Installation and Migration Guide

Sun™ ONE Web Server

Version 6.1

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About This Guide

This guide explains how to install Sun™ Open Net Environment (Sun ONE) Web Server 6.1 and how to migrate from a previous version of the Sun ONE Web Server to this version.

This preface contains the following sections:

- Using This Guide
- Document Conventions
- Using the Documentation
- Product Support

This manual is intended for system administrators, network administrators, Web server administrators, Web developers, and software developers who want to install or migrate from a previous version to Sun ONE Web Server 6.1.

Using This Guide

The Sun ONE Web Server *Installation and Migration Guide* covers the information you need to install Sun ONE Web Server on your system. If you have a previous version of Sun ONE Web Server installed, this guide also explains how to migrate your data.

The following table tells you how you can use this guide to install or migrate to Sun ONE Web Server 6.1:

Table 1 How to Use This Guide

If you want to do this:	See:
Find out what's new in Sun ONE Web Server 6.1.	Chapter 1, "New Features in Sun ONE Web Server 6.1"
Find out what you need to do before installing the server, including installing other products required by the server.	Chapter 2, "Before You Install Sun ONE Web Server"
Get step by step instructions for installing and uninstalling the server on UNIX.	Chapter 3, "Installing Sun ONE Web Server on UNIX"
Get step by step instructions for installing and uninstalling the server on Windows.	Chapter 4, "Installing Sun ONE Web Server on Windows"
Migrate your data and applications from iPlanet Web Server 6.0.	Chapter 5, "Migrating from Version 6.0 to 6.1"
Migrate your data and applications from iPlanet Web Server 4.1.	Chapter 6, "Migrating from Version 4.1 to 6.1"
Find information in the guide.	Index

Document Conventions

This guide uses the following conventions:

- When this document refers to Sun ONE Web Server, it refers to the Enterprise Edition.
- The `monospace` font is used for sample code and code listings, API and language elements (such as method names and property names), filenames, path names, directory names, HTML tags, and any text that must be typed on the screen.

- The *italic* font is used in code to represent placeholder parameters that should be replaced with an actual value. It is also used for book titles, emphasis, letters as letters (for example, “Spell it with a *T*.”), and words as words (for example, “The word *server* is in every product name.”).
- A slash (/) is used to separate directories in a path. (Windows supports both the slash and the backslash.)

Using the Documentation

The Sun ONE Web Server manuals are available as online files in PDF and HTML formats at:

`http://docs.sun.com/db/prod/s1websrv#hic`

The following table lists the tasks and concepts described in the Sun ONE Web Server manuals.

Table 2 Sun ONE Web Server Documentation Roadmap

For Information About	See the Following
Late-breaking information about the software and documentation	*Release Notes*
Getting started with Sun ONE Web Server, including hands-on exercises that introduce server basics and features (recommended for first-time users)	*Getting Started Guide*
Performing installation and migration tasks: • Installing Sun ONE Web Server and its various components, supported platforms, and environments • Migrating from Sun ONE Web Server 4.1 or 6.0 to Sun ONE Web Server 6.1	*Installation and Migration Guide*

Table 2 Sun ONE Web Server Documentation Roadmap

For Information About	See the Following
Performing the following administration tasks: • Using the Administration and command-line interfaces • Configuring server preferences • Using server instances • Monitoring and logging server activity • Using certificates and public key cryptography to secure the server • Configuring access control to secure the server • Using Java™ 2 Platform, Enterprise Edition (J2EE™ platform) security features • Deploying applications • Managing virtual servers • Defining server workload and sizing the system to meet performance needs • Searching the contents and attributes of server documents, and creating a text search interface • Configuring the server for content compression • Configuring the server for web publishing and content authoring using WebDAV	*Administrator's Guide*
Using programming technologies and APIs to do the following: • Extend and modify Sun ONE Web Server • Dynamically generate content in response to client requests • Modify the content of the server	*Programmer's Guide*

Table 2 Sun ONE Web Server Documentation Roadmap

For Information About	See the Following
Creating custom Netscape Server Application Programmer's Interface (NSAPI) plugins	*NSAPI Programmer's Guide*
Implementing servlets and JavaServer Pages™ (JSP™) technology in Sun ONE Web Server	*Programmer's Guide to Web Applications*
Editing configuration files	*Administrator's Configuration File Reference Guide*
Tuning Sun ONE Web Server to optimize performance	*Performance Tuning, Sizing, and Scaling Guide*

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/supportraining/`

- 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

Chapter 1

New Features in Sun ONE Web Server 6.1

Sun ONE Web Server is a multi-process, multi-threaded, secure web server built on open standards. It provides high performance, reliability, scalability, and manageability for any size enterprise.

The version 6.1 release of Sun ONE Web Server provides the following new features:

- **Enhanced Security**—New functionality in Sun ONE Web Server 6.1 allows you to restrict access using flat file authentication. Unlike previous versions of the Web Server, Sun ONE Web Server 6.1 now also supports the Java Security Manager. The Java Security Manager is disabled by default when you install the product.
- **Servlet 2.3 Support**—Support for the Java™ Servlet 2.3 specification. For more information, see the following:

  Java Servlets:

  `http://java.sun.com/products/servlet/index.jsp`

  Java Servlet 2.3 specification:

  `http://java.sun.com/products/servlet/download.html`

  For information about developing servlets and JSPs in Sun ONE Web Server, see the Sun ONE Web Server 6.1 *Programmer's Guide to Web Applications*.
- **JSP 1.2 Support**—Support for JavaServer Pages™ (JSP™)1.2. For more information about this specification, see:

  `http://java.sun.com/products/jsp/index.jsp`

- **JDK 1.4.1_03 Support**—Sun ONE Web Server 6.1 supports the Java Developer's Kit (JDK™) 1.4.1_03. This JDK is bundled with the Web Server and installed during installation (if you choose to install it). You can also install your own JDK at a later time, after you install the Web Server.
- **Easy Migration**—Sun ONE Web Server 6.1 allows easy migration from iPlanet Web Server versions 4.1 and 6.0.
- **WebDAV Support**—Sun ONE Web Server supports the Web Distributed Authoring and Versioning (WebDAV) protocol, which enables in-place collaborative web publishing with the following features:
  - compliance with RFC 2518, and interoperability with RFC 2518 clients
  - security and access control for web publishing
  - basic publishing operations on file system-based WebDAV collections and resources

  For more information, see the Sun ONE Web Server 6.1 *Administrator's Guide*.
- **NSAPI Filters Support**— Sun ONE Web Server 6.1 extends the Netscape Server Application Programmer's Interface (NSAPI) to support NSAPI filters. Filters enable the custom processing of HTTP request and response streams, allowing a function to intercept and potentially modify the content presented to or generated by another function. For example, a plugin could install an NSAPI filter to intercept an XML page generated by another plugin's Server Application Function (SAF), then transform that XML page into an HTML, XHTML, or WAP page appropriate for the client. Alternatively, an NSAPI filter could decompress data received from a client before presenting it to another plugin.

  For more information, see the Sun ONE Web Server 6.1 *NSAPI Programmer's Guide*.

  Compression Support— Sun ONE Web Server 6.1 supports content compression, which allows you to increase delivery speed to clients and serve higher content volumes without incurring a corresponding increase in hardware expenses. Content compression reduces content download time, a benefit most apparent to users of dial-up and high-traffic connections.

  For more information, see the Sun ONE Web Server 6.1 *Administrator's Guide.*
- **JNDI Support**— Sun ONE Web Server supports the Java Naming and Directory Interface™ (JNDI) API, which provides seamless connectivity to heterogeneous enterprise naming and directory services.

  For more information, see the Sun ONE Web Server 6.1 *Administrator's Guide.*

- **JDBC Support**— Sun ONE Web Server provides out-of-the-box seamless Java™ Database Connectivity (JDBC™) and supports a wide range of industry-standard and customized JDBC drivers.

  For more information, see the Sun ONE Web Server 6.1 *Administrator's Guide.*

- **NSS 3.3.5 and NSPR 4.1.5 Support**— Sun ONE Web Server 6.1 supports Network Security Services (NSS) 3.3.5 and Netscape Portable Runtime (NSPR) 4.1.5.

- **New Search Engine Support**—Sun ONE Web Server 6.1 supports a new Java-based search engine that provides full-text search indexing and retrieval. The search feature allows users to search documents on the server and display results on a web page. Server administrators create the indexes of documents against which users will search, and can customize the search interface to meet specific needs.

  For more information, see the Sun ONE Web Server 6.1 *Administrator's Guide.*

- **Sun ONE Studio 5 Support** — Sun ONE Web Server 6.1 supports Sun™ ONE Studio 5.0. Sun ONE Studio technology is Sun's powerful, extensible, integrated development environment (IDE) for Java technology developers. It is based on NetBeans™ software, and it is integrated with the Sun ONE platform.

  Sun ONE Studio support is available on all platforms supported by Sun ONE Web Server 6.1. The plugin for the Web Server can be obtained in the following ways:

  - From the Companion CD in the Sun ONE Web Server 6.1 media kit
  - By using the AutoUpdate feature of Sun ONE Studio
  - From the download center for Sun ONE Web Server 6.1 at:

  `http://www.sun.com/software/download/inter_ecom.html`

  It is important to note that the Sun ONE Studio 5 plugin for Sun ONE Web Server 6.1 works only with a local Web Server (that is, with the IDE and the Web Server on the same machine).

  The behavior of the Sun ONE Studio 5 plugin for Sun ONE Web Server 6.1 is the same as that for Sun™ ONE Application Server 7. For information about using the web application features in Sun ONE Studio 5, explore the resources at:

  `http://developers.sun.com/prodtech/javatools/jsstandard/reference/docs/index.html`

For more information about Sun ONE Studio 5, visit

`http://www.sun.com/software/sundev/jde/`

- **Sun ONE ASP Support**— Sun ONE Web Server now supports Sun™ ONE Active Server Pages 4.0.1 on the Windows, AIX and HP-UX platforms. Sun ONE Active Server Pages software is a server-side scripting and runtime environment for the cross-platform deployment of Active Server Pages (ASP or `.asp`) Web sites and Web applications.
- **PHP Compatibility**— Sun ONE Web Server 6.1 is compatible with PHP, the versatile and widely-used Open Source web scripting language. PHP runs on all major operating systems.

  PHP version 4.3.2 is recommended for use with Sun ONE Web Server 6.1. For PHP-related installation and configuration information specific to Sun ONE Web Server, see

  `http://www.php.net/manual/en/install.netscape-enterprise.php`
- **Enhanced Hardware Accelerator Encryption Support**— Sun ONE Web Server 6.1 provides hardware accelerator support for Sun™ Crypto Accelerator 1000, a cryptographic accelerator board that enhances the performance of SSL on the Web Server.
- **Start on Boot Option**— On UNIX platforms, Sun ONE Web Server 6.1 introduces the Start on Boot option, which allows you to configure the Web Server to be started automatically when the system boots. To use this feature, you must install the Web Server as root (superuser) and select Start on Boot during installation. For more information, see Chapter 3, "Installing Sun ONE Web Server on UNIX."

Chapter 2

Before You Install Sun ONE Web Server

The following sections provide the information you need to know before you install Sun ONE Web Server.

This chapter contains the following sections:

- Supported Platforms
- Required Patches
- Supported Browsers
- Hardware and Software Requirements
- Other Technical Requirements
- Installation Overview

NOTE If you have the Sun Java™ Enterprise System 1 installed on your system and you want to upgrade the Sun ONE Web Server 6.1 that is part of Sun Java Enterprise System 1 to Sun ONE Web Server 6.1 SP2, you must use the Java Enterprise System (JES) installer to perform the upgrade. Do not use the separate component installer included with Sun ONE Web Server 6.1 SP2.

Supported Platforms

The following table describes the platform support for Sun ONE Web Server:

Table 2-1 Sun ONE Web Server 6.1 Supported Platforms

Vendor	Architecture	Operating System	Minimum Required Memory	Recommended Memory	Recommended Disk Space
IBM	PowerPC	IBM AIX 5.1*, 5.2	64 MB	192 MB	256 MB
Hewlett-Packard	PA-RISC 2.0	HP-UX 11i*	64 MB	192MB	256 MB
Microsoft	Intel x86	Windows 2000 Server and XP and Windows 2003	64 MB	192MB	256 MB
Sun	UltraSPARC**	Solaris 8, 9	64 MB	192MB	256 MB
Sun	x86	Solaris 9	64 MB	192MB	256 MB
Sun	x86 and SPARC	Trusted Solaris 8 (Pro Serve Only)	64 MB	192MB	256 MB

Linux	Intel x86	Red Hat Linux Advanced Server 2.1
		`Kernel 2.4.9-e.3smp`
		`glibc-2.2.4-26`
		`ncurses-4-5.0-5.i386.rpm`
		You may also create a symbolic link from `libncurses5.so` to `libcurses4.so`, although we recommend that you install `ncurses4-5.0-5.i386.rpm`.
		and Red Hat Advanced Server 3.0
			64 MB	192MB	256 MB

*Supported via binary compatibility.

**As of iPlanet Web Server 6.0, older SPARC CPUs are not supported. Sun ONE Web Server 6.1 continues to support the UltraSPARC architecture.

Required Patches

You are recommended to update your operating system with the latest applicable patches.

For the Solaris OE platform, Sun's recommended patch list can be found in the following location:

`http://sunsolve.sun.com/pubpatch`

CAUTION Patch 108993-22 (SPARC) or 108994-22 (x86) is required on Solaris 8 when Solaris is configured to use LDAP for authentication.

Supported Browsers

Sun ONE Web Server runs on the following browsers:

- Netscape™ 7.0
- Netscape™ 6.2.1
- Netscape™ 4.79
- Microsoft Internet Explorer 6.0
- Microsoft Internet Explorer 5.5

Hardware and Software Requirements

In addition to the UNIX, Linux, or Windows operating system memory and disk space requirements listed above, your computer must have the following hardware and software:

All Platforms

- Java and cookies enabled in your browser.
- If you are using Internet Explorer, you need to set your browser to check for a new version of a page every time you access it. To configure this setting, from the View menu, choose Internet Options. On the General tab, in the Temporary Internet Files section, click Settings. Click the radio button to check for newer versions of stored pages every visit to the page.

UNIX/Linux

- Swap space at least as large as the amount of RAM on your system (twice the amount of RAM is recommended). Linux requires 256 MB swap space.

Windows

- If you plan on running more than two separate instances of Sun ONE Web Server on your system, an additional 16 MB RAM for each server instance.
- Paging space at least as large as the amount of RAM on your system (twice the amount of RAM is recommended).
- If you intend to use hostnames during the Sun ONE Web Server installation, DNS properly configured with an entry for your server in a DNS server.
- A static IP address on your machine.

Other Technical Requirements

Once you have the proper hardware and software necessary to install Sun ONE Web Server, you should make sure that you meet the following requirements:

- You know the host name and IP address of your server computer.
- Your server has a DNS alias. For information on creating a DNS alias for your server, see “Creating a DNS Alias for the Server” on page 21.
- Your server has a user account on UNIX, Linux, or Windows. See “UNIX and Linux User Accounts for the Server” on page 21 or “Windows User Accounts for the Server” on page 22 for more information.

- You have two port numbers - one for the Administration Server and the other for the first Sun ONE Web Server server instance. For information on choosing port numbers for your server, see “Choosing Unique Port Numbers” on page 23.

Creating a DNS Alias for the Server

If your server will run on one machine among many in a network, you or your system administrator should set up a DNS CNAME record or an alias that points to the actual server machine. Later, you can change the actual hostname or IP address of the server machine without having to change all URLs that point to the server machine.

For example, you might call the server *my_server.my_company*.com and then use an alias like www.*my_company*.com. So the URLs to documents on your server would always use the www alias instead of *my_server*.

UNIX and Linux User Accounts for the Server

When the Sun ONE Web Server starts, it runs with a UNIX or Linux user account that you specify during installation. Any child processes of the server are created with this account as the owner. It is best to create a UNIX or Linux account for the server that has restricted access to your system resources. The account needs read permissions for the configuration files and write permissions for the `logs` directory.

On Solaris OE, by default, a user and group account named `webservd` is created for Sun ONE Web Server if it does not already exist.

On non-Solaris UNIX platforms (where the `webservd` user/group cannot be reserved outright), if you don’t create a dedicated user account for Sun ONE Web Server, you can use the account with the name `nobody`. You might not however want to give the user `nobody` permissions for running the Sun ONE Web Server. In addition, the user `nobody` might not work on some systems if a negative `uid/gid` is assigned during installation. Check the `/etc/passwd` file to see if the `uid` for `nobody` exists, and make sure it is greater than 0.

NOTE It’s strongly recommended that you use a dedicated account for the server.

The Administration Server can also run with a user account that has write permissions to the configuration files for all installed servers. However, it's much easier to run the Administration Server as `root` because then the Administration Server user can start and stop servers with port numbers less than 1024. (Port numbers greater than 1024 can be started by any user).

The user you use to run the Sun ONE Web Server (often `nobody`) should be in the same group as the user you use to run the Administration Server (often `root`).

NOTE When changing the server user, remove any `/tmp/lock.*` files created in the `/tmp` directory.

Windows User Accounts for the Server

You should create a Windows user account for your Sun ONE Web Server. It should have restricted access to your system resources and run under a nonprivileged system user account (one that has a limited set of system permissions to your system). When the server starts, it runs with this user account. Any server extension modules the server uses are created with this user account as the owner.

During installation, the server uses the `LocalSystem` account, not the user account you created. Once you start and run the server, you should use the user account you created. You can change the user account for the server after the installation process. You can configure that user account so that it has permissions to get files on another computer, so that your server can serve files that are mounted from another computer.

In addition, the user account you create for the server should belong to a group that contains the server users for all Sun ONE servers so that multiple servers can have access to shared files.

NOTE It's strongly recommended that you use a dedicated account for the server.

Choosing Unique Port Numbers

You need multiple port numbers: one for the Administration Server and one for each instance of Sun ONE Web Server. The Administration Server is a special instance of the Sun ONE Web Server that you use to manage your Sun ONE Web Server.

The standard web server port number is 80 and the standard SSL-enabled web server port number is 443, but you can install Sun ONE Web Server to use any port. If you use a port other than the default port (port 80), the URL used to gain access to your home page changes. For example, if your computer is called `www.siroe.com` and you choose port 9753, your server's URL will be `http://www.siroe.com:9753/`.

You should choose a random number for the Administration Server to make it harder for anyone to breach your server. When you configure your server, you use the Administration Server's port number. For example, for server `mozilla.com`, the server's URL could be `http://www.mozilla.com:2634/`.

Make sure the port you choose isn't already in use. On UNIX and Linux systems, you can check the file `/etc/services` on the server machine to make sure you don't assign a port number that is reserved for another service. If you choose a port that is currently being used by another service, the installation program prompts you for another port.

NOTE If you use UNIX or Linux, and you choose a server port number lower than 1024, you must be logged in as `root` to start the server. After the server binds to the port, the server changes from the `root` user account to the user account you specify. If you choose a port number higher than 1024, you don't have to be the `root` user to start the server.

Installation Overview

You can install Sun ONE Web Server by downloading it off the Sun Products download web site:

`http://www.sun.com/software/download/`

You can also install it from the Sun ONE Web Server CD. In addition, the Sun ONE Web Server software comes with the 5.2 version of Sun ONE Directory Server on a Companion CD.

When you install Sun ONE Web Server, you follow these basic steps:

1. If you have iPlanet Web Server 4.1 already installed and plan to migrate that server to work with Sun ONE Web Server 6.1, shut down the 4.1 web server and save a back up of all its files in the server root.

NOTE Direct migration from a version of iPlanet Web Server that is lower than 4.1 to Sun ONE Web Server 6.1 is not supported. You must first migrate your legacy server to iPlanet Web Server 4.1 and then to Sun ONE Web Server 6.1.

   You must install Sun ONE Web Server 6.1 in a separate directory. For instance, if a previous version of the web server is installed in `C:\netscape\server4`, install Sun ONE Web Server 6.1 in `C:\Sun\WebServer6.1`.

   On Windows you may also want to save copies of files added to `Winnt/System32` during server installation, and copies of the registry as well. For more information on saving copies of the registry, see your operating system documentation.

2. If you do not already have a browser installed, install one. For a list of supported browsers, see Supported Browsers.

3. If you are planning to use users and groups for access control, and you do not have an Sun ONE Directory Server installed, install it from the Companion CD included with your Sun ONE Web Server software.

4. Install and configure Sun ONE Web Server.

Chapter 3

Installing Sun ONE Web Server on UNIX

This chapter tells you how to install Sun ONE Web Server on UNIX systems. It contains the following sections:

- Installing on UNIX Platforms
- Installing Across Multiple Machines
- Default Sun ONE Web Server Directories
- Using Uninstall on UNIX

Installing on UNIX Platforms

The topics in this section describe the installation of Sun ONE Web Server on UNIX platforms.

CAUTION You must install your version Sun ONE Web Server 6.1 in a server root directory separate from the server root directory that contains previous versions of the Web server.

Logging In as the Correct User

Before you install Sun ONE Web Server, you must log in as `root`, unless you meet the following conditions:

- You plan to install the Sun ONE Web Server on a port higher than 1024.

- The location where you plan to install the server (the server root directory) is writable with your non-`root` login.
- You are not planning to use Express installation.

If you meet these conditions, you do not need to log in as `root` to install the server; instead log in as the user account that the Administration Server will use. However, you may still prefer to log in as `root`, even though you meet the conditions.

Unpacking the Files

To get the Sun ONE Web Server files and unpack them, follow these steps:

Installing from a Web Server CD

1. Put the Sun ONE Web Server CD in the drive.
2. Change to the CD-ROM directory. For example:

   ```
   cd /cdrom
   ```

3. Change to the directory on the CD labeled with your UNIX operating system. For example:

   ```
   cd Solaris_Sparc
   ```

4. Change to the installation directory. For example:

   ```
   cd SUNWwbsvr
   ```

5. Copy the `tar` file, `sunw-webserver-6.1.<`*`platform-name`*`>.tar`, from the CD to your home directory or a temporary directory. For example:

   ```
   cp sun-webserver-6.1.sol.tar /tmp/SUNWwbinstall
   ```

NOTE Untarring the file will cause the permissions of the destination directory to be modified so that applications can no longer write files to it. To avoid this problem, untar the file in a directory where you can modify the permissions. For example, instead of `/tmp`, use a subdirectory under `/tmp`, for example, `/tmp/SUNWwbinstall`.

Copying the file may take a little time.

6. Change to the directory on your UNIX machine where you copied the file. For example:

   ```
   cd /tmp/SUNWwbinstall
   ```

7. Untar the file by typing `tar -xvf` *filename*. For example:

   ```
   tar -xvf sun-webserver-6.1.sol.tar
   ```

   This command unpacks the server files and creates a temporary directory structure under the current directory. Unpacking the file may take a little time. When the files are unpacked, you see a `/WebServer` and a `/lib` directory, and the following files:

   - `README.txt`
   - `3RD-PARTY-LICENSE.txt`
   - `LICENSE.txt`
   - `setup`
   - `installWrapper`
   - `setup.inf`
   - `template.inf`.

Installing a Downloaded Server

1. Download the file from `http://www.sun.com/software/download/` and save it in a temporary directory.
2. Change to the directory on your UNIX machine where you copied the file. For example:

   ```
   cd /tmp/SUNWwbinstall
   ```

3. Unpack the `.gz` file by typing `gunzip` *filename*. The file name is in the format:

   `sun-webserver-6.1.<`*platform-name*`>.tar.gz`

   Example:

   ```
   gunzip sunw-webserver-6.1.sol.tar.gz.
   ```

4. Untar the unzipped file by typing `tar -xvf` *filename.* Example:

   ```
   tar -xvf sun-webserver-6.1.sol.tar
   ```

   This command unpacks the server files and creates a temporary directory structure under the current directory. Unpacking the file may take a little time. When the files are unpacked, you see a `/WebServer` and a `/lib` directory, and the following files:

   - `README.txt`
   - `3RD-PARTY-LICENSE.txt`
   - `LICENSE.txt`
   - `setup`
   - `installWrapper`
   - `setup.inf`
   - `template.inf`.

NOTE Untarring the file will cause the permissions of the destination directory to be modified so that applications can no longer write files to it. To avoid this problem, untar the file in a directory where you can modify the permissions. For example, instead of `/tmp`, use a subdirectory under `/tmp`, for example, `/tmp/SUNWwbinstall`.

Running Setup

You run the setup program to install Sun ONE Web Server.

During the installation process, you have the choice of three kinds of installation: Express, Typical, or Custom. Most users should choose Typical or Custom (they are identical). Typical or Custom gives you more flexibility in the components you can install and the settings you can configure.

Express installation is for users who have little experience or are evaluating the product. It makes assumptions about such things as port number and which components to install. For more information, see Express Installation.

When running the installer, you can use the following commands:

- Press the Enter key to accept defaults specified in brackets (for example [All]).

- Press CTRL+B to return to a previous screen (note that this sequence does not work on all screens).
- Press CTRL+C to cancel the installation program.
- Enter comma-separated lists of numbers when you want to select multiple items (for example, 1, 2, 3).

NOTE For Express installation, you must be logged in as `root` when running setup.

Typical or Custom Installation

Most users should install the Typical or Custom installation.

To run setup, follow these steps:

1. If you are not in the directory already, change to the directory where you unpacked the file.
2. Type `./setup` to start the server installation.

   If you aren't logged in as the `root` user (superuser), or if you don't have sufficient write permissions, you'll get one or more error messages.

   A welcome screen appears. Press Enter to continue with the installation.
3. Choose whether you accept the software license agreement by typing Yes to accept, or No to decline. If you have not yet read the license agreement, cancel out of the installation and read the file `LICENSE.txt` that is in the same directory as the `setup` program. Type Yes or y to accept the agreement.
4. Specify the server root directory where the server files and directory structure will be installed or accept the default (`/opt/SUNWwbsvr/`) and press Enter.

NOTE You need to run the server as a user that has write access to this directory, for example, the directory owner.

5. Choose all components screen and press Enter.
6. Install the following subcomponents:
   - **Server Core.** Installs the Administration Server and the first instance of Sun ONE Web Server.

- **Java Development Kit**. Sun ONE Web Server 6.1 provides Java Developer's Kit (JDK) version 1.4.1_03 as a bundled product. You can install the provided JDK, or supply your own.

NOTE If you do not want to install the bundled JDK, type 1 and press Enter. In this case, Step 15 is an additional step in the installation process, where you would need to specify the path to the JDK.

7. Specify the fully qualified domain name of the computer on which you're installing the server and press Enter. Example:

   `plaza.sun.com`

8. Enter the UNIX user and group names to use when running the default instance of Sun ONE Web Server and press Enter.

   If you're installing as `root`, the default user and group on all UNIX systems except Solaris OE, is `nobody`. On Solaris OE, if you're installing as `root`, the default user and group is `webservd`. If the user or group doesn't exist, it is automatically created during installation.

NOTE HP-UX has a UID of -2 for `nobody`. If you have to run the server as `nobody` on this platform, change the UID of `nobody` to a positive unique number less than the UID max.

9. Enter the UNIX user name to use when running the Administration Server and press Enter.

   In most cases this user is `root`.

10. Enter the Administration Server user name and password to use for authentication. You are asked to enter your password twice. Press Enter.

11. Type the Administration Server port number or accept the default of 8888.

    For the most flexibility, choose a port number above 1024. If you want to use a port number lower than 1024 for your Administration Server, you must be logged on as `root` to start the server. Do not use a port that is already in use.

    This Sun ONE Web Server Administration Server is not the same as the Administration Server shipped with other Sun ONE servers.

    For more information on ports, see "Choosing Unique Port Numbers" on page 23.

12. Type the port number of Sun ONE Web Server.

    The default is 80. This port should be different than the Administration Server port. Unless you are installing as `root`, the port must be within the stated range (1024 to 65535). If you are installing as `root` you can use port numbers below 1024.

    If you use a port other than the default port (port 80), the URL used to gain access to your home page will change. For example, if your computer is called `www.sun.com` and you choose port 9753, your server's URL will be `http://www.sun.com:9753/`

    For more information on ports, see "Choosing Unique Port Numbers" on page 23.

13. Type the root directory where your server's content files (the images, HTML documents and data you want to present to users accessing the server) will reside, and press Enter. The default is *`server_root`*`/docs`.

14. If you are installing Sun ONE Web Server as `root` (superuser), then the option to start Web Server automatically when the system boots up (Start on Boot) comes up next. If you want to enable start on boot, retain the default, which is `Yes` and press Enter; otherwise, type `No` and press Enter.

15. If in Step 6 you chose to use your own JDK, enter the absolute path to the directory where you installed the JDK on your system.

    Java support in Sun ONE Web Server 6.1 requires a JDK version that is at least JDK version 1.4.1.

    The JDK must already exist in the specified directory.

    If the custom JDK is located in a directory with a standard tree structure, you can press Enter to continue with the installation. If the custom JDK location follows a non-standard tree structure, then at this prompt you would need to enter the full path to the directory where `libjvm.so` (or `libjvm.sl`) is located.

16. After the installation program extracts and installs the Sun ONE Web Server components, press Enter.
17. Go to the `https-admserv` directory under your server root directory (for example, `/opt/SUNWwbsvr/`) and start the Administration Server by typing `./start`.

    You can also type `./startconsole` in the server root directory.

    `startconsole` starts the Administration Server and launches a browser to the Administration Server administration pages.

    To configure your Sun ONE Web Server, use the URL:

    `http://`*`server_name`*`:`*`administration_port`*

    For example: `http://www.sun.com:5566`

    Enter your administration user name and password.

You can now configure your Sun ONE Web Server. For more information on configuring and using Sun ONE Web Server 6.1, see the Sun ONE Web Server 6.1 *Administrator's Guide.*

Express Installation

Express installation is for users who have little experience or are evaluating the product. It makes assumptions about such things as port number and which components to install. By default, the JDK used is the bundled JDK.

The following table lists the assumptions made by the Express installation. If you would like to use different installation settings, use Typical or Custom installation.

Table 3-1 Express Installation Settings

Installation Setting	Value
administration port	8888
administration URL	`http://`*`machine name:administration port`*
HTTP port number	80
document root	*`server_root`*`/docs`
UNIX user to run server	`root`
subcomponents	All default subcomponents installed

CAUTION You must log in as `root` to use Express installation.

To run `setup`, follow these steps:

1. If you are not in the directory already, change to the directory where you unpacked the file.
2. Type `./setup` to start the server installation.

   A welcome screen appears.
3. Press Enter to continue with the installation.
4. Choose whether you accept the software license agreement by entering Yes to accept, or No to decline. If you have not yet read the license agreement, cancel out of the installation and read the file `LICENSE.txt` that is in the same directory as the `setup` program.
5. Choose Express and press Enter.
6. Type a server root directory or accept the default (`/opt/SUNWwbsvr/`).

   This directory is where the server files and directory structure will be installed. `root` must have write access to this directory.
7. Choose all components.

   Press Enter.
8. Enter the UNIX user and group names to use when running the default instance of Sun ONE Web Server.

   For Express installation, this user must be `root`. The group must be the group to which `root` belongs.
9. Enter the UNIX user name to use when running the Administration Server.

   In most cases, this user is `root`.
10. Enter the Administration Server user name and password to use for authentication. You are asked to enter your password twice.
11. After the installation program extracts and installs the Sun ONE Web Server components, press Enter.

12. Go to the `https-adminserv` directory under your server root directory (for example, `/opt/SUNWwbsvr/`) and start Administration Server by typing `./start`. You can also type `./startconsole` in the server root directory.

    `startconsole` starts the Administration Server and launches a browser to the Administration Server administration pages.

13. To configure your Sun ONE Web Server, use the URL:

    `http://`*`server_name:administration_port`*

    For example: `http://www.sun.com:8888`

    Enter your administration user name and password.

You can now configure your Sun ONE Web Server. For more information, see the Sun ONE Web Server *Administrator's Guide*.

Installing Across Multiple Machines

You can install Sun ONE Web Server on multiple machines using two different methods: templatized installation and silent installation.

Templatized installation is executed from your local machine, where you run the installation program silently across multiple remote machines at once.

Silent installation requires that you first install the web server on a local machine, then edit the resulting log file, `install.inf`, to correspond to the remote machines. With silent installation, you must install the remote instances one by one.

Both methods are described in this section.

- Using Templatized Installation
- Using Silent Installation

Using Templatized Installation

To use templatized installation, enter the installation settings for each remote machine in a template file called `template.inf`. You can then use the template to install the web server on multiple machines from a single session on your local machine.

The `template.inf` file is found in the same directory as the setup program.

To run templatized installation, perform the following steps:

1. In the `/.rhosts` directory of your local machine, create an entry for each remote machine where you will install the web server using the format

   remote_machine_name username

   For example, if the remote machine is `host1` on the domain `dogs`, and you are logged in as `root`, enter the following information:

   ```
   host1.dogs.com root
   ```

2. In the `/etc/hosts.equiv` directory of your local machine, create an entry for each remote machine where you will install the web server using the format

   remote_machine_name

   For example, if the remote machine name is `host1` on the domain `dogs`, enter the following information:

   ```
   host1.dogs.com
   ```

3. In the `/.rhosts` directory of each remote machine where you will install the web server, create an entry for your local machine using the format

   local_machine_name username

   For example, if the local machine name is `chewbacca` on the domain `dogs` and you are logged in as `root`, enter the following information:

   ```
   chewbacca.dogs.com root
   ```

4. In the `/etc/hosts.equiv` directory of each remote machine where you will install the web server, create an entry for your local machine using the format

   local_machine_name

   For example, if the local machine name is `chewbacca` on the domain `dogs`, enter the following information:

   ```
   chewbacca.dogs.com
   ```

5. Create a setup directory on your local machine with a link to server root

   `ln -s` *`server_root`*`/ setup-`*`directory`*

6. Change to the directory where `setup` resides.

7. Open the `template.inf` file.

8. Enter the installation settings:

- HostNames: the name of the host where the web server will be installed, separated by commas. For example:

  ```
  host1,host2,host3
  ```

- Components: the components to install, separated by commas. For example:

  ```
  webcore,jdk,cleanup
  ```

- SetUpLocation: the location of the setup program used by the template file.

For each host, enter the following:

- [*hostname*]: the name of the machine where the web server will be installed by the template.
- InstallType: the type of installation to run: express [1], typical [2], or custom [3].
- SuiteSpotUserID: The user ID used when running the default instance of the Sun ONE Web Server.
- SuiteSpotGroup: The group the user running the default instance of the Sun ONE Web Server belongs to.
- ServerRoot: the directory where your server will be installed. For example:

  ```
  /opt/SUNWwbsvr/
  ```

- HttpDocRoot: The document root of the Sun ONE Web Server instance. For example:

  ```
  /opt/SUNWwbsvr/docs
  ```

For the core server, enter the following:

- AdminPort: enter the port number for the Administration Server.
- HttpPort: The port of the default Sun ONE Web Server instance.
- AdminSysUser: The user ID used when running the Administration Server. The user should exist in the Directory Server and have access permissions to use the Directory Server to perform user and group management tasks. For example, `root`.
- AdminName: The user name used to access to the Administration Server's administration screens. For example: `admin`.
- AdminPassword: The password used to access to the Administration Server's administration screens. For example: `admin`.

9. Run the installation wrapper by typing the following command at the command prompt:

   path_to_perl_executable/perl installWrapper -f template.inf

NOTE The installWrapper is a Perl script.

The following is an example of the `template.inf` file:

```
[ MachineName]
HostNames = draco.sun
Components=webcore,snmp,cleanup
SetUpLocation=/Sun/WebServer/P20030814.1
[iws-intern3]
InstallType=   2
SuiteSpotUserID= nobody
SuitespotGroup=  nobody
SecurityCheck=   False
RequireDomain=   False
InstallWhich=   1
ServerRoot=/Sun/WebServer/tmpl_inst/SUNWwbsvr
HttpDocRoot=/Sun/WebServer/tmpl_inst/SUNWwbsvr/docs
JDK_DIR=/usr/j2se
[core]
Upgrade=   False
Reinstall=   False
AdminPort= 20000
HttpPort= 20001
AdminSysUser= root
AdminName= admin
AdminPassword= admin
UgLdapUse=   No
CompVersions=   2:2:1:2:2:1:1:2:
[cleanup]
Archive=   cleanup.zip
```

Using Silent Installation

Silent installation is a less efficient way than templatized installation to install multiple instances of Sun ONE Web Server because remote instances of the server are installed one by one rather than several at a time. You use silent installation to create a file of responses to the setup program's prompts, then edit the file (`install.inf`) and use it to install future Sun ONE Web Server installations. With silent installation, you must first install Sun ONE Web Server on your local machine, then edit `install.inf` to correspond to the remote machines where you'll install additional instances of the server. If you are installing Sun ONE Web Server on a number of remote machines, it is recommended that you use templatized installation instead.

Silent installation works best when you use the Typical installation and your installations are all similar.

CAUTION The `install.inf` file contains the password used to log on to the Administration Server. The password is not encrypted; it is in plain text. If you use silent installation, be sure and delete the `install.inf` file once you are through with it.

To use silent installation, follow these steps:

1. Run setup with the -k option, which creates a file called `install.inf` that contains all your responses to the installer's prompts. At the command prompt, type:

   ```
   ./setup -k
   ```

2. Answer the installer prompts and install Sun ONE Web Server.
3. When the server is installed, go to the *server_root*`/setup` directory, where you'll find the `install.inf` file.
4. Copy the `install.inf` file to the directory where you will run setup to install your next Sun ONE Web Server.
5. Edit the values in the `install.inf` file to match the values of the next server you want to install.

   For example, change the machine name, port number, installation directory, etc.

6. Run setup using the `install.inf` file for input. For example:

   ```
   ./setup -s -f install.inf
   ```

7. The server is installed.

The following is an example of an `install.inf` file.

```
[General]
FullMachineName=   draco.india.sun.com
SuiteSpotUserID=   webservd
SuitespotGroup=   webservd
ServerRoot= /Sun/WebServer
SecurityCheck=   False
RequireDomain=   False
Components=   WebServer

[WebServer]
Upgrade=   False
SuiteSpotUserID=   webservd
SuiteSpotGroup=   webservd
AdminPort=   4600
HttpPort=   4601
HttpDocRoot= /Sun/WebServer/docs
StartOnBoot=   n
JDK_DIR= /Sun/WebServer/bin/https/jdk
JDK_LIBPATH=
AdminSysUser=   root
AdminName=   admin
AdminPassword=   admin
CompVersions=   2:2:1:0:0:
Components=   webcore,JDK,cleanup

[cleanup]
Archive=   cleanup.zip
```

The following table shows some useful `install.inf` parameters to edit. For best results, do not edit any parameters except those listed in the table.

Table 3-2 Silent Installation Parameters

Parameter Name	Use
`FullMachineName`	The machine name.
`SuiteSpotUserID`	The user ID used when running the default instance of the Sun ONE Web Server.

Table 3-2 Silent Installation Parameters

Parameter Name	Use
`SuiteSpotGroup`	The group the user running the default instance of the Sun ONE Web Server belongs to.
`ServerRoot`	The directory where you install the server.
`AdminPort`	The Administration Server port.
`HttpPort`	The port of the default Sun ONE Web Server instance.
`HttpDocRoot`	The document root of the Sun ONE Web Server instance.
`AdminSysUser`	The user ID used when running the Administration Server.
`AdminName`	The user name used to access to the Administration Server's administration screens.
`AdminPassword`	The password used to access to the Administration Server's administration screens.
`JDK_DIR`	The directory where your JDK is installed.

Default Sun ONE Web Server Directories

When you install the Sun ONE Web Server product, two web server instances are installed by default under the server root directory:

- A Web Server instance
- A Web Server instance for administration purposes, also called the Administration Server.

Files for the Web Server instance are stored in the `https-`*`host.domain`* directory under the installation directory.

Files for the Administration Server instance are stored in the `https-admserv` directory under the installation directory.

For more information about the configuration files that are created, see the Sun ONE Web Server 6.1 *Administrator's Configuration File Reference*.

Using Uninstall on UNIX

You can remove Sun ONE Web Server from your computer by using the uninstall application.

CAUTION Though you can select individual subcomponents to uninstall, it is not recommended. The uninstaller only removes the parts of the code pertaining to the selected subcomponent, but does not update configuration files. Your server may not run if you uninstall individual subcomponents.

To remove your Sun ONE Web Server:

1. Go to your server root and type `./uninstall`.

   A list of Sun ONE servers currently installed in this location appears.

2. Find Sun ONE Web Server in the list and type the number next to it at the prompt.

   Note that uninstalling Sun ONE Web Server automatically uninstalls the Administration Server, since it is an instance of Sun ONE Web Server.

   A list of installed Sun ONE Web Server subcomponents appears.

3. Select all subcomponents and press Return.

   The subcomponents are uninstalled and you return to the command prompt.

NOTE The uninstall program does not remove every server file. For example, it does not remove keys and certificates, configuration files, logs, ACL files or the document root.

Chapter 4

Installing Sun ONE Web Server on Windows

This chapter tells you how to install Sun ONE Web Server on Windows. It contains the following sections:

- Installing on Windows
- Using Silent Installation
- Default Sun ONE Web Server Directories
- Using Uninstall on Windows

Installing on Windows

The following sections describe the installation of the Sun ONE Web Server.

Any errors that occur when the server starts are logged in the Event Viewer. Once started, the server logs errors to the normal error log file.

Please keep the following warnings in mind:

- If you have previous versions of Netscape or Sun ONE web servers installed, you must install your 4.x iPlanet Web Server in a different server root directory.
- If you have Early Access versions of Sun ONE servers installed, uninstall them before installing the final version.

- Because of DLL conflicts, if you install Sun ONE Web Server 6.1 and iPlanet Web Server 4.x on the same machine, uninstall 4.x after you migrate it to Sun ONE Web Server 6.1. When you uninstall iPlanet Web Server 4.x, don't delete any shared `dll` files (when asked, choose "No to All"). If not, you will have trouble uninstalling Sun ONE Web Server 6.1 later.
- If you have previous versions of Sun ONE web servers installed, shut down the Administration Server and Enterprise Server instances before installing Sun ONE Web Server 6.1.
- If you want to monitor the Sun ONE Web Server using the Simple Network Management Protocol (SNMP), ensure that you have installed Windows SNMP components before installing the Sun ONE Web Server.

Unpacking the Files

To get the Sun ONE Web Server files and unpack them, follow these steps:

Installing from a Sun ONE Web Server, Enterprise Edition CD

1. Put the Sun ONE Web Server CD in the drive. Click the icon representing your CD-ROM drive.
2. Double-click the `Windows` folder.
3. Double-click the `setup` folder.

   The `setup.exe` file is inside this folder.

Installing a Downloaded Server

1. Download and unzip the file `sun-webserver61-win.zip` and save it in a temporary directory.
2. Double-click the `setup.exe` file to extract the files and launch the installation program.

Running setup.exe

Run the `setup.exe` program to install Sun ONE Web Server.

1. Double-click the `setup.exe` file.
2. The Welcome screen appears. After reading the Welcome screen, click Next.

3. The Software License Agreement appears. Click Yes to accept the license.
4. The Select Installation Type screen appears. Choose the kind of installation you want: Express, Typical or Custom.

   Express installation is for users who have little experience or are evaluating the product. It makes assumptions about such things as port number and which components to install. This option is not recommended if you are using your server in a production environment.

   Typical and Custom installation give you more options, and for this release, do the same thing.

   If you chose Express installation, the following settings are set automatically for you. By default, the Java Developer's Kit (JDK) used is the bundled JDK. If you want to have different values for these settings, choose Typical or Custom installation.

Table 4-1 Express Installation Settings

Installation Setting	Values
administration port	8888
administration URL	`http://`*`machine name`*`:`*`administration port`*
HTTP port number	80
document root	*`server_root`*`/docs`
subcomponents	All default subcomponents installed

CAUTION Do not use Express Installation if you already have another web server running on port 80.

Click Next.

5. The Location of Installation dialog box appears. The default location for the server files is `C:\Sun\WebServer6.1`.

   If you want to install Sun ONE Web Server in a non-default location, use Browse to navigate to the folder you want, or type the name in the field. If you choose a folder that does not exist, the installation program asks if you want to create the folder.

CAUTION Make sure that the path to which you install the Web Server has no spaces in its name. For example, do not choose the `C:\Program Files` directory to install the product, since this directory contains a space in its name.

   Click Next.

6. The Components to Install dialog box appears. Select Web Server from the list.

   Note that because the Administration Server is now an Sun ONE Web Server instance, it is installed automatically when you install Sun ONE Web Server, and is not a choice on this product list.

   If you did not change subcomponents or if you've completed your subcomponent selections, click Next to continue to Step 8.

   If you are migrating from iPlanet Web Server 4.1, when you install subcomponents, you must install all the subcomponents you installed for 4.1, otherwise they may not work. You can install additional subcomponents as well.

7. If you clicked Change on the previous screen, the Select Sub-Components dialog box appears. By default the following subcomponents are installed:

   - **Server Core.** Installs the Administration Server and the first instance of Sun ONE Web Server.
   - **Java Development Kit**. Sun ONE Web Server 6.1 provides JDK version 1.4.1_03 as a bundled product. You can install the provided JDK, or supply your own.

   Click Continue when you are through choosing subcomponents to return to the Components to Install dialog box (Step 6).

8. Type the user name for Administration Server access; the default is `admin`. Type the Administration Server access password; type it again for verification.

   If you are using LDAP-based authentication, you must make sure that this user has access permissions to the LDAP server to perform user/group management tasks.

   If you chose Express Installation, skip to Step 12.

   Click Next.

9. Type the port number the Administration Server runs on. This can be any number from 1 to 65535. The URL for administration access is displayed. You might want to make a note of this URL. The default port is 8888.

   If iPlanet Web Server 4.x is installed on your system, do not use the same Administration Server port number for Sun ONE Web Server 6.1 as you used for iPlanet Web Server 4.x.

   For more information on ports, see "Choosing Unique Port Numbers" on page 23.

   Click Next.

10. The Default Web Server dialog box appears. A default instance of Sun ONE Web Server is installed automatically.

    Type a port number for the default instance of your Sun ONE Web Server. This port should be different than the Administration Server port. If you use a port other than the default port (port 80), the URL used to gain access to your home page will change. For example, if your computer is called `www.sun.com` and you choose port 9753, your server's URL will be `http://www.sun.com:9753/`

    For more information on ports, see "Choosing Unique Port Numbers" on page 23.

    Type the path for the default server's primary document directory, where your server's content files (the images, HTML documents and data you want to present to users accessing the server) will reside. The default is `C:\`*`server_root`*`\docs`. Click Browse to navigate your file system.

11. The JDK Configuration dialog box appears.

    You can use the JDK included with Sun ONE Web Server (JDK 1.4.1_03) or you can use a custom JDK that already resides on your system.

    Java support in Sun ONE Web Server 6.1 requires a JDK version that is at least JDK version 1.4.

    To use your own JDK, click the Use Custom Java Development Kit checkbox and enter the absolute path to the folder where you installed the JDK on your system. For example, `D:\jdk1.4\` If the custom JDK is located in a directory with a non-standard tree structure, then you would need to enter the full path to the directory where `jvm.dll` is located.

12. The Configuration Summary dialog box appears.

    This dialog box contains information about the settings for your Web Server and Administration Server. It also contains a list of the Sun ONE Web Server components you selected for installation.

    This dialog box gives you the opportunity to review your settings before the installation is complete. If they are correct, click Install. If you want to change some of the settings, click Back and correct the information.

    The server files are installed.

NOTE You should not cancel the installation process while the files are being copied. If you do, you will have a partial installation you need to clean up. If an uninstaller for Sun ONE Web Server exists, use it to uninstall the portion of Sun ONE Web Server you installed. If the uninstaller does not exist, manually delete all the files that are in the server root.

13. The Setup Complete dialog box appears.

    To view the Readme file, keep the View Readme checkbox checked (by default), and click Finish.

    The Readme file contains a pointer to the latest Release Notes for Sun ONE Web Server 6.1.

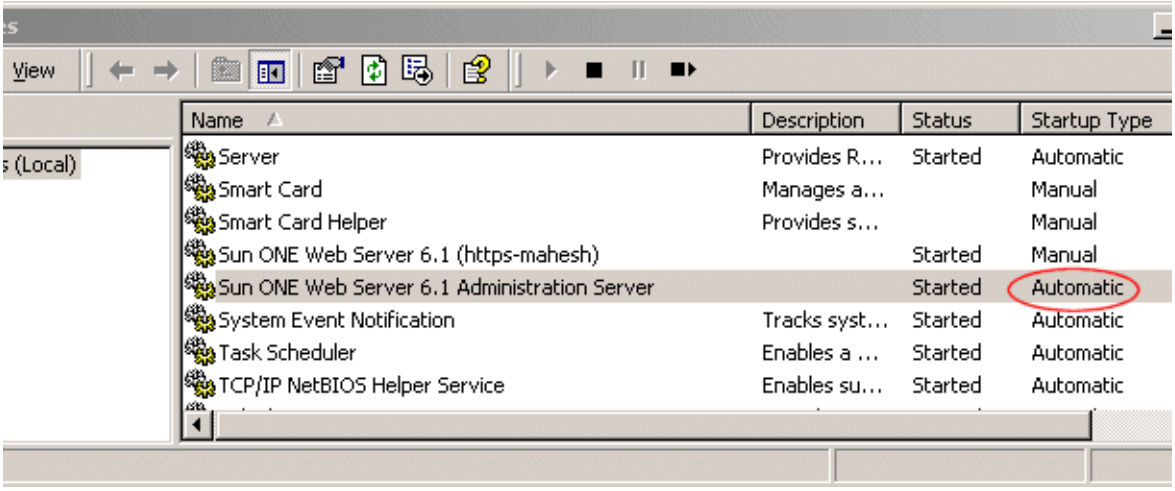
    You can start the Administration Server in either of the following ways:

    - Select Start Menu -> Programs -> Sun ONE Web Server, and choose Start Web Server Administration Server.

- From the Control Panel's Services item.

To start the servers automatically after reboot, change the Startup Type of the services to Automatic from the Control Panel's Services item, as shown in the following figure:

Changing the Services Startup Type



14. Restart your machine or use the Services Control Panel to start the Sun ONE Web Server.
15. To configure your Sun ONE Web Server, use the URL:
`http://server_name:administration_port`

    For example: `http://www.sun.com:8888`

    Enter your administration user name and password to administer the server.

You can now configure your server. For more information, see the Sun ONE Web Server 6.1 *Administrator's Guide*.

Using Silent Installation

If you want to install several Sun ONE Web Servers, you can use silent installation to create a file of responses to the setup program's prompts. You can then edit the file, `install.inf`, and use it for future Sun ONE Web Server installations.

Silent installation works best when you use the Typical installation and your installations are all similar.

CAUTION The `install.inf` file contains the password used to log on to the Administration server. The password is not encrypted; it is in plain text. If you use silent installation, be sure and delete the `install.inf` file once you are through with it.

Because Sun ONE Web Server is downloaded as a self-extracting `.exe` file, you must first extract the files before running `setup.exe`. To extract the files, follow these steps:

1. Double-click the self-extracting `.exe` file to start the installer.
2. When you launch the installer, it unpacks the files to your `TEMP` directory. Without exiting the installer, go to the `TEMP` directory and copy the installation files to another location.
3. Once the files are copied, exit the installer.

You now have a copy of `setup.exe` that you can use for creating the `install.inf` file.

To use silent installation, follow these steps:

1. From the command line, run setup with the -k option, which creates a file called `install.inf` that contains all your responses to the installer's prompts. At the command prompt, type:

   ```
   setup.exe -k
   ```

2. Answer the installer prompts and install Sun ONE Web Server.
3. When the server is installed, go to the *`server_root`*`/setup` directory, where you'll find the `install.inf` file.
4. Copy the `install.inf` file to the directory where you will run setup to install your next Sun ONE Web Server.
5. Edit the values in the `install.inf` file to match the values of the next server you want to install.

   For example, change the port number, installation directory, etc.

6. Run setup using the `install.inf` file for input. For example:

   ```
   setup.exe -s -f install.inf
   ```

7. The server is installed.

The following is an example of an `install.inf` file.

```
[General]
Components=svrcore,WebServer
ServerRoot=d:\servers\s1ws61-0815

[WebServer]
Components=WebCore,JDK,CleanUp
AdminPort=8888
HttpPort=80
HttpDocRoot=d:/servers/s1ws61-0815/docs
AdminName=admin
AdminPassword=admin
UgLdapUse=FALSE
JDK_DIR=d:/servers/s1ws61-0815/bin/https/jdk
JDK_LIBPATH=
JDK_CLASSPATH=

[CleanUp]
Archive=cleanup.zip
```

The following table shows some useful `install.inf` parameters to edit. For best results, do not edit any parameters except those listed in the table.

Table 4-2 Silent Installation Parameters

Parameter Name	Use
`ServerRoot`	The directory where you install the server.
`AdminPort`	The Administration Server port.
`HttpPort`	The port of the default Sun ONE Web Server instance.
`HttpDocRoot`	The document root of the Sun ONE Web Server instance.
`AdminName`	The user name used to access to the Administration Server's administration screens.
`AdminPassword`	The password used to access to the Administration Server's administration screens.
`JDK_DIR`	The directory where your JDK is installed.

Default Sun ONE Web Server Directories

When you install the Sun ONE Web Server product, two web server instances are installed by default under the installation directory:

- A Web Server instance
- A Web Server instance for administration purposes, also called the Administration Server.

Files for the Web Server instance are stored in the `https-`*`host.domain`* directory under the installation directory.

Files for the Administration Server instance are stored in the `https-admserv` directory under the installation directory.

For more information about the configuration files that are created, see the Sun ONE Web Server 6.1 *Administrator's Configuration File Reference*.

Using Uninstall on Windows

To remove your Sun ONE Web Server:

1. Select Start Menu -> Control Panel -> Add/Remove Programs -> Sun ONE Web Server

   or

   Select Start Menu -> Programs -> Sun ONE Web Server -> Uninstall Web Server.

2. The Sun ONE Uninstall window appears. This window lists all the Sun ONE installed in this directory. Click the checkbox next to Sun ONE Web Server and click Uninstall. Note that uninstalling Sun ONE Web Server automatically uninstalls the Administration Server, since it is an instance of Sun ONE Web Server.
3. The uninstall program uninstalls the server. You see a window showing the progress of the uninstall.

4. When the uninstall is complete, a message appears saying that the configuration files have not been deleted, and that you should rename them before reinstalling the server. Click OK to continue.

NOTE The uninstall program does not remove every server file. For example, it does not remove keys and certificates, configuration files, logs, ACL files or the document root.

Migrating from Version 6.0 to 6.1

This chapter contains migration information to help you understand the changes that take place when you migrate your Sun ONE Web Server from version 6.0 to 6.1.

This chapter contains the following information:

- Migration Overview
- Migrating Settings and Data
- What Does Not Get Migrated
- Overview of Changes in Sun ONE Web Server 6.1

NOTE If you have the Sun Java™ Enterprise System 1 installed on your system and you want to upgrade the Sun ONE Web Server 6.1 that is part of Sun Java Enterprise System 1 to Sun ONE Web Server 6.1 SP2, you must use the Java Enterprise System (JES) installer to perform the upgrade. Do not use the separate component installer included with Sun ONE Web Server 6.1 SP2.

Migration Overview

You can migrate the following Sun ONE Web Server 6.0 information to work with Sun ONE Web Server 6.1.

- Document roots
- Configuration styles information
- Virtual server settings

- Access Control List (ACL) information
- Secure Socket Layer (SSL) information
- Certificates and keys
- NSAPI information
- JavaServer Pages (JSPs)
- Server Side HTML (SHTML)
- Simple Network Management Protocol (SNMP) settings (the `snmp.conf` file)
- The file cache tuning configuration settings (the `nsfc.conf` file)

Migrating Settings and Data

CAUTION Shut down all server instances before migrating.

To migrate settings and data from a 6.0 server to the Sun ONE Web Server 6.1 product, follow these steps:

1. In the Administration Server page, click the Migrate Servers tab.

2. Click Migrate Server.

   Migrate Server Page

3. Enter the server root of the server from which you want to migrate and click Search. For example:

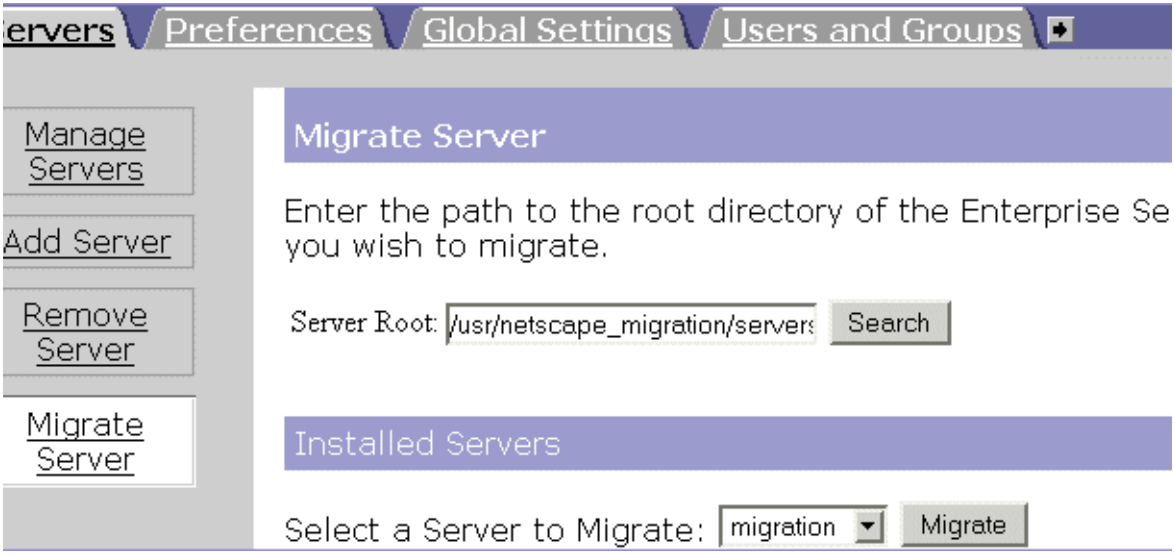
   `/usr/netscape/server4`

   `C:\netscape\server4`

   Sun ONE Web Server detects whether there are server instances installed in the directory you specified and displays the servers you can migrate in a section of the page called “Installed Servers.” The Administration Server cannot be migrated.

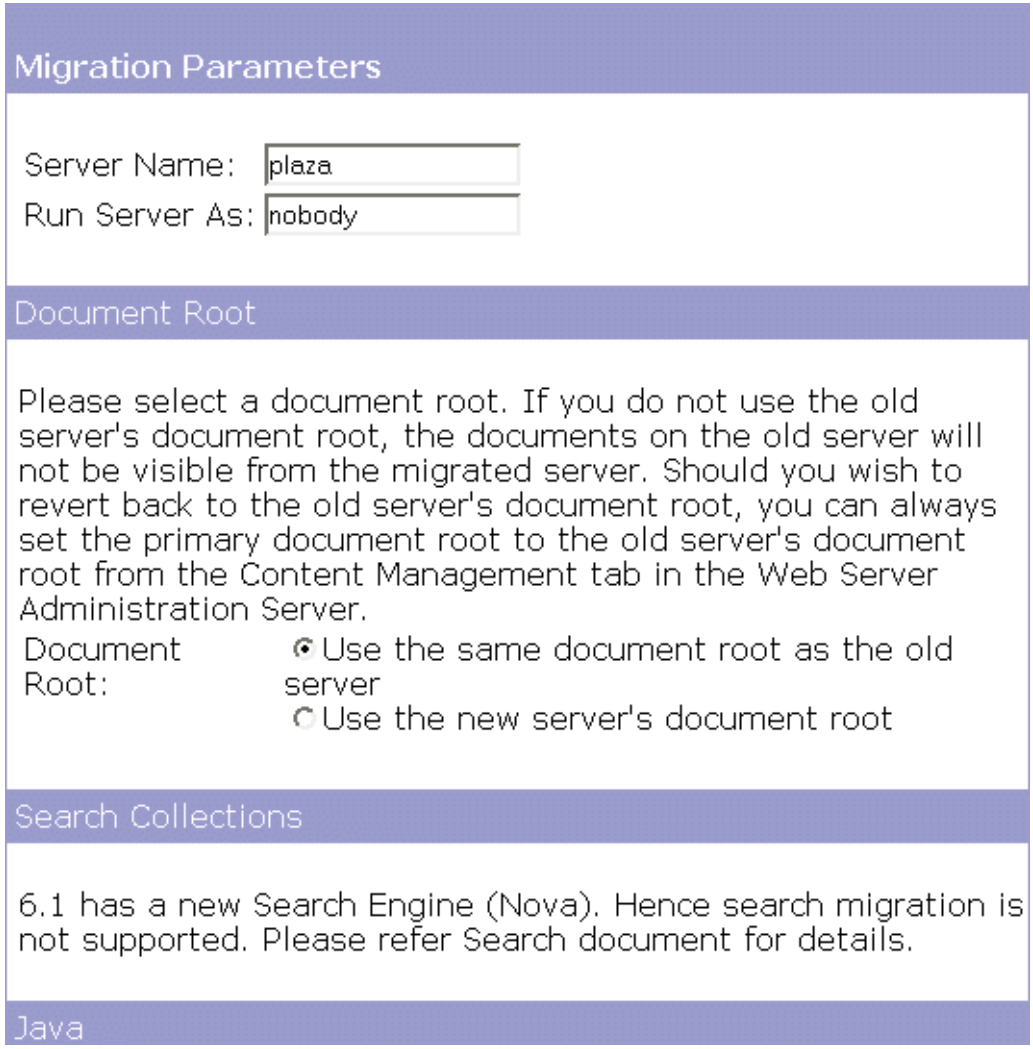
4. Choose a server from the drop-down list and click Migrate.

   Select a Server to Migrate



5. In the new Migration parameters window that is launched, specify the migration parameters.

   Specify the migration parameters



   The sections on the form that you see depend upon which features your 6.0 Web Server is using and which components you installed. The following sections of parameters are possible:

   - General Migration Parameters

- Document Root
- Java

For more information, see The Migration Parameters Page in the online help.

6. Click Migrate.

   The Migrate *server_name* page appears. It shows the results of the migration, including the parameters successfully migrated and the parameters that you need to migrate manually. It also shows any features of your 6.0 server that are not supported in 6.1.

   If you get fatal errors while migrating, the migration continues. The results page shows what errors occurred and you can use this information to troubleshoot.

7. Click Configure Migrated Server to configure your migrated server instance in the Server Manager, or click Close to close the migration window.

What Does Not Get Migrated

The migration process does not migrate the following:

- 4.x-style legacy servlets

  See "Legacy Servlets" on page 68 for more information.

- Search collections and indexes

  See "Search Migration" on page 69 for more information.

- Command Line scripts

  See "Command Line Scripts" on page 62 for more information.

- Cron-control settings

  See "Cron Control" on page 67 for more information.

- Certificate mappings

  See "`certmap.conf`" on page 63 for more information.

- Some configuration files

  See the sections "Configuration Files" on page 63 and "Configuration Files Removed in Sun ONE Web Server 6.1" on page 66 for more information.

- Simple Session Manager and JDBC Session Manager

  See "Session Managers" on page 69 for more information.
- Connection Group settings in server.xml

  See "Connection Groups Settings" on page 66 for more information.
- CGIstub directory

  See "Cgistub Directory" on page 62 for more information.

Overview of Changes in Sun ONE Web Server 6.1

When you migrate information from Sun ONE Web Server 6.0 to Sun ONE Web Server 6.1, changes are made in the following areas, listed alphabetically:

- Cgistub Directory
- Command Line Scripts
- Configuration Files
- Connection Groups Settings
- Cron Control
- Java Migration
- Java Server Pages
- Legacy Servlets
- Search Migration
- Security
- Session Managers
- Symbolic Links in Configuration Files (UNIX and Linux)
- Web Applications
- Web Publishing Using WebDAV

Cgistub Directory

The migration process does not migrate the CGIstub directory. If you configured CGI settings for an instance on your previous server, you would need to manually copy the CGIstub directory to the appropriate location after migrating to Sun ONE Web Server 6.1.

Command Line Scripts

If you've made modifications to your start or stop scripts in your 6.0 server, those changes will not be carried forward by the migration program. This applies to the reconfig, restart, and rotate scripts also.

The following table lists the command line scripts that are available in Sun ONE Web Server 6.1, and also, points you to further documentation sources for more information:

Command Line Script	Description	For more information, see:
`start`, `startsvr.bat`	• Starts a server instance. • Each server instance has its own start script	Sun ONE Web Server 6.1 *Administrator's Guide*
`stop`, `stopsvr.bat`	• Stops a server instance. • Each server instance has its own stop script	Sun ONE Web Server 6.1 *Administrator's Guide*
`restart`	Restarts a server instance	Sun ONE Web Server 6.1 *Administrator's Guide*
`reconfig`	Dynamically reconfigures the server without restarting it.	Sun ONE Web Server 6.1 *Administrator's Guide*
`rotate`	Rotates logs.	Sun ONE Web Server 6.1 *Administrator's Guide*
`HttpServerAdmin`	Provides command line utilities for virtual server administration	Sun ONE Web Server 6.1 *Administrator's Guide*

Configuration Files

The following table provides a summary listing of the configuration files in Sun ONE Web Server 6.1; it describes the changes introduced in the current release, and points you to further documentation sources:

Configuration File	Description	For more information, see:
ACL files: • `generated-https-`*`server-id`*`.acl` • `genwork-https-`*`server-id`*`.acl`	• Location: *`install-dir`*`/httpacl/` • These provide access control lists to protect server resources • May reference databases defined in `dbswitch.conf` • File names are specified in `server.xml` • During migration, ACL files from the old *`server-root`*`/httpacl` directory are copied to the new *`server-root`*`/httpacl` directory with the new instance name. • Non-default ACL files listed in the <ACLFILE> element of the `server.xml` file and that are present in the old *`server-root`*`/httpacl` directory are copied to the new *`server-root`*`/httpacl` directory.	*Access Control Programmer's Guide*
`certmap.conf`	• Location: *`server_root`*`/userdb/` • Configures how a client certificate is mapped to an LDAP entry • Not migrated. During migration you receive a message that you need to manually migrate existing entries in the `certmap.conf` of the server instance you want to migrate.	Sun ONE Web Server 6.1 *Administrator's Configuration File Reference*
`dbswitch.conf`	• Location: *`server_root`*`/userdb/` • Provides a list of authentication databases, and is used to check group membership for access control • Unchanged from Web Server 6.0	Sun ONE Web Server 6.1 *Administrator's Configuration File Reference*

Configuration File	Description	For more information, see:
`magnus.conf`	• Location: `server-id/config` • Defines server plug-ins library initialization and server parameters • Copied, during migration, into the new server root directory. • During migration, Sun ONE Web Server 6.1 loads built-in load module functions from the new installation directory while custom modules continue to be loaded from the old installation directory. • Some `magnus.conf` directives that were supported in Web Server 6.0 are deprecated in 6.1.	Sun ONE Web Server 6.1 *Administrator's Configuration File Reference*, for a description of supported and deprecated directives. Sun ONE Web Server 6.1 *NSAPI Programmer's Guide,* for a description of the `Init` directives.
`mime.types`	• Location: *`install-dir`*`/config/` • Contains mappings between MIME (Multipurpose Internet Mail Extensions) types and file extensions • During migration, the `mime.types` file of the old instance in the `/config` directory is migrated into the new *`server-root`*`/`*`server-instance`*`/config` directory. • Non-default `mime.types` (`mime1.types`, `mime2.types`, and so on) present in old *`server-instance`*`/config` directory and that are listed in the MIME element of `server.xml` are migrated into the new *`server-instance`*`/config` directory.	Sun ONE Web Server 6.1 *Administrator's Configuration File Reference*
`nsfc.conf`	• Location: *`server_root`*`/https-admserv/config/` • Sets file cache parameters. • Unchanged from Web Server 6.0	Sun ONE Web Server 6.1 *Administrator's Configuration File Reference*

Configuration File	Description	For more information, see:
`obj.conf`	• Location: *`install-dir`*`/config/` • Contains instructions for the server about how to handle HTTP requests from clients and service web server content such as native server plugins and CGI programs. • Configured per virtual server class and named in the format `<`*`vs-name`*`>.obj.conf` • New directives and functions added in Web Server 6.1 to configure filters and WebDAV. • Search, JSP092, and Webpub objects are not migrated.	Sun ONE Web Server 6.1 *NSAPI Programmer's Guide*
`server.xml`	• Location: *`instance-dir`*`/config/` • Contains most of the server configuration. • During migration, the server.xml file created in the new Web Server 6.1 instance contains information from the following files: - old server.xml file - web-apps.xml - start-jvm - jvm12.conf	Sun ONE Web Server 6.1 *Administrator's Configuration File Reference*
`*.clfilter` • `obj.conf.clfilter` • `magnus.conf.clfilter` • `server.xml.clfilter`	• Location: *`instance-dir`*`/config/` • Legacy `.clfilter` files, for example, `web-apps.xml.clfilter` are not migrated.	Sun ONE Web Server 6.1 *Administrator's Guide*
`secmod.db`	• Imported certificates and keys for external hardware accelerators are stored in the secmod.db file, which is generated when the PKCs#11module is installed. • Overwritten during migration	Sun ONE Web Server 6.1 *Administrator's Guide*

Configuration File	Description	For more information, see:
• `access log` • `error log`	• Server log files record your server's activity. • During migration, new access logs are created. • Error logs in 6.0 *`server-instance`*`/logs` directory is copied to the *`server-instance`*`/logs` in 6.1.	Sun ONE Web Server 6.1 *Administrator's Guide*

Configuration Files Removed in Sun ONE Web Server 6.1

The following configuration files are no longer supported and are removed during migration:

- `rules.properties`
- `context.properties`
- `servlet.properties`
- `start-jvm`
- `jvm12.conf`
- `web-apps.xml`
- `web-apps.xml.clfilter`
- `webpub.conf`
- `webpub.conf.clfilter`

Connection Groups Settings

Every listen socket in Sun ONE Web Server 6.0 had at least one connection group associated with it. When you created a listen socket, a connection group was also created, which contained the default virtual server you specified for the listen socket.

In Sun ONE Web Server 6.1, the connection group functionality has been dropped. The virtual server is now directly bound to a listen socket. During migration therefore, each connection group is migrated to an LS (listen socket) element. Each LS element contains attributes derived from both the connection group's and the listen socket's attributes.

Cron Control

Cron file names have been changed in Sun ONE Web Server 6.1. The Web Server 6.0 file `ns-cron.conf`, is called `schedulerd.conf` in Sun ONE Web Server 6.1, and the version 6.0 file `cron.conf` is now called `scheduler.conf`. These are located in the `https-admserv/config/` directory.

Cron settings from the previous version of your Web server are not migrated to Sun ONE Web Server 6.1during migration. If you need to preserve these, please copy the cron settings for the migrated instance to the cron files.

Java Migration

Unlike in the 6.0 release, Java in Sun ONE Web Server 6.1, is enabled by default. Further, in Sun ONE Web Server 6.1, you can enable and configure Java for every instance of the server, unlike in the previous 6.0 release which supported an installation-wide configuration of the JDK.

During migration you can choose to install either the JDK that is bundled with Sun ONE Web Server 6.1 (JDK 1.4.1_03) or install a custom JDK. If you install the server with a custom JDK, the `javahome` setting of the migrated instance would refer to the custom JDK path (taken from the `javahome` setting of the Administration Server). Otherwise the `javahome` setting would point to `/bin/https/jdk`.

Sun ONE Web Server 6.1 supports the Java Development Kit (JDK) version 1.4 and above. It does not support a standalone Java Runtime Environment (JRE).

In the Sun ONE Web Server 6.0 and Service Pack releases, JDK configuration data was stored in the `start-jvm` and `jvm.conf` files. In Sun ONE Web Server 6.1 this data is stored in the `server.xml` file.

The `JAVA` element in the new `server.xml` file contains the JDK configuration information copied from the `start-jvm` file of the migrated instance.

The `JVMOPTIONS` element in the new `server.xml` file contains the JVM options information from the `jvm12.conf` file of the migrated instance.

If the previous version of your server was configured to use JDK 1.4.1 or above, the `NSES_JDK` path from the server's `start-jvm` file is copied into the Sun ONE Web Server 6.1 `server.xml` file, otherwise, the JDK path points to *`server-root`*`/bin/https/jdk`, which is the default JDK path in Sun ONE Web Server 6.1.

For information about the mapping of the `start-jvm` and `jvm12.conf` files with the `server.xml` file in Sun ONE Web Server 6.1, refer to the Sun ONE Web Server 6.1 *Administrator's Configuration File Reference*.

Java Server Pages

Sun ONE Web Server 6.1 supports Java Server Pages (JSP) 1.2 specification. The `JSP092` object representing JSP version 0.92 is no longer supported in Sun ONE Web Server 6.1 and is deleted during migration.

Style examples using JSP 1.2 can be found in the following directory: *`server_root`*`/plugins/servlets/examples/web-apps/.`

Legacy Servlets

Sun ONE Web Server 6.1 supports the Servlet 2.3 specification.

Netscape Enterprise Server / iPlanet Web Server 4.0 and 4.1 supported the Java Servlet 2.1 specification. This specification did not include web applications. A deployment scheme was developed to make servlet deployment simpler. With the advent of Java Web Applications (`.war` files) and their deployment descriptors, it is no longer necessary to maintain a proprietary deployment system.

iPlanet Web Server 6.0 supported both types of deployment schemes, but the 4.x implementation (referred to as legacy servlets) was marked as deprecated (See Chapter 8: "Legacy Servlet and JSP Configuration" of the iPlanet Web Server, Enterprise Edition Programmer's Guide to Servlets).

Sun ONE Web Server 6.1 no longer supports Legacy Servlets. The legacy-style properties files for the server you want to migrate - `servlet.properties`, `context.properties`, and `rules.properties` - are removed during migration.

Because there is no one-to-one mapping for all of the features, legacy servlets cannot be migrated automatically.

For documentation and samples to help you migrate your 4.x legacy-style servlets to the web applications structure in Sun ONE Web Server 6.1, the Sun ONE Web Server 6.1 *Programmer's Guide to Web Applications*.

Search Migration

Because the search engine used in Sun ONE Web Server 6.0 has been replaced by a new search engine in Sun ONE Web Server 6.1, existing search collections and indexes are not migrated during the migration process. To use the Search functionality in Sun ONE Web Server 6.1, you will have to create and configure new search collections and indexes. For more details, see the Sun ONE Web Server 6.1 *Administrator's Guide*.

Security

Sun ONE Web Server provides new flat file authentication and closer integration of native access control with web application security constraints. However, core authentication and authorization support is the same as in the version 6.0 release.

Sun ONE Web Server 6.1, apart from providing ACL-based authentication, also leverages the security model defined in the J2EE 1.3 Specification to provide several features that help you develop and deploy secure Java Web applications. The J2EE/Servlet-based access control infrastructure relies on the use of security realms.

In Sun ONE Web Server 6.1, authentication is performed by Java security realms which are configured through `AUTHREALM` entries in the `server.xml` file. Authorization is performed by access control rules in the deployment descriptor file, `web.xml`, in case any such rules have been set.

For more information about security-related features in Sun ONE Web Server 6.1, see the Sun ONE Web Server 6.1 *Administrator's Guide* and the Sun ONE Web Server 6.1 *Programmer's Guide*.

Session Managers

The Simple Session Manager and JDBC Session Manager that were deprecated in the version 6.0 release of Sun ONE Web Server are no longer supported in the 6.1 release.

Sun ONE Web Server 6.1 provides the following session management options:

- StandardManager, the default session manager
- PersistentManager, a provided session manager that uses a persistent data store

- IWSSessionManager, a provided session manager that allows backward compatibility with any custom session managers you may created using Sun ONE Web Server 6.0.
- MMapSessionManager (UNIX Only), a provided persistent memory map (`mmap`) file based session manager that works in both single process and multi-process mode

The following API functions of the Sun ONE Web Server 6.1 session manager API are not implemented in Sun ONE Web Server 6.1:

- Form-based logins. Form-based login for single sign on is no longer supported. The following are therefore deprecated:
  - `GetHandleFormLoginSession`
  - `SetHandleFormLoginSession`
- The `update` method. The `update` method which followed a call to the `HttpRequest` methods, `inputstream`, in version 6.0 of the Web server is now deprecated.
- Session manager monitoring mechanism. Sun ONE Web Server 6.1 does not provide support for monitoring session manager statistics. The following are therefore deprecated:
  - `getContext`
  - `getMaxSession`
  - `getSessionCount`
  - `getSessionReapCount`
- `SimpleSessionManager` and `JdbcSessionManager`. Web Server 6.0 provided deprecated support to the `SimpleSessionManager` and `JdbcSessionManager` options, and implemented the same functionality through `iWSSessionManager` and `JdbcStore`, respectively. The `SimpleSessionManager` and `JdbcSessionManager` options are not supported in Sun ONE Web Server 6.1.

For more information about Session Managers, see the Sun ONE Web Server 6.1 *Programmer's Guide to Web Applications*.

Symbolic Links in Configuration Files (UNIX and Linux)

Symbolic or relative links in server configuration files may cause problems when upgrading. Make sure that server configuration files that contain absolute references to files under the server root always reference the path to the server root in the same way. Preferably, these links should not transverse any symbolic links.

Web Applications

In the 6.0 version of the Web Server, information pertaining to web applications was stored in the `server.xml` file and the `web-apps.xml` file. The `web-apps.xml` file is not supported in Sun ONE Web Server 6.1, and web application data is now stored in the following files:

- `server.xml`
- `web.xml`
- `sun-web.xml`
- `obj.conf`

The `VS` (virtual server) element in the `server.xml` file in Sun ONE Web Server 6.1 now contains a `WEBAPP` (web application) element for every web application it hosts. The attributes of the `WEBAPP` element are consistent with the mechanism used in Web Server 6.0 to configure web applications and are dynamically reconfigurable, that is, they don't require a server restart in order for changes to be applied to the server instance.

For every web application, the deployment descriptor file, `sun-web.xml`, is created in the *<web-application>*`/WEB-INF` directory. The deployment descriptor file is based on the schema file, `sun-web-app_2_3-1.dtd`, which is compliant with the Servlet 2.3 specification. This schema file is also located in the *<web-application>*`/WEB-INF` directory.

In the 6.0 version of the Web Server, if you used the `web-apps.xml` file to tune certain server parameters, for example, reap interval (which specifies the number of seconds between checks for expired sessions), now, in Sun ONE Web Server 6.1, you would perform an identical function using the `sun-web.xml` deployment descriptor. Example:

In Web Server 6.0:

```
<init-param>
```

```
    <param-name>reapInterval</param-name>
    <param-value>180</param-value>
</init-param>
```

In Web Server 6.1:

```
<sun-web-app>
...
    <session-config>
        <session-manager>
            <manager-properties>
            <property name="reapIntervalSeconds" value="180"/>
            </manager-properties>
        </session-manager>
...
    </session-config>
...
</sun-web-app>
```

For more information on the deployment descriptor files supported in Sun ONE Web Server 6.1, see the Sun ONE Web Server 6.1 *Programmer's Guide to Web Applications*.

Web Publishing Using WebDAV

Sun ONE Web Server 6.1 introduces a new feature, web publishing through WebDAV (Web Distributed Authoring and Versioning), a protocol that enables in-place collaborative web publishing.

WebDAV functionality is configured by extending the VS element in the `server.xml` file to include two new elements, `DAV` and `DAVCOLLECTION`.

New functions have been added to the `obj.conf` file to support WebDAV functionality as an NSAPI plug-in.

For more information on the WebDAV feature, see the Sun ONE Web Server 6.1 *Administrator's Guide*. For more information on WebDAV functions in the `obj.conf` file, see the Sun ONE Web Server 6.1 *NSAPI Programmer's Guide*. For more information on WebDAV-related elements in the `server.xml` file, see the Sun ONE Web Server 6.1 *Administrator's Configuration File Reference.*

Chapter 6

Migrating from Version 4.1 to 6.1

This chapter contains migration information to help you understand the changes that take place when you migrate your Sun ONE Web Server from version 4.1 to 6.1.

This chapter contains the following information:

- Migration Overview
- Migrating Settings and Data
- What Does Not Get Migrated
- Summary of Migration-Related Changes

Migration Overview

You can migrate the following iPlanet Web Server 4.1 information to work with Sun ONE Web Server 6.1.

- Document roots and any other directory mappings
- Configuration styles information
- Software and hardware virtual server settings
- Access Control List (ACL) information
- Secure Socket Layer (SSL) information
- Certificates and keys
- NSAPI information
- JavaServer Pages (JSPs)

- Simple Session Manager and JDBC Session Manager (deprecated)
- Server Side HTML (SHTML)
- Simple Network Management Protocol (SNMP) settings (the `snmp.conf` file)
- The file cache tuning configuration settings (the `nsfc.conf` file)

NOTE Direct migration from a version of iPlanet Web Server that is lower than 4.1 to Sun ONE Web Server 6.1 is not supported. You must first migrate your legacy server to iPlanet Web Server 4.1 and then to Sun ONE Web Server 6.1.

NOTE In general, when this document refers to iPlanet Web Server 4.1, the information applies to service pack releases as well, such as iPlanet Web Server 4.1, SP12.

Migrating Settings and Data

CAUTION Shut down all server instances before migrating.

To migrate settings and data from a 4.1 server to the 6.1 server, follow these steps:

1. In the Administration Server page, click the Migrate Servers tab.

2. Click Migrate Server.

   Migrate Server Page

3. Enter the server root of the server from which you want to migrate and click Search. For example:

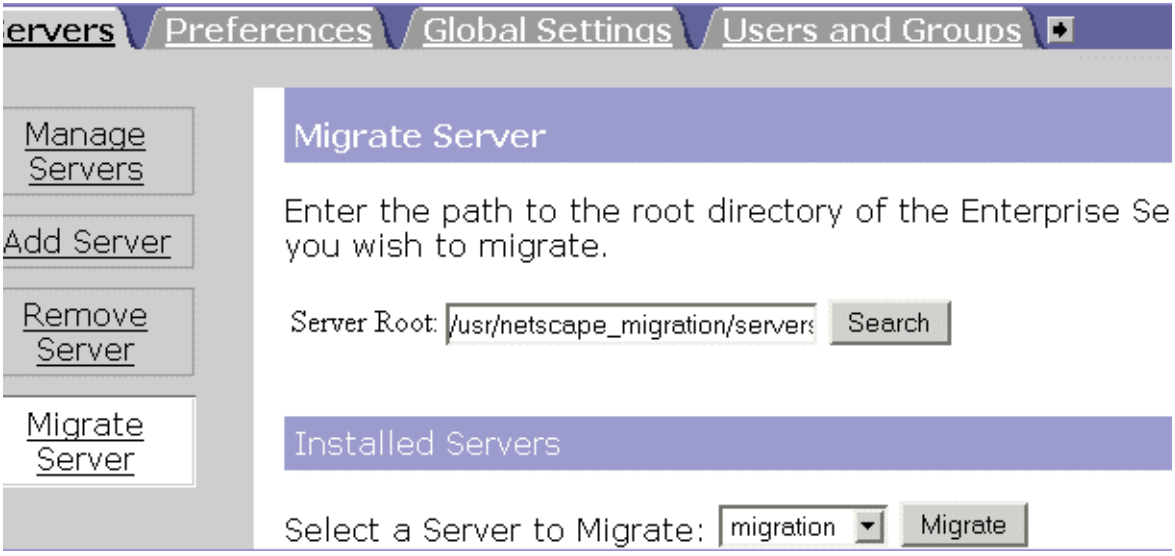
   `/usr/netscape/server4`

   `C:\netscape\server4`

   Sun ONE Web Server detects whether there are server instances installed in the directory you specified and displays the servers you can migrate in a section of the page called “Installed Servers.” The Administration Server cannot be migrated.

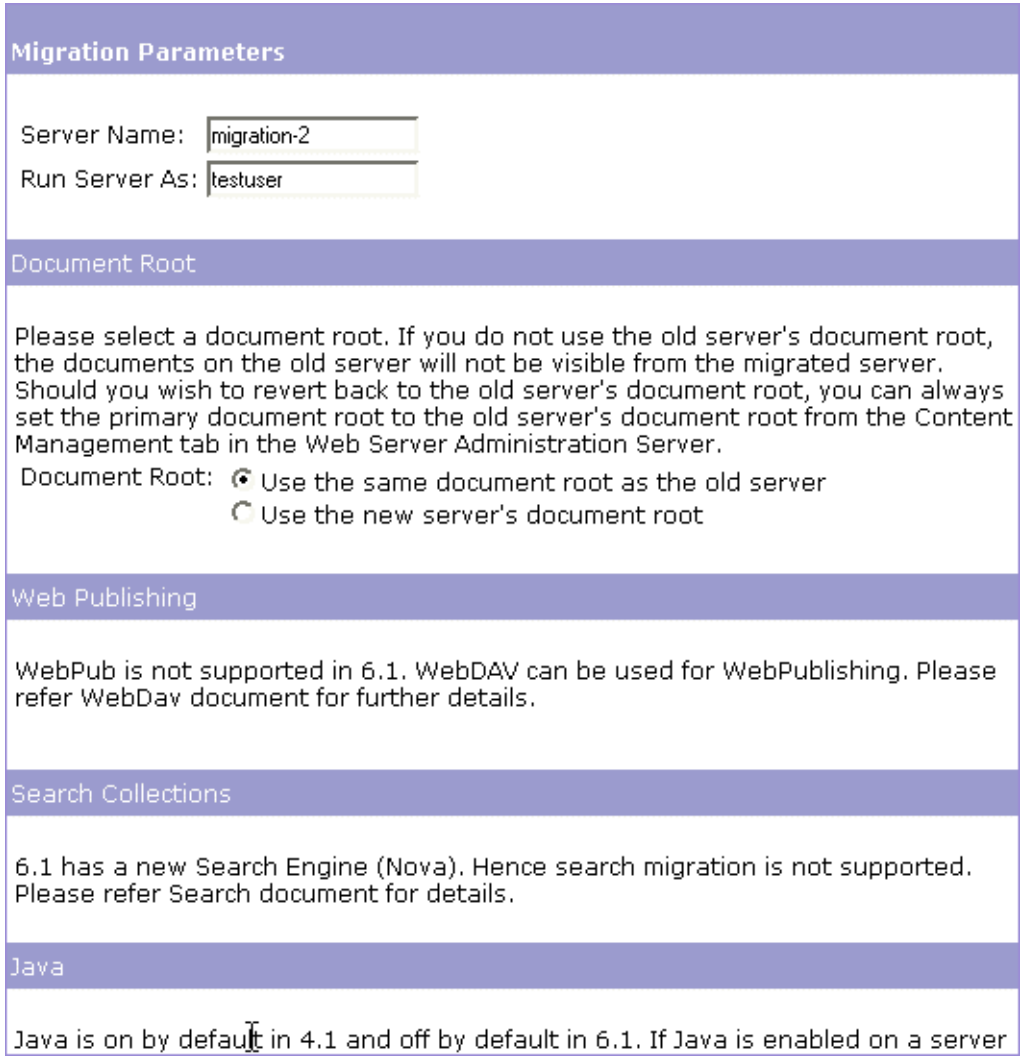
4. Choose a server from the drop-down list and click Migrate.

   Select a Server to Migrate



5. In the new Migration parameters window that is launched, specify the migration parameters.

   Specify the Migration Parameters



   The sections on the form that you see depend upon which features your 4.1 iPlanet Web Server is using and which components you installed. The following sections of parameters are possible:

   - General Migration Parameters

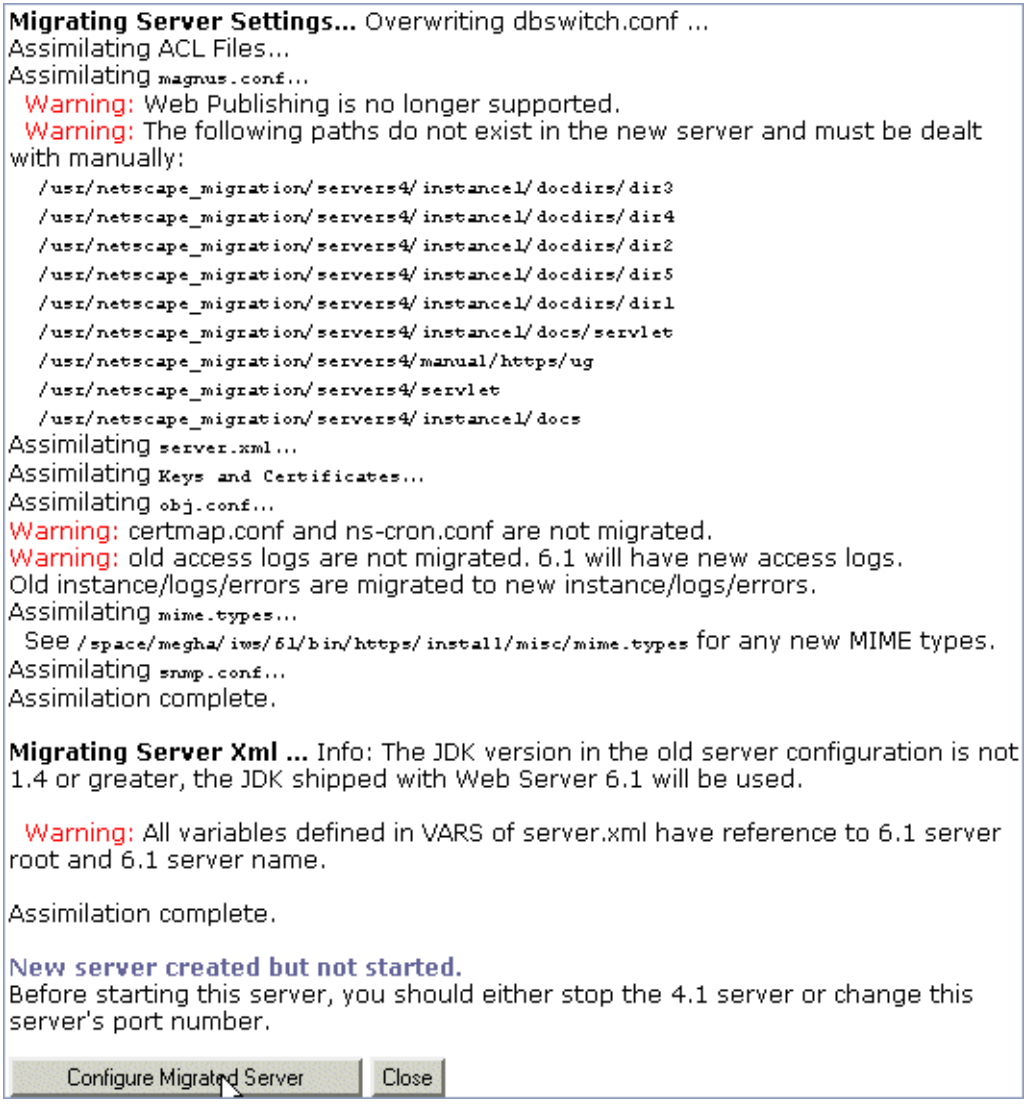
- Document Root
- Java

For more information, see The Migration Parameters Page in the online help.

6. Click Migrate.

   The Migrate *server_name* page appears. It shows the results of the migration, including the parameters successfully migrated and the parameters that you need to migrate manually. It also shows any features of your 4.1 server that are not supported in 6.1.

   The Migrate server-name Page



NOTE During migration from a version 4.1 release, the Address directive from the `magnus.conf` file, which is deprecated in the Sun ONE Web Server 6.1 is also migrated. This leads to the following warning message at server startup: "Warning ( ): Address directive ignored." You can ignore this warning message.

7. Click Configure Migrated Server to configure your migrated server instance in the Server Manager, or click Close to close the migration window.

The Migrate *server-name* Page

When you migrate, you see a page (Migrate *server_name*) that logs all the migration information, including all errors encountered. You receive warnings for the features you used in iPlanet Web Server 4.1 that are not supported in Sun ONE Web Server 6.1. The migration program does not migrate entries in `obj.conf` that are for obsolete features.

If you get fatal errors while migrating, the migration continues. The results page shows what errors occurred and you can use this information to troubleshoot.

Migrating the Administration Server

You can only migrate individual server instances. You cannot migrate your administration server. After you have migrated your iPlanet Web Server instances, you need to set up features such as distributed administration and clusters again in your 6.1 Administration Server.

You can also migrate keys and certificates.

Migrating User and Group Information

If you used the Directory Server, you do not need to do anything during the migration process to migrate users and groups. After migrating, in the Administration Server, on the Global Settings tab, use the Configure Directory Service page to point to a Directory Server.

Migrating Virtual Servers

iPlanet Web Server 4.1 provided two methods for creating hardware virtual servers: the *object* method and the *virtual* method. How hardware virtual server information is migrated depends upon which method you used:

- If your iPlanet Web Server 4.1 hardware virtual servers were created using the object method, these hardware virtual server settings are migrated from the 4.1 `obj.conf` file to the 6.1 `server.xml` file.
- If your iPlanet Web Server 4.1 hardware virtual servers were created using the virtual method, these hardware virtual server settings are migrated from the 4.1 `virtual.conf` file to the 6.1 `server.xml` file.

iPlanet Web Server 4.1 software virtual servers settings are migrated from the 4.1 `obj.conf` file to the 6.1 `server.xml` file.

Migrating ACLs

If you had ACLs set up in your Administration Server 4.1 for distributed administration, these ACLs are not migrated. You must add them manually to your new Administration Server.

Migrating Certificates

The migration process copies the database files in the *4.1_server_root*`/alias` directory, such as `key3.db` and `cert7.db`, to the *6.1_server_root*`/alias` directory.

In addition, the SSL parameters located in the 4.1 server's `magnus.conf` file are automatically added to the 6.1 `server.xml` configuration file.

The ACL-related files, `secmod.db` and `dbswitch.conf` files are overwritten during migration.

For more information on using certificates with Sun ONE Web Server, see the Sun ONE Web Server *Administrator's Guide.*

Migrating Applications

After migrating your server settings and data, you may also need to make changes to your applications so that they run on Sun ONE Web Server 6.1.

Migrating NSAPI Applications

Most NSAPI programs you used with iPlanet Web Server 4.1 will work in Sun ONE Web Server 6.1 without being recompiled. Some undocumented data structures have been moved out of `nsapi.h` and are no longer public. Going forward, if your plugins use any of these data structures, you should re-write them to use accessor functions. The data structures that are now private are defined in `nsapi_pvt.h`, which is shipped with the build for informational purposes only.

Custom NSAPI plug-ins are not automatically copied to the new server directory. If you have custom plug-ins, make sure you copy your plug-ins to the upgraded path as shown in the `magnus.conf` of the new server.

For more information on these data structures and the new accessor functions, see the Sun ONE Web Server 6.1 *NSAPI Programmer's Guide*.

Server-side Java Applets (HttpApplets)

Server-side Java applets (HttpApplets) are not supported. Instead use Java servlets. You will need to rewrite your server-side Java applets as servlets and reinstall them.

What Does Not Get Migrated

The migration process does not migrate the following:

- 4.1-style legacy servlets

  See "Java Servlets" on page 86 for more information.

- Search collections and indexes

  See "Search" on page 88 for more information.

- Start and Stop scripts

  See "Start and Stop Scripts" on page 88 for more information.

- Cron-control settings

  See "Cron Control" on page 87 for more information.

- Certificate mappings

  See "The certmap.conf File" on page 87 for more information.

- WAI
- Web Publishing

  See "Web Publishing" on page 88 for more information.

- Server Side JavaScript (SSJS)/LiveWire

  See "Server Side JavaScript (SSJS)/LiveWire" on page 88 for more information.

Summary of Migration-Related Changes

When you migrate information from iPlanet Web Server 4.1 to Sun ONE Web Server 6.1, the changes are made in the following areas:

- Access and Error Logs
- Configuration Files
- Java Server Pages
- Java Servlets
- Cron Control
- The certmap.conf File
- Simple Session Manager
- Virtual Servers
- Web Publishing
- Search
- Start and Stop Scripts
- Symbolic Links in Configuration Files (UNIX and Linux)
- Server Side JavaScript (SSJS)/LiveWire

Access and Error Logs

The access and error server log files record your server's activity. During migration, new access logs are created. Error logs from the 4.1*server-instance*/logs directory is copied to the *server-instance*/logs in Sun ONE Web Server 6.1.

Configuration Files

Certain directives found in the iPlanet Web Server 4.1 `magnus.conf` file are now located in the Sun ONE Web Server 6.1 `server.xml` file. During the migration process, these directives are automatically removed from the 6.1 server's `magnus.conf` file and added to the `server.xml` file.

In addition, `Init` functions located in the iPlanet Web Server 4.1 `obj.conf` file are moved to the Sun ONE Web Server 6.1 `magnus.conf` file.

For a list of deprecated directives, see the Sun ONE Web Server 6.1 *Administrator's Configuration File Reference*.

NOTE During migration, multi-line `Init` directives are compressed to single-line directives in the Sun ONE Web Server 6.1 `magnus.conf` file.

Java Server Pages

iPlanet Web Server 4.0 Java Server Pages (JSPs) were written in JSP 0.92. The iPlanet Web Server 4.1 and 6.0 JSPs are written in JSP 1.2. Version 0.92 is no longer supported in Sun ONE Web Server 6.1. JSPs must be rewritten according to the version 1.2 standard. In addition, it is recommended that developers create JSPs as part of web applications. Style examples can be found in *server_root*`/plugins/servlets/examples/web-apps`.

JSPs written in JSP 1.2 that are part of a web application can reside in any directory that the server can serve from.

JSP 1.2 samples are in *server_root*`/plugins/samples/servlets/jsp.10`.

Java Servlets

Netscape Enterprise Server / iPlanet Web Server 4.0 and 4.1 supported the Java Servlet 2.1 specification. This specification did not include web applications. A deployment scheme was developed to make servlet deployment simpler. With the advent of Java Web Applications (`.war` files) and their deployment descriptors, it is no longer necessary to maintain a proprietary deployment system.

iPlanet Web Server 6.0 supported both types of deployment schemes, but the 4.x implementation (referred to as legacy servlets) was marked as deprecated (See Chapter 8: "Legacy Servlet and JSP Configuration" of the iPlanet Web Server, Enterprise Edition Programmer's Guide to Servlets).

Sun ONE Web Server 6.1 no longer supports Legacy Servlets. The legacy-style properties files for the server you want to migrate - `servlet.properties`, `context.properties`, and `rules.properties` - are removed during migration.

Because there is no one-to-one mapping for all of the features, legacy servlets cannot be migrated automatically.

For documentation and samples to help you migrate your 4.1 legacy-style servlets to the web applications structure, see the Sun ONE Web Server 6.1 *Programmer's Guide to Web Applications*.

Cron Control

Cron file names have been changed in Sun ONE Web Server 6.1. The file `ns-cron.conf` is called `schedulerd.conf` in Sun ONE Web Server 6.1, and the file `cron.conf` is now called `scheduler.conf`. These are located in the `https-admserv/config` directory.

Cron settings from the previous version of your Web server are however not migrated to Sun ONE Web Server 6.1during migration. Please copy the cron settings for the migrated instance to the cron files.

The certmap.conf File

The certificate mapping file, `certmap.conf`, is not migrated during the migration process. During migration you receive a message that you need to manually migrate existing entries in the `certmap.conf` of the server instance you want to migrate.

Simple Session Manager

Simple Session Manager and JDBC Session Manager are not supported by Sun ONE Web Server 6.1. For more details about session managers, see the Sun ONE Web Server 6.1 *Programmer's Guide to Web Applications*.

If your iPlanet Web Server 4.1 web applications specified `SimpleSessionManager`, you should change the name of the class to `IWSSessionManager`. You then have the option of adding persistence. `Persistence-type` must be set to `s1ws60`. Other `Init` attributes such as `timeOut` and `reapInterval` are unchanged.

If your iPlanet Web Server 4.1 web application specified `JDBCSessionManager`, you should change the name of the class to `IWSSessionManager` and add the following attribute to the `init-param` element of the session manager: `session-data-store='com.netscape.server.http.session.JdbcStore'`. Persistence-type must be set to `s1ws60`.

Other attributes such as `provider` and `url` remain unchanged.

The package name of the `MMapSessionManager` has been changed from `com.netscape.server.http.session` in the 4.1 version of the Web Server to `com.iplanet.server.http.session` in the 6.0 and 6.1versions.

Virtual Servers

In iPlanet Web Server 4.1, you could create multiple server instances using hardware and software virtual servers, but these instances were required to share the same configuration information. With Sun ONE Web Server 6.1, you can set up multiple *classes* of virtual servers. Each class has separate configuration information.

The settings for virtual servers are stored in the `server.xml` file, found in the *`server_root`*`/`*`server_ID`*`/config` directory. See the Sun ONE Web Server 6.1 *Administrator's Guide* for more information about virtual servers.

Web Publishing

Sun ONE Web Server 6.1 does not support the iPlanet Web Server 4.1 Web Publishing feature. It provides a new feature called WebDAV that enables collaborative file sharing and authoring on the Web. See the Sun ONE Web Server 6.1 *Administrator's Guide* for more information about WebDAV.

Search

Because the search engine used in iPlanet Web Server 4.1 has been replaced by a new search engine in Sun ONE Web Server 6.1, existing search collections and indexes are not migrated during the migration process. To use the Search functionality in Sun ONE Web Server 6.1, you will have to create and configure new search collections and indexes. For more details, see the Sun ONE Web Server 6.1 *Administrator's Guide*.

Start and Stop Scripts

If you've made modifications to your start or stop scripts in your 4.1server, those changes will not be carried forward by the migration program. This applies to the reconfig, restart and rotate scripts as well.

Symbolic Links in Configuration Files (UNIX and Linux)

Symbolic or relative links in server configuration files may cause problems when upgrading. Make sure that server configuration files that contain absolute references to files under the server root always reference the path to the server root in the same way. Preferably, these links should not transverse any symbolic links.

Server Side JavaScript (SSJS)/LiveWire

Data and settings are not migrated applications that use SSJS/Livewire.

See the Sun ONE Web Server 6.1 *Programmer's Guide to Web Applications* for an appendix explaining how to convert SSJS applications to JSPs. In addition, find an example of a converted application in *server_root*`/plugins/samples/servlets/jsp.10/hangman`.

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