

Tivoli Federated Identity Manager
Version 6.2.1

Administration Guide



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Note

Before using this information and the product it supports, read the information in “Notices” on page 293.

This edition applies to version 6, release 2, modification 1 of IBM Tivoli Federated Identity Manager (product number 5724-L73) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this publication

IBM® Tivoli® Federated Identity Manager Version 6.2.1 implements solutions for federated single sign-on, Web services security management, and provisioning that are based on open standards. IBM Tivoli Federated Identity Manager extends the authentication and authorization solutions provided by IBM Tivoli Access Manager to simplify the integration of multiple existing Web solutions.

This guide describes how to administer IBM Tivoli Federated Identity Manager.

Intended audience

The target audience for this book includes network security architects, system administrators, network administrators, and system integrators. Readers of this book should have working knowledge of networking security issues, encryption technology, keys, and certificates. Readers should also be familiar with the implementation of authentication and authorization policies in a distributed environment.

This book describes an implementation of a Web services solution that supports multiple Web services standards. Readers should have knowledge of specific Web services standards, as obtained from the documentation produced by the standards body for each respective standard.

Readers should be familiar with the development and deployment of applications for use in a Web services environment. This includes experience with deploying applications into an IBM WebSphere® Application Server environment.

Publications

Read the descriptions of the IBM Tivoli Federated Identity Manager library, the prerequisite publications, and the related publications to determine which publications you might find helpful. The section also describes how to access Tivoli publications online and how to order Tivoli publications.

IBM Tivoli Federated Identity Manager library

The publications in the IBM Tivoli Federated Identity Manager library are:

- *IBM Tivoli Federated Identity Manager Quick Start Guide*
Provides instructions for getting started with IBM Tivoli Federated Identity Manager.
- *IBM Tivoli Federated Identity Manager Installation Guide*
Provides instructions for installing IBM Tivoli Federated Identity Manager.
- *IBM Tivoli Federated Identity Manager Configuration Guide*
Provides instructions for configuring IBM Tivoli Federated Identity Manager.
- *IBM Tivoli Federated Identity Manager for z/OS Program Directory*
Provides instructions for installing IBM Tivoli Federated Identity Manager on z/OS®.
- *IBM Tivoli Federated Identity Manager Administration Guide*

Provides instructions for completing administration tasks that are required for all deployments.

- *IBM Tivoli Federated Identity Manager Web Services Security Management Guide*
Provides instructions for completing configuration tasks for Web services security management.
- *IBM Tivoli Federated Identity Manager Auditing Guide*
Provides instructions for auditing IBM Tivoli Federated Identity Manager events.
- *IBM Tivoli Federated Identity Manager Error Message Reference*
Provides explanations of the IBM Tivoli Federated Identity Manager error messages.
- *IBM Tivoli Federated Identity Manager Troubleshooting Guide*
Provides troubleshooting information and instructions for problem solving.

You can obtain the publications from the IBM Tivoli Federated Identity Manager Information Center:

http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?toc=/com.ibm.tivoli.fim.doc_6.2.1/toc.xml

Prerequisite publications

To use the information in this book effectively, you should have some knowledge about related software products, which you can obtain from the following sources:

- IBM Tivoli Access Manager for e-business Information Center:
<http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?toc=/com.ibm.itame.doc/toc.xml>
- IBM WebSphere Application Server Version 6.1 Information Center:
<http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp>
You can obtain PDF versions of the IBM WebSphere Application Server documentation at:
<http://www.ibm.com/software/webservers/appserv/was/library/>

Related publications

You can obtain related publications from the IBM Web sites:

- The IBM Tivoli Federated Identity Manager Business Gateway Information Center at
- *Enterprise Security Architecture Using IBM Tivoli Security Solutions*. This book is available in PDF (Portable Document Format) at <http://www.redbooks.ibm.com/redbooks/pdfs/sg246014.pdf> or in HTML (Hypertext Markup Language) at <http://www.redbooks.ibm.com/redbooks/SG246014/>
- *Federated Identity Management and Web Services Security with IBM Tivoli Security Solutions* (SG24-6394-01). This book is available in PDF at <http://www.redbooks.ibm.com/redbooks/pdfs/sg246394.pdf> or in HTML at <http://www.redbooks.ibm.com/redbooks/SG246394/>
- The Tivoli Software Library provides a variety of Tivoli publications such as white papers, datasheets, demonstrations, redbooks, and announcement letters. The Tivoli Software Library is available on the Web at: <http://publib.boulder.ibm.com/tividd/td/tdprodlist.html>

- The *Tivoli Software Glossary* includes definitions for many of the technical terms related to Tivoli software. The *Tivoli Software Glossary* is available at <http://publib.boulder.ibm.com/tividd/glossary/tivoliglossarymst.htm>

Accessing terminology online

The IBM Terminology Web site consolidates the terminology from IBM product libraries in one convenient location. You can access the Terminology Web site at <http://www.ibm.com/software/globalization/terminology>

Accessing publications online

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli Information Center Web site at <http://publib.boulder.ibm.com/infocenter/tivihelp/v3r1/index.jsp>.

Note: If you print PDF documents on other than letter-sized paper, set the option in the **File → Print** window that allows Adobe® Reader to print letter-sized pages on your local paper.

Ordering publications

You can order many Tivoli publications online at <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.

You can also order by telephone by calling one of these numbers:

- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, contact your software account representative to order Tivoli publications. To locate the telephone number of your local representative, perform the following steps:

1. Go to <http://www.elink.ibm.link.ibm.com/publications/servlet/pbi.wss>.
2. Select your country from the list and click **Go**.
3. Click **About this site** in the main panel to see an information page that includes the telephone number of your local representative.

Accessibility

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully. With this product, you can use assistive technologies to hear and navigate the interface. You also can use the keyboard instead of the mouse to operate all features of the graphical user interface.

For additional information, see the "Accessibility" topic in the information center at http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?toc=/com.ibm.tivoli.fim.doc_6.2.1/toc.xml.

Tivoli technical training

For Tivoli technical training information, refer to the following IBM Tivoli Education Web site at <http://www.ibm.com/software/tivoli/education>.

Support information

If you have a problem with your IBM software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

Online

Go to the IBM Software Support site at <http://www.ibm.com/software/support/probsub.html> and follow the instructions.

IBM Support Assistant

The IBM Support Assistant (ISA) is a free local software serviceability workbench that helps you resolve questions and problems with IBM software products. The ISA provides quick access to support-related information and serviceability tools for problem determination. To install the ISA software, see the *IBM Tivoli Federated Identity Manager Installation Guide*. Also see: <http://www.ibm.com/software/support/isa>.

Troubleshooting Guide

For more information about resolving problems, see the *IBM Tivoli Federated Identity Manager Troubleshooting Guide*.

Conventions used in this book

This reference uses several conventions for special terms and actions and for operating system-dependent commands and paths.

Typeface conventions

This publication uses the following typeface conventions:

Bold

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as **Tip:**, and **Operating system considerations:**)
- Keywords and parameters in text

Italic

- Citations (examples: titles of publications, diskettes, and CDs)
- Words defined in text (example: a nonswitched line is called a *point-to-point line*)
- Emphasis of words and letters (words as words example: "Use the word *that* to introduce a restrictive clause."; letters as letters example: "The LUN address must start with the letter *L*.")
- New terms in text (except in a definition list): a *view* is a frame in a workspace that contains data.
- Variables and values you must provide: ... where *myname* represents....

Monospace

- Examples and code examples
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
- Message text and prompts addressed to the user
- Text that the user must type

- Values for arguments or command options

Operating system-dependent variables and paths

This publication uses the UNIX[®] convention for specifying environment variables and for directory notation.

When using the Windows[®] command line, replace *\$variable* with *% variable%* for environment variables and replace each forward slash (/) with a backslash (\) in directory paths. The names of environment variables are not always the same in the Windows and UNIX environments. For example, %TEMP% in Windows environments is equivalent to \$TMPDIR in UNIX environments.

Note: If you are using the bash shell on a Windows system, you can use the UNIX conventions.

Chapter 1. Using the console

Tivoli Federated Identity Manager provides a management console that you can use to accomplish most administration tasks and some configuration tasks.

The Tivoli Federated Identity Manager console is implemented as a plug-in to the IBM Integrated Solutions Console. The Integrated Solutions Console is a graphical administration console that provides a framework for administering multiple products. For example, your console will enable you to administer Tivoli Federated Identity Manager and WebSphere Application Server.

Topics:

- “Logging in and logging out”
- “Task grouping overview” on page 2
- “Task portlets” on page 4
- “Task wizards” on page 5
- “Help” on page 5

Logging in and logging out

Access the console by opening a Web browser and typing the appropriate URL.

About this task

To form the appropriate URL, you need to know the settings that you used when you installed and configured the console. For example, the URL you need might be: `http://idp.example.com:9060/ibm/console`

This URL is made up of:

- The name of the host system that runs the console. For example:
`http://idp.example.com`
- The port number of the Integrated Solutions Console.
The default port for a console where WebSphere Application Server administration security is not enabled (http) is 9060.
The default port for a console where WebSphere Application Server administration security is enabled (https) is 9043.
- The URL for accessing the console login page. This part of the URL is always the same:
`/ibm/console`

When you have established the correct URL, you will need the administrator account name and password for the console. The name and password depend on the version of WebSphere Application Server that was installed with Tivoli Federated Identity Manager.

Version of WebSphere Application Server	Default administrator name
Existing version	The administrator name and password that were configured on WebSphere Application Server when Tivoli Federated Identity Manager was installed.

Version of WebSphere Application Server	Default administrator name
Embedded version	fimadmin is the default administrator name. The password is assigned during installation.

To log in:

Procedure

1. Enter the console URL in the address bar of your browser window. For example to the URL for a system with a host name of `idp.example.com`, using the default port number on a secured port, enter:
`http://idp.example.com:9060/ibm/console`
2. Enter the administrator account and password.
 - For example, default user name: `fimadmin`
 - Password as specified when the console was installed.

The console Welcome panel is displayed.
3. The navigation pane, on the left side of the window, lists an entry for Tivoli Federated Identity Manager. Click the icon next to Tivoli Federated Identity Manager.
 - The Welcome portlet, in the right panel, lists the installed Integrated Solutions Console plug-ins.
 - The About portlet, also in the right panel, describes the version information for the Integrated Solutions Console.
4. To log out, click **Logout** in the upper right corner.

Task grouping overview

The console organizes administration tasks into categories (task groupings). Each category is listed in the left navigation pane. To view the categories:

1. Log in to the Integrated Solutions Console as described in “Logging in and logging out” on page 1.
The pane along the left side presents categories and tasks for WebSphere Application Server and Tivoli Federated Identity Manager. The Tivoli Federated Identity Manager tasks are grouped together under the **Tivoli Federated Identity Manager** category.
2. Expand the Tivoli Federated Identity Manager category by clicking the + icon next to each task.

The Tivoli Federated Identity Manager administration tasks are grouped in the following categories:

- **Getting Started**
- **Configure Federated Single Sign-on**

Federations

Administration tasks for single sign-on federations. Entry point for managing, creating, modifying, and deleting federations. Entry point for exporting federation configuration. You can also add partners to existing federations through this entry point.

Partners

Administration tasks for managing partners in single sign-on federations. Entry point for adding partners, modifying partner configuration, and deleting partners.

- **Configure Trust Service**

Modules

Administration tasks for managing each type of security token module. Entry point for creating module types, modifying module type properties, and deleting module types.

These entry points are used primarily for configuring Web services security management deployments. For federated single sign-on, the default module types are used, and typically are not modified or deleted. However, you can create new module types if necessary, and token module types can be managed through the Federation wizard and the Partner wizard.

Module Instances

Administration tasks for managing instances of each type of security token module. Entry point for creating module instances, modifying module instances properties, and deleting module instances.

These entry points are used primarily for configuring Web services security management deployments. For federated single sign-on, token module instances are managed through the Federation wizard and the Partner wizard.

Trust Service Chains

Administration tasks for managing chains of security token module instances. Entry point for creating trust service chains, modifying trust service chain contents, and deleting trust service chains.

These entry points are used primarily for configuring Web services security management deployments. For federated single sign-on, trust service chains are managed through the Federation wizard and the Partner wizard.

- **Configure Key Service**

Keystores

Administration tasks for managing keys and certificates that are used to sign assertions, validate signatures, and encrypt data. Entry point for importing keystores, deleting keystores, importing and exporting keys, enabling or disabling keys, and deleting keys.

Hardware Cryptographic Device

Administration tasks for managing configuration of hardware cryptographic devices. Entry point for specifying whether to use a hardware cryptographic device, and for specifying the location of the configuration file for the device.

- **Domain Management**

Runtime Node Management

Administration tasks for deploying the runtime node after updating it through a fix pack or language pack and customizing the runtime service of Tivoli Federated Identity Manager, publishing custom event pages and STS modules, and reloading configurations.

Import and Export Configuration

Administration tasks for importing or exporting the configuration of the

Tivoli Federated Identity Manager domain. Entry point for exporting the current configuration to a new configuration archive or importing an archive to a new location.

Point of Contact

Administration tasks for managing custom point of contact servers. Entry point for creating, activating, or deleting custom point of contact servers and for selecting endpoint and authentication settings.

Event Pages

Administration tasks for customizing message and error pages or page locales.

Alias Service Settings

Administration tasks for setting the database to use for storing aliases and attributes.

Auditing

Administration tasks for auditing program activities. Entry point for enabling audit logging, specifying the location for the log, and specifying the size and number of logs before the current log file will rollover to a new log file.

Web Server Plugin Configuration

Administration tasks for configuring Tivoli Federated Identity Manager plugins for Web servers. Tasks include enabling plugins, specifying access to LTPA cookies, logging, configuring applications, and exporting Web server configuration files

Reports

Administration tasks for configuring, running, and viewing audit reports. Includes tasks for configuring report settings.

- **Domains**

Administration tasks for creating, deleting, and activating domains. Includes access points for displaying domain information and modifying domain properties.

Task portlets

The console displays a separate portlet for each administration task. A portlet is represented as a panel. A panel is an individual section within a console window.

The navigation pane is on the left side and one or more portlet panels are on the right side. The content of the portlet panel is determined by the task that you have selected in the navigation pane.

For example, when you log in to the console and select **Tivoli Federated Identity Manager** → **Manage Configuration** → **Import and Export Configuration**, the Export Configuration portlet and the Import Configuration portlet are displayed on the right.

Portlets act similarly to windows. For example, you can minimize or maximize portlets by clicking their corresponding icons.

The maximize icon , and the shared screen icon  are located in the group of icons in the upper right corner  of the portlet.

Task wizards

The console provides task *wizards* to guide you through the more complex tasks. Each wizard displays a series of panels that prompt you for the necessary configuration input. The choices you make at each panel can determine which additional panels are displayed.

The wizards have a common format for presentation in the right panel of the console. Each wizard has a left panel that displays the tasks in the order in which they will be completed. The panel includes an arrow icon that indicates the current task. The arrow moves through the task list as each task is completed.

Wizards have a standard set of action buttons at the bottom of each panel:

- Next
Continue to the next panel within the wizard.
- Back
Return to the previous wizard panel. This action is useful when you need to adjust a prior configuration setting.
- Cancel
Cancel the entire administration task. When you select Cancel, the wizard exits and all configuration settings that you have entered are discarded.
- Finish
Commit the configuration settings that have been entered, and exit the wizard. This button is enabled only on the last panel of the wizard.

Help

The console provides several ways to obtain help:

- “Online help for administration task panels”
The console presents one or more configuration panels for each administration task. Each panel has an associated help file.
- “Online help for console functions” on page 6
The Integrated Solutions Console has a help system that describes using the console to perform functions that are common to all administration task plug-ins. This help is not specific to a product that is using the Integrated Solutions Console but instead describes how to best use the console to administer all plug-ins.
- “Accessing the Tivoli Federated Identity Manager Information Center” on page 6
Within the Integrated Solutions Console help system, you can access an entry point for Tivoli Federated Identity Manager. At this entry point, you can click a link to access the Tivoli Federated Identity Manager Information Center on the IBM Web site.

Online help for administration task panels

Each administration task panel has an online help panel.

To access the online help for a panel, click the question mark  in the upper right corner  of the blue bar. An online help panel for working with this portlet is displayed

The online help panels are independent panels that apply to one task only. They provide context sensitive help for the current task and do not link to other tasks.

Online help for console functions

The Integrated Solutions Console window always provides a Help button in the upper-right corner of the full window. This button is displayed regardless of which plug-in module is being used to perform administration tasks.

When you select the Help button, help information for Integrated Solutions Console is displayed. This information describes navigation of the console and use of the base administration pages. The help system contains many pages. You can consult these pages to determine how to best use Integrated Solutions Console features such as filtering and ordering of table entries. The filtering and ordering feature can be useful when you have a large number of table entries. For example, for Tivoli Federated Identity Manager you might have a large number of keys in the Key service table, or a large number of partners in the Federation partners table.

Accessing the Tivoli Federated Identity Manager Information Center

The Tivoli Federated Identity Manager Information Center is available on the Internet.

About this task

To open the Information Center from within the console:

Procedure

1. From any console panel, select the **Help** button in the upper-right corner. The Console Basics Help panel is displayed. .
2. The Integrated Solutions Console Basics Help panel contains a navigation hierarchy in the left panel. Select **Tivoli Federated Identity Manager**. The Tivoli Federated Identity Manager Welcome panel is displayed.
3. The Welcome panel contains a link to the Tivoli Federated Identity Manager Information Center on the IBM Web site. Click this link to access the entire Tivoli Federated Identity Manager information set.

Chapter 2. Managing administrators

One administrator user was configured at the time Tivoli Federated Identity Manager was installed.

About this task

The name for this administrator user depends on the version of WebSphere Application Server used with the installation.

Version of WebSphere Application Server	Default administrator name
Existing version	The administrator name and password that were configured on WebSphere Application Server when Tivoli Federated Identity Manager was installed.
Embedded version	fimadmin is the default administrator name. The password is assigned during installation.

You might want to modify this administrator, add one or more administrators, or delete an existing administrator.

You can also manage the roles of administrator users and organize and manage administrator users in groups. For help with these topics, refer to the online help in the console.

Modifying administrator properties

To modify the e-mail address, user name, password, or group properties for an existing administrator in your WebSphere Application Server and Tivoli Federated Identity Manager environment, use the **Users and Groups** task in the console.

About this task

To modify administrator properties:

Procedure

1. Log in to the console.
2. Click **Users and Groups** → **Manage Users**.
3. Locate the existing users by selecting the search criteria. Then click **Search**.
4. Click the user ID of the user you want to modify.
5. Complete the fields. Optionally, modify the group properties by clicking **Groups**.
6. Click **Apply** and then click **OK**.

Adding an administrator

To add an administrator, use the **Users and Groups** task in the console.

About this task

Attention: Only one administrator should use the console at a time to avoid conflicting changes in the console.

To add an administrator:

Procedure

1. Log in to the console.
2. Click **Users and Groups** → **Manage Users**.
3. Locate the existing users by selecting the search criteria. Then click **Search**.
4. Click **Create**.
5. Complete the fields as required. Optionally, configure group properties for the administrator by clicking **Group Membership**.
6. Click **Create**.
7. A message is displayed when the user is created. Click **Create Like** to create another user using properties from the one you just created or click **Close** to complete the task.
8. Next, you will need to add the appropriate permissions for the administrator you created:
 - a. Click **Users and Groups** → **Administrative User Roles**.
 - b. In the Administrative User Roles table, click **Add**.
 - c. Type the administrator name in the **User** field and select a role (either **Administrator** or **fimadmin**) from the list.
 - d. Click **OK**.
 - e. Click **Save** to save directly to the master configuration. Changes take place immediately.

Deleting an administrator

To delete an administrator, use the **Users and Groups** task in the console.

About this task

Attention: If you have only one administrator account, do not delete it.

To delete an administrator:

Procedure

1. Log in to the console.
2. Click **Users and Groups** → **Manage Users**.
3. Locate the existing users by selecting the search criteria. Then click **Search**.
4. Select the check box next to the user ID for the user you want to delete.
5. Click **Delete**.
6. You will be prompted to verify that you want to delete the selected user. Click **OK** or **Cancel**.

Chapter 3. Modifying LTPA key and timeout settings

You must review the Lightweight Third Party Authentication (LTPA) settings on your WebSphere Application Server after you have installed Tivoli Federated Identity Manager. You can choose to use the default LTPA configuration or modify the configuration so that it is appropriate for your environment.

About this task

The default LTPA configuration is as follows:

Key set group

The LTPA keys are used to encrypt and decrypt data that is sent between the servers. The keys are stored in sets and the sets are stored in groups. The default key set group is NodeLTPAKeySetGroup.

Key sets

The default key sets are NodeLTPAKeyPair and NodeLTPASecret.

Key generation

By default, LTPA keys are automatically generated the first time you start the server after installation and will be automatically regenerated every 12 weeks at 2200 hours (on a 24-hour clock) on Sundays.

Attention: If you are using a separate target application server in your configuration, such as a separate WebSphere Application Server or an IHS or IIS server, the LTPA keys must be on your WebSphere Application Server point of contact server and on your target application server. If you automatically generate keys, you must make sure that you keep the keys on the application server in sync with the keys that are generated on your WebSphere Application Server point of contact server.

Authentication cache timeout

This value specifies how long an LTPA token is valid in minutes. The default time is 10 minutes.

Timeout value for forwarded credentials between servers

This value specifies how long the server credentials from another server are valid before they expire. The default value is 120 minutes.

To modify these settings:

Procedure

1. Log in to the console.
2. Click **Security** → **Secure administration, applications, and infrastructure**.
The Secure administration, applications, and infrastructure panel is displayed.
3. On the left, click **Authentication mechanisms and expiration**. The Configuration tab is displayed. Use this tab to review or modify the Key set group defined, the authentication cache timeout, and the timeout value for forwarded credentials between servers.

4. To modify the key set group and key generation settings, click **Key set groups**. Make changes as appropriate for your environment, and then click **Apply**. Return to the previous Configuration tab.
5. In the Authentication expiration section of the Configuration tab, review or modify the values in the **Authentication cache timeout** field and the **Timeout value for forwarded credentials between servers** field. Click **Apply** when you are done.
6. Save the changes to the master configuration file as prompted.

Chapter 4. Modifying identity mapping configurations

When you configured your federation and added your partners, you selected the appropriate identity mapping method for the federation or to be used with each partner. Your identity mapping configuration is listed in your Federation properties. If you configured specific identity mapping settings for your partner, that configuration is listed in your Partner properties.

About this task

You have two options for modifying these configurations:

- “Changing the identity mapping module instance”
- “Modifying identity mapping properties” on page 12

Changing the identity mapping module instance

You can change whether you will use an XSLT and JavaScript™ transformation file or a custom mapping module to process the identity mapping for an existing federation or an existing partner in the federation.

Before you begin

Attention: Before continuing with this procedure, make sure that you are familiar with the identity mapping options and that you have completed all of the required configuration for those options. Refer to identity mapping topics and the token and content format topics in the *Tivoli Federated Identity Manager Configuration guide*.

About this task

To change the identity mapping module instance:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Configure Federated Single Sign-on**.
2. Click **Federations** or **Partners**.
3. The panel displays a list of configured federations or partners. Select a federation or partner.
4. Click **Properties** to view the properties for an existing federation or partner.
5. Locate the **Identity Mapping Properties** section and click the **Change Identity Mapping Module Instance** button. The Identity Mapping Options panel is displayed.
6. Select the identity mapping option you want to use.

XSLT and JavaScript transformation file

If you choose this option, you must provide a path and file name for the XSLT and JavaScript transformation file.

Use Tivoli Directory Integrator for identity mapping

When you choose this option, the Tivoli Directory Integrator module is

placed in the chain as the mapping module. If you want to modify the default configuration properties for the module, select **Modify Current Properties**.

Custom mapping module

If you choose this option, you must select a module instance from the list that is displayed.

7. Click **OK** when you have finished.

Modifying identity mapping properties

After the initial configuration of your federation and partner, you can modify the identity mapping properties that are defined for a federation or the partner.

Before you begin

XSL transformation file

If you selected an XSL transformation file, you can specify a new file to use.

Tivoli Directory Integrator module

If you selected Tivoli Directory Integrator module, you can modify the configuration properties.

Custom mapping module

If you selected a custom mapping module, you can modify the module properties.

About this task

To modify identity mapping properties:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Configure Federated Single Sign-on**.
2. Click **Federations** or **Partners**.
3. The panel displays a list of configured federations or partners. Select a federation or partner.
4. Click **Properties** to view the properties for an existing federation or partner.
5. Locate the **Identity Mapping Properties** section and click the **Modify Current Properties** button.
 - When the federation or partner uses an XSL transformation file, the Identity Mapping Rule portlet is displayed where you can modify or delete the identity mapping rule.

Attention: Ensure that you can access the mapping file from the computer on which you are using a browser to view the console. For example, put the mapping file on the computer where you are viewing the console or map a drive on the computer where you are viewing the console to a drive where the identity mapping file is located.
 - When the federation or partner uses the Tivoli Directory Integrator module, the Identity Mapping Properties panel is displayed.
 - When the federation or partner uses a custom mapping module, a portlet is displayed where you can view or modify the custom mapping instance properties.

6. The action you take depends on whether you are modifying a transformation file or a custom module:
 - If you are modifying the settings for an XSL transformation file, click **Modify Rule** or **Delete Rule**. Then take the appropriate action as described on the portlet.
 - If you are modifying the Tivoli Directory Integrator module, make the appropriate changes on the Identity Mapping Properties panel.
 - If you are modifying custom module properties and the module has configuration settings that can be changed, make the appropriate changes.
7. Click **OK** when you have finished.

Chapter 5. Managing federations

You can use the console to manage federations.

Management tasks include:

- “Modifying federation properties”
- “Viewing partners in a federation”
- “Exporting federation properties” on page 16
- “Deleting a federation” on page 16

For information about establishing a federation, including creating a federation and adding a partner to an existing federation, see the *Tivoli Federated Identity Manager Configuration guide*.

Modifying federation properties

Use the Federations properties selection to view the details about an existing federation or to modify an existing federation.

About this task

To modify federation properties:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Configure Federated Single Sign-on** → **Federations**.
2. The Federations panel displays a list of configured federations. Select a federation.
3. Click **Properties** to view the properties for an existing federation.
4. Select the properties to modify. Federation properties are described in the online help.
5. When you have finished modifying properties, click **OK** to close the Federation Properties panel.

Viewing partners in a federation

The View partners button on the Federation panel displays a list of partners that are configured for the specified federation.

About this task

To view the partners in a specific federation:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Configure Federated Single Sign-on** → **Federations**.
2. The Federations panel displays a list of configured federations. Select a federation.
3. Click **View Partners** to view the partners for the selected federation.

What to do next

You can perform the following management tasks on the partners listed:

- “Enabling or disabling a partner” on page 19
- “Modifying partner properties” on page 19
- “Deleting a partner” on page 21

Information about adding a partner is available in the *Tivoli Federated Identity Manager Configuration guide*.

Exporting federation properties

When you want to join a federation hosted by another business partner, you must supply your federation configuration properties. You can export your federation properties to a file to share them with your partner.

About this task

To export federation properties:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager → Configure Federated Single Sign-on → Federations**.
2. The Federations panel is displayed. Select a federation from the table.
3. Click **Export**. The browser displays a message window that prompts you to save the file containing the exported data. Click **OK**. The browser download window prompts for a location to save the file.
4. Select a directory and metadata file and click **Save**. Metadata file names have the following syntax:

`federationname_companyname_metadata.xml`

For example, for a federation named `federation1` and a company named `ABC`, the metadata file would be named:

`federation1_ABC_metadata.xml`

Place the file in an easily accessible location. You will need to provide this file to your partner, when your partner wants to import configuration information for the federation.

Deleting a federation

When a federation is no longer needed, you can delete it.

About this task

Attention: When you delete a federation, all of its partners are also deleted.

To delete a federation:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager → Configure Federated Single Sign-on → Federations**.

2. The Federations panel displays a list of configured federations. Select a federation.
3. Click **Delete** to delete the federation.
When you click **Delete**, a message box prompts you to confirm the deletion of the federation. When you click the **OK** button on the message box, the federation is deleted.

Chapter 6. Managing partners

You can use the console to manage partners.

Management tasks include:

- “Enabling or disabling a partner”
- “Modifying partner properties”
- “Deleting a partner” on page 21

For information about adding a partner to an existing federation, see the *Tivoli Federated Identity Manager Configuration guide*

Enabling or disabling a partner

About this task

When you add a partner to a federation, the partner is disabled by default as a security precaution. You must enable the partner in order to activate federated single sign-on functions.

When necessary, you can disable partner access without removing the partner configuration. You might need to disable a partner temporarily, for example, while replacing an expired key or certificate.

To enable or disable a partner:

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager → Configure Federated Single Sign-on → Partners**. The Federation Partners panel is displayed.
2. Select the partner from the partner table. When you select a partner, the **Enable/Disable** button is activated.
 - When the partner is disabled, the **Enable/Disable** button is redrawn. Click **Enable** to enable the partner.
 - When the partner is enabled, the **Enable/Disable** button is redrawn. Click **Disable** to disable the partner.

Modifying partner properties

About this task

You can modify partner properties at any time after you have added the partner to your federation. For each partner, you can access a Partner Properties panel that displays the partner configuration. You can modify properties as required.

To modify partner properties:

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager → Configure Federated Single Sign-on → Partners**. The Federation Partners panel is displayed.

2. Select the partner from the partner table. Click **Properties**.
The Partner Properties panel is displayed.
3. Select the properties to modify. Refer to the online help for descriptions of the properties.
4. When you have finished modifying properties, click **OK** to close the Partner Properties panel.

Using a keystore for multiple SOAP endpoint server certificate validation

Use a keystore for multiple SOAP endpoint server certificate validation.

About this task

If two or more SOAP endpoints use HTTPS, you must access the server validation certificates using a keystore. The keystore must contain the multiple server validation certificates used to validate the endpoints. Edit the partner response file to specify the keystore to use in validating the SOAP endpoints.

Procedure

1. Open a command prompt.
2. Start the WebSphere Application Server wsadmin tool. From your WebSphere profile, type the appropriate command for your operating system to start the tool:

Windows

```
wsadmin.bat
```

AIX®, Linux®, HP-UX, or Solaris

```
wsadmin.sh
```

Note: For more information about the options that can be specified when you run the wsadmin tool, see <http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp>.

3. Save the partner configuration properties into a response file with the following command: `$AdminTask manageItfimPartner {-operation createResponseFile -fimDomainName name -federationName name saml20sp -partnerName name ibmidentitydemo -fileId /tmp/partner.out}`
4. Locate the `ServerCertKeyId` property in the response file and identify the value to be deleted:

```
<void method="put">
  <string>ServerCertKeyId</string>
  <object class="java.util.ArrayList">
    <void method="add">
      <string>DefaultTrustedKeyStore_certname</string>
    </void>
  </object>
</void>
```

Note: In this example the value of the `ServerCertKeyId` property is `DefaultTrustedKeyStore_certname`.

5. Delete the value of the `ServerCertKeyId` property in the response file and insert the `ServerCertKeystoreId` property:

```

<void method="put">
  <string>ServerCertKeyId</string>
  <object class="java.util.ArrayList">
    <void method="add">
      <string></string>      <----- This value was removed
    </void>
  </object>
</void>

<!-- This whole property was added -->
<void method="put">
  <string>ServerCertKeystoreId</string>
  <object class="java.util.ArrayList">
    <void method="add">
      <string>DefaultTrustedKeyStore</string>      <----- This value was added
    </void>
  </object>
</void>

```

6. Use the following commands to update the configuration in Tivoli Federated Identity Manager:


```
$AdminTask manageItfimPartner {-operation modify
-fimDomainName name -federationName name saml20sp -partnerName name
ibmidentitydemo -fileId /tmp/partner.out}
```
7. Reload the Tivoli Federated Identity Manager configurations using this command:


```
$AdminTask reloadItfimRuntime {-fimDomainName name}
```

 You can also reload the Tivoli Federated Identity Manager using the console.

Deleting a partner

About this task

When you no longer want to maintain a trust relationship with a partner, you can delete the partner configuration from your federation configuration.

To delete a partner:

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Configure Federated Single Sign-on** → **Partners**. The Federation Partners panel is displayed.
2. The Federation Partners panel is displayed. Select a partner from the partner table.
3. Click **Delete**.
4. A message box asks you to confirm the deletion of the partner. Click **OK**.

Chapter 7. Managing modules

If you choose to use a custom mapping module in your federation, you must have added it as a module type and as a module instance to the Tivoli Federated Identity Manager environment.

About this task

Use the console to perform the following module management tasks:

- “Viewing module type properties”
- “Modifying module types”
- “Deleting a module type” on page 24
- “Modifying module instance properties” on page 25
- “Deleting a module instance” on page 25
- “Creating a trust service chain” on page 26
- “Modifying trust service chain properties” on page 28
- “Modifying chain module properties” on page 29
- “Deleting a trust service chain” on page 30

For information about creating custom mapping modules, refer to the *IBM Tivoli Federated Identity Manager Configuration Guide*.

Viewing module type properties

You can view properties for custom modules that you have created.

About this task

To view module type properties:

Procedure

1. Click **Tivoli Federated Identity Manager** → **Configure Trust Service** → **Module Types**. The Module Types panel is displayed.
2. Select a module type.
3. Click **Properties** to view the properties of an existing token module type. The Module Properties panel is displayed.
4. Click **OK** when you are done.

Modifying module types

You can modify custom modules that you have created by creating and publishing new ones.

About this task

Attention: Do not modify the default module types that are installed by default with Tivoli Federated Identity Manager. Use this task only to modify module types that you have added.

To modify a module type, you must modify it outside of the Tivoli Federated Identity Manager console, and then republish it:

Procedure

1. Modify the module and save it to your /plugin directory.
2. Log in to the console and click **Tivoli Federated Identity Manager** → **Manage Configuration** → **Runtime Node Management**. The Runtime Node Management panel is displayed.
3. Click **Publish Plug-ins**. The new module will be available and will be listed in the Module Types list.

Deleting a module type

Delete a custom module type only when it is no longer needed.

About this task

Attention: Do not delete the default module types that are installed by default with Tivoli Federated Identity Manager. Use this task only to delete module types that you have added.

To delete a module type, you must remove it from the plugin directory and then republish your remaining plug-ins to reflect the deletion:

Procedure

1. Remove the module from the /plugins directory.
2. Log in to the console and click **Tivoli Federated Identity Manager** → **Domain Management** → **Runtime Node Management**. The Runtime Node Management panel is displayed.
3. Click **Publish Plug-ins**.

What to do next

After publishing the plug-ins, the deleted module should be removed. Deleted mapping modules are removed from the Module Types list.

Creating a new module instance

You must create an instance of a module type in order to use the module type with the trust service. The management console provides a wizard to guide you through this task.

About this task

Procedure

1. Click **Tivoli Federated Identity Manager** → **Configure Trust Service** → **Module Instances**. The Module Instances panel displays module instances that are created by default, and also displays any module instances that you have added.
2. Click **Create**. The Token Type panel displays the module types that have been defined. The list includes the default token types and any custom token types that you have defined.

3. Select a token type and click **Next**. The Module Instances wizard displays the Module Instances Name panel.
4. Enter values for the requested properties and click **Finish**.

Modifying module instance properties

You can modify properties for each module instance. For example, when you add more than one instance of a module type, you might need to update the name or description for an existing module instance.

About this task

Attention: Do not change the properties of a default Tivoli Federated Identity Manager module instance. Change the properties only of custom modules you have added.

To modify module instance properties:

Procedure

1. Click **Tivoli Federated Identity Manager** → **Configure Trust Service** → **Module Instances**. The Module Instances panel is displayed.
2. Select a module instance.
3. Click **Properties** to view or modify properties for an existing token module instance. The Module Instance Properties panel is displayed.
4. Select the properties to modify for the selected module instance. See the online help for property descriptions.
5. Click **Apply** to save changes without leaving the Module Instance Properties panel. Or click **OK** to save the changes and exit from the Module Instance Properties panel.

Deleting a module instance

You can delete a module instance that is no longer needed.

About this task

Attention: Do not delete the default module instances that are installed by default with Tivoli Federated Identity Manager. Use this task only to delete module instances that you have added.

To delete a module instance:

Procedure

1. Click **Tivoli Federated Identity Manager** → **Configure Trust Service** → **Module Instances**. The Module Instances panel is displayed.
2. Select a module instance.
3. Click **Delete**. A message box asks you to confirm that you want to delete the specified module instance.
4. Click **OK** to delete the module instance or click **Cancel** to exit from the window without deleting the module instance.

Creating a trust service chain

Use the management console to configure custom trust service chains.

About this task

Creation of a trust service chain includes the assigning of a module instance to each link in the chain, and the specification of a mode for each instance. The Trust Service Chain wizard guides you through the tasks.

Before you create a chain, you should understand the concepts of module types, module instances, module modes, and trust service chains.

Procedure

1. Click **Tivoli Federated Identity Manager** → **Configure Trust Service** → **Trust Service Chains**.

The Trust Service Chains panel is displayed.

2. Click **Create**. The Trust Service Chain Wizard starts. The Introduction panel is displayed.
3. Read the introduction and click **Next**. The Chain Mapping Identification panel is displayed.
4. Specify the requested properties and click **Next**.
See “Chain mapping identification properties” on page 30. The Chain Mapping Lookup panel is displayed.
5. Specify values for each of the required properties. When finished, click **Next**.
For more information on the properties, see “Chain mapping lookup properties” on page 30. The Chain Identification panel is displayed.
6. Specify values for each of the required properties. When finished, click **Next**.
See “Chain Identification properties” on page 33. The Chain Assembly panel is displayed.
7. Assemble the chain:
 - a. Select a module instance from the **Module Instance** menu.
 - b. Select a mode for the instance, from the **Mode** menu.
 - c. Click **Add Selected Module Instance to Chain**.

The Trust Service Chain Modules table is updated and now displays the module instance that you have added.

8. Repeat the previous step for each module instance to add to the chain.
The Chain Assembly panel enables you to reorder the chain. Notice that each entry you have created has an integer value next to it. The integers reflect the order in which you added the instance to the chain. If you want to reorder the instances:
 - a. Change the integer value for each instance to the proper value.
 - b. Click **Reorder**.
9. When the order of the instances in the trust service chain is correct, click **Next**.
When you specify a custom trust service chain that does not match the typical chain pattern, the panel displays a warning. The warning states that most chains consist of either a single instance (in issue or validate mode) or consist of a sequence of validate > map > issue. When you choose to create a chain that uses an atypical chain pattern, you can click **Continue** (within the warning box).

10. The next panel prompts for configuration information for the first module instance in the chain. The contents of the panel are determined by the module type. The wizard presents a panel for each module instance that requires configuration. Some modules do not require configuration.
For information on the properties for each module type, see “Supported module types” on page 33.
11. When all module instances have been configured, click **Next**. The Summary panel is displayed.
12. Review the summary of the trust service chain. If you want to change any properties, return to the appropriate panel. When you are finished with the configuration, click **Finish**.

Results

The trust service chain is created.

Creating trust chain like an existing chain

You can use an existing trust chain configuration as a template for creating a new trust chain.

Procedure

1. Click **Tivoli Federated Identity Manager → Configure Trust Service → Trust Service Chains**.
The Trust Service Chains panel is displayed.
2. Click **Create Like**. The Trust Service Chain Wizard starts. The Introduction panel is displayed.
3. Read the introduction and click **Next**. The Chain Mapping Identification panel is displayed.
4. Specify the requested properties and click **Next**.
See “Chain mapping identification properties” on page 30 The Chain Mapping Lookup panel is displayed.
5. Specify values for each of the required properties. When finished, click **Next**.
For more information on the properties, see “Chain mapping lookup properties” on page 30 The Chain Identification panel is displayed.
6. Specify values for each of the required properties. When finished, click **Next**.
See “Chain Identification properties” on page 33 The Chain Assembly panel is displayed.
7. The existing trust chain module configuration is displayed. Take the action appropriate to your deployment:
 - When you chose to clone an existing chain, the panel displays the modules in the existing chain. Confirm that the modules are correct for your deployment, and click **Next** to continue.
 - When you chose to reuse an existing chain, confirm that the modules are correct for your deployment. Next, specify whether to share federation properties.
Select the federation properties check box if you want this trust chain mapping to share the federation properties of the trust chain mapping that you are reusing. This trust chain mapping will have a reference to the same self configuration as the trust chain mapping you are reusing. When you

are prompted for module instance settings, you only need to provide the partner properties. If unchecked, you must provide the self and partner properties for the federation.

8. The next panel prompts for configuration information for the first module instance in the chain. The contents of the panel are determined by the module type. The wizard presents a panel for each module instance that requires configuration. Some modules do not require configuration.
For information on the properties for each module type, see “Supported module types” on page 33.
9. When all module instances have been configured, click **Next**. The Summary panel is displayed.
10. Review the summary of the trust service chain. If you want to change any properties, return to the appropriate panel. When you are finished with the configuration, click **Finish**.

Results

The trust service chain is created.

Modifying trust service chain properties

You can use the management console to view or modify lookup properties for existing trust service chains.

About this task

You can use this console entry point to modify custom trust service chains. Use this entry point to modify the chain lookup properties.

The trust service chain management function of the management console does not display chains that are automatically generated. The automatically generated chains include chains generated for federated single sign-on.

When you want to modify chains for federated single sign-on, access the federation properties panel for the single sign-on federation, through **Configure Federated Single Sign-on → Federations**.

Procedure

1. Click **Tivoli Federated Identity Manager → Configure Trust Service → Trust Service Chains**. The Trust Service Chains panel is displayed.
2. Select a trust service chain and click **Properties**. The Trust Service Chain Mapping Properties panel is displayed.
3. You can view or modify the chain lookup properties for the trust service chain. For more information on each property, see:
 - “Chain mapping identification properties” on page 30
 - “Chain mapping lookup properties” on page 30
 - “Chain Identification properties” on page 33
4. Click **Apply** to save modifications without exiting the properties panel. When you are finished viewing or modifying properties, click **OK** to exit the panel

Modifying chain module properties

You can use the management console to modify properties for module instances that have been added to a trust service chain.

About this task

You can use the console to modify custom trust service chains. The trust service chain management function of the management console does not display chains that are automatically generated. The automatically generated chains include chains generated for single sign-on federations.

When you want to modify chains for federated single sign-on, access the federation properties panel for the single sign-on federation, through **Configure Federated Single Sign-on → Federations**.

Procedure

1. Click **Tivoli Federated Identity Manager → Configure Trust Service → Trust Service Chains**. The Trust Service Chains panel is displayed.

2. Select a trust service chain and click **Modify Chain**.

The Modify Module Chain panel is displayed.

3. Modify the chain properties as required

When you finish modifying a property you can click **Apply** to save the change without exiting the portlet. You can make the following changes:

- Add a module instance to the chain
 - a. Select a module instance from the **Module Instance** menu.
 - b. Select a mode for the instance, from the **Mode** menu.
 - c. Click **Add Selected Module Instance to Chain**.
 - Delete a module instance from the chain
 - a. Select a module instance from the Trust Service Chain table.
 - b. Click **Delete**.
 - Reorder the module instances within the chain
 - a. Select a module instance from the Trust Service Chain table.
 - b. Change the integer value in the Order column to the required value.
 - c. Repeat the previous two steps for each module instance that requires reordering.
 - d. When finished, click **Reorder**.
 - Modify the configuration properties for each module within the chain.
 - a. Select a chain mapping.
 - b. Click **Properties**.
 - c. Select a module instance from the Trust Service Chain table.
 - d. Click **Properties**.
 - e. Modify the properties as required. The properties are specific to the module type and module mode. For more information, see “Supported module types” on page 33.
4. When you have finished modifying properties, click **OK** to save changes and exit the portlet.

Deleting a trust service chain

Use the management console to delete a trust service chain that is no longer needed.

About this task

Procedure

1. Click **Tivoli Federated Identity Manager** → **Configure Trust Service** → **Trust Service Chains**. The Trust Service Chains panel is displayed.
2. Select a trust service chain.
3. Click **Delete**. A message box asks you to confirm that you want to delete the specified trust service chain.
4. Click **OK** to delete the trust service chain or click **Cancel** to exit from the window without deleting the chain.

Chain mapping identification properties

Each chain must have a unique name. You can optionally specify a description string for the chain.

Chain Name

This field is required. You can choose an arbitrary string name. The console does not limit the string name other than the limitation imposed by the Java™ data type. Consider keeping the string name under 40 characters, for ease of use when viewing the name on the Tivoli Federated Identity Manager console.

Description

This field is optional. The console does not limit the string size other than the limitation that is imposed by the Java data type.

Create a dynamic chain

Select this checkbox if you want to create to be a dynamic chain. A dynamic chain, also called an application chain, is separately configured and is executed after a protocol chain is executed. The benefit of this is that a single application chain might be dynamically attached to more than one protocol chain in a many-to-one relationship. The protocol chain must be configured separately from the dynamic chain.

Chain mapping lookup properties

This topic describes the properties that the trust service uses to map an incoming request to the correct trust service chains.

The Chain Mapping Lookup panel displays a set of properties that the Tivoli Federated Identity Manager trust service consults when processing an incoming request, in order to decide which trust chain to invoke. When matching data is found, the trust chain is invoked.

Note: The incoming request is part of a WS-Trust standard for conveying token data structure.

Request type properties

Request Type

The type of request to associate with this chain. The request is one of the types supported by the WS-Trust specification:

Issue

Issue a new token, based on information obtained from the request.

Renew

Renew a token that has expired.

Validate

Validate the specified security token and return the requested result.

Cancel

Cancels a previously issued token so that it is no longer used.

Key Exchange

Transfer of a new key for use by the receiver of the request.

Other

A custom request type.

Request Type URI

A Uniform Resource Indicator for each request type. The fields are read-only, except for the Other type. For the Other type, enter the URI for your custom request type.

Lookup type properties**Use Traditional WS-Trust Elements (AppliesTo, Issuer, and TokenType)**

Specifies that the trust service should use the values in the request for AppliesTo, Issuer and TokenType as input to determine which trust service module chain to call.

When this button is selected, the window displays data entry fields for AppliesTo, Issuer, and TokenType.

Use XPath to Define Custom Lookup Rule

Specifies that a custom lookup rule is to be defined. Specifies to use XML Path Language (XPath) rule to use to find the location of the custom rule.

When this button is selected, the window displays a text box where you can specify the XPath rule.

XPath

A text field that can be used to define a custom lookup rule. Use XML Path Language to define the rule. During chain configuration, this text field is displayed by the console only when **Use XPath to Define Custom Lookup Rule** has been selected.

AppliesTo

Defines the scope of the token.

Address

The address of the service that is being requested. For example:

`http://sp.example.com:9080/TrustServer/SecurityTokenService`

When specifying scope for single sign-on protocols, this URI is usually sufficient information for identifying the issuer.

Service Name

A qualified name (QName) that includes a namespace URI and a local part for the Web service.

Note: A QName is a term defined in XML specifications. A QName consists of a namespace URI plus a local part.

For example:

`http://sp.example.com:SecurityTokenService`

Note that the Service Name data entry field provides a colon (:) to separate the namespace URI from the local part.

This field is typically not used for single sign-on protocols, but can be used for Web services security management.

Port Type

Web services operations are grouped by port type. Use this field when there are more than one Web services port types to specify.

For example, a stock market data service might provide both a stock quoting service and a stock price history service. Use this field to specify the needed Web service.

`http://sp.example.com:RequestSecurityTokenPort`

The port type is also a QName. Note that the Port Type data entry field provides a colon (:) to separate the namespace URI from the local part.

This field is typically not used for single sign-on protocols, but can be used for Web services security management.

Issuer

Address

The URL for the company or enterprise that issued the token. For example:
`example.com`

When specifying scope for single sign-on protocols, this provider ID is usually sufficient information for identifying the issuer.

Service Name

A qualified name (QName) that includes a namespace URI and a local part for the Web service.

Note: A QName is a term defined in XML specifications. A QName consists of a namespace URI plus a local part.

For example:

`http://idp.example.com:myWebService`

Note that the Service Name data entry field provides a colon (:) to separate the namespace URI from the local part.

This field is typically not used for single sign-on protocols, but can be used for Web services security management.

Port Type

Web services operations are grouped by port type. Use this field when there is more than one Web service port type to specify.

For example, a stock market data service might provide both a stock quoting service and a stock price history service. Use this field to specify the needed Web service.

`http://idp.example.com:getQuotePortType`

The port type is also a QName. Note that the Port Type data entry field provides a colon (:) to separate the namespace URI from the local part.

This field is typically not used for single sign-on protocols, but can be used for Web services security management.

Token type property

Token Type

Select the token type from the menu. See the online help for information

Chain Identification properties

Chain Name

This field is required. You can choose an arbitrary string name. The console does not limit the string name other than the limitation imposed by the Java data type. Consider keeping the string name under 40 characters, for ease of use when viewing the name on the Tivoli Federated Identity Manager console.

Description

This field is optional. The console does not limit the string size other than the limitation that is imposed by the Java data type.

Initialize the chain upon startup of the Runtime

Select this check box when you want the chain initialized automatically when the Tivoli Federated Identity Manager runtime starts.

When you use the **Create Like** trust chain wizard to build a chain, you can choose how to use the configuration of an existing chain:

Reuse existing chain

You can reconfigure the properties for the chain that you selected prior to starting the wizard.

Clone existing chain

You can create an identical copy of an existing chain. You must supply a name for the new chain in the **Chain Name** field.

Supported module types

Tivoli Federated Identity Manager supports a number of module types.

Attention: The following topics provide configuration information for existing modules that are to be added to a custom trust chain. For more information about developing modules and building custom trust chains, see the *IBM Tivoli Federated Identity Manager Configuration Guide* and IBM Developer Works articles. You are also expected to be familiar with any applicable security standards for these modules.

Each module that is added to a trust service chain must be configured. Configuration properties are specific to both the module type and module mode within the chain. Some combinations of module type and mode do not require configuration.

- “Authorization module” on page 34
- “Default mapping module” on page 35
- “Delegation module” on page 35
- “Digital Signature module” on page 36
- “Dynamic Chain Selection module” on page 36
- “Java Authentication and Authorization Service module” on page 37

- “Kerberos module” on page 37
- “Kerberos delegation module” on page 38
- “Key Encryption and Signature Service STS module” on page 40
- “Liberty 1.1 module” on page 42
- “Liberty 1.2 module” on page 43
- “LTPA module” on page 44
- “PassTicket module” on page 46
- “SAML 1.0 module” on page 47
- “SAML 1.1 module” on page 50
- “SAML 2.0 module” on page 53
- “Security token service message logger module” on page 57
- “Security token service universal user module” on page 59
- “Tivoli Access Manager authentication module” on page 60
- “Tivoli Access Manager authorization module” on page 60
- “Tivoli Access Manager credential module” on page 61
- “Tivoli Access Manager Global Signon Lockbox module” on page 62
- “Tivoli Directory Integrator module” on page 64
- “Username token module” on page 65
- “X.509 module” on page 67

Authorization module

The Authorization module is called AuthorizationSTSModule.

This module interacts with the authorization engine, such as Tivoli Access Manager to execute an authorization check for the supplied user identity.

Note: This module has been deprecated and is included only for backwards compatibility. Use the Tivoli Access Manager authorization module instead. See “Tivoli Access Manager authorization module” on page 60.

Deployment scenarios for this module type

- Web services security management
- Custom trust chains

Supported modes

- Other

Configuration properties

Web Service protected object name.

The configured protected object name of the Web Service.

The authorization module combines the configured protected object name of the web service with the port type and operation contained in the AppliesTo to form the protected object name for the web service operation being invoked.

For example, if the configured protected object name of the web service is /itfim-wssm/wssm-default/EchoWSDL/EchoService and the AppliesTo includes a port type of EchoService and operation of echo, then the protected object name of the web service operation is:

/itfim-wssm/wssm-default/EchoWSDL/EchoService/EchoService/echo

This protected object name must match the object name configured in the Tivoli Access Manager protected object space.

Default mapping module

The Default mapping module is called XSLTransformationModule.

The default map token consists of an eXtensible Stylesheet Language (XSL) file that specifies an identity mapping rule. The module calls an XSL parser to read identity mapping rules in order to generate a Secure Token Service Universal User XML document that contains user identity information.

Deployment scenarios for this module type

- Single sign-on federations
- Web services security management
- Custom trust chains

Supported modes

- Map

Configuration properties

The Trust Service Chain wizard prompts for the name of the file that contains the identity mapping rule.

XSLT file Containing Identity Mapping Rule

The name of the file that contains the identity mapping rule. The file must be written and complete before you can configure it into the chain. For example:

```
/tmp/ip_saml20.xsl
```

Delegation module

The Delegation module is called DelegatorSTSModule.

Enables delegation to another module of the processing of an incoming token request. For example, Tivoli Federated Identity Manager uses this module to enable security administrators to substitute a custom mapping module in place of the default mapping module.

The Delegation module must be configured to specify the module instances to receive the delegated action.

Deployment scenarios for this module type

- Custom trust chains

Supported modes

- Other

Configuration properties

Module instance

The name of a module instance to which the action (validate, map, issue, exchange, or other) required by this location in the module chain should be delegated.

Module instance

The name of a module instance to which the action (validate, map, issue, exchange, or other) required by this location in the module chain should be delegated.

Digital Signature module

The Digital Signature module is called DSigSTSModule

Enables the Secure Trust Service (STS) to validate signatures on incoming WS-Trust requests. Enables enhancement of WS-Trust transactions with message-level security.

The configuration properties specify the methods to use for validating the digital signature.

Deployment scenarios for this module type

- Custom trust chains

Supported modes

- Validate

Configuration properties

Use Subject Key Identifier

Instructs the module to use the subject key identifier to locate an appropriate validation key.

The Subject Key Identifier uniquely identifies the entity to whom the certificate was issued. This value can be used by the trust service to determine which key from the Tivoli Federated Identity Manager key service to use to validate the signature on the message.

Use Subject Distinguished Name (DN)

Instructs the module to use the subject distinguished name (DN) to select the validation key. This value instructs the Tivoli Federated Identity Manager key service to use the distinguished name to determine which key to use to validate the signature.

Use Certificate included in Signature

Instructs the module to use the certificate included in the signature itself to validate the signature. This value instructs the trust service to examine the certificate that is included in the signature, and to validate that the certificate has been signed by a trusted certificate authority and has not been revoked. When the certificate is valid, the trust service calls the key service to validate the signature on the request.

Dynamic Chain Selection module

The Dynamic Chain Selection module is called DynamicChainSelectionModule.

Requests that the trust service invoke a dynamic chain after processing is finished on the current module chain.

Deployment scenarios for this module type

- Web services security management
- Custom trust chains

Supported modes

- Other

Configuration properties

None.

Java Authentication and Authorization Service module

The Java Authentication and Authorization Service module is called JAASSTSMModule.

Java Authentication and Authorization Service module. Used by Tivoli Federated Identity Manager to obtain a valid JAAS subject from WebSphere Application Server for use in token exchange operations.

Deployment scenarios for this module type

- Custom trust chains

Supported modes

- Validate

Configuration properties

Use domain-qualified principal names

Specifies whether to use a principal name that includes the user registry domain. For example, in an LDAP user registry the syntax is *LDAP_server:port_number\username*. For example:

`localhost:389\elain`

When this value is not specified, just the value of *username* is used.

Use of a domain-qualified principal name is typically necessary only when the deployment includes multiple user registries, and there is a need to differentiate between users from different domains. In most deployments, this value is not necessary.

Kerberos module

The Kerberos module is called KerberosSTSMModule.

Validates Kerberos security tokens with a token type of:

`http://schemas.xmlsoap.org/ws/2003/12/kerberos/Kerberosv5_AP_REQ`
`http://docs.oasis-open.org/wss/oasis-wss-kerberos-token-profile-1.1#Kerberosv5_AP_REQ`
`http://docs.oasis-open.org/wss/oasis-wss-kerberos-token-profile-1.1#GSS_Kerberosv5_AP_REQ`

Deployment scenarios for this module type

- Web services security management
- Custom trust chains

Supported modes

- Validate
- Issue

Configuration properties (Validate mode)

Kerberos service keytab file name

Specify the path of the Kerberos service keytab file for the Kerberos service identified by the Kerberos security token. This field is optional. If this property is not specified, it must be specified as an STS universal user context attribute.

Configuration properties (Issue mode)

Kerberos realm name

Specify the name of the Kerberos realm. This must match with a realm configured within krb5.conf. This field is optional. For example, EXAMPLE.COM. If this property is not specified, it must be specified as an STS universal user context attribute.

Kerberos service name

Specify the principal name of the Kerberos service in the form of service-name or service-name@realm. For example, krb5service/krb5host.example.com or krb5service@example.comkrb5service/krb5host.example

When the realm is not supplied, the default realm, if any, configured in krb5.conf is used.

The name should match the configuration in Active Directory or whatever Kerberos directory is being used.

Kerberos security token value types

Select the value type of the Kerberos binary security token to issue. The default value is

http://docs.oasis-open.org/wss/oasis-wss-kerberos-token-profile-1.1#GSS_Kerberosv5_AP_REQ.

Specifying the encryption level

The Kerberos STS module does not support DES encryption types.

Ensure that the setting for the service user does not require DES encryption.

1. On the Windows server, open the Account tab for the service user.
2. Deselect the configuration option:
Use DES encryption types for this account

The configuration option might be selected by default. If you leave the configuration option selected, an encryption error is thrown during the issuing of the Kerberos service ticket. The error states that the encryption algorithm is not supported.

Kerberos delegation module

The Kerberos delegation module is called KerberosDelegationSTSModule.

The module issues Kerberos credentials for a given user and service with a token type of:

http://docs.oasis-open.org/wss/oasis-wss-kerberos-token-profile-1.1#GSS_Kerberosv5_AP_REQ

The module supports issue and exchange modes. The module facilitates the issuing of Kerberos Constrained Delegation application service tickets, also known as Service for User To Proxy (S4U2Proxy).

This module is used primarily to allow Tivoli Access Manager WebSEAL to support Kerberos junctions. The junctions are WebSEAL junctions to a Web server, such as IIS, that is configured for Integrated Windows Authentication (SPNEGO).

Deployment scenarios for this module type

- Custom trust chains
- Web services security management

Supported modes

- Issue
- Exchange

Configuration properties (initialization)

Maximum size of the user credential cache

This value determines the number of impersonation handles and user credentials cached for performance reasons in the dynamically loaded library loaded by the module. Set this number to the approximate number of expected concurrent end users of the service for high-volume transactions. The higher the number, the more memory that might be consumed by the Tivoli Federated Identity Manager runtime application.

Default: 100

Configuration properties (issue mode)

Default target Service Principal Name

This is the default target Service Principal Name. It is used for WS-Trust clients that do not send the target Service Principal Name in the AppliesTo ServiceName element of the RST, and that do not have a mapping rule to configure the target Service Principal Name as an STSUniversalUser context attribute. This field is optional.

Options for adding a Tivoli Access Manager username for Kerberos authentication

The options allow you to specify whether the module will auto-append a suffix to the user name in the STSUniversalUser. The options are useful when deploying the Kerberos delegation module with a Tivoli Access Manager WebSEAL deployment. Options:

- Do not add a suffix to the username.

This option leaves the user name unmodified.

- Add the machine DNS domain as a suffix to the username.

This option auto-appends the DNS domain suffix for the Tivoli Federated Identity Manager runtime machine to the principal name in the STSUniversalUser before calling the Windows API to obtain a Kerberos ticket. The DNS domain is read from the Windows Registry Key:

```
SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Domain
```

This option optimizes the module behavior for use in Tivoli Access Manager configurations using Kerberos junctions. The addition of the DNS domain enables the Windows API to successfully match the user name against the user record in the Active Directory user registry.

Note that the module auto-appends the DNS domain name when the STSUniversalUser principal name does *not* already contain the @ character. This means that if a mapping rule was used to append a suffix containing the @ character to the user principal name, or if the Tivoli Access Manager username contains the @ character, this setting has no effect.

- Add the configured suffix to the username

This option is used to optimize the module behavior for use in Tivoli Access Manager configurations using Kerberos junctions.

This option allows the administrator to manually specify the suffix. This option is for special cases where the userPrincipalName attribute for the user does not match the DNS domain name of the Windows machine

running the Tivoli Federated Identity Manager Runtime. This option has no effect when the principal name already contains an @ character.

The suffix to add if using a configured suffix

For example:

@mydomain.com

Key Encryption and Signature Service STS module

The Security token service module for Key Encryption and Signature Service (KESS) is called the KESS STS Module.

This module facilitates the following generic XML security operations in an STS module:

- XML digital signing of a portion of XML
- XML signature validation of a signed portion of XML
- XML encryption of a portion of XML
- XML decryption of a portion of encrypted XML

The KESS STS module performs discretionary XML security operations as part of message workflows. With this module, users can automatically use the centralized key storage and hardware cryptography support.

Scenario

The following example describes a standard scenario:

- A user previously deployed Tivoli Federated Identity Manager for federated single sign-on or identity mediation. The XML security keys are stored in KESS.
- The user wants to generate or validate (or both) additional XML security messages not natively supported by Tivoli Federated Identity Manager. The user also wants to use the stored KESS security keys for the generation or validation (or both).
- The user writes specialized company-specific application code to generate the XML messages.
- The user uses the Tivoli Federated Identity Manager STS and the stored keys to perform the XML security operation.

Deployment scenarios for this module type

Custom trust chains

Supported modes

Map

Configuration properties

Use the administration console to configure an XML security operation. The console prompts you to specify configuration properties. The following section lists the properties that you can configure.

Please select the operation to perform

Specifies the configured operation for the module: sign, validate, encrypt, or decrypt. Depending on the operation, select one.

STS Universal User Attribute

Specifies on which attribute in the STS UU AttributeList to perform the operation. This property is common to all operations.

Signature properties

Provides confirmation to the receiving party that a message was not altered during transmission. If performing the signature operation, select from the following configuration properties.

- **Select the key to use if performing signing:** Generates the XML signature with the keystore alias of the private key. Select the alias from the available keystores.
- **Include the Public Key?:** Specifies whether to include the public key in the KeyInfo.
- **Include X509 Subject Issuer Details?:** Specifies whether to include issuer information in the KeyInfo/X509Data.
- **Include the X509 Subject Name?:** Specifies whether to include the X509SubjectName (distinguished name of signing certificate) in the KeyInfo/X509Data.
- **Include the X509 Certificate Data?:** Specifies whether to include the X509CertificateData in the KeyInfo/X509Data.
- **Include the X509 Subject Key Identifier?:** Specifies whether to include the Subject Key Identifier in the KeyInfo/X509Data.
- **Use Inclusive Namespaces when signing:** Specifies whether to use the InclusiveNamespaces construct, which means employing exclusive XML canonicalization for greater standardization.

Validation properties

Confirms to the receiving party that the transmitted message came from a trusted source. If performing validation, select from the following configuration properties.

- **Validate signature on the STSUniversalUser attribute:** Specifies whether to enable signature validation.
- **Use the KeyInfo of the XML to find X.509 certificate for signature validation:** Checks if the signature came from an expected key. Selecting this flag includes specifying the Subject distinguished name expression for the allowable X.509 certificates. Enter a regular expression to validate the Subject distinguished name that is returned in the KeyInfo.
- **Use keystore alias to find public key for signature validation:** Specifies a key from the available keystores that can validate the signature.
- **Use Included X509 Cert Data (when validating signatures):** Specifies whether to use embedded certificate data or a KESS keystore certificate to validate the signature. For example, the KESS keystore might receive a message signed by a key that is not in the KESS keystore. However, the signer of that key is in the keystore. Signature validation might then occur with the certificate embedded in the message.

Encryption properties

Provides an extra layer of security for messages that have been signed. Encryption uses the public key of the intended recipient. If performing encryption, select from the following configuration properties.

- **Select the key to use if performing encryption:** Generates XML encryption with the keystore alias of the public key. Select the alias from the available keystores.
- **Block Encryption Algorithm (encryption only):** Specifies the block encryption algorithm. Select the identifier for one of the following block encryption algorithms:
 - Triple DES

- AES 128
- AES 192
- AES 256
- **Key Transport Algorithm (encryption only):** Specifies the key transport algorithm. Select the identifier for one of the following key transport algorithms:
 - RSA-1-5
 - RSA-OAEP-MGF1P
 - SHA 1

Note: SHA 1 does not come preconfigured. To support this algorithm, you must configure other security providers.

Decryption properties

Specifies the private key for decrypting the encrypted message. If performing decryption, select the following configuration property.

Select the key to use if performing decryption

Generates XML decryption with the keystore alias of the private key. Select the alias from the available keystores.

Liberty 1.1 module

The Liberty 1.1 module is called Liberty11STSMModule.

Used for Liberty profiles for Liberty v1.1 federations. Liberty token modules call out to the Tivoli Federated Identity Manager alias service for alias (name identifier) lookups.

Deployment scenarios for this module type

- Single sign-on federations
Liberty 1.1 only

Supported modes

- Validate
- Issue
- Exchange

Configuration properties

Issue or Exchange mode

Number of seconds before the issue date that an assertion is considered valid.

Default: 60 seconds

There is no minimum or maximum value enforced.

This field must contain a value.

Amount of time the assertion is valid after being issued (seconds)

Default: 60 seconds

There is no minimum or maximum value enforced.

This field must contain a value.

Include the following attribute types (a "*" means include all types)

Specifies the types of attributes to be inserted during token creation. The attributes consist of information about the identity (user). Use the &&

character to separate attribute types. By default all types are supported, as indicated by the asterisk (*) wildcard.

For example, to add user-defined attribute types *type1* and *type2*, enter:
type1&&type2

Liberty 1.2 module

The Liberty 1.2 module is called Liberty12STSModule

Used for Liberty profiles for Liberty v1.2 federations. Liberty token modules call out to the Tivoli Federated Identity Manager alias service for alias (name identifier) lookups.

Deployment scenarios for this module type

- Single sign-on federations
- Custom trust chains

Supported modes

- Validate
- Issue
- Exchange

Configuration properties

Validate mode

Username to be used for anonymous users

This is a one-time name identifier that allows a user to access a service through an anonymous identity. The user name entered here is one that the service provider will recognize as a one-time name identifier for a legitimate user in the local user registry. This feature allows users to access a resource on the service provider without having to establish a federated identity. This is useful in scenarios where the service provider does not need to know the identity of the user account but only needs to know that the identity provider has authenticated (and can vouch for) the user.

Note: The user identity must exist as a valid user in the user registry.

This property is set only when adding an identity provider partner.

Issue mode

Number of seconds before the issue date that an assertion is considered valid.

Default: 60 seconds

There is no minimum or maximum value enforced.

This field must contain a value.

Amount of time the assertion is valid after being issued (seconds)

Default: 60 seconds

There is no minimum or maximum value enforced.

This field must contain a value.

Include the following attribute types (a "*" means include all types)

Specifies the types of attributes to be inserted during token creation. The attributes consist of information about the identity (user). Use the && character to separate attribute types. By default all types are supported, as indicated by the asterisk (*) wildcard.

For example, to add user-defined attribute types *type1* and *type2*, enter:
type1&&type2

LTPA module

The LTPA module is called STSLTPATokenModule.

Validates and issues LTPAv1 and LTPAv2 tokens. These are represented as BinarySecurityToken elements.

This module does not support the initial generation of LTPA keys. You must provide a set of LTPA keys that have been generated by another source such as a WebSphere application server.

You can use the WebSphere administration console to export LTPA keys. On WebSphere 6.1, access the following menu:

Security > Secure administrations, applications, and infrastructure > Authentication mechanisms and expiration. Enter a password and a filename. Press the Export keys button. You must remember the password you specify because you will need to re-enter it on the Tivoli Federated Identity Manager console. The password is used to protect the private key in the key file.

Deployment scenarios for this module type

- Federated single sign-on
- Web services security management
- Custom trust chain

Supported modes

- Validate
- Exchange
- Issue

Configuration properties

Validate mode

Location of LTPA File

The fully-qualified path name for the LTPA file you want to use. Optionally, use the **Browse** button to locate the file. This field is required.

Import LTPA File

Use this button to import the file that you specified in the **Location of LTPA File** field. You must click this button to be able to use the file. After you import the file, the contents will display in the **File contents of the imported LTPA file** field.

File contents of the imported LTPA file

Shows the contents of the LTPA file you imported. You cannot update the file contents in this field. It is for informational purposes only.

Password for key protection

The password that was used to protect the keys created by the partner. It must be the same password that was used when the keys were created by the partner. This field is required.

Password for key protection (confirm)

Enter the password for key protections again for verification.

Use the FIPS standard

Check to enable the Federal Information Processing Standards (FIPS). If FIPS was enabled when you created your partner, check this box. The default is unchecked.

Issue or Exchange mode

Location of LTPA File

The fully-qualified path name for the LTPA file you want to use. Optionally, use the **Browse** button to locate the file. This field is required.

Import LTPA File

Use this button to import the file that you specified in the **Location of LTPA File** field. You must click this button to be able to use the file. After you import the file, the contents will display in the **File contents of the imported LTPA file** field.

File contents of the imported LTPA file

Shows the contents of the LTPA file you imported. You cannot update the file contents in this field. It is for informational purposes only.

Password for key protection

The password that was used to protect the keys created by the partner. It must be the same password that was used when the keys were created by the partner. This field is required.

Password for key protection (confirm)

Enter the password for key protection again for verification.

Use the FIPS standard

Check to enable the Federal Information Processing Standards (FIPS). If FIPS was enabled when you created your partner, check this box. The default is unchecked.

Number of minutes before the created token expires

Indicates how long, from the time of token creation, the token remains valid. Specify the value in minutes. You can override this value using the expiration Principle value in the Universal User. The default value is 120 minutes. This field is required.

Realm used to create the user ID

The realm name to append to the user ID during token creation. You can override this value using the realm Principle value in the Universal User. If you do not specify a name here, then it is assumed that the PrincipleName in the Universal User document is already in the following form:
realm:port/userID

Version of LTPA token to issue

The version number of the LTPA token you are issuing. Select 1 or 2 from the drop-down list, denoting LTPA Version 1 or Version 2.

Attributes to add to a version 2 token

Specify the types of attributes to include in the assertion. Use this field only for LTPA Version 2 tokens. An asterisk (*), which is the default setting, indicates that all of the attribute types that are specified in the identity mapping file or by the custom mapping module will be included in the assertion. To specify one or more attribute types individually, type each attribute type in the box. For example, if you want to include only attributes of type urn:oasis:names:tc:SAML:2.0:assertion in the assertion, type urn:oasis:names:tc:SAML:2.0:assertion in the box. Use && to separate multiple attribute types.

PassTicket module

The PassTicket module is called PassTicketSTSModule.

Issues and validates Resource Access Control Facility (RACF®) PassTicket tokens. PassTicket tokens extend the structure of Username tokens by adding a generated PassTicket. Can be used in both z/OS and non-z/OS environments.

Deployment scenarios for this module type

- Web services security management
- Custom trust chains

Supported modes

- Validate
- Issue
- Exchange

Configuration properties

Validate mode

The application name used for PassTicket generation and validation

The name of the application that was used to generate the unique PassTicket. This must be an 8 character user ID. The characters must be alphanumeric. For example:

G1SGRAM

Amount of time the token is valid after being issued (seconds, enter -1 for no expiration)

An integer value indicating the amount of time, in seconds, that the token remains valid. There are no minimum or maximum values imposed.

Default value: 300

The special value -1 means that the token does not expire.

Enable signature validation

Enables or disables validation of signatures in the token module. Select the check box to enable signature validation.

Select validation key

Specify the validation key that the partner must use.

Keystore

The keystore containing the key or certificate to be used. The menu displays the keystores that have been configured into the key service. Select the appropriate keystore

Keystore Password

The password for the keystore.

List Keys

Displays a table that lists the keys contained within the specified keystore. Select the radio button in the Select column to specify the key or certificate to use.

Issue mode

Include nonce in token

Includes a nonce (random bits used for the purpose of obfuscating the element) in the token.

Include token creation time in token

Adds a timestamp to the token, indicating the creation time of the token.

The application name used for PassTicket generation and validation

The name of the application that was used to generate the unique PassTicket. This must be an 8 character user ID. The characters must be alphanumeric. For example:

G1SGRAM

PassTicket key

A key value consisting of exactly 16 hexadecimal digits, to be used to generate a valid PassTicket. This value is not used on z/OS systems.

Enable the signing of RACF PassTicket tokens

Enables or disables the signing of the PassTicket token module. Select the check box to enable signature validation.

Select key for signing tokens

Specify the key to use to sign the outgoing tokens.

Keystore

The keystore containing the key or certificate to be used. The menu displays the keystores that have been configured into the key service. Select the appropriate keystore

Keystore Password

The password for the keystore.

List Keys

Displays a table that lists the keys contained within the specified keystore. Select the radio button in the Select column to specify the key or certificate to use.

SAML 1.0 module

The SAML 1.0 module is called SAML10STSTModule.

Used for single sign-on in SAML 1.0 federations.

Deployment scenarios for this module type

- Single sign-on federations
- Web services security management
- Custom trust chains

Supported modes

- Validate
- Issue
- Exchange

Configuration properties

Validate mode

Enable one-time assertion use enforcement

Specifies whether this artifact (token) is to be used only once.

Enable Signature Validation

Enables or disables validation of signatures in the token module. Select the check box to enable signature validation.

Select validation key

Specifies the validation key that the partner must use.

Use XML signature's KeyInfo to find X.509 certificate for signature validation

Determines the appropriate certificate for signature validation. When you select this option, you must provide the subject distinguished name that matches the certificate.

Use keystore alias to find public key for signature validation

Specifies a public key for signature validation, which is the default. Select the keystore, password, and appropriate key from the list.

Keystore

Specifies the keystore containing the key or certificate. The menu displays the keystores previously configured for the key service.

Keystore Password

Specifies the password for the keystore.

List Keys

Displays a table that lists the keys in the specified keystore. Select the radio button in the Select column to specify the key or certificate.

Specify the Subject DN expression for the allowable X.509 certificates

Specifies the expression for the X.509 certificate used for validation. The key used to sign the message must have a distinguished name that matches this value. The key must also match a certificate in one of the Tivoli Federated Identity Manager keystores.

The message signature must include one or more of the following elements that point to this certificate:

- X509 SubjectkeyIdentifier element
- X509 Certificate
- X509 SubjectName
- Public key

Following are examples of a distinguished name:

- `cn=fimdemo.ibm.com,ou=tameb,o=tivoli,c=us`
- `REGEXP:cn=fimdemo.*`

The key used to sign the message must have a distinguished name that starts with `cn=fimdemo`.

Create multiple attribute statements in the Universal User

Specifies whether to keep multiple attribute statements in the groups in which they were received. This option might be necessary if your custom identity mapping rules operate on one or more specific groups of attribute statements. If you do not select this check box, multiple attribute statements are arranged into a single group (AttributeList) in the STSUniversalUser document. The default setting of the check box is not selected. This setting is appropriate for most configurations.

Issue mode

The name of the organization issuing the assertions

Displays a string specifying the name of the organization (for example, a company) that issues the SAML assertions.

Amount of time before the issue date that an assertion is considered valid (seconds)

Default: 60 seconds

There is no minimum or maximum value enforced.

This field must contain a value.

Amount of time the assertion is valid after being issued (seconds)

Default: 60 seconds

There is no minimum or maximum value enforced.

This field must contain a value.

Sign SAML Assertions

Specifies whether SAML assertions must be signed.

Select Key for Signing Assertions

Specifies the key to use when signing SAML assertions:

Keystore

Specifies the keystore containing the key or certificate. The menu displays the keystores previously configured into the key service.

Keystore Password

Specifies the password for the keystore.

List Keys

Displays a table that lists the keys in the specified keystore. Select the radio button in the Select column to specify the key or certificate.

Select the KeyInfo elements to include

Determines what KeyInfo elements to include in the digital signature when signing a SAML message or assertion. Select one or more of the following elements.

Include the X509 certificate data?

Specifies whether to include the BASE64 encoded certificate data with your signature. **Yes**, the default, includes the X.509 certificate data. **No** excludes it. To change the default for this element, change it in the custom properties.

Include the X509 Subject Name?

Specifies whether to include the subject name with your signature. **No**, the default, excludes the X.509 subject name. **Yes** includes it. To change the default for this element, change it in the custom properties.

Include the X509 Subject Key Identifier?

Specifies whether to include the X.509 subject key identifier with your signature. **No**, the default, excludes the subject key identifier. **Yes** includes it. To change the default for this element, change it in the custom properties.

Include X509 Subject Issuer Details?

Specifies whether to include the issuer name and the certificate serial number with your signature. **No**, the default, excludes the X.509 subject issuer details. **Yes** includes it. To change the default for this element, change it in the custom properties.

Include the Public Key?

Specifies whether to include the public key with your signature. **No**, the default, excludes the public key. **Yes** includes it. To change the default for this element, change it in the custom properties.

Note: If you specify **No** for all five KeyInfo elements, X509Certificate data is still included in the signature by default.

Include the following attribute types

Specifies the types of attributes to include in the assertion. The default asterisk (*) setting includes all the attribute types that are specified in the identity mapping file or by the custom mapping module. To specify one or more attribute types individually, enter each attribute type in the field. Use && to separate multiple attribute types. For example, if you want to include only attributes of type urn:oasis:names:tc:SAML:1.0:assertion in the assertion, enter urn:oasis:names:tc:SAML:1.0:assertion in the field.

Subject Confirmation Method

Specifies the subject confirmation method for the assertion. If you select the holder-of-key type, the default includes the X.509 Certificate Data in the KeyInfo for the SubjectConfirmationMethod. STSUniversalUser can provide the data for the SubjectConfirmationMethod KeyInfo. The data can also be extracted from the signed request data.

SAML 1.1 module

The SAML 1.1 module is called SAML11STSModule.

Used for WS-Federation single sign-on federations.

Deployment scenarios for this module type

- Single sign-on federations
- Web services security management
- Custom trust chains

Supported modes

- Validate
- Issue
- Exchange

Configuration properties

Validate mode

Enable one-time assertion use enforcement

Specifies whether this artifact (token) is to be used only once.

Enable Signature Validation

Enables or disables validation of signatures in the token module. Select the check box to enable signature validation.

Select validation key

Specifies the validation key that the partner must use.

Use XML signature's KeyInfo to find X.509 certificate for signature validation

Determines the appropriate certificate for signature validation. When you select this option, you must provide the subject distinguished name that matches the certificate.

Use keystore alias to find public key for signature validation

Specifies a public key for signature validation, which is the default. Select the keystore, password, and appropriate key from the list.

Keystore

Specifies the keystore containing the key or certificate. The menu displays the keystores previously configured for the key service.

Keystore Password

Specifies the password for the keystore.

List Keys

Displays a table that lists the keys in the specified keystore. Select the radio button in the **Select** column to specify the key or certificate.

Specify the Subject DN expression for the allowable X.509 certificates

Specifies the expression for the X.509 certificate used for validation. The key used to sign the message must have a distinguished name that matches this value. The key must also match a certificate in one of the Tivoli Federated Identity Manager keystores.

The message signature must include one or more of the following elements that point to this certificate:

- X509 SubjectkeyIdentifier element
- X509 Certificate
- X509 SubjectName
- Public key

Following are examples of a distinguished name:

- `cn=fimdemo.ibm.com,ou=tameb,o=tivoli,c=us`
- `REGEXP:cn=fimdemo.*`

The key used to sign the message must have a distinguished name that starts with `cn=fimdemo`.

Create multiple attribute statements in the Universal User

Specifies whether to keep multiple attribute statements in the groups in which they were received. This option might be necessary if your custom identity mapping rules are written to operate on one or more specific groups of attribute statements. If you do not select this check box, multiple attribute statements are arranged into a single group (AttributeList) in the STSUniversalUser document. The default setting of the check box is not selected. This setting is appropriate for most configurations.

Issue mode**The name of the organization issuing the assertions**

Displays a string specifying the name of the organization (for example, a company) that issues the SAML assertions.

Amount of time before the issue date that an assertion is considered valid (seconds)

Default: 60 seconds

There is no minimum or maximum value enforced.

This field must contain a value.

Amount of time the assertion is valid after being issued (seconds)

Default: 60 seconds

There is no minimum or maximum value enforced.

This field must contain a value.

Sign SAML Assertions

Specifies whether SAML assertions must be signed.

Select Key for Signing Assertions

Specifies the key to use when signing SAML assertions:

Keystore

Specifies the keystore containing the key or certificate. The menu displays the keystores previously configured into the key service.

Keystore Password

Specifies the password for the keystore.

List Keys

Displays a table that lists the keys in the specified keystore. Select the radio button in the Select column to specify the key or certificate.

Select the KeyInfo elements to include

Determines what KeyInfo elements to include in the digital signature when signing a SAML message or assertion. Select one or more of the following elements.

Include the X509 certificate data?

Specifies whether to include the BASE64 encoded certificate data with your signature. **Yes**, the default, includes the X.509 certificate data. **No** excludes it. To change the default for this element, change it in the custom properties.

Include the X509 Subject Name?

Specifies whether to include the subject name with your signature. **No**, the default, excludes the X.509 subject name. **Yes** includes it. To change the default for this element, change it in the custom properties.

Include the X509 Subject Key Identifier?

Specifies whether to include the X.509 subject key identifier with your signature. **No**, the default, excludes the subject key identifier. **Yes** includes it. To change the default for this element, change it in the custom properties.

Include X509 Subject Issuer Details?

Specifies whether to include the issuer name and the certificate serial number with your signature. **No**, the default, excludes the X.509 subject issuer details. **Yes** includes it. To change the default for this element, change it in the custom properties.

Include the Public Key?

Specifies whether to include the public key with your signature. **No**, the default, excludes the public key. **Yes** includes it. To change the default for this element, change it in the custom properties.

Note: If you specify **No** for all five KeyInfo elements, X509Certificate data is still included in the signature by default.

Include the InclusiveNamespaces element in the canonicalization of the assertion during signature creation

Specifies whether to use the InclusiveNamespaces construct, which means employing exclusive XML canonicalization for greater standardization. The default is cleared.

Include the following attribute types

Specifies the types of attributes to include in the assertion. The default

asterisk (*) setting includes all the attribute types that are specified in the identity mapping file or by the custom mapping module. To specify one or more attribute types individually, enter each attribute type in the field. Use && to separate multiple attribute types. For example, if you want to include only attributes of type urn:oasis:names:tc:SAML:1.0:assertion in the assertion, enter urn:oasis:names:tc:SAML:1.0:assertion in the field.

Subject Confirmation Method

Specifies the subject confirmation method for the assertion. If you select the holder-of-key type, the default includes the X.509 Certificate Data in the KeyInfo for the SubjectConfirmationMethod. STSUniversalUser can provide the data for the SubjectConfirmationMethod KeyInfo. The data can also be extracted from the signed request data.

SAML 2.0 module

The SAML 2.0 module is called Saml20STSTokenModule.

Used for single sign-on in SAML 2.0 federations.

Deployment scenarios for this module type

- Single sign-on federations
- Web services security management
- Custom trust chains

Supported modes

- Validate
- Issue
- Exchange

Configuration properties

Validate mode

Enable one-time assertion use enforcement

Specifies whether this artifact (token) is to be used only once.

Enable Signature Validation

Enables or disables validation of signatures in the token module. Select the check box to enable signature validation.

Select validation key

Specifies the validation key that the partner must use.

Use XML signature's KeyInfo to find X.509 certificate for signature validation

Determines the appropriate certificate for signature validation. When you select this option, you must provide the subject distinguished name that matches the certificate.

Use keystore alias to find public key for signature validation

Specifies a public key for signature validation, which is the default. Select the keystore, password, and appropriate key from the list.

Keystore

Specifies the keystore containing the key or certificate. The menu displays the keystores previously configured for the key service.

Keystore Password

Specifies the password for the keystore.

List Keys

Displays a table that lists the keys in the specified keystore. Select the radio button in the Select column to specify the key or certificate.

Specify the Subject DN expression for the allowable X.509 certificates

Specifies the expression for the X.509 certificate used for validation. The key used to sign the message must have a distinguished name that matches this value. The key must also match a certificate in one of the Tivoli Federated Identity Manager keystores.

The message signature must include one or more of the following elements that point to this certificate:

- X509 SubjectkeyIdentifier element
- X509 Certificate
- X509 SubjectName
- Public key

Following are examples of a distinguished name:

- `cn=findemo.ibm.com,ou=tameb,o=tivoli,c=us`
- `REGEXP:cn=findemo.*`

The key used to sign the message must have a distinguished name that starts with `cn=findemo`.

Select a decryption key

Select the key to use to decrypt encrypted messages.

Keystore

Specifies the keystore containing the key or certificate. The menu displays the keystores previously configured into the key service.

Keystore Password

Specifies the password for the keystore.

List Keys

Displays a table that lists the keys in the specified keystore. Select the radio button in the Select column to specify the key or certificate.

Create multiple attribute statements in the Universal User

Specifies whether to keep multiple attribute statements in the groups in which they were received. This option might be necessary if your custom identity mapping rules are written to operate on one or more specific groups of attribute statements. If you do not select this check box, multiple attribute statements are arranged into a single group (AttributeList) in the STSUniversalUser document. The default setting of the check box is not selected. This setting is appropriate for most configurations.

Map unknown name identifiers to the anonymous username

Specifies that the service provider can map an unknown persistent name identifier alias to the anonymous user account. By default, this option is disabled.

Issue mode**The name of the organization issuing the assertions**

Displays a string specifying the name of the organization (for example, a company) that issues the SAML assertions.

Number of seconds before the issue date that an assertion is considered valid (seconds).

Default: 60 seconds

There is no minimum or maximum value enforced.

This field must contain a value.

Amount of time the assertion is valid after being issued (seconds)

Default: 60 seconds

There is no minimum or maximum value enforced.

This field must contain a value.

Include the following attribute types (a "*" means include all types)

Specifies the types of attributes to be inserted during token creation. The attributes consist of information about the identity (user). Use the && character to separate attribute types. By default, all types are supported, as indicated by the asterisk (*) wildcard.

For example, to add user-defined attribute types *type1* and *type2*, enter:

`type1&&type2`

Sign SAML Assertions.

Specifies whether SAML assertions must be signed.

Select Key for Signing Assertions

Specifies the key to use when signing SAML assertions.

Keystore

Specifies the keystore containing the key or certificate. The menu displays the keystores previously configured into the key service.

Keystore Password

Specifies the password for the keystore.

List Keys

Displays a table that lists the keys in the specified keystore. Select the radio button in the Select column to specify the key or certificate.

Select the KeyInfo elements to include

Determines what KeyInfo elements to include in the digital signature when signing a SAML message or assertion. Select one or more of the following elements.

Include the X509 certificate data?

Specifies whether to include the BASE64 encoded certificate data with your signature. **Yes**, the default, includes the X.509 certificate data. **No** excludes it. To change the default for this element, change it in the custom properties.

Include the X509 Subject Name?

Specifies whether to include the subject name with your signature. **No**, the default, excludes the X.509 subject name. **Yes** includes it. To change the default for this element, change it in the custom properties.

Include the X509 Subject Key Identifier?

Specifies whether to include the X.509 subject key identifier with your signature. **No**, the default, excludes the subject key identifier. **Yes** includes it. To change the default for this element, change it in the custom properties.

Include X509 Subject Issuer Details?

Specifies whether to include the issuer name and the certificate serial number with your signature. **No**, the default, excludes the X.509 subject issuer details. **Yes** includes it. To change the default for this element, change it in the custom properties.

Include the Public Key?

Specifies whether to include the public key with your signature. **No**, the default, excludes the public key. **Yes** includes it. To change the default for this element, change it in the custom properties.

Note: If you specify **No** for all five KeyInfo elements, X509Certificate data is still included in the signature by default.

Select the key for encrypting assertion elements for this partner

Specifies the key to use to encrypt assertions.

Keystore

Specifies the keystore containing the key or certificate. The menu displays the keystores previously configured into the key service.

Keystore Password

Specifies the password for the keystore.

List Keys

Displays a table that lists the keys in the specified keystore. Select the radio button in the Select column to specify the key or certificate.

Encrypt assertions

Specifies whether assertions are to be encrypted. If selected, you must specify an encryption key.

Encrypt assertion Attribute elements.

Specifies whether Attribute elements within the assertions are to be encrypted. If selected, you must specify an encryption key.

Encrypt NameID elements in assertions.

Specifies whether NameID elements in the assertions are to be encrypted. If selected, you must specify an encryption key.

Block Encryption algorithm

Specifies the encryption algorithm to use to encrypt data for this partner.

Triple DES

Triple Digital Encryption Standard

AES-128

Advanced Encryption Standard 128-bit

AES-192

Advanced Encryption Standard 192-bit

AES-256

Advanced Encryption Standard 256-bit

Subject Confirmation Method

Specifies the subject confirmation method for the assertion. If you select the holder-of-key type, the default includes the X.509 Certificate Data in the KeyInfo for the SubjectConfirmationMethod. STSUniversalUser can provide the data for the SubjectConfirmationMethod KeyInfo. The data can also be extracted from the signed request data.

Security token service message logger module

The Security token service message logger module is called STSMessageLoggerModule.

Enables the tracking of all or part of a Security Token Service transaction, including requests, responses, incoming and outgoing mappings, errors and exceptions.

Deployment scenarios for this module type

- Custom trust chains

Supported modes

- Other

Configuration properties (Federation)

Enable STS Message logging to log file

Specify whether to enable this instance of the logging module in the current STS chain to a log file. If checked, you can also select the type of logging to enable, such as requests, responses, and identity mapping logging, and then specify the log file in the **Log name** field. You can also specify the maximum log file size and maximum number of log files if you choose this type of logging.

The default is checked.

Enable STS Message logging to custom extension

Specify whether to enable this instance of the logging module in the current STS chain to a custom extension. If checked, you can also select the type of logging to enable, such as requests, responses, and identity mapping logging, and then specify the custom logger in the **Custom Logger Extension ID** field.

The default is unchecked.

Log name

The name of the log file where the data will be saved. Having a unique log file name for different instances or for the federation and partner will create a new logger to handle the logging of that particular configuration.

The default value is STSmessages.

This field is applicable for log files only.

Only alphanumeric values are allowed. White space is not allowed.

Enable log on error only

Specifies whether to enable logging of only the errors.

The default is disabled.

Enable log requests

Specifies whether to enable logging of request information coming into this module chain.

The default is enabled.

Enable log responses

Specifies whether to enable logging of response information coming into this module chain.

The default is enabled.

Enable log identity mappings

Specifies whether to enable logging of the identity mappings

(STSUniversalUser), which include the incoming identity and outgoing mapped, or transformed, identity. It will only log the STSUniversalUser information when invoking a module that has the mode of 'map'.

The default is disabled.

Maximum log file size (megabytes)

The maximum size, in megabytes, of the log file. When this size is reached, the file rolls over. This involves saving the log file with a different name and continue logging using a new, empty log file with the original name.

This field is applicable for log files only.

The default value is 10.

Specifying 0 will set the maximum size to unlimited.

The allowable range of values for this field is from 0 to 209715.

Maximum number of log files

The maximum number of log files to retain at a given time.

This field is applicable for log files only.

The default value is 10.

The allowable range of values for this field is from 1 to 32767.

Custom Logger Extension ID

The name of the custom logger extension ID that you defined.

This field is applicable for custom loggers only.

Configuration properties (Partner)

STS Message logging

Specify whether to enable this instance of the logging module in the current STS chain. If enabled, requests, responses, and identity mapping logging takes place. From the drop-down box, you can choose to use the same value as set by the Federation properties or change it, by selecting **enable** or **disable**.

The default is **Use federation property value**.

Log name

The name of the log file where the data will be saved. Having a unique log file name for different instances or for the federation and partner will create a new logger to handle the logging of that particular configuration.

If no log name is specified, the federation log name is used.

Only alphanumeric values are allowed. White space is not allowed.

Log on error only

Specifies whether to enable logging of only the errors. From the drop-down box, you can choose to use the same value as set by the Federation properties or change it, by selecting **enable** or **disable**.

The default is **Use federation property value**.

Log requests

Specifies whether to enable logging of request information coming into this module chain. From the drop-down box, you can choose to use the same value as set by the Federation properties or change it, by selecting **enable** or **disable**.

The default is **Use federation property value**.

Log responses

Specifies whether to enable logging of response information coming into this module chain. From the drop-down box, you can choose to use the same value as set by the Federation properties or change it, by selecting **enable** or **disable**.

The default is **Use federation property value**.

Log identity mappings

Specifies whether to enable logging of the identity mappings (STSUniversalUser), which include the incoming identity and outgoing mapped, or transformed, identity. It will only log the STSUniversalUser information when invoking a module that has the mode of 'map'. From the drop-down box, you can choose to use the same value as set by the Federation properties or change it, by selecting **enable** or **disable**.

The default is **Use federation property value**.

Maximum log file size (megabytes)

The maximum size, in megabytes, of the log file. When this size is reached, one of the following takes place:

- The log file rolls over, where the number of log files is set to zero.
- The log file number is incremented, up to the maximum number of log files.

If no maximum log file size is specified, the federation maximum log file size is used.

Specifying 0 will set the maximum size to unlimited.

The allowable range of values for this field is from 0 to 209715.

Maximum number of log files

The maximum number of log files to retain at a given time.

If no maximum number of log files is specified, the federation maximum number of log files is used.

The allowable range of values for this field is from 1 to 32767.

Security token service universal user module

The Security token service universal user module is called STSUUSTSModule.

This module acts as a pass-through module to either pass in or out an XML-based STSUniversalUser token.

This module is useful for testing other STS modules or for simple custom trust client applications. It provides a simple means to directly call the trust service to issue more complex token types without having to first pass in another token, and then perform a mapping operation.

For example, when a SAML 1.0 assertion is needed (to send to an authenticated Web application), and the current username and attribute information about the user is known, use of the STSUniversal User module eliminates the need to create a token, validate it, perform a mapping operation, and then issue the SAML 1.0 assertion. With the STSUniversalUser STS Module, you can create a simple chain with only two elements:

- Validate STSUniversalUserToken
- Issue signed SAML 1.0 Assertion

The input STSUniversalUser token can contain the username, any extended attributes, and any attributes required for issuing the SAML assertion, as generated by the caller of the trust service.

Note that no mapping step is required.

Deployment scenarios for this module type

- Custom trust chains

Supported modes

- Validate
- Exchange
- Issue

Configuration properties

None.

Tivoli Access Manager authentication module

The Tivoli Access Manager authentication module is called TAMAuthenticationSTSModule.

This module performs a Tivoli Access Manager authentication check using the supplied credentials. The module is used by the Web services security management component when performing authentication decisions on Web service requests. It can also be used by custom trust chains.

Note that this module is not a generic authentication module. It only processes authentication requests against Tivoli Access Manager.

Deployment scenarios for this module type

- Custom trust chains
- Web services security management

Supported modes

- Authenticate

Configuration properties

None.

Tivoli Access Manager authorization module

The Tivoli Access Manager authorization module is called TAMAuthorizationSTSModule.

This module performs a Tivoli Access Manager authorization check using the supplied user identity and resource name. The module is used by the Web services security management component when performing authorization decisions on Web service requests. It can also be used by custom trust chains.

Note that this module is not a generic authorization module. It only processes authorization requests against Tivoli Access Manager.

Deployment scenarios for this module type

- Custom trust chains
- Web services security management

Supported modes

- Authorize

Configuration properties

Stop the chain if unauthorized

Specifies to stop the trust service module chain execution if the user is not authorized. If the user is unauthorized and the check box is not selected, then the trust service chain execution continues. If the user is authorized, then this parameter is ignored.

Tivoli Access Manager credential module

The Tivoli Access Manager credential module is called IVCredModule.

The trust service can create and consume local tokens in an environment that is protected by Tivoli Access Manager. The support for Tivoli Access Manager credentials means that the trust service can also use the credentials for authorization decisions.

Deployment scenarios for this module type

- Single sign-on federations
- Custom trust chains

Supported modes

- Validate
- Issue
- Exchange

Configuration properties

Validate mode

Enable signature validation

Enables or disables validation of signatures in the token module. Select the check box to enable signature validation.

Select validation key

Specifies the validation key that the partner must use.

Keystore

Specifies the keystore containing the key or certificate. The menu displays the keystores previously configured into the key service.

Keystore Password

Specifies the password for the keystore.

List Keys

Displays a table that lists the keys in the specified keystore. Select the radio button in the Select column to specify the key or certificate.

Issue mode

Include the following attribute types (a "*" means include all types)

Specifies the types of attributes to be inserted during token creation. The attributes consist of information about the identity (user). Use the && character to separate attribute types. By default all types are supported, as indicated by the asterisk (*) wildcard.

For example, to add user-defined attribute types *type1* and *type2*, enter:

`type1&&type2`

Enable signatures

Specifies that signatures must be added to tokens.

Select signing key

Specifies the key to use to sign tokens.

Keystore

Specifies the keystore containing the key or certificate. The menu displays the keystores previously configured into the key service.

Keystore Password

Specifies the password for the keystore.

List Keys

Displays a table that lists the keys in the specified keystore. Select the radio button in the Select column to specify the key or certificate.

Select the KeyInfo elements to include

Specifies the elements of the signing certificate in the extended attributes of the credential. These attributes are only included if signatures are enabled. The default is for them to be disabled.

Include the Public Key?

Specifies whether to include this attribute. **No**, the default, excludes the public key. If **Yes**, the public key of the signing certificate is included in the Base64 encoded form. The extended attribute is labeled ITFIM_IVCRED_SIGNER_CERTIFICATE_PUBKEY.

Include the X509 Subject Name?

Specifies whether to include this attribute. **No**, the default, excludes the X509 Subject Name. If **Yes**, the distinguished name of the subject for the signing certificate is included. The extended attribute is labeled ITFIM_IVCRED_SIGNER_CERTIFICATE_SUBJECT.

Include X509 Subject Issuer Details?

Specifies whether to include this attribute. **No**, the default, excludes the X509 Subject Issuer Details. If **Yes**, the issuer details of the signing certificate are included. The extended attribute is labeled ITFIM_IVCRED_SIGNER_CERTIFICATE_ISSUER.

Include the X509 Subject Key Identifier?

Specifies whether to include this attribute. **No**, the default, excludes the X509 Subject Key Identifier. If **Yes**, the subject key identifier of the signing certificate is included. The extended attribute is labeled ITFIM_IVCRED_SIGNER_CERTIFICATE_SKI.

Include the X509 Certificate Data?

Specifies whether to include this attribute. **No**, the default, excludes the X509 Certificate Data. If **Yes**, the certificate data of the signing certificate is included in the Base64 encoded form. The extended attribute is labeled ITFIM_IVCRED_SIGNER_CERTIFICATE.

Note: If you specify **No** for all five KeyInfo elements, X509Certificate data is still included in the signature by default.

Tivoli Access Manager Global Signon Lockbox module

The Tivoli Access Manager Global Signon Lockbox module is called STSTAMGSOModule.

This module retrieves a user name and password pair from the Tivoli Access Manager user registry for Tivoli Access Manager global signon (GSO) resources and sets them as attributes into the Principal section of the STSUniversalUser.

An example of an STSUser after this module has successfully retrieved a username and password from the TAM GSO Lockbox is:

```
<stsuser:STSUniversalUser xmlns:stsuser="urn:ibm:names:ITFIM:1.0:stsuser">
  <stsuser:Principal>
    <stsuser:Attribute name="Password"
      type="http://docs.oasis-open.org/wss/2004/01/
        oasis-200401-wss-username-token-profile-1.0#PasswordText">
      <stsuser:Value>targetpwd</stsuser:Value>
    </stsuser:Attribute>
    <stsuser:Attribute name="name"
      type="http://docs.oasis-open.org/wss/2004/01/
        oasis-200401-wss-wssecurity-secext-1.0.xsd">
      <stsuser:Value>targetuser</stsuser:Value>
    </stsuser:Attribute>
    <stsuser:Attribute name="Username"
      type="http://docs.oasis-open.org/wss/2004/01/
        oasis-200401-wss-wssecurity-secext-1.0.xsd">
      <stsuser:Value>targetuser</stsuser:Value>
    </stsuser:Attribute>
  </stsuser:Principal>
  ...
</stsuser:STSUniversalUser>
```

Note: In the example STSUniversalUser above, the type= lines have been split for readability. The type value should be one continuous line.

The Tivoli Access Manager global signon technology allows a user to have an indexed set of additional username and password pairs. Each username and password pair is indexed through a string called a *target resource name*. The resource name relates to the target system or database which requires a separate login for access. When a Tivoli Access Manager wants to access that resource, the GSO lockbox is consulted to retrieve the required username and password.

The target resource name is specified during the configuration of the trust module for Tivoli Access Manager Global Signon Lockbox.

Deployment scenarios for this module type

- Custom trust chains

Supported modes

- Map

Configuration properties

Tivoli Access Manager GSO Resource Name

The name of the Tivoli Access Manager resource that is GSO-enabled. This is the value that you defined when you created the resource name in Tivoli Access Manager. This field is required. There is no default value.

Overriding the configuration property

It is possible to override the configured Tivoli Access Manager GSO Resource Name at runtime. You can do this by specifying setting an attribute in the STSUniversalUser. In the ContextAttributes container, specify a value for targetResource.

When this attribute is not present in the STSUniversalUser, the value stored for the configuration property Tivoli Access Manager GSO Resource Name is used.

Pool size

This property establishes the number of connections (PDContexts) to Tivoli

Access Manager that each configuration will manage. Each configured chain creates its own set of connections.

The default is 2.

This value is not set through a graphical user interface. The default can be overridden by setting the custom runtime parameter `tamgso.PDContextPoolSize`.

Only one thread can use a PDContext at a time. This means that the pool size determines the maximum number of threads which can concurrently execute this module in the chain. To increase the maximum number of threads, use the custom runtime parameter to increase the pool size.

Note: The value of this custom runtime parameter applies to *all* chains in the runtime.

Tivoli Access Manager configuration file

This property points to a Tivoli Access Manager configuration file, for the purpose of initializing the Tivoli Access Manager administration API. This property is set in the administration console when an instance of the security token service module is created. The default value is `amconfig.conf`.

The configuration file is created when the Tivoli Federated Identity Manager runtime is configured. In most cases, you do not need to modify this value.

Tivoli Directory Integrator module

The Tivoli Directory Integrator module is called `DirectoryIntegratorSTSModule`.

This module performs generic user and attribute mapping functions. An assembly line executing on a Tivoli Directory Integrator (TDI) server is called to perform mapping of user and attribute data in an `STSUniversalUser`. Data may be resolved from a variety of data sources natively supported by TDI, including LDAP and relational databases. Custom code is also supported through JavaScript connectors.

Deployment of this module involves configuration of Tivoli Directory Integrator. For more information, see the *IBM Tivoli Federated Identity Manager Installation Guide*.

Deployment scenarios for this module type

- Custom trust chains
- Single sign-on

Supported modes

- Map

Configuration properties

Server Hostname

Host name or IP address of the computer on which the Tivoli Directory Integrator server is running. The default value is `localhost`. For example, `tdiserver.company.com`.

Server Port

Port number on which the Tivoli Directory Integrator server is configured to run. The default value is 1099.

Assembly Line Handler Pool Size

Number of assembly line handlers to maintain for this trust chain. The value must be a positive integer. The default value is 10.

Number of Wait Threads

Maximum number of threads that can be waiting for an assembly line handler for this chain. The value must be a positive integer. The default value is 0.

Amount of time for threads to wait for an assembly line handler to become available

Determine the amount of time for threads to wait for an assembly line handler to become available. Select one of these options.

Wait indefinitely

Do not put a limit on the time for threads to wait for the assembly line handler to become available. This is the default choice.

Do not wait for assembly line handler after initial try

Do not allow any threads to wait for an assembly line handler and , if one is not available immediately, the Tivoli Directory Integrator module returns a timeout.

Use the following maximum wait value

Specify a value for the maximum time to wait.

Maximum Wait Time (milliseconds)

Maximum time a thread will wait for an assembly line handler before returning a wait timeout. This value is specified in milliseconds and it must be a positive integer.

Discover configuration settings

Use the server host name and port that were supplied earlier in this panel to connect to the Tivoli Directory Integrator server and discover which configurations and assembly lines are available. You must enter the Server Hostname and Server Port before you can select this option. After you select this option, two drop-down list boxes are available.

Select Configuration File

Select which configuration file to use from the list.

Select Assembly Line

Select which assembly line to use from the list. This list was derived from the configuration file you selected above.

Enter configuration settings manually

Enter the configuration settings manually by supplying the following fields:

Configuration File

Solution name, or the file name of the configuration file, to use. For example, tdi_demo_mappings.xml.

Assembly Line Name

Name of the assembly line to use. For example, assemblyLine1.

Username token module

The Username token module is called UsernameTokenSTSMModule.

Support for the Username token means that the trust service can create or consume tokens in a WebSphere Web services environment where the Username token is used to pass user identity information in the header of a Web services request.

Deployment scenarios for this module type

- Web services security management
- Custom trust chains

Supported modes

- Validate
- Issue
- Exchange

Configuration properties (Validate mode)

Skip password validation

Do not perform password validation for the Username token. The default is cleared.

Options for validating the password

Select one of the following options for validating the password for the Username token:

Use Tivoli Access Manager for authentication

Select this default option to use Tivoli Access Manager to authenticate the user.

Use WebSphere Registry for authentication

Select this option to use the WebSphere Application Server registry to authenticate the user.

Use JAAS for authentication

Use Java Authentication and Authorization Service to authenticate the user.

JAAS Login Context Alias

Specifies an alias for the Java Authentication and Authorization Service (JAAS) login context. This field is required. Default: WSLogin

JAAS Provider host name

Specifies the host name for the Java Authentication and Authorization Service (JAAS) provider. The default value is localhost. This field is optional.

If you specify a value here, it is used. Otherwise, if you have previously defined the host name in a custom properties file, that host name is used.

If you do not specify a host name in this field, and you have not defined it in a custom properties file, the default of localhost is used.

JAAS Provider port

Specifies the port for the Java Authentication and Authorization Service (JAAS) provider. The default value is 2809. This field is optional.

If you specify a value here, it is used. Otherwise, if you have previously defined the port in a custom properties file, that port is used. If you do not specify a port in this field, and you have not defined it in a custom properties file, the default of 2809 is used.

Enable time validity check (based on created time and the amount of time permitted after issue)

Specifies a required created time element on the Username token when

checked (default). The software compares the value of the created time element against the value that specifies the amount of time the token is valid after issue.

Amount of time the token is valid after being issued (seconds)

Default: 300 seconds

A value of -1 means that the token does not expire.

Configuration properties (Issue or Exchange mode)

Include nonce in token

Includes a nonce (random bits used for obfuscating the element) in the token. When the password option "4" is specified, this value has no effect.

Include token creation time in token

Adds a timestamp to the token, indicating the creation time of the token.

Options for including password in the token

Indicates whether to include the password in the token. When the password is included, you can specify the format.

Do not include the password

Specifies that you do not want to include the password in the token.

Include the digest of the password value

Specifies that you want to include the password in the token as the digest of the password value.

Include the password in clear text

Specifies that you want to include the password in the token as clear text.

X.509 module

The X.509 module is called X509STSModule.

Validates X.509 security tokens with a token type of:

```
http://docs.oasis-open.org/wss/2004/01/oasis-200401-  
wss-x509-token-profile-1.0#X509  
http://docs.oasis-open.org/wss/2004/01/oasis-200401-  
wss-x509-token-profile-1.0#X509v3  
http://docs.oasis-open.org/wss/2004/01/oasis-200401-  
wss-x509-token-profile-1.0#X509PKIPathv1
```

The module uses the Tivoli Federated Identity Manager KESS to validate the X.509 certificate path.

Deployment scenarios for this module type

- Web services security management
- Custom trust chains

Supported modes

- Validate

Configuration properties

Enable X.509 certificate validation

Specifies whether validation of X.509 certificates must be enforced. By default, this check box is selected. When this box is cleared, the certificate is not validated. This option can be used in deployments where the certificate has already been validated by another entity.

X.509 validator identifier or class name

Specifies a class name for a Tivoli Federated Identity Manager X.509 validator. Leave blank to use the default validator. A custom Tivoli Federated Identity Manager X.509 validator must implement the interface `com.tivoli.am.fim.kess.CertificateValidator`.

X.509 default value type

If an X.509 `BinarySecurityToken` does not have the `ValueType` attribute specified, this configuration value is used as the default `ValueType`.

Include Subject DN

If enabled, the X.509 Subject Distinguished Name is added to the `STSUniversalUser AttributeList`.

Include Issuer DN

If enabled, the X.509 Issuer distinguished name is added to the `STSUniversalUser AttributeList`.

Include Not Before

If enabled, the X.509 NotBefore date is added to the `STSUniversalUser AttributeList`. This date indicates the earliest date from which the X.509 is valid.

Include Not After

If enabled, the X.509 NotAfter date is added to the `STSUniversalUser AttributeList`. This date indicates the latest date for which the X.509 is valid.

Include Serial Number

If enabled, the X.509 serial number is added to the `STSUniversalUser AttributeList`.

Include Type

If enabled, the X.509 type is added to the `STSUniversalUser AttributeList`.

Include Version

If enabled, the X.509 version is added to the `STSUniversalUser AttributeList`.

Include Basic Constraints

If enabled, the X.509 Basic Constraints are added to the `STSUniversalUser AttributeList`.

Please enter a list of Object Identifiers to read from the certificate

Use this text area to add custom Object Identifiers to the `STSUniversalUser AttributeList`. Put each unique OID on a new line in the text area. Each value is a hexadecimal representation of the octet string.

Token module response files

Before creating a chain mapping using the `manageItfimStsChainMapping` command, you must create a response file. Then edit the response file so that it contains the appropriate values for your environment.

You can create a response file for a new chain mapping based on an existing chain, or from an existing chain mapping. For each of these operations, you must first run a specific command to create the response file. The content of this created response file depends on the chain for which the chain mapping is based. For more information about creating the response file, see “`manageItfimStsChainMapping`” on page 282.

Note: If you created a response file that is based on an existing chain mapping, values are automatically specified for many of the parameters shown here.

Available response files for STS chain mapping include:

- “Default mapping module response file”
- “Kerberos module response file”
- “Kerberos delegation module response file” on page 70
- “KESST module response file” on page 71
- “LTPA module response file” on page 73
- “PassTicket module response file” on page 75
- “SAML 1.0 token module response file” on page 76
- “SAML 1.1 token module response file” on page 78
- “SAML 2.0 token module response file” on page 80
- “Tivoli Access Manager authorization module response file” on page 83
- “Tivoli Access Manager credential module response file” on page 83
- “Tivoli Directory Integrator module response file” on page 84
- “Username token module response file” on page 87
- “X509 token module response file” on page 88

Default mapping module response file

The following table provides the parameters, values, and descriptions for the Default mapping module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 1. Parameters in Default mapping module response file (Map mode)

Parameter	Value	Description
self.xslt.rule	<i>mapping rule</i>	Specifies the mapping rule to use. Depending on the <code>self.map.rule.type</code> value, this rule conforms to either Javascript syntax or XSLT syntax.
self.map.rule.type	<i>XSLT or Javascript</i>	Specifies whether to use an XSLT or Javascript mapping rule.

Kerberos module response file

The following table provides the parameters, values, and descriptions for the Kerberos module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 2. Parameters in Kerberos module response file

Parameter	Mode	Value	Description
self.KBKeytabFile	Validate	<i>string</i>	Specifies the optional path of the Kerberos service keytab file for the Kerberos service identified by the Kerberos security token. If this property is not specified, it must be specified as an STS universal user context attribute.
self.KBRealm	Issue	<i>string</i>	Specifies the optional name of the Kerberos realm. This must match with a realm configured within <code>krb5.conf</code> . For example, <code>EXAMPLE.COM</code> . If this property is not specified, it must be specified as an STS universal user context attribute.

Table 2. Parameters in Kerberos module response file (continued)

Parameter	Mode	Value	Description
self.KBServiceName	Issue	<i>string</i>	Specifies the principal name of the Kerberos service in the form of service-name or service-name@realm. For example, krb5service/krb5host.example.com or krb5service@example.comkrb5service/krb5host.example When the realm is not supplied, the default realm, if any, configured in krb5.conf is used. The name should match the configuration in Active Directory or whatever Kerberos directory is being used.
self.KBValueType	Issue	<i>string</i>	Specifies the value type of the Kerberos binary security token to issue. The default value can be one of the following: • http://docs.oasis-open.org/wss/oasis-wss-kerberos-token-profile-1.1#Kerberosv5_AP_REQ • http://docs.oasis-open.org/wss/oasis-wss-kerberos-token-profile-1.1#GSS_Kerberosv5_AP_REQ

Kerberos delegation module response file

The following table provides the parameters, values, and descriptions for the Kerberos delegation module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 3. Parameters in Kerberos Delegation module response file (Exchange mode)

Parameter	Value	Description
KBDelCredentialCacheSize	<i>integer</i>	Determines the number of impersonation handles and user credentials cached for performance reasons in the dynamically loaded library loaded by the module. Set this number to the approximate number of expected concurrent end users of the service for high-volume transactions. The higher the number, the more memory that might be consumed by the Tivoli Federated Identity Manager runtime application. Default: 100
partner.KBDelServicePrincipalName	<i>string</i>	Specifies the default target Service Principal Name. It is used for WS-Trust clients that do not send the target Service Principal Name in the AppliesTo ServiceName element of the RST, and that do not have a mapping rule to configure the target Service Principal Name as an STSUniversalUser context attribute. This field is optional.

Table 3. Parameters in Kerberos Delegation module response file (Exchange mode) (continued)

Parameter	Value	Description
partner.KBDelUserSuffix	DNS, CONFIG or NONE	Specifies whether the module will auto-append a suffix to the user name in the STSUniversalUser. The options are useful when deploying the Kerberos delegation module with a Tivoli Access Manager WebSEAL deployment. Options: - Do not add a suffix to the username (value: NONE) This option leaves the user name unmodified. - Add the machine DNS domain as a suffix to the username (value: DNS) This option auto-appends the DNS domain suffix for the Tivoli Federated Identity Manager runtime machine to the principal name in the STSUniversalUser before calling the Windows API to obtain a Kerberos ticket. The DNS domain is read from the Windows Registry Key: SYSTEM\CurrentControlSet\Services\Tcip\Parameters\Domain This option optimizes the module behavior for use in Tivoli Access Manager configurations using Kerberos junctions. The addition of the DNS domain enables the Windows API to successfully match the user name against the user record in the Active Directory user registry. Note that the module auto-appends the DNS domain name when the STSUniversalUser principal name does <i>not</i> already contain the @ character. This means that if a mapping rule was used to append a suffix containing the @ character to the user principal name, or if the Tivoli Access Manager username contains the @ character, this setting has no effect. - Add the configured suffix to the username (value: CONFIG) This option is used to optimize the module behavior for use in Tivoli Access Manager configurations using Kerberos junctions. This option allows the administrator to manually specify the suffix. This option is for special cases where the userPrincipalName attribute for the user does not match the DNS domain name of the Windows machine running the Tivoli Federated Identity Manager Runtime. This option has no effect when the principal name already contains an @ character.
partner.KBDelConfiguredUserSuffix	String	Specifies the suffix to add if using a configured suffix. For example: @mydomain.com

KESS STS module response file

The following table provides the parameters, values, and descriptions for the Key Encryption and Signature Service (KESS) STS module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 4. Parameters in KESS STS module response file (Map mode)

Parameter	Value	Description
partner.KessChooseOperations	<i>Sign, Validate, Encrypt or Decrypt</i>	Specifies the configured operation for the module: sign, validate, encrypt, or decrypt.
partner.KessUserAttribute	<i>string</i>	Specifies on which attribute in the STSUA AttributeList to perform the operation. This property is common to all operations.
partner.KessSigningKey	<i>name of keystore and key</i>	Determines the name of the signing key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey).
partner.IncludePublicKey	<i>true or false</i>	Specifies whether to include the public key in the KeyInfo.
partner.IncludeX509IssuerDetails	<i>true or false</i>	Specifies whether to include issuer information in the KeyInfo/X509Data.
partner.IncludeX509SubjectName	<i>true or false</i>	Specifies whether to include the X509SubjectName (distinguished name of signing certificate) in the KeyInfo/X509Data.
partner.IncludeX509SubjectKeyIdentifier	<i>true or false</i>	Specifies whether to include the Subject Key Identifier in the KeyInfo/X509Data.
partner.IncludeX509CertificateData	<i>true or false</i>	Specifies whether to include the X509CertificateData in the KeyInfo/X509Data.
partner.KessUseInclusiveNamespaces	<i>true or false</i>	Specifies whether to use the InclusiveNamespaces construct, which means employing exclusive XML canonicalization for greater standardization.
partner.sts.kess.verify.signatures	<i>true or false</i>	Specifies whether to enable signature validation.
partner.sts.kess.validationkey	<i>name of keystore and key or the Subject DN expression for the allowable X.509 certificates</i>	Determines the name of the validation key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey). You can also use KeyInfo of the XML signature to find the X.509 certificate for signature validation. To proceed, enter a regular expression to validate the Subject distinguished name returned in the KeyInfo.

Table 4. Parameters in KESS STS module response file (Map mode) (continued)

Parameter	Value	Description
partner.KessValidateWithIncludedCert	<i>true or false</i>	Specifies whether to use embedded certificate data or a KESS keystore certificate to validate the signature. For example, the KESS keystore might receive a message signed by a key that is not in the KESS keystore. However, the signer of that key is in the keystore. Signature validation might then occur with the certificate embedded in the message.
partner.KessEncryptionKeyIdentifier	<i>name of keystore and key</i>	Determines the name of the encryption key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey).
partner.KessEncryptionAlgorithm	<i>encryption algorithm</i>	Specifies the block encryption algorithm. Select the identifier from one of the following block encryption algorithms: • Triple DES • AES 128 • AES 192 • AES 256
partner.KessKeyTransportAlgorithm	<i>transport algorithm</i>	Specifies the key transport algorithm. Select the identifier from one of the following key transport algorithms: • RSA-1-5 • RSA-OAEP-MGF1P • SHA 1 Note: SHA 1 does not come preconfigured. To support this algorithm, you must configure other security providers.
partner.KessDecryptionKeyIdentifier	<i>name of keystore and key</i>	Determines the name of the decryption key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey).

LTPA module response file

The following table provides the parameters, values, and descriptions for the Lightweight Third Party Authentication (LTPA) module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 5. Parameters in LTPA module response file

Parameter	Mode	Value	Description
partner.ltpa.filecontents	Validate	<i>LTPA file contents</i>	The file contents are extracted from the file exported by the LTPA key export panel of the WebSphere Application Server.

Table 5. Parameters in LTPA module response file (continued)

Parameter	Mode	Value	Description
partner.ltpa.password	Validate	<i>password</i>	Specifies the password that was used to protect the keys created by the partner. It must be the same password that was used when the keys were created by the partner.
partner.ltpa.usefips	Validate	<i>true or false</i>	Specifies whether to enable the Federal Information Processing Standards (FIPS). If FIPS was enabled when you created your partner, specify true. The default is false.
self.ltpa.filecontents	Issue	<i>LTPA file contents</i>	The file contents are extracted from the file exported by the LTPA key export panel of the WebSphere Application Server.
self.ltpa.password	Issue	<i>password</i>	Specifies the password that was used to protect the keys created by the partner. It must be the same password that was used when the keys were created by the partner. This password is required.
self.ltpa.usefips	Issue	<i>true or false</i>	Specifies whether to enable the Federal Information Processing Standards (FIPS). If FIPS was enabled when you created your partner, specify true. The default is false.
self.ltpa.expiration	Issue	<i>number of minutes</i>	Indicates how long, from the time of token creation, the token remains valid. Specify this required value in minutes. You can override this value using the expiration Principle value in the Universal User. The default value is 120 minutes.
self.ltpa.realm	Issue	<i>string</i>	Specifies the realm name to append to the user ID during token creation. You can override this value using the realm Principle value in the Universal User. If you do not specify a name here, then it is assumed that the PrincipleName in the Universal User document is already in the following form: <i>realm:port/userID</i>
self.ltpa.version	Issue	<i>version number</i>	Specifies the version number of the LTPA token you are issuing. Specify 1 or 2, denoting LTPA Version 1 or Version 2.

Table 5. Parameters in LTPA module response file (continued)

Parameter	Mode	Value	Description
self.ltpa.attributes	Issue	<i>string</i>	Specifies the types of attributes to include in the assertion. Use this field only for LTPA Version 2 tokens. An asterisk (*), which is the default setting, includes all of the attribute types that are specified in the identity mapping file or by the custom mapping module. To specify one or more attribute types individually, add an attribute under a new <code><void method="add"></code> element.

PassTicket module response file

The following table provides the parameters, values, and descriptions for the PassTicket module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 6. Parameters in PassTicket module response file

Parameter	Mode	Value	Description
partner.PTKApplicationID	Validate	<i>string</i>	Specifies the name of the application that was used to generate the unique PassTicket. The name must be no longer than 8 characters. The characters must be alphanumeric. For example: GISGRAM
partner.PTKDESKey	Validate	<i>hexadecimal digits</i>	Specifies an optional key value consisting of exactly 16 hexadecimal digits (letters a through f; integers 0 through 9) for the PassTicket. This value is not used on z/OS systems.
partner.PTKTokenLifetime	Validate	<i>number of seconds</i>	Specifies an integer value indicating the amount of time, in seconds, that the token remains valid. There are no minimum or maximum values imposed. Default value: 300 The special value -1 means that the token does not expire.
partner.passticket.verify.signatures	Validate	<i>true or false</i>	Enables (true) or disables (false) validation of signatures in the token module.
partner.passticket.keystore.alias	Validate	<i>name of keystore and key</i>	Determines the name of the validation key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey).
self.PTKIncludeNonce	Issue	<i>true or false</i>	Includes a nonce (random bits used for obfuscating the element) in the token.
self.PTKIncludeCreationTime	Issue	<i>true or false</i>	Adds a timestamp to the token, indicating the creation time of the token.

Table 6. Parameters in PassTicket module response file (continued)

Parameter	Mode	Value	Description
partner.PTKApplicationID	Issue	<i>string</i>	Specifies the name of the application that was used to generate the unique PassTicket. The name must be no longer than 8 characters. The characters must be alphanumeric. For example: G1SGRAM
partner.PTKDESKey	Issue	<i>hexadecimal digits</i>	Specifies an optional key value consisting of exactly 16 hexadecimal digits (letters a through f; integers 0 through 9) for the PassTicket. This value is not used on z/OS systems.
partner.passticket.token.sign	Issue	<i>true or false</i>	Enables (true) or disables (false) the signing of the PassTicket token module.
partner.PTKSigningKeyIdentifier	Issue	<i>name of keystore and key</i>	Determines the name of the signing key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey).

SAML 1.0 token module response file

The following table provides the parameters, values, and descriptions for the SAML 1.0 token module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 7. Parameters in SAML 1.0 token module response file

Parameter	Mode	Value	Description
self.SAML10OneTimeAssertion Enforcement	Validate	<i>true or false</i>	Specifies whether this artifact (token) is to be used only once.
partner.SAML10ValidationKey	Validate	<i>name of keystore and key or subject distinguished name expression for the allowable X.509 certificates</i>	Determines the name of the validation key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey). You can also use KeyInfo of the XML signature to find the X.509 certificate for signature validation. To proceed, enter a regular expression to validate the subject distinguished name returned in the KeyInfo.
partner.com.tivoli.am.fim.sts.saml.1.0.assertion.verify.signatures	Validate	<i>true or false</i>	Enables or disables validation of signatures in the token module. Specify true to enable signature validation.
partner.SAML10CreateMultiple UniversalUserAttributes	Validate	<i>true or false</i>	Specifies whether to keep multiple attribute statements in the groups in which they were received. This option might be necessary if your custom identity mapping rules are written to operate on one or more specific groups of attribute statements. If you specify false (default), multiple attribute statements are arranged into a single group (AttributeList) in the STSUniversalUser document. This setting is appropriate for most configurations.

Table 7. Parameters in SAML 1.0 token module response file (continued)

Parameter	Mode	Value	Description
self.SAML10AssertionIssuerName	Issue	<i>name of organization</i>	Displays a string specifying the name of the organization (for example, a company) that issues the SAML assertions.
self.SAML10AssertionValidBefore	Issue	<i>number of seconds</i>	Specifies the amount of time before the issue date that an assertion is considered valid (seconds). Default: 60 seconds There is no minimum or maximum value enforced, but you must specify a value.
self.SAML10AssertionValidAfter	Issue	<i>number of seconds</i>	Specifies the amount of time the assertion is valid after being issued (seconds). Default: 60 seconds There is no minimum or maximum value enforced, but you must specify a value.
partner.com.tivoli.am.fim.sts.saml.1.0.assertion.sign	Issue	<i>true or false</i>	Specifies whether SAML assertions must be signed.
partner.SAML10SigningKeyIdentifier	Issue	<i>name of keystore and key</i>	Specifies the name of the signing key identifier and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname, for example, DefaultKeyStore_testkey
partner.IncludeX509SubjectKey Identifier	Issue	<i>true or false</i>	Specifies whether to include the X.509 subject key identifier with your signature. No , the default, excludes the subject key identifier. Yes includes it.
partner.IncludePublicKey	Issue	<i>true or false</i>	Specifies whether to include the public key with your signature. No , the default, excludes the public key. Yes includes it.
partner.IncludeX509IssuerDetails	Issue	<i>true or false</i>	Specifies whether to include the issuer name and the certificate serial number with your signature. No , the default, excludes the X.509 subject issuer details. Yes includes it.
partner.IncludeX509SubjectName	Issue	<i>true or false</i>	Specifies whether to include the subject name with your signature. No , the default, excludes the X.509 subject name. Yes includes it.
partner.IncludeX509CertificateData	Issue	<i>true or false</i>	Specifies whether to include the BASE64 encoded certificate data with your signature. Yes , the default, includes the X.509 certificate data. No excludes it.
partner.SAML10ExtendedAttribute Types	Issue	<i>attributes</i>	Specifies the types of attributes to include in the assertion. The default asterisk (*) includes all the attribute types that are specified in the identity mapping file or by the custom mapping module. To specify one or more attribute types individually, enter each attribute type. For example, if you want to include only attributes of type urn:oasis:names:tc:SAML:1.0:assertion in the assertion, enter urn:oasis:names:tc:SAML:1.0:assertion.

Table 7. Parameters in SAML 1.0 token module response file (continued)

Parameter	Mode	Value	Description
partner.SAML10SubjectConfirmationMethod	Issue	<i>subject confirmation method for assertion</i>	Specifies the subject confirmation method for the assertion. If you select the holder-of-key type, the default includes the X.509 Certificate Data in the KeyInfo for the SubjectConfirmationMethod. Valid values can be: - no subject confirmation method (blank) - urn:oasis:names:tc:SAML:1.0:bearer - urn:oasis:names:tc:SAML:1.0:holder-of-key - urn:oasis:names:tc:SAML:1.0:sender-vouches

SAML 1.1 token module response file

The following table provides the parameters, values, and descriptions for the SAML 1.1 token module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 8. Parameters in SAML 1.1 token module response file

Parameter	Mode	Value	Description
self.SAML11OneTimeAssertionEnforcement	Validate	<i>true or false</i>	Specifies whether this artifact (token) is to be used only once.
partner.SAML11ValidationKey	Validate	<i>name of keystore and key or subject distinguished name expression for the allowable X.509 certificates</i>	Determines the name of the validation key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey). You can also use KeyInfo of the XML signature to find the X.509 certificate for signature validation. To proceed, enter a regular expression to validate the subject distinguished name returned in the KeyInfo.
partner.com.tivoli.am.fim.sts.saml.1.1.assertion.verify.signatures	Validate	<i>true or false</i>	Enables or disables validation of signatures in the token module. Specify true to enable signature validation.
partner.SAML11CreateMultipleUniversalUserAttributes	Validate	<i>true or false</i>	Specifies whether to keep multiple attribute statements in the groups in which they were received. This option might be necessary if your custom identity mapping rules are written to operate on one or more specific groups of attribute statements. If you specify false (default), multiple attribute statements are arranged into a single group (AttributeList) in the STSUniversalUser document. This setting is appropriate for most configurations.
self.SAML11AssertionIssuerName	Issue	<i>name of organization</i>	Specifies the string for the name of the organization (for example, a company) that issues the SAML assertions.

Table 8. Parameters in SAML 1.1 token module response file (continued)

Parameter	Mode	Value	Description
self.SAML11AssertionValidBefore	Issue	<i>number of seconds</i>	Specifies the amount of time before the issue date that an assertion is considered valid (seconds). Default: 60 seconds There is no minimum or maximum value enforced, but you must specify a value.
self.SAML11AssertionValidAfter	Issue	<i>number of seconds</i>	Specifies the amount of time the assertion is valid after being issued (seconds). Default: 60 seconds There is no minimum or maximum value enforced, but you must specify a value.
partner.com.tivoli.am.fim.sts.saml.1.1.assertion.sign	Issue	<i>true or false</i>	Specifies whether SAML assertions must be signed.
partner.SAML11SigningKeyIdentifier	Issue	<i>name of keystore and key</i>	Specifies the name of the signing key identifier and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname, for example, DefaultKeyStore_testkey
partner.IncludeX509SubjectKeyIdentifier	Issue	<i>true or false</i>	Specifies whether to include the X.509 subject key identifier with your signature. No , the default, excludes the subject key identifier. Yes includes it.
partner.IncludePublicKey	Issue	<i>true or false</i>	Specifies whether to include the public key with your signature. No , the default, excludes the public key. Yes includes it.
partner.IncludeX509IssuerDetails	Issue	<i>true or false</i>	Specifies whether to include the issuer name and the certificate serial number with your signature. No , the default, excludes the X.509 subject issuer details. Yes includes it.
partner.IncludeX509SubjectName	Issue	<i>true or false</i>	Specifies whether to include the subject name with your signature. No , the default, excludes the X.509 subject name. Yes includes it.
partner.IncludeX509CertificateData	Issue	<i>true or false</i>	Specifies whether to include the BASE64 encoded certificate data with your signature. Yes , the default, includes the X.509 certificate data. No excludes it.
partner.SAML11ExtendedAttributeTypes	Issue	<i>attributes</i>	Specifies the types of attributes to include in the assertion. The default asterisk (*) setting includes all the attribute types that are specified in the identity mapping file or by the custom mapping module. To specify one or more attribute types individually, enter each attribute type. For example, if you want to include only attributes of type urn:oasis:names:tc:SAML:1.0:assertion in the assertion, enter urn:oasis:names:tc:SAML:1.0:assertion.

Table 8. Parameters in SAML 1.1 token module response file (continued)

Parameter	Mode	Value	Description
partner.SAML11SubjectConfirmationMethod	Issue	<i>subject confirmation method for assertion</i>	Specifies the subject confirmation method for the assertion. If you select the holder-of-key type, the default includes the X.509 Certificate Data in the KeyInfo for the SubjectConfirmationMethod. Valid values can be: - no subject confirmation method (blank) - urn:oasis:names:tc:SAML:1.0:bearer - urn:oasis:names:tc:SAML:1.0:holder-of-key - urn:oasis:names:tc:SAML:1.0:sender-vouches
partner.SAML11IncludeInclusiveNamespaces	Issue	<i>true or false</i>	Specifies whether to use the InclusiveNamespaces construct, which means employing exclusive XML canonicalization for greater standardization. The default is cleared.

SAML 2.0 token module response file

The following table provides the parameters, values, and descriptions for the SAML 2.0 token module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 9. Parameters in SAML 2.0 token module response file

Parameter	Mode	Value	Description
self.SAML20OneTimeAssertionEnforcement	Validate	<i>true or false</i>	Specifies whether this artifact (token) is to be used only once.
partner.com.tivoli.am.fim.sts.saml.2.0.assertion.verify.signatures	Validate	<i>true or false</i>	Enables or disables validation of signatures in the token module.
partner.SAML20ValidationKey	Validate	<i>name of keystore and key</i>	Determines the name of the validation key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey).
partner.SAML20DecryptionKey	Validate	<i>name of keystore and key</i>	Specifies the name of the decryption key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey).
partner.SAML20CreateMultipleUniversalUserAttributes	Validate	<i>true or false</i>	Specifies whether to keep multiple attribute statements in the groups in which they were received. This option might be necessary if your custom identity mapping rules are written to operate on one or more specific groups of attribute statements. If you specify false (default), multiple attribute statements are arranged into a single group (AttributeList) in the STSUniversalUser document. This setting is appropriate for most configurations.

Table 9. Parameters in SAML 2.0 token module response file (continued)

Parameter	Mode	Value	Description
partner.SAML20MapUnknownIdentifiersToAnonymousUser	Validate	<i>true or false</i>	Specifies that the service provider can map an unknown persistent name identifier alias to the anonymous user account. The default is false.
partner.com.tivoli.am.fim.sts.saml.2.0.assertion.default.nameidformat	Validate	<i>NameId format</i>	Specifies a parameter for use during validation of a SAML assertion. The parameter determines processing rules for the NameID element when one of the following conditions exists: • If there is not an explicit Format attribute included in the assertion • If the Format attribute is <code>urn:oasis:names:tc:SAML:1.1:nameid-format:unspecified</code> Typically, this parameter is needed only for STS chains that process SAML assertions that do not set the Format attribute. A normal example value is: <code>urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress</code>
self.SAML20Issuer	Issue	<i>name of organization</i>	Specifies the string for the name of the organization (for example, a company) that issues the SAML assertions.
self.SAML20AssertionValidBefore	Issue	<i>number of seconds</i>	Default: 60 seconds. There is no minimum or maximum value enforced, but a value is required.
self.SAML20AssertionValidAfter	Issue	<i>number seconds</i>	Default: 60 seconds. There is no minimum or maximum value enforced, but a value is required.
partner.SAML20ExtendedAttributeTypes	Issue	<i>attribute types</i>	Specifies the types of attributes to include in the assertion. The asterisk (*), which is the default setting, includes all the attribute types that are specified in the identity mapping file or by the custom mapping module. To specify one or more attribute types individually, enter each attribute type. For example, if you want to include only attributes of type <code>urn:oasis:names:tc:SAML:2.0:assertion</code> in the assertion, enter <code>urn:oasis:names:tc:SAML:2.0:assertion</code>
partner.com.tivoli.am.fim.sts.saml.2.0.assertion.sign	Issue	<i>true or false</i>	Specifies whether SAML assertions must be signed.
partner.SAML20SigningKeyIdentifier	Issue	<i>name of keystore and key</i>	Specifies the name of the signing key identifier and the keystore in which it is stored. The names must be provided in the following format: <code>keystorename_keyname</code>, for example, <code>DefaultKeyStore_testkey</code>.

Table 9. Parameters in SAML 2.0 token module response file (continued)

Parameter	Mode	Value	Description
partner.IncludeX509CertificateData	Issue	<i>true or false</i>	Specifies whether to include the BASE64 encoded certificate data with your signature. Yes , the default, includes the X.509 certificate data. No excludes it.
partner.IncludeX509SubjectName	Issue	<i>true or false</i>	Specifies whether to include the subject name with your signature. No , the default, excludes the X.509 subject name. Yes includes it.
partner.IncludeX509SubjectKeyIdentifier	Issue	<i>true or false</i>	Specifies whether to include the X.509 subject key identifier with your signature. No , the default, excludes the subject key identifier. Yes includes it.
partner.IncludeX509IssuerDetails	Issue	<i>true or false</i>	Specifies whether to include the issuer name and the certificate serial number with your signature. No , the default, excludes the X.509 subject issuer details. Yes includes it.
partner.IncludePublicKey	Issue	<i>true or false</i>	Specifies whether to include the public key with your signature. No , the default, excludes the public key. Yes includes it.
partner.SAML20EncryptionKey	Issue	<i>name of keystore and key</i>	Specifies the name of the encryption key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname (for example, DefaultKeyStore_testkey).
partner.SAML20EncryptAssertions	Issue	<i>true or false</i>	Specifies whether assertions are to be encrypted. If selected, you must specify an encryption key.
partner.SAML20EncryptAttributes	Issue	<i>true or false</i>	Specifies whether Attribute elements within the assertions are to be encrypted. If selected, you must specify an encryption key.
partner.SAML20EncryptNameID	Issue	<i>true or false</i>	Specifies whether NameID elements in the assertions are to be encrypted. If selected, you must specify an encryption key.
partner.SAML20EncryptionAlgorithm	Issue	<i>encryption algorithm</i>	Specifies the identifier for the encryption algorithm to use to encrypt data for this partner: • Triple DES (Triple Digital Encryption Standard) • AES-128 (Advanced Encryption Standard 128-bit) • AES-192 (Advanced Encryption Standard 192-bit) • AES-256 (Advanced Encryption Standard 256-bit)

Table 9. Parameters in SAML 2.0 token module response file (continued)

Parameter	Mode	Value	Description
partner.SAML20SubjectConfirmationMethod	Issue	<i>subject confirmation method for assertion</i>	Specifies the subject confirmation method for the assertion. If you select the holder-of-key type, the default includes the X.509 Certificate Data in the KeyInfo for the SubjectConfirmationMethod. Valid values can be: - no subject confirmation method (blank) - urn:oasis:names:tc:SAML:2.0:bearer - urn:oasis:names:tc:SAML:2.0:holder-of-key - urn:oasis:names:tc:SAML:2.0:sender-vouches

Tivoli Access Manager authorization module response file

The following table provides the parameters, values, and descriptions for the Tivoli Access Manager authorization module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 10. Parameters in Tivoli Access Manager authorization module response file (Authorize mode)

Parameter	Value	Description
TAMAuthzHaltIfUnauthorized	<i>true or false</i>	Stops the trust service module chain execution if the user is not authorized. If the user is unauthorized and the value is set to false, then the trust service chain process continues. If the user is authorized, then this parameter is ignored.

Tivoli Access Manager credential module response file

The following table provides the parameters, values, and descriptions for the Tivoli Access Manager credential token module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 11. Parameters in Tivoli Access Manager credential module response file

Parameter	Mode	Value	Description
partner.IVEnableSignatureValidation	Validate	<i>name of keystore and key</i>	Specifies the name of the validation key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname(for example, DefaultKeyStore_testkey).
partner.ivcred.verify.signatures	Validate	<i>true or false</i>	Specifies the validation key that the partner must use. Enables (true) or disables (false) validation of signatures in the token module.

Table 11. Parameters in Tivoli Access Manager credential module response file (continued)

Parameter	Mode	Value	Description
self.IVExtendedAttributeTypes	Issue	<i>assertion attributes</i>	Specifies the types of attributes to include in the assertion. The default asterisk (*) includes all the attribute types that are specified in the identity mapping file or by the custom mapping module. To specify one or more attribute types individually, enter each attribute type. For example, if you want to include only attributes of type <code>urn:ibm:names:ITFIM:5.1:accessmanager</code> in the assertion, enter <code>urn:ibm:names:ITFIM:5.1:accessmanager</code> .
self.IVEnableSignatures	Issue	<i>name of keystore and key</i>	Specifies the name of the signing key identifier and the keystore in which it is stored. The names must be provided in the following format: <code>keystorename_keyname</code> (for example, <code>DefaultKeyStore_testkey</code>).
self.IncludePublicKey	Issue	<i>true or false</i>	Specifies whether to include this attribute. No , the default, excludes the public key. If Yes , the public key of the signing certificate is included in the Base64 encoded form. The extended attribute is labeled <code>ITFIM_IVCRED_SIGNER_CERTIFICATE_PUBKEY</code>
self.IncludeX509SubjectName	Issue	<i>true or false</i>	Specifies whether to include this attribute. No , the default, excludes the X509 Subject Name. If Yes , the distinguished name of the subject for the signing certificate is included. The extended attribute is labeled <code>ITFIM_IVCRED_SIGNER_CERTIFICATE_SUBJECT</code>
self.IncludeX509IssuerDetails	Issue	<i>true or false</i>	Specifies whether to include this attribute. No , the default, excludes the X509 Subject Issuer Details. If Yes , the issuer details of the signing certificate are included. The extended attribute is labeled <code>ITFIM_IVCRED_SIGNER_CERTIFICATE_ISSUER</code>
self.IncludeX509SubjectKeyIdentifier	Issue	<i>true or false</i>	Specifies whether to include this attribute. No , the default, excludes the X509 Subject Key Identifier. If Yes , the subject key identifier of the signing certificate is included. The extended attribute is labeled <code>ITFIM_IVCRED_SIGNER_CERTIFICATE_SKI</code>
self.IncludeX509CertificateData	Issue	<i>true or false</i>	Specifies whether to include this attribute. No , the default, excludes the X509 Certificate Data. If Yes , the certificate data of the signing certificate is included in the Base64 encoded form. The extended attribute is labeled <code>ITFIM_IVCRED_SIGNER_CERTIFICATE</code>
self.ivcred.add.signatures	Issue	<i>true or false</i>	Specifies that signatures must be added to tokens.

Tivoli Directory Integrator module response file

The following table provides the parameters, values, and descriptions for the Tivoli Directory Integrator module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 12. Parameters in Tivoli Directory Integrator module response file (Map mode)

Parameter	Value	Description
self.tdi.hostname	<i>string</i>	Specifies the host name or IP address of the computer on which the Tivoli Directory Integrator server is running. The default value is localhost. For example, tdiserver.company.com
self.tdi.port	<i>integer</i>	Specifies the port number on which the Tivoli Directory Integrator server is configured to run. The default value is 1099.
self.tdi.poolsize	<i>integer</i>	Specifies the number of assembly line handlers to maintain for this trust chain. The value must be a positive integer. The default value is 10.
self.tdi.maxwaitingthreads	<i>integer</i>	Specifies the maximum number of threads that can be waiting for an assembly line handler for this chain. The value must be a positive integer. The default value is 0.
self.tdi.maxwaittime	<i>-1, 0, or a positive integer representing milliseconds</i>	Determines the amount of time for threads to wait for an assembly line handler to become available. Wait indefinitely (value: -1) Do not put a limit on the time for threads to wait for the assembly line handler to become available. This is the default choice. Do not wait for assembly line handler after initial try (value: 0) Do not allow any threads to wait for an assembly line handler and , if one is not available immediately, the Tivoli Directory Integrator module returns a timeout. Maximum Wait Time (milliseconds) Maximum time a thread will wait for an assembly line handler before returning a wait timeout. This value is specified in milliseconds and it must be a positive integer.
self.tdi.config	<i>file name</i>	Specifies the solution name, or the file name of the configuration file, to use. (for example, tdi_demo_mappings.xml). This parameter is required, along with the self.tdi.assemblyline parameter value, for manually configuring the settings.
self.tdi.assemblyline	<i>file name</i>	Specifies the name of the assembly line to use (for example, assemblyLine1). This parameter is required, along with the self.tdi.config parameter value, for manually configuring the settings.

Table 12. Parameters in Tivoli Directory Integrator module response file (Map mode) (continued)

Parameter	Value	Description
partner.tdi.hostname	<i>string</i>	Specifies the host name or IP address of the computer on which the Tivoli Directory Integrator server is running. The default value is localhost. For example, tdiserver.company.com
partner.tdi.port	<i>integer</i>	Specifies the port number on which the Tivoli Directory Integrator server is configured to run. The default value is 1099.
partner.tdi.poolsize	<i>integer</i>	Specifies the number of assembly line handlers to maintain for this trust chain. The value must be a positive integer. The default value is 10.
partner.tdi.maxwaitingthreads	<i>integer</i>	Specifies the maximum number of threads that can be waiting for an assembly line handler for this chain. The value must be a positive integer. The default value is 0.
partner.tdi.maxwaittime	<i>-1, 0, or a positive integer representing milliseconds</i>	Determines the amount of time for threads to wait for an assembly line handler to become available. Wait indefinitely (value: -1) Do not put a limit on the time for threads to wait for the assembly line handler to become available. This is the default choice. Do not wait for assembly line handler after initial try (value: 0) Do not allow any threads to wait for an assembly line handler and , if one is not available immediately, the Tivoli Directory Integrator module returns a timeout. Maximum Wait Time (milliseconds) Maximum time a thread will wait for an assembly line handler before returning a wait timeout. This value is specified in milliseconds and it must be a positive integer.
partner.tdi.config	<i>file name</i>	Specifies the solution name, or the file name of the configuration file, to use. (for example, tdi_demo_mappings.xml). This parameter is required, along with the self.tdi.assemblyline parameter value, for manually configuring the settings.
partner.tdi.assemblyline	<i>file name</i>	Specifies the name of the assembly line to use (for example, assemblyLine1). This parameter is required, along with the self.tdi.config parameter value, for manually configuring the settings.

Username token module response file

The following table provides the parameters, values, and descriptions for the Username token module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 13. Parameters in Username token module response file

Parameter	Mode	Value	Description
self.UTSkipPasswordValidation	Validate	<i>true or false</i>	Specifies whether to perform password validation for the Username token. The default is false.
self.UTPasswordValidationOptions	Validate	<i>TAM, WAS, or JAAS</i>	Specifies one of the following options for validating the password for the Username token: Use Tivoli Access Manager for authentication Specify this default option to use Tivoli Access Manager to authenticate the user. Use WebSphere Registry for authentication Specify this option to use the WebSphere Application Server registry to authenticate the user. Use JAAS for authentication Specify Java Authentication and Authorization Service to authenticate the user.
self.UTJAASModuleAlias	Validate	<i>alias</i>	Specifies an alias for the Java Authentication and Authorization Service (JAAS) login context. Default: WSLLogin
self.UTJAASHostName	Validate	<i>JAAS host name</i>	Specifies the optional host name for the Java Authentication and Authorization Service (JAAS) provider. The default value is localhost. If you specify a value here, it is used. Otherwise, if you have previously defined the host name in a custom properties file, that host name is used. If you do not specify a host name, and you have not defined it in a custom properties file, the default of localhost is used.
self.UTJAASPort	Validate	<i>port for JAAS provider</i>	Specifies the optional port for the Java Authentication and Authorization Service (JAAS) provider. The default value is 2809. If you specify a value here, it is used. Otherwise, if you have previously defined the port in a custom properties file, that port is used. If you do not specify a port, and you have not defined it in a custom properties file, the default of 2809 is used.

Table 13. Parameters in Username token module response file (continued)

Parameter	Mode	Value	Description
partner.UTValidateFreshness	Validate	<i>true or false</i>	Specifies a created time element on the Username token when checked (default). The software compares the value of the created time element against the value that specifies the amount of time the token is valid after issue.
partner.UTFreshnessLimit	Validate	<i>number of seconds</i>	Specifies, in seconds, the amount of time the Username token is valid after being issued. Default: 300 seconds A value of -1 means that the token does not expire.
self.UTIncludeNonce	Issue	<i>true or false</i>	Includes a nonce (random bits used for obfuscating the element) in the token. When you specify Do not include the password option , this value is ineffective.
self.UTIncludeCreationTime	Issue	<i>true or false</i>	Adds a timestamp to the token, indicating the creation time of the token.
partner.UTPasswordOptions	Issue	<i>password options</i>	Indicates whether to include the password in the token. When the password is included, you can specify the format with the following options: 4 - Do not include the password Specifies that you do not want to include the password in the token. 2 - Include the digest of the password value Specifies that you want to include the password in the token as the digest of the password value. 3 - Include the password in clear text Specifies that you want to include the password in the token as clear text.

X509 token module response file

The following table provides the parameters, values, and descriptions for the X509 token module response file. Edit the response file to ensure that you have the appropriate values for your environment.

Table 14. Parameters in X509 token module response file (Validate mode)

Parameter	Value	Description
partner.X509EnableValidation	<i>true or false</i>	Specifies whether validation of X.509 certificates must be enforced (default). When not specified, the certificate is not validated. This option can be used in deployments where the certificate has already been validated by another entity.

Table 14. Parameters in X509 token module response file (Validate mode) (continued)

Parameter	Value	Description
partner.X509ValidatorID	<i>validator</i>	Specifies a class name for a Tivoli Federated Identity Manager X.509 validator. Leave blank to use the default validator. A custom Tivoli Federated Identity Manager X.509 validator must implement the interface <code>com.tivoli.am.fim.kess.CertificateValidator</code> .
partner.X509DefaultValueType	<i>configuration value</i>	If an X.509 BinarySecurityToken does not have the <code>ValueType</code> attribute specified, this configuration value is used as the default <code>ValueType</code> . The configuration value can be one of the following: • empty value (blank) • http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-x509-token-profile-1.0#X509v3 • http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-x509-token-profile-1.0#X509 • http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-x509-token-profile-1.0#X509PKIPathv1
partner.X509IncludeSubjectDN	<i>true or false</i>	If enabled, the X.509 Subject Distinguished Name is added to the <code>STSUniversalUser AttributeList</code> .
partner.X509IncludeIssuerDN	<i>true or false</i>	If enabled, the X.509 Issuer Distinguished Name is added to the <code>STSUniversalUser AttributeList</code> .
partner.X509IncludeNotBefore	<i>true or false</i>	If enabled, the X.509 NotBefore date is added to the <code>STSUniversalUser AttributeList</code> . This date indicates the earliest date from which the X.509 is valid.
partner.X509IncludeNotAfter	<i>true or false</i>	If enabled, the X.509 NotAfter date is added to the <code>STSUniversalUser AttributeList</code> . This date indicates the latest date for which the X.509 is valid.
partner.X509IncludeSerialNumber	<i>true or false</i>	If enabled, the X.509 serial number is added to the <code>STSUniversalUser AttributeList</code> .
partner.X509IncludeType	<i>true or false</i>	If enabled, the X.509 type is added to the <code>STSUniversalUser AttributeList</code> .
partner.X509IncludeVersion	<i>true or false</i>	If enabled, the X.509 version is added to the <code>STSUniversalUser AttributeList</code> .
partner.X509IncludeBasicConstraints	<i>true or false</i>	If enabled, the X.509 Basic Constraints are added to the <code>STSUniversalUser AttributeList</code> .
partner.X509ObjectIdentifiersToRead	<i>object identifiers</i>	Adds custom Object Identifiers to the <code>STSUniversalUser AttributeList</code> . Each value is a hexadecimal representation of the octet string. Specify each Object Identifier in a separate value element.

Chapter 8. Managing certificates and keystores in the key service

About this task

You can perform several operations on a keystore that has already been imported into the Tivoli Federated Identity Manager key service or on specific certificates within an existing keystore.

Note: Two types of keystores are used in the Tivoli Federated Identity Manager key service:

Keystores

Private keys and personal certificates are stored in *keystores*. These keys and certificates include signing keys, decryption keys, and SSL client certificates (in the keystore of the client).

Truststores

Public keys and CA certificates are stored in *truststores*. These keys and certificates include validation keys, encryption keys, CA certificates for servers on which SSL authentication is configured (in the truststore of the client).

The two types of keystores are collectively referred to as *keystores*. The term *truststores* is used here when an instruction is specifically referring to the keystores in which public keys and CA certificates are stored.

Tasks that manage the keystores:

- “Changing a keystore password” on page 92
- “Deleting a keystore” on page 93

Tasks that manage certificates that have already been imported into a keystore:

- “Viewing certificates in a keystore” on page 92
- “Disabling a certificate” on page 100
- “Modifying certificate settings” on page 101
- “Enabling a certificate” on page 102
- “Deleting a certificate” on page 102
- “Exporting a certificate” on page 103

Tasks related to replacing existing certificates, such as when a certificate expires or the password of a certificate has been compromised:

- “Replacing an existing certificate” on page 93, including:
 - “Obtaining your replacement certificates” on page 94
 - “Obtaining replacement certificates from your partner” on page 99

For information about tasks that are generally used during the initial configuration of your environment or the initial configuration of a federation, refer the *Tivoli Federated Identity Manager Configuration guide*. These tasks include:

- Preparing keystores, including creating a keystore and importing a keystore

- Planning the types of certificates you will need in your environment, including your certificates and your partners' certificates
- Obtaining your certificates, including creating self-signed certificates or creating CA-signed certificates
- Importing certificates or receiving signed certificates into a keystore
- Obtaining certificates from your partner
- Updating the cryptography policy
- Modifying the certificate revocation settings

Viewing certificates in a keystore

About this task

Use this task to see a list of certificates contained in a keystore or truststore. From this console panel, you can choose other certificate administration tasks.

To view certificates in the keystore or truststore:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager > Configure Key Service > Keystores**. The Keystores panel is displayed.
2. Select a keystore or truststore from the Keystore table. The **View Keys** button is activated.
3. Click **View Keys**.
4. The Keys panel is displayed, and prompts for a password.
5. Enter the keystore or truststore password and click **OK**.

The password for the DefaultKeyStore is `testonly`. This keystore and its password are intended for use when testing or prototyping. Change the password if you will use this keystore in a production environment. The Keys panel is displayed. Keys in the selected keystore or truststore are listed.

6. You can complete additional tasks from this panel. Continue with the instructions for the task:
 - “Exporting a certificate” on page 103
 - “Enabling a certificate” on page 102
 - “Deleting a certificate” on page 102
 - “Disabling a certificate” on page 100 or “Enabling a certificate” on page 102
 - “Modifying certificate settings” on page 101
 - “Exporting a certificate” on page 103

For additional information about importing or receiving a certificate into a keystore or truststore, see the *Tivoli Federated Identity Manager Configuration Guide*.

Changing a keystore password

You can change the password of a keystore or truststore using the console.

About this task

You might want to change the keystore passwords in any of the following situations:

- You want to use the default keystore or truststore in a production environment.

- The keystore password has been compromised.
- Your security policy requires that the keystore passwords be changed at a regular interval.

To change the password of a keystore or truststore:

Procedure

1. Log in to the console.
2. Click **Tivoli Federated Identity Manager** → **Configure Key Service** > **Keystores**.
The Keystores panel is displayed.
3. Select a keystore from the Keystore table. The **Change Password** button is activated.
4. Click **Change Password**. The Change Keystore Password panel is displayed.
5. Enter the original password and the new password. The original password for the default keystore and truststore is `testonly`.
6. Click **OK**. The password is changed.
7. Click **Load configuration changes to Tivoli Federated Identity Manager runtime**.

Deleting a keystore

About this task

Use this task to remove a keystore or truststore that is no longer needed.

To delete a keystore or truststore:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Configure Key Service** > **Keystores**. The Keystores panel is displayed.
2. Select a keystore or truststore. Click **Delete**. A message box asks you to confirm that you want to delete the specified keystore or truststore.
3. Click **OK** to delete the keystore or truststore or click **Cancel** to exit from the window without deleting the keystore or truststore.

Replacing an existing certificate

Certificates are used to secure the content of messages that are transmitted between partners in a federation. During the initial configuration of your environment, you set up the message security for your federation by adding the necessary certificates to your Tivoli Federated Identity Manager key service for you and your partner. You also set up transport security, which might include configuring client certificates. There might be times when you will need to replace one of these certificates, such as when a certificate expires or the security of a certificate has been compromised.

About this task

The steps for replacing an existing certificate depend on whether you are replacing your own certificate or your partner's certificate.

Replacing one of your signing or decryption certificates involves the following tasks:

1. "Obtaining your replacement certificates," using one of the following methods:
 - "Replacing a self-signed certificate"
 - "Requesting a CA-signed certificate" on page 95 and "Receiving a signed certificate" on page 97.
2. "Disabling a certificate" on page 100.
3. "Modifying certificate settings" on page 101.
4. "Enabling a certificate" on page 102.
5. "Deleting a certificate" on page 102.
6. "Exporting a certificate" on page 103.

Replacing one of your partner's signing, validation, server validation, or encryption certificates involves the following tasks:

1. "Obtaining replacement certificates from your partner" on page 99
2. "Disabling a certificate" on page 100.
3. "Modifying certificate settings" on page 101.
4. "Enabling a certificate" on page 102.
5. "Deleting a certificate" on page 102.

Obtaining your replacement certificates

You have two options for how you should obtain your replacement certificates. The method depends on whether you will use the certificate in a test environment or a production environment.

About this task

- In a test environment, you could use as self-signed certificate. See "Replacing a self-signed certificate."
- In a production environment, you would want to request your keys from a certificate authority. See "Requesting a CA-signed certificate" on page 95.

Replacing a self-signed certificate

In a test environment, you could use a self-signed certificate for your signing and decryption key or for the client authentication certificate you might be required to present to the server during an SSL communication.

About this task

A self-signed certificate is a public/private key pair that is randomly generated and is signed by its own private key.

To replace a self-signed certificate that you already have configured in your environment:

Procedure

1. Create a new self-signed certificate.
 - a. Log in to the console.
 - b. Click **Tivoli Federated Identity Manager** → **Configure Key Service** → **Keystores**.
The Keystores panel is displayed.

- c. Select a keystore from the Keystore table. The **View Keys** button is activated.
 - d. Click **View Keys**. The Password panel is displayed.
 - e. Type your keystore password and click **OK**.
 - f. Click **Create Self-Signed Certificate**. The Create Self-Signed Certificate panel is displayed.
 - g. Complete the fields. Then click **OK**. A public/private key pair is added to the keystore.
 - h. Click the **Load configuration changes to Tivoli Federated Identity Manager runtime** button. The self-signed certificate was added to your keystore.
2. Optional: To ensure that the currently configured certificate is not used, while you are in the process of replacing it with a new certificate, disable it as follows:
 - a. On the Keystores panel, select a keystore from the Keystore table. The **View Keys** button is activated.
 - b. Click **View Keys**. The Password panel is displayed.
 - c. Type your keystore password and click **OK**.
 - d. Select a key from the keys table.
 - e. Click **Disable** to disable the key.
 3. Modify your certificate configuration settings.
 - a. In the console navigation, click **Tivoli Federated Identity Manager** → **Configure Federated Single Sign-on**.
 - b. Locate the certificate configuration that you want to change. For example, click either **Federations** or **Partners**.
 - c. The panel displays a list of configured federations or partners. Select the federation or partner you want to update.
 - d. Click **Properties** to view the currently configured properties. The properties displayed on this panel are described in the online help.
 - e. Locate the sections in which the certificates are defined and change the certificates named in those fields to the names of the certificates you want to use. For example, you might need to change the certificate that is specified in any of the following Properties sections:
 - **Signature Options** or **Signatures**
 - **Encryption**
 - **SOAP SSL Connection Parameters**, (only in the Partner Properties), which include:
 - **Server Validation Certificate**
 - **Client Certificate**
 - f. When you have finished modifying properties, click **OK** to close the Federation Properties panel.

What to do next

Next, enable the certificate as described in “Enabling a certificate” on page 102.

Requesting a CA-signed certificate

In a production environment, you will want to obtain your certificates for signing, decryption, and client authentication from a certificate authority that will sign the certificates. You can generate a certificate sign request using the console.

Before you begin

Ensure that you have a keystore ready in which to store the certificate request, and later, the certificate.

Note: Because you will use the CA-signed certificate for signing or decryption, or as an SSL client authentication certificate (if you are a client), you will use a *keystore* and not a *truststore* in this procedure.

About this task

A certificate sign request (CSR) is an electronic file that can be sent (using e-mail, FTP, or other communication methods as required by the certificate authority) to a certificate authority (a CA, such as VeriSign, Thawte, and so on) as a request for a certificate that is signed by that CA.

The CA will use the data contained within the CSR and will generate the certificate and then sign the certificate with its own private key.

The signature of the CA validates the certificate as being trustworthy.

A CSR contains the following data:

- The identity of the requestor (you) in the form of a subject distinguished name
- The extensions for the certificate (if any)
- The public key for the certificate
- The algorithms to be used for the signature and the key

When the request is generated, a temporary self-signed certificate is created in the keystore. This temporary certificate is replaced by the CA-signed certificate when you receive it from the CA.

Attention: Do not use this procedure to request a certificate to use in your WebSphere Application Server keystores. WebSphere Application Server cannot accept requests that are generated by this procedure, which uses a Tivoli Federated Identity Manager key service utility. If you need a certificate for use in WebSphere Application Server, refer to the information in Chapter 9, “Managing the SSL configuration,” on page 107.

To request a CA-signed certificate:

Note: This procedure is supported only on WebSphere Application Server Version 6.1 installations.

Procedure

1. Log in to the console.
2. Click **Tivoli Federated Identity Manager** → **Configure Key Service** > **Keystores**.
The Keystores panel is displayed.
3. Select a keystore from the Keystore table. The **View Keys** button is activated.
4. Click **View Keys**. The Password panel is displayed.
5. Type your keystore password and click **OK**.
6. Click **Create Certificate Request**. The Create a certificate request panel is displayed.

7. Complete the fields. Then click **OK**. The Generated Certificate Signature Request window is displayed.
8. Copy and paste the request text into a text file or click the **Export Certificate Signature Request** button to download it. The file that you save or download is ready for you to send to a CA.
9. Click **Done** when you have saved the file. A public/private key pair is added to the keystore and a file with the encoded BASE64 data is created. The temporary self-signed certificate will need to be replaced with the signed certificate from the CA.
10. Click the **Load configuration changes to Tivoli Federated Identity Manager runtime** button.

What to do next

Repeat these steps for each certificate you want to request. For example, you might want a separate certificate for each activity (such as signing, decryption, and client authentication) or you might want to use one certificate for all activities. When you have created all of your certificate sign requests, follow your CA's instructions for transmitting the request file. Then, continue with the steps for receiving a CA certificate from the CA in "Receiving a signed certificate."

Receiving a signed certificate

If you created a certificate sign request using the console and sent it to a CA, you can receive the certificate from the CA to your keystore.

Before you begin

Ensure that you have completed the steps in "Creating a certificate request" on page 109 and have saved the request certificate a location that is accessible to the key service.

Note: Because you will use the CA-signed certificate for signing or decryption, or as an SSL client authentication certificate (if you are a client), you will use a *keystore* and not a *truststore* in this procedure.

About this task

To receive a signed certificate:

Procedure

1. Log in to the console.
2. Click **Tivoli Federated Identity Manager** → **Configure Key Service** > **Keystores**.
The Keystores panel is displayed.
3. Select the keystore where the CSR was generated in the Keystore table. The **View Keys** button is activated.
4. Click **View Keys**. The Password panel is displayed.
5. Type your keystore password and click **OK**.
6. Click **Receive Certificate from CA**.
7. Select the location of the certificate that you received from the CA. Then click **OK**. The temporary self-signed certificate in the keystore will be replaced with the received signed certificate.

8. Click the **Load configuration changes to Tivoli Federated Identity Manager runtime** button.

What to do next

Note: When the certificate is created and added to the keystore, it is enabled by default. Consider disabling it until you have modified your configuration to use it. Refer to “Disabling a certificate” on page 100 for instructions. Then, continue with the steps for modifying your certificate settings, as described in “Modifying certificate settings” on page 101.

Importing a certificate

About this task

You might need to import a certificate if you obtained it in either of the following ways:

- You created a self-signed certificate using a utility other than the one provided with Tivoli Federated Identity Manager
- You manually obtained a certificate from a CA

Attention: Private (personal) keys in a keystore can be encrypted with a password. The keystore itself is also protected by a password. However, the key service keeps only one password for a keystore. Therefore, an encrypted private key and its keystore must have the same password.

Use this task to import either:

- A certificate from a PEM file
- A key from a PKCS#12 file

Ensure that your key or certificate is ready and available before continuing with this procedure.

Imported keys are enabled by default.

Procedure

1. Click **Tivoli Federated Identity Manager → Configure Key Service > Keystores**.

The Keystores panel is displayed.

2. Select a keystore from the Keystore table to store your public/private key pair. The **View Keys** button is activated.

Attention: Do not import private keys (such as signing keys or encryption keys) into a **CA Certificate** keystore. The CA Certificate type of keystores do not store a key password, which is required for private keys.

3. Click **View Keys**. Then enter the keystore password when prompted and click **OK**. The Keys panel is displayed. Keys in the selected keystore are listed.
4. Click the **Import** button. The Key Wizard starts and displays the Welcome panel.
5. Click **Next** The Keystore Format panel is displayed.
6. Select the appropriate **Keystore format** for the file you want to import. Then, click **Next**. The formats are:

PEM

(Privacy-Enhanced Message) Public certificate

PKCS#12

Public Key Cryptography Standard #12: Personal Information Exchange Syntax Standard

JKS

Java Key Store

The **Upload Key File** panel is displayed.

7. Specify the path to the location of the key, and if prompted, a password for the key file. Then click **Next**.
8. Specify a label for the key and, if prompted, select the key to import. Then click **Next**.
9. A summary panel is displayed. Click **Finish** to exit the wizard.
10. Repeat these steps to import all the keys and certificates that you need to replace.

Obtaining replacement certificates from your partner

Sometime after the initial configuration of your partner's federation properties, you might find that you need to replace one or more of the certificates that you will use to validate its signatures or to encrypt data that you send to it.

About this task

When you initially add a partner to your federation, you usually add the partner's data and certificates using a metadata file that the partner provides to you. However, if you have already imported your partner's data, you can receive a new certificate from your partner (such as over FTP, through e-mail, or another transfer method) and import it, as described in the following procedure.

Use this task to import either:

- A certificate from a PEM file
- A key from a PKCS#12 file

Ensure that the key or certificate is ready and available before continuing with this procedure.

Imported keys are enabled by default.

Note: Because the certificates in this procedure are your partner's public keys that you will use to validate the partner's signature or encrypt data to your partner, you will use a *truststore* and not a *keystore* in this procedure.

To import a certificate from your partner:

Procedure

1. Click **Tivoli Federated Identity Manager** → **Configure Key Service** > **Keystores**.

The Keystores panel is displayed.

2. Select a truststore to store your partner's keys from the Keystore table. The **View Keys** button is activated.

3. Click **View Keys**. Then enter the truststore password when prompted and click **OK**. The Keys panel is displayed. Keys in the selected keystore are listed.
4. Click the **Import** button. The Key Wizard starts and displays the Welcome panel.
5. Click **Next**. The Keystore Format panel is displayed.
6. Select the appropriate **Keystore format** for the file you want to import.

(PEM

(Privacy-Enhanced Message) Public certificate

PKCS#12

Public Key Cryptography Standard #12: Personal Information Exchange Syntax Standard

JKS

Java Key Store

The **Upload Key File** panel is displayed.

7. Specify a label for the key and, if prompted, select the key to import. Then click **Next**.
8. A summary panel is displayed. Click **Finish** to exit the wizard.
9. Repeat these steps to import all the keys and certificates you will use in the federation.
10. Click **Finish** to exit the wizard.

What to do next

When the certificate is imported to the keystore, it is enabled by default. Consider disabling it until you have modified your configuration to use it. Refer to “Disabling a certificate” for instructions. Then, continue with the steps for modifying the certificate settings for your partner's certificate, as described in “Modifying certificate settings” on page 101.

Disabling a certificate

About this task

Certificates are enabled by default. You can disable a certificate as method for disabling partner access. You might also disable a certificate when preparing it as a replacement for a certificate that is about to expire. In this case, you don't want to enable the key until it replaces the existing key.

To disable a certificate:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Key Service** > **Keystores**. The Keystores panel is displayed.
2. Select a keystore or truststore from the Keystore table. The **View Keys** button is activated.
3. Click **View Keys**. The Password panel is displayed.
4. Type your keystore password and click **OK**.
5. Select a key from the keys table.
6. Click **Disable** to disable the key.

What to do next

If you are disabling the certificate so that you can prepare it as a replacement for another certificate that is in use, continue with the task for modifying your federation or partner properties in “Modifying certificate settings.”

Modifying certificate settings

If you want to use a different certificate in your federation or in your partner's configuration, you must modify your federation or partner's key properties.

Before you begin

Before beginning this task, ensure that you have obtained new certificates and received or imported them into the appropriate keystore or truststore. Refer to “Replacing an existing certificate” on page 93.

About this task

To modify the settings for federation or partner certificates:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Configure Federated Single Sign-on**.
2. Click either of the following:
 - **Federations**, if you want to specify a different signing or decryption certificate.
 - **Partners**, if you want to specify a different validation, encryption, server validation, or client certificate.
3. The panel displays a list of configured federations or partners. Select the federation or partner you want to update.
4. Click **Properties** to view the currently configured properties. The properties displayed on this panel are described in the online help.
5. Locate the sections in which the certificates are defined and change the certificates named in those fields to the names of the certificates you want to use. For example, you might need to change the certificate that is specified in any of the following Properties sections:
 - **Signature Options** or **Signatures**
 - **Encryption**
 - **SOAP SSL Connection Parameters**, (only in the Partner Properties), which include:
 - **Server Validation Certificate**
 - **Client Certificate**
6. When you have finished modifying properties, click **OK** to close the Federation Properties panel.

What to do next

Next, enable the certificates as described in “Enabling a certificate” on page 102.

Enabling a certificate

About this task

Certificates are enabled by default. You need to enable a certificate only if you have previously disabled it.

To enable a certificate:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Key Service** > **Keystore**. The Keystores panel is displayed.
2. Select a keystore or truststore from the Keystore table. The **View Keys** button is activated.
3. Click **View Keys**. You are prompted for a password.
4. Enter the keystore or truststore password. The Keys panel is displayed and the certificates are listed.
5. Select a certificate from the keys table.
6. Click **Enable** to enable the certificate.

What to do next

If you have enabled a certificate that replaces another certificate in your keystore or truststore, consider removing the certificate you will no longer use, as described in “Deleting a certificate.” If you have replaced a certificate that contains a public key that you must share with your partner, continue with “Exporting a certificate” on page 103.

Deleting a certificate

Use this task to remove a certificate that is no longer needed. For example, if you have replaced a certificate in your federation or in your partner's configuration, you might want to delete the certificate that was replaced.

Before you begin

Attention: Before beginning this procedure, ensure that you are not deleting a certificate that is actively being used in a federation.

About this task

To delete a certificate:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Configure Key Service** > **Keystores**. The Keystores panel is displayed.
2. Select a keystore or truststore from the Keystore table. The **View Keys** button is activated.
3. Click **View Keys**. You are prompted for a password.
4. Enter the keystore or truststore password. The Keys panel is displayed and the certificates are listed.

5. Select a key from the keys table. Click **Delete**. A message box asks you to confirm that you want to delete the specified key.
6. Click **OK** to delete the key or click **Cancel** to exit from the window without deleting the key.

Exporting a certificate

You can export certificates from one keystore to put in another keystore, to backup your certificates, or to share the exported public key in the certificate with your partner. You can choose to export your public/private key pair in the certificate or only your public key.

About this task

If you are moving one of your partner's certificates, you will work with the truststores where you store your partner certificates.

If you are exporting a certificate to share a public key with your partner or making a backup of your certificates, you will work with your keystore.

Attention: If you are exporting certificates to share them with your partner, be sure to export *only* your public keys.

To export a certificate:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Key Service** > **Keystores**.
The Keystores panel is displayed.
2. Select a keystore or truststore from the Keystore table. The **View Keys** button is activated.
3. Click **View Keys**. You are prompted for a password.
4. Enter the keystore or truststore password. The Keys panel is displayed and the certificates are listed.
5. Select a certificate from the keys table. Click **Export**. The Export Key panel is displayed.
6. Select an export format.

JKS

Java Keystore

PKCS#12

Public Key Cryptography Standard #12: Personal Information Exchange Syntax Standard

PEM

Privacy-Enhanced Message: public certificates.

7. Optionally, select **Include Private Key**. Include your private key only if you are making a backup of your public/private key pair or if you are moving your public/private key pair to a different keystore. *Do not* export your private key and share it with your partner.
8. Click **Download Key**.
9. When prompted, enter a file name for the new file. For example:
testkey.jks

Retain knowledge of the key location, so that you can import it elsewhere or share it with your partner.

10. Click **Cancel** to exit the Export Key portlet.

Using cryptographic hardware for a keystore

A cryptographic hardware device can be used purely as an accelerator, or it can be used as both an accelerator and as a keystore. The device provides a very secure facility for storing keys and certificates. The Key Encryption Signature Service (KESS), which Tivoli Federated Identity Manager components use for runtime signature creation and validation, centralizes key and certificate management in addition to encryption and signature services. KESS supports the PKCS#11 interface to the cryptographic hardware through the `com.ibm.crypto.pkcs11impl.provider.IBMPKCS11Impl` class that is packaged with WebSphere Application Server version 6.1 to provide hardware cryptography and keystore support.

If you configure Tivoli Federated Identity Manager to use the hardware cryptography support, the following functions are provided:

- Signing XML documents
- Validating signatures on XML documents
- Encrypting and decrypting elements of an XML document.

See the link to the hardware and software requirements in the Tivoli Federated Identity Manager information center at:

http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?toc=/com.ibm.tivoli.fim.doc_6.2.1/toc.xml

It contains information about the cryptographic hardware devices that are supported.

Setting up to use the cryptographic hardware

About this task

In order to set up your cryptographic hardware to be used as a keystore, you must perform the following steps:

Procedure

1. Install and configure your cryptographic hardware device according to the instructions provided by the manufacturer.

In a clustered environment, you must:

- a. Install the cryptographic device on every node in the cluster and use the same password on all nodes.
- b. Configure the same keys and certificates in each hardware keystore. The path to the hardware device configuration file will be the same for each node because `etc/kessjks.xml` is replicated to each node.
- c. Be sure all key labels are the same in all hardware keystores.
- d. After a single sign-on partner is configured at the deployment manager of the cluster, export the partner's public keys from the deployment manager's hardware keystore and then import the keys, using the same key labels, into the hardware keystore at each node in the cluster.

2. Next, create a configuration file that contains settings for the device. See “Creating a configuration file.”

Creating a configuration file

About this task

Tivoli Federated Identity Manager provides template configuration files for hardware cryptography devices. Here is an example of modifying the template configuration file for nCipher:

Procedure

1. Use the default configuration file that is provided with Tivoli Federated Identity Manager as a template:
 - For UNIX platforms, /opt/IBM/FIM/etc/nipher_gen2.cfg.jsse
 - For Windows platforms, c:\Program Files\IBM\FIM\etc\nipher_gen2.cfg.jsse (provided that Tivoli Federated Identity Manager was installed in c:\Program Files directory).
2. Update the configuration file for your environment. Be sure to change the **library** parameter to be the path to the hardware device driver:
 - For the UNIX platforms, /opt/nfast/toolkits/pkcs11/libcknfast.so.
 - For Windows platforms, c:\nfast\toolkits\pkcs11\cknfast.dll (provided that the hardware drivers were installed in c:\nfast).

Note that the template configuration file is set up with the algorithms and parameters required by Tivoli Federated Identity Manager and changes to these parameters could result in runtime failures.

Configuring hardware cryptographic device

Before you begin

Ensure that you have already set up your cryptographic hardware and have created a configuration file for the devices.

About this task

Complete the following steps:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager > Configure Key Service > Hardware Cryptographic Device**
The Hardware Cryptographic Device Settings portlet is displayed.
2. Select **Use hardware cryptographic device** to activate use of a device
3. Enter a path to the configuration file for the device. Supply the password for accessing the device.
Optionally, you can enter a description for the device.
4. Click **Load configuration changes to Tivoli Federated Manager runtime**.

Chapter 9. Managing the SSL configuration

During the configuration of your Tivoli Federated Identity Manager environment, you might have configured SSL with server authentication to ensure that messages are secure as they are communicated between you and your partners. In addition, you might have configured mutual authentication, by requiring a client certificate from your partner, or if you are a client, you might have configured a client certificate.

About this task

In your Tivoli Federated Identity Manager environment, some keys and certificates are stored in WebSphere Application Server keystores and truststores and some are stored in the Tivoli Federated Identity Manager keystores and truststores. The location depends on the purpose of the keys and certificates being used. For the purposes of SSL communication, the following keystores and truststores are used:

Certificates and keys	Location
SSL server certificates and their private keys	WebSphere Application Server <i>keystore</i> of the partner who acts as the server in the SSL communication.
CA certificate for clients that will present a client certificate to the server. (This is the client's public key.)	WebSphere Application Server <i>truststore</i> of the partner who acts as the server in the SSL communication.
CA certificate for servers that have SSL server authentication configured. (This is the server's public key.)	Tivoli Federated Identity Manager <i>truststore</i> of the partner who acts as the client in the SSL communication
SSL client certificates (those used for client certificate authentication) and their private keys.	Tivoli Federated Identity Manager <i>keystore</i> of the partner who acts as the client in the SSL communication.

More information about configuring SSL in your environment is provided in the *Tivoli Federated Identity Manager Configuration guide*.

The following tasks can help you manage your existing SSL configuration and the certificates and keys described in the preceding table:

- “Viewing your server SSL settings” on page 108
- “Replacing the SSL server certificate” on page 108
 - “Creating a certificate request” on page 109
 - “Receiving a signed certificate issued by a certificate authority” on page 110
 - “Associating a certificate with your SSL configuration” on page 111
- “Extracting a certificate to share with your partner” on page 112
- “Replacing your client certificates” on page 113
 - “Retrieving the server certificate from your partner” on page 114
 - “Obtaining your client certificate” on page 114
- “Replacing a partner's client certificate” on page 116

Viewing your server SSL settings

As part of maintaining your Tivoli Federated Identity Manager environment, you might want to review the SSL settings on your server.

About this task

When you install WebSphere Application Server 6.1 and Tivoli Federated Identity Manager you will have two default SSL configurations on the WebSphere Application Server:

- NodeDefaultSSLSettings
- FIMSOAPEndpointSSLSettings

NodeDefaultSSLSettings is the default SSL configuration setting that is defined by WebSphere Application Server. This configuration setting is for the SSL policy for your WebSphere server. The FIMSOAPEndpointSSLSettings configuration is added by Tivoli Federated Identity Manager to enable you to have a separate SSL policy that is specifically for the communication of SOAP messages with your federation partner.

To review the SSL settings:

Procedure

1. Log in to the console.
2. Click **Security** → **SSL certificate and key management**.
3. Under **Related items** on the right, click **SSL configurations**.
4. Click the name of the SSL configuration you want to review. For example, click **NodeDefaultSSLSettings**.
5. Ensure that the **Keystore name** is displaying the keystore where your certificate is stored.
6. Click the **Get certificate aliases** button to ensure that all certificate aliases in your keystore are displayed.
7. In the **Default server certificate alias** field, ensure that the correct certificate is specified.
8. Click the name of the other SSL configuration you want to review. For example, click **FIMSOAPEndpointSSLSettings**.
9. Ensure that the **Keystore name** is displaying the keystore where your certificate is stored.
10. Click the **Get certificate aliases** button to ensure that all certificate aliases in your keystore are displayed.
11. In the **Default server certificate alias** field, ensure that the correct certificate is specified.
12. Click **OK**.

Replacing the SSL server certificate

Server certificates usually have an expiration date. You will want to replace your server certificate before it expires.

About this task

Replacing the certificate involves:

1. "Creating a certificate request"
2. "Receiving a signed certificate issued by a certificate authority" on page 110
3. "Associating a certificate with your SSL configuration" on page 111

After you have successfully replaced the certificate, you will want to extract the certificate and share it with your partner so that your partner can access the server. See "Extracting a certificate to share with your partner" on page 112 for details.

Creating a certificate request

To ensure SSL communication, servers require a personal certificate (also referred to as a server certificate) that is signed by a certificate authority (CA). You must first create a personal certificate request to obtain a certificate that is signed by a CA.

Before you begin

The keystore, which will contain the certificate request and later the certificate, must already exist. You can use the default WebSphere Application Server keystore, `NodeDefaultKeyStore`, or you can create a new keystore. For instructions on creating a new keystore, refer to the WebSphere Application Server 6.1 Information Center <http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp>

About this task

Complete the following tasks in the console. If you need additional details, refer to the WebSphere Information Center topic about creating a certificate authority request.

To create a certificate request:

Procedure

1. Log in to the console.
2. Click **Security** → **SSL certificate and key management**.
3. Under **Related items** on the right, click **Key stores and certificates** and then click the name of the keystore where you will store the certificate, for example, **NodeDefaultKeyStore**.
4. Click **Personal certificate requests** under Additional Properties.
5. Click **New**.
6. In the **File for certificate request** field, type the full path where you want the certificate request to be stored and a file name. The file will have an `.arm` extension. For example: `c:\servercertreq.arm` (on a Windows server).
7. Type an alias name for the certificate in the **Key label** field. The alias is the name you give to identify the certificate request in the keystore.
8. Type a common name value. The common name is the name of the entity that the certificate represents. The common name is frequently the DNS host name where the server resides.
9. In the **Organization unit** field, type the organization unit portion of the distinguished name.
10. In the **Locality** field, type the locality portion of the distinguished name.

11. In the **State or Province** field, type the state portion of the distinguished name.
12. In the **Zip Code** field, type the zip code portion of the distinguished name.
13. In the **Country or region** list, select the two-letter country code portion of the distinguished name.
14. Click **Apply** and then click **Save**. The certificate request is created in the specified file location in the keystore. The request functions as a temporary placeholder for the signed certificate until you manually receive the certificate in the keystore.

Attention: Keystore tools (such as iKeyman and keyTool) cannot receive signed certificates that are generated by certificate requests from WebSphere Application Server. Similarly, WebSphere Application Server cannot accept certificates that are generated by certificate requests from other keystore utilities.
15. Send the certificate request .arm file to a certificate authority for signing. Each certificate authority has its own preferred method of receiving requests. Use the method recommended by the certificate authority to whom you will make your request.
16. Make a backup copy of your keystore file before you receive the certificate that you have requested. Use the path information of your keystore as shown in the console to locate the file. Then copy it to a new location for safe-keeping.

What to do next

Complete the process of obtaining a signed certificate for your server by receiving the certificate from the CA as described in “Receiving a signed certificate issued by a certificate authority.”

Receiving a signed certificate issued by a certificate authority

When a certificate authority (CA) receives a certificate request, it issues a new certificate that functions as a temporary placeholder for a CA-issued certificate. A keystore receives the certificate from the CA and generates a CA-signed personal certificate that WebSphere Application Server can use for SSL security.

Before you begin

The certificate request must have been created and must be in a WebSphere keystore as described in “Creating a certificate request” on page 109. Also, the certificate must have been received from the CA and placed on your computer so that you can receive it into the keystore.

WebSphere Application Server can receive only those certificates that are generated by a WebSphere Application Server certificate request. It cannot receive certificates that were requested using other keystore tools, such as iKeyman or keyTool.

About this task

Complete the following tasks in the console. If you need additional details, refer to the WebSphere Information Center <http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp> topic about receiving a certificate issued by a certificate authority.

To receive the certificate:

Procedure

1. Log in to the console.
2. Click **Security** → **SSL certificate and key management** → **Manage endpoint security configurations**.
3. Click the name of your node on the **Inbound** tree.
4. Click the **Manage certificates** button.
5. Click **Receive a certificate from a certificate authority**.
6. Type the full path and name of the certificate file that you received from the certificate authority.
7. Select the default data type from the list.
8. Click **Apply** and **Save**. The keystore contains a new personal certificate that is issued by a CA. The SSL configuration is ready to use the new CA-signed personal certificate.

What to do next

Next, you will need to associate the certificate with your SSL configuration.

Associating a certificate with your SSL configuration

After you have added a signed certificate to your keystore, you will need to associate your server SSL configuration settings with that certificate.

About this task

When you install WebSphere Application Server 6.1 and Tivoli Federation Identity Manager, two SSL configurations are created on the WebSphere Application Server:

- NodeDefaultSSLSettings
- FIMSOAPEndpointSSLSettings

NodeDefaultSSLSettings is the default SSL configuration setting that is defined by WebSphere Application Server. This configuration setting is for the SSL policy for your WebSphere server. The FIMSOAPEndpointSSLSettings configuration is added by Tivoli Federated Identity Manager to enable you to have a separate SSL policy that is specifically for the communication of SOAP messages with your federation partner.

After installation, both configurations use the default self-signed certificate in the NodeDefaultKeystore.

When you request and receive a signed personal certificate, the settings for both SSL configurations are set to none.

You must manually specify the personal certificate you want to use in each SSL configuration. You could use the same certificate in each configuration. If you want to use a different certificate, follow the instructions for “Creating a certificate request” on page 109 and “Receiving a signed certificate issued by a certificate authority” on page 110 to create and receive the additional signed certificate and repeat these instructions.

To associate a certificate:

Procedure

1. Log in to the console.
2. Click **Security** → **SSL certificate and key management**.
3. Under **Related items** on the right, click **SSL configurations**.
4. Click the name of the SSL configuration you want to configure. For example, click **NodeDefaultSSLSettings**.
5. Ensure that the **Keystore name** is displaying the keystore where your certificate is stored.
6. Click the **Get certificate aliases** button to ensure that all certificate aliases in your keystore are displayed.
7. In the **Default server certificate alias** field, select your signed certificate.
8. Click **Apply** and then **Save** when prompted to save the configuration to the master configuration. The SSL configuration will now use the new certificate.

What to do next

Repeat these steps to associate the other SSL configuration with the appropriate certificate.

Sharing your server certificate with your partner

After you have added an SSL certificate to your server (such as a signed CA certificate), you will need to share a copy of public key for that certificate with your partner.

About this task

You have two options for sharing your server's public key with your partner:

- “Sharing your server certificate with your partner”
- “Instructing your partner to retrieve a certificate from the console” on page 113

Extracting a certificate to share with your partner

After you have added an SSL certificate to your server (such as a signed CA certificate), you will need to share a copy of public key for that certificate with your partner. One method is to extract the public key from your server certificate and then send it to your partner.

Before you begin

The keystore and the personal certificate must already exist.

About this task

To extract a certificate:

Procedure

1. Click **Security** → **SSL certificate and key management** → **Manage endpoint security configurations**.
2. Select your node on the **Outbound** tree.
3. Click **Manage certificates**.
4. Select the CA signed certificate and click **Extract** in the upper-right corner.

5. Type the full path where you want to extract for the certificate. Include a name for the certificate file in the path. The signer certificate is written to this certificate file. For example, in Windows, you might specify:
`c:\certificates\local_cert.arm`
6. Select the default data type from the list.
7. Click **Apply** and then **Save**. The signer portion of the personal certificate is stored in the .arm file that you specified.

What to do next

Now you are ready to provide the file to your partner so that your partner can add your certificate to its truststore.

Note: If your partner is using Tivoli Federated Identity Manager, the partner must import your certificate into its Tivoli Federated Identity Manager truststore.

Instructing your partner to retrieve a certificate from the console

After you have added an SSL certificate to your server (such as a signed CA certificate), you will need to share a copy of public key for that certificate with your partner. If your partner is using Tivoli Federated Identity Manager, your partner can retrieve the public key through the Tivoli Federated Identity Manager console.

Before you begin

Provide the following instructions *to your partner*.

Procedure

1. Ensure that you have prepared a truststore for storing the certificate. Refer to the keystore topics in the *Tivoli Federated Identity Manager Configuration Guide*.
2. Log in to the console.
3. Click **Tivoli Federated Identity Manager** → **Key Service** > **Keystore**.
The Keystores panel is displayed.
4. Select the truststore where you want to store the certificate in the Keystore table. The **View Keys** button is activated.
5. Click **View Keys**. The Password panel is displayed.
6. Type your truststore password and click **OK**.
7. Click **Retrieve Certificate from SSL Connection**.
8. Complete the fields to specify the host name and port name from which you will retrieve the certificate. Optionally, click the **Show Signer Info** to view the certificate before retrieving.
9. Complete the **Alias** field with the name you want to use for the certificate. Then, click **OK**. The certificate is added to the truststore.

Replacing your client certificates

If your partner requires client certificate authentication, you will need to create and import the certificate that you must present to authenticate and also export the certificate to your partner.

About this task

If you are the client, use the following procedures to replace certificates, as needed:

- “Retrieving the server certificate from your partner”
- “Obtaining your client certificate”

Retrieving the server certificate from your partner

If your partner has server authentication configured, you will need the public key from that server certificate and you will store it in a truststore used by your Tivoli Federated Identity Manager key service.

Before you begin

Before continuing with this procedure, ensure that you have a truststore prepared for storing the certificate.

About this task

To retrieve a server certificate from your partner:

Procedure

1. Log in to the console.
2. Click **Tivoli Federated Identity Manager** → **Key Service** > **Keystores**.
The Keystores panel is displayed.
3. Select the truststore where you want to store the certificate in the Keystore table. The **View Keys** button is activated.
4. Click **View Keys**. The Password panel is displayed.
5. Type your truststore password and click **OK**.
6. Click **Retrieve Certificate from SSL**.
7. Complete the fields to specify the host name and port name from which you will retrieve the certificate. Optionally, click the **Show Signer Info** to view the certificate before retrieving.
8. Complete the **Alias** field with the name you want to use for the certificate. Then, click **OK**. The certificate is added to the truststore.

Obtaining your client certificate

If you will act as a client in an SSL connection with your partner and your partner requires you to authenticate using a client certificate, you will need to obtain and configure the certificate and then share that certificate with your partner.

Before you begin

Before continuing with this procedure, ensure that you have a keystore prepared for storing the certificate.

About this task

To obtain a client certificate:

Procedure

1. Request a public/private key pair certificate from a certificate authority (CA):
 - a. Log in to the console.

- b. Click **Tivoli Federated Identity Manager** → **Key Service** > **Keystores**.
The Keystores panel is displayed.
- c. Select a keystore from the Keystore table. The **View Keys** button is activated.
- d. Click **View Keys**. The Password panel is displayed.
- e. Type your keystore password and click **OK**.
- f. Click **Create Certificate Request**. The Create a certificate request panel is displayed.
- g. Complete the fields. Then click **OK**. The Generated Certificate Signature Request window is displayed.
- h. Copy and paste the request text into a text file or click the **Export Certificate Signature Request** button to download it. The file that you save or download is ready for you to send to a CA.
- i. Click **Done** when you have saved the file. A public/private key pair is added to the keystore and a file with the encoded BASE64 data is created. The temporary self-signed certificate will need to be replaced with the signed certificate from the CA.
- j. Click the **Load configuration changes to Tivoli Federated Identity Manager runtime** button.

When you have created all of your certificate sign requests, follow your CA's instructions for transmitting the request file. Return to these instructions when your CA notifies you that your signed certificate is ready.

2. Receive the signed certificate from the CA:
 - a. Log in to the console.
 - b. Click **Tivoli Federated Identity Manager** → **Key Service** > **Keystores**.
The Keystores panel is displayed.
 - c. Select the keystore where the CSR was generated in the Keystore table. The **View Keys** button is activated.
 - d. Click **View Keys**. The Password panel is displayed.
 - e. Type your keystore password and click **OK**.
 - f. Click **Receive Certificate from CA**.
 - g. Select the location of the certificate that you received from the CA. Then click **OK**. The temporary self-signed certificate in the keystore will be replaced with the received signed certificate.
3. Provide the public key for this certificate to your partner:
 - a. Log in to the console.
 - b. Click **Tivoli Federated Identity Manager** → **Key Service** > **Keystores**.
The Keystores panel is displayed.
 - c. On the Keystores panel, select a keystore from the Keystore table. The **View Keys** button is activated.
 - d. Click **View Keys**. The Password panel is displayed.
 - e. Type your keystore password and click **OK**.
 - f. Select the keys you want to export and click the **Export** button. The Export Key panel is displayed.
 - g. Select the format of the key you are exporting.

(PEM

(Privacy-Enhanced Message) Public certificate

PKCS#12

Public Key Cryptography Standard #12: Personal Information Exchange Syntax Standard

- h. Ensure that the **Include Private Key** check box is *not* selected. Only you should have your private key.
- i. Click **Download Key**.
- j. When prompted, enter a file name for the exported key.
For example: mypublickey.pem
Optionally, you can click **Browse** to find the file on the file system.
- k. Click **Cancel** to exit.

What to do next

Provide the certificate to your partner. The partner must ensure that:

- It has, in its truststore, the CA certificate from the CA who issued your certificate.
- Its server can get to the CA's certificate revocation list.

Replacing a partner's client certificate

In your initial configuration, you might have required that your partner provide a client certificate to authenticate to your server. If your partner's client certificate has expired or changed, you will need to replace it on your WebSphere Application Server.

Before you begin

Before continuing with this task, ensure that you will be replacing a certificate in an existing client certificate configuration. The tasks related to the initial configuration, include:

1. Configuring WebSphere Application Server to recognize the client certificate.
2. Creating a user and possibly a group to represent the service provider partner.
3. Configuring Tivoli Federated Identity Manager to require authentication.

Refer to the *Tivoli Federated Identity Manager Configuration Guide* for information.

Before replacing the certificate, complete the following tasks:

- Ensure you have the public key certificate for the client certificate that your partner will use to access your artifact resolution endpoint.
- Ensure you have the common name attribute of the certificate that your partner will use to access your endpoint. (For example, if the DN of the certificate is "/C=US/ST=TX/L=AUSTIN/O=SERVICEPROVIDER/CN=soapclient," then the CN is "soapclient.")
- Decide whether you will allow access to the endpoint by authenticated users individually or authenticated users who are part of specific groups.

About this task

To replace the client certificate, complete the following steps.

Procedure

1. Copy the new public key certificate that your partner will present for authentication to your WebSphere Application Server.

Note: In these instructions the partner's certificate is named `partnerca.pem` and the directory to which the certificate was copied is named `/tmp`.

2. Log in to the console.
3. Select **Security** → **SSL Certificate and Key Management**.
4. Select **Key stores and certificates**.
5. Select the WebSphere Application Server truststore, such as **NodeDefaultTrustStore**.
6. Select **Signer certificates**.
7. Select **Add**.
8. Complete the fields with the appropriate information for the certificate. For example:
 - Alias: `CACert`
 - File name: `/tmp/partnerca.pem`
 - Data type: `Base64-encoded`
9. Click **OK**.
10. WebSphere must be able to map the client certificate presented by your partner to a user identity in your user registry, using the common name attribute of the certificate. You can see the common name attribute by clicking on the certificate in the console and locating its **Issue to** field. Ensure that you have completed these steps:
 - a. In your user registry, create a user with a name that reflects your service provider partner. For example, create a user with a username of `soapclient`.

Note: Refer to user creation instructions for the user registry you have configured for your environment.

- b. Your next step depends on whether you will allow individual authenticated users or authenticated users who are part of specific groups.
 - If you require client certificate authentication from individual users, repeat step 10a for each service provider user you need to configure. Then proceed to step 11.
 - If you require client certificate authentication from users in specific groups, create a group for the users and add the user you created in step 10a to the group. For example, create a group with a name of `soapgroup` and then add user `soapclient` to the group.

Note: Refer to group creation instructions for the user registry you have configured for your environment.
Then proceed to step 11.

11. Ensure that the SOAP authentication settings in the Tivoli Federated Identity Manager console are correct:
 - a. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Point of Contact**.
 - b. Select the point of contact server that you are using in your environment.
 - c. Click the **Advanced** button. The SOAP Endpoint Security Settings panel is displayed.

- d. Ensure that the SOAP Port is correct in your configuration and select the appropriate option for your configuration:
 - If you require individual users to authenticate, select **Allow authenticated users access to SOAP endpoints**.
 - If you require users in specific groups to authenticate, select **Allow users in the specified group access to SOAP endpoints** and specify the group name in the **Group Name** field.
- e. Select **Client Certificate Authentication**.
- f. Click **OK**.
- g. Click the **Load configuration changes to Tivoli Federated Identity Manager runtime** button.

Chapter 10. Modifying the alias service database settings

You can modify the database setting for the alias service.

Before you begin

Before modifying the database settings, be sure that you have set up your database as required. Refer to the topics about setting up the alias service database in the *Tivoli Federated Identity Manager Configuration Guide* for more information.

About this task

To modify the setting for your name identifier database:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Domain Management** → **Alias Service Settings**. The Alias Service Settings portlet is displayed.
2. Select the appropriate option for your configuration.
 - **JDBC Provider and Data Source**
Use this option if you will use a JDBC database to store name identifier information.
 - **LDAP**
Use this option if you will use an LDAP database to store name identifier information. If you choose this option, you must specify additional properties:
 - a. Specify the properties for the alias service to use when searching the LDAP user registry.
 - b. Specify communication properties for the alias service to use when communicating with LDAP servers.
 - c. Specify configuration parameters for each LDAP server.Refer to the online help for descriptions of the properties.
3. Click **Apply** and then click **OK**.

Chapter 11. Managing audit settings

You can audit Tivoli Federated Identity Manager events to monitor system activities.

Use the Audit Profile Client table in the console to perform the following auditing management tasks:

- “Enabling or disabling auditing”
- “Activating audit client profile”
- “Deleting audit client profile” on page 122
- “Modifying audit client profile” on page 122
- “Creating audit client profile” on page 123
- “Modifying audit events” on page 124

For additional information about auditing, refer to the *IBM Tivoli Federated Identity Manager Auditing Guide*.

Enabling or disabling auditing

Auditing is not enabled by default. If you want to monitor system events, you must enable auditing.

About this task

Enabling and disabling event auditing is separate from specifying auditing values, which is done in the administration console. You can set values without enabling auditing. After enabling auditing, you must specify the values.

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Auditing**. The Auditing panel is displayed.
2. Select the **Enable audit** check box to enable auditing. Or clear the check box to disable auditing.
3. Click **OK** when you are done.

What to do next

Be sure to review the audit file settings and modify them as appropriate. See “Modifying audit client profile” on page 122 for more information.

Activating audit client profile

To enable an audit client profile as active, you must activate it.

About this task

Only one profile can be active at any time on the system.

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Auditing**. The Auditing Settings panel is displayed.
2. When auditing is not enabled, select the **Enable audit** check box to enable it.
3. In the Audit Profile table, click the applicable profile in the **Select** column.
4. Click **Make Active**. The selected audit profile becomes activated.
5. Click **Apply** to store the changes for the configuration file. The software displays a confirmation message.
6. Click **Load confirmation changes to Tivoli Federated Identity Manager runtime** to reload your changes. The changes take effect immediately. A check mark in the Current[®] Profile column of the Audit Clients Profiles table indicates that the selected profile is now active.

Deleting audit client profile

To remove an audit client profile from the Audit Client Profile table, you must delete it.

About this task

The Delete button becomes disabled if you select the current (active) profile.

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Auditing**. The Auditing Settings panel is displayed.
2. When auditing is not enabled, select the **Enable audit** check box to enable it.
3. In the Audit Profile table, click the applicable profile in the **Select** column.
4. Click **Delete**, and then click **OK** to confirm. The software displays a confirmation message.
5. Click **Load confirmation changes to Tivoli Federated Identity Manager runtime** to reload your change, which takes effect immediately.

Modifying audit client profile

Review the audit file settings and modify them as required.

About this task

You can view and modify the properties of all audit client profiles in the Audit Client Profile table.

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Auditing**. The Auditing Settings panel is displayed.
2. When auditing is not enabled, select the **Enable audit** check box to enable it.
3. In the Audit Profile table, click the applicable profile in the **Select** column.
4. Click **Properties**. The following panels are displayed:
 - Profile Name: Use to modify name and description, and to select an Audit Event Handler.
 - Audit Clients: Use to modify the Audit Event Handler settings.

5. Click **Apply** to store the changes for the configuration file. The software displays a confirmation message.
6. Click **Load confirmation changes to Tivoli Federated Identity Manager runtime** to reload your changes.

Creating audit client profile

A wizard assists you in creating a customized Audit Client module for Tivoli Federated Identity Manager audit events.

Before you begin

Before you begin, complete the following tasks:

- Publish the custom Audit Event Handler plug-ins to the runtime mode.
- Gather the parameter names and values that are to be passed to the plug-in.

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Auditing**. The Auditing Settings panel is displayed.
2. When auditing is not enabled, select the **Enable audit** check box to enable it.
3. In the Audit Profile table, click **Create**. A wizard is displayed.
4. Enter the name and an optional description for the customized audit profile.
5. Select the appropriate event handler of the profile from the **Audit Event Handler** menu. The following pre-configured event handler options are available:
 - **CBEXMLAuditEventHandler**: Specifies a CBE 1.1 file-based event handler. The Common Base Event (CBE) is a standard format for event records. This implementation, unlike the CARS-based event handler, does not have a 2 K size limitation on audit records. Consequently, Tivoli Federated Identity Manager can include additional information about some audit events.

If you choose this event handler, specify these additional settings:

 - a. Enter the directory location of the audit log file in the **Audit log location** field. The audit files are located in this directory.
 - b. Enter an appropriate name in the **Audit log file name** field (Optional).
 - c. In the **Maximum audit file size before rollover (MB)** field, specify the maximum size of the audit file in megabytes.
 - d. In the **Maximum number of audit files before rollover** field, specify the maximum number of audit files before overwriting.
 - **Tivoli Common Auditing and Reporting Service (CARS)**: Provides the text-file-based and WebService-based CARS Audit Event Handler. The CARS profile is the event handler implementation that uses the CARS solution for consuming the generated events. CARS provides a file-based audit records repository or a CARS repository accessible by WebServices request. With this profile, you can integrate Tivoli Federated Identity Manager events to your CARS-based event handler solution for centralized event handling. This implementation has a 2 K size limitation on audit records.

If you choose this event handler, select one of the following options:

 - **Audit file (local file)**. If you select this option, specify the additional properties:
 - a. In the **Audit log location** field, enter the directory location of the audit log file. The audit files are located in this directory.

- b. In the **Maximum audit file size before rollover (MB)** field, specify the maximum size of the audit file in megabytes.
 - c. In the **Maximum number of audit files before rollover** field, specify the maximum number of audit files before overwriting.
- **Tivoli Common Auditing and Reporting Service.** If you select this option, specify the additional properties:
 - a. In the **Web Service URL** field, enter the appropriate URL. You can use either a secure (HTTPS) or non-secure (HTTP) connection.
 - b. In the **Disk cache location** field, specify the directory location for the disk cache files. The disk cache records audit events until they can be sent to CARS. The default directory location of the disk cache (on Linux) is: `http://localhost:9080/CommonAuditService/services/EmitterDisk` cache location.
 - c. Click **Web Service Security Settings** to configure the Secure Socket Layer (SSL) and Authentication settings. Refer to the online help for descriptions of the properties.

Note: You can also deploy a custom-coded event handler. To deploy a custom-coded event handler, implement the AuditEventHandler interface and deploy it as an OSGI extension.

6. Click **Finish** to store the settings for the new audit client profile. The software displays a confirmation message.
7. Click **Load confirmation changes to Tivoli Federated Identity Manager runtime** to reload your changes.

Modifying audit events

Several component events are selected to be audited by default. You can modify the setting for each component by clearing or selecting its corresponding check box.

About this task

To modify the audit event settings:

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Auditing**. The Auditing Settings panel is displayed.
2. Click **Audit Events**. A list of events with corresponding check boxes is displayed. A check mark indicates that the event will be audited. Refer to the online help for descriptions of the events.
3. Clear or select the check boxes to specify the events you want to audit. Then click **OK**.
4. Click **Audit Settings** to ensure that you have enabled auditing as described in “Modifying audit client profile” on page 122.

Chapter 12. Managing application server configuration

If your target application is hosted by a server that is separate from the WebSphere Application Server where Tivoli Federated Identity Manager is installed, you must perform several configuration tasks on that server. For example, if your server requires the use of a Web plug-in component of Tivoli Federated Identity Manager, you must configure the plug-in before it can be used in your environment.

Before you begin

Configuration tasks for Web servers include topics such as:

- Configuring the LTPA cookie
- Defining attributes for the LTPA token
- Disabling the automatic generation of LTPA keys
- Creating the plug-in configuration file
- Copying the plug-in configuration file to the application server

For details about these topics, refer to the *Tivoli Federated Identity Manager Configuration guide*

About this task

For preliminary information about exporting and updating LTPA keys, modifying an existing configuration or modifying the existing plug-in log settings, see the following topics:

- “Exporting the LTPA key from the point of contact server”
- “Importing the LTPA key to the WebSphere Application Server” on page 126, if you are using a separate WebSphere Application Server to host your target application
- “Updating the LTPA key on the plug-in server” on page 127, if you are using a server that requires a plug-in
- “Modifying plug-in configuration manually” on page 127 or “Modifying the plug-in configuration file using the console” on page 133
- “Copying the plug-in configuration to the server” on page 134
- “Modifying the log settings of a plug-in” on page 135

Exporting the LTPA key from the point of contact server

If you will be using your WebSphere Application Server point of contact server with a target application that is hosted by a separate WebSphere Application Server or by a server where a Tivoli Federated Identity Manager plug-in is installed, you will need to export your LTPA key so that you can share it with your target application.

Before you begin

Make sure that the date and the time settings are similar between the server from which you exported the key and the server to which you are importing the key. If the time or date is different, the server on which you will import the key might mistakenly interpret that key to be expired.

About this task

To export the LTPA key:

Procedure

1. Log in to the console.
2. Click **Security** → **Secure Administration, Applications, and Infrastructure** → **Authentication mechanisms and expiration**.
3. In the Password and Confirm password fields, enter the password that is used to encrypt the LTPA key. Remember the password so that you can use it later when the key is imported to the other server.
4. In the **Fully qualified key file name** field, specify the fully qualified path to the location where you want the exported LTPA key to be saved. Use the default key file name `ltpa.keys`. You must have write permission to this file.
5. Click **Export keys** to export the key to the location that you specified in the **Fully qualified key file name** field.
6. Specify the **Internal server ID** that is used for interprocess communication between servers. The server ID is protected with an LTPA token when sent remotely. By default this ID is the cell name.
7. Click **OK**.

What to do next

After exporting the key, you must share it with the server that is hosting your application. Refer to the appropriate topic for the server you are using:

- “Importing the LTPA key to the WebSphere Application Server,” if you are using a separate WebSphere Application Server to host your target application.
- “Updating the LTPA key on the plug-in server” on page 127, if you are using a server that requires a plug-in.

Importing the LTPA key to the WebSphere Application Server

If your target application is hosted by a WebSphere Application Server that is separate from your WebSphere point of contact server, you must import the LTPA key from the point of contact server onto the separate server.

Before you begin

Before beginning this task, ensure that you have completed the following steps:

- Make sure the time between the servers is synchronized.
- Copy the LTPA key from the location where they were exported to a location on your target application server.
- Obtain the password for the LTPA key. A password was assigned to the key when it was exported from the WebSphere point of contact server.

About this task

To import the LTPA key:

Procedure

1. Log in to the console on the *target server*. Do not log in to your Tivoli Federated Identity Manager console to perform these steps.

2. Click **Security** → **Secure Administration, Applications, and Infrastructure** → **Authentication mechanisms and expiration**.
3. In the **Password** and **Confirm** password fields, enter the password that is used to encrypt the LTPA key. This password must match the password that was used when the key was exported.
4. In the **Fully qualified key file name** field, specify the fully qualified path to the location where the LTPA key is located. You must have write permission to this file.
5. Click **Import keys** to import the key.
6. Click **OK** and **Save** to save the changes to the master configuration.

Updating the LTPA key on the plug-in server

If your target application is hosted by a server that requires a plug-in, such as an IHS server or IIS, that is separate from your WebSphere point of contact server, you must copy the LTPA key from the point of contact server onto that server.

Before you begin

Before you continue with these steps, ensure that you have completed the following tasks:

- Exported the LTPA key from your point of contact server, as described in “Exporting the LTPA key from the point of contact server” on page 125.
- Verified that the time and date on the point of contact server and your server where the plug-in is installed are synchronized.

About this task

To update the LTPA key on the plug-in server:

Procedure

1. Copy the LTPA key, which should be named `ltpa.keys`, from the location to which it was exported.
2. Paste the LTPA key in the `webpi` directory on the application server. For example:

On an IBM HTTP or Apache Server:

`/opt/IBM/FIM/webpi/etc`

On an IIS server:

`C:\Program Files\IBM\FIM\webpi\etc`

Modifying plug-in configuration manually

If you have previously configured a plug-in using the tasks in the *Tivoli Federated Identity Manager Configuration Guide*, you can modify that configuration by either reconfiguring the file using the Tivoli Federated Identity Manager console or by manually editing the file on the server where the plug-in is installed. The following steps describe how to modify the configuration file manually.

Before you begin

Note: If you must update the password for the LTPA key file, you must use the console to modify the configuration.

Before beginning this task, ensure that you have completed all of the LTPA and plug-in configuration tasks in the *Tivoli Federated Identity Manager Configuration Guide*.

About this task

The plug-in configuration file is an XML file that is created using the Tivoli Federated Identity Manager console. By default, the file is named `itfimwebpi.xml` and must be copied from the server on which it was created to the server where the plug-in is installed and pasted in the plug-in installation directory. For example:

On an IBM HTTP or Apache Server:

`/opt/IBM/FIM/webpi/etc`

On an IIS server:

`C:\Program Files\IBM\FIM\webpi\etc`

The file schema and its description are provided in “Web plug-in configuration file schema.”

Use an XML editor or a text editor to modify the file. Consider making a backup copy of the file before you begin the following task.

To modify the plug-in configuration file manually:

Procedure

1. On the server where the plug-in is installed and the configuration file has been copied, use an XML or text editor to open the file.

On an IBM HTTP or Apache Server:

`/opt/IBM/FIM/webpi/etc/itfimwebpi.xml`

On an IIS server:

`C:\Program Files\IBM\FIM\webpi\etc\itfimwebpi.xml`

2. Modify the configuration settings that are specified in the file as appropriate to your environment.
3. Save and close the file.

What to do next

Restart the web server where the plug-in is installed for the changes to take effect.

Web plug-in configuration file schema

The `itfimwebpi.xml` file is an XML file that contains configuration information that is specific to your Web server and your Tivoli Federated Identity Manager environment.

Configuration file example

```
<?xml version="1.0" encoding="UTF-8"?>
<pi:WebPIConfiguration
  enabled="true"
  serial="1184026004328"
  version="6.2.0"
  cacheSize="32768"
  xmlns:fim="urn:ibm:names:ITFIM:1.0"
  xmlns:pi="urn:ibm:names:ITFIM:1.0:webpi"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:ibm:names:ITFIM:1.0:webpi webpi.xsd urn:ibm:names:ITFIM:1.0 itfim.xsd">
  <pi:LoggingConfiguration
```

```

        id="uuid-6cd36762-3404-11dc-8314-0800200c9a66"
        level="INFO"
        logFileName="/itfimwebpi.log" />
<pi:LTPAConfiguration id="uuid-6cd36543-3404-42fg-8314-0800200c9a66"
    ltpaPassword="{obf0}iogiodfjksdfskjfsf=">
</pi:LTPAConfiguration>
<pi:Applications>
<pi:Application id="uuid-6cd35678-3404-34gf-8314-0800200c9a66"
    name="ApplName" url="http://tempuri.org">
<pi:Description>This is App 1's description</pi:Description>
<pi:CookiesToStrip>
<pi:CookieToStrip cookieName="JSESSIONID" id="uuid-6cd38876-3404-
    98uy-8314-0800200c9a66" />
<pi:CookieToStrip cookieName="PD_SESSION_ID" id="uuid-6cd97854-3404-87uy-8314-0800200c9a66" />
</pi:CookiesToStrip>
<pi:Headers>
<pi:Header
    ltpaAttributeName="u"
    headerName="iv-user"
    id="uuid-6cd6453-3404-54tg-8314-0800200c9a66"
    stripClientHeader="true" />
<pi:Header
    ltpaAttributeName="c"
    headerName="iv-cred"
    id="uuid-6cd76543-3404-76hg-8314-0800200c9a66"
    stripClientHeader="true" />
</pi:Headers>
<pi:ServerVariables>
<pi:ServerVariable ltpaAttributeName="REMOTE_USER" id="uuid-6cd6543-3404-76fd-8314-0800200c9a66"
    variableName="u" />
</pi:ServerVariables>
</pi:Application>
</pi:Applications>
</pi:WebPIConfiguration>

```

Attributes and configuration elements

The following attributes are used in a completed configuration file. The attributes are grouped by the configuration element in the file.

WebPIConfiguration

enabled=*true* | *false*

Enables or disables the functionality of the plug-in. The default value is false.

cacheSize=*number_of_entries*

The maximum number of entries in the LTPA token cache. If zero is specified, then no caching occurs. The default value is 0. The maximum size is 32767.

LoggingConfiguration

level=*ERROR* | *WARN* | *INFO* | *DEBUG* | *NONE*

The logging level:

- ERROR
- WARN
- INFO
- DEBUG
- NONE

The default value is INFO.

logFileName=*path_and_file_name*

The log file name. The path defined here must be an absolute path. The default path is:

On an IBM HTTP or Apache Server:

/opt/IBM/FIM/webpi/etc/itfimwebpi.log

On an IIS server:

C:\Program Files\IBM\FIM\webpi\etc\itfimwebpi.log

Note: The Web server must have write access to this file. If it does not have write access and logging is enabled, no log entries will appear in the log file.

LTPAConfiguration

ltpaPassword=*password*

The obfuscated password used to decode the LTPA keys file.

Note: The console creates an obfuscated form of the password.

Applications

Application

Entries with application-specific configuration. This element can be left blank if no specific configuration is required. The following elements can be used with the Application element:

Name=*name*

The name that identifies the application. This name is used in the console and the log files.

url=*URL*

The URL path of the application URLs. The URL path should include the path and any query parameters. It does not include the protocol, host name, or port paths of the URL. For example, a URL of `http://www.example.com/myapp/myportal.html` has a URL path of `/myapp/myportal.html`. The plug-in processes the most precise match.

The Web plug-in configuration contains zero or more URL regular expression patterns identifying applications. An application is said to match if its URL path matches one of the configured URL patterns. The Web plug-in adds LTPA token attributes as HTTP headers to web requests destined for matching applications.

The URL path `/myapp/myportal.html` would match the following URLs patterns:

- `.*`
Matches all URL paths
- `/myapp/.*`
Matches all URL paths for the myapp application
- `/myapp/myportal.html`
Matches the specific application page

When a web request URL path matches more than one configured URL regular expression pattern, the most precise match (the longest regular expression) is used. For example, although all of the above URL patterns match the web request URL path, the last URL pattern would be considered the most precise match.

Description

The application description.

Headers

Provides description of how LTPA attributes are used to create HTTP headers. The following attributes can be used with the Headers element:

stripClientHeader=*true | false*

True removes any existing headers with the name specified by

headerName before it looks for LTPA attributes. False does not remove any headers with the name specified by **headerName**.

Attention: When this setting is set to true, headers are removed regardless of the presence of an LTPA cookie. Removal of the header guarantees that the application will only receive this headerName when created from ltpaAttributeName. Use of stripClientHeader=true prevents an untrusted client from sending a header that should ONLY be derived from the LTPA token. The application can then assume that the header value is trustworthy.

headerName=*headername*

The name of the HTTP header that is created with the value of the LTPA attribute.

ltpaAttributeName=*attributename*

The LTPA attribute whose value is used to create an HTTP header. If the LTPA attribute does not exist, the HTTP header is not created or modified.

CookiesToStrip

HTTP cookies to remove from the Web request if the request does not contain a valid LTPA token cookie.

cookieName=*name*

The name of the cookie to remove from the request if the request does not contain a valid LTPA token cookie.

ServerVariables

Server variables to set.

Note: Server variables are not created on IIS.

variableName=*name*

The name of the server variable.

ltpaAttributeName=*attributename*

The LTPA attribute whose value is used to create an HTTP header. If the LTPA attribute does not exist, the HTTP header is not created or modified.

Schema

The configuration schema is as follows:

```

<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  targetNamespace="urn:ibm:names:ITFIM:1.0:webpi"
  xmlns:pi="urn:ibm:names:ITFIM:1.0:webpi"
  xmlns:fim="urn:ibm:names:ITFIM:1.0"
  attributeFormDefault="unqualified" elementFormDefault="qualified">

  <xsd:import namespace="urn:ibm:names:ITFIM:1.0" schemaLocation="itfim.xsd" />

  <xsd:element name="WebPIConfiguration" type="pi:WebPIConfigurationType"/>

  <xsd:complexType name="WebPIConfigurationType">
    <xsd:complexContent>
      <xsd:extension base="fim:ConfigBaseType">
        <xsd:sequence>
          <xsd:element name="LoggingConfiguration" type="pi:LoggingConfigurationType" minOccurs="1" maxOccurs="1" />
          <xsd:element name="LTPAConfiguration" type="pi:LTPAConfigurationType" minOccurs="1" maxOccurs="1" />
          <xsd:element name="Applications" type="pi:ApplicationsType" minOccurs="1" maxOccurs="1" />
        </xsd:sequence>
        <xsd:attribute name="enabled" type="xsd:boolean" use="required" />
        <xsd:attribute name="cacheSize" type="xsd:long" use="required" />
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>

  <xsd:simpleType name="LoggingLevelType">
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="INFO"/>
      <xsd:enumeration value="WARN"/>
      <xsd:enumeration value="ERROR"/>
      <xsd:enumeration value="DEBUG"/>
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:complexType name="LoggingConfigurationType">
    <xsd:complexContent>
      <xsd:extension base="fim:IdType">
        <xsd:attribute name="level" type="pi:LoggingLevelType" default="INFO" />
        <xsd:attribute name="logFilename" type="xsd:string" default="fimwebpi.log" />
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>

  <xsd:complexType name="LTPAConfigurationType">
    <xsd:complexContent>
      <xsd:extension base="fim:IdType">
        <xsd:attribute name="ltpaPassword" type="xsd:string" use="required" />
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>

  <xsd:complexType name="ApplicationsType">
    <xsd:sequence>
      <xsd:element maxOccurs="unbounded" minOccurs="0" type="pi:ApplicationType" name="Application" />
    </xsd:sequence>
  </xsd:complexType>

  <xsd:complexType name="ApplicationType">
    <xsd:complexContent>
      <xsd:extension base="fim:IdType">
        <xsd:sequence>
          <xsd:element name="Description" type="xsd:string" minOccurs="0" maxOccurs="1" />
          <xsd:element maxOccurs="unbounded" minOccurs="1" type="pi:CookiesToStripType" name="CookiesToStrip" />
          <xsd:element maxOccurs="unbounded" minOccurs="1" type="pi:HeadersType" name="Headers" />
          <xsd:element maxOccurs="unbounded" minOccurs="1" type="pi:ServerVariablesType" name="ServerVariables" />
        </xsd:sequence>
        <xsd:attribute name="name" type="xsd:string" use="required" />
        <xsd:attribute name="url" type="xsd:anyURI" use="required" />
        <xsd:attribute name="errorUrl" type="xsd:anyURI" use="optional" />
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>

  <xsd:complexType name="CookiesToStripType">
    <xsd:sequence>
      <xsd:element maxOccurs="unbounded" minOccurs="0" type="pi:CookieToStripType" name="CookieToStrip" />
    </xsd:sequence>
  </xsd:complexType>

  <xsd:complexType name="HeadersType">
    <xsd:sequence>
      <xsd:element maxOccurs="unbounded" minOccurs="0" type="pi:HeaderType" name="Header" />
    </xsd:sequence>
  </xsd:complexType>

  <xsd:complexType name="HeaderType">
    <xsd:complexContent>
      <xsd:extension base="fim:IdType">
        <xsd:attribute name="headerName" type="xsd:string" use="required" />
        <xsd:attribute name="ltpaAttributeName" type="xsd:string" use="required" />
        <xsd:attribute name="stripClientHeader" type="xsd:boolean" use="required" />
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>

  <xsd:complexType name="CookieToStripType">
    <xsd:complexContent>
      <xsd:extension base="fim:IdType">
        <xsd:attribute name="cookieName" type="xsd:string" use="required" />
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>

  <xsd:complexType name="ServerVariablesType">
    <xsd:sequence>
      <xsd:element maxOccurs="unbounded" minOccurs="0" type="pi:ServerVariableType" name="ServerVariable" />
    </xsd:sequence>
  </xsd:complexType>

  <xsd:complexType name="ServerVariableType">
    <xsd:complexContent>
      <xsd:extension base="fim:IdType">
        <xsd:attribute name="variableName" type="xsd:string" use="required" />
        <xsd:attribute name="ltpaAttributeName" type="xsd:string" use="required" />
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>

```

Modifying the plug-in configuration file using the console

If you have previously configured a plug-in using the tasks in the *Tivoli Federated Identity Manager Configuration Guide*, you can modify that configuration by either reconfiguring the file using the Tivoli Federated Identity Manager console or by editing the file on the Web server where the plug-in is installed. The following steps describe how to modify the configuration file using the console.

Before you begin

To complete this task, you will need the following information:

- The password that was used to encrypt the LTPA key when it was exported.
- The name and URL of each target application that is hosted by this server.
- The appropriate HTTP header and LTPA attribute mappings for your environment. You must know which LTPA attribute you want to match to which HTTP header. For example, you might want to match the iv-cred HTTP header to the tagvalue_email LTPA attribute name.
- A list of cookies to remove if the LTPA cookie is missing or is not valid, which usually indicates that the user is not a federated single sign-on user.
- A list of mappings between server variable names and LTPA token attribute names. Server variables are an alternative mechanism for presenting LTPA attributes to the application instead of using HTTP headers.

Note: The use of server variables is not supported on IIS.

About this task

Modifying a configuration through the console is similar to creating a new configuration. If your existing configuration has many settings, such as several applications defined, consider modifying your configuration file manually. Refer to “Modifying plug-in configuration manually” on page 127.

To modify the plug-in configuration file using the console:

Procedure

1. Log in to the console.
2. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Web Server Plug-in Configuration**. The Web Plugin Single Sign-on Configuration panel is displayed.
3. Complete the information that is required for the server where the plug-in is installed in the **Web Server Plug-in Single Sign-on Configuration** and the **Web Server Plug-in Logging Configuration** sections. Refer to the online help for descriptions of the fields. Then click **Save**.
4. In the **Web Server Plug-in Applications Configuration**, define an application to the single sign-on configuration by clicking the **Create** button. The Application Properties panel is displayed.
 - a. Complete the information about the application that you want to make available to your single sign-on users.
 - b. Click **Apply**.
 - c. Click **HTTP Header to LTPA Attribute Mappings**.
 - d. Accept the default settings by clicking **Apply** or modify the settings by clicking **Create**.

- e. When you have completed this panel, click **Apply**.
- f. Click **Client Cookies to be Removed**.
- g. Accept the default settings by clicking **Apply** or modify the settings by clicking **Create**.
- h. When you have completed this panel, click **Apply**.
- i. Click **Server Variables to LTPA Attribute Mappings**.
- j. Accept the default settings by clicking **Apply** or modify the settings by clicking **Create**.
- k. When you have completed this panel, take one of the following actions:
 - If you want to add other applications, click **Apply** and then repeat the preceding steps for each application until all additional application have been added.
 - If you have completed the addition of the application to the server, click **OK**.
5. Click **Save**.
6. Click **Export Web Server Plug-in Configuration File**. Then complete the following steps:
 - a. Click **Save** in the pop-up window to save the configuration to a file called `itfimwebpi.xml`.
 - b. Select the installation directory for your Web server plug-in. For example, save `itfimwebpi.xml` to the `/opt/IBM/FIM/webpi/etc` directory.

What to do next

Copy the updated configuration file to the Web server, as described in “Copying the plug-in configuration to the server.”

Copying the plug-in configuration to the server

After you have modified the plug-in configuration file, you must copy that configuration to the Web server where the plug-in is installed.

About this task

To copy the configuration to the server:

Procedure

1. Locate the configuration file that you created using the steps in “Modifying the plug-in configuration file using the console” on page 133. The file is named `itfimwebpi.xml`.
2. Copy the file and then paste the file in the `webpi` directory on your Web server where the plug-in is installed:

On an IBM HTTP or Apache Server:

`/opt/IBM/FIM/webpi/etc`

On an IIS server:

`C:\Program Files\IBM\FIM\webpi\etc`

What to do next

Restart your the server where the plug-in is installed for the changes to take effect.

Modifying the log settings of a plug-in

Events that occur when you use a Tivoli Federated Identity Manager Web plug-in are logged in a log file on the server where the plug-in is installed.

About this task

You can modify the location of the log file and the type of log that should be created.

To modify the log settings of a plug-in:

Procedure

1. Log in to the console.
2. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Web Server Plug-in Configuration**. The Web Plugin Single Sign-on Configuration panel is displayed.
3. Click the **Web Plugin Logging Configuration** tab. The current log settings are displayed.
4. Modify the settings as appropriate for your environment. The options for the type of log to create are:
 - INFO (the default setting)
 - WARN
 - ERROR
 - DEBUG
5. Click **OK**.

Chapter 13. Managing domains

Domain configuration is typically set during the initial installation and configuration of Tivoli Federated Identity Manager. The configuration of a domain, as part of the overall deployment of Tivoli Federated Identity Manager is described in the *IBM Tivoli Federated Identity Manager Configuration Guide*.

The topics in this section of the Administration Guide include domain configuration and domain management.

Connecting to an existing domain

You can connect the management console to the management service for an existing domain.

Procedure

1. Log in to the administration console and click **Tivoli Federated Identity Manager → Domains**.
The Domains portlet is displayed.
2. Click **Create**. The Domain Wizard displays the Welcome panel.
3. Click **Next**. The Management Service Endpoint panel is displayed.
4. Enter values for the specified properties. When finished, click **Next**.
5. The WebSphere Security panel is displayed. Specify whether WebSphere global security is enabled.
 - When global security is enabled, enter values for the specified properties and click **Next**.
 - When global security is not enabled, leave the remaining properties blank. Click **Next**.
6. The WebSphere Target Mapping panel is displayed. Select or enter the name of your server or cluster. When finished, click **Next**.
 - When the WebSphere environment consists of a single server, the panel displays a Server name menu, with a name such as server1. If the server name does not appear in the menu, enter it in the field.
 - When the WebSphere environment consists of a WebSphere cluster, the panel displays the Cluster Name menu. This menu lists the names of clusters defined in the cell. Select the name of the cluster to use.
7. The Select Domain panel is displayed. The wizard detects that a domain exists and prompts you to connect to the domain. Click **Next** to establish a connection to the domain.
The Summary panel is displayed.
8. Review the information on the Summary panel and click **Finish**.

Results

The management console is now connected to the domain. You can now perform management tasks on the current domain.

Modifying the domain properties

You can modify the domain properties that were specified during the configuration of Tivoli Federated Identity Manager.

About this task

To modify the domain properties:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Domain Management** → **Domain Properties**. The Domain properties portlet is displayed.
2. Change the properties as appropriate for your domain. Refer to the online help for descriptions.
3. Click **OK** when you are done.

Viewing domain information

A read-only view of domain information provides details about the Tivoli Federated Identity Manager and WebSphere Application Server installations.

About this task

To view the domain information:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Domains**. The Domain portlet is displayed.
2. Select the domain. Click **Properties**. The Domain Properties portlet is displayed.
3. Click the **Domain information** tab. The details of the components installed in the domain are listed. Refer to the online help for descriptions of the information displayed.

Note: If you have recently changed domain configuration and have not restarted the management service, and you are ready to restart the management service, you can click **Refresh Management Service**.

4. Click **OK** when you are done.

Activating a domain

About this task

You can only manage one domain at a time from the Tivoli Federated Identity Manager management console. The domain that you can manage is the *active* domain. When your deployment includes more than one domain, and you want to manage a different domain, you can switch to that domain by activating it.

Procedure

1. Click **Tivoli Federated Identity Manager** → **Domains**. The Domains portlet is displayed.
2. Select the radio button in the **Select** column for the domain. Click **Make Active**.

3. A message box is displayed, indicating that in order to change the current domain, all open Management pages must be closed. Close any open management pages and click **OK**.

This message is displayed because when you switch domains, you might still have console pages open for the domain that is currently active. These pages must be closed before you change domains because you can no longer work with them once you have activated another domain. When you do not need to make any further changes to any open pages, you can let the console close the pages for you.

Results

The Manage Domains panel is redrawn. There is now a check mark in the **Current Domain** column of the domain that you activated, and the domain that was previously active is now deactivated.

Changing the current domain

About this task

Some deployments will have only one Tivoli Federated Identity Manager domain to manage. Other deployments, such as those implemented for a Data Center model, will utilize multiple domains. In the Data Center model:

- You can have multiple Tivoli Federated Identity Manager installation instances. The Tivoli Federated Identity Manager console supports centralized management of these installation instances through the ability to change the current domain.
- You can use the WebSphere Application Server Network Deployment manager to complete its own management tasks against more than one Tivoli Federated Identity Manager installation

The Tivoli Federated Identity Manager management console displays the Current Domain portlet in the right panel during all administrative tasks. Use this portlet to change domains.

When you change the current domain, you are changing the configuration to make another domain active. This task accomplishes the same thing as activating a domain. See “Activating a domain” on page 138.

To change the current domain:

Procedure

1. Locate the Current Domain portlet at the top of the right panel.
2. Click **Change Domain**. The Domains panel is displayed.
3. Select the domain that you want to manage.

You are prompted to make sure that all management pages for the current domain are closed. A message box is displayed.

4. Resolve the status of any management pages that are currently open:
 - If you have management pages open, and need to complete other tasks first, click **Cancel**. Go to the open management pages, complete the tasks, and then return to this task.
 - If you do not have management pages open, or if you have management pages open but do not have any unfinished tasks, click **OK** at the prompt to let the console close the pages for you.

Deleting a domain

About this task

You must unconfigure all runtime nodes and undeploy the runtime before you delete a domain. Before you remove a domain, complete the instructions in “Removing a runtime application from WebSphere Application Server” on page 155.

You can remove the domain from the *console only*, or from the *console and server*:

- When you remove the domain from the console only, the console deletes all the local configuration information that is necessary to connect to the domain from the computer that hosts the management console (the Integrated Solutions Console). The Tivoli Federated Identity Manager configuration information that is located on the WebSphere Application Server or WebSphere cluster is *not* removed.
- When you remove the domain from both the console and the server, you delete both the local configuration information and the associated configuration information from the WebSphere Application Server or WebSphere cluster on which Tivoli Federated Identity Manager is deployed.

Note: When upgrading to a new version of Tivoli Federated Identity Manager, delete a domain from the console only.

Procedure

1. Click **Tivoli Federated Identity Manager → Domains**.

The Domains portlet is displayed.

2. Select the radio button for the domain in the **Select** column.

3. Click **Delete**.

A message box prompts you to choose between one of two deletion modes.

4. Select a deletion mode:

- Delete from server and console.

This action deletes all domain configuration from the properties files used by the Tivoli Federated Identity Manager management console, and also deletes all configuration from the properties files used by WebSphere Application Server.

- Delete from console.

This action deletes all domain configuration from the properties files used by the Tivoli Federated Identity Manager management console, but does not delete the domain configuration from the properties files used by WebSphere Application Server .

Results

When you select a deletion mode, the configuration information is removed. The Domains panel is redrawn and the entry for the specified domain no longer exists.

Chapter 14. Managing event pages

Event pages generate files that are displayed in response to events that occur during single sign-on requests. You can customize the appearance or content of the event pages or modify the geographic or language locale that should be used to display the files that are generated by the pages.

About this task

The customization of event pages is an advanced task that requires knowledge of how event pages generate and display information that is related to an event. Refer to the topics about customizing single sign-on event pages in the *Tivoli Federated Identity Manager Configuration guide* for details.

Tasks for managing event pages include:

- “Modifying event pages”
- “Managing page locales”

Modifying event pages

Event pages generate files that are displayed in response to events that occur during single sign-on requests. You can customize the appearance or content of the event pages.

About this task

The customization of event pages is an advanced task that requires knowledge of how event pages generate and display information that is related to an event. Refer to the topics about customizing single sign-on event pages in the *Tivoli Federated Identity Manager Configuration guide* for details.

To locate the event page management panel in the console:

Procedure

1. Log in to the console.
2. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Event Pages**.
3. Complete the fields as appropriate for your customization. Refer to the topics about customizing single sign-on event pages in the *Tivoli Federated Identity Manager Configuration guide* and the online help for details.
4. Click **Apply** or **OK**.
5. When you are done and want to make the changes immediately, click **Publish**. Otherwise, click **Close** and publish the pages later using the task described in “Publishing pages” on page 151.

Managing page locales

You can modify the geographic or language locale should be used to display the files that are generated by events that occur during a single sign-on request.

About this task

The modification of page locales are related to the customization of event pages. Both tasks are advanced and require knowledge of how event pages generate and display information that is related to an event. Refer to the topics about customizing single sign-on event pages in the *Tivoli Federated Identity Manager Configuration guide* for details.

To locate the page locale management panel in the console:

Procedure

1. Log in to the console.
2. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Event Pages**.
3. Click the **Page Locales** tab.
4. Complete the fields as appropriate for your customization. Refer to the topic about creating a page locale in the *Tivoli Federated Identity Manager Configuration guide* and the online help for details.
5. Click **Apply** or **OK**.
6. When you are done and want to make the changes immediately, click **Publish**. Otherwise, click **Close** and publish the pages later using the task described in “Publishing pages” on page 151.

Chapter 15. Exporting and importing server configuration

The configuration export and import functions enable you to export the configuration of an existing Tivoli Federated Identity Manager server and then import the data onto another server.

About this task

These functions can be helpful if you want to create a backup of your configuration or to create a high-availability environment to meet load balancing requirements.

For information about configuring a high-availability environment, see *Tivoli Federated Identity Manager Configuration guide*.

See:

- “Exporting configuration”
- “Importing configuration” on page 144
- “Backing up and restoring a domain” on page 145

Exporting configuration

Use this task to export the Tivoli Federated Identity Manager configuration. For example, use this task to make a backup of configuration properties, or use it to migrate or copy your Tivoli Federated Identity Manager configuration to another system.

Before you begin

Note: When you export your configuration, only your domain and federation settings (such as keys and partner settings) will be exported. This function does not export your WebSphere Application Server configuration.

You can also use the export configuration task when you are creating a high-availability environment.

For information about configuring a high-availability environment, see the *Tivoli Federated Identity Manager Configuration Guide*.

You must first install and configure Tivoli Federated Identity Manager before you can export a configuration.

About this task

When you export a Tivoli Federated Identity Manager configuration, the complete configuration is automatically gathered into a JAR file. The file serves as a Tivoli Federated Identity Manager archive file. For example:

`fimconfig-20061011-114614-0500.jar`

You can save this file anywhere that is accessible to the standard Save or Download window presented by your browser. Note that this means that the archive file is saved on the computer that runs your browser (or on a networked

file system that is accessible to the browser). When you later want to access this archive file, as part of the importing a domain configuration task, you will need to be able to access the location where you saved the archive file.

To export a configuration:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager → Domain Management → Import and Export Configuration**. The Import and Export panels are displayed.
2. Click **Export Configuration**.
3. When prompted, specify the location where the configuration JAR file is to be saved. Click **OK**. Note the location you specify, so that you can access this file later when you need to import the configuration.

Importing configuration

Use this task to import the Tivoli Federated Identity Manager configuration. This task is useful when you want to restore a configuration or create a duplicate of the configuration as part of implementing a data center model.

Before you begin

You must first install Tivoli Federated Identity Manager on the server where you will import the exported configuration and configure it to match the installation on your existing server.

If you have not yet created a Tivoli Federated Identity Manager archive file for the domain that you want to import, you must do that first. See “Exporting configuration” on page 143. The archive file must be placed in a location that can be accessed by the browser from which you are using the console. If you exported the configuration (created the archive file) from the same browser, the archive file should be accessible. If, however, you created the archive file while using a browser on a different computer, you might need to move the archive file to a different location in order for your current browser to be able to import the configuration.

About this task

To import a configuration:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager → Domain Management → Import and Export Configuration**. The Import and Export panels are displayed.
2. Select the **Domain Name** of the domain into which the configuration archive is to be imported.
3. In the **Configuration Archive** field, enter the fully qualified path name to the Tivoli Federated Identity Manager configuration archive.

For example:

`/tmp/fimconfig-20061011-114614-0500.jar`

This archive was previously created using the Export procedure on another server.

- Optionally, you can use the **Browse** button to locate the file.
4. Click **Import Configuration**. The configuration is automatically imported.

Backing up and restoring a domain

About this task

The Tivoli Federated Identity Manager console allows you to Export a domain configuration, as described in “Exporting configuration” on page 143. This task exports all of the configuration information for a domain.

The Tivoli Federated Identity Manager console allows you to Import a domain configuration, as described in “Importing configuration” on page 144. This task imports the files necessary to migrate an existing domain configuration into a new environment, such as new hardware, or when moving from a test deployment to a production deployment. The Import task does not import the entire configuration of a domain.

When you want to import the entire configuration of the domain, such as when restoring an existing configuration into the same environment, you must perform additional steps. These additional steps enable you to perform disaster recovery when your hardware and network environment is unchanged.

Procedure

1. Install Tivoli Federated Identity Manager into the environment that is to be restored.
2. Stop the WebSphere Application Server.
3. Create a directory with a name that matches the name of the domain you want to create. Place the directory in:
`$WAS_HOME/profiles/your_profile_name/config/itfim`
4. Unpack the JAR file containing the exported configuration. Place it in the directory
`$WAS_HOME/profiles/your_profile_name/config/itfim/your_domain_name`
5. Restart the WebSphere Application Server.
6. Using the Tivoli Federated Identity Manager administration console, create a domain on the server with the same name as the directory created previously as *your_domain_name*.

Note that no existing information is overwritten.

Chapter 16. Managing point of contact servers

When you configure your environment, you can use WebSphere Application Server as your point of contact server or you can choose to develop a custom point of contact server. You can manage your choice of point of contact servers using the Point of Contact panel in the console. For example, you can view the properties of a point of contact server profile, modify its settings, or, if you have added one or more custom point of contact servers to your environment, you can select a different point of contact server to be the active one in your environment. In addition, you can use the panel to add a custom point of contact server profile to your environment or delete an existing custom profile.

About this task

Attention: Creating a custom point of contact server requires that you complete several tasks prior to adding a new profile to the environment using the console. For information about creating a custom point of contact server and its profile, see the *Tivoli Federated Identity Manager Configuration Guide*.

For preliminary information about modifying, viewing, deleting or activating a point of contact server, see the following topics:

- “Viewing the properties of a point of contact server”
- “Deleting a custom point of contact server” on page 148
- “Activating a point of contact server” on page 148
- “Modifying the WebSphere point of contact server settings” on page 148

Viewing the properties of a point of contact server

You can view the properties of all of the point of contact server profiles in your environment. In addition, if you have custom point of contact server profiles configured and you are logged in as the administrator who created those custom profiles, you can also modify the profile properties.

About this task

To view the properties:

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Point of Contact**.
2. Select the point of contract server profile that you are using in your environment.
3. Click **Properties**. The Profile Name panel of the Point of Contact Properties window is displayed.
4. Click the other selections on the left to view the properties for the following events:
 - Sign In
 - Sign Out
 - Local ID
 - Authentication

5. Click **Cancel** when you are done.

Deleting a custom point of contact server

If you have configured a custom point of contact server but will no longer use it, you can delete it.

About this task

To delete a custom point of contact server:

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Point of Contact**.
2. Select the point of contact server you want to delete.

Note: You can delete only a custom point of contact server that you have created. The point of contact servers that are provided with Tivoli Federated Identity Manager cannot be removed.

3. Click **Delete**. The point of contact server you selected is removed.
4. Click **OK**.

Activating a point of contact server

To enable a point of contact server as the active server in your environment, you must activate it.

About this task

To activate a custom point of contact server:

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Point of Contact**.
2. Select the point of contact server you want to activate.
3. Click **Make Active**. The point of contact server you selected is activated and will be used as the point of contact server in your environment.

Modifying the WebSphere point of contact server settings

When you install Tivoli Federated Identity Manager, you can choose to activate the WebSphere point of contact server profile. After initial configuration, you can modify the server profile settings.

About this task

By default, the settings of this profile are:

SOAP Endpoint Security Settings

SOAP Port: 9444

SOAP endpoint authentication type: Allow unauthenticated users access to SOAP endpoints.

See “Modifying SOAP port and endpoint authentication settings.”

SPNEGO authentication

Default setting: Disabled.

See “Modifying SPNEGO authentication settings” on page 150.

Modifying SOAP port and endpoint authentication settings

By default, the SOAP port is 9444 and the endpoint security settings are set to **Allow unauthenticated users access to SOAP endpoints**. If you want to use a different port or option, you will need to change the setting.

About this task

The "users" referred to on this panel and in this procedure are "service users"; that is, they are user IDs that are configured in the local user registry and are used to authenticate the servers that your service provider uses to retrieve a request with an artifact.

To modify the settings:

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Point of Contact**.
2. Select the point of contract server profile that you are using in your environment.
3. Click the **Advanced** button. The SOAP Endpoint Security Settings panel is displayed.
4. Ensure that the SOAP Port is correct in your configuration. If not, change the port number.
5. In the SOAP Endpoint Security Settings section, select the appropriate option for your configuration:
 - **Allow unauthenticated users access to SOAP endpoints**
When you choose this option, no authentication is required for users to access the artifact resolution endpoint.
 - **Allow authenticated users access to SOAP endpoints**
When you choose this option, authentication is required for users to access the artifact resolution endpoint. If you want to require service providers to authenticate before they are allowed access to the artifact resolution port, you will need to create accounts in your WebSphere Application Server user registry for the service providers to use.
 - **Allow users in the specified group access to SOAP endpoints**
If you choose this option, you must also specify the group name in the **Group Name** field.
When you choose this option, you are configuring access to the artifact resolution endpoint to be limited to members of the specified group. Members of the group must authenticate in order to be granted access.
When you want to require service providers to authenticate in order to gain access to the artifact resolution endpoint, you must ensure that each service provider has a user identity (account) configured in the user registry. Add each service provider to the specified group.

6. If you choose an option that requires authentication, you are prompted to select the authentication type.
 - **Basic Authentication**
Authentication that requires your service provider partner to provide a user name and password.
 - **Client Certificate Authentication**
Authentication that requires your service provider partner to present a certificate in order to establish a secure authenticated session.
7. Click **OK**.
8. Click the **Load configuration changes to Tivoli Federated Identity Manager runtime** button.

Modifying SPNEGO authentication settings

If you are an identity provider partner that uses WebSphere as a point of contact server, and you will use SPNEGO authentication, you will need to enable it, configure its settings, and import a Kerberos keytab file for it.

Before you begin

Before beginning this task, ensure that you have completed all the required configuration tasks that are related to using SPNEGO authentication.

About this task

By default, the SPNEGO authentication is disabled.

To enable SPNEGO authentication:

Procedure

1. Log in to the console. Click **Tivoli Federated Identity Manager** → **Domain Management** → **Point of Contact**.
2. Select the point of contract server profile that you are using in your environment.
3. Click the **Advanced** button. The SOAP Endpoint Security Settings panel is displayed.
4. Click **SPNEGO Authentication Settings**.
5. In the SPNEGO Authentication Settings panel, select the **Enable SPNEGO Authentication** check box.
6. Complete the fields with the information for your authentication configuration. Refer to the online help for complete descriptions of the fields.
7. Import the Kerberos keytab file to use, as follows:
 - a. Click the **Import Keytab file** button.
 - b. In the **Location of Keytab File** field, type the path for the file or optionally, use the **Browse** button to locate the file.
 - c. Click **Finish**.
8. Click **OK**.

Chapter 17. Managing the runtime node

When you installed the runtime and management service component of Tivoli Federated Identity Manager, you configured a node so that it could run as an application on a WebSphere Application Server.

About this task

The runtime node management tasks include:

- “Publishing pages”
- “Publishing plug-ins”
- “Viewing custom runtime properties” on page 152
- “Creating a custom property” on page 152
- “Deleting a custom property” on page 153
- “Deploying the runtime node” on page 153
- “Reloading the configuration” on page 154

Publishing pages

If you customize an event page or page locale for an event page, you must publish those pages for the customization to take effect.

Before you begin

Complete one or both of the following tasks:

- “Modifying event pages” on page 141
- “Managing page locales” on page 141

About this task

If you did not publish the pages as part of these tasks, you can publish the pages at a later time, as follows:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Domain Management** → **Runtime Node Management**. The Runtime Node Management panel is displayed.
2. To publish pages, click the **Publish Pages** button.

Publishing plug-ins

If you have developed the modules for a custom point of contact server or custom identity map module, you must publish the plug-ins for those modules so that you can use them in your Tivoli Federated Identity Manager environment.

Before you begin

Before continuing with this task, ensure that you have developed the appropriate modules for your environment. For more information, refer module topics in the *Tivoli Federated Identity Manager Configuration Guide*.

About this task

To publish the plug-ins:

Procedure

1. Copy the plug-ins to the /plugins directory where you installed Tivoli Federated Identity Manager. For example, on AIX, the directory is /opt/IBM/FIM/plugins.
2. Log in to the console and click **Tivoli Federated Identity Manager** → **Domain Management** → **Runtime Node Management**.
3. The Runtime Node Management panel is displayed. Click **Publish Plug-ins**.

What to do next

After publishing the plug-ins, the modules are available for use. New mapping modules are added to the Module Types list.

Viewing custom runtime properties

Before you begin

Attention: The use of custom properties is an advanced topic. Review the information in the *Tivoli Federated Identity Manager Configuration guide* before continuing with this procedure.

About this task

To view custom runtime properties:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Domain Management** → **Runtime Node Management**.
2. The Runtime Node Management panel is displayed. Click **Runtime Custom Properties**. The Runtime Custom Properties panel is displayed.
3. Select the scope of the custom property, either cell or node, from the **Scope** list. A list of properties at the scope you selected is displayed.
4. Click **Cancel** when you are done.

Creating a custom property

You can customize the domain configuration by defining a custom property.

Before you begin

Attention: The creation and use of custom properties is an advanced topic. Review the information in the *Tivoli Federated Identity Manager Configuration guide* before continuing with this procedure.

About this task

The syntax for custom properties is:

property_name = *property_value*

To create a custom property:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Domain Management** → **Runtime Node Management**.
2. The Runtime Node Management panel is displayed. Click **Runtime Custom Properties**. The Runtime Custom Properties panel is displayed.
3. Select the scope of the custom property, either cell or node, from the **Scope** list. A list of properties at the scope you selected is displayed.
4. Click **Create**. A list item is added to the list of properties with the name of **new key** and a value of **new value**.
5. Select the placeholder property.
6. Enter a string in the **Name** field. Do not insert the space character in this field.
7. Enter a string in the **Value** field. Spaces are allowed in this field.
8. Click **Apply** to apply the changes without exiting from the panel, or click **OK** to apply the changes and exit from the panel.

Deleting a custom property

Before you begin

Attention: The use of custom properties is an advanced topic. Review the information in the *Tivoli Federated Identity Manager Configuration guide* before continuing with this procedure.

About this task

To delete a custom property:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager** → **Domain Management** → **Runtime Node Management**.
2. The Runtime Node Management panel is displayed. Click **Runtime Custom Properties**. The Runtime Custom Properties panel is displayed.
3. Select the scope of the custom property, either cell or node, from the **Scope** list. A list of properties at the scope you selected is displayed.
4. Select a name and value pair.
5. Click **Delete**. The panel refreshes and the name and value pair is removed from the list of custom properties.
6. Choose one of the following actions:
 - Click **Apply** to apply the changes that you have made without exiting from the panel.
 - Click **OK** to apply the changes that you have made and exit from the panel.

Deploying the runtime node

Tivoli Federated Identity Manager automatically deploys a runtime node. When you make updates to the runtime, such as when you apply a fix pack or language pack to the runtime component, you must manually deploy the runtime node.

About this task

You will use the console to deploy the runtime node.

To deploy a runtime node:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager → Domain Management → Runtime Node Management**. The Runtime Node Management panel is displayed.
2. To deploy the runtime node, click the **Deploy Runtime** button. If the button is inactive, the runtime node is already deployed.

Reloading the configuration

After you make changes to your Tivoli Federated Identity Manager configuration, you must reload the configuration for the changes to take effect. Typically, after you make a change, you are prompted to load the configuration, however, you are given the option to load it at a later time.

About this task

This task describes how to load a configuration so that configuration changes are recognized:

Procedure

1. Log in to the console and click **Tivoli Federated Identity Manager → Domain Management → Runtime Node Management**. The Runtime Node Management panel is displayed.
2. To publish pages, click the **Reload Configurations** button.

Removing Tivoli Access Manager configuration for a node

About this task

This task removes the Tivoli Federated Identity Manager runtime from the configuration for Tivoli Access Manager. This process includes the removal of the application identity (for the Tivoli Federated Identity Manager application) from the Tivoli Access Manager domain.

You must remove the configuration for a node before you can remove the runtime application from WebSphere. In a WebSphere cluster environment, you must complete this step for every node before you can remove the runtime.

Procedure

1. Click **Tivoli Federated Identity Manager → Domain Management → Runtime Node Management**.
2. Select the check box in the **Select** column next to the runtime you want to unconfigure. The **Unconfigure** button is now activated.
3. Click **Unconfigure**.
The Runtime Node configuration is removed.
4. If you want to remove the runtime, and you have deployed Tivoli Federated Identity Manager into a WebSphere cluster environment, repeat the previous step for every node in the cluster.

5. When the process completes, the Runtime Nodes portlet is redrawn. Observe that the check marks have been removed from in the **Configured** and **Enabled** fields for the table entry.
6. If you have removed the configuration in preparation for removing the runtime, continue with “Removing a runtime application from WebSphere Application Server.”

Removing a runtime application from WebSphere Application Server

About this task

You must unconfigure the nodes for a runtime before you can remove it. If necessary, see “Removing Tivoli Access Manager configuration for a node” on page 154.

The undeploy action removes the Tivoli Federated Identity Manager runtime from the WebSphere server (single server environment) or WebSphere cluster (cluster environment). This step must be taken before a Tivoli Federated Identity Manager domain can be removed.

Procedure

1. Click **Tivoli Federated Identity Manager → Domain Management → Runtime Node Management**. The Current Domain portlet and the Runtime Nodes portlet are displayed.

2. In the Runtime Nodes portlet, click **Remove Runtime**.

The runtime is removed from the domain. No further input is required. Observe that the **Remove Runtime** button becomes deactivated upon completion of the process. A message is displayed that indicates that the runtime has been successfully removed from all the nodes.

Chapter 18. About federated identity provisioning

Provisioning is a key element in identity management for enterprises. Account provisioning is triggered within a company's internal trust domain when there is a change in account status for a user. For example, a new user account must be created when a new employee is hired. Or, user account permissions might need modification when an employee changes job roles.

Enterprise provisioning systems such as IBM Tivoli Identity Manager provide the functions necessary to evaluate role-based provisioning policy, and can create or modify multiple user accounts as appropriate. Management of these accounts includes management of account IDs and passwords in order to assure secure authenticated communication within the enterprise.

Federated identity provisioning extends these provisioning management activities beyond an internal trust domain. Federated identity provisioning makes it possible to extend local account provisioning at an identity provider to include federated account provisioning out to multiple service provider partners. A service provider, when notified of the federated provisioning request, can perform the local provisioning necessary to supply its service to the specified employee.

Provisioning requests sent between identity providers and service providers must be secure and must be based on open standards. Tivoli Federated Identity Manager satisfies these requirements by providing an implementation of the WS-Provisioning standard.

WS-Provisioning is a specification authored by IBM to provide a Web service interface to communicate provisioning requests and responses. It includes operations for adding, modifying, deleting, and querying provisioning data. It also specifies a notification interface for subscribing to provisioning events. Provisioning data is described using XML and other types of schema. This facilitates the translation of data between different provisioning systems.

WS-Provisioning is part of the Service Oriented Architecture and has been submitted to the Organization for the Advancement of Structured Information Standards (OASIS) Provisioning Service Technical Committee. Tivoli Federated Identity Manager supports draft version 0.7 of the WS-Provisioning specification. The WS-Provisioning interface is an open standard that is available to other companies that want to develop interoperable provisioning scenarios and systems. The specification is publicly available on the IBM developerWorks® Web site:

<http://www.ibm.com/developerworks>

The Tivoli Federated Identity Manager provisioning components are:

- The Tivoli Federated Identity Manager WS-Provisioning Web service
This service runs as an application on WebSphere Application Server Version 6.0.
- WS-Provisioning connectors
The connectors run on IBM Tivoli Directory Integrator.

These components are used when a provisioning event is sent from one provider to another provider.

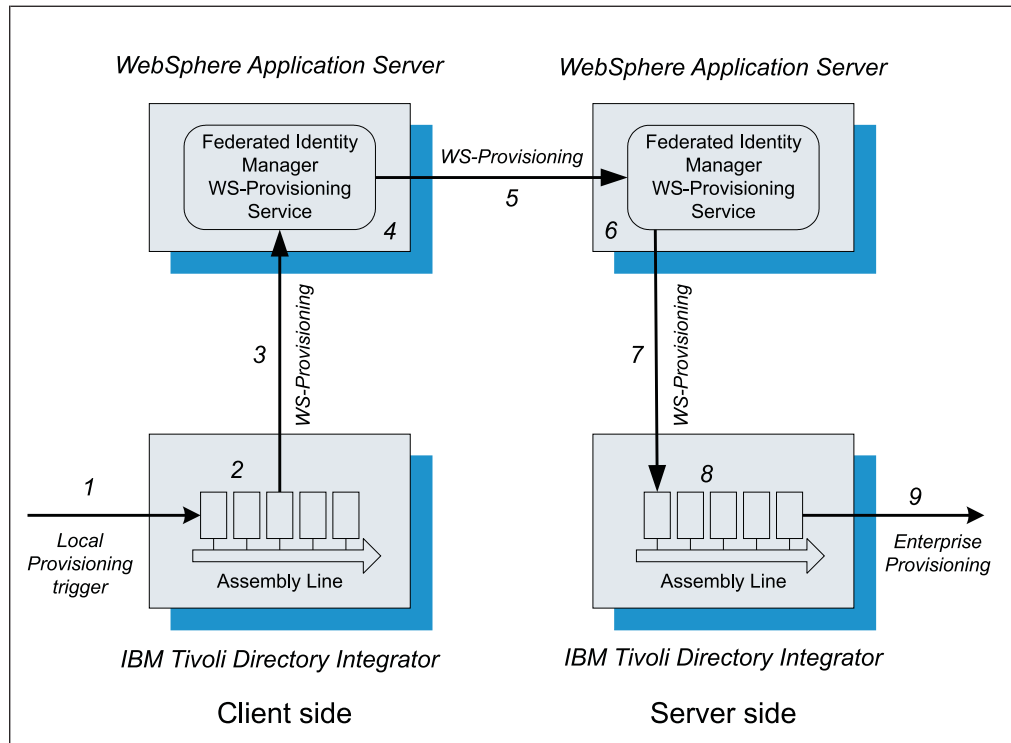


Figure 1. Tivoli Federated Identity Manager federated provisioning process flow

Figure 1 shows the high-level sequence of actions that occur when a client (identity provider) sends a provisioning event to a server (service provider):

1. An external event on the client triggers provisioning events. The event causes an IBM Tivoli Directory Integrator assembly line to be built and executed.
2. The assembly line uses standard IBM Tivoli Directory Integrator connectors to collect the data necessary to form a WS-Provisioning message.
IBM Tivoli Directory Integrator provides a set of standard connectors that support the sending and receiving of Web services messages. Tivoli Federated Identity Manager configures these connectors by using the WS-Provisioning WSDL.
3. The IBM Tivoli Directory Integrator connectors send a WS-Provisioning SOAP message to the Tivoli Federated Identity Manager WS-Provisioning service.
4. The Tivoli Federated Identity Manager WS-Provisioning service is a proxy server for WS-Provisioning messages that allows the addition of WS-Security policy for securing the Web services messages between partners.
The addition of WS-Security policy to the WS-Provisioning service is optional, but typically is included in real-world deployments.
5. The WS-Provisioning service on the client side sends the message to the WS-Provisioning service on the server side.
6. The WS-Provisioning service on the server side receives the message and processes it.
The processing includes handling of WS-Security information. The Tivoli Federated Identity Manager WS-Provisioning service can be configured to use either WebSphere Application Server WS-Security handling, or to use Tivoli Federated Identity Manager Web services security management (not shown here) to authorize the WS-Provisioning request.
7. The WS-Provisioning service sends the message to a configured connector on the local IBM Tivoli Directory Integrator .

8. The IBM Tivoli Directory Integrator connector receives the WS-Provisioning message and starts a configured assembly line.
The assembly line collects any local data that is required.
9. The assembly line initiates local provisioning.
This local provisioning can include the use of an enterprise provisioning system that uses Directory Services Markup Language Version 2 (DSMLv2), such as IBM Tivoli Identity Manager.

Federated provisioning components

The Tivoli Federated Identity Manager provisioning solution consists of a WS-Provisioning service and a set of functional components for an IBM Tivoli Directory Integrator assembly line. The following sections describe the components and how they are used:

- “WS-Provisioning service”
- “Transaction sequence for the assembly line and provisioning service” on page 163

WS-Provisioning service

The Tivoli Federated Identity Manager WS-Provisioning *provisioning service* is a Java 2 Enterprise Edition (J2EE) application. The purpose of this application is to route WS-Provisioning messages to a destination provisioning service, and to act as a security proxy for incoming and outgoing WS-Provisioning SOAP messages. The provisioning service off-loads the cost of securing messages from the client and server WS-Provisioning endpoints that make use of the proxy. The provisioning service uses WS-Security and WS-Trust to secure WS-Provisioning messages. The WS-Provisioning specification does not require that messages be secured, but real-world deployments combine WS-Provisioning with WS-Security and WS-Trust to ensure the security and integrity of the messages

- For outgoing messages, the application uses WebSphere to add WS-Security to the SOAP message and then proxies the secured message on to its destination. An example of a destination is another provisioning service.
- For incoming messages, the application uses either WebSphere or the Tivoli Federated Identity Manager Web Services Security Manager (WSSM) to authenticate the user by using the WS-Security information contained on the SOAP message. When the user has been authenticated, the application removes the WS-Security information and proxies (sends) the SOAP request on to its destination. The destination is a configured WS-Provisioning endpoint. An example of a destination is a IBM Tivoli Directory Integrator assembly line.

Table 15 lists the Tivoli Federated Identity Manager support for the WS-Provisioning interfaces.

Table 15. Support for WS-Provisioning interfaces

WS-Provisioning interface	Status
Provisioning interface	Supported
Notification interface	Not supported
Notification listener interface	

The implementation of the provisioning interface consists of the following functions:

- Receive a provisioning request.

- Forward the request to the configured target provisioning service endpoint.
- Receive the provisioning response and return it to the sender of the original provisioning request.

WS-Provisioning operations

The Tivoli Federated Identity Manager provisioning service supports the following WS-Provisioning operations:

- listTargets
- fetchTargets
- listProvisionedItems
- fetchProvisionedItems
- listProvisionedLifecycle
- listRequestStatus
- cancelRequest
- provision
- deprovision
- modifyProvisionedState
- modifyProvisionedParameters

The following WS-Provisioning operations are not supported:

- subscribe
- unsubscribe
- notify

For more information on WS-Provisioning operations, review the draft WS-Provisioning specification:

<http://www.ibm.com/developerworks/webservices/library/ws-provis/>

WS-Security

In a federated provisioning deployment, provisioning requests and responses are exchanged across a distributed network environment. These exchanges can include messages sent between business enterprises. The provisioning requests and responses typically contain sensitive data and therefore should be encrypted and signed.

Provisioning requests and responses should include a security token to authenticate the originator of the request and to make authorization decisions. The request SOAP body and the authentication security token should be signed and the SOAP body should be encrypted. The response SOAP body should also be signed and encrypted.

The provisioning service employs the Web services security infrastructure that is provided by the J2EE application server, such as WebSphere Application Server and configured using deployment descriptors. This security and its configuration are transparent to the provisioning service application, with no security-specific code required in the application.

One method of encrypting and signing provisioning messages is to use the Secure Socket Layers (SSL) protocol. This method secures messages at the transport layer. Another method is to use the WS-Security standard for message-based security.

The Tivoli Federated Identity Manager provisioning service does not by default contain WS-Security configuration. You can use WebSphere Application Server or Tivoli Federated Identity Manager Web services security manager to add WS-Security configuration.

The configuration of WS-Security is dependent on factors specific to each deployment. These factors include:

- The role of the provisioning service instance.
The role of the provisioning service is determined by whether it is responsible for *sending* provisioning requests or *receiving* provisioning requests. The *client* role sends provisioning requests. The *server* role receives provisioning requests and sends responses. In a federated provisioning deployment that includes federated single sign-on, the client side is the *identity provider* and the server side is the *service provider*.
- The specific business policy security requirements for signing and encryption.
Implementation of these requirements includes the definition and configuration of deployment-specific encryption keys.

Each instance of the provisioning service must be secured separately.

There are two ways to apply WS-Security to the provisioning service application:

- Use the WS-Security methods supplied by WebSphere Application Server .
These methods can be used on the client side, the server side, or both sides.
This WebSphere functionality, when used on the server side, includes basic token validation modules but does not include use of Tivoli Access Manager for authorization.
- Use the Tivoli Federated Identity Manager Web services security manager
This method can be used *on the server side only*.
The Tivoli Federated Identity Manager Web services security manager (WSSM) contains a component called the *WSSM token consumer*. The WSSM token consumer provides a callout to the Tivoli Federated Identity Manager trust service. The callout is used for token validation and for Web services authorization. The trust service uses Tivoli Access Manager to complete the authorization.

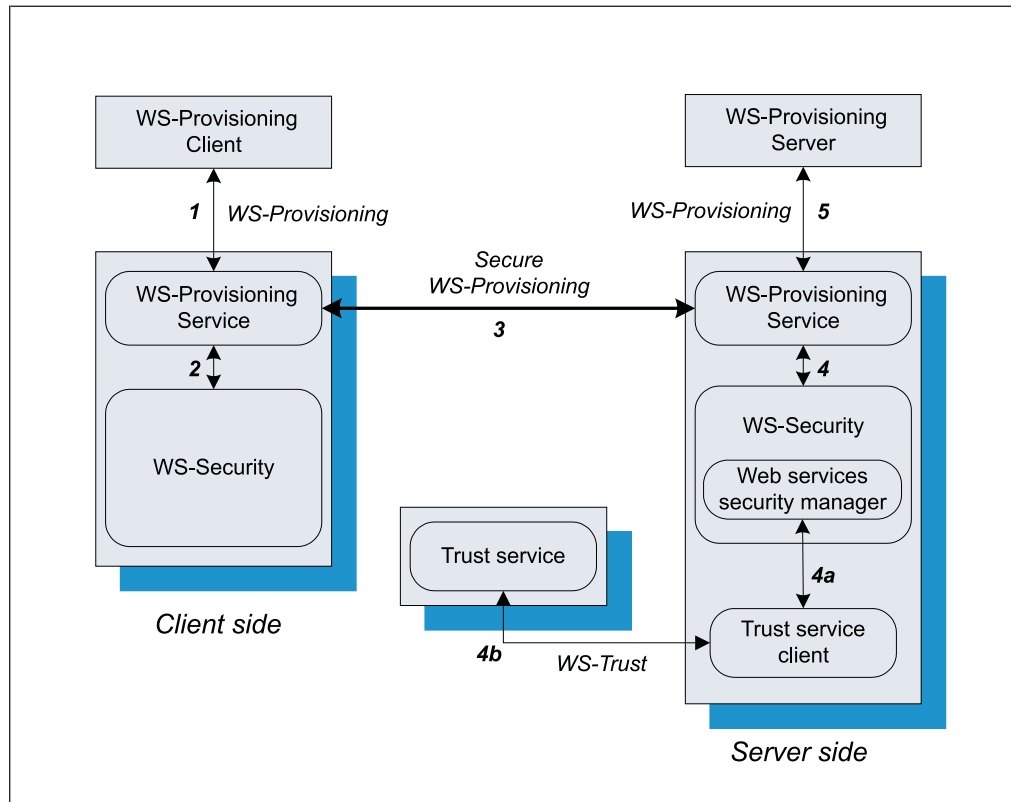


Figure 2. WS-Security use in the flow of WS-Provisioning messages

Figure 2 shows the message flow when securing WS-Provisioning messages:

1. The WS-Provisioning client sends a WS-Provisioning message to the provisioning service. (This message is not secured with WS-Security.)
An example of a WS-Provisioning client is the IBM Tivoli Directory Integrator assembly line.

2. The provisioning service adds WS-Security based on the configuration of the deployment descriptors.
This is the *client* or *sending* side of the provisioning deployment. On this side, WebSphere Application Server is used to add WS-Security.

3. The secured message is sent to the provisioning service on the *server* or *receiving* side of the deployment.

4. The provisioning service processes the message according to the WS-Security configuration.

The processing steps vary depending on the WS-Security configuration used.

- When WebSphere Application Server has been used to configure WS-Security, the message is processed based on the coarse-grained authorization provided by WebSphere Application Server .
- When Tivoli Federated Identity Manager Web services security manager has been used, finer-grained authorization can be achieved through the use of Tivoli Access Manager .
 - a. The Tivoli Federated Identity Manager message processing includes a call to a trust client (4a).
 - b. The trust client calls to the Tivoli Federated Identity Manager trust service (4b) to obtain authorization information for the request.

The trust service calls out to Tivoli Access Manager (not shown) for the authorization decision.

5. The WS-Provisioning message is sent to the WS-Provisioning server.

An example of a WS-Provisioning server is a IBM Tivoli Directory Integrator assembly line. The assembly line can process the message and, for example, deliver it to a local provisioning service such as IBM Tivoli Identity Manager.

Note: For more information on the Web services security manager, see the Tivoli Federated Identity Manager information center.

Provisioning service deployment

The provisioning service can receive requests from multiple WS-Provisioning clients, but it can forward requests to only a single target provisioning Web service. The handling of multiple requests is not supported because there is no standard way defined for the provisioning service to determine which target is to receive a request. As a result, only one proxy URL is configured.

When an identity provider wants to provision multiple service providers, the identity provider must deploy multiple instances of the provisioning service. This deployment is accomplished through the Tivoli Federated Identity Manager runtime deployment. Similarly, when the service provider has multiple provisioning systems then it must deploy multiple instances of the provisioning service.

There is no management interface to the provisioning service. The proxy URL is the only configuration parameter. The proxy URL is configured by setting a global parameter in the Tivoli Federated Identity Manager runtime custom properties.

Note: See “Configuring the client side” on page 185 for instructions on how to configure the proxy URL.

Transaction sequence for the assembly line and provisioning service

Tivoli Federated Identity Manager uses IBM Tivoli Directory Integrator to support enterprise-specific provisioning systems. IBM Tivoli Directory Integrator is a tool for integrating disparate data sources. A data source is accessed by using an IBM Tivoli Directory Integrator connector that is specific to the type of data source. For example, an LDAP *connector* is used by IBM Tivoli Directory Integrator to access LDAP directories.

IBM Tivoli Directory Integrator supports *functional components*. A functional component is a unit of logic that is similar to a connector but without the built-in logic that is required to interface with a specific type of data source. IBM Tivoli Directory Integrator connectors and functional components are configured into an *assembly line* in order to receive data, manipulate the data, and transport the data. Connectors and functional components present a common interface to assembly lines so that data can be processed in a uniform manner.

Assembly lines support the mapping of data between connectors and functional components. This means that the outputs from one connector become the inputs to another connector. Complex mapping, including the use of JavaScript, is also supported.

IBM Tivoli Directory Integrator event handlers or connectors, when running in server mode, can be triggered by an external event. When triggered, the handlers

or connectors start an assembly line. For example, the IBM Tivoli Directory Integrator LDAP event handler triggers a configured assembly line when LDAP directory changes match a previously established selection criteria.

Note: For more information, see the IBM Tivoli Directory Integrator documentation on the Tivoli information center:

<http://publib.boulder.ibm.com/infocenter/tiv2help/index.jsp>

The Tivoli Federated Identity Manager implementation of provisioning uses an assembly line on both the client side and server side. Both assembly lines are used when completing a provisioning request. The following list describes the sequence of assembly line events when a client submits a provisioning request.

1. An external event causes an IBM Tivoli Directory Integrator event handler to be notified.

In the demonstration scenario, the external event is an update to the IBM Directory Server, as flagged by an LDAP Change Log entry.

2. The event handler starts the assembly line (Figure 3). The event handler passes through any information that is required for the operation. The assembly line completes the following steps:
 - a. The Customer Connector takes the configured inputs, builds a WS-Provisioning Java object, and passes it to the Axis JavaToSoap functional component.
 - b. The Axis JavaToSoap functional component builds a WS-Provisioning SOAP request and passes it to the InvokeSoapWS functional component.
 - c. The InvokeSoapWS functional component produces a WS-Provisioning request and sends it to the Tivoli Federated Identity Manager provisioning service.

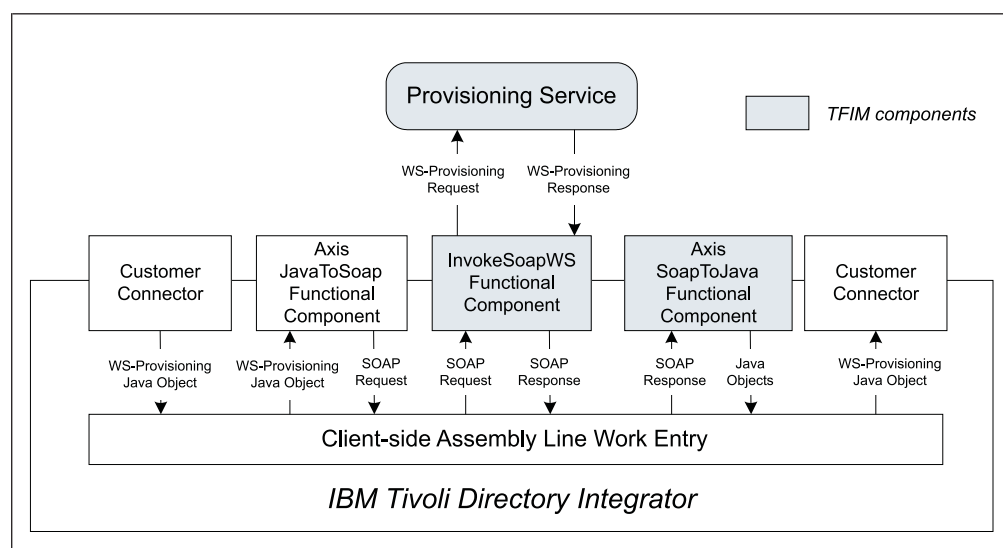


Figure 3. Client-side (identity provider) assembly line

3. The client-side (identity provider) provisioning service optionally adds WS-Security to the SOAP request. The provisioning service sends the SOAP message to the server-side (service provider) provisioning service.
4. The service provider provisioning service receives the SOAP request. The provisioning service:
 - a. Authenticates the caller by using WS-Security information.

This authentication can include use of the WSSM token consumer within the WS-Security configuration. Use of the WSSM token consumer allows the Tivoli Federated Identity Manager trust service to authenticate the caller and to use Tivoli Access Manager to authorize the request.

- b. Removes the WS-Security information and proxies the request to the IBM Tivoli Directory Integrator entry point.
5. The server-side entry point for IBM Tivoli Directory Integrator starts the assembly line and passes through the information required for the provisioning operation. The assembly line (Figure 4) completes the following steps:
 - a. The WS-Receiver server connector passes the SOAP request to the Axis SoapToJava functional component.
 - b. The Axis SoapToJava functional component generates the WS-Provisioning request Object and passes it to the Customer assembly line connector(s).
 - c. The Customer assembly line connector(s) execute the provisioning operation and return a WS-provisioning response object to the Axis JavaToSoap functional component.
 - d. The Axis JavaToSoap functional component packages the WS-provisioning response object as a SOAP response and passes it to the WS-Receiver server connector.
 - e. The WS-Receiver server connector sends the response to the server-side provisioning service.

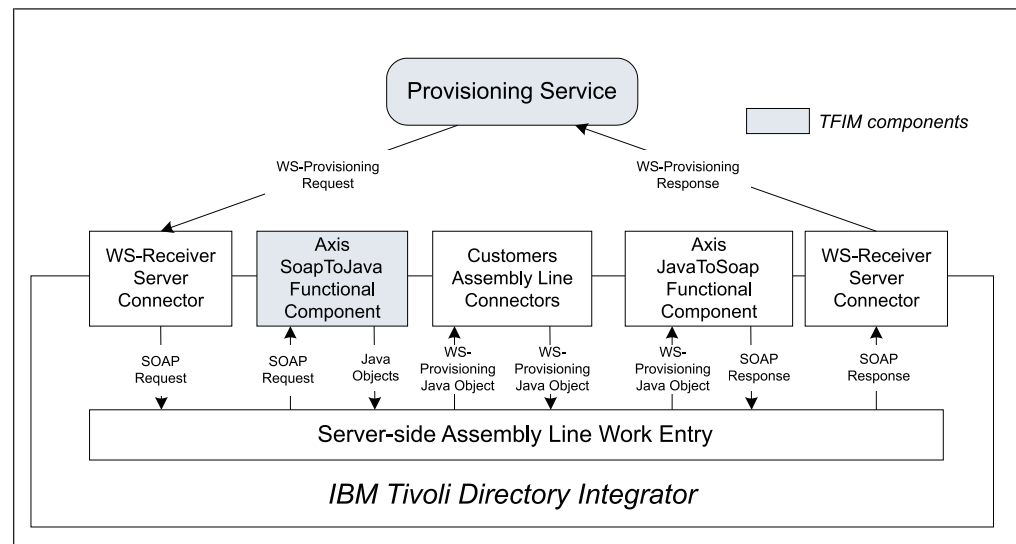


Figure 4. Server-side (service provider) assembly line

6. The server-side provisioning service adds WS-Security to the response and sends it to the client-side provisioning service.
7. The client-side provisioning service receives the SOAP response from the service provider.
8. The provisioning service authenticates the response using WS-Security headers. When authentication is complete, the provisioning service removes the WS-Security headers from the SOAP request and returns the WS-Provisioning response to the assembly line (Figure 3 on page 164). The assembly line completes the following steps:
 - a. The InvokeSoapWS functional component receives the WS-Provisioning response, produces a corresponding SOAP response, and passes the SOAP response to the Axis SoapToJava functional component.

- b. The Axis SoapToJava functional component converts the SOAP response to a WS-Provisioning response object, and sends it to the Customer Connector.

WS-Provisioning demonstration scenario

The Tivoli Federated Identity Manager provisioning component includes a simple customer-provisioning scenario. The scenario provides additional code that has been developed to work with the Tivoli Federated Identity Manager WS-Provisioning components.

The sample scenario uses the fictional entities MyEmployer and BenefitsCompany as examples of the provider roles within a Tivoli Federated Identity Manager single sign-on federation. MyEmployer is an identity provider, and BenefitsCompany is a service provider.

The provisioning target for the WS-Provisioning scenario is Tivoli Access Manager running on the BenefitsCompany server. There is a one-to-one mapping between Tivoli Access Manager user accounts at MyEmployer and Tivoli Access Manager user accounts at BenefitsCompany. That is, for every account at MyEmployer there is a corresponding Tivoli Access Manager account at BenefitsCompany. These accounts share the same user name.

Figure 5 displays XML code that represents the ProvisioningTarget for Tivoli Access Manager at BenefitsCompany.

```
<?xml version="1.0" encoding="UTF-8"?>
<core:ProvisioningTarget xmlns:core="urn:ibm:names:ws:provisioning:0.1:core"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:ibm:names:ws:provisioning:0.1:core core.xsd
  http://www.w3.org/XML/1998/namespace xml.xsd ">

  <core:identifier name="BenefitsCompany TAM"/>

</core:ProvisioningTarget>
```

Figure 5. XML code defining the ProvisioningTarget at BenefitsCompany

Figure 6 on page 167 displays the XML schema for defining a user in the Tivoli Access Manager target:


```

<?xml version="1.0" encoding="UTF-8"?>

<schema targetNamespace="http://www.ibm.com/TAMUser"
  xmlns:core="urn:ibm:names:ws:provisioning:0.1:core"
  xmlns:tamuser="http://www.ibm.com/TAMUser"
  xmlns="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">

  <import namespace="urn:ibm:names:ws:provisioning:0.1:core"
    schemaLocation="core.xsd" />

  <complexType name="TAMUserType">
    <sequence>
      <element name="ip_identifier" type="string" />
      <element name="username" type="string" minOccurs="0" />
      <element name="password" type="string" minOccurs="0" />
      <element name="email" type="string" minOccurs="0" />
    </sequence>
  </complexType>

  <element name="TAMUser" type="tamuser:TAMUserType" />

</schema>

```

Figure 6. XML schema for defining a Tivoli Access Manager user

The element `ip_identifier` is used to uniquely identify the Tivoli Access Manager user. This element is used because the IBM Tivoli Directory Integrator event handler that detects modifications to LDAP at the identity provider does not always have access to the Tivoli Access Manager user name. In particular, when an LDAP delete operation occurs, only the Distinguished Name (DN) of the object being deleted is made available to the LDAP event handler. The `ip_identifier` element is the base-64 encoded LDAP DN of the user's ePerson record.

The service provider treats this identifier as an opaque string and stores it with the user's record when creating a new user. When a delete or modification occurs, the service provider uses this identifier to perform a lookup for the user, and operates on the appropriate user object.

The demonstration scenario exercises a subset of the supported WS-Provisioning operations. The operations are handled synchronously and are triggered by an IBM Tivoli Directory Integrator connector at MyEmployer. The connector monitors the LDAP change log of the Tivoli Access Manager user registry at MyEmployer.

The WS-Provisioning operations used in the demonstration scenario are:

- “provision()”
- “deprovision()” on page 168
- “modifyProvisionedState()” on page 169
- “modifyProvisionedParameters()” on page 170

provision()

This operation creates a new Tivoli Access Manager user account at BenefitsCompany, based upon the addition of an account at MyEmployer. The Tivoli Access Manager **pdadmin** operations at MyEmployer that result in a `provision()` call are:

```

user create
user import

```

Figure 7 shows an example SOAP message for a sample provision() request.

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Body>
    <api:ProvisionRequest
      xmlns:api="urn:ibm:names:ws:provisioning:0.1:api"
      xmlns:core="urn:ibm:names:ws:provisioning:0.1:core">
      <api:target name="BenefitsCompany TAM" />
      <api:parameters>
        <tamuser:TAMUser
          xmlns:tamuser="http://www.ibm.com/TAMUser">
          <tamuser:ip_identifier>opaque_id
            </tamuser:ip_identifier>
          <tamuser:username>bmarley</tamuser:username>
        </tamuser:TAMUser>
      </api:parameters>
    </api:ProvisionRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Figure 7. Example SOAP message for provision() request

Figure 8 shows an example SOAP message for a sample provision response.

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Body>
    <api:ProvisionResponse
      xmlns:api="urn:ibm:names:ws:provisioning:0.1:api"
      xmlns:core="urn:ibm:names:ws:provisioning:0.1:core">
      <api:status>
        <core:code>success</core:code>
      </api:status>
      <api:item>
        <core:identifier name="opaque_string" />
        <core:target name="BenefitsCompany TAM" />
        <core:state>created</core:state>
        <core:parameters>
          <tamuser:TAMUser
            xmlns:tamuser="http://www.ibm.com/TAMUser">
            <tamuser:ip_identifier>opaque_string
              </tamuser:ip_identifier>
            <tamuser:username>bmarley</tamuser:username>
          </tamuser:TAMUser>
        </core:parameters>
      </api:item>
    </api:ProvisionResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Figure 8. Example SOAP message for provision() response

deprovision()

This operation deletes a Tivoli Access Manager account at BenefitsCompany based on the deletion of a Tivoli Access Manager account at MyEmployer. The only **pdadmin** operations at MyEmployer that result in a deprovision() call are:

```
user delete -registry name_of_user
```

Figure 9 shows an example SOAP message for a sample `deprovision()` request.

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Body>

    <api:DeprovisionRequest
      xmlns:api="urn:ibm:names:ws:provisioning:0.1:api"
      xmlns:core="urn:ibm:names:ws:provisioning:0.1:core">
      <api:item>
        <core:identifier name="opaque_string" />
        <core:target name="BenefitsCompany TAM" />
      </api:item>
    </api:DeprovisionRequest>

  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Figure 9. Example SOAP message for `deprovision()` request

Figure 10 shows an example SOAP message for a sample `deprovision()` response.

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Body>

    <api:DeprovisionResponse
      xmlns:api="urn:ibm:names:ws:provisioning:0.1:api"
      xmlns:core="urn:ibm:names:ws:provisioning:0.1:core">
      <api:status>
        <core:code>success</core:code>
      </api:status>
    </api:DeprovisionResponse>

  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Figure 10. Example SOAP message for `deprovision()` response

modifyProvisionedState()

This operation enables or disables the corresponding Tivoli Access Manager user account at BenefitsCompany based on Tivoli Access Manager user commands performed at MyEmployer. Sample Tivoli Access Manager **pdadmin** account command:

```
user modify name_of_user account-valid [ yes | no ]
```

Figure 11 on page 170 shows an example SOAP message for a sample `modifyProvisionedState()` request.

```

<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Body>

    <api:ModifyProvisionedStateRequest
      xmlns:api="urn:ibm:names:ws:provisioning:0.1:api"
      xmlns:core="urn:ibm:names:ws:provisioning:0.1:core">
      <api:item>
        <core:identifier name="opaque_string" />
        <core:target name="BenefitsCompany TAM" />
      </api:item>
      <api:state>suspended</api:state>
    </api:ModifyProvisionedStateRequest>

  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Figure 11. Example SOAP message for modifyProvisionedState() request

Figure 12 shows an example SOAP message for a sample modifyProvisionedState() response.

Note that the response contains information about the new state of the provisioned item, but does not contain all of the parameters for the item.

```

<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Body>

    <api:ModifyProvisionedStateResponse
      xmlns:api="urn:ibm:names:ws:provisioning:0.1:api"
      xmlns:core="urn:ibm:names:ws:provisioning:0.1:core">
      <api:status>
        <core:code>success</core:code>
      </api:status>
      <api:item>
        <core:identifier name="opaque_string" />
        <core:target name="BenefitsCompany TAM" />
        <core:state>suspended</core:state>
      </api:item>
    </api:ModifyProvisionedStateResponse>

  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Figure 12. Example SOAP message for modifyProvisionedState() response

modifyProvisionedParameters()

This operation is used to update the emailAddress attribute of a user at BenefitsCompany when that attribute changes at MyEmployer. For this scenario, no other attribute changes are propagated from MyEmployer to BenefitsCompany.

Figure 13 on page 171 shows an example SOAP message for a sample modifyProvisionedParameters() request.

```

<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Body>

    <api:ModifyProvisionedParametersRequest
      xmlns:api="urn:ibm:names:ws:provisioning:0.1:api"
      xmlns:core="urn:ibm:names:ws:provisioning:0.1:core">
      <api:item>
        <core:identifier name="opaque_string" />
        <core:target name="BenefitsCompany TAM" />
      </api:item>
      <api:modification>
        <api:operation>replace</api:operation>
        <api:selector>
          <core:select>/tamuser:TAMUser/email
            </core:select>
          <core:namespace prefix="tamuser"
            uri="http://www.ibm.com/TAMUser" />
          </core:select>
        </api:selector>
        <api:parameters>
          <tamuser:email
            xmlns:tamuser="http://www.ibm.com/TAMUser">
            bob_marley@myemployer.com
          </tamuser:email>
        </api:parameters>
      </api:modification>
    </api:ModifyProvisionedParametersRequest>

  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Figure 13. Example SOAP message for `modifyProvisionedParameters()` request

Figure 14 shows an example SOAP message for a sample `modifyProvisionedParameters()` response.

```

<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Body>

    <api:ModifyProvisionedParametersResponse
      xmlns:api="urn:ibm:names:ws:provisioning:0.1:api"
      xmlns:core="urn:ibm:names:ws:provisioning:0.1:core">
      <api:requestStatus>
        <core:code>success</core:code>
      </api:requestStatus>
      <api:modificationStatus>
        <core:status>
          <core:code>success</core:code>
        </core:status>
      </api:modificationStatus>
    </api:ModifyProvisionedParametersResponse>

  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Figure 14. Example SOAP message for `modifyProvisionedParameters()` response

Chapter 19. Configuring provisioning

About this task

Configuration of Tivoli Federated Identity Manager provisioning includes integration with IBM Tivoli Directory Integrator and configuration of the provisioning service. Securing of the provisioning service is optional, but is typically included in the configuration steps.

Complete the instructions in each of the following topics:

- “Deploying the IBM Tivoli Directory Integrator file”
- “Configuring the provisioning service” on page 174
- “Securing the provisioning service” on page 175

Deploying the IBM Tivoli Directory Integrator file

About this task

Tivoli Federated Identity Manager provides a WS-Provisioning JAR file for use by IBM Tivoli Directory Integrator.

`provisioning/idi jars/itfim-provisioning.jar`

The file must be copied from the default Tivoli Federated Identity Manager directory to the IBM Tivoli Directory Integrator installation directory.

The Tivoli Federated Identity Manager runtime component is installed on a system that also hosts WebSphere Application Server. IBM Tivoli Directory Integrator can be installed on that same system or on a remote system. This means that you will need to create either a *local* copy or a *remote* copy of the JAR file, depending on your deployment.

You can create a local copy in the following deployment environments:

- When IBM Tivoli Directory Integrator is to be used in a WebSphere Application Server single-server deployment, and is installed on the *same* system as the WebSphere Application Server.
- When IBM Tivoli Directory Integrator is to be used in a WebSphere Application Server cluster deployment, and is installed on the *same* system as the Deployment Manager.

You must create a remote copy in the following deployment environments:

- When IBM Tivoli Directory Integrator is to be used in a WebSphere Application Server single-server deployment, and is installed on a *different* system than the WebSphere Application Server.
- When IBM Tivoli Directory Integrator is to be used in a WebSphere Application Server cluster deployment, and is installed on a *different* system than the Deployment Manager.

Note that IBM Tivoli Directory Integrator can be located on one of the cluster nodes, or on a host system that is not configured into the cluster.

Procedure

1. Complete the file copy:
 - UNIX
Copy:
`/opt/IBM/FIM/provisioning/idiars/itfim-provisioning.jar`
into this directory:
`/opt/IBM/IBMDirectoryIntegrator/jars`
 - Windows
Copy:
`C:\Program Files\opt\IBM\FIM\provisioning\idiars\itfim-provisioning.jar`
into this directory:
`C:\Program Files\opt\IBM\IBMDirectoryIntegrator\jars`
2. Continue with “Configuring the provisioning service.”

Configuring the provisioning service

About this task

Complete the following steps:

Procedure

1. If you are configuring the provisioning service into a WebSphere Application Server *cluster* environment, you must deploy the provisioning service EAR file.

Note: If you are configuring the provisioning service into a WebSphere Application Server *single-server* environment, skip this step. Continue with step 2.

The Tivoli Federated Identity Manager provisioning service EAR file is installed as part of the Tivoli Federated Identity Manager runtime component. When you install the runtime component onto a WebSphere Application Server ND (Network Deployment) Deployment Manager, as part of a cluster environment, the provisioning service file is also installed on the Deployment Manager. This file is installed as:

`provisioning/itfim-provisioning.ear`

When you *deploy* the runtime component, the Tivoli Federated Identity Manager runtime files are programmatically pushed from the Deployment Manager out to each node in the cluster. However, the provisioning service EAR file is *not* pushed to each node. You must manually copy the provisioning file to each of the target nodes.

For each node:

- a. Create the directory `provisioning` under the Tivoli Federated Identity Manager runtime installation directory.
 - b. Copy `itfim-provisioning.ear` from the Deployment Manager to the `provisioning` directory on the node.
2. Specify the proxy URL configuration.

The proxy URL is configured using the *custom properties* feature of the Tivoli Federated Identity Manager runtime. Use the Tivoli Federated Identity Manager console to specify custom properties. The default custom runtime properties file contains a placeholder entry for the proxy service URL. The default setting is:


```
provisioning.proxyDestinationURL =  
http://your.provisioning.endpoint:9999/wsp/wspservice
```

- On the client side, you must change this value to point to the partner WS-Provisioning service.
- On the server side, you must change this value to point to the local IBM Tivoli Directory Integrator service.
 - a. Log in to the Tivoli Federated Identity Manager administration console.
 - b. Click **Tivoli Federated Identity Manager → Domain Management → Runtime Node Management**.
The Runtime Nodes portlet is displayed.
 - c. Click **Runtime Custom Properties**.
The Runtime Custom Properties portlet is displayed.
 - d. Select the table row that contains the Name entry **provisioning.proxyDestinationURL**.
 - e. Replace the default entry in the Value column with the value of your provisioning endpoint.
 - Client side:
For example, when the host system of the provisioning service is sp.example.com, and WebSphere Application Server listens on port 9080, an example value is:
`http://sp.example.com:9080/wsp/wspservice`
 - Server side:
For example, when the host system of the local IBM Tivoli Directory Integrator service is sp.example.com, and the IBM Tivoli Directory Integrator assembly line processes requests on port 8888, an example value is:
`http://sp.example.com:8888/wsp/wspservice`
 - f. Click **OK**.

Results

Note: The provisioning service does not require that a Tivoli Federated Identity Manager single sign-on federation be created and configured. However, in some cases, you might want to also configure a Tivoli Federated Identity Manager single sign-on federation. The provisioning service can be used in conjunction with federated single sign-on to enable federated user accounts to be provisioned.

Securing the provisioning service

About this task

WS-Security configuration is used to protect messages between the client side provisioning service and the server side provisioning service. You can use WebSphere Application Server to add WS-Security on both the client side and server side. Optionally, on the server side only, you can use the Tivoli Federated Identity Manager Web services security manager (WSSM) to add WS-Security. When using WSSM, you can configure the WSSM token consumer to provide a callout to the Tivoli Federated Identity Manager trust service for authorization and security token validation.

To secure the provisioning service, you must modify the provisioning service Web module that is distributed as part of the Tivoli Federated Identity Manager runtime component application. This topic describes how to modify the module.

When the Web module has been modified, you must then redeploy the Tivoli Federated Identity Manager runtime application. The redeployment steps vary depending on whether you have a WebSphere cluster environment or a standalone WebSphere Application Server.

Summary of tasks:

Procedure

1. Use a development environment, such as Rational® Application Developer, to update the deployment descriptors in the Tivoli Federated Identity Manager runtime component. Tasks:
 - a. Import the runtime EAR file into a development environment, in preparation for modifying the file contents.
 - b. Update the Web Services Security deployment descriptors for the provisioning service.
 - c. Export the modified descriptors (as the development project) to a new Tivoli Federated Identity Manager EAR file, and copy it to the proper location
2. Use the Tivoli Federated Identity Manager administration console to deploy and configure the updated Tivoli Federated Identity Manager runtime component.
 - a. Unconfigure and deploy any existing runtime component.
 - b. Deploy and configure the updated runtime component.

Results

Complete the instructions in the following topics:

1. “Adding WS-Security to the provisioning runtime component”
2. “Deploying the updated provisioning runtime component” on page 179

Adding WS-Security to the provisioning runtime component

About this task

Complete the following instructions:

Procedure

1. “Importing the runtime component into a development toolkit”
2. “Adding WS-Security configuration to the provisioning service” on page 177
3. “Exporting the Tivoli Federated Identity Manager project” on page 178

Results

Importing the runtime component into a development toolkit

About this task

You can use either Rational Application Developer or WebSphere Application Server Toolkit to modify the Tivoli Federated Identity Manager runtime component.

The following instructions describe the use of Rational Application Developer. The steps required for WebSphere Application Server Toolkit are similar.

Procedure

1. Start Rational Application Developer. Select **File → Import**. The Import window is displayed. You are prompted to select an external EAR file for import into an Enterprise Application project.
2. Select **EAR file** and click **Next**.
3. Browse to the Tivoli Federated Identity Manager runtime file:
 - UNIX
/opt/IBM/FIM/pkg/release/itfim.ear
 - Windows
C:\Program Files\opt\FIM\pkg\release\itfim.ear
4. Import the file. Accept the default settings. Click **Finish**.
5. When prompted, switch to J2EE Perspective. Ignore any messages in the Problems window related to building the product.
6. Continue to “Adding WS-Security configuration to the provisioning service.”

Adding WS-Security configuration to the provisioning service About this task

This topic continues from the instructions in “Importing the runtime component into a development toolkit” on page 176.

Continuing in the Rational Application Developer, complete the following instructions:

Procedure

1. Expand the **Web Services** folder.
The folder contains two entries: **Services** and **Clients**.
2. Choose one:
 - When you are deploying provisioning on the client side, use the **Clients** section. Edit the **ProvisioningServiceWeb: service/ProvisioningService** entry. Double click the entry to edit it.
 - When you are deploying provisioning on the server side, Use the **Services** section. Edit the **ProvisioningService** entry. Double click the entry to edit it.
3. Use either the WebSphere documentation or the *Tivoli Federated Identity Manager Web Services Security Manager Guide* to add appropriate WS-Security bindings and extensions configuration items for the Web services deployment descriptors. .
 - To use the WebSphere documentation, continue with step 4.
 - To use the *Tivoli Federated Identity Manager Web Services Security Manager Guide*, continue with step5 on page 178. .
4. Access the **WebSphere Application Server information center**
<http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp>
 - a. In the left panel, select **WebSphere Application Server Network Deployment, Version 6.0.x**
 - b. In the left panel, select **How do I?.. Securing applications and their environments**.

- c. In the right panel, scroll down to the section **Use Web services security (WS-Security)**.
- d. Select the **Documentation** link. Review the topics displayed in the right panel, and complete the necessary steps to secure the provisioning service application.
- e. Continue with step 6

5. Access the **Tivoli Federated Identity Manager information center**

http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?toc=/com.ibm.tivoli.fim.doc_6.2.1/toc.xml

- a. On the Welcome page (right panel), select the **Additional product documentation** link.
 - b. Select the link for the *Tivoli Federated Identity Manager Web Services Security Manager Guide*
 - c. Follow the instructions for installing and configuring the Tivoli Federated Identity Manager Web services security manager component.
 - d. Complete the topic *Enabling Web services security management*
 - e. Complete the topic *Enabling application security*
 - f. Complete the topic *Enabling global security in WebSphere Application Server*
6. Configure keystore files

Note: This step applies only within a WebSphere cluster environment. If you are deploying into a WebSphere single-server environment, skip this step and continue with step 7.

When you reference keystore files for the encryption and the signing of keys, each keystore file must be copied to each WebSphere Application Server node where the Tivoli Federated Identity Manager runtime component is deployed.

- The WebSphere WS-Security examples demonstrate use of the `${USER_INSTALL_ROOT}` variable as a prefix to the key store path. When WebSphere is installed in the default location, the value of this variable is `/opt/IBM/WebSphere/AppServer`.
- The Tivoli Federated Identity Manager Web services security manager documentation shows an example where the keystore filename is used without a preceding path variable. When using this type of naming, the default directory for locating the file is the profile-specific subdirectory under WebSphere.

For example:

- *If* your keystore file is named `wssm_client.jks`
- *And* the name `wssm_client.jks` is entered as the key store path, without a prepended WebSphere variable or path
- *And* the Application Server profile is `AppSrv01`
- *Then* the `wssm_client.jks` file should be copied to:
`/opt/IBM/WebSphere/AppServer/profiles/AppSrv01`

Note: This file must be manually copied to *every* node in the cluster.

7. Continue to “Exporting the Tivoli Federated Identity Manager project.”

Exporting the Tivoli Federated Identity Manager project

About this task

This topic continues from the instructions in “Adding WS-Security configuration to the provisioning service” on page 177.

After you have completed the configuration of WS-Security, export the modified Tivoli Federated Identity Manager project. Use either Rational Application Developer or the WebSphere Application Server Toolkit.

Procedure

1. In the development toolkit, open the **Enterprise Applications** folder in the J2EE Perspective view.
2. Locate the project and right-click it.
For example, you would right-click on the **itfim** project. A menu window is displayed.
3. Click **Export → EAR file**.
4. Save the new itfim.ear to a local file. For example:
`/tmp/itfim.ear`
5. Backup the original file:
`/opt/IBM/pkg/release/itfim.ear`
Complete this backup on the WebSphere Network Deployment manager (when working in a cluster environment) or on the WebSphere Application Server (when using a standalone WebSphere Application Server).
6. Copy the new itfim.ear file to the original location of itfim.ear. For example:
`# cp /tmp/itfim.ear /opt/IBM/pkg/release/itfim.ear`
7. Continue to “Deploying the updated provisioning runtime component.”

Deploying the updated provisioning runtime component

About this task

After you have updated the runtime component, as described in “Adding WS-Security to the provisioning runtime component” on page 176, you must deploy it into WebSphere and configure it into Tivoli Access Manager.

Complete the following instructions:

Procedure

1. “Unconfiguring and removing the currently deployed runtime”
2. “Deploying and configuring the updated Tivoli Federated Identity Manager runtime component” on page 180

Results

Unconfiguring and removing the currently deployed runtime

About this task

Note: If you have not previously deployed the Tivoli Federated Identity Manager runtime, you can skip this step.

The unconfigure step removes the Tivoli Federated Identity Manager runtime from the configuration for Tivoli Access Manager. This process includes the removal of the application identity (for the Tivoli Federated Identity Manager application) from the Tivoli Access Manager domain.

You must remove the configuration for a node before you can remove the runtime application from WebSphere. In a WebSphere cluster environment, you must unconfigure every node before you can remove the runtime.

Procedure

1. Click **Tivoli Federated Identity Manager → Domain Management → Runtime Node Management**.
2. Select the check box in the **Select** column next to the runtime you want to unconfigure. The **Unconfigure** button is now activated.
3. Click **Unconfigure**. The Runtime Node configuration is removed.
4. If you want to remove the runtime, and you have deployed Tivoli Federated Identity Manager into a WebSphere cluster environment, repeat the previous step for every node in the cluster. When the process completes, the Runtime Nodes portlet is redrawn.
5. Observe that the check marks have been removed from the **Configured** and **Enabled** fields for the table entry.

Results

When you have removed the configuration for a runtime, you can remove the runtime component files.

1. Click **Tivoli Federated Identity Manager → Domain Management → Runtime Node Management**.
2. The Current Domain portlet and the Runtime Nodes portlet are displayed.
3. In the Runtime Nodes portlet, click **Remove Runtime**.
The runtime is removed from the domain. No further input is required.
Observe that the **Remove Runtime** button becomes deactivated upon completion of the process.
A message is displayed that indicates that the runtime has been successfully removed from all the nodes.
4. Continue to “Deploying and configuring the updated Tivoli Federated Identity Manager runtime component.”

Deploying and configuring the updated Tivoli Federated Identity Manager runtime component

About this task

Attention: If you already have a runtime deployed, you must first remove it. See “Unconfiguring and removing the currently deployed runtime” on page 179.

Complete the following instructions:

Procedure

1. Verify that you have copied the modified itfim.ear file into the expected installation location:
`/opt/IBM/FIM/pkg/release/itfim.ear`
This step was completed as part of the instructions in “Exporting the Tivoli Federated Identity Manager project” on page 178.
2. Deploy the new runtime file as a WebSphere application. Summary of the configuration steps:
 - a. At the Tivoli Federated Identity Manager console, click **Tivoli Federated Identity Manager → Domain Management → Runtime Node Management**. The Runtime Nodes portlet is displayed
 - b. The Runtime Nodes portlet contains a section titled Runtime Management. This section displays runtime information and contains a button for

deploying the runtime. Click **Deploy Runtime**. The runtime is deployed as a WebSphere Application Server application. This might take a few seconds

- c. Restart the WebSphere server.

For complete instructions see the topic "Deploying the runtime as a WebSphere Application Server application" in the "Domains" section of the *Tivoli Federated Identity Manager Administration Guide*.

3. Configure the new runtime component into the Tivoli Access Manager environment.

Summary of instructions:

- a. Click **Tivoli Federated Identity Manager → Domain Management → Runtime Node Management**. The Runtime node table displays the deployed runtimes.
- b. Select the check box in the **Select** column next to the node that you want to configure. The **Configure** button is now activated.
- c. Click **Configure**.

Note: In a cluster environment, this must be done for *every* node in the table.

The Runtime Node configuration is started. No further input is required. When the runtime configuration completes, the Runtime Nodes portlet is redrawn.

For complete instructions see the topic "Configuring the runtime into Tivoli Access Manager" in the "Domains" section of the *Tivoli Federated Identity Manager Administration Guide*.

Chapter 20. Provisioning demonstration scenario

About this task

To use the provisioning demonstration scenario, complete the instructions in each of the following topics:

Procedure

1. "Configuring the demonstration scenario"
2. "Running the provisioning demonstration scenario" on page 190
3. "Verifying provisioning demo" on page 191

Configuring the demonstration scenario

About this task

To configure the demonstration scenario, you must deploy several demonstration files, and then configure properties files and constants files for the demonstration scenario. The deployment steps are dependent on the distributed application topology, and the configuration steps are specific to either the client side or the server side.

Before configuring the demonstration, you must complete configuration of the provisioning service. Verify that you have completed the instructions in Chapter 19, "Configuring provisioning," on page 173.

To configure the demonstration, complete each of the following instructions:

Procedure

1. "Deploying the demonstration file for IBM Tivoli Directory Integrator"
2. "Deploying the demonstration scenario files" on page 184
3. "Configuring the client side" on page 185
4. "Configuring the server side" on page 187

Results

Deploying the demonstration file for IBM Tivoli Directory Integrator

About this task

Tivoli Federated Identity Manager provides a demonstration scenario WS-Provisioning JAR file for use by IBM Tivoli Directory Integrator :
`provisioning/scenario/itfim-provisioning-scenario.jar`

The file must be copied from the default installation directory to the IBM Tivoli Directory Integrator jars directory.

The Tivoli Federated Identity Manager runtime component is always installed on a system that also hosts WebSphere Application Server IBM Tivoli Directory

Integrator can be installed on that same (local) system or on a remote system. This means that you will need to create either a *local* copy or a *remote* copy of the JAR file, depending on your deployment.

You can create a local copy in the following deployment environments:

- When IBM Tivoli Directory Integrator is to be used in a WebSphere Application Server single-server deployment, and is installed on the *same* system as the WebSphere Application Server.
- When IBM Tivoli Directory Integrator is to be used in a WebSphere Application Server cluster deployment, and is installed on the *same* system as the Deployment Manager.

You must create a remote copy in the following deployment environments:

- When IBM Tivoli Directory Integrator is to be used in a WebSphere Application Server single-server deployment, and is installed on a *different* system as the WebSphere Application Server.
- When IBM Tivoli Directory Integrator is to be used in a WebSphere Application Server cluster deployment, and is installed on a *different* system than the Deployment Manager.

Note that IBM Tivoli Directory Integrator can be located either on one of the cluster nodes, or on a host system that is not configured into the cluster.

Procedure

1. Complete the file copy:

- UNIX

Copy 2 files:

```
/opt/IBM/FIM/provisioning/scenario/itfim-provisioning-scenario.jar  
/opt/IBM/FIM/provisioning/idiars/itfim-provisioning.jar
```

into the appropriate directory: (for):

- Tivoli Directory Integrator 6.0
/opt/IBM/IBMDirectoryIntegrator/jars
- Tivoli Directory Integrator 6.1.1
/opt/IBM/TDI/V6.1.1/jars

- Windows

Copy:

```
C:\Program Files\opt\IBM\FIM\provisioning\scenario\  
itfim-provisioning-scenario.jar  
C:\Program Files\opt\IBM\FIM\provisioning\idiars\itfim-provisioning.jar
```

into the appropriate directory: (for):

- Tivoli Directory Integrator 6.0
C:\Program Files\opt\IBM\IBMDirectoryIntegrator\jars
- Tivoli Directory Integrator 6.1.1
C:\Program Files\opt\IBM\TDI\V6.1.1\jars

2. Continue with “Deploying the demonstration scenario files.”

Deploying the demonstration scenario files

About this task

When you want to use the provisioning demonstration scenario in a WebSphere Application Server *cluster* environment, you must manually deploy the demonstration scenario files.

Note: If you are deploying the provisioning demonstration scenario into a WebSphere Application Server *single-server* environment, you can skip this topic. Continue with “Configuring the client side” or “Configuring the server side” on page 187, as appropriate.

The provisioning demonstration scenario files are by default installed in:
provisioning/scenario/*

The provisioning demonstration scenario files are installed as part of the Tivoli Federated Identity Manager runtime component. When the runtime component is installed into a WebSphere Application Server cluster environment, the runtime component files are programmatically deployed (pushed out) to each node in the cluster. However, the provisioning demonstration scenario files are *not* programmatically deployed. You must manually copy the files to each node in the cluster.

Procedure

1. For each node:
 - a. Create the subdirectory `scenario` within the provisioning directory.
The provisioning directory should exist from your prior copying of `itfim-provisioning.ear` to the node.
 - b. Copy all of the scenario files from the Deployment Manager to the `provisioning/scenario` directory on the node.
2. Continue with either “Configuring the client side” or “Configuring the server side” on page 187, depending on the role of the demonstration scenario provisioning service.

Configuring the client side

About this task

Complete the following instructions:

Procedure

1. Configure the IBM Tivoli Directory Server change log.
IBM Tivoli Directory Server supports creation of a change log database. This database is used to record changes to the schema or directory entries in a typical LDAP entry structure. The change log records all update operations, such as add, delete, modify, and modrdn.
IBM Tivoli Directory Integrator operates as a client application of IBM Tivoli Directory Server, and uses the change log in order to retrieve a set of changes that have been made to the IBM Tivoli Directory Server database. The activities logged in the change log are used by IBM Tivoli Directory Integrator to trigger provisioning events.
You can use either graphical Configuration Tool or the `idscfgchglg` command line utility to enable the change log.

Note: The above instructions apply to IBM Tivoli Directory Server 6.0. When you are using IBM Tivoli Directory Server 5.2, the commands are different. The Configuration Tool is described in the *IBM Tivoli Directory Server Installation Guide*. The command line utility is described in both the *IBM Tivoli Directory Server Installation Guide* and the *IBM Tivoli Directory Server Administration Guide*. Refer to the product documentation for your version of IBM Tivoli Directory Server.

Note: You can access further instructions at the IBM Tivoli Directory Server information center:

<http://publib.boulder.ibm.com/infocenter/tiv2help/index.jsp?toc=/com.ibm.IBMDS.doc/toc.xml>

2. Update the settings in the client-side properties file for the example scenario:

- **UNIX**

`/opt/IBM/FIM/provisioning/scenario/ITFIMClientIDI.properties`

- **Windows**

`C:\Program Files\opt\IBM\FIM\provisioning\scenario\ITFIMClientIDI.properties`

Provide a value for each of the following entries:

ldapURL

The URL for the client LDAP server. For example:

`ldapURL:ldap://idp.example.com:389`

ldapAdmin

The LDAP administrative user for the client LDAP server. For example:

`ldapAdmin:cn=root`

ldapAdminPwd

The password for the LDAP administrative user for the client LDAP server. For example:

`ldapAdminPwd:passw0rd`

searchBase

The LDAP suffix that forms the base of the hierarchy to be searched. For example:

`searchBase:c=us`

providerURL

The URL for the target of the provisioning request. In most cases, this is the client-side WebSphere Application Server provisioning application. For example:

`providerURL:http://idp.example.com:9080/wsp/wspservice`

In a WebSphere cluster environment, this would be the HTTP server with the WebSphere Application Server plug-in that routes requests to the proper node server. For example:

`providerURL:http://idp-apache.example.com/wsp/wspservice`

Figure 15 on page 187 shows the additional entries in the client properties file that typically do not need to be changed for the example scenario.

```

# LDAP search parameter
searchScope:subtree

# Changelog base
changeLogBase:cn=changelog

# Initial change number
initialChangeNumber:0

# Authentication method
authenticationMethod:Anonymous

# The location of the wsp.wsd. Relative to the working directory
wsdlURL:itfim_wsp_wsd/wsp.wsd

# The location of the LDAP change log filename. Keeps an record of LDAP updates
changeNumberFilename:changelog_number.txt

```

Figure 15. Client properties that typically do not need to change for the demonstration scenario

3. Optionally, update the setting in the constants file for the example scenario. This setting is needed in order to run the Tivoli Federated Identity Manager scenario on the client-side server.

Location of the constants file:

- UNIX
/opt/IBM/FIM/provisioning/scenario/ITFIMClientScript.constants
- Windows
C:\Program Files\opt\IBM\FIM\provisioning\scenario\ITFIMClientScript.constants

The file contains the name of the target company:

fim.wsprovisioning.target=BenefitsCompany TAM

Configuring the server side

About this task

Complete the following instructions:

Procedure

1. Update the settings in the server-side properties file for the example scenario:

- UNIX
/opt/IBM/FIM/provisioning/scenario/ITFIMServerIDI.properties
- Windows
C:\Program Files\opt\IBM\FIM\provisioning\scenario\ITFIMServerIDI.properties

Provide a value for each of the following entries:

serverPort

The port on which IBM Tivoli Directory Integrator listens for SOAP requests. The example configuration file uses port 9080. Change this to another value, since port 9080 is typically used by WebSphere. For example:

serverPort:8888

wsdlURL

The location of the WS-Provisioning WSDL file. The location is relative to the working directory. You should not need to change this value. Default:

wsdlURL:itfim_wsp_wsd1/wsp.wsdl

2. Update the settings in the server constants file for the example scenario:

- UNIX

/opt/IBM/FIM/provisioning/scenario/ITFIMServerScript.constants

- Windows

C:\Program Files\opt\IBM\FIM\provisioning\scenario\ITFIMServerScript.constants

You must provide a value for each of the following entries:

fim.wsprovisioning.target.ldap.prefix

The prefix for the target LDAP. For example:

fim.wsprovisioning.target.ldap.prefix=cn=

fim.wsprovisioning.target.ldap.suffix

The suffix for the target LDAP server. For example:

fim.wsprovisioning.target.ldap.suffix=o=ibm,c=au

This is an LDAP suffix that you must create on the LDAP server. This suffix is the repository for all provisioning-related users. When a new user is created through WS-Provisioning, the Distinguished Name (DN) of the user on the server side is created by combining the following values:

- The value of fim.wsprovisioning.target.ldap.prefix. For example:

cn=

- The user name. For example:

johndoe

- The value of fim.wsprovisioning.target.ldap.suffix. For example:

o=ibm,c=au

In this example, the DN would be:

cn=johndoe,o=ibm,c=au

fim.wsprovisioning.tam.config.url

The URL for the generated configuration file generated by the Tivoli Access ManagerSvrSslCfg utility. For example:

- UNIX

fim.wsprovisioning.tam.config.url=file:///opt/IBM/FIM/provisioning/scenario/amconfig.properties

- Windows

fim.wsprovisioning.tam.config.url=file:///c:\Progra~1\IBM\FIM\provisioning\scenario\amconfig.properties

fim.wsprovisioning.tam.admin

The Tivoli Access Manager administrative user. The default user is sec_master. For example:

fim.wsprovisioning.tam.admin=sec_master

fim.wsprovisioning.tam.admin.pwd

The password for the Tivoli Access Manager administrative user. For example:

fim.wsprovisioning.tam.admin.pwd=passw0rd

fim.wsprovisioning.target.ldap

The URL for the target LDAP server. For example:

fim.wsprovisioning.target.ldap=ldap://localhost

fim.wsprovisioning.target.ldap.admin

The administrative user for the LDAP server. For example:

```
fim.wsprovisioning.target.ldap.admin=cn=root
```

fim.wsprovisioning.target.ldap.admin.pwd

The password for the administrative user for the LDAP server. For example:

```
fim.wsprovisioning.target.ldap.admin.pwd=password
```

Figure 16 shows additional entries in the server constants file that typically do not need to be changed for the example scenario.

```
# The password for any generated TAM users
fim.wsprovisioning.provisioned.user.pwd=password

# The target company name
fim.wsprovisioning.target=BenefitsCompany TAM

# The LDAP unique identifier field
fim.wsprovisioning.target.ldap.uid=uniqueIdentifier
```

Figure 16. Server constants values that do not need to change

3. The Tivoli Federated Identity Manager provisioning scenario provides a configuration script that configures the Java Runtime Environment of the IBM Tivoli Directory Integrator for use with Tivoli Access Manager. You must edit the configuration script to specify values for your deployment:

- UNIX

```
/opt/IBM/FIM/provisioning/scenario/config_idi_jre.sh
```

- Windows

```
C:\Program Files\opt\FIM\provisioning\scenario\config_idi_jre.bat
```

Specify the following values:

TAM_ADMIN_ID

The Tivoli Access Manager administrative user. For example:

```
TAM_ADMIN_ID=sec_master
```

TAM_ADMIN_PWD

The password for the Tivoli Access Manager administrative user. For example:

```
TAM_ADMIN_PWD=password
```

POLICYSVR

The host name and port for the Tivoli Access Manager policy server. For example:

```
POLICYSVR=localhost:7135:1
```

AUTHSVR

The host name and port for the Tivoli Access Manager authorization server. For example:

```
AUTHSVR=localhost:7136:1
```

Figure 17 on page 190 displays the contents of the configuration script. The script completes the configuration of the provisioning application into Tivoli Access Manager.

```

TAM_ADMIN_ID=sec_master
TAM_ADMIN_PWD=passwd

POLICYSVR=localhost:7135:1
AUTHSVR=localhost:7136:1

# First we run the PDJrteCfg to configure the JRE for use with TAM. This can
# also be done manually with the pdconfig utility.

echo "Configuring IDI JRE for use with TAM"

/opt/PolicyDirector/sbin/pdjrtecfg -action config -host localhost -port 7135
    -java_home /opt/IBM/IBMDirectoryIntegrator/_jvm/jre -config_type full

# Now we run the SvrSslCfg utility to create an identity for the IDI Server
# within the TAM registry.

echo "Configuring a TAM server identity for IDI"

/opt/IBM/IBMDirectoryIntegrator/_jvm/jre/bin/java com.tivoli.pd.jcfg.SvrSslCfg
    -action config -admin_id $TAM_ADMIN_ID -admin_pwd $TAM_ADMIN_PWD
    -appsvr_id itfimprovisioning -port 999
    -mode remote -policysvr $POLICYSVR -authzsvr $AUTHSVR
    -cfg_file /opt/IBM/FIM/provisioning/scenario/amconfig.properties
    -key_file /opt/IBM/FIM/provisioning/scenario/amkey.jks

```

Figure 17. Server side configuration script for Tivoli Access Manager Java runtime environment

4. Run the configuration script.

Running the provisioning demonstration scenario

Before you begin

About this task

Complete the following instructions:

Procedure

1. On the client side computer, run the script that executes the client-side scenario:

- UNIX
/opt/IBM/FIM/provisioning/scenario/runclient.sh
- Windows
C:\Program Files\opt\FIM\provisioning\scenario\runclient.bat

Figure 18 shows the contents of the UNIX version of the runclient script (runclient.sh):

```

#!/bin/sh
/opt/IBM/IBMDirectoryIntegrator/ibmdisrv -s "/opt/IBM/FIM/provisioning/scenario"
    -c "ITFIMClient.xml" -t fim_ldap_handler

```

Figure 18. Contents of the runclient script

2. On the server side computer, run the script that executes the server side scenario:
 - UNIX


```
/opt/IBM/FIM/provisioning/scenario/runserver.sh
```

- Windows

```
C:\Program Files\opt\FIM\provisioning\scenario\runserver.bat
```

Figure 19 shows the contents of the UNIX version of the runserver script (runserver.sh):

```
#!/bin/sh
/opt/IBM/IBMDirectoryIntegrator/ibmdisrv -s "/opt/IBM/FIM/provisioning/scenario"
-c "ITFIMServer.xml" -r "FIM_WS-Provisioning Server"
```

Figure 19. Contents of the runserver script

Verifying provisioning demo

Before you begin

About this task

Complete the following tasks:

Procedure

1. “Verifying provisioning demo user create”
2. “Modifying a demonstration user” on page 192
3. “Verifying provisioning demonstration user delete” on page 192

Verifying provisioning demo user create

Before you begin

About this task

Procedure

1. On the client side system, log in to **pdadmin**.
2. Create a test user. For example:

```
pdadmin> user create testuser cn=testuser,c=us passwd passwd passwd
```

The creation of the user will also occur on the LDAP server. This user creation triggers a change in the change log number. This change is detected by the IBM Tivoli Directory Integrator event handler on the client's listening application. The client side IBM Tivoli Directory Integrator contacts the server-side IBM Tivoli Directory Integrator with a request to create the same user. The server-side IBM Tivoli Directory Integrator example customer component uses the Tivoli Access Manager Java administration API to provision a Tivoli Access Manager user into the server-side LDAP.
3. To verify that the user was successfully provisioned:
 - a. Log in to **pdadmin** on the server-side Tivoli Access Manager system.
 - b. Use **pdadmin** to display information about the user you just created. For example.

```
pdadmin> user show testuser
```

Modifying a demonstration user

Procedure

1. On the client side system, log in to **pdadmin**.
2. Set the testuser account that you created in “Verifying provisioning demo user create” on page 191 to the valid state.
`pdadmin> user modify testuser account-valid yes`
3. Verify that the same user on the server side also gets modified.

Verifying provisioning demonstration user delete

Before you begin

About this task

Procedure

1. On the client side system, log in to **pdadmin**.
2. Delete the user that you created. For example:
`pdadmin> user delete -registry testuser`
3. To verify that the user was successfully deleted:
 - a. Log in to **pdadmin** on the server-side Tivoli Access Manager system.
 - b. Use **pdadmin** to display information about the user you just deleted. For example.
`pdadmin> user show testuser`

Chapter 21. Command reference

You can perform many configuration and administrator tasks using Tivoli Federated Identity Manager commands instead of the console.

The commands are integrated into the WebSphere Application Server Command Manager Framework. For more information about this command framework, refer to the WebSphere Application Server Information Center <http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp>.

You can run the Tivoli Federated Identity Manager commands using either:

- The WebSphere Application Server wsadmin tool using a command line. Type the appropriate command for your operating system to start the tool:

Windows

`wsadmin.bat`

AIX, Linux, HP-UX, or Solaris

`wsadmin.sh`

Note: For more information about the options that can be specified when you run the wsadmin tool, refer to the <http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp>.

- A Java Management Extension (JMX) application.

Note: The use of JMX requires development of the appropriate programming applications. For more information refer to the *Administrative command framework programming guide for WebSphere Application Server* at http://www.ibm.com/developerworks/websphere/techjournal/0610_chang/0610_chang.html

Attention: If you have just installed Tivoli Federated Identity Manager, ensure that you stop WebSphere Application Server and then restart it before attempting to run any of the Tivoli Federated Identity Manager commands.

Attention: If the TFIMCommands plug-in does not start automatically, perform the following steps:

1. Stop the WebSphere Application Server.
2. From the console, issue the following command: `/opt/IBM/WebSphere/AppServer/profiles/profile_name/bin/osgiCfgInit.sh`
3. Restart the WebSphere Application Server.
4. Open The WebSphere Application Server wsadmin tool.
5. In wsadmin, issue the following command: `$AdminTask help -commandGroups`
6. Confirm that TFIMCommands is present in the list of commandGroups.

Location of commands

The Tivoli Federated Identity Manager commands are packaged in a single .jar file named `com.tivoli.am.fim.commands.jar`

The location of the .jar file depends on the version of WebSphere Application Server you are using in your installation of the runtime and management services component:

WebSphere Application Server 6.1, including the embedded version

The plugins directory, such as /opt/IBM/WebSphere/AppServer/plugins

WebSphere Application Server 6.0

The lib directory, such as /opt/IBM/WebSphere/AppServer/lib

Listing available commands

To list the available Tivoli Federated Identity Manager commands, start the wsadmin tool and then type the following command and press Enter:

```
$AdminTask help TFIMCommands
```

Getting help for a specific command

To get help for a specific Tivoli Federated Identity Manager command, start the wsadmin tool and then type the following command and press Enter:

```
$AdminTask help command_name
```

For example, to see the help for the managing domains command, manageItfimDomain, type: \$AdminTask help manageItfimDomain

Requesting parameter prompts for a specific command

To be prompted for the required and optional parameters as you run a command, start the wsadmin tool and then type the following command and press Enter:

```
$AdminTask command_name -interactive
```

For example, to display prompts when you run the manageItfimDomain, type:

```
$AdminTask manageItfimDomain -interactive
```

Tasks supported by the commands

Tivoli Federated Identity Manager commands are available for the following tasks:

Managing domains

Command name: manageItfimDomain

Purpose: This command, when used with the appropriate parameters, can perform the following operations on a domain:

- list
- view
- create
- delete
- import
- export
- deploy
- undeploy
- configure
- unconfigure
- publish plug-ins

- publish pages

Managing federations

Command name: `manageItfimFederation`

Purpose: This command, when used with the appropriate parameters, can perform the following operations on a federation:

- list
- create (using a response file)
- create a response file
- remove
- view
- export
- modify

Managing partners

Command name: `manageItfimPartner`

Purpose: This command, when used with the appropriate parameters, can perform the following operations on a partner:

- list
- create (using a response file)
- create a response file
- remove
- view
- enable
- disable
- export
- modify

Managing point of contact servers

Command name: `manageItfimPointOfContact`

Purpose: This command, when used with the appropriate parameters, can perform the following operations on a point of contact:

- list
- listCallbacks
- create (using a response file)
- create a response file
- view
- activate
- delete

Managing keys and keystores

Command name: `manageItfimKeys`

Purpose: This command, when used with the appropriate parameters, can perform the following operations on the keys and keystores in your environment:

- list
- delete

- enable
- disable
- import
- export

Managing the alias service

Command name: manageItfimNameIdSvc

Purpose: This command, when used with the appropriate parameters, can perform the following operations on the alias service in your environment:

- view
- configure
- add a host
- remove a host
- modify a host

Managing reports

Command name: manageItfimReports

Purpose: This command, when used with the appropriate parameters, can perform the following operations for viewing, running, and deleting reports:

- listActive
- listArchived
- listRunnable
- create the response file
- delete
- run

Reloading the management service

Command name: reloadIfimManagementService

Purpose: This command reloads the Tivoli Federated Identity Manager management service.

Reloading the runtime

Command name: reloadIfimRuntime

Purpose: This command reloads the Tivoli Federated Identity Manager runtime.

Logging out a SAML 2.0 user

Command name: logoutSaml20User

Purpose: This command logs out the user of a SAML 2.0 single sign-on session.

Defederating a SAML 2.0 user:

Command name: defederateSaml20User

Purpose: This command defederates a user from a SAML 2.0 federation.

Managing the artifact resolution service

Command name: manageItfimSamlArtifactService

Purpose: This command, when used with the appropriate parameters, can perform the following operations to manage the SAML 1.x Artifact Service:

- list
- configure
- unconfigure

Managing an STS module type

Command name: `manageItfimStsModuleType`

Purpose: This command, when used with the appropriate parameters, can perform the following operations to manage token module types:

- list
- view

Managing an STS module instance

Command name: `manageItfimStsModuleInstance`

Purpose: When used with the appropriate parameters, this command can perform the following operations to manage token module instances:

- list
- view
- delete
- create (using a response file)
- create the response file
- modify

Managing an STS chain mapping

Command name: `manageItfimStsChainMapping`

Purpose: This command manages the chain mapping identification associated with a trust chain. When used with the appropriate parameters, this command can perform the following operations to manage STS chain mapping:

- list
- view
- delete
- create (using a response file)
- create the response file
- modify

Managing an STS chain

Command name: `manageItfimStsChain`

Purpose: This command, when used with the appropriate parameters, can perform the following operations to manage trust service chains:

- list
- view
- delete
- create (using a response file)
- create the response file

Administration commands that replace the staging tools

The command line tools described in this command reference replace the Tivoli Federated Identity Manager staging utilities.

Previous versions of Tivoli Federated Identity Manager contained a set of scripts known as the staging utilities. These scripts provided part of the function of a command line interface, and were used for two purposes:

- To replicate servers, as a command line alternative to the import and export functions in the administration console.
- To migrate configuration information from one Tivoli Federated Identity Manager source domain to a target domain.

Tivoli Federated Identity Manager now contains a fully-featured command line interface that can be used to accomplish these tasks. The command line interface is more robust and supports more options.

The command line interface supports:

- Response files that replace the protocol-specific properties files used by the staging tools.
- The `manageItfimDomain` command, which provides a superset of the domain management functions included in the staging tools, such as domain creation, import, export, and configure.
- The `manageItfimFederation` command, which supports creation, deletion, modification, and export of federations.
- The `manageItfimPartner` command, which supports creation, deletion, modification, and export of federation partners.

manageItfimDomain

Use this command to manage domains.

Purpose

This command, when used with the appropriate parameters, can perform the following operations on a domain:

- list
- view
- create
- delete
- import
- export
- deploy
- undeploy
- configure
- unconfigure
- publish plug-ins
- publish pages

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimDomain {-operation operator [optional_parameters]}
```

where the `-operation` parameter and its value *operator* are required. The optional parameters are:

```
-fimDomainName name  
-clusterId cluster  
-fileId file  
-tamAdminId ID  
-tamAdminPwd password  
-tamPolicyServer hostname  
-tamPolicyPort port  
-tamAuthzServers hostname1,hostname2...  
-tamAuthzPorts port1,port2...  
-tamDomainName name
```

Parameters

The following parameters are available for use with the `manageItfimDomain` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform on the domain. Valid values are described in the following table.

Table 16. Values for the `manageItfimDomain -operation` parameter

Value	Description and requirements
list	List all of the existing domains.
view	View the details of a domain. When you use this operator, you must also use the fimDomainName parameter.

Table 16. Values for the `managefimDomain` -operation parameter (continued)

Value	Description and requirements
create	Create a new domain. When you use this operator, you must also use the following parameters: fimDomainName <i>name</i> clusterId <i>cluster</i> If the domain uses Tivoli Access Manager, the following parameters are also required: tamAdminId <i>ID</i> tamPolicyServer <i>hostname</i> tamPolicyPort <i>port</i> tamAuthzServers <i>hostname1,hostname2...</i> tamAuthzPorts <i>port1,port2...</i> tamDomainName <i>name</i> Note: If you create a domain using this command and later you want to work with the domain using the console in a browser, you must make the console program aware of the domain by clicking Domains → Create in the console. The domain you created using the command should then be listed in the console.
delete	Remove a domain. When you use this operator, you must also use the When you use this operator, you must also use the following parameters: fimDomainName <i>name</i> clusterId <i>cluster</i>
import	Import a domain. When you use this operator, you must also use the fimDomainName and fileId parameters.
export	Export a domain. When you use this operator, you must also use the fimDomainName and fileId parameters.
deploy	Deploy a domain. When you use this operator, you must also use the fimDomainName parameter.
undeploy	Undeploy a domain. When you use this operator, you must also use the fimDomainName parameter.

Table 16. Values for the `manageItfimDomain -operation` parameter (continued)

Value	Description and requirements
Note: The deploy and undeploy operations can take a long time to complete. The wsadmin SOAP connection might time out before the operation is finished. Even if this timeout occurs in the wsadmin client, the operation will complete on the management service. To avoid timeouts, you can increase the SOAP request timeout, as follows: 1. Modify the <code>com.ibm.SOAP.request.Timeout</code> property to 800. The property is in the WebSphere installation directory and the following subdirectory: <code>/profiles/profile_name/properties/soap.client.props</code> 2. Restart the WebSphere server.	
<code>configure</code>	Configure a domain. When you use this operator, you must also use the following parameters: fimDomainName <i>name</i> If the domain that you are configuring uses Tivoli Access Manager, the following parameter is required: tamAdminPwd <i>password</i>
<code>unconfigure</code>	Unconfigure a domain. When you use this operator, you must also use the following parameters: fimDomainName <i>name</i> If the domain that you are unconfiguring uses Tivoli Access Manager, the following parameter is required: tamAdminPwd <i>password</i>
<code>publishPlugins</code>	Publish the plug-ins for custom point of contact server modules or custom identity mapping modules. When you use this operator, you must also use the fimDomainName parameter.
<code>publishPages</code>	Publish custom event pages or page locales. When you use this operator, you must also use the fimDomainName parameter.

-fimDomainName *name*

This parameter is required for all operations except **list**. The value used with this parameter is the name of the domain on which the operation will be performed. The name must be a string with characters of any type.

-clusterId *cluster*

This parameter is required when you create or delete a domain. The value used with this parameter is the cluster or server name where the domain is located or will be created. The name must be a string and must be in the either of the following forms:

For a server:

WebSphere:cell=<cell_name>,node=<node_name>,server=<server_name>

For a cluster:

WebSphere:cell=<cell_name>, cluster=<cluster_name>

-fileId *output_file | input_file*

This parameter is required when you import or export a domain. The value used with this parameter is the file name and path to which the domain will be exported (output file) or the file that is being imported (input file). The path and file name must be valid for the operating system being used.

-tamAdminId *ID*

This parameter is required when you create a domain in which Tivoli Access Manager is used. The value used with this parameter is the ID of the Tivoli Access Manager administrator. The ID must be a string with characters of any type.

-tamAdminPwd *password*

This parameter is required when you configure or unconfigure a domain in which Tivoli Access Manager is used. The value used with this parameter is the password of the Tivoli Access Manager administrator. The password must be a string with characters of any type.

-tamPolicyServer *hostname*

This parameter is required when you create a domain in which Tivoli Access Manager is used. The value used with this parameter is the hostname or IP address of the Tivoli Access Manager policy server. The hostname must be a string with characters of any type.

-tamPolicyPort *port*

This parameter is required when you create a domain in which Tivoli Access Manager is used. The value used with this parameter is the port number where the Tivoli Access Manager policy server is listening. The port must be numeric unsigned integer values.

-tamAuthzServers *hostname1,hostname2,*

This parameter is required when you create a domain in which Tivoli Access Manager is used. The value used with this parameter is a list of one or more Tivoli Access Manager authorization servers (the hostnames or the IP addresses). Each hostname or IP address must be a string with characters of any type. Separate multiple values with commas.

-tamAuthzPorts *port1,port2,*

This parameter is required when you create a domain. The value used with this parameter is a list of one or more port numbers on which the Tivoli Access Manager authorization servers are listening. Each port must be numeric unsigned integer values. Separate multiple values with commas.

-tamDomainName *name*

This parameter is required when you create a domain in which Tivoli Access Manager is used. The value used with this parameter is the name of the Tivoli Access Manager domain. The name must be a string with characters of any type. The default value is Default.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

List the existing domains:

```
$AdminTask manageItfimDomain {-operation list}
```

View the metadata of a domain:

```
$AdminTask manageItfimDomain {-operation view -fimDomainName domain1}
```

Create a domain:

```
$AdminTask manageItfimDomain {-operation create -fimDomainName domain1  
-clusterid WebSphere:cell=cell01,node=node01,server=server1  
-tamAdminId sec_master  
-tamPolicyServer tam1.example.com -tamPolicyPort 7135  
-tamAuthzServers tam2.example.com,tam3.example.com  
-tamAuthzPorts 7136, 7137 -tamDomainName Default}
```

Delete a domain:

```
$AdminTask manageItfimDomain {-operation delete -fimDomainName domain1  
-clusterId WebSphere:cell=cell02,cluster=cluster02}
```

Import a domain:

```
$AdminTask manageItfimDomain {-operation import fimDomainName domain1  
-fileId c:\temp\domain1.rsp}
```

Export a domain:

```
$AdminTask manageItfimDomain {-operation export -fimDomainName domain1  
-fileId c:\temp\domain1.rsp}
```

Deploy the runtime into a domain:

```
$AdminTask manageItfimDomain {-operation deploy -fimDomainName domain1}
```

Undeploy the runtime from a domain:

```
$AdminTask manageItfimDomain {-operation undeploy -fimDomainName domain1}
```

Configure a domain

```
$AdminTask manageItfimDomain {-operation configure -fimDomainName domain1  
-tamAdminPwd passw0rd}
```

Unconfigure a domain:

```
$AdminTask manageItfimDomain {-operation unconfigure -fimDomainName domain1  
-tamAdminPwd passw0rd}
```

Publish plug-ins:

```
$AdminTask manageItfimDomain {-operation publishPlugins -fimDomainName domain1}
```

Publish pages:

```
$AdminTask manageItfimDomain {-operation publishPages -fimDomainName domain1}
```

manageItfimFederation

Use this command to manage federations.

Purpose

This command, when used with the appropriate parameters, can perform the following operations on a federation:

- list
- create (using a response file)
- create the response file
- delete
- view
- modify
- export

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimFederation {-operation operator -fimDomainName name  
[optional_parameters])
```

where the `-operation` parameter and its value *operator* and `-fimDomainName` and its value *name* are required. The optional parameters are:

```
-federationName name  
-protocol type  
-federationRole role  
-mapModuleInstanceId ID  
-fileId output_file | input_file
```

The use of these parameters depends on the operator you choose.

Parameters

The following parameters are available for use with the `manageItfimFederation` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform. Valid values are listed in the following table.

Table 17. Values for the `manageItfimFederation -operation` parameter

Value	Description and requirements
list	List all of the existing federations.

Table 17. Values for the `manageIdfmFederation -operation` parameter (continued)

Value	Description and requirements
<code>createResponseFile</code> Note: If you are creating a new federation that is not based on an existing federation, you might find it more expedient to create the federation using the console, as described in the Configuration Guide. Then to make minor modifications, you could run the command for creating a response file based on that existing federation, and edit the response file that results from that command, before you run the command for creating the federation.	Create a response file that you will use to create a federation. You have the option to create a response file for a new federation or create a response file that is based on an existing federation. New federation:When you use this operator to create response file for a new federation, you must also specify the following parameters: protocol <i>type</i> Specify the federation type if you are creating a response file that is not based on an existing federation. role <i>role</i> Specify the role of the federation if you are creating a response file that is not based on an existing federation. This parameter indicates whether you are the identity provider or the service provider in the federation. mapModuleInstanceId <i>ID</i> Specify the ID of the custom mapping module you want to use. This parameter is optional and is used only if you are not using an XSLT file for identity mapping. fileId <i>output_file</i> Specify the file name and path for the response file that is created by this command. Based on existing federation:When you use this operator to create a response file that is based on an existing federation, you must also specify the following parameters: federationName <i>name</i> Specify the federation name if you are creating a response file that is based on an existing federation. fileId <i>output_file</i> Specify the file name and path for the response file that is created by this command. After you have created the response file, open it with a text editor, review the attributes that are defined in the file, make changes as required by your environment, and then save and close the file. For information about the content of the response file, see • “SAML federation response file reference” on page 208 • “WS-Federation federation response file” on page 218

Table 17. Values for the `managetfimFederation -operation` parameter (continued)

Value	Description and requirements
create	Create a federation using a response file. When you use this operator, you must also specify the following parameters: fileId <i>input_file</i> Specify the file name and path for the response file that provides the input for this command. You can create the response file using the <code>createResponseFile</code> parameter.
delete	Delete a federation. When you use this operator, you must also specify the federationName <i>name</i>.
view	View the details of a federation. When you use this operator, you must also specify the federationName <i>name</i>.
modify	Modify the properties of a federation. The use of this operation is a three-step process. You must first run the <code>createResponseFile</code> operator and specify an existing federation so that a file containing the properties in that federation are created. Next, you open the response file with a text editor to modify the properties you want to change. Save and close the file. Then, when you use the <code>modify</code> operator, you must specify the fileId <i>name</i> of the edited response file.
export	Export the metadata of a federation. When you use this operator, you must also specify the following parameters: federationName <i>name</i> The name of the federation you are exporting. fileId <i>input_file</i> Specify the file name and path for the file that is created for the exported federation.

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation will be performed. The name can be a string with characters of any type.

-federationName *name*

This parameter is required if you are creating a response file that is based on an existing federation, deleting a federation, viewing a federation, enabling a federation, disabling a federation, or exporting a federation. The value used with this parameter is the name of the federation on which the operation will be performed. The name can be a string with characters of any type.

-protocol *type*

This parameter is required if you are creating a response file that is not based on an existing federation. The value used with this parameter is the type of the federation. The type can be

- SAML2_0
- SAML1_0
- SAML1_1
- OPENID
- WSFED

Note: Type value is case sensitive.

-role *role*

This parameter is required if you are creating a response file that is not based on an existing federation. The value used with this parameter is the role of the federation. The role can be either ip or sp.

-mapModuleInstanceId *ID*

This parameter is required if you are creating a federation that will use a custom mapping module instead of an XSLT file for mapping. The ID that you specify is specific to the custom module you want to use.

-fileId *output_file* | *input_file*

This parameter is required if you are creating a response file, creating a federation, or exporting a federation. The value used with this parameter is the file name and path to which the federation will be exported (output file) or a response file will be read from (input file) or written to (output file). The path and file name must be valid for the operating system being used.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

List all the federations in a domain:

```
$AdminTask manageItfimFederation {-operation list -fimDomainName domain1}
```

Create an empty response file for a new federation that is *not* based on an existing federation:

```
$AdminTask manageItfimFederation {-operation createResponseFile -fimDomainName domain1  
-protocol SAML2_0 -role ip  
-mapModuleInstanceId default_tdi  
-fileId c:/temp\saml2idp.rsp}
```

The file specified here is the name of the response file that you are creating with the command. You will use this file as input for creating a federation or modifying a federation. After you have created this file, open it with a text editor and define the attributes in it so that they are correct for your environment.

Also, the mapModuleInstanceId is used because in this example the federation will use a custom mapping module instead of an XSLT file.

Note: If you are creating a new federation that is not based on an existing federation, you might find it more expedient to create the federation using the console, as described in the *Tivoli Federated Identity Manager Configuration guide*. Then to make minor modifications, you could run the command for creating a response file based on that existing federation, and edit the response file that results from that command, before you run the command for creating the federation.

Create a response file based on an existing federation:

```
$AdminTask manageItfimFederation {-operation createResponseFile -fimDomainName domain1  
-federationName idpsaml2 -fileId c:/temp\saml2idp.rsp  
}
```

Note: The file specified here is the name of the response file that you are creating with the command. You will use this file as input for creating a

federation. After you have created this file, open it with a text editor and ensure that the attributes defined in the file are correct for your environment.

Create a federation:

```
$AdminTask manageItfimFederation {-operation create -fimDomainName domain1 -fileId c:\temp\saml2idp.rsp}
```

Note: The file specified here is the response file and is used as input. Before running this command, you must have opened the response file with a text editor and ensured that the attributes that are defined in the file are correct for your environment.

Delete a federation:

```
$AdminTask manageItfimFederation {-operation delete -fimDomainName domain1  
-federationName fed1}
```

View federation details:

```
manageItfimFederation {-operation view -fimDomainName domain1  
-federationName fed1}
```

Modify a federation

First run createResponseFile, as described in "Create a response file based on an existing federation," to create a file that contains all of the properties in the federation. Edit it using a text editor. Save it. Then, reload it into your environment using the modify command.

```
$AdminTask manageItfimFederation {-operation modify -fimDomainName domain1  
-fileId c:\temp\saml2idp.xml }
```

Export a federation

```
$AdminTask manageItfimFederation {-operation export -fimDomainName domain1  
-federationName fed1 -fileId c:\temp\saml2idp.xml}
```

SAML federation response file reference

Before you can create a federation using the manageItfimFederation command, you must create a response file, and then edit the response file so that it contains the appropriate values for your environment.

You can create a response file for a new federation or one that is based on an existing federation.

New federation

Create a response file for creating a new federation by running the following command:

```
$AdminTask manageItfimFederation {-operation createResponseFile -fimDomainName name  
-protocol type -role role -fileId output_file}
```

Existing federation

Create a response file for creating a federation that is based on an existing federation by running the following command:

```
$AdminTask manageItfimFederation {-operation createResponseFile -fimDomainName name  
-federationName name -fileId output_file}
```

After you have run either of these commands, a response file is created. The content of the file differs depending on the protocol and federation role, either identityProvider or serviceProvider, that you specify in the command or that are specified by the properties of the existing federation input file.

The list that follows describes the parameters used in the response files.

Note: If you created a response file that is based on an existing federation, values will be automatically be specified for many of the parameters shown here.

Open the response file with a text editor, review the attributes that are defined in the file, make changes to specify the type of federation that you want to create, and then save and close the file.

Examples of the response files are in the following directories:

AIX, HP-UX, Linux or Solaris

/opt/IBM/FIM/examples/responsefiles

Windows

C:\Program Files\IBM\FIM\examples\responsefiles

Parameters

Table 18. Parameters in SAML federation response files

Parameter	Value	Description
AdditionalInfo	<i>additional information about the contact or company</i>	Any additional information about the contact or the company that you want to record.
AllowIBMProtocolExtension	true or false	Setting that specifies whether the use of the IBM Protocol Extension will be allowed or not. The extension allows a query-string parameter that specifies whether browser artifact or browser POST will be used in a SAML 1.x federation.
ArtifactCacheLifetime	<i>number of seconds</i>	The artifact cache lifetime in seconds. The default value is 30.
ArtifactLifetime	<i>number of seconds</i>	The number of seconds that artifacts are valid. The default value is 120.
ArtifactResolutionServiceEndpoint	<i>URL</i>	URL of the artifact resolution service endpoint.
AssertionSigningKeyIdentifier	<i>keyname</i>	A special key used for signing a SAML assertion. Use this property only if you want to use different keys for the assertion and the SAML responses.
AssertionValidAfter	<i>number of seconds</i>	The number of seconds that an assertion will be considered valid after its issue date. The default value is 60.
AssertionValidBefore	<i>number of seconds</i>	The number of seconds that an assertion will be considered valid before its issue date. The default value is 60.

Table 18. Parameters in SAML federation response files (continued)

Parameter	Value	Description
AttributeQueryMappingRule	<i>contents of the mapping rule file</i>	Contains the actual mapping rule contents (XSL) that format the rule, so that it can be placed in the XML response file. This mapping rule processes attribute query requests. Use this property if you do not want to specify a mapping rule in a file, or if you are modifying a federation. If you want to edit the XSLT rule as a regular file, use the AttributeQueryMappingRuleFileName property.
AttributeQueryMappingRuleFileName	<i>path and file name</i>	Specifies the path name to an XSLT file that is a mapping rule. This mapping rule processes attribute query requests. When defined, it takes precedence over the AttributeQueryMappingRule property.
AttributeAuthorityEnabled	<i>true or false</i>	Specifies whether the attribute query feature is activated in the federation. The value true activates attribute query. The value false disables attribute query. Default: false
BaseUrl	<i>URL</i>	The URL of the point of contact server with the federation name and the protocol name, such as /saml20, appended to it.
CommonDomainCookieLifetime	<i>number of seconds</i>	The number of seconds during which a cookie is active. -1 indicates that no expiration is defined. A positive value indicates the expiration time in seconds.
CommonDomainCookieReader	<i>URL</i>	The URL of the provider of the common domain service. It must be specified as a URL of the common domain service for the provider and must include the common domain value. The URL specifies if the common domain cookie service is going to read or write (get or set) the values using cdwriter or cdreader appended to the end of the URL. This part of the URL is mandatory if Tivoli Federated Identity Manager is hosting the discovery service. If you are using a third party or custom discovery service, then that part of the URL is not required. For example, a system named sp.example.com with a common domain value of somecommondomain.com would have a URL with the following format: https:// sp.somecommondomain.com/FIM/sps/samlfed/saml20/cdreader

Table 18. Parameters in SAML federation response files (continued)

Parameter	Value	Description
CommonDomainCookieWriter	<i>URL</i>	The URL of the provider of the common domain service. It must be specified as a URL of the common domain service for the provider and must include the common domain value. The URL specifies if the common domain cookie service is going to read or write (get or set) the values using cdcwriter or cdcreader appended to the end of the URL. This part of the URL is mandatory if Tivoli Federated Identity Manager is hosting the discovery service. If you are using a third party or custom discovery service, then that part of the URL is not required. For example, a system named idp.example.com with a common domain value of somecommondomain.com would have a URL with the following format: https://idp.somecommondomain.com/FIM/sps/samlfed/saml20/cdcwriter
CommonDomainName	<i>URL</i>	The name of the domain shared with other members of the federation. For example: example.com There is no default value.
CompanyName	<i>name of your company</i>	The name of the company that is associated with the federation.
CompanyUrl	<i>URL of your company's Web site</i>	A URL for a Web site of the company that is associated with the federation.
ContactType	One of the supported contact types: CONTACT_TYPE_ SUPPORT CONTACT_TYPE_ TECHNICAL CONTACT_TYPE_ ADMIN CONTACT_TYPE_ BILLING CONTACT_TYPE_ OTHER	The type of contact.
CreateMultipleAttributes	true or false	Setting that specifies whether multiple attribute statements will be kept in the groups they were received in. This option might be necessary if your custom identity mapping rules are written to operate on one or more specific groups of attribute statements. If false, multiple attribute statements are arranged into a single group (AttributeList) in the STSUniversalUser document. False is appropriate for most configurations.

Table 18. Parameters in SAML federation response files (continued)

Parameter	Value	Description
DefaultNameIDFormat	One of the supported values: urn:oasis:names:tc:SAML:2.0:nameid-format:persistent or urn:oasis:names:tc:SAML:2.0:nameid-format:transient or urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress	Setting that specifies how a message with the unspecified name identifier is processed. Note: A partner-level setting takes precedence over any DefaultNameIDFormat set at the federation level. When no value is present at either the partner or federation level, the processing of unspecified name identifier is the same as a persistent name identifier.
EmailAddress	<i>e-mail address of the contact person</i>	The e-mail address of the contact person at the company that is associated with the federation.
EncryptionKeyIdentifier	<i>name of keystore and key</i>	The name of the encryption key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname, for example, DefaultKeyStore_testkey.
EnhancedClientProxyEnabled	true or false	A setting that indicates whether a enhanced client proxy will be enabled in the federation. true enables the setting and false disables the setting and is the default value.
FedName	<i>name of federation</i>	The name of the federation you want to create or modify.
FirstName	<i>first name of a company contact person</i>	The first name of a contact person at the company that is associated with the federation.
ForceAuthn	true or false	Forces the identity provider to authenticate a user even when the user has previously authenticated. This option is specified only when configuring a service provider federation.
HttpHeaders	<i>header1,header2</i>	A comma separated list of HTTP headers that the identity provider can expect to see from the Enhanced Client Proxy clients containing identity information.
IncludeCertData	yes or no	Setting that specifies whether the certificate data should be provided with the signature.
IncludeIssuerDetails	yes or no	Setting that specifies whether the certificate issuer details should be provided with the signature.
IncludePublicKey	yes or no	Setting that indicates whether your public key should be included with the signature.
IncludeSubjectKeyId	yes or no	Setting that indicates whether the subject key identifier should be included with the signature.

Table 18. Parameters in SAML federation response files (continued)

Parameter	Value	Description
IncludeSubjectName	true or false	Setting that specifies whether the subject name should be provided with the signature.
IpDiscoveryEnabled	true or false	A setting that indicates whether identity provider discovery will be enabled in the federation. true enables the setting and false disables the setting and is the default value.
IsPassive	true or false	Setting that prevents the identity provider from interacting with principal (user).
LastName	<i>last name of the company contact person.</i>	The last name of the contact person at the company that is associated with the federation.
LogoutRequestLifetime	<i>number of seconds</i>	The number of seconds that logout requests remain valid. The default value is 120.
MapModuleInstanceId	default-tdi or ID	The identity mapping module instance, if using XSLT use default_map. To use Tivoli Directory Integrator, use default-tdi. Note: If you want to use a Tivoli Directory Integrator or custom mapping module, you need to specify it when you create the response file; otherwise, the setup properties will not be added to the response file. These properties are module dependent.
MappingRule	<i>content of the mapping rule file</i>	This property contains the actual mapping rule contents (XSL) that are needed for the rule to be properly formatted so that it can be contained in an XML file (the response file). Use this property if you do not want to point to a mapping rule in the file system or if you are modifying a federation. If you want to edit the XSLT rule as a regular file, you can do that and supply it to the response file using the MappingRuleFileName property.
MappingRuleFileName	<i>path and file name</i>	This property points to an XSLT file in the file system that will be used as a mapping rule. It takes precedence over the MappingRule property if defined.
MsgLifetime	<i>number of seconds</i>	The number of seconds that messages are valid. The default value is 300.
NimIPArtifactEnabled	true or false	Setting that enables or disables the name identifier artifact binding. true enables the binding and false disables the binding and is the default setting.
NimIPPostEnabled	true or false	Setting that enables or disables the name identifier POST. true enables the POST binding and false disables POST binding and is the default setting.
NimIPRedirectEnabled	true or false	Setting that enables or disables the name identifier redirect binding. true enables the binding and false disables the binding and is the default setting.

Table 18. Parameters in SAML federation response files (continued)

Parameter	Value	Description
NimIPSOAPEnabled	true or false	Setting that enables or disables the name identifier SOAP. true enables the SOAP binding and false disables the SOAP binding and is the default setting.
NimReturnUrl	URL	Setting that indicates the endpoint where NameIdManagement Response messages are to be sent for the partner. A partner can specify this value for bindings that are asynchronous like HTTPRedirect and HTTPPost and HTTPArtifact.
NimSPArtifactEnabled	true or false	Setting that enables or disables the name identifier artifact binding. true enables the binding and false disables the binding and is the default setting.
NimSPPostEnabled	true or false	Setting that enables or disables the name identifier POST. true enables the POST binding and false disables POST binding and is the default setting.
NimSPRedirectEnabled	true or false	Setting that enables or disables the name identifier redirect binding. true enables the binding and false disables the binding and is the default setting.
NimSPSOAPEnabled	true or false	Setting that enables or disables the name identifier SOAP. true enables the SOAP binding and false disables the SOAP binding and is the default setting.
NimUrl	URL	The URL of the name identifier service. The value is the URL of your point of contact server with /mnids appended to it.
PartnerUsesBrowserPost	true or false	Setting that indicates whether your partner will use browser POST in the SAML 1.x federation.
PhoneNumber	<i>phone number of the contact person</i>	The phone number of the contact person at the company that is associated with the federation.
Protocol	SAML1_0, SAML1_1 , or SAML2_0	The protocol used by the federation.
ProtocolId	URL	(Used in SAML 1.x federations; also referred to as a ProviderId). A unique identifier that identifies the provider to its partner provider. The value consists of the protocol and host name of the identity provider URL. Optionally it can include a port number. For example, for a federation named saml_fed: https://idp.example.com/sps/saml_fed/saml
ProviderId	<i>URL of your point of contact server</i>	The URL of your point of contact server.
RequireConsentToFederate	true or false	A setting that indicates whether a user's consent is required to create the federation. true enables the setting and is the default value and false disables the setting.

Table 18. Parameters in SAML federation response files (continued)

Parameter	Value	Description
Role	ip or sp	The role of the federation.
SAML10AssertionIssuerName	URL	This property defines the endpoint for the assertion issuer. This endpoint is the same as the Protocol Id.
SAML10AssertionValidAfter	number of seconds	The number of seconds that assertions are valid after its issue date. The default value is 60.
SAML10AssertionValidBefore	number of seconds	The number of seconds that assertions are valid before its issue date. The default value is 60.
SAML10OneTimeAssertionEnforcement	true or false	Also known as one-time assertion use enforcement. Specifies that assertions can only be used one time.
SAML11AssertionIssuerName	URL	This property defines the endpoint for the assertion issuer. This endpoint is the same as the Protocol Id.
SAML11AssertionValidAfter	number of seconds	The number of seconds that assertions are valid after its issue date. The default value is 60.
SAML11AssertionValidBefore	number of seconds	The number of seconds that assertions are valid before its issue date. The default value is 60.
SAML11OneTimeAssertionEnforcement	true or false	Also known as one-time assertion use enforcement. Specifies that assertions can only be used one time.
SessionTimeout	number of seconds	The number of seconds that artifacts are valid. The default value is 7200.
SignArtifactRequest	true or false	Setting that indicates whether you will sign incoming messages.
SignArtifactResponse	true or false	Setting that indicates whether you will sign outgoing messages.
SignAttributeQueryRequest	true or false	Specifies whether the provider signs outgoing attribute query requests.
SignAttributeQueryResponse	true or false	Specifies whether the provider signs outgoing attribute query responses.
SigningKeyIdentifier or SigningKeyId	name of keystore and key	The name of the signing key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname, for example, DefaultKeyStore_testkey.
SignLogoutRequest	true or false	Setting that indicates if logout requests will be signed.
SignLogoutResponse	true or false	Setting that indicates if logout responses will be signed.
SignNameIdManagementRequest	true or false	Setting that indicates whether the requests will be signed.
SignNameIdManagementResponse	true or false	Setting that indicates whether the responses will be signed.

Table 18. Parameters in SAML federation response files (continued)

Parameter	Value	Description
SignOnEndpoint	URL	Also known as the intersite transfer service URL. The URL to which the service provider sends authentication requests. A default value is provided. For example: https://idp.example.com/sps/saml_fed/saml/login
SignSamlMsgs	true or false	Setting that indicates whether all the outgoing SAML messages and assertions must be signed. true indicates that the response must be signed and is the default. false indicates that the response does not have to be signed.
SignTypicalSamlMsgs	true or false	Setting that indicates whether the typical outgoing SAML message and assertion must be signed, except for ArtifactResponse and AuthnResponse. true indicates that the response must be signed and is the default. false indicates that the response does not have to be signed.
SloIPArtifactEnabled	true or false	Setting that enables or disables the name identifier artifact binding. true enables the binding and false disables the binding and is the default setting.
SloIPPostEnabled	true or false	Setting that enables or disables the name identifier POST. true enables the POST binding and false disables POST binding and is the default setting.
SloIPRedirectEnabled	true or false	Setting that enables or disables the name identifier redirect binding. true enables the binding and false disables the binding and is the default setting.
SloIPSOAPEnabled	true or false	Setting that enables or disables the name identifier SOAP. true enables the SOAP binding and false disables the SOAP binding and is the default setting. Note: This property is not supported in Tivoli Federated Identity Manager Business Gateway.
SloReturnUrl	URL	Setting that indicates the endpoint where LogoutResponse messages are to be sent for the partner. A partner can specify this value for bindings that are asynchronous such as HTTPRedirect and HTTPPost and HTTPArtifact.
SloSPArtifactEnabled	true or false	Setting that enables or disables the name identifier artifact binding. true enables the binding and false disables the binding and is the default setting.
SloSPPostEnabled	true or false	Setting that enables or disables the name identifier POST. true enables the POST binding and false disables POST binding and is the default setting.

Table 18. Parameters in SAML federation response files (continued)

Parameter	Value	Description
SloSPRedirectEnabled	true or false	Setting that enables or disables the name identifier redirect binding. true enables the binding and false disables the binding and is the default setting.
SloSPSOAPEnabled	true or false	Setting that enables or disables the name identifier SOAP. true enables the SOAP binding and false disables the SOAP binding and is the default setting. Note: This property is not supported in Tivoli Federated Identity Manager Business Gateway.
SloUrl	URL	The URL for single logout. The value is the URL of your point of contact server with /slo appended to it.
SoapEndpt	URL of SOAP endpoint	The URL of your SOAP endpoint. The value is the URL of your point of contact server with /soap appended to it. For example, https://sp/FIM:9444/sps/responsefiles/ saml20/soap.
SoapRequestClientBasicAuthPassword	password	The password that is used for client authentication.
SoapRequestClientBasicAuthUser	username	The username that is used for client authentication.
SoapRequestServerCertAuthKeyId	name of keystore and key	The name of the server validation key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname, for example, DefaultKeyStore_testkey.
SsoArtifactEnabled	true or false	Setting that enables or disables the HTTP artifact binding for SAML 2.0 single sign-on. true enables the binding and false disables the binding and is the default setting.
SsoPostEnabled	true or false	Setting that enables or disables the HTTP POST binding for SAML 2.0 single sign-on. true enables the binding and false disables the binding and is the default setting.
SsoRedirectEnabled	true or false	Setting that enables or disables the HTTP redirect binding for SAML 2.0 single sign-on. true enables the binding and false disables the binding and is the default setting.
SsoUrl	URL of the single sign-on service	The URL of the single sign-on service. The value is the URL of your point of contact server with /login appended to it.
UseClientBasicAuth	true or false	Setting that specifies whether basic client authentication is used.
UseSoapClientCertAuth	true or false	Setting that specifies whether client certificate authentication is used.
UseSoapServerCertAuth	true or false	Setting that specifies whether server certificate authentication is used.
ValidateTypicalSamlMsgs	true or false	Setting that indicates whether you will validate signed messages.

Table 18. Parameters in SAML federation response files (continued)

Parameter	Value	Description
WantAssertionSigned	true or false	Setting that indicates whether the incoming SAML message and assertion must be signed. true indicates that the request must be signed and is the default. false indicates that the request does not have to be signed.
WantAuthnRequestSigned	true or false	Setting that indicates whether the incoming SAML message and assertion must be signed. true indicates that the request must be signed and is the default. false indicates that the request does not have to be signed.
XsltMapping	true or false	Setting that indicates that XSLT is being used for mapping. true indicates that XSLT is used and false indicates that a mapping module is used instead. If this is set to true, values must be specified for either the the MappingRule or the MappingRuleFileName properties. If it is set to false, values must be specified for the MapModuleInstanceId.

WS-Federation federation response file

Before you can create a federation using the `manageItfimFederation` command, you must create a response file, and then edit the response file so that it contains the appropriate values for your environment.

You can create a response file for a new federation or one that is based on an existing federation.

New federation

Create a response file for creating a new federation by running the following command:

```
$AdminTask manageItfimFederation {-operation createResponseFile -fimDomainName name
    -protocol type -role role -fileId output_file}
```

Existing federation

Create a response file for creating a federation that is based on an existing federation by running the following command:

```
$AdminTask manageItfimFederation {-operation createResponseFile -fimDomainName name
    -federationName name -fileId output_file}
```

After you have run either of these commands, a response file is created. The content of the file differs depending on the protocol and federation role, either `identityProvider` or `serviceProvider`, that you specify in the command or that are specified by the properties of the existing federation input file.

The list that follows describes the parameters used in the response files.

Note: If you created a response file that is based on an existing federation, values will be automatically be specified for many of the parameters shown here.

Open the response file with a text editor, review the attributes that are defined in the file, make changes to specify the type of federation that you want to create, and then save and close the file.

Examples of the response files are in the following directories:

AIX, HP-UX, Linux or Solaris

/opt/IBM/FIM/examples/responsefiles

Windows

C:\Program Files\IBM\FIM\examples\responsefiles

Parameters

Table 19. Parameters in WS-Federation federation response files

Parameter	Value	Description
AdditionalInfo	<i>additional information about the contact or company</i>	Any additional information about the contact or the company that you want to record.
BaseUrl	<i>URL</i>	The URL of the point of contact server with the federation name and the protocol name, such as /saml20, appended to it.
CompanyName	<i>name of your company</i>	The name of the company that is associated with the federation.
CompanyUrl	<i>URL of your company's Web site</i>	A URL for a Web site of the company that is associated with the federation.
ContactType	CONTACT_TYPE_TECHNICAL	The only supported contact type is CONTACT_TYPE_TECHNICAL.
EmailAddress	<i>e-mail address of the contact person</i>	The e-mail address of the contact person at the company that is associated with the federation.
Endpoint	<i>URL</i>	The URL of the endpoint for all requests for WS-Federation services.
FedName	<i>name of federation</i>	The name of the federation.
FirstName	<i>first name of a company contact person</i>	The first name of a contact person at the company that is associated with the federation.
LastName	<i>last name of the company contact person.</i>	The last name of the contact person at the company that is associated with the federation.
MapModuleInstanceId	default-tdi or <i>ID</i>	The identity mapping module instance, if using XSLT use default_map. To use Tivoli Directory Integrator, use default-tdi. Note: If you want to use a Tivoli Directory Integrator or custom mapping module, you need to specify it when you create the response file; otherwise, the setup properties will not be added to the response file. These properties are module dependent.

Table 19. Parameters in WS-Federation federation response files (continued)

Parameter	Value	Description
MappingRule	<i>content of the mapping rule file</i>	This property contains the actual mapping rule contents (XSL) that are needed for the rule to be properly formatted so that it can be contained in an XML file (the response file). Use this property if you do not want to point to a mapping rule in the file system or if you are modifying a federation. If you want to edit the XSLT rule as a regular file, you can do that and supply it to the response file using the MappingRuleFileName property.
MappingRuleFileName	<i>path and file name</i>	This property points to an XSLT file in the file system that will be used as a mapping rule. It takes precedence over the MappingRule property if defined.
PhoneNumber	<i>phone number of the contact person</i>	The phone number of the contact person at the company that is associated with the federation.
Protocol	WSFED	The protocol used by the federation.
Realm	<i>URL</i>	The unique name of the partner's WS-Federation Realm. The Realm name is included in assertions that are sent to federation providers. Providers rely on finding a known (defined) Realm name in order to accept the assertions.
Role	ip or sp	The role of the federation.
SAML11AssertionIssuerName	<i>URL</i>	The URL of the WS-FED issuer. This property has the same value as the Realm and BaseUrl properties.
SAML11AssertionValidAfter	<i>number of seconds</i>	The number of seconds that assertions are valid after its issue date. The default value is 60.
SAML11AssertionValidBefore	<i>number of seconds</i>	The number of seconds that assertions are valid before its issue date. The default value is 60.
SAML11OneTimeAssertionEnforcement	true or false	This is a property for the service provider. If set to true, assertions can only be used one time.
SecurityTokenId	For SAML 1.1 module: default-saml1_1 For WSFed module: default-wsfed	WS-Federation can use either a WSFed token module or SAML 1.1. Use this property to specify which module to use.

Table 19. Parameters in WS-Federation federation response files (continued)

Parameter	Value	Description
XsltMapping	true or false	Setting that indicates that XSLT is being used for mapping. true indicates that XSLT is used and false indicates that a mapping module is used instead. If this is set to true, values must be specified for either the MappingRule or the MappingRuleFileName properties. If it is set to false, values must be specified for the MapModuleInstanceId.

OpenID federation response file reference

Before you can create a federation using the `manageItfimFederation` command, you must create a response file. After creating the response file, edit the file so that it contains the appropriate values for your environment.

You can create a response file for a new federation or one that is based on an existing federation.

New federation

Create a response file for a new federation by running the following command:

```
$AdminTask manageItfimFederation {-operation createResponseFile -fimDomainName name
    -protocol type -role role -fileId output_file}
```

Existing federation

Create a response file for a federation that is based on an existing federation by running the following command:

```
$AdminTask manageItfimFederation {-operation createResponseFile -fimDomainName name
    -federationName name -fileId output_file}
```

After you have run either of these commands, a response file is created. The content of the file differs depending on the protocol and federation role.

The list that follows describes the parameters used in the response files.

Note: If you created a response file that is based on an existing federation, values are automatically specified for many of the parameters shown here.

Open the response file with a text editor. Review the attributes that are defined in the file. Specify the type of federation that you want to create, and then save and close the file.

Parameters

Table 20. Parameters in OpenID federation response file for Service Providers

Parameter	Value	Description
AccessApprovalModuleID	<i>default value or custom value</i>	Setting that indicates if a custom dynamic endpoint access plug-in is used to check if specified endpoints can be trusted. If set to default access approval, only endpoints in the allow or deny lists are checked.
AdditionalInfo	<i>additional information about the contact or company</i>	Any additional information about the contact or the company that you want to record.
AllowedHosts	<i>hostname</i>	Specifies a list of regular expressions that identify host names to which the user agent can request access.
AllowedIps	<i>IP address</i>	Specifies a list of regular expressions that identify IP addresses or netmasks to which the user agent can request access.
AllowXriSupport	true or false	Specifies whether to resolve URL or XRI-based claimed identifiers. If you do not specify a value, the software uses only URL-based claimed identifiers.
AllowYadisDiscovery	true or false	Specifies whether to perform Yadis discovery.
AuthenticationMode	checkid_immediate or checkid_setup	Specifies the type of authentication mode to use.
BaseUrl	<i>URL</i>	The URL of the point of contact server with the federation name and the protocol name appended to.
CompanyName	<i>name of your company</i>	The name of the company that is associated with the federation.
CompanyUrl	<i>URL of your company's Web site</i>	A URL for a Web site of the company that is associated with the federation.
ContactType	One of the supported contact types: • CONTACT_TYPE_SUPPORT • CONTACT_TYPE_TECHNICAL • CONTACT_TYPE_ADMIN • CONTACT_TYPE_BILLING • CONTACT_TYPE_OTHER	The type of contact.
DeniedHosts	<i>hostnames</i>	A list of regular expression strings denied for the hostname.
DeniedIps	<i>IP address</i>	Specifies list of denied IP addresses to which the user agent cannot request access.

Table 20. Parameters in OpenID federation response file for Service Providers (continued)

Parameter	Value	Description
DiscoveredInformationExpirationTime	<i>number of seconds</i>	Specifies the number of seconds the cache stores the discovered information.
EmailAddress	<i>e-mail address of the contact person</i>	The e-mail address of the contact person at the company that is associated with the federation.
FedName	<i>name of federation</i>	The name of the federation you want to create or modify.
FirstName	<i>first name of a company contact person</i>	The first name of a contact person at the company that is associated with the federation.
HttpAgentConnTimeout	<i>number of seconds</i>	Specifies the number of seconds that the HTTP session remains valid when there is no activity.
IvCredAttributeTypes	<i>types of attributes</i>	Specifies the types of attributes to include in the assertion.
LastName	<i>last name of the company contact person.</i>	The last name of the contact person at the company that is associated with the federation.
LoginEndpoint	<i>URL</i>	An endpoint for user login.
LoginReturnEndpoint	<i>URL</i>	Specifies the URL that the service provider requests the identity provider to send back the authentication response to.
MapModuleInstanceId	<i>identity mapping module instance</i>	The module that specifies mapping rules for identities.
MappingRuleFileName	<i>path and file name</i>	This property points to an XSLT file in the file system used as a mapping rule. It takes precedence over the MappingRule property if defined.
PapeAssuranceLevels	<i>namespace</i>	Specifies an ordered list of preferred assurance level namespace URIs. The assurance level namespace values determine the level of trust placed in the authentication of the user. Relying parties request information about these assurance level namespaces from the identity provider.

Table 20. Parameters in OpenID federation response file for Service Providers (continued)

Parameter	Value	Description
PapeAuthenticationAge	<i>number of seconds</i>	Specifies how many seconds can lapse since the last authentication at the identity provider before prompting the user to authenticate again. If the user has not authenticated at the identity provider within the specified number of seconds, the identity provider must re-authenticate the user. If you enter a value equal to or less than zero, the identity provider is required to always re-authenticate the user.
PapeAuthPolicies	<i>URI</i>	Specifies a set of authentication policy URIs. The URIs represent authentication policies that the identity provider is required to satisfy when authenticating a user. If multiple policies are requested, the identity provider is required to satisfy as many of them as it can. The identity provider then indicates which authentication policies were satisfied in the response.
PapeEnabled	true or false	Specifies if the Provider Authentication Policy Extension attributes in the authentication request are sent to the identity provider.
PapeSkewTime	<i>number of seconds</i>	The number of seconds used to account for clock skew between: - the last authentication time returned by the identity provider mapping rule - the clock of the identity provider
PapeStrict	true or false	Specifies whether strict enforcement of PAPE is required or not.
PermittedServerProtocols	<i>HTTPS only or HTTP</i>	Specifies the protocols for the OpenID servers to which the user agent permits connection. The user agent can connect using: - HTTPS only - HTTP only - both HTTPS and HTTP
PhoneNumber	<i>phone number of the contact person</i>	The phone number of the contact person at the company that is associated with the federation.

Table 20. Parameters in OpenID federation response file for Service Providers (continued)

Parameter	Value	Description
PreferredVersion	Can be left not set, but typically one of the following: • http://specs.openid.net/auth/2.0 (default) • http://openid.net/signon/1.1	If an identity provider supports both OpenID 1.1 and 2.0, this parameter determines whether or not the relying party attempts an OpenID 2.0 or 1.1 login. By default an OpenID 2.0 authentication is attempted and is kept unchanged for best practices.
Protocol	OPENID	The protocol used by the federation.
ProtocolId	URL	A unique identifier that identifies the provider to its partner provider. The value consists of the protocol and host name of the identity provider URL. Optionally it can include a port number. Also referred to as ProviderId.
ProviderId	URL	The URL of your point of contact server.
ResponseNonceSkewTime	number of seconds	Indicates how many seconds a relying party that is operating without an established association has, before they must perform the check_authentication request.
Role	ip or sp	The role of the federation.
TrustedKeyStore	keystore	Select the keystore containing the key or certificate to be used by the HTTPS client of the consumer. The keystore determines if the host that it is connected to can be trusted. The default value is DefaultTrustedKeyStore.
TrustedRoot	URL	Specifies the basis for trust displayed to the user at the identity provider. The value is appended with a forward slash. For example, https://webseald.example.com/
UserAgentDenyConn	true or false	Specify to deny access to OpenID hosts by default.
XriProxies	URL	Specifies a list of URLs for resolving XRI identifiers. The URL must contain the @XRI@ macro.

Table 20. Parameters in OpenID federation response file for Service Providers (continued)

Parameter	Value	Description
XsltMapping	true or false	Setting that indicates that XSLT is being used for mapping. A value true indicates that XSLT is used and false indicates that a mapping module is used instead. If this parameter is set to true, values must be specified for either the MappingRule or the MappingRuleFileName properties. If it is set to false, values must be specified for the MapModuleInstanceId.

Table 21. Parameters in OpenID federation response file for Identity Providers

Parameter	Value	Description
AccessApprovalModuleID	<i>default value or custom value</i>	Setting that indicates if a custom dynamic endpoint access plug-in is used to check if specified endpoints can be trusted. If set to default access approval, only endpoints in the allow or deny lists are checked.
AdditionalInfo	<i>additional information about the contact or company</i>	Any additional information about the contact or the company that you want to record.
AllowedHosts	<i>hostname</i>	Specifies a list of regular expressions that identify host names to which the user agent can request access.
AllowsIps	<i>IP address</i>	Specifies a list of regular expressions that identify IP addresses or netmasks to which the user agent can request access.
AssociationExpiration	<i>number of seconds</i>	Specifies the lifetime of the association handle. The default value is 3600.
AssociationTypes	Multi-valued. Can be on or more of the following: • DH-SHA256 • DH-SHA1 • no encryption • plain text	Specifies a list of supported association session types for the OpenID identity provider. If a service provider attempts to establish an association that is not in this list, the association fails.
AuthenticationEndpoint	<i>URL</i>	An endpoint that forces users to authenticate if they have not already done so.
BaseUrl	<i>URL</i>	The URL of the point of contact server with the federation name and the protocol name.
CompanyName	<i>name of your company</i>	The name of the company that is associated with the federation.

Table 21. Parameters in OpenID federation response file for Identity Providers (continued)

Parameter	Value	Description
CompanyUrl	<i>URL of your company's Web site</i>	A URL for a Web site of the company that is associated with the federation.
ContactType	One of the supported contact types: - CONTACT_TYPE_ SUPPORT - CONTACT_TYPE_ TECHNICAL - CONTACT_TYPE_ ADMIN - CONTACT_TYPE_ BILLING - CONTACT_TYPE_ OTHER	The type of contact.
DeniedHosts	<i>hostnames</i>	Specifies a list of denied hostnames.
DeniedIps	<i>IP address</i>	Specifies list of denied IP addresses.
EmailAddress	<i>e-mail address of the contact person</i>	The e-mail address of the contact person at the company that is associated with the federation.
FedName	<i>name of federation</i>	The name of the federation you want to create or modify.
FirstName	<i>first name of a company contact person</i>	The first name of a contact person at the company that is associated with the federation.
HttpAgentConnTimeout	<i>number of seconds</i>	Specifies the number of seconds that the HTTP session remains valid when there is no activity.
IdentityMode	true or false	Specifies if identifier_select is supported when a consumer initiates single sign-on. Use this option if an identity provider uses XRDS. Not selecting this option disables all other options for identifier_select.
IdentityPattern	<i>URL</i>	Represents the regular expression on which identity URLs are matched for the federation. Tivoli Federated Identity Manager replaces the @ID@ part.
IdGeneratorModuleId	<i>id generator</i>	Specifies which ID generator creates a value that replaces the @ID@ of an identity URL.
IPgeneratedClaimedPattern	<i>URL</i>	Represents the regular expression on which identity URLs are matched for the federation. Tivoli Federated Identity Manager replaces the @ID@ part.
LastName	<i>last name of the company contact person.</i>	The last name of the contact person at the company that is associated with the federation.
MapModuleInstanceId	<i>identity mapping module instance</i>	The module that specifies mapping rules for identities.

Table 21. Parameters in OpenID federation response file for Identity Providers (continued)

Parameter	Value	Description
MappingRuleFileName	<i>path and file name</i>	This property points to an XSLT file in the file system used as a mapping rule. It takes precedence over the MappingRule property if defined.
MappingRuleType	<i>XSL or JavaScript or Tivoli Directory Integrator, or a custom mapping module instance</i>	Specify whether you want to achieve identity mapping through use of XSL or JavaScript transformations, Tivoli Directory Integrator, or through a custom mapping module solution.
PapeMaxAuthAgeOverride	true or false	Specifies if a user is always required to authenticate. If selected, the Maximum authentication age allowable clock skew is disabled. The default-selected value is disabled.
PapeSkewTime	<i>number of seconds</i>	The number of seconds used to account for clock skew between: - the last authentication time returned by the identity provider mapping rule - the clock of the identity provider
PerformRPDiscovery	true or false	Specifies whether to attempt relying party discovery.
PermittedServerProtocols	<i>HTTPS or HTTP</i>	Specifies the protocols for the OpenID servers to which the user agent permits connection. The user agent can connect using: - HTTPS only - HTTP only - both HTTPS and HTTP
PhoneNumber	<i>phone number of the contact person</i>	The phone number of the contact person at the company that is associated with the federation.
Protocol	OPENID	The protocol used by the federation.
ProtocolId	<i>URL</i>	A unique identifier that identifies the provider to its partner provider. The value consists of the protocol and host name of the identity provider URL. Optionally it can include a port number. Also referred to as ProviderID.
ProviderId	<i>URL</i>	The URL of your point of contact server.

Table 21. Parameters in OpenID federation response file for Identity Providers (continued)

Parameter	Value	Description
RequireRPDiscovery	true or false	Specifies if Tivoli Federated Identity Manager halts with an error when it cannot complete relying party discovery for the identity provider. This option applies only if you enable Perform RP Discovery.
ResponseNonceExpiration	<i>number of seconds</i>	Indicates how many seconds a relying party that is operating without an established association has, before they must perform the <code>check_authentication</code> request. The default value is 30 seconds.
Role	ip or sp	The role of the federation.
RPDiscoveryExpirationSeconds	<i>number of seconds</i>	Determines how many seconds to cache information discovered about relying parties. If you enter a value equal to or less than zero, information is never cached.
ServerEndpoint	<i>URL</i>	An endpoint for making an OpenID request.
SiteManagerURLEndpoint	<i>URL</i>	An endpoint for managing the set of trusted and untrusted consumer sites.
SupportOPIIdentifier	true or false	Specifies if <code>identifier_select</code> is supported when a consumer initiates single sign-on. Use this option if an identity provider uses XRDS. If not selected, this option disables all other <code>identifier_select</code> options.
TrustedKeyStore	<i>keystore</i>	Select the keystore containing the key or certificate to be used by the HTTPS client of the consumer. The keystore determines if the host that it is connected to can be trusted. The default value is <code>DefaultTrustedKeyStore</code> .
TrustedSitesManagerModuleId	<i>trusted sites manager</i>	Selects the implementation class for a trusted sites manager. The implementation persists data concerning consent-to-authenticate decisions made by a user during OpenID authentications.
UserAgentDenyConn	true or false	Only hosts in the allow lists can be accessed by the user agent. This setting is restrictive, and every OpenID identity URL and server for which you want to allow access must be covered in the allow lists.

Table 21. Parameters in OpenID federation response file for Identity Providers (continued)

Parameter	Value	Description
UserSetupURL	URL	Specifies the URL sent in response to a checkid_immediate request from a consumer. The URL is used when the identity provider is unable to determine if a user owns a particular identity URL.
XsltMapping	true or false	Setting that indicates that XSLT is being used for mapping. true indicates that XSLT is used and false indicates that a mapping module is used instead. If this parameter is set to true, values must be specified for either the MappingRule or the MappingRuleFileName properties. If it is set to false, values must be specified for the MapModuleInstanceId.

managetfimPartner

Use this command to manage a partner.

Purpose

This command, when used with the appropriate parameters, can perform the following operations on a partner:

- list
- create (using a response file)
- create the response file
- delete
- view
- enable
- disable
- modify

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimPartner {-operation operator -fimDomainName name [options]}
```

where the `-operation` parameter and its value *operator* and `-fimDomainName` and its value *name* are required. The optional parameters are:

```
-federationName name
-partnerName name
-partnerRole role
-mapModuleInstanceId ID
-fileId output_file | input_file
-signingKeystorePwd password
-encryptionKeystorePwd password
```

The use of these parameters depends on the operator you chose to use.

Parameters

The following parameters are available for use with the `manageItfimPartner` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform on the domain. Valid values are listed in the following table.

Table 22. Values for the `manageItfimPartner -operation` parameter

Value	Description and requirements
list	List all of the existing partners in all of the federations for a specific domain.
createResponseFile	Create a response file that you will use to create a partner in a federation. When you use this operator, you must also use the following parameters: federationName <i>name</i> This parameter specifies the name of the federation. fileId <i>output_name</i> This parameter specifies the name and path of the file that is created by the operator. partnerName <i>name</i> This parameter specifies the name of an existing partner on which you want to base the response file. Use this parameter only if you want to use details about an existing partner in the response file. If you want to create a response file for an attribute query request partner, you must add another parameter: partnerRole <i>role</i> For an attribute query request partner, the <i>role</i> value must be <code>qr</code>. You can optionally use this parameter for a service provider partner (<code>sp</code>) or identity provider partner (<code>ip</code>). When partnerRole is not specified, the command assigns the role based on the role of the federation. After you have created the response file, open it with a text editor. Review the attributes that are defined in the file and make the changes that are required by your environment. For information about the content of the response file, see: “SAML partner response file reference” on page 236 “WS-Federation partner response file reference” on page 244 Examples of the response files are in the following directories: AIX, HP-UX, Linux or Solaris <code>/opt/IBM/FIM/examples/ responsefiles</code> Windows <code>C:\Program Files\IBM\FIM\ examples\responsefiles</code>

Table 22. Values for the `managefimPartner` -operation parameter (continued)

Value	Description and requirements
create	Create a partner federation using a response file. When you use this operator, you must also use the following parameters: federationName <i>name</i> This parameter specifies the name of the federation. fileId <i>input_name</i> This parameter specifies the name and path of the response file that you are using as input. You can create the response file using the <code>createResponseFile</code> operator. signingKeystorePwd <i>password</i> The value used with this parameter is the password to the keystore where partner's signing key is stored. This is the key that you use to validate the partner's signature. encryptionKeystorePwd <i>password</i> The value used with this parameter is the password to the keystore where the encryption key is stored. This is the key that you use to encrypt data to your partner. If you want to create an attribute query request partner, you must add another parameter: partnerRole <i>role</i> For an attribute query request partner, the <i>role</i> value must be <code>qr</code>. You can optionally use this parameter for a service provider partner (<code>sp</code>) or identity provider partner (<code>ip</code>). When partnerRole is not specified, the command assigns the role based on the role of the federation.
delete	Delete a partner. When you use this operator, you must also use the following parameters: federationName <i>name</i> This parameter specifies the name of the federation on which the operation will occur. partnerName <i>name</i> This parameter specifies the name of the partner on which the operation will occur.
view	View the details of a partner. When you use this operator, you must also use the following parameters: federationName <i>name</i> This parameter specifies the name of the federation on which the operation will occur. partnerName <i>name</i> This parameter specifies the name of the partner on which the operation will occur.

Table 22. Values for the `managefimPartner -operation` parameter (continued)

Value	Description and requirements
modify	Modify the properties of a partner. The use of this operation is a three-step process. You must first run the <code>createResponseFile</code> operator so that a file containing the properties in the federation are created. Next, you open the response file with a text editor to modify the properties you want to change. Save and close the file. Then, when you use the <code>modify</code> operator, you must specify the fileId <i>name</i> of the edited response file as part of the command. When you use this operator, you must use the following parameters: federationName <i>name</i> This parameter specifies the name of the federation on which the operation will occur. partnerName <i>name</i> This parameter specifies the name of the partner on which the operation will occur. fileId <i>name</i> This parameter specifies the name of the file that contains the properties for the partner.
enable	Enable a partner. When you use this operator, you must also use the following parameters: federationName <i>name</i> This parameter specifies the name of the federation on which the operation will occur. partnerName <i>name</i> This parameter specifies the name of the partner on which the operation will occur.
disable	Disable a partner. When you use this operator, you must also use the following parameters: federationName <i>name</i> This parameter specifies the name of the federation on which the operation will occur. partnerName <i>name</i> This parameter specifies the name of the partner on which the operation will occur.

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation will be performed. The name can be a string with characters of any type.

-federationName *name*

This parameter is required with all operators except **list**. The value used with this parameter is the name of the federation on which the operation will be performed. The name can be a string with characters of any type.

-partnerName *name*

This parameter is required with all operators except **list**. The value used with this parameter is the name of the partner on which the operation will be performed. The name can be a string with characters of any type.

-partnerRole *role*

This parameter is required if you want to create a response file for an attribute

query request partner or create an attribute query request partner. It is optional if you are managing service provider or identity provider partners. Supported values are:

- ip** Identity provider partner
- sp** Service provider partner
- qr** Attribute query request partner

If `partnerRole` is not specified, the command assigns the partner role to either service provider partner or identity provider partner, based on the federation provider type.

-mapModuleInstanceId *ID*

This parameter is required if you are creating a partner that will use a custom mapping module instead of an XSLT file for mapping. The ID that you specify is specific to the custom module you want to use.

-fileId *output_file* | *input_file*

This parameter is required if you are creating a response file or creating a partner. The value used with this parameter is the file name and path of a response file that will be read from (input file) or written to (output file). The path and file name must be valid for the operating system being used.

-signingKeystorePwd *password*

This parameter is required if you are creating a partner. The value used with this parameter is the password to the keystore where partner's signing key is stored. This is the key that you use to validate the partner's signature.

-encryptionKeystorePwd *password*

This parameter is required if you are creating a partner. The value used with this parameter is the password to the keystore where the encryption key is stored. This is the key that you use to encrypt data to your partner.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

List all the partners in a domain:

```
$AdminTask manageItfimPartner {-operation list -fimDomainName domain1}
```

Create a response file to create a partner:

```
$AdminTask manageItfimPartner {-operation createResponseFile -fimDomainName domain1  
-federationName fed1 -fileId c:\temp\saml2idp}
```

Note: The file specified here is the name of the response file that you are creating with the command. You will use this file as input for creating a partner. After you have created this file, open it with a text editor and define the attributes in it so that they are correct for your environment.

Create a response file based on an existing partner:

```
$AdminTask manageItfimPartner {-operation createResponseFile -fimDomainName domain1  
-federationName fed1 -partnerName idppartner  
-fileId c:\temp\saml2idp.rsp }
```

Note: The file specified here is the name of the response file that you are creating with the command. You will use this file as input for creating a

partner or modifying partner properties. After you have created this file, open it with a text editor and ensure that the attributes defined in the file are correct for your environment.

Create a response file for an attribute query request partner

```
$AdminTask manageItfimPartner {-operation createResponseFile -fimDomainName domain1  
-federationName fed1 -partnerRole qr -fileId c:\temp\saml2idp.rsp }
```

Note: The file specified here is the name of the response file that you are creating with the command. You use this file as input for creating a partner or modifying partner properties. After you have created this file, open it with a text editor and ensure that the attributes defined in the file are correct for your environment.

Create a partner:

```
$AdminTask manageItfimPartner {-operation create -fimDomainName domain1 -federationName idpsaml2  
-partnerName idppartner -fileId c:\temp\saml2idp -signingKeystorePwd testonly  
-encryptionKeystorePwd testonly}
```

Note: The file specified here is the response file and is used as input. Before running this command, you must have opened the response file with a text editor and ensured that the attributes that are defined in the file are correct for your environment.

Create an attribute query request partner

```
$AdminTask manageItfimPartner {-operation create -fimDomainName domain1 -federationName idpsaml2  
-partnerRole qr -fileId c:\temp\saml2idp.rsp  
-signingKeystorePwd testonly -encryptionKeystorePwd testonly}
```

Note: The file specified here is the response file. The command uses its contents as input. Before running this command, open the response file with a text editor and ensure that the attributes that are defined in the file are correct for your environment.

Delete a partner:

```
$AdminTask manageItfimPartner {-operation delete -fimDomainName domain1  
-federationName fed1 -partnerName idppartner}
```

View partner details:

```
$AdminTask manageItfimPartner {-operation view -fimDomainName domain1  
-federationName fed1 -partnerName idppartner}
```

Modify partner properties:

First run createResponseFile, as described in "Create a response file based on an existing partner," to create a file that contains all of the partner properties. Edit it using a text editor. Save it. Then, reload it into your environment using the modify command.

```
$AdminTask manageItfimPartner {-operation modify -fimDomainName domain1  
-partnerName idppartner -fileId c:\temp\saml2idp.xml }
```

Enable a partner:

```
$AdminTask manageItfimPartner {-operation enable -fimDomainName domain1  
-federationName fed1 -partnerName idppartner}
```

Disable a partner:

```
$AdminTask manageItfimPartner {-operation disable -fimDomainName domain1  
-federationName fed1 -partnerName idppartner}
```

SAML partner response file reference

Before you can create a partner using the `manageItfimPartner` command, you must create a response file, and then edit the response file so that it contains the appropriate values for your environment.

You can create a response file for creating a new partner by running the following command:

New partner

```
$AdminTask manageItfimPartner {-operation createResponseFile -fimDomainName name
                                -federationName name -fileId output_file}
```

Existing partner

Create a response file for creating a partner that is based on an existing partner by running the following command:

```
$AdminTask manageItfimPartner {-operation createResponseFile -fimDomainName name
                                -federationName name -partnerName name -fileId output_file}
```

After you have run either of these commands, a response file is created. The content of the file differs depending on the federation role, either `identityProvider` or `serviceProvider`, specified in the command or by the properties of the existing partner.

Note: If you created a response file that is based on an existing partner, values will be automatically be specified for many of the parameters shown here.

Open the file with a text editor, review the attributes that are defined in the file, make changes to specify the appropriate values, and then save and close the file.

Examples of the response files are in the following directories:

AIX, HP-UX, Linux or Solaris

`/opt/IBM/FIM/examples/responsefiles`

Windows

`C:\Program Files\IBM\FIM\examples\responsefiles`

Parameters

Table 23. Parameters in SAML partner response files

Parameter	Value	Description
AllowIBMProtocolExtension	true or false	Setting that specifies whether the use of the IBM Protocol Extension will be allowed or not. The extension allows a query-string parameter that specifies whether browser artifact or browser POST will be used in a SAML 1.x federation.

Table 23. Parameters in SAML partner response files (continued)

Parameter	Value	Description
AnonymousUserUserName	<i>username</i>	This is a one-time name identifier that allows a user to access a service through an anonymous identity. The user name entered here is one that the service provider will recognize as a one-time name identifier for a legitimate user in the local user registry. This feature allows users to access a resource on the service provider without having to establish a federated identity. This is useful in scenarios where the service provider does not need to know the identity of the user account but only needs to know that the identity provider has authenticated (and can vouch for) the user. Note: The user identity must exist as a valid user in the user registry.
ArtifactCacheLifetime	<i>number of seconds</i>	The artifact cache lifetime in seconds. The default value is 30.
AssertionAttributeTypes	<i>* or specific_attribute_names</i>	Setting that indicates the types of attributes to include in the assertion. * is the default and indicates that all available attributes should be included.
AssertionSigningKeyIdentifier	<i>ID</i>	A special key used for signing a SAML assertion. Use this property only if you want to use different keys for the assertion and the SAML responses.
AssertionValidateKeyIdentifier	<i>ID</i>	Setting that specifies the key to use to validate signatures. Supply the value in the format <code>keystoreName_KeyAlias</code> .
AttributeQueryMappingRule	<i>contents of the mapping rule file</i>	Contains the actual mapping rule contents (XSL) that format the rule, so that it can be placed in the XML response file. The provider uses this mapping rule to process attribute query requests. Use this property if you do not want to specify a mapping rule in a file or if you are modifying a federation. If you want to edit the XSLT rule as a regular file, use the response file property AttributeQueryMappingRuleFileName .
AttributeQueryMappingRuleFileName	<i>path and file name</i>	Specifies path name to an XSLT file that is used as a mapping rule. The provider uses this mapping rule to process attribute query requests. When defined, it takes precedence over the AttributeQueryMappingRule property.

Table 23. Parameters in SAML partner response files (continued)

Parameter	Value	Description
BlockEncAlgorithm	For AES-128 http://www.w3.org/2001/04/xmlenc#aes128-cbc For AES-256 http://www.w3.org/2001/04/xmlenc#aes256-cbc For AES-192 http://www.w3.org/2001/04/xmlenc#aes192-cbc For Triple DES http://www.w3.org/2001/04/xmlenc#tripledes-cbc	Setting that specifies the encryption algorithm that is used to encrypt data for a service provider partner.
ClientBasicAuth	true or false	Setting that indicates whether the partner requires authentication with a user name and password. true indicates a user name and password are required. When set to true, values must be specified for ClientBasicAuthPwd and ClientBasicAuthUser. false indicates a user name and password are not required. false is the default.
ClientBasicAuthPwd	<i>password</i>	The password that you must use to authenticate to the partner site.
ClientBasicAuthUser	<i>username</i>	The user name you must use to authenticate to the partner site.
ClientCertAuth	true or false	Setting that indicates whether the partner requires authentication with a certificate. true indicates a certificate is required and is the default value. false indicates a user name and password are not required. Supply the value in the format <i>keystoreName_KeyAlias</i> .
ClientCertKeyId	<i>key_alias</i>	The name of the client certificate key.

Table 23. Parameters in SAML partner response files (continued)

Parameter	Value	Description
CommonDomainCookieReader	URL	The URL of the provider of the common domain service. It must be specified as a URL of the common domain service for the provider and must include the common domain value. The URL specifies if the common domain cookie service is going to read or write (get or set) the values using cdcwriter or cdcreader appended to the end of the URL. This part of the URL is mandatory if Tivoli Federated Identity Manager is hosting the discovery service. If you are using a third party or custom discovery service, then that part of the URL is not required. For example, a system named sp.example.com with a common domain value of somecommondomain.com would have a URL with the following format: https://sp.somecommondomain.com/FIM/sps/samlfed/saml20/cdcreader
CommonDomainCookieWriter	URL	The URL of the provider of the common domain service. It must be specified as a URL of the common domain service for the provider and must include the common domain value. The URL specifies if the common domain cookie service is going to read or write (get or set) the values using cdcwriter or cdcreader appended to the end of the URL. This part of the URL is mandatory if Tivoli Federated Identity Manager is hosting the discovery service. If you are using a third party or custom discovery service, then that part of the URL is not required. For example, a system named idp.example.com with a common domain value of somecommondomain.com would have a URL with the following format: https://idp.somecommondomain.com/FIM/sps/samlfed/saml20/cdcwriter
CreateMultipleAttributes	true or false	
CreateMultipleAttributes	true or false	Setting that specifies whether multiple attribute statements will be kept in the groups they were received in. This option might be necessary if your custom identity mapping rules are written to operate on one or more specific groups of attribute statements. If false, multiple attribute statements are arranged into a single group (AttributeList) in the STSUniversalUser document. False is appropriate for most configurations.

Table 23. Parameters in SAML partner response files (continued)

Parameter	Value	Description
DefaultNameIDFormat	One of the supported values: urn:oasis:names:tc:SAML:2.0:nameid-format:persistent or urn:oasis:names:tc:SAML:2.0:nameid-format:transient or urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress	Setting that specifies how a message with the unspecified name identifier is processed. Note: A partner-level setting takes precedence over any DefaultNameIDFormat set at the federation level. When no value is present at either the partner or federation level, the processing of unspecified name identifier is the same as a persistent name identifier.
DefaultPostAuthTargetURL	<i>URL</i>	The default URL to present to the user after authentication.
EncryptAssertion	true or false	Setting that specifies whether the name identifiers should be encrypted. true means they will be encrypted and false means they will not.
EncryptAssertionAttrs	true or false	Setting that specifies whether all the attributes should be encrypted. true means they will be encrypted and false means they will not.
encryptionKeyAlias	<i>key_alias_name</i>	The name of the key that is used to encrypt data that you send to your partner.
EncryptionKeyIdentifier	<i>name of keystore and key</i>	The name of the encryption key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname, for example, DefaultKeyStore_testkey.
encryptionKeystore	<i>keystore_name</i>	The name where the encryption key supplied in the partner metadata will be stored. If you are not using a partner metadata but rather a response file with all the properties defined, this property is not required, however, the EncryptionKeyIdentifier will have to be set to a proper value and the encryption or decryption key must to be in the keystore.
EncryptNameId	true or false	A setting that specifies whether the name identifiers should be encrypted. true means they will be encrypted and false means they will not.
IncludeCertData	true or false	A setting that indicates whether the certificate data should be included with the signature.

Table 23. Parameters in SAML partner response files (continued)

Parameter	Value	Description
IncludeInclusiveNamespaces	true or false	A setting that indicates whether the namespaces should be included with the signature.
IncludeIssuerDetails	true or false	A setting that indicates whether the issuer details should be included with the signature.
IncludePublicKey	true or false	A setting that indicates whether the public key should be included with the signature.
IncludeSubjectKeyId	true or false	A setting that indicates whether the subject key identifier should be included with the signature.
IncludeSubjectName	true or false	A setting that indicates whether the subject name should be included with the signature.
IncludeX509CertData or IncludeX509CertificateData	true or false	A setting that indicates whether the certificate data should be included with the signature.
IncludeX509IssuerDetails	true or false	A setting that indicates whether the issuer details should be included with the signature.
IncludeX509SubjectKeyIdentifier	true or false	A setting that indicates whether the subject key identifier should be included with the signature.
IncludeX509SubjectName	true or false	A setting that indicates whether the subject name should be included with the signature.
LogoutRequestLifetime	<i>number of seconds</i>	The number of seconds that logout requests remain valid. The default value is 120.
MapUnknownAlias	true or false	A setting that specifies that the service provider can map an unknown persistent name identifier alias to the anonymous user account. If set to false (the default value), unknown aliases are rejected.
metadataFileName	<i>file name of partner metadata file</i>	The file name of the partner's metadata file.
PartnerUsesBrowserPost	true or false	Setting that indicates whether your partner will use browser POST in the SAML 1.x federation.
ProtocolId	<i>URL</i>	(Used in SAML 1.x federations; also referred to as a ProviderId). A unique identifier that identifies the provider to its partner provider. The value consists of the protocol and host name of the identity provider URL. Optionally it can include a port number. For example, for a federation named saml_fed: https://idp.example.com/sps/saml_fed/saml

Table 23. Parameters in SAML partner response files (continued)

Parameter	Value	Description
Role	ip or sp	The role of the federation.
SamlExtendedAttributeTypes	* or <i>attribute_type</i>	Specifies the types of attributes to include in the assertion. The asterisk (*), which is the default setting, indicates that all of the attribute types that are specified in the identity mapping file or by the custom mapping module will be included in the assertion. You can specify one or more attribute types individually. For example, if you want to include only attributes of type urn:oasis:names:tc:SAML: 2.0:assertion , specify that value instead of *.
ServerCertKeyId	<i>key_alias</i>	The name of the server certificate key.
SessionTimeout	<i>number of seconds</i>	The number of seconds that artifacts are valid. The default value is 7200.
signArtifactRequest	true or false	A setting that indicates whether the requests will be signed.
signArtifactResponse	true or false	A setting that indicates whether the responses will be signed.
SignAttributeQueryResponse	<i>true or false</i>	Specifies whether the partner signs outgoing responses.
SignAttributeQueryRequest	<i>true or false</i>	Specifies whether the partner signs outgoing requests.
signatureKeyAlias	<i>key_alias_name</i>	The name of the key that is used to validate message signatures.
signatureKeystoreName	<i>keystore_name</i>	The name of the keystore where the validation key is stored.
SigningKeyIdentifier or SigningKeyId	<i>name of keystore and key</i>	The name of the signing key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname, for example, DefaultKeyStore_testkey.
SignLogoutRequest	true or false	Setting that indicates if logout requests will be signed.
signNameIdManagementResponse	true or false	A setting that indicates whether the responses will be signed.
SignOnEndpoint	<i>URL</i>	Also known as the intersite transfer service URL. The URL to which the service provider sends authentication requests. A default value is provided. For example: https://idp.example.com/sps/saml_fed/saml/login
SignTypicalSamlMsgs	true or false	Setting that indicates whether the typical outgoing SAML message and assertion must be signed, except for the . true indicates that the response must be signed and is the default. false indicates that the response does not have to be signed.

Table 23. Parameters in SAML partner response files (continued)

Parameter	Value	Description
SignLogoutResponse		
SoapRequestClientBasicAuthPassword	<i>password</i>	The password that is used for client authentication.
SoapRequestClientBasicAuthUser	<i>username</i>	The username that is used for client authentication.
SoapRequestClientCertAuthKeyId	<i>name of keystore and key</i>	The name of the client authentication key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname, for example, DefaultKeyStore_testkey.
SoapRequestServerCertAuthKeyId	<i>name of keystore and key</i>	The name of the server validation key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname, for example, DefaultKeyStore_testkey.
UseClientBasicAuth	true or false	Setting that specifies whether basic client authentication is used.
UseSoapClientCertAuth	true or false	Setting that specifies whether client certificate authentication is used.
UseSoapServerCertAuth	true or false	Setting that specifies whether server certificate authentication is used.
ValidateArtifactRequest	true or false	Setting that indicates whether the signatures in requests will be validated. true indicates that the signatures will be validated. false indicates that signatures will not be validated and is the default value.
ValidateArtifactResponse	true or false	Setting that indicates whether the signatures in responses will be validated. true indicates that the signatures will be validated. false indicates that signatures will not be validated and is the default value.
ValidateAttributeQueryResponse	<i>true or false</i>	Specifies whether the provider validates the partner signatures on attribute query responses that it receives.
ValidateAttributeQueryRequest	<i>true or false</i>	Specifies whether the provider validates the partner signatures on attribute query requests that it receives.
ValidateKeyIdentifier	true or false	A setting that specifies the key to use to validate the signatures.
ValidateLogoutResponse	true or false	A setting that indicates that a logout response received from the partner signature will be validated. An error will occur if the message is not signed.
ValidateLogoutRequest	true or false	A setting that indicates that a logout request received from the partner signature will be validated. An error will occur if the message is not signed.

Table 23. Parameters in SAML partner response files (continued)

Parameter	Value	Description
ValidateNameIdManagementResponse	true or false	A setting that indicates that a manage name id response received from the partner signature will be validated. An error will occur if the message is not signed.
ValidateNameIdManagementRequest	true or false	A setting that indicates that a manage name id request received from the partner signature will be validated. An error will occur if the message is not signed.
ValidateSamlMsgs	true or false	A setting that indicates whether the signatures in messages will be validated. true indicates that the signatures in messages will be validated and is the default value. false indicates that messages signatures will not be validated.
ValidateTypicalSamlMsgs	true or false	A setting that indicates whether you will validate signed messages.
ValidationKey	<i>name of keystore and key</i>	The name and keystore of the signature validation key that is used to validate messages from the partner.

WS-Federation partner response file reference

Before you can create a partner using the `manageItfimPartner` command, you must create a response file, and then edit the response file so that it contains the appropriate values for your environment.

You can create a response file for creating a new partner by running the following command:

New partner

```
$AdminTask manageItfimPartner {-operation createResponseFile --fimDomainName name
-federationName name -fileId output_file}
```

Existing partner

Create a response file for creating a partner that is based on an existing partner by running the following command:

```
$AdminTask manageItfimPartner {-operation createResponseFile --fimDomainName name
-federationName name -partnerName name -fileId output_file}
```

After you have run either of these commands, a response file is created. The content of the file differs depending on the federation role, either `identityProvider` or `serviceProvider`, specified in the command or by the properties of the existing partner.

Note: If you created a response file that is based on an existing partner, values will be automatically be specified for many of the parameters shown here.

Open the file with a text editor, review the attributes that are defined in the file, make changes to specify the appropriate values, and then save and close the file.

Examples of the response files are in the following directories:

AIX, HP-UX, Linux or Solaris

/opt/IBM/FIM/examples/responsefiles

Windows

C:\Program Files\IBM\FIM\examples\responsefiles

Parameters

Table 24. Parameters in WS-Federation partner response files

Parameter	Value	Description
AdditionalInfo	<i>additional information about the contact or company</i>	Any additional information about the contact or the company that you want to record.
BaseUrl	<i>URL</i>	The URL of the point of contact server with the federation name and the protocol name, such as /saml20, appended to it.
CompanyName	<i>name of your company</i>	The name of the company that is associated with the federation.
CompanyUrl	<i>URL of your company's Web site</i>	A URL for a Web site of the company that is associated with the federation.
ContactType	CONTACT_TYPE_TECHNICAL	The only supported contact type is CONTACT_TYPE_TECHNICAL.
EmailAddress	<i>e-mail address of the contact person</i>	The e-mail address of the contact person at the company that is associated with the federation.
Endpoint	<i>URL</i>	The URL of the endpoint for all requests for WS-Federation services.
FirstName	<i>first name of a company contact person</i>	The first name of a contact person at the company that is associated with the federation.
IncludePublicKey	true or false	A setting that indicates whether the public key should be included with the signature.
IncludeX509CertificateData	true or false	A setting that indicates whether the certificate data should be included with the signature.
IncludeX509IssuerDetails	true or false	A setting that indicates whether the issuer details should be included with the signature.
IncludeX509SubjectKeyIdentifier	true or false	A setting that indicates whether the subject key identifier should be included with the signature.
IncludeX509SubjectName	true or false	A setting that indicates whether the subject name should be included with the signature.
LastName	<i>last name of the company contact person.</i>	The last name of the contact person at the company that is associated with the federation.

Table 24. Parameters in WS-Federation partner response files (continued)

Parameter	Value	Description
MapModuleInstanceId	default-tdi or ID	The identity mapping module instance, if using XSLT use default_map. To use Tivoli Directory Integrator, use default-tdi. Note: If you want to use a Tivoli Directory Integrator or custom mapping module, you need to specify it when you create the response file; otherwise, the setup properties will not be added to the response file. These properties are module dependent.
MappingRule	content of the mapping rule file	This property contains the actual mapping rule contents (XSL) that are needed for the rule to be properly formatted so that it can be contained in an XML file (the response file). Use this property if you do not want to point to a mapping rule in the file system or if you are modifying a federation. If you want to edit the XSLT rule as a regular file, you can do that and supply it to the response file using the MappingRuleFileName property.
MappingRuleFileName	path and file name	This property points to an XSLT file in the file system that will be used as a mapping rule. It takes precedence over the MappingRule property if defined.
MaxRequestLifetime	number in seconds	The maximum length of time, in seconds, that a request or message that is received from a WS-Federation partner is valid. When not specified, a value of -1 is used. A value of -1 means that the requests are not checked for validity.
PartnerConfig	true or false	The value is automatically specified when the response file is created. true specifies that the file is a partner response file. false specifies that the file is a federation response file.
PhoneNumber	phone number of the contact person	The phone number of the contact person at the company that is associated with the federation.
Realm	URL	The unique name of the partner's WS-Federation Realm. The Realm name is included in assertions that are sent to federation providers. Providers rely on finding a known (defined) Realm name in order to accept the assertions.
Role	ip or sp	The role of the federation.

Table 24. Parameters in WS-Federation partner response files (continued)

Parameter	Value	Description
SAML11CreateMultipleUniversalUserAttributes	true or false	Setting that specifies whether multiple attribute statements will be kept in the groups they were received in. This option might be necessary if your custom identity mapping rules are written to operate on one or more specific groups of attribute statements. If false, multiple attribute statements are arranged into a single group (AttributeList) in the STSUniversalUser document. False is appropriate for most configurations.
SAML11ExtendedAttributeTypes	* or <i>specific_attribute_names</i>	Setting that indicates the types of attributes to include in the assertion. * is the default and indicates that all available attributes should be included.
SAML11IncludeInclusiveNamespaces	true or false	A setting that indicates whether the namespaces should be included with the signature.
SAML11SigningKeyIdentifier	<i>name of keystore and key</i>	The name of the signing key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname, for example, DefaultKeyStore_testkey.
SAML11ValidationKey	<i>name of keystore and key</i>	The name of the validation key and the keystore in which it is stored. The names must be provided in the following format: keystorename_keyname.
XsltMapping	true or false	Setting that indicates that XSLT is being used for mapping. true indicates that XSLT is used and false indicates that a mapping module is used instead. If this is set to true, values must be specified for either the MappingRule or the MappingRuleFileName properties. If it is set to false, values must be specified for the MapModuleInstanceId.

managelfimPointOfContact

Use this command to manage a custom point of contact profile for a specific domain.

Purpose

This command, when used with the appropriate parameters, can perform the following operations on a point of contact profile:

- list
- listCallbacks
- create (using a response file)

- create the response file
- view
- activate

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimPartner {-operation operator -fimDomainName name [options]}
```

where the `-operation` parameter and its value *operator* and `-fimDomainName` and its value *name* are required. The optional parameters are:

```
-uuid ID
-signInCallbackIds callback1,callback2
-signOutCallbackIds callback1,callback2
-locatIdCallbackIds callback1,callback2
-authenticationCallbackIds callback1,callback2
-fileId output_file | input_file
```

The use of these parameters depends on the operator you chose to use.

Parameters

The following parameters are available for use with the `manageItfimPointOfContact` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform on the domain. Valid values are listed in the following table.

Table 25. Values for the `manageItfimPointOfContact` `-operation` parameter

Value	Description and requirements
view	View the properties of a point of contact profile and its callbacks. When you use this operator, you must also use the following parameters: uuid <i>ID</i> Unique identifier of the existing point of contact profile. You can determine the uuid of existing point of contact profiles by running the list operation, described previously.

Table 25. Values for the `manageIbmPointOfContact` -operation parameter (continued)

Value	Description and requirements
activate	Activate a specific point of contact profile. When you use this operator, you must also use the following parameters: uuid ID Unique identifier of the existing point of contact profile. You can determine the uuid of existing point of contact profiles by running the list operation, described previously. Note: If you are activating a WebSphere profile, the following default properties are used: SOAP Port=9444 Authorization type=Allow Authenticated users to access SOAP endpoints Authentication type=Basic If your environment requires different settings, you must pass in a text file that contains the appropriate settings. For information, refer to “Point of contact settings override” on page 255.
delete	Delete a specific custom point of contact profile. Note: You cannot delete a default point of contact profile. You can only delete point of contacts that you have created. The default point of contact profiles are set to Read Only to prevent accidental deletion. When you use this operator, you must also use the following parameters: uuid ID Unique identifier of the existing point of contact profile. You can determine the uuid of existing point of contact profiles by running the list operation, described previously.
list	List all of the existing point of contact profiles for a specific domain.
listCallbacks	List the enabled callbacks in a domain.

Table 25. Values for the `managefimPointOfContact` -operation parameter (continued)

Value	Description and requirements
<code>createResponseFile</code>	Create a response file that you will use to create a point of contact profile. You have the option to create a response file for a new point of contact profile or create a response file that is based on an existing point of contact profile. New point of contact profile: When you use this operator to create response file for a new point of contact, you must also specify the following parameters: signInCallbackIds <i>callback1,callback2</i> signOutCallbackIds <i>callback1,callback2</i> localIdCallbackIds <i>callback1,callback2</i> authenticationCallbackIds <i>callback1,callback2</i> fileId <i>output_file</i> Specify the file name and path for the response file that is created by this command. Based on existing point of contact profile: When you use this operator to create a response file that is based on an existing point of contact profile, you must also specify the following parameters: uuid <i>ID</i> Unique identifier of the existing point of contact profile. You can determine the uuid of existing point of contact profiles by running the list operation, described previously. fileId <i>output_file</i> Specify the file name and path for the response file that is created by this command. After you have created the response file, open it with a text editor, review the attributes that are defined in the file, make changes as required by your environment, and then save and close the file. For information about the content of the response file, see “Point of contact response file” on page 252.
<code>create</code>	Create a point of contact profile using a response file. When you use this operator, you must also use the following parameters: fileId <i>input_name</i> This parameter specifies the name and path of the response file that you are using as input. You can create the response file using the <code>createResponseFile</code> operator.

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation will be performed. The name can be a string with characters of any type.

-uuid *ID*

An identifier string that uniquely identifies the resource you want to operate on.

-signInCallbackIds *callback*

A comma-separated list of callbacks used by the point of contact for sign-in actions.

-signOutCallbackIds *callback*

A comma-separated list of callbacks used by the point of contact for sign-out actions.

-localIdCallbackIds *callback*

A comma-separated list of callbacks used by the point of contact for the local ID.

-authenticationCallbackIds *callback*

A comma-separated list of callbacks used by the point of contact for sign authentication.

-fileId *output_file* | *input_file*

This parameter is required if you are creating a response file or creating a point of contact profile. The value used with this parameter is the file name and path of a response file that will be read from (input file) or written to (output file). The path and file name must be valid for the operating system being used.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

View point of contact details:

```
$AdminTask manageItfimPointOfContact {-operation view -fimDomainName domain1  
-uuid uuid8f3d17a-0107-w712-q35b-b0c5ecc605ba}
```

Activate a point of contact:

```
$AdminTask manageItfimPointOfContact {-operation activate -fimDomainName domain1  
-uuid uuid8f3d17a-0107-w712-q35b-b0c5ecc605ba}
```

Delete a custom point of contact profile:

```
$AdminTask manageItfimPointOfContact {-operation delete -fimDomainName domain1  
-uuid uuid3e8de4e8-0119-1a2d-9443-c4944d126cc1}
```

List all the point of contact profiles that are defined in a domain:

```
$AdminTask manageItfimPointOfContact {-operation list -fimDomainName domain1}
```

List all the callbacks that are enabled in the domain:

```
$AdminTask manageItfimPointOfContact {-operation listCallbacks -fimDomainName domain1}
```

Create a response file to create a point of contact profile:

```
$AdminTask manageItfimPointOfContact {-operation createResponseFile  
-fimDomainName domain1  
-signInCallbackIds genericPocSignInCallback,wasPocSignInCallback  
-signOutCallbackIds genericPocSignOutCallback  
-localIdCallbackIds genericPocLocalIdentityCallback  
-authenticationCallbackIds genericPocAuthenticateCallback  
-fileId c:\home\files\temp\empty.xml}
```

Note: The file specified here is the name of the response file that you are creating with the command. You will use this file as input for creating a

point of contact profile. After you have created this file, open it with a text editor and define the attributes in it so that they are correct for your environment.

Create a response file based on an existing point of contact profile:

```
$AdminTask manageItfimPointOfContact {-operation createResponseFile
  -fimDomainName domain1
  -uuid uuid8f3d17a-0107-w712-q35b-b0c5ecc605ba
  -fileId c:\home\files\temp\empty.xml}
```

Note: The file specified here is the name of the response file that you are creating with the command. You will use this file as input for creating a point of contact profile or modifying point of contact properties. After you have created this file, open it with a text editor and ensure that the attributes defined in the file are correct for your environment.

Create a point of contact profile:

```
$AdminTask manageItfimPointOfContact {-operation create -fimDomainName domain1
  -fileId c:\home\files\temp\empty.xml}
```

Note: The file specified here is the response file and is used as input. Before running this command, you must have opened the response file with a text editor and ensured that the attributes that are defined in the file are correct for your environment.

Point of contact response file

Before you can create a point of contact profile using the `manageItfimPointOfContact` command, you must create a response file, and then edit the response file so that it contains the appropriate values for your environment.

You can create a response file for creating a new partner by running the following command:

New point of contact profile

```
$AdminTask manageItfimPointOfContact {-operation createResponseFile
  -fimDomainName name
  -uuid ID
  -fileId filename}
```

Existing point of contact profile

Create a response file for creating a point of contact that is based on an existing point of contact by running the following command:

```
$AdminTask manageItfimPointOfContact {-operation createResponseFile
  -fimDomainName name
  -signInCallbackIds callback,callback
  -signOutCallbackIds callback
  -localIdCallbackIds callback
  -authenticationCallbackIds callback
  -fileId filename}
```

After you have run either of these commands, a response file is created. The content of the file differs depending on the properties specified in the command or in the existing point of contact.

Note: To ensure that any custom properties that are used by your callbacks are included, you must open the response file with a text editor, review the attributes

that are defined in the file, make changes to specify the appropriate values, and then save and close the file, before you use it to run the create operation.

Examples of the response file is in the following directories:

AIX, HP-UX, Linux or Solaris

/opt/IBM/FIM/examples/responsefiles

Windows

C:\Program Files\IBM\FIM\examples\responsefiles

Parameters

The following descriptions show the types of parameters that are used in the response files. However, the actual parameters used in your XML response file will depend on your environment and the callbacks you are using. For an example of a response file, see “Examples” on page 254.

Table 26. Parameters used in point of contact response files

Parameter	Value	Description
profileName=	<i>name</i>	Name of the point of contact profile.
Description=	<i>text</i>	Description of the profile.
signIn.INDEX=	<i>callbackID</i>	One or more callback IDs that are used for signing in. The INDEX represents the order in which this callback is invoked in the signing chain. It starts at 1. The callback ID identifies the callback module that is invoked.
CALLBACKID.PROPERTYNAME=)	<i>value</i>	Specifies a callback module and indicates that a property is used with it.
signOut.INDEX=	<i>callbackID,callbackID,</i>	One or more callback IDs that are used for signing out. The INDEX represents the order in which this callback is invoked in the signing chain. It starts at 1. The callback ID identifies the callback module that is invoked.
CALLBACKID.PROPERTYNAME=)	<i>value</i>	Specifies a callback module and indicates that a property is used with it.
localId.INDEX=	<i>callbackID,callbackID,</i>	One or more callback IDs that are used for the local Id. The INDEX represents the order in which this callback is invoked in the signing chain. It starts at 1. The callback ID identifies the callback module that is invoked.
CALLBACKID.PROPERTYNAME=)	<i>value</i>	Specifies a callback module and indicates that a property is used with it.

Table 26. Parameters used in point of contact response files (continued)

Parameter	Value	Description
authentication.INDEX=	<i>callbackID, callbackID,</i>	One or more callback IDs that are used for the authentication. The INDEX represents the order in which this callback is invoked in the signing chain. It starts at 1. The callback ID identifies the callback module that is invoked.
CALLBACKID.PROPERTYNAME=	<i>value</i>	Specifies a callback module and indicates that a property is used with it.

Examples

Command example: The following example shows how to use the create command and specify the response file:

```
$AdminTask manageItfimPointOfContact {-operation create -fimDomainName domain1
-fileId c:\home\files\temp\POCprops.xml}
```

Response file example: The following example describes a response file that can be used with the activate operation.

As you review the example, keep in mind that a point of contact profile has a hierarchy in which there are:

- 0 or 4 callback types
 - each callback type has 1 or more ordered callbacks
 - each callback has 0 or more arbitrary properties

For example:

```
signIn.INDEX=CALLBACKID
CALLBACKID.PROPERTYNAME1=value
CALLBACKID.PROPERTYNAME2=value
```

Note that INDEX will be a number that represents the order of the callback ID for that particular type (signIn in the example). Then, the callback ID can have properties added to it by prefixing the property name with the callback ID. The command line interface will decompose the response and add the properties to the callback and assign them to the proper type in the given order. The response file will not look as a key=value pair in the XML but it is effectively the same.

```
<?xml version="1.0" encoding="UTF-8"?>
<java version="1.5.0" class="java.beans.XMLDecoder">
  <object class="java.util.HashMap">
    <void method="put">
      <string>signIn.1</string>
      <object class="java.util.ArrayList">
        <void method="add">
          <string>wasPocSignInCallback</string>
        </void>
      </object>
    </void>
    <void method="put">
      <string>wasPocAuthenticateCallback.authentication.macros</string>
      <object class="java.util.ArrayList">
        <void method="add">
          <string>%FEDID%</string>
        </void>
        <void method="add">
```



```

    <string>%FEDNAME%</string>
  </void>
  <void method="add">
    <string>%PARTNERID%</string>
  </void>
  <void method="add">
    <string>%ACSURL%</string>
  </void>
  <void method="add">
    <string>%SSOREQUEST%</string>
  </void>
  <void method="add">
    <string>%TARGET%</string>
  </void>
</object>
</void>
<void method="put">
  <string>profileName</string>
  <object class="java.util.ArrayList">
    <void method="add">
      <string>testwaspoc</string>
    </void>
  </object>
</void>
<void method="put">
  <string>profileDescription</string>
  <object class="java.util.ArrayList">
    <void method="add">
      <string>WebSphere Point of Contact Profile</string>
    </void>
  </object>
</void>
<void method="put">
  <string>localId.1</string>
  <object class="java.util.ArrayList">
    <void method="add">
      <string>wasPocLocalIdentityCallback</string>
    </void>
  </object>
</void>
<void method="put">
  <string>signOut.1</string>
  <object class="java.util.ArrayList">
    <void method="add">
      <string>wasPocSignOutCallback</string>
    </void>
  </object>
</void>
<void method="put">
  <string>authentication.1</string>
  <object class="java.util.ArrayList">
    <void method="add">
      <string>wasPocAuthenticateCallback</string>
    </void>
  </object>
</void>
</object>
</java>

```

Point of contact settings override

If you are activating a WebSphere profile, default properties are used. If you need values other than the default values, you must create a settings file and use it with the activate command to override those values.

Purpose

When you use the activate operation of the manageItfimPointOfContact command to activate a WebSphere Application Server point of contact, the default values are used:

SOAP Port=9444

Authorization type=Allow unauthenticated users to access SOAP endpoints

Authentication type=Basic

If your environment requires different settings, you must pass in a text file that contains the appropriate settings.

Content of text file

Create a text file with one or more of the key-value pairs you want to override:

SOAP.PORT=*port_number*

SOAP.AUTHENTICATION=UNAUTHENTICATED|AUTHENTICATED|GROUP

SOAP.GROUPNAME=*group_name*

SOAP.AUTHENTICATION=BASIC|CLIENTCERTIFICATE

Note: You must include SOAP.GROUPNAME=*group_name* if you use SOAP.AUTHENTICATION=GROUP.

Save the file and take note of its location, such as /home/files/temp/WASPOCSettings.txt. Then, run the activate operation as described in the following sections.

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimPointOfContact {-operation activate
  -fimDomainName name
  -uuid ID
  -fileId input_file}
```

Parameters

The following parameters must be used to activate the WebSphere Application Server point of contact server with custom settings.

-operation activate

Required parameter and value for activating point of contact server.

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation will be performed. The name can be a string with characters of any type.

-uuid *ID*

An identifier string that uniquely identifies the resource you want to operate on. To determine the ID of the enabled point of contact servers in a specific domain, run the manageItfimPointOfContact command with the list operation as described in “manageItfimPointOfContact” on page 247.

-fileId *input_file*

The text file that contains the key-value pairs that you want to set for the WebSphere Application Server point of contact that you are activating.

Examples

The following example shows an example of the correct syntax:

Activate a point of contact with custom settings:

```
$AdminTask manageItfimPointOfContact {-operation activate
-fimDomainName domain1
-uuid uuid8f3d17a-0107-w712-q35b-b0c5ecc605ba
-fileId c:\home\files\temp\WASPOCSettings.txt}
```

manageItfimKeys

Use this command to manage keys and keystores in your Tivoli Federated Identity Manager environment.

Purpose

This command, when used with the appropriate parameters, can perform the following operations on the keys and keystores in your environment:

- list
- delete
- enable
- disable
- import
- export

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimKeys {-operation operator -fimDomainName name
[optional_parameters]}
```

where the `-operation` parameter and its value *operator* and `-fimDomainName` and its value *name* are required. The optional parameters are:

```
-keystorePassword password
-keystoreName name
-trustedKeystore true | false
-keyAlias alias
-keystoreFormat JKS | PKCS12 | PEM
-fileId output_file | input_file
-sourceKeystorePwd password
-exportPrivateKey true | false
```

Parameters

The following parameters are available for use with the `manageItfimKey` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform on the domain. Valid values are listed in the following table.

Table 27. Values for the `managetfimKey` -operation parameter

Value	Description and requirements
list	List all of the existing keystores in a domain or keys in a keystore. When you use this operator, you must also use the following parameters, <i>if you are listing keys in a keystore</i>: keystoreName <i>name</i> Specify the name of the keystore. keystorePassword <i>password</i> Specify the password of the keystore.
delete	Delete a key or keystore. When you use this operator, you must also use the following parameters: keystoreName <i>name</i> Specify the name of the keystore. keystorePassword <i>password</i> Specify the password of the keystore. This parameter is required <i>only if you are deleting a key from a keystore</i>. keyAlias <i>name</i> Specify the alias of the key. This parameter is required <i>only if you are deleting a key from a keystore</i>.
enable	Enable a key. When you use this operator, you must also use the following parameters: keystoreName <i>name</i> Specify the name of the keystore where the key is located. keystorePassword <i>password</i> Specify the password of the keystore. keyAlias <i>name</i> Specify the alias of the key.
disable	Disable a key. When you use this operator, you must also use the following parameters: keystoreName <i>name</i> Specify the name of the keystore where the key is located. keystorePassword <i>password</i> Specify the password of the keystore. keyAlias <i>name</i> Specify the alias of the key.

Table 27. Values for the `managetfimKey` -operation parameter (continued)

Value	Description and requirements
import	Import a key or keystore. When you use this operator, you must also use the following parameters. Importing a keystore: keystoreName <i>name</i> Specify the name that you want to give to the keystore that you are importing. keystorePassword <i>password</i> Specify the password of the keystore. It will retain this password after it is imported. trustedKeystore true false Specify whether the keystore is a keystore (false) or a truststore (true). This parameter is required only if you are importing a keystore. fileId <i>input_file</i> Specify the file name and path of the file that you are importing. keystoreFormat JKS PEM PKCS12 Specify the file format used by the original keystore in which the key was stored. Importing a key: keystoreName <i>name</i> Specify the name of the keystore to which you are importing the key. keystorePassword <i>password</i> Specify the password of the keystore. keyAlias <i>name</i> Specify the alias of the key that is in the source file and that will be used in the new keystore. keystoreFormat JKS PEM PKCS12 Specify the file format used by the original keystore in which the key was stored. fileId <i>input_file</i> Specify the file name and path of the file that you are importing. sourceKeystorePwd <i>password</i> The password of the keystore from which the key originated.

Table 27. Values for the `managetfimKey` -operation parameter (continued)

Value	Description and requirements
export	Export a key. When you use this operator, you must also use the following parameters: keystoreName <i>name</i> Specify the name of the keystore. keystorePassword <i>password</i> Specify the password of the keystore. keyAlias <i>name</i> Specify the alias of the key. keystoreFormat JKS PEM PKCS12 Specify the format of the keystore that will contain the exported key. fileId <i>output_file</i> Specify the file name and path of the keystore file that will be created. Attention: A new keystore will be created with this parameter. Specify a unique keystore file name. If you specify an existing keystore, it will be overwritten. exportPrivateKey true false Indicate whether you want to export both the private and public key. True indicates that the private key will be exported with the public key. False indicates that only the public key will be exported.

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation will be performed. The name must be a string with characters of any type.

-keystorePassword *password*

This parameter is required for all operations except when **list** is used to list all the keystores in the domain. The value used with this parameter is the password of the keystore. The name must be a string with characters of any type.

-keystoreName *name*

This parameter is required for all operations except when **list** is used to list all the keystores in a domain. The value used with this parameter is the name of the keystore. The name must be a string with characters of any type.

-trustedKeyStore *true | false*

This parameter is required if you are importing a keystore. The value used with this parameter indicates whether the keystore is a truststore, in which your partner's keys, such as those you use for validation and encryption, and Certificate Authority certificates will be stored, or if it is a keystore, in which your keys, such as those you use for signing and decryption will be stored. Use **true** to indicate that the keystore is a truststore. The default value is **false**. The values must be in lowercase.

-keyAlias *alias*

This parameter is required if you are deleting a key, enabling a key, disabling a

key, importing a key, or exporting a key. The value used with this parameter is the alias of the key on which the operation will occur. The name must be a string with characters of any type.

-keystoreFormat *JKS | PKCS12 | PEM*

This parameter is required if you are importing or exporting a key. The value used with this parameter identifies the file format of the keystore that contains the key. The values must be in uppercase.

-fileId *output_file | input_file*

This parameter is required if you are importing a keystore, importing a key, or exporting a key. The value used with this parameter is the file name and path of the key or keystore that is being imported (input file) or the key that is being exported (output file). The path and file name must be valid for the operating system being used.

-sourceKeystorePwd *password*

This parameter is required if you are importing a keystore. The value used with this parameter is the password of the keystore from which the key originated.

-exportPrivateKey *true | false*

This parameter is required if you are exporting a key. The value used with this parameter indicates whether the private key should be exported with the public key. Use **true** to indicate that the both keys should be exported. Use **false** to indicate that only the public key should be exported. The default value is **false**. The values must be in lowercase.

Attention: Do not include your private key if you are exporting a key to provide to your partner.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

List all the keystores in a domain:

```
$AdminTask manageItfimKeys {-operation list -fimDomainName domain1}
```

List all the keys in a keystore:

```
$AdminTask manageItfimKeys {-operation list -fimDomainName domain1 -keystoreName DefaultKeyStore  
-keystorePassword testonly}
```

Delete a keystore:

```
$AdminTask manageItfimKeys {-operation delete -fimDomainName domain1 -keystoreName DefaultKeyStore}
```

Delete a key:

```
$AdminTask manageItfimKeys {-operation delete -fimDomainName domain1 -keystoreName DefaultKeyStore  
-keystorePassword testonly -keyAlias spkey}
```

Enable a key:

```
$AdminTask manageItfimKeys {-operation enable -fimDomainName domain1 -keystoreName DefaultKeyStore  
-keystorePassword testonly -keyAlias spkey}
```

Disable a key:

```
$AdminTask manageItfimKeys {-operation disable -fimDomainName domain1 -keystoreName DefaultKeyStore  
-keystorePassword testonly -keyAlias spkey}
```

Import a keystore:

```
$AdminTask manageItfimKeys {-operation import -fimDomainName domain1 -keystoreName DefaultKeyStore  
-keystorePassword testonly -trustedKeystore false -fileId c:\temp\newkey.jks}
```

Import a key:

```
$AdminTask manageItfimKeys {-operation import -fimDomainName domain1 -keystoreName DefaultKeyStore  
-keystorePassword testonly -keyAlias spkey -keystoreFormat JKS  
-fileId c:\temp\newkey.jks -sourceKeystorePwd testonly}
```

Export a key:

```
$AdminTask manageItfimKeys {-operation export -fimDomainName domain1 -keystoreName DefaultKeyStore  
-keystorePassword testonly -keyAlias spkey -keystoreFormat JKS  
-fileId c:\temp\newkey.jks -exportPrivateKey false}
```

manageItfimNameIdSvc

Use this command to manage the alias service in your Tivoli Federated Identity Manager environment.

Purpose

This command, when used with the appropriate parameters, can perform the following operations on the alias service in your environment:

- view
- configure
- modify
- add a host
- remove a host
- modify a host

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimNameIdSvc {-operation operator -fimDomainName name  
[optional_parameters]}
```

where the `-operation` parameter and its value *operator* and `-fimDomainName` and its value *name* are required. The optional parameters are:

```
-configurationType ldap | jdbc  
-userSearchFilter uid=@USERID@  
-userIdAttribute uid  
-baseDn dc=com  
-rootSuffix cn=itfim  
-keystoreName name  
-hostName hostname  
-hostPort port  
-bindDn name  
-bindPassword password  
-minConnections number_of_connections  
-maxConnections number_of_connections  
-hostOrder sequence_number  
-mode ro | rw | wo  
-uuid unique_server_identifier
```

Parameters

The following parameters are available for use with the `manageItfimNameIdSvc` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform on the domain. Valid values are listed in the following table.

Table 28. Values for the `manageItfimNameIdSvc -operation` parameter

Value	Description and requirements
view	Display the configuration of the service.
configure	Configure the Name ID service for a specific provider type. When you use this operator, you must also use the following parameters. To configure the service to use a JDBC provider: configurationType <code>jdbc</code> To configure the service to use an LDAP provider without SSL: configurationType <code>ldap</code> userSearchFilter <code>uid=@USERID@</code> userIdAttribute <code>uid</code> baseDn <code>dc=com</code> rootSuffix <code>cn=itfim</code> To configure the service to use an LDAP provider with SSL enabled: configurationType <code>ldap</code> userSearchFilter <code>uid=@USERID@</code> userIdAttribute <code>uid</code> baseDn <code>dc=com</code> rootSuffix <code>cn=itfim</code> keystoreName <code>name</code>
modify	Modify the properties of the name identifier service. You might want to use the view operator before running modify so that you know what the existing properties are. When you use this operator, you must also use the following parameters: uuid <code>unique_server_identifier</code> (any other parameter that is already configured) For example, if you want to change the hostname to <code>ip1.fim.example.com</code>, you would run the following command: <pre>manageItfimNameIdSvc {-operation modify -fimDomainName domain1 -uuid uuid19f150510-0119-1036-8b18- c8e3700ca101 -hostname ip1.fim.example.com}</pre> You can also change multiple properties at the same time by specifying them in the same command string.

Table 28. Values for the `managetfimNameIdSvc` -operation parameter (continued)

Value	Description and requirements
<code>addHost</code>	Add an LDAP host to the queue. When you use this operator, you must also use the following parameters: To add an LDAP server in a specific position: hostName <i>name</i> hostPort <i>port</i> bindDn <i>name</i> bindPassword <i>password</i> minConnections 2 maxConnections 10 mode <code>ro</code> <code>rw</code> <code>wo</code> To add an LDAP server at the last position in the queue: hostName <i>name</i> hostPort <i>port</i> bindDn <i>name</i> bindPassword <i>password</i> minConnections 2 maxConnections 10 mode <code>ro</code> <code>rw</code> <code>wo</code>
<code>removeHost</code>	Remove a host from the queue. When you use this operator, you must also use the following parameters: hostName <i>name</i> hostPort <i>port</i> bindDn <i>name</i> bindPassword <i>password</i> minConnections 2 maxConnections 10 mode <code>ro</code> <code>rw</code> <code>wo</code> uuid <i>unique_server_identifier</i>

Table 28. Values for the `managetfimNameIdSvc -operation` parameter (continued)

Value	Description and requirements
<code>modifyHost</code>	Modify a host in the queue. When you use this operator, you must also use the following parameters. hostName <i>name</i> hostPort <i>port</i> bindDn <i>name</i> bindPassword <i>password</i> You can modify any of the following parameters by including them: minConnections 2 maxConnections 10 mode <code>ro</code> <code>rw</code> <code>wo</code>

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation will be performed. The name must be a string with characters of any type.

-configurationType *ldap* | *jdbc*

This parameter is required when you are configuring the alias service. The value used with this parameter is the type of database you will use with the service. The values must be specified in lowercase.

-userSearchFilter *uid=@USERID@*

This parameter is required when you are configuring an LDAP database for the service. The value used with this parameter is the LDAP user search filter. The default value is `uid=@USERID@`.

-userIdAttribute *uid*

This parameter is required if you are configuring an LDAP database for the service. The value used with this parameter is the ID attribute for a user ID. The default value is `uid`.

-baseDn *dc=com*

This parameter is required when you are configuring an LDAP database for the service. The value used with this parameter is the base distinguished name. The default value is `dc=com`.

-rootSuffix *cn=itfim*

This parameter is required when you are configuring an LDAP database for the service. The value used with this parameter is the LDAP root suffix. The default value is `cn=itfim`.

-keystoreName *name*

This parameter is required when you are configuring an LDAP database that uses SSL. The value used with this parameter is the name of the Tivoli Federated Identity Manager truststore. The name must be a string with characters of any type.

-hostName *hostname*

This parameter is required when you are adding, removing, or modifying a host. The value used with this parameter is the host name or IP address of the

database you are adding, removing, or modifying. **Note:** The format of the value specified will not be validated and a verification connection will not be attempted.

-hostPort *port*

This parameter is required when you are adding, removing, or modifying a host. The value used with this parameter is the listening port of the database you are adding, removing, or modifying. **Note:** The command validates that the value is a number. It does not verify that the port is active.

-bindDn *name*

This parameter is required when you are adding or modifying a host. The value used with this parameter is the distinguished name that is used to bind to the LDAP server.

-bindPassword *password*

This parameter is required when you are adding or modifying a host. The value used with this parameter is the password that is required to bind to the LDAP server.

-minConnections *number*

This parameter is required when you are adding a host. It can be modified when you modify a host. The value used with this parameter is the minimum number of connections that can be made to the LDAP server. The value must be an integer of 0 or more. The default value is 2.

-maxConnections *number*

This parameter is required when you are adding a host. It can be modified when you modify a host. The value used with this parameter is the maximum number of connections that can be made to the LDAP server. The value must be an integer of 0 or more and must be more than the value for minConnections. The default value is 10.

-mode *ro | rw | wo*

This parameter is required when you are adding a host. It can be modified when you modify a host. The value used with this parameter is the mode of the LDAP server. Valid values are rw (read/write), ro (read only), and wo (write only). The values must be specified in lowercase.

-hostOrder *sequence_number*

This parameter is the sequence number that defines the order in the server queue where the host will be inserted. The number 0 is the first host. The order in the queue reflects the order in which servers will be contacted. If this parameter is not specified (or if a value less than 0, such as -1 is specified), the host will be appended to the end of the queue. A value that is larger than the number of hosts in the queue will also result in the host to be added to the end of the queue.

-uuid *unique_server_identifier*

An identifier string that uniquely identifies the server you want to operate on.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

Configure a JDBC configuration:

```
$AdminTask manageItfimNameIdSvc {-operation configure -fimDomainName domain1 -configurationType jdbc}
```

Configure LDAP without SSL:

```
$AdminTask manageItfimNameIdSvc {-operation configure -fimDomainName domain1 -configurationType ldap
-userSearchFilter uid=@USERID@ -userIdAttribute uid -baseDn dc=com -rootSuffix cn=itfim }
```

Configure LDAP with SSL

```
$AdminTask manageItfimNameIdSvc {-operation configure -fimDomainName domain1 -configurationType ldap
-userSearchFilter uid=@USERID@ -userIdAttribute uid -baseDn dc=com -rootSuffix cn=itfim
-keystoreName DefaultKeyStore}
```

Add an LDAP server to the configuration to the end of the queue:

```
$AdminTask manageItfimNameIdSvc {-operation addHost -fimDomainName domain1 -hostName host1
-hostPort port1 -bindDn defaultdn -bindPassword passwd -
-minConnections 2 maxConnections 10 -mode rw}
```

Add an LDAP server to the configuration in a specific position:

```
$AdminTask manageItfimNameIdSvc {-operation addHost -fimDomainName domain1 -hostName host1
-hostPort port1 -bindDn cn=root -bindPassword passwd -
-minConnections 2 maxConnections 10 -mode rw -hostOrder 3}
```

Remove an LDAP server from the queue:

```
$AdminTask manageItfimNameIdSvc {-operation removeHost -fimDomainName domain1 -hostName host1
-hostPort port1 -bindDn cn=root -bindPassword passwd -
-minConnections 2 maxConnections 10 -mode rw
-uuid uuid19f150510-0119-1036-8b18-c8e3700ca101 }
```

Modify an LDAP server in the queue:

Note: In the following example, all options that can be modified are included.

```
$AdminTask manageItfimNameIdSvc {-operation modifyHost -fimDomainName domain1 -hostName host1
-hostPort port1 -bindDn cn=root -bindPassword passwd -
-minConnections 2 maxConnections 10 -mode rw -hostOrder 3}
```

View the configuration of the service and the queue of hosts:

```
$AdminTask manageItfimNameIdSvc {-operation view -fimDomainName domain1}
```

Modify the properties of the service:

```
manageItfimNameIdSvc {-operation modify -fimDomainName domain1
-uuid uuid19f150510-0119-1036-8b18-c8e3700ca101
-hostname ip1.fim.example.com}
```

manageltfimReports

Use this command to manage IBM Tivoli Federated Identity Manager reports.

Purpose

This command, when used with the appropriate parameters, can perform the following operations for viewing, running, and deleting reports:

- listActive
- listArchived
- listRunnable
- create the response file
- delete
- run

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimReports {-operation operator -fimDomainName name
[optional_parameters]}
```

where the `-operation` parameter and its value *operator* and `-fimDomainName` and its value *name* are required. The optional parameters are:

```
-reportDesign name
-renderType pdf | html
-fileId output_file | input_file
```

The use of these parameters depends on the operator you specify.

Parameters

The following parameters are available for use with the `manageItfimReports` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform. Valid values are listed in the following table.

Table 29. Values for the `manageItfimReports -operation` parameter

Value	Description and requirements
listActive	Use this operation to create a list of the reports that are being run during a session. The list is cleared when WebSphere Application Server is restarted.
listArchived	Use this operation to create a list of the reports that are being run during a session. The list is cleared when WebSphere Application Server is restarted.
listRunnable	Use this operation to create a list of the reports that are available to run.
createResponseFile	Create a response file in which you specify what information to include in the report. When you use this operator, you must also use the following parameters: reportDesign <i>name</i> The following pre-defined reports are available: - administrative_events.rptdesign - sso_summary.rptdesign fileId <i>output_file</i> After creating the response file, open it with a text editor. Review the attributes that are defined in the file, and specify the type of report that you want to run. Then save and close the file. For information about the content of the response file, see “Administrative events report response file” on page 270 or “Single sign-on summary report response file” on page 271.

Table 29. Values for the `manageItfimReports -operation` parameter (continued)

Value	Description and requirements
run	Run a Tivoli Federated Identity Manager report. When you use this operator, you must also use the following parameters: reportDesign <i>name</i> The following pre-defined reports are available: - administrative_events.rptdesign - sso_summary.rptdesign fileId <i>output_file</i> renderType <i>pdf html</i>
delete	Delete a report. When you use this operator, you must also specify the reportDesign <i>name</i> parameter and provide it with the name of the report to delete.

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation is to be performed. The name can be a string with characters of any type.

-reportDesign *name*

The name of the report design. There are two pre-defined reports available:

- administrative_events.rptdesign
- sso_summary.rptdesign

-renderType *pdf | html*

This parameter is required when you are running a report. The value used with this parameter is format of the report. Specify either pdf or html.

-fileId *output_file | input_file*

The value used with this parameter is the file name and path of a response file that is read from (input file) or written to (output file). The path and file name must be valid for the operating system being used.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

Create a response file:

```
$AdminTask manageItfimReport {-operation createResponseFile -fimDomainName domain1
-reportDesign administrative_events.rptdesign -fileId c:\dnload\admin_eventsreport.txt}
```

After creating the response file, open it with a text editor and review the attributes that are defined in the file. Specify the type of report that you want to run, and then save and close the file.

Run a report:

```
$AdminTask manageItfimReport {-operation run -fimDomainName domain1
-reportDesign administrative_events.rptdesign
-fileId c:\dnload\admin_eventsreport.txt -renderType pdf}
```

Note: Before you can run a report, you must first create the response file.

Delete a report:

```
$AdminTask manageItfimReports {-operation delete -fimDomainName domain1  
-reportDesign sso_summary_events_042610182942.pdf}
```

List Runnable reports:

```
$AdminTask manageItfimReports {-operation listRunnable -fimDomainName domain1}
```

List Active reports

```
$AdminTask manageItfimReports {-operation listActive -fimDomainName domain1}
```

List Archived Reports

```
$AdminTask manageItfimRunnableReports {-operation listArchived -fimDomainName domain1}
```

Administrative events report response file

Before you can run a report using the run operation with the manageItfimReports command, you must create a response file, and then edit the response file so that it contains the appropriate values for your environment.

Create a response file for running an administrative events report by running the following command:

```
$AdminTask manageItfimReports {-operation createResponseFile -fimDomainName name  
-reportDesign administrative_events.rptdesign  
-fileId file}
```

After you have run this command, a response file is created as follows:

```
#Response File generated for administrative_events.rptdesign  
#Wed Nov 28 00:14:52 CST 2007  
Administrator=Enter a value here  
Date_Range_Start=Enter a value here  
Event_Type=Enter a value here  
Date_Range_End=Enter a value here
```

Open the file with a text editor, review the attributes that are defined in the file, make changes to specify the type of report you want to run, and then save and close the file.

Parameters

Administrator=*Enter a value here*

The value can be All User IDs (case sensitive and specified as shown here), or a specific administrator user, such as fimadmin.

Date_Range_Start=*Enter a value here*

Specify the date and time on which the report should begin. The date must be specified in mm/dd/year format. The time must be specified in 12-hour format with hour, minute, seconds (hh:mm:ss) and the abbreviation AM or PM in uppercase, for example 12:00:00 AM.

Event_Type=*Enter a value here*

Specify the events to include in the report. Valid values are All Events, Federation Events, Federation Partner Events, Web Service Partner Events, or Audit Configuration Events.

Date_Range_End=*Enter a value here*

Specify the date and time on which the report should end. The date must be specified in mm/dd/year format. The time must be specified in 12-hour format with hour, minute, seconds (hh:mm:ss) and the abbreviation AM or PM in uppercase, for example 12:00:00 AM.

Example

Following is a report response file that has been edited. Values that are appropriate to a specific environment have been added.

```
#Response File generated for administrative_events.rptdesign
#Wed Nov 28 00:14:52 CST 2007
Administrator=All User IDs
Date_Range_Start=01/01/2007 12:00:00 AM
Event_Type=All Events
Date_Range_End=01/31/2007 12:00:00 AM
```

Single sign-on summary report response file

Before you can run a report using the run operation with the `manageItfimReports` command, you must create a response file, and then edit the response file so that it contains the appropriate values for your environment.

Create a response file for running a single sign-on summary report by running the following command:

```
$AdminTask manageItfimReports {-operation createResponseFile -fimDomainName name
                                -reportDesign sso_summary.rptdesign
                                -fileId file}
```

After you have run this command, a response file is created as follows:

```
#Response File generated for sso_summary.rptdesign
#Wed Nov 28 00:14:52 CST 2007
Date_Range_Start=Enter a value here
Event_Type=Enter a value here
Date_Range_End=Enter a value here
User=All User IDs
```

Open the file with a text editor, review the attributes that are defined in the file, make changes to specify the type of report you want to run, and then save and close the file.

Parameters

Date_Range_Start=*Enter a value here*

Specify the date and time on which the report should begin. The date must be specified in mm/dd/year format. The time must be specified in 12-hour format with hour, minute, seconds (hh:mm:ss) and the abbreviation AM or PM in uppercase, for example 12:00:00 AM.

Event_Type=*Enter a value here*

Specify the events to include in the report. Valid values are All Events, Successful Single Sign-On Events, or Failed Single Sign-On Events.

Date_Range_End=*Enter a value here*

Specify the date and time on which the report should end. The date must be specified in mm/dd/year format. The time must be specified in 12-hour format with hour, minute, seconds (hh:mm:ss) and the abbreviation AM or PM in uppercase, for example 12:00:00 AM.

User=*Enter a value here*

Specify a specific user name. Valid values are All User IDs or an individual user name.

Example

Following is a report response file that has been edited. Values that are appropriate to a specific environment have been added.

```
#Response File generated for sso_summary.rptdesign
#Wed Nov 28 00:14:52 CST 2007
Date_Range_Start=01/01/2007 12:00:00 AM
Event_Type=All Events
Date_Range_End=01/31/2007 12:00:00 AM
User=elaine
```

reloadItfimManagementService

Use this command to reload the Tivoli Federated Identity Manager management service. Reloading the management service is necessary if you have added new plug-ins to your environment.

Purpose

This command reloads the Tivoli Federated Identity Manager management service.

Syntax

The command syntax is as follows:

```
$AdminTask reloadItfimManagementService
```

No parameters are used with this command.

Examples

```
$AdminTask reloadItfimManagementService
```

reloadItfimRuntime

Use this command to reload the Tivoli Federated Identity Manager runtime. Reloading the runtime is necessary if you have made changes to the system configuration.

Purpose

This command reloads the Tivoli Federated Identity Manager runtime.

Syntax

The command syntax is as follows:

```
$AdminTask reloadItfimRuntime {-fimDomainName name
[optional_parameters]}
```

where the `-fimDomainName` and its value *name* are required. The optional parameters are:

```
-serverName server
-nodeName node
-cellName cell
```

Parameters

The following parameters are used with the `reloadItfimRuntime` command:

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation will be performed. The value must be a string for an existing domain name.

-serverName *server*

Optional parameter. The value used with this parameter is the name of the WebSphere Application Server on which the domain is running. The value must be a string for an existing server.

-nodeName *node*

Optional parameter. The value used with this parameter is the name of the WebSphere Application Server node on which the domain is running. The value must be a string for an existing node.

-cellName *cell*

Optional parameter. The value used with this parameter is the name of the WebSphere Application Server cell on which the domain is running. The value must be a string for an existing cell.

Note: If all of the optional parameters are left blank, all of the nodes in the specified domain will be reloaded.

Examples

All parameters must be specified with this command.

```
$AdminTask reloadItfimRuntime {-fimDomainName domain1 -serverName server1 -nodeName node1  
-cellName cell1}
```

logoutItfimSaml20User

Use this command to logout a user from a SAML 2.0 federation.

Purpose

This command logs out the user of a SAML 2.0 single sign-on session. The action taken by the command depends on whether it is issued by an identity provider or a service provider.

Identity provider

When the command is invoked at an identity provider, then an attempt is made to logout the user from all service providers for which the identity provider issues assertions. The logout requests are sent to each service provider using the SOAP binding. When a response is received from each service provider, the identity provider logs out the user locally, only if WebSEAL is being used as the point of contact.

Service provider

When the command is invoked at a service provider, the user will be logged out locally, only if WebSEAL is being used as the point of contact. A service provider cannot log out a user at an identity provider.

Syntax

The command syntax is as follows:

```
$AdminTask logoutItfimSaml20User {-fimDomainName name  
-federationName name -userName name }
```

All of the parameters are required.

Parameters

The following parameters must be used with the `logoutItfimSaml20User` command:

-fimDomainName *name*

This parameter is required. The value used with this parameter is the name of the domain on which the operation will be performed. The name must be a string with characters of any type.

-federationName *name*

Required parameter. The value used with this parameter is the name of the federation that the user is a member of. The value must be a string for an existing federation.

-userName *user*

Required parameter. The value used with this parameter is the name of the user who issued the single sign-on request.

Example

All parameters must be specified with this command.

```
$AdminTask logoutItfimSaml20User {-fimDomainName name-federationName name userName name }
```

defederateItfimSaml20User

Use this command to defederate a user from a SAML 2.0 federation.

Purpose

This command defederates a user from a SAML 2.0 federation.

Syntax

The command syntax is as follows:

```
$AdminTask defederateItfimSaml20User {-fimDomainName name  
-federationName name -partnerId ID  
-userName name }
```

All of the parameters are required.

Parameters

The following parameters must be used with the `defederateItfimSaml20User` command:

-fimDomainName *name*

This parameter is required. The value used with this parameter is the name of the domain on which the operation will be performed. The name must be a string with characters of any type.

-federationName *name*

Required parameter. The value used with this parameter is the name of the federation that the user is a member of. The value must be a string for an existing federation.

-partnerId *ID*

Required parameter. The value used with this parameter is the ID (also referred to as the protocol ID) of the partner from which the user should be defederated.

-userName *user*

Required parameter. The value used with this parameter is the name of the user who issued the single sign-on request.

Example

All parameters must be specified with this command.

```
$AdminTask defederateItfimSaml20User {-fimDomainName name
-federationName name
-partnerId https://idp1/FIM/sps/saml20IpFed/saml20 -userName name}
```

manageItfimSamlArtifactService

Use this command to manage the SAML Artifact Service of IBM Tivoli Federated Identity Manager.

Purpose

This command, when used with the appropriate parameters, can perform the following operations to manage the SAML 1.x Artifact Service:

- list
- configure
- unconfigure

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimSamlArtifactService {-operation operator -fimDomainName name
[optional_parameters]}
```

where the **-operation** parameter and its value *operator* and **-fimDomainName** and its value *name* are required. The optional parameters are:

```
-configurationId unique_config_ID
-urlPathToSps URL
-artifactCacheLifetime number_of_seconds
-samlVersion 1.0|1.1
-sourceId ID
-artifactServiceId unique_service_ID
```

The use of these parameters depends on the operator you choose.

Parameters

The following parameters are available for use with the `manageItfimSamlArtifactService` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform. Valid values are listed in the following table.

Table 30. Values for the `managefimSamlArtifactService` -operation parameter

Value	Description and requirements
list	Lists all of the configured SAML 1.x artifact services on a domain.
configure	Configures a SAML 1.x artifact service with a WS-Trust endpoint and a SAML 1.x resolution endpoint. You can use the following parameters for this operation: configurationId <i>unique_ID</i> Required parameter. Specify the name of the configuration, which is also known as the federation name. The value must be a string for an existing configuration. urlPathToSps <i>URL</i> Required parameter. Specify the URL of the SPS service, which is typically <code>https://<hostname>/sps</code>. The value must be a string for a valid URL. artifactCacheLifetime <i>number_of_seconds</i> Required parameter. Specify the number of seconds for the lifetime of the artifact cache. samlVersion <i>1.0 1.1</i> Specify the SAML version of the artifact service. Valid values are 1.0 or 1.1. sourceId <i>ID</i> Optional parameter. Specify the SAML source ID. By default, this ID is generated as the Base64-encoded SHA-1 hash of the following string concatenation: <code>[urlPathToSps]/[configurationId]/saml[samlVersion]</code>
unconfigure	Unconfigures a SAML 1.x artifact service on a specific domain. The following parameter must be used with this operation: artifactServiceId <i>unique_ID</i> Specify the ID of the existing artifact service. The value must be a string for an existing artifact service.

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation is to be performed. The name can be a string with characters of any type.

-configurationId *unique_config_ID*

This parameter is required for the configure operation. The value used with this parameter is the name of the configuration, which is also known as the federation name. The value must be a string for an existing configuration.

-urlPathToSps *URL*

This parameter is required with the configure operation. The value used with this parameter is the URL of the SPS service, which is typically `https://<hostname>/sps`. The value must be a string for a valid URL.

-artifactCacheLifetime *number_of_seconds*

This parameter is required with the configure operation. The value used with

this parameter is the number of seconds for the lifetime of the artifact cache. The value must be a positive integer ranging from 0 to 2,147,483,647. The default value is 300.

-samlVersion 1.0|1.1

The SAML version of the artifact service. Valid values are 1.0 or 1.1. Used with the configure operation.

-sourceID ID

The SAML source ID. By default, this ID is generated as the Base64-encoded SHA-1 hash of the following string concatenation: `urlPathToSps/configurationId/saml[samlVersion]`

-artifactServiceId

This parameter can be optionally used with the configure operation. The SAML source ID. By default, this ID is generated as the Base64-encoded SHA-1 hash of the following string concatenation: `[urlPathToSps]/[configurationId]/saml[samlVersion]`

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

List all the configured SAML artifact services in a domain:

```
$AdminTask manageItfimSamlArtifactService {-operation list -fimDomainName domain1}
```

Configure a SAML1.x artifact service:

```
$AdminTask manageSamlArtifactService {-operation configure -fimDomainName localhost  
-server1 -configurationId artifactsvc -urlPathToSps https://localhost:9443/sps  
-artifactCacheLifetime 300 -samlVersion 1.1}
```

Unconfigure a SAML1.x artifact service:

```
$AdminTask manageItfimSamlArtifactService {-operation unconfigure -fimDomainName domain1  
-artifactServiceId service1}
```

manageItfimStsModuleType

Use this command to manage an IBM Tivoli Federated Identity Manager Security Trust Service (STS) module type.

Purpose

This command, when used with the appropriate parameters, can perform the following operations to manage token module types:

- list
- view

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimSTSModuleType {-operation operator -fimDomainName name  
[optional_parameters]}
```

where the `-operation` parameter and its value *operator* and `-fimDomainName` and its value *name* are required. The optional parameter is:

```
-uuid module_type_uuid
```

The use of these parameters depends on the operator you specify.

Parameters

The following parameters are available for use with the `manageItfimStsModuleType` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform. Valid values are listed in the following table.

Table 31. Values for the `manageItfimModuleType -operation` parameter

Value	Description and requirements
list	List all of the existing STS module types.
view	View the details of a module type. When you use this operator, you must also specify the <code>-uuid module_type_uuid</code>

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation is to be performed. The name can be a string with characters of any type.

-uuid *name*

An identifier string that uniquely identifies the resource on which to operate. This string is required for the view operation. To view the uuid of a Module Type, use the list operation.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

List all the module types in a domain:

```
$AdminTask manageItfimStsModuleType {-operation list -fimDomainName domain1}
```

View module type details:

```
$AdminTask manageItfimStsModuleType {-operation view -fimDomainName domain1  
-uuid uuid1}
```

manageItfimStsModuleInstance

Use this command to manage an IBM Tivoli Federated Identity Manager Security Trust Service (STS) module instance.

Purpose

When used with the appropriate parameters, this command can perform the following operations to manage token module instances:

- list
- view
- delete
- create (using a response file)
- create the response file
- modify

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimStsModuleInstance {-operation operator -fimDomainName name
[optional_parameters]}
```

where the `-operation` parameter and its value *operator* and `-fimDomainName` and its value *name* are required. The optional parameters are:

```
-uuid module_instance_uuid
-moduleId module_type_uuid
-fileId output_file | input_file
```

The use of these parameters depends on the operator you specify.

Parameters

The following parameters are available for use with the `manageItfimStsModuleInstance` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform. Valid values are listed in the following table.

Table 32. Values for the `manageItfimStsModuleInstance` `-operation` parameter

Value	Description and requirements
list	List all of the existing STS module instance.
view	View the details of an STS module instance. When you use this operator, you must also specify the uuid <i>module_instance_name</i> parameter.

Table 32. Values for the `managetfimsModuleInstance` -operation parameter (continued)

Value	Description and requirements
<code>createResponseFile</code>	Create a response file used for creating an STS module instance. You have the option to create a response file for a new module instance. You can also create a response file that is based on an existing module instance. New STS module instance: When you use this operator to create response file for a new module instance, you must also specify the following parameters: moduleId <i>module_type_uuid</i> Specify the module type based on which the module instance is to be created. fileId <i>output_file</i> Specify the file name and path for the response file that is created by this command. Based on existing module instance: When you use this operator to create a response file that is based on an existing module instance, you must also specify the following parameters: uuid <i>module_instance_uuid</i> Specify the uuid of the module instance name if you are creating a response file that is based on an existing module instance. fileId <i>output_file</i> Specify the file name and path for the response file that is created by this command. After you have created the response file, open it with a text editor. Review the attributes that are defined in the file, and change them as required by your environment. Then save and close the file.
<code>create</code>	Create a module instance using a response file. When you use this operator, you must also specify the following parameters: fileId <i>input_file</i> Specify the file name and path for the response file that provides the input for this command. You can create the response file using the <code>createResponseFile</code> parameter.
<code>delete</code>	Delete a module instance. When you use this operator, you must also specify the uuid <i>module_instance_uuid</i> parameter.
<code>modify</code>	Modify a module instance using a response file. When you use this operator, you must also specify the following parameters: uuid <i>module_instance_uuid</i> Specify the name of the module instance that you want to modify. fileId <i>input_file</i> Specify the file name and path for the response file that provides the input for this command. You can create the response file using the <code>createResponseFile</code> parameter.

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation is to be performed. The name can be a string with characters of any type.

-uuid *module_type_uuid*

An identifier string that uniquely identifies the resource on which to operate.

-moduleId *module_type_uuid*

An identifier string that uniquely identifies a token module type.

-fileId *output_file* | *input_file*

This parameter is required if you are creating a response file, or creating or modifying a module instance. The value used with this parameter is the file name and path to which a response file is read from (input file) or written to (output file). The path and file name must be valid for the operating system being used.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

List all the module instances in a domain:

```
$AdminTask manageItfimStsModuleInstance {-operation list -fimDomainName domain1}
```

Create a response file to create a new module instance that is based on a module type:

```
$AdminTask manageItfimStsModuleInstance {-operation createResponseFile -fimDomainName domain1  
-moduleId moduleType1 -fileId c:\temp\modInst.rsp}
```

The file specified here is the name of the response file that you are creating with the command. Use this file as input for creating a module instance or modifying an existing module instance. After you have created this file, open it with a text editor and define the attributes in it, so that they are correct for your environment.

Create a response file based on an existing module instance:

```
$AdminTask manageItfimStsModuleInstance {-operation createResponseFile -fimDomainName domain1  
-uuid moduleInstance1 -fileId c:\temp\modInst.rsp}
```

Note: The file specified here is the name of the response file that you are creating with the command. Use this file as input for creating or modifying a module instance. After you have created this file, open it with a text editor and ensure that the attributes defined in the file are correct for your environment.

Create a module instance:

```
$AdminTask manageItfimStsModuleInstance {-operation create -fimDomainName domain1  
-fileId c:\temp\modInst.rsp}
```

Note: The file specified here is the response file and is used as input. Before running this command, open the response file with a text editor and ensure that the attributes defined in the file are correct for your environment.

Delete a module instance:

```
$AdminTask manageItfimStsModuleInstance {-operation delete -fimDomainName domain1  
-uuid moduleInstance1}
```

View module instance details:

```
$AdminTask manageItfimStsModuleInstance {-operation view -fimDomainName domain1  
-uuid moduleInstance1}
```

Modify a module instance

Run `createResponseFile`, as described in "Create a response file based on an existing module instance." The created file contains all the properties in the response file. Edit this created file using a text editor. Save the file and then reload it into your environment using the `modify` command.

```
$AdminTask manageItfimStsModuleInstance {-operation modify -fimDomainName domain1  
-uuid moduleInstance1 -fileId c:\temp\modInst.rsp}
```

manageItfimStsChainMapping

Use this command to manage Security Trust Service (STS) Chain Mapping for IBM Tivoli Federated Identity Manager.

Purpose

This command manages the chain mapping identification associated with a trust chain. When used with the appropriate parameters, this command can perform the following operations to manage STS chain mapping:

- list
- view
- delete
- create (using a response file)
- create the response file
- modify

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimStsChainMapping {-operation operator -fimDomainName name  
[optional_parameters]}
```

where the `-operation` parameter and its value *operator* and `-fimDomainName` and its value *name* are required. The optional parameters are:

```
-uuid chain_mapping_uuid | chain_uuid  
-fileId output_file | input_file
```

The use of these parameters depends on the operator you specify.

Parameters

The following parameters are available for use with the `manageItfimStsChainMapping` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform. Valid values are listed in the following table.

Table 33. Values for the `manageltfimSTSChainMapping` -operation parameter

Value	Description and requirements
list	List all of the existing STS chain mappings.
view	View the details of a chain mapping. When you use this operator, you must also specify the uuid <i>chain_mapping_uuid</i> parameter.
delete	Delete a chain mapping. When you use this operator, you must also specify the uuid <i>chain_mapping_uuid</i> parameter.
createResponseFile	Create a response file to be used in creating a chain mapping. You can create a response file for a chain mapping based on an existing chain. Alternatively, you can create a response file based on an existing chain mapping. New chain mapping based on an existing chain: When you use this operator to create response file for a new chain mapping based on an existing chain, you must also specify the following parameters: uuid <i>chain_uuid</i> Specify the UUID of the chain based on which the chain mapping is to be created. fileId <i>output_file</i> Specify the file name and path for the response file that is created by this command. Based on existing chain mapping: When you use this operator to create a response file that is based on an existing chain mapping, you must also specify the following parameters: uuid <i>chain_mapping_uuid</i> Specify the UUID of the existing chain mapping if you are creating a response file based on an existing chain mapping. fileId <i>output_file</i> Specify the file name and path for the response file that is created by this command. After creating the response file, open it with a text editor and review the attributes defined in the file. Change the attributes as required by your environment. Then save and close the file. For information about the content of response files, see “Token module response files” on page 68.
create	Create a chain mapping using a response file. When you use this operator, you must also specify the following parameters: fileId <i>input_file</i> Specify the file name and path for the response file that provides the input for this command. You can create the response file using the <code>createResponseFile</code> parameter.

Table 33. Values for the `manageItfimSTSChainMapping` -operation parameter (continued)

Value	Description and requirements
delete	Delete a chain mapping. When you use this operator, you must also specify the uuid <i>chain_mapping_uuid</i> parameter provided with the UUID of the chain mapping to be deleted.
modify	Modify a chain mapping using a response file. When using this operator, you must specify the following parameters: uuid <i>chain_mapping_uuid</i> Specify the UUID of the chain mapping that you want to modify. fileId <i>input_file</i> Specify the file name and path for the response file that provides the input for this command. You can create the response file using the createResponseFile parameter.

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation is to be performed. The name can be a string with characters of any type.

-uuid *chain_mapping_uuid* | *chain_uuid*

An identifier string that uniquely identifies the resources on which to operate, either the UUID of the chain mapping or of the chain. The UUID of the chain is specified when creating a response file based on an existing chain.

-fileId *output_file* | *input_file*

This parameter is required if you are creating a response file, or creating or modifying a chain mapping. The value used with this parameter is the file name and path for reading from a response file (input file) or writing to it (output file). The path and file name must be valid for the operating system being used.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

List all the chain mappings in a domain:

```
$AdminTask manageItfimStsChainMapping {-operation list -fimDomainName domain1}
```

Create a response file to create a chain mapping based on an existing chain:

```
$AdminTask manageItfimStsChainMapping {-operation createResponseFile -fimDomainName domain1
  -uuid chain1
  -fileId c:\temp\fromChain.rsp}
```

Specified here is the name of the response file that you are creating with the command. Use this file as input for creating or modifying a chain mapping. After creating the file, open it with a text editor and define its attributes according to your environment.

Note: The `uuid` parameter contains the UUID of a chain and not a chain mapping.

Note: For creating an STS chain mapping that is not based on an existing chain mapping, use the console, as described in the Installation and Configuration Guide. To make minor modifications, run the command for creating a response file based on the existing chain mapping. Edit the resulting response file, and then run the command for creating the chain mapping.

Create a response file based on an existing chain mapping:

```
$AdminTask manageItfimStsChainMapping {-operation createResponseFile -fimDomainName domain1  
-uuid chainMapping1 -fileId c:\temp\chainMapping.rsp}
```

Note: In this case, the uuid parameter contains the UUID of a chain mapping and not a chain.

Note: The file specified here is the name of the response file that you are creating with the command. Use this file as input for creating or modifying a chain mapping. After creating the file, open it with a text editor and ensure that the attributes defined in the file are correct for your environment.

Create a chain mapping:

```
$AdminTask manageItfimStsChainMapping {-operation create -fimDomainName domain1  
-fileId c:\temp\chainMapping.rsp}
```

Note: The file specified here is the response file and is used as input. Before running this command, open the response file with a text editor and ensure that the attributes defined in the file are correct for your environment.

Delete a chain mapping:

```
$AdminTask manageItfimStsChainMapping {-operation delete -fimDomainName domain1  
-uuid chainMapping1}
```

View chain mapping details:

```
$AdminTask manageItfimStsChainMapping {-operation view -fimDomainName domain1  
-uuid chainMapping1}
```

Modify a chain mapping

Run `createResponseFile`, as described in "Create a response file based on an existing chain mapping." The created file contains all the properties in the chain mapping. Edit the created file using a text editor. Save the file and then use the `modify` command to reload it into your environment.

```
$AdminTask manageItfimStsChainMapping {-operation modify -fimDomainName domain1  
-fileId c:\temp\chainMapping.xml }
```

manageltfimStsChain

Use this command to manage the IBM Tivoli Federated Identity Manager Security Trust Service (STS) chain.

Purpose

This command, when used with the appropriate parameters, can perform the following operations to manage trust service chains:

- list
- view
- delete

- create (using a response file)
- create the response file

Syntax

The command syntax is as follows:

```
$AdminTask manageItfimStsChain {-operation operator -fimDomainName name
[optional_parameters]}
```

where the `-operation` parameter and its value *operator* and `-fimDomainName` and its value *name* are required. The optional parameters are:

```
-uuid chain_uuid
-fileId output_file | input_file
-instanceIds instance1 [,instance2,instance3,...]
-modes mode1 [,mode2,mode3,...]
```

The use of these parameters depends on the operator you specify.

Parameters

The following parameters are available for use with the `manageItfimStsChain` command:

-operation *operator*

Required parameter. The value used with this parameter specifies the operation to perform. Valid values are listed in the following table.

Table 34. Values for the `manageItfimSTSTChain -operation` parameter

Value	Description and requirements
list	List all of the existing STS chains.
view	View the details of an STS chain. When you use this operator, you must also specify the uuid <i>chain_uuid</i> parameter.

Table 34. Values for the `managetfimSTSChain -operation` parameter (continued)

Value	Description and requirements
<code>createResponseFile</code>	Create a response file to be used in creating an STS chain. You can create a response file for a new STS chain, or create a response file based on an existing STS chain. New STS chain: When you use this operator to create response file for a new STS chain, you must also specify the following parameters: instanceIds <i>instance1 [,instance2,instance3,...]</i> Specify the list of module instances that form the chain. Enter the module instance UUIDs as comma-separated values, in the appropriate order. modes <i>mode1 [,mode2,mode3,...]</i> Specify the modes for the module instances in the chain, corresponding to the values specified for the -instanceIds parameter. fileId <i>output_file</i> Specify the file name and path for the response file that is created by this command. Based on existing STS chain: When you use this operator to create a response file that is based on an existing chain, you must also specify the following parameters: uuid <i>chain_uuid</i> Specify the uuid of the chain if you are creating a response file that is based on an existing STS chain. fileId <i>output_file</i> Specify the file name and path for the response file that is created by this command. After creating the response file, open it with a text editor and review the attributes that are defined in the file. Change the attributes accordingly, as required by your environment. Then save and close the file.
<code>create</code>	Create an STS chain using a response file. When you use this operator, you must also specify the following parameters: fileId <i>input_file</i> Specify the file name and path for the response file that provides the input for this command. You can create the response file using the <code>createResponseFile</code> parameter.
<code>delete</code>	Delete an STS chain. When you use this operator, you must also specify the uuid <i>chain_uuid</i> parameter.

Table 34. Values for the `manageItfimSTSChain -operation` parameter (continued)

Value	Description and requirements
modify	Modify a chain using a response file. Use this operation to add, remove, and reorder module instances of a chain. When you use this operator, you must also specify the following parameters: uuid <i>chain_uuid</i> Specify the uuid of the chain that you want to modify. fileId <i>input_file</i> Specify the file name and path for the response file that provides the input for this command. You can create the response file using the createResponseFile parameter.

-fimDomainName *name*

Required parameter. The value used with this parameter is the name of the domain on which the operation is to be performed. The name can be a string with characters of any type.

-uuid *name*

An identifier string that uniquely identifies the resource on which to operate.

-fileId *output_file* | *input_file*

This parameter is required if you are creating a response file, or creating or modifying a chain. The value used with this parameter is the file name and path to which a response file is read from (input file) or written to (output file). The path and file name must be valid for the operating system being used.

-InstanceIds *instance1* [,*instance2*,*instance3*,...]

A comma-separated list of the module instances that are to be used for the chain assembly. Specify the UUIDs of the module instances in the proper order, separated by commas.

-modes

Comma-separated list of modes that the corresponding module instance ID operates in the chain. Specify the modes corresponding to the module instances in the chain.

Examples

The following examples show the correct syntax for several of the tasks that can be performed with this command:

List all the STS chains in a domain:

```
$AdminTask manageItfimStsChain {-operation list -fimDomainName domain1}
```

Create a response file to create a new STS chain:

In this case, create a response file for a username (validate) to SAML1.1 (issue) chain.

```
$AdminTask manageItfimStsChain {-operation createResponseFile -fimDomainName domain1
-instanceIds default-username,default-saml1_1 -modes validate,issue
-fileId c:\temp\utToSaml11.rsp}
```

The file specified here is the name of the response file that you are creating with the command. Use this file as input for creating an STS chain or

modifying an STS chain. After creating this file, open it with a text editor and define the attributes in it, so that they are correct for your environment.

Note: For creating an STS chain that is not based on an existing chain, you can use the console, as described in the Installation and Configuration Guide. To make minor modifications, run the command for creating a response file based on the existing chain. Edit the resulting response file, and then run the command for creating the chain.

Create a response file based on an existing STS chain:

```
$AdminTask manageItfimStsChain {-operation createResponseFile -fimDomainName domain1  
-uuid chain1_uuid idpsaml2 -fileId c:\temp\chain1.rsp}
```

Note: The file specified here is the name of the response file that you are creating with the command. Use this file as input for creating an STS chain. After creating this file, open it with a text editor and ensure that the attributes defined in the file are correct for your environment.

Create an STS chain:

```
$AdminTask manageItfimStsChain {-operation create -fimDomainName domain1  
-fileId c:\temp\chain1.rsp}
```

Note: The file specified here is the response file and is used as input. Before running this command, open the response file with a text editor and ensure that the attributes defined in the file are correct for your environment.

Delete an STS chain:

```
$AdminTask manageItfimStsChain {-operation delete -fimDomainName domain1  
-uuid chain1_uuid}
```

View STS chain details:

```
$AdminTask manageItfimStsChain {-operation view -fimDomainName domain1  
-uuid chain1_uuid}
```

Modify an STS chain

First run `createResponseFile`, as described in "Create a response file based on an existing STS chain." The created file contains all of the properties in the chain. Edit the created file using a text editor. Save the file and reload it into your environment using the `modify` command.

Note: To add new module instances in the chain, add new elements in the response file specifying the order, mode, and uuid of the module instance. To delete a module instance, remove elements describing the uuid and mode for that module instance. To reorder, edit the Order numbers in the response file.

```
$AdminTask manageItfimStsChain {-operation modify -fimDomainName domain1 -uuid chain1_uuid  
-fileId c:\temp\chainModify.xml}
```

Handling an unspecified name identifier

To process an unspecified name identifier, the `DefaultNameIDFormat` parameter can be configured in a SAML 2.0 federation.

The `DefaultNameIDFormat` parameter determines processing rules for the `NameID` value if:

- the format attribute is not set, or

- is set to urn:oasis:names:tc:SAML:1.1:nameid-format:unspecified

Typically, the DefaultNameID format is set to urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress. This setting means that the NameID is treated as the username and no alias service lookup is performed.

Administrators can configure the parameter using the command-line interface. The parameter can be configured to use one of the following permitted values:

- urn:oasis:names:tc:SAML:2.0:nameid-format:persistent
- urn:oasis:names:tc:SAML:2.0:nameid-format:transient
- urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress

Note: When no value is present at either the partner or federation level, the processing of unspecified name identifier is the same as a persistent name identifier.

Administrators can configure the DefaultNameIDFormat parameter in the federation or partner level:

- “Configuring DefaultNameIDFormat (partner)”
- “Configuring DefaultNameIDFormat (federation level)” on page 291

Note: A partner-level setting takes precedence over any DefaultNameIDFormat set at the federation level.

Configuring DefaultNameIDFormat (partner)

Use the DefaultNameIDFormat parameter in the partner level to control the behavior of Tivoli Federated Identity Manager when an unspecified format is used for name identifiers.

Before you begin

Ensure that you understand how to use the partner commands. See “manageTfmPartner” on page 230 for command details.

About this task

Configure the DefaultNameIDFormat parameter to define how an unspecified name identifier is processed in the partner level.

Procedure

1. Open a command prompt.
2. Start the WebSphere Application Server wsadmin tool. From your WebSphere profile, type the appropriate command for your operating system to start the tool:

Windows

```
wsadmin.bat
```

AIX, Linux, HP-UX, or Solaris

```
wsadmin.sh
```

Note: For more information about the options that can be specified when you run the wsadmin tool, refer to the <http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp>.

3. Save the partner configuration properties into a response file with the following command: `$AdminTask manageItfimPartner {-operation createResponseFile -fimDomainName name -federationName name saml20sp -partnerName name ibmidentitydemo -fileId /tmp/partner.out}`
4. Use the following commands to update the response file to include the new property with any of the permitted values:


```
<void method="put">
<string>DefaultNameIDFormat</string>
<object class="java.util.ArrayList">
<void method="add">
<string>urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress</string>
</void>
</object>
</void>
```

The value used in this code is e-mail address. See “Handling an unspecified name identifier” on page 289 for other permitted values.
5. Use the following commands to update the configuration in Tivoli Federated Identity Manager: `$AdminTask manageItfimPartner {-operation modify -fimDomainName name -federationName name saml20sp -partnerName name ibmidentitydemo -fileId /tmp/partner.out}`
6. Reload the Tivoli Federated Identity Manager configurations using this command: `$AdminTask reloadItfimRuntime {-fimDomainName name}` You can also reload the Tivoli Federated Identity Manager using the console.

Configuring DefaultNameIDFormat (federation level)

Use the DefaultNameIDFormat parameter in the federation level to control the behavior of Tivoli Federated Identity Manager when an unspecified format is used for name identifiers.

Before you begin

Ensure that you understand how to use the federation commands. See “manageItfimFederation” on page 203 for command details.

About this task

Configure the DefaultNameIDFormat parameter to define how an unspecified name identifier is processed in the federation level.

Procedure

1. Open a command prompt.
2. Start the WebSphere Application Server wsadmin tool. From your WebSphere profile, type the appropriate command for your operating system to start the tool:

Windows

```
wsadmin.bat
```

AIX, Linux, HP-UX, or Solaris

```
wsadmin.sh
```

Note: For more information about the options that can be specified when you run the wsadmin tool, refer to the <http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp>.

3. Save the partner configuration properties into a response file with the following command: `$AdminTask manageItfimFederation {-operation createResponseFile -fimDomainName name -federationName name saml20sp -fileId /tmp/fed.out}`

4. Use the following commands to update the response file to include the new property with any of the permitted values:

```
<void method="put">
<string>DefaultNameIdFormat</string>
<object class="java.util.ArrayList">
<void method="add">
<string>urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress</string>
</void>
</object>
</void>
```

The value used in this code is e-mail address. See “Handling an unspecified name identifier” on page 289 for other permitted values.

5. Use the following commands to update the configuration in Tivoli Federated Identity Manager: `$AdminTask manageItfimFederation {-operation modify -fimDomainName name -federationName name saml20sp -fileId /tmp/partner.out}`
6. Reload the Tivoli Federated Identity Manager configurations using this command: `$AdminTask reloadItfimRuntime {-fimDomainName name}` You can also reload the Tivoli Federated Identity Manager using the console.

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Glossary

alias service

The Tivoli Federated Identity Manager component that manages aliases, or name identifiers, that are passed between secure domains.

artifact

In the context of the SAML protocol, a structured data object that points to a SAML protocol message.

artifact resolution service

In the context of the SAML protocol, the endpoint in a federation where artifacts are exchanged for assertions.

assertion

In the context of the SAML protocol, data that contains authentication or attribute information or both types of information in a message.

assertion consumer service

In the context of the SAML protocol, the endpoint in a federation that receives assertions or artifacts as part of a single sign-on request or response.

binding

In the context of SAML, the communication method used to transport the messages.

browser artifact

A profile (that is, a set of rules) in the SAML standard that specifies that an artifact is exchanged to establish and use a trusted session between two partners in a federation. Contrast with *browser POST*.

browser POST

A profile (that is, a set of rules) in the SAML standard that specifies that a self-posting form be used to establish and use a trusted session between two partners in a federation. Contrast with *browser artifact*.

domain

A deployment of the Tivoli Federated Identity Manager runtime component on WebSphere Application Server.

endpoint

The ultimate recipient of an operation.

federation

A relationship in which entities, such as differing businesses, agree to use the same technical standard (such as SAML or Liberty), which enables each partner in the relationship to access resources and data of the other. See also *identity provider* and *service provider*.

identity mapping

The process of modifying an identity that is valid in an input context to an identity that is valid in an output context.

identity provider

A partner in a federation that has responsibility for authenticating the identity of a user.

intersite transfer service

In the context of the SAML protocol, the endpoint in a federation to which a single sign-on request is sent.

metadata

Data that describes a particular piece of information, such as settings for a configuration.

point of contact server

In the context of a federation, a proxy or application server that is the first entity to process a request for access to a resource.

profile

In the context of the SAML specification, a combination of protocols, assertions, and bindings that are used together to create a federation and enable federated single sign-on.

protocol

In the context of the SAML specification, a type of request message and response message that is used for obtaining authentication data and for managing identities.

SAML See *security assertion markup language*.

security assertion markup language

A set of specifications written by the OASIS consortium to describe the secure handling of XML-based request and

response messages that contain authorization or authentication information.

service provider

A partner in a federation that provides services to the user.

Simple and Protected GSS API Negotiation Mechanism (SPNEGO)

An authentication mechanism that provides single sign-on capability in Microsoft Windows environments.

single sign-on

An authentication process in which a user can access more than one system or application by entering a single user ID and password.

SOAP A lightweight, XML-based protocol for exchanging information in a decentralized, distributed environment. SOAP can be used to query and return information and invoke services across the Internet.

SOAP back channel

Communications that take place directly between two SOAP endpoints.

SPNEGO

Simple and Protected GSS API Negotiation Mechanism

token A particular message or bit pattern that signifies permission or temporary control to transmit over a network. In the context of SAML, token is used interchangeably with *assertion*.

trust service

The Tivoli Federated Identity Manager component that manages security tokens that are passed between security domains. The trust service is also referred to as the *Security Token Service*.

Web service

A self-contained, self-describing modular application that can be published, discovered, and invoked over a network using standard network protocols. Typically, XML is used to tag the data, SOAP is used to transfer the data, WSDL is used for describing the services available, and UDDI is used for listing what services are available.

Web service security management

The Tivoli Federated Identity Manager

component that is used to establish and manage federation relationships for Web service applications running on WebSphere Application Server that use WS-Security tokens.

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