ASF 3.4
Document Connect for ASF

Installation on z/OS Server
Using WebSphere Application Server V6.0

Edition: 1.1

02 June 2008

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1 Table of Contents

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2 Prerequisites

1 Ensure that WebSphere Application Server (WAS) V6.0 has been installed, is operational, and has been started.

Note: The installation path is assumed to be
/local/WebSphere/V6R0

2 Ensure that IBM HTTP Server (Version 6.0 or later) has been installed, is operational, and has been started. Ensure that the WebSphere Application Server "Plug-in" has been installed.

3 Connections to the host:

3.1 Ensure that, when using IMS Connect, the Resource Adapter "IMS Connector 9.10.x" rar file has been deployed within WebSphere.
For more information see:
http://www-306.ibm.com/software/data/ims/ims/components/1conjav125.html

3.2 Ensure that, when using WebSphere MQ to connect to IMS, MQ for z/OS has been installed on the host, the input and output queue are available and the input queue is connected to IMS via the storage class.

3.3 Ensure that, when using CICS Transaction Gateway, the Resource Adapter "CICS ECI Resource Adapter 6.0.x" rar file has been deployed within WebSphere. This file is part of the CICS Transaction Gateway or can be downloaded from the following page:
http://www-1.ibm.com/support/docview.wss?uid=swg24008817

3.4 Ensure that, when using WebSphere MQ to connect to CICS, MQ for z/OS has been installed on the host, the input and output queue are available (on the host) and the input queue is connected to CICS via an initiation queue.

3.5 Ensure that, when using DB2 native, the DB2 Universal JDBC Driver Provider that comes with WebSphere is operational.
The DB2 Universal JDBC Provider can be downloaded from the following page:
http://www-306.ibm.com/software/data/db2/support/db2_9

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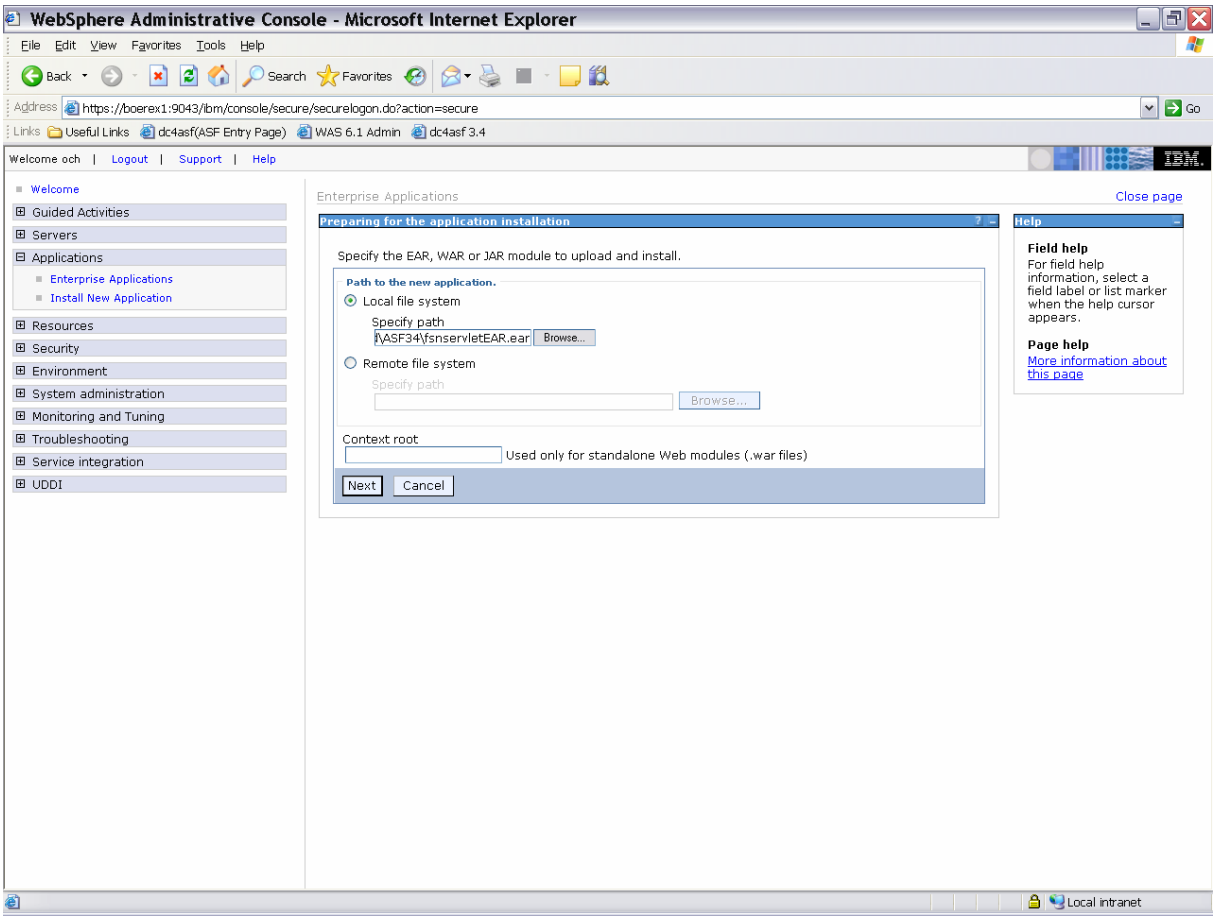
3 Installing the application

Preparing the application installation

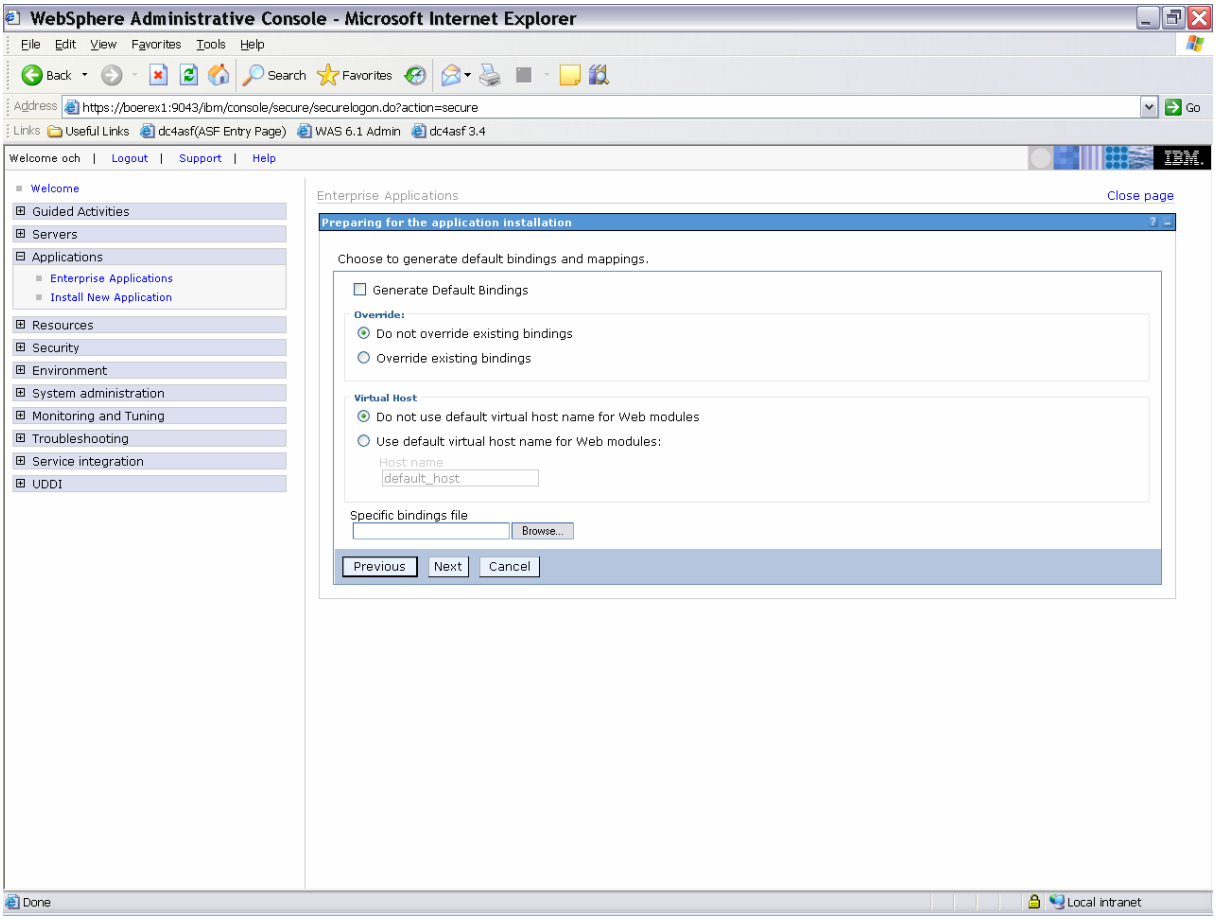
Open Application > Install New Application

Enter the path (local path or server path) where the ASF 3.4 ear (fsnservlet.ear) file is located:

E:/Programs/IBM/ASF34/fsnservlet.ear



Select Next. The file “fsnservlet.ear” is now loaded on the server.


WebSphere Administrative Console - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address https://boerex1:9043/ibm/console/secure/securelogon.do?action=secure
Go
Links Useful Links dc4asf(ASF Entry Page) WAS 6.1 Admin dc4asf 3.4
Welcome och | Logout | Support | Help
IBM
Welcome
Guided Activities
Servers
Applications
Enterprise Applications
Install New Application
Resources
Security
Environment
System administration
Monitoring and Tuning
Troubleshooting
Service integration
UDDI
Enterprise Applications
Close page
Preparing for the application installation
Choose to generate default bindings and mappings.
Generate Default Bindings
Override:
Do not override existing bindings
Override existing bindings
Virtual Host
Do not use default virtual host name for Web modules
Use default virtual host name for Web modules:
Host name
default_host
Specific bindings file
Browse...
Previous
Next
Cancel
Done
Local intranet

Click Next.

Installing a new application (Step 1)

Fill in the required fields (installation directory, application name, class reloading).

Directory to install application:

If you do not enter an installation directory, WAS will install the application under the default directory:

APP_INSTALL_ROOT/xxxxx/fsnservlet.ear

Where:

- APP_INSTALL_ROOT is a path map variable which, for example, is set to:

  /local/WebSphere/V6R0/AppServer/profile/default/installedApps/

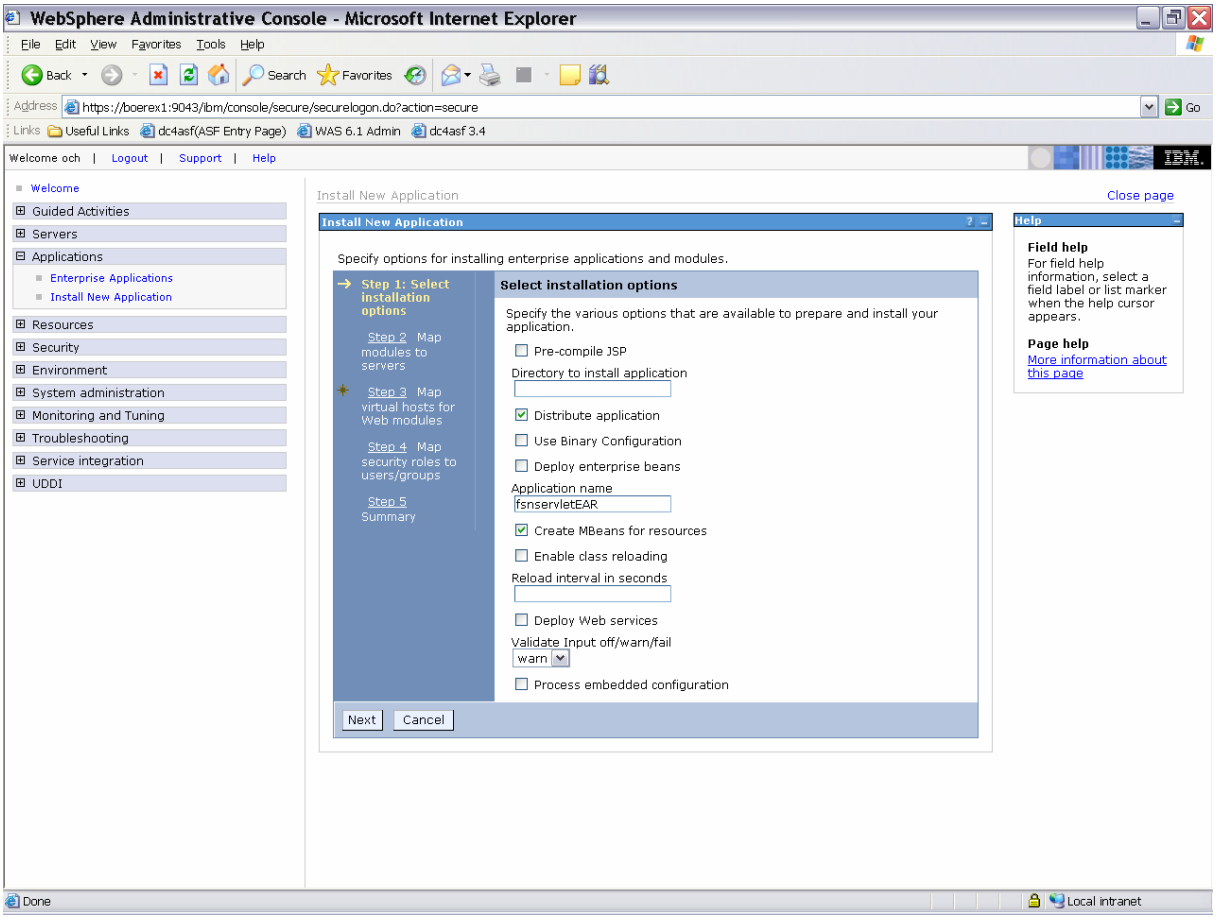
- 'xxxxx' is the cell name
- 'fsnservlet' is the application name.

Application Name:

Specify a unique name, for example 'fsnservletEAR'.

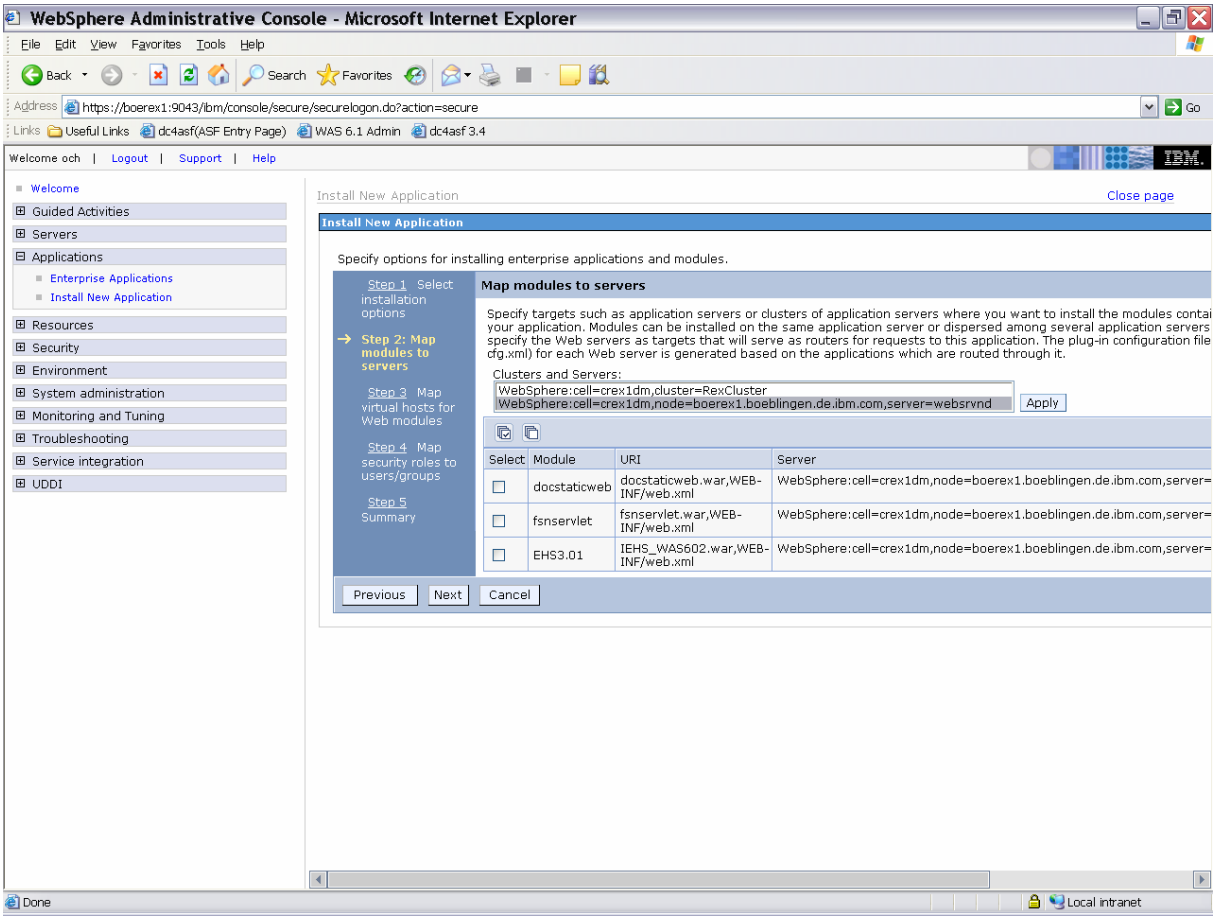
Class Reloading:

Do not enable class reloading.



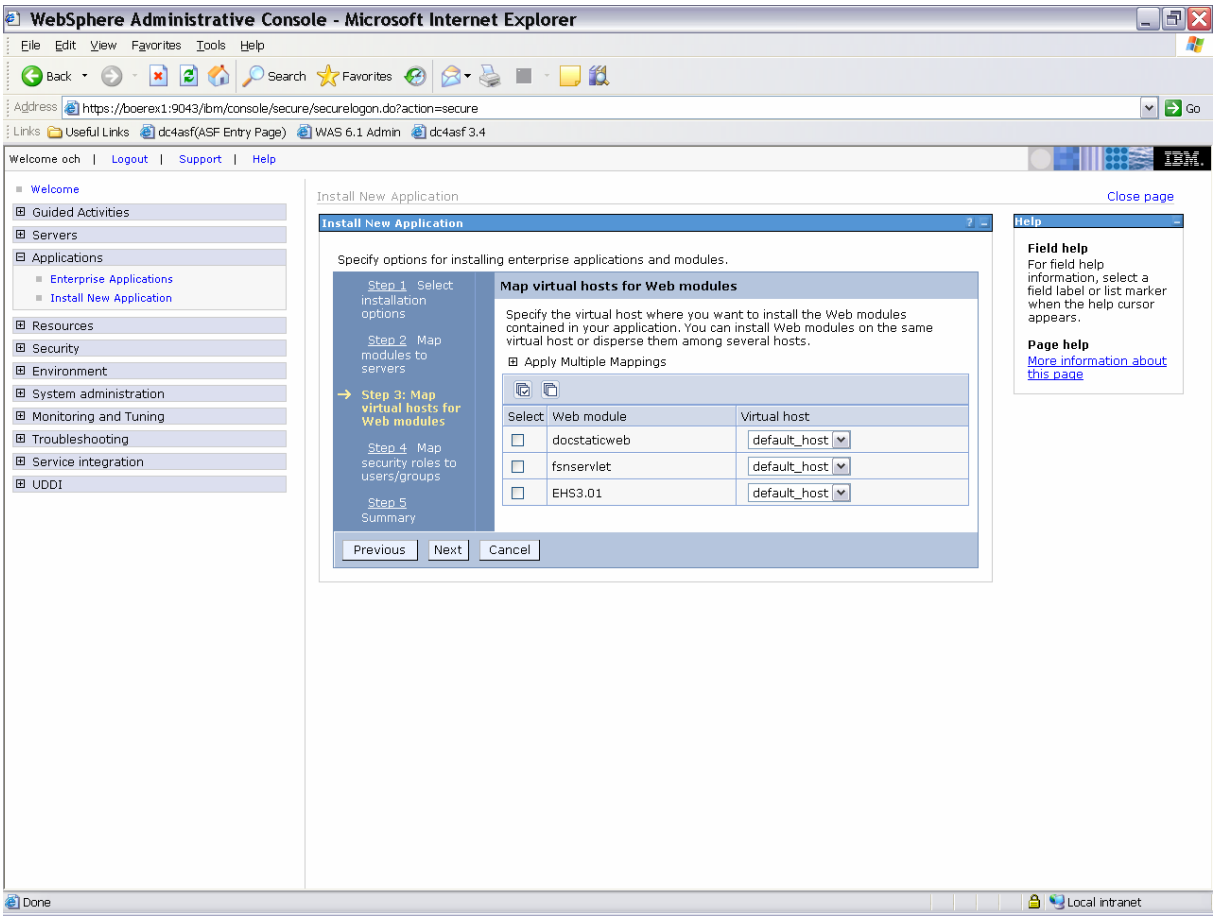
Click Next to finish Step 1 and go to Step 2.

Installing a new application (Step 2)



No updates are required for Step 2. Click Next to finish Step 2 and go to Step 3.

Installing a new application (Step 3)



No updates are required for Step 3. Click Next to finish Step 3 and go to Step 4.

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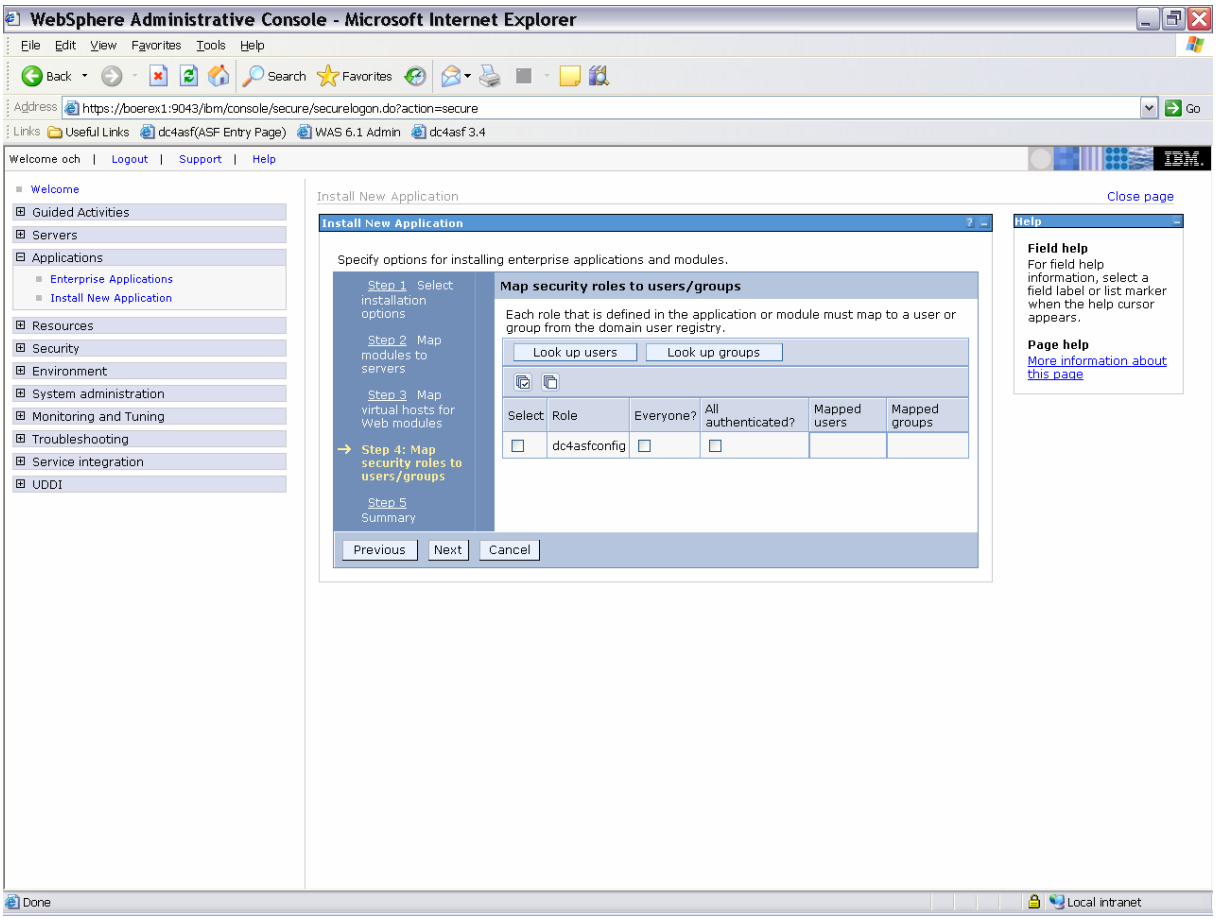
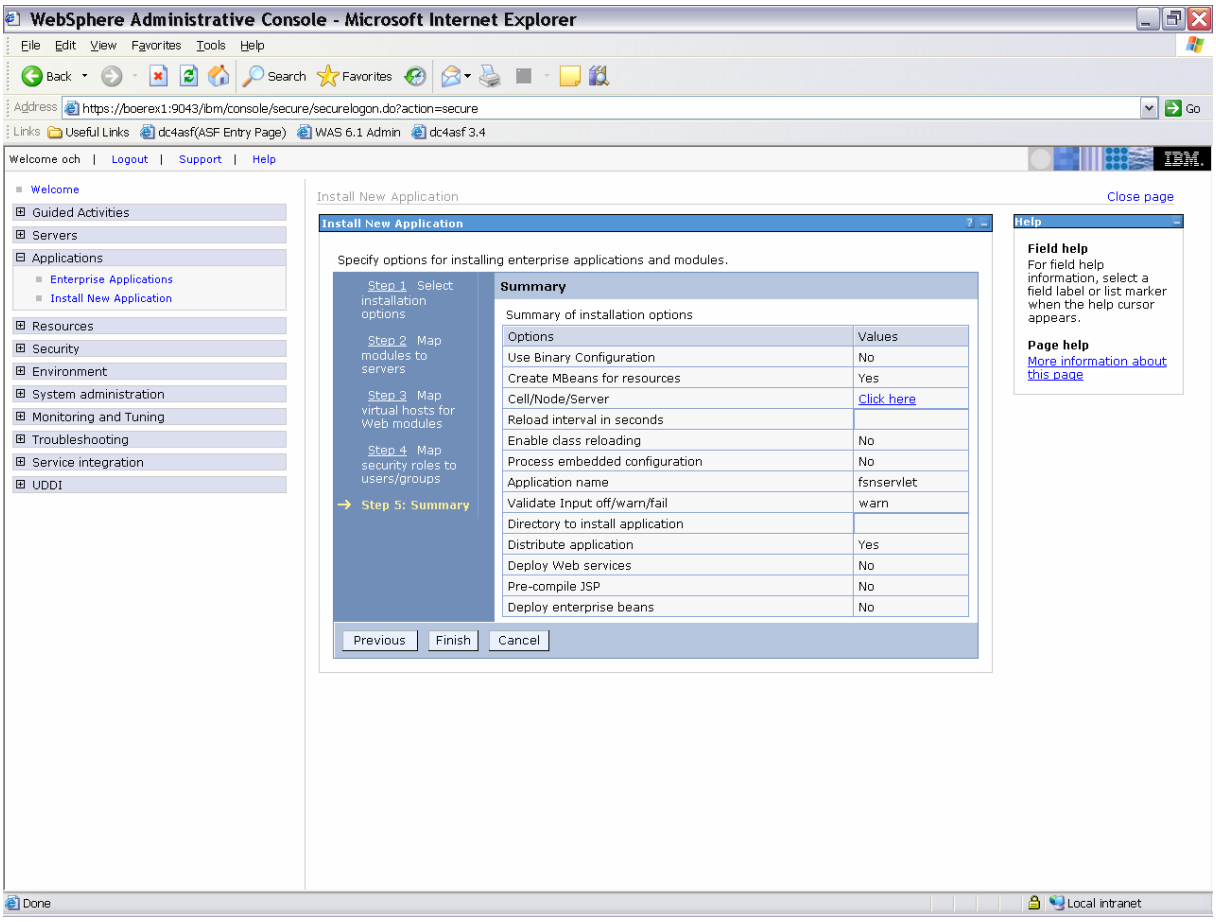
Installing a new application (Step 4)



No updates are required for Step 4. Click Next to finish Step 4 and go to Step 5.

Installing a new application (Step 5)



Check the settings on this page and click Finish to start the installation of your application. When the installation of the application is completed, the settings are saved in the master configuration.

Starting the application

Open Applications > Enterprise Application, select your fsnservletEAR application and click Start to start the application.

4 Migrating configuration files from 3.3 to 3.4

The configuration files are located in the following directory:

APP_INSTALL_ROOT/xxxxx/fsnservlet.ear/fsnservlet.war/

Where:

- APP_INSTALL_ROOT is a file path variable which, for example, is set to:

  /local/WebSphere/V6R0/AppServer/profile/default/installedApps/

- 'xxxxx' is the cell name
- 'fsnservlet' is the application name.

If you changed any of the following configuration files for ASF 3.3, you must copy these files to the installed ASF 3.4 directory:

- DocXSLConversion.xml (…/internals/config)
- doccustomer.js (…/custom)
- doccustom.css (…/custom)
- doccustom1.xsl (…/custom)
- doccustom2.xsl (…/custom)
- docnls.js (…/javascript)

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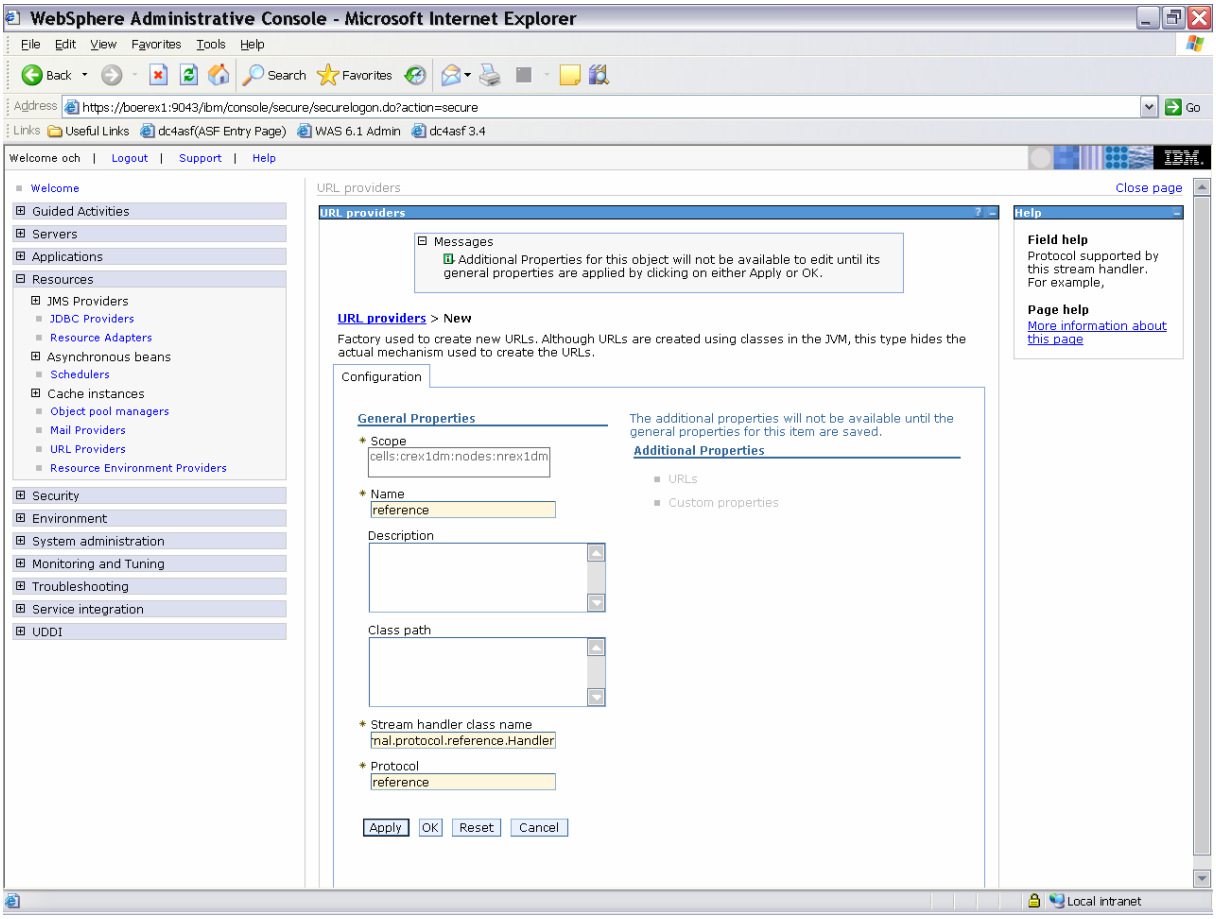
5 Activating the ASF Help

The ASF help application is based on the eclipse help system for WebSphere Application server and requires a URL provider setup.

Open Resources > URL Providers > New

Fill in the required fields (Name, Stream handler class name, Protocol):

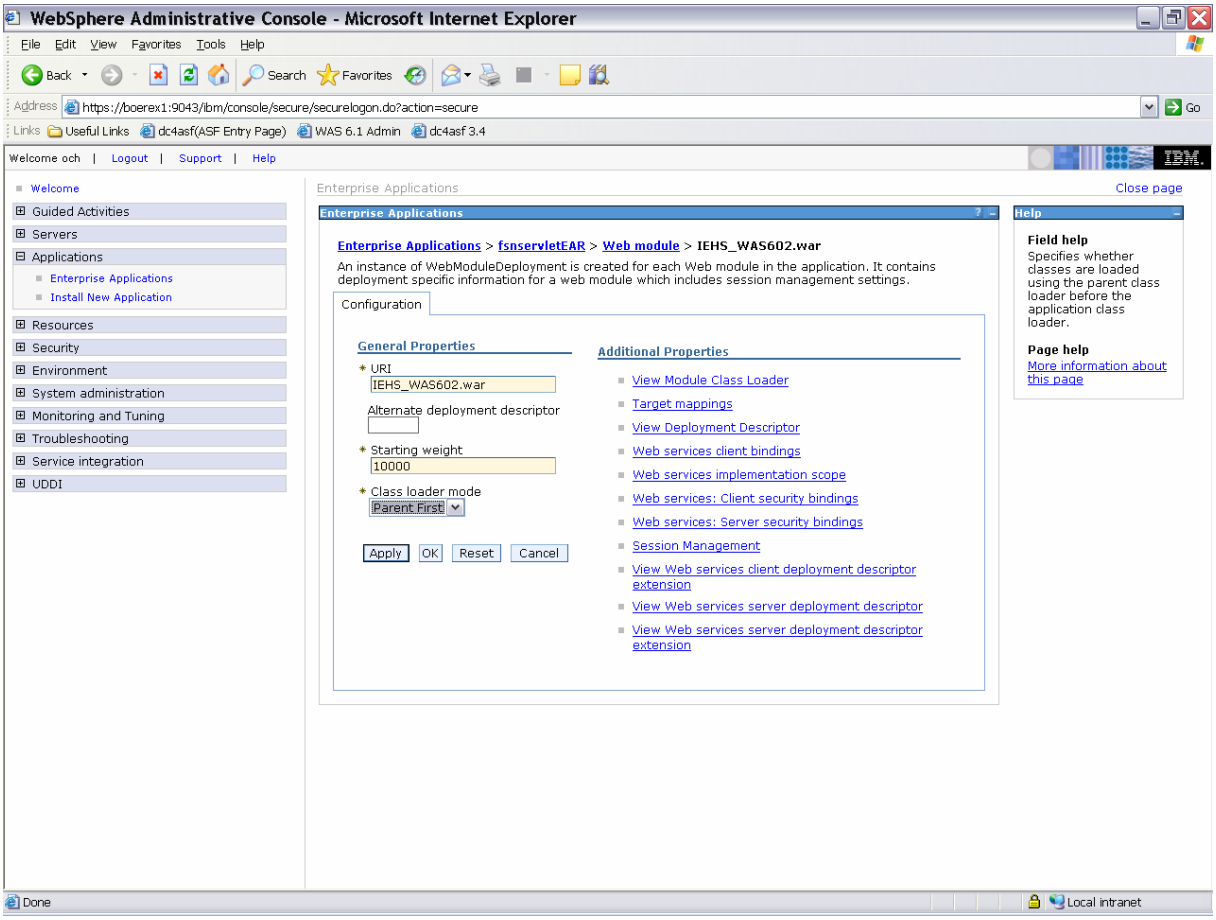
1. Name must be reference
2. Stream handler class name must be org.eclipse.osgi.framework.internal.protocol.reference.Handler
3. Protocol must be reference



Click Apply and save your modifications.

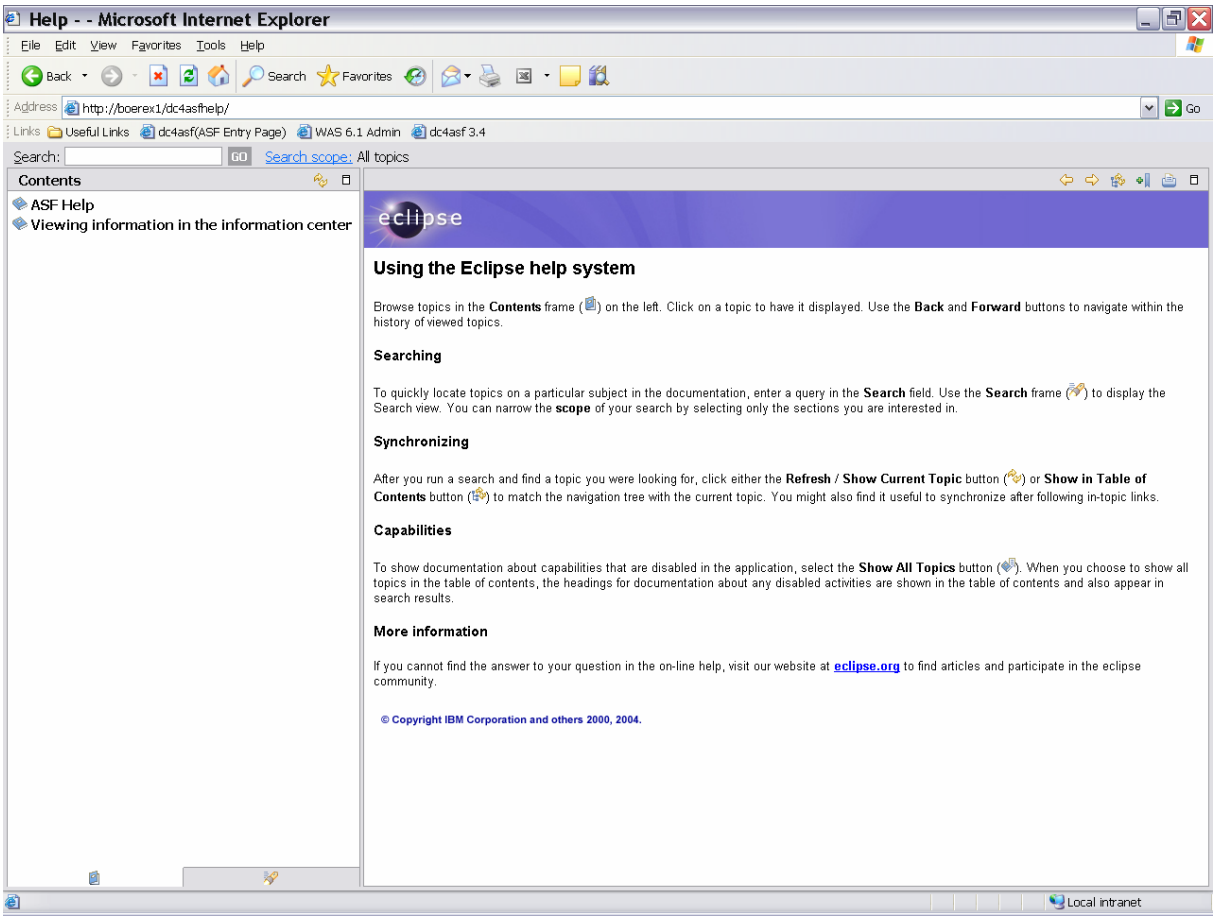
Next change the class loader mode for the module IEHS_WAS602.war to “Parent first”.

Open Enterprise aplications > fsnservletEAR > Web module > IEHS_WAS602.war



Click Apply and save your modifications.

To test the ASF help invoke the servlet application “dc4asfhelp“, using the Microsoft Internet Explorer.

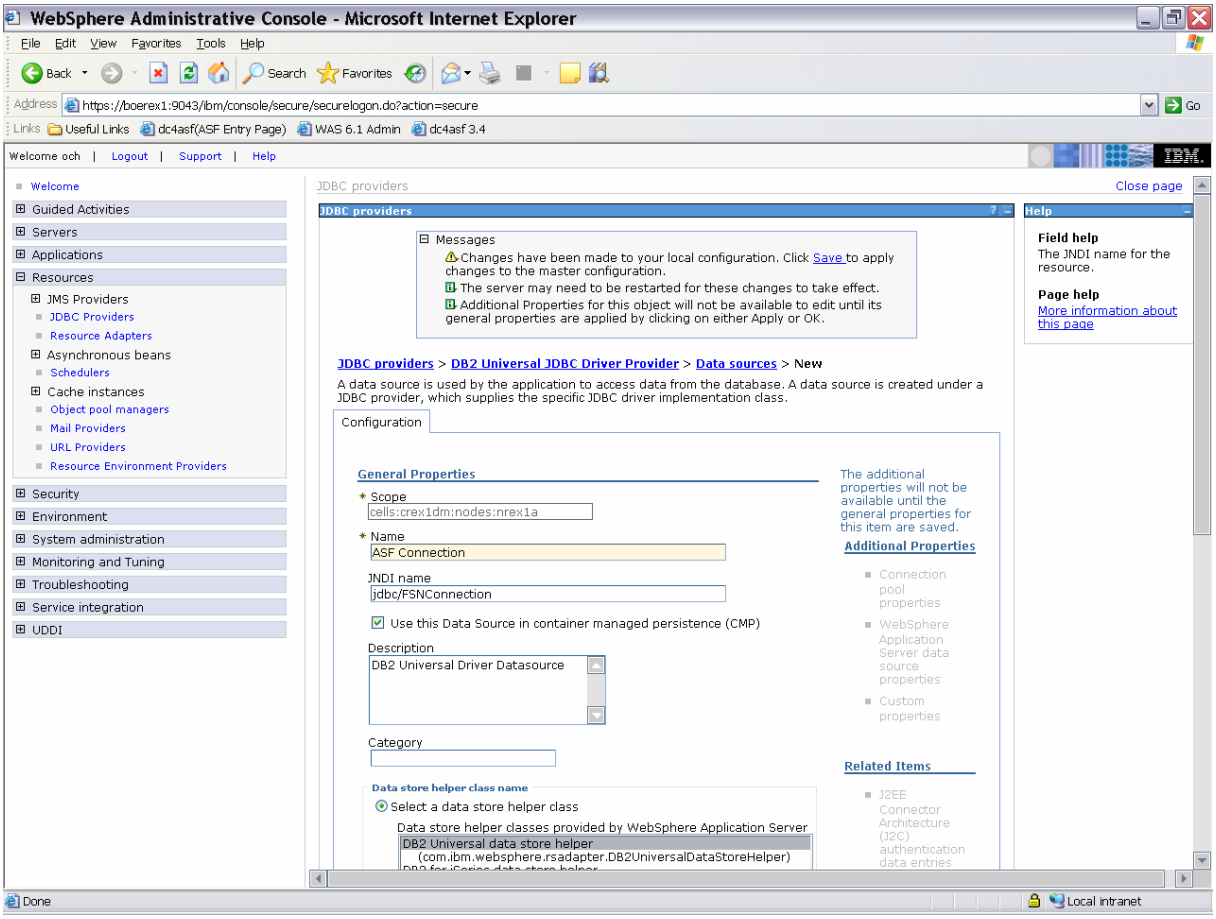


6 Setting up a connection to DB2

Defining a data source

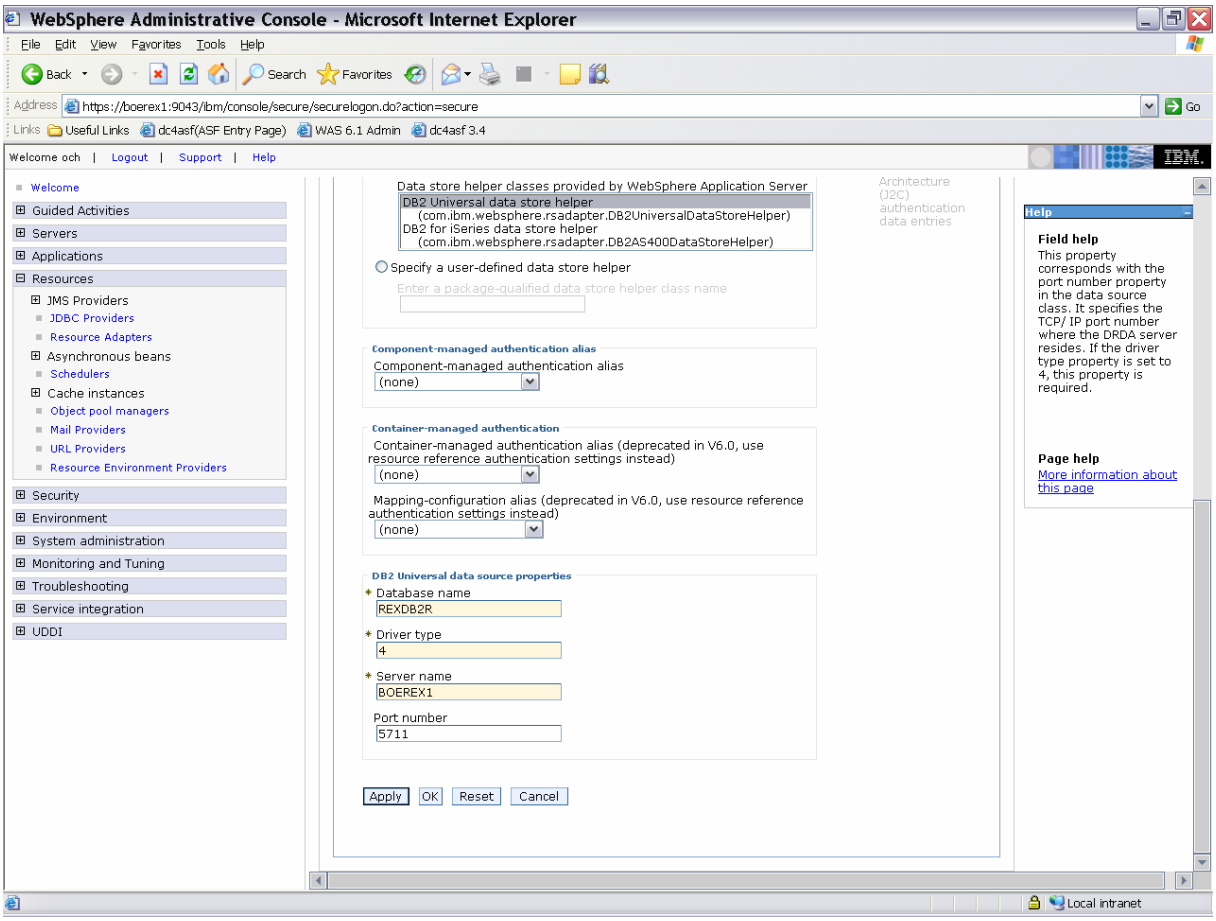
Open Resources > JDBC Providers > DB2 Universal JDBC Driver Provider > Data sources > New

Enter the name, for example, “ASF Connection” and the JNDI name for the data source, for example, jdbc/FSNConnection.



Enter the database specific properties for the data source:

4. Database name, for example, REXDB2R
5. Driver type is 4
6. Server name, for example, BOEREX1 (the TCP/IP address of the DB2 host)
7. Port number of the DB2 host, for example, 5711

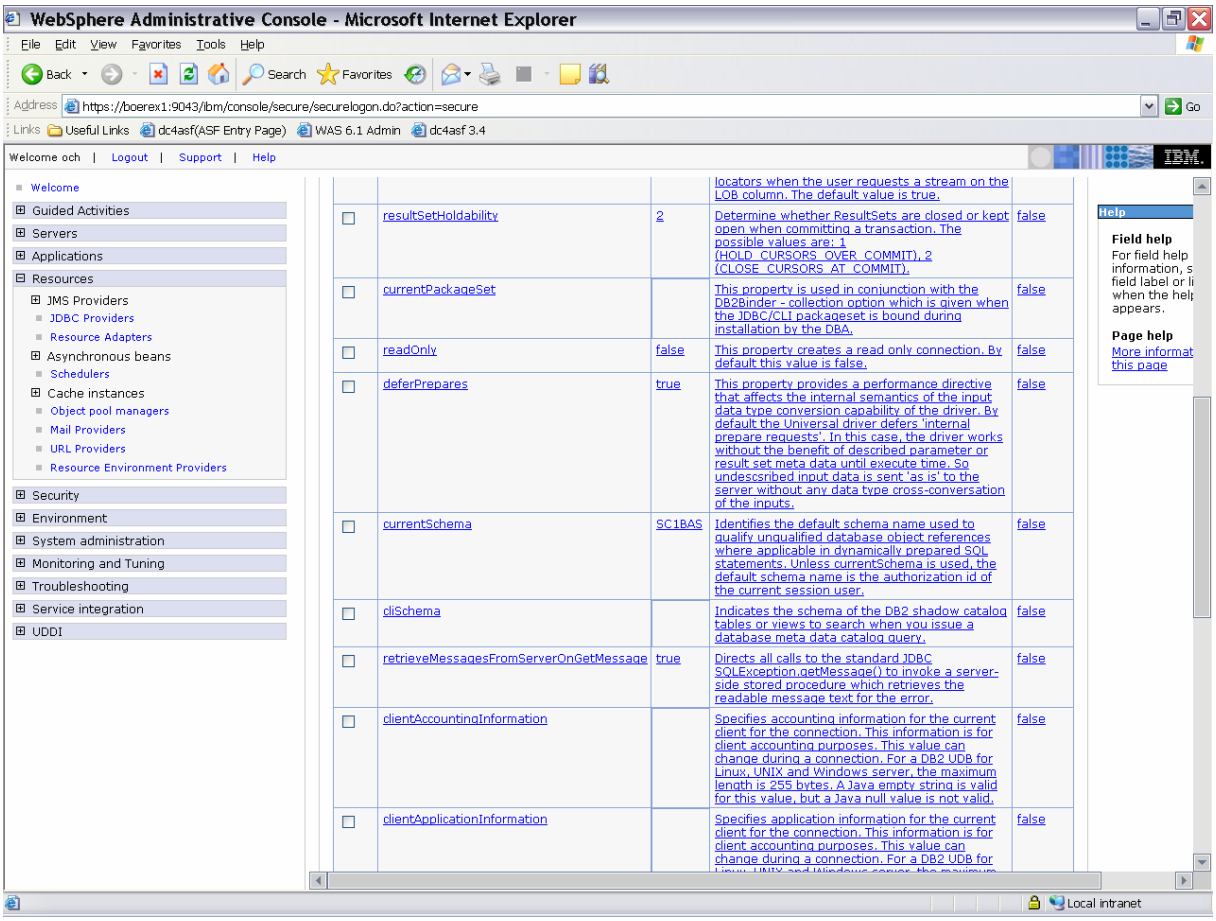


Click OK to create the data source.

Open JDBC providers > DB2 Universal JDBC Provider > Data sources > ASF Connection > Custom Properties

Where “ASF Connection” is the name of the data source you created in the previous step.

Define the CurrentSchema, for example, SC1BAS which represents the DB2 collection ID on the host.

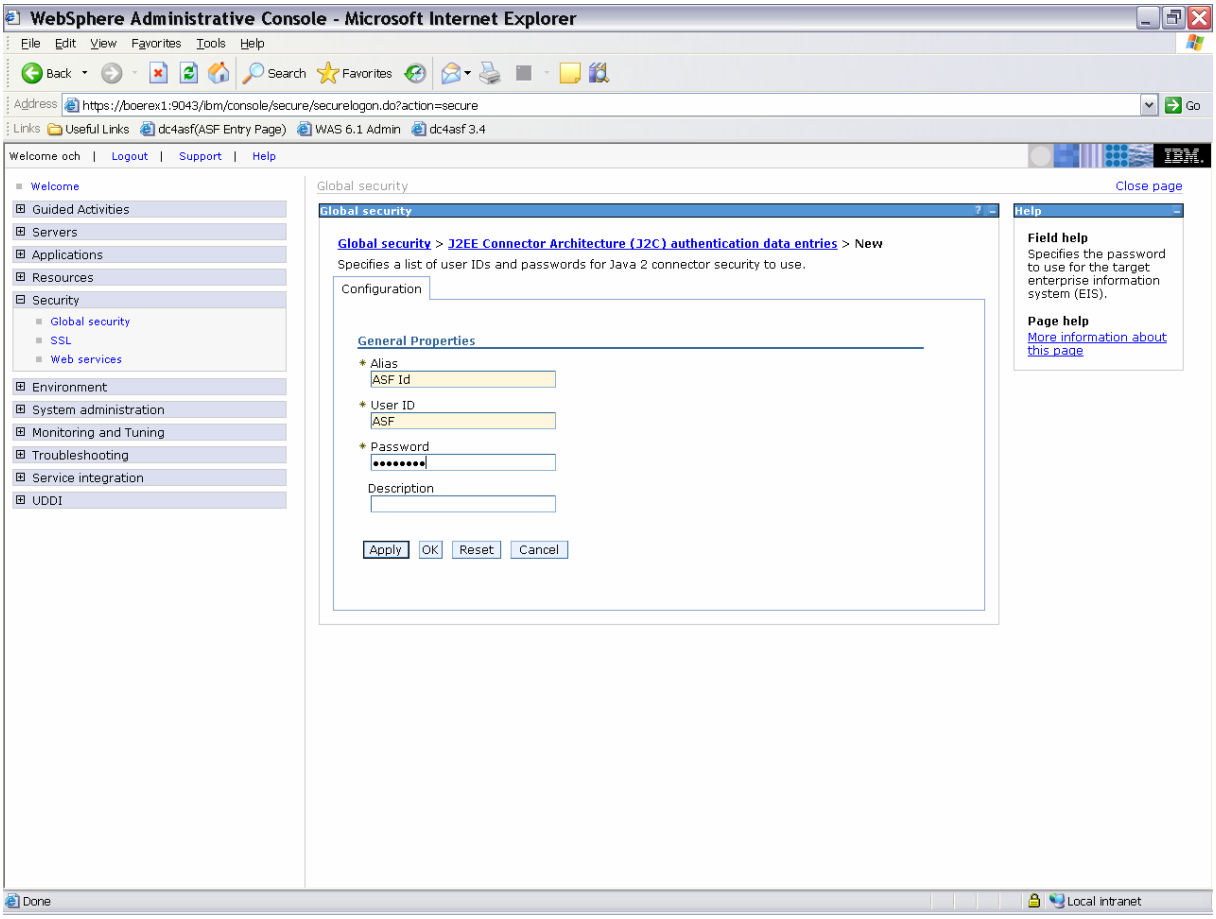


Click Apply and save your modifications.

Defining JAAS – J2C authentication data

Open Security > Global Security > J2EE Connector architecture (J2C) authentication data entries > New

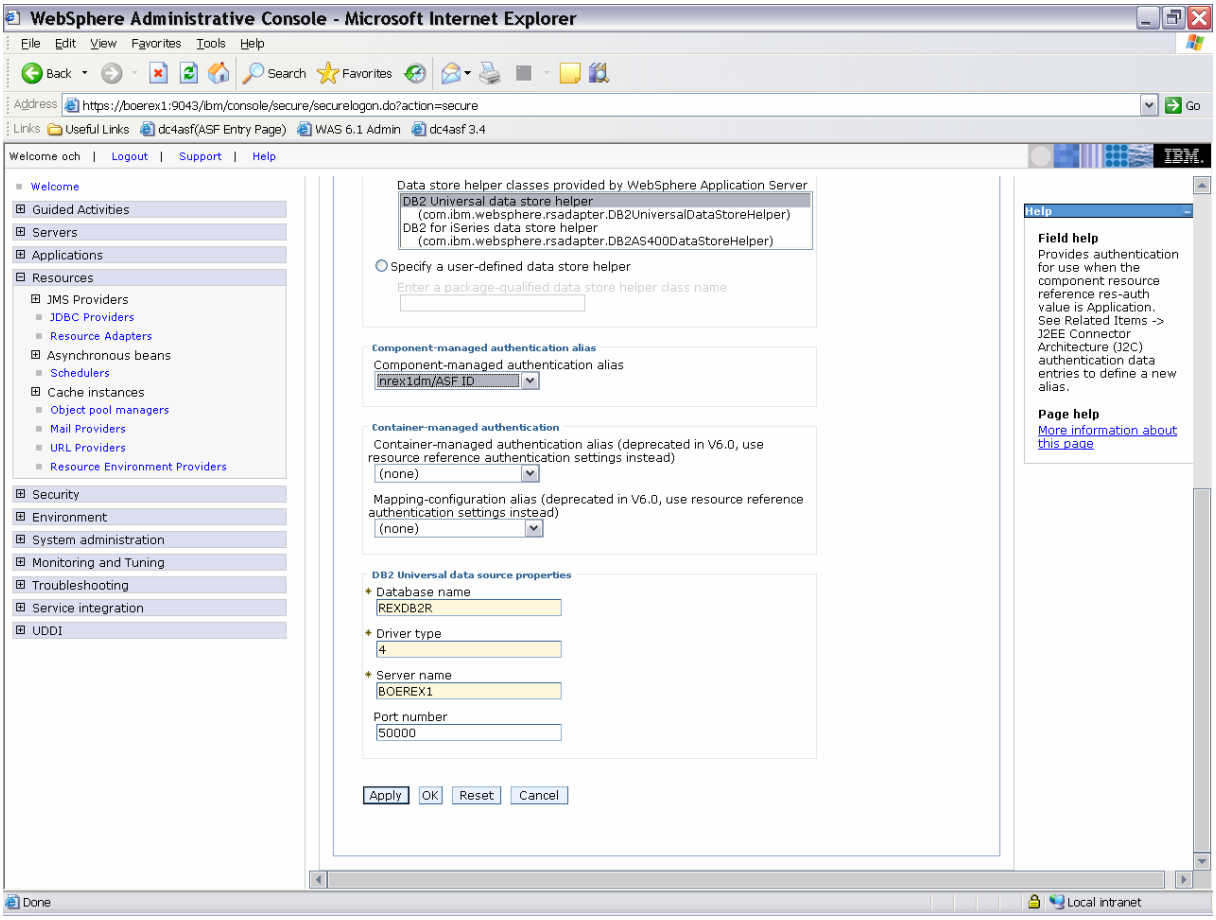
Enter an alias and a valid User ID and password for DB2 access.



Click OK and save your modifications.

Open JDBC provider > DB2 Universal JDBC Driver Provider > Data sources > ASF Connection

Select the created JASS-J2C authentication data in the field Component-managed authentication alias.

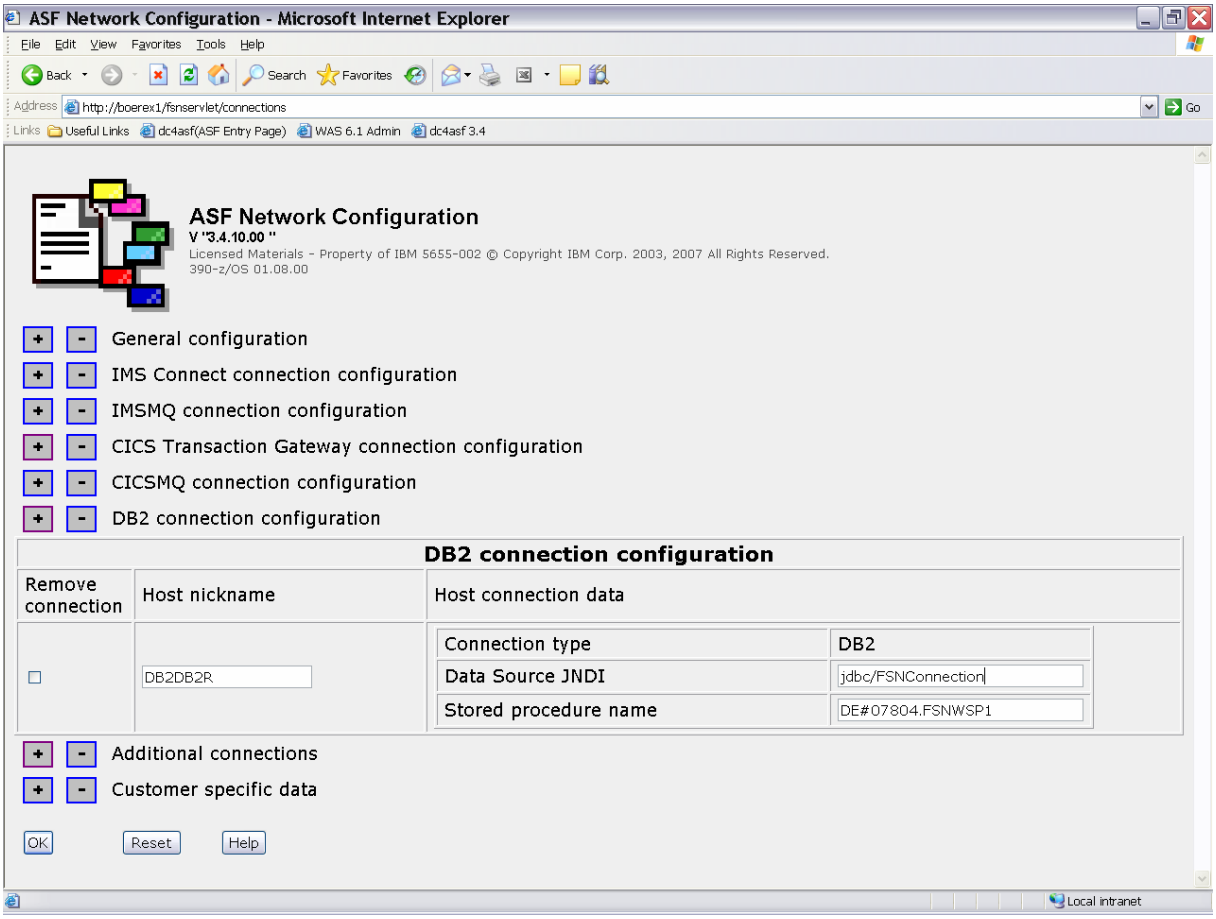


Click Apply, save your modifications, and restart the WebSphere Application Server.

Configuring the connections

To define the server-host connections in DocNetworkConfiguration.xml invoke the servlet application “connections“, using the Microsoft Internet Explorer.

Add a DB2 Connection type entry by specifying a host nickname, the data source JNDI that you created in Defining a data source and the name of the ASF stored procedure within DB/2.



Click OK to save your changes.

Stop and Start your application in the WebSphere Administrative Console.

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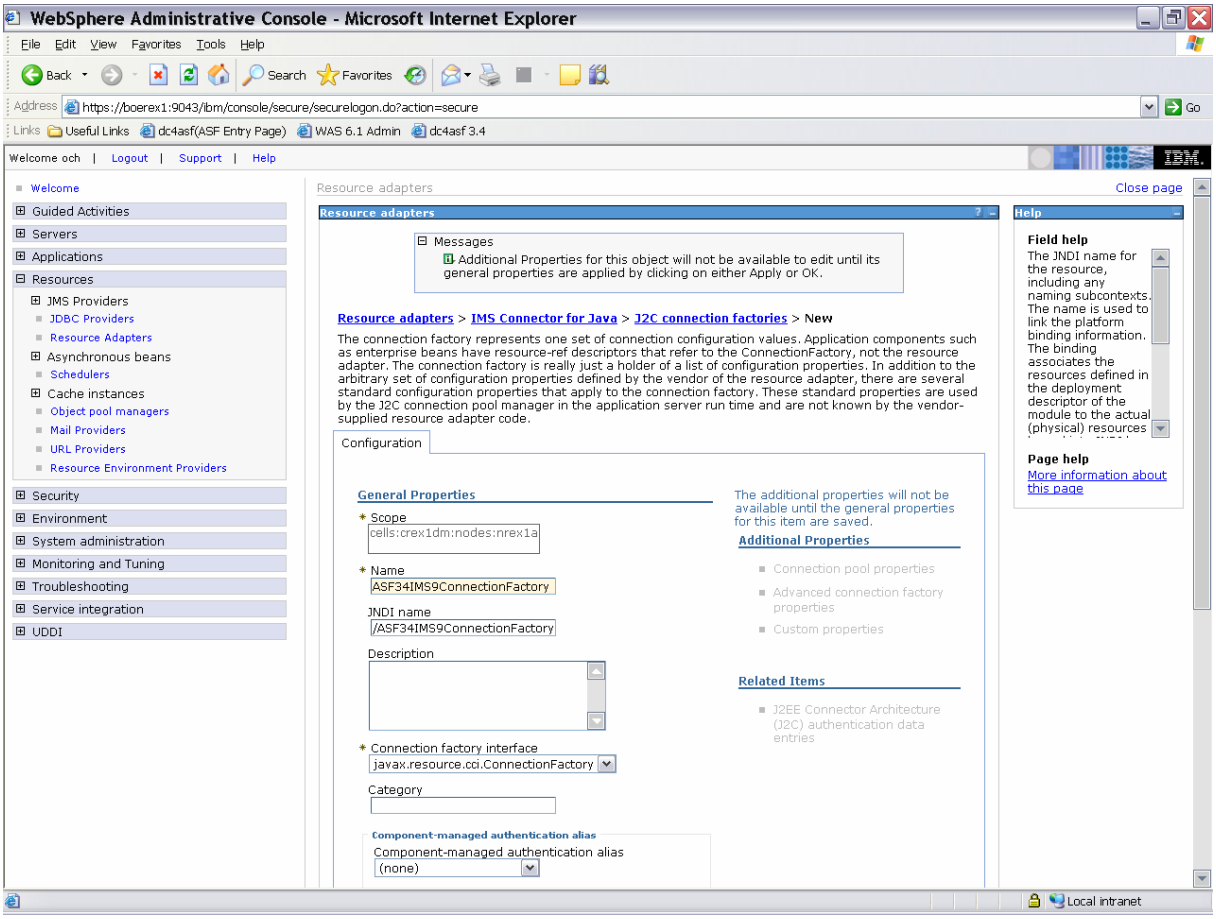
7 Setting up a connection to IMS via IMS Connect

Defining a J2C connection factory

Open Resources > Resource Adapters > IMS Connector for Java > J2C connection factories > New

Enter the name, for example, “ASF34IMS9ConnectionFactory” and the JNDI name for the J2C connection factory, for example, imsconn/ASF34IMS9ConnectionFactory.



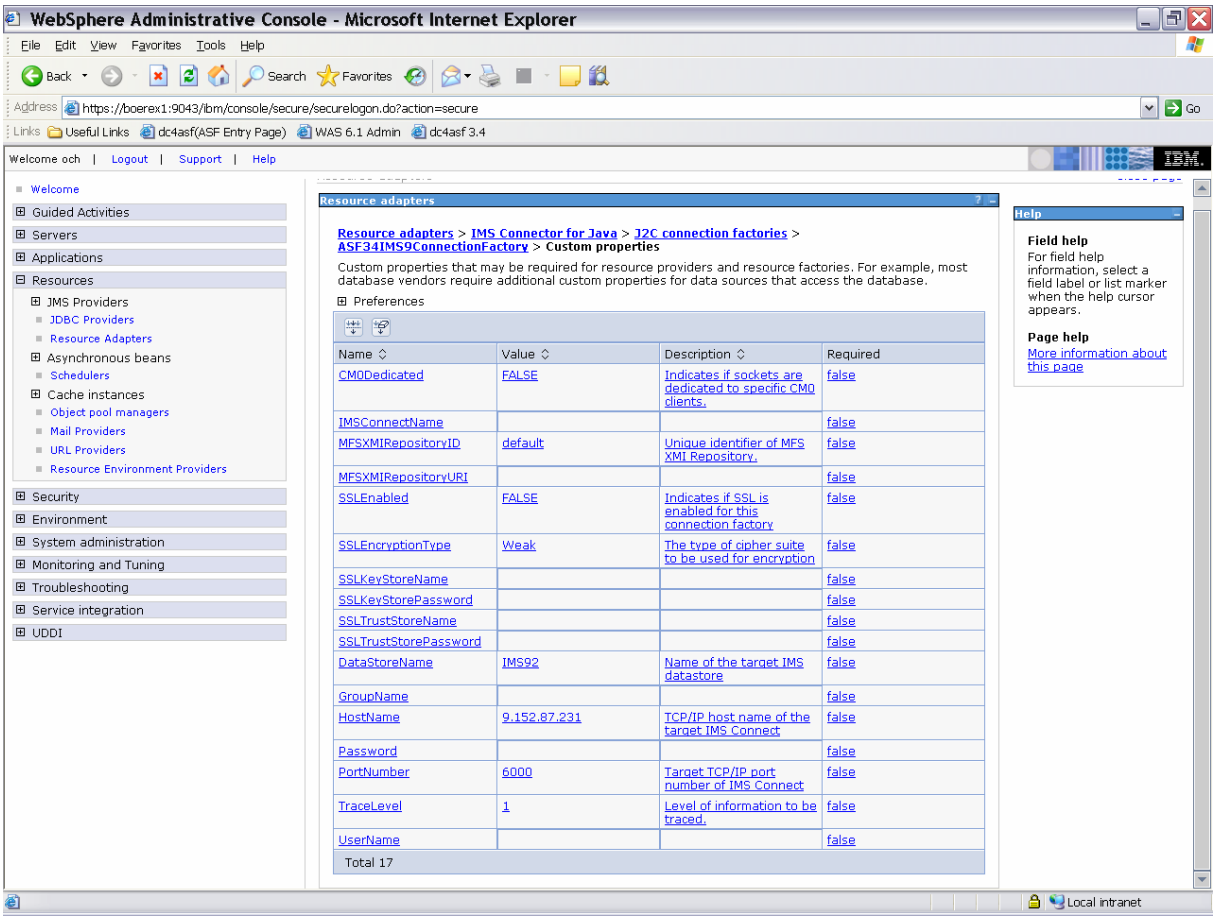
Click Apply to save your modifications.

Open Resource Adapters > IMS Connector for Java > J2C connection factories > ASF34IMS9ConnectionFactory > Custom Properties

where ASF34IMS9ConnectionFactory is the name of the connection factory created in the previous step.

Define the IMS Connect specific properties for the connection factory:

1. HostName is the TCP/IP address of the target IMS Connect, for example, 9.152.87.231
2. PortNumber is the target TCP/IP port number of IMS Connect, for example, 6000
3. DataStoreName is the name of the target IMS data store, for example, IMS92

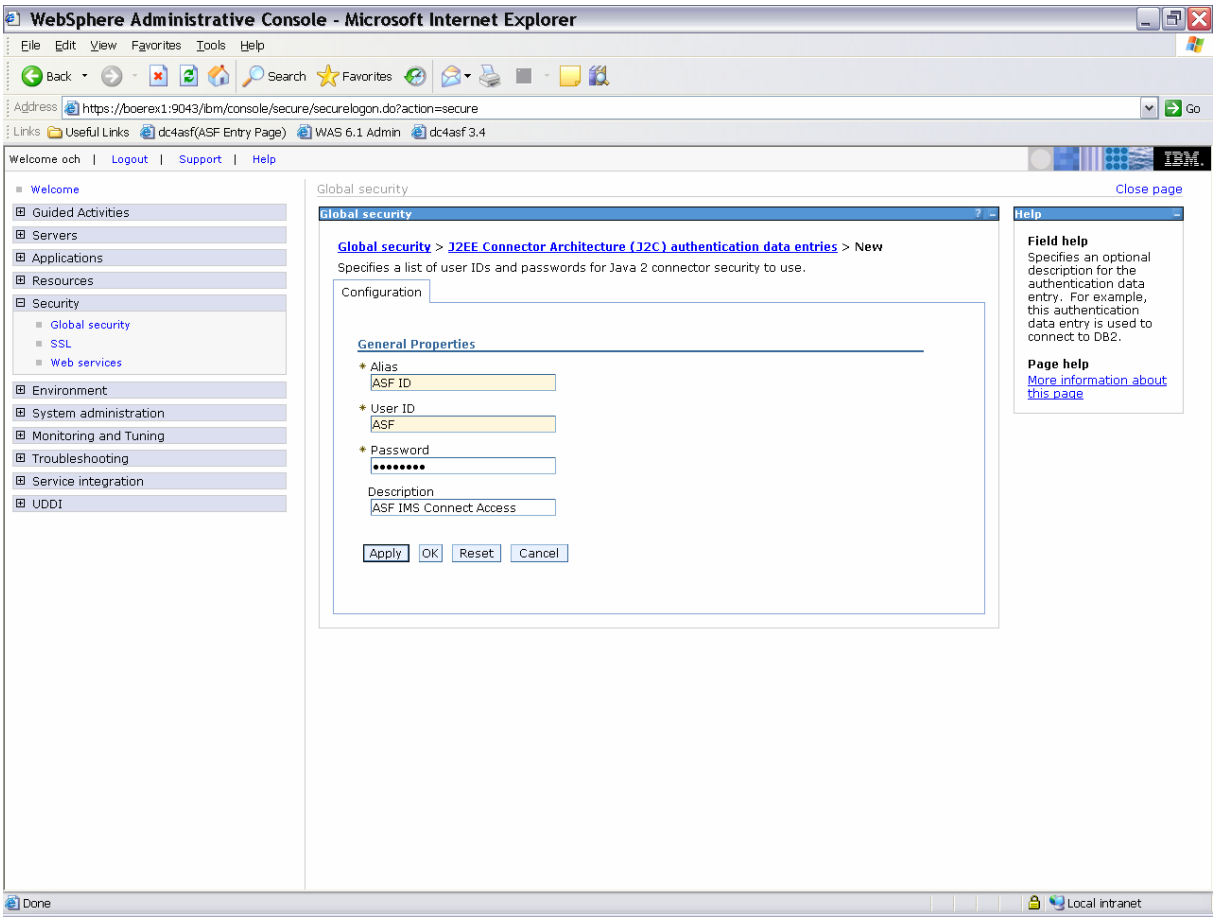


Click Apply to save your modifications.

Defining JAAS – J2C authentication data

Open Security > Global Security > J2EE Connector architecture (J2C) authentication data entries > New

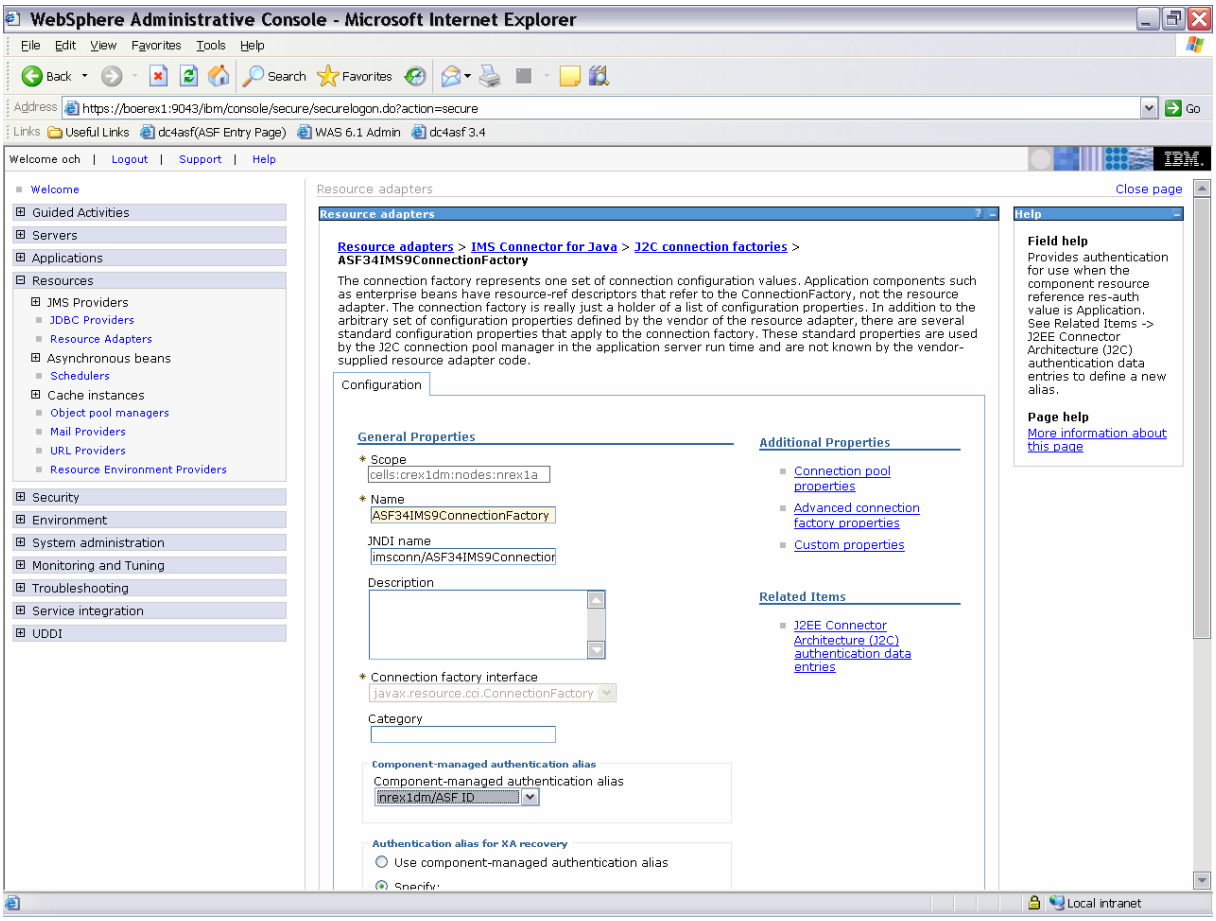
Enter an alias and a valid user ID and password for the IMS Connect connection.



Click OK to save your modifications.

Open Resource Adapters > IMS Connector for Java > J2C connection factories > ASF34IMS9ConnectionFactory

Select the created JASS-J2C authentication data in the field Component-managed authentication alias.



Click Apply to save your modifications and restart the WebSphere Application Server.

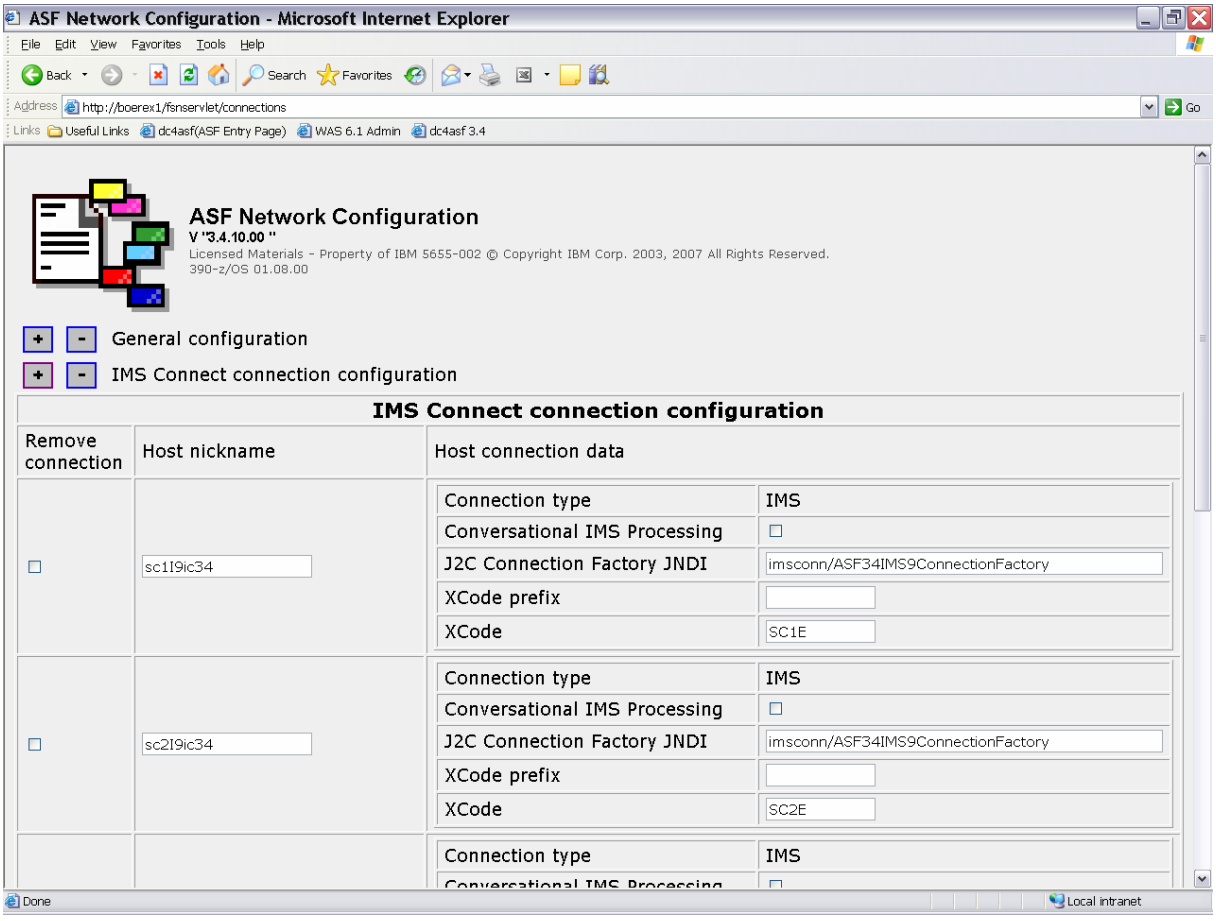
Configuring the connections

To define the server-host connections in DocNetworkConfiguration.xml,invoke the servlet application “connections“, using the Microsoft Internet Explorer.

Add an IMS Connection type entry by specifying a host nickname, the J2C connection factory JNDI you created in Defining a J2C connection factory. Specify the IMS transaction code or the IMS transaction code prefix and select Conversational IMS Processing if your IMS system is running in conversational mode.

Note:

- If you specify an IMS transaction code prefix xxx, the transaction code of the preview requests is set to xxxV, the transaction code for quick preview requests is set to xxxQ, and the transaction code for all other requests is set to xxxE.
- If you specify an IMS transaction code, this transaction code is used for all requests.



Click OK to save your changes.

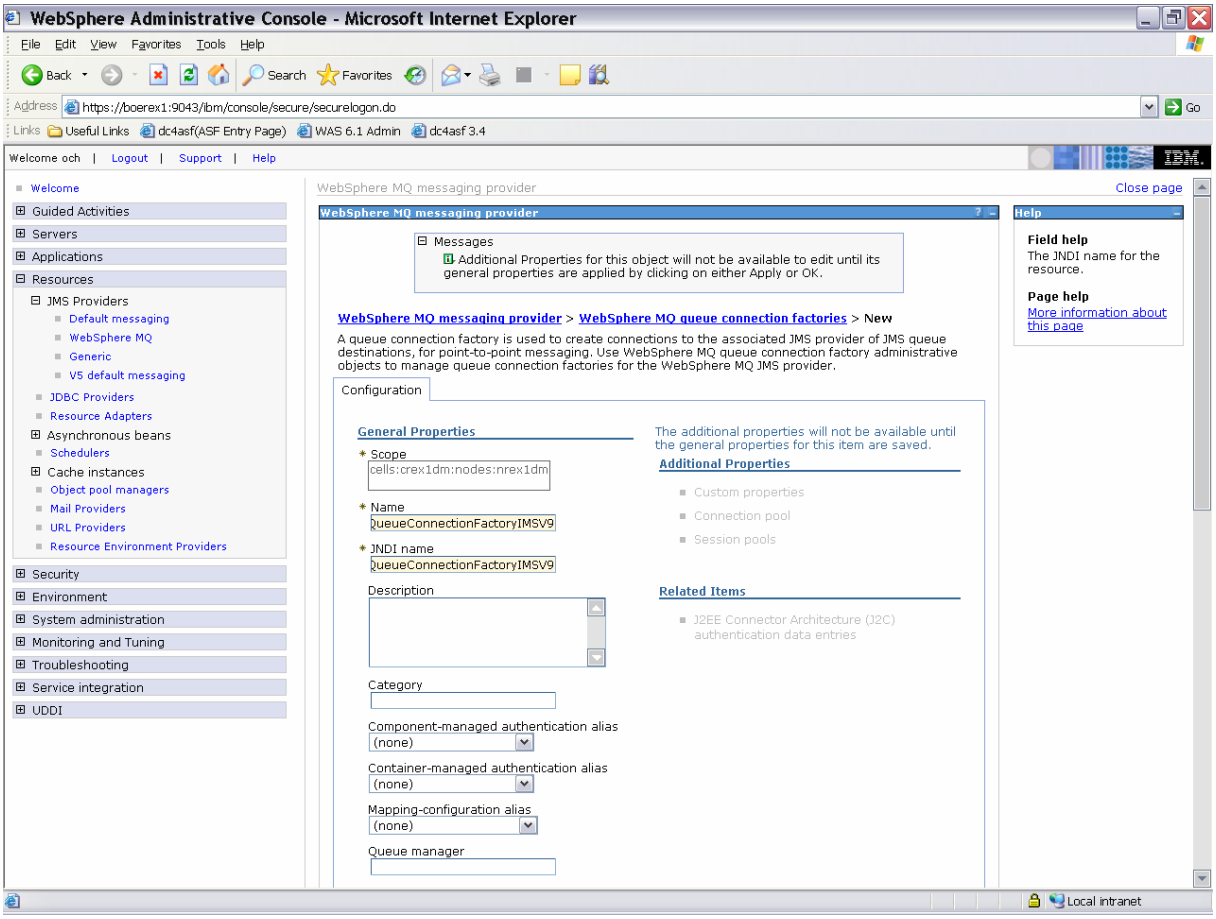
Stop and Start your application in the WebSphere Administrative Console.

8 Setting up a connection to IMS via WebSphere MQ

Defining a queue connection factory

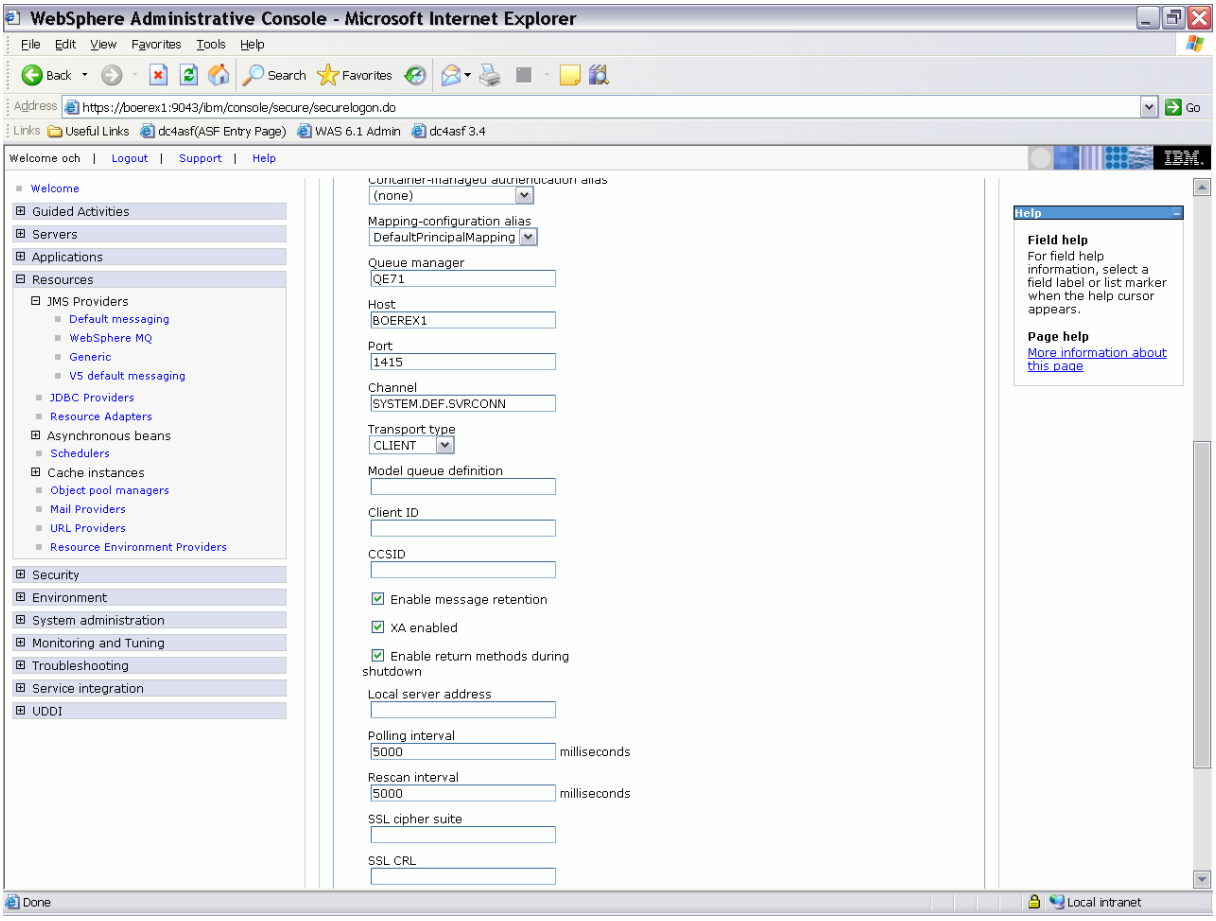
Open Resources > WebSphere MQ > WebSphere MQ queue connection factories > New

Enter the name, for example, “MQQueueConnectionFactoryIMSV9” and the JNDI name for the queue connection factory, for example, mq/MQQueueConnectionFactoryIMSV9.



Define the MQ specific properties for the queue connection factory:

1. Queue Manager is the target MQ queue manager name, for example, QE71
2. Host is the TCP/IP address of the target MQ, for example, BOEREX1
3. Port is the target TCP/IP port number of MQ, for example, 1415
4. Channel is the server-connection channel name of the target MQ, for example, SYSTEM.DEF.SVRCONN
5. Transport type must be set to CLIENT



Click Apply and save your modifications.

Note:

Ensure that the WebSphere variable MQ_INSTALL_ROOT is set to the value ${WAS_INSTALL_ROOT}/lib/WMQ

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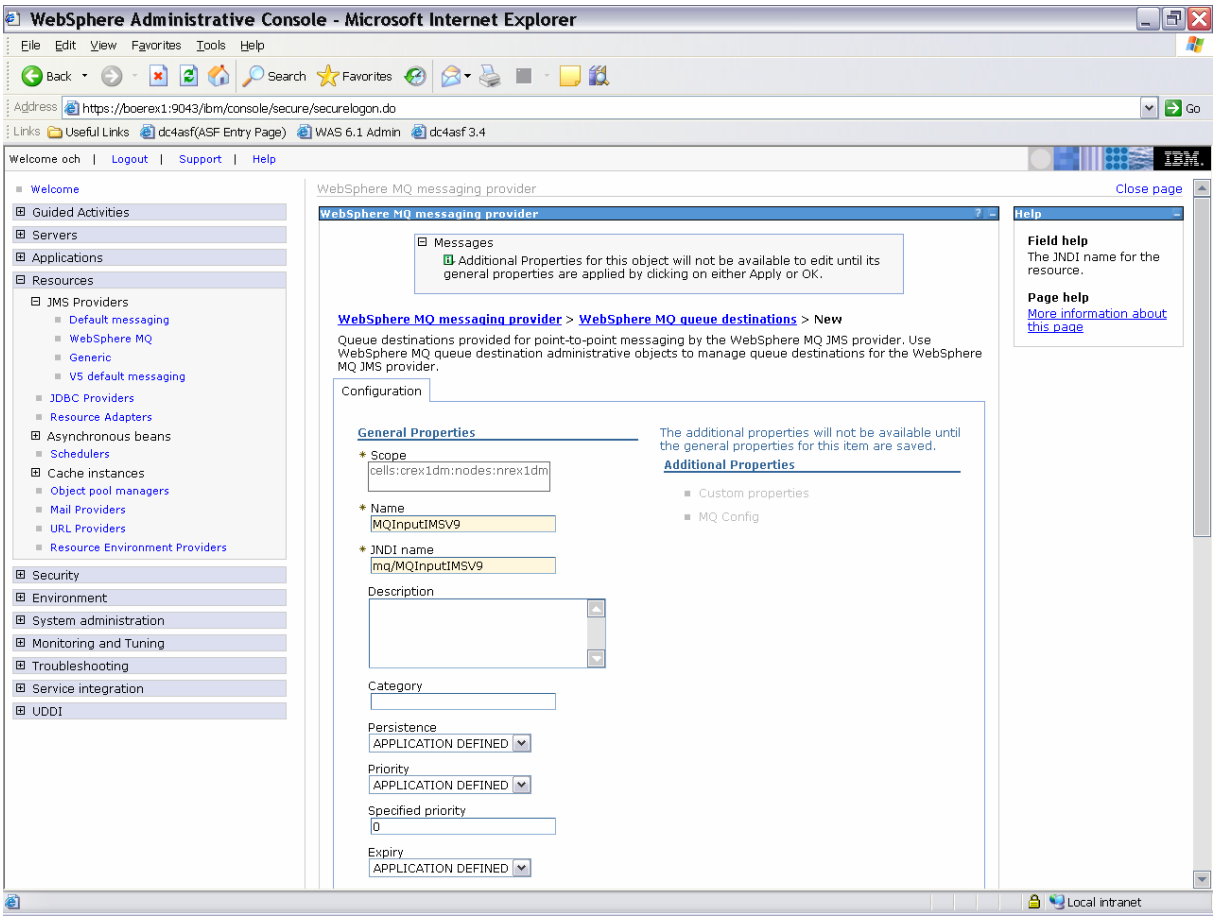
Defining an input and an output queue

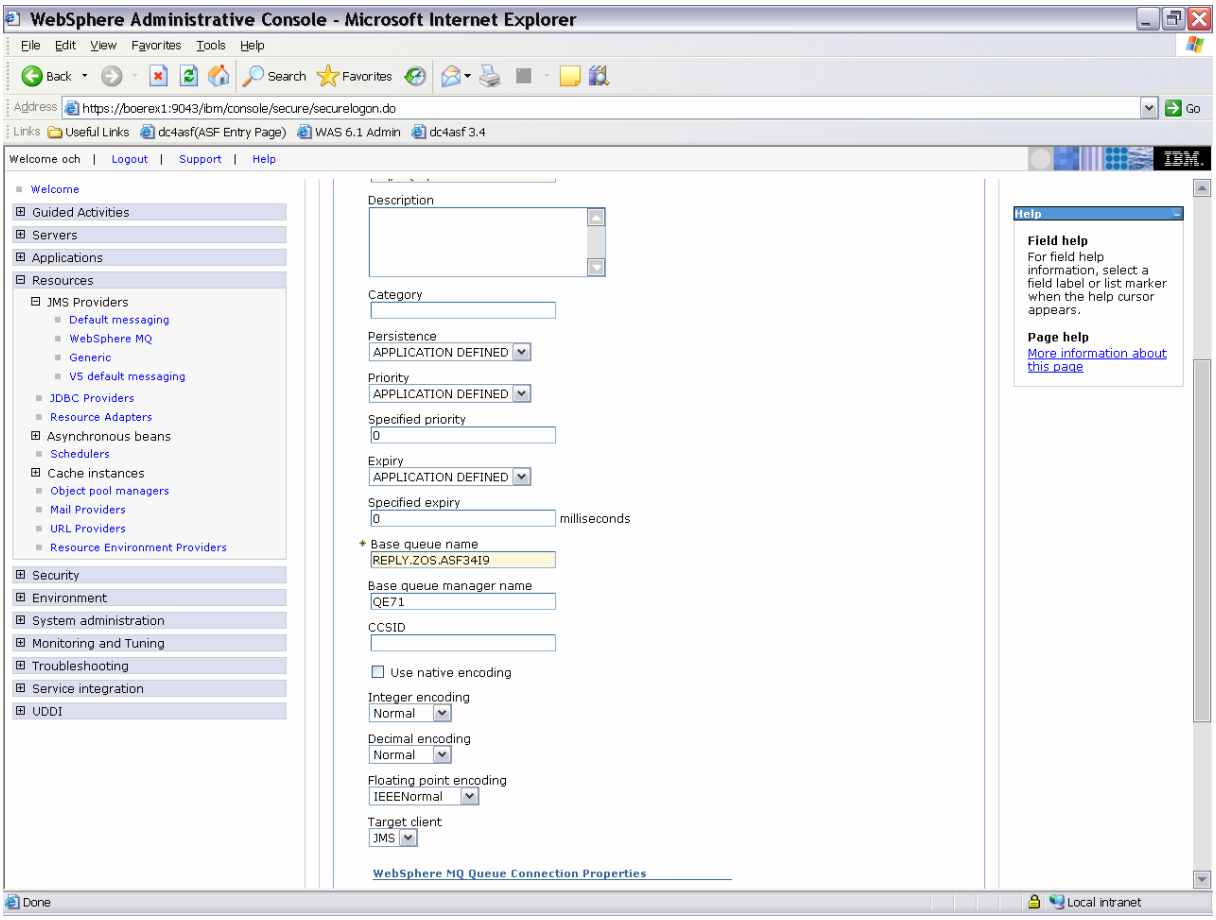
Open Resources > WebSphere MQ > WebSphere MQ queue destinations > New

Enter the name, for example, “MQInputIMSV9” and the JNDI name for the input queue, for example, mq/MQInputIMSV9.



Define the MQ specific properties for the input queue:

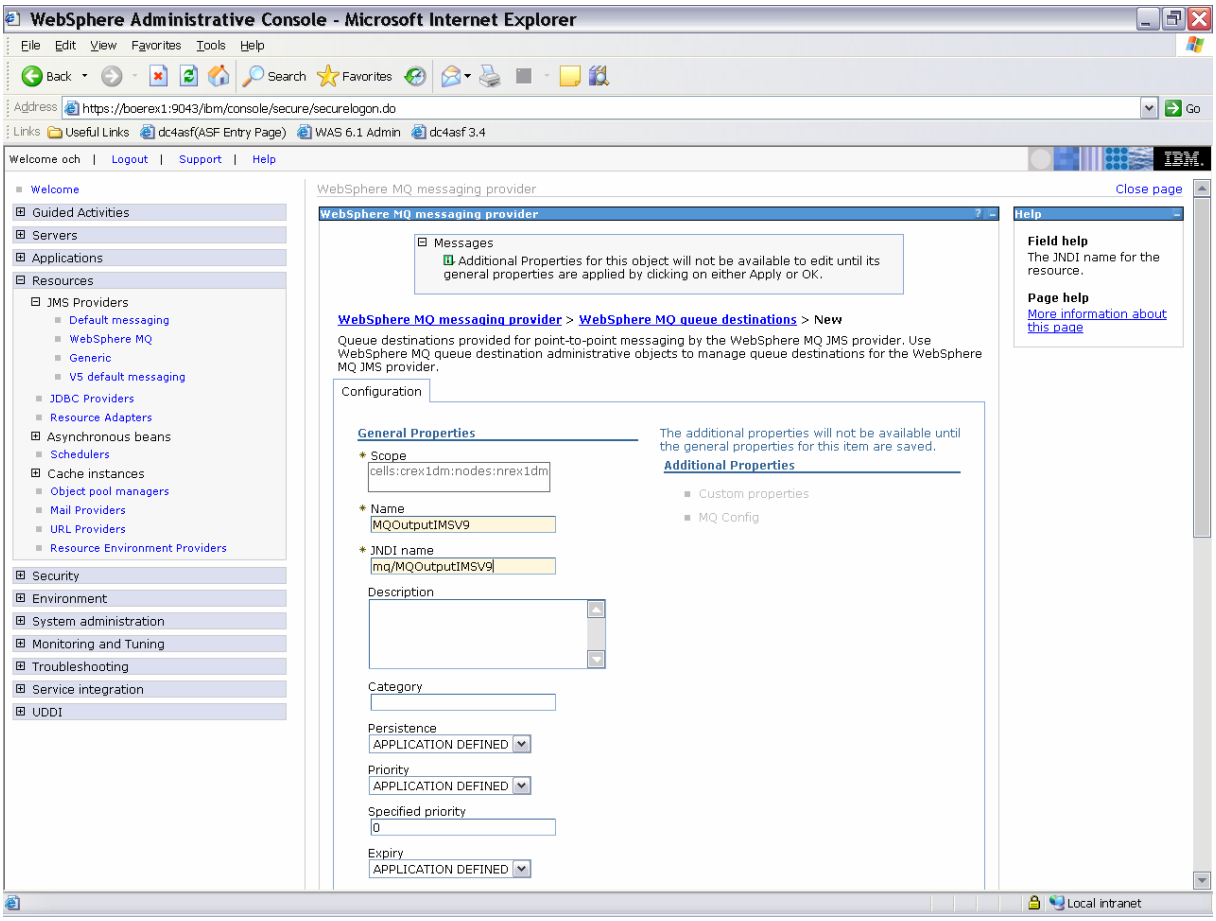
1. Base queue name is the queue name of the target reply queue, for example, REPLY.ZOS.ASF34I9.
2. Base queue manager name is the target queue manager, for example, QE71
3. Target client must be set to JMS.



Click Apply and save your modifications.

Open Resources > WebSphere MQ > WebSphere MQ queue destinations > New

Enter the name for example, “MQOutputIMSV9” and the JNDI name for the output queue, for example, mq/MQOutputIMSV9.



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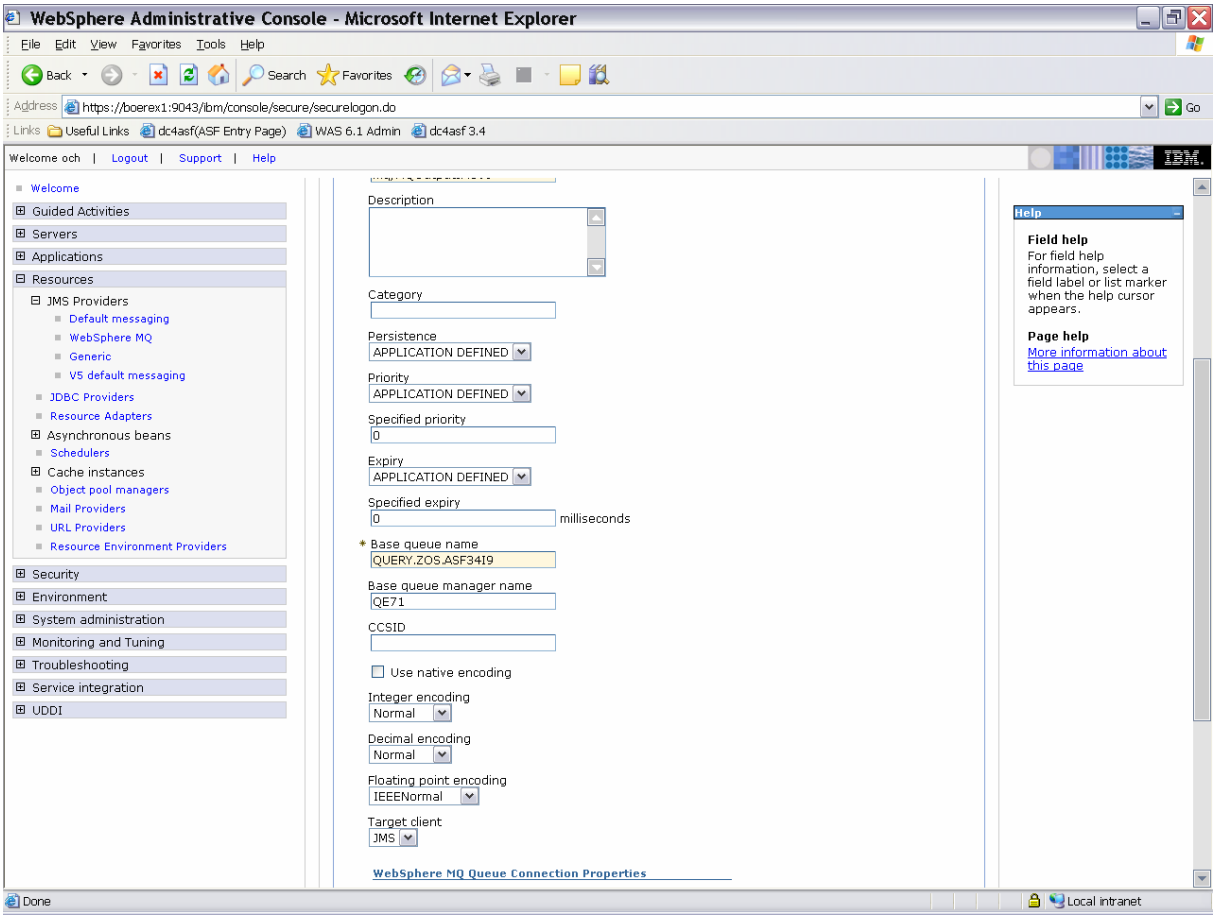
Define the MQ specific properties for the output queue:

1. Base queue name is the queue name of the target query queue, for example, QUERY.ZOS.ASF34I9.

2. Base queue manager name is the target queue manager, for example, QE71

3. Target client must be set to JMS.

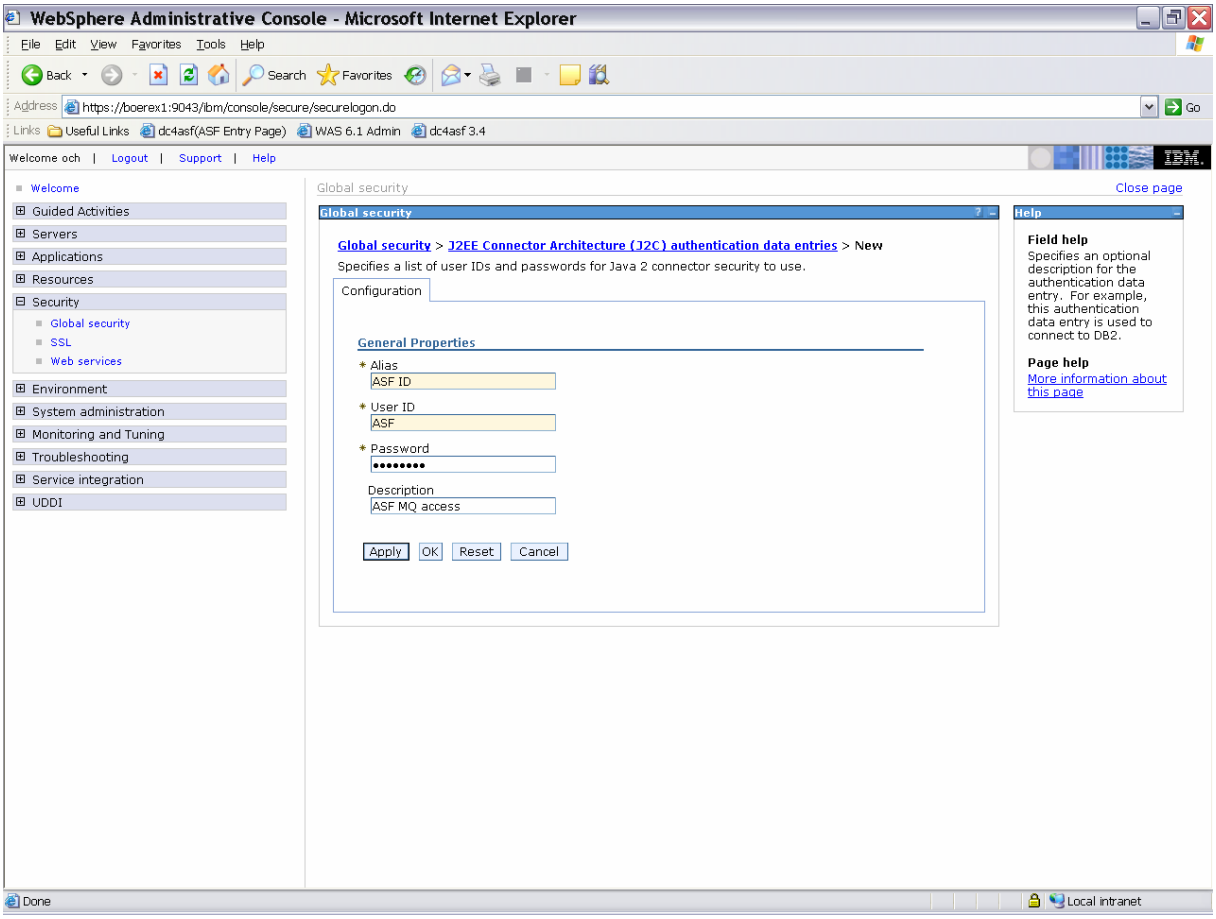


Click Apply and save your modifications.

Defining JAAS – J2C authentication data

Open Security > Global Security > J2EE Connector architecture (J2C) authentication data entries > New

Enter an alias and a valid user ID and password for the MQ connection.



Select OK and save your modifications.

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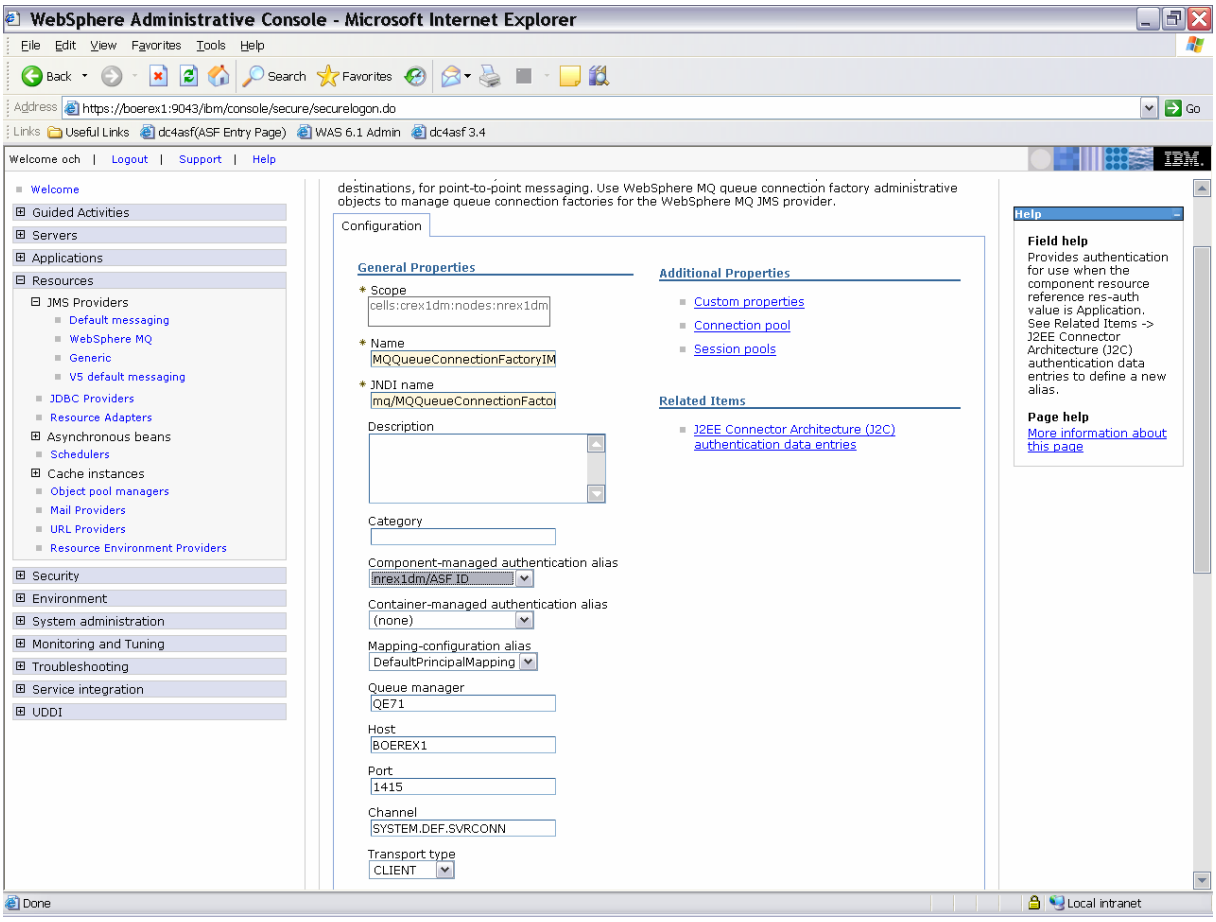
Open Resources > WebSphere MQ > WebSphere MQ queue connection factories > MQQueueConnectionFactoryIMSV9

Select the created JASS-J2C authentication data in the field Component-managed authentication alias.



Click Apply, save your modifications, and restart the WebSphere Application Server.

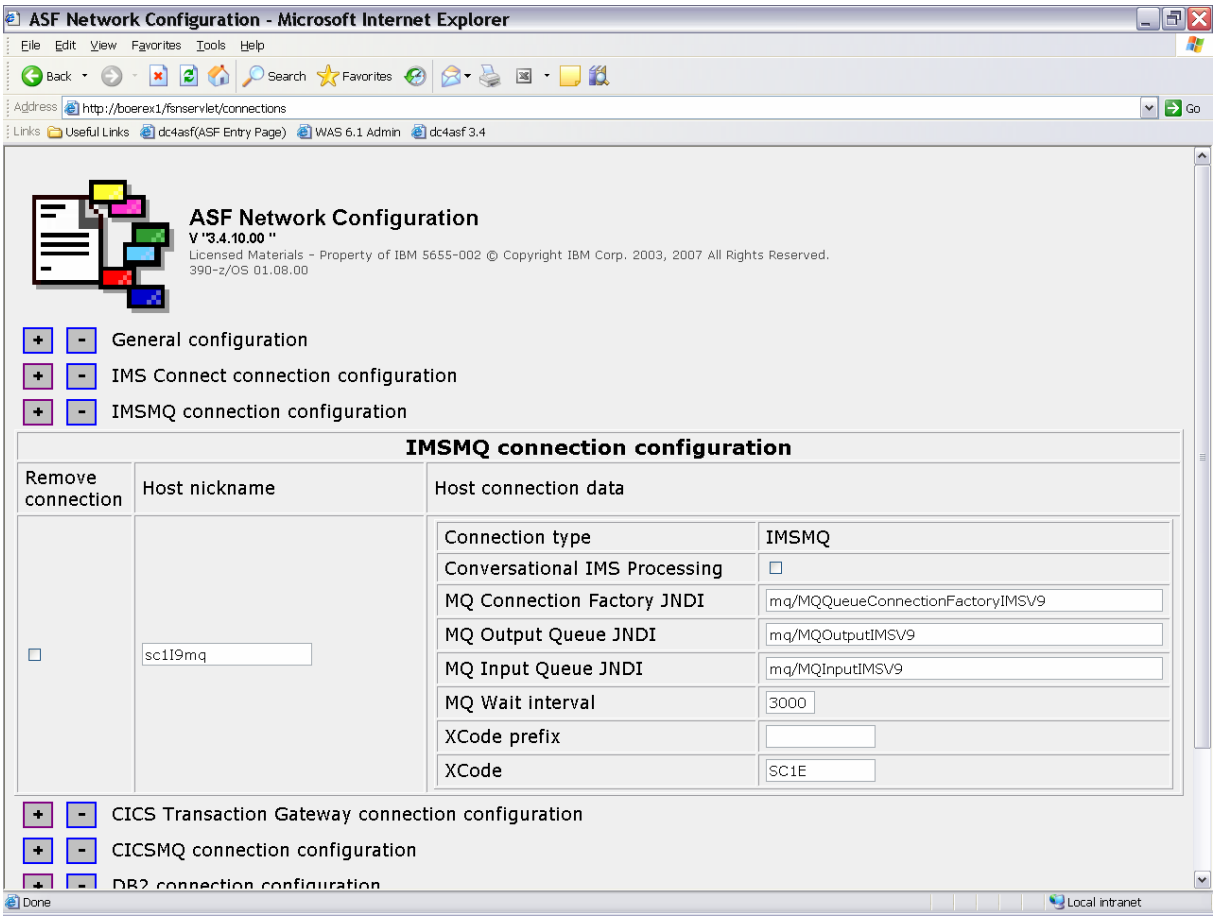
Configuring the connections

To define the server-host connections in DocNetworkConfiguration.xml, invoke the servlet application “connections“, using the Microsoft Internet Explorer.

Add an IMSMQ connection type entry by specifying a host nickname, the MQ connection factory JNDI you created in Defining a queue connection factory, the MQ input queue JNDI, and the MQ output queue JNDI you created in Defining an input and an output queue. Specify the IMS transaction code or the IMS transaction code prefix, and select Conversational IMS processing if your IMS system is running in conversational mode.

Note:

- If you specify an IMS transaction code prefix xxx, the transaction code for preview requests is set to xxxV, the transaction code for quick preview requests is set to xxxQ, and the transaction code for all other requests is set to xxxE.
- If you specify an IMS transaction code, this transaction code is used for all requests.



Click OK to save your changes.

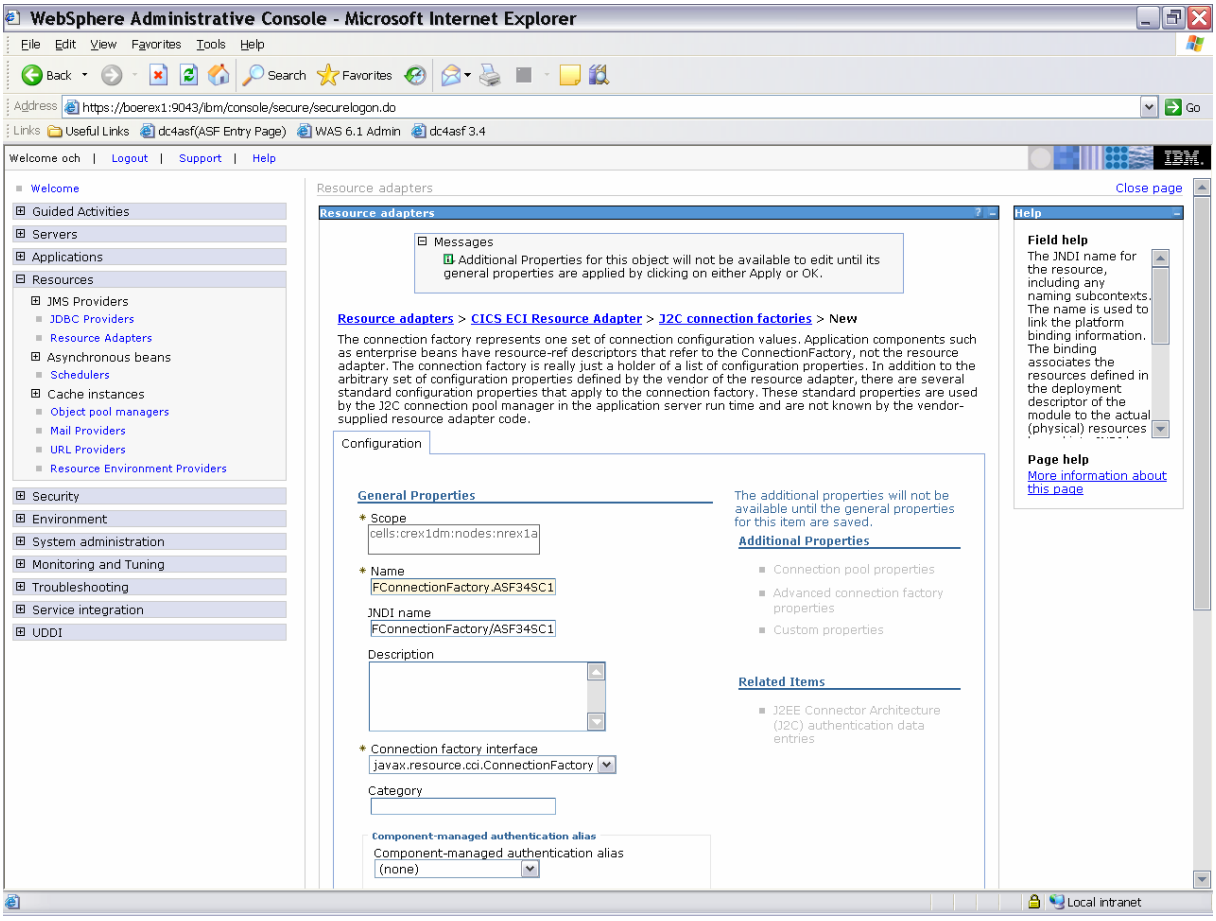
Stop and Start your application in the WebSphere Administrative Console.

9 Setting up a connection to CICS via the CICS Transaction Gateway

Defining a J2C connection factory

Open Resources > Resource Adapters > CICS ECI Resource Adapter > J2C connection factories > New

Enter the name, for example, “ASFConnectionFactory.ASF34SC1” and the JNDI name for the J2C connection factory, for example, eci/ASFConnectionFactory/ASF34SC1.



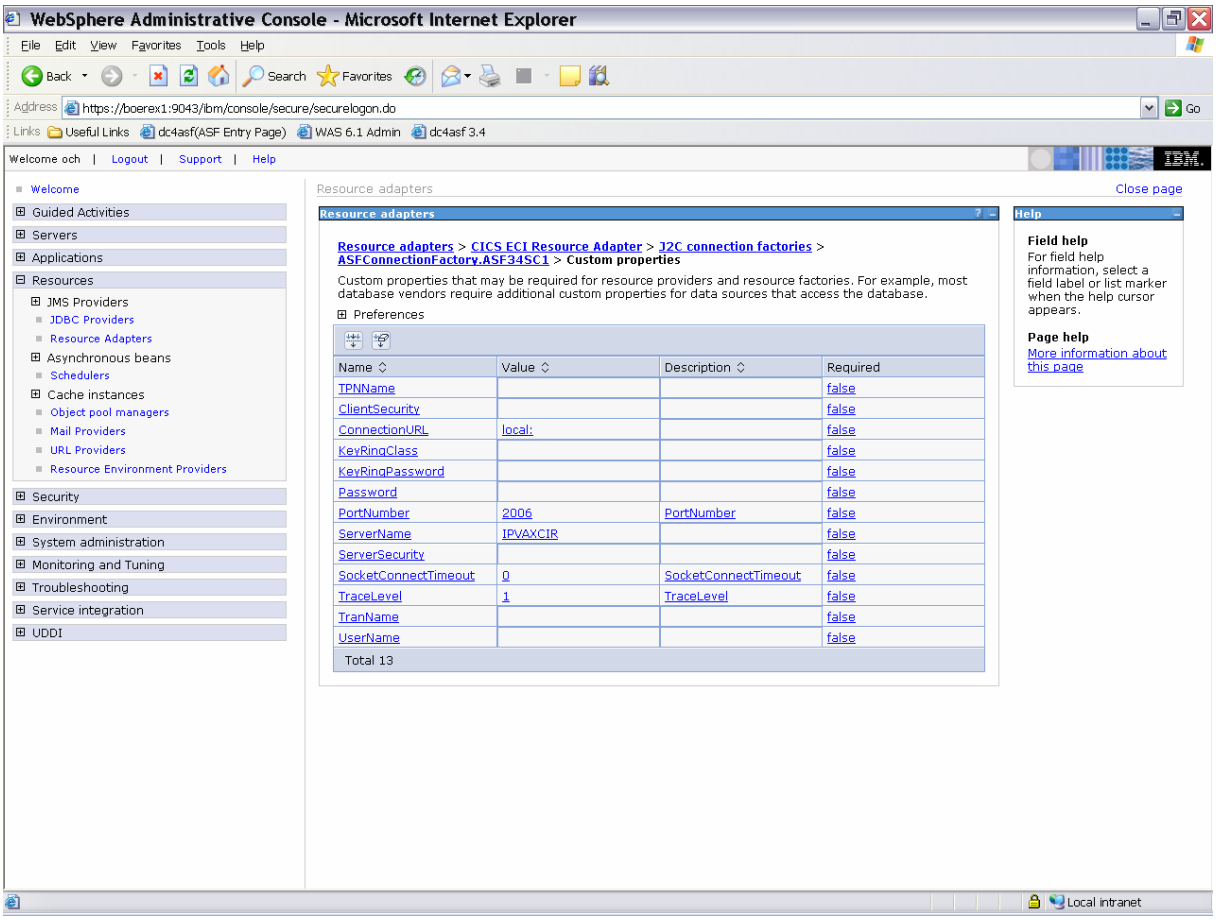
Click Apply and save your modifications.

Open Resources > Resource Adapters > CICS ECI Resource Adapter > J2C connection factories > ASFConnectionFactory.ASF34SC1 > Custom Properties

where ASFConnectionFactory.ASF34SC1 is the name of the connection factory created in the previous step.

Define the CICS Transaction Gateway specific properties for the connection factory:

1. ConnectionURL is the target URL of the CICS Transaction Gateway, for example, local:
2. PortNumber is the target TCP/IP port number of the CICS Transaction Gateway, for example, 2006
3. ServerName is the name of the target CICS server, for example ,IPVAXCIR

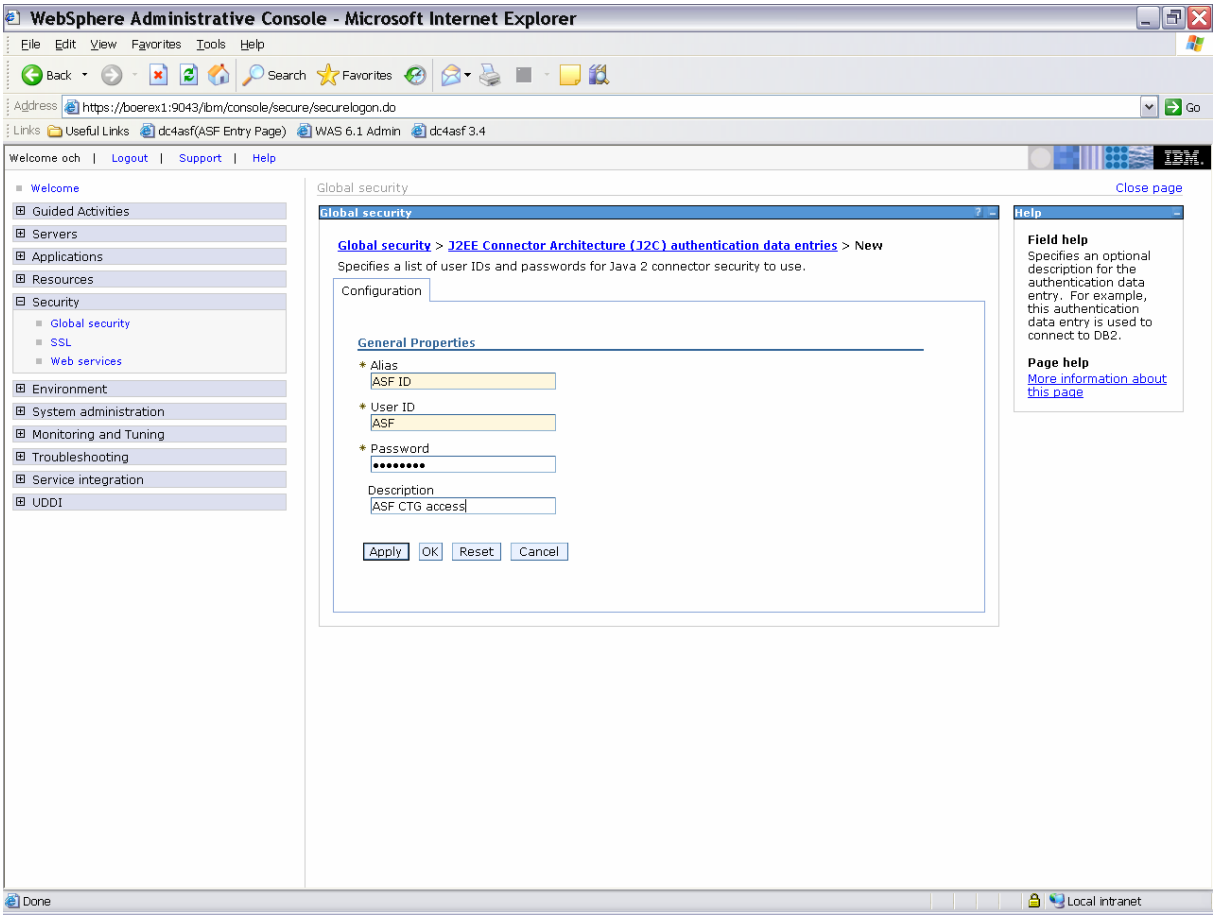


Click Apply and save your modifications.

Defining JAAS – J2C authentication data

Open Security > Global Security > J2EE Connector architecture (J2C) authentication data entries > New

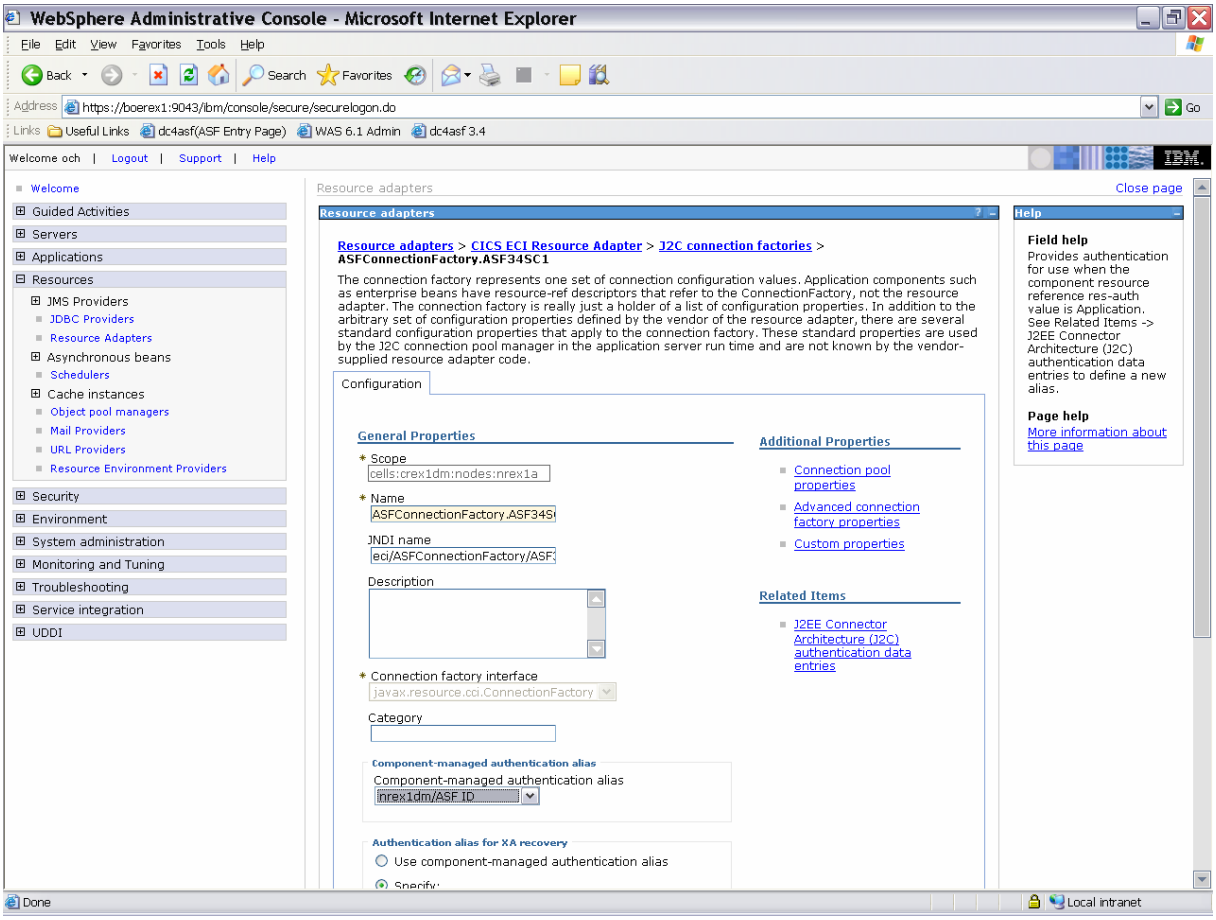
Enter an alias and a valid user ID and password for the CICS Transaction Gateway connection.



Click OK and save your modifications.

Open Resources > Resource Adapters > CICS ECI Resource Adapter > J2C connection factories > ASFConnectionFactory.ASF34SC1

Select the created JASS-J2C authentication data in the field Component-managed authentication alias.

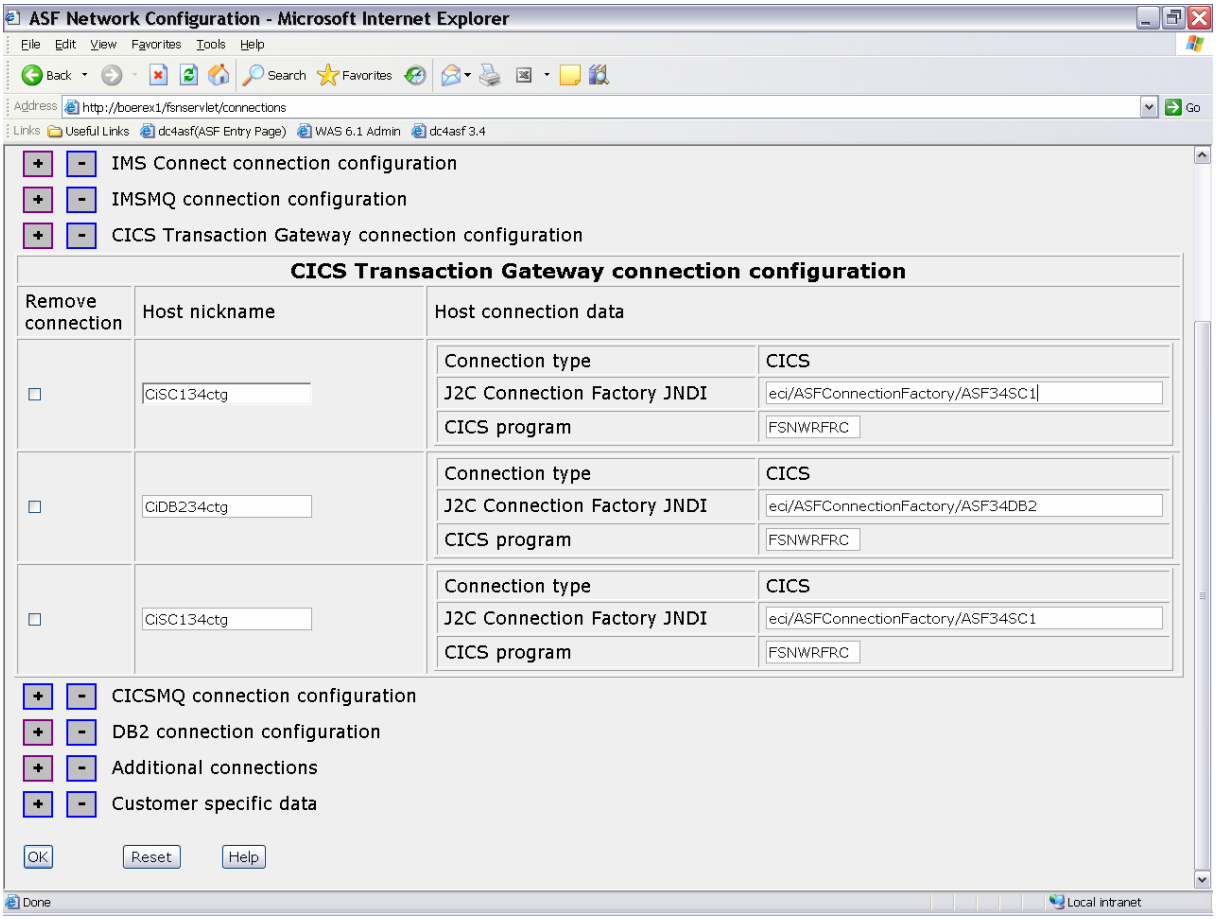


Click Apply, save your modifications, and restart the WebSphere Application Server.

Configuring the connections

To define the server-host connections in DocNetworkConfiguration.xml invoke the servlet application “connections“, using the Microsoft Internet Explorer.

Add a CICS Transaction Gateway Connection type entry by specifying a host nickname, the J2C connection factory JNDI you created in Defining a J2C connection factory. Specify the CICS program name FSNWRFRC.



Click OK to save your changes.

Stop and Start your application in the WebSphere Administrative Console.

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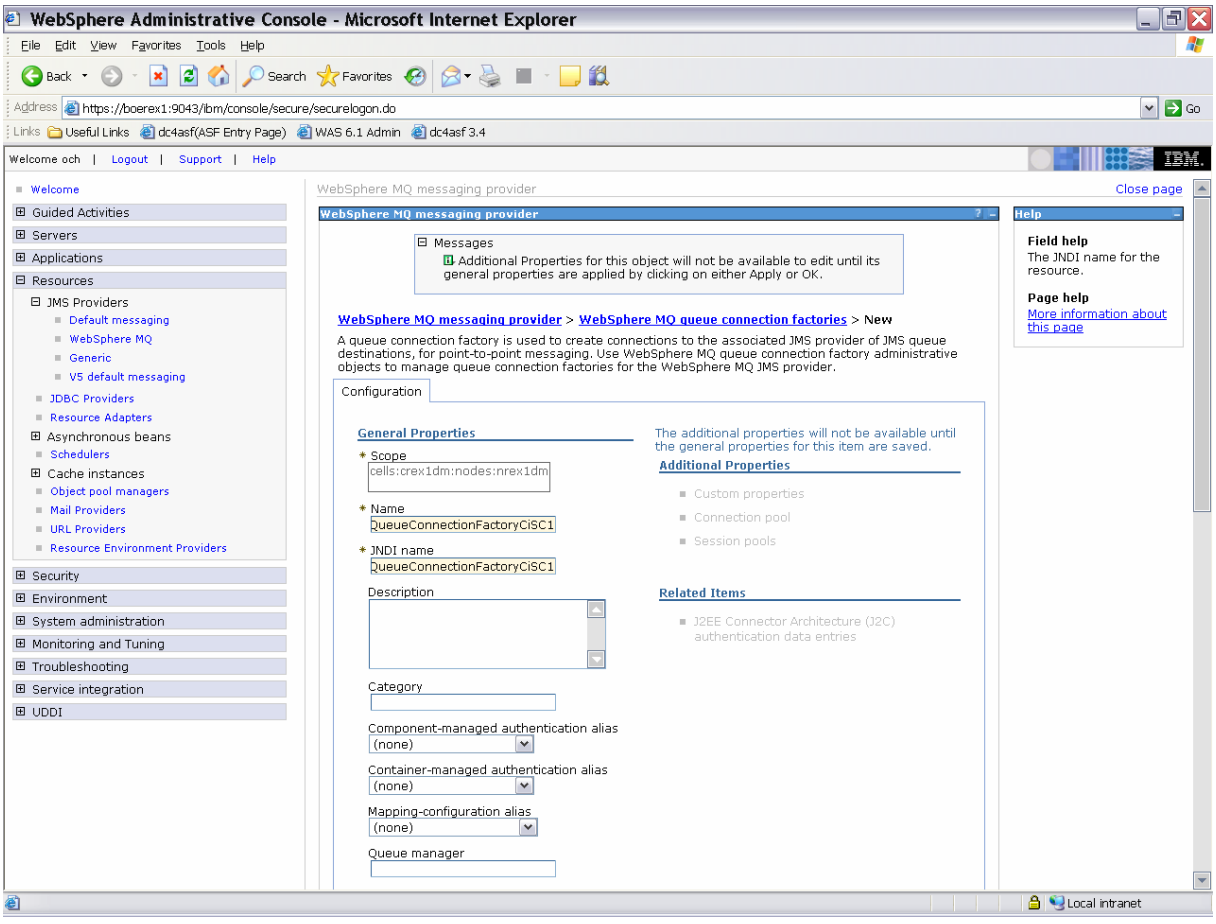
10 Setting up a connection to CICS via WebSphere MQ

Defining a queue connection factory

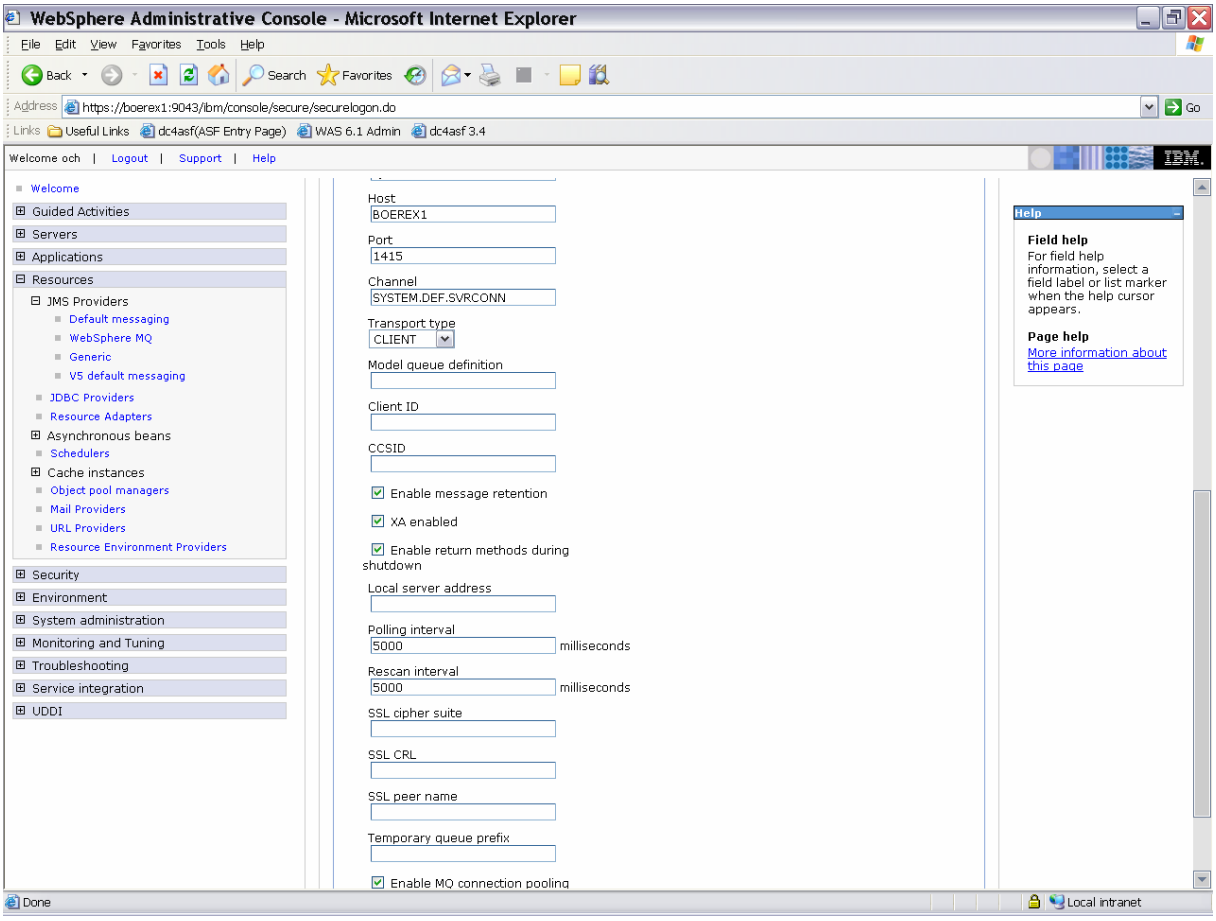
Open Resources > WebSphere MQ > WebSphere MQ queue connection factories > New

Enter the name, for example, “MQQueueConnectionFactoryCiSC1” and the JNDI name for the queue connection factory, for example, mq/MQQueueConnectionFactoryCiSC1.



Define the MQ specific properties for the queue connection factory:

6. Queue Manager is the target MQ queue manager name, for example, QE71
7. Host is the TCP/IP address of the target MQ, for example, BOEREX1
8. Port is the target TCP/IP port number of MQ, for example,1415
9. Channel is the server-connection channel name of the target MQ, for example, SYSTEM.DEF.SVRCONN.
10. Transport type must be set to CLIENT.



Click Apply and save your modifications.

Note:

Ensure that the WebSphere variable MQ_INSTALL_ROOT is set to the value ${WAS_INSTALL_ROOT}/lib/WMQ

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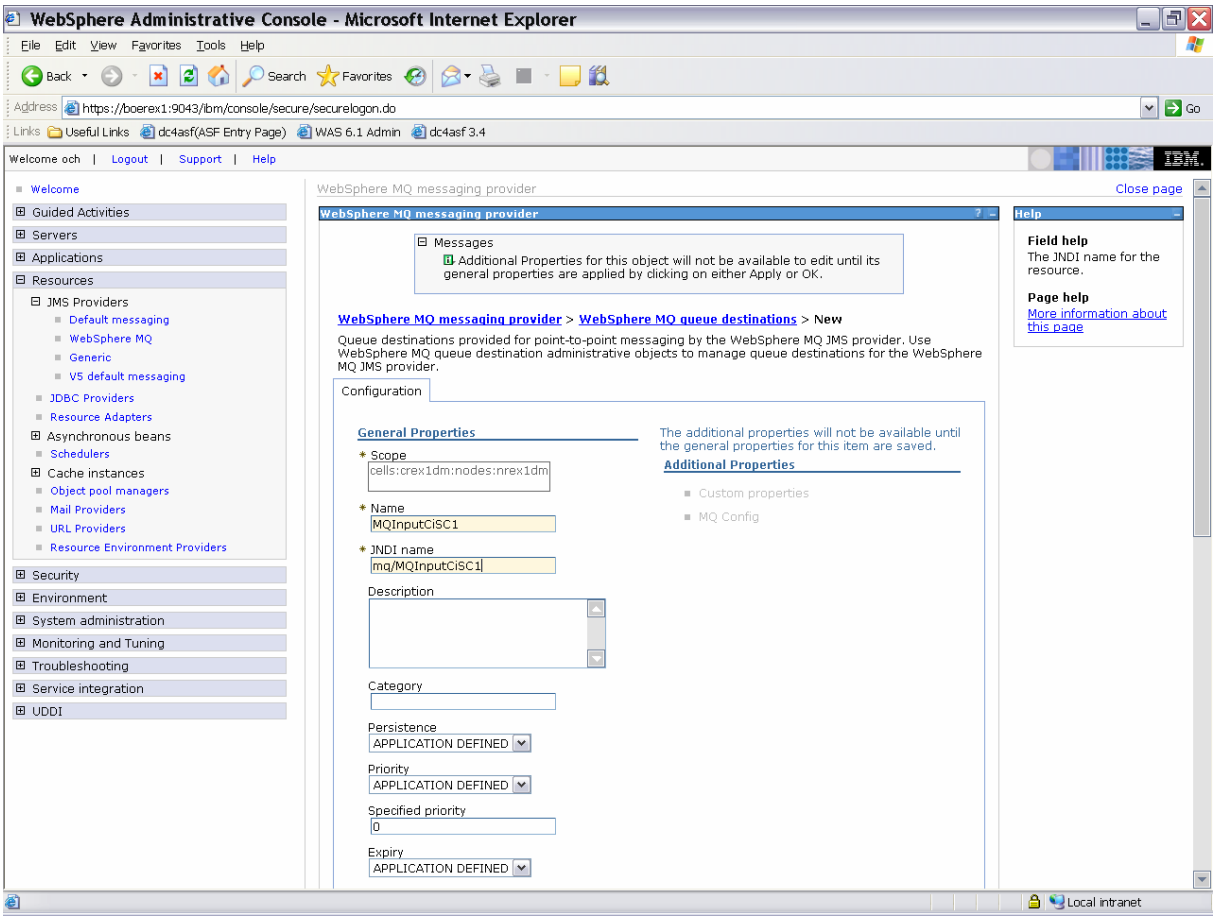
Defining an input and an output Queue

Open Resources > WebSphere MQ > WebSphere MQ queue destinations > New

Enter the name, for example, “MQInputCiSC1” and the JNDI name for the input queue, for example, mq/MQInputCiSC1.

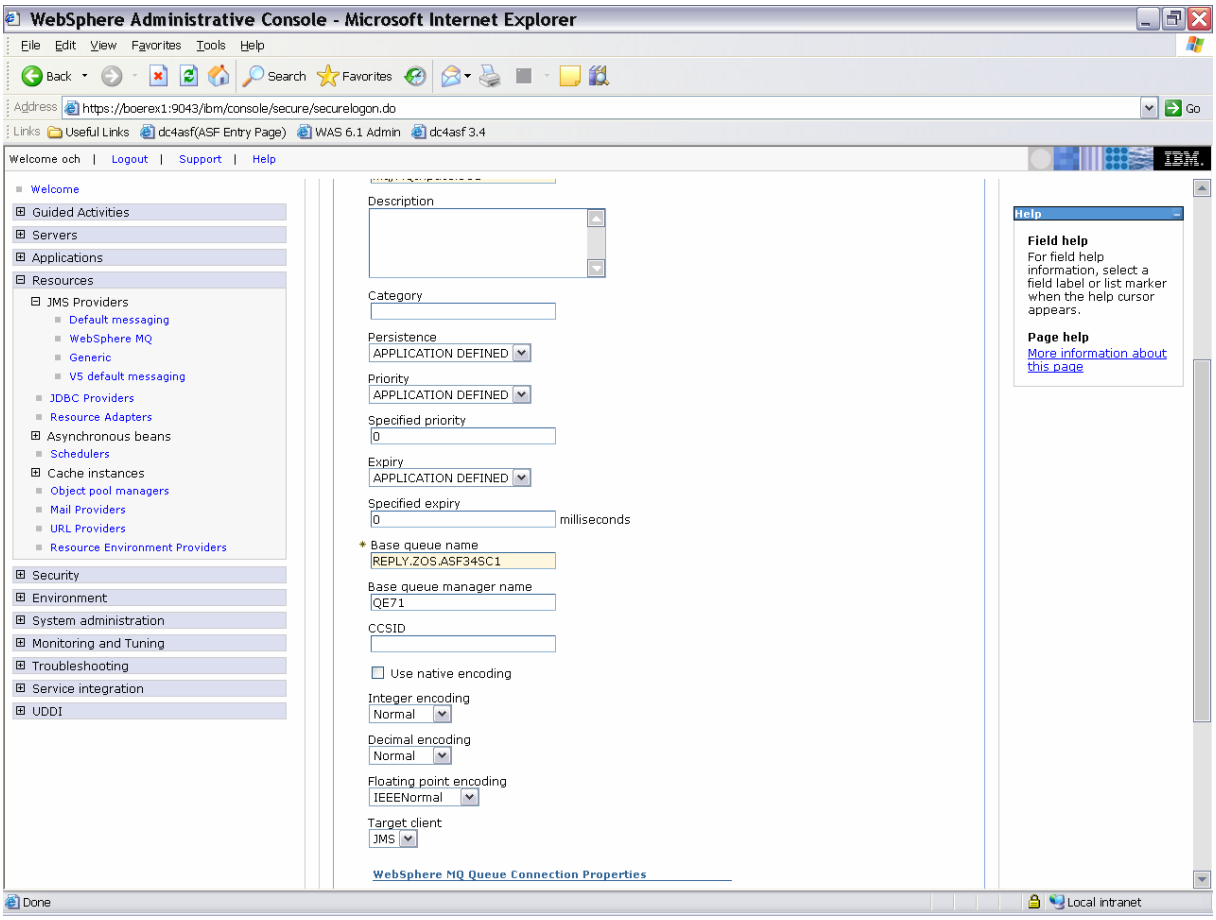


Define the MQ specific properties for the input queue:

4. Base queue name is the queue name of the target reply queue, for example, REPLY.ZOS.ASF34SC1.

5. Base queue manager name is the target queue manager, for example, QE71

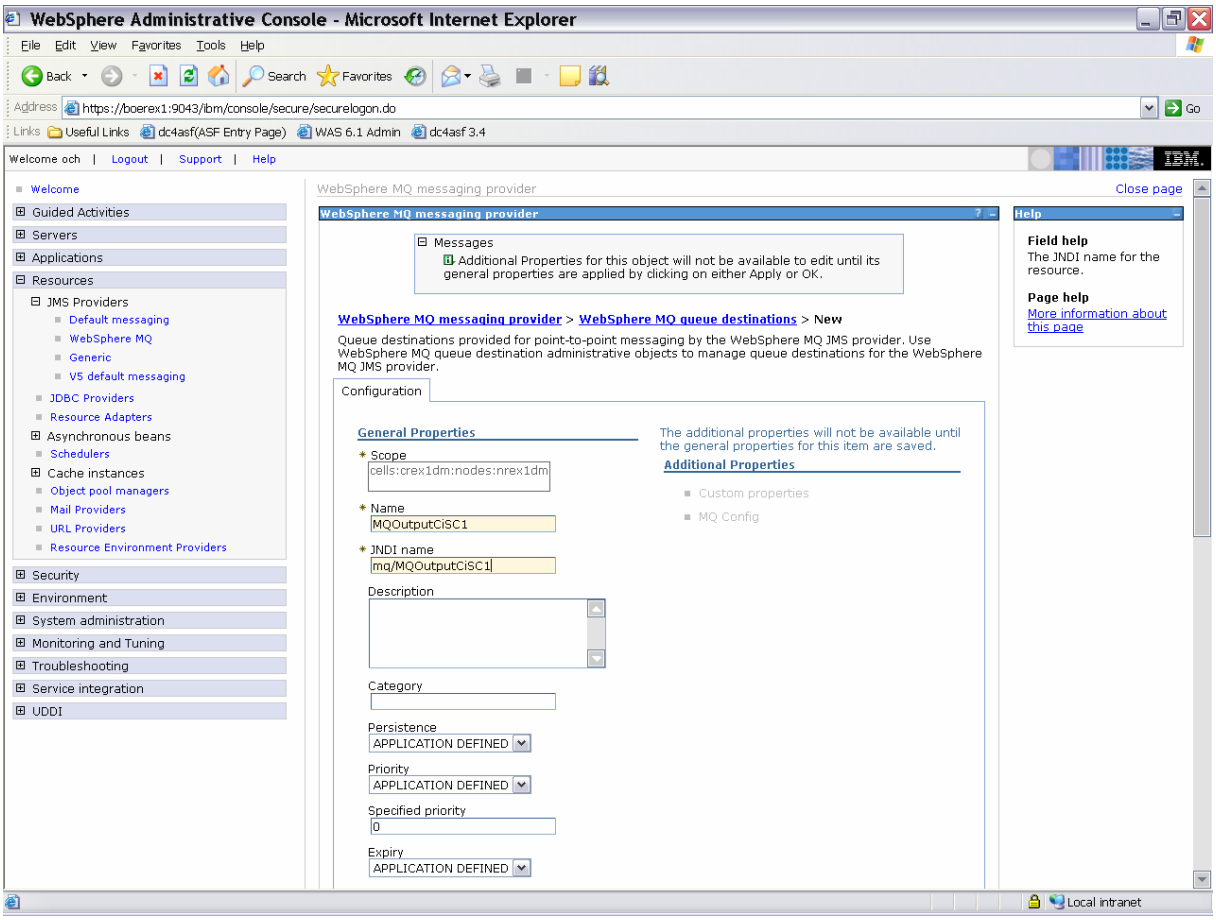
6. Target client must be set to JMS.



Click Apply and save your modifications.

Open Resources > WebSphere MQ > WebSphere MQ queue destinations > New

Enter the name, for example, “MQOutputCiSC1” and the JNDI name for the output queue, for example, mq/MQOutputCiSC1.

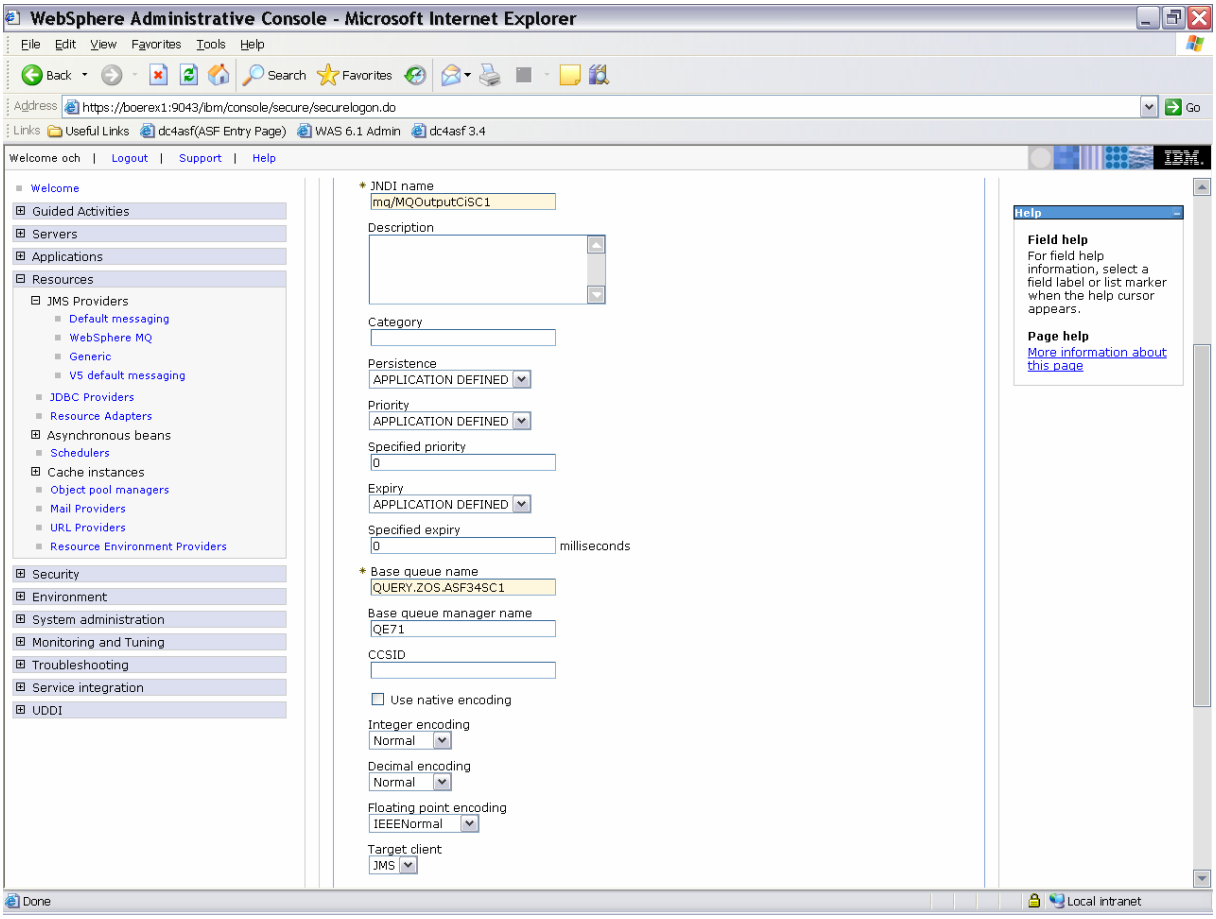


Define the MQ specific properties for the output queue:

4. Base queue name is the queue name of the target query queue, for example, QUERY.ZOS.ASF34SC1.

5. Base queue manager name is the target queue manager, for example, QE71

6. Target client must be set to JMS.

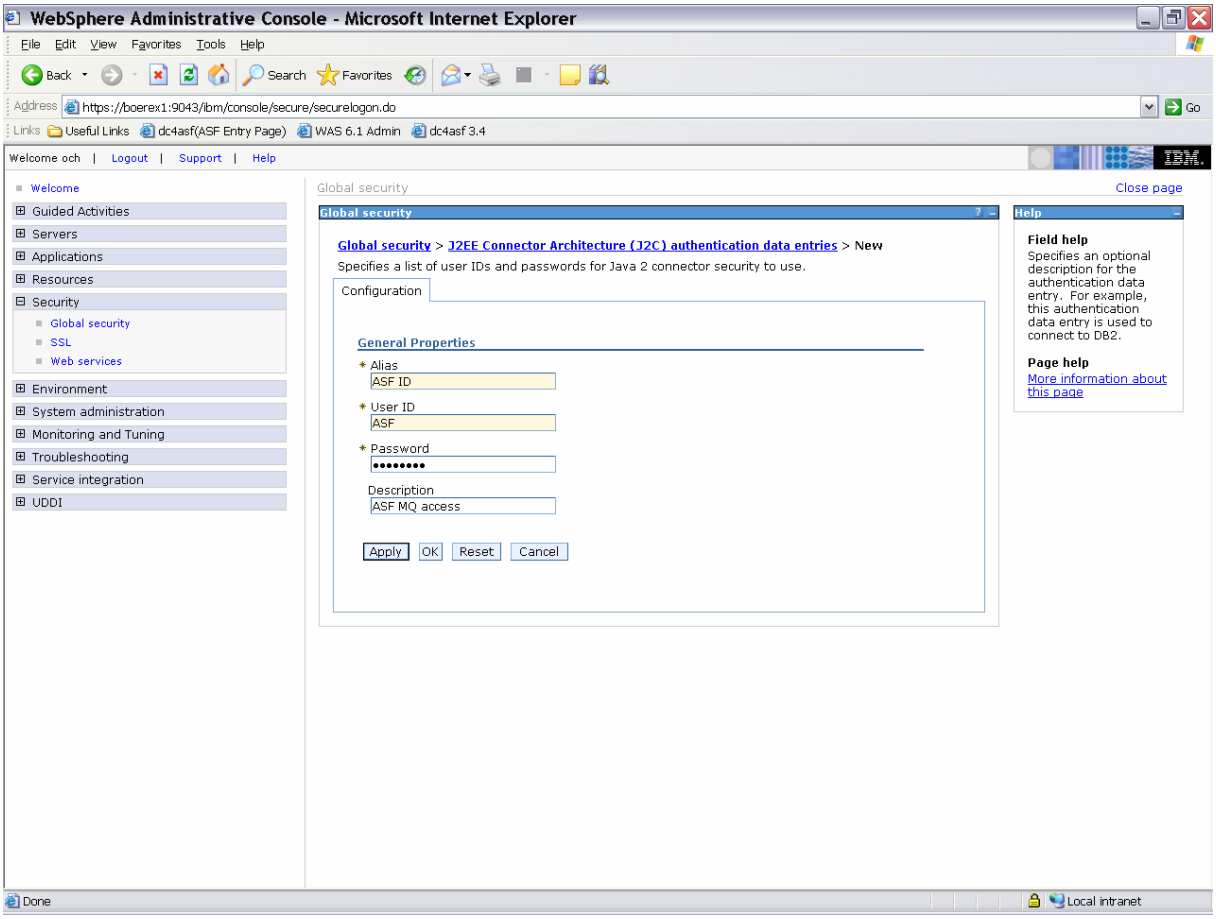


Click Apply and save your modifications.

Defining JAAS – J2C authentication data

Open Security > Global Security > J2EE Connector architecture (J2C) authentication data entries > New

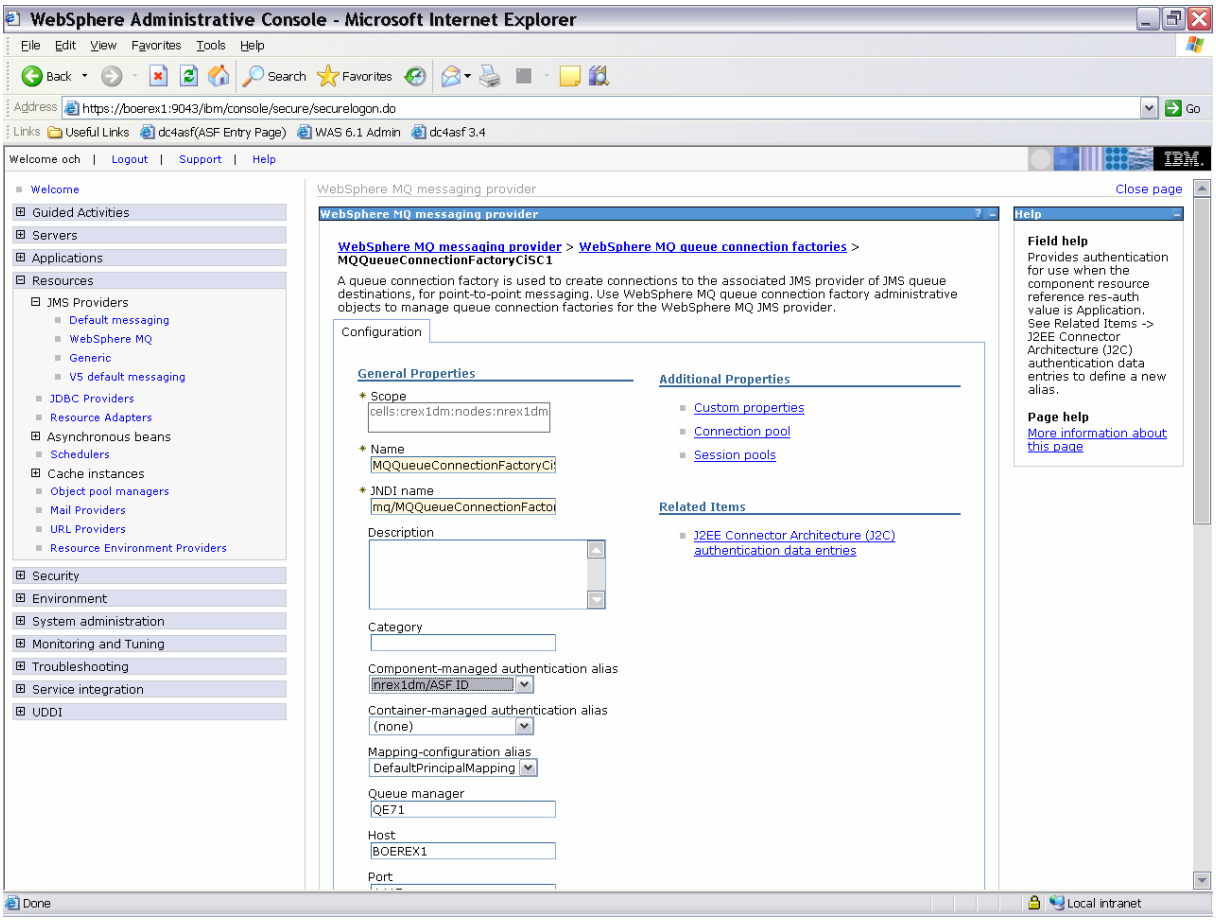
Enter an alias and a valid User ID and password for the MQ connection.



Click OK and save your modifications.

Open Resources > WebSphere MQ > WebSphere MQ queue connection factories > MQQueueConnectionFactoryCiSC1

Select the created JASS-J2C authentication data in the field Component-managed authentication alias.

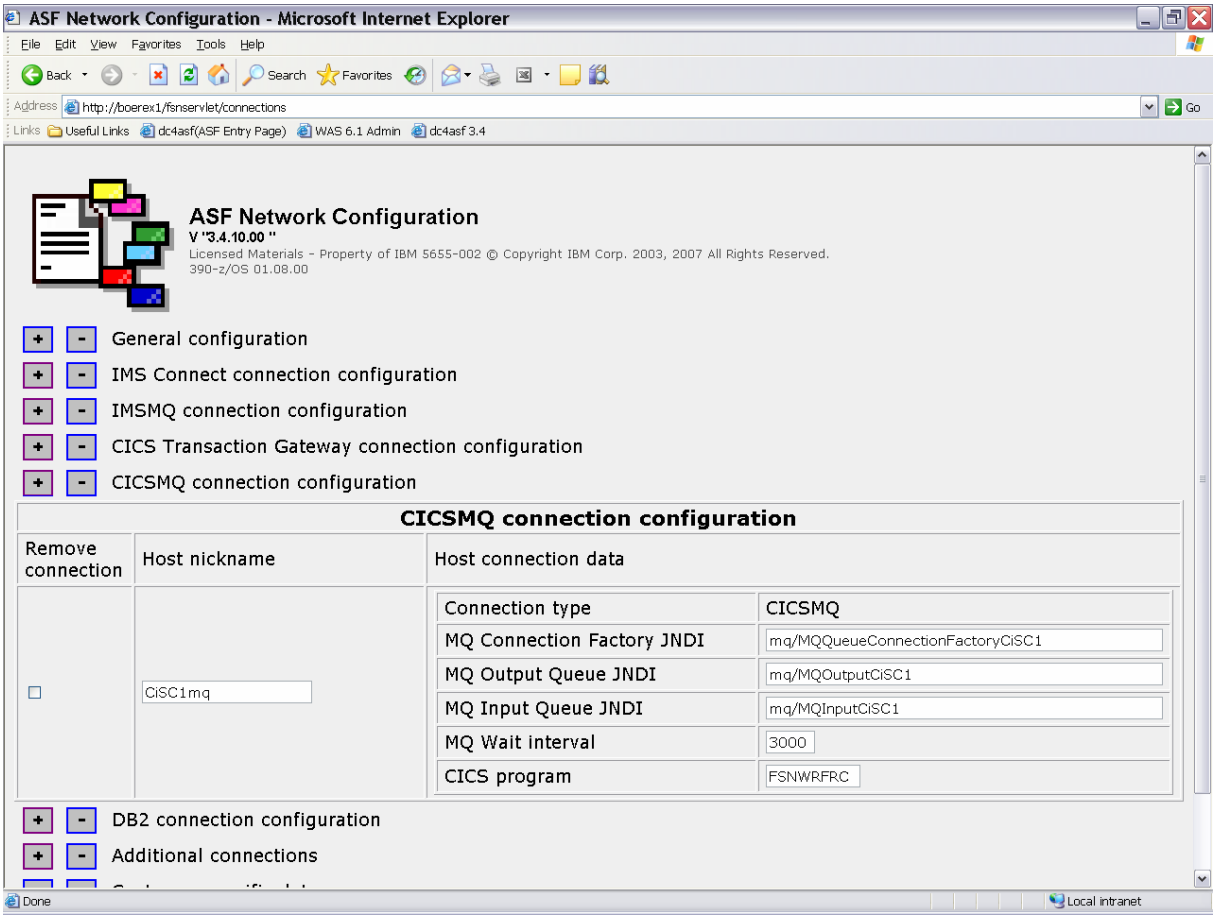


Click Apply, save your modifications, and restart the WebSphere Application Server.

Configuring the connections

To define the server-host connections in DocNetworkConfiguration.xml invoke the servlet application “Connections“, using the Microsoft Internet Explorer.

Add a CICSMQ connection type entry by specifying a host nickname, the MQ connection factory JNDI you created in Defining a queue connection factory, the MQ input queue JNDI, and MQ output queue JNDI you created in Defining an input and an output queue.

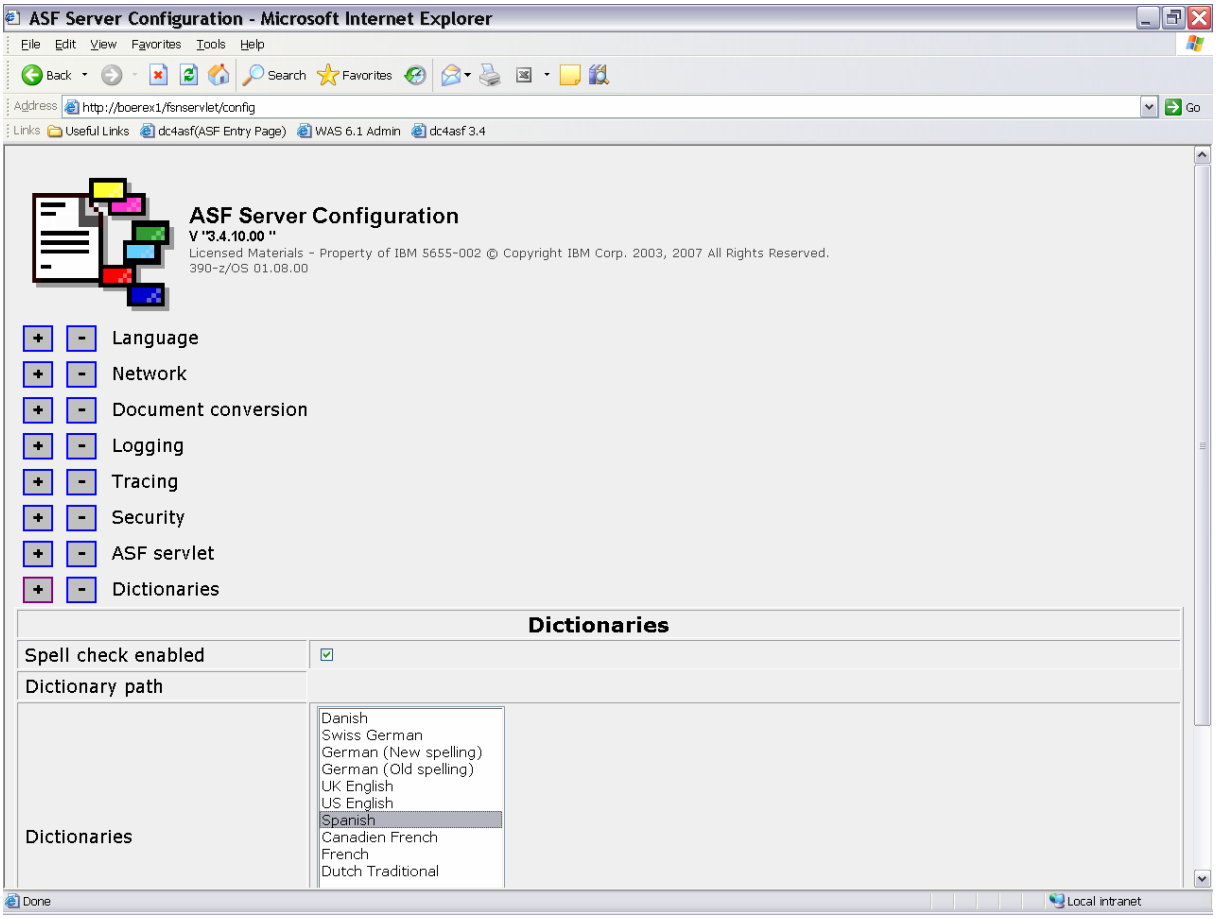


Click OK to save your changes.

Stop and Start your application in the WebSphere Administrative Console.

11 Activating dictionaries for spell checking

To activate the dictionaries for spell checking invoke the servlet application “config“, using the Microsoft Internet Explorer. Ask the ASF administrator(s) which dictionaries should be active.



Click OK.

Stop and Start your application using the WebSphere Administrative Console.

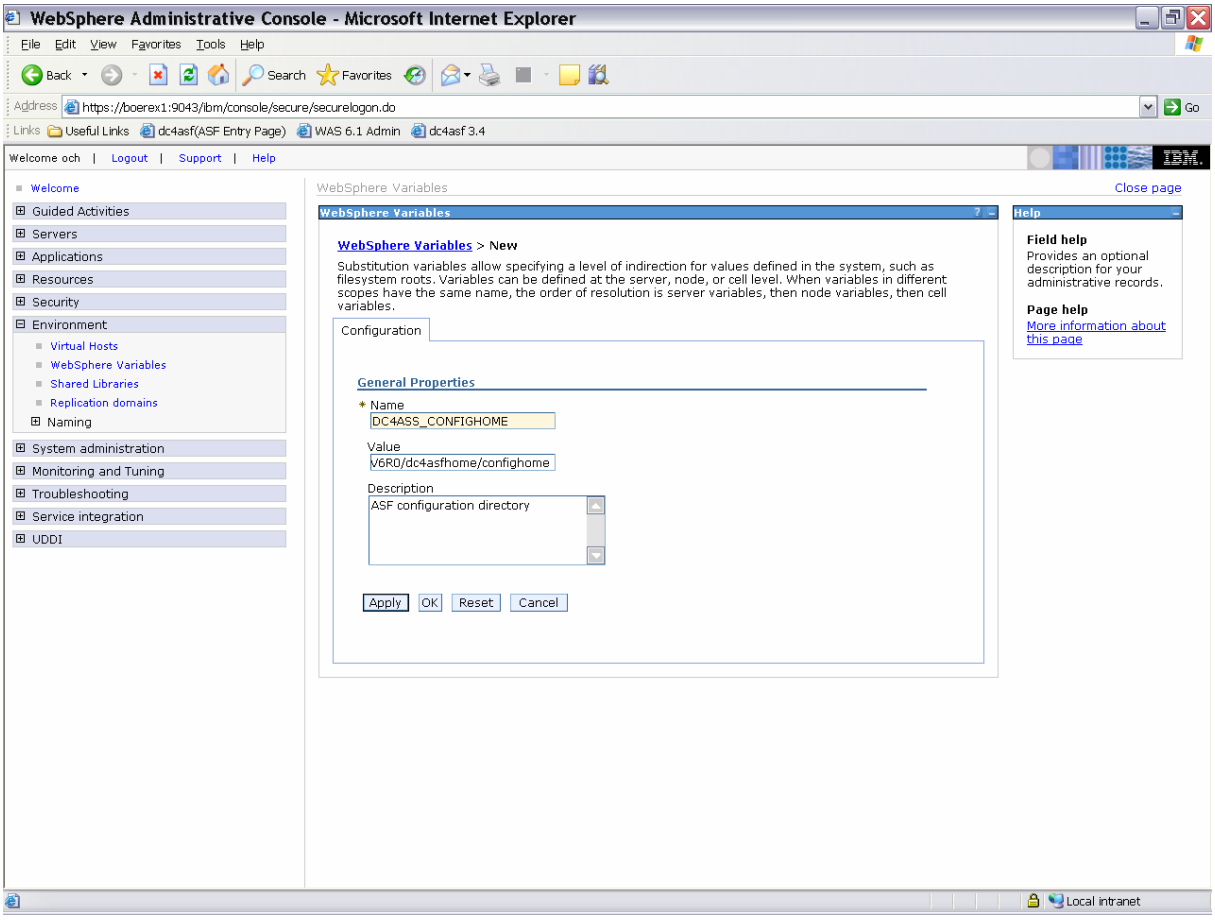
12 Using one set of configuration files

If you are running fsnservlet in a multi-node environment or you have more than one instance of fsnservlet but you want to use only one set of configuration files, perform the following steps:

- Create two WebSphere variables.

  Open Environment > WebSphere Variables > New

  Create the variables DC4ASF_CONFIGHOME and DC4ASF_DATAHOME and set the values to, for example, /local/WebSphere/V6R0/dc4asfhome/confighome and /local/WebSphere/V6R0/dc4asfhome/datahome



- Create the following three directories:

  $(CONFIG_HOME)
  For example, /local/WebSphere/V6R0/dc4asfhome/confighome
  $(DATA_HOME)/log
  For example, /local/WebSphere/V6R0/dc4asfhome/datahome/log
  $(DATA_HOME)/preview
  For example, /local/WebSphere/V6R0/dc4asfhome/datahome/preview

- Copy the following configuration files:

  DocConfiguration.xml
  DocNetworkConfiguration.xml
  DocXSLConversion.xml
  DocSpellCheckConfiguration.xml

  from $(APP_INSTALL_ROOT)/fsnservletEAR.ear/fsnservlet.war//internals/config
  to $(CONFIG_HOME)

- Change the configuration.xml as follows:

```
<Network>
        <ConfigFile>$(CONFIG_HOME)/DocNetworkConfiguration.xml</ConfigFile>
</Network>

<XSLConversion>
  <HTMLPath>xsl</HTMLPath>
        <ConfigFile>$(CONFIG_HOME)/DocXSLConversion.xml</ConfigFile>
</XSLConversion>

<Logging enable="Y">
        <GenericName>$(DATA_HOME)/log/logfile</GenericName>
        <Extension>.log</Extension>
        <NumberOfGenerations>10</NumberOfGenerations>
        <Filesize>3096</Filesize>
        <Recordlength>330</Recordlength>
</Logging>

<Tracing enable="Y" sessiontrace="N">
        <GenericName>$(DATA_HOME)/log/trcfile</GenericName>
        <Extension>.trc</Extension>
        <Recordlength>3300</Recordlength>
```

13 Protecting access to the configuration servlets

To restrict access to the configuration servlets (config and connections) for fsnservlet the following prerequisite must be met:

- “Global Security” of the WebSphere Application Server (WAS) is enabled.

  For more information on “Global Security” refer to the online help of the “WebSphere Application Server (Distributed platforms and AIX), Version 6.0”.

Open Applications > Enterprise Applications > *fsnservletEAR* > *Map Security roles to users/groups*

Select the role “dc4asfconfig” and click Lookup users.

Enter a limit and a search pattern for users and click Search.

Select the users and click on the arrows to move the users to the “Selected” list.

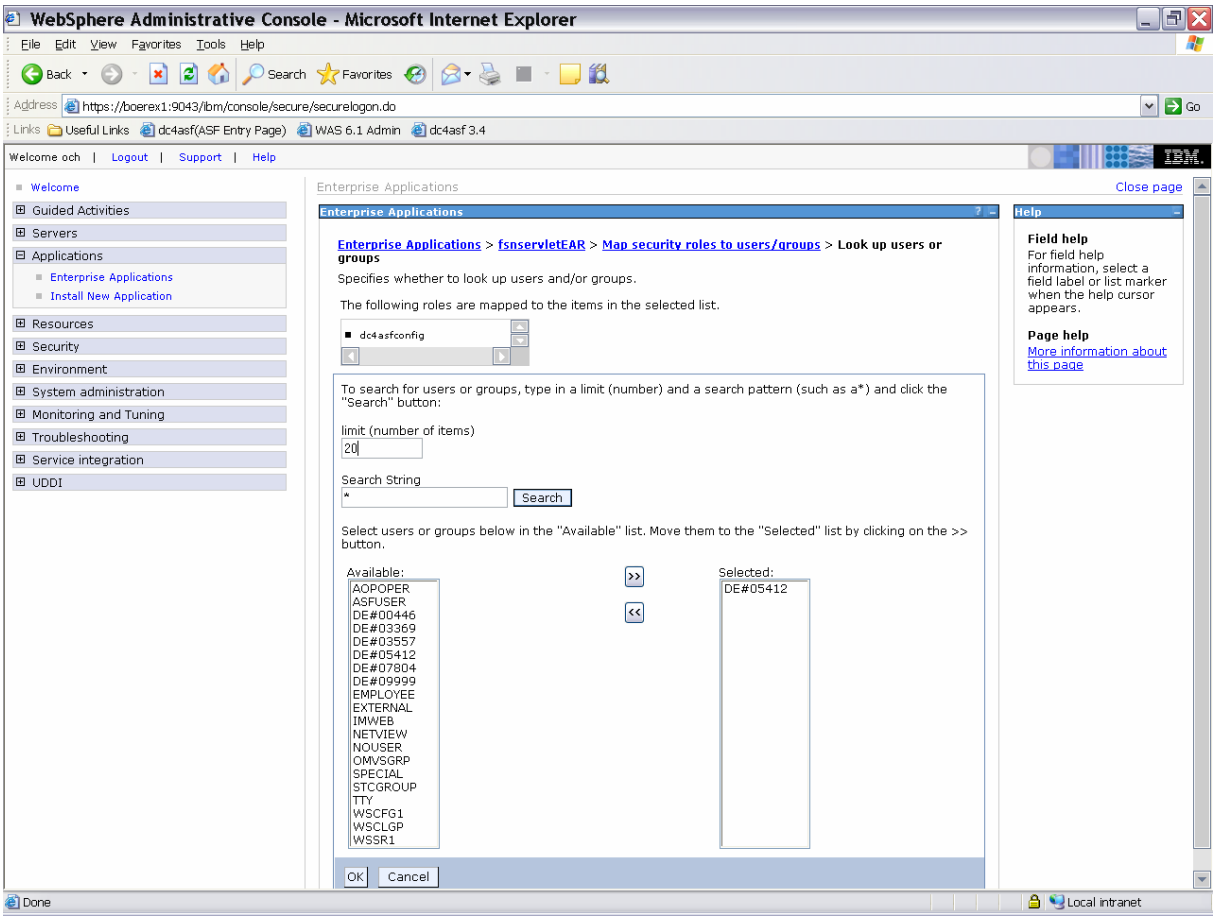
Click OK.

Then click Lookup groups.

Enter a limit and a search pattern for groups and click Search.

Select those groups to which the selected users belong and click on the arrows to move the groups to the “Selected” list.

Click OK twice.



Save the changes to the master configuration, then Stop and Start the WebSphere Application Server.

To verify that the security implementation was successful, launch both the configuration servlet (config) and the network configuration servlet (connections). You will be prompted for your user ID and password.

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14 Print Preview Configuration

AFP Resources

To make the AFP resources (page segments and overlays) available on the server for resolution during “Print Preview” requests there are two possibilities:

1. Copy the AFP Resources into USS
2. Direct Read from Partioned Datasets

Copy the AFP Resources into USS

For using the AFP Resources in USS perform the following steps:

- Copy the page segments from the host system (for example using ftp) into the directory

  /local/WebSphere/V6R0/AppServer/profile/default/installedApps/xxxxx/fsnservletEAR.ear/fsnservlet.war/AFPResources/pseg
  Note:
  the extension of the overlays must be “**psg**” specified in lower case while the resource names must be specified in upper case).

- Copy the overlays from the host system (for example using ftp) into the directory

  /local/WebSphere/V6R0/AppServer/profile/default/installedApps/xxxxx/fsnservletEAR.ear/fsnservlet.war/AFPResources/ovl
  Note:
  the extension of the overlays must be “**oly**” specified in lower case while the resource names must be specified in upper case).

To define the server URL in DocConfiguration.xml invoke the servlet application “config“, using the Microsoft Internet Explorer. Specify your server URL and your transformation path in the Preview AFP Section.

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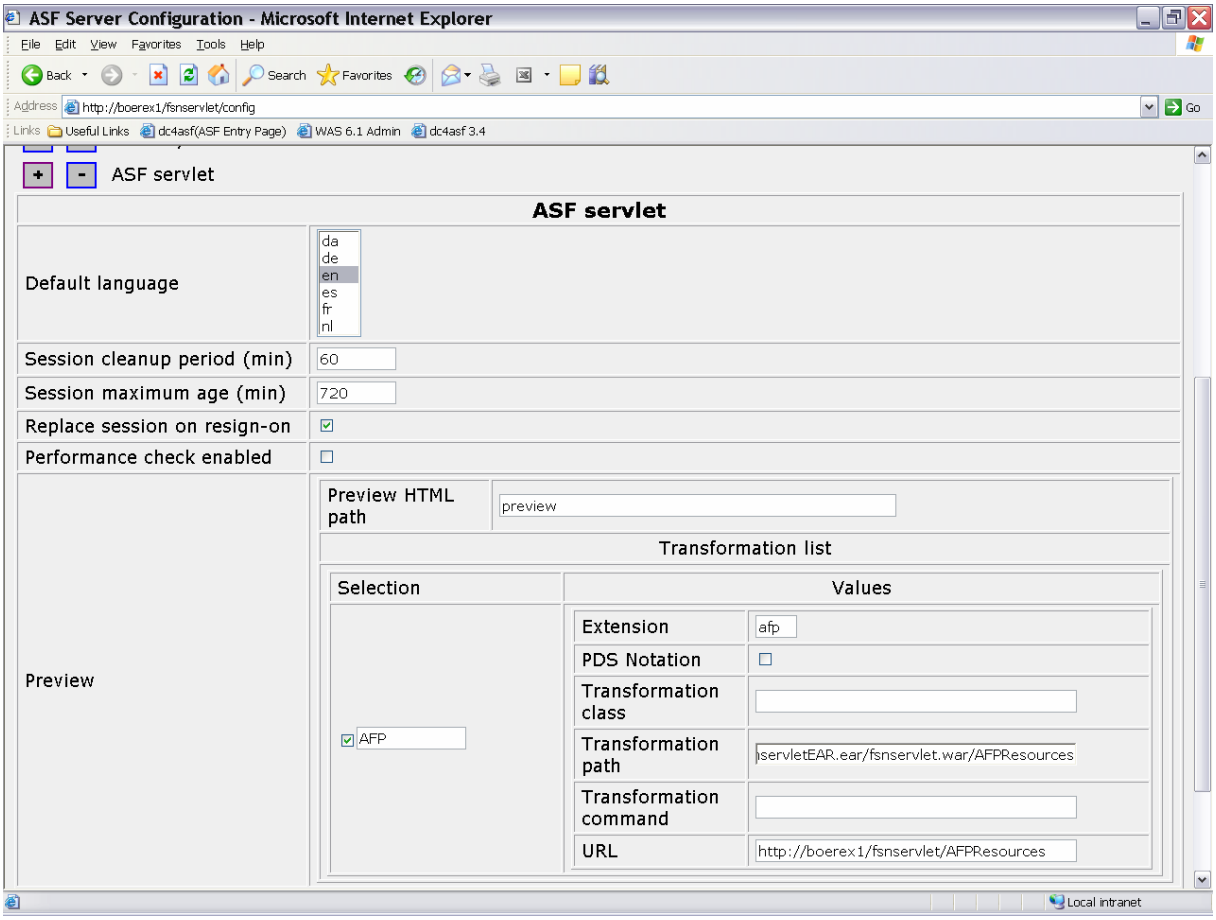

Click OK to save your changes.

Direct Read from Partitioned Datasets

To define the direct read from portioned datasets invoke the servlet application “config“, using the Microsoft Internet Explorer. Specify your server URL and the partitioned datasets where your overlays and page segments are residing in the Preview AFP section. The server URL must be

`http://xxxx/appl//getafpres.dc4asfcommand?getfile=`

where xxxx and appl must be changed to your installation for example //boerex1:9080/fsnservlet.

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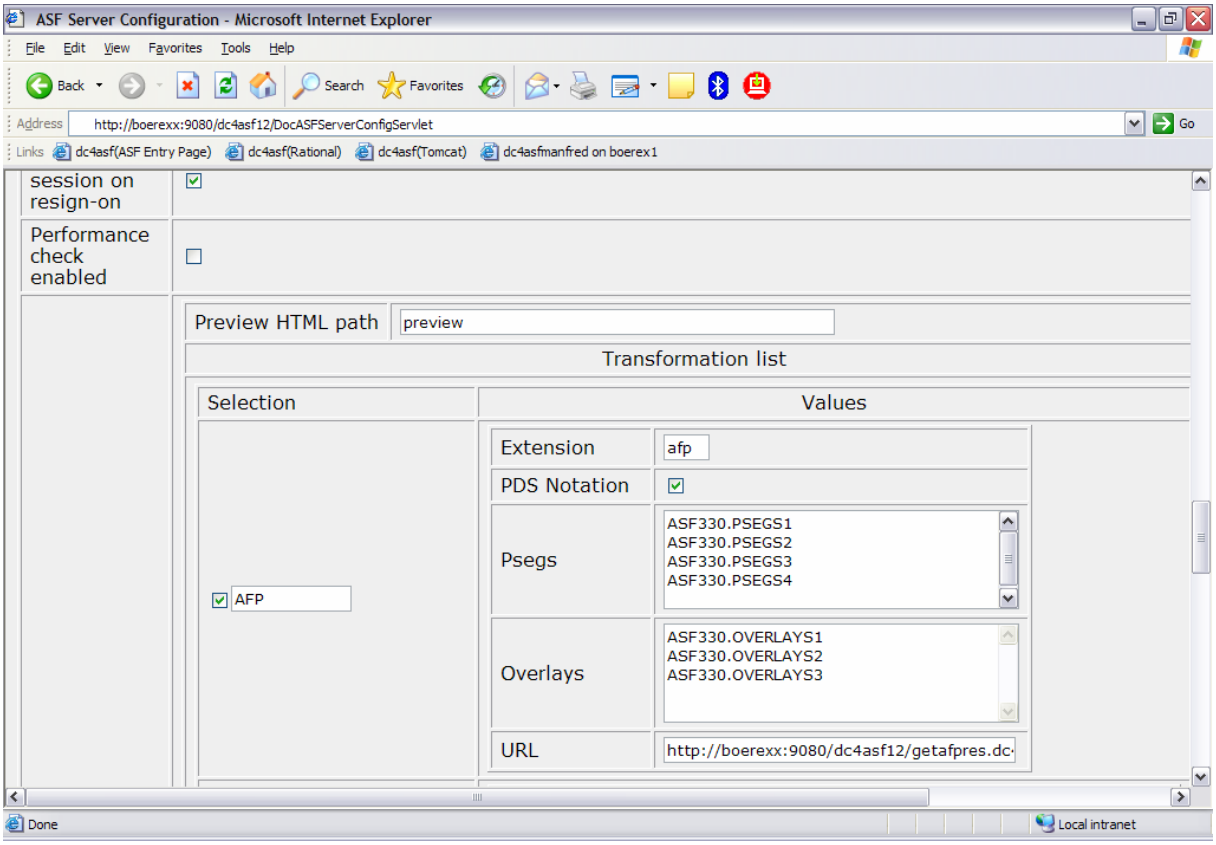
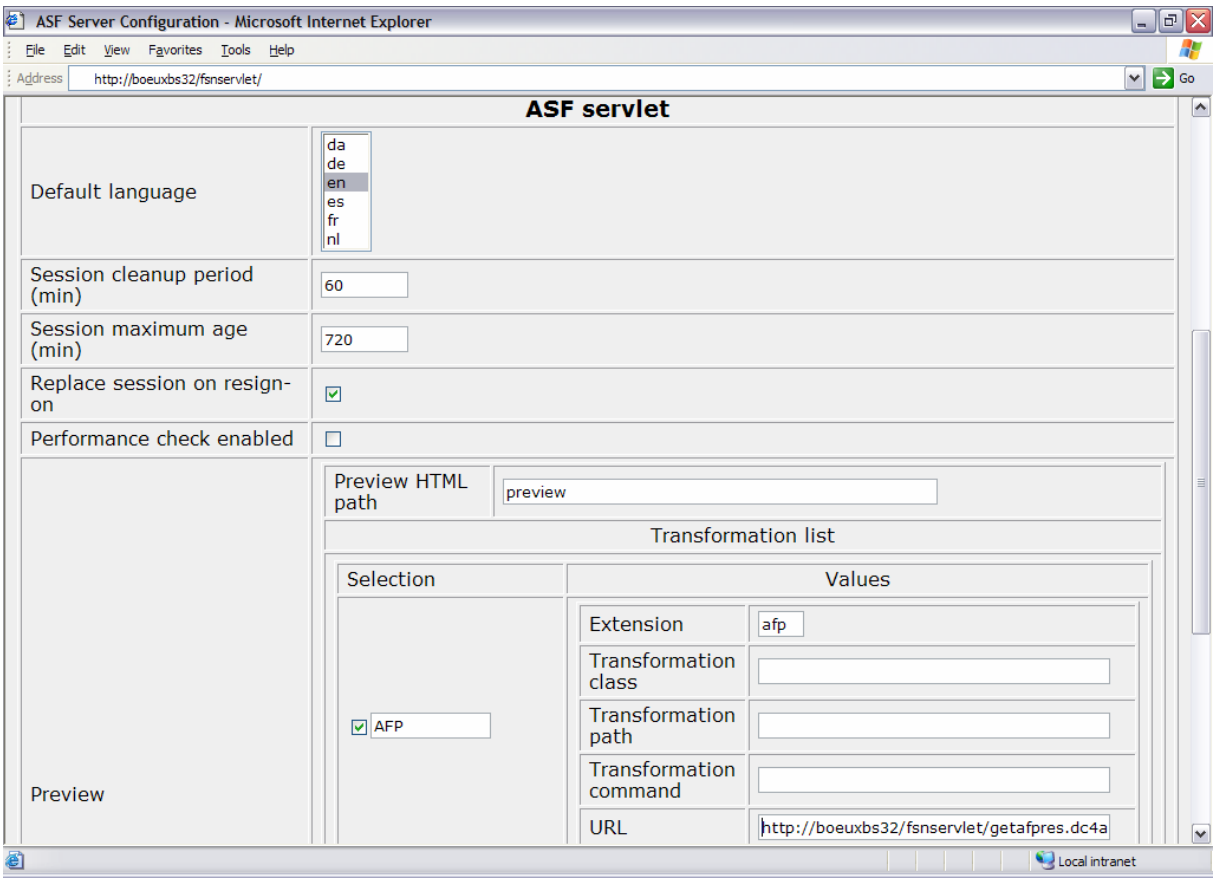

ASF Server Configuration - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://boerexx:9080/dc4asf12/DocASFServerConfigServlet
Go
Links dc4asf(ASF Entry Page) dc4asf(Rational) dc4asf(Tomcat) dc4asfmanfred on boerex1
session on resign-on
Performance check enabled
Preview HTML path
preview
Transformation list
Selection
Values
AFP
Extension
afp
PDS Notation
Psegs
ASF330.PSEGS1
ASF330.PSEGS2
ASF330.PSEGS3
ASF330.PSEGS4
Overlays
ASF330.OVERLAYS1
ASF330.OVERLAYS2
ASF330.OVERLAYS3
URL
http://boerexx:9080/dc4asf12/getafpres.dc
Done
Local intranet

Using the AFP Viewer or a PDF viewer

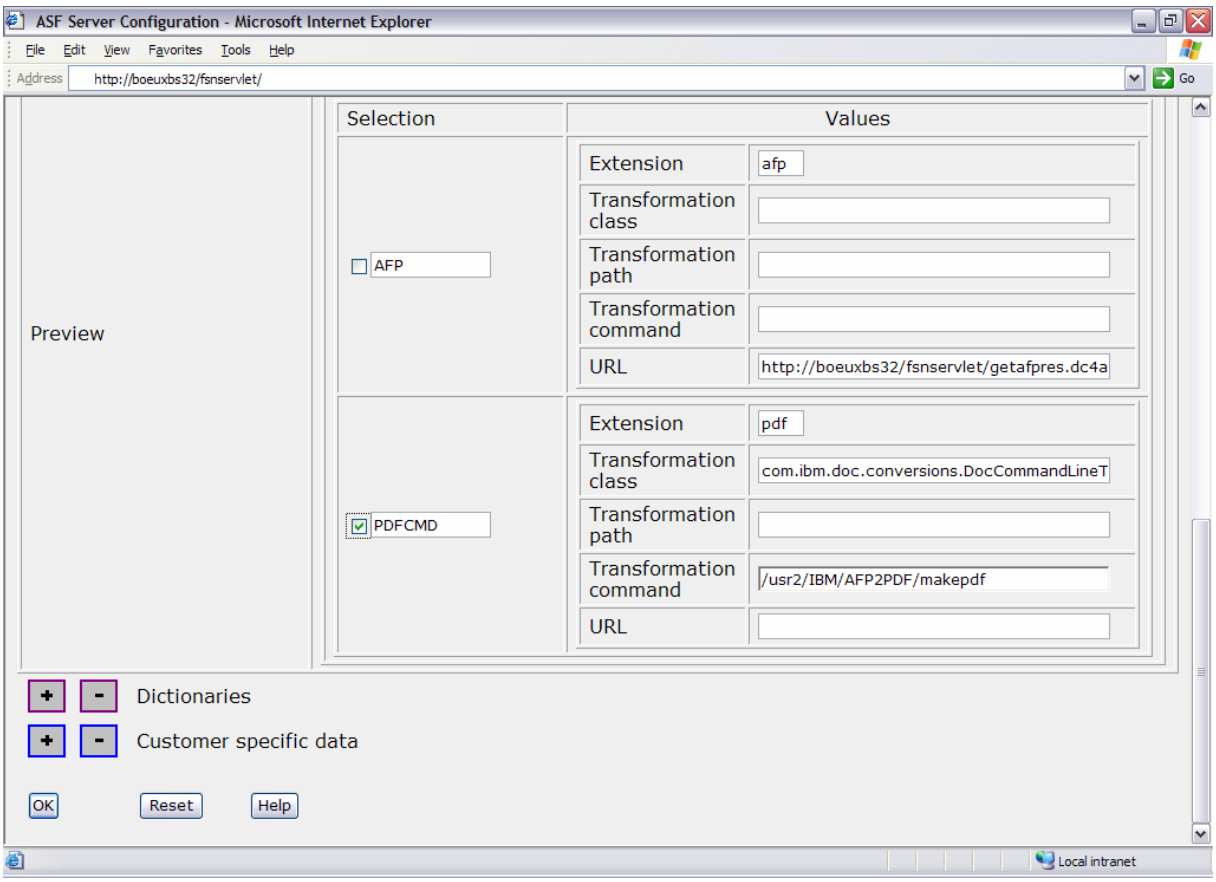
To define which viewer to use for print preview (for AFP or PDF format) in the DocConfiguration.xml file, invoke the servlet application “config“, using the Microsoft Internet Explorer. Specify the default type in the Preview Section by clicking the check box.

AFP default sample:



If you have chosen to transform from AFP to PDF, you must also specify what conversion software you are using or where it is installed in the Preview Section (Transformation Class, Transformation path, or Transformation command).

For example, a PDF transform setting could look as follows:



Note:

There is also an API parameter called docprvform that you can use to determine a print preview transform other than the configured default transform. For more information refer to the “Document Connect for ASF Client Integration Guide and Reference”.

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15 Applying maintenance

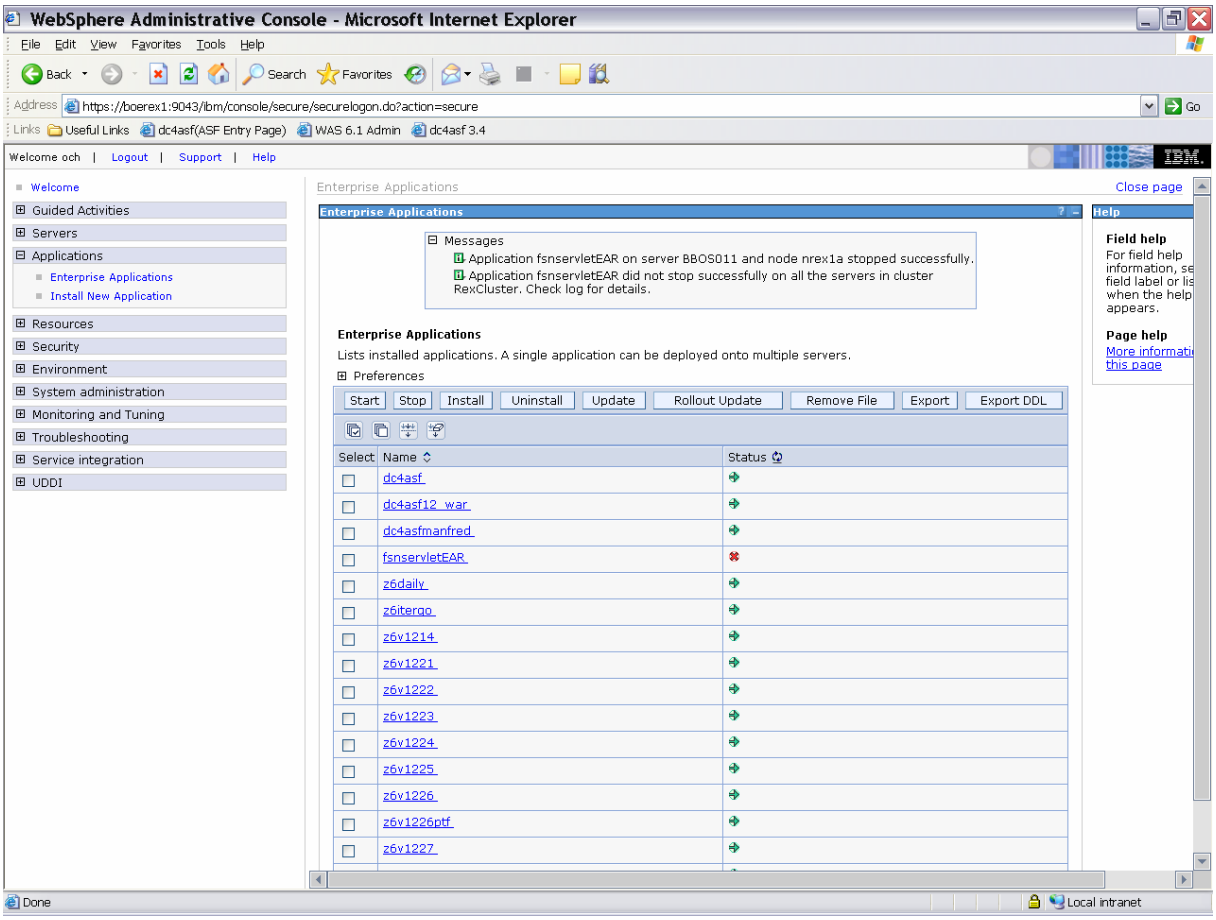
Copy the zip file containing the maintenance into a directory:

/usr/swrepository/dc4asf/was60/war/ptfs

Open the WebSphere Administrative Console:

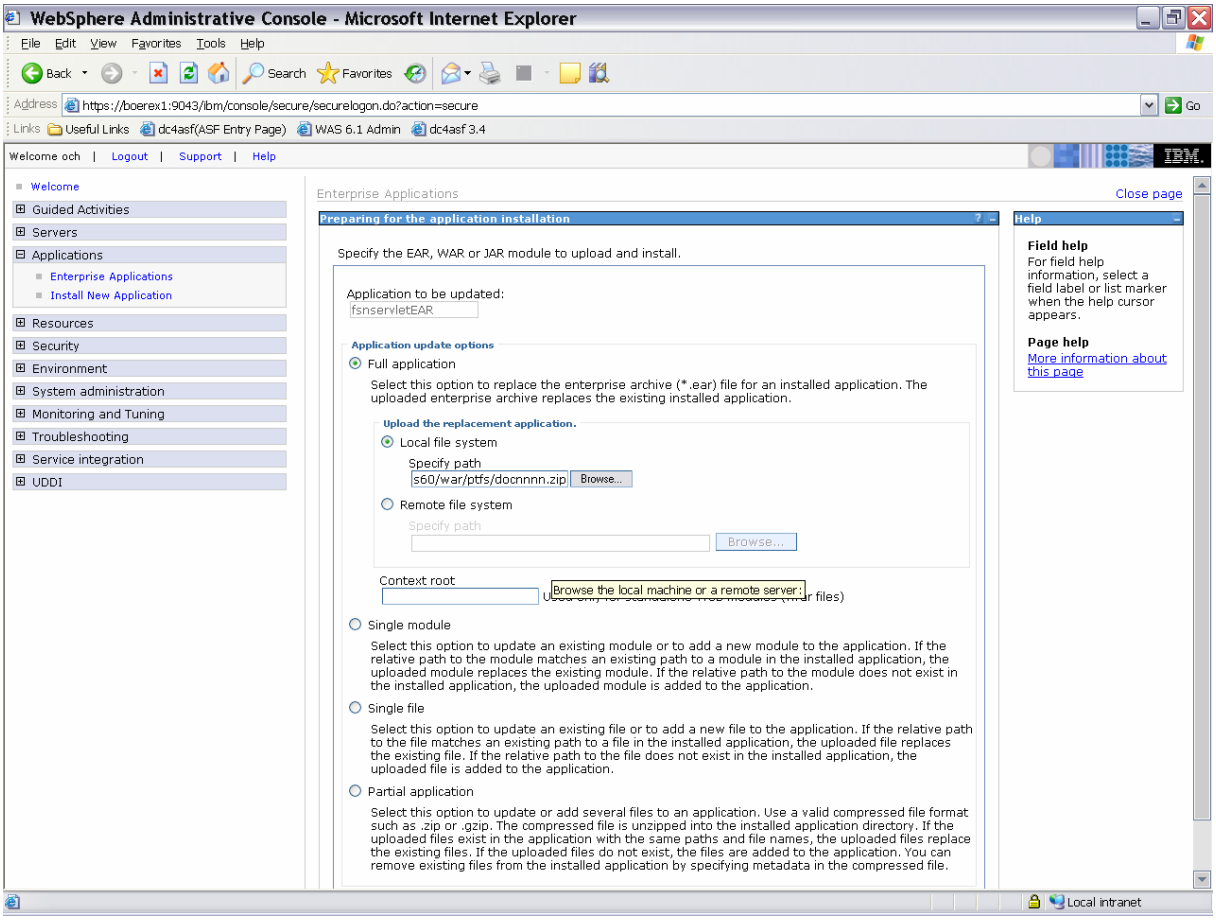
Open Application >Enterprise Application

Stop the application fsnservletEAR.
Select the application fsnservletEAR and enter Update.



Enter the path (local path or server path) where the new DC4ASF zip file is located:

/usr/swrepository/dc4asf/was60/war/ptfs/docnnnn.zip



On each of the next panels click Next and finally click Finish. After the update of the application has completed, save the master configuration.

Open Applications > Enterprise Application and select your application fsnservletEAR. Click Start to restart the application.

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16 The Conversion Toolkit

The Document Connect for ASF Conversion Toolkit provides a convenient way to verify the DCF to HTML and HTML to DCF conversions, and to test modifications to the DocXSLConversion.xml file and any new custom conversion directives added to the doccustom1.xsl and doccustom2.xsl files.

The toolkit runs on Windows and takes you through the conversion steps from DCF (stored in the txt file) to XHTML (for display in the browser or editor) and back again to DCF, ready for storing in ASF.

The tool writes all the intermediate formats to disk for inspection and, if you have an XML Development Tool, like Altova XMLSPY, you can also test and debug your custom stylesheets.

Hardware and software requirements

To run the toolkit you need Windows 2000 or Windows XP, and a Java Runtime Environment (JRE) V1.3.1 or higher. You can obtain the JRE at the Sun Java page (http://java.sun.com).

Download and install the JRE. After you have successfully installed the JRE, a Windows environment variable needs to be set. Select Control Panel->System->Advanced->Environment Variables. The name of the variable is JAVA_HOME and its value must be set to the install directory of the JRE.

Installing the toolkit

The toolkit is provided as a zip file. This zip file contains everything you need to run the toolkit, given that the installed JRE is operational and the JAVA_HOME environment variable has been set correctly. To install and adapt the toolkit:

1. Download the zip-file to a temporary directory.
2. Unzip the file to a disk drive and directory of your choice; the zip file contains the root directory of the toolkit.

Assume you have unzipped the toolkit to the root of drive F. Then the structure will look as follows:

```
Directory of F:\dc4asftoolkit

2004-04-28  11:57    <DIR>          .
2004-04-28  11:57    <DIR>          ..
2004-04-28  11:50    <DIR>          bin
2004-04-28  11:50    <DIR>          config
2004-04-28  11:50    <DIR>          log
2004-04-28  11:50    <DIR>          resources
2004-04-28  11:50    <DIR>          TestData
2004-04-28  11:50    <DIR>          www
2004-03-09  13:09                251 xtoolkit.bat
               1 File(s)            251 bytes
```

The dc4asftoolkit root directory contains a bat file, which is used to run the toolkit, and the following sub directories:

1. /bin: The bin subdirectory contains all jar files required to run the toolkit. The most important file is the docserver.jar file which is the main Document Connect for ASF executable. It is exactly the same as the docserver.jar used by the Document Connect for ASF Web server application. You should replace it with the latest version from your Web server.
3. /bin/java: This subdirectory contains the jar files needed for the XML conversions. They are not part of Document Connect for ASF. You can replace these with the latest versions from your Web server.
4. /config: This subdirectory contains the configuration files necessary to run the toolkit. The DocXSLConversion.xml file is the one used by the toolkit. To test your changes to the DocXSLConversion.xml file, copy your active DocConfiguration.xml file from the Web server and then modify it.
5. /resources: This subdirectory contains the resource files used by the toolkit. There is no need to modify these files. However, if you want to you can copy the resource files from your Web application server.
6. /log: The log subdirectory contains traces and logs created during your tests.
7. /testdata: This subdirectory contains an example paragraph used only for the installation verification.
8. /www/xsl: This subdirectory contains the xslt stylesheets used by the toolkit. These files must be replaced with the files that have the same names as the files from your Web application server.

To verify the installation, open a Command Prompt window in your toolkit installation directory and type:

```
xtoolkit ./Testdata/mini/text.txt
```

You should then see something like this:

```
****************************************************************
       IBM Document Connect for ASF Conversion Toolkit

   (C) COPYRIGHT International Business Machines Corp. 2003, 2007

                     All Rights Reserved
            Licensed Materials - Property of IBM

  US Government Users Restricted Rights - Use, duplication or
disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
****************************************************************

Windows XP, Version 5.1
Document Connect for ASF Build Number: 3.4.10.00
Xalan Version: XSLT4J Java 2.5.4
******Start******
Clearing the trace Dir=.\log
2 files deleted from .\log
00000 start---File: .\testdata\mini\text.txt
00000 done----File: .\testdata\mini\text.txt

******Done*******
```

If you see a start and done line, you have successfully installed the toolkit, and your /Testdata/mini subdirectory contains the conversion results and all intermediate data streams created during the conversion.

```
Directory of F:\dc4asftoolkit\TestData\mini
```

```
2004-04-28  11:50    <DIR>          .
2004-04-28  11:50    <DIR>          ..
2004-03-09  11:54                 5 text.txt
2004-04-28  12:25             3,785 text.txt.html
2004-04-28  12:25             3,785 text.txt.html.xml
2004-04-28  12:25             1,534 text.txtdcfdoc.xml
2004-04-28  12:25                31 text.txtdcflines.txt
2004-04-28  12:25                20 text.txtdcfout.xml
2004-04-28  12:25             3,653 text.txtEdiDoc.xml
2004-04-28  12:25                34 text.txtente.xml
2004-04-28  12:25             4,563 text.txtLC.txt
```

Now you are ready to use the Document Connect for ASF Conversion Toolkit.

Using the toolkit

The toolkit is invoked using the batch file xtoolkit.bat. The only parameter is the name of the input file. It must be the file name including the full or relative path. All other parameter settings and the Java classpath setting are done by the batch file.

All output created by the toolkit is written to the directory of the source file. Therefore, if you are planning to set up a test and development environment, you should organize the directory structure of your source files carefully.

16.1.1 Organizing your test data

The best way to organize the test data is to set up a Testdata root directory, with subdirectories for every paragraph you want to test; this is the way it has been done in the installation verification sample as well. The name of the paragraph is mini. Under the directory Testdata, you will find a directory named mini and the actual paragraph is in a file named text.txt.

This guarantees that all the test results are in the same place, and that you can run mass tests, where all test results are preserved and easy to find.

16.1.2 Running a single conversion

A single conversion is run by invoking the xtoolkit.bat file with the name of the file. The steps involved and what to do with the intermediate files is described using the installation verification sample:

1. Open a Command Prompt window in the toolkit install directory.
2. Type xtoolkit *<filename>.*
3. After the conversion has completed, change to the directory that contains the source file and check the results.

The result files have the following function and meaning:

File	Description	What to do with that file
text.txt	Input file	This is the original test data. When you modify this using a text editor, you can see how the changed input is mapped to the editor and how it is converted back. Compare these results to the outbound conversion result file text.txt.dcflines.txt.

File	Description	What to do with that file
text.txtente.xml	EnTe file; text.txt converted to <EnTe> XML	This is an intermediate file and should not be touched.
text.txtdcfdoc.xml	DCFDocument XML file	This is the result of the Java parser DocASFDCFDocument. It is the input to the docd2h.xsl stylesheet. When you are testing custom conversion directions in doccustom1.xsl, you can load this file into your XML Development Environment (for instance Altova XMLSpy) and apply docd2h.xsl, which includes and invokes doccustom1.xsl.
text.txt.html	XHTML file loaded into the editor	This is the docd2h.xsl (including doccustom1.xsl) conversion result. This is the data stream that is loaded into the editor. You can use Microsoft Internet Explore to see how the data will appear in the editor.
text.txt.html.xml	XHTML file loaded into the editor	This is the same as the text.txt.html; it only has a different file extension for more convenient processing using an XML editor. You can load this file into your XML Development Environment (for instance into Altova XMLSpy) to inspect the resulting XML structure.
text.txtEdiDoc.xml	Purified editor result	This is the result of the DocASFH2D.java purification. It should be the same as text.txt.html.xml. You can load this file into your XML Development Environment (for instance into Altova XMLSpy) and can apply the doch2d.xsl – which includes and loads doccustom2.xsl. This file can be used to test and debug your stylesheet.
text.txtdcfout.xml	doch2d.xsl output	This is the result of the doch2d.xsl (including doccustom2.xsl) conversion. This file is an intermediate file.
text.txtdcflines.txt	DCF/GML output	This is the result of the roundtrip conversion (excluding the HTML) that gets sent back to the host. You can load this file into a text editor and compare it with the original text.txt.
text.txtLC.txt	LINE commands	This file contains the LINE commands that would be sent to the host. There is nothing you can do with this file.

16.1.3 Running a mass conversion

The toolkit supports running mass conversions. If you pass the toolkit a file list, it will convert all of the files in that list. File lists can easily be created using the dir command in a Command Prompt window. Assuming you named all input files text.txt, you need to do the following:

1. Open a Command Prompt window in your TestData root directory.
2. Enter **`dir text.txt /s /b > masstest.filelist`**; this will create a file called masstest.filelist with all the text.txt files under the TestData root.

For example, if your testdata is in the TestData directory of the toolkit, your file list will look as follows:

```
F:\toolkit\TestData\FVSVDEKLEND\text.txt
F:\toolkit\TestData\FVSVDEKLSTART\text.txt
F:\toolkit\TestData\GMLTEST\text.txt
F:\toolkit\TestData\HA40070\text.txt
F:\toolkit\TestData\HA400921\text.txt
F:\toolkit\TestData\HA400922\text.txt
F:\toolkit\TestData\HA400924\text.txt
F:\toolkit\TestData\ha4011f0\text.txt
F:\toolkit\TestData\ha40190\text.txt
F:\toolkit\TestData\HA40202\text.txt
F:\toolkit\TestData\HA40252\text.txt
F:\toolkit\TestData\ha40310\text.txt
F:\toolkit\TestData\ha40373\text.txt
F:\toolkit\TestData\PTR3885\text.txt
F:\toolkit\TestData\wahltext\text.txt
```

If the toolkit is invoked with the name of the file list file, it will convert all the files listed. Open a Command Prompt window in your toolkit directory and enter:

`xtoolkit f:\toolkit\testdata\masstest.filelist`

The result may look as follows:

```
*****************************************************************
       IBM Document Connect for ASF Conversion Toolkit

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  US Government Users Restricted Rights - Use, duplication or
disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
*****************************************************************

Windows XP, Version 5.1
Document Connect for ASF Build Number: 3.4.10.00
Xalan Version: XSLT4J Java 2.5.4
******Start******
Clearing the trace Dir=.\log
2 files deleted from .\log
==Processing a filelist==
--Trace disabled
00001 start---File: F:\Werkzeug\TestData\FVSVDEKLEND\text.txt
00001 done----File: f:\werkzeug\testdata\fvsvdeklend\text.txt

00002 start---File: F:\Werkzeug\TestData\FVSVDEKLSTART\text.txt
*Line: Endtag......: null -closing: OL;
00002 done----File: f:\werkzeug\testdata\fvsvdeklstart\text.txt

00003 start---File: F:\Werkzeug\TestData\GMLTEST\text.txt
00003 done----File: f:\werkzeug\testdata\gmltest\text.txt

00004 start---File: F:\Werkzeug\TestData\HA40070\text.txt
00004 done----File: f:\werkzeug\testdata\ha40070\text.txt

00005 start---File: F:\Werkzeug\TestData\HA400921\text.txt
00005 done----File: f:\werkzeug\testdata\ha400921\text.txt
```

```
00006 start---File: F:\Werkzeug\TestData\HA400922\text.txt
00006 done----File: f:\werkzeug\testdata\ha400922\text.txt

00007 start---File: F:\Werkzeug\TestData\HA400924\text.txt
00007 done----File: f:\werkzeug\testdata\ha400924\text.txt

00008 start---File: F:\Werkzeug\TestData\ha4011f0\text.txt
00008 done----File: f:\werkzeug\testdata\ha4011f0\text.txt

00009 start---File: F:\Werkzeug\TestData\ha40190\text.txt
00009 done----File: f:\werkzeug\testdata\ha40190\text.txt

00010 start---File: F:\Werkzeug\TestData\HA40202\text.txt
*Line: Endtag......: FETT -closing: UL;
00010 done----File: f:\werkzeug\testdata\ha40202\text.txt

00011 start---File: F:\Werkzeug\TestData\HA40252\text.txt
*Line: Endtag......: NORMAL -closing: UL;
00011 done----File: f:\werkzeug\testdata\ha40252\text.txt

00012 start---File: F:\Werkzeug\TestData\ha40310\text.txt
00012 done----File: f:\werkzeug\testdata\ha40310\text.txt

00013 start---File: F:\Werkzeug\TestData\ha40373\text.txt
00013 done----File: f:\werkzeug\testdata\ha40373\text.txt

00014 start---File: F:\Werkzeug\TestData\PTR3885\text.txt
00014 done----File: f:\werkzeug\testdata\ptr3885\text.txt

00015 start---File: F:\Werkzeug\TestData\wahltext\text.txt
00015 done----File: f:\werkzeug\testdata\wahltext\text.txt

==End filelist===========
10 suspect files
==It took 13329 milliseconds
************Start DocObjCache Statistics***********
* Invoked.. 30
* Hits..... 28
* Faults... 2
* Keys.....
* Key...... template:.\www\xsl\doch2d.xsl
* Key...... template:.\www\xsl\docd2h.xsl
************End   DocObjCache Statistics***********
******Done*******
```

Notice that for every file that is processed there is a start and a done line. The example also shows extra messages and references to “suspect files”. The toolkit attempts to provide additional diagnostics based on the DCF source files and the definitions in DocXSLConversion.xml. What these messages mean and what to do with suspect files is described in the next chapter.

Mass conversions are very useful because they allow you to check the following:

Were there any paragraphs that were not convert at all and if so, why?
Are there suspect paragraphs and what potential problems do they have?
Are the definitions in DocXSLConversion.xml correct?

Unfortunately there is no convenient way for you to unload the ASF GIL and store the ASF paragraphs as ASCII files on a PC. You only have the “Print GIL” utility that includes extra processing for data from an emulator session.

Diagnostics provided with the toolkit

When you convert a paragraph (single or via mass conversion) you may receive diagnostic messages in the toolkit protocol. If you run a mass conversion, a file list with all suspect files is created automatically. The file is called something like `masstest.filelist.suspects.filelist` and can be used by the toolkit immediately.

16.1.4 Diagnostic messages

A set of diagnostic messages is created by the Java parser/converter based on the structure of the paragraph and the definitions in DocXSLConversion.xml. The table below shows the messages and gives an explanation of the messages.

Message	Explanation
`*Line x ,Column y Tag= “tagname” paragraph beginner/ender found in the middle of a line`	The *tagname* tag should begin and end a paragraph (it has p=”Y” in DocXSLConversion.xml) but instead has appeared in the middle of a source line.
`*Line: x Autoclosing.: <AUTOCLOSE tag="tagname" />`	The *tagname* tag is defined as a paired tag (end=”byendtag”) but there was no end tag in the paragraph.
`*Line: x Endtag.....: “tagx” -closing: “tagy”;`	The *tagx* tag is defined as a paired tag (end=”byendtag”), but the matching end tag was not at the right place. Another paired tag (*tagy*) contains *tagx* and was closed earlier.
`*Line: x Isolated Tag: “tagname”`	The *tagname* tag is defined as an endtag but no matching start tag was found.

Unfortunately no general recommendations can be given for these messages, however the messages definitely point out inconsistent usage of custom tags in DocXSLConversion.xml.

- The “autoclosing” and “isolated tag” messages normally do not indicate a severe problem as the transformation back to DCF is usually correct.
- Paragraph beginners/enders in the middle of a line do not necessarily cause problems either and are easy to fix. The DCF formatting result is usually not affected.
- tagx closing tagy usually causes problems because the display in the editor and even the transformation back can be affected. Fixing those problems may also affect the DCF formatting results.

You should attempt to minimize the number of diagnostic messages. If you have many diagnostic messages, your definitions in DocXSLConversion.xml may not be correct. You definitely should check the conversion results of ASF paragraphs with problems, and also load these paragraphs into the editor to see how they appear, and how a changed paragraph is formatted by DCF.

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