IBM Security Verify Access
Version 10.0.1
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# *Federation Auditing*

# Contents

# Tables

# Chapter 1. Federation auditing events

This section lists the audit elements that are available for each audit event type.

Use the instructions in Configuring auditing on the appliance to configure auditing on the appliance.

Federation supports the following auditing events:

- IBM_SECURITY_TRUST
- IBM_SECURITY_RUNTIME

This section describes the available elements for each event type.

## Common elements for all events

The following elements are included with all security events:

- ContextDataElements
- SourceComponentIdelements
- Situation
- Outcome

## ContextDataElements

The contextId value, which is specified on the type attribute, is included in the ContextDataElements element to correlate all events that are associated with a single transaction.

*Table 1. Attributes and elements of the ContextDataElements element*

| Attribute | Value |
|---|---|
| name | Security Event Factory<br>The XPath is:<br>`CommonBaseEvent/contextDataElements/@name` |
| type | eventTrailId<br>The XPath is:<br>`CommonBaseEvent/contextDataElements/@type` |
| contextId | This element is a container element for the eventTrailId value; it does not have an XPath value. |
| eventTrailId | The event trail identifier value, for example, FIM_116320b90110104ab7ce9df3453615a1+729829786<br>The XPath is:<br>`CommonBaseEvent/contextDataElements/[@type='eventTrailId']/contextId` |

The following are XML-formatted examples of CBE event headers containing entries for the ContextDataElements element. These entries illustrate how separate events are correlated for a single transaction.

```
<CommonBaseEvent
 creationTime="2007-01-31T20:59:57.625Z"
 extensionName="IBM_SECURITY_TRUST"
 globalInstanceId="CE4454A122E10AB044A1DBB16E020E1D80"
```

```
 sequenceNumber="1" version="1.0.1">
 <contextDataElements name="Security Event Factory"  type="eventTrailId">
  <contextId>FIM_79f4e4c801101db5aba48cd8e0212be7+656317861</contextId>
 </contextDataElements>
...
</CommonBaseEvent>
```

```
<CommonBaseEvent
 creationTime="2007-01-31T20:59:57.765Z"
 extensionName="IBM_SECURITY_TRUST"
 globalInstanceId="CE4454A122E10AB044A1DBB16E02213050"
 sequenceNumber="2" version="1.0.1">
 <contextDataElements name="Security Event Factory" type="eventTrailId">
  <contextId>FIM_79f4e4c801101db5aba48cd8e0212be7+656317861</contextId>
 </contextDataElements>
...
</CommonBaseEvent>
```

## SourceComponentId element

The SourceComponentId is an identifier that represents the source that generates the event.

*Table 2. Attributes for the SourceComponentId element*

| Attribute | Value |
|---|---|
| application | IBM® Security Verify Access<br>The XPath is:<br>`CommonBaseEvent/sourceComponentId/ @application` |
| component | The XPath is:<br>`CommonBaseEvent/sourceComponentId/ @component` |
| componentIdType | ProductName<br>The XPath is:<br>`CommonBaseEvent/sourceComponentId/ @componentIdType` |
| componentType | http://www.ibm.com/namespaces/autonomic/Tivoli_componentTypes<br>The XPath is:<br>`CommonBaseEvent/sourceComponentId/ @componentType` |
| executionEnvironment | <OS name>#<OS Architecture>#<OS.version><br>The XPath is:<br>`CommonBaseEvent/sourceComponentId/ @executionEnvironment` |

| *Table 2. Attributes for the SourceComponentId element(continued)* | |
|---|---|
| **Attribute** | **Value** |
| location | <hostname><br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='registryInfo']/children [@name='location']/values` |
| locationType | FQHostname<br>The XPath is:<br>`CommonBaseEvent/sourceComponentId/ @locationType` |
| subComponent | <classname><br>The XPath is:<br>`CommonBaseEvent/sourceComponentId/ @subComponent` |

## Situation element

The Situation element describes the circumstance that caused the audit event.

| *Table 3. Attributes for the Situation element* | |
|---|---|
| **Attribute** | **Value** |
| categoryName | ReportSituation<br>The XPath is:<br>`CommonBaseEvent/situation/ @categoryName` |
| reasoningScope | INTERNAL<br>The XPath is:<br>`CommonBaseEvent/situation/situationType/ @reasoningScope` |
| reportCategory | SECURITY<br>The XPath is:<br>`CommonBaseEvent/situation/situationType/ @reportCategory` |

## Outcome element

The Outcome element is the result of the action for which the security event is being generated.

*Table 4. Attributes for the Outcome element*

| **Attribute** | **Value** |
|---|---|
| failureReason | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='outcome']/children [@name='failureReason']/values` |
| majorStatus | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='outcome']/children [@name='majorStatus']/values` |
| result | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='outcome']/children [@name='result']/values` |

**Note:** Federation does not use the **ReporterComponentId** field.

# Chapter 2. IBM_SECURITY_AUTHN_events

This event type is generated by the authentication service when it authenticates a user accessing a protected resource.

The following table lists the elements that can be shown in the output of an IBM_SECURITY_AUTHN event. All elements are included in the output, unless indicated otherwise.

*Table 5. Elements for an IBM_SECURITY_AUTHN event*

| Element | Description |
|---|---|
| action | Optionally specifies the HTTP method on the requested resource or the operation that is performed by the provider of the authentication service.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='action']/values` |
| authnProvider | The provider of the authentication service.<br>Sample data:<br>`com.tivoli.am.fim.authsvc.protocol.delegate.AuthSvcDelegate`<br>`com.tivoli.am.fim.authsvc.action.authenticator.hotp.HOTPAuthntic`<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='authnProvider']/values` |
| authnScope | Optionally specifies the transaction identifier of the authentication policy.<br>Sample data: `94434b2a-748e-42fe-af3d-67db04aa4ba0`<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='authnScope']/values` |
| authnType | The URI identifier of the authentication policy.<br>Sample data:<br>`urn:ibm:security:authentication:asf:password_hotp`<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='authnType']/values` |
| partner | The authentication service does not utilize this element and will appear in the IBM_SECURITY_AUTHN event as `'Not Available'`.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='partner']/values` |

*Table 5. Elements for an IBM_SECURITY_AUTHN event(continued)*

| Element | Description |
|---|---|
| progName | Optionally specifies the URL of the requested resource.<br>Sample data: `http://www.example.com`<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='progName']/values` |
| tokenType | The authentication service does not utilize this element and will appear in the IBM_SECURITY_AUTHN event as `'Not Available'`.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='tokenType']/values` |
| trustRelationship | The authentication service does not utilize this element and will appear in the IBM_SECURITY_AUTHN event as `'Not Available'`.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='trustRelationship']/values` |
| userInfo.appUserName | Optionally specifies information about the user who is authenticating.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='userInfoList']/children[1]/children [@name='appUserName']/values` |
| userInfo.attributes | Optionally specifies the following types of additional information about user data that are audited during authentication:<br>**licenseFileMetadata**<br>Metadata that is defined in the license agreement.<br>**licenseFileName**<br>The license file name.<br>**userAction**<br>The action that the user takes when the End-User License Agreement authentication mechanism presents the license agreement. The user can accept the license agreement or decline the license agreement.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='userInfoList']/children [@name='userInfo'] /children [@name='attributes']/children` |
| xmlTokenType | The authentication service does not utilize this element and will appear in the IBM_SECURITY_AUTHN event as `'Not Available'`.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='xmlTokenType']/values` |

### Sample of an IBM_SECURITY_AUTHN event

The following example shows one event generated by the runtime for a two-factor authentication policy requiring both username password and one-time password authentications:

```
<CommonBaseEvent
  creationTime="2014-02-15T18:50:05.026Z"
  extensionName="IBM_SECURITY_AUTHN"
  globalInstanceId="FIM36e24f6301441708947ceef443526"
  sequenceNumber="2"
  version="1.1">
  <contextDataElements
    name="Security Event Factory"
    type="eventTrailId">
        <contextId>FIM_36e24f62014415f59913eef443526e68+1246005647</contextId>
  </contextDataElements>
  <extendedDataElements name="userInfoList" type="noValue">
   <children name="userInfo" type="noValue">
     <children name="registryUserName" type="string">
       <values>Not Available</values>
     </children>
     <children name="appUserName" type="string">
       <values>test_user</values>
     </children>
   </children>
 </extendedDataElements>
 <extendedDataElements name="tokenType" type="string">
   <values>Not Available</values>
 </extendedDataElements>
 <extendedDataElements name="authnProvider" type="string">
   <values>com.tivoli.am.fim.authsvc.action.authenticator.hotp.HOTPAuthenticator</values>
 </extendedDataElements>
 <extendedDataElements name="action" type="string">
      <values>verify</values>
 </extendedDataElements>
 <extendedDataElements name="authnType" type="string">
      <values>urn:ibm:security:authentication:asf:password_hotp</values>
 </extendedDataElements>
 <extendedDataElements name="outcome" type="noValue">
      <children name="result" type="string">
        <values>SUCCESSFUL</values>
      </children>
      <children name="majorStatus" type="int">
        <values>0</values>
      </children>
 </extendedDataElements>
 <extendedDataElements name="trustRelationship" type="string">
      <values>Not Available</values>
 </extendedDataElements>
 <extendedDataElements name="progName" type="string">
      <values>Not Available</values>
 </extendedDataElements>
 <extendedDataElements name="authnScope" type="string">
      <values>Not Available</values>
 </extendedDataElements>
 <sourceComponentId
      application="IBM Security Verify Access"
      component="Authentication and Federated Identity"
      componentIdType="ProductName"
      executionEnvironment="Linux[amd64]#2.6.32-279.14.1.30.iss7_3.x86_64"
      location="example"
      locationType="FQHostname"
      subComponent="com.tivoli.am.fim.authsvc.action.authenticator.hotp.HOTPAuthenticator"
      threadId="Default Executor-thread-60"
      componentType="http://www.ibm.com/namespaces/autonomic/Tivoli_componentTypes"/>
  <situation categoryName="ReportSituation">
     <situationType
       xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
       xsi:type="ReportSituation"
       reasoningScope="INTERNAL"
       reportCategory="SECURITY"/>
  </situation>
</CommonBaseEvent>
```

# Chapter 3. IBM_SECURITY_AUTHN_TERMINATE event

This audit event is generated when a user is logged off.

The following table lists the elements that can be shown in the output of an IBM_SECURITY_AUTHN_TERMINATE event.

*Table 6. Elements for an IBM_SECURITY_AUTHN_TERMINATE event*

| Element | Description |
|---|---|
| action | The operation that caused the termination of the authentication to occur - log off<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='action']/values` |
| authnProvider | The provider of the authentication service. The default is WebSEAL.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='authnProvider']/values` |
| authnType | The type of authentication that is used by the user - trustRelationship.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='authnType']/values` |
| terminateReason | The reason the session was terminated. For example, the user logged off.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='terminateReason']/values` |
| userInfo.appUserName | Information about the user who is logging off.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='userInfoList']/children[1]/children [@name='appUserName']/values` |

### Sample of a IBM_SECURITY_AUTHN_TERMINATE event

The following example shows an IBM_SECURITY_AUTHN_TERMINATE event:

```
<CommonBaseEvent
 creationTime="2006-04-19T18:13:15.916Z"
 extensionName="IBM_SECURITY_AUTHN_TERMINATE"
 globalInstanceId="CE11DACFD02C005F20EE33FA70BA750567"
 sequenceNumber="10"
 version="1.0.1">
 <extendedDataElements name="authnType" type="string">
  <values>trustRelationship</values>
 </extendedDataElements>
 <extendedDataElements name="action" type="string">
```

```
  <values>logout</values>
 </extendedDataElements>
 <extendedDataElements name="outcome" type="noValue">
  <children name="majorStatus" type="int">
   <values>0</values></children>
  <children name="result" type="string">
   <values>SUCCESSFUL</values></children>
 </extendedDataElements>
 <extendedDataElements name="terminateReason" type="string">
  <values>UserLoggedOut</values>
 </extendedDataElements>
 <extendedDataElements name="authnProvider" type="string">
  <values>webseal</values>
 </extendedDataElements>
 <extendedDataElements name="userInfoList" type="noValue">
  <children name="userInfo" type="noValue">
   <children name="appUserName" type="string">
    <values>me_elain</values></children>
   <children name="registryUserName" type="string">
    <values>Not Available</values></children>
  </children>
 </extendedDataElements>
<sourceComponentId
 application="IBM Security Verify Access"
 component="Authentication and Federated Identity"
 componentIdType="ProductName"
 executionEnvironment="Linux[x86]#2.4.21-4.EL"
 location="fimtest.au.ibm.com"
 locationType="FQHostname"
 subComponent=
 "com.tivoli.am.fim.saml20.protocol.actions.SAML20LocalLogoutAction"
 threadId="WebContainer : 0"
 componentType="http://www.ibm.com/namespaces/autonomic/Tivoli_componentTypes"/>
 <situation categoryName="ReportSituation">
   <situationType xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                  xsi:type="ReportSituation"
                  reasoningScope="INTERNAL"
                  reportCatagory="SECURITY"/>
  </situation>
</CommonBaseEvent>
```

# Chapter 4. IBM_SECURITY_ENCRYPTION events

This event is generated whenever data is encrypted.

The following table lists the elements that can be shown in the output of an IBM_SECURITY_ENCRYPTION event.

*Table 7. Elements for an IBM_SECURITY_ENCRYPTION event*

| Element | Description |
|---|---|
| action | The operation that is being performed, either encryption or decryption.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='action']/values` |
| keyInfo | The key used to perform the action.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='keyInfo']/values` |
| msgInfo | The pertinent parts of the SOAP messages.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='msgInfo']/values` |

### Sample of a IBM_SECURITY_ENCRYPTION event

The following example shows an IBM_SECURITY_ENCRYPTION event:

```
<CommonBaseEvent
 creationTime="2006-04-18T18:02:09.824Z"
 extensionName="IBM_SECURITY_ENCRYPTION"
 globalInstanceId="CE11DECF0574918190EA65C3F4A1F4E637"
 sequenceNumber="23"
 version="1.0.1">
 <extendedDataElements name="keyInfo" type="string">
  <values>DefaultKeyStore_testkey</values>
 </extendedDataElements>
 <extendedDataElements name="action" type="string">
  <values>Encrypt</values>
 </extendedDataElements>
 <extendedDataElements name="outcome" type="noValue">
  <children name="majorStatus" type="int">
   <values>0</values></children>
  <children name="result" type="string">
   <values>SUCCESSFUL</values></children>
 </extendedDataElements>
 <extendedDataElements name="msgInfo" type="string">
  <values>[{urn:oasis:names:tc:SAML:2.0:protocol}Response[0]
   {http://www.w3.org/2000/09/xmldsig#}Signature[0]]</values>
 </extendedDataElements>
 <extendedDataElements name="userInfo" type="noValue">
  <children name="appUserName" type="string">
   <values>Not Available</values></children>
  <children name="registryUserName" type="string">
   <values>Not Available</values></children>
 </extendedDataElements>
<sourceComponentId
 application="IBM Security Verify Access"
 component="Authentication and Federated Identity"
 componentIdType="ProductName"
 executionEnvironment="Linux[x86]#2.4.21-4.EL"
```

```
 location="fimtest.au.ibm.com"
 locationType="FQHostname"
 subComponent=
"com.tivoli.am.fim.kess.service.jks.worker.impl.KessServiceJksWorkerImpl"
 threadId="WebContainer : 1"
 componentType="http://www.ibm.com/namespaces/autonomic/Tivoli_componentTypes"/>
 <situation categoryName="ReportSituation">
   <situationType xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                  xsi:type="ReportSituation"
                  reasoningScope="INTERNAL"
                  reportCatagory="SECURITY"/>
  </situation>
</CommonBaseEvent>
```

# Chapter 5. IBM_SECURITY_FEDERATION events

This event type is generated when a federation event occurs.

An IBM_SECURITY_FEDERATION event is generated by the following actions:

- When a user identity mapping is created, that is, when a user is federated.
- When a user consents to federate.
- When a user identity mapping is deleted, that is, when a user is de-federated.
- When a user mapping is updated, for example, an RNI operation.

The following table lists the elements that can be shown in the output of an IBM_SECURITY_FEDERATION event.

*Table 8. Elements for an IBM_SECURITY_FEDERATION event*

| Element | Description |
|---|---|
| action | The type of federation action:<br>CreateMapping<br>ConsentToFederate<br>DeleteMapping<br>UpdateMapping<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='action']/values` |
| messageAction | The type of action that is associated with the message.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='messageAction']/values` |
| partner | The partner that sends or receives the message.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='partner']/values` |
| profile | The profile within the federation.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='profile']/values` |
| protocolName | The type of federation protocol.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='protocolName']/values` |

| *Table 8. Elements for an IBM_SECURITY_FEDERATION event(continued)* | |
|---|---|
| **Element** | **Description** |
| role | The role that the audit generating component takes.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='role']/values` |
| userInfo.appUserName | Information about the user who is performing this operation.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='userInfoList']/children[1]/children[ @name='appUserName']/values` |

## Action-dependent additional attributes

Depending on the type of federation event action, the following attributes are available:

| *Table 9. IBM_SECURITY_FEDERATION action-dependent additional attributes* | | |
|---|---|---|
| **Action** | **Additional attributes** | **Description** |
| CreateMapping | selfAlias | If a self alias is set for the user, then this attribute shows that value.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='attributes']/ children [@name='attribute']/children [@name='name']/values [contains(.,'consentToFederate')] /../../children [@name='value']/values`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='attributes']/ children [@name='attribute']/children [@name='name']/values [contains(.,'selfAlias')] /../../children [@name='value']/values` |

*Table 9. IBM_SECURITY_FEDERATION action-dependent additional attributes(continued)*

| Action | Additional attributes | Description |
|---|---|---|
| | partnerAlias | If a partner alias is set for the user, then this attribute shows that value.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='attributes']/ children [@name='attribute']/children [@name='name']/values [contains(.,'partnerAlias')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='attributes']/ children [@name='attribute']/children [@name='name']/values [contains(.,'partnerAlias')] /../../children [@name='value']/values` |
| ConsentToFederate | ConsentToFederate | This attribute specifies whether the user consented to federate. This event applies to Liberty and SAML20 protocol flows.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='attributes']/ children [@name='attribute'/children [@name='name']/values [contains(.,'consentToFederate')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='attributes']/ children [@name='attribute']/children [@name='name']/values [contains(.,'consentToFederate')] /../../children [@name='value']/values` |
| DeleteMapping | None | None |

*Table 9. IBM_SECURITY_FEDERATION action-dependent additional attributes (continued)*

| Action | Additional attributes | Description |
|---|---|---|
| UpdateMapping | selfAlias | If a self alias is set for the user, then this attribute shows the updated value.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='attributes']/ children [@name='attribute']/children [@name='name']/values [contains(.,'consentToFederate')] /../../children [@name='value']/values`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='attributes']/ children [@name='attribute']/children [@name='name']/values [contains(.,'selfAlias')] /../../children [@name='value']/values` |
| | partnerAlias | If a partner alias is set for the user, then this attribute shows the updated value.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='attributes']/ children [@name='attribute']/children [@name='name']/values [contains(.,'partnerAlias')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='attributes']/ children [@name='attribute']/children [@name='name']/values [contains(.,'partnerAlias')] /../../children [@name='value']/values` |

**Sample of a IBM_SECURITY_FEDERATION event**

The following example shows an IBM_SECURITY_FEDERATION event:

```
<CommonBaseEvent
 creationTime="2006-04-05T20:09:41.983Z"
 extensionName="IBM_SECURITY_FEDERATION"
 globalInstanceId="CE11DAC4E01E4BBF50E69681063F1AA1AF"
 sequenceNumber="7"
 version="1.0.1">
 <extendedDataElements name="action" type="string">
  <values>DeleteMapping</values>
 </extendedDataElements>
 <extendedDataElements name="partner" type="string">
  <values>https://sp:444/FIM/sps/saml20-sp/saml20</values>
 </extendedDataElements>
 <extendedDataElements name="relayState" type="string">
  <values>Not Available</values>
 </extendedDataElements>
 <extendedDataElements name="outcome" type="noValue">
  <children name="majorStatus" type="int"><values>0</values></children>
  <children name="result" type="string"><values>SUCCESSFUL</values></children>
 </extendedDataElements>
```

```
 <extendedDataElements name="clientInfo" type="boolean">
  <values>false</values>
 </extendedDataElements>
 <extendedDataElements name="role" type="string">
  <values>IP</values>
 </extendedDataElements>
 <extendedDataElements name="messageAction" type="string">
  <values>RECEIVED</values>
 </extendedDataElements>
 <extendedDataElements name="profile" type="string">
  <values>urn:oasis:names:tc:SAML:2.0:profiles:SSO:nameid-mgmt</values>
 </extendedDataElements>
 <extendedDataElements name="protocolName" type="string">
  <values>urn:oasis:names:tc:SAML:2.0:protocol</values>
 </extendedDataElements>
 <extendedDataElements name="userInfoList" type="noValue">
  <children name="userInfo" type="noValue">
   <children name="appUserName" type="string"><values>Elain</values></children>
   <children name="registryUserName" type="string">
    <values>Not Available</values></children>
  </children>
 </extendedDataElements>
<sourceComponentId
 application="IBM Security Verify Access"
 component="Authentication and Federated Identity"
 componentIdType="ProductName"
 executionEnvironment="Linux[x86]#2.4.21-4.EL"
 location="fimtest.au.ibm.com"
 locationType="FQHostname"
 subComponent=
"com.tivoli.am.fim.saml20.protocol.actions.nimgmt.
 SAML20ProcessManageNameIDMessageAction"
 threadId="WebContainer : 1"
 componentType="http://www.ibm.com/namespaces/autonomic/Tivoli_componentTypes"/>
 <situation categoryName="ReportSituation">
   <situationType xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                  xsi:type="ReportSituation"
                  reasoningScope="INTERNAL"
                  reportCatagory="SECURITY"/>
  </situation>
</CommonBaseEvent>
```

# Chapter 6. IBM_SECURITY_MGMT_AUDIT events

This event type provides information about changes to the auditing settings; for example, if auditing is enabled or disabled or if auditing is set for specific transactions.

IBM_SECURITY_MGMT_AUDIT events are generated when the audit configuration is modified. Changes to the following data are audited:

- User name
- Action
- Domain
- Audit configuration properties:
  - Enable auditing
  - Enable auditing for specific audit event types. Event types are shown in the following table under the mgmtInfo element.
  - Audit log location
  - Maximum number of audit files
  - Maximum audit file size
  - Disk cache location
  - Web service SSL keystore
  - Enable Web service basic authentication
- Disable auditing:
  - User name
  - Action

The following table lists the elements that can be displayed in the output of an IBM_SECURITY_MGMT_AUDIT event.

*Table 10. Elements used in IBM_SECURITY_MGMT_AUDIT events*

| Element | Description |
|---|---|
| action | The type of action that occurred against the audit settings. Possible values are `Modify` and `Disable`.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='action']/values` |

*Table 10. Elements used in IBM_SECURITY_MGMT_AUDIT events(continued)*

| Element | Description |
|---|---|
| mgmtInfo | Information about the auditing operation. The supported items and values are:<br>EnableAudit=true \| false<br>Domain=*domain_ name*<br>AuditLogLocation=*path*<br>CacheLocation=*path*<br>WebServiceBasicAuthUsername=*username*<br>WebServiceBasicAuthPassword=*password*<br>WebServiceKeyIdentifier=*keyname*<br>WebServiceURL=*URL*<br>MaxAuditFiles=*number*<br>AuditFileSize=*number*<br>UseWebServiceBasicAuth=true \| false<br>WebServiceKeystore=*keystore_name*<br>AuditSecurityAuthnEvents=true \| false<br>AuditSecurityAuthnTerminateEvents=true \| false<br>AuditSecurityEncryptionEvents=true \| false<br>AuditSecuritySigningEvents=true \| false<br>AuditSecurityFederationEvents=true \| false<br>AuditSecurityTrustEvents=true \| false<br>AuditSecurityMgmtPolicyEvents=true \| false<br>AuditSecurityMgmtAuditEvents=true \| false<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='mgmtInfo']/children [@name='command']/values` |
| userInfo | Information about the user who is performing the operation.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='userInfo']/children [@name='appUserName']/children [@name='registryUserName']/values` |
| type | Always set to the `audit` value.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='type']/values` |

**Sample of an IBM_SECURITY_MGMT_AUDIT event**

The following example shows an IBM_SECURITY_MGMT_AUDIT event:

```
<CommonBaseEvent
 creationTime="2007-04-25T07:01:51.726Z"
 extensionName="IBM_SECURITY_MGMT_AUDIT"
 globalInstanceId="CEFA81F627EBCFC5DFA1DBF2FAD8573020"
 sequenceNumber="1"
```

```
 version="1.0.1">
 <contextDataElements name="Security Event Factory" type="eventTrailId">
  <contextId>FIM_278bcbef011213a9865f8a816f9717a6+1969112872</contextId>
 </contextDataElements>
 <extendedDataElements name="mgmtInfo" type="noValue">
  <children name="command" type="string">
   <values>EnableAudit=true;
    Domain=mydomain-server1;
    AuditLogLocation=audit_location;
    AuditFileSize=10;
    MaxAuditFiles=100;AuditAuthnEvents=true;
    AuditAuthnTerminateEvents=true;
    AuditFederationEvents=true;
    AuditTrustEvents=true;
    AuditSigningEvents=true;
    AuditEncryptionEvents=true;
    AuditMgmtPolicyEvents=true;
    AuditMgmtAuditEvents=true;
   </values>
  </children>
 </extendedDataElements>
 <extendedDataElements name="type" type="string">
  <values>audit</values>
 </extendedDataElements>
 <extendedDataElements name="userInfo" type="noValue">
  <children name="appUserName" type="string">
   <values>unauthenticatedUser</values>
  </children>
  <children name="registryUserName" type="string">
   <values>Not Available</values>
  </children>
 </extendedDataElements>
 <extendedDataElements name="action" type="string">
  <values>Modify</values>
 </extendedDataElements>
 <extendedDataElements name="outcome" type="noValue">
  <children name="result" type="string">
   <values>SUCCESSFUL</values>
  </children>
  <children name="majorStatus" type="int">
   <values>0</values>
  </children>
 </extendedDataElements>
 <sourceComponentId
  application="IBM Security Verify Access"
  component="Authentication and Federated Identity"
  componentIdType="ProductName"
  executionEnvironment="Linux[x86]#2.6.9-34.ELsmp"
  location="fimfun2.austin.ibm.com"
  locationType="FQHostname"
  subComponent="com.tivoli.am.fim.mgmt.fim.FIMManagementImpl"
  threadId="SoapConnectorThreadPool : 0"
  componentType=
  "http://www.ibm.com/namespaces/autonomic/Tivoli_componentTypes"/>
  <situation categoryName="ReportSituation">
   <situationType xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                  xsi:type="ReportSituation"
                  reasoningScope="INTERNAL"
                  reportCategory="SECURITY"/>
  </situation>
</CommonBaseEvent>
```

# Chapter 7. IBM_SECURITY_MGMT_POLICY events

This event type is generated by federation runtime management calls.

An IBM_SECURITY_MGMT_POLICY event is generated by the following actions:

- When a new federation is created.
- When an existing federation is modified.
- When a federation is deleted.
- When a partner is added to a federation.
- When a partner is deleted from a federation.
- When the properties of a partner are modified.
- When a Web Service partner is created.
- When a Web Service partner is modified.

The following table lists the elements that can be shown in the output of an IBM_SECURITY_MGMT_POLICY event.

*Table 11. Elements for an IBM_SECURITY_MGMT_POLICY event*

| Element | Description |
|---|---|
| action | The type of operation that is being performed. The supported operations are:<br>• create<br>• delete<br>• modify<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='action']/values` |
| mgmtInfo.command | Information about the management operation. The supported management operations are:<br>• CreateFederation<br>• ModifyFederation<br>• DeleteFederation<br>• CreateFederationPartner<br>• ModifyFederationPartner<br>• DeleteFederationPartner<br>• CreateWebServicePartner<br>• ModifyWebServicePartner<br>**Note:** Modifying or deleting a Web service partner generates a ModifyWebServicePartner operation.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='mgmtInfo']/children [@name='command']/values` |

*Table 11. Elements for an IBM_SECURITY_MGMT_POLICY event(continued)*

| Element | Description |
|---|---|
| policyInfo.attributes | The different attributes for this policyInfo object. See the tables in "Attributes determined by policy profile type" on page 24 for attributes that might be present in the event. Each attribute consists of a name and a value.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='value']/values` |
| policyInfo.name | The name of the federation, the name of the partner, or the name of the Web service partner.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='name']/values` |
| policyInfo.type | Information about the policy object. The type can be either federation or partner.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='type']/values` |
| userInfo.appUserName | Information about the user who is performing this operation.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='userInfoList']/children[1]/children [@name='appUserName']/values` |

## Attributes determined by policy profile type

Depending on the type of profile used, policyInfo contains different attributes. These attributes can be shredded or extracted for custom reports.

**Note:** Different partner attributes are specified as *partner id_attribute name*, where *partner id* is the uuid assigned to a partner and *attribute name* is an attribute from the following tables.

## Shredding and staging attributes

This example shows how the data can be shredded by using the contains keyword. It requires an XPath for each attribute.

To stage the following name-value pairs for FederationName, FederationId and SAML1.SigningKey Identifier from the attributes fields of a policyInfo, use the following XPaths:

*Table 12. XPaths for shredding and staging attributes*

| Field | XPath |
|---|---|
| policyInfo attributes FederationId | `CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'FederationId')]` |
| policyInfo attributes FederationId value | `CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'FederationId')] /../../children [@name='value']/values` |
| policyInfo attributes FederationName | `CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'FederationName')]` |
| policyInfo attributes FederationName value | `CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'FederationName')] /../../children [@name='value']/values` |
| policyInfo attributes SAML1.SigningKeyIdentifier | `CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML1.SigningKeyIdentifier')]` |
| policyInfo attributes SAML1.SigningKeyIdentifier value | `CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML1.SigningKeyIdentifier')] /../../children [@name='value']/values` |

## SAML20 self attributes

The following table lists the SAML20 self attributes that are audited in profiles for service providers and identity providers.

*Table 13. Policy information attributes for a SAML20 self profile.*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.SigningKeyIdentifier | The identifier for the key used to sign outgoing messages.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SigningKeyIdentifier')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SigningKeyIdentifier')] /../../children [@name='value']/values` |
| SAML2.DecryptionKeyIdentifier | The pointer to the private key used to decrypt the symmetric encryption key in encrypted messages from a partner.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.DecryptionKeyIdentifier')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.DecryptionKeyIdentifier')] /../../children [@name='value']/values` |

*Table 13. Policy information attributes for a SAML20 self profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.EncryptionKeyTransportAlgorithm | The algorithm used to encrypt the symmetric encryption key.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2. EncryptionKeyTransportAlgorithm)]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2. EncryptionKeyTransportAlgorithm')] /../../children [@name='value']/values` |
| SAML2.SignArtifactRequest | The indicator for whether the provider signs outgoing artifact requests.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignArtifactRequest')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignArtifactRequest')] /../../children [@name='value']/values` |

*Table 13. Policy information attributes for a SAML20 self profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.SignArtifactResponse | The indicator for whether the provider signs outgoing artifact responses.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignArtifactResponse')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignArtifactResponse')] /../../children [@name='value']/values` |
| SAML2.SignLogoutRequest | The indicator for whether the provider signs outgoing logout requests.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignLogoutRequest')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignLogoutRequest')] /../../children [@name='value']/values` |

*Table 13. Policy information attributes for a SAML20 self profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.SignLogoutResponse | The indicator for whether the provider signs outgoing logout responses.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignLogoutResponse')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignLogoutResponse')] /../../children [@name='value']/values` |
| SAML2.SignNameIDManagementRequest | The indicator for whether the provider signs outgoing name identifier management requests.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignNameIDManagementRequest')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignNameIDManagementRequest')] /../../children [@name='value']/values` |

*Table 13. Policy information attributes for a SAML20 self profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.SignNameIDManagementResponse | The indicator for whether the provider signs outgoing name identifier management responses.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignNameIDManagementResponse')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignNameIDManagementResponse')] /../../children [@name='value']/values` |
| SAML2.PresentFederationConsent | The indicator for whether the identity provider presents a consent to federate page when the federation occurs.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.PresentFederationConsent')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.PresentFederationConsent')] /../../children [@name='value']/values` |
| **Additional self attributes for service providers only** | |

*Table 13. Policy information attributes for a SAML20 self profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.SignAuthnRequest | The indicator for whether the provider signs outgoing authentication requests.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignAuthnRequest')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignAuthnRequest')] /../../children [@name='value']/values` |
| SAML2.WantAssertionsSigned | The indicator for whether the provider wants to receive signed assertions.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.WantAssertionsSigned')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.WantAssertionsSigned')] /../../children [@name='value']/values` |
| **Additional self attributes for identity providers only** | |

*Table 13. Policy information attributes for a SAML20 self profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.ValidateAuthnRequest | The indicator for whether the provider validates incoming authentication requests.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateAuthnRequest')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateAuthnRequest')] /../../children [@name='value']/values` |
| SAML2.SignAuthnResponse | The indicator for whether the provider signs authentication responses.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignAuthnResponse')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignAuthnResponse')] /../../children [@name='value']/values` |

## SAML20 partner attributes

The following table lists the SAML20 partner attributes that are audited in profiles for service providers and identity providers.

*Table 14. Policy information attributes for a SAML20 partner profile.*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.SoapRequestClientBasicAuth | The indicator for whether client basic authentication is used for the SOAP backchannels.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SoapRequestClientBasicAuth')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SoapRequestClientBasicAuth')] /../../children [@name='value']/values` |
| SAML2.SoapRequestClientCertAuth | The indicator for whether client certificate authentication is used for the SOAP backchannels.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SoapRequestClientCertAuth')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SoapRequestClientCertAuth')] /../../children [@name='value']/values` |

*Table 14. Policy information attributes for a SAML20 partner profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.SoapRequestServerCertAuth | The indicator for whether server certificate authentication is used for the SOAP backchannels.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SoapRequestServerCertAuth')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SoapRequestServerCertAuth')] /../../children [@name='value']/values` |
| SAML2. SoapRequestServerCertAuthKeyIdentifier | The identifier for the key used when using server certificate authentication.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2. SoapRequestServerCertAuthKeyIdentifier')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2. SoapRequestServerCertAuthKeyIdentifier')] /../../children [@name='value']/values` |

*Table 14. Policy information attributes for a SAML20 partner profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2. SoapRequestClientCertAuthKeyIdentifier | The identifier for the key used when using client certificate authentication.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2. SoapRequestClientCertAuthKeyIdentifier')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2. SoapRequestClientCertAuthKeyIdentifier')] /../../children [@name='value']/values` |
| SAML2.ValidateKeyIdentifier | The identifier for the key used to validate signatures on incoming messages from a partner. This attribute is the signing public key of the partner.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateKeyIdentifier)]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateKeyIdentifier')] /../../children [@name='value']/values` |

*Table 14. Policy information attributes for a SAML20 partner profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.EncryptionKeyIdentifier | The identifier for the key used to encrypt outgoing messages to a partner. This attribute is the encrypting public key of the partner.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.EncryptionKeyIdentifier')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.EncryptionKeyIdentifier')] /../../children [@name='value']/values` |
| SAML2.ValidateArtifactRequest | The indicator for whether the provider validates incoming artifact requests.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateArtifactRequest')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateArtifactRequest')] /../../children [@name='value']/values` |

*Table 14. Policy information attributes for a SAML20 partner profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.ValidateArtifactResponse | The indicator for whether the provider validates incoming artifact responses.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateArtifactResponse')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateArtifactResponse')] /../../children [@name='value']/values` |
| SAML2.ValidateLogoutRequest | The indicator for whether the provider validates incoming logout requests.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateLogoutRequest')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateLogoutRequest')] /../../children [@name='value']/values` |

*Table 14. Policy information attributes for a SAML20 partner profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.ValidateLogoutResponse | The indicator for whether the provider validates incoming logout responses.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateLogoutResponse')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.ValidateLogoutResponse')] /../../children [@name='value']/values` |
| SAML2. ValidateNameIDManagementRequest | The indicator for whether the provider validates incoming name identifier management requests.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2. ValidateNameIDManagementRequest')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2. ValidateNameIDManagementRequest')] /../../children [@name='value']/values` |

*Table 14. Policy information attributes for a SAML20 partner profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2. ValidateNameIDManagementResponse | The indicator for whether the provider validates incoming name identifier management responses.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2. ValidateNameIDManagementResponse')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2. ValidateNameIDManagementResponse')] /../../children [@name='value']/values` |
| SAML2.EncryptNameIdentifiers | The indicator for whether name identifiers must be encrypted for the partner.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.EncryptNameIdentifiers')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.EncryptNameIdentifiers)] /../../children [@name='value']/values` |

*Table 14. Policy information attributes for a SAML20 partner profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.BlockEncryptionAlgorithm | The algorithm used to encrypt the data.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.BlockEncryptionAlgorithm')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.BlockEncryptionAlgorithm')] /../../children [@name='value']/values` |
| **Additional partner attributes for service providers only** | |
| SAML2.WantAssertionsSigned | The indicator for whether the provider wants to receive signed assertions.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.WantAssertionsSigned')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.WantAssertionsSigned')] /../../children [@name='value']/values` |
| **Additional partner attributes for identity providers only** | |

*Table 14. Policy information attributes for a SAML20 partner profile. (continued)*

| **Common attributes for service providers and identity providers** | **Definitions** |
|---|---|
| SAML2.SignAssertions | The indicator for whether the provider signs assertions.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignAssertions')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.SignAssertions')] /../../children [@name='value']/values` |
| SAML2.EncryptAssertions | The indicator for whether the provider encrypts assertions.<br>The XPath for the attribute name is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.EncryptAssertions')]`<br>The XPath for the attribute value is:<br>`CommonBaseEvent/extendedDataElements [@name='policyInfo']/children [@name='attributes']/children [@name='attribute']/children [@name='name']/values [contains (.,'SAML2.EncryptAssertions')] /../../children [@name='value']/values` |

### Sample of a IBM_SECURITY_MGMT_POLICY event

The following is an example of a IBM_SECURITY_MGMT_POLICY event:

```
<CommonBaseEvent
 creationTime="2006-04-26T12:22:25.874Z"
 extensionName="IBM_SECURITY_MGMT_POLICY"
 globalInstanceId="CE11DAD51F526D53D0E30FDAA2C9637F07"
 sequenceNumber="1"
 version="1.0.1">
 <extendedDataElements name="action" type="string">
  <values>Create</values>
 </extendedDataElements>
 <extendedDataElements name="outcome" type="noValue">
  <children name="majorStatus" type="int">
   <values>0</values></children>
  <children name="result" type="string">
```

```
   <values>SUCCESSFUL</values></children>
 </extendedDataElements>
 <extendedDataElements name="policyInfo" type="noValue">
  <children name="attributes" type="noValue">
   <children name="attribute" type="noValue">
   <children name="value" type="string">
    <values>saml11-ip</values></children>
   <children name="name" type="string">
    <values>FederationName</values></children>
  </children>
  <children name="attribute" type="noValue">
   <children name="value" type="string">
    <values>enabled</values></children>
   <children name="name" type="string">
    <values>State</values></children>
  </children>
  <children name="attribute" type="noValue">
   <children name="value" type="string">
    <values>saml11-ip</values></children>
   <children name="name" type="string">
    <values>FederationId</values></children>
  </children>
  <children name="attribute" type="noValue">
   <children name="value" type="string">
    <values>DefaultKeyStore_testkey</values></children>
   <children name="name" type="string">
    <values>SAML1.SigningKeyIdentifier</values></children>
  </children>
  <children name="attribute" type="noValue">
   <children name="value" type="string">
    <values>true</values></children>
   <children name="name" type="string">
    <values>SAML1.SignArtifactResponse</values></children>
  </children>
  <children name="attribute" type="noValue">
   <children name="value" type="string">
    <values>SAML1_1</values></children>
   <children name="name" type="string">
    <values>FederationProtocol</values></children>
  </children>
 </children>
 <children name="type" type="string">
  <values>federation</values></children>
 <children name="name" type="string">
  <values>saml11-ip</values></children>
 </extendedDataElements>
 <extendedDataElements name="mgmtInfo" type="noValue">
  <children name="command" type="string">
   <values>CreateFederation</values></children>
 </extendedDataElements>
 <extendedDataElements name="userInfo" type="noValue">
  <children name="appUserName" type="string">
   <values>Not Available</values></children>
  <children name="registryUserName" type="string">
   <values>Not Available</values></children>
 </extendedDataElements>
 <sourceComponentId
  application="IBM Security Verify Access"
  component="Authentication and Federated Identity"
  componentIdType="ProductName"
  executionEnvironment="Linux[x86]#2.4.21-4.EL"
  location="localhost.localdomain"
  locationType="FQHostname"
  subComponent="com.tivoli.am.fim.mgmt.fim.FIMManagementImpl"
  threadId="SoapConnectorThreadPool : 1"
  componentType=
  "http://www.ibm.com/namespaces/autonomic/Tivoli_componentTypes"/>
  <situation categoryName="ReportSituation">
   <situationType xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                  xsi:type="ReportSituation"
                  reasoningScope="INTERNAL"
                  reportCatagory="SECURITY"/>
  </situation>
</CommonBaseEvent>
```

# Chapter 8. IBM_SECURITY_RUNTIME events (Runtime start)

This event type is generated when the runtime is started.

The following table lists the elements that can be shown in the output of an IBM_SECURITY_RUNTIME event.

*Table 15. Elements for an IBM_SECURITY_RUNTIME event*

| Element | Description |
|---|---|
| Domain | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='Domain']/values` |
| IsMgmtAudit | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='IsMgmtAudit']/values` |
| nameInApp | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='resourceInfo']/children [@name='nameInApp']/values` |
| nameInPolicy | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='resourceInfo']/children [@name='nameInPolicy']/values` |
| type | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='resourceInfo']/children [@name='type']/values` |
| uniqueID | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='resourceInfo']/children [@name='uniqueID']/values` |
| action | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='action']/values` |

### Samples of IBM_SECURITY_RUNTIME events

The following example shows an events generated by a runtime request.

```
<CommonBaseEvent
  creationTime="2016-09-20T03:45:55.838Z"
  extensionName="IBM_SECURITY_RUNTIME"
  globalInstanceId="FIM45b338ad015712f2ad5cd6c9d3998"
```

```
  sequenceNumber="0" version="1.1">
<contextDataElements
  name="Security Event Factory"
  type="eventTrailId">
  <contextId>FIM_45b337ec01571ef29f4cd6c9d3998025+1092518090</contextId>
</contextDataElements>
<extendedDataElements name="Domain" type="string">
  <values>Not Available</values>
</extendedDataElements>
<extendedDataElements name="IsMgmtAudit" type="boolean">
  <values>false</values>
</extendedDataElements>
<extendedDataElements name="action" type="string">
  <values>auditStart</values>
</extendedDataElements>
<extendedDataElements name="resourceInfo" type="noValue">
  <children name="nameInApp" type="string"><values></values>
  </children>
  <children name="nameInPolicy" type="string"><values></values>
  </children>
  <children name="type" type="string"><values>application</values>
  </children>
  <children name="uniqueId" type="long"><values>0</values>
  </children>
</extendedDataElements>
<extendedDataElements name="outcome" type="noValue">
  <children name="result" type="string"><values>SUCCESSFUL</values>
  </children>
  <children name="majorStatus" type="int"><values>0</values>
  </children>
</extendedDataElements>
<sourceComponentId
  application="IBM Security Verify Access"
  component="Authentication and Federated Identity"
  componentIdType="ProductName"
  executionEnvironment="Linux[amd64]#2.6.32-279.14.1.91.iss7_3.x86_64"
  location="isam.myidp.ibm.com"
  locationType="FQHostname"
  subComponent="com.tivoli.am.fim.audit.event.impl.RuntimeAuditAdapterImpl"
  threadId="Default Executor-thread-10"
  componentType="http://www.ibm.com/namespaces/autonomic/Tivoli_componentTypes"/>
<situation categoryName="ReportSituation">
  <situationType xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:type="ReportSituation"
    reasoningScope="INTERNAL"
    reportCategory="SECURITY"/>
  </situation>
</CommonBaseEvent>
```

# Chapter 9. IBM_SECURITY_RUNTIME events (SAML2 message transmission)

This event type is generated when transmitting SAML2 authentication request and response messages.

The following table lists the elements that can be shown in the output of an IBM_SECURITY_RUNTIME event.

*Table 16. Elements for an IBM_SECURITY_RUNTIME event*

| Element | Description |
|---|---|
| type | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='resourceInfo']/children [@name='type']/values` |
| action | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='action']/values` |
| MessageContent | The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='MessageContent']/values` |

### Samples of IBM_SECURITY_RUNTIME events

The following example shows an events generated by a runtime request.

```
<CommonBaseEvent creationTime="2016-09-13T02:54:22.612Z"
extensionName="IBM_SECURITY_RUNTIME" globalInstanceId="FIM2177819501571d34a705ed4ca920c"
sequenceNumber="10" version="1.1">
<contextDataElements name="Security Event Factory" type="eventTrailId">
<contextId>FIM_2177814701571a92875fed4ca920ca5a+1206972288</contextId>
</contextDataElements>
<extendedDataElements name="MessageContent" type="string">
<values><samlp:AuthnRequest xmlns:saml="urn:oasis:names:tc:SAML:2.0:assertion"
xmlns:samlp="urn:oasis:names:tc:SAML:2.0:protocol"
AssertionConsumerServiceURL="https://sp-wga/isam/sps/saml20sp/saml20/login"
Destination="https://ip-wga/isam/sps/saml20ip/saml20/login"
ForceAuthn="false" ID="FIMREQ_217780c5-0157-1645-a617-f796a7dfc338"
IsPassive="false" IssueInstant="2016-09-13T02:54:22Z"
ProtocolBinding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST"
Version="2.0"><saml:Issuer Format="
urn:oasis:names:tc:SAML:2.0:nameid-format:entity">
https://sp-wga/isam/sps/saml20sp/saml20</saml:Issuer>
<samlp:NameIDPolicy AllowCreate="false"
Format="urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress">
</samlp:NameIDPolicy></samlp:AuthnRequest></values>
</extendedDataElements>
<extendedDataElements name="action" type="string">
<values>Received</values>
</extendedDataElements>
<extendedDataElements name="resourceInfo" type="noValue">
<children name="nameInApp" type="string">
<values/>
</children>
<children name="nameInPolicy" type="string">
<values/>
</children>
<children name="type" type="string">
<values>Saml20AuthnRequest</values>
</children>
</extendedDataElements>
```

```
<extendedDataElements name="outcome" type="noValue">
<children name="result" type="string">
<values>SUCCESSFUL</values>
</children>
<children name="majorStatus" type="int">
<values>0</values>
</children>
</extendedDataElements>
<sourceComponentId application="IBM Security Verify Access"
component="Authentication and Federated Identity" componentIdType="ProductName"
executionEnvironment="Linux[amd64]#2.6.32-279.14.1.91.iss7_3.x86_64"
location="ip" locationType="FQHostname"
subComponent="com.tivoli.am.fim.saml20.protocol.actions.sso.SAML20ValidateAuthnRequestAction"
threadId="Default Executor-thread-61"
componentType="http://www.ibm.com/namespaces/autonomic/Tivoli_componentTypes"/>
<situation categoryName="ReportSituation">
<situationType xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="ReportSituation" reasoningScope="INTERNAL" reportCategory="SECURITY"/>
</situation>
</CommonBaseEvent>
```

# Chapter 10. IBM_SECURITY_TRUST events

This event type is generated by the trust server when it validates a token, issues a token, maps an identity, or authorizes a Web service call.

The following table lists the elements that can be shown in the output of an IBM_SECURITY_TRUST event.

*Table 17. Elements for an IBM_SECURITY_TRUST event*

| Element | Description |
|---|---|
| accessDecision | For the authorization module, it is the result of the authorization decision. This element is filled out only when the action is authorized.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='accessDecision']/values` |
| action | The action being performed. Possible actions are:<br>• authorize<br>• issue<br>• map<br>• validate<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='action']/values` |
| appliesTo | The destination or resource that the request or token applies to.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='appliesTo']/values` |
| issuer | The party responsible for issuing the token.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='issuer']/values` |
| moduleName | The module in the STS module chain that the action is taken on.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='moduleName']/values` |
| ruleName | The rule name used for the mapping module. This element is filled out only when specified action is set to *map*.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='ruleName']/values` |

| *Table 17. Elements for an IBM_SECURITY_TRUST event(continued)* | |
|---|---|
| **Element** | **Description** |
| token | The incoming token that the action is being taken on. Only the first 1024 characters of the token are set. When the action is set to *map*, this element represents the incoming principal.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='token']/values` |
| tokenInfo | The internal representation of the user information *after* changes are made by the module. Only the first 1024 characters of the token are set. When action is set to *map*, this element represents the outgoing principal. When the action is set to *authorize*, this element represents the principal for whom the access decision was made.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='tokenInfo']/values` |
| tokenType | The type of token the module is using.<br>The XPath is:<br>`CommonBaseEvent/extendedDataElements [@name='tokenType']/values` |

**Samples of IBM_SECURITY_TRUST events**

The following example shows an event generated by a Trust request.

```
<CommonBaseEvent creationTime="2013-07-19T06:21:05.256Z"
extensionName="IBM_SECURITY_TRUST"
globalInstanceId="FIMf596c16e013f12d38eb0b66d4d925"
sequenceNumber="1" version="1.1">
 <contextDataElements name="Security Event Factory"
type="eventTrailId">
  <contextId>FIM_f596bda0013f188f9983b66d4d92542a+971185751</contextId>
 </contextDataElements>
 <extendedDataElements name="tokenType" type="string">
  <values>Not Available</values>
 </extendedDataElements>
 <extendedDataElements name="issuer" type="string">
  <values>/otpfed/otp/get/delivery/options/issuer</values>
 </extendedDataElements>
 <extendedDataElements name="token" type="string">
  <values>user1 [ Attribute 1 name   [ value 1 user1 ] ]</values>
 </extendedDataElements>
 <extendedDataElements name="ruleName" type="string">
  <values>otp_get_methods.js </values>
 </extendedDataElements>
 <extendedDataElements name="moduleName" type="string">
  <values>com.tivoli.am.fim.trustserver.sts.modules.STSMapDefault</values>
 </extendedDataElements>
 <extendedDataElements name="appliesTo" type="string">
  <values>/otpfed/otp/get/delivery/options/appliesto</values>
 </extendedDataElements>
 <extendedDataElements name="action" type="string">
  <values>Map</values>
 </extendedDataElements>
 <extendedDataElements name="tokenInfo" type="string">
  <values>user1 [ Attribute 1 name   [ value 1 user1 ] ]</values>
 </extendedDataElements>
```

```
 <extendedDataElements name="outcome" type="noValue">
  <children name="result" type="string">
   <values>SUCCESSFUL</values>
  </children>
  <children name="majorStatus" type="int">
   <values>0</values>
  </children>
 </extendedDataElements>
 <sourceComponentId application="IBM Security Verify Access"
component="Authentication and Federated Identity"
componentIdType="ProductName"
executionEnvironment="Linux[amd64]#2.6.32-279.14.1.30.iss7_3.x86_64"
location="localhost" locationType="FQHostname"
subComponent="com.tivoli.am.fim.trustserver.sts.modules.STSMapDefault"
threadId="Default Executor-thread-6"
componentType="http://www.ibm.com/namespaces/autonomic/Tivoli_componentTypes"/>
 <situation categoryName="ReportSituation">
  <situationType xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="ReportSituation" reasoningScope="INTERNAL" reportCategory="SECURITY"/>
 </situation>
</CommonBaseEvent>
```

# Chapter 11. Deploying pending changes

Some configuration and administration changes require an extra deployment step.

## About this task

When you use the graphical user interface on the appliance to specify changes, some configuration and administration tasks take effect immediately. Other tasks require a deployment step to take effect. For these tasks, the appliance gives you a choice of deploying immediately or deploying later. When you must make multiple changes, you can wait until all changes are complete, and then deploy all of them at one time.

When a deployment step is required, the user interface presents a message that says that there is an undeployed change. The number of pending changes is displayed in the message, and increments for each change you make.

**Note:** If any of the changes require the runtime server to be restarted, the restart occurs automatically when you select **Deploy**. The runtime server will then be unavailable for a period of time until the restart completes.

## Procedure

1. When you finish making configuration changes, select **Click here to review the changes or apply them to the system**.

   The **Deploy Pending Changes** window is displayed.
2. Select one of the following options:

| Option | Description |
|---|---|
| **Cancel** | Do not deploy the changes now.<br>Retain the undeployed configuration changes. The appliance user interface returns to the previous panel. |
| **Roll Back** | Abandon configuration changes.<br>A message is displayed, stating that the pending changes were reverted. The appliance user interface returns to the previous panel. |
| **Deploy** | Deploy all configuration changes.<br>When you select **Deploy**, a system message is displayed, stating that the changes were deployed.<br>If any of the changes require the runtime server to be restarted, the restart occurs automatically when you select **Deploy**. The runtime server will then be unavailable for a period of time until the restart completes. |

# Index