



# **Sun Java System Access Manager Policy Agent 2.2 Guide for Sun Java System Web Proxy Server 4.0**



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# Preface

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This *Sun Java System Access Manager Policy Agent 2.2 Guide for Sun Java System Web Proxy Server 4.0* is a web agent guide. It provides general information about web agents in the Sun Java™ System Access Manager Policy Agent 2.2 software set. This guide also provides specific information about Sun Java System Access Manager Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0. For support and compatibility information about Agent for Sun Java System Web Proxy Server 4.0, see [“Supported Platforms of Agent for Sun Java System Web Proxy Server 4.0” on page 27](#).

Included in this guide is information about installing, configuring, uninstalling, and troubleshooting web agents, with the focus being on Policy Agent for Sun Java System Web Proxy Server 4.0.

## Who Should Use This Book

This *Sun Java System Access Manager Policy Agent 2.2 Guide for Sun Java System Web Proxy Server 4.0* is intended for use by IT professionals who manage access to their network using Sun Java System servers and software. Administrators should understand the following technologies:

- Directory technologies
- JavaServer Pages™ (JSP) technology
- HyperText Transfer Protocol (HTTP)
- HyperText Markup Language (HTML)
- eXtensible Markup Language (XML)
- Web Services
- Web Technologies

## Before You Read This Book

Sun Java System Policy Agent software works with Sun Java System Access Manager. Both products work with Sun Java Enterprise System, a software infrastructure that supports enterprise applications distributed across a network or Internet environment. Furthermore, Sun Java System Directory Server is a necessary component in a new Access Manager deployment since it is used as the data store. To understand how these products interact and to understand this book, you should be familiar with the following documentation:

- Sun Java Enterprise System documentation set, which can be accessed online at <http://docs.sun.com>. All Sun technical documentation is available online through this web site, including the other documentation sets referred to in this list.  
You can browse the documentation archive or search for a specific book title, part number, or subject.
- Sun Java System Directory Server documentation set.
- Sun Java System Access Manager documentation set, which is explained in more detail subsequently in this chapter.
- Sun Java System Access Manager Policy Agent 2.2 documentation set, which is explained in more detail subsequently in this chapter.

## Related Books

Sun Microsystems server documentation sets, some of which are mentioned in this preface, are available at <http://docs.sun.com>. These documentation sets provide information that can be helpful for a deployment that includes Policy Agent.

## Access Manager Documentation Set

The following table lists documents in the documentation set and provides a description of each document.

---

**Note** – For instructions on installing Access Manager, see the *Sun Java Enterprise System 2005Q4 Installation Guide for UNIX*.

---

TABLE P-1 Access Manager 7 2005Q4 Documentation Set

Title	Description
<i>Sun Java System Access Manager 7 2005Q4 Release Notes</i>	Available after the product is released. Contains last-minute information, including a description of what is new in this current release, known problems and limitations, installation notes, and how to report issues with the software or the documentation.
<i>Sun Java System Access Manager 7 2005Q4 Technical Overview</i>	Provides an overview of how Access Manager components work together to consolidate identity management and to protect enterprise assets and web-based applications. Explains basic Access Manager concepts and terminology
<i>Sun Java System Access Manager 7 2005Q4 Deployment Planning Guide</i>	Provides information about planning a deployment within an existing information technology infrastructure
<i>Sun Java System Access Manager 7 2005Q4 Performance Tuning Guide</i>	Describes how to tune Access Manager and its related components.
<i>Sun Java System Access Manager 7 2005Q4 Administration Guide</i>	Describes how to use the Access Manager console as well as how to manage user and service data via the command line.
<i>Sun Java System Access Manager 7 2005Q4 Federation and SAML Administration Guide</i>	Provides information about the features in Access Manager that are based on the Liberty Alliance Project and SAML specifications. It includes information on the integrated services based on these specifications, instructions for enabling a Liberty-based environment, and summaries of the application programming interface (API) for extending the framework.
<i>Sun Java System Access Manager 7 2005Q4 Developer's Guide</i>	Offers information on how to customize Access Manager and integrate its functionality into an organization's current technical infrastructure. Contains details about the programmatic aspects of the product and its API.
<i>Sun Java System Access Manager 7 2005Q4 C API Reference</i>	Provides summaries of data types, structures, and functions that make up the Access Manager public C APIs.
<i>Sun Java System Access Manager 7 2005Q4 Java API Reference</i>	Are generated from Java code using the JavaDoc tool. The pages provide information on the implementation of the Java packages in Access Manager.
<i>Sun Java System Access Manager Policy Agent 2.2 User's Guide</i>	Provides an overview of Policy Agent software, introducing web agents and J2EE agents. Also provides a list of web agents and J2EE agents currently available.

Updates to the *Release Notes* and links to modifications of the core documentation can be found on the Access Manager page at the Sun Java System 2005Q4 documentation web site. Updated documents are marked with a revision date.

## Policy Agent 2.2 Documentation Set

Other Policy Agent guides, besides this guide, are available as described in the following sections:

- “Sun Java System Access Manager Policy Agent 2.2 User's Guide” on page 12
- “Other Individual Agent Guides” on page 12
- “Release Notes” on page 13

## Sun Java System Access Manager Policy Agent 2.2 User's Guide

The *Sun Java System Access Manager Policy Agent 2.2 User's Guide* is available in two documentation sets: the Access Manager documentation set as described in [Table P-1](#) and in the Policy Agent 2.2 documentation set as described in this section.

## Other Individual Agent Guides

The individual agents in the Policy Agent 2.2 software set, of which this book is an example, are available on a different schedule than Access Manager itself. Therefore, documentation for Access Manager and Policy Agent are available in separate sets, except for the *Sun Java System Access Manager Policy Agent 2.2 User's Guide*, which is available in both documentation sets.

The documentation for the individual agents is divided into two subsets: a web Policy Agent subset and a J2EE Policy Agent subset.

Each web Policy Agent 2.2 guide provides general information about web agents and installation, configuration, and uninstallation information for a specific web agent.

Each J2EE Policy Agent 2.2 guide provides general information about J2EE agents and installation, configuration, and uninstallation information for a specific J2EE agent.

The individual agent guides are listed along with supported server information in the following chapters of the *Sun Java System Access Manager Policy Agent 2.2 User's Guide*:

Web Agents	Chapter 2, “Access Manager Policy Agent 2.2 Web Agents: Compatibility, Supported Servers, and Documentation,” in <i>Sun Java System Access Manager Policy Agent 2.2 User's Guide</i>
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J2EE Agents Chapter 3, “Access Manager Policy Agent 2.2 J2EE Agents: Compatibility, Supported Servers, and Documentation,” in *Sun Java System Access Manager Policy Agent 2.2 User’s Guide*

## Release Notes

The *Sun Java System Access Manager Policy Agent 2.2 Release Notes* are available online after an agent or set of agents is released. The release notes include a description of what is new in the current release, known problems and limitations, installation notes, and how to report issues with the software or the documentation.

## Sun Java Enterprise System Product Documentation

For useful information for related products, see the following documentation collections on the Sun Java Enterprise System documentation web site (<http://docs.sun.com/prod/entsys.05q4>)

- Sun Java System Directory Server:  
<http://docs.sun.com/coll/1316.1>
- Sun Java System Web Server:  
<http://docs.sun.com/coll/1308.1>
- Sun Java System Application Server:  
<http://docs.sun.com/coll/1310.1>
- Sun Java System Message Queue:  
<http://docs.sun.com/coll/1307.1>
- Sun Java System Web Proxy Server:  
<http://docs.sun.com/coll/1311.1>

## Accessing Sun Resources Online

For product downloads, professional services, patches and support, and additional developer information, go to the following:

Download Center

<http://www.sun.com/software/download>

Sun Java System Services Suite

<http://www.sun.com/service/sunps/sunone/index.html>

Sun Enterprise Services, Solaris Patches, and Support

<http://sunsolve.sun.com/>

Developer Information

<http://developers.sun.com/prodtech/index.html>

## Contacting Sun Technical Support

If you have technical questions about this product that are not answered in the product documentation, go to:

<http://www.sun.com/service/contacting>

## Related Third-Party Web Site References

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To share your comments, go to <http://docs.sun.com> and click Send Comments. In the online form, provide the document title and part number. The part number is a seven-digit or nine-digit number that can be found on the title page of the guide or at the top of the document.

For example, the title of this guide is *Sun Java System Access Manager Policy Agent 2.2 Guide for Sun Java System Web Proxy Server 4.0*, and the part number is 819-5733.

## Documentation, Support, and Training

Sun Function	URL	Description
Documentation	<a href="http://www.sun.com/documentation/">http://www.sun.com/documentation/</a>	Download PDF and HTML documents, and order printed documents
Support and Training	<a href="http://www.sun.com/training/">http://www.sun.com/training/</a>	Obtain technical support, download patches, and learn about Sun courses

## Typographic Conventions

The following table describes the typographic changes that are used in this book.

TABLE P-2 Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name% you have mail.</code>
<b>AaBbCc123</b>	What you type, contrasted with onscreen computer output	<code>machine_name% su</code> Password:
<i>aabbcc123</i>	Placeholder: replace with a real name or value	The command to remove a file is <code>rm filename</code> .
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . Perform a <i>patch analysis</i> . Do <i>not</i> save the file. [Note that some emphasized items appear bold online.]

## Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

**TABLE P-3** Shell Prompts

Shell	Prompt
C shell prompt	machine_name%
C shell superuser prompt	machine_name#
Bourne shell and Korn shell prompt	\$
Bourne shell and Korn shell superuser prompt	#



# Introduction to Web Agents for Policy Agent 2.2

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The Sun Java™ System Access Manager Policy Agent 2.2 software set includes J2EE agents and web agents. This guide discusses web agents, the functionality of which has increased for this release. This chapter provides a brief overview of web agents in the 2.2 release as well as some concepts you need to understand before proceeding with a web agent deployment. For a general introduction of agents, both J2EE agents and web agents, see *Sun Java System Access Manager Policy Agent 2.2 User's Guide*.

Topics in this chapter include:

- [“Uses of Web Agents” on page 17](#)
- [“How Web Agents Work” on page 18](#)
- [“What's New About Web Agents” on page 19](#)

## Uses of Web Agents

Web agents function with Sun Java System Access Manager to protect content on web servers and web proxy servers from unauthorized intrusions. They control access to services and web resources based on the policies configured by an administrator. Web agents perform these tasks while providing single sign-on (SSO) and cross domain single sign-on (CDSSO) capabilities as well as URL protection.

Web agents are installed on deployment containers for a variety of reasons. Here are three examples:

- A web agent on a human resources server prevents non-human resources personnel from viewing confidential salary information and other sensitive data.
- A web agent on an operations deployment container allows only network administrators to view network status reports or to modify network administration records.

- A web agent on an engineering deployment container allows authorized personnel from many internal segments of a company to publish and share research and development information. At the same time, the web agent restricts external partners from gaining access to the proprietary information.

In each of these situations, a system administrator must set up policies that allow or deny users access to content on a deployment container. For information on setting policies and for assigning roles and policies to users, see the *Sun Java System Access Manager 7 2005Q4 Administration Guide*.

## How Web Agents Work

When a user points a browser to a particular URL on a protected deployment container, a variety of interactions take place as explained in the following numbered list. See the terminology list immediately following this numbered list for a description of terms.

1. The web agent intercepts the request and checks information in the request against not-enforced lists. If specific criteria are met, the authentication process is by passed and access is granted to the resource.
2. If authentication is required, the web agent validates the existing authentication credentials. If the existing authentication level is insufficient, the appropriate Access Manager Authentication Service will present a login page. The login page prompts the user for credentials such as username and password.
3. The authentication service verifies that the user credentials are valid. For example, the default LDAP authentication service verifies that the username and password are stored in Sun Java System Directory Server. You might use other authentication modules such as RADIUS and Certificate modules. In such cases, credentials are not verified by Directory Server but are verified by the appropriate authentication module.
4. If the user's credentials are properly authenticated, the web agent checks if the users is authorized to access the resource.
5. Based on the aggregate of all policies assigned to the user, the individual is either allowed or denied access to the URL.

### Terminology: How Web Agents Work

Authentication Level	The ability to access resources can be divided into levels. Therefore, different resources on a deployment container (such as a web server or proxy server) might require different levels of authentication
Service	Access Manager is made of many components. A service is a certain type of component that performs specific tasks. Some of the Access Manager services available are Authentication Service, Naming Service, Session Service, Logging Service, and Policy Service.

Authentication Module	An authentication interface, also referred to as an authentication module, is used to authenticate a user on Access Manager.
Roles	Roles are a Directory Server entry mechanism. A role's members are LDAP entries that possess the role.
Policy	A policy defines rules that specify access privileges to protected resources on a deployment container, such as a web server or proxy server.

## What's New About Web Agents

Several important features have been added to the web agents in the 2.2 release as follows:

- “Support for Fetching User Session Attributes” on page 19
- “Log Rotation” on page 20
- “Policy-Based Response Attributes” on page 22
- “Composite Advice” on page 23
- “Malicious Header Attributes Automatically Cleared by Agents” on page 23
- “Load Balancing Enablement” on page 23
- “Support for Heterogeneous Agent Types on the Same Machine” on page 24
- “Support for Turning Off FQDN Mapping” on page 24
- “Backward Compatibility With Access Manager 6.3” on page 25

### Support for Fetching User Session Attributes

Before this release of web agents, header and cookie information was retrieved, or *sourced*, solely from user profile properties. Now, header and cookie information can also be sourced from session properties.

Use the following property to choose how you want session attributes retrieved:

```
com.sun.am.policy.agents.config.session.attribute.fetch.mode
```

For the preceding property, the following modes are available as retrieval methods:

- NONE
- HTTP\_HEADER
- HTTP\_COOKIE

The following example illustrates this property with the retrieval method set to HTTP\_HEADER:

```
com.sun.am.policy.agents.config.session.attribute.fetch.mode = HTTP_HEADER
```

The source of header and cookie information is controlled by the following configuration property in the web agent `AMAgent.properties` configuration file:

```
com.sun.am.policy.agents.config.session.attribute.map
```

This configuration property has the same format as an LDAP header property. The following is an example of how this configuration property can be set:

```
com.sun.am.policy.agents.config.session.attribute.map =  
name-of-session-attribute1|name-of-header-attribute1,  
name-of-session-attribute2|name-of-header-attribute2
```

Where *name-of-session-attribute1* and other similarly named properties, or *attributes*, in the preceding code represent actual property names.

**Benefit - Support for Fetching User Session Attributes:** The benefit of this feature is that session properties can be more effective for transferring information, especially dynamic information. Prior to this release, agents could only fetch users' profile attributes, which tend to be static attributes. However, session attributes allow applications to obtain dynamic user information when necessary. Since this feature allows you to fetch non-user profile attributes, you can fetch attributes such as SAML assertion.

## Log Rotation

Starting with this release of web agents, when the current log file reaches a specific size, a new log file is created. Log information is then stored in the new log file until it reaches the size limit. This default behavior is configurable. Therefore, log rotation can be turned off and the size limit can be changed.

---

**Note** – The type of information stored in log files has not changed in Policy Agent 2.2. The following types of information are logged:

- Troubleshooting information
- Access denied information
- Access allowed information

The troubleshooting, or diagnostic, information is stored in log files, locally, with the web agent. The access denied and access allowed information, which is often referred to as audit-related information, can be stored both locally and with Access Manager.

Configuration that relates to the local log files is performed in the web agent `AMAgent.properties` configuration file. Configuration that relates to the audit related logs stored with Access Manager is performed in the Access Manager `AMConfig.properties` configuration file.

The log rotation described in this section refers to logs that store troubleshooting information locally.

---

Log rotation is controlled by the following configuration property in the web agent `AMAgent.properties` configuration file:

```
com.sun.am.policy.agents.config.local.log.rotate
```

Log rotation occurs automatically since the default value of this property is `true`. When this property is set to `false`, no rotation takes place for the local log file.

The following example shows this configuration property set to `true`:

```
com.sun.am.policy.agents.config.local.log.rotate = true
```

The following properties are also related to log rotation:

- The value for following configuration property indicates the location of the debug file:  
`com.sun.am.policy.agents.config.local.log.file`
- The value of following configuration property indicates the maximum number of bytes the debug file holds:

```
com.sun.am.policy.agents.config.local.log.size
```

The following code example demonstrates how to set the property that controls log file size so that a new log file is created when the current log file reaches a specific size.

```
com.sun.am.policy.agents.config.local.log.size: n
```

Where  $n$  represents the size of a file in bytes. The file size should be a minimum of 3000 bytes. The default size is 10 megabytes.

---

**Note** – By default, the log file size property is not exposed in the web agent `AMAgent.properties` configuration file. If you want to change the default size, add a line to the file setting this property to the file size desired.

---

When a new log file is created an index appends to the name of the log file as such:

*amAgent-1*  
*amAgent-2*

Where *amAgent* represents the fully qualified path name to the log files excluding the appended number. The numbers *1* and *2* represent the appended number. The appended number indicates the chronological order in which information of a given size was filed away into its respective log file. There is no limit to the number of log files that can be rotated.

**Benefit - Log Rotation:** Prior to this release of web agents, all logging messages were written to the same log file. However, saving all log information to a single log file has the potential of exhausting disk space. The log rotation feature solves this problem.

## Policy-Based Response Attributes

Starting with this release of web agents, a new method is available for retrieving LDAP user attributes based on Access Manager policy configurations.

Policy-based response attributes take advantage of functionality now available in Access Manager that involves querying policy decisions. In previous versions of Access Manager, header attributes could only be determined by the list of attribute-value pairs in the agent configuration. Now, header attributes can also be determined by Access Manager policy configurations. With policy-based response attributes you can define attribute-value pairs at each policy definition as opposed to the method used in prior versions of Access Manager, which only allowed pairs to be defined globally in the agent configuration. For more information on policy-based response attributes, see [“Providing Personalization With Policy-Based Response Attributes” on page 77](#)

**Benefit - Policy-Based Response Attributes:** The benefit of policy-based response attributes is that they allow for personalization, improve the deployment process, allow greater flexibility in terms of customization, and provide central and hierarchical control of attribute values.

Personalization is provided in that an application can retrieve specific user information, such as a name, from a cookie or HTTP header and present it to the user in the browser.

Defining attribute-value pairs at each policy definition instead of at the root level allows an attribute value to be distributed only to the applications that need it. Furthermore, you can customize attribute names allowing the same attribute name to have entirely different property values for two different applications.

## Composite Advice

Starting with this release, web agents provide a composite advice feature. This feature allows the policy and authentication services of Access Manager to decouple the advice handling mechanism of the agents. This allows you to introduce and manage custom advices by solely writing Access Manager side plug-ins. Starting with this release, you are not required to make changes on the agent side. Such advices are honored automatically by the composite advice handling mechanism.

**Benefit - Composite Advice:** A benefit of composite advice is that you can incorporate a custom advice type without having to make changes to an agent deployment. Prior to the 2.2 release of web agents, no interface existed on the client side to write client-side plug-ins.

## Malicious Header Attributes Automatically Cleared by Agents

Starting with this release of web agents, malicious header attributes are automatically cleared.

**Benefit - Header Attributes Set by Agents Automatically Cleared:** The benefit of this automatic clean up is that security is improved. Header information that is *not* automatically cleared has greater risk of being accessed.

## Load Balancing Enablement

Starting with this release of web agents, the default agent host port and protocol settings can be overridden to enable load balancing. For more information, see [“Enabling Load Balancing” on page 84](#).

**Benefit - Load Balancing Enablement:** The benefit of this override capability is that you do not need to manually change the hostname, port, and protocol settings to enable load balancing.

## Support for Heterogeneous Agent Types on the Same Machine

Starting with this release of web agents, you can install different types of agents on the same machine. Prior to this release, you could not install web agents from different product groups on the same machine. For example, previously, an agent instance for Sun Java System Web Server 6.1 and an agent instance for Apache 2.0.52 could not be installed on the same machine. Now, they can.

**Benefit - Support for Heterogeneous Agent Types on Same Machine:** The benefit of this feature is that a deployment that has agents in a multi-server scenario requires fewer hardware sources.

## Support for Turning Off FQDN Mapping

Starting with this release, fully qualified domain name (FQDN) mapping of HTTP requests can be disabled. In prior web agent releases, the methods employed for checking if a user is using a valid URL could not be turned off.

This checking capability is controlled by the FQDN default and the FQDN map properties in the web agent `AMAgent.properties` configuration file as follows:

- `com.sun.am.policy.agents.config.fqdn.default`
- `com.sun.am.policy.agents.config.fqdn.map`

A toggling capability has been introduced that allows FQDN checking to be turned off. The following property allows for this toggling:

```
com.sun.am.policy.agents.config.fqdn.check.enable
```

The following property specifies whether the request URLs that are present in user requests are checked against the FQDN default and the FQDN map properties by the web agent:

```
com.sun.am.policy.agents.config.fqdn.check.enable
```

The valid values are `true` and `false`.

`true`     The request URLs that are present in user requests are checked against FQDN values.

`false`    No checking occurs against FQDN values.

The default value is `true`. If no value is specified, then the default value, `true`, is used.



**Benefit - Support for Turning Off FQDN Mapping:** This feature allows you to turn off or on FQDN mapping comparison. This feature can be beneficial when a deployment includes a number of virtual servers for which the agent is configured using FQDN mapping.

## Backward Compatibility With Access Manager 6.3

Policy Agent 2.2 is backward compatible with Access Manager 6.3 Patch 1 or greater.

---

**Note** – Policy Agent 2.2 is only compatible with Access Manager 6.3 when the Access Manager patch has been applied.

---

Be aware that Policy Agent 2.2 takes advantage of certain features that exist in Access Manager 7 that do not exist in Access Manager 6.3, such as “composite advices,” “policy-based response attributes,” and others.



## About Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0

---

This chapter provides information about Sun Java System Policy Agent 2.2 as it pertains specifically to Sun Java System Web Proxy Server 4.0.

While the individual web agents tend to be similar in terms of installation and configuration, they can have unique characteristics that allow them to interact with unique characteristics in the underlying deployment container, such as a web server or proxy server. Therefore, this chapter describes characteristics that are unique to this agent, Sun Java System Access Manager Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0, and that are unique to just the deployment container, Sun Java System Web Proxy Server 4.0. This chapter also summarizes specific tasks you might need to perform because of the unique characteristics of the deployment container.

### **Supported Platforms and Compatibility of Agent for Sun Java System Web Proxy Server 4.0**

The following sections provide information about the supported platforms of Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0 as well as the compatibility of this agent with Access Manager.

#### **Supported Platforms of Agent for Sun Java System Web Proxy Server 4.0**

The following table presents the supported platforms of Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0.

TABLE 2-1 Supported Platforms of Agent for Sun Java System Web Proxy Server 4.0

Agent for	Supported Platforms
Sun Java System Web Proxy Server 4.0	Solaris™ Operating System (OS) for the SPARC® platform, versions 8, 9, and 10 Solaris (OS) for x86 platforms, versions 8, 9, and 10 Red Hat Enterprise Linux Advanced Server 3.0 Windows 2003, Enterprise Edition Windows 2003, Standard Edition

## Compatibility of Agent for Sun Java System Web Proxy Server 4.0 With Access Manager

All agents in the Policy Agent 2.2 release are compatible with versions of Sun Java System Access Manager as described in this section.

### Compatibility of Policy Agent 2.2 With Access Manager 7

All agents in the Policy Agent 2.2 release are compatible with Access Manager 7. Compatibility applies to both of the available modes of Access Manager: Realm Mode and Legacy Mode.

Install the latest Access Manager 7 patches to ensure that all enhancements and fixes are applied. For information about the latest Access Manager 7 patches, see the compatibility information discussed in *Sun Java System Access Manager Policy Agent 2.2 Release Notes*.

### Compatibility of Policy Agent 2.2 With Access Manager 6.3

All agents in Policy Agent 2.2 are also compatible with Access Manager 6.3 Patch 1 or greater. However, certain limitations apply. For more information about the limitations, see [“Backward Compatibility With Access Manager 6.3” on page 25](#).

## Information Specific to Agent for Sun Java System Web Proxy Server 4.0

This section describes characteristics that are unique about this specific agent.

The fact that this agent protects a proxy server is in itself unique. For this agent to protect content on the Sun Java System Web Proxy Server 4.0 instance, you must set up a reverse proxy. For more information, see [“All Systems: Setting up a Reverse Proxy for Sun Java System Web Proxy Server 4.0” on page 58](#).

---

**Note** – While Sun Java System Web Proxy Server 4.0 works in forward and reverse proxy modes, Agent for Sun Java System Web Proxy Server 4.0 only supports Web Proxy Server 4.0 in reverse proxy mode.

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# Installing Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0

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Policy Agent 2.2 works in tandem with Access Manager to control user access to deployment containers (such as web servers and proxy servers) in an enterprise.

This chapter explains how to install Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0 on the supported platform types. For more information on the supported platforms, see [“Supported Platforms and Compatibility of Agent for Sun Java System Web Proxy Server 4.0” on page 27](#).

For this chapter, each platform-related section leads you through the pre-installation and installation steps. First, perform the pre-installation (preparation) steps. Then, perform the installation, itself.

Next, complete the applicable post-installation tasks described in [Chapter 5](#). After you complete the configuration, verify that the installation was successful as described in [“All Systems: Verifying a Successful Installation on Policy Agent 2.2” on page 67](#).

Each of the sections of this chapter focuses on installing Sun Java System Web Proxy Server 4.0 on a specific platform type. The sections are as follows:

- [“Solaris Systems: Agent Installation for Sun Java System Web Proxy Server 4.0” on page 31](#)
- [“Windows Systems: Agent Installation for Sun Java System Web Proxy Server 4.0” on page 39](#)
- [“Linux Systems: Agent Installation for Sun Java System Web Proxy Server 4.0” on page 44](#)

## **Solaris Systems: Agent Installation for Sun Java System Web Proxy Server 4.0**

This section describes the installation process on Solaris systems.

## Preparing to Install Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems

Follow the specific steps outlined in this section before you install the agent to reduce the chance of complications occurring during and after the installation.

### ▼ To Prepare to Install Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0 on Solaris Systems

---

**Note** – You must have Java Runtime Environment (JRE) 1.3.1 or higher installed or available on a shared file system in order to run the graphical user interface (GUI) of the agent installation program. Currently, JRE 1.3.1 or any version higher is certified for use with the agent installation program.

---

Perform the following pre-installation tasks:

- 1 **Ensure that Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0 is supported on the desired platform as listed in “Supported Platforms and Compatibility of Agent for Sun Java System Web Proxy Server 4.0” on page 27.**

- 2 **Install Sun Java System Web Proxy Server 4.0 if not already installed.**

Refer to the Sun Java System Web Proxy Server 4.0 documentation for details on how best to install and configure this server. For example, you can refer to *Sun Java System Web Proxy Server 4.0.2 2005Q4 Installation and Migration Guide*.

---



**Caution** – You should have a solid understanding of Sun Java System Web Proxy Server 4.0 to properly configure the server. Information provided in this guide about Sun Java System Web Proxy Server 4.0 does not serve as a substitute for the information available in the Sun Java System Web Proxy Server 4.0 product documentation.

---

- 3 **Ensure that Sun Java System Web Proxy Server 4.0 has the latest patches available.**

- 4 **Set your JAVAHOME environment variable to a JDK version 1.3.1\_04 or higher.**

The installation requires that you set up your JAVAHOME variable correctly. However, if you have incorrectly set the JAVAHOME variable, the setup script will prompt you for supplying the correct JAVAHOME value:

Please enter JAVAHOME path to pick up java:



## Installing Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems

The web agent installation program has two interfaces: the graphical user interface (GUI) and the command-line interface. The following sections present instructions to install the web agent using both of these interfaces:

- “GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems” on page 33
- “Command-Line Installation of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems” on page 36

### GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems

Use the following instructions to install Agent for Sun Java System Web Proxy Server 4.0 using the GUI on Solaris systems.

#### ▼ To Install Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems Using the GUI

You must have root permissions when you run the agent installation program.

- 1 **Unpack the product binary in the directory of your choice using the following command:**

```
# gunzip -dc binaryname.tar.gz | tar -xvof -
```

- 2 **From the directory in which you unpack the binaries, issue the following command:**

```
# ./setup
```

The Welcome page appears.

- 3 **In the Welcome page, click Next.**
- 4 **Read the License Agreement. Click Yes to agree to the license terms.**

- 5 **Select the directory in which you would like to install the agent.**

Enter the full path to the directory where you want to install the agent. The default installation directory is /opt.

The directory you choose in which to install the agent is referred to as the Policy Agent base directory, or *PolicyAgent-base*.

**6 Click Next and provide the following information about the Sun Java System Web Proxy Server 4.0 instance the agent will protect:**

**Host Name:** Enter the fully qualified domain name (FQDN) of the machine where the Sun Java System Web Proxy Server 4.0 instance is installed.

For example, if the host is `host1`, the subdomain is `eng`, and the domain is `example.com`, then the Host Name in this case is `host1.eng.example.com`.

**Proxy Server Instance Directory:** Specify the Sun Java System Web Proxy Server 4.0 instance that this agent will protect. Enter the full path to the directory where the instance is located. For example: *WebProxy-base/proxy-server-instance-name*.

*WebProxy-base* Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

`/opt/SUNWproxy`

*proxy-server-instance-name* Represents the name of the Sun Java System Web Proxy Server 4.0 instance. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 instance name:

`proxy-server1`

Therefore, the following is an example of a full path to the proxy server instance directory:

`/opt/SUNWproxy/proxy-server1`

**Proxy Server Port:** Enter the port number for the Sun Java System Web Proxy Server 4.0 instance that will be protected by the agent.

**Proxy Server Protocol:** If the Sun Java System Web Proxy Server 4.0 instance has been configured for SSL, choose HTTPS; otherwise choose HTTP.

**Agent Deployment URI:** Enter a Universal Resource Identifier (URI) that will be used to access Agent for Sun Java System Web Proxy Server 4.0. The default value is `/amagent`.

---

**Note** – The agent uses the value of the `com.sun.am.policy.agents.config.agenturi.prefix` property in the `web agent AMAgent.properties` configuration file to support some essential functions such as notification. Agent URI prefix is a configurable subset of Agent Deployment URI. It is important to set a valid URL for this property. Its value should be `http://host.domain:port/web-proxy-deployment-uri` where *host*, *domain* and *port* are FQDN and port number of the Sun Java System Web Proxy Server 4.0 instance where the agent is installed and *web-proxy-deployment-uri* is the URI where the Sun Java System Web Proxy Server 4.0 instance will look for web-proxy related HTML pages. Its default value is `amagent`.

The following is an example of an Agent Deployment URI:

```
http://host1.example.com:80/amagent
```

---

**7 When you have entered all the information correctly, click Next.**

**8 Enter information about the Access Manager host.**

The agent will connect to this server.

**Primary Server Host:** Enter the FQDN of the primary Access Manager host.

For example, if the host is `host2`, the subdomain is `eng`, and the domain is `example.com`, then the Host Name in this case is `host2.eng.example.com`.

**Primary Server Port:** Enter the port number for the primary Access Manager host.

**Primary Server Protocol:** If the primary Access Manager host is SSL-enabled, select HTTPS. Otherwise select HTTP.

**Primary Server Deployment URI:** Enter the location that was specified when Access Manager was installed. The default URI for Access Manager is `/amserver`.

**Primary Console Deployment URI:** Enter the location that was specified when Access Manager Console was installed. The default URI for Access Manager is `/amconsole`.

**Failover Server Host:** Enter the FQDN of the secondary Access Manager host if the primary Access Manager host becomes unavailable. If no failover server host exists, then leave this field blank.

**Failover Server Port:** Enter the port number of the secondary Access Manager host. If no failover server host exists, then leave this field blank.

**Failover Server Protocol:** If the failover Access Manager host is SSL-enabled, select HTTPS. Otherwise select HTTP. If no failover server host exists, then leave this field blank.

**Failover Server Deployment URI:** Enter the location that was specified when Access Manager was installed. The default URI for Access Manager is `/amserver`. If no failover server host exists, then leave this field blank.

**Failover Console Deployment URI:** Enter the location that was specified when Access Manager Console was installed. The default URI for Access Manager is `/amconsole`. If no failover server host exists, then leave this field blank.

**Agent Access Manager Shared Secret:** Enter the password for the Access Manager internal LDAP authentication user. This user is also referred to as `amldapuser`.

For more information about the shared secret and its relationship with the Access Manager agent profile, see [Chapter 4](#).

**Re-enter Shared Secret:** Re-enter the password for the Access Manager internal LDAP authentication user (`amldapuser`).

**CDSSO Enabled:** Check this box if you want to enable CDSSO.

**9 After entering all the information, click Next.**

**10 Review the installation summary to ensure that the information you have entered is correct.**

Note that it displays the CDCServlet URL if you have checked the CDSSO Enabled box in the previous panel.

If you want to make changes, click Back. If all the information is correct, click Next.

**11 In the Ready to Install panel, click Install Now.**

**12 When the installation is complete, you can click Details to view details about the installation, or click Exit to end the installation program.**

**13 Restart the Sun Java System Web Proxy Server 4.0 instance on which you just installed the agent.**

**Next Steps** After performing the applicable post-installation tasks described in [Chapter 5](#), ensure that the installation was successful as described in “[All Systems: Verifying a Successful Installation on Policy Agent 2.2](#)” on page 67.

## Command-Line Installation of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems

The following instructions describe how to use the command-line interface of the installation program to install Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems.

## ▼ To Install Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems Using the Command Line

Installing an agent on a deployment container using the command line requires you to perform the following steps:

- 1 **Unpack the product binary in the directory of your choice using the following command:**

```
# gunzip -dc binaryname.tar.gz | tar -xvof -
```

- 2 **From the directory in which you unpack the binaries, issue the following command:**

```
# ./setup -nodisplay
```

- 3 **When prompted, provide the following information:**

**Have you read, and do you accept, all of the terms of the preceding Software License Agreement? Enter yes.**

**Install the web agent in this directory:** Enter the full path to the directory in which you want to install the web agent.

The directory you choose in which to install the agent is referred to as the Policy Agent base directory, or *PolicyAgent-base*.

- 4 **Provide the following information about the Sun Java System Web Proxy Server 4.0 instance this agent will protect:**

- Host Name
- Proxy Server Port
- Proxy Server Instance Directory
- Proxy Server Protocol
- Agent Deployment URI

For a description of the information to enter for these prompts, see [“GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems”](#) on page 33.

- 5 **Provide the following information about the Access Manager host:**

- Primary Server Host
- Primary Server Port
- Primary Server Protocol
- Primary Server Deployment URI
- Primary Console Deployment URI
- Failover Server Host

- Failover Server Port
- Failover Server Protocol
- Failover Server Deployment URI
- Failover Console Deployment URI
- Agent-Access Manager Shared Secret
- Re-enter Shared Secret
- CDSSO Enabled

For a description of the information to enter for these prompts, see [“GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems”](#) on page 33.

The following text is displayed:

```
Ready to Install
```

1. Install Now
2. Start Over
3. Exit Installation

**6 When prompted, What would you like to do?, enter 1 to start the installation.**

The following text is displayed:

Product	Result	More Information
1. Sun Java(tm) System Access Manager Policy Agent	Installed	Available
2. Done		

**7 To see log information, enter 1. To exit the installation program, enter 2.**

**8 Restart the Sun Java System Web Proxy Server 4.0 instance on which you just installed the agent.**

**Next Steps** After performing the applicable post-installation tasks described in [Chapter 5](#), ensure that the installation was successful as described in [“All Systems: Verifying a Successful Installation on Policy Agent 2.2”](#) on page 67.

# Windows Systems: Agent Installation for Sun Java System Web Proxy Server 4.0

This section describes the installation of Agent for Sun Java System Web Proxy Server 4.0 on Windows systems.

## Preparing to Install Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems

Follow the specific steps outlined in this section before you install the agent to reduce the chance of complications occurring during and after the installation.

### ▼ To Prepare to Install Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems

---

**Note** – You must have Java Runtime Environment (JRE) 1.3.1 or higher installed or available on a shared file system in order to run the graphical user interface (GUI) of the agent installation program. Currently, JRE 1.3.1 or any version higher is certified for use with the agent installation program.

---

Perform the following pre-installation tasks:

- 1 **Ensure that Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0 is supported on the desired platform as listed in [“Supported Platforms and Compatibility of Agent for Sun Java System Web Proxy Server 4.0” on page 27.](#)**

- 2 **Install Sun Java System Web Proxy Server 4.0 if not already installed.**

Refer to the Sun Java System Web Proxy Server 4.0 documentation for details on how best to install and configure this server. For example, you can refer to *Sun Java System Web Proxy Server 4.0.2 2005Q4 Installation and Migration Guide*.



---

**Caution** – You should have a solid understanding of Sun Java System Web Proxy Server 4.0 to properly configure the server. Information provided in this guide about Sun Java System Web Proxy Server 4.0 does not serve as a substitute for the information available in the Sun Java System Web Proxy Server 4.0 product documentation.

---

- 3 **Ensure that Sun Java System Web Proxy Server 4.0 has the latest patches available.**

**4 Set your JAVAHOME environment variable to a JDK version 1.3.1\_04 or higher.**

The installation requires that you set up your JAVAHOME variable correctly. However, if you have incorrectly set the JAVAHOME variable, the setup script will prompt you for supplying the correct JAVAHOME value:

Please enter JAVAHOME path to pick up java:

**5 Ensure that required libraries are available on the Sun Java System Web Proxy Server 4.0 instance.**

Depending on the Windows system you are using, the following libraries, `msvcp70.dll` and `msvcr70.dll`, might not be available. If these libraries are not available to the Sun Java System Web Proxy Server 4.0 instance upon which you are installing the agent, you must make them available as described in the following substeps.

**a. Obtain these Windows libraries: `msvcp70.dll` and `msvcr70.dll`.**

These libraries come with certain Windows applications. You can also obtain them by contacting Sun technical support.

**b. Place the libraries in the `system32` subdirectory.**

The following path is an example of a conceivable path to this directory:

`c:\WINDOWS\system32`

## Installing Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems

The web agent installation program has one interface, the graphical user interface (GUI), for Windows systems. Use the following instructions to install Agent for Sun Java System Web Proxy Server 4.0 using the GUI on Windows systems.

### GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems

You must have administrator privileges to run the installation program.

#### ▼ To Install Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems Using the GUI

**1 Unpack the product binaries.**

`unzip binaryname.zip`



---

**Note** – On Microsoft Windows 2003, the zip file is not automatically unpacked. Therefore, after you download the agents zip file, be sure to extract the zip file to a directory first and then execute `setup.exe`. To extract the zip file, right click on the zip file in the File Manager and select Extract. After extracting to a directory, double click `setup.exe` to execute it.

---

**2 Run the installation program by double-clicking `setup.exe`.**

The Welcome page appears.

**3 In the Welcome page, click Next.**

**4 Read the License Agreement. Click Yes to accept the license agreement.**

**5 Select the directory in which you would like to install the agent.**

The directory you choose in which to install the agent is referred to as the Policy Agent base directory, or *PolicyAgent-base*.

**6 Enter the applicable information about the Sun Java System Web Proxy Server 4.0 instance where this agent will be installed in the dialog box.**

The dialog box provides fields for entering the required information. You are prompted for information in the order shown as follows:

**Host Name:** Enter the fully qualified domain name (FQDN) of the system where the Sun Java System Web Proxy Server 4.0 instance is installed.

For example, if the host is `host1`, the subdomain is `eng`, and the domain is `example.com`, then the Host Name in this case is `host1.eng.example.com`.

**Proxy Server Instance Directory:** Specify the Sun Java System Web Proxy Server 4.0 instance that this agent will protect. Enter the full path to the directory where the instance is located. For example: *WebProxy-base\proxy-server-instance-name*.

*WebProxy-base*

Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

`C:\Sun\ProxyServer40`

*proxy-server-instance-name*

Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

`proxy-server1`

Therefore, the following is an example of a full path to the proxy server instance directory:

```
C:\Sun\ProxyServer40\proxy-server1
```

**Proxy Server Port:** Enter the port number for the Sun Java System Web Proxy Server 4.0 instance that will be protected by the agent.

**Proxy Server Protocol:** If your Sun Java System Web Proxy Server 4.0 instance has been configured for SSL, then select HTTPS; otherwise select HTTP.

**Agent Deployment URI:** Enter a Universal Resource Identifier (URI) that will be used to access Agent for Sun Java System Web Proxy Server 4.0. The default value is /amagent.

---

**Note** – The agent uses the value of the `com.sun.am.policy.agents.config.agenturi.prefix` property in the `web-agent-AMAgent.properties` configuration file to support some essential functions such as notification. Agent URI prefix is a configurable subset of Agent Deployment URI. It is important to set a valid URL for this property. Its value should be `http://host.domain:port/web-proxy-deployment-uri` where *host*, *domain* and *port* are FQDN and port number of the Sun Java System Web Proxy Server 4.0 instance where the agent is installed and *web-proxy-deployment-uri* is the URI where the Sun Java System Web Proxy Server 4.0 instance will look for web-proxy related HTML pages. Its default value is `amagent`.

The following is an example of an Agent Deployment URI:

```
http://host1.example.com:80/amagent
```

---

**7 When you have entered all the information, click Next.**

**8 Provide the following information about the Access Manager host:**

The deployment container will connect to this server.

**Primary Server Host:** Enter the FQDN of the primary Access Manager host.

For example, if the host is `host2`, the subdomain is `eng`, and the domain is `example.com`, then the Host Name in this case is `host2.eng.example.com`.

**Primary Server Port:** Enter the port number for the primary Access Manager host.

**Primary Server Protocol:** If the primary Access Manager host is SSL-enabled, select HTTPS. Otherwise select HTTP.

**Primary Server Deployment URI:** Enter the location that was specified when Access Manager was installed. The default URI for Access Manager is /amserver.

**Primary Console Deployment URI:** Enter the location that was specified when Access Manager console was installed. The default URI for Access Manager is /amconsole.

**Failover Server Host:** Enter the FQDN of the secondary Access Manager host if the primary Access Manager host becomes unavailable. If no failover server host exists, then leave this field blank.

**Failover Server Port:** Enter the port number of the secondary Access Manager host. If no failover server host exists, then leave this field blank.

**Failover Server Protocol:** If the failover Access Manager host is SSL-enabled, select HTTPS. Otherwise select HTTP. If no failover server host exists, then leave this field blank.

**Failover Server Deployment URI:** Enter the location that was specified when Access Manager was installed. The default URI for Access Manager is `/amserver`. If no failover server host exists, then leave this field blank.

**Failover Console Deployment URI:** Enter the location that was specified when Access Manager Console was installed. The default URI for Access Manager is `/amconsole`. If no failover server host exists, then leave this field blank.

**Agent Access Manager Shared Secret:** Enter the password for the Access Manager internal LDAP authentication user. This user is also referred to as `amldapuser`.

For more information about the shared secret and its relationship with the Access Manager agent profile, see [Chapter 4](#).

**Re-enter Shared Secret:** Re-enter the password for the Access Manager internal LDAP authentication user (`amldapuser`).

**CDSSO Enabled:** Check this box if you want to enable the CDSSO feature.

**9 After entering all the information, click Next.**

**10 Review the installation summary to ensure that the information you have entered is correct.**  
Note that it displays the CDCServlet URL if you have checked the CDSSO Enabled box in the previous panel.

If you want to make changes, click Back. If all the information is correct, click Next.

**11 In the Ready to Install page, click Install Now.**

**12 When the installation is complete, you can click Details to view details about the installation, or click Close to end the installation program.**

**13 Restart the Sun Java System Web Proxy Server 4.0 instance on which you just installed the agent.**

Restarting your computer is necessary for the agent to work properly. The installation modifies the system path by appending to it the location of the agent libraries. This change takes effect only after your computer is restarted.

**Next Steps** After performing the applicable post-installation tasks described in [Chapter 5](#), ensure that the installation was successful as described in “[All Systems: Verifying a Successful Installation on Policy Agent 2.2](#)” on page 67.

## Linux Systems: Agent Installation for Sun Java System Web Proxy Server 4.0

This section describes the installation of Agent for Sun Java System Web Proxy Server 4.0 on Linux systems.

### Preparing to Install Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems

Follow the specific steps outlined in this section before you install the web agent to reduce the chance of complications occurring during and after the installation.

#### ▼ To Prepare to Install Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems

---

**Note** – You must have Java Runtime Environment (JRE) 1.3.1 or higher installed or available on a shared file system in order to run the graphical user interface (GUI) of the web agent installation program. Currently, JRE 1.3.1 or any version higher is certified for use with the web agent installation program.

---

Perform the following pre-installation tasks:

- 1 **Ensure that Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0 is supported on the desired platform as listed in “[Supported Platforms and Compatibility of Agent for Sun Java System Web Proxy Server 4.0](#)” on page 27.**

- 2 **Install Sun Java System Web Proxy Server 4.0 if not already installed.**

Refer to the Sun Java System Web Proxy Server 4.0 documentation for details on how best to install and configure this server. For example, you can refer to *Sun Java System Web Proxy Server 4.0.2 2005Q4 Installation and Migration Guide*.



**Caution** – You should have a solid understanding of Sun Java System Web Proxy Server 4.0 to properly configure the server. Information provided in this guide about Sun Java System Web Proxy Server 4.0 does not serve as a substitute for the information available in the Sun Java System Web Proxy Server 4.0 product documentation.

- 3 **Ensure that Sun Java System Web Proxy Server 4.0 has the latest patches available.**
- 4 **Set your JAVAHOME environment variable to a JDK version 1.3.1\_04 or higher.**

The installation requires that you set up your JAVAHOME variable correctly. However, if you have incorrectly set the JAVAHOME variable, the setup script will prompt you for supplying the correct JAVAHOME value:

Please enter JAVAHOME path to pick up java:

## Installing Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems

The web agent installation program has two interfaces: the graphical user interface (GUI) and the command-line Interface. The following sections present instructions to install Agent for Sun Java System Web Proxy Server 4.0 using both of these interfaces:

- [“GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems” on page 45](#)
- [“Command Line Installation of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems” on page 48](#)

### GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems

Use the following instructions to install Agent for Sun Java System Web Proxy Server 4.0 using the GUI on Linux systems.

#### ▼ **To Install Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems Using the GUI**

You must have root permissions when you run the agent installation program.

- 1 **Unpack the product binaries.**

Unpack the product binary in the directory of your choice using the following command:

```
# gunzip -dc binaryname.tar.gz | tar -xvof -
```

- 2 **From the directory in which you unpack the binaries, issue the following command:**

```
# ./setup
```

The Welcome page appears.

- 3 **In the Welcome page, click Next.**
- 4 **Read the License Agreement. Click Yes to agree to the license terms.**
- 5 **To search for the directory where you would like to install the agent, click Browse. To accept the default, click Next.**
- 6 **Click Next and provide the following information about the Sun Java System Web Proxy Server 4.0 instance this agent will protect:**

**Install Sun Java System Access Manager Policy Agent in this directory:** Enter the full path to the directory where you want this agent to be installed, and then click Next.

The directory you choose in which to install the web agent is referred to as the Policy Agent base directory, or *PolicyAgent-base*.

**Proxy Server Host Name:** Enter the FQDN of the machine where the Sun Java System Web Proxy Server 4.0 instance is installed. For example, if the host is `host1`, the subdomain is `eng`, and the domain is `example.com`, then the Host Name in this case is `host1.eng.example.com`.

**Proxy Server Instance Directory:** Specify the Sun Java System Web Proxy Server 4.0 instance that this agent will protect. Enter the full path to the directory where the instance is located. For example: *WebProxy-base/proxy-server-instance-name*.

*WebProxy-base*

Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

```
/opt/sun/proxyserver40
```

*proxy-server-instance-name*

Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

```
proxy-server1
```

Therefore, the following is an example of a full path to the proxy server instance directory:

```
/opt/sun/proxyserver40/proxy-server1
```

**Proxy Server Port:** Enter the port number for the Sun Java System Web Proxy Server 4.0 instance that will be protected by the agent.

**Proxy Server Protocol:** If the Sun Java System Web Proxy Server 4.0 instance has been configured for SSL, choose HTTPS; otherwise choose HTTP.

**Agent Deployment URI:** Enter a Universal Resource Identifier (URI) that will be used to access Agent for Sun Java System Web Proxy Server 4.0. The default value is `/amagent`.

---

**Note** – The agent uses the value of the `com.sun.am.policy.agents.config.agenturi.prefix` property in the `web agent AMAgent.properties` configuration file to support some essential functions such as notification. Agent URI prefix is a configurable subset of Agent Deployment URI. It is important to set a valid URL for this property. Its value should be `http://host.domain:port/web-proxy-deployment-uri` where *host*, *domain* and *port* are FQDN and port number of the Sun Java System Web Proxy Server 4.0 instance where the agent is installed and *web-proxy-deployment-uri* is the URI where the Sun Java System Web Proxy Server 4.0 instance will look for web-proxy related HTML pages. Its default value is `amagent`.

The following is an example of an Agent Deployment URI:

```
http://host1.example.com:80/amagent
```

---

## 7 When you have entered all the information, click Next.

## 8 Enter information about the Access Manager host.

The agent will connect to this server.

**Primary Server Host:** Enter the fully qualified domain name (FQDN) of the primary Access Manager host.

For example, if the host is `host2`, the subdomain is `eng`, and the domain is `example.com`, then the Host Name in this case is `host2.eng.example.com`.

**Primary Server Port:** Enter the port number for the primary Access Manager host.

**Primary Server Protocol:** If the primary Access Manager host is SSL-enabled, select HTTPS; otherwise select HTTP.

**Primary Server Deployment URI:** Enter the location that was specified when Access Manager was installed. The default URI for Access Manager is `/amserver`.

**Primary Console Deployment URI:** Enter the location that was specified when Access Manager Console was installed. The default URI for Access Manager is `/amconsole`.

**Failover Server Host:** Enter the FQDN of the secondary Access Manager host if the primary Access Manager host becomes unavailable. If no failover host exists, then leave this field blank.

**Failover Server Port:** Enter the port number of the secondary Access Manager host. If no failover host exists, then leave this field blank.

**Failover Server Protocol:** If the failover Access Manager host is SSL-enabled, select HTTPS. Otherwise select HTTP. If no failover server host exists, then leave this field blank.

**Failover Server Deployment URI:** Enter the location that was specified when Access Manager was installed. The default URI for Access Manager is `/amserver`. If no failover host exists, then leave this field blank.

**Failover Console Deployment URI:** Enter the location that was specified when console was installed. The default URI for Access Manager is `/amconsole`. If no failover host exists, then leave this field blank.

**Agent Access Manager Shared Secret:** Enter the password for the Access Manager internal LDAP authentication user. This user is also referred to as `amldapuser`.

For more information about the shared secret and its relationship with the Access Manager agent profile, see [Chapter 4](#).

**Re-enter Shared Secret:** Re-enter the password for the Access Manager internal LDAP authentication user (`amldapuser`).

**CDSSO Enabled:** Check this box if you want to enable CDSSO feature.

- 9 **After entering all the information, click Next.**
- 10 **Review the installation summary to ensure that the information you've entered is correct.**  
Note that it displays the CDCServlet URL if you have checked the CDSSO Enabled box in the previous panel. If you want to make changes, click Back. If all the information is correct, click Next.
- 11 **In the Ready to Install page, click Install Now.**
- 12 **When the installation is complete, you can click Details to view details about the installation, or click Close to close the installation program.**
- 13 **Restart the Sun Java System Web Proxy Server 4.0 instance on which you just installed the agent.**

**Next Steps** After performing the applicable post-installation tasks described in [Chapter 5](#), ensure that the installation was successful as described in “[All Systems: Verifying a Successful Installation on Policy Agent 2.2](#)” on page 67.

## Command Line Installation of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems

Use the following instructions to install Agent for Sun Java System Web Proxy Server 4.0 using the command line on Linux systems.



## ▼ To Install Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems Using the Command Line

You must have root permissions when you run the agent installation program.

### 1 Unpack the product binary in the directory of your choice using the following command:

```
# gunzip -dc binaryname.tar.gz | tar -xvof -
```

### 2 From the directory in which you unpack the binaries, issue the following command:

```
# ./setup -nodisplay
```

### 3 When prompted, provide the following information:

**Have you read, and do you accept, all of the terms of the preceding Software License Agreement?** Enter **yes**.

**Install the web agent in this directory:** Enter the full path to the directory in which you want to install the agent.

The directory you choose in which to install the agent is referred to as the Policy Agent base directory, or *PolicyAgent-base*.

### 4 Provide the following information about the Sun Java System Web Proxy Server 4.0 instance this agent will protect:

- Host Name
- Proxy Server Port
- Proxy Server Instance Directory
- Proxy Server Protocol
- Agent Deployment URI

For a description of the information to enter for these prompts, see [“GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems”](#) on page 45.

### 5 Provide the following information about the Access Manager host:

- Primary Server Host
- Primary Server Port
- Primary Server Protocol
- Primary Server Deployment URI
- Primary Console Deployment URI
- Failover Server Host
- Failover Server Port

- Failover Server Protocol
- Failover Server Deployment URI
- Failover Console Deployment URI
- Agent-Access Manager Shared Secret
- Re-enter Shared Secret
- CDSSO Enabled

For a description of the information to enter for these prompts, see [“GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems”](#) on page 45.

The following text is displayed:

```
Ready to Install
```

- ```
1. Install Now
2. Start Over
3. Exit Installation
```

**6 When prompted, What would you like to do?, enter 1 to start the installation.**

The following text is displayed:

| Product                                            | Result    | More Information |
|----------------------------------------------------|-----------|------------------|
| 1. Sun Java(tm) System Access Manager Policy Agent | Installed | Available        |
| 2. Done                                            |           |                  |

**7 To see log information, enter 1. To exit the Installation program, enter 2.**

**8 Restart the Sun Java System Web Proxy Server 4.0 instance on which you just installed the agent.**

**Next Steps** After performing the applicable post-installation tasks described in [Chapter 5](#), ensure that the installation was successful as described in [“All Systems: Verifying a Successful Installation on Policy Agent 2.2”](#) on page 67.

## The Relationship Between the Agent Profile and Web Agents in Policy Agent 2.2

---

This section describes how to create or update an agent profile in Access Manager Console and then how to make the corresponding changes in the web agent.

If you are only interested in resetting the shared secret in the web agent, not the agent profile name, see [“Resetting the Shared Secret Password” on page 82](#). However, first read the introductory paragraphs that follow in this section to become acquainted with the process and terminology related to the credentials used by web agents to authenticate with Access Manager. A common reason to reset only the shared secret is that it was entered incorrectly when prompted for during the installation of the web agent.

A web agent uses a user name and password as credentials to authenticate with Access Manager. You can use the default values for these credentials or you can create an agent profile in Access Manager Console and use those credentials. In web agents, the term for the default user name is agent user name. The default value of the agent user name is `UrlAccessAgent`. The term for the default password is shared secret. The default value of the shared secret is the password of the Access Manager internal LDAP authentication user. This user is commonly referred to as `amldapuser`.

Creating an agent profile is not a requirement for web agents. You can use the default values and never change the agent user name or shared secret. However, in certain situations you might want to change these default values. Changing the default values of the agent user name and shared secret involves creating an agent profile using Access Manager Console.

The terms used for the credentials are different once you create them in the agent profile. Agent user name is then called agent profile name. Shared secret is then called agent profile password. After you create the agent profile, you must assign the values of the agent profile name and the agent profile password to the correct properties in the web agent `AMAgent.properties` configuration file.

## Creating or Updating a Web Agent Profile

The instructions that follow in this section explain how to change both the agent profile name and the agent profile password on the Access Manager side.

Since the agent profile is created and updated in Access Manager Console, tasks related to the agent profile are discussed in Access Manager documentation. Nonetheless, tasks related to the agent profile are also described in this Policy Agent guide, specifically in this chapter. For related information about defining the Policy Agent profile in Access Manager Console, see the following section of the respective document: “Agents” in *Sun Java System Access Manager 7 2005Q4 Administration Guide*.

### ▼ To Create or Update an Agent Profile in Access Manager

Perform the following tasks in Access Manager Console. The key steps of this task involve creating an agent ID (agent profile name) and an agent profile password.

- 1 **With the Access Control tab selected click the name of the realm for which you would like to create an agent profile.**
- 2 **Select the Subjects tab.**
- 3 **Select the Agent tab.**
- 4 **Click New.**
- 5 **Enter values for the following fields:**

**ID.** Enter the agent profile name or identity of the agent.

This is the agent profile name, which is the name the agent uses to log into Access Manager. Multi-byte names are not accepted. Do not use the web agent default value of `UrlAccessAgent`.

**Password.** Enter the agent profile password.

Do not use the web agent default value of this password. The web agent default value of this password is the password of the internal LDAP authentication user, commonly referred to as `amldapuser`.

**Password (confirm).** Confirm the password.

**Device Status.** Select the device status of the agent. The default status is Active. If set to Active, the agent will be able to authenticate to and communicate with Access Manager. If set to Inactive, the agent will not be able to authenticate to Access Manager.

**6 Click Create.**

The list of agents appears.

**7 (Optional) If you desire, add a description to your newly created agent profile:**

a. Click the name of your newly created agent profile in the agent list.

b. In the Description field, enter a brief description of the agent.

For example, you can enter the agent instance name or the name of the application it is protecting.

c. Click Save.

## Updating the Agent Profile Name and the Agent Profile Password in Web Agents

After you have changed the agent profile in Access Manager Console, assign the values for the agent profile name and the agent profile password to the corresponding properties in the web agent `AMAgent.properties` configuration file. This process involves the following:

- Adding the agent profile name to the following property in the web agent `AMAgent.properties` configuration file: `com.sun.am.policy.am.username`
- Encrypting the agent profile password (shared secret) using the encryption utility
- Adding the encrypted agent profile password (shared secret) to the following property in the web agent `AMAgent.properties` configuration file: `com.sun.am.policy.am.password`

The procedures specified in the preceding list are detailed in the platform-specific task descriptions that follow. Implement the steps according to the platform on which the web agent is installed.

### ▼ To Update the Agent Profile Name and Agent Profile Password on Solaris Systems

**1 Update the following property in the web agent `AMAgent.properties` configuration file:**

`com.sun.am.policy.am.username`

Replace the value of this property with the agent profile name you just updated in Access Manager Console.

**2 Go to the following directory:**

`PolicyAgent-base/SUNWam/agents/bin`

**3 Execute the following script in the command line:**

```
# ./crypt_util agent-profile-password
```

where *agent-profile-password* represents the agent profile password you just updated in Access Manager Console.

**4 Copy the output obtained after issuing the # ./crypt\_util agent-profile-password command and paste it as the value for the following property:**

```
com.sun.am.policy.am.password
```

**5 Restart the deployment container and try accessing any resource protected by the agent.**

If the agent gets redirected to Access Manager, this indicates the above steps were executed properly.

## ▼ To Update the Agent Profile Name and Agent Profile Password on Windows Systems

**1 Update the following property in the web agent `AMAgent.properties` configuration file:**

```
com.sun.am.policy.am.username
```

Replace the value of this property with the agent profile name you just updated in Access Manager Console.

**2 Go to the following directory:**

```
PolicyAgent-base\bin
```

**3 Execute the following script in the command line**

```
cryptit agent-profile-password
```

where *agent-profile-password* represents the agent profile password you just updated in Access Manager Console.

**4 Copy the output obtained after issuing the `cryptit agent-profile-password` command and paste it as the value for the following property:**

```
com.sun.am.policy.am.password
```

**5 Restart the deployment container and try accessing any resource protected by the agent.**

If the agent gets redirected to Access Manager, this indicates the above steps were executed properly.

## ▼ To Update the Agent Profile Name and Agent Profile Password on Linux Systems

- 1 Update the following property in the web agent `AMAgent.properties` configuration file:**

`com.sun.am.policy.am.username`

Replace the value of this property with the agent profile name you just updated in Access Manager Console.

- 2 Go to the following directory:**

`PolicyAgent-base/bin`

- 3 Execute the following script in the command line:**

`crypt_util agent-profile-password`

where *agent-profile-password* represents the agent profile password you just updated in Access Manager Console.

- 4 Copy the output obtained after issuing the `crypt_util agent-profile-password` command and paste it as the value for the following property:**

`com.sun.am.policy.am.password`

- 5 Restart the deployment container and try accessing any resource protected by the agent.**

If the agent gets redirected to Access Manager, this indicates the above steps were executed properly.





## Post-Installation Configuration: Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0

---

This chapter describes configuration and other post-installation considerations and tasks regarding Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0 on the supported platforms as follows:

- “All Systems: Setting up a Reverse Proxy for Sun Java System Web Proxy Server 4.0” on page 58
- “Solaris Systems: Configuring Agent for Sun Java System Web Proxy Server 4.0” on page 58
- “Windows Systems: Configuring Agent for Sun Java System Web Proxy Server 4.0” on page 62
- “Linux Systems: Configuring Agent for Sun Java System Web Proxy Server 4.0” on page 64
- “All Systems: Verifying a Successful Installation on Policy Agent 2.2” on page 67

As the preceding list indicates, many post-installation configuration tasks vary by platform. After performing the task that applies to all platforms, refer to the platform-specific section that pertains to your site's deployment to perform the applicable tasks as described.



---

**Caution** – You should have a solid understanding of Sun Java System Web Proxy Server 4.0 to properly configure the server. Information provided in this guide about Sun Java System Web Proxy Server 4.0 does not serve as a substitute for the information available in the Sun Java System Web Proxy Server 4.0 product documentation.

---

After completing the applicable tasks described in this chapter and after verifying that the installation was successful, perform the tasks to configure the web agent to your site's specific needs as explained in [Chapter 6](#).

## All Systems: Setting up a Reverse Proxy for Sun Java System Web Proxy Server 4.0

Agent for Sun Java System Web Proxy Server 4.0 requires the Sun Java System Web Proxy Server 4.0 instance to be used as a reverse proxy.

---

**Note** – While Sun Java System Web Proxy Server 4.0 works in forward and reverse proxy modes, Agent for Sun Java System Web Proxy Server 4.0 only supports Web Proxy Server 4.0 in reverse proxy mode.

---

Find instructions for using a reverse proxy in *Sun Java System Web Proxy Server 4.0.2 2005Q4 Administration Guide*.

Follow the guidelines in the Sun Java System Web Proxy Server 4.0 documentation to set up a reverse proxy. In summary, two methods exist for setting up a reverse proxy:

|                             |                                                                                                                                                    |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Using mapping               | This method involves defining regular and reverse mappings.                                                                                        |
| Using virtual multi-hosting | This method allows the reverse proxy server to respond to multiple DNS aliases as if a different server were installed in each of those addresses. |

Configure Sun Java System Web Proxy Server 4.0 in a manner that best fits your site's deployment.

## Solaris Systems: Configuring Agent for Sun Java System Web Proxy Server 4.0

This section provides task descriptions for the configuration of the agent for multiple instances of Sun Java System Web Proxy Server 4.0 and the configuration of SSL with the agent. Perform these tasks if they apply to your site's deployment.

- [“Solaris Systems: Configuring Agent for Sun Java System Web Proxy Server 4.0 on Multiple Proxy Server Instances”](#) on page 59
- [“Solaris Systems: Using SSL With Agent for Sun Java System Web Proxy Server 4.0”](#) on page 60

Only perform a task if a respective condition applies.

## Solaris Systems: Configuring Agent for Sun Java System Web Proxy Server 4.0 on Multiple Proxy Server Instances

To configure Agent for Sun Java System Web Proxy Server 4.0 for multiple proxy server instances on a single computer, use the GUI or command-line version of the agent installation program to install the first agent. After the first agent is installed, you can then configure the agent for multiple instances of Sun Java System Web Proxy Server 4.0 using the `config` script that is copied into the system during the agent installation. This script must be run in the command line as described in the next section. The `config` script and the `unconfig` script are both located in the following directory:

*PolicyAgent-base/SUNWam/agents/proxy4/bin*

### ▼ To Configure Agent for Sun Java System Web Proxy Server 4.0 on Multiple Web Proxy Instances on Solaris Systems

- 1 To configure the agent for additional Sun Java System Web Proxy Server 4.0 instances on a system, run the `config` script in the `bin` directory using the following command:

```
# ./config
```

- 2 Follow the prompts to install additional instances of Agent for Sun Java System Web Proxy Server 4.0.

For information on each of the prompts, see [“Command-Line Installation of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems”](#) on page 36.

In general, information needs to be entered for both the protected Sun Java System Web Proxy Server 4.0 instance and the instances of Access Manager. The following text serves as an example.

```
# ./config
Enter the Proxy Server Instance Directory: []
Enter the Local Hostname: []
Enter the Agent Web Server Port: [80]
Select Agent Web Server Protocol: [1] http [2] https --> [1]
Enter the Agent Deployment URI [/amagent]
Enter the Access Manager Hostname: []
Enter the Access Manager Port: [58080]
Select Access Manager Protocol: [1] http [2] https --> [1]
Enter the Access Manager Deployment URI [/amserver]
Enter the Access Manager's Console Deployment URI [/amconsole]
Do You Want Failover Server Support: [1] yes [2] No --> [2]
Enter the User Name [UrlAccessAgent]
```

```
Enter Agent-Access Manager shared secret:
Re-enter Agent-Access Manager shared secret:
Is CDSSO Enabled: [1] yes [2] no --> [2]
Configuring proxy server ... Server version: 4.0
```

---

**Note** – Be sure to use the `unconfig` script to uninstall any web agent that was installed using the `config` script. You cannot use the GUI installation program to uninstall web agents that were installed using the command line. The GUI uninstallation program must be executed only after unconfiguring all the existing web agents using the command-line `unconfig` script.

---

## Solaris Systems: Using SSL With Agent for Sun Java System Web Proxy Server 4.0

During installation, if you choose the HTTPS protocol, Agent for Sun Java System Web Proxy Server 4.0 is automatically configured and ready to communicate over Secure Sockets Layer (SSL). Before proceeding with tasks in this section, ensure that the Sun Java System Web Proxy Server 4.0 instance is configured for SSL.



---

**Caution** – You should have a solid understanding of SSL concepts and the security certificates required to enable communication over the HTTPS protocol. See the documentation for Sun Java System Web Proxy Server 4.0.

---

### ▼ To Configure Notification on Agent for Sun Java System Web Proxy Server 4.0 for SSL on Solaris Systems

If Sun Java System Web Proxy Server 4.0 is running in SSL mode and is receiving notifications, first perform the following broadly defined steps:

- 1 **Add the Sun Java System Web Proxy Server 4.0 certificate's root CA certificate to the Access Manager's certificate database.**
- 2 **Mark the CA root certificate as trusted to enable Access Manager to successfully send notifications to Agent for Sun Java System Web Proxy Server 4.0.**

### Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems

This section only applies when Access Manager itself is running SSL. By default, the agent installed on a remote Sun Java System Web Proxy Server 4.0 instance trusts any server certificate presented over SSL by the Access Manager host. The agent does not check the root

Certificate Authority (CA) certificate. If the Access Manager host is SSL-enabled and you want the agent to perform certificate checking, adhere to the guidelines as described in the following subsections:

- [“Disabling the Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems” on page 61](#)
- [“Installing the Access Manager Root CA Certificate for a Remote Sun Java System Web Proxy Server 4.0 Instance on Solaris Systems” on page 62](#)

## Disabling the Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems

The following property in the web agent `AMAgent.properties` configuration file controls the agent's trust behavior, and by default it is set to `true`:

```
com.sun.am.trust_server_certs
```

With this property set to `true`, the agent does not perform certificate checking. On Solaris systems, setting this property to `false` is one of the steps involved in enabling the web agent to perform certificate checking as illustrated in the following task.

### ▼ To Disable the Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems

- 1 **Set the following property in the web agent `AMAgent.properties` configuration file to `false` as follows:**

```
com.sun.am.trust_server_certs = false
```

- 2 **Set the directory `Cert DB` in the web agent `AMAgent.properties` configuration file as shown in the following example:**

```
com.sun.am.sslcert.dir = /opt/SUNWam/servers/alias
```

- 3 **Set the `Cert DB Prefix`, if required.**

In cases where the specified `Cert DB` directory has multiple certificate databases, the following property must be set to the prefix of the certificate database to be used:

```
com.sun.am.certdb.prefix
```

Set the property as follows:

```
com.sun.am.certdb.prefix = https-host.domain.com.host-
```

## Installing the Access Manager Root CA Certificate for a Remote Sun Java System Web Proxy Server 4.0 Instance on Solaris Systems

The root CA certificate that you install on the remote instance of Sun Java System Web Proxy Server 4.0 must be the same one that is installed on the Access Manager host.

- ▼ **To Install the Access Manager Root CA Certificate on Sun Java System Web Proxy Server 4.0 on Solaris Systems**
- For instructions on installing a root CA certificate, see the documentation for Sun Java System Web Proxy Server 4.0. For example, see *Sun Java System Web Proxy Server 4.0.2 2005Q4 Administration Guide*.

## Windows Systems: Configuring Agent for Sun Java System Web Proxy Server 4.0

This section provides a task description for the configuration of SSL with Agent for Sun Java System Web Proxy Server 4.0. Perform this task if it applies to your site's deployment.

## Windows Systems: Using SSL With Agent for Sun Java System Web Proxy Server 4.0

During installation, if you choose the HTTPS protocol, Agent for Sun Java System Web Proxy Server 4.0 is automatically configured and ready to communicate over SSL. Before proceeding with the tasks in this section, ensure that the Sun Java System Web Proxy Server 4.0 instance is configured for SSL.



**Caution** – You should have a solid understanding of SSL concepts and the security certificates required to enable communication over the HTTPS protocol. See the documentation for Sun Java System Web Proxy Server 4.0.

---

- ▼ **To Configure Notification on Agent for Sun Java System Web Proxy Server 4.0 for SSL on Windows Systems**

If Sun Java System Web Proxy Server 4.0 is running in SSL mode and is receiving notifications, first perform the following broadly defined steps:

- 1 Add the Sun Java System Web Proxy Server 4.0 certificate's root CA certificate to the Access Manager's certificate database.
- 2 Mark the CA root certificate as trusted to enable Access Manager to successfully send notifications to Agent for Sun Java System Web Proxy Server 4.0.

## Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems

This section only applies when Access Manager itself is running SSL. By default, Agent for Sun Java System Web Proxy Server 4.0 trusts any server certificate presented over SSL by the Access Manager host. The web agent does not check the root Certificate Authority (CA) certificate. If the Access Manager host is SSL-enabled and you want the agent to perform certificate checking, adhere to the guidelines as described in the following subsections:

- [“Disabling the Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems” on page 63](#)
- [“Installing the Access Manager Root CA Certificate on Sun Java System Web Proxy Server 4.0 on Windows Systems” on page 64](#)

## Disabling the Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems

The following property exists in the web agent `AMAgent.properties` configuration file, and by default it is set to `true`:

```
com.sun.am.trust_server_certs
```

With this property set to `true`, the web agent does not perform certificate checking. On Windows systems, enabling the web agent to perform certificate checking is a one-step process that only involves setting this property to `false` as illustrated in the following task.

### ▼ To Disable the Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems

- Set the following property in the web agent `AMAgent.properties` configuration file to `false` as follows:

```
com.sun.am.trust_server_certs = false
```

## Installing the Access Manager Root CA Certificate on Sun Java System Web Proxy Server 4.0 on Windows Systems

The root CA certificate that you install on the Sun Java System Web Proxy Server 4.0 instance that the agent protects must be the same one that is installed on the Access Manager host.

### ▼ To Install the Access Manager Root CA Certificate on Sun Java System Web Proxy Server 4.0 on Windows Systems

- For instructions on installing a root CA certificate, see the documentation for Sun Java System Web Proxy Server 4.0. For example, see *Sun Java System Web Proxy Server 4.0.2 2005Q4 Administration Guide*.

## Linux Systems: Configuring Agent for Sun Java System Web Proxy Server 4.0

This section provides task descriptions for the configuration of the agent for multiple instances of Sun Java System Web Proxy Server 4.0 and the configuration of SSL with the agent. Perform these tasks if they apply to your site's deployment.

- [“Linux Systems: Configuring Agent for Sun Java System Web Proxy Server 4.0 on Multiple Proxy Server Instances” on page 64](#)
- [“Linux Systems: Using SSL With Agent for Sun Java System Web Proxy Server 4.0” on page 66](#)

Only perform a task if a respective condition applies.

## Linux Systems: Configuring Agent for Sun Java System Web Proxy Server 4.0 on Multiple Proxy Server Instances

To configure Agent for Sun Java System Web Proxy Server 4.0 for multiple proxy server instances on a single Linux computer, use the GUI or the command-line version of the agent installation program to install the first agent. After the first agent is installed, you can then install successive agents using the `config_linux` script. This script must be run using the command line as described in the next section. The `config_linux` script and the `unconfig_linux` script are both located in the following directory:

*PolicyAgent-base/agents/proxy4/bin*



## ▼ To Configure Agent for Sun Java System Web Proxy Server 4.0 on Multiple Proxy Server Instances on Linux Systems

Perform the following steps if you want to configure additional agent instances on a system after the original instance of Agent for Sun Java System Web Proxy Server 4.0 has been installed.

- 1 Run the `config_linux` script in the `bin` directory using the following command:

```
# ./config_linux
```

- 2 Follow the prompts to install additional instances of Agent for Sun Java System Web Proxy Server 4.0.

For information on each of the prompts, see [“GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems” on page 45](#)

In general, information needs to be entered for both the protected Sun Java System Web Proxy Server 4.0 instance and the instances of Access Manager. The following text serves as an example:

```
# ./config_linux
Enter the Proxy Server Instance Directory: []
Enter the Local Hostname: []
Enter the Agent Web Server Port: [80]
Select Agent Web Server Protocol: [1] http [2] https --> [1]
Enter the Agent Deployment URI [/amagent]
Enter the Access Manager Hostname: []
Enter the Access Manager Port: [58080]
Select Access Manager Protocol: [1] http [2] https --> [1]
Enter the Access Manager Deployment URI [/amserver]
Enter the Access Manager's Console Deployment URI [/amconsole]
Do You Want Failover Server Support: [1] yes [2] No --> [2]
Enter the User Name [UrlAccessAgent]
Enter Agent-Access Manager shared secret:
Re-enter Agent-Access Manager shared secret:
Is CDSO Enabled: [1] yes [2] no --> [2]
Configuring proxy server ... Server version: 4.0
```

---

**Note** – Be sure to use the `unconfig_linux` script to uninstall any agent that was installed using the `config_linux` script. You cannot use the GUI installation program to uninstall agents that were installed using the command line. The GUI uninstallation program must be executed only after unconfiguring all the existing agents installed using command-line `unconfig_linux` script.

---

## Linux Systems: Using SSL With Agent for Sun Java System Web Proxy Server 4.0

During installation, if you chose the HTTPS protocol, Agent for Sun Java System Web Proxy Server 4.0 is automatically configured and ready to communicate over SSL. Before proceeding with the following tasks in this section, ensure that Sun Java System Web Proxy Server 4.0 is configured for SSL.



---

**Caution** – You should have a solid understanding of SSL concepts and the security certificates required to enable communication over the HTTPS protocol. See the documentation for Sun Java System Web Proxy Server 4.0.

---

### ▼ **To Configure Notification on Agent for Sun Java System Web Proxy Server 4.0 for SSL on Linux Systems**

If Sun Java System Web Proxy Server 4.0 is running in SSL mode and is receiving notifications, first perform the following broadly defined steps:

- 1 **Add the Sun Java System Web Proxy Server 4.0 certificate's root CA certificate to the Access Manager's certificate database.**
- 2 **Mark the CA root certificate as trusted to enable Access Manager to successfully send notifications to Agent for Sun Java System Web Proxy Server 4.0.**

### **Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems**

This section only applies when Access Manager itself is running SSL. By default, the agent installed on a remote Sun Java System Web Proxy Server 4.0 instance will trust any server certificate presented over SSL by the Access Manager host. The web agent does not check the root Certificate Authority (CA) certificate. If the Access Manager host is SSL-enabled and you want the agent to perform certificate checking, adhere to the guidelines as described in the following subsections:

- [“Disabling the Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems” on page 67](#)
- [“Installing the Access Manager Root CA Certificate for a Remote Sun Java System Web Proxy Server 4.0 Instance on Linux Systems” on page 67](#)

## Disabling the Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems

The following property in the web agent `AMAgent.properties` configuration file controls the agent's trust behavior, which by default it is set to `true`:

```
com.sun.am.trust_server_certs
```

With this property set to `true`, the web agent does not perform certificate checking. On Linux systems, enabling the agent to perform certificate checking is a one-step process that only involves setting this property to `false` as illustrated in the following task.

### ▼ To Disable the Default Trust Behavior of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems

- Set the following property in the web agent `AMAgent.properties` configuration file to `false` as follows:

```
com.sun.am.trust_server_certs = false
```

## Installing the Access Manager Root CA Certificate for a Remote Sun Java System Web Proxy Server 4.0 Instance on Linux Systems

The root CA certificate you install on the remote instance of Sun Java System Web Proxy Server 4.0 must be the same one that is installed on the Access Manager host.

### ▼ To Install the Access Manager Root CA Certificate on Sun Java System Web Proxy Server 4.0 on Linux Systems

- For instructions on installing a root CA certificate, see the documentation for Sun Java System Web Proxy Server 4.0.

# All Systems: Verifying a Successful Installation on Policy Agent 2.2

After installing Agent for Sun Java System Web Proxy Server 4.0 and performing the applicable post-installation tasks, ensure that the agent is installed successfully.

## ▼ To Verify a Successful Installation

- **Check the web agent `AMAgent.properties` configuration file.**

Make sure that each property is set properly. For information on the properties in this file, see [Appendix C](#).

# Managing Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0

---

Interaction with Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0 is enabled through a limited number of scripts, such as an installation script, and by editing the web agent `AMAgent.properties` configuration file. This chapter describes how to modify the web agent accordingly.

This chapter focuses on methods available for managing this web agent, specifying the features you can configure and the tasks you can perform using each method as follows:

- “Key Features and Tasks Performed with the Web Agent `AMAgent.properties` Configuration File” on page 69
- “Key Features and Tasks Performed With Web Agent Scripts or Commands in Policy Agent 2.2” on page 86

The section on tasks performed with the web agent `AMAgent.properties` configuration file provides details of how to perform these tasks while the section on tasks performed with web agent scripts simply summarizes the types of tasks you can perform with scripts.

## Key Features and Tasks Performed with the Web Agent `AMAgent.properties` Configuration File

The web agent `AMAgent.properties` configuration file is a text file of configuration properties that you can modify to change web agent behavior. However, the content of this file is very sensitive. Changes made can result in changes in how the agent works. Errors made can cause the agent to malfunction.

This section describes the most important details of the configuration file, such as how specific properties can be modified to produce specific results. The topics described are typically those of greatest interest in real-world deployment scenarios. For a list and description of every property in the configuration file, access the configuration file itself located as described in [Table 6-1](#). Also a list of the properties is available in this guide, at [Appendix C](#).

This section describes the following:

- “Locating the Web Agent AMAgent.properties Configuration File” on page 70
- “Using the Web Agent AMAgent.properties Configuration File” on page 71
- “Providing Failover Protection for a Web Agent” on page 72
- “Changing the Web Agent Caching Behavior” on page 73
- “Configuring the Not-Enforced URL List” on page 74
- “Configuring the Not-Enforced IP Address List” on page 75
- “Enforcing Authentication Only” on page 75
- “Providing Personalization Capabilities” on page 75
- “Setting the Fully Qualified Domain Name” on page 79
- “Resetting Cookies” on page 80
- “Configuring CDSSO” on page 81
- “Validating Client IP Addresses” on page 82
- “Resetting the Shared Secret Password” on page 82
- “Enabling Load Balancing” on page 84

## Locating the Web Agent AMAgent.properties Configuration File

The following table provides the default location for the web agent AMAgent.properties configuration file on the supported platforms.

TABLE 6-1 Location of the Web Agent AMAgent.properties Configuration File

| Server                               | Platform                                     | Location                                                |
|--------------------------------------|----------------------------------------------|---------------------------------------------------------|
| Sun Java System Web Proxy Server 4.0 | Solaris™ (SPARC® platform and x86 platforms) | /etc/opt/SUNWam/agents/proxy4/config/_PathInstanceName/ |
|                                      | Linux systems                                | /etc/opt/agents/proxy4/config/_PathInstanceName/        |
|                                      | Windows systems                              | PolicyAgent-base\proxy4\config\_PathInstanceName\       |

where *\_PathInstanceName* is derived from the full path to the proxy server instance directory. This *\_PathInstanceName* directory is automatically created and named during the agent installation process.

The following is the full path to the proxy server instance directory on Solaris systems:

*WebProxy-base/web-proxy-instance-name.*

*WebProxy-base* Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

`/opt/SUNWproxy/`

*web-proxy-instance-name* Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

`prox-server1`

Therefore, the following is an example of a full path to the proxy server instance directory:

`/opt/SUNWproxy/proxy-server1`

The process of creating a name for the *\_PathInstanceName* directory involves the conversion of slash symbols (such as the “/” on UNIX-based systems) into underscore symbols “\_.”

For example, the preceding example of a proxy server instance name would be converted to the following *\_PathInstanceName* directory name:

`_opt_SUNWproxy_proxy-server1`

## Using the Web Agent `AMAgent.properties` Configuration File

Changing the web agent `AMAgent.properties` configuration file can have serious and far-reaching effects. When you make changes, keep the following in mind:

- Make a backup copy of this file before you make changes.
- Trailing spaces are significant; use them judiciously.
- Use a forward slash (/) to separate directories, not a backslash (\) or double backslashes (\\). This holds true even on Windows systems.
- Spaces in the Windows file names are allowed.

---

**Note** – If you make changes to the web agent `AMAgent.properties` configuration file, restart the deployment container to make your changes take effect.

---

The web agent `AMAgent.properties` configuration file includes information for a variety of configurations, including the following:

- debugging
- fully qualified domain name (FQDN) map
- Access Manager services
- service and agent deployment descriptors

- session failover

The configuration file also contains configuration information on advanced features, such as forwarding LDAP user attributes through HTTP headers and POST data preservation.

## Providing Failover Protection for a Web Agent

When you install a web agent, you can specify a *failover* or backup deployment container, such as a proxy server, for running Access Manager. This is essentially a high availability option. It ensures that if the deployment container that runs Access Manager service becomes unavailable, the web agent still processes access requests through a secondary, or failover, deployment container running Access Manager service.

Setting up failover protection for the web agent, requires modifying the web agent `AMAgent.properties` configuration file. However, you must first install two different instances of Access Manager on two separate deployment containers.

Then follow the instructions in this guide to about installing the web agent. The web agent installation program prompts you for the host name and port number of the failover deployment container that you have configured to work with Access Manager. The following property in the web agent `AMAgent.properties` configuration file, stores the failover deployment container name:

```
com.sun.am.policy.am.login.url
```

Set this property in order to store failover server information. Given the values in the following list, the property would be set as shown in [Example 6–1](#).

|                      |                                                 |
|----------------------|-------------------------------------------------|
| <code>host1</code>   | Name of the primary Access Manager host.        |
| <code>host2</code>   | Name of the first failoverAccess Manager host.  |
| <code>host3</code>   | Name of the second failoverAccess Manager host. |
| <code>example</code> | Name of the domain.                             |
| <code>58080</code>   | Default port number                             |

### EXAMPLE 6–1 Configuration Property Setting for Failover Protection of a Web Agent

```
com.sun.am.policy.am.login.url = http://host1.example.com:58080/  
amserver/UI/Login http://host2.example.com:58080/amserver/UI/Login  
http://host3.example.com:58080/amserver/UI/Login
```



A failover server name is configurable after it has been set during installation. When configuring this property, note that a space is required between each Access Manager login URL.

## Changing the Web Agent Caching Behavior

Each web agent maintains a cache that stores the policies for every user's session. The cache can be updated by a cache polling mechanism and a cache notification mechanism.

### Cache Updates

A web agent maintains a cache of all active sessions involving content that the agent protects. Once an entry is added to an agent's cache, it remains valid for a period of time after which the entry is considered expired and later purged.

The property `com.sun.am.policy.am.polling.interval` in the web agent `AMAgent.properties` configuration file determines the number of minutes an entry will remain in the web agent cache. Once the interval specified by this property has elapsed, the entry is dropped from the cache. By default, the expiration time is set to three minutes.

### Hybrid Cache Updates

In this mode, cache entry expiration still applies. In addition, the web agent gets notified by the Access Manager service about session changes. Session changes include events such as session logout or a session timeout. When notified of a session or a policy change, the web agent updates the corresponding entry in the cache. Apart from session updates, web agents can also receive policy change updates. Policy changes include events such as updating, deleting, and creating policies.

Web agents have the hybrid cache update mode switched on by default. This is triggered by the property `com.sun.am.notification.enable` in the web agent `AMAgent.properties` configuration file, which is set to `true`. When the property is set to `false`, the web agent updates its cache through the cache polling mechanism only.

Restrictions due to firewalls, as well as the type of deployment container in use, might not allow notifications to work. In such cases, notification is turned off.

The web agent sets a timeout period on its cache entries. After its end of life, the cache entry is purged from the web agent's cache. The web agent does not refetch the cache data. The next attempt to access the same entry from cache fails and the web agent makes a round trip to the server and fetches it again to populate the cache. This lazy method of cache updating keeps the web agent cache performing optimally and reduces network traffic.

In a normal deployment situation, policy changes on the server are frequent, which requires sites to accept a certain amount of latency for web agents to reflect policy changes. Each site decides the amount of latency time that is acceptable for the site's specific needs. When setting the `com.sun.am.policy.agent.polling.interval` property, set it to the lower of the two:

- The session idle timeout period
- Your site's accepted latency time for policy changes

## Configuring the Not-Enforced URL List

The *not-enforced URL list* defines the resources that should not have any policies (neither allow nor deny) associated with them.

By default, the web agent denies access to all resources on the deployment container that it protects. However, various resources (such as a web site or an application) available through a deployment container might not need to have any policy enforced. Common examples of such resources include the HTML pages and `.gif` images found in the home pages of web sites and the cascading style sheets (CSS) that apply to these home pages. The user should be able to browse such pages without authenticating. For the home page example, all these resources need to be on the not-enforced URL list or the page will not be displayed properly. The property `com.sun.am.policy.agents.config.notenforced_list` is used for this purpose. Wild cards can be used to define a pattern of URLs. Space is the separator between the URLs mentioned in the list.

There can be a reverse, or “inverted”, scenario when all the resources on the deployment container, except a list of URLs, are open to any user. In that case, the property `com.sun.am.policy.agents.config.notenforced_list.invert` would be used to reverse the meaning of `com.sun.am.policy.agents.config.notenforced_list`. If it is set to `true` (by default it is set to `false`), then the not-enforced URL list would become the enforced list.

### EXAMPLE 6-2 Configuration Property Settings for Not-Enforced URL List

The following are examples:

#### *Scenario 1: Not-Enforced URL List*

```
com.sun.am.policy.agents.config.notenforced_list.invert = false
```

```
com.sun.am.policy.agents.config.notenforced_list =  
http://host1.example.com:80/welcome.html  
http://host1.example.com:80/banner.html
```

In this case, authentication and policies will not be enforced on the two URLs listed in the `notenforcedList`. All other resources will be protected by the web agent.

EXAMPLE 6-2 Configuration Property Settings for Not-Enforced URL List (Continued)

### Scenario 2: Inverted Not-Enforced URL List

```
com.sun.am.policy.agents.config.notenforced_list.invert = true
```

```
com.sun.am.policy.agents.config.notenforced_list =  
http://host1.example.com:80/welcome.html  
http://host1.example.com:80/banner.html
```

In this case, authentication and policies will be enforced by the web agent on the two URLs mentioned in the `notenforcedList`. All other resources will be accessible to any user.



---

**Caution** – If feasible, keep this property set to `false` as such:

```
com.sun.am.policy.agents.config.notenforced_list.invert = false
```

A value of `false` reduces the chance of unintentionally allowing access to resources.

---

## Configuring the Not-Enforced IP Address List

The `com.sun.am.policy.agents.config.notenforced_client_ip_list` property is used to specify a list of IP addresses. No authentication is required for the requests coming from these client IP addresses.

In other words, the web agent will not enforce policies for the requests originating from the IP addresses in the Not-Enforced IP Address list.

## Enforcing Authentication Only

The property `com.sun.am.policy.agents.config.do_sso_only` is used to specify if only authentication is enforced for URLs protected by the web agent. If this property is set to `true` (by default it is set to `false`), it indicates that the web agent enforces authentication only, without enforcing policies. After a user logs onto Access Manager successfully, the web agent will not check for policies related to the user and the accessed URLs.

## Providing Personalization Capabilities

Web agents in Policy Agent 2.2 can personalize page content for users in three distinct ways as described in the following subsections:

- “Providing Personalization With Session Attributes” on page 76
- “Providing Personalization With Policy-Based Response Attributes” on page 77
- “Providing Personalization With User Profile Attributes Globally” on page 78

## Providing Personalization With Session Attributes

Web agents in Policy Agent 2.2 support a feature where a user's session attributes are fetched and set as headers or cookies. The following property responsible for this task:

```
com.sun.am.policy.agents.config.session.attribute.fetch.mode
```

This property can be set to one of the following values:

- NONE
- HTTP\_HEADER
- HTTP\_COOKIE

When set to NONE, no session attributes are fetched and the `com.sun.am.policy.agents.config.session.attribute.map` property is ignored. With this property set to either HTTP\_HEADER or HTTP\_COOKIE, the web agent fetches session attributes. Use the following property to configure attributes that are to be forwarded as HTTP headers or cookies: `com.sun.am.policy.agents.config.session.attribute.map`.

The following content is from the web agent `AMAgent.properties` configuration file. The text has been reformatted for this section. This section illustrates how the `com.sun.am.policy.agents.config.session.attribute.map` property maps session attributes to headers or cookies.

Session attributes are added to an HTTP header following this format:

```
session_attribute_name|http_header_name[,...]
```

The value of the attribute being fetched in session is `session_attribute_name`. This value gets mapped to a header value as follows: `http_header_name`.

---

**Note** – In most cases, in a destination application where `http_header_name` appears as a request header, it is prefixed with HTTP\_ and the following type of conversion takes place:

Lower case letters      convert to upper case letters.

Hyphen “-”              converts to underscore “\_”

“common-name”        as an example, converts to “HTTP\_COMMON\_NAME.”

---

```
com.sun.am.policy.agents.config.session.attribute.map =  
successURL | success-url, contextId | context-id
```

The session attribute is forwarded as a header or a cookie as determined by the end-user applications on the web container that the web agent is protecting. These applications can be considered the consumers of the forwarded header values. The forwarded information is used for the customization and personalization of web pages. You can also write server side plug-ins to put any user session attribute and define the corresponding attribute name and mapping in the preceding property to retrieve the value.

## Providing Personalization With Policy-Based Response Attributes

Header attributes can also be determined by Access Manager policy configurations. With policy-based response attributes you can define attribute-value pairs at each policy.

Web agents in this release set policy-based response attributes as headers or cookies based on configuration. All subjects that match this attribute set obtain this attribute.

The following is a new property that has been added to the web agent AMAgent.properties configuration file to control this functionality:

```
com.sun.am.policy.agents.config.response.attribute.fetch.mode
```

This property can be set to one of the following values:

- NONE
- HTTP\_HEADER
- HTTP\_COOKIE

The following example shows this configuration property with the default setting, which is HTTP\_HEADER:

```
com.sun.am.policy.agents.config.response.attribute.fetch.mode = HTTP_HEADER
```

Attribute mapping is available for response attributes. Therefore, the format of policy information can be mapped to the format of a header or a cookie. The below property is used for this type of mapping:

```
com.sun.am.policy.agents.config.response.attribute.map
```

Unlike profile attributes and session attributes, where only the mapped attributes are displayed as headers or cookies, by default, response attributes are set by the agent as headers or cookies based on the setting of this property:

```
com.sun.am.policy.agents.config.response.attribute.fetch.mode
```

If a response attribute map is specified, then the corresponding attribute mapped name is fetched from the map and its corresponding value is displayed as either a header or a cookie based on the setting of the above property.

## Providing Personalization With User Profile Attributes Globally

Web agents in Policy Agent 2.2 have the ability to forward user profile attribute values via HTTP headers to end-web applications. The user profile attribute values come from the server side of Access Manager. The web agent behaves like a broker to obtain and relay user attribute values to the destination servlets, CGI scripts, or ASP pages. These applications can in turn use the attribute values to personalize page content.

This feature is configurable through two properties in the web agent `AMAgent.properties` configuration file. To turn this feature on and off, edit the following property in the web agent `AMAgent.properties` configuration file:

```
com.sun.am.policy.agents.config.profile.attribute.fetch.mode
```

This property can be set to one of the following values:

- NONE
- HTTP\_HEADER
- HTTP\_COOKIE

When set to NONE, the web agent does not fetch LDAP attributes from the server and ignores the `com.sun.am.policy.agents.config.profile.attribute.map` property. In the other two cases, the web agent fetches the attribute.

To configure the attributes that are to be forwarded in the HTTP headers, use the following property:

```
com.sun.am.policy.agents.config.profile.attribute.map
```

Below is an example section from the web agent `AMAgent.properties` configuration file, which shows how this feature is used:

```
#
# The policy attributes to be added to the HTTP header. The
# specification is of the format
# ldap_attribute_name|http_header_name[,...]. ldap_attribute_name
# is the attribute in data store to be fetched and
# http_header_name is the name of the header to which the value
# needs to be assigned.
#
# NOTE: In most cases, in a destination application where a
# "http_header_name" shows up as a request header, it will be
# prefixed by HTTP_, and all lower case letters will become upper
# case, and any - will become _; For example, "common-name" would
# become "HTTP_COMMON_NAME"
#
com.sun.am.policy.agents.config.profile.attribute.map = cn|common-name,ou|
```

```
organizational-unit,  
o|organization,mail|email,employeenumber|employee-number,c|country
```

By default, some LDAP user attribute names and HTTP header names are set to sample values.

To find the appropriate LDAP user attribute names, check the following XML file on the machine where Access Manager is installed:

```
AccessManager-base/SUNWam/config/xml/amUser.xml
```

The attributes in this file could be either Access Manager user attributes or Access Manager dynamic attributes. For an explanation of these two types of user attributes, see *Sun Java System Access Manager 7 2005Q4 Administration Guide*.

The attribute and HTTP header names that need to be forwarded must be determined by the end-user applications on the deployment container that the web agent is protecting. Basically, these applications are the consumers of the forwarded header values (the forwarded information is used for the customization and personalization of web pages).

## Setting the Fully Qualified Domain Name

To ensure appropriate user experience, it is necessary that the users access resources protected by the web agent using valid URLs. The configuration property `com.sun.am.policy.agents.config.fqdn.default` provides the necessary information needed by the web agent to identify if the user is using a valid URL to access the protected resource. If the web agent determines that the incoming request does not have a valid hostname in the URL, it redirects the user to the corresponding URL with a valid hostname. The difference between the redirect URL and the URL originally used by the user is only the hostname, which is changed by the web agent to a fully qualified domain name (FQDN) as per the value specified in this property.

This is a required configuration property without which the deployment container may not start up correctly. This property is set during the web agent installation and must not be modified unless absolutely necessary to accommodate deployment requirements. An invalid value for this property can result in the deployment container becoming unusable or the resources becoming inaccessible.

The property `com.sun.am.policy.agents.config.fqdn.map` provides another way by which the web agent can resolve partial or malformed access URLs and take corrective action. The web agent gives precedence to the entries defined in this property over the value defined in the

`com.sun.am.policy.agents.config.fqdn.default` property. If none of the entries in this property matches the hostname specified in the user request, the agent uses the value specified for `com.sun.am.policy.agents.config.fqdn.default` property.

The `com.sun.am.policy.agents.config.fqdn.map` property can be used for creating a mapping for more than one hostname. This may be the case when the deployment container protected by this agent is accessible by more than one hostname. However, this feature must be used with caution as it can lead to the deployment container resources becoming inaccessible.

This property can also be used to override the behavior of the web agent in cases where necessary. The format for specifying the property `com.sun.am.policy.agents.config.fqdn.map` is:

```
com.sun.am.policy.agents.config.fqdn.map =
[invalid_hostname|valid_hostname][,...]
```

where:

`invalid_hostname` is a possible invalid hostname such as partial hostname or an IP address that the user may provide.

`valid_hostname` is the corresponding valid hostname that is fully qualified. For example, the following is a possible value specified for hostname `xyz.domain1.com`:

```
com.sun.am.policy.agents.config.fqdn.map = xyz|xyz.domain1.com,
xyz.domain1|xyz.domain1.com
```

This value maps `xyz` and `xyz.domain1` to the FQDN `xyz.domain1.com`.

This property can also be used in such a way that the web agent uses the name specified in this map instead of the deployment container's actual name.

If you want your server to be addressed as `xyz.hostname.com` whereas the actual name of the server is `abc.hostname.com`. The browser only knows `xyz.hostname.com` and you have specified policies using `xyz.hostname.com` in the Access Manager Console. In this file, set the mapping as `com.sun.am.policy.agents.config.fqdn.map = valid|xyz.hostname.com`.

## Resetting Cookies

The cookie reset feature enables the web agent to reset some cookies in the browser session while redirecting to Access Manager for authentication.

This feature is configurable through two properties in the web agent `AMAgent.properties` configuration file.

- Enable Cookie Reset



```
com.sun.am.policy.agents.config.cookie.reset.enable = true
```

This property must be set to `true` if this web agent needs to reset cookies in the response while redirecting to Access Manager for authentication. By default, this is set to `false`.

- **Cookie List**

This property gives the comma-separated list of cookies that need to be reset in the response while redirecting to Access Manager for authentication. This property is used only if the Cookie Reset feature is enabled.

Cookie details must be specified in the following format:

```
name[=value][;Domain=value]
```

For example,

```
com.sun.am.policy.agents.config.cookie.reset.list = LtpaToken, cookie1=value1,
cookie2=value2;Domain=example.com
```

## Configuring CDSSO

The cross domain single sign-on (CDSSO) feature is configurable through three properties in the web agent AMAgent.properties configuration file. To turn this feature on or off, use the following property:

```
com.sun.am.policy.agents.config.cdsso.enable = true
```

By default, this property is set to `false`, and the feature is turned off. To turn on CDSSO, set this property to `true`.

Set the URL where CDC controller is installed by specifying the URL in the following property:

```
com.sun.am.policy.agents.config.cdcservlet.url
```

The following is an example of how this property could be set:

```
com.sun.am.policy.agents.config.cdcservlet.url =
http://host1.eng.example.com:58080/amserver/cdcservlet
```

The third property, `com.sun.am.policy.agents.config.cookie.domain.list` allows you to specify a list of domains in which cookies have to be set in a CDSSO scenario. This property is used only if CDSSO is enabled. If you leave this property blank, then the fully qualified cookie domain for the web agent server will be used for setting the cookie domain. In such a case, it is a host cookie and not a domain cookie.

For more information on CDSSO, see *Sun Java System Access Manager 7 2005Q4 Technical Overview*

## Validating Client IP Addresses

This feature can be used to enhance security by preventing the stealing or *hijacking* of SSO tokens.

The web agent `AMAgent.properties` configuration file contains a property titled `com.sun.am.policy.agents.config.client_ip_validation.enable`, which by default, is set to `false`.

If you set this property value to `true`, client IP address validation will be enabled for each incoming request that contains an SSO token. If the IP address from which the request was generated does not match the IP address issued for the SSO token, the request will be denied. This is essentially the same as enforcing a deny policy.

This feature should not be used, however, if the client browser uses a web proxy or if there is a load balancer somewhere between the client browser and the agent-protected deployment container. In such cases, the IP address appearing in the request will not reflect the real IP address on which the client browser runs.

## Resetting the Shared Secret Password

This section describes how to reset the shared secret. The web agent stores the shared secret in the web agent `AMAgent.properties` configuration file.

If you are only interested in resetting the shared secret, not the agent profile name, continue reading this section. If you are interested in creating or updating the agent profile in Access Manager Console and then updating the same credential information in the web agent, see [Chapter 4](#). The steps described in that chapter are comprehensive, integrating the simpler steps described in this section.

The chapter mentioned in the preceding paragraph also provides a useful explanation of the process and terminology related to the credentials used by web agents to authenticate with Access Manager. Refer to that chapter for more information.

This section specifically describes how to change the shared secret in web agents. The following situations might require you to reset the shared secret:

- You entered the shared secret incorrectly during web agent installation.
- You have been using the default shared secret, which is the `amldapuser` password, but this password has since been changed.

The value for the property `com.sun.am.policy.am.password` in the web agent `AMAgent.properties` configuration file is set with the encrypted shared secret during web agent installation. Therefore, if the shared secret is entered incorrectly during installation, the preceding property is assigned an incorrect value, preventing the web agent from authenticating with Access Manager.

To reset or change the shared secret, use the encryption utility to encrypt the shared secret and then set the value in the property as described in the following platform-specific tasks (follow the steps according to the platform on which the agent is installed).

## ▼ To Reset the Shared Secret on Solaris Systems

- 1 **Go to the following directory:**

*PolicyAgent-base/bin*

- 2 **Execute the following script in the command line:**

```
# ./crypt_util shared-secret
```

where *shared-secret* represents the password, that along with the agent user name, allows the web agent to authenticate with Access Manager. The default value of the shared secret is the password of the Access Manager internal LDAP authentication user. This user is commonly referred to as `amldapuser`.

- 3 **Copy the output obtained after issuing the `# ./crypt_util shared-secret` command and paste it as the value for the following property:**

`com.sun.am.policy.am.password`

- 4 **Restart the deployment container and try accessing any resource protected by the agent.**

If the agent gets redirected to Access Manager, this indicates the above steps were executed properly.

## ▼ To Reset the Shared Secret on Windows Systems

- 1 **Go to the following directory:**

*PolicyAgent-base\bin*

- 2 **Execute the following script in the command line**

```
cryptit shared-secret
```

where *shared-secret* represents the password, that along with the agent user name, allows the web agent to authenticate with Access Manager. The default value of the shared secret is the password of the Access Manager internal LDAP authentication user. This user is commonly referred to as `amldapuser`.

- 3 Copy the output obtained after issuing the `cryptit shared-secret` command and paste it as the value for the following property:**

```
com.sun.am.policy.am.password
```

- 4 Restart the deployment container and try accessing any resource protected by the agent.**  
If the agent gets redirected to Access Manager, this indicates the above steps were executed properly.

## ▼ To Reset the Shared Secret on Linux Systems

- 1 Go to the following directory:**

```
PolicyAgent-base/bin
```

- 2 Execute the following script in the command line:**

```
crypt_util shared-secret
```

where *shared-secret* represents the password, that along with the agent user name, allows the web agent to authenticate with Access Manager. The default value of the shared secret is the password of the Access Manager internal LDAP authentication user. This user is commonly referred to as `amldapuser`.

- 3 Copy the output obtained after issuing the `crypt_util shared-secret` command and paste it as the value for the following property:**

```
com.sun.am.policy.am.password
```

- 4 Restart the deployment container and try accessing any resource protected by the agent.**  
If the agent gets redirected to Access Manager, this indicates the above steps were executed properly.

## Enabling Load Balancing

Various properties in the web agent `AMAgent.properties` configuration file can be used to enable load balancing. Edit the properties that apply, according to the location of the load balancer or load balancers in your deployment, as follows:

- [“Load Balancer in Front of Access Manager” on page 85](#)

- “Load Balancer in Front of Web Agent” on page 85
- “Load Balancers in Front of Both the Web Agent and Access Manager” on page 86

## Load Balancer in Front of Access Manager

When a load balancer is deployed in front of Access Manager and a web agent interacts with the load balancer, the following properties must be edited:

```
com.sun.am.naming.url
com.sun.am.policy.am.login.url
com.sun.am.load_balancer.enable
```

### EXAMPLE 6-3 Property Settings: Load Balancer in Front of Access Manager

This example illustrates property settings in the web agent AMAgent.properties configuration file that can be used to enable load balancing:

```
com.sun.am.naming.url = LB-url/amserver/namingservice
com.sun.am.policy.am.login.url = LB-url/amserver/UI/Login
com.sun.am.load_balancer.enable = true
```

where *LB-url* represents the load balancer URL. The following example is a conceivable load balancer URL:

```
http://hostname.example.com:8080
```

## Load Balancer in Front of Web Agent

In many cases, when a load balancer is deployed in front of the web agent only the following property must be set:

```
com.sun.am.policy.agents.fqdnMap
```

### EXAMPLE 6-4 Property Settings: Load Balancer in Front of Web Agent

```
com.sun.am.policy.agents.fqdnMap = valid|LB-hostname
```

where *LB-hostname* represents the name of the machine on which the load balancer is located.

However, if SSL-termination or a proxy server is used in the deployment, all the following properties in the web agent AMAgent.properties configuration file should be set in addition to the preceding property:

```
com.sun.am.policy.agents.config.override_protocol
com.sun.am.policy.agents.config.override_host
```

```
com.sun.am.policy.agents.config.override_port  
com.sun.am.policy.agents.config.agenturi.prefix
```

This example illustrates how properties can be set to enable load balancing when the protocol, hostname, and port number of the load balancer differ from that of the web agent. However, if the load balancer and the web agent share one of these characteristics, such as the protocol or hostname, then the respective property would be left blank instead of being assigned a value of *true*.

```
com.sun.am.policy.agents.config.override_protocol = true  
com.sun.am.policy.agents.config.override_host = true  
com.sun.am.policy.agents.config.override_port = true  
com.sun.am.policy.agents.config.agenturi.prefix = LB-url/amagent
```

where *LB-url* represents the load balancer URL. The following example is a conceivable load balancer URL:

```
http://hostname.example.com:8080
```

## Load Balancers in Front of Both the Web Agent and Access Manager

This scenario is simply a combination of the scenarios described in the preceding sections. See [“Load Balancer in Front of Access Manager” on page 85](#) and [“Load Balancer in Front of Web Agent” on page 85](#).

# Key Features and Tasks Performed With Web Agent Scripts or Commands in Policy Agent 2.2

This section simply summarizes the types of scripts or commands you can use with a web agent in Policy Agent 2.2. Refer to the relevant sections of this guide for specific information about the tasks performed with scripts or commands. Scripts or commands are used in performing the following tasks:

- Installing the initial web agent
  - Installation script for Solaris systems: `setup`
  - Installation command for Windows systems: `setup.exe`
  - Installation script for Linux systems: `setup`
- Configuring the web agent for multiple proxy server instances
  - Configuration script for Solaris systems: `config`
  - Configuration command for Windows systems: Not Applicable
  - Configuration script for Linux systems: `config_linux`
- Resetting the Shared Secret

- Encryption script for Solaris systems: `crypt_util`
- Encryption command for Windows systems: `cryptit`
- Encryption script for Linux systems: `crypt_util`
- Unconfiguring the web agent for multiple proxy server instances
  - Unconfiguration script for Solaris systems: `unconfig`
  - Unconfiguration command for Windows systems: Not Applicable
  - Unconfiguration script for Linux systems: `unconfig_linux`
- Uninstalling the initial web agent
  - Uninstallation script for Solaris systems: `uninstall_agent_proxy4`
  - Uninstallation command for Windows systems:  
`java uninstall_Sun_Java_tm_System_Access_Manager_Policy_Agent`
  - Uninstallation script for Linux systems: `uninstall_linux_agent_proxy4`

After a web agent is installed, most interactions with the agent are performed by editing the web agent `AMAgent.properties` configuration file. However, a few tasks as mentioned in the preceding list are performed with scripts or commands.





# Uninstalling Policy Agent 2.2 for Sun Java System Web Proxy Server 4.0

---

This chapter first presents you with a method for disabling a web agent. The task is the same for all web agents on all platforms. Then the chapter leads you through the uninstallation process on the available platforms as follows:

- “All Systems: Disabling a Web Agent in Policy Agent 2.2” on page 89
- “Solaris Systems: Agent Uninstallation for Sun Java System Web Proxy Server 4.0” on page 90
- “Windows Systems: Agent Uninstallation for Sun Java System Web Proxy Server 4.0” on page 92
- “Linux Systems: Agent Uninstallation for Sun Java System Web Proxy Server 4.0” on page 93

## All Systems: Disabling a Web Agent in Policy Agent 2.2

In certain situations, you might want to disable a web agent temporarily. You can disable any web agent by resetting the property that controls the not-enforced URI list in the web agent `AMAgent.properties` configuration file.

### ▼ To Disable a Web Agent in Policy Agent 2.2

This task requires that you reset the following property:

```
com.sun.am.policy.agents.config.notenforced_list
```

**1 Reset the value of this property to the asterisk, “\*,” as follows:**

```
com.sun.am.policy.agents.config.notenforced_list = *
```

**2 Restart Sun Java System Web Proxy Server 4.0.**

# Solaris Systems: Agent Uninstallation for Sun Java System Web Proxy Server 4.0

You can uninstall a web agent on a Solaris system using a graphical user interface (GUI) or using the command line. However, keep the following in mind:

- Be sure to use the `unconf ig` script to uninstall any web agent that was installed using the `conf ig` script. The uninstallation program must be executed only after unconfiguring all the existing web agents using the command-line `unconf ig` script.
- If you want to uninstall the deployment container, make sure that you uninstall the web agent before you uninstall the deployment container.

## Unconfiguring Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems

To remove a web agent that was configured using the `conf ig` script, use the script `unconf ig`. The `unconf ig` script is located in the following directory:

*PolicyAgent-base/SUNWam/agents/proxy4/bin*

The following is an example run of the `unconf ig` script.

```
# ./unconf ig WebProxy-base/web-proxy-instance-name
Unconfiguring Proxy Server ...
done.
```

*WebProxy-base* Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

`/opt/SUNWproxy/`

*web-server-instance-name* Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

`proxy-server1`

Therefore, the following is an example of a full path to the proxy server instance directory:

`/opt/SUNWproxy/proxy-server1`

## GUI Uninstallation of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems

To uninstall the web agent, you must run the uninstallation program.

### ▼ To Uninstall Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems Using the GUI

- 1 In the Policy Agent base directory (*PolicyAgent-base*), enter the following command:  

```
# ./uninstall_agent_proxy4
```
- 2 Click Next on Welcome panel.
- 3 Click Uninstall Now on Ready to Uninstall panel.
- 4 Click Close after uninstallation is complete.
- 5 Restart the Sun Java System Web Proxy Server 4.0 instance from which you just uninstalled the agent.

## Command-Line Uninstallation of Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems

To uninstall an agent, you must run the uninstallation program.

### ▼ To Uninstall Agent for Sun Java System Web Proxy Server 4.0 on Solaris Systems Using the Command Line

- 1 In the Policy Agent base directory (*PolicyAgent-base*), enter the following command:  

```
# ./uninstall_agent_proxy4 -nodisplay
```

The uninstallation program detects the agent that was previously installed using the setup program and displays the following text:

```
Ready to Uninstall
```

1. Uninstall Now
2. Start Over
3. Exit Uninstallation

**2 Enter 1 to uninstall the agent.**

**3 When prompted, What next? enter 1 to begin uninstallation.**

The uninstallation program displays the following text:

| Product                                            | Result | More Information |
|----------------------------------------------------|--------|------------------|
| 1. Sun Java(tm) System Access Manager Policy Agent | Full   | Available        |
| 2. Done                                            |        |                  |

**4 To see log information, enter 1. To exit the uninstallation program, enter 2.**

**5 When the uninstallation is complete, restart the Sun Java System Web Proxy Server 4.0 instance from which you just uninstalled the agent.**

## Windows Systems: Agent Uninstallation for Sun Java System Web Proxy Server 4.0

You can uninstall a web agent on a Windows system using the graphical user interface (GUI).

### GUI Uninstallation of Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems

To uninstall a web agent, you must run the uninstallation program.

#### ▼ To Uninstall Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems Using the GUI

- 1 In the Windows Start menu, choose Settings > Control Panel.**
- 2 In the Control Panel, open Add/Remove Programs.**
- 3 In the Add/Remove Programs window, choose Sun Java(tm) System Access Manager Policy Agent.**
- 4 Click Change/Remove.**
- 5 Click Next on Welcome panel.**

- 6 Click Uninstall Now.
- 7 Click Exit after uninstallation is complete.
- 8 Restart the Sun Java System Web Proxy Server 4.0 instance from which you just uninstalled the agent.

## Linux Systems: Agent Uninstallation for Sun Java System Web Proxy Server 4.0

You can uninstall a web agent on a Linux system using a graphical user interface (GUI) or using the command line. If you used the `config_linux` script to install the agent, use the `unconfig_linux` script to uninstall the agent.

### Unconfiguring Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems

To remove a web agent that was installed in the command line using the `config_linux` script, use the script `unconfig_linux`. The `unconfig_linux` script is located in the following directory:

*PolicyAgent-base/agents/proxy4/bin*

The following is an example run of the `unconfig_linux` script.

```
# ./unconfig_linux WebProxy-base/web-proxy-instance-name
Unconfiguring Proxy Server ...
done.
```

*WebProxy-base*                      Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

```
/opt/SUNWproxy/
```

*web-proxy-instance-name*        Represents the installation directory for Sun Java System Web Proxy Server 4.0. The following is an example of a conceivable Sun Java System Web Proxy Server 4.0 installation directory:

```
proxy-server1
```

Therefore, the following is an example of a full path to the proxy server instance directory:

/opt/SUNWproxy/proxy-server1

## GUI Uninstallation of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems

To uninstall a web agent, you must run the uninstallation program.

### ▼ To Uninstall Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems Using the GUI

- 1 In the Policy Agent base directory (*PolicyAgent-base*), enter the following command:  

```
# ./uninstall_linux_agent_proxy4
```
- 2 Click Next on Welcome panel.
- 3 Click Uninstall Now.
- 4 Click Close after uninstallation is complete.
- 5 Restart the Sun Java System Web Proxy Server 4.0 instance from which you just uninstalled the agent.

## Command-Line Uninstallation of Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems

To uninstall a web agent, you must run the uninstallation program.

### ▼ To Uninstall Agent for Sun Java System Web Proxy Server 4.0 on Linux Systems Using the Command Line

- 1 In the Policy Agent base directory (*PolicyAgent-base*), enter the following command:  

```
# ./uninstall_linux_agent_proxy4 -nodisplay
```

The uninstallation program displays the following text:

```
Ready to Uninstall
```

1. Uninstall Now
2. Start Over

### 3. Exit Uninstallation

**2 Enter 1 to remove the product.**

**3 When prompted, What next? enter 1 to begin uninstallation.**

The uninstallation program displays the following text:

| Product                                            | Result | More Information |
|----------------------------------------------------|--------|------------------|
| 1. Sun Java(tm) System Access Manager Policy Agent | Full   | Available        |
| 2. Done                                            |        |                  |

**4 To see log information on the agent, enter 1. To exit the uninstallation program, enter 2.**

**5 Restart the Sun Java System Web Proxy Server 4.0 instance from which you just uninstalled the agent.**





## Silent Installation of a Web Agent in Policy Agent 2.2

---

In addition to a standard installation of web agents, you can perform a silent installation as described in this appendix. The tasks involved in a silent installation of a web agent in Policy Agent 2.2 are the same for Solaris systems and Linux systems, but different for Windows systems. This appendix provides the information for performing the respective tasks as follows:

- [“About Silent Installation of a Web Agent in Policy Agent 2.2” on page 97](#)
- [“Solaris and Linux Systems: Silent Installation of a Web Agent in Policy Agent 2.2” on page 98](#)
- [“Windows Systems: Silent Installation of a Web Agent in Policy Agent 2.2” on page 100](#)

### **About Silent Installation of a Web Agent in Policy Agent 2.2**

A silent installation refers to installing a program by implementing a script. The script is part of a state file. The script provides all the answers that you would normally supply to the installation program interactively. Running the script saves time and is useful when you want to install multiple instances of a web agent using the same parameters in each instance.

Silent installation is a simple two-step process of generating a state file and then using that state file. To generate a state file, you record the installation process, entering all the required information that you would enter during a standard installation. Then you run the installation program with the state file as the input source.

You can perform the tasks for a silent installation through the GUI or through the command line as described in the respective sections that follow.

# Solaris and Linux Systems: Silent Installation of a Web Agent in Policy Agent 2.2

The tasks that follow apply to Solaris systems and Linux systems.

## Generating a State File for a Web Agent Installation on Solaris and Linux Systems

This section describes how to generate a state file for installing a web agent on Solaris systems and Linux systems. The description that follows provides an option of performing this task through the GUI and an option of performing this task through the command line.

Regardless of which type of installation you choose, GUI or command line, you need to initially issue one command for recording the information you will enter as you follow the agent installation steps. Enter all the necessary installation information in order to create a complete state file.

### ▼ To Generate a State File for a Web Agent Installation on Solaris and Linux Systems

The following task describes how to generate a state file for a web agent installation on a Solaris system or a Linux system.

#### 1 Change to the directory in which you unpacked the agent binaries.

This directory contains the setup program, which is used for installing a web agent and for performing other tasks.

#### 2 Issue the command that applies as follows:

- To use the GUI installation, issue the following command:

```
# ./setup -saveState filename
```

- To use the command-line installation, issue the following command:

```
# ./setup -nodisplay -saveState filename
```

`-saveState` An option that saves all of your responses to installation prompts in a state file.

`filename` Represents the name that you choose for the state file.

#### 3 Enter the installation information as described in this guide.

See the appropriate section of this guide, according to your installation needs:

- GUI installation on Solaris Systems

- Command-Line installation on Solaris Systems
- GUI installation on Linux Systems
- Command-Line installation on Linux Systems

Your answers to the prompts are recorded in the state file. When the installation is complete, the state file is created in the same directory where the installation program is located.

---

**Note** – When generated, a state file will have read permissions for all users. However, because the state file contains clear text passwords, change the file permissions to restrict read and write access to the user root.

---

## Using a State File for a Web Agent Silent Installation on Solaris and Linux Systems

This section describes how to use a state file for installing a web agent on Solaris systems and Linux systems.

### ▼ To Install a Web Agent Using a State File on Solaris and Linux Systems

To perform a silent installation of a web agent using a state file, perform the following:

#### 1 Change to the directory in which you unpacked the agent binaries.

At this point, this directory should contain, amongst other items, the setup program and the web agent installation state file.

#### 2 Issue the following command:

```
# ./setup -nodisplay -noconsole -state filename
```

**-state**      An option that directs the installer to run in non-interactive mode as it obtains all responses to prompts from the named state file.

***filename***    Represents the name of the state file from which the installer obtains all responses.

The installation takes place hidden from view. After completion, the program exits automatically and displays the prompt.

---

**Note** – Even though the silent installation does not validate the keys in the state file, avoid editing the values of the keys in the state file because the `setupSDK` script might report a corrupt state file when used during subsequent silent installations.

---

# Windows Systems: Silent Installation of a Web Agent in Policy Agent 2.2

The tasks that follow apply to Windows systems.

## Generating a State File for a Web Agent Installation on Windows Systems

This section describes how to generate a state file for installing a web agent on Windows systems. The description that follows provides an option of performing this task through the GUI and an option of performing this task through the command line.

Regardless of which type of installation you choose, GUI or command line, you need to initially issue one command for recording the information you will enter as you follow the agent installation steps. Enter all the necessary installation information in order to create a complete state file.

### ▼ To Generate a State File for a Web Agent Installation on Windows Systems

The following task describes how to generate a state file for a web agent installation on a Windows system.

**1 Change to the directory in which you unpacked the agent binaries.**

**2 Issue the command that applies as follows:**

- To use the GUI installation, issue the following command:

```
java agent_WINNT_proxy4 -saveState filename
```

- To use the command-line installation, issue the following command:

```
java agent_WINNT_proxy4 -nodisplay -saveState filename
```

`-saveState` An option that saves all of your responses to installation prompts in a state file.

`filename` Represents the name that you choose for the state file.

**3 Enter the installation information as described in [“GUI Installation of Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems” on page 40](#)**

Your answers to the prompts are recorded in the state file. When the installation is complete, the state file is created in the same directory where the installation program is located.

---

**Note** – When generated, a state file will have read permissions for all users. However, because the state file contains clear text passwords, change the file permissions to restrict read and write access to the user root.

---

## Using a State File for a Web Agent Silent Installation on Windows Systems

This section describes how to use a state file for installing a web agent on Windows systems.

### ▼ To Install a Web Agent Using a State File on Windows Systems

To perform a silent installation of a web agent using a state file, perform the following:

- 1 Change to the directory in which you unpacked the agent binaries.**

At this point, this directory should contain the web agent installation state file.

- 2 Issue the following command:**

```
java agent_WINNT_proxy4 -nodisplay -noconsole -state filename
```

**-state**      An option that directs the installer to run in non-interactive mode as it obtains all responses to prompts from the named state file.

***filename***      Represents the name of the state file from which the installer obtains all responses.

The installation takes place hidden from view. After completion, the program exits automatically and displays the prompt.

---

**Note** – Even though the silent installation does not validate the keys in the state file, avoid editing the values of the keys in the state file because the `setupSDK` script might report a corrupt state file when used during subsequent silent installations.

---



# Troubleshooting an Agent Deployment

---

This appendix applies to Agent for Sun Java System Web Proxy Server 4.0. If a problem is discussed in this appendix, it either applies only to this agent or it applies to two or more agents with one of them being this agent. This appendix explains how you can resolve problems that you might encounter while deploying or using this web agent. Be sure to also check the *Sun Java System Access Manager Policy Agent 2.2 Release Notes*, to see if the problem that you encounter is a known limitation of the web agent. If workarounds are available for such problems, they will be provided in the release notes.

In this chapter, refer to the troubleshooting section applicable to your platform as follows:

- [“Solaris Systems: Troubleshooting Symptoms in Agent for Sun Java System Web Proxy Server 4.0” on page 103](#)
- [“Windows Systems: Troubleshooting Symptoms in Agent for Sun Java System Web Proxy Server 4.0” on page 107](#)
- [“Linux Systems: Troubleshooting Symptoms in Agent for Sun Java System Web Proxy Server 4.0” on page 109](#)

## **Solaris Systems: Troubleshooting Symptoms in Agent for Sun Java System Web Proxy Server 4.0**

This section includes various problems you might encounter on Solaris systems. The explanation of the problem is followed by possible solutions.

### **Solaris Systems: Troubleshooting Symptom 1**

**Symptom:** Cannot install the web agent after a previous installation has been removed.

The following is an example message that is displayed when you run the web agent installation program:

*Launching installer... Sun Java(tm) System; Access Manager Policy Agent for Sun Java System Proxy Server 4.0 is installed. Please refer to installation manual to configure this agent for another web server instance or uninstall it before installing another agent.*

**Possible Causes:**

- You might have an existing installation of the web agent.
- You might have a previously-installed web agent and did not use the web agent's uninstallation program to uninstall the agent.
- The installation program's product registry file might be corrupted.

**Possible Solutions:** Performing the following troubleshooting activities might resolve the issue:

- Check that you have uninstalled any existing installation of the web agent.
- The product registry file may be corrupted if there is no existing installation of the web agent. This file is used by the installation program to track installed products. It is found in /var/sadm/install directory.

---

**Note** – Make a backup copy of product registry file before you make changes.

---

Remove the web agent entry in this file. This entry starts with the following lines:

```
<compid>SUNWampxy4
  <compversion>2.2
    <uniquename>SUNWampxy4/<uniquename>
    <vendor></vendor>
    <compinstance>1
      <parent>Agent for Sun Java(tm) System Web Proxy Server 4.0
        <instance>1
          <version>2.2</version>
        </instance>
      </parent>
      <comptype>COMPONENT</comptype>
      <location>/opt/pr22</location>
      <dependent>
        <compref>Agent for Sun Java(tm) System Web Proxy Server 4.0
          <instance>1
            <version>2.2</version>
          </instance>
        </compref>
      </dependent>
      <data>
        <key>pkgs
          <value>SUNWampxy4</value>
        </key>
```



```

        </data>
      </compinstance>
    </compversion>
  </compid>
<compid>Agent for Sun Java(tm) System Web Proxy Server 4.0
  <compversion>2.2
    <uniquename>Agent for Sun Java(tm) System Web Proxy Server 4.0</uniquename>
    <vendor></vendor>
    <compinstance>1
      <parent>Sun Java(tm) System Access Manager Policy Agent
        <instance>6
          <version>2.2</version>
        </instance>
      </parent>
      <children>
        <compref>SUNWampxy4
          <instance>1
            <version>2.2</version>
          </instance>
        </compref>
      </children>
      <comptype>FEATURE</comptype>
      <location>/opt/pr22</location>
      <dependent>
        <compref>Sun Java(tm) System Access Manager Policy Agent
          <instance>6
            <version>2.2</version>
          </instance>
        </compref>
      </dependent>
      <required>
        <compref>SUNWampxy4
          <instance>1
            <version>2.2</version>
          </instance>
        </compref>
      </required>
    </compinstance>
  </compversion>
</compid>

```

## Solaris Systems: Troubleshooting Symptom 2

**Symptom:** The uninstallation program does not remove entries from the agent's web container.

**Possible Causes:** Another instance of the web agent exists that was configured using the configuration script.

**Possible Solution:** Remove all the instances of the web agent using the `unconfig` script before running the uninstallation program.

## Solaris Systems: Troubleshooting Symptom 3

**Symptom:** The browser goes into a loop for approximately a minute before displaying an access-denied page.

**Possible Cause:** The user tries to access a resource for which a policy with a time condition has been set and the time on the web agent host and the Access Manager host are not in sync.

**Possible Solution:** Login as root and run the command `rdate hostname` to synchronize the time on both the hosts.

## Solaris Systems: Troubleshooting Symptom 4

**Symptom:** Policies are not enforced when using Agent for Sun Java System Web Proxy Server 4.0.

**Possible Cause:** URL mapping is inaccurate. More specifically, the resource names for setting policies are not the URLs qualified as “URL prefix” (from the client) in the Sun Java System Web Proxy Server 4.0 administration console.

**Possible Solution:** Ensure that each resource name used for setting policies matches a URL prefix as listed in the Sun Java System Web Proxy Server 4.0 administration console.

## Solaris Systems: Troubleshooting Symptom 5

**Symptom:** When a user attempts to access a resource using Internet Explorer as the browser, access is denied.

**Possible Cause:** Internet Explorer overrides the port number of the web agent with the Access Manager port number. In such cases, the agent log file lists the URL that is being evaluated. The port number for that URL is incorrect.

**Possible Solution:** You can ensure this problem does not occur by setting the following property in the web agent `AMAgent.properties` configuration file to `true` as shown:

```
com.sun.am.policy.agents.config.override_port = true
```

# Windows Systems: Troubleshooting Symptoms in Agent for Sun Java System Web Proxy Server 4.0

This section includes various problems you might encounter on Windows systems. The explanation of the problem is followed by possible solutions.

## Windows Systems: Troubleshooting Symptom 1

**Symptom:** Cannot install the web agent after a previous installation has been removed.

### Possible Causes:

- You might have an existing installation of the web agent.
- You might have a previously-installed web agent and did not use the web agent's uninstallation program to uninstall the agent.
- The installation program's product registry file might be corrupted.

**Possible Solution:** To resolve the issue, manually remove the web agent as explained in the following task description.

### ▼ To Manually Remove Agent for Sun Java System Web Proxy Server 4.0

- 1 Stop all of the web sites.
- 2 Stop the proxy server instance.
- 3 Remove Agent for Sun Java System Web Proxy Server 4.0.
  - a. In the Start menu, select Control Panel->Add/Remove programs
  - b. Select Sun Java System Access Manager Policy Agent *PolicyAgent-base*.
  - c. Click Remove
- 4 Remove the *PolicyAgent-base* directory from the server.  
where *PolicyAgent-base* represents the directory in which the web agent was originally installed.
- 5 Remove the following entries from the PATH variable:
  - *PolicyAgent-base\bin*
  - *PolicyAgent-base\proxy4\bin*
- 6 Restart the server.

## Windows Systems: Troubleshooting Symptom 2

**Symptom:** Unable to uninstall the agent from a Windows system using the Add/Remove Program option in the Control Panel.

**Possible Causes:** Java's class path might not be set correctly on the machine.

**Possible Solution:** Perform the following task.

### ▼ To Uninstall a Web Agent on a Windows System When the GUI Uninstallation Fails

- 1 **Open Command Prompt Window.**
- 2 **Change directories to *PolicyAgent-base***
- 3 **Execute the following command:**

```
java uninstall_Sun_Java_tm_System_Access_Manager_Policy_Agent
```

## Windows Systems: Troubleshooting Symptom 3

**Symptom:** Policies are not enforced when using Agent for Sun Java System Web Proxy Server 4.0.

**Possible Cause:** URL mapping is inaccurate. More specifically, the resource names for setting policies are not the URLs qualified as "URL prefix" (from the client) in the Sun Java System Web Proxy Server 4.0 administration console.

**Possible Solution:** Ensure that each resource name used for setting policies matches a URL prefix as listed in the Sun Java System Web Proxy Server 4.0 administration console.

## Windows Systems: Troubleshooting Symptom 4

**Symptom:** When a user attempts to access a resource using Internet Explorer as the browser, access is denied.

**Possible Cause:** Internet Explorer overrides the port number of the web agent with the Access Manager port number. In such cases, the agent log file lists the URL that is being evaluated. The port number for that URL is incorrect.

**Possible Solution:** You can ensure this problem does not occur by setting the following property in the web agent `AMAgent.properties` configuration file to `true` as shown:

```
com.sun.am.policy.agents.config.override_port = true
```

## Windows Systems: Troubleshooting Symptom 5

**Symptom:** After the agent is installed, the web server fails to start.

**Possible Cause:** Libraries that agents depend on for Windows systems are missing. Ensuring that the libraries `msvcp70.dll` and `msvcr70.dll` are available is a pre-installation step in this guide. If the libraries were not properly added, the web server might not start.

**Possible Solution:** Obtain the appropriate libraries as described in [“Preparing to Install Agent for Sun Java System Web Proxy Server 4.0 on Windows Systems” on page 39.](#)

## Linux Systems: Troubleshooting Symptoms in Agent for Sun Java System Web Proxy Server 4.0

This section includes various problems you might encounter on Linux systems. The explanation of the problem is followed by possible solutions.

### Linux Systems: Troubleshooting Symptom 1

**Symptom:** When a user attempts to access a resource using Internet Explorer as the browser, access is denied.

**Possible Cause:** Internet Explorer overrides the port number of the web agent with the Access Manager port number. In such cases, the agent log file lists the URL that is being evaluated. The port number for that URL is incorrect.

**Possible Solution:** You can ensure this problem does not occur by setting the following property in the web agent `AMAgent.properties` configuration file to `true` as shown:

```
com.sun.am.policy.agents.config.override_port = true
```

### Linux Systems: Troubleshooting Symptom 2

**Symptom:** Policies are not enforced when using Agent for Sun Java System Web Proxy Server 4.0.

**Possible Cause:** URL mapping is inaccurate. More specifically, the resource names for setting policies are not the URLs qualified as “URL prefix” (from the client) in the Sun Java System Web Proxy Server 4.0 administration console.

**Possible Solution:** Ensure that each resource name used for setting policies matches a URL prefix as listed in the Sun Java System Web Proxy Server 4.0 administration console.



# Web Agent AMAgent.properties Configuration File

---

The web agent AMAgent.properties configuration file contains the necessary configuration properties needed for the web agent to function properly. It also contains the necessary information needed for the Sun Java System Access Manager SDK to function properly in a client installation mode as used by the web agent.

## Properties in the Web Agent AMAgent.properties Configuration File

The web agent AMAgent.properties configuration file is located as described in [Table 6–1](#). For a more detailed discussion of the key tasks you can perform using this configuration file, see “Key Features and Tasks Performed with the Web Agent AMAgent.properties Configuration File” on page 69.

For detailed information about every property, see the actual web agent AMAgent.properties configuration file in the product itself for a description of each property.

Most property names in the web agent AMAgent.properties configuration file have changed for Policy Agent 2.2. The following list highlights the change in property names by presenting the current property name in the release paired with the former property name from the 2.1 release. You can use this information to map the former property name to the current property name. Most properties apply to all web agents in the 2.2 release. A few properties are specific to one or a few web agents.

TABLE C-1 Changes in the Web Agent AMAgent.properties Configuration File for Policy Agent 2.2

| 2.2 Property Name      | Former Property Name: 2.1 and Prior |
|------------------------|-------------------------------------|
| com.sun.am.cookie.name | com.sun.am.cookieName               |

TABLE C-1 Changes in the Web Agent AMAgent.properties Configuration File for Policy Agent 2.2 (Continued)

| 2.2 Property Name                                                | Former Property Name: 2.1 and Prior               |
|------------------------------------------------------------------|---------------------------------------------------|
| com.sun.am.cookie.encode                                         | com.sun.am.cookieEncoded                          |
| com.sun.am.log.level                                             | com.sun.am.logLevels                              |
| com.sun.am.naming.url                                            | com.sun.am.namingURL                              |
| com.sun.am.sslcert.dir                                           | com.sun.am.sslCertDir                             |
| com.sun.am.certdb.prefix                                         | com.sun.am.certDbPrefix                           |
| com.sun.am.trust_server_certs                                    | com.sun.am.trustServerCerts                       |
| com.sun.am.notification.enable                                   | com.sun.am.notificationEnabled                    |
| com.sun.am.notification.url                                      | com.sun.am.notificationURL                        |
| com.sun.am.load_balancer.enable                                  | com.sun.am.loadBalancer_enable                    |
| com.sun.am.policy.am.login.url                                   | com.sun.am.policy.am.loginURL                     |
| com.sun.am.policy.am.username (unchanged)                        | com.sun.am.policy.am.username                     |
| com.sun.am.policy.am.password (unchanged)                        | com.sun.am.policy.am.password                     |
| com.sun.am.policy.am.url_comparison.<br>case_ignore              | com.sun.am.policy.am.urlComparison.<br>caseIgnore |
| com.sun.am.policy.am.polling.interval                            | com.sun.am.policy.am.cacheEntryLifeTime           |
| com.sun.am.policy.am.userid.param                                | com.sun.am.policy.am.userIdParam                  |
| com.sun.am.policy.am.lb.cookie.name                              | com.sun.am.policy.am.ias_SLB_cookie_name          |
| com.sun.am.policy.am.<br>fetch_from_root_resource                | com.sun.am.policy.am.fetchFromRootResource        |
| com.sun.am.policy.agents.config.<br>local.log.file               | com.sun.am.logFile                                |
| com.sun.am.policy.agents.config.<br>local.log.rotate             | NEW PROPERTY                                      |
| com.sun.am.policy.agents.config.<br>local.log.size               | NEW PROPERTY                                      |
| com.sun.am.policy.agents.config.<br>remote.log                   | com.sun.am.serverLogFile                          |
| com.sun.am.policy.agents.config.<br>profile.attribute.fetch.mode | com.sun.am.policy.am.ldattribute.mode             |
| com.sun.am.policy.agents.config.<br>profile.attribute.map        | com.sun.am.policy.am.headerAttributes             |



TABLE C-1 Changes in the Web Agent AMAgent.properties Configuration File for Policy Agent 2.2 (Continued)

| 2.2 Property Name                                               | Former Property Name: 2.1 and Prior             |
|-----------------------------------------------------------------|-------------------------------------------------|
| com.sun.am.policy.agents.config.profile.attribute.cookie.prefix | com.sun.am.policy.am.ldapattribute.cookiePrefix |
| com.sun.am.policy.agents.config.profile.attribute.cookie.maxage | com.sun.am.policy.am.ldapattribute.cookieMaxAge |
| com.sun.am.policy.agents.config.session.attribute.fetch.mode    | NEW PROPERTY                                    |
| com.sun.am.policy.agents.config.session.attribute.map           | NEW PROPERTY                                    |
| com.sun.am.policy.agents.config.response.attribute.fetch.mode   | NEW PROPERTY                                    |
| com.sun.am.policy.agents.config.add_response_attrs              | NEW PROPERTY                                    |
| com.sun.am.policy.agents.config.version                         | com.sun.am.policy.agents.version                |
| com.sun.am.policy.agents.config.audit.accessstype               | com.sun.am.policy.agents.logAccessType          |
| com.sun.am.policy.agents.config.agenturi.prefix                 | com.sun.am.policy.agents.agenturiprefix         |
| com.sun.am.policy.agents.config.locale                          | com.sun.am.policy.agents.locale                 |
| com.sun.am.policy.agents.config.instance.name                   | com.sun.am.policy.agents.instanceName           |
| com.sun.am.policy.agents.config.do_sso_only                     | com.sun.am.policy.agents.do_sso_only            |
| com.sun.am.policy.agents.config.accessdenied.url                | com.sun.am.policy.agents.accessDeniedURL        |
| com.sun.am.policy.agents.config.url.redirect.param              | com.sun.am.policy.agents.urlRedirectParam       |
| com.sun.am.policy.agents.config.fqdn.default                    | com.sun.am.policy.agents.fqdnDefault            |
| com.sun.am.policy.agents.config.fqdn.map                        | com.sun.am.policy.agents.fqdnMap                |
| com.sun.am.policy.agents.config.cookie.reset.enable             | com.sun.am.policy.agents.cookie_reset_enabled   |
| com.sun.am.policy.agents.config.cookie.reset.list               | com.sun.am.policy.agents.cookie_reset_list      |

TABLE C-1 Changes in the Web Agent AMAgent.properties Configuration File for Policy Agent 2.2 (Continued)

| 2.2 Property Name                                           | Former Property Name: 2.1 and Prior                             |
|-------------------------------------------------------------|-----------------------------------------------------------------|
| com.sun.am.policy.agents.config.cookie.domain.list          | com.sun.am.policy.agents.cookieDomainList                       |
| com.sun.am.policy.agents.config.anonymous_user              | com.sun.am.policy.agents.unauthenticatedUser                    |
| com.sun.am.policy.agents.config.anonymous_user.enable       | com.sun.am.policy.agents.anonRemoteUserEnabled                  |
| com.sun.am.policy.agents.config.notenforced_list            | com.sun.am.policy.agents.notenforcedList                        |
| com.sun.am.policy.agents.config.notenforced_list.invert     | com.sun.am.policy.agents.reverse_the_meaning_of_notenforcedList |
| com.sun.am.policy.agents.config.notenforced_client_ip_list  | com.sun.am.policy.agents.notenforced_client_IP_address_list     |
| com.sun.am.policy.agents.config.postdata.preserve.enable    | com.sun.am.policy.agents.is_postdatapreserve_enabled            |
| com.sun.am.policy.agents.config.postcache.entry.lifetime    | com.sun.am.policy.agents.postcacheentrylifetime                 |
| com.sun.am.policy.agents.config.cdsso.enable                | com.sun.am.policy.agents.cdsso-enabled                          |
| com.sun.am.policy.agents.config.cdcervlet.url               | com.sun.am.policy.agents.cdcervletURL                           |
| com.sun.am.policy.agents.config.client_ip_validation.enable | com.sun.am.policy.agents.client_ip_validation_enable            |
| com.sun.am.policy.agents.config.logout.url                  | com.sun.am.policy.agents.logout.url                             |
| com.sun.am.policy.agents.config.logout.cookie.reset.list    | com.sun.am.policy.agents.logout.cookie_reset_list               |
| com.sun.am.policy.agents.config.get_client_host_name        | com.sun.am.policy.agents.getClientHostname                      |
| com.sun.am.policy.agents.config.convert_mbyte.enable        | com.sun.am.policy.agents.convertMbyteEnabled                    |
| com.sun.am.policy.agents.config.ignore_path_info            | com.sun.am.ignore_path_info                                     |
| com.sun.am.policy.agents.config.override_protocol           | com.sun.am.policy.agents.overrideProtocol                       |

TABLE C-1 Changes in the Web Agent AMAgent.properties Configuration File for Policy Agent 2.2 (Continued)

| 2.2 Property Name                                                 | Former Property Name: 2.1 and Prior           |
|-------------------------------------------------------------------|-----------------------------------------------|
| com.sun.am.policy.agents.config.override_host                     | com.sun.am.policy.agents.overrideHost         |
| com.sun.am.policy.agents.config.override_port                     | com.sun.am.policy.agents.overridePort         |
| com.sun.am.policy.agents.config.override_notification.url         | com.sun.policy.agents.overrideNotificationUrl |
| com.sun.am.policy.agents.config.connection_timeout                | NEW PROPERTY                                  |
| com.sun.am.policy.agents.config.iis6.basicAuthentication.username | NEW PROPERTY                                  |
| com.sun.am.policy.agents.config.iis6.basicAuthentication.password | NEW PROPERTY                                  |
| com.sun.am.policy.agents.config.iis6.basicAuthentication.logFile  | NEW PROPERTY                                  |



# Error Codes

---

This appendix lists the error codes you might encounter while installing and configuring a web agent. It also provides explanations for the each code item.

## Error Code List

This list of error codes includes locations that are reserved for error codes that do not currently exist.

- |                       |                                                                                                                                                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0. AM_SUCCESS         | The operation completed successfully.                                                                                                                                                                           |
| 1. AM_FAILURE         | The operation did not complete successfully. Please refer to the log file for more details.                                                                                                                     |
| 2. AM_INIT_FAILURE    | The C SDK initialization routine did not complete successfully. All the other APIs may be used only if the initialization went through successfully.                                                            |
| 3. AM_AUTH_FAILURE    | The authentication did not go through successfully. This error is returned either by the Authentication API or the Policy Initialization API, which tries to authenticate itself as a client to Access Manager. |
| 4. AM_NAMING_FAILURE  | The naming query failed. Please look at the log file for further information.                                                                                                                                   |
| 5. AM_SESSION_FAILURE | The session operation did not succeed. The operation may be any of the operations provided by the session API.                                                                                                  |
| 6. AM_POLICY_FAILURE  | The policy operation failed. Details of policy failure may be found in the log file.                                                                                                                            |

|                                    |                                                                                                                                                                                                   |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7. This is a reserved error code.  | Currently, no error code exists at this location.                                                                                                                                                 |
| 8. AM_INVALID_ARGUMENT             | The API was invoked with one or more invalid parameters. Check the input provided to the function.                                                                                                |
| 9. This is a reserved error code.  | Currently, no error code exists at this location.                                                                                                                                                 |
| 10. This is a reserved error code. | Currently, no error code exists at this location.                                                                                                                                                 |
| 11. AM_NO_MEMORY                   | The operation failed because of a memory allocation problem.                                                                                                                                      |
| 12. AM_NSPR_ERROR                  | The underlying NSPR layer failed. Please check log for further details.                                                                                                                           |
| 13. This is a reserved error code. | Currently, no error code exists at this location.                                                                                                                                                 |
| 14. AM_BUFFER_TOO_SMALL            | The web agent does not have memory allocated to receive data from Access Manager.                                                                                                                 |
| 15. AM_NO_SUCH_SERVICE_TYPE        | The service type input by the user does not exist. This is a more specific version of AM_INVALID_ARGUMENT error code. The error can occur in any of the API that take am_policy_t as a parameter. |
| 16. AM_SERVICE_NOT_AVAILABLE       | Currently, no error code exists at this location.                                                                                                                                                 |
| 17. AM_ERROR_PARSING_XML           | During communication with Access Manager, there was an error while parsing the incoming XML data.                                                                                                 |
| 18. AM_INVALID_SESSION             | The session token provided to the API was invalid. The session may have timed out or the token is corrupted.                                                                                      |
| 19. AM_INVALID_ACTION_TYPE         | This exception occurs during policy evaluation, if such an action type does not exist for a given policy decision appropriately found for the resource.                                           |
| 20. AM_ACCESS_DENIED               | The user is denied access to the resource for the kind of action requested.                                                                                                                       |
| 21. AM_HTTP_ERROR                  | There was an HTTP protocol error while contacting Access Manager.                                                                                                                                 |
| 22. AM_INVALID_FQDN_ACCESS         | The resource provided by the user is not a fully qualified domain name. This is a web container                                                                                                   |

---

|                                |                                                                                                                                                                                                                                                                                               |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | specific error and may be returned by the <code>am_web_is_access_allowed</code> function only.                                                                                                                                                                                                |
| 23. AM_FEATURE_UNSUPPORTED     | The feature being invoked is not implemented as of now. Only the interfaces have been defined.                                                                                                                                                                                                |
| 24. AM_AUTH_CTX_INIT_FAILURE   | The Auth context creation failed. This error is thrown by <code>am_auth_create_auth_context</code> .                                                                                                                                                                                          |
| 25. AM_SERVICE_NOT_INITIALIZED | The service is not initialized. This error is thrown by <code>am_policy</code> functions if the provided service was not initialized previously using <code>am_policy_service_init</code> .                                                                                                   |
| 26. AM_INVALID_RESOURCE_FORMAT | This is a plug-in interface error. Implementors of the new resource format may throw this error if the input string does not meet their specified format. This error is thrown by the <code>am_web</code> layer, if the resource passed as parameter does not follow the standard URL format. |
| 27. AM_NOTIF_NOT_ENABLED       | This error is thrown if the notification registration API is invoked when the notification feature is disabled in the configuration file.                                                                                                                                                     |
| 28. AM_ERROR_DISPATCH_LISTENER | Error during notification registration.                                                                                                                                                                                                                                                       |
| 29. AM_REMOTE_LOG_FAILURE      | This error code indicates that the service that logs messages to Access Manager has failed. The details of this error can be found in the web agent's log file.                                                                                                                               |





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