OpenAM Web Policy Agent Installation Guide

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Abstract

Guide to installing OpenAM web policy agents. OpenAM provides open source Authentication, Authorization, Entitlement and Federation software.

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Preface

This guide shows you how to install OpenAM web server policy agents, as well as how to integrate with other access management software. Read the *Release Notes* before you get started.

1 Who Should Use this Guide

This guide is written for anyone installing OpenAM policy agents to interface with supported web servers application containers.

This guide covers procedures that you theoretically perform only once per version. This guide aims to provide you with at least some idea of what happens behind the scenes when you perform the steps.

You do not need to be an OpenAM wizard to learn something from this guide, though a background in access management and maintaining web application software can help. You do need some background in managing services on your operating systems and in your application servers. You can nevertheless get started with this guide, and then learn more as you go along.

2 Formatting Conventions

Most examples in the documentation are created on GNU/Linux or Mac OS X. Where it is helpful to make a distinction between operating environments, examples for UNIX, GNU/Linux, Mac OS X, and so forth are labeled (UNIX). Mac OS X specific examples can be labeled (Mac OS X). Examples for Microsoft Windows can be labeled (Windows). To avoid repetition, however, file system

directory names are often given only in UNIX format as in `/path/to/server`, even if the text applies to `C:\path\to\server` as well.

Absolute path names usually begin with the placeholder `/path/to/`. This path might translate to `/opt/`, `C:\Program Files\`, or somewhere else on your system.

Command line, terminal sessions are formatted as follows.

```
$ echo $JAVA_HOME
/path/to/jdk
```

Command output is sometimes formatted for narrower, more readable output even though formatting parameters are not shown in the command. In the following example, the query string parameter `_prettyPrint=true` is omitted.

```
$ curl https://bjensen:hifalutin@opendj.example.com:8443/users/newuser
{
  "_rev" : "000000005b337348",
  "schemas" : [ "urn:scim:schemas:core:1.0" ],
  "contactInformation" : {
    "telephoneNumber" : "+1 408 555 1212",
    "emailAddress" : "newuser@example.com"
  },
  "_id" : "newuser",
  "name" : {
    "familyName" : "New",
    "givenName" : "User"
  },
  "userName" : "newuser@example.com",
  "displayName" : "New User",
  "meta" : {
    "created" : "2014-06-03T09:58:27Z"
  },
  "manager" : [ {
    "_id" : "kvaughan",
    "displayName" : "Kirsten Vaughan"
  } ]
}
```

Program listings are formatted as follows.

```
class Test {
    public static void main(String [] args)  {
        System.out.println("This is a program listing.");
    }
}
```

3 Accessing Documentation Online

ForgeRock core documentation, such as what you are now reading, aims to be technically accurate and complete with respect to the software documented.

Core documentation therefore follows a three-phase review process designed to eliminate errors.

- Product managers and software architects review project documentation design with respect to the users' software lifecycle needs.
- Subject matter experts review proposed documentation changes for technical accuracy and completeness with respect to the corresponding software.
- Quality experts validate implemented documentation changes for technical validity with respect to the software, technical completeness with respect to the scope of the document, and usability for the expected audience.

The review process helps to ensure that documentation published for a ForgeRock release is technically accurate and complete.

Fully reviewed, published core documentation is available at http://docs.forgerock.org/. Use this documentation when working with a ForgeRock Enterprise release.

In-progress documentation can be found at each project site under the Developer Community projects page. Use this documentation when trying a nightly build.

The ForgeRock Community Wikis and provide additional, user-created information. We encourage you to join the community, so that you can update the Wikis, too.

4 Joining the ForgeRock Community

After you sign up to join the ForgeRock community, you can edit the Community Wikis, and also log bugs and feature requests in the issue tracker.

If you have a question regarding a project but cannot find an answer in the project documentation or Wiki, browse to the Developer Community page for the project, where you can find details on joining the project mailing lists, and find links to mailing list archives. You can also suggest updates to documentation through the ForgeRock docs mailing list.

The Community Wikis describe how to check out and build source code. Should you want to contribute a patch, test, or feature, or want to author part of the core documentation, first have a look on the ForgeRock site at how to get involved.

Chapter 1

About OpenAM Web Policy Agents

OpenAM web policy agents provide light touch integration for web applications running on supported web servers. This chapter covers what web policy agents do and how they work.

A *policy agent* enforces policy for OpenAM. A *web policy agent* installed in a web server intercepts requests from users trying to access a protected web resource, and denies access until the user has authorization from OpenAM to access the resource.

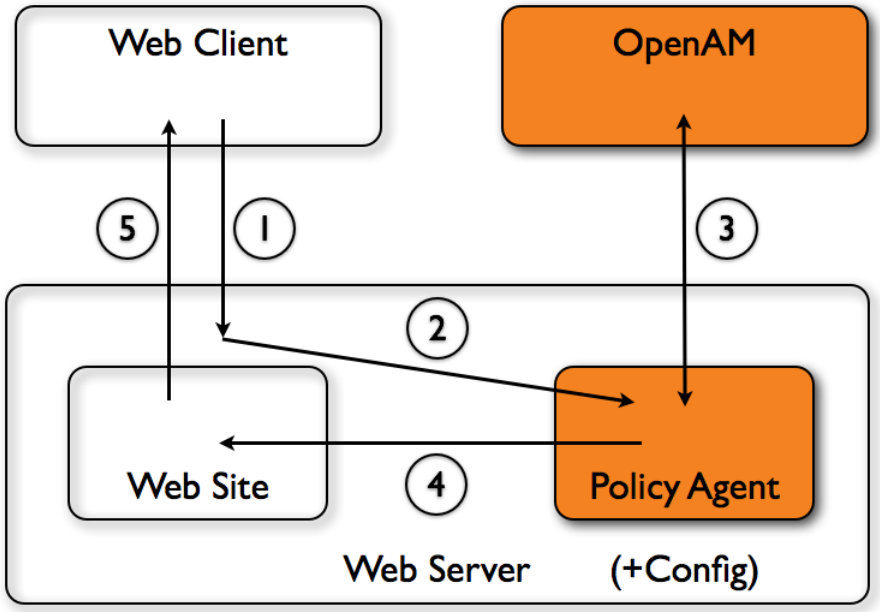
1.1 How the User, Web Policy Agent, & OpenAM Interact

Imagine that a user attempts to access a protected resource before having authenticated by pointing her browser to a web page. Assume that you have configured OpenAM to protect the web page. Then the web policy agent intercepting her browser's request finds no session token in the request, and so redirects the user's browser to the OpenAM login page for authentication. After the user has successfully authenticated, OpenAM sets a session token in a browser cookie, and redirects her browser back to the page she tried to access initially.

When the user's browser reiterates the request, the policy agent again checks that the request has a session token, finds a session token this time, and validates the session token with OpenAM. Given the valid session token, the policy agent gets a policy decision from OpenAM concerning whether the user can access the page. If OpenAM's Policy Service determines that the user is allowed to access the page, OpenAM responds to the policy agent that access should be granted.

The web policy agent then permits the web page to be returned to the user's browser.

The following diagram shows how the pieces fit together when a web client accesses a web page protected by a policy agent. This diagram is simplified to show only the essential principals rather than to describe every possible case.



A web policy agent is a library installed in the web server and configured to be called by the web server when a client requests access to a protected resource in a web site.

1. The web client requests access to a protected resource.
2. The web server runs the request through the policy agent that protects the resource according to OpenAM policy. The policy agent acts to enforce policy, whereas the policy configuration and decisions are handled by OpenAM.
3. The policy agent communicates with OpenAM to get the policy decision to enforce.
4. For a resource to which OpenAM approves access, the policy agent allows access.

5. The web server returns the requested access to the web client.

1.2 How Web Policy Agents are Configured

You install web policy agents in the web servers holding web resources that you want to protect. By default, the web policy agent has only enough configuration at installation time to connect to OpenAM in order to get the rest of its configuration from the OpenAM configuration store. With nearly all configuration stored centrally, you can manage policy agents centrally from the OpenAM console.

You can opt to store the agent configuration locally if necessary. If you store the configuration locally, then avoid issues with the configuration by making sure you provide valid values for configuration properties ending in the following.

- `.cookie.name`
- `.fqdn.default`
- `.agenturi.prefix`
- `.naming.url`
- `.login.url`
- `.instance.name`
- `.username`
- `.password`
- `.connection_timeout`
- `.policy_clock_skew`

You configure web policy agents per realm. Thus to access centralized configuration, you select Access Control > *`Realm Name`* > Agents > Web > *`Agent Name`*. Web policy agent configuration is distinct from policy configuration. The only policy-like configuration that you apply to web policy agents is indicating which URLs in the web server can be ignored (*not enforced URLs*) and which client IP address are exempt from policy enforcement (*not enforced IPs*).

For each aspect of web policy agent configuration, you can configure the policy agent through the OpenAM console during testing, and then export the resulting configuration in order to script configuration in your production environment.

Chapter 2

Installing the Apache 2.2 Policy Agent

This chapter covers installation of the policy agent for Apache HTTP Server 2.2.x.

2.1 Before You Install

Make sure OpenAM is installed, running, that you can contact OpenAM from the system running the policy agent. Next, create a profile for your policy agent as described in the *Administration Guide* section on *Creating Agent Profiles*. To protect resources with the agent also create at least one policy as described in the section on *Configuring Policies*. Consider creating a simple policy, such as a policy that allows only authenticated users to access your resources, in order to test your policy agent after installation.

You must install Apache HTTP Server before you install the policy agent, and you must stop the server during installation.

You must install a supported version of the Java runtime environment. Please review the *Release Notes* for the currently supported version of Java, and set the `JAVA_HOME` environment variable accordingly. The policy agent installer requires Java.

```
$ echo $JAVA_HOME
/path/to/java
$ which java
```

```
/usr/bin/java
```

To obtain the web agent built for this server, contact ForgeRock at info@forgerock.com. Make sure to get and verify the checksum of the agent binary that you get. Be aware, only 64-bit versions of these specialized agents are available.

Unzip the file in the directory where you plan to install the web policy agent. The agent you install stores its configuration and logs under this directory.

When you unzip the policy agent .zip download, you find the following directories under the `web_agents/apache22_agent` directory.

`bin`
: Contains the installation and configuration program, **agentadmin**; the certificate management tool **certutil** and the password hashing tool **crypt_util**.

`config`
: Configuration templates used by the **agentadmin** command during installation

`data`
: Not used

`etc`
: Apache configuration template used during installation

`installer-logs`
: Location for log files written during installation

`lib`
: Shared libraries used by the web policy agent

`locale`
: Property files used by the installation program

2.2 Installing Apache 2.2 Web Policy Agent

Complete the following procedures to install the policy agent.

Procedure 2.1. To Create the Apache 2.2 Web Agent Profile

Regardless of whether you store configurations centrally in OpenAM or locally with your agents, the agent requires a profile so that it can connect to and communicate with OpenAM.

1. In the OpenAM console, browse to Access Control > *Realm Name*> Agents > Web, and then click the New... button in the Agent table.

2. Complete the web form using the following hints.

   Name
   : The name for the agent profile used when you install the agent

   Password
   : Password the agent uses to authenticate to OpenAM

   Configuration
   : Centralized configurations are stored in the OpenAM configuration store. You can manage the centralized configuration through the OpenAM console. Local configurations are stored in a file alongside the agent.

   Server URL
   : The full URL to an OpenAM instance, or if OpenAM is deployed in a site configuration (behind a load balancer) then the site URL

     In centralized configuration mode, the Server URL is used to populate the agent profile for services such as Login, Logout, Naming, and Cross Domain SSO.

   Agent URL
   : The web server URL that the agent protects

     In centralized configuration mode, the Agent URL is used to populate the Agent Profile for services such as notifications.

Procedure 2.2. To Create the Password File

1. Create a text file containing only the password.

```
$ echo password > /tmp/pwd.txt
```

2. Protect the password file you create as appropriate for your operating system.

```
$ chmod 400 /tmp/pwd.txt
```

Procedure 2.3. To Install the Policy Agent into Apache 2.2

1. Shut down the Apache 2.2 server where you plan to install the agent.

```
$ /path/to/apache22/bin/apachectl -k stop
```

2. Make sure OpenAM is running.

3. Run **./agentadmin --install** to install the agent.

```
$ cd /path/to/web_agents/apache22_agent/bin/
$ ./agentadmin --install
...
-----------------------------------------------
SUMMARY OF YOUR RESPONSES
-----------------------------------------------
Apache Server Config Directory : /path/to/apache22/conf
OpenAM server URL : http://openam.example.com:8080/openam
Agent URL : http://www.example.com:80
Agent Profile name : Apache Web Agent
Agent Profile Password file name : /tmp/pwd.txt

...
SUMMARY OF AGENT INSTALLATION
-----------------------------
Agent instance name: Agent_001
Agent Bootstrap file location:
/path/to/web_agents/apache22_agent/Agent_001/config/
 OpenSSOAgentBootstrap.properties
Agent Configuration Tag file location
/path/to/web_agents/apache22_agent/Agent_001/config/
 OpenSSOAgentConfiguration.properties
Agent Audit directory location:
/path/to/web_agents/apache22_agent/Agent_001/logs/audit
Agent Debug directory location:
/path/to/web_agents/apache22_agent/Agent_001/logs/debug


Install log file location:
/path/to/web_agents/apache22_agent/installer-logs/audit/install.log
...
```

Upon successful completion, the installer has added the agent as a module to the Apache 2.2 configuration, and also set up configuration and log directories for the agent.

Note

If the agent is in a different domain than the server, refer to *Administration Guide* procedure, *Configuring Cross-Domain Single Sign On*.

4. Take note of the configuration files and log locations.

   Each agent instance that you install on the system has its own numbered configuration and logs directory. The first agent's configuration and logs are thus located under the directory `web_agents/apache22_agent/Agent_001/`.

`config/OpenSSOAgentBootstrap.properties`
: Used to bootstrap the web policy agent, allowing the agent to connect to OpenAM and download its configuration

`config/OpenSSOAgentConfiguration.properties`
: Only used if you configured the web policy agent to use local configuration

`logs/audit/`
: Operational audit log directory, only used if remote logging to OpenAM is disabled

`logs/debug/`
: Debug directory where the `amAgent` debug file resides. Useful in troubleshooting policy agent issues.

5. If your policy agent configuration is not in the top-level realm (/), then you must edit config/OpenSSOAgentBootstrap.properties to identify the sub-realm that has your policy agent configuration. Find com.sun.identity.agents.config.organization.name and change the / to the path to your policy agent profile. This allows the policy agent to properly identify itself to the OpenAM server.

6. Start the Apache 2.2 server where you installed the agent.

```
$ /path/to/apache22/bin/apachectl -k start
```

Procedure 2.4. To Check the Policy Agent Installation

1. Check the Apache 2.2 error log after you start the server to make sure startup completed successfully.

```
$ tail -n 2 /path/to/apache22/logs/error_log
[Sat Sep 03 13:28:16 2011] [notice] Policy web agent shared memory conf...
[Sat Sep 03 13:28:16 2011] [notice] Apache/2.2.19 (Unix) DSAME/3.0 configured
 -- resuming normal operations
```

2. Check the `amAgent` debug log to verify that no errors occurred on startup.

```
$ tail /path/to/web_agents/apache22_agent/Agent_001/logs/debug/amAgent
2011-09-03 13:28:16.971    -1 32686:9daae60 all: ==============...=====
2011-09-03 13:28:16.972    -1 32686:9daae60 all: Version: ...
2011-09-03 13:28:16.972    -1 32686:9daae60 all:
2011-09-03 13:28:16.972    -1 32686:9daae60 all: Build Date: ...
2011-09-03 13:28:16.972    -1 32686:9daae60 all: Build Machine: ..forgerock.com
2011-09-03 13:28:16.972    -1 32686:9daae60 all: ==============...=====
```

3. If you have a policy configured, you can test your policy agent. For example, try to browse to a resource that your policy agent protects. You should be

redirected to OpenAM to authenticate, for example as user `demo`, password `changeit`. After you authenticate, OpenAM then redirects you back to the resource you tried to access.

2.3 Custom Apache 2.2 Web Policy Agent Installation

When running multiple Apache 2.2 servers on the same host, use **./agentadmin --custom-install**.

When performing a scripted, silent installation, use **./agentadmin --install --saveResponse *response-file*** to create a response file for scripted installation. Then install silently using **./agentadmin --install --useResponse *response-file***.

With **./agentadmin --custom-install**, you can opt to create the policy agent profile during installation. The OpenAM administrator must first create an agent administrator user, as described in *Delegating Agent Profile Creation*, and provide you with the agent administrator user name and password. Before running the **./agentadmin --custom-install** command, put the password alone in a read-only file only the user installing can access, as for the agent password. When the **agentadmin** command prompts you to create the profile during installation, enter `true`, and then respond to the **agentadmin** prompts for the agent administrator user name and password file.

2.4 Remove Apache 2.2 Web Policy Agent Software

Shut down the Apache 2.2 server before you uninstall the policy agent.

```
$ /path/to/apache22/bin/apachectl -k stop
```

To remove the web policy agent, use **./agentadmin --uninstall**.

```
$ ./agentadmin --uninstall
...
-----------------------------------------------
SUMMARY OF YOUR RESPONSES
-----------------------------------------------
Apache Server Config Directory : /path/to/apache22/conf

...
Deleting the config directory
/path/to/web_agents/apache22_agent/Agent_001/config
...DONE.

Removing Agent parameters from /path/to/apache22/conf/httpd.conf file
...DONE.


Uninstall log file location:
/path/to/web_agents/apache22_agent/installer-logs/audit/uninstall.log
...
```

Chapter 3

Installing the Apache 2.4 Policy Agent

This chapter covers installation of the policy agent for Apache HTTP Server 2.4.x.

3.1 Before You Install

Make sure OpenAM is installed, running, that you can contact OpenAM from the system running the policy agent. Next, create a profile for your policy agent as described in the *Administration Guide* section on *Creating Agent Profiles*. To protect resources with the agent also create at least one policy as described in the section on *Configuring Policies*. Consider creating a simple policy, such as a policy that allows only authenticated users to access your resources, in order to test your policy agent after installation.

You must install Apache HTTP Server before you install the policy agent, and you must stop the server during installation.

You must install a supported version of the Java runtime environment. Please review the *Release Notes* for the currently supported version of Java, and set the `JAVA_HOME` environment variable accordingly. The policy agent installer requires Java.

To obtain the web agent built for this server, contact ForgeRock at info@forgerock.com. Make sure to get and verify the checksum of the agent

binary that you get. Be aware, only 64-bit versions of these specialized agents are available.

Unzip the file in the directory where you plan to install the web policy agent. The agent you install stores its configuration and logs under this directory.

When you unzip the policy agent .zip download, you find the following directories under the `web_agents/apache24_agent` directory.

`bin`
: Contains the installation and configuration program, **agentadmin**; the certificate management tool **certutil** and the password hashing tool **crypt_util**.

`config`
: Configuration templates used by the **agentadmin** command during installation

`data`
: Not used

`etc`
: Apache configuration template used during installation

`installer-logs`
: Location for log files written during installation

`lib`
: Shared libraries used by the web policy agent

`locale`
: Property files used by the installation program

3.2 Installing Apache 2.4 Web Policy Agent

Complete the following procedures to install the policy agent.

Procedure 3.1. To Create the Apache 2.4 Web Agent Profile

Regardless of whether you store configurations centrally in OpenAM or locally with your agents, the agent requires a profile so that it can connect to and communicate with OpenAM.

1. In the OpenAM console, browse to Access Control > *Realm Name*> Agents > Web, and then click the New... button in the Agent table.

2. Complete the web form using the following hints.

   Name
   : The name for the agent profile used when you install the agent

   Password
   : Password the agent uses to authenticate to OpenAM

   Configuration
   : Centralized configurations are stored in the OpenAM configuration store. You can manage the centralized configuration through the OpenAM console. Local configurations are stored in a file alongside the agent.

   Server URL
   : The full URL to an OpenAM instance, or if OpenAM is deployed in a site configuration (behind a load balancer) then the site URL

     In centralized configuration mode, the Server URL is used to populate the agent profile for services such as Login, Logout, Naming, and Cross Domain SSO.

   Agent URL
   : The web server URL that the agent protects

     In centralized configuration mode, the Agent URL is used to populate the Agent Profile for services such as notifications.

Procedure 3.2. To Create the Password File

1. Create a text file containing only the password.

```
$ echo password > /tmp/pwd.txt
```

2. Protect the password file you create as appropriate for your operating system.

```
$ chmod 400 /tmp/pwd.txt
```

Procedure 3.3. To Install the Policy Agent into Apache 2.4

1. Shut down the Apache 2.4 server where you plan to install the agent.

```
$ /path/to/apache24/bin/apachectl -k stop
```

2. Make sure OpenAM is running.

3. Run **./agentadmin --install** to install the agent.

```
$ cd /path/to/web_agents/apache24_agent/bin/
$ ./agentadmin --install
...
-----------------------------------------------
SUMMARY OF YOUR RESPONSES
-----------------------------------------------
Apache Server Config Directory : /path/to/apache24/conf
OpenAM server URL : http://openam.example.com:8080/openam
Agent URL : http://www.example.com:80
Agent Profile name : Apache Web Agent
Agent Profile Password file name : /tmp/pwd.txt

...
SUMMARY OF AGENT INSTALLATION
-----------------------------
Agent instance name: Agent_001
Agent Bootstrap file location:
/path/to/web_agents/apache24_agent/Agent_001/config/
 OpenSSOAgentBootstrap.properties
Agent Configuration Tag file location
/path/to/web_agents/apache24_agent/Agent_001/config/
 OpenSSOAgentConfiguration.properties
Agent Audit directory location:
/path/to/web_agents/apache24_agent/Agent_001/logs/audit
Agent Debug directory location:
/path/to/web_agents/apache24_agent/Agent_001/logs/debug


Install log file location:
/path/to/web_agents/apache24_agent/installer-logs/audit/install.log
...
```

Upon successful completion, the installer has added the agent as a module to the Apache 2.4 configuration, and also set up configuration and log directories for the agent. You can find a backup Apache HTTPD configuration file, `http.conf-preAmAgent-*`, in the Apache HTTPD configuration directory.

Note

If the agent is in a different domain than the OpenAM server, refer to the *Administration Guide* procedure, *Configuring Cross-Domain Single Sign On*.

4. Take note of the configuration files and log locations.

   Each agent instance that you install on the system has its own numbered configuration and logs directory. The first agent's configuration and logs are thus located under the directory `web_agents/apache24_agent/Agent_001/`.

   `config/OpenSSOAgentBootstrap.properties`
   : Used to bootstrap the web policy agent, allowing the agent to connect to OpenAM and download its configuration

`config/OpenSSOAgentConfiguration.properties`
: Only used if you configured the web policy agent to use local configuration

`logs/audit/`
: Operational audit log directory, only used if remote logging to OpenAM is disabled

`logs/debug/`
: Debug directory where the `amAgent` debug file resides. Useful in troubleshooting policy agent issues.

5. If your policy agent configuration is not in the top-level realm (/), then you must edit `config/OpenSSOAgentBootstrap.properties` to indentify the sub-realm that has your policy agent configuration. Find com.sun.identity.agents.config.organization.name and change the / to the path to your policy agent profile. This allows the policy agent to properly identify itself to the OpenAM server.

6. Start the Apache 2.4 server where you installed the agent.

```
$ /path/to/apache24/bin/apachectl -k start
```

Procedure 3.4. To Check the Policy Agent Installation

1. Check the Apache 2.4 error log after you start the server to make sure startup completed successfully.

```
$ tail -n 2 /path/to/apache24/logs/error_log
[Fri Sep 14 12:48:55.765192 2012] [dsame:notice] [pid 18991:tid 3075335872]
 Policy web agent shared memory configuration: notif_shm_size[2099200],
 pdp_shm_size[3213312], max_pid_count[256], max_pdp_count[256]
[Fri Sep 14 12:48:55.774790 2012] [mpm_event:notice] [pid 18991:tid 3075335872]
 AH00489: Apache/2.4.3 (Unix) DSAME/3.0 configured
 -- resuming normal operations
```

2. Check the `amAgent` debug log to verify that no errors occurred on startup.

```
$ tail /path/to/web_agents/apache24_agent/Agent_001/logs/debug/amAgent
2012-09-14 12:48:55.613      -1 18991:85fdd48 all: ==============...=====
2012-09-14 12:48:55.614      -1 18991:85fdd48 all: Version: ...
2012-09-14 12:48:55.614      -1 18991:85fdd48 all: Revision: ...
2012-09-14 12:48:55.614      -1 18991:85fdd48 all: Build Date: ...
2012-09-14 12:48:55.614      -1 18991:85fdd48 all: Build Machine: ...
2012-09-14 12:48:55.614      -1 18991:85fdd48 all: ==============...=====
```

3. If you have a policy configured, you can test your policy agent. For example, try to browse to a resource that your policy agent protects. You should be redirected to OpenAM to authenticate, for example as user `demo`, password

`changeit`. After you authenticate, OpenAM then redirects you back to the resource you tried to access.

3.3 Custom Apache 2.4 Web Policy Agent Installation

When running multiple Apache 2.4 servers on the same host, use **./agentadmin --custom-install**.

When performing a scripted, silent installation, use **./agentadmin --install --saveResponse *`response-file`*** to create a response file for scripted installation. Then install silently using **./agentadmin --install --useResponse *`response-file`***.

With **./agentadmin --custom-install**, you can opt to create the policy agent profile during installation. The OpenAM administrator must first create an agent administrator user, as described in *Delegating Agent Profile Creation*, and provide you with the agent administrator user name and password. Before running the **./agentadmin --custom-install** command, put the password alone in a read-only file only the user installing can access, as for the agent password. When the **agentadmin** command prompts you to create the profile during installation, enter `true`, and then respond to the **agentadmin** prompts for the agent administrator user name and password file.

3.4 Remove Apache 2.4 Web Policy Agent Software

Shut down the Apache 2.4 server before you uninstall the policy agent.

```
$ /path/to/apache24/bin/apachectl -k stop
```

To remove the web policy agent, use **./agentadmin --uninstall**.

```
$ ./agentadmin --uninstall
...
---------------------------------------------
SUMMARY OF YOUR RESPONSES
---------------------------------------------
Apache Server Config Directory : /path/to/apache24/conf

...
Deleting the config directory
/path/to/web_agents/apache24_agent/Agent_001/config
...DONE.

Removing Agent parameters from /path/to/apache24/conf/httpd.conf file
...DONE.


Uninstall log file location:
/path/to/web_agents/apache24_agent/installer-logs/audit/uninstall.log
...
```

Chapter 4

Installing the Microsoft IIS 6 Policy Agent

This chapter covers installation of the policy agent for Microsoft Internet Information Services 6.

4.1 Before You Install

Make sure OpenAM is installed, running, that you can contact OpenAM from the system running the policy agent. Next, create a profile for your policy agent as described in the *Administration Guide* section on *Creating Agent Profiles*. To protect resources with the agent also create at least one policy as described in the section on *Configuring Policies*. Consider creating a simple policy, such as a policy that allows only authenticated users to access your resources, in order to test your policy agent after installation.

You must install Microsoft IIS 6 before you install the policy agent, and make sure that IIS 6 allows anonymous authentication. Make sure that IIS 6 listens on the URL used during the web policy agent installation, such as `http://win2003.example.com:80/`. Furthermore, you must reset IIS 6 after installing the policy agent.

To obtain the web agent built for this server, contact ForgeRock at info@forgerock.com. Make sure to get and verify the checksum of the agent binary that you get. Be aware, only 64-bit versions of these specialized agents are available.

Unpack the file in the directory where you plan to install the web policy agent. The agent you install stores its configuration and logs under this directory.

When you unpack the policy agent you download, you find the following directories under the `web_agents\iis6_agent\` directory.

`bin`
: Contains the configuration creation script, **IIS6CreateConfig.vbs**; the agent administration and installation script, **IIS6Admin.vbs**; the certificate management tool **certutil.exe**; the password hashing tool **cryptit.exe**; additional .dll and support files.

`config`
: Configuration templates used by the scripts during configuration and installation

4.2 Installing IIS 6 Web Policy Agent

Complete the following procedures to install the policy agent.

Procedure 4.1. To Create the IIS 6 Web Agent Profile

Regardless of whether you store configurations centrally in OpenAM or locally with your agents, the agent requires a profile so that it can connect to and communicate with OpenAM.

1. In the OpenAM console, browse to Access Control > *`Realm Name`*> Agents > Web, and then click the New... button in the Agent table.

2. Complete the web form using the following hints.

   Name
   : The name for the agent profile used when you install the agent

   Password
   : Password the agent uses to authenticate to OpenAM

   Configuration
   : Centralized configurations are stored in the OpenAM configuration store. You can manage the centralized configuration through the OpenAM console. Local configurations are stored in a file alongside the agent.

   Server URL
   : The full URL to an OpenAM instance, or if OpenAM is deployed in a site configuration (behind a load balancer) then the site URL

In centralized configuration mode, the Server URL is used to populate the agent profile for services such as Login, Logout, Naming, and Cross Domain SSO.

Agent URL
The web server URL that the agent protects

In centralized configuration mode, the Agent URL is used to populate the Agent Profile for services such as notifications.

Procedure 4.2. To Create the Password File

1. Protect the password file you will create as appropriate.
2. Create a text file containing only the password.

```
C:\>notepad C:\Windows\Temp\pwd.txt
```

Procedure 4.3. To Configure Policy Agent Installation

1. Log on as a user with Administrator privileges.
2. Change to the directory where you unpacked the agent download.

```
C:\>cd web_agents\iis6_agent\bin
```

3. Create a configuration file using the **IIS6CreateConfig.vbs** script.

Note

The Web Site Identifier is the value of `id`, not the site name.

```
C:\web_agents\iis6_agent\bin>cscript IIS6CreateConfig.vbs config.txt
...
Enter the Agent Resource File Name [IIS6Resource.en] :

Enter the Agent URL (Example: http://agent.example.com:80) :
http://windows2003.example.com:80

Displaying the list of Web Sites and its corresponding Identifiers
Site Name (Site Id)
Default Web Site (1)

Web Site Identifier :
1
...
Enter the URL where the OpenAM server is running...:
http://openam.example.com:8080/openam
```

```
Please enter the Agent Profile name :
IIS 6 Web Agent

Enter the Agent profile password file :
C:\Windows\Temp\pwd.txt

-----------------------------------------------------
Agent Configuration file created : config.txt
-----------------------------------------------------
```

Procedure 4.4. To Install the Policy Agent into IIS 6

1. Log on as a user with Administrator privileges.
2. Make sure OpenAM is running.
3. Run **IIS6Admin.vbs** to install the agent.

```
C:\web_agents\iis6_agent\bin>cscript IIS6Admin.vbs -config config.txt
...
Enter the Agent Resource File Name [IIS6Resource.en] :

Creating the Agent Config Directory
Creating the OpenSSOAgentBootstrap.properties and
 OpenSSOAgentConfiguration.properties File
Updating the Windows Product Registry
Loading the IIS 6.0 Agent
Completed Configuring the IIS 6.0 Agent
```

4. Restart IIS 6.

```
C:\web_agents\iis6_agent\bin>iisreset

Attempting stop...
Internet services successfully stopped
Attempting start...
Internet services successfully restarted
```

Note

If the agent is in a different domain than the server, refer to *Administration Guide* procedure, *Configuring Cross-Domain Single Sign On*.

5. Take note of the configuration files and log locations.

   Each agent instance that you install on the system has its own configuration and logs directory. The agent protecting the Default Web Site (1) shown in the examples above has configuration and logs located under the directory `web_agents\iis6_agent\Identifier_1`. The number in the path to the agent

configuration reflects the IIS site ID, unlike the other agents for which the number in the path is a counter. The number in the path therefore remains the same when you uninstall and then reinstall an agent to protect the same site.

`config\OpenSSOAgentBootstrap.properties`
: Used to bootstrap the web policy agent, allowing the agent to connect to OpenAM and download its configuration

`config\OpenSSOAgentConfiguration.properties`
: Only used if you configured the web policy agent to use local configuration

`audit\`
: Operational audit log directory, only used if remote logging to OpenAM is disabled

`debug\`
: Debug directory where the `amAgent` debug file resides. Useful in troubleshooting policy agent issues.

6. If your policy agent configuration is not in the top-level realm (/), then you must edit config\OpenSSOAgentBootstrap.properties to identify the sub-realm that has your policy agent configuration. Find com.sun.identity.agents.config.organization.name and change the / to the path to your policy agent profile. This allows the policy agent to properly identify itself to the OpenAM server.

7. If the web policy agent performs naming URL validation, which you can configure by setting the `com.forgerock.agents.ext.url.validation.level` property in `config\OpenSSOAgentBootstrap.properties`, then make sure the `IUSR_`*`MachineName`* user has read-write access to `C:\Windows\Temp\` before you start IIS.

8. If you have a policy configured, you can test your policy agent. For example, try to browse to a resource that your policy agent protects. You should be redirected to OpenAM to authenticate, for example as user `demo`, password `changeit`. After you authenticate, OpenAM then redirects you back to the resource you tried to access.

4.3 Custom IIS 6 Web Policy Agent Installation

When protecting multiple IIS 6 websites on the same host, use different configuration files for each site.

When preparing a scripted, silent installation, notice that the configuration file generated using **IIS6CreateConfig.vbs** is a text file containing all of the

configuration information in clear text plus the encrypted password retrieved originally from the password file. Encrypt passwords using **cryptit.exe**.

```
C:\web_agents\iis6_agent\bin>cryptit.exe pwd-file encryption-key
```

4.4 Remove IIS 6 Web Policy Agent Software

To remove the web policy agent, log on as a user with Administrator privileges, run **cscript IIS6Admin.vbs -unconfig config.txt**, and then run **iisreset**.

Chapter 5

Installing the Microsoft IIS 7 Policy Agent

This chapter covers installation of the policy agent for Microsoft Internet Information Services 7.

5.1 Before You Install

Make sure OpenAM is installed, running, that you can contact OpenAM from the system running the policy agent. Next, create a profile for your policy agent as described in the *Administration Guide* section on *Creating Agent Profiles*. To protect resources with the agent also create at least one policy as described in the section on *Configuring Policies*. Consider creating a simple policy, such as a policy that allows only authenticated users to access your resources, in order to test your policy agent after installation.

You must install Microsoft IIS 7 before you install the policy agent, and make sure that IIS 7 allows anonymous authentication. Make sure that IIS 7 listens on the URL used during the web policy agent installation, such as `http://windows7.example.com:80/`. Furthermore, you must reset IIS 7 after installing the policy agent.

To obtain the web agent built for this server, contact ForgeRock at info@forgerock.com. Make sure to get and verify the checksum of the agent binary that you get. Be aware, only 64-bit versions of these specialized agents are available.

Unpack the file in the directory where you plan to install the web policy agent. The agent you install stores its configuration and logs under this directory.

When you unpack the policy agent you download, you find the following directories under the `web_agents\iis7_agent\` directory.

`bin`
: Contains the configuration creation script, **IIS7CreateConfig.vbs**; the agent administration and installation script, **IIS7Admin.vbs**; the certificate management tool **certutil.exe**; the password hashing tool **cryptit.exe**; additional .dll and support files.

`config`
: Configuration templates used by the scripts during configuration and installation

5.2 Installing IIS 7 Web Policy Agent

Complete the following procedures to install the policy agent.

Procedure 5.1. To Create the IIS 7 Web Agent Profile

Regardless of whether you store configurations centrally in OpenAM or locally with your agents, the agent requires a profile so that it can connect to and communicate with OpenAM.

1. In the OpenAM console, browse to Access Control > *`Realm Name`*> Agents > Web, and then click the New... button in the Agent table.

2. Complete the web form using the following hints.

   Name
   : The name for the agent profile used when you install the agent

   Password
   : Password the agent uses to authenticate to OpenAM

   Configuration
   : Centralized configurations are stored in the OpenAM configuration store. You can manage the centralized configuration through the OpenAM console. Local configurations are stored in a file alongside the agent.

   Server URL
   : The full URL to an OpenAM instance, or if OpenAM is deployed in a site configuration (behind a load balancer) then the site URL

In centralized configuration mode, the Server URL is used to populate the agent profile for services such as Login, Logout, Naming, and Cross Domain SSO.

Agent URL
The web server URL that the agent protects

In centralized configuration mode, the Agent URL is used to populate the Agent Profile for services such as notifications.

Procedure 5.2. To Create the Password File

1. Protect the password file you will create as appropriate.
2. Create a text file containing only the password.

```
C:\>notepad C:\Windows\Temp\pwd.txt
```

Procedure 5.3. To Configure Policy Agent Installation

1. Log on as a user with Administrator privileges.
2. Change to the directory where you unpacked the agent download.

```
C:\>cd web_agents\iis7_agent\bin
```

3. Create a configuration file using the **IIS7CreateConfig.vbs** script.

Note

The Web Site Identifier is the value of `id`, not the site name.

```
C:\web_agents\iis7_agent\bin>cscript IIS7CreateConfig.vbs config.txt
...
Enter the Agent Resource File Name [IIS7Resource.en] :

Enter the Agent URL (Example: http://agent.example.com:80) :
http://windows7.example.com:80

Displaying the list of Web Sites and its corresponding Identifiers (id)

SITE "Default Web Site" (id:1,bindings:http/*:80:,state:Started)

Web Site Identifier :
1
...
Enter the URL where the OpenAM server is running...:
http://openam.example.com:8080/openam
```

```
Please enter the Agent Profile name :
IIS 7 Web Agent

Enter the Agent profile password file :
C:\Windows\Temp\pwd.txt

-----------------------------------------------------
Agent Configuration file created : config.txt
-----------------------------------------------------
```

Procedure 5.4. To Install the Policy Agent into IIS 7

1. Log on as a user with Administrator privileges.
2. Make sure OpenAM is running.
3. Run **IIS7Admin.vbs** to install the agent.

```
C:\web_agents\iis7_agent\bin>cscript IIS7Admin.vbs -config config.txt
...
Enter the Agent Resource File Name [IIS7Resource.en] :

Creating the Agent Config Directory
Creating the OpenSSOAgentBootstrap.properties and
 OpenSSOAgentConfiguration.properties File
Updating the Windows Product Registry
Installing policy web agent module in IIS (status: 0)
Adding policy web agent module to "Default Web Site" (status: 0)
Completed Configuring the IIS 7.0 Agent
```

4. Make sure the authentication method for IIS 7 is set to anonymous.
5. Restart IIS 7.

```
C:\web_agents\iis7_agent\bin>iisreset

Attempting stop...
Internet services successfully stopped
Attempting start...
Internet services successfully restarted
```

Note

If the agent is in a different domain than the server, refer to *Administration Guide* procedure, *Configuring Cross-Domain Single Sign On*.

6. Take note of the configuration files and log locations.

   Each agent instance that you install on the system has its own configuration and logs directory. The agent protecting the Default Web Site (id: 1) shown

in the examples above has configuration and logs located under the directory `web_agents\iis7_agent\Identifier_1`. The number in the path to the agent configuration reflects the IIS site ID, unlike the other agents for which the number in the path is a counter. The number in the path therefore remains the same when you uninstall and then reinstall an agent to protect the same site.

`config\OpenSSOAgentBootstrap.properties`
: Used to bootstrap the web policy agent, allowing the agent to connect to OpenAM and download its configuration

`config\OpenSSOAgentConfiguration.properties`
: Only used if you configured the web policy agent to use local configuration

`audit\`
: Operational audit log directory, only used if remote logging to OpenAM is disabled

`debug\`
: Debug directory where the `amAgent` debug file resides. Useful in troubleshooting policy agent issues.

7. If your policy agent configuration is not in the top-level realm (/), then you must edit config\OpenSSOAgentBootstrap.properties to identify the sub-realm that has your policy agent configuration. Find com.sun.identity.agents.config.organization.name and change the / to the path to your policy agent profile. This allows the policy agent to properly identify itself to the OpenAM server.

8. If you have a policy configured, you can test your policy agent. For example, try to browse to a resource that your policy agent protects. You should be redirected to OpenAM to authenticate, for example as user `demo`, password `changeit`. After you authenticate, OpenAM then redirects you back to the resource you tried to access.

5.3 Custom IIS 7 Web Policy Agent Installation

When protecting multiple IIS 7 websites on the same host, use different configuration files for each site.

When preparing a scripted, silent installation, notice that the configuration file generated using **IIS7CreateConfig.vbs** is a text file containing all of the configuration information in clear text plus the encrypted password retrieved originally from the password file. Encrypt passwords using **cryptit.exe**.

```
C:\web_agents\iis7_agent\bin>cryptit.exe pwd-file encryption-key
```

5.4 Enable IIS 7 Basic Authentication & Password Replay Support

The IIS 7 web policy agent now supports IIS 7 basic authentication and password replay. You must use the appropriate software versions.

- For Microsoft Office integration, you must use Microsoft Office 2007 SP2 or later.
- For Microsoft SharePoint integration, you must use Microsoft SharePoint Server 2007 SP2 or later.

You must also apply workarounds as described for the following Microsoft issues.

Microsoft Support Issue: 841215
Link: http://support.microsoft.com/kb/841215

Description: Error message when you try to connect to a Windows SharePoint document library: "System error 5 has occurred"

Summary: Enable Basic Authentication on the client computer.

Microsoft Support Issue: 870853
Link: http://support.microsoft.com/kb/870853

Description: Office 2003 and 2007 Office documents open read-only in Internet Explorer

Summary: Add registry keys as described in Microsoft's support document.

Microsoft Support Issue: 928692
Link: http://support.microsoft.com/kb/928692

Description: Error message when you open a Web site by using Basic authentication in Expression Web on a computer that is running Windows Vista: "The folder name is not valid"

Summary: Edit the registry as described in Microsoft's support document.

Microsoft Support Issue: 932118
Link: http://support.microsoft.com/kb/932118

Description: Persistent cookies are not shared between Internet Explorer and Office applications

Summary: Add the web site the list of trusted sites.

Microsoft Support Issue: 943280
Link: http://support.microsoft.com/kb/943280

Description: Prompt for Credentials When Accessing FQDN Sites From a Windows Vista or Windows 7 Computer

Summary: Edit the registry as described in Microsoft's support document.

Microsoft Support Issue: 968851
Link: http://support.microsoft.com/kb/968851

Description: SharePoint Server 2007 Cumulative Update Server Hotfix Package (MOSS server-package): April 30, 2009

Summary: Apply the fix from Microsoft if you use SharePoint.

Microsoft Support Issue: 2123563
Link: http://support.microsoft.com/kb/2123563

Description: You cannot open Office file types directly from a server that supports only Basic authentication over a non-SSL connection

Summary: Enable SSL encryption on the web server.

Procedure 5.5. To Configure IIS 7 Basic Authentication & Password Replay Support

Follow these steps.

1. Generate and store an encryption key.

   a. Generate the key using `com.sun.identity.common.DESGenKey` using the .jars where you deployed OpenAM, as in the following example.

   ```
   $ cd /path/to/tomcat/webapps/openam/WEB-INF/lib
   $ java -cp openam-core-11.0.0.jar:openam-shared-11.0.0.jar
    com.sun.identity.common.DESGenKey
   Key ==> sxVoaDRAN0o=
   ```

   b. Store the key in the agent configuration on the property in the OpenAM console under Access Control > *`realm-name`* > Agents > Web > *`agent-name`* > Advanced > Microsoft IIS Server > Replay Password Key (property name: `com.sun.identity.agents.config.replaypasswd.key`), and then Save your work.

   c. Store the key in the server configuration in the OpenAM console under Configuration > Servers and Sites > *`server-name`* > Advanced > Add... to add the property `com.sun.am.replaypasswd.key` with the key you generated as the value, and then Save your work.

2. In the OpenAM console under Access Control > *`realm-name`* > Authentication > All Core Settings... > Authentication Post Processing Classes, add the class `com.sun.identity.authentication.spi.ReplayPasswd`, and then Save your work.

3. If you require Windows logon, or you need to use basic authentication with SharePoint or OWA, then you must configure Active Directory as a user date store, and you must configure the IIS 7 policy agent profile User ID Parameter and User ID Parameter Type so that the policy agent requests OpenAM to provide the appropriate account information from Active Directory in its policy response.

   Skip this step if you do not use SharePoint or OWA and no Windows logon is required.

   Make sure OpenAM data store is configured to use Active Directory as the user data store.

   In the OpenAM console under Access Control > *realm-name* > Agents > Web > *agent-name* > OpenAM Services > Policy Client Service, set User ID Parameter and User ID Parameter Type, and then Save your work. For example if the real username for Windows domain logon in Active Directory is stored on the `samaccountname` attribute, then set the User ID Parameter to `samaccountname`, and the User ID Parameter Type to `LDAP`.

   Setting the User ID Parameter Type to `LDAP` causes the policy agent to request that OpenAM get the value of the User ID Parameter attribute from the data store, in this case Active Directory. Given that information, the policy agent can set the HTTP headers `remote_user`, `auth_user`, or `logon_user` and `user_password` with Active Directory attribute values suitable for Windows logon, setting the remote user, and so forth.

4. To set the encrypted password in the AUTH_PASSWORD header, in the OpenAM console under Access Control > *realm-name* > Agents > Web > *agent-name* > Advanced > Custom Properties, add `com.sun.identity.agents.config.iis.password.header=true`.

5. To have the agent perform Windows logon (for user token impersonation), in the OpenAM console under Access Control > *realm-name* > Agents > Web > *agent-name* > Advanced > Custom Properties, add `com.sun.identity.agents.config.iis.logonuser=true`.

6. In the OpenAM console under Access Control > *realm-name* > Agents > Web > *agent-name* > Advanced > Microsoft IIS Server, set Authentication Type to basic, and then Save your work.

7. To use the agent with SharePoint or Microsoft Office, configure OpenAM to support the `iPlanetDirectoryPro` as a persistent cookie.

   In the OpenAM console under Access Control > *realm-name* > Authentication > All Core Settings... > Persistent Cookie Mode, select Enabled, and then Save your work.

5.5 Remove IIS 7 Web Policy Agent Software

To remove the web policy agent, log on as a user with Administrator privileges, run **cscript IIS7Admin.vbs -unconfig config.txt**, and then run **iisreset**.

Chapter 6

Installing the Oracle iPlanet/Sun Web Server Policy Agent

This chapter covers installation of the policy agent for Oracle iPlanet Web Server, formerly known as Sun Web Server.

6.1 Before You Install

Make sure OpenAM is installed, running, that you can contact OpenAM from the system running the policy agent. Next, create a profile for your policy agent as described in the *Administration Guide* section on *Creating Agent Profiles*. To protect resources with the agent also create at least one policy as described in the section on *Configuring Policies*. Consider creating a simple policy, such as a policy that allows only authenticated users to access your resources, in order to test your policy agent after installation.

You must install Apache HTTP Server before you install the policy agent, and you must stop the server during installation.

You must install a supported version of the Java runtime environment. Please review the *Release Notes* for the currently supported version of Java, and set the `JAVA_HOME` environment variable accordingly. The policy agent installer requires Java.

```
$ echo $JAVA_HOME
/path/to/java
$ which java
```

```
/usr/bin/java
```

To obtain the web agent built for this server, contact ForgeRock at info@forgerock.com. Make sure to get and verify the checksum of the agent binary that you get. Be aware, only 64-bit versions of these specialized agents are available.

Unzip the file in the directory where you plan to install the web policy agent. The agent you install stores its configuration and logs under this directory.

When you unzip the policy agent .zip download, you find the following directories under the `web_agents/sjsws_agent` directory.

`bin`
: Contains the installation and configuration program, **agentadmin**; the certificate management tool **certutil** and the password hashing tool **crypt_util**.

`config`
: Configuration templates used by the **agentadmin** command during installation

`data`
: Not used

`etc`
: Not used

`installer-logs`
: Location for log files written during installation

`lib`
: Shared libraries used by the web policy agent

`locale`
: Property files used by the installation program

6.2 Installing Oracle iPlanet Web Server Web Policy Agent

Complete the following procedures to install the policy agent.

Procedure 6.1. To Create the Oracle iPlanet Web Server Web Agent Profile

Regardless of whether you store configurations centrally in OpenAM or locally with your agents, the agent requires a profile so that it can connect to and communicate with OpenAM.

1. In the OpenAM console, browse to Access Control > *Realm Name*> Agents > Web, and then click the New... button in the Agent table.

2. Complete the web form using the following hints.

   Name
   : The name for the agent profile used when you install the agent

   Password
   : Password the agent uses to authenticate to OpenAM

   Configuration
   : Centralized configurations are stored in the OpenAM configuration store. You can manage the centralized configuration through the OpenAM console. Local configurations are stored in a file alongside the agent.

   Server URL
   : The full URL to an OpenAM instance, or if OpenAM is deployed in a site configuration (behind a load balancer) then the site URL

     In centralized configuration mode, the Server URL is used to populate the agent profile for services such as Login, Logout, Naming, and Cross Domain SSO.

   Agent URL
   : The web server URL that the agent protects

     In centralized configuration mode, the Agent URL is used to populate the Agent Profile for services such as notifications.

Procedure 6.2. To Create the Password File

1. Create a text file containing only the password.

```
$ echo password > /tmp/pwd.txt
```

2. Protect the password file you create as appropriate for your operating system.

```
$ chmod 400 /tmp/pwd.txt
```

Procedure 6.3. To Install the Policy Agent into Oracle iPlanet Web Server

1. Shut down Oracle iPlanet Web Server instance where you plan to install the agent.

2. Make sure OpenAM is running.

3. Run **agentadmin --install** to install the agent.

```
$ /path/to/web_agents/sjsws_agent/bin/agentadmin --install
...
-----------------------------------------------
SUMMARY OF YOUR RESPONSES
-----------------------------------------------
Sun Java System Web Server Config Directory :
/path/to/webserver7/https-www.example.com/config/
OpenAM server URL : http://openam.example.com:8080/openam
Agent URL : http://www.example.com:8080
Agent Profile name : Sun Web Server Agent
Agent Profile Password file name : /tmp/pwd.txt

...
SUMMARY OF AGENT INSTALLATION
-----------------------------
Agent instance name: Agent_001
Agent Bootstrap file location:
/path/to/web_agents/sjsws_agent/Agent_001/config/
 OpenSSOAgentBootstrap.properties
Agent Configuration Tag file location
/path/to/web_agents/sjsws_agent/Agent_001/config/
 OpenSSOAgentConfiguration.properties
Agent Audit directory location:
/path/to/web_agents/sjsws_agent/Agent_001/logs/audit
Agent Debug directory location:
/path/to/web_agents/sjsws_agent/Agent_001/logs/debug


Install log file location:
/path/to/web_agents/sjsws_agent/installer-logs/audit/install.log
...
```

Upon successful completion, the installer has backed up and updated the Oracle iPlanet Web Server instance configuration, and has also set up configuration and log directories for the agent.

Note

If the agent is in a different domain than the server, refer to *Administration Guide* procedure, *Configuring Cross-Domain Single Sign On*.

4. Take note of the configuration files and log locations.

   Each agent instance that you install on the system has its own numbered configuration and logs directory. The first agent's configuration and logs are thus located under the directory `web_agents/sjsws_agent/Agent_001/`.

   `config/OpenSSOAgentBootstrap.properties`
   : Used to bootstrap the web policy agent, allowing the agent to connect to OpenAM and download its configuration

`config/OpenSSOAgentConfiguration.properties`
: Only used if you configured the web policy agent to use local configuration

`logs/audit/`
: Operational audit log directory, only used if remote logging to OpenAM is disabled

`logs/debug/`
: Debug log directory. Useful in troubleshooting policy agent issues.

5. If your policy agent configuration is not in the top-level realm (/), then you must edit config/OpenSSOAgentBootstrap.properties to identify the sub-realm that has your policy agent configuration. Find com.sun.identity.agents.config.organization.name and change the / to the path to your policy agent profile. This allows the policy agent to properly identify itself to the OpenAM server.

6. Set up ownership of the log directory. The default is to run as a webservd user instead of root. To post its logs, the agent needs permission to add the files to the directory.

```
chown -R webservd:webservd /opt/web_agents/sjsws_agent/Agent_number/logs
```

7. Restart the Oracle iPlanet Web Server instance where you installed the agent.

8. Check that the agent protects the web site.

   If you have not yet configured any policies to allow access, then you should receive an HTTP 403 Forbidden error. In the above example, when accessing `http://www.example.com:8080/`, the content of the page returned appears in the browser as follows.

   Forbidden

   Your client is not allowed to access the requested object.

   If it appears the protection is inadequate, complete one of the following steps.

Note

A potential cause for the protection failing is updates to the `server.xml` file for the `object-file` property. A `object-file` property refers to the `obj.conf` file created during the web server installation. Multiple servers create their own `obj.conf` files, which can cause

problems with protection. Also, admin changes can update the `obj.conf` file. For more information, checkout the *Syntax and Use of obj.conf*.

- This step removes the `obj.conf` file if it is not needed.

  Open the `server.xml` and remove the `object-file` property. The web server will use the default `obj.conf` configuration.

  Note

  Do not change the original file.

```
$ vi /path/to/webserver7/config/server.xml
 <virtual-server>
  <name>virtual.example.com</name>
  <http-listener-name>http-listener-1</http-listenername>
  <host>virtual.example.com</host>
  -   <object-file>virtual.example.com-obj.conf</object-file>
  <document-root>/path/to/webserver7/htdocs</document-root>
  <name>virtual.example.com</name>
 </virtual-server>
```

- This step updates the `obj.conf` file if it is needed.

  Open the `server.xml` and manually update the `object-file` property to validate the location of the `obj.conf` file.

  Note

  Do not change the original file.

```
$ vi /path/to/webserver7/config/server.xml
 <Object path="*/dummypost/sunpostpreserve*">
 Service type=text/* method=(GET) fn=append_post_data
 </Object>
 <Object path="*/UpdateAgentCacheServlet*">
 Service type=text/* method=(POST) fn=process_notification
 </Object>
```

9. Save the file and restart the Oracle iPlanet Web Server.

6.3 Custom Oracle iPlanet Web Policy Agent Installation

For alternative installations, use **agentadmin --custom-install**.

When performing a scripted, silent installation, use **agentadmin --install --saveResponse *response-file*** to create a response file for scripted installation. Then install silently using **agentadmin --install --useResponse *response-file***.

With **./agentadmin --custom-install**, you can opt to create the policy agent profile during installation. The OpenAM administrator must first create an agent administrator user, as described in *Delegating Agent Profile Creation*, and provide you with the agent administrator user name and password. Before running the **./agentadmin --custom-install** command, put the password alone in a read-only file only the user installing can access, as for the agent password. When the **agentadmin** command prompts you to create the profile during installation, enter `true`, and then respond to the **agentadmin** prompts for the agent administrator user name and password file.

6.4 Remove Oracle iPlanet Web Policy Agent Software

Shut down the Oracle iPlanet Web Server before you uninstall the policy agent.

To remove the web policy agent, use **agentadmin --uninstall**.

Chapter 7

Troubleshooting

This chapter offers solutions to issues during installation of OpenAM policy agents.

Solutions to Common Issues

This section offers solutions to common problems when installing OpenAM policy agents.

Q: I am trying to install a policy agent, connecting to OpenAM over HTTPS, and seeing the following error.

```
OpenAM server URL: https://openam.example.com:8443/openam

WARNING: Unable to connect to OpenAM server URL. Please specify the
correct OpenAM server URL by hitting the Back button (<) or if the OpenAM
server URL is not started and you want to start it later, please proceed with
the installation.
If OpenAM server is SSL enabled and the root CA certificate for the OpenAM
server certificate has been not imported into installer JVMs key store (see
installer-logs/debug/Agent.log for detailed exception), import the root
CA certificate and restart the installer; or continue installation without
verifying OpenAM server URL.
```

What should I do?

A: The Java platform includes certificates from many Certificate Authorities (CAs). If however you run your own CA, or you use self-signed certificates for HTTPS on the container where you run OpenAM, then the **agentadmin**

command cannot trust the certificate presented during connection to OpenAM, and so cannot complete installation correctly.

After setting up the container where you run OpenAM to use HTTPS, get the certificate to trust in a certificate file. The certificate you want is the that of the CA who signed the container certificate, or the certificate itself if the container certificate is self-signed.

Copy the certificate file to the system where you plan to install the policy agent. Import the certificate into a trust store that you will use during policy agent installation. If you import the certificate into the default trust store for the Java platform, then the **agentadmin** command can recognize it without additional configuration.

Export and import of self-signed certificates is demonstrated in the *Administration Guide* chapter on *Managing Certificates*.

Q: I am trying to install the policy agent on SELinux and I am getting error messages after installation. What happened?

A: SELinux must be properly configured to connect the web policy agent and OpenAM nodes. Either re-configure SELinux or disable it, then reinstall the policy agent.

Q: My Apache HTTPD server is not using port 80. But when I install the web policy agent it defaults to port 80. How do I fix this?

A: You probably set `ServerName` in Apache HTTPD's configuration to the host name, but did not specify the port number.

Instead you must set both the host name and port number for `ServerName` in Apache HTTPD's configuration. For example, if you have Apache HTTPD configured to listen on port 8080, then set `ServerName` appropriately as in the following excerpt.

```
<VirtualHost *:8080>
ServerName www.localhost.example:8080
```

Q: My web server and web policy agent are installed as root, and the agent cannot rotate logs. I am seeing this error.

```
Could not rotate log file ... (error: 13)
```

What should I do?

A: First, avoid installing the web server (and therefore also the web policy agent) as root, but instead create a web server user and install as that user.

If however you cannot avoid installing the web server and policy agent as root, the you must give all users read and write permissions to the `logs/` and `logs/debug` directories under the agent instance directory (`/path/to/web_agents/`*`type`*`/Agent_`*`number`*`/logs/`). Otherwise the web policy agent fails to rotate log files with the error you observed.

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