType('www.ibm.tokenservice/Ecommerce/', ['-LocalName', 'tokenType2'])
```

- Using Jython list:

```
AdminTask.updateSTSEndpointTokenType('www.ibm.tokenservice/Ecommerce/', ['-LocalName', 'tokenType2'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.updateSTSEndpointTokenType('-interactive')
```

addSTSPROPERTY

The addSTSPROPERTY command adds a new property for the trust service.

Target object

Specify a unique name for the new property (string, required).

Required parameters

-propertyValue

Specifies the value of the property to add. (String, required)

Optional parameters

None

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.addSTSPROPERTY('pluginSCTVersion', '[-propertyValue 2.0]')
```

- Using Jython list:

```
AdminTask.addSTSPROPERTY('pluginSCTVersion', ['-propertyValue', '2.0'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.addSTSPROPERTY('-interactive')
```

deleteSTSPROPERTY

The deleteSTSPROPERTY command deletes an existing property from the trust service.

Target object

Specify the name of the property to delete.

Required parameters

None

Optional parameters

None

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython:

```
AdminTask.deleteSTSPROPERTY('pluginSCTVersion')
```

Interactive mode example usage

- Using Jython:

```
AdminTask.deleteSTSPROPERTY('-interactive')
```

editSTSPROPERTY

The editSTSPROPERTY command modifies an existing property for the trust service.

Target object

Specify the name of the property to edit. (String, required)

Required parameters

-propertyValue

Specifies the new value for the property of interest. (String, required)

Optional parameters

None

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython string:

```
AdminTask.editSTSPROPERTY('pluginSCTVersion', ['-propertyValue 2.1'])
```

- Using Jython list:

```
AdminTask.editSTSPROPERTY('pluginSCTVersion', ['-propertyValue', '2.1'])
```

Interactive mode example usage

- Using Jython:

```
AdminTask.editSTSPROPERTY('-interactive')
```

listSTSPROPERTIES

The listSTSPROPERTIES command lists all existing properties and their corresponding values for the trust service.

Target object

None

Required parameters

None

Optional parameters

None

Return value

The command returns a `java.util.Properties` instance that contains the names and values of the properties.

Batch mode example usage

- Using Jython:

```
AdminTask.listSTSProperties()
```

Interactive mode example usage

- Using Jython:

```
AdminTask.listSTSProperties('-interactive')
```

refreshSTS

The `refreshSTS` command refreshes your trust service configuration changes without restarting the application server.

Target object

None

Required parameters

None

Optional parameters

None

Return value

The command returns a success or failure message.

Batch mode example usage

- Using Jython:

```
AdminTask.refreshSTS()
```

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