Installation Guide

Sun ONE Application Server

Version 7

Contents

About This Guide

This chapter describes the contents of Sun™ Open Net Environment (Sun ONE) Application Server 7 *Installation Guide*. This preface contains the following sections:

- How This Guide is Organized
- Using the Documentation
- Documentation Conventions
- Product Support

This *Installation Guide* describes how to install Sun ONE Application Server by user role. Within each section are instructions for installing via the graphical interface, command line, or using silent mode.

This manual is intended for system administrators, network administrators, evaluators, application server administrators, web developers, and software developers who want to install Sun ONE Application Server.

NOTE	Sun ONE Application Server 7, Platform Edition is automatically installed with Solaris 9. (See the Sun ONE Application Server Release Notes for details about which versions of Solaris 9 include the application server.)
	Users of Solaris 9 bundled should read "Documentation Conventions" on page 11, then proceed to Appendix A, "Post-installation Tasks" before reading the Sun ONE Application Server 7 *Getting Started Guide* and *Administrator's Guide* for information about configuring and using the product.

How This Guide is Organized

The following chapters and appendices are included in this guide:

- Chapter 1, "Preparing to Install" provides an overview of the minimum requirements, and steps to be taken prior to installing Sun ONE Application Server.

- Chapter 2, "Installing for Evaluation" contains the quick installation procedures for both the Windows and Solaris platforms. This option allows users to rapidly install the Sun ONE Application Server for evaluation purposes.

- Chapter 3, "Installing for Development and Operations" describes how to install the non-evaluation version of Sun ONE Application Server for development and operations on Windows and UNIX® platforms.

- Appendix A, "Post-installation Tasks" describes tasks you should perform after installing Sun ONE Application Server, including plugin installation information and how to create a domain.

- Appendix B, "Troubleshooting" describes tasks you should perform after installing Sun ONE Application Server, including plugin installation information and how to create a domain.

- Appendix C, "Licensing Information" provides information about application server licensing, upgrading your license, and licensing commands.

- Appendix D, "Certified Servers and Browsers" points to a list of which components are compatible with Sun ONE Application Server, including version numbers.

Using the Documentation

The Sun ONE Application Server manuals are available as online files in Portable Document Format (PDF) and Hypertext Markup Language (HTML) formats, at:

`http://docs.sun.com/`

The following table lists tasks and concepts described in the Sun ONE Application Server manuals. The left column lists the tasks and concepts, and the right column lists the corresponding manuals.

Sun ONE Application Server Documentation Road Map

For information about	See the following
Late-breaking information about the software and the documentation	*Release Notes*
Supported platforms and environments	*Platform Summary*
Introduction to the application server, including new features, evaluation installation information, and architectural overview.	*Getting Started Guide*
Installing Sun ONE Application Server and its various components (sample applications, Administration interface, Sun ONE Message Queue).	*Installation Guide*
Creating and implementing J2EE applications that follow the open Java standards model on the Sun ONE Application Server 7. Includes general information about application design, developer tools, security, assembly, deployment, debugging, and creating lifecycle modules.	*Developer's Guide*
Creating and implementing J2EE applications that follow the open Java standards model for web applications on the Sun ONE Application Server 7. Discusses web application programming concepts and tasks, and provides sample code, implementation tips, and reference material.	*Developer's Guide to Web Applications*
Creating and implementing J2EE applications that follow the open Java standards model for enterprise beans on the Sun ONE Application Server 7. Discusses EJB programming concepts and tasks, and provides sample code, implementation tips, and reference material.	**Developer's Guide to Enterprise JavaBeans**
Creating Web Services, RMI-IIOP, or other clients that access J2EE applications on the Sun ONE Application Server 7	*Developer's Guide to Clients*
J2EE features such as JDBC, JNDI, JTS, JMS, JavaMail, resources, and connectors	*Developer's Guide to J2EE Features and Services*
Creating custom NSAPI plugins	*Developer's Guide to NSAPI*

Sun ONE Application Server Documentation Road Map

For information about	See the following
Performing the following administration tasks: • Using the Administration interface and the command line interface • Configuring server preferences • Using administrative domains • Using server instances • Monitoring and logging server activity • Configuring the web server plugin • Configuring the Java Messaging Service • Using J2EE features • Configuring support for CORBA-based clients • Configuring database connectivity • Configuring transaction management • Configuring the web container • Deploying applications • Managing virtual servers	*Administrator's Guide*
Editing server configuration files	*Administrator's Configuration File Reference*
Configuring and administering security for the Sun ONE Application Server 7 operational environment. Includes information on general security, certificates, and SSL/TLS encryption. Web-core-based security is also addressed.	*Administrator's Guide to Security*
Configuring and administering service provider implementation for J2EE CA connectors for the Sun ONE Application Server 7. Includes information about the Administration Tool, DTDs and provides sample XML files.	*J2EE CA Service Provider Implementation Administrator's Guide*
Migrating your applications to the new Sun ONE Application Server 7 programming model from the Netscape Application Server version 2.1, including a sample migration of an Online Bank application provided with Sun ONE Application Server	*Migration Guide*

Sun ONE Application Server Documentation Road Map

For information about	See the following
Using Sun ONE Message Queue.	The Sun ONE Message Queue documentation at: http://docs.sun.com/?p=/coll/S1_MessageQueue_30

Documentation Conventions

This section describes the types of conventions used throughout this guide:

• General Conventions

• Conventions Referring to Directories

General Conventions

The following general conventions are used in this guide:

• **File and directory paths** are given in UNIX® format (with forward slashes separating directory names). For Windows versions, the directory paths are the same, except that backslashes are used to separate directories.

• **URLs** are given in the format:

http://*server.domain/path/file*.html

In these URLs, *server* is the server name where applications are run; *domain* is your Internet domain name; *path* is the server's directory structure; and *file* is an individual filename. Italic items in URLs are placeholders.

• **Font conventions** include:

  ○ The `monospace` font is used for sample code and code listings, API and language elements (such as function names and class names), file names, path names, directory names, and HTML tags.

  ○ *Italic* type is used for code variables.

  ○ *Italic* type is also used for book titles, emphasis, variables and placeholders, and words used in the literal sense.

❍ **Bold** type is used as either a paragraph lead-in or to indicate words used in the literal sense.

- **Installation root directories** for most platforms are indicated by *install_dir* in this document. Exceptions are noted in "Conventions Referring to Directories" on page 12.

  By default, the location of *install_dir* on **most** platforms is:

  ❍ Solaris 8 non-package-based evaluation installations:

  user's home directory/sun/appserver7

  ❍ Solaris unbundled, package-based installations:

  /opt/SUNWappserver7

  ❍ Windows, all installations:

  C:\Sun\AppServer7

  For the platforms listed above, *default_config_dir* and *install_config_dir* are identical to *install_dir*. See "Conventions Referring to Directories" on page 12 for exceptions and additional information.

- **Instance root directories** are indicated by *instance_dir* in this document, which is an abbreviation for the following:

  default_config_dir/domains/*domain*/*instance*

- **UNIX-specific descriptions** throughout this manual apply to the Linux operating system as well, except where Linux is specifically mentioned.

Conventions Referring to Directories

By default, when using the Solaris 8 and 9 package-based installation and the Solaris 9 bundled installation, the application server files are spread across several root directories. These directories are described in this section.

- **For Solaris 9 bundled installations**, this guide uses the following document conventions to correspond to the various default installation directories provided:

  ❍ *install_dir* refers to /usr/appserver/, which contains the static portion of the installation image. All utilities, executable files, and libraries that make up the application server reside in this location.

  ❍ *default_config_dir* refers to /var/appserver/domains, which is the default location for any domains that are created.

- *install_config_dir* refers to `/etc/appserver/`, which contains installation-wide configuration information such as licenses and the master list of administrative domains configured for this installation.

- **For Solaris 8 and 9 package-based, non-evaluation, unbundled installations**, this guide uses the following document conventions to correspond to the various default installation directories provided:

  - *install_dir* refers to `/opt/SUNWappserver7`, which contains the static portion of the installation image. All utilities, executable files, and libraries that make up the application server reside in this location.

  - *default_config_dir* refers to `/var/opt/SUNWappserver7/domains` which is the default location for any domains that are created.

  - *install_config_dir* refers to `/etc/opt/SUNWappserver7/`, which contains installation-wide configuration information such as licenses and the master list of administrative domains configured for this installation.

Product Support

If you have problems with your system, contact customer support using one of the following mechanisms:

- The online support web site at:

  `http://www.sun.com/supporttraining/`

- The telephone dispatch number associated with your maintenance contract

Please have the following information available prior to contacting support. This helps to ensure that our support staff can best assist you in resolving problems:

- Description of the problem, including the situation where the problem occurs and its impact on your operation

- Machine type, operating system version, and product version, including any patches and other software that might be affecting the problem

- Detailed steps on the methods you have used to reproduce the problem

- Any error logs or core dumps

Product Support

Preparing to Install

Sun ONE Application Server allows different types of installation according to user role, as well as different methods of installation, such as command-line, graphical-interface, and silent modes. This chapter describes these types and methods, as well as prerequisites for installation and technical requirements.

This chapter includes the following topics:

- Supported Platforms
- Required Patches
- Other Technical Requirements
- Installation Methods
- Types of Installation
- Installable Components

Read this chapter before using the Sun ONE Application Server installation program. Check the Release Notes for the latest information.

For more information about configuring your application server after installation, refer to the Sun ONE Application Server 7 *Administrator's Guide*.

Supported Platforms

Your system should meet the system requirements described in the following table.

Supported Platforms

Operating System	Architecture	Minimum Memory	Recommended Memory	Minimum Disk Space	Recommended Disk Space
Sun Solaris 8 for SPARC, Sun Solaris 9 for SPARC	32 and 64 bit	256 MB without Sun ONE Studio 512 MB with Sun ONE Studio	512 MB	250 MB free	500 MB free
Microsoft Windows • 2000 Advanced Server, SP2+ • 2000 Server, SP2+ • 2000 Professional, SP 2+ • Windows XP Professional	Intel 32 bit	256 MB without Sun ONE Studio 256 MB with Sun ONE Studio	256 MB without Sun ONE Studio 512 MB with Sun ONE Studio	250 MB free	500 MB free

Required Patches

The following Solaris patches must be installed for Solaris 8 systems:

109326-06 or higher

108827-26 or higher

110934 for packaged-based installation only

These patches can be retrieved from the patch finder page located at the following URL:

http://sunsolve.sun.com/pub-cgi/show.pl?target=patches/patch-access

It is recommended that Solaris 8 users should have the "Sun recommended patch cluster" installed. The cluster includes the three required patches listed above. This patch is available at: http://sunsolve.sun.com/ under "Recommended and Security Patches."

Once you have satisfied the system requirements, you are ready to install the application server.

Other Technical Requirements

Note the following requirements and perform any of the tasks necessary before installing Sun ONE Application Server 7:

- All Platforms

- Solaris

- Windows

All Platforms

- Your temp directory must have a minimum of 100 MB free.

- On all platforms, you must have four unused ports available. You'll assign one for the administration server and another for the HTTP server port during installation. The installer will detect unused ports and assign two others for you: Sun ONE Message Queue (by default, 7676), and IIOP (by default, 3700). If either of these default port numbers are in use, the installer will assign the next available port (for instance, 7677 or 7678, and so on).

Solaris

- For Solaris package-based non-evaluation installations, you must have root privileges on your target machine to install the software. You do not need root privileges on Solaris if you are installing the product using the non-package-based distribution of the product.

- When installing as root, note the following:

  ○ For evaluation installations, you can install more than one application server as root as long as each installation is in a different installation directory. However, root privileges are not required to install a non-package-based version of the application server.

○ For non-evaluation installations, you can have only one installation per system. However, one non-evaluation installation can co-exist with any number of evaluation installation(s) on the same system, provided that the installation directories are different for each.

○ For both evaluation and non-evaluation installations, you can have multiple instances running within the same installation.

- If you have previously installed application or web servers on the target machine, you must start them before you begin the Sun ONE Application Server 7 installation process. This will allow the installer to detect ports in use and avoid assigning them for other uses.

- If your machine has the Solaris 9 bundled version of the application server installed, and you install the unbundled version of the server, the Message Queue broker for these application server installations will be shared. Therefore, if you fail to uniquely name your domains and instances, you may receive the following errors when starting up the second instance with the same domain or instance name:

```
SEVERE: JMS5024: JMS service startup failed

SEVERE: CORE5071: An error occured during initialization
```

To avoid these errors, see the "JMS Support" chapter in the Sun ONE Application Server 7 *Administrator's Guide*.

Windows

- On a given Windows machine, you can only install one Sun ONE Application Server.

- You must have administrative privileges to install Sun ONE Application Server on Windows using evaluation and non-evaluation distributions.

- You must install the SNMP service before you install Sun ONE Application Server 7 or installation of the SNMP subagent will fail.

- You must stop any firewall or anti-virus software before installing the application server, since some of this software disables all ports by default. The application server installation program must be able to accurately determine which ports are available.

Installation Methods

You can install Sun ONE Application Server using any of three methods:

- Graphical Interface
- Command Line
- Silent

Graphical Interface

Graphical-interface installation method provides a set of graphical dialogs to interact with the user.

Command Line

Command line, interactive-based installation methods includes the same steps as found in the graphical-interface installation, but does not require a graphics-capable display. For example, if you are using Telnet to access a remote server, you can use this method to install the product in an interactive fashion. The `-console` option on the installer triggers this method.

Silent

Silent, or parameter-driven, installation enables you to perform scripted installations of the product based on the presence of a parameter file. The product is installed without any interaction by the user.

Types of Installation

Sun ONE Application Server offers the following types of installation, depending on your role as a user:

- Evaluation
- Development and Operations

NOTE	Sun ONE Application Server 7, Platform Edition is already installed with Solaris 9. (See the Sun ONE Application Server Release Notes for details about which versions of Solaris 9 include the application server.)
	Users of Solaris 9 bundled should read "Documentation Conventions" on page 11, then proceed to Appendix A, "Post-installation Tasks" before reading the Sun ONE Application Server 7 *Getting Started Guide* and *Administrator's Guide* for information about configuring and using the product.

Evaluation

Users who are evaluating Sun ONE Application Server, or taking a "try-and-buy" approach to the product, should install the evaluation version of the Sun ONE Application Server software. The evaluation experience includes a fully functional Sun ONE Application Server installation, complete with sample applications and a database. Java™ 2 Software Development Kit 1.4.0_02 (J2SE 1.4.0_02, SDK) is automatically installed on the target machine.

Development and Operations

Developers and system administrators can install Sun ONE Application Server using the non-evaluation installation program. The non-evaluation installation program allows you to choose which components to install for development and system administration purposes.

NOTE	On Solaris, the package-based installation experience installs components as Solaris packages. Therefore, you must have root privileges on the machine where you are installing the Sun ONE Application Server software. See "Other Technical Requirements" on page 17 for more information.

Installable Components

The following components are installed in the installation root directory by default during evaluation installation. You cannot select from installable components during evaluation installation.

- Sun ONE Application Server

- PointBase 4.2

- Sample Applications

- Administration Client

- Sun ONE Message Queue 3.0.1

- Support for Sun ONE Studio 4.0, Enterprise Edition for Java

- Java 2 Software Development Kit (J2SE) 1.4.0_02

Installation root directories for **most** platforms are indicated by *install_dir* in this document. Exceptions are noted in "Conventions Referring to Directories" on page 12.

By default, the location of *install_dir* on **most** platforms is:

- Solaris non-package-based evaluation installations:

   user's home directory/`sun/appserver7`

- Solaris unbundled, package-based installations:

   `/opt/SUNWappserver7`

- Windows, all installations:

   `C:\Sun\AppServer7`

For the platforms listed above, *default_config_dir* and *install_config_dir* are identical to *install_dir*. See "Conventions Referring to Directories" on page 12 for exceptions (including Solaris 9 bundled) and additional information.

For more information about installation directories, see "Documentation Conventions" in "About This Guide" on page 11.

Sun ONE Application Server

Includes the core components of the application server product.

PointBase 4.2

PointBase 4.2 is the database supported by Sun ONE Application Server. PointBase is a pure Java Relational Database Management System (RDBMS) for client-server networked applications. It provides a reliable and scalable database for e-commerce and application servers. (PointBase not available in the Solaris 9 bundled version of Sun ONE Application Server.)

PointBase 4.2 is installed in *install_dir*/`pointbase`.

Sample Applications

Sun ONE Application Server includes sample applications that are available when you install Sun ONE Application Server. All samples come with the source, schema, Ant build scripts, and EAR files. Any existing data of database-related samples are available in the database. These sample applications are categorized into the following three logical types:

- Technology Samples - Introduces developers to various technical aspects of the Java™ 2 Platform, Enterprise Edition (J2EE™) specification as well as the value adds of Sun ONE Application Server.

- Interoperability Samples - Gives you more detailed view on how these technologies come together on Sun ONE Application Server platform.

The sample applications are installed in *install_dir*/`samples`. More information about the samples can be obtained from *install_dir*/`samples/index.html`.

Administration Client

The graphical and command-line Administration interfaces are automatically installed when you install the application server. You can also opt to install the command-line version of this client separately on a machine where the application server is not installed. Both the graphical and command-line administration clients allow you to manage and configure Sun ONE Application Server installations and the applications hosted on them, as well as help you deploy your applications.

Sun ONE Message Queue 3.0.1

Sun ONE Message Queue is a production implementation of the Java Messaging Service (JMS) 1.0.2 specification. Message Queue consists of three primary components: broker, client APIs, and Administration tool.

Sun ONE Message Queue is automatically installed with the application server in *install_dir*/imq for Solaris evaluation and all Windows installations. For unbundled Solaris non-evaluation installations and for Solaris 9 bundled installations, see the Sun ONE Message Queue *Installation Guide* at http://docs.sun.com/.

Sun ONE Studio 4.0, Enterprise Edition for Java

Sun ONE Studio (formerly named Forte for Java Enterprise Edition 4.0) provides the ability to create and deploy Java-based web services conforming to the SOAP 1.1 specification. Sun ONE Application Server provides support for Sun ONE Studio 4.0, allowing you to use Sun ONE Application Server with an existing Sun ONE Studio installation. When installing Sun ONE Application Server, you will enter the path to your existing Sun ONE Studio 4.0 installation if applicable.

Java 2 Software Development Kit (J2SE) 1.4.0_02

Sun ONE Application Server requires J2SE 1.4.0_02 or higher SDK and leverages the performance and feature improvements that are part of the 1.4 platform.

The SDK is installed in *install_dir*/jdk for Solaris evaluation and all Windows installations. It is installed in /usr/j2se for unbundled Solaris non-evaluation installations and for Solaris 9 bundled installations.

During installation, you can opt to reuse a J2SE already installed on your system as long as the J2SE is version 1.4.0_02 or above.

NOTE	Sun ONE Application Server 7 is certified to work with J2SE 1.4.0_02 or higher from Sun Microsystems. Third-party J2SE development kits, even with appropriate version number, are not supported.

Installable Components

Installing for Evaluation

This chapter describes how to install the Sun ONE Application Server for evaluation on Windows and Solaris platforms. It contains the following information:

- What You're Installing

- Installing for Evaluation: Interactive Mode

- Uninstalling Sun ONE Application Server

Read this chapter before installing Sun ONE Application Server for evaluation. For any late-breaking updates to these instructions, check the Release Notes.

For more information about configuring your application server after installation, refer to the Sun ONE Application Server 7 *Administrator's Guide*.

What You're Installing

The evaluation version of the Sun ONE Application Server installation program automatically installs the following components:

- Sun ONE Application Server

- PointBase 4.2 (Not available in the Solaris 9 bundled version of Sun ONE Application Server.)

- Sample Applications

- Administration tools

- Sun ONE Message Queue 3.0.1

- Java 2 Software Development Kit, Standard Edition 1.4.0_02 (J2SE 1.4.0_02)

If you opted install the evaluation version of the Sun ONE Application Server that includes support for Sun ONE Studio (formerly Forte for Java 4.0), the following component is also installed:

• Support for Sun ONE Studio Plugin (formerly Forte for Java 4.0)

See "Installable Components" in Chapter 1, "Preparing to Install" for an overview of Sun ONE Application Server features and components.

Installing for Evaluation: Interactive Mode

Once you are familiar with the system requirements and installed components described in Chapter 1, "Preparing to Install," use the following procedures to install Sun ONE Application Server for evaluation.

If you choose to use command-line installation, the steps involved in that method are identical to those for graphical-interface mode. In place of the graphical installation screens, text-based screens are shown during a console-based installation.

The following steps apply to all platforms:

NOTE	You must have administrative privileges on your Windows machine to install Sun ONE Application Server 7. You cannot install more than one Sun ONE Application Server on a single Windows machine.

1. Expand or unzip the installation bundle to a temporary directory.

2. If you are not in the directory already, change to the directory where you expanded the files.

NOTE	UNIX: If you are installing Sun ONE Application Server in graphical mode remotely, you must enable the display configuration on the machine where you are installing the product.

3. Type the following at the command prompt:

   `#./setup`

   To run command-line installation, type

   `#./setup -console`

   On Windows, you can also navigate using Windows Explorer to the directory where you expanded the files and double-click the `setup` file.

   The installation interface appears.

4. Read the Welcome screen and click Next.

5. Read the License Agreement, select the radio button to agree to the terms of the license, and click Next or type Yes at the command line.

   You must accept the license agreement to continue with the installation.

6. Enter the path to your installation directory, click the ellipsis (...) to browse for a directory, or hit Enter at the command line to accept the default installation directory.

   If the directory does not already exist, the Create New Directory? dialog appears. Click Create Directory or type 1 at the command line. You can also click Choose New or type 2 at the command line to select an existing directory.

7. On the Server Configuration Information dialog box, or at the command line, enter the following values:

   ○ **Admin User**: Name of the user who administers the server (for example, `admin`).

   ○ **Admin User's Password**: Password to access the administration server. Minimum number of characters is 8. Re-enter the password in the text box below to confirm your choice.

   ○ **Admin Server Port**: Port number to access the administration server.

      A default port number appears (for example `4848`, if that port is not in use on your machine). Change the default number if necessary. The installation program will check port numbers for validity and availability when you click Next.

   ○ **HTTP Server Port**: Port number to access the default server instance.

A default port number appears (for example `1024`, if that port is not in use on your machine). Change the default number if necessary. The installation program will check port numbers for validity and availability when you click Next.

NOTE	The installation program automatically detects ports in use and suggests currently unused ports for the default settings. By default, if you are running as root on UNIX or are on Windows, the initial default ports are 80 and 4848 for the HTTP server and administrative server respectively. If you are running as non-root on UNIX, the HTTP server port defaults to 1024. If any of these initial default ports are being actively used on your system, the installation program will suggest alternative port numbers.

8. The Checking Disk Space dialog appears.

9. Click Install Now or type 1 at the command line to complete the installation.

    An Installation Progress indicator bar appears.

    As installation ends, the Installation Complete screen appears.

10. On Windows, you can now decide to upgrade your license. (You cannot upgrade the Solaris non-package-based evaluation version of the application server.)

    See Appendix C, "Licensing Information" for details, then visit http://www.sun.com/as7upgrade to obtain a license key for upgrade.

11. Click or type Yes to upgrade your license, or choose No to complete the installation of the application server without upgrading your license.

    You can upgrade your license later by following the instructions in Appendix C, "Licensing Information."

Uninstalling Sun ONE Application Server

When you uninstall Sun ONE Application Server for evaluation, all components in the current installation directory are automatically selected for uninstallation. You cannot select individual components to uninstall.

The uninstallation program detects any running processes and stops them before continuing with the uninstall process.

Perform the following steps on both UNIX and Windows platforms:

1. Change to your machine's Sun ONE Application Server installation directory.

2. On Solaris, type one of the following commands at the command prompt:

   ❍ Graphical-interface mode:

     ```
     ./uninstall
     ```

   ❍ Command-line mode:

     ```
     ./uninstall -console
     ```

   ❍ If your SDK is installed in a directory other than `/usr/j2se`, you must use the following command:

     ```
     ./uninstall -javahome valid_j2se_directory
     ```

   where *valid_j2se_directory* is the path to your J2SE 1.4.0_02 installation.

   On Windows, go to your Control Panel and choose Add/Remove Programs. Select Sun ONE Application Server from the list of installed programs and click Remove.

3. Read the Welcome screen and click Next or hit Enter to continue with the uninstall process.

4. On the Ready to Uninstall screen, a list of uninstallable components appears. Review the components and click Next or hit Enter to proceed.

   You cannot select individual components to uninstall using the evaluation version of Sun ONE Application Server.

5. Click Uninstall Now or hit Enter.

   The uninstallation progress meter appears.

6. The Uninstall Summary screen appears.

   Review the details and click Exit or hit Enter to quit the uninstallation program.

Installing for Development and Operations

This chapter describes how to install the Sun ONE Application Server for development and operations on Windows and Unix platforms. It contains the following information:

- What You're Installing
- Installing in Interactive Mode
- Installing in Silent Mode
- Uninstalling the Application Server

Read this chapter before installing Sun ONE Application Server. For any late-breaking updates to these instructions, check the Release Notes.

For more information about configuring your application server after installation, refer to the Sun ONE Application Server 7 *Administrator's Guide*.

What You're Installing

The non-evaluation version of the Sun ONE Application Server installation program allows you to choose to install the following components:

- Sun ONE Application Server 7
- PointBase Database Server (not available in the Solaris 9 bundled version of Sun ONE Application Server) and Type 4 JDBC Driver
- Sample applications

- Support for Sun ONE Studio 4, Enterprise Edition for Java

- Sun ONE Application Server Administration Client (command-line tool)

Depending on what software you have currently installed on your machine, you may also install J2SE 1.4.0_02, SDK.

See Installable Components for an overview of Sun ONE Application Server features and components.

Installing in Interactive Mode

The following steps enable you to install Sun ONE Application Server 7 using graphical-interface mode. If you choose to use command-line installation instead, the steps involved in that method are identical. In place of graphics-based installation screens, text-based screens are shown during a console-based installation.

The following steps apply to all platforms:

NOTE	You must have administrative privileges on your Windows machine to install Sun ONE Application Server 7. You cannot install more than one Sun ONE Application Server on a single Windows machine.

1. Expand or unzip the installation bundle to a temporary directory.

NOTE	It is not recommended that you use gnu tar to extract the files. Use `/bin/tar/` or `/usr/bin/tar/` instead.

2. If you are not in the directory already, change to the directory where you expanded the files.

NOTE	UNIX: If you are installing Sun ONE Application Server remotely in graphical-interface mode, you must enable the display configuration on the machine where you are installing the product.

3. Type the following at the command prompt:

    `#./setup`

    To run command-line installation, type

    `#./setup -console`

    On Windows, you can also navigate using Windows Explorer to the directory where you expanded the files and double-click the `setup` file.

    The installation interface appears.

4. Read the Welcome screen and click Next or hit Enter at the command line.

5. Read the License Agreement, select the radio button or type `Yes` to agree to the terms of the license, and click Next or hit Enter at the command line.

    You must accept the license agreement to continue with the installation.

6. Enter the path to your Sun ONE Application Server installation directory, click the ellipsis (...) to browse for a directory, or hit Enter at the command line to accept the default installation directory.

    If the directory does not already exist, the Create New Directory? dialog appears. Click Create Directory or type `1` at the command line. You can also click Choose New or type `2` at the command line to select an existing directory.

7. Choose from the components listed on the component selection dialog box. (For command-line installation, type `Yes` or hit Enter to accept a component.)

    ○ Application Server

       • Sample Applications

       • PointBase 4.2

    ○ Application Server Administration Client (command-line tool)

    ○ Support for Sun ONE Studio 4.0, Enterprise Edition

    See "Installable Components" on page 21 for more information about these components.

8. Choose to install J2SE 1.4.0_02 SDK or use a preinstalled J2SE SDK.

9. On Solaris only: Next, the installer will detect if you have the correct version of the J2SE SDK preinstalled in your machine's `/usr/j2se` directory and present you with one of the following actions:

    ○ If the correct version of the J2SE SDK is installed, the installation program proceeds to the next step.

○ If there is no J2SE SDK installed in /usr/j2se, you can choose to install the J2SE packages automatically or reuse an existing J2SE installation.

○ If an incorrect version of the J2SE SDK is found in /usr/j2se, then a message appears, asking if you want to upgrade your current version or cancel (exit the application server installation program).

Choose one of the following options:

• Click Upgrade or type 1 at the command line to update your current installation.

• Click Cancel or type 2 at the command line to exit the installation program.

You must then uninstall the SDK currently located in /usr/j2se and restart the application server installation when you have uninstalled the outdated SDK.

NOTE   If your SDK requires an upgrade, it is recommended that you reboot your Solaris machine after completing the application server installation.

NOTE   Sun ONE Application Server 7 is certified to work with J2SE1.4.0_02 or higher from Sun Microsystems. Third-party J2SE development kits, even with appropriate version number, are not supported.

---

10. On Solaris, enter the path to your Sun ONE Application Server configuration installation directory, click the ellipsis (...) to browse for a directory, or hit Enter at the command line to accept the default directory.

If the directory does not already exist, the Create New Directory? dialog appears. Click Create Directory or type 1 at the command line. You can also click Choose New or type 2 at the command line to select an existing directory.

11. On Solaris, enter the path to your Sun ONE Application Server domains installation directory, click the ellipsis (...) to browse for a directory, or hit Enter at the command line to accept the default directory.

If the directory does not already exist, the Create New Directory? dialog appears. Click Create Directory or type 1 at the command line. You can also click Choose New or type 2 at the command line to select an existing directory.

12. On the Server Configuration Information dialog box, enter the following:

○ **Admin User**: Name of the user who administers the server (for example, `admin`).

○ **Admin User's Password**: Password to access the administration server. Minimum number of characters is 8. Re-enter the password in the text box below to confirm your choice.

○ **Admin Server Port**: Port number to access the administration server.

A default port number appears (for example `4848`, if that port is not in use on your machine). Change the default number if necessary. The installation program will check port numbers for validity and availability when you click Next.

○ **HTTP Server Port**: Port number to access the default server instance.

A default port number appears (for example `1024`, if that port is not in use on your machine). Change the default number if necessary. The installation program will check port numbers for validity and availability when you click Next.

NOTE   The installation program automatically detects ports in use and suggests currently unused ports for the default settings. By default, if you are running as root on UNIX or are on Windows, the initial default ports are 80 and 4848 for the HTTP server and administrative server respectively. If you are running as non-root on UNIX, the HTTP server port defaults to 1024. If any of these initial default ports are being actively used on your system, the installation program will suggest alternative port numbers.

---

13. Enter the path of your preinstalled Sun ONE Studio 4.0, if applicable.

14. The Checking Disk Space dialog box appears.

15. Click Install Now to complete the installation.

An Installation Progress indicator bar appears.

As installation ends, the Installation Complete screen appears.

16. You can now decide to upgrade your license.

See Appendix C, "Licensing Information" for details, then visit http://www.sun.com/as7upgrade to obtain a license key for upgrade.

17. Click or type Yes to upgrade your license, or choose No to complete the installation of the application server without upgrading your license.

You can upgrade your license later by following the instructions in Appendix C, "Licensing Information."

Installing in Silent Mode

During Silent installation, the installation program runs without any user input. A text file called a *statefile* provides the installer with the information needed to install the product. Before using Silent installation, you must perform a model installation using an interactive mode of install. Your user input is collected in the statefile during this model installation and used to install the product silently later on one or more machines.

The procedure below describes how to perform a model installation and subsequently use the statefile to install the product silently.

Creating the Statefile

Each time the product is installed, a statefile is created in the installation directory to collect user input. To create this statefile, follow the installation procedure as described in "Installing in Interactive Mode" on page 32, keeping in mind that your input is saved to the statefile for future installations.

When installation is complete, a statefile is created similar to the one shown in the following text box:

```
#
# Wizard Statefile created: Tue Sep 03 11:03:27 PDT 2002
#              Wizard path:
/temp_dir/sun-appserver7//temp_dir/sun-appserver7/appserv.class
#


#
# Wizard Statefile section for Sun ONE Application Server
#
[STATE_BEGIN Sun ONE Application Server
808daad84da2817ce79da504cae4c78ffb57d50e]
defaultInstallDirectory = /opt/SUNWappserver7
currentInstallDirectory = /opt/SUNWappserver7
SELECTED_COMPONENTS = Java 2 SDK, Standard Edition
1.4.0_02#Application Server#Sun ONE Message Queue 3.0.1#Sample
Applications#PointBase Server 4.2#Uninstall#Startup
USE_BUNDLED_JDK = TRUE
JDK_LOCATION = /usr/j2se
JDK_INSTALLTYPE = PREINSTALLED
AS_INSTALL_DEFAULT_CONFIG_DIR = /etc/opt/SUNWappserver7
AS_INSTALL_CONFIG_DIR = /etc/opt/SUNWappserver7
AS_INSTALL_DEFAULT_VAR_DIR = /var/opt/SUNWappserver7
AS_INSTALL_VAR_DIR = /var/opt/SUNWappserver7
DOMAINS_DIR = /var/opt/SUNWappserver7/domains
INST_ASADMIN_USERNAME = admin
INST_ASADMIN_PASSWORD = password
INST_ASADMIN_PORT = 4848
INST_ASWEB_PORT = 80
AS_INSTALL_DEFAULT_STUDIO_DIR = /
AS_INSTALL_STUDIO_DIR = /
INSTALL_STATUS = SUCCESS
[STATE_DONE Sun ONE Application Server
808daad84da2817ce79da504cae4c78ffb57d50e]
```

Using the Statefile for Silent Installation

Before you being this procedure, you must complete the steps in the previous section, "Creating the Statefile" on page 36.

1. Unbundle the Sun ONE Application Server installation files to each machine where you plan to install Sun ONE Application Server.

2. Copy the statefile to each machine where you plan to install the server.

3. If you are not in the directory already, change to the directory where you unbundled the installer files and copied your statefile.

4. Type the following at the command prompt:

```
#./setup -silent statefile_name.
```

The installer reads the specified statefile, checks for adequate disk space, then installs the product based on the data in the statefile. No further user interaction is required.

Uninstalling the Application Server

See "Uninstalling Sun ONE Application Server" on page page 28.

Post-installation Tasks

This appendix explains tasks to perform after installing Sun ONE Application Server on Windows and UNIX platforms.

This appendix includes the following topics:

- Accessing the Documentation

- Starting and Stopping the Server

- Creating an Administrative Domain

- Installing the Web Proxy Plugin

- Installing the Web Services Client

- Installing the Sun ONE Studio Plugin

- Using the Patch Utility on Windows

- Accessing the Sample Applications

Accessing the Documentation

You can access Sun ONE Application Server documentation in a number of ways:

- Using the manuals: You can view Sun ONE Application Server documentation online at http://docs.sun.com/. In addition to viewing HTML content, you can download printable PDF versions of the manuals and check the release notes for the latest information about the product.

  See "Using the Documentation" in "About This Guide" on page 7 for more information.

- Online help: Click the Help button in the product to launch a context-sensitive help window.

- Man pages: To view man pages at the command line while using the Sun ONE Application Server product, you must first add *install_dir*/man to your MANPATH environment variable (Solaris unbundled only). After setting the variable, you can access man pages for application server commands by typing man *command*. For example: man asadmin.

Starting and Stopping the Server

Since the application server is not automatically started during installation, you need to start the application server environment and verify that it is running properly before deploying and exercising the sample application.

To start the application server on a UNIX machine, you can use any of the following facilities:

- Using the Command-line Interface

- Using the Administrative Console

You can also use the command-line interface and Administrative console for Windows systems. In addition, you can use the following Windows facilities:

- Using the Windows Program Group

- Using Windows Services

Using the Command-line Interface

You can use the asadmin command-line interface to start and stop both the entire application server, a specific administrative domain, and individual application server instances. In terms of start and stop operations, the subcommands of asadmin listed in the following table are of interest.

Start and stop commands

Subcommand	Description
start-appserv	Starts the entire application server.
stop-appserv	Stops the application server.

Start and stop commands

Subcommand	Description
start-domain	Starts the administrative server and application server instances of the specified administrative domain. **Solaris 9 bundled users**: you must create a domain before executing this command. See "Creating an Administrative Domain" on page 46.
stop-domain	Stops the administrative server and the application server instances of the specified administrative domain.
start-instance	Starts the specified application server instance. Can be run in either a local or remote mode. In local mode, execution of this subcommand does not require the administrative server to be running.
stop-instance	Stops the specified application server instance. Similar in operation to start-instance.

Using start-domain and stop-domain

If the application server is running, use the following command to stop both the administrative server as well as the application server instance of the initially configured domain:

```
asadmin stop-domain --domain domain1 --local
```

where domain1 is the name of the administrative domain defined during installation of the application server.

As the command completes, you should observe the following results:

```
asadmin stop-domain --domain domain1 --local

Instance domain1:server1 stopped

Domain domain1 Stopped.
```

Likewise, you can start the initially configured administrative domain by executing the following command:

```
asadmin start-domain --domain domain1
```

As the command completes, you should observe the following results:

```
asadmin start-domain --domain domain1

Instance domain1:admin-server started

Instance domain1:server1 started

Domain domain1 Started.
```

Using start-instance and stop-instance

To stop a specific application server instance without relying on the presence of an administrative server, you can use the following command:

```
asadmin stop-instance --local server1
```

where `server1` is the name of the application server instance. If your environment contains more than one administrative domain, then you need to specify the administrative domain name when invoking the stop-instance command. For example:

```
asadmin stop-instance --local --domain domain1 server1
```

To start a specific application server instance in local mode, you can use the following command:

```
asadmin start-instance --local server1
```

If you wish to start or stop an instance on a remote system, you can specify the target administrative server and administrative user name and password on the `start-instance` and `stop-instance` commands. Execute either of these subcommands without parameters to see usage information. Alternatively, you can issues the subcommands followed by the `--help` option to obtain complete usage information.

```
asadmin start-instance

Invalid number of operands received

Command 'start-instance' not executed successfully

USAGE: start-instance [--user admin_user] [--password
admin_password] [--host localhost] [--port 4848] [--local=false]
[--domain domain_name] [--debug=false] [--secure | -s]
instancename
```

Using the Administrative Console

As long as the administrative server is running, you can also use the web-based administrative console to start and stop application server instances.

1. Start the Administrative Console.

    o   On Windows, the easiest means of starting the web-based administrative console is to click the Windows Start button, then select Programs, Sun Microsystems, Sun ONE Application Server 7, Start Admin Console.

        After selecting Start Admin Console, a window of your default browser will be launched with the appropriate location of the administrative server's console as set during installation of the product.

    o   On UNIX, open a browser window and specify the location of your the administrative server's console application.

        During installation, the default port number for the administrative server is set to 4848. If this port was already in use or you selected another port number, then specify that port number.

        For example:

        ```
        http://localhost:4848
        ```

2. Sign into the administrative console using the administrative user name and password supplied during product installation.

    Once you've authenticated successfully, the initial screen of the administrative console appears.

3. Select the `server1` node to access the start and stop functions.

    Note the status of the application server instance. It is either in a "running" or "not running" state.

4. Depending on the server instance's state, click either Start or Stop to start or stop the application server instance.

Using the Windows Program Group

On Windows, the easiest means of starting the entire application server is to access the Windows program group.

1. Click the Windows Start button, then select Programs, Sun Microsystems, Sun ONE Application Server 7, Start Application Server.

2. To completely stop the application server, access the Sun ONE Application Server menu item in the Windows program group.

This action will stop both the administrative server and the configured application server instances.

Using Windows Services

After installation of the application server, several Windows services are defined to control the startup and shutdown of the administrative server and the initially defined `server1` application server instance. This section describes how to use these services to control the application server processes.
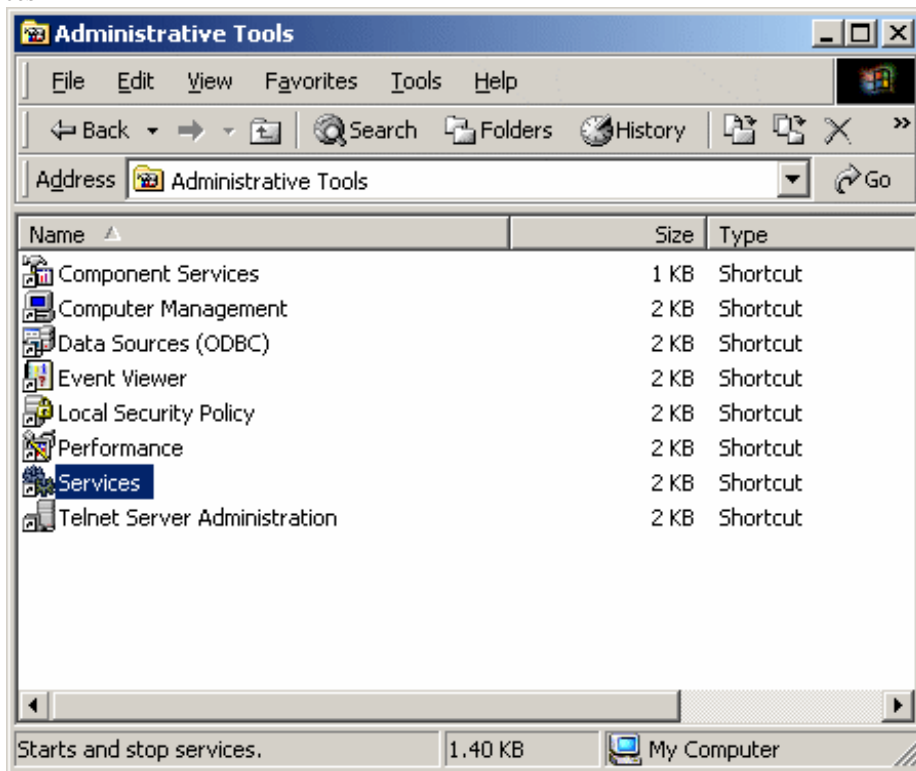
1. Click the Windows Start button, choose Settings, then Control Panel.

2. As the Control Panel is displayed, double-click Administrative Tools.
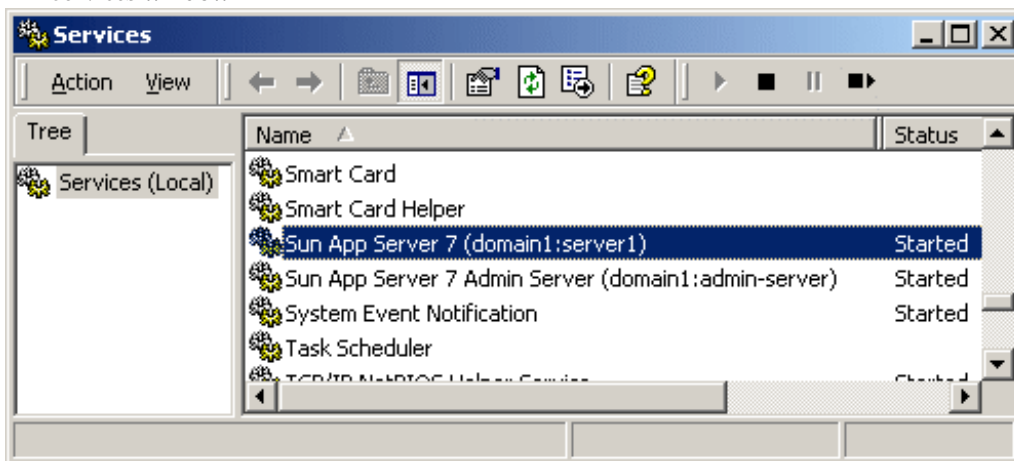
Control panel
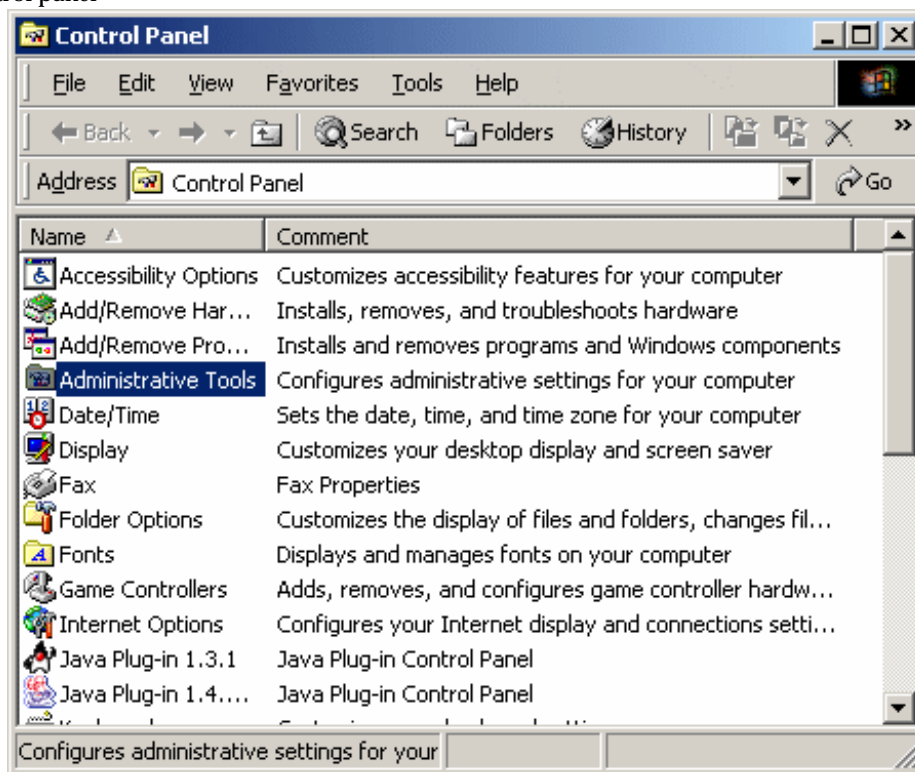
3. Double-click Services to view the services installed on your system.

The complete list of services defined on your system is displayed.

Services

4. Scroll down to view the Sun Application Server entries.

Services window

Note that there are separate Windows services for the administrative server and the initially configured application server instance, `server1`. As long as the administrative server and application server instance are still running from the previous exercises, the Status column of each service entry should be represented as "Started".

5. If the administrative server and application server instance have been stopped, start them again by using the Windows services: Instead of using the Stop command when right-clicking a service, use the Start command.

Creating an Administrative Domain

If you have installed Sun ONE Application Server on any platform other than Solaris 9 bundled, the application server is preconfigured with a single administrative domain named `domain1`. However, Solaris 9 users must create this initial domain themselves using the command-line utility.

To create an administrative domain, follow these steps:

1. Ensure that the `/usr/sbin` directory is included in your path.

2. From the command line, execute the following command to create a new administrative domain, `domain1`:

NOTE Non-root users must be part of the group `asadmin` to create a domain.

```
asadmin create-domain --path domain_config_dir --adminport 4848
--adminuser admin --adminpassword password domain1
```

where *domain_config_dir* specifies the location under which the administrative domain configuration will be created. The `--adminport`, `--adminuser` and `--adminpassword` options specify the initial settings of the new administrative server defined for the domain.

Upon execution of this command, you should see the following message:

```
Created Domain domain1 successfully
```

If the name `domain1` has already been used, execute the `create-domain` subcommand again with another domain name. You can use periods and other characters in your domain names. You could use your login user name as a qualifier to help ensure that your domain name is unique. For example: `ckamps.domain1`.

3. Execute the `list-domains` subcommand to display a list of all of the domains configured for the application server installation:

```
asadmin list-domains
```

```
domain1 [domain_config_dir domain1]
```

where the value of *domain_config_dir* represents either the default location for newly created administrative domains or the value specified on the `--path` option of the `create-domain` subcommand.

For more information on how to prepare your application server environment after installation of the application server as part of a Solaris 9 installation, consult the Sun ONE Application Server 7 *Administrator's Guide*.

Installing the Web Proxy Plugin

During installation, you can choose to copy the web server plugin to your machine for post-install configuration.

To install and configure this component, refer to the "Configuring the Web Server Plugin" chapter in the Sun ONE Application Server 7 *Administrator's Guide*.

Installing the Web Services Client

To install and configure the web services client, refer to the Sun ONE Application Server 7 *Developer's Guide to Clients.*

Installing the Sun ONE Studio Plugin

If you have Sun ONE Studio pre-installed on your system, you can select Support for Sun ONE Studio on the component selection screen during the application server installation. When you subsequently enter the Sun ONE Studio installation directory, the installer will check that directory to be sure the proper Sun ONE Studio files are present. Sun ONE Studio support files are then installed in the Sun ONE Studio directory you specified.

For post-installation configuration information, see the Sun ONE Studio 4, Enterprise Edition for Java with Application Server 7 Tutorial available on http://docs.sun.com/.

Using the Patch Utility on Windows

Sun ONE Application Server includes a patching tool to replace, add or delete files in your Windows application server installation with files containing fixes for post-release bugs. (There is no patch support for the evaluation version of the Sun ONE Application Server on Solaris. See Solaris documentation for information about adding, removing, and listing patches on that operating system.)

When a patch is delivered, it contains the following files:

- `README.patch_id` file
- New "bug fix" files for the user's current installation (if needed)
- Pre-patch and post-patch scripts (if needed)
- `install.info` file

NOTE   You should stop the application server when installing patches. Windows may not allow you to replace certain files when those files are in use.

The following topics are described in this section:

- Installing Patches
- Backing Out of a Patch
- Using Other Patch Utilities

Installing Patches

You must unzip the patch files on the same machine where the application server installation exists.

Then you can invoke `installpatch.bat` by running the following command:

install_dir\bin\installpatch *patch_dir*

where *patch_dir* is the full path to the directory where you unzipped the patch files.

NOTE   The `installpatch` script must be run by the same user who installed the application server.

Running `installpatch` completes the following:

- Checks for incompatible patches already installed.
- Creates a backup in *install_dir*/patches that is used when backing out the patch.

CAUTION   You should not modify these files directly.

---

*   Changes the `pkginfo` file in *install_dir*`/config` to reflect the existence of the newly installed patch.

*   Applies the bug fix to the install

Backing Out of a Patch

If you decide not to use the patch you've just installed, you can back out and restore your original installation files by running the following command:

install_dir`\bin\backoutpatch` *patch_ID*

NOTE   The `backoutpatch` script must be run by the same user who installed the application server.

The `backoutpatch` script will determine you can safely back out of the patch. If so, the relevant files are replaced with the original installation files and the `pkginfo` file is modified appropriately.

Using Other Patch Utilities

Besides installing and backing out of patches, you can also use the following patch utilities:

*   *install_dir*`\bin\listpatch`: lists all the patches installed on the system.

*   *install_dir*`\bin\checkpatch` *patch_dir* where *patch_dir* is the full path to the directory where you unzipped the patch files: checks if the *patch_ID* is fit to be installed on the system.

Accessing the Sample Applications

Once you have verified your installation, you can tour the features of Sun ONE Application Server by running the sample applications. See *install_dir*`/samples/index.html` for more information.

Troubleshooting

This appendix describes how to solve common problems using Sun ONE Application Server 7 on Windows and UNIX platforms.

This appendix includes the following topics:

- Forgotten User Name or Password
- Forgotten Administration Server Port Number
- Inaccessible Port
- Could Not Initialize CGI Subsystem
- Leftover Processes, Directories, and Files
- Failed Installation of SNMP Subagent

Forgotten User Name or Password

If you do not remember the administrative user name that was supplied during installation, try the user name `admin`. This is the default user name specified in the server configuration dialog during installation.

If you still cannot determine the user name, look in the following file:

domain_config_dir/domain1/admin-server/config/admpw

This file contains the administrator's user name followed by the encrypted form of the administrative user's password.

If you do not remember the administrator's password, then you will need to uninstall and reinstall the application server.

If you do not remember the administrator's password, then you can delete the administrative domain using the `delete-domain` subcommand of `asadmin` and create a new domain with a new administrative password.

Forgotten Administration Server Port Number

If you do not remember the HTTP server port number of the administrative server, you can inspect the administrative server's configuration file to determine the HTTP server port number:

1. Navigate to *domain_config_dir*`/domain1/admin-server/config/` and open the `server.xml` file in your favorite editor.

2. Look for the element `http-listener id="http-listener-1"` `address="0.0.0.0" port="4848"`...

   In this case, port **4848** is the HTTP port number in use.

Inaccessible Port

If the connection was refused when attempting to contact the administrative server's administrative console application, it is likely that the administrative server is not running. Go back to the beginning of this section and check your start-up procedures and the content of the administrative server's log file to determine the reason why the server is not running.

Could Not Initialize CGI Subsystem

Sun ONE Application Server may require additional resources if the server won't start and you receive the following error:

```
[05/Aug/2002:01:12:12] SEVERE (21770): cgi_init reports: HTTP4047:
could not initialize CGI subsystem
```

```
(Cgistub path /export/home/sun/appserver7/appserv/lib/Cgistub), err
fork() failure [Not enough space]
```

Using the ulimit Command

You can use the `ulimit` command to determine the number of available file descriptors or set limits on the system's available file descriptors. The `ulimit` command displays the limits for the current shell and its descendants.

For `sh` shell, the command `ulimit -a` lists all of the current resource limits. The command `ulimit -n` lists the maximum file descriptor plus 1.

Increasing System Resources

On Solaris, increase the system resources by modifying the `/etc/system` file to include the following entries:

```
set rlim_fd_max=4086
```

```
set rlim_fd_cur=1024
```

The system will require a reboot for the new kernel parameters to take effect.

After you have set the shell resources, the application server should start.

Leftover Processes, Directories, and Files

After uninstalling Sun ONE Application Server 7, you may need to remove any processes, directories, registry entries or files from your system.

- UNIX
- Windows

UNIX

On UNIX, if files or processes remain on your system after uninstalling Sun ONE Application Server, perform the following steps to clean up your installation:

1. Change to your installation directory and manually remove the following:

   ○ Sun ONE Application Server-specific entries from the product registry file, `/var/sadm/install/productregistry`, if the file exists.

   ○ The following files if they are present:

      `/tmp/setupSDKNative`

      `/tmp/SolarisNativeToolkit_3.0_1`

2. Kill all `appservd` processes that may be running by typing

   `ps -ef | grep appservd`

   at the command line.

3. Remove all remaining files under the Sun ONE Application Server installation directory.

Windows

On Windows, perform the following steps to clean up your installation:

1. From the Windows Task Manager, stop the WindowsNativeToolkit processes, and remove the corresponding files.

2. Remove `appserv70-admin`, `server1`, and any other related services using the `wincleanup` utility.

   If your Windows machine does not have the `wincleanup` utility, you must download it. See the Sun ONE KnowledgeBase for more information.

   You can run `wincleanup` using the following syntax:

   `wincleanup` *service_name*

   The service name is the name of your instance server as it appears in brackets in the Windows Control Panel, on the Services screen. For example, the Services screen might display the following under Name:

   Sun ONE Application Server 7 (server1)

   In this case, the service name is `server1`.

For Administration Server, use `admin-server` as a service name.

If no service name is provided, it will delete all services associated with Sun ONE Application Server 7.

3. Open the Windows registry editor by clicking the Windows Start button, choosing Run, and typing `regedit` in the text box.

4. Remove the following registry folder and its content:

   `HKEY_LOCAL_MACHINE\SOFTWARE\Sun Microsystems\Application Server`

   Exit the registry editor.

5. From Windows Explorer, remove the product registry file (*system_drive*`\WinNT\system32\productregistry`), or only remove the `appserver` entries contained in it.

6. From Windows Explorer, delete the product files from the application server installation directory.

7. Reboot the system.

Failed Installation of SNMP Subagent

You must install the Windows SNMP service before you install Sun ONE Application Server 7. If you receive an error message indicating that installation of the SNMP subagent failed, the Windows SNMP service does not exist on your machine and the registration of the associated `.dll` file failed. You must uninstall the application server, install the Windows SNMP service, and reinstall the application server.

Unless otherwise indicated in the installation log, the rest of the product installation is unaffected by failed installation of the SNMP subagent.

Failed Installation of SNMP Subagent

Licensing Information

This appendix lists describes the different licenses offered by Sun ONE Application Server.

- About Licensing
- Types of Licenses
- Using the License Commands

About Licensing

When you download Sun ONE Application Server from the product web site or purchase the product CD, a license file is included with the product. Your rights to the product are governed by the license that was accepted at install or upon upgrade of the license.

After installing Sun ONE Application Server, you can later upgrade or transition your license to another version. For example, you can upgrade a Platform Edition application server to an operational Standard Edition license.

To upgrade or transition your license, you must download the new license key from http://www.sun.com/as7upgrade and install it using the command-line utilities provided with the product. See "Using the License Commands" on page 60 for more information.

Types of Licenses

The following table describes the types of licenses offered by Sun ONE Application Server and the options for each.

Sun ONE Application Server Licenses

Type	Time restriction	Multiple instances allowed?	Remote administration allowed?	Upgradable?
Evaluation on Windows and Solaris (package-based)	60 days since the date of install	Yes	Yes	Yes, to Platform, Developer or Standard Editions
Developer	Unlimited	Yes	Yes	Yes, to operational Standard Edition license or transition to operational Platform Edition license.
Platform Edition	Unlimited	No. Only one instance per administration server.	No. Only local user can access Admin GUI and CLI.	Yes, to developer or operational Standard Edition license.
Standard Edition	Unlimited	Yes	Yes	N/A

Evaluation

This license expires in 60 days.

The evaluation license is initialized at installation time. The expiration date is calculated based on the current date. When you restart the server, a warning message is issued every day for 14 days before the license expires. The server cannot be restarted after the expiration date of the license.

You can upgrade an evaluation license to Platform Edition, Developer Edition, or Standard Edition licenses.

NOTE	The evaluation license installed with non-package-based Solaris cannot be upgraded to any other type of license.

Developer

This license does not expire.

The Developer license allows you to perform the same functions as the Standard Edition license, with the exception that you cannot deploy an application to a production server. You must upgrade your license to Standard Edition or Platform Edition before deploying your applications for production.

Platform Edition

This license does not expire.

The Platform Edition of Sun ONE Application Server imposes the following limitations:

- Only local requests to the Administration server are accepted.

- Only one server instance per Administration server is allowed.

- You cannot send requests from a web server plugin that also sends requests to another application server.

- You cannot send alerts to a remote system via SNMP.

A warning message appears when you attempt to perform either a remote request to the Administration server or to create additional server instances. You must upgrade to the Developer or Standard Edition license to perform these tasks.

Standard Edition

This license does not expire.

The Standard Edition license is installed with the full-featured version of Sun ONE Application Server and imposes no limitations on the functionality of the product.

Using the License Commands

Sun ONE Application Server contains command-line utilities for managing your licenses after installation.

To upgrade your license after installation, you can use the `asadmin` utility's `install-license` command for Windows machines. This command must be run locally on the machine on which you have installed the Sun ONE Application Server. You must stop any running application server before installing a license.

It has the following syntax:

```
asadmin install-license
```

For unbundled Solaris package-based installations, the following syntax is used for license installation:

```
pkgadd -d full_path SUNWaslco
```

For example,

```
pkgadd -d /install_dir/pkg SUNWaslco
```

For Solaris 9 bundled license installation, the following syntax is used for license installation:

```
pkgadd -d full_path SUNWaslc
```

To get information on your license, use the `display-license` command, which has the following syntax:

```
asadmin display-license [--user admin_user] [--password admin_password]
[--passwordfile password_file] [--host localhost]  [--port admin_port]
[--local=true/false]
```

This command can be run locally or remotely, depending on the value of the local option. For example, to run the command from the local machine, taking the defaults for the host and the port number, the syntax is:

```
asadmin display-license --local
```

The output describes the type of license currently installed (for example, evaluation) the expiration date, if it has one, the number of instances per Administration Sever your license allows, and whether remote administration is allowed or not.

For more information on command syntax, see the command-line interface help. For more information on using `asadmin`, see the Sun ONE Application Server 7 *Administrator's Guide*.

Certified Servers and Browsers

For the latest information about supported directory servers, web servers, web browsers, and database drivers, see the Sun ONE Application Server 7 *Platform Summary* and the Release Notes on http://docs.sun.com/.

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