Content Server

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Installing Content Server with Sun Java Enterprise System

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Chapter 1

Installation Overview

This document provides guidelines for installing Content Server on Sun Java Enterprise System 2004Q2, 2005Q1, and 2005Q3 connecting to a supported database of your choice.

Note

Anyone using this guide is expected to have experience installing and configuring databases, web servers, and application servers. Selected information regarding the configuration of third-party products is given in this guide. For detailed information about a particular third-party product, refer to that product's documentation.

In this guide, Sun Java Enterprise System is called "JES."

This chapter provides information that will help you prepare for the Content Server installation. It contains the following sections:

- What This Guide Covers
- What This Guide Does Not Cover
- System Requirements
- Terms and Acronyms
- Graphics in This Guide
- Installation Steps

What This Guide Covers

This guide covers the usage of Sun Java Enterprise System versions 2004Q2, 2005Q1, and 2005Q3 as they pertain to Content Server. Topics covered include the installation and configuration of a database, installation and configuration of JES (portal/Directory Server Optional), creation of a data source, deployment of `war` and `ear` files, configuration of a cluster, configuration of a remote web server, and the installation of Content Server.

What This Guide Does Not Cover

This guide does not cover the following topics, as they fall outside the scope of this guide:

- Installation of the Apache and IIS web servers
- SSL configuration on Apache and IIS

How This Guide Is Organized

The content of this guide is organized by function rather than the order in which installation steps are completed. For example, a function such as application deployment is associated with the application server. It is presented in Part II (which covers the application server), even though it is performed, later, when Content Server is installed (Part IV). Each major component of the Content Server installation is covered in its own part.

Installation Summary

After you install and configure the J2EE components that support Content Server, you will run the Content Server installer, which will guide you through the installation process. You will run the installer on each development, delivery, and management system on which you plan to use Content Server. During the Content Server installation, you will have the option to install or bypass sample sites and sample content, depending on the system you are setting up and on your business needs.

Note

The names of the systems in your Content Server environment might vary from the names used in this document. Generally, the management system is also called “staging,” and the delivery system is also called “production.”

System Requirements

System requirements for installing Content Server are given in the following documents, located on your Content Server installation CD:

- *Content Server Supported Platform List*, which specifies third-party databases and drivers, application servers, web servers, and other software required for installing and running Content Server.
- *Content Server Release Notes*

FatWire recommends that you read both of these documents before installing Content Server.

Note

The latest versions of the above-mentioned documents are located at the following URL (password-protected):

`http://e-docs.fatwire.com/CS`

If you need a password, contact FatWire Technical Support. Contact information is available at the following URL:

`http://www.fatwire.com/Support/contact_info.html`

The e-docs website is organized by product and version number. To obtain the correct documents, follow the link for the version of Content Server you are installing.

Terms and Acronyms

The following table defines the acronyms that are used throughout this guide.

Term	Definition
AS	Application Server
CA	Certified Authority
JES	Java Enterprise System
lb	load balancer
SJSAS	Sun Java Enterprise Application Server
SJSWS	Sun Java Enterprise Web Server
SSL	Secure Sockets Layer
TA	Trusted Authority

Graphics in This Guide

Many steps in this guide include screen captures of dialog boxes and similar windows that you interact with in order to complete the steps. The screen captures are presented to help you follow the installation process. They are not intended to be sources of specific information, such as parameter values, options to select, or product version number.

Installation Steps

The steps below summarize the installation/configuration of Content Server and its supporting software. Keep the steps handy as a quick reference to the installation procedure and to chapters that provide detailed instructions.

1. Ensure that you have licensed copies of all the software you will be installing. For the latest specifications on Content Server's supporting software, refer to the *Content Server Supported Platform List* and *Release Notes*. The latest versions of these documents are available on the e-docs website (password-protected), at the URL that is given in "System Requirements," on page 8.
2. Install, create, and configure your choice of supported databases. For instructions on creating and configuring the database, see our configuration guide, *Third-Party Software*.
3. Install JES and verify the installation.

   For instructions, see Chapter 3, "Installing Sun Java Enterprise System." Note that Chapter 3 also provides supplementary information for uninstalling JES (as necessary), as well as starting and stopping JES components (the application server, identity server, and directory server).
4. Configure the JES installation. The steps that you will complete depend on the components you have selected for your installation. The steps are outlined below and given in the sections of Chapter 4, "Configuring JES Application Server."
   - If you need to create a new server instance and node agent, follow the steps in "Working with Server Instances," on page 25.
   - If you are creating a portal installation, follow the steps in "Modifying an App Server Instance to Support Portal Installations (for JES Q305 only)," on page 29.
5. Configure the data source. The steps are outlined below and given in detail in Chapter 5, "Working with the Data Source."
   a. Modify the classpath of the domain (created during the JES installation) to include database connection jars.
   b. Modify the classpaths(s) of the node agent(s).
   c. Create a data source.
6. If you are planning to use a web server, generate the loadbalancer plugin that comes with JES application server. For instructions, see "Generating the JES Application Server LoadBalancer Plugin," on page 42.
7. Install Content Server by running the installer. For instructions, see Chapter 10, "Installing the Content Server Web Application and Portal" and take note of the following:

- Halfway through the installation, you will need to deploy Content Server, using either the command line or the graphical web-based method. For instructions on deploying Content Server, see Chapter 6, "Deploying Applications."
- If you are creating a portal installation, you must integrate it with LDAP and you must do so during the Content Server installation process. If you bypass LDAP integration, you will need to reinstall Content Server and make sure to enable the LDAP integration option when prompted by the installer.
- If you are creating a web installation and wish to integrate with LDAP, you can do so either during the Content Server installation or after the installation is complete. If you choose to integrate afterward, follow instructions in our configuration guide, *Third-Party Software*.
- You will have the option to install sample sites and their content. If you are installing a production system, do not install any samples sites and content on the system.

8. Complete the Content Server installation by performing the steps in Chapter 11, "Completing the Content Server Installation." The steps are summarized below:
   a. Verify the Content Server installation by logging in.
   b. If you created a portal installation, configure the portal installation to display the correct portlets on the required pages.
   c. If you created a web installation and wish to integrate with LDAP, see our configuration guide, *Third-Party Software* for instructions.
   d. If you wish, you can install the Verity search engine.
9. If you are creating a clustered installation, repeat step 7 and follow instructions in "Working with Clusters," on page 27."
10. Optional. Install and configure a supported web server.
    a. For instructions on installing the web server, see Chapter 8, "Installing a Web Server."
    b. For instructions on configuring the web server, see Chapter 9, "Configuring the Web Server and JES LoadBalancer Plugin." Note the following:
       1) If you installed a JES web server, follow the steps in "Configuring Sun JES Web Server," on page 66." For all other supported web servers, follow the steps in "Configuring Apache and IIS Web Servers," on page 79.
       2) Make sure to configure the loadbalancer plugin for your choice of web server. For instructions, see "Configuring the LoadBalancer Plugin for the Web Server," on page 80.
11. Once the entire installation is completed and verified, you are ready to set up Content Server for its business purpose.

Part 1

Database

This part contains a short chapter summarizing the databases that Content Server uses. Instructions on creating and configuring the databases are given in our configuration guide, *Third-Party Software*.

This part contains the following chapter:

- Chapter 2, "Setting Up a Database"

Chapter 2

Setting Up a Database

Content Server requires access to a supported database that is specifically configured for Content Server.

The complete list of supported databases (as well as other third-party components) is available in the *Supported Platform Document,* accessible from:

`http://e-docs.fatwire.com/CS`

Before installing any other of Content Server's supporting software, you must complete the following steps:

1. Install the database management system.
   For instructions, refer to the product vendor's documentation.
2. Create and configure a database for Content Server.
   For instructions, consult our configuration guide, *Third-Party Software.* Note that database configuration is identical across different application servers. Refer to the correct chapter to create and configure the database of your choice.

Part 2

Application Server

This part contains information about installing and configuring the Sun JES Application Server to support and deploy your Content Server web application or portal.

This part contains the following chapters:

- Chapter 3, “Installing Sun Java Enterprise System”
- Chapter 4, “Configuring JES Application Server”
- Chapter 5, “Working with the Data Source”
- Chapter 6, “Deploying Applications”
- Chapter 7, “Setting Up the Sun JES Application Server LoadBalancer Plugin”

Chapter 3

Installing Sun Java Enterprise System

This chapter provides instructions for installing and verifying JES for use by Content Server.

This chapter contains the following sections:

- Installing JES
- Uninstalling JES
- Starting and Stopping JES Components
- Verifying the JES Installation

Installing JES

1. Procedures for installing JES are environment specific. They depend on licensing terms and the JES version, among other factors.
   - For instructions on installing JES on your environment, consult the JES documentation. Commands for starting and stopping JES components are given in the next section.
   - For reference, Appendix A in this guide provides a sample JES procedure for installing JES.
2. When you have completed the JES installation, complete the steps in "Verifying the JES Installation," on page 21.

Uninstalling JES

For reference, Appendix A provides a sample procedure for uninstalling JES by the use of scripts obtained from Sun Microsystems.

Starting and Stopping JES Components

This section provides the commands for starting and stopping the application server, access manager (identity server) and the directory server.

Note

If you have Directory Server (LDAP integrated systems), start the Access manager and Directory Servers **before** starting the application server.

Application Server

- To start:

```
# /opt/SUNWappserver/appserver/bin/asadmin start-domain \
   --user admin --password <admin_user_password> domain1
```

- To stop:

```
# /opt/SUNWappserver/appserver/bin/asadmin stop-domain domain1
```

Access Manager (Identity Server)

- To start

```
# /opt/SUNWam/bin/amserver start
```

- To stop

```
# /opt/SUNWam/bin/amserver stop
```

Directory Server

- To start

  ```
  # /usr/sbin/directoryserver start
  ```

- To stop

  ```
  # /usr/sbin/directoryserver stop
  ```

Verifying the JES Installation

1. Log in and test the application server.

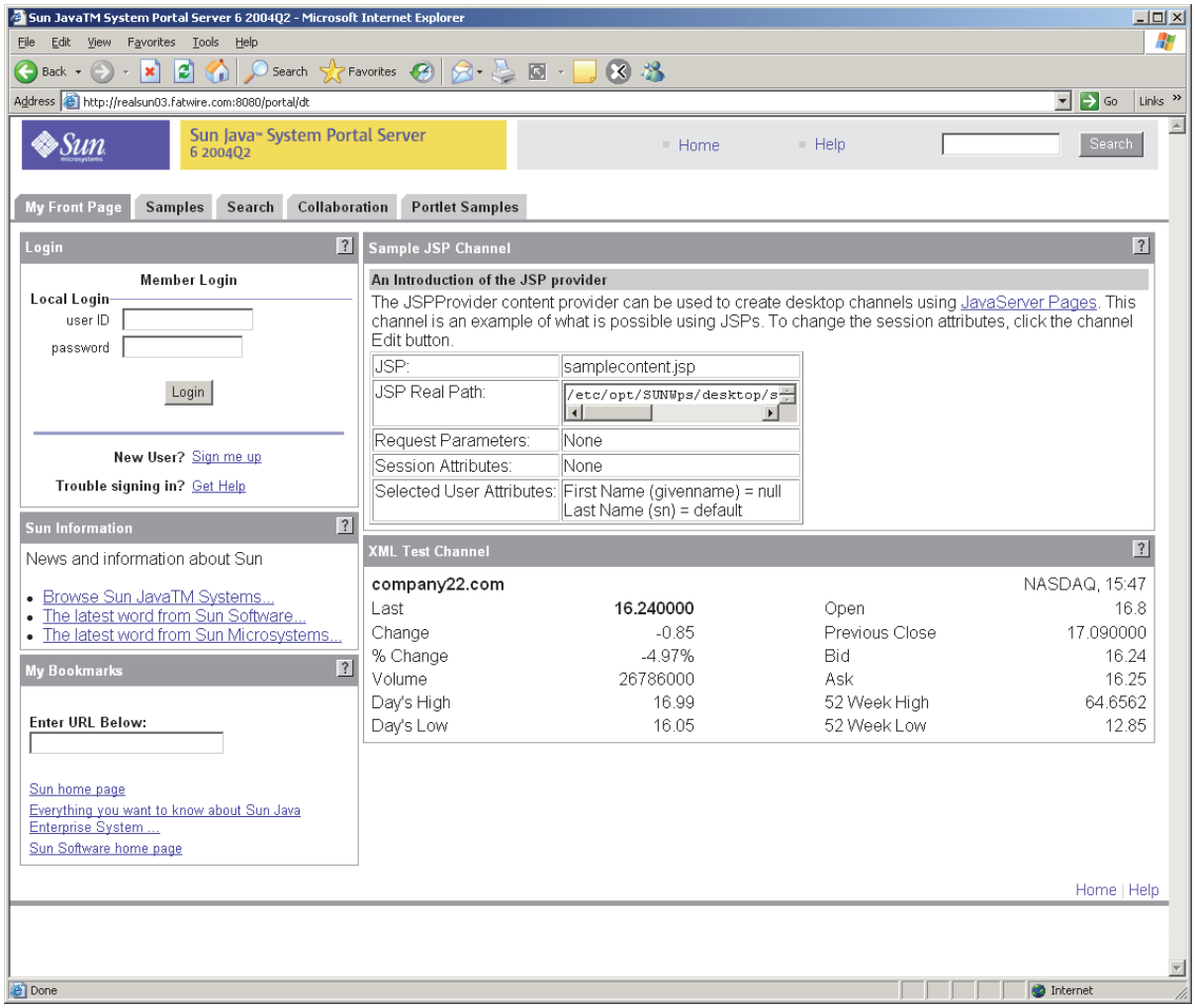
> **Note**
>
> **Ports:** The ports given below (4849 and 8080) are the default ports. If they were changed during the installation, enter the new port numbers in their place, wherever appropriate.
>
> **Connections:** By default, JES no longer allows connections to the console without SSL being enabled.

2. Connect to the administrative interface to confirm the server is running:

   ```
   URL: https://<hostname>:4849/admingui/
   ```

3. If a portal server is installed:
   a. Log in and test the portal server.
   b. Access the following URL to confirm the portal is running:

      `http://<hostname>:8080/portal/dt`



Chapter 4

Configuring JES Application Server

This chapter provides instructions for configuring JES Application Server for use by Content Server.

This chapter contains the following sections:

- Working with Domains
- Working with Server Instances
- Working with Clusters
- Modifying an App Server Instance to Support Portal Installations (for JES Q305 only)

Working with Domains

This section provides instructions for completing the following operations:

- Backing Up a Domain
- Restoring a Domain

Backing Up a Domain

You may wish to back up your domain before you attempt to modify it. This allows you to restore the domain later on if something fails to work properly.

To back up a domain

1. Stop the domain you wish to back up:

   ```
   ./asadmin stop-domain domain1
   ```

2. Back up the domain:

   ```
   ./asadmin backup-domain --domaindir  /var/opt/SUNWappserver/
        domains/ --description 092505backup_domain1 domain1
   ```

3. Write down the name of the backup information that is given after the backup task is complete, as you will need this information to restore the domain.

   For example:

   ```
   Backup Filename: /var/opt/SUNWappserver/domains/domain1/
      backups/sjsas_backup_v00001.zip
   Date and time backup was performed: Sat Sep 24 12:13:44 EDT
      2005
   Domains Directory: /var/opt/SUNWappserver/domains
   Domain Directory: /var/opt/SUNWappserver/domains/domain1
   Domain Name: domain1
   Name of the user that performed the backup: root
   ```

4. Restart the domain:

   ```
   ./asadmin start-domain --user admin --password demo4132 domain1
   ```

Restoring a Domain

1. Stop the domain you wish to back up:

   ```
   ./asadmin stop-domain domain1
   ```

2. Restore the domain:

   ```
   ./asadmin restore-domain --filename /var/opt/SUNWappserver/
         domains/domain1/backups/sjsas_backup_v00001.zip domain1
   ```

3. Restart the domain:

   ```
   ./asadmin start-domain --user admin --password demo4132 domain1
   ```

Working with Server Instances

This section provides instructions for completing the following operations:

- Creating a New Server Instance and Node Agent (as Necessary)
- Deleting a Server Instance
- Deleting a Node Agent

Creating a New Server Instance and Node Agent (as Necessary)

The following steps show you how to create a new server instance on which to install Content Server. A new server instance is helpful, as it allows you to separate your Content Server installation from administration functions. Note, however, that while the server instance can be expanded for use in portal installations, the procedure is outside the scope of this guide. Instead, you will be creating a new node (named `realsun03` in our examples) and a new instance (named `csPortal` in our examples).

Note

All commands below are based on the assumption that your current location is `/opt/SUNWappserver/sbin` (which is the location where your JES application server is installed).

1. List all know instances:

   ```
   ./asadmin list-instances --host localhost --port 4849 \
      --user admin --password demo4132
   ```

   Normally the command returns `none` for a new installation.

2. List all known node agents:

   ```
   ./asadmin list-node-agents --host localhost --port 4849 \
      --user admin --password demo4132
   ```

   Normally the command returns `none` for a new installation.

3. Create a new node agent:

   ```
   ./asadmin create-node-agent --host localhost \
      --port 4849 --user admin --password demo4132 realsun03
   ```

   Enter a master password when prompted. (Note that your password is not displayed as you type it. Be sure that you enter the password correctly.)

4. Start the new node agent:

   ```
   ./asadmin start-node-agent --user admin \
      --password demo4132 realsun03
   ```

Note

Before continuing, you can repeat step 2 now as it will show whether your new node agent was correctly created (this can also be confirmed from the administrative GUI).

5. Create a new instance:

```
./asadmin create-instance --user admin --password demo4132 \
   --host localhost --port 4849  --nodeagent realsun03s\
   csPortal
```

6. Start the new instance:

```
./asadmin start-instance --host localhost --port 4849 \
   --user admin --password demo4132 csPortal
```

> **Note**
>
> Before continuing, you can repeat step 1 now as it will show whether your new instance was correctly created (this can also be confirmed from the administrative GUI).

7. List information on the new instance, including ports:

```
./asadmin list-system-properties --host localhost \
   --port 4849 --user admin --password demo4132  csPortal
```

This command returns information similar to the following, which is a list of all the ports allocated to this new instance:

```
HTTP_LISTENER_PORT=38080
HTTP_SSL_LISTENER_PORT=38181
IIOP_SSL_LISTENER_PORT=33820
IIOP_LISTENER_PORT=33700
JMX_SYSTEM_CONNECTOR_PORT=38686
IIOP_SSL_MUTUALAUTH_PORT=33920
Command list-system-properties executed successfully.
```

Deleting a Server Instance

1. Stop the instance:

```
./asadmin stop-instance --user admin --password demo4132 \
   --host localhost --port 4849 csPortal
```

2. Delete the instance:

```
./asadmin delete-instance --user admin --password demo4132 \
   --host localhost --port 4849 csPortal
```

Deleting a Node Agent

1. Stop the node agent:

```
./asadmin stop-node-agent realsun03
```

2. Delete the node agent:

```
./asadmin delete-node-agent realsun03
```

Working with Clusters

This section provides instructions for completing the following operations:

- Creating a Cluster
- Migrating EJB Timers on a Cluster
- Deleting a Cluster
-

Creating a Cluster

1. List existing clusters:

```
./asadmin list-clusters --user admin --password demo4132 \
   --host localhost --port 4849
```

2. Create a new cluster:

```
./asadmin create-cluster  --user admin --password demo4132 \
   --host localhost --port 4849 testCluster
```

3. Create a new instance to add to your cluster:

> **Note**
>
> For detailed instructions on creating a node agent and instance see section "Creating a New Server Instance and Node Agent (as Necessary)," on page 25. Follow the instructions as given. However, add the `--cluster <name>` option to the `create-instance` command.

```
./asadmin create-instance --user admin --password demo4132 \
   --host localhost --port 4849  --cluster testCluster \
   --nodeagent portalTest Ctest
```

4. Start the new cluster:

```
./asadmin start-cluster --user admin --password demo4132 \
   --host localhost --port 4849 testCluster
```

Migrating EJB Timers on a Cluster

1. Locate the stopped instance by using the list command:

```
./asadmin list-instances --host localhost --port 4849 \
   --user admin --password demo4132
```

2. Move the EJB timers from the stopped instance to one that is running on the same cluster. In this case move the EJB timers from Dtest to Ctest:

```
./asadmin migrate-timers --user admin --password demo4132 \
   --host localhost --port 4849 --destination Ctest Dtest
```

3. Restart the instance to which the timers were moved:

```
./asadmin stop-instance --user admin --password demo4132 \
   --host localhost --port 4849 Ctest
```

```
./asadmin start-instance --host localhost --port 4849 \
   --user admin --password demo4132 Ctest
```

Deleting a Cluster

1. Delete all instances located in the cluster:

   ```
   ./asadmin delete-instance --user admin --password demo4132 \
      --host localhost --port 4849 Ctest
   ```

2. Stop the cluster:

   ```
   ./asadmin stop-cluster --user admin --password demo4132 \
      --host localhost --port 4849 testCluster
   ```

3. Delete the cluster:

   ```
   ./asadmin delete-cluster  --user admin --password demo4132 \
      --host localhost --port 4849 testCluster
   ```

4. List the remaining cluster to ensure that the deletion was completed:

   ```
   ./asadmin list-clusters --user admin --password demo4132 \
      --host localhost --port 4849
   ```

Modifying an App Server Instance to Support Portal Installations (for JES Q305 only)

By default, the portal is installed on the "server" instance, which was created during the installation of the portal. If you wish to deploy the portal to a new instance, follow the steps in this section.

1. Execute `/opt/SUNWps/bin/multiserverinstance` (the location may vary with the installation).
   a. Select option 1: "C**reate a new portalserver instance**"
   b. Select option 3: "**Sun Java Systems Application Server 8.1**"
   c. Answer the following questions when prompted:

```
Where is the Web Container installed? [/opt/SUNWappserver/
   appserver]

What is the domain name? [domain1]

What is the domain (DAS) path? [] /var/opt/SUNWappserver/
   domains/domain1/

What is the Web Container instance path? [] /var/opt/
   SUNWappserver/nodeagents/<node agent name>/<instance
   name>/

What is the Web Container administrator? [admin]

What is the Web Container administration port? [4849]

Is the Web Container administration port secure? [y]/n y

Instance name? <instance to add portal to>

Instance port? <port on which the instance is running>

Is the instance port secure? y/[n] n

What is the Web Container document root directory? [/var/
   opt/SUNWappserver/nodeagents/realsun03a/csInstanceA//
   docroot]

What is the Application Server administration password?
   <hidden>

What is the Identity Server administration password?
   <hidden>
```

   d. Confirm that your previous selections are correct and click [**y**].
   e. Allow the installation to complete.
2. If you already have a portal configured on another instance, then the script will fail to redeploy the portal applications. To correct the situation, do the following:
   a. Log in to the admin console.
   b. Complete the steps below for each of the following web applications: amserver, ampassword, amcommon, amconsole, portal, portalsamples.
      1) Select the application.
      2) Select the **Targets** tab.

3) Click the **Manage Targets** button.
4) Add the instance that was added above (in step 1 on page 29).
5) Click **OK**.

c. Restart the affected instance and domain.

Chapter 5

Working with the Data Source

This chapter provides instructions for creating a domain and data source for web and portal installations.

This chapter contains the following sections:

- Modifying the Classpath of a Domain
- Manually Modifying the Classpath of a Node Agent
- Creating a New Data Source
- Deleting a Data Source

Modifying the Classpath of a Domain

The classpath of a domain must be modified to include database connection jars. The basic classpath affects only the domain and not any server instances.

To modify the classpath of a domain

1. Determine the pre_class_path for a server running on a given port:

   ```
   ./asadmin get --user admin --password demo4132 \
      --host localhost --port 4849 server.java-
      config.classpath_prefix
   ```

   Example return:

   ```
   server.java-config.classpath-prefix = /opt/SUNWam/lib/sax.jar:/
      opt/SUNWam/lib/dom.jar:/opt/SUNWam/lib/saaj-api.jar:/opt/
      SUNWam/lib/common-logging.jar:/opt/SUNWam/lib/saaj-
      impl.jar:/opt/SUNWam/lib/mail.jar:/opt/SUNWam/lib/
      activation.jar:
   ```

2. Add a new item to the classpath:

   ```
   ./asadmin set --user admin --password demo4132 \
      --host localhost \
      --port 4849 server.java-config.classpath_prefix={string
      return from get}:{path to classes12.zip}
   ```

   Example of the modified return:

   ```
   /opt/SUNWam/lib/sax.jar:/opt/SUNWam/lib/dom.jar:/opt/SUNWam/
      lib/saaj-api.jar:/opt/SUNWam/lib/common-logging.jar:/opt/
      SUNWam/lib/saaj-impl.jar:/opt/SUNWam/lib/mail.jar:/opt/
      SUNWam/lib/activation.jar:/u01/DB/Oracle/classes12.zip:/u01/
      DB/Oracle/ojdbc14.jar:/u01/DB/JTDS/jtds-1.1.jar:/u01/DB/DB2/
      db2jcc.jar:/u01/DB/DB2/db2jcc_license_cu.jar
   ```

3. Restart the affected domain.

Manually Modifying the Classpath of a Node Agent

This section shows you how to modify the classpath of a node agent, using the graphical interface and a file-based method.

Note

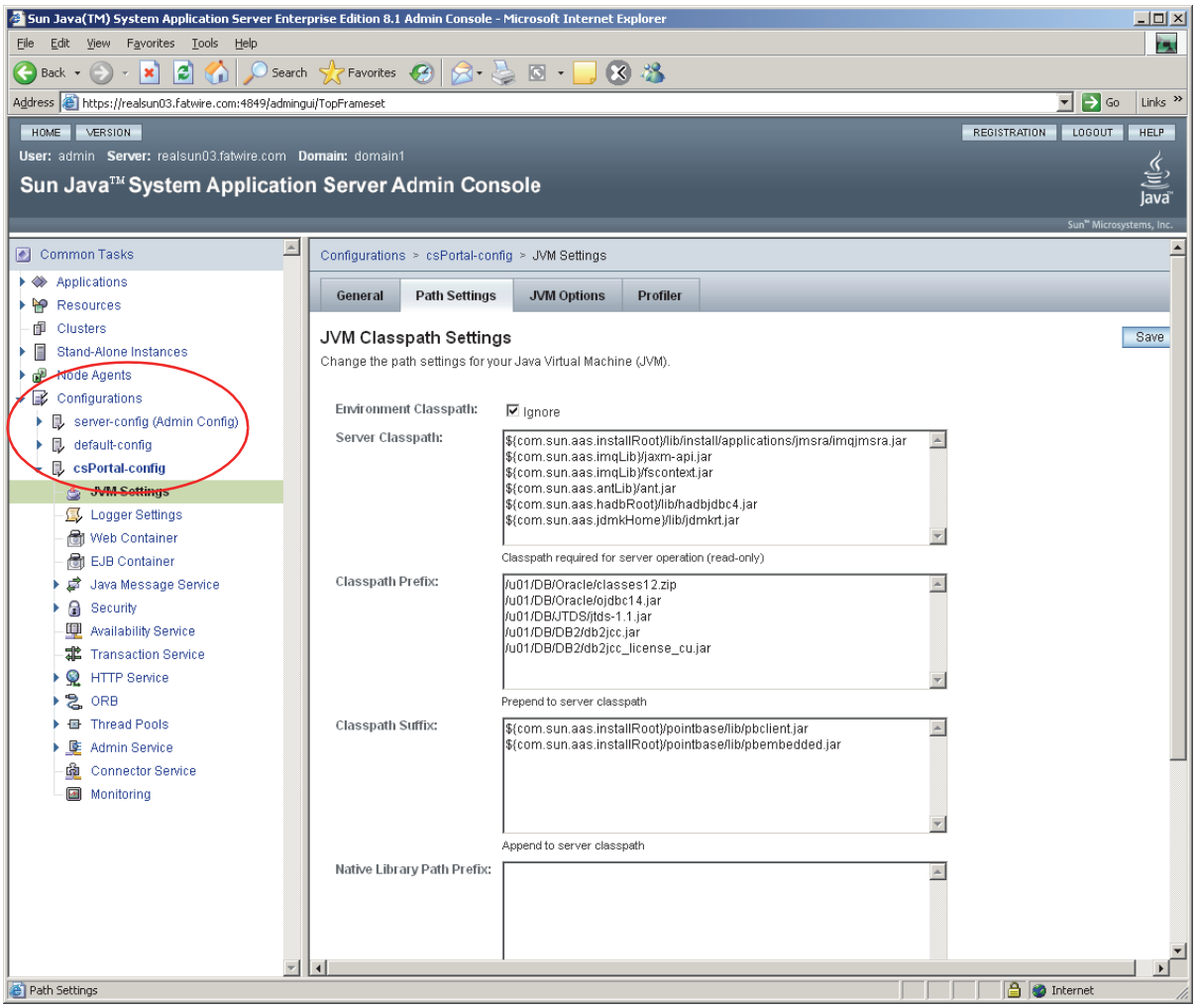
The graphical interface method is preferred. The file-based method is an advanced method for experienced users.

Graphical Method (preferred)

1. Open the admin console of the Sun JES Application Server and browse the left-hand tree to **Configuration > *instance_name* > JVM Settings**.
2. Select the **Path Settings** tab (in the right-hand panel).

a. Add the correct paths to the list box "Classpath Prefix," making sure to list one `jar` file per line.

b. Save the changes by clicking the **Save** button, then restart the instance.



File-based Method (advanced)

The file-based method for modifying the classpath of a node agent involves editing an xml file. In order to successfully edit the file, you must be especially careful to enter all characters correctly. Complete the following steps:

1. Make a backup of `domain.xml (located in: /var/opt/SUNWappserver/domains/domain1/config/domain.xml`
2. Using a text editor, open `domain.xml` (located in: `/var/opt/SUNWappserver/domains/domain1/config/domain.xml`
   a. Search for: `<instance name>-name`
   b. Search again for: `server-classpath`
   c. Add a new section called: `classpath-prefix`
   It has the following form:

```
classpath-prefix="/<path>/file.jar:
   ${path.separator}<path>/file.jar"
```

Example:

```
classpath-prefix="
  /u01/DB/Oracle/classes12.zip:
  ${path.separator}/u01/DB/Oracle/ojdbc14.jar:
  ${path.separator}/u01/DB/JTDS/jtds-1.1.jar:
  ${path.separator}/u01/DB/DB2/db2jcc.jar:
  ${path.separator}/u01/DB/DB2/db2jcc_license_cu.jar"
```

d. Save the changes.

3. Restart the domain.

Creating a New Data Source

1. List all currently created pools and all resources:

```
./asadmin list-jdbc-connection-pools --user admin \
   --password demo4132
```

```
./asadmin list-jdbc-resources --user admin --password demo4132
```

2. Create a new data pool for your database type:

- **For Oracle 9 and 10**:
  Include `ojdbc14.jar` and `classes12.zip` in the classpath

```
./asadmin create-jdbc-connection-pool --user admin \
   --password demo4132 --host localhost --port 4849 \
   --datasourceclassname oracle.jdbc.pool.OracleDataSource \
   --restype javax.sql.ConnectionPoolDataSource \
   --property User=JES3:Password=demo4132:URL=\
   "jdbc:oracle:thin:@10.120.16.55:1521:OraCS621\
   " csPoolOracle
```

- **For SQL Server 2000**:
  Using the third-party JTDS driver, include `jtds-1.1.jar` in the classpath

```
./asadmin create-jdbc-connection-pool --user admin \
   --password demo4132 --host localhost --port 4849 \
   --datasourceclassname net.sourceforge.jtds.jdbcx.
   JtdsDataSource --restype javax.sql.DataSource \
   --property User=csuser:Password=demo4132:
   SelectMethod=Cursor:DatabaseName=CS621:serverName=\
   "win2k3db.fatwire.com\":portNumber=1433 csPoolJTDS
```

- **For DB2**:
  Using the third-party IBM DB2 drivers, include `db2jcc.jar` and `db2jcc_license_cu.jar`

```
./asadmin create-jdbc-connection-pool --user admin \
   --password demo4132 --host localhost --port 4849 \
   --datasourceclassname
   com.ibm.db2.jcc.DB2ConnectionPoolDataSource \
   --restype javax.sql.ConnectionPoolDataSource \
   --property User=csuser:Password=demo4132:URL=\"jdbc:db2:/
   /aixdb2.fatwire.com:50001/
   CS621JES\":driverType=4:serverName=aixdb2.fatwire.com:dat
   abaseName=CS621JES:portNumber=50001 csPoolIBMDB2
```

Note

The data source command below automatically targets the default instance `server` to target another instance. Add the **`--target <instance name>`** option after **`--port <number>`**.

3. Create a new data source that connects to your pool above:

```
./asadmin create-jdbc-resource --user admin \
   --password demo4132 --host localhost --port 4849 \
   --connectionpoolid csPoolOracle jdbc/csDataSourceOracle
```

4. Restart the domain.
5. Test the pool:

```
./asadmin  ping-connection-pool --user admin \
   --password demo4132 --host localhost \
   --port 4849 csPoolIBMDB2
```

Deleting a Data Source

1. List all currently created pools and all resources:

```
./asadmin list-jdbc-connection-pools --user admin \
   --password demo4132
```

```
./asadmin list-jdbc-resources --user admin --password demo4132
```

2. Delete the data pool:

```
./asadmin delete-jdbc-resource --user admin \
   --password demo4132 --host localhost --port 4849 jdbc/
   csDataSourceOracle
```

3. Delete the data source:

```
./asadmin delete-jdbc-connection-pool --user admin \
   --password demo4132 --host localhost --port 4849 csPoolDB2
```

Chapter 6

Deploying Applications

This chapter provides instructions for deploying Content Server as a web application and a portal.

This chapter contains the following sections:

- Deploying Applications
- Undeploying Applications

Deploying Applications

This section provides instructions for completing the following operations:

- Deploying a Web Application
- Deploying a Portal Application

Deploying a Web Application

Note

If you are deploying to an instance other than `server`, then add the instance to the end of the command.

1. List all currently deployed applications:

```
./asadmin list-application-refs --user admin \
   --password demo4132 --host localhost --port 4849 csPortal
```

Note

The deployment command below automatically targets the default instance `server` to target another instance. Add the **`--target <instance name>`** after **`--port <number>`**.

2. Deploy Content Server:

```
./asadmin deploy --user admin --password demo4132 \
   --host localhost --port 4849 --contextroot cs --name cs \
   --target csPortal /u01/CS/suneone/091605_cs6321_Sx86/
   ominstallinfo/app/ContentServer.ear
```

3. List all currently deployed applications (to confirm proper deployment):

```
./asadmin list-application-refs --user admin \
   --password demo4132 --host localhost --port 4849 csPortal
```

4. Restart the instance on which you deployed Content Server (not required but strongly suggested):

```
./asadmin stop-instance --host localhost --port 4849 \
   --user admin --password demo4132 csPortal
```

```
./asadmin start-instance --host localhost --port 4849 \
   --user admin --password demo4132 csPortal
```

Deploying a Portal Application

Note

If you are deploying to an instance other than server, add the instance to the end of the command.

1. List all currently deployed applications:

```
./asadmin list-application-refs --user admin \
   --password demo4132 --host localhost --port 4849
```

2. Deploy the `war` file using the portal deploy command:

```
/opt/SUNWps/bin/pdeploy deploy -u
   "uid=amAdmin,ou=People,dc=fatwire,dc=com" -v -w demo4132456
   -d "dc=fatwire,dc=com" -p demo4132 /u01/CS/suneone/
   091605_cs6321_Sx86/ominstallinfo/app/cs.war
```

3. List all currently deployed applications (to confirm proper deployment):

```
./asadmin list-application-refs --user admin \
   --password demo4132 --host localhost --port 4849
```

4. Restart the instance on which you deployed Content Server (not required but strongly suggested):

```
./asadmin stop-instance --host localhost --port 4849 \
   --user admin --password demo4132 csPortal
```

```
./asadmin start-instance --host localhost --port 4849 \
   --user admin --password demo4132 csPortal
```

Undeploying Applications

This section provides instructions for completing the following operations:

- Undeploying a Web Application
- Undeploying a Portal Application

Undeploying a Web Application

All commands below are based on the assumption that your current directory is `/opt/SUNWappserver/sbin` (the location where your JES application server is installed):

```
./asadmin undeploy --user admin --password demo4132 \
   --host localhost --port 4849 --target csPortal cs
```

Undeploying a Portal Application

All commands below are based on the assumption that your current directory is `/opt/SUNWps/bin`:

```
./undeploy: ./pdeploy undeploy -u
   "uid=amAdmin,ou=People,dc=fatwire,dc=com" -v -w demo4132456
   -d "dc=fatwire,dc=com" -p demo4132 cs
```

Chapter 7

Setting Up the Sun JES Application Server LoadBalancer Plugin

If you plan to install a web server you need to generate the loadbalancer plugin that comes with JES application server. This chapter provides instructions for generating the plugin.

This chapter contains the following sections:

- Generating the JES Application Server LoadBalancer Plugin
- Deleting the JES Application Server LoadBalancer Plugin

Generating the JES Application Server LoadBalancer Plugin

1. Create an `lb-config` file:

   ```
   ./asadmin create-http-lb-config  --host localhost --port 4849 \
      --user admin --password demo4132 --target csPortal
      lbconfig_csPortal
   ```

2. Run the following command for each instance, other than the first, that you want to be referenced in the `lb-config`:

   ```
   ./asadmin create-http-lb-ref --host localhost --port 4849 \
      --user admin --password demo4132 --config lbconfig_csPortal
      csDB2
   ```

3. Enable the `http-lb-server` for each instance given in steps 1 and 2:

   ```
   ./asadmin enable-http-lb-server --host localhost --port 4849 \
      --user admin --password demo4132 csPortal
   ```

4. Create a new health checker. Repeat this step for every instance given in steps 1 and 2:

   ```
   ./asadmin create-http-health-checker --host localhost \
      --port 4849 --user admin --password demo4132 --config
      lbconfig_csPortal csPortal
   ```

5. Export the `lb-config` file to disk, then copy it to each web server that you will use:

   ```
   ./asadmin export-http-lb-config --host localhost --port 4849 \
      --user admin --password demo4132 --config lbconfig_csPortal
      /u01/lbconfig.xml
   ```

Deleting the JES Application Server LoadBalancer Plugin

1. Delete the http health checker for each instance:

   ```
   ./asadmin create-http-health-checker --host localhost \
      --port 4849 --user admin --password demo4132 --config
      lbconfig_csPortal csPortal
   ```

2. Delete references to each instance you want to remove:

   ```
   ./asadmin delete-http-lb-ref  --host localhost --port 4849 \
      --user admin --password demo4132 --config lbconfig_csPortal
      csPortal
   ```

3. After all instances have been deleted, remove the `lb-config` itself:

   ```
   ./asadmin delete-http-lb-config --host localhost --port 4849 \
      --user admin --password demo4132 lbconfig_csPortal
   ```

Part 3

Web Server

This part contains information related to the web servers that support Content Server web applications and portals. Note that installing a web server is optional.

This part contains the following chapters:

- Chapter 8, “Installing a Web Server”
- Chapter 9, “Configuring the Web Server and JES LoadBalancer Plugin”

Chapter 8

Installing a Web Server

This chapter provides instructions for installing your choice of supported web servers: Sun JES, Apache 2.x, and IIS.

This chapter contains the following sections:

- Installing JES Web Server
- Starting and Stopping JES Web Server Components
- Installing Apache and IIS Web Servers

Installing JES Web Server

At the time this guide was written, the latest version of Sun Java System Web Server was 6.1 patch 4. This section covers the installation and configuration of Sun Java System Web Server 6.1, also referred to as "JES web server" in this guide.

To install JES web server

Note

Before you can use any external web server with the JES application server, you must complete the steps required to create an lb-configuration. For instructions, see "Generating the JES Application Server LoadBalancer Plugin," on page 42.

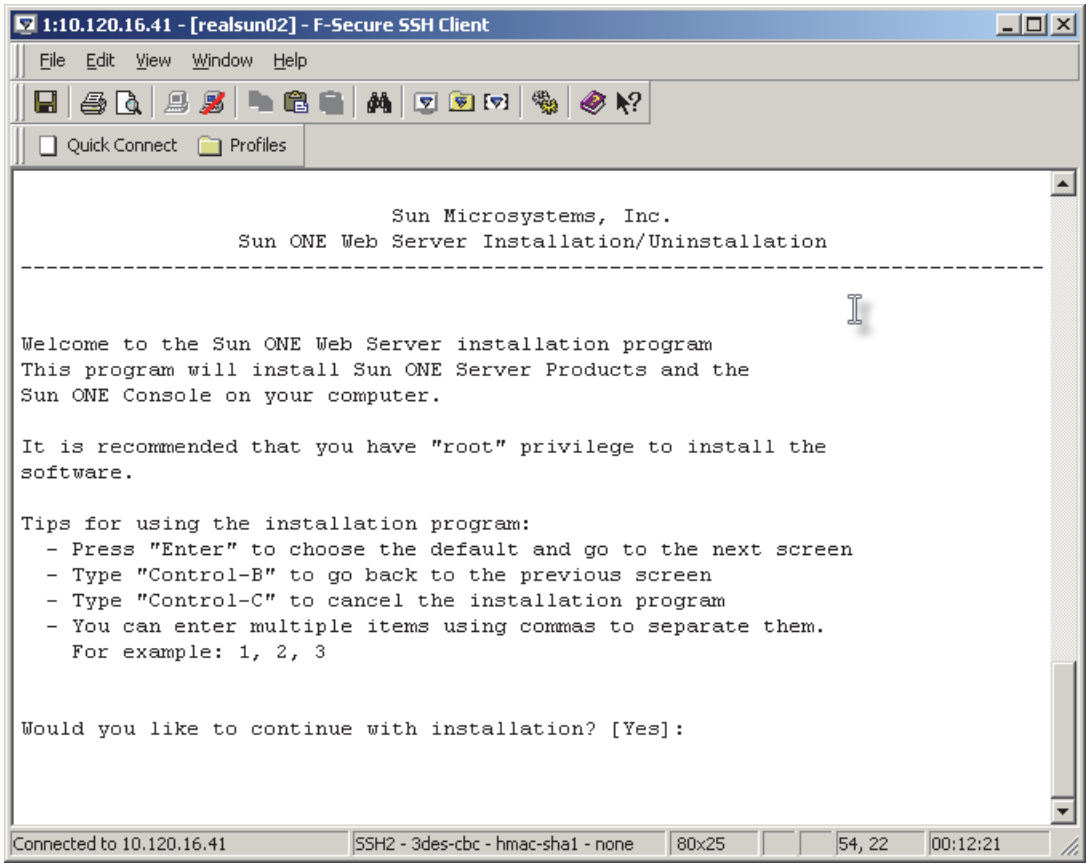
The plugin that was installed is for the platform on which the installation was done. If you need a plugin for Windows, you will need to install the Sun JES application server on Windows to get a copy of the plugin.

1. Create a new user and group named `webservd` which this web server can run as.
2. Download the correct package from the Sun site.
3. Make a temporary directory and copy the `tar` file into it.
4. Uncompress the archive by running: **`tar -xf <file name>.tar`**
5. Start the installer by running: **`./setup`**
6. Respond to the installer prompts to specify your options for this installation. For instructions, continue with steps a–p.

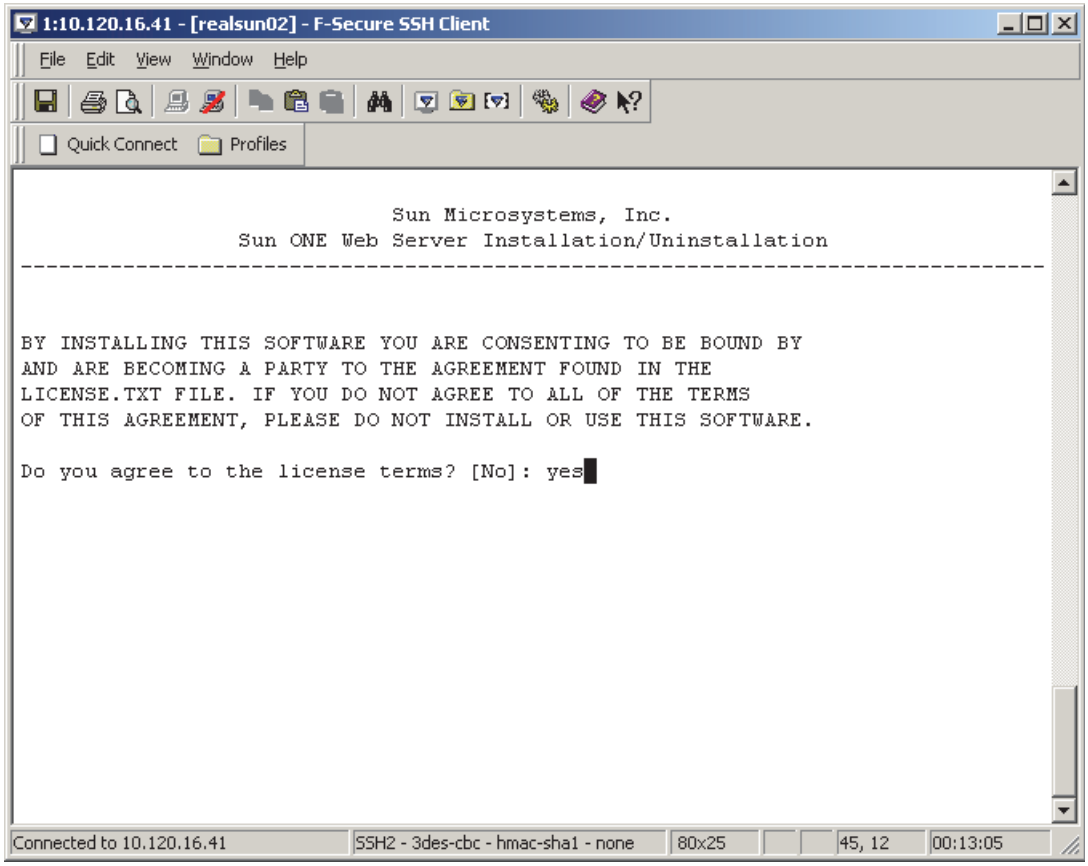
Note

In steps a–p, pay careful attention to the options you are choosing, as the system will be creating files according to your chosen options. The correct files can be created only if the options are correctly chosen.

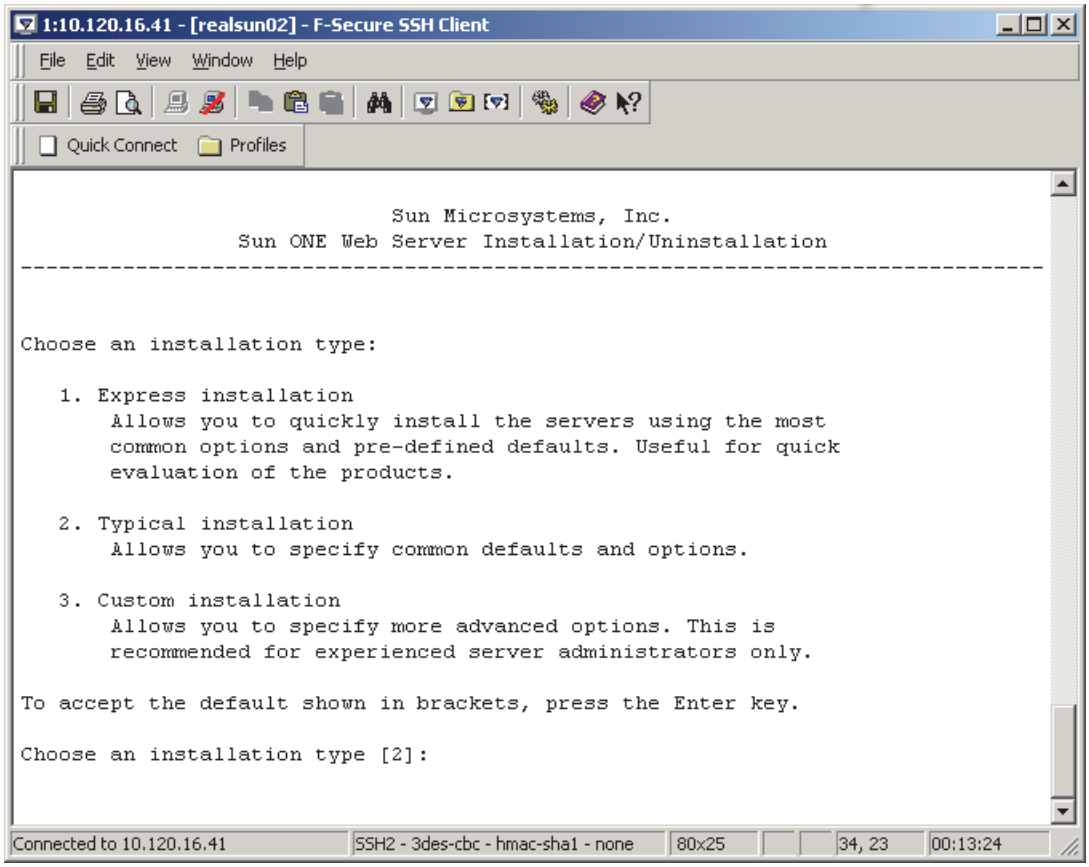
a. Press **Enter** to continue the installation.



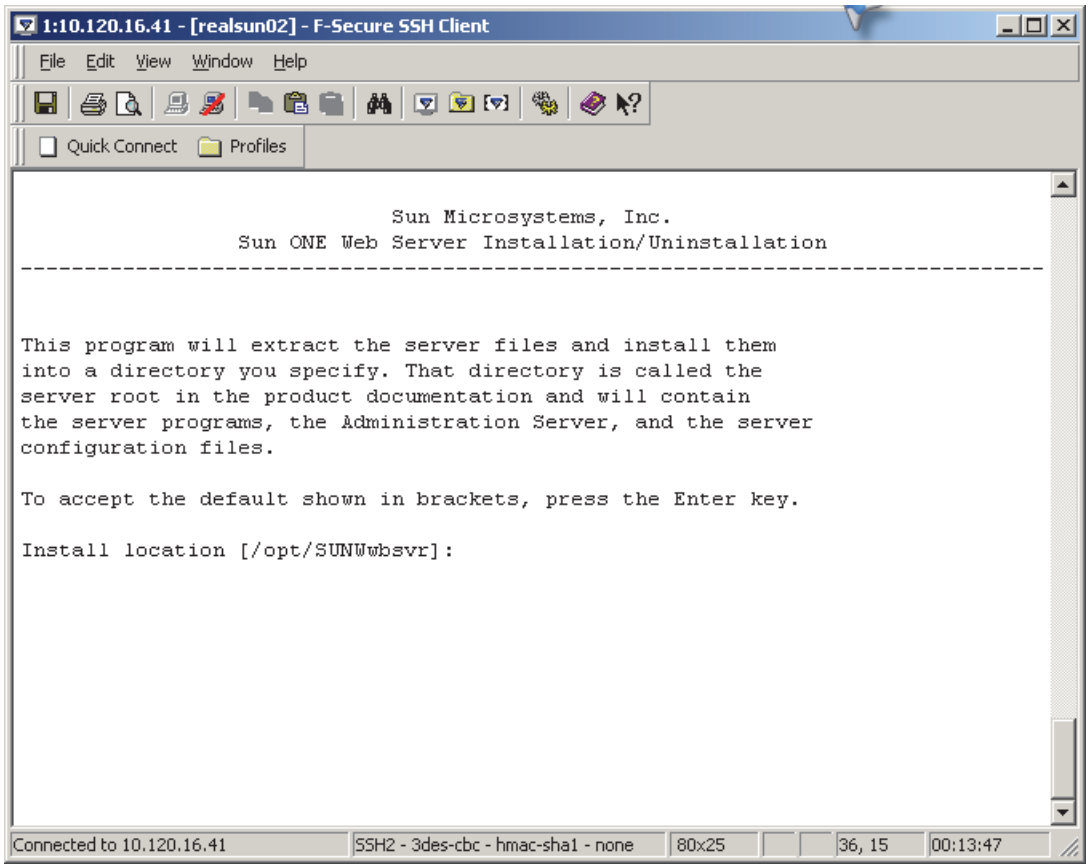
b. Agree to the terms by entering **yes**.



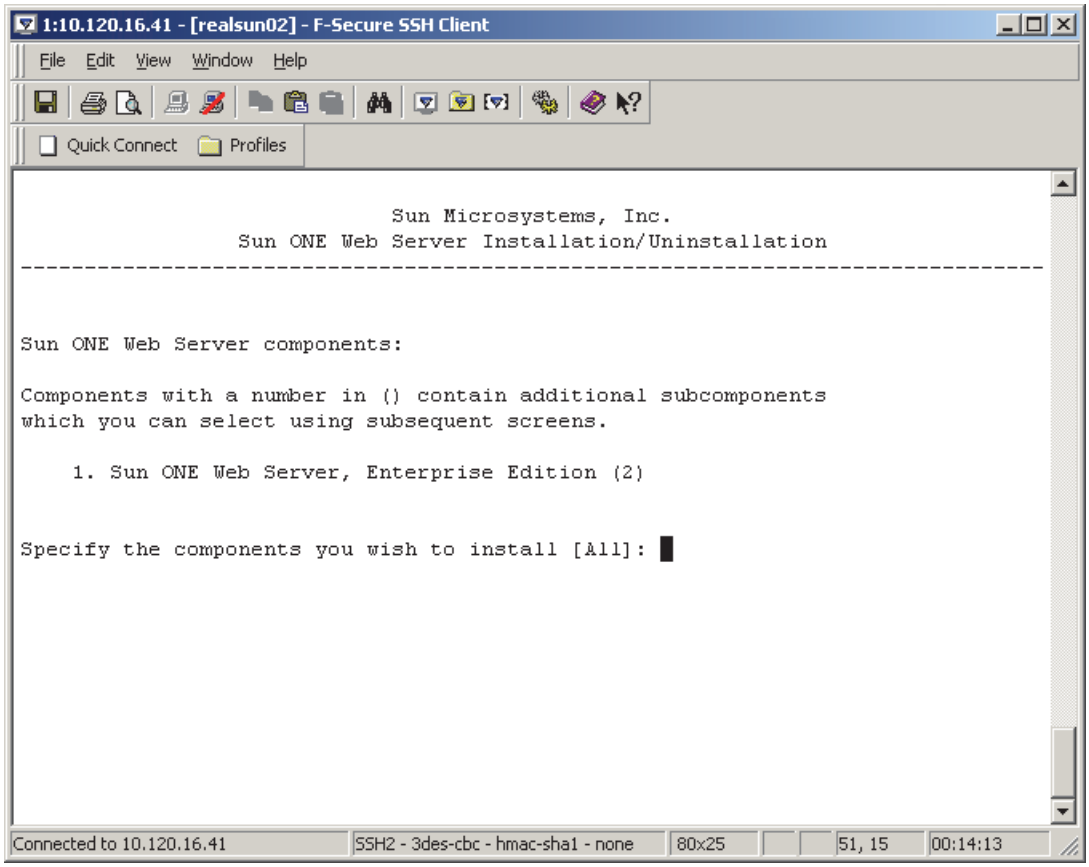
c. For "Choose an installation type," enter the default (**2**).



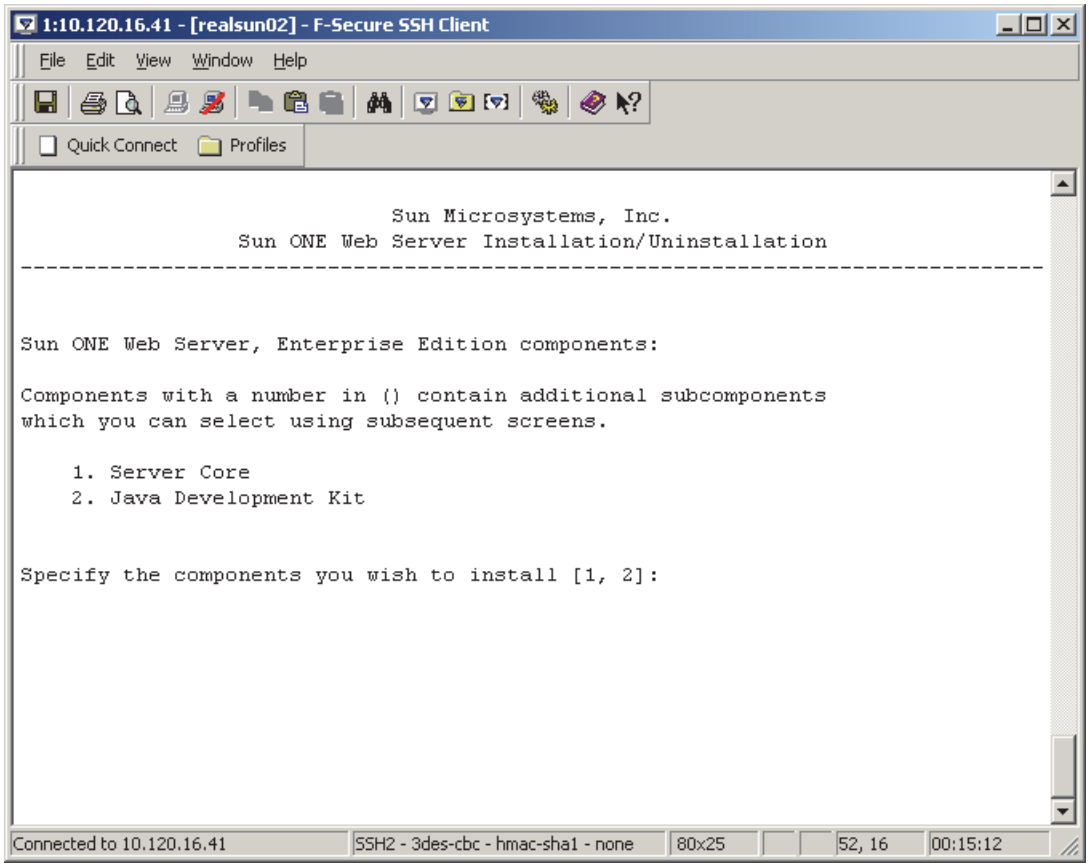
d. Leave the default location selected.



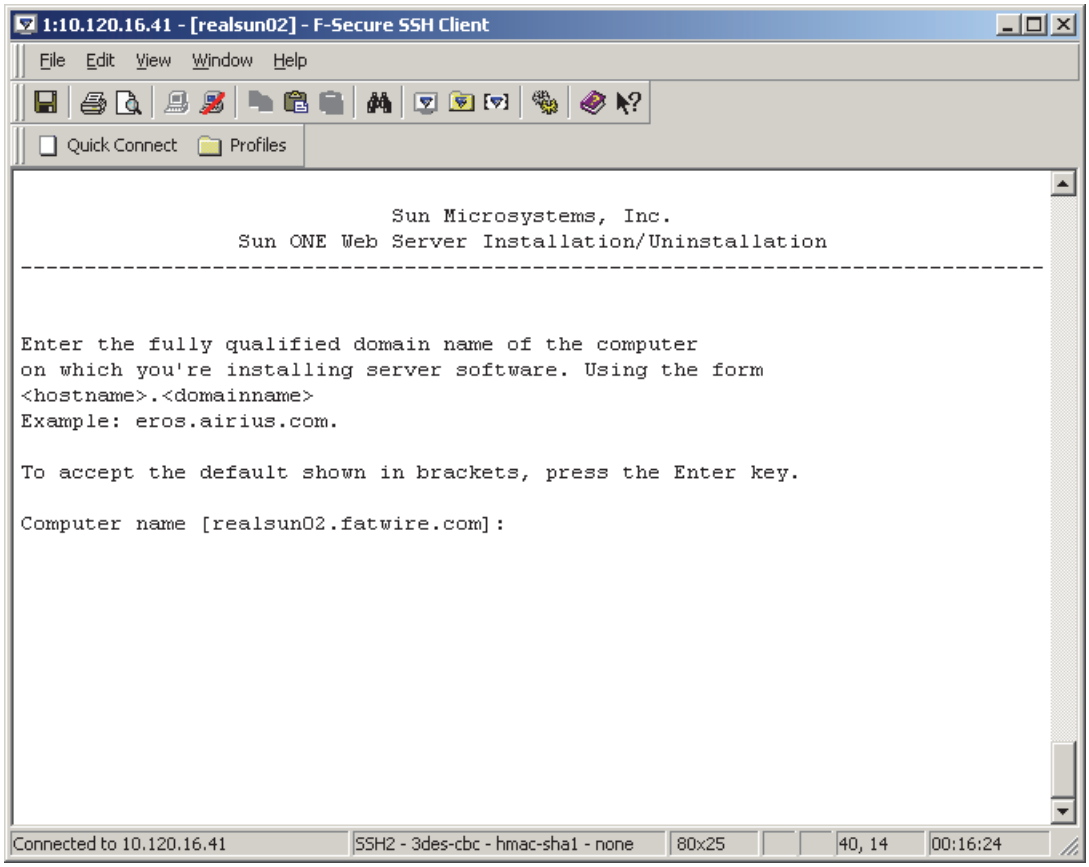
e. When prompted for which components to install, enter **ALL**.



f. When prompted to install either core or JDK, specify the option that makes the most sense in your environment. If you have a valid 1.4+ JDK installed, specify core. Otherwise, specify JDK.

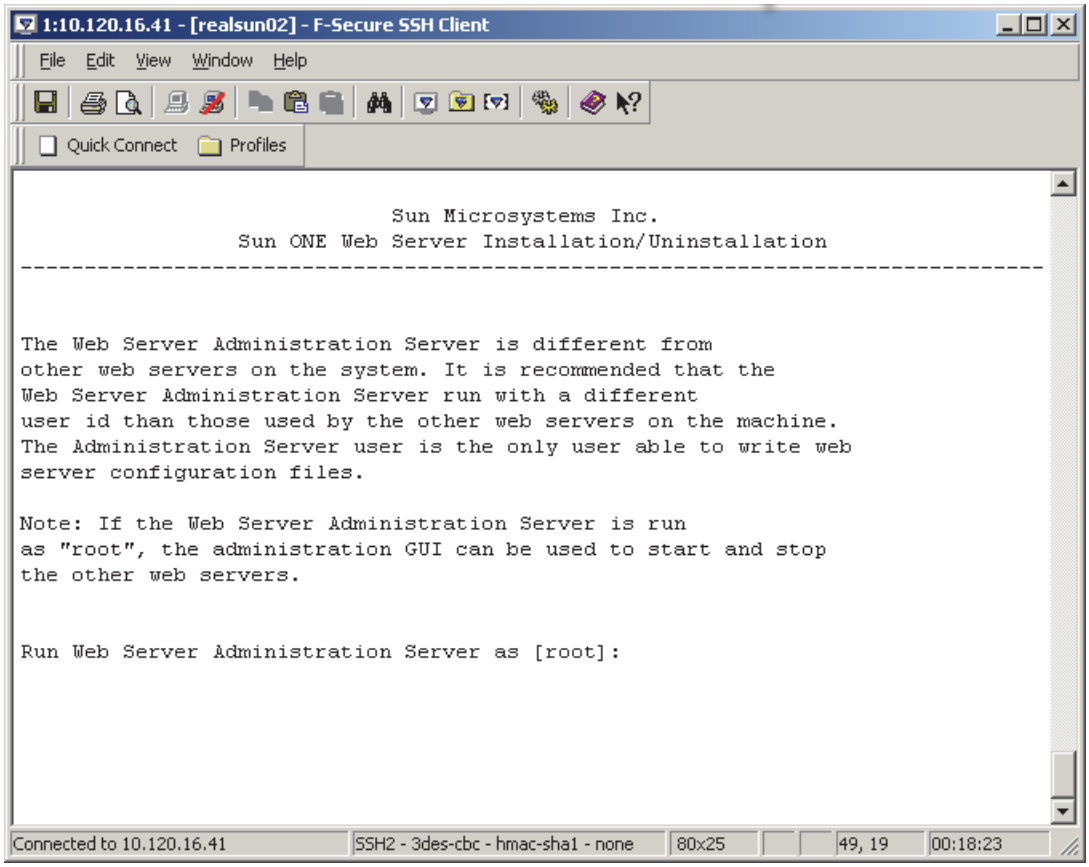


g. Enter the DNS name of this server.

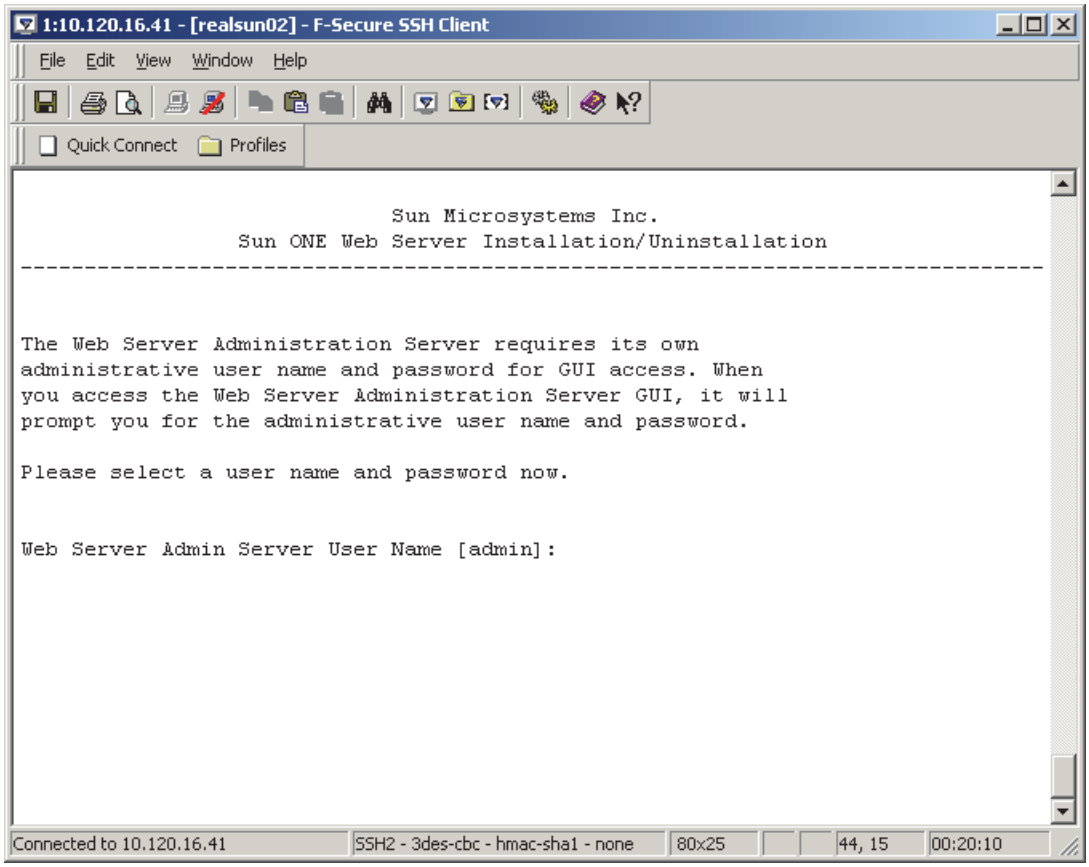


h. Enter the group and user to run the server as. Use the group and user created in step 1 on page 46.

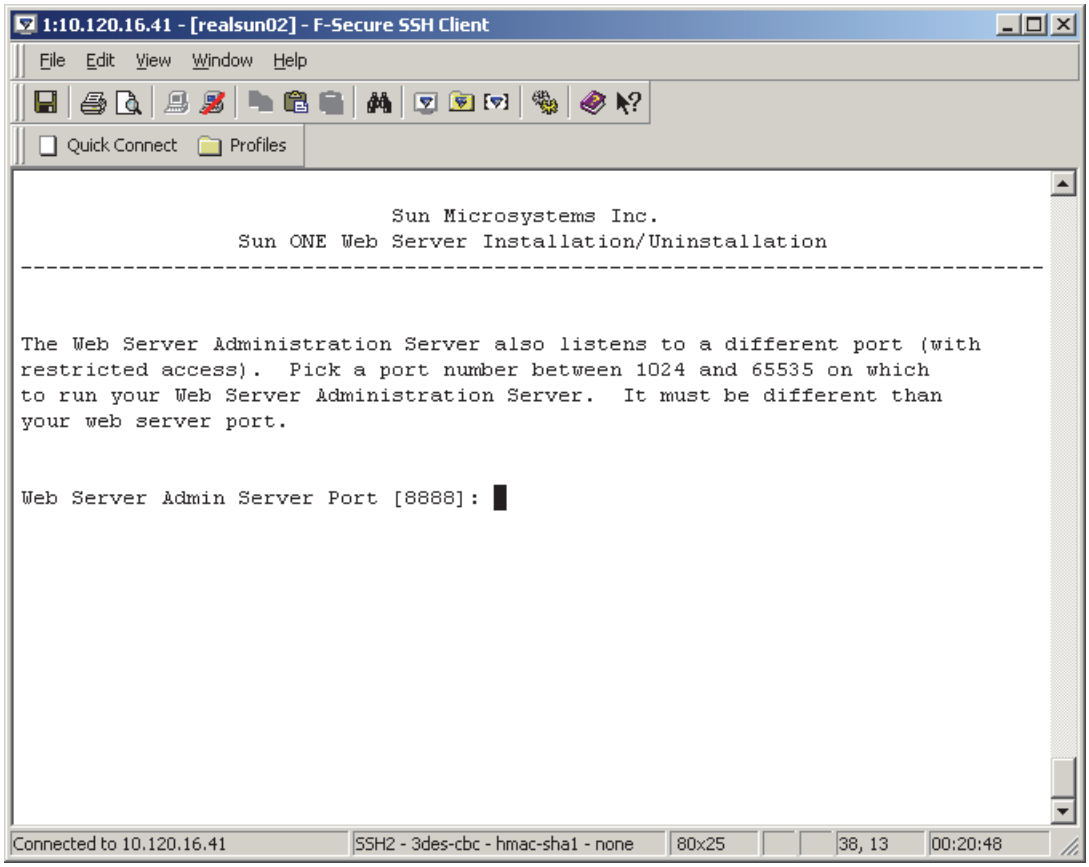
i. Enter the default root for “Run Web Server Administration Server as [ ]”.



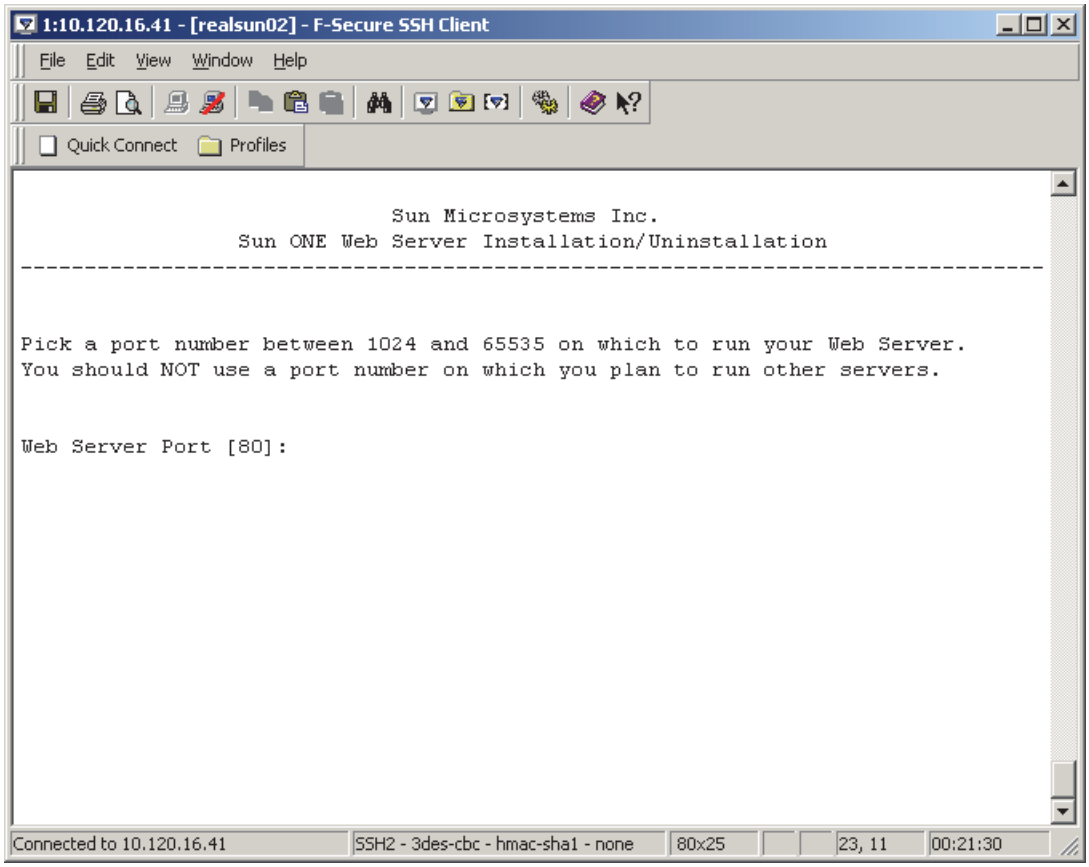
j. Enter the name of the admin server user and a password. Use the default `[admin]`, or note what you entered here.



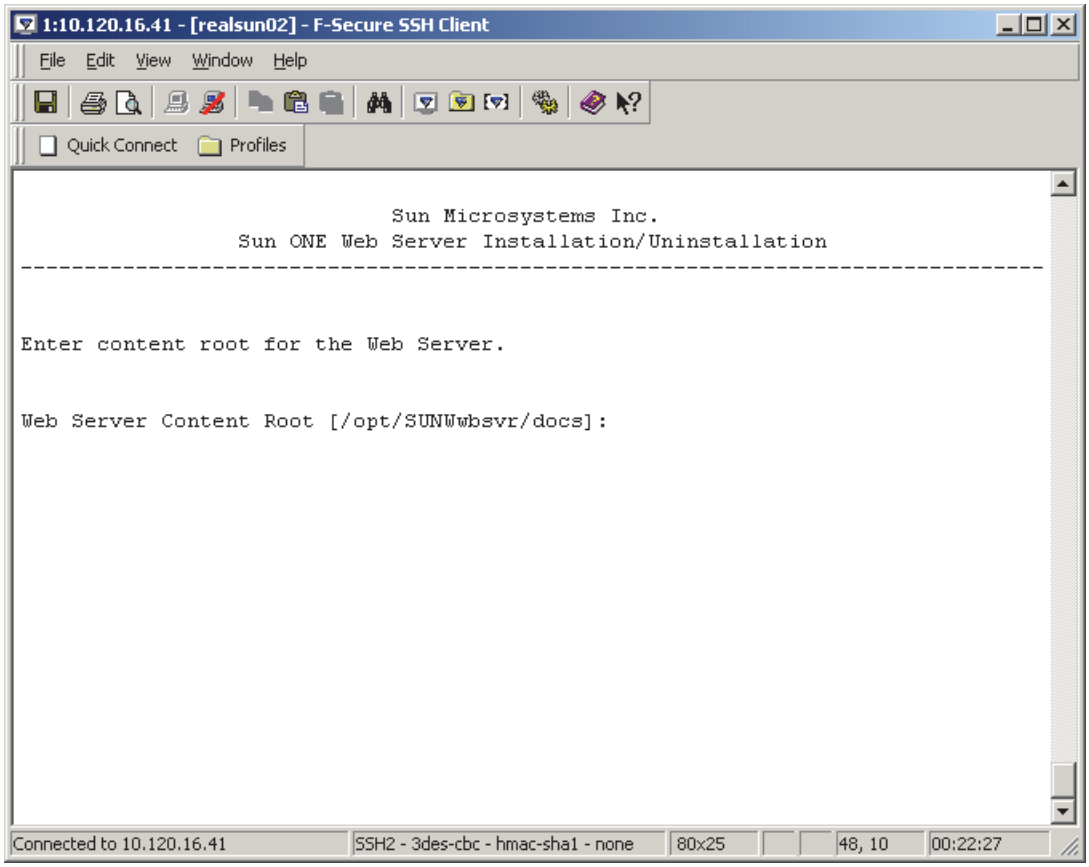
k. Enter the port on which to run the admin server. Use the default or note what you entered here.



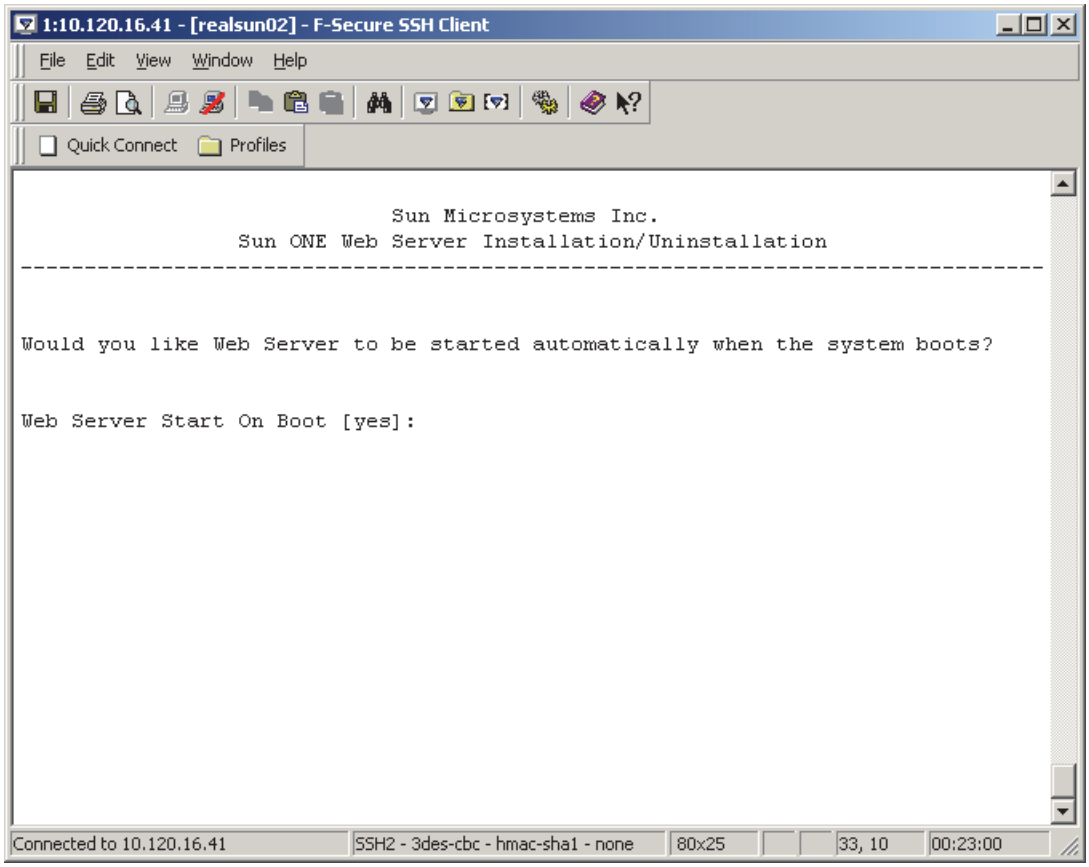
I. Enter the port on which to run the web server. Use the default value `[80]`.



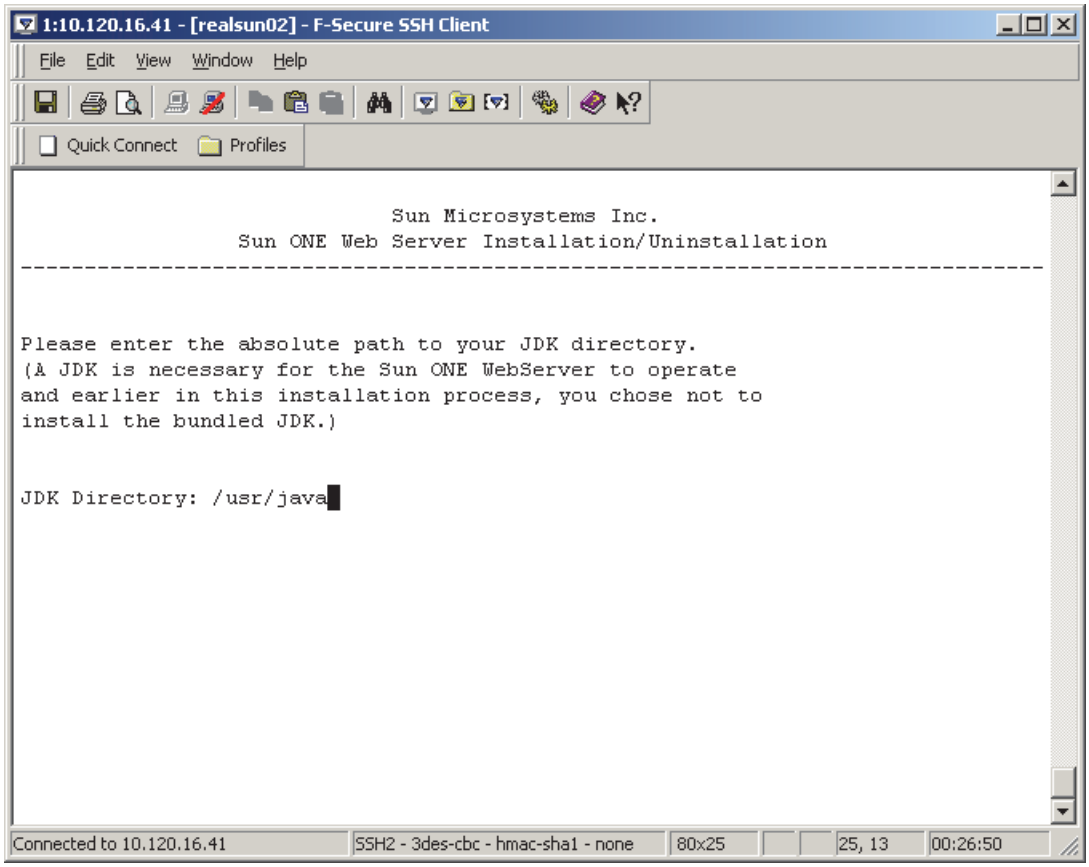
m. Enter the path to the location where the document root is to be kept. This path depends on your environment. If you are using this server only for Content Server, the default will work.



n. Decide if you want this server to be started automatically and enter your choice.

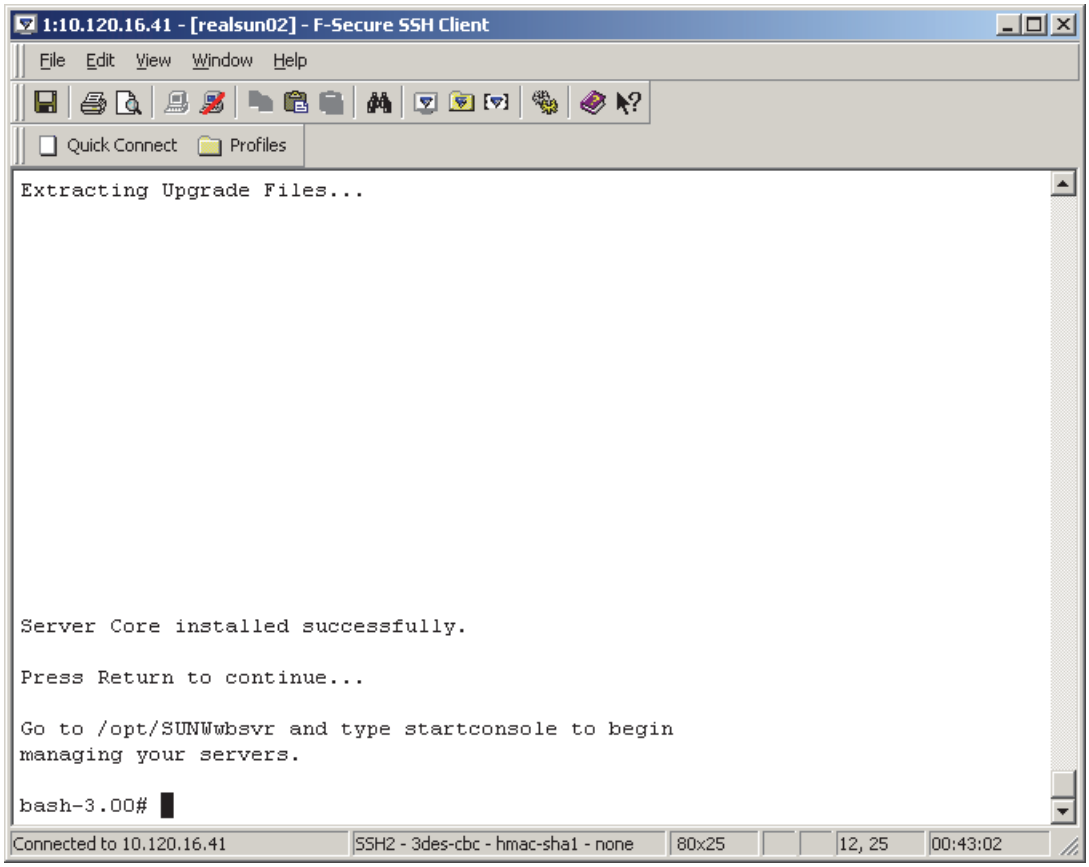


o. If you specified core only (in step f on page 52), provide the installer with the location of your JDK.



p. Enter the location of the JDK libpath you wish to use. If you have a single JDK, leave this field blank.

The installation process starts.



7. When the installation process is complete, do the following:

a. Create the directory structure: `/passthrough/bin`

b. Copy the files and directories that were created by the installation process from:

```
/opt/SUNWappserver/appserver/lib/webserver-plugin/
   <platform>/iws61
```

into:

```
/opt/SUNWwbsvr/plugins/passthrough/bin/
```

Starting and Stopping JES Web Server Components

This section provides instructions for starting and stopping the following components of the web server installation:

- admin Console
- Server Instances

admin Console

Note

Start and stop the admin console by issuing the commands below. Ignore the message that was displayed at the end of the web server installation, instructing you to start the console from the interface. The instructions apply only if your graphical display is local.

- To start the admin console:

  `/opt/SUNWwbsvr/https-admserv/start`

- To stop the admin console:

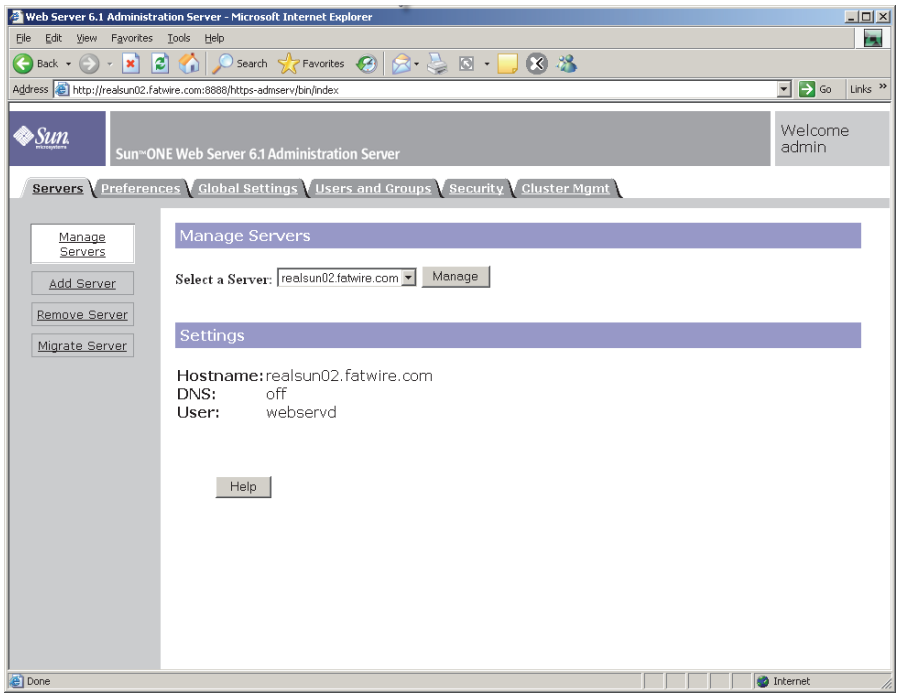
  `/opt/SUNWwbsvr/https-admserv/stop`

- To access the admin console:

  `http://10.120.16.41:8888`

  Log in as user admin with *admin_password* (in this guide, *admin_password* is **demo4132**).

  Example of the admin console:



Server Instances

Instances of the Sun JES web server can be started from their relevant paths. During installation, a single default was created from the DNS name of the machine. Thus, if the DNS name is `realsun02.fatwire.com`, the instance is named as follows: `https-realsun02.fatwire.com`

- To start a server instance:

  `/opt/SUNWwbsvr/https-realsun02.fatwire.com/start`

- To stop a server instance:

  `/opt/SUNWwbsvr/https-realsun02.fatwire.com/stop`

Installing Apache and IIS Web Servers

For instructions on installing the web server, consult the following sources:

- If you are installing an Apache web server on Linux or Solaris, consult our configuration guide, *Third-Party Software*, for instructions. If you are using an operating system other than Linux or Solaris, refer to the Apache documentation.
- If you are installing IIS on Windows, consult our configuration guide, *Third-Party Software*, for instructions. If you are using a different operating system, refer to the IIS documentation.

Chapter 9

Configuring the Web Server and JES LoadBalancer Plugin

This chapter provides instructions for configuring the web server and the loadbalancer plugin for use with the web server.

This chapter contains the following sections:

- Configuring the Web Server
- Configuring the LoadBalancer Plugin for the Web Server

Configuring the Web Server

This section provides instructions on the following operations:

- Configuring Sun JES Web Server
- Configuring Apache and IIS Web Servers

Configuring Sun JES Web Server

This section provides instructions for completing the following operations:

- Installing a Valid TA SSL Certificate
- Installing a Self-Signed SSL Certificate

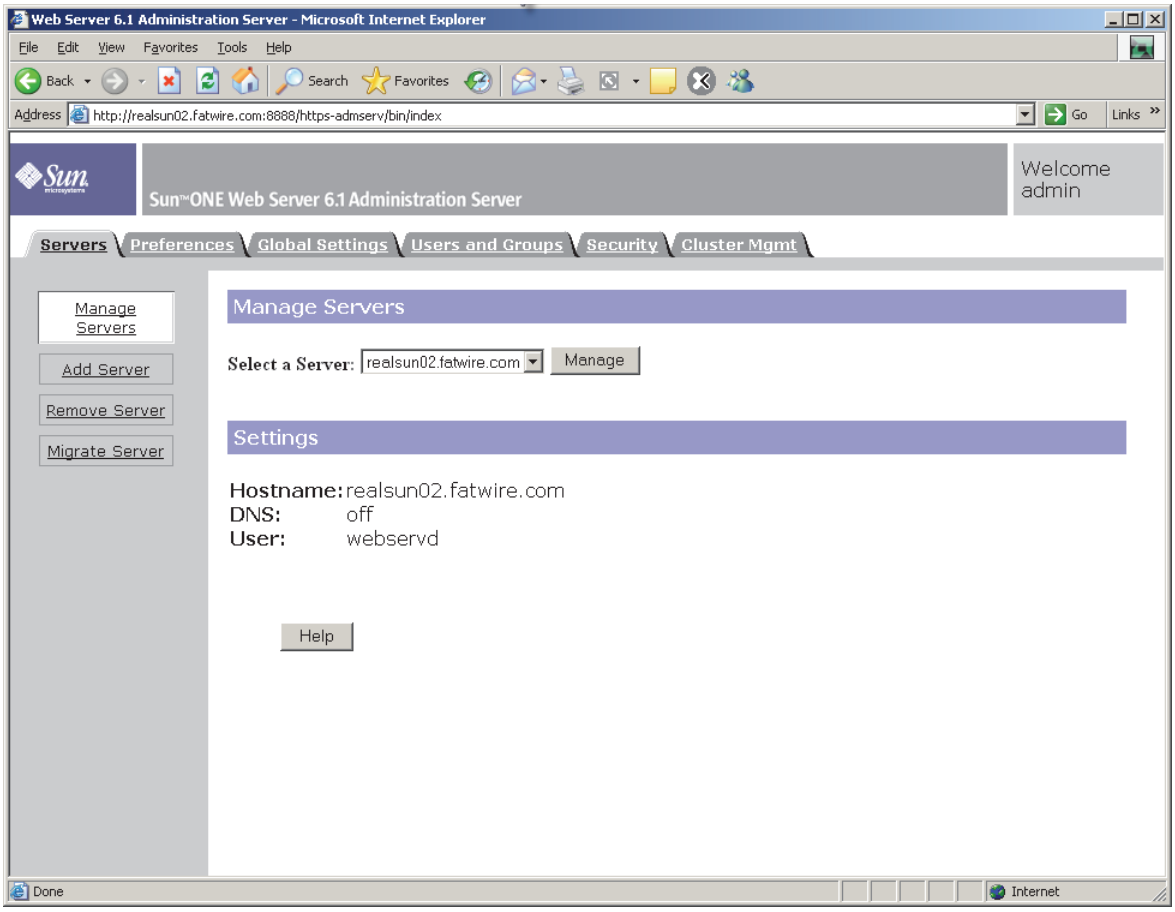
Installing a Valid TA SSL Certificate

Note

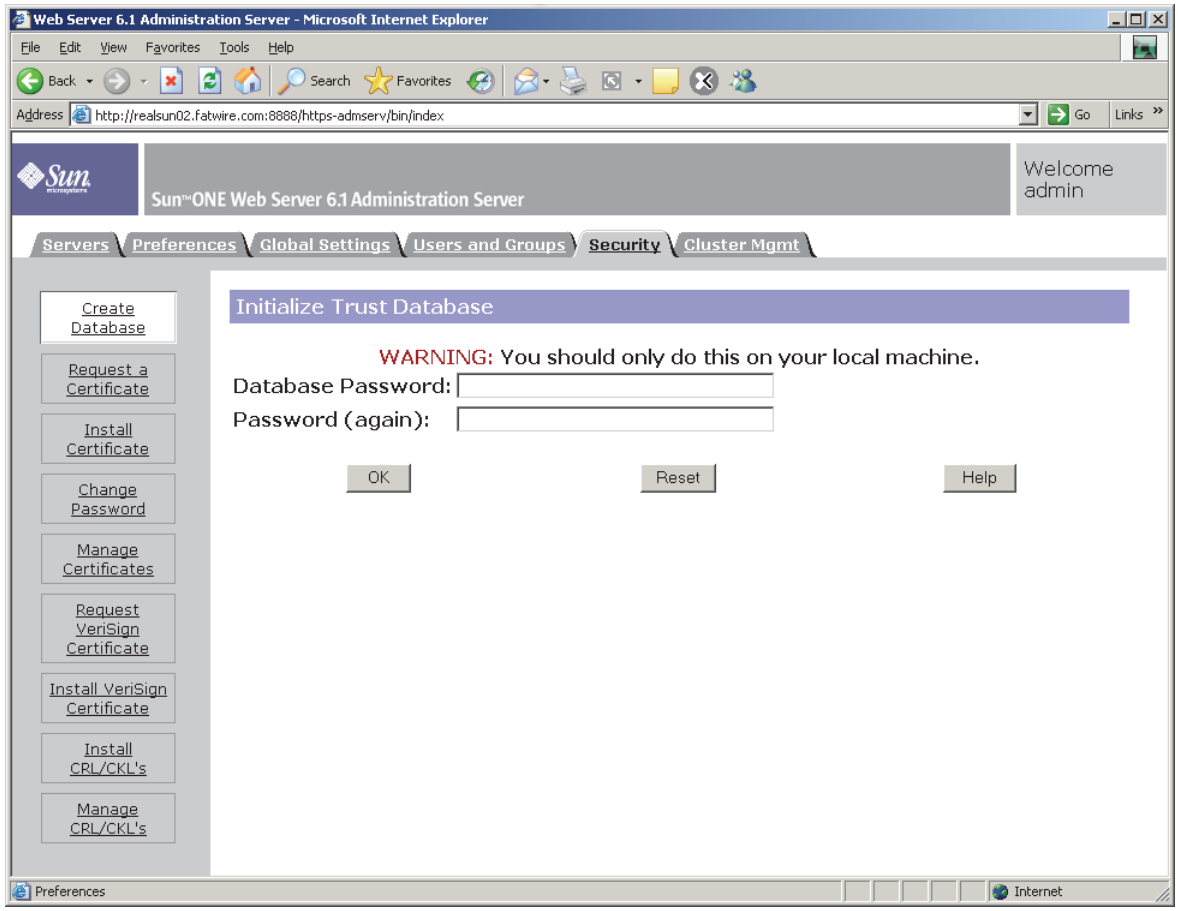
This section outlines the steps for installing a valid TA SSL certificate. For more detailed information, refer to Sun documentation.

1. Open the administration console for the Sun JES web server and complete the steps below.
2. Create a request:

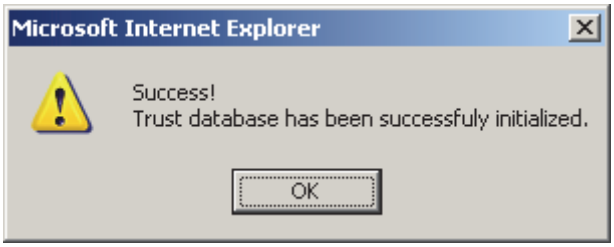
a. Select the **Security** tab.



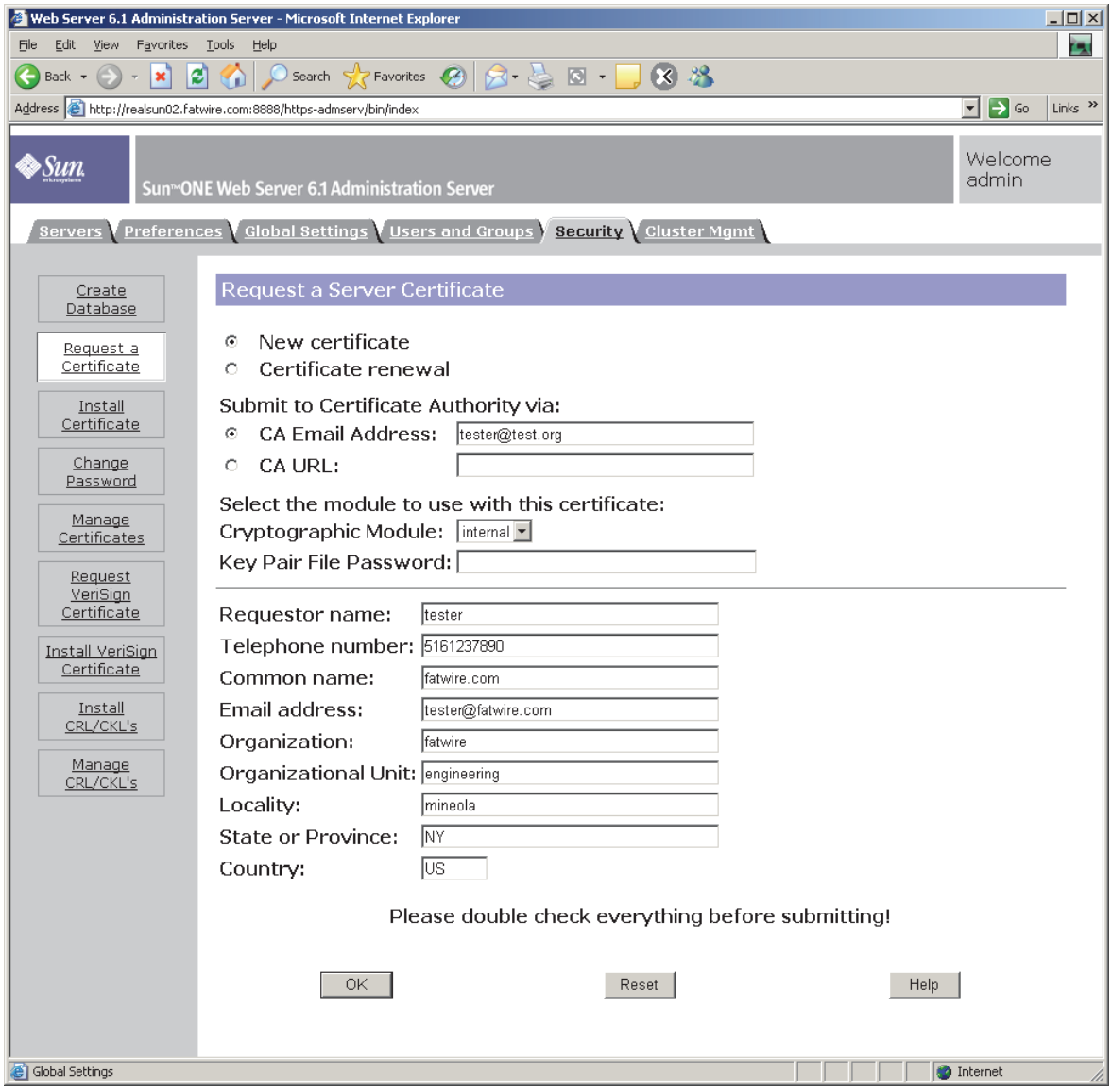
b. Click the **Create Database** button (in the left-hand navigation bar) and enter a password.



c. A message appears to let you know whether the database was successfully initialized. Assuming success, click **OK**.

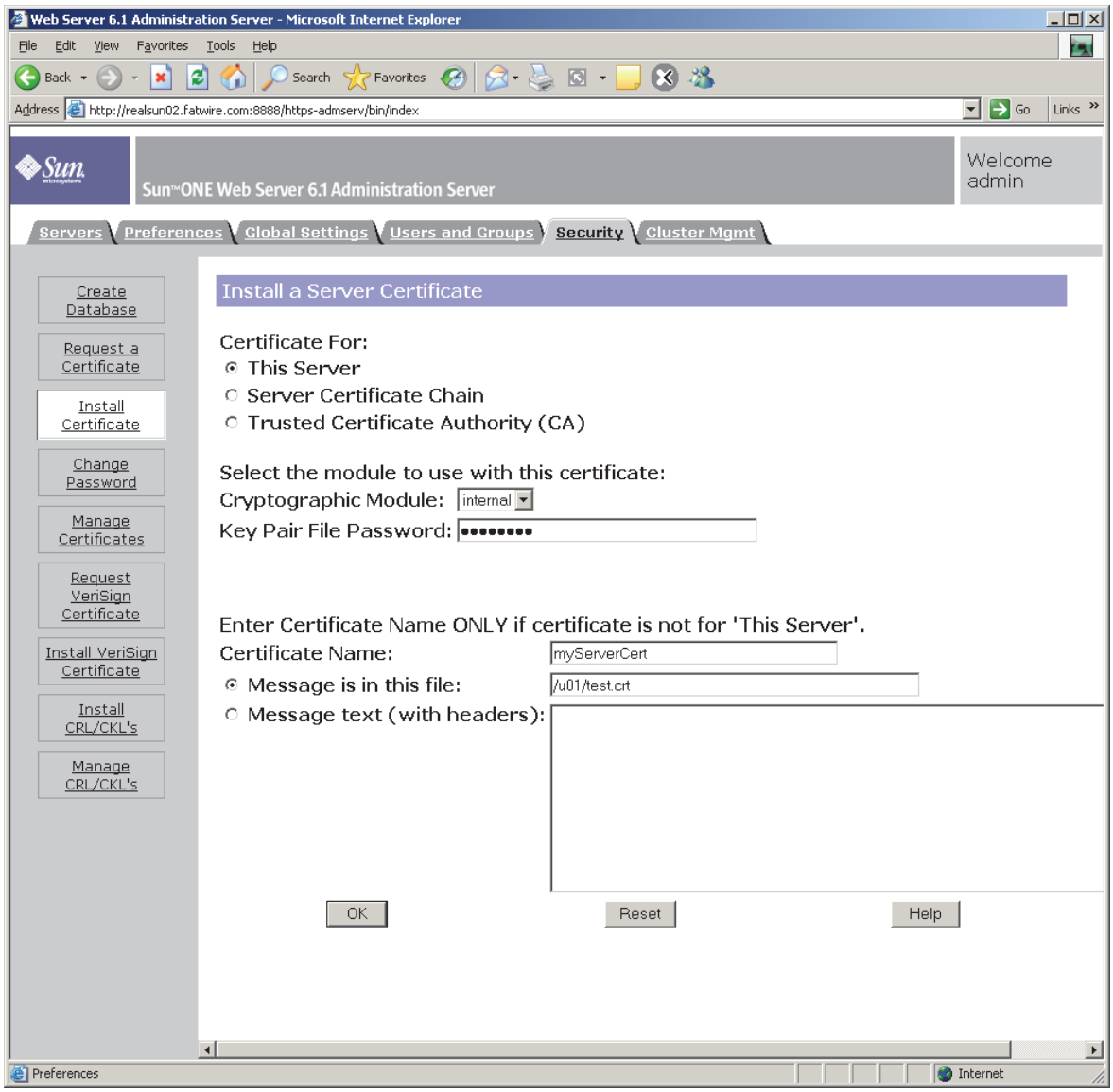


d. Create a request by clicking on the button **Request a Certificate**. Fill out the form and click **OK**. Save your password in a safe location.

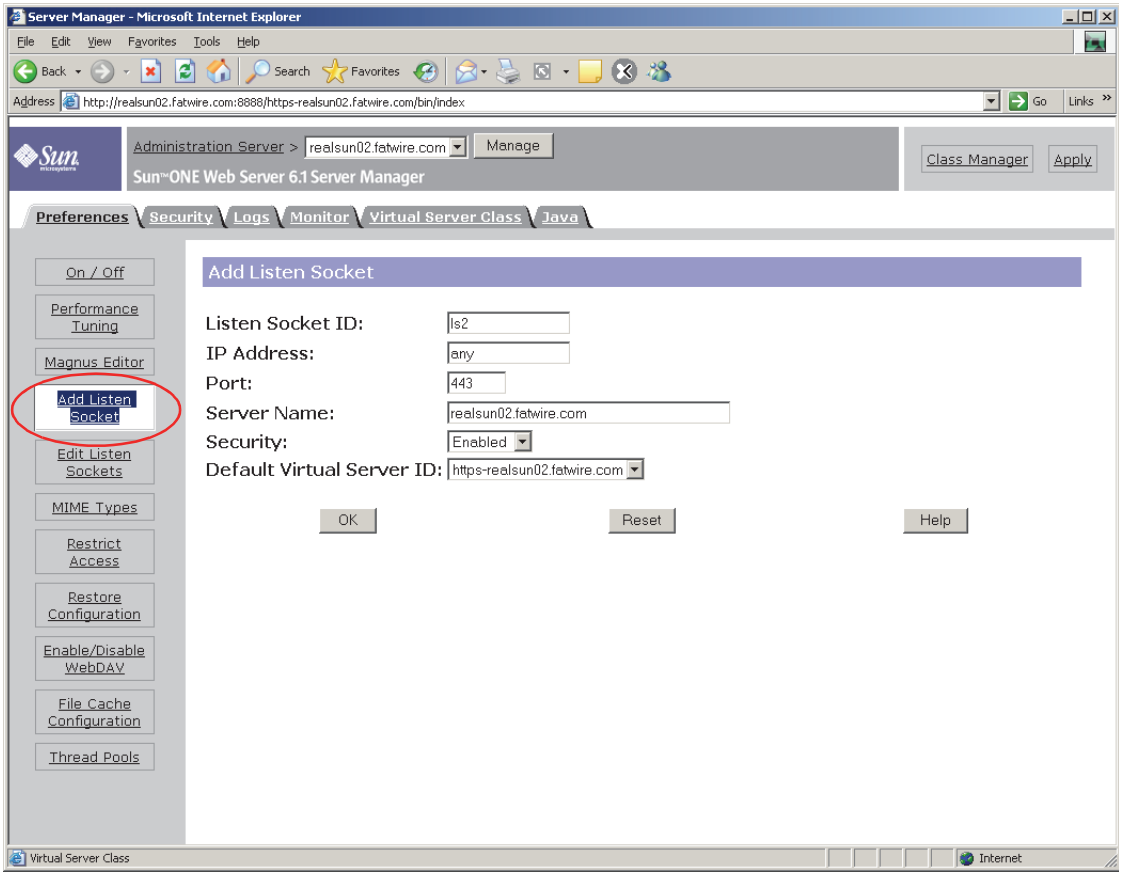


e. Send the resulting request to your Trusted Authority provider.

3. Once you have received your certificate, click on **Install Certificate**, and fill out the required information. In the password field, enter the password that you created in step d on page 69 and click **OK**.



4. Configure the sockets by selecting the **Preferences** tab and doing the following:
   a. Click the **Add Listen Socket** button.
      1) Enter a port number (443 is the default for SSL).
      2) For "Security," select **Enabled** from the drop-down list.
      3) Click **OK**.



b. Click the **Edit Listen Sockets** button in the left-hand navigation bar.

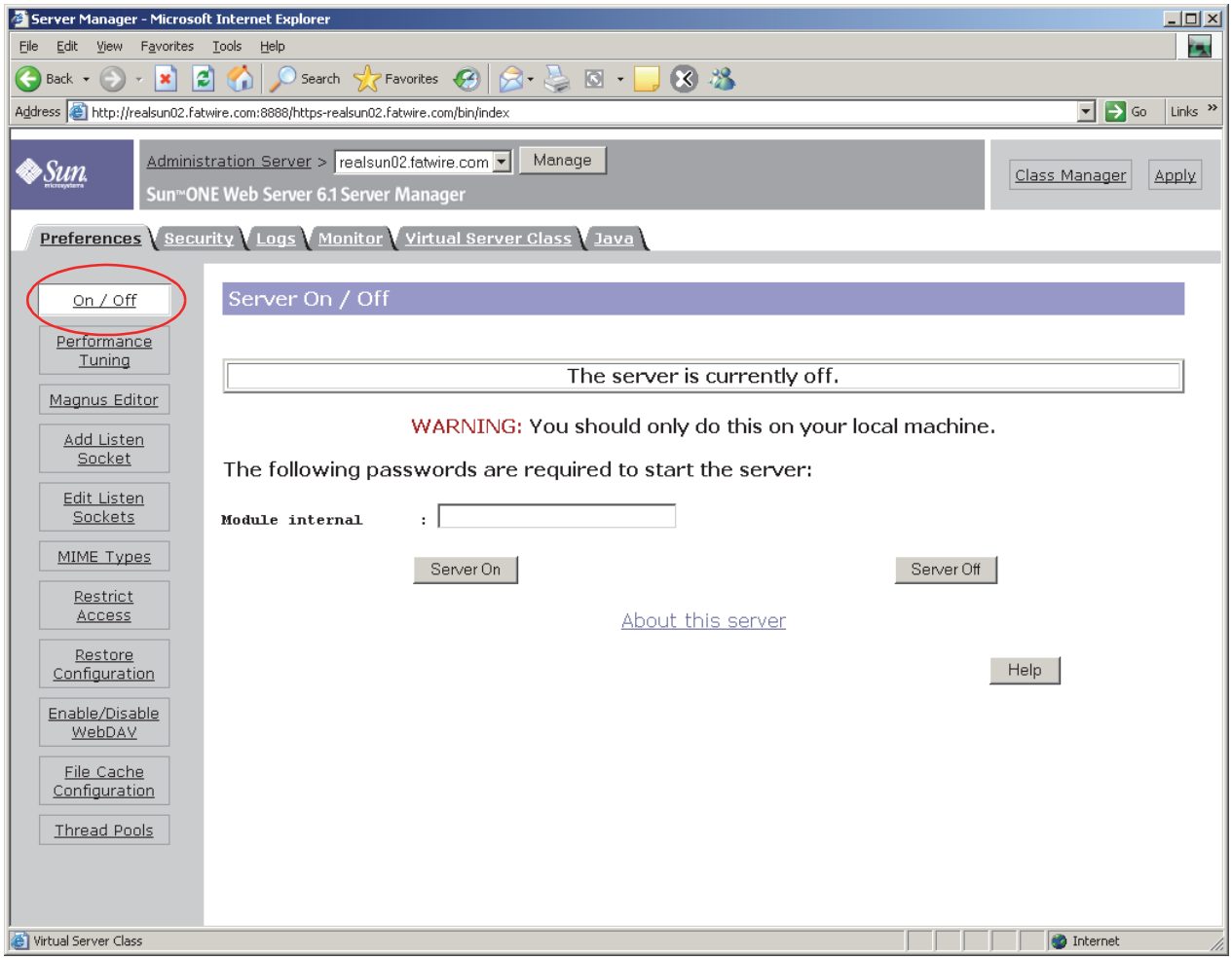
1) Select the new socket created in step 4a. Look for the option "Server Certificate Name" in the middle of the page. Ensure that it is pointing to the certificate that was created in step 3 on page 70. If it is not, select the certificate from the list.

2) Click the **On / Off** button.

3) Click the **Server Off** button.

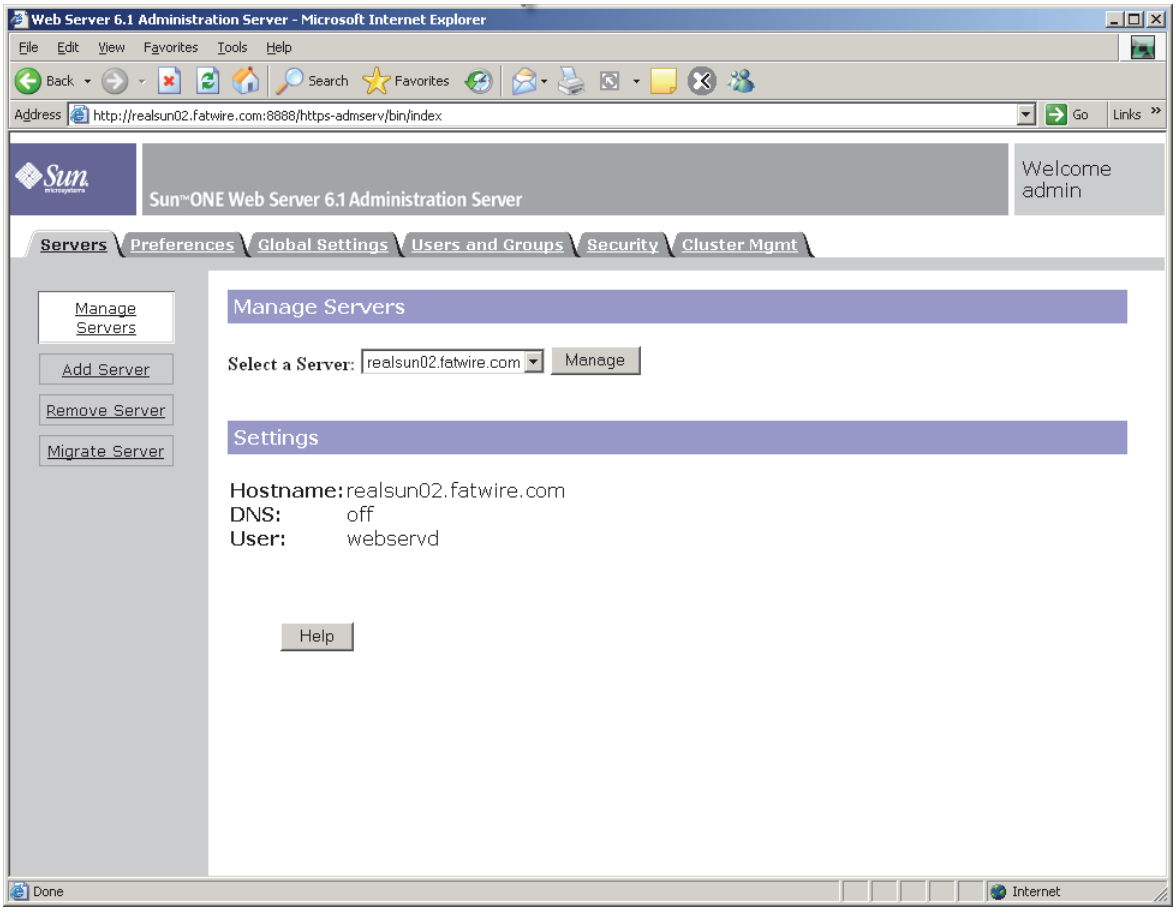
4) Enter the password for the database created in step 2b on page 68.

5) Click **Server On**.

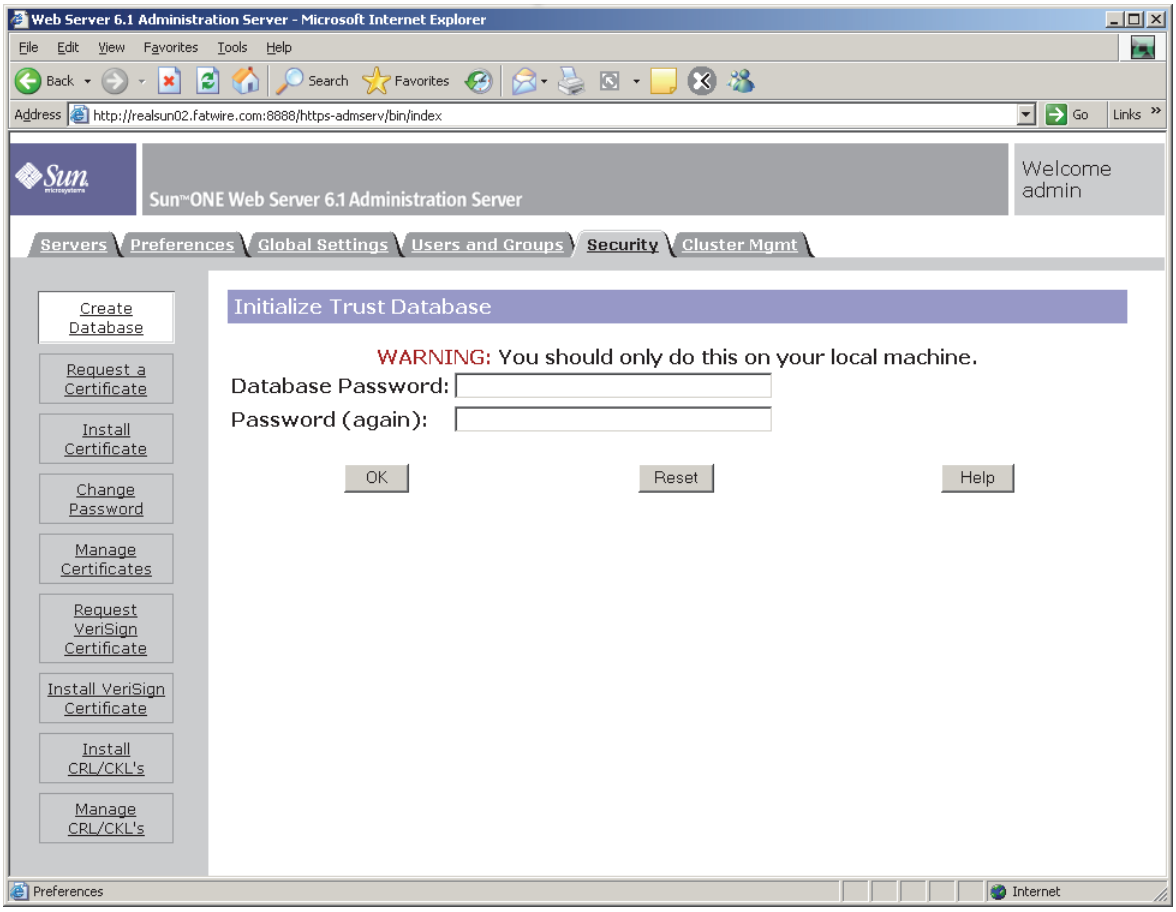


Installing a Self-Signed SSL Certificate

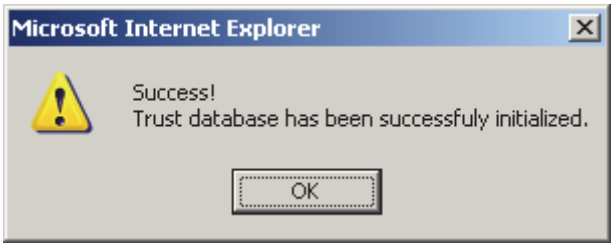
1. Open the admin console for the Sun JES web server and complete the steps below.
2. Select the **Security** tab.



a. Click the **Create Database** button and enter a password.



b. A message appears to let you know that the database was successfully initialized. Click **OK**.



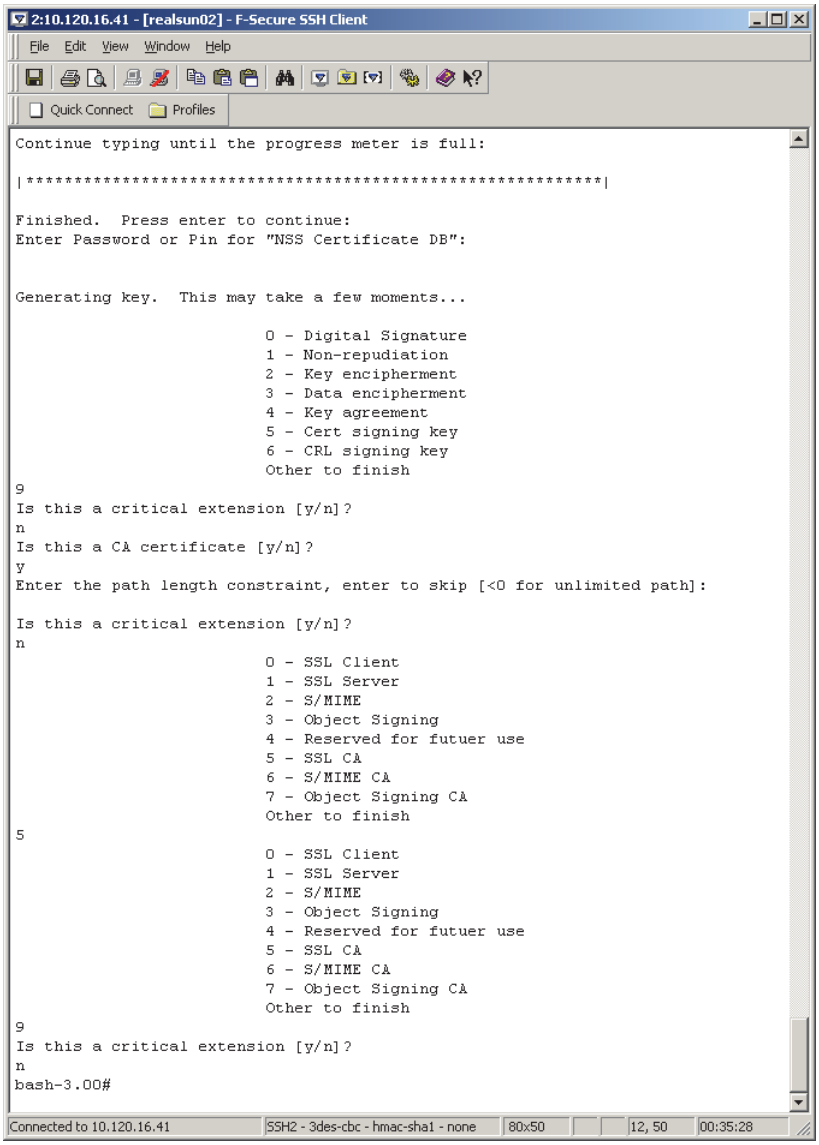
3. Follow steps a–f below to create a selfsigned pair (Trusted Certificate Authority, CA) and a Certificate that is signed by that root and valid for the server in question:

   a. Set up the environment:

   ```
   export LD_LIBRARY_PATH=/opt/SUNWwbsvr/bin/https/
   lib:$LD_LIBRARY_PATH
   export PATH=/opt/SUNWwbsvr/bin/https/admin/bin:$PATH
   ```

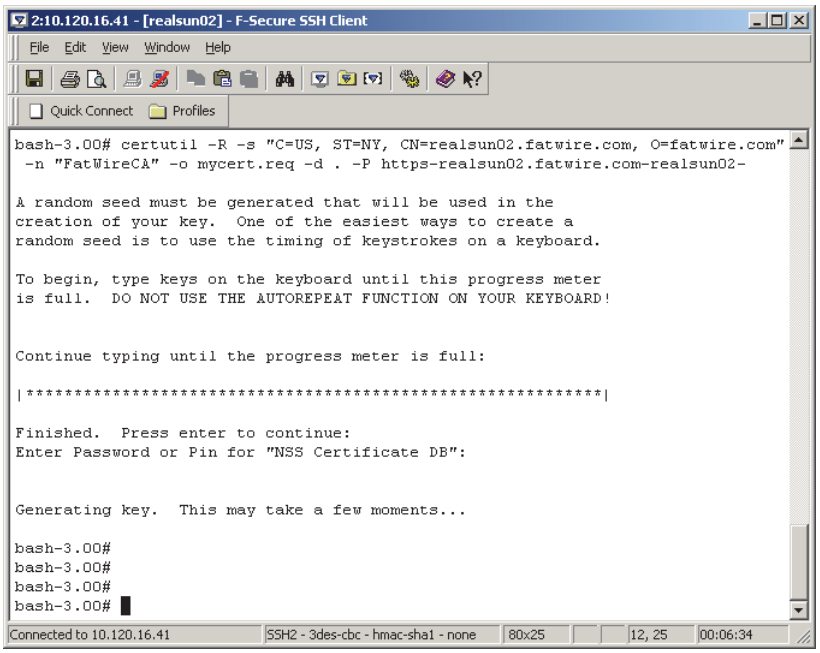
   b. Change to the following directory: `/opt/SUNWwbsvr/alias`

c. Create a new CA certificate by responding to the prompts in the "Secure SSH Client" screen.



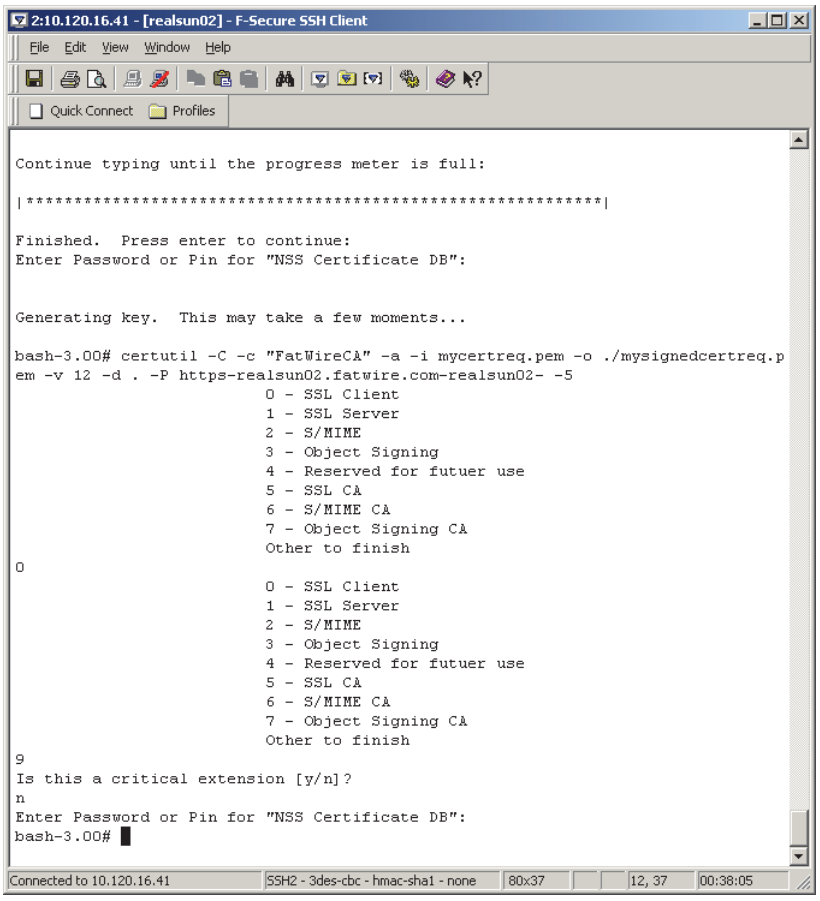
d. Generate a certificate request:

```
certutil -R -a -s "C=US, ST=NY, CN=realsun02.fatwire.com,
   O=fatwire.com" -o mycertreq.pem -d . -P https-
   realsun02.fatwire.com-realsun02-
```



e. Sign the certificate request:

```
certutil -C -c "FatWireCA" -a -i mycertreq.pem -o
   mysignedcertreq.pem -v 12 -d . -P https-
   realsun02.fatwire.com-realsun02- -5:
```



f. Import the newly signed request:

```
certutil -A -a -n "Fatwire" -i ./mysignedcertreq.pem -t \
   Pu -d . -P https-realsun02.fatwire.com-realsun02-
```

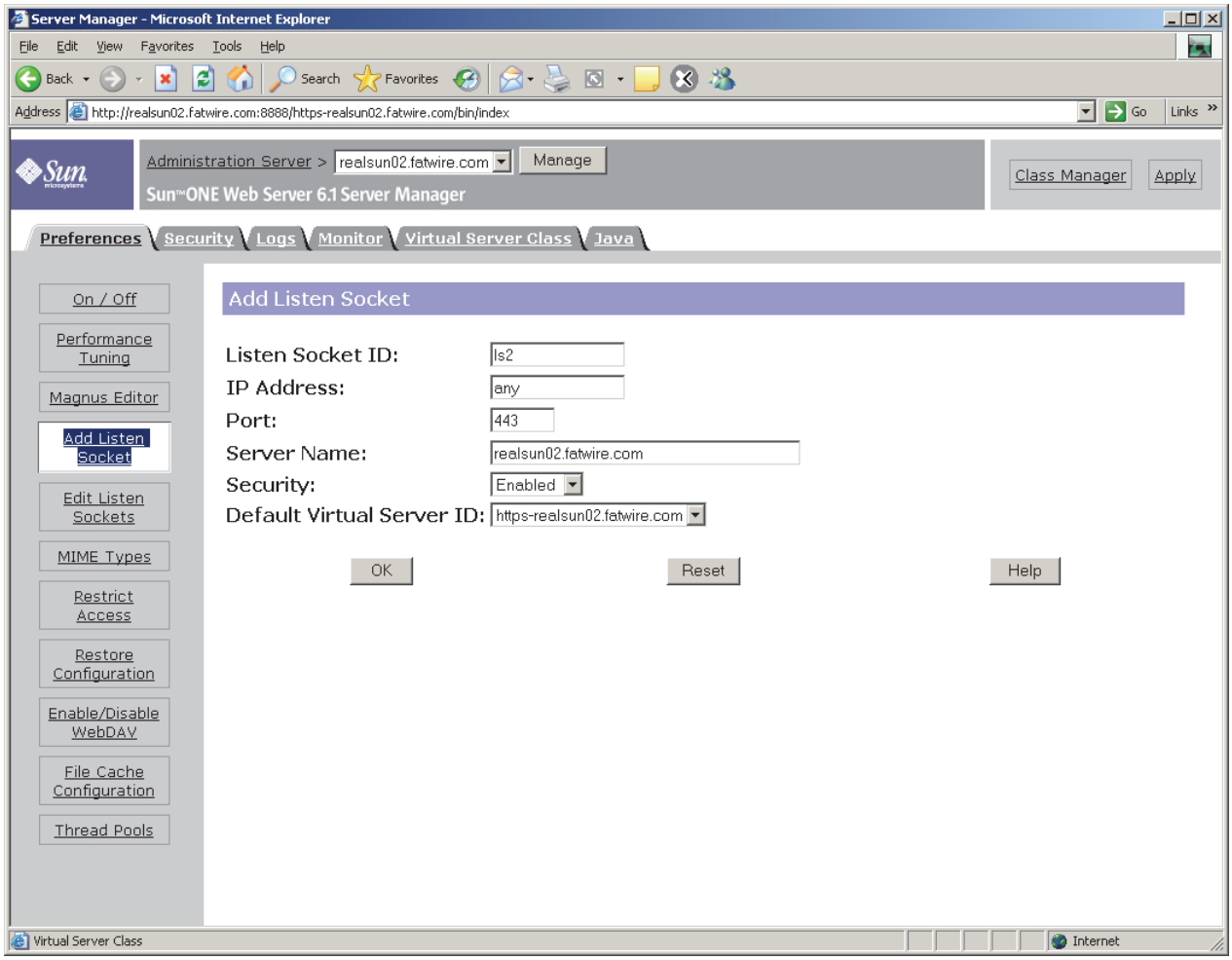
4. Select the **Preferences** tab and do the following:

a. Click the button **Add Listen Socket**.

1) Enter a port number (443 is the default of SSL).

2) For "Security" select **Enabled** from the drop-down list.

3) Click **OK**.



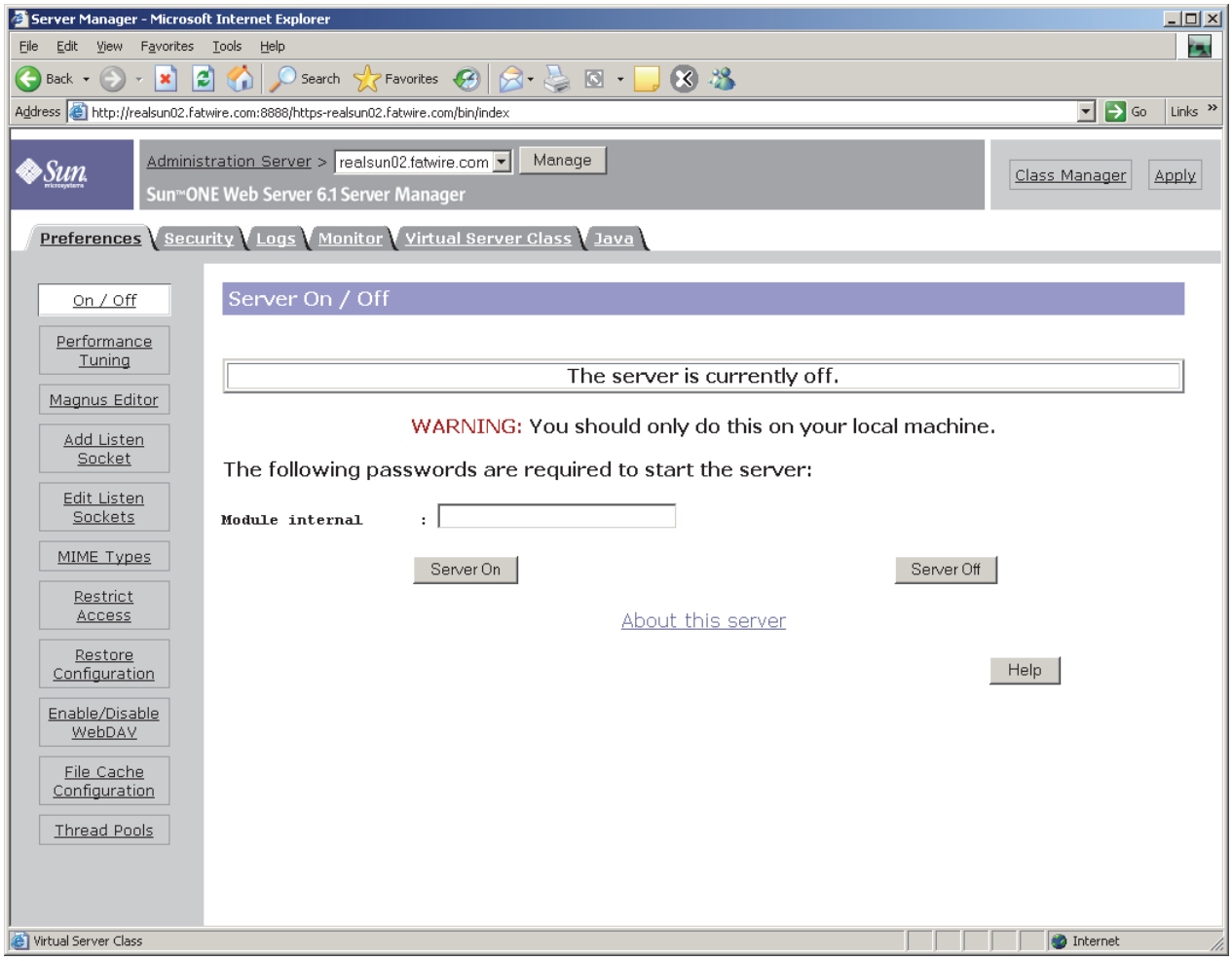
b. Click **Edit Listen Sockets** in the left-hand navigation bar.

1) Select the new socket created in step 4 on page 71. Look for the option in the middle of the page named "Server Certificate Name." Ensure that it is pointed to the certificate created in step 3 on page 74. If not select it from the list.

2) Click **On / Off** in the left-hand navigation bar.

3) Click the **Server Off** button.

4) Enter the password for the database created in step b on page 68 and click **Server On**.



Note

The following command for migrating a CA certificate exports the CA certificate to a file named `FatWirecacert.pem`:

```
certutil -L -d . -P https-realsun02.fatwire.com-realsun02- \
   -n "FatWireCA" -a -o FatWirecacert.pem
```

Configuring Apache and IIS Web Servers

1. Before you can use any external web server with the Sun JES application server, you must complete the steps required to create an lb-configuration. For instructions, see "Generating the JES Application Server LoadBalancer Plugin," on page 42.
2. To configure the Apache or IIS web server, refer to the product documentation for configuration instructions.

Configuring the LoadBalancer Plugin for the Web Server

This section provides instructions for configuring the plugin that comes with and connects to Sun JES application server. The following configurations are covered:

- Configuring for Sun JES Web Server
- Configuring for Apache 2.X
- Configuring for IIS

Note

If you have not generated the loadbalancer plugin, do so now. For instructions, see "Generating the JES Application Server LoadBalancer Plugin," on page 42.

Configuring for Sun JES Web Server

1. Stop the web server instance you will be editing.

   If you are setting up a clustered installation, you should tune the Sun Java System Web Server, by completing steps 2 and 3 below. If you are simply enabling connections to the Sun JES application server, then go directly to step 4.

2. Edit the file `/etc/system` by adding the following lines to the end of the file:

   ```
   set rlim_fd_cur=65535
   set rlim_fd_max=65535
   ```

3. Tune the TCP stack by running the following commands:

   ```
   /usr/sbin/ndd -set /dev/tcp tcp_time_wait_interval 30000 # for
     solaris 9 only.
   /usr/sbin/ndd -set /dev/tcp tcp_conn_req_max_q 1024
   /usr/sbin/ndd -set /dev/tcp tcp_conn_req_max_q0 4096
   /usr/sbin/ndd -set /dev/tcp tcp_ip_abort_interval 60000
   /usr/sbin/ndd -set /dev/tcp tcp_keepalive_interval 90000
   /usr/sbin/ndd -set /dev/tcp tcp_rexmit_interval_initial 3000
   /usr/sbin/ndd -set /dev/tcp tcp_rexmit_interval_max 10000
   /usr/sbin/ndd -set /dev/tcp tcp_rexmit_interval_min 3000
   /usr/sbin/ndd -set /dev/tcp tcp_smallest_anon_port 1024
   /usr/sbin/ndd -set /dev/tcp tcp_slow_start_initial 2
   /usr/sbin/ndd -set /dev/tcp tcp_xmit_hiwat 32768 # for
     solaris 9 only.
   /usr/sbin/ndd -set /dev/tcp tcp_recv_hiwat 32768 # for
     solaris 9 only.
   ```

Note

All files in the remaining steps are stored in the following location:
`/opt/SUNWwbsvr/https-`*`your_server_name`*`/config`

4. Edit `magnus.conf` as follows for the instance on which you wish to install Content Server:
   a. Depending on load, change `RqThrottle 128` to: `RqThrottle 256 to 1024`
   b. Look for the line:

```
Init fn="load-modules" shlib="/opt/SUNWwbsvr/bin/https/lib/
  libj2eeplugin.so" shlib_flags="(global|now)"
```

   c. After the line above, add the following two lines:

```
Init fn="load-modules" shlib="/opt/SUNWwbsvr/plugins/
   passthrough/bin/libpassthrough.so" funcs="init-
   passthrough,auth-passthrough,check-passthrough,service-
   passthrough" NativeThread="no"

Init fn="init-passthrough"
```

5. Edit `obj.config` as follows:
   a. Comment out the following lines:

```
#PathCheck fn=unix-uri-clean
#PathCheck fn="check-acl" acl="default"
#PathCheck fn=find-pathinfo
#PathCheck fn=find-index index-names="index.html, home.html"
```

> **Note**
>
> The file `lbconfig.xml` is the file created on the application server and copied to every web server.

   b. Add lines to `obj.conf` as follows:
      1) At the end of the section `<Object name=default>`, but before `</object>` add:

```
NameTrans fn="name-trans-passthrough" name="lbplugin"
   config-file="/opt/SUNWwbsvr/https-
   realsun02.fatwire.com/config/lbconfig.xml"
```

      2) At the end of the file, add:

```
<Object name="lbplugin">
ObjectType fn="force-type" type="magnus-internal/
   lbplugin"
PathCheck fn="deny-existence" path="*/WEB-INF/*"
Service type="magnus-internal/lbplugin" fn="service-
   passthrough"
Error reason="Bad Gateway" fn="send-error" uri="$docroot/
   badgateway.html"
</Object>
```

6. Edit `lbconfig.xml` by changing the response-timeout-in-seconds from 60 to 300 in the line below:

```
<property name="response-timeout-in-seconds" value="60"/>
```

The result reads as follows:

```
<property name="response-timeout-in-seconds" value="300"/>
```

7. Make a directory `plugins/lbplugin/resource/` under this instance and copy both the `.res` files from `/opt/SUNWwbsvr/plugins/passthrough/bin` into this directory.
8. Start the affected web server instance.

Configuring for Apache 2.X

A. Configuration Requirements

- **Linux installations**: In order to use the Sun plugin with a Linux server, you must have a copy of the Sun Java Application Server installed before configuring Apache. See the *High Availability Administration Guide* for the complete set of steps that are needed to install Apache as a front-end web server for Sun Java Application Server on Linux.
- **Solaris installations**: See the *High Availability Administration Guide* for the complete set of steps that are needed to install Apache as a front-end web server for Sun Java Application Server on Solaris.
- `lbconfig.xml` refers to the file that was copied from the application server. Place `lbconfig.xml` in your `<apache install>/conf` directory.
- Copy from the application server to this server all the `.db` files that are associated with the domain you will be connecting to, and place the files into: `<apache install>/sec_db_files`
- Obtain the file `mod_loadbalancer.so` located in `/opt/SUNWappserver/appserver/lib/webserver-plugin/<platform>/apache2/` for your given platform. Copy the file into the `<apache install> /libexec` directory.

B. Configuration Steps

1. Edit the `httpd.conf` file by adding the following lines:

```
LoadModule apachelbplugin_module libexec/mod_loadbalancer.so
#AddModule mod_apachelbplugin.cpp
<IfModule mod_apachelbplugin.cpp>
config-file <apache install>/conf/lbconfig.xml
locale en
</IfModule>
```

2. If Apache is located on Solaris, add the following line before the block of lines in step 1 above:

```
LoadFile /usr/lib/libCstd.so.1
```

3. Under `<apache install>`, create a new directory named: `sec_db_files`
4. Copy all the files from the directory `/var/opt/domains/domain1/config/*.db` on the application server to `<apache install>/sec_db_files`.
5. Modify the `apachectl` file located in `<apache install>/bin` by adding the following to the beginning of the `LIB_PATH` statement:

   Linux: `/opt/sun/private/lib`

   Solaris: `/usr/lib/mps/secv1`
6. Stop and restart Apache.

Configuring for IIS

Note

In order to use the Sun plugin with IIS, you must install a copy of the Sun JES application server locally.

1. Copy the file `lbconfig.xml` to the local machine and place it in: `wwroot\sun-passthrough`
2. Locate the file `sun-passthrough.dll` in the Sun JES application server. Install and copy the file to a directory under: `wwroot\sun-passthrough`
3. Open the **ISAPI Filters** tab and add a new filter:

   name: `lbpassthrough`

   executable: location of the file copied in step 1
4. Right-click on the website which will forward your request to Sun JES application server and select **New > Virtual Directory**.

   Alias: `sun-passthrough`

   Path: `wwwroot\sun-passthrough`

   Permissions: execute only
5. Add the location of the Sun JES application server `install/bin` directory to the system path.
6. Stop the web server instance that was edited.
7. Restart the server.
8. Start the web server instance that was edited.
9. Edit the file `sun-passthrough.properties` in `wwwroot\sun-passthrough` by modifying the property `lb-config-file` to point to the `lbconfig.xml file` that was copied in step 1.
10. Restart the web server.

Part 4

Content Server

This part shows you how to proceed through the installation of Content Server. It contains the following chapters:

- Chapter 10, “Installing the Content Server Web Application and Portal”
- Chapter 11, “Completing the Content Server Installation”

Chapter 10

Installing the Content Server Web Application and Portal

Content Server can be installed on any instance, but certain requirements must be met prior to the installation. This chapter covers the pre-installation requirements and provides instructions for installing Content Server as a web application and a portal.

This chapter contains the following sections:

- Pre-Installation Steps
- Installing Content Server

Pre-Installation Steps

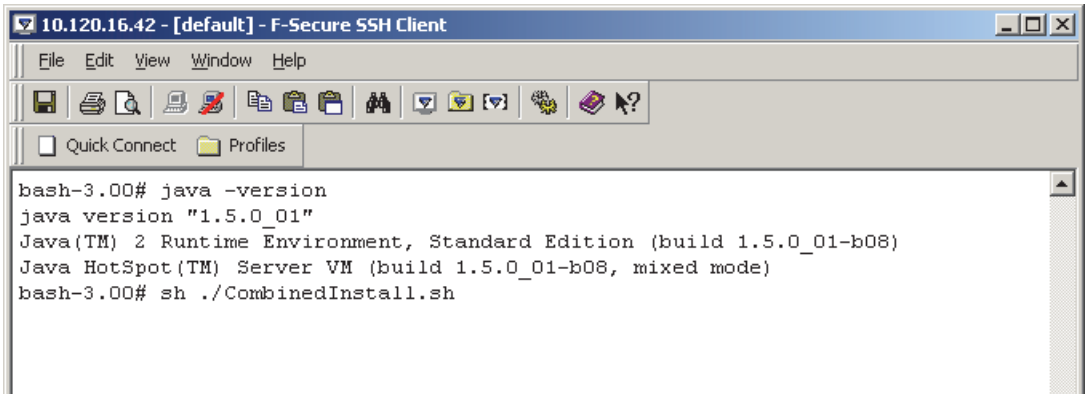
Before installing Content Server, make sure the following steps have been completed:

1. A data source has been created and tested. Confirm the following:
   - You have modified the classpath of the instance onto which you plan to install Content Server to include any necessary `jars` for the data source to work
   - You have added the jars to the domain.
2. The directory where Content Server is be installed has been created and has the correct permissions to allow the application server to write to it. The directory is `<SUNWappserver j2ee-app root>/<application name>/cs_war/`. This is the directory you will point to in step 15 on page 103.
3. If this is to be a clustered installation, ensure that you have created a shared file system that all cluster members can access and write to.
4. Since Content Server installations are graphical, a monitor capable of displaying the GUI is required.
5. Ensure that you are using the correct version of Java.
6. The CS installer requires the `cs` and `lib` folders. You must create the folders manually in the following path: `/var/opt/SUNWps/tmp/deploy/web-apps/https-<server name>/cs/lib`

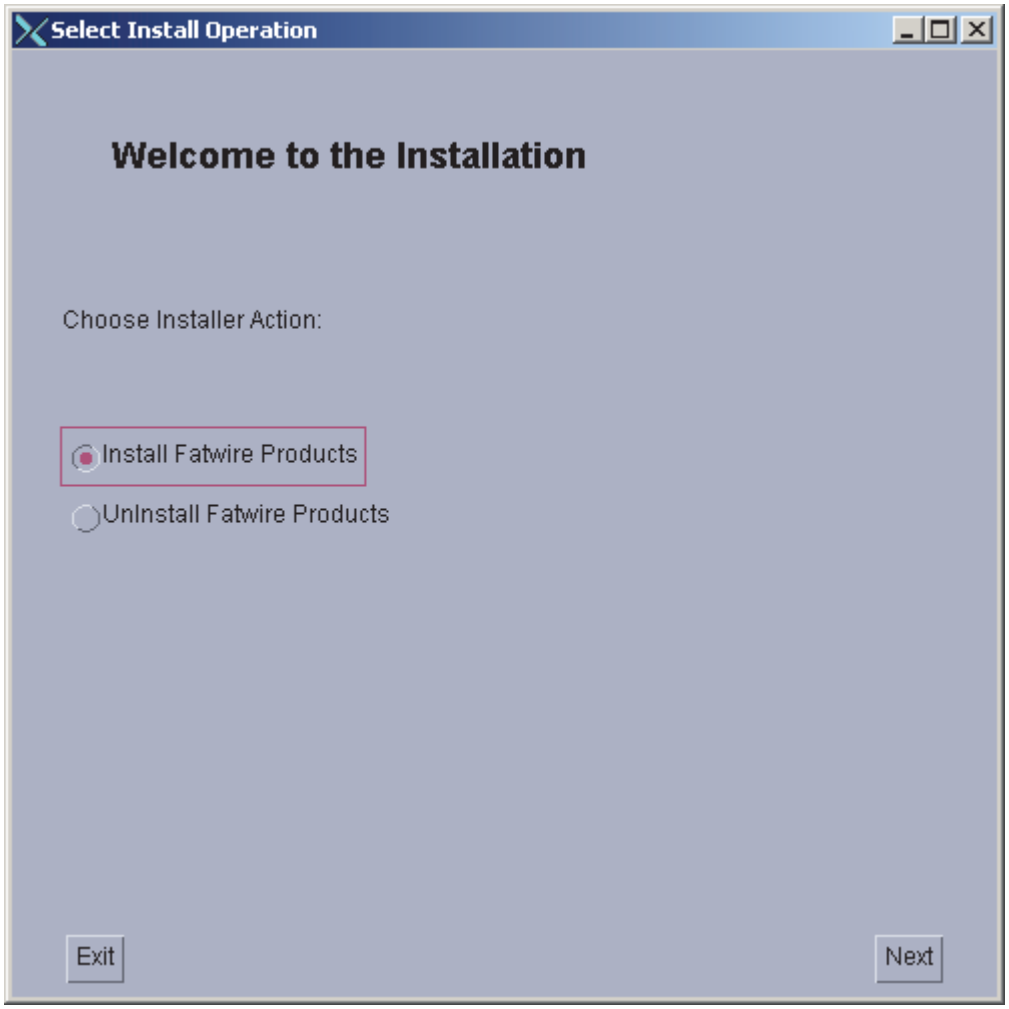
Installing Content Server

1. From the command line in the exploded CS installation directory, run the following command:

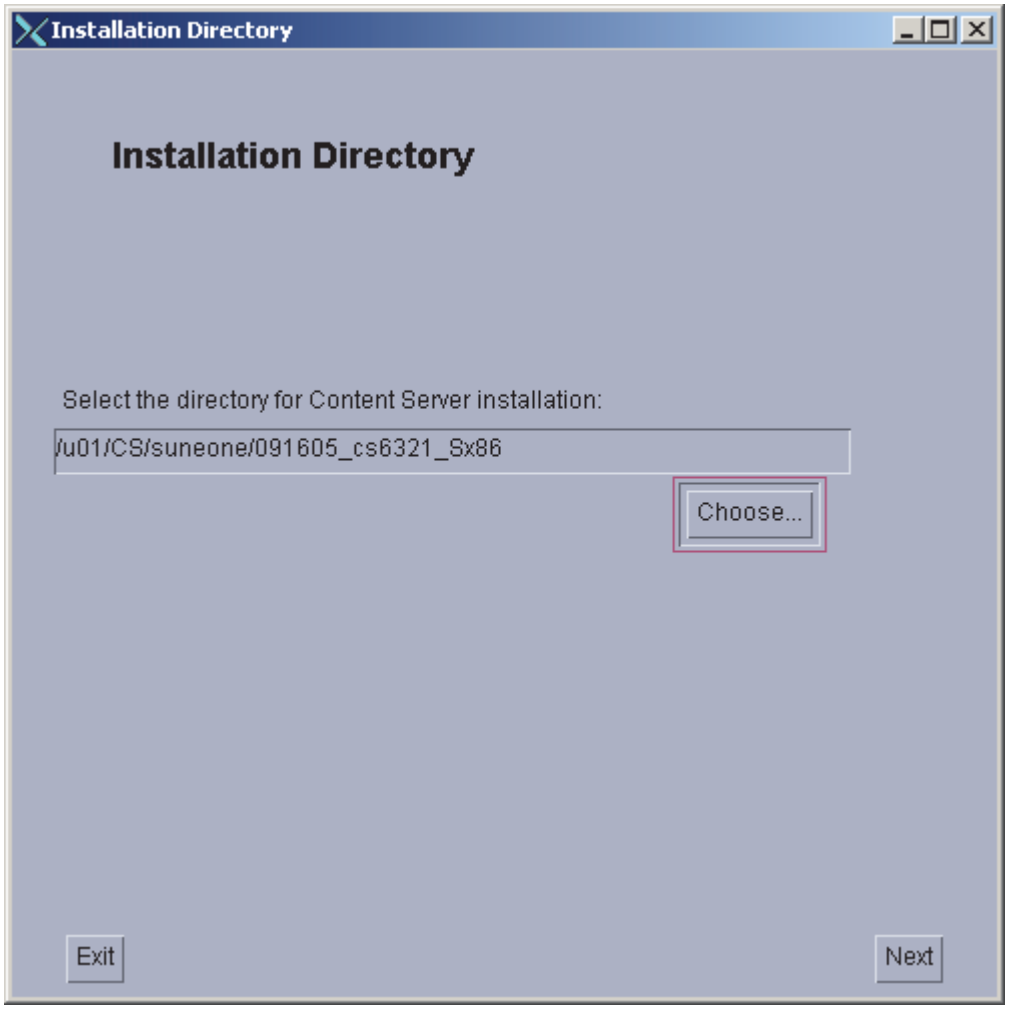
   `sh ./CombinedInstall.sh`



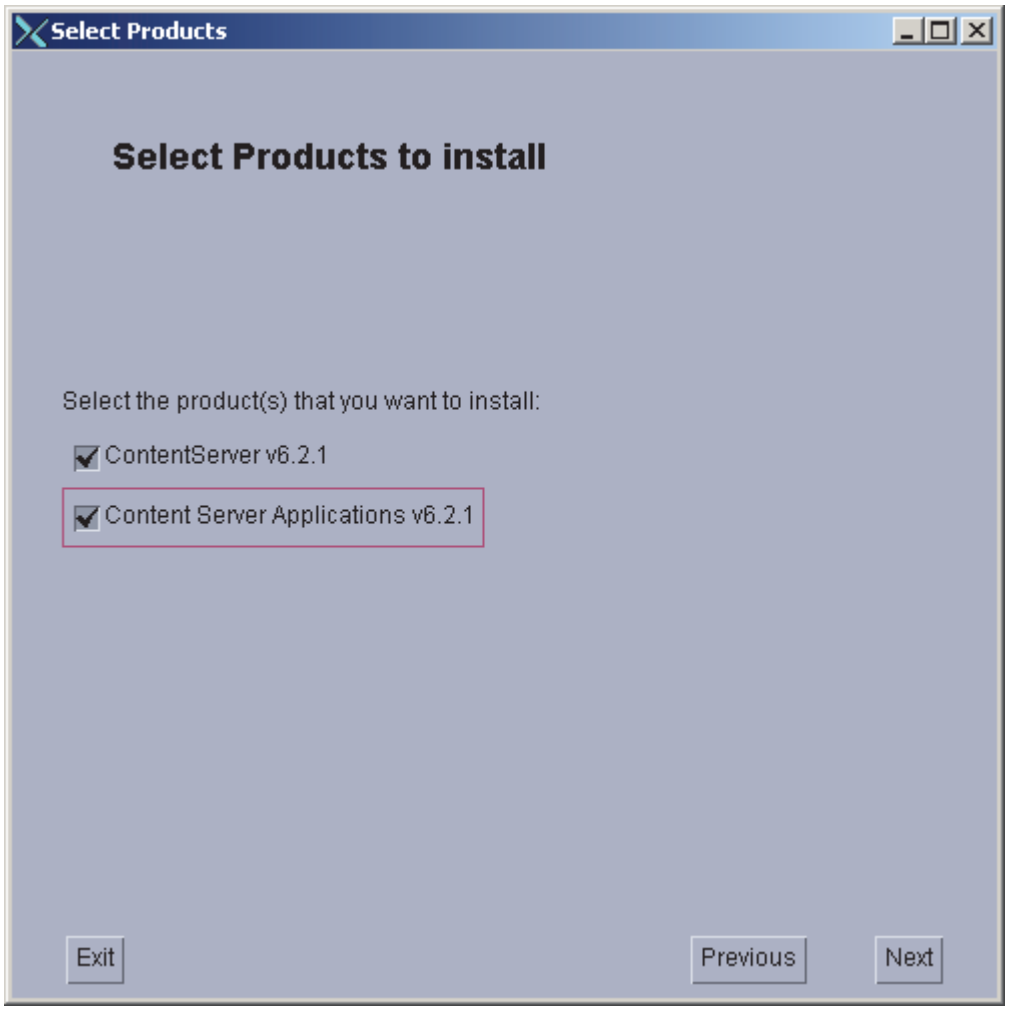
2. On the welcome screen, leave the default option **Install Fatwire Products** selected and click **Next**.



3. Enter or browse to the directory where you will be installing Content Server and click **Next**.

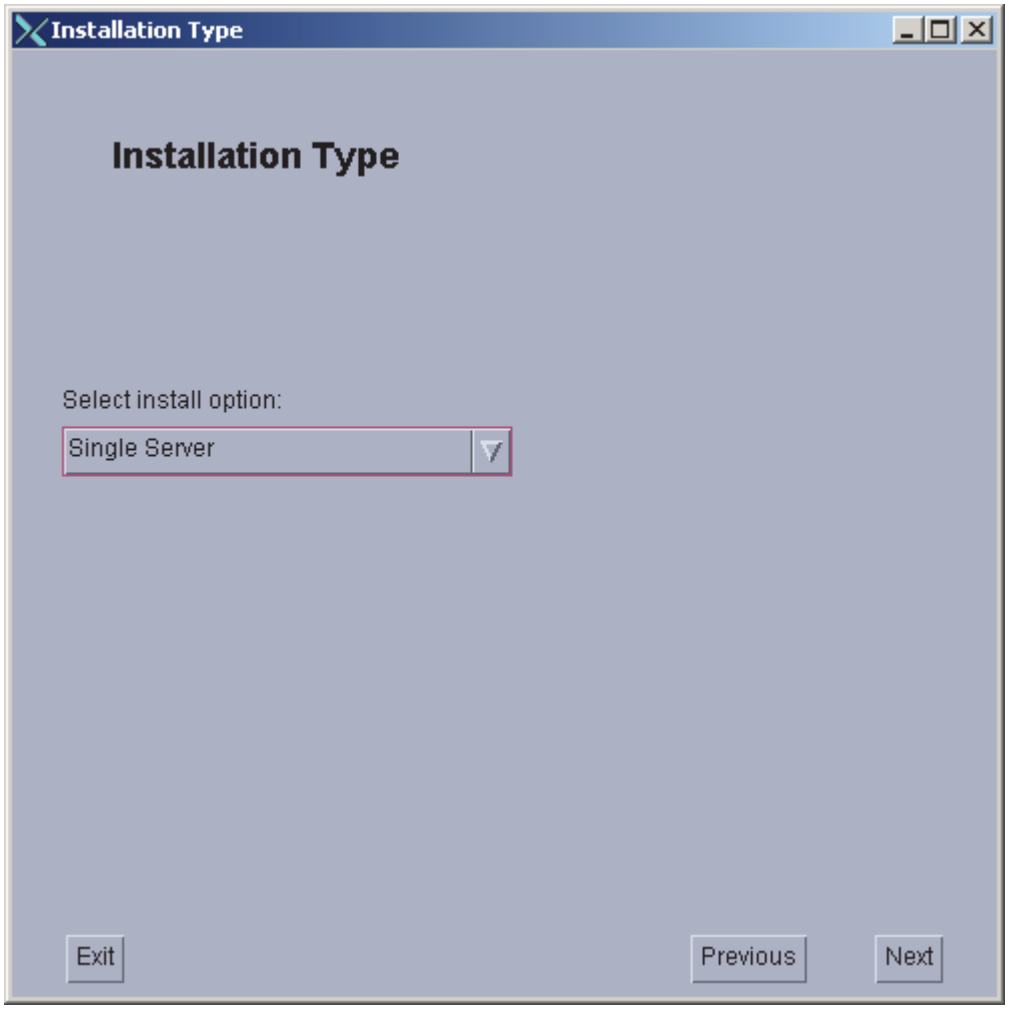


4. Select the products you wish to install and click **Next**.

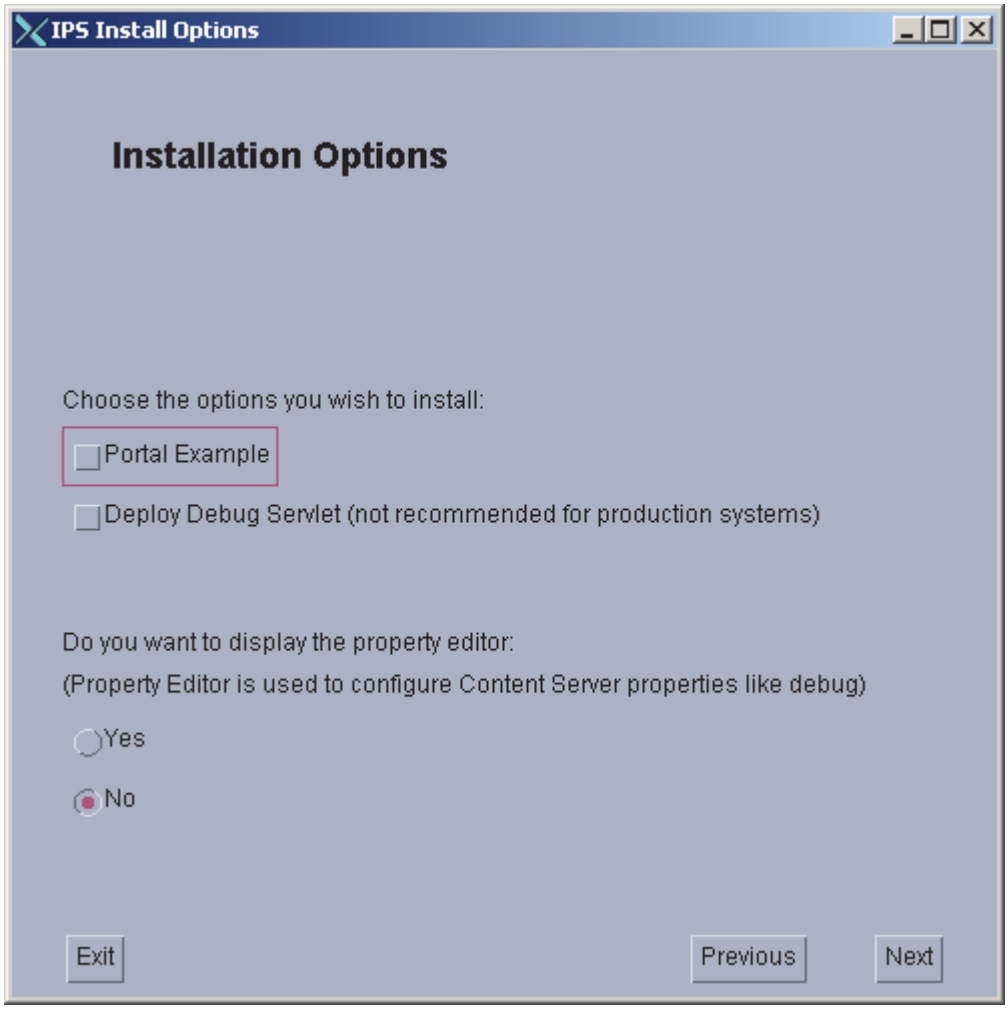


5. Select the installation type as follows:

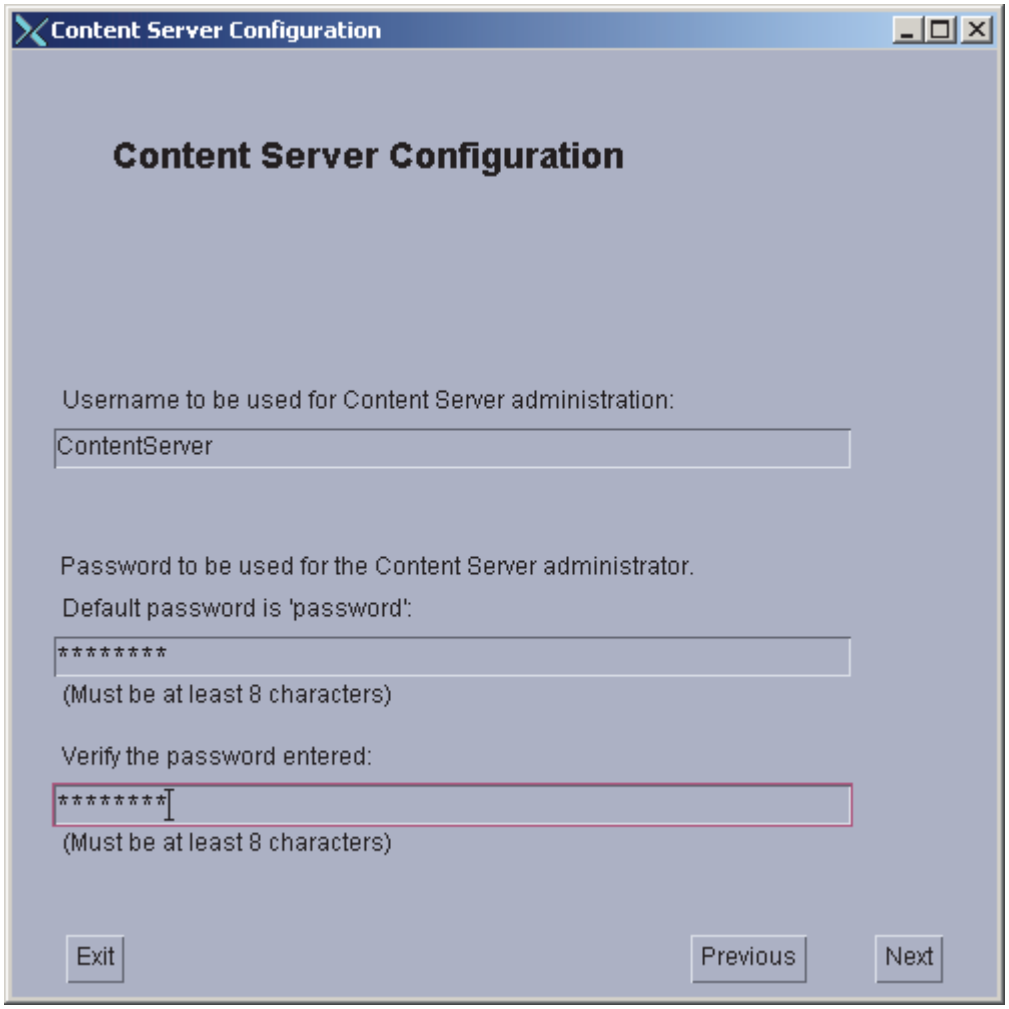
   If this is a standalone installation or your primary (first) cluster member to be installed, select **Single Server**. Otherwise, select **Cluster Member**.



6. In the "Installation Options" screen, leave the default options selected. Click **Next**.

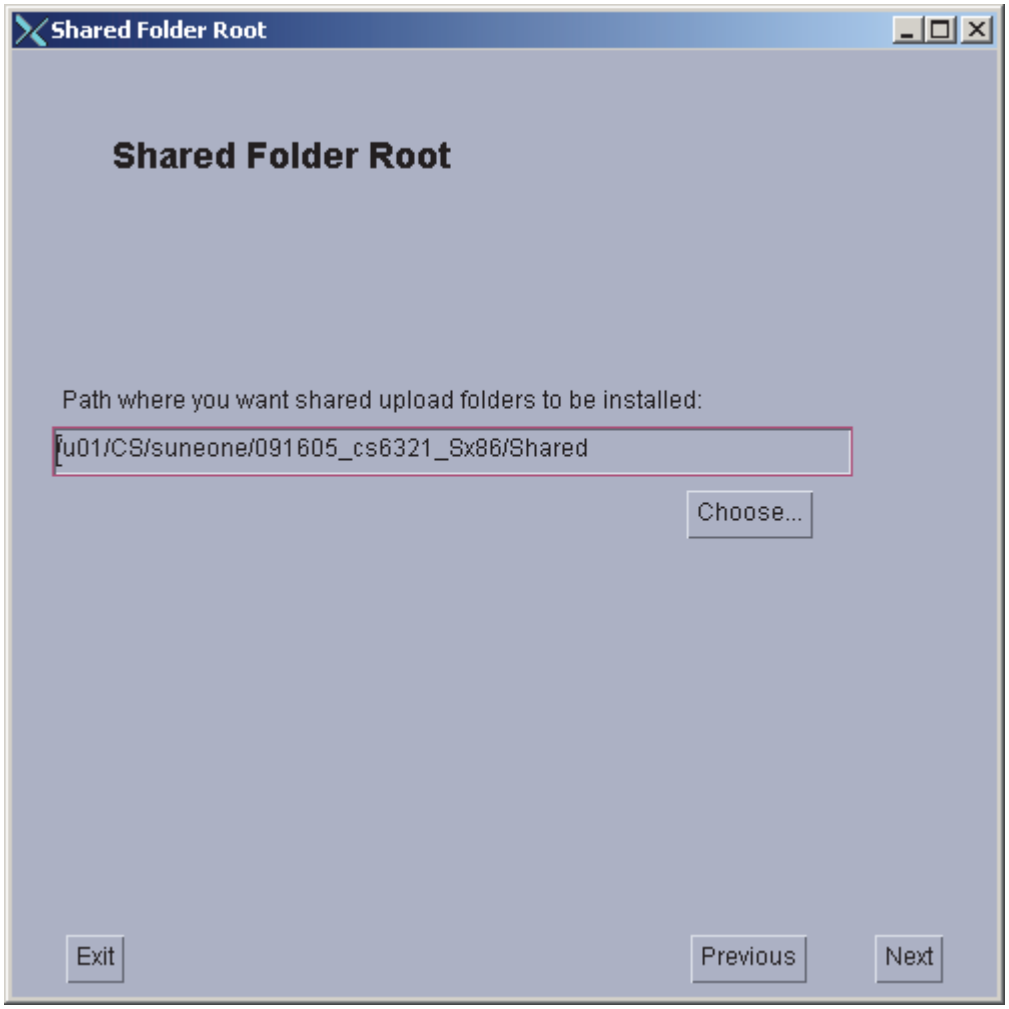


7. Enter your password for Content Server. Write it down in a safe place, as it will be needed for future upgrades. Click **Next**.

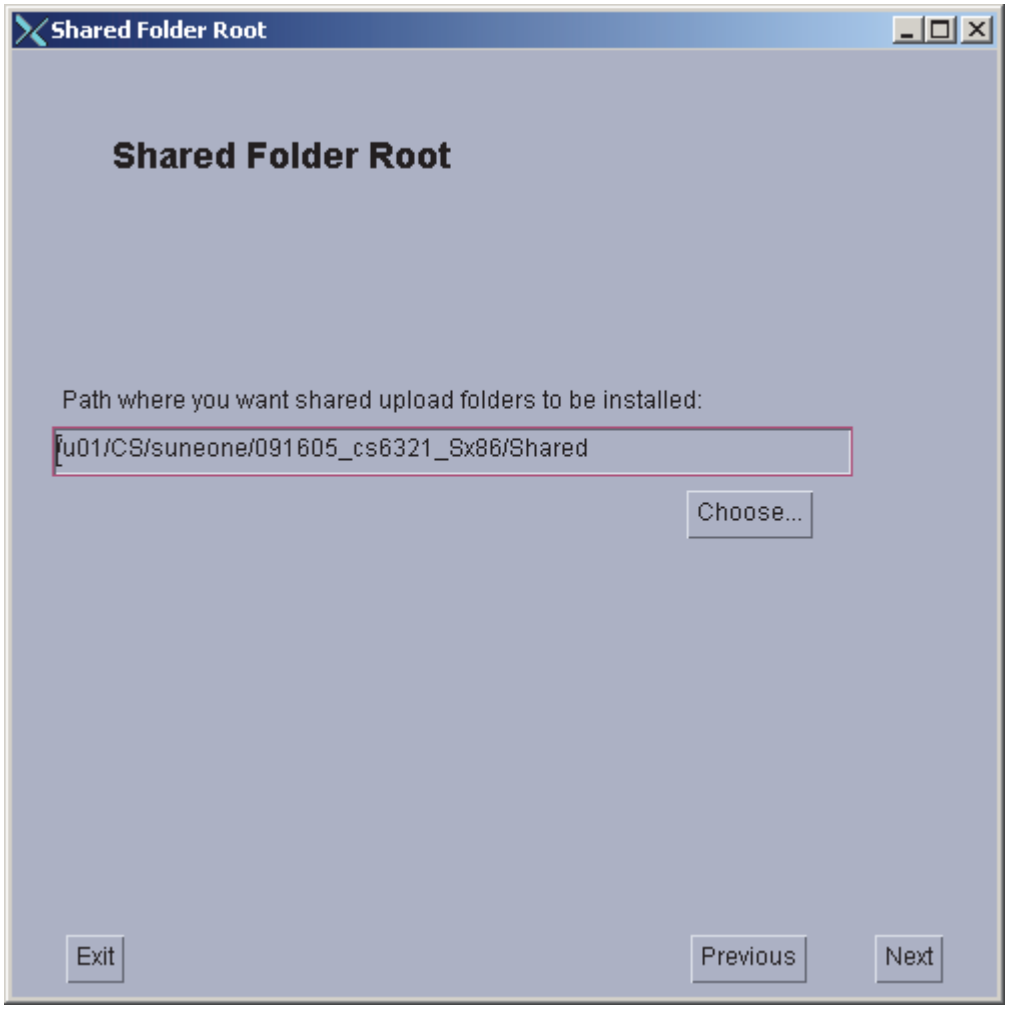


8. Enter your password for Satellite Server. Write it down in a safe place, as it will be needed for future upgrades. Click **Next**.

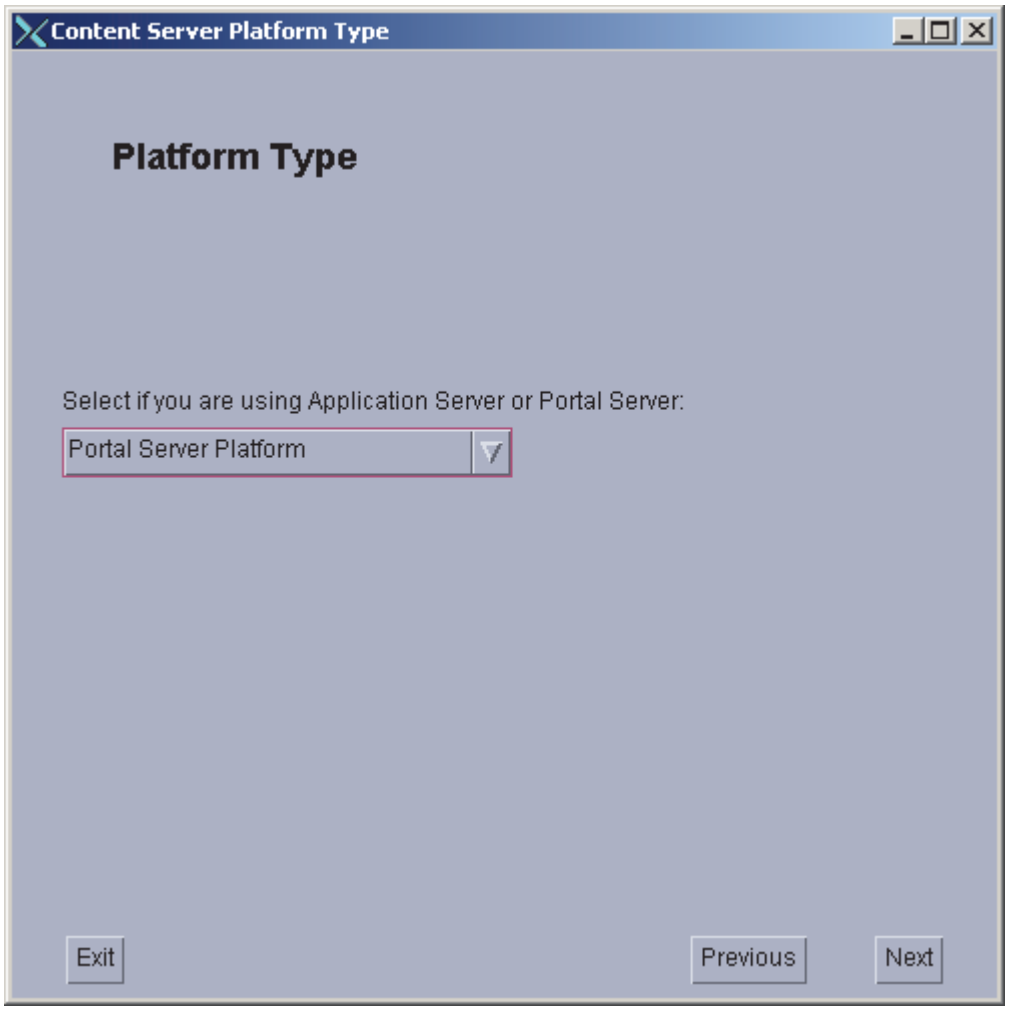
9. Enter or browse to the location of your shared file system,. If this will not be a clustered environment, then the default directory will work.



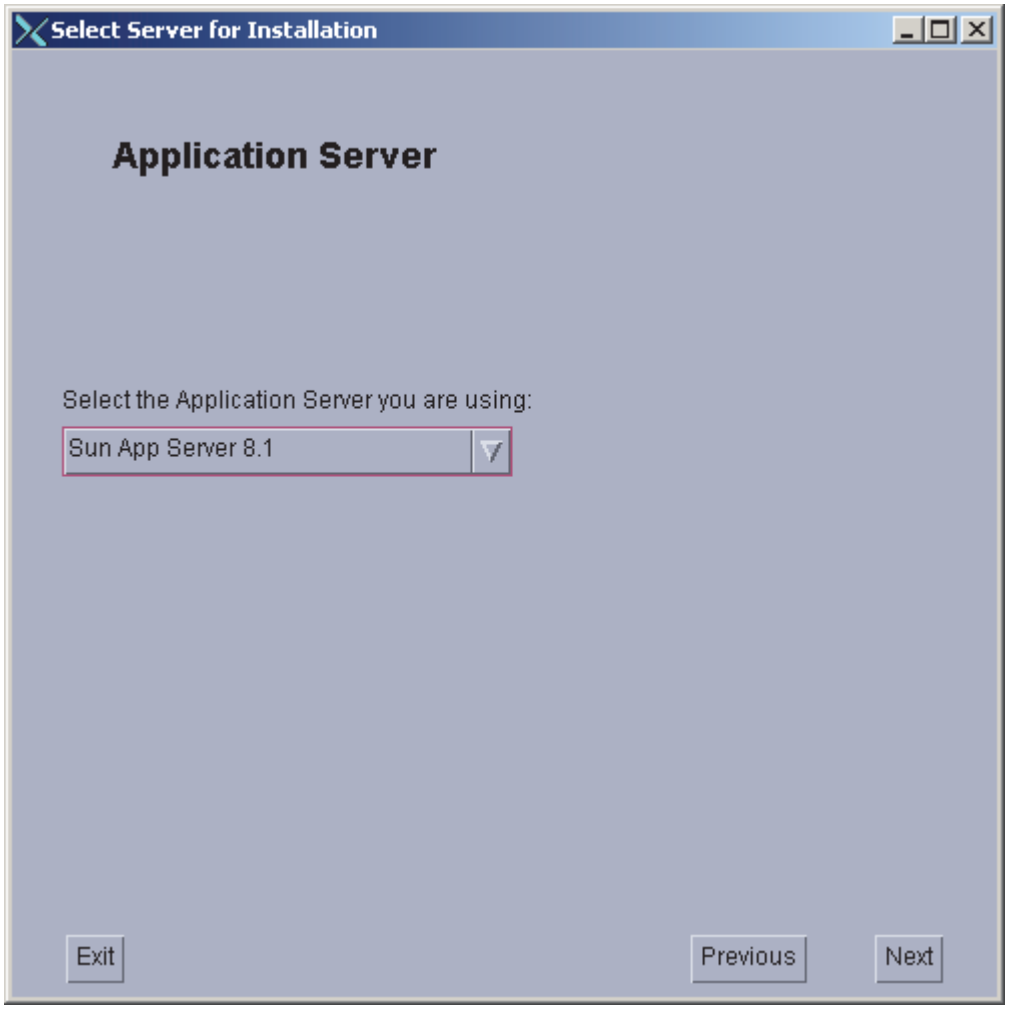
10. Enter the host name and IP address for your application server in the correct fields. Click **Next**.



11. Select the appropriate platform type and click **Next**.

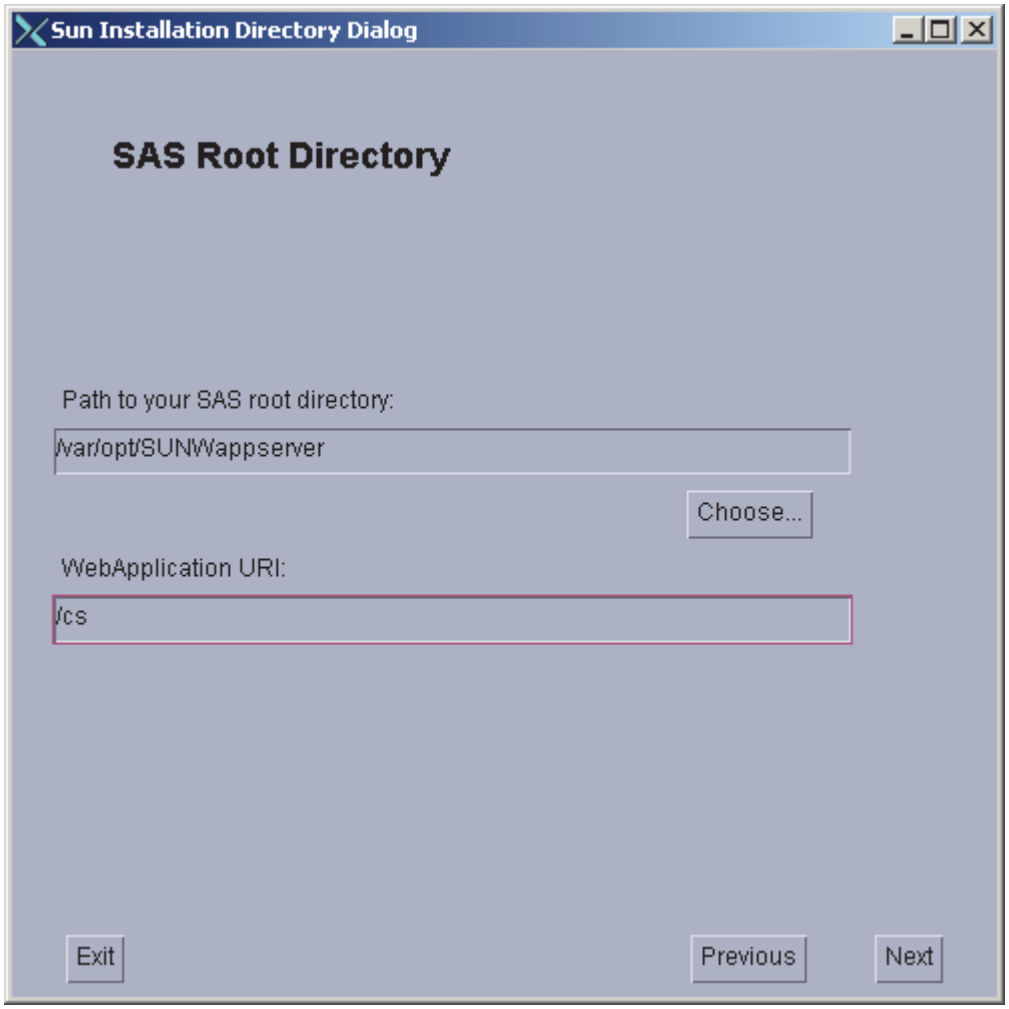


12. In the "Application Server" screen, select your application server from the pull-down menu. In this guide, your options are **Sun App Server 7.0** and **Sun App Server 8.1**.



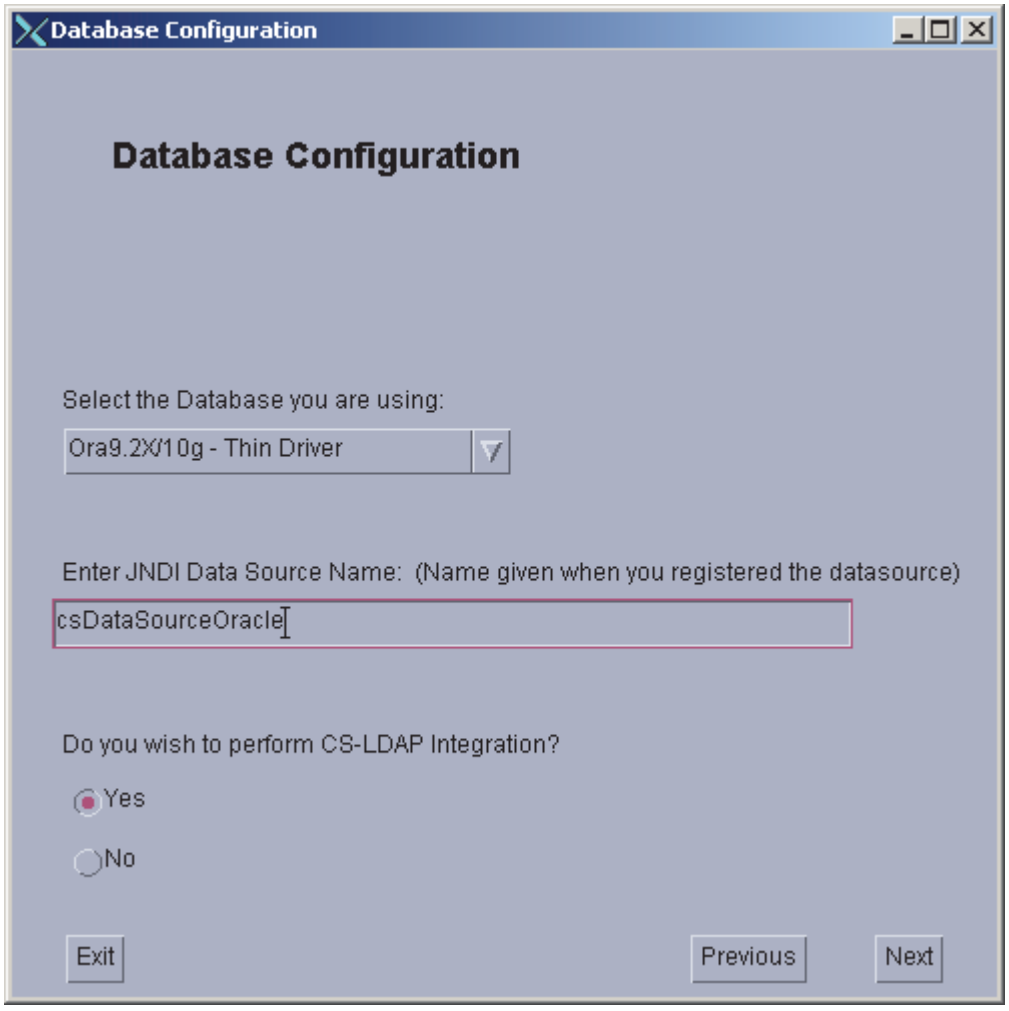
12. If you are creating a portal installation, you will see the "Portal Server" screen (otherwise, continue with the next step). Select your portal server (either **JES2 Sun Application Server** or **JES3 Sun Application Server**). Click **Next**.

13. In the "SAS Root Directory" screen, do the following:
    a. Enter (or choose) the path to your SAS root (which is the directory under which all SAS domains are created). The path field should be correctly pre-populated, unless you changed the directory when installing SAS.
    b. For "WebApplication URI," enter the context root for your installation. Because of how SAS assigns context roots, the context root must be the name of your application (which you will enter later in step 15 on page 103). For a portal installation, make sure the context root is `/cs`.

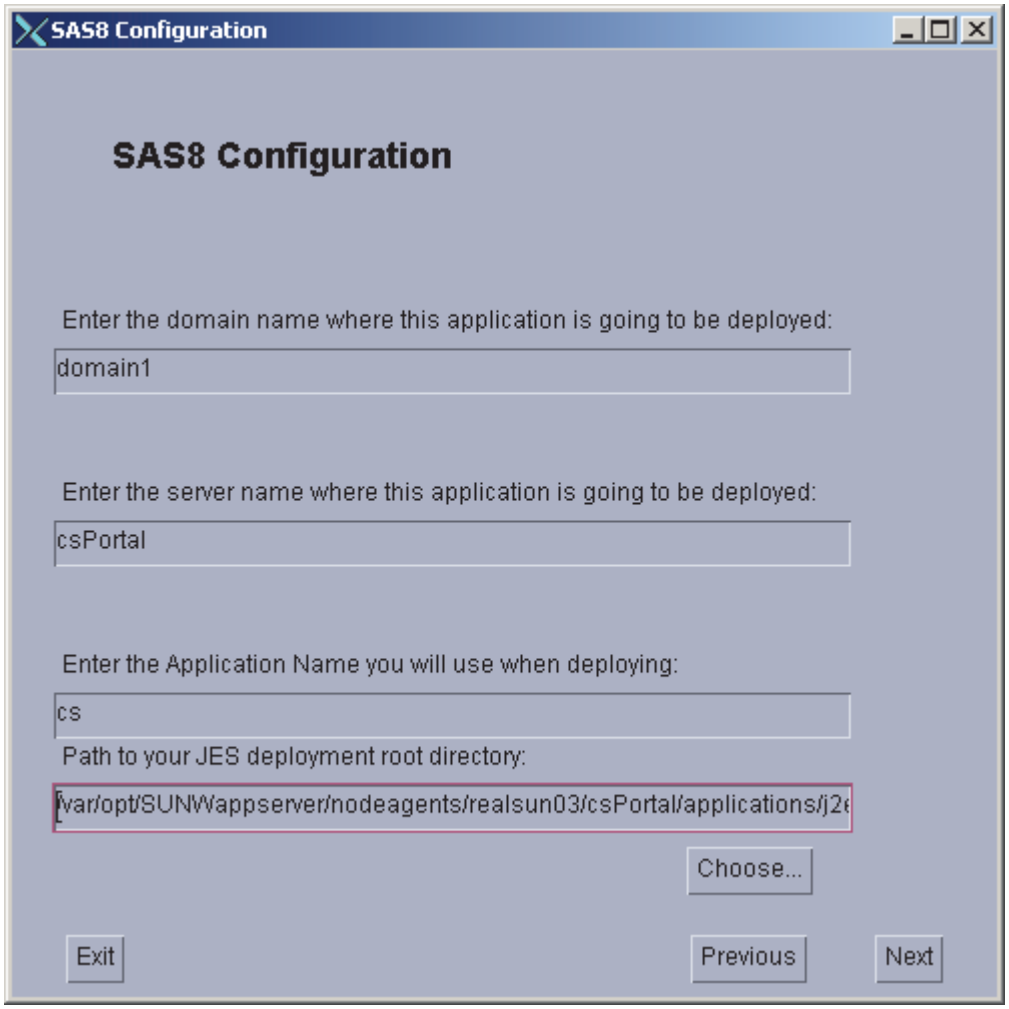


14. In the "Database Configuration" screen, do the following:
    a. Select your database type from the drop-down list.
    b. Enter the name of your data source (created previously; omit the leading `jdbc/`).
    c. If you are installing a portal, or you have integrated LDAP into your SAS server during installation, select **Yes** for CS-LDAP integration. Otherwise select **No** and click **Next**.

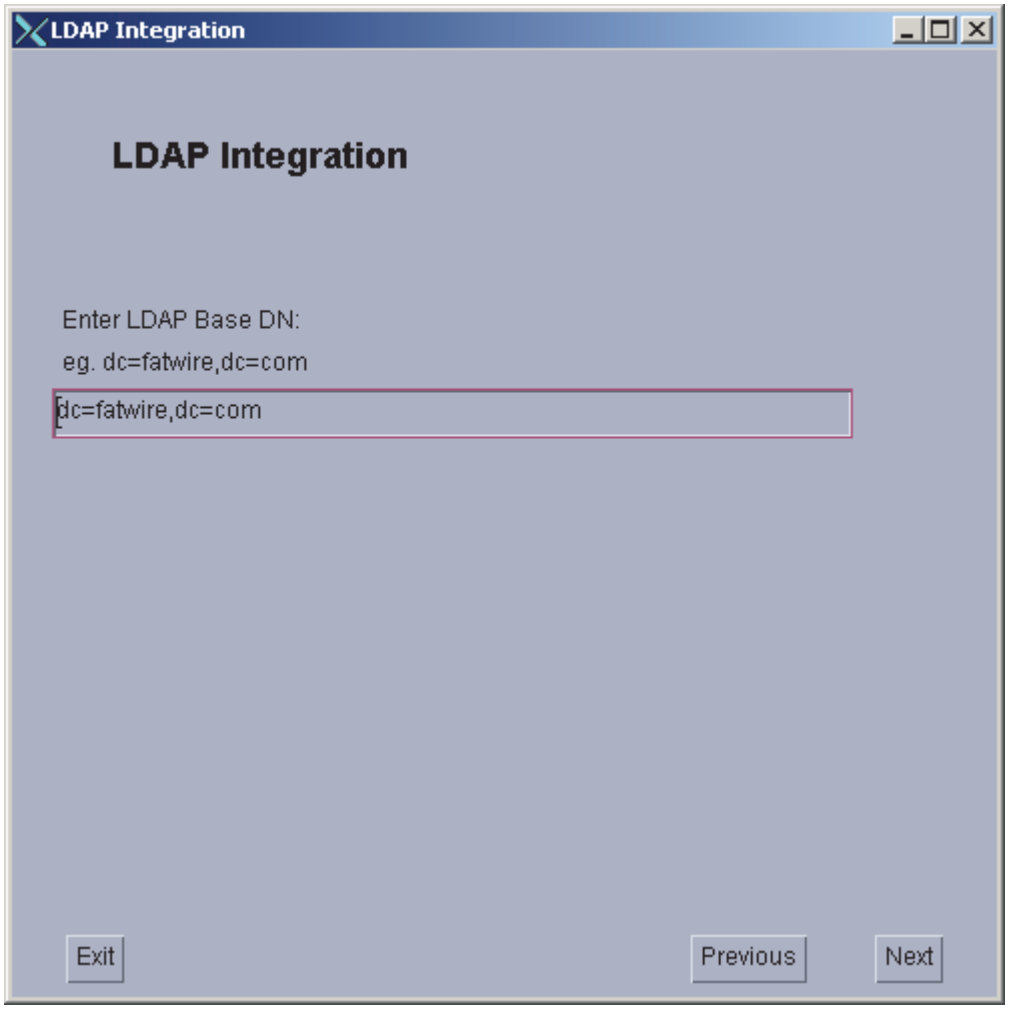
> **Note**
>
> If you are installing a portal, do not bypass the LDAP integration option. A Content Server portal application, once installed, cannot be manually integrated with LDAP. It must be reinstalled with CS-LDAP integration enabled.



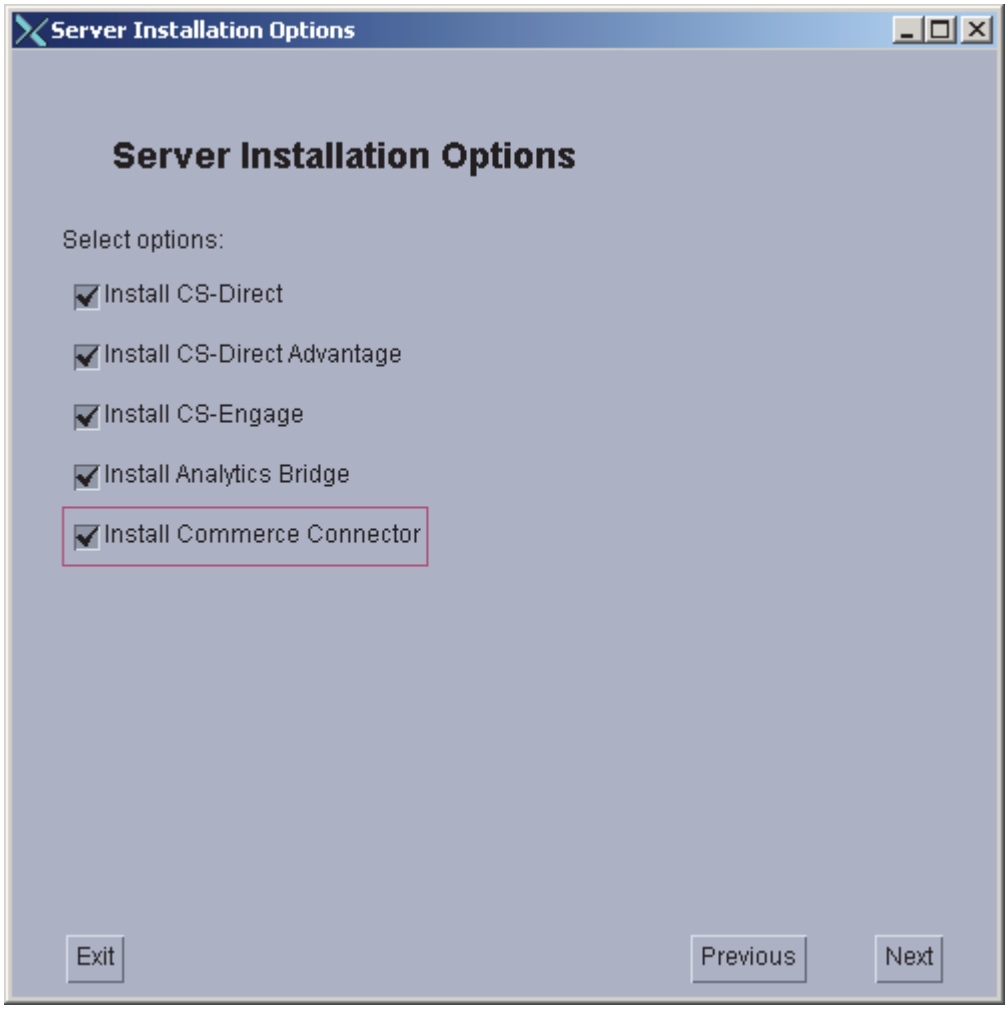
15. In the "SAS8 Configuration" screen, do the following:
    a. Enter your domain name (normally this is `domain1` unless you changed it during the installation).
    b. Enter the name of the server instance onto which to install Content Server. This name is normally `server` by default. However, if you created a new instance, enter the new instance name here.
    c. Application name. Currently, the name `cs` must always be used with the portal server.
    d. Enter the path to which your application will be deployed.



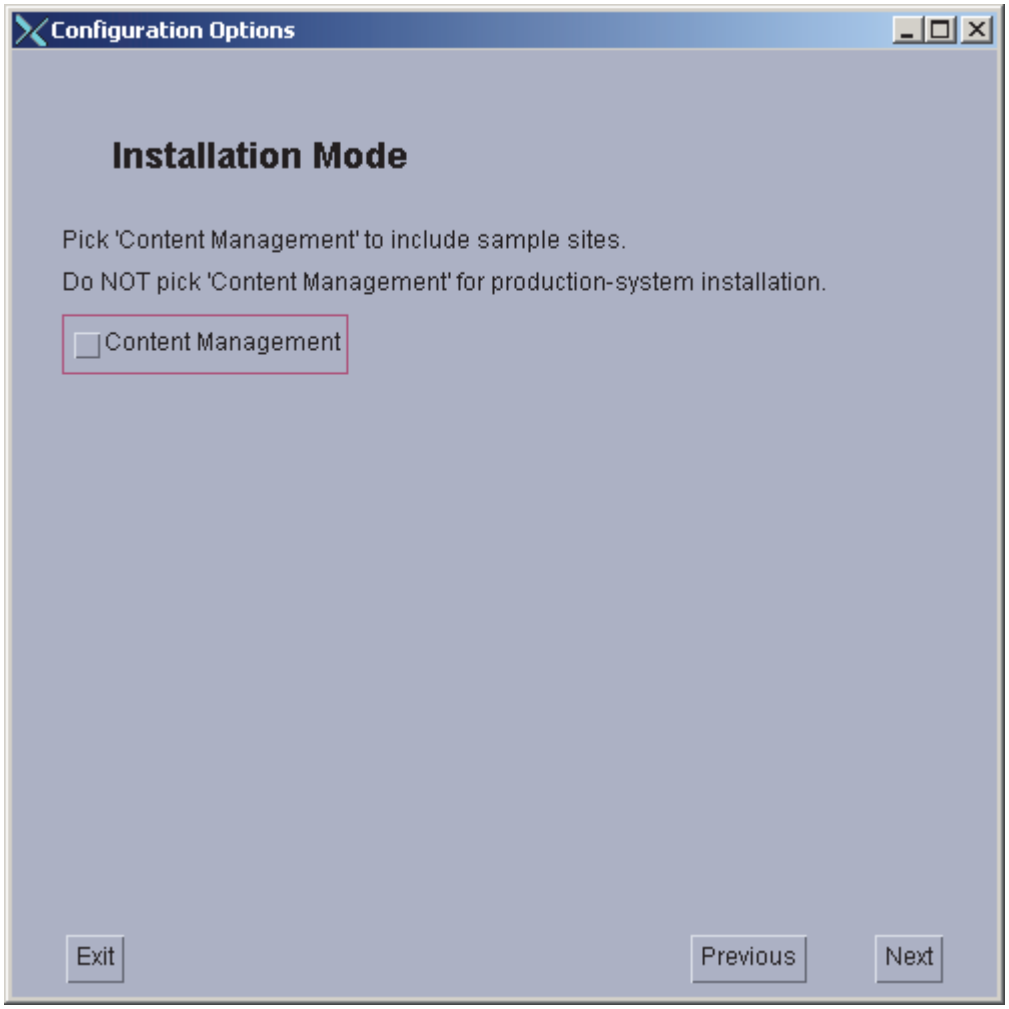
16. If you selected LDAP integration, you are now prompted to enter its base DN. The field should be correctly pre-populated if you are using local LDAP. If your LDAP is remote, enter the correct base DN.



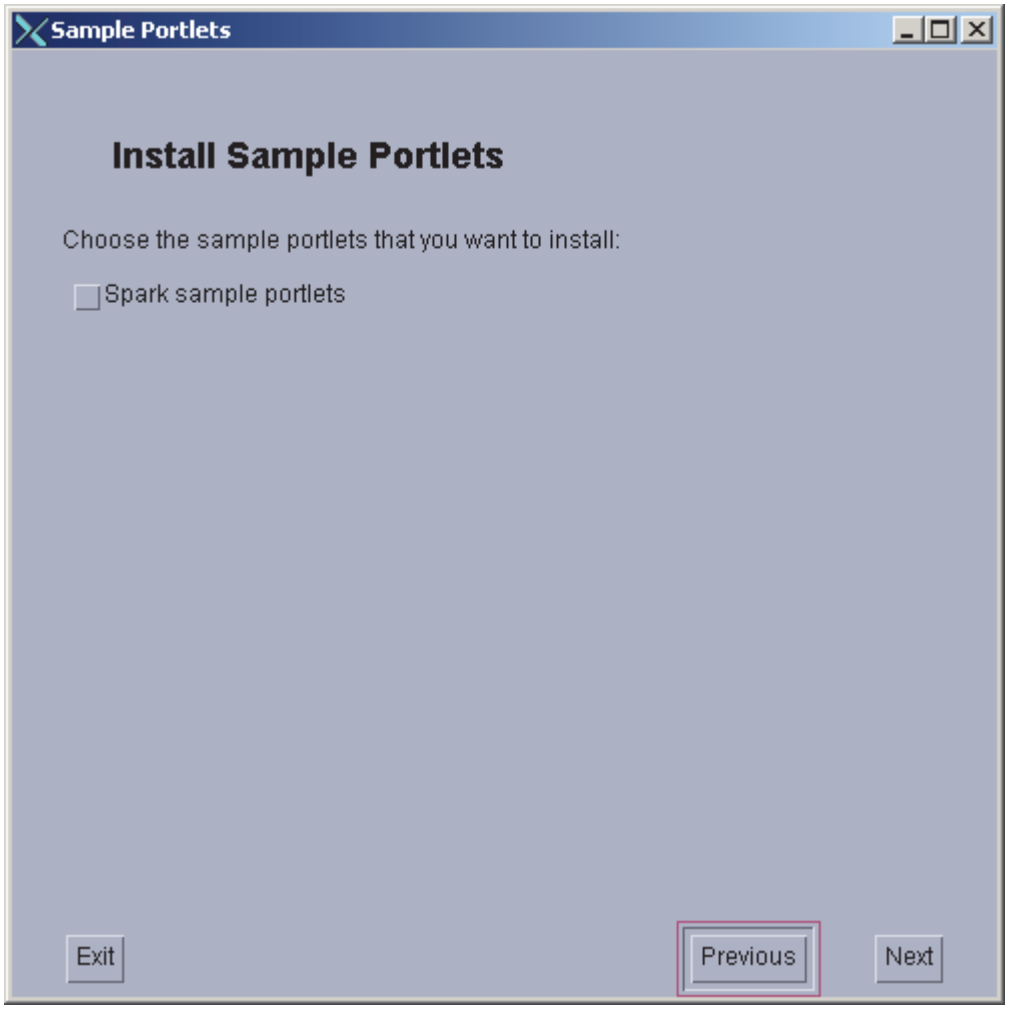
17. Select the options to install according to your installation requirements and click **Next**.



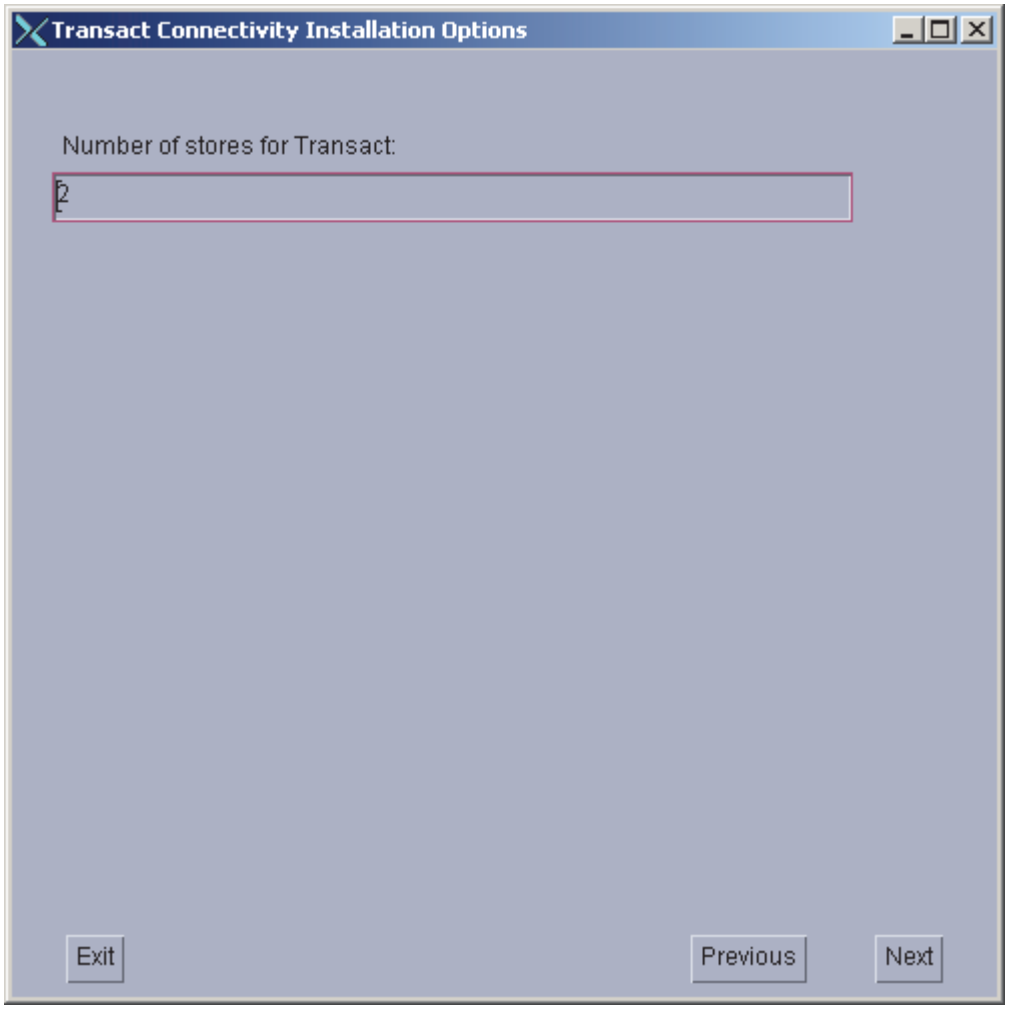
18. In the “Installation Mode” screen, do one of the following:
    - Select **Content Management** if you are installing Content Server on either a development or management (staging) system *and* you wish to install sample sites and their assets on the system. (By selecting **Content Management**, you allow sample sites and assets to be installed later in the installation process.) Continue as follows:
        1) Click **Next**.
        2) Enter (or select) the options on the next few screens (not covered in this guide) until you arrive at the “Content Server Applications Install” screen, then continue with step 22 on page 110.
    - Do not select **Content Management** if you are installing Content Server on a delivery (production) system, or any system where sample sites and assets are unnecessary. (By deselecting **Content Management**, you prevent sample sites and assets from being installed.) Click **Next**.



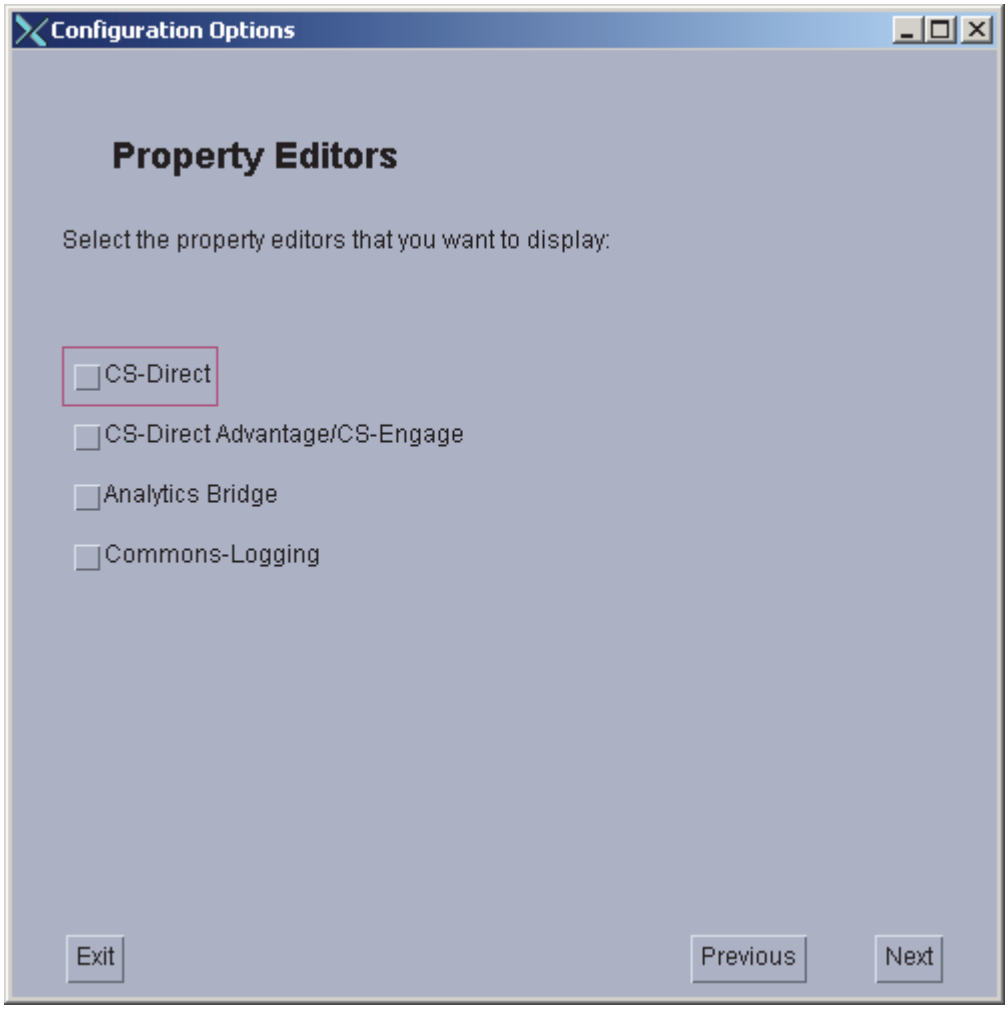
19. For portal server only: Select **Spark Sample Portlets** if you need a sample portlet implementation. Click **Next**.



20. In the "Transact Connectivity Installation Options" screen, keep the default value (**2**) and click **Next**.

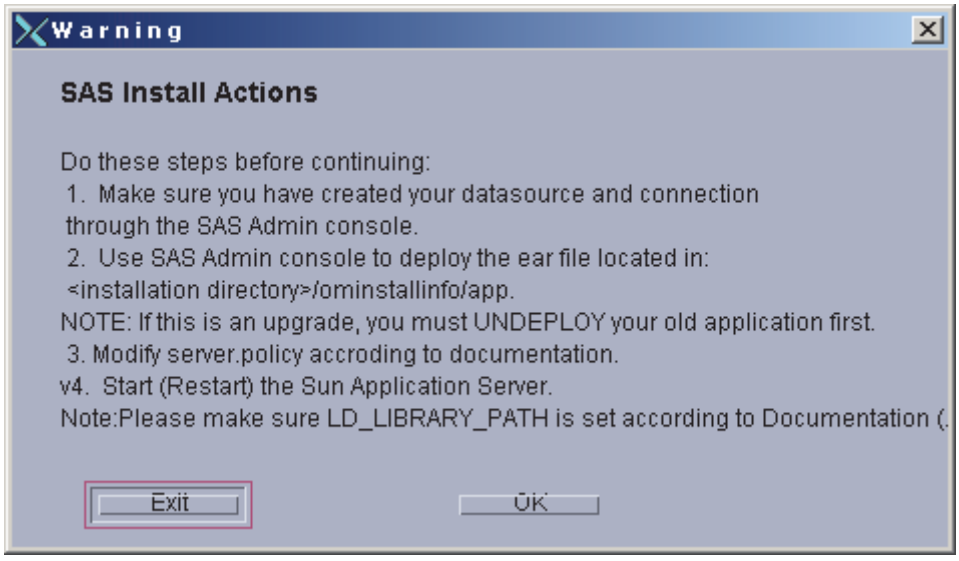


21. Do not select any property editors unless required for your environment. Click **Next**.



22. Click **Install**.

23. Complete the steps that are listed in the pop-up dialog box. **Do not click OK.** Instead, complete the steps that are given below the figure.



Note

`ear` files are deployed to the folder `j2ee-apps` under `/var/opt/SUNWappserver/domains/domain1/applications/`, while `war` files are deployed to `j2ee-modules` under `/var/opt/SUNWappserver/domains/domain1/applications/`

Depending on your installation type (web application or portal) make the necessary changes to the paths in the steps below.

a. For all web installations, deploy the application `ContentServer.ear`. If you need instructions, see "Deploying a Web Application," on page 38.

For portal installations, deploy the application `cs.war`. If you need instructions, see "Deploying a Portal Application," on page 39.

b. Edit the `server.policy` file (in `/var/opt/SUNWappserver/domains/domain1/config/`) as shown below:

1) Add the following section to your `server.policy` file:

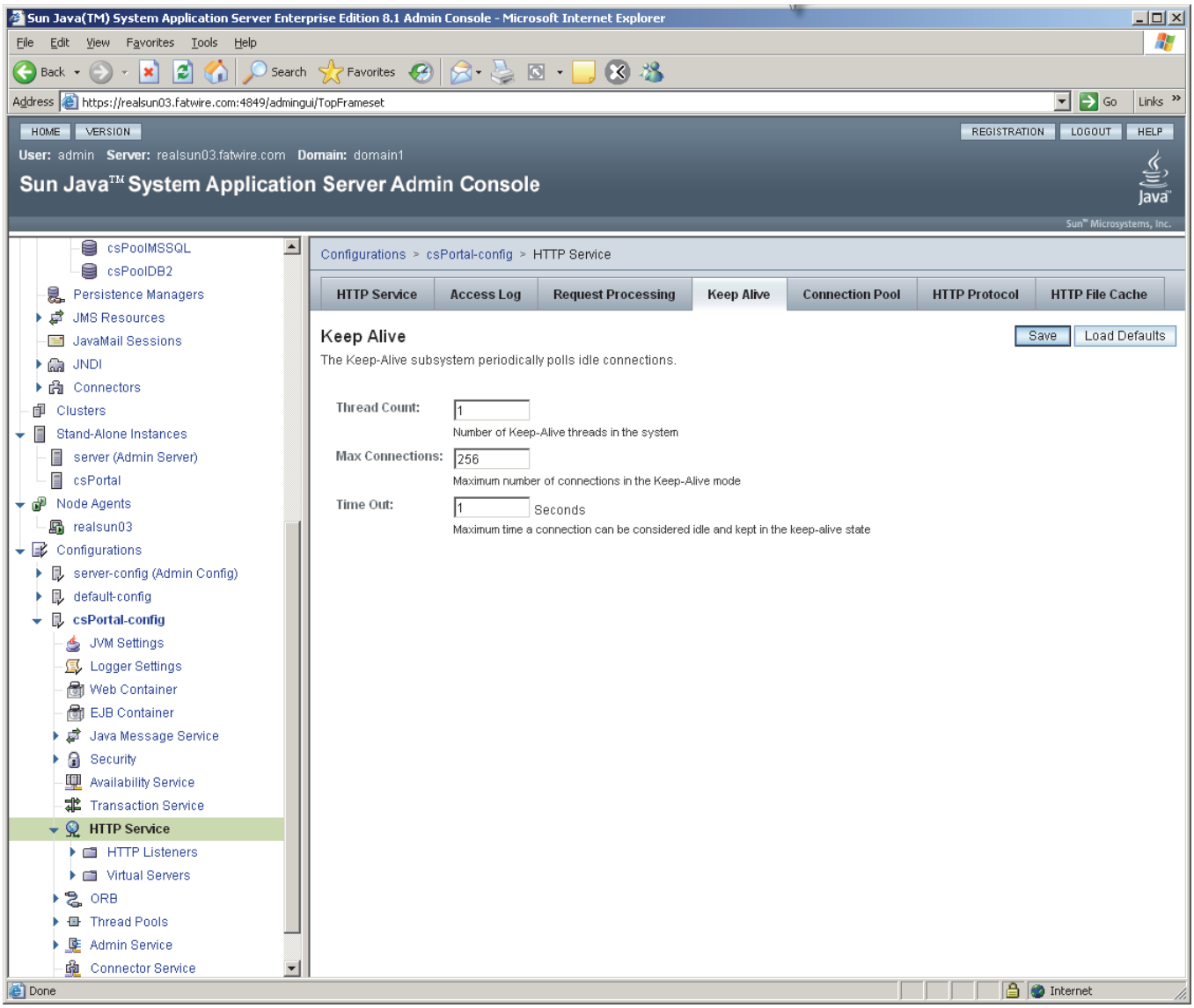
```
grant codeBase "file:/var/opt/SUNWappserver/domains/
   domain1/applications/j2ee-apps/ContentServer/cs_war/
   WEB-INF/lib/-" {
   permission java.security.AllPermission;
   };
```

2) Add the following lines:

```
permission java.lang.RuntimePermission "loadLibrary.*";
permission java.lang.RuntimePermission "queuePrintJob";
permission java.lang.RuntimePermission "createClassLoader";
permission java.net.SocketPermission   "*", "connect";
permission java.io.FilePermission      "<<ALL FILES>>",
   "read,write,delete,execute";
```

c. If using node agents, apply the changes in step b on page 111 to `<node agent name>/agent/config/server.policy`.

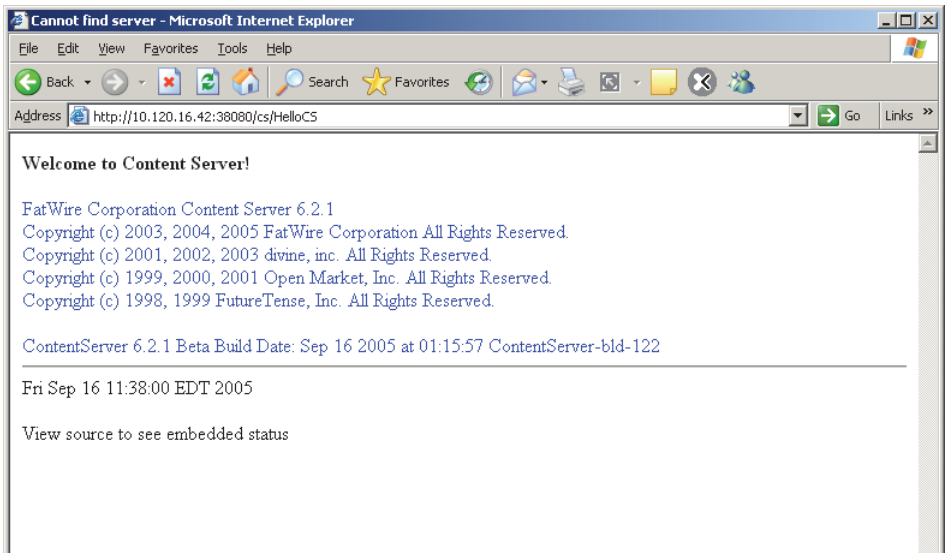
d. In the SAS administration interface, select **Configurations** > *Server Instance Name* > **HTTP Service**, click the **Keep Alive** tab and change the timeout from `30` to `1`.



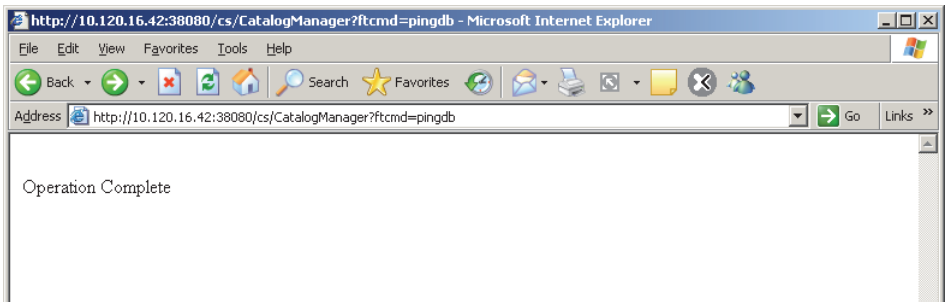
e. Restart the domain (see starting a domain). Restart all affected server instances.

f. Test that HelloCS and pingDB work:

`http://10.120.16.42:38080/cs/HelloCS`



`http://10.120.16.42:38080/cs/CatalogManager?ftcmd=pingdb`



24. Click **OK** to continue with the installation.
25. Copy the file `libFtFleLock.so` from `<cs install directory>/bin/<platform type>` to `/opt/SUNWappserver/application/lib`.
26. Restart the domain.
27. Configure the Content Server installation. For instructions, follow the steps in Chapter 11, "Completing the Content Server Installation."

Chapter 11

Completing the Content Server Installation

This chapter provides post-installation instructions showing you how to test and configure your Content Server web application and portal.

This chapter contains the following sections:

- Step I. Test the Administrative Interface
- Step II. Configure the Portal Interface (Portal Installations Only)
- Step III. Integrate with LDAP (Optional. Web Installations Only)
- Step IV. Install Verity Search Engine (Optional)
- Step V. Set Up Content Server for Its Business Purpose (All Installations)

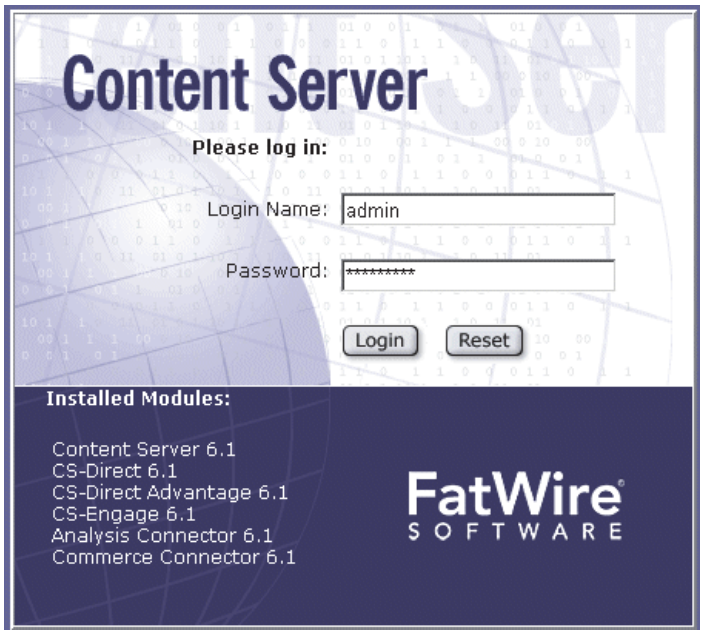
Step I. Test the Administrative Interface

In this section, you will log in to your installation in order to verify that it functions.

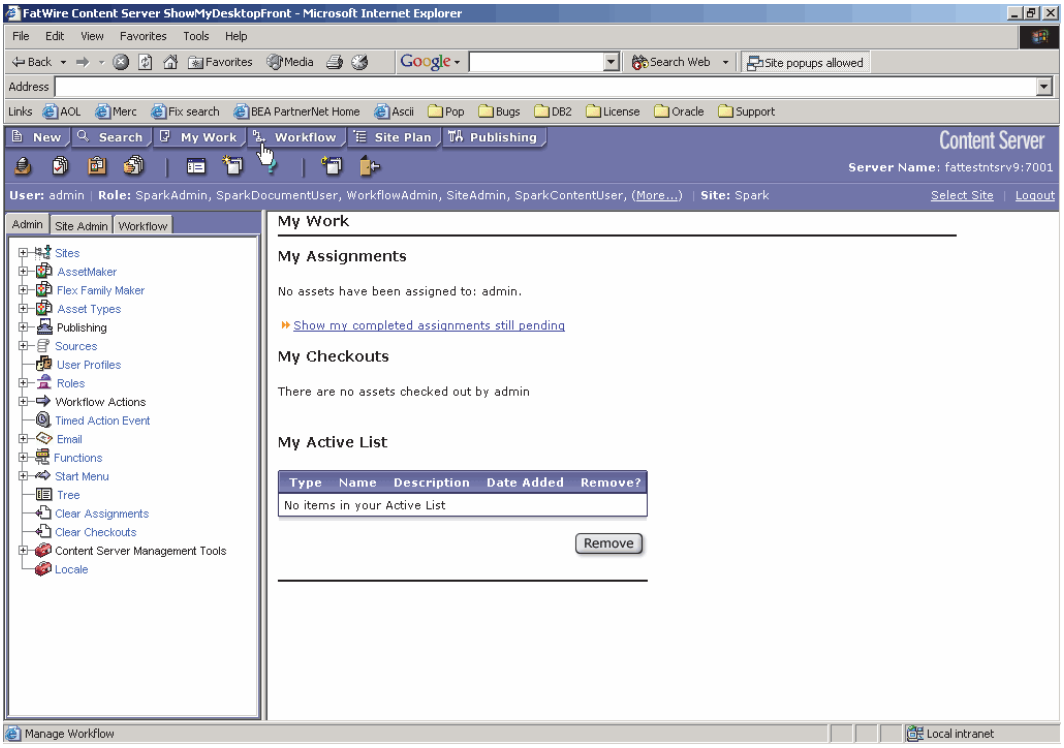
To test the administrative interface

- If you installed Content Server as a web application, complete the following steps. (for portal installations, skip to step 1 on page 118):
  1. Open a browser window and connect to the following URL:

     `http://10.120.16.42:38080/cs/Xcelerate/LoginPage.html`
  2. Log in with username **fwadmin** and password **xceladmin**.



Content Server's console is displayed and Content Server is now ready for further configuration. Follow the steps in the rest of this chapter, starting with "Step III. Integrate with LDAP (Optional. Web Installations Only)," on page 132.

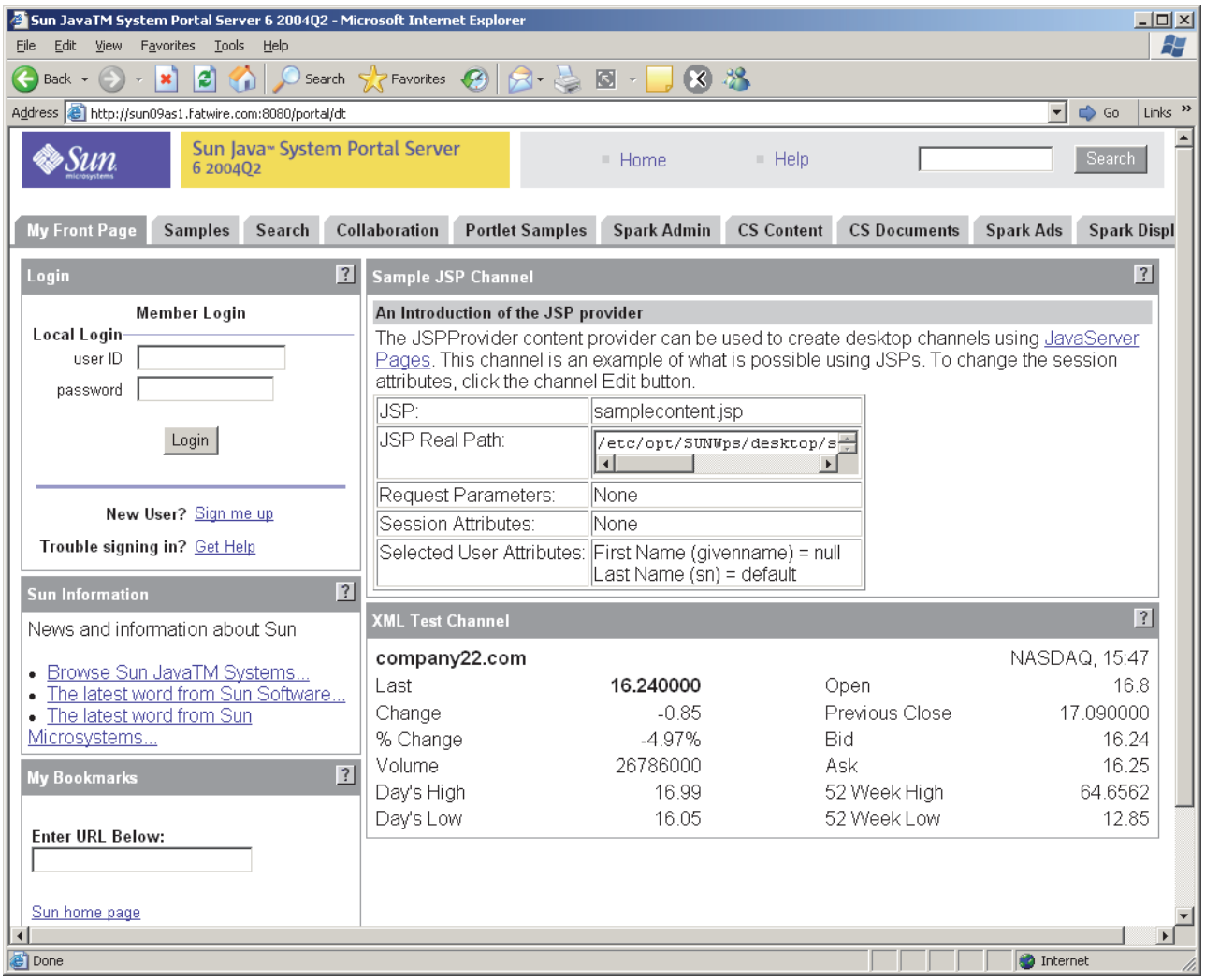


- If you installed a Content Server portal:
  1. Open a browser window and connect to the following URL to confirm that you can access the portal:

     `http://10.120.16.42:38080/portal/dt`

  2. Log in with username **fwadmin** and password **xceladmin**.

     The "Sun Java System Portal Server" is displayed and the Content Server portal is now ready for further configuration. Follow the steps in the rest of this chapter.



Step II. Configure the Portal Interface (Portal Installations Only)

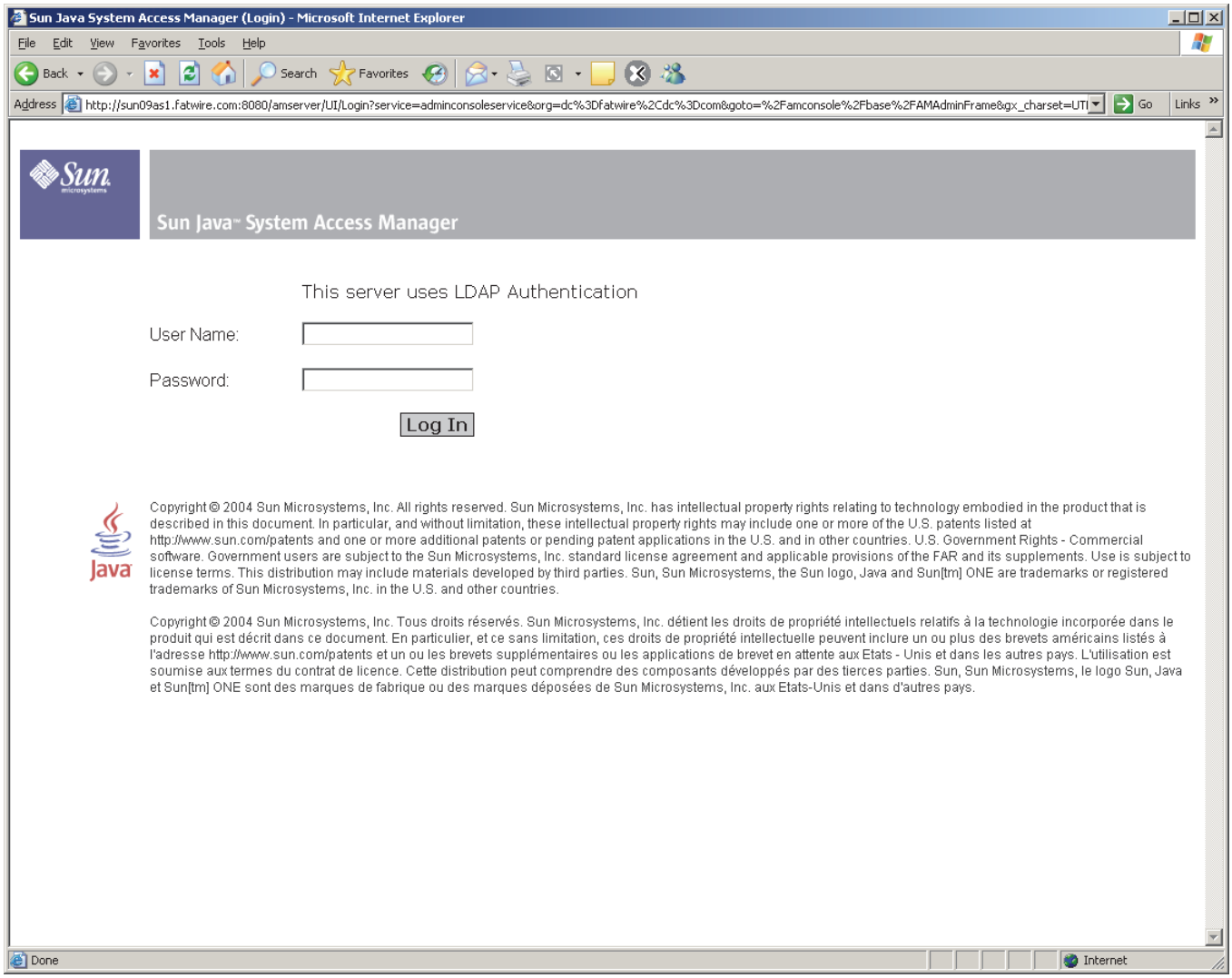
In the following steps, you will create portlet channels, select the portlets you wish to display, and create the container channels on which to display the portlets.

Note

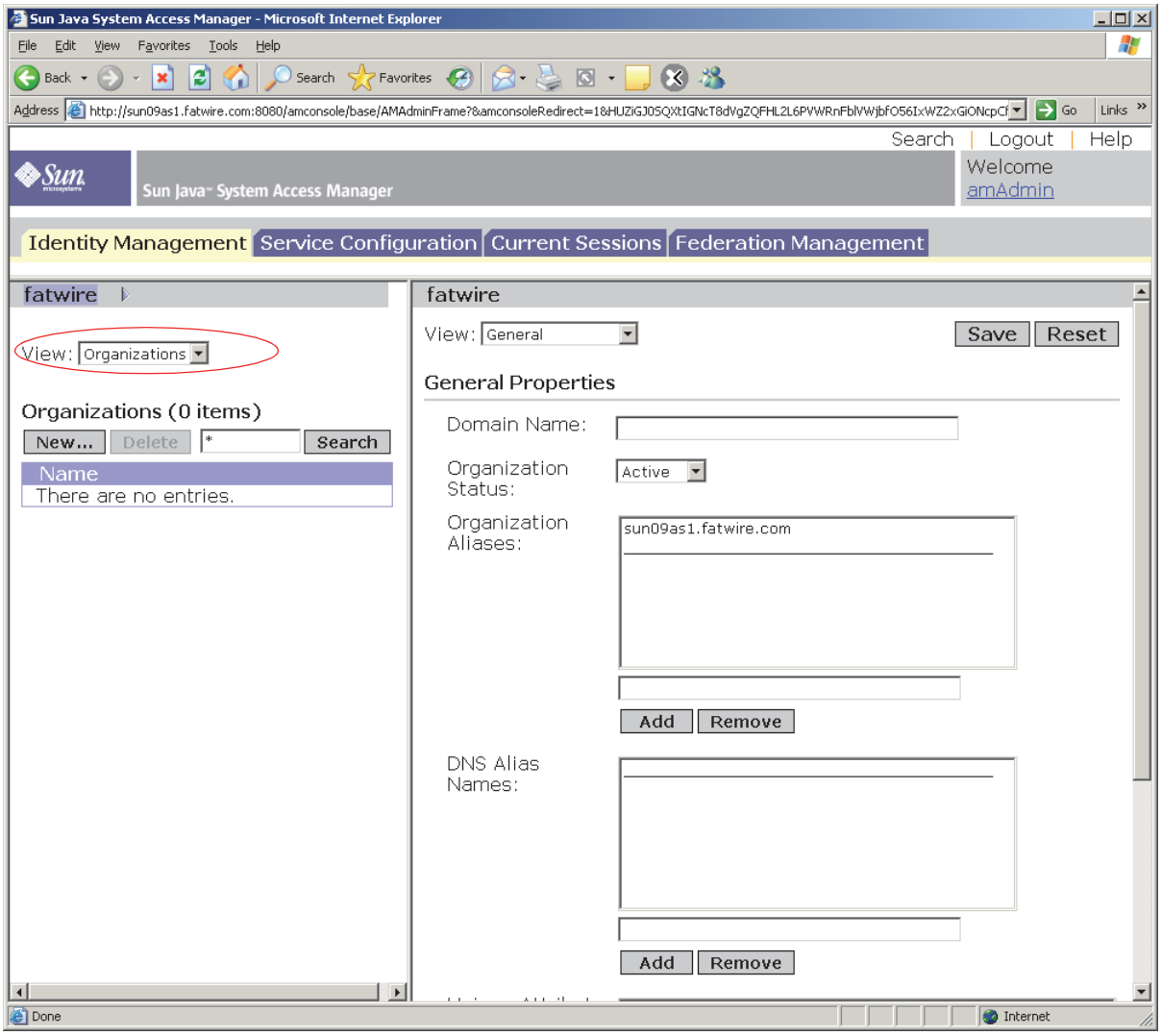
In this guide, “container channel” is also called “display page.”

To configure the portal interface

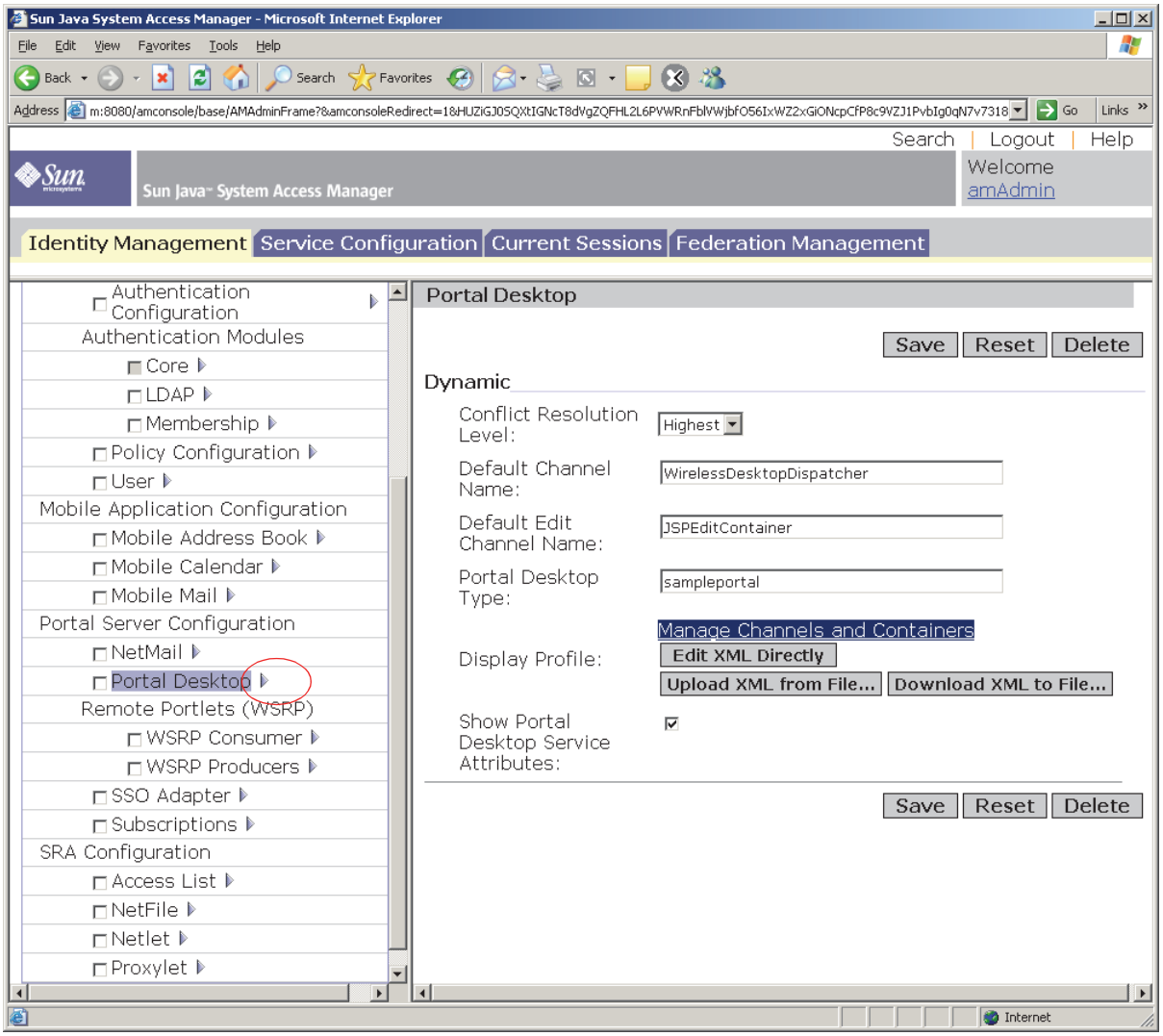
1. Log in to the amconsole interface: `http://10.120.16.42:8080/amconsole`



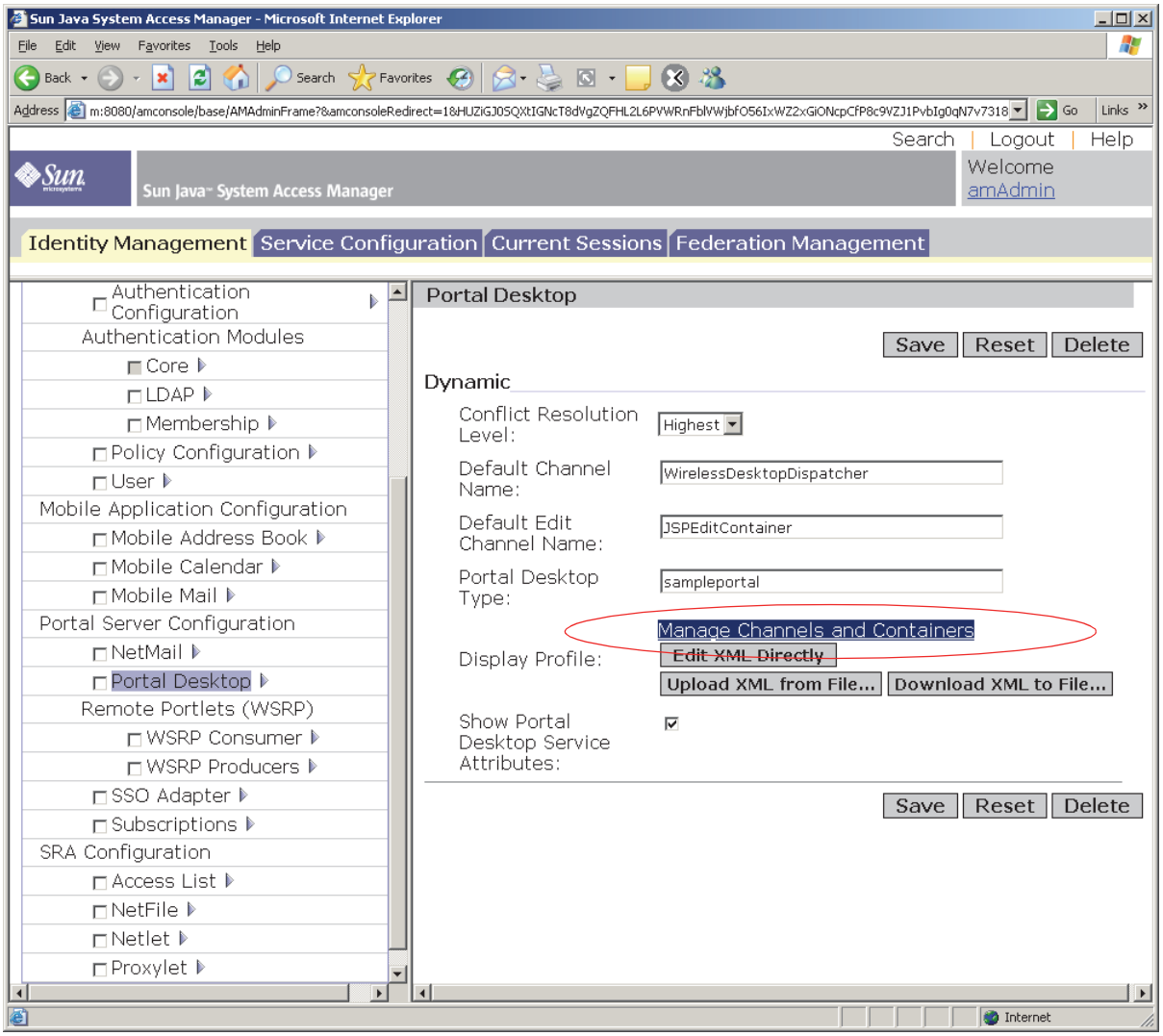
2. Click the **Identity Management** tab.
3. From the "View" drop-down list **in the left-hand panel**, select **Services**.



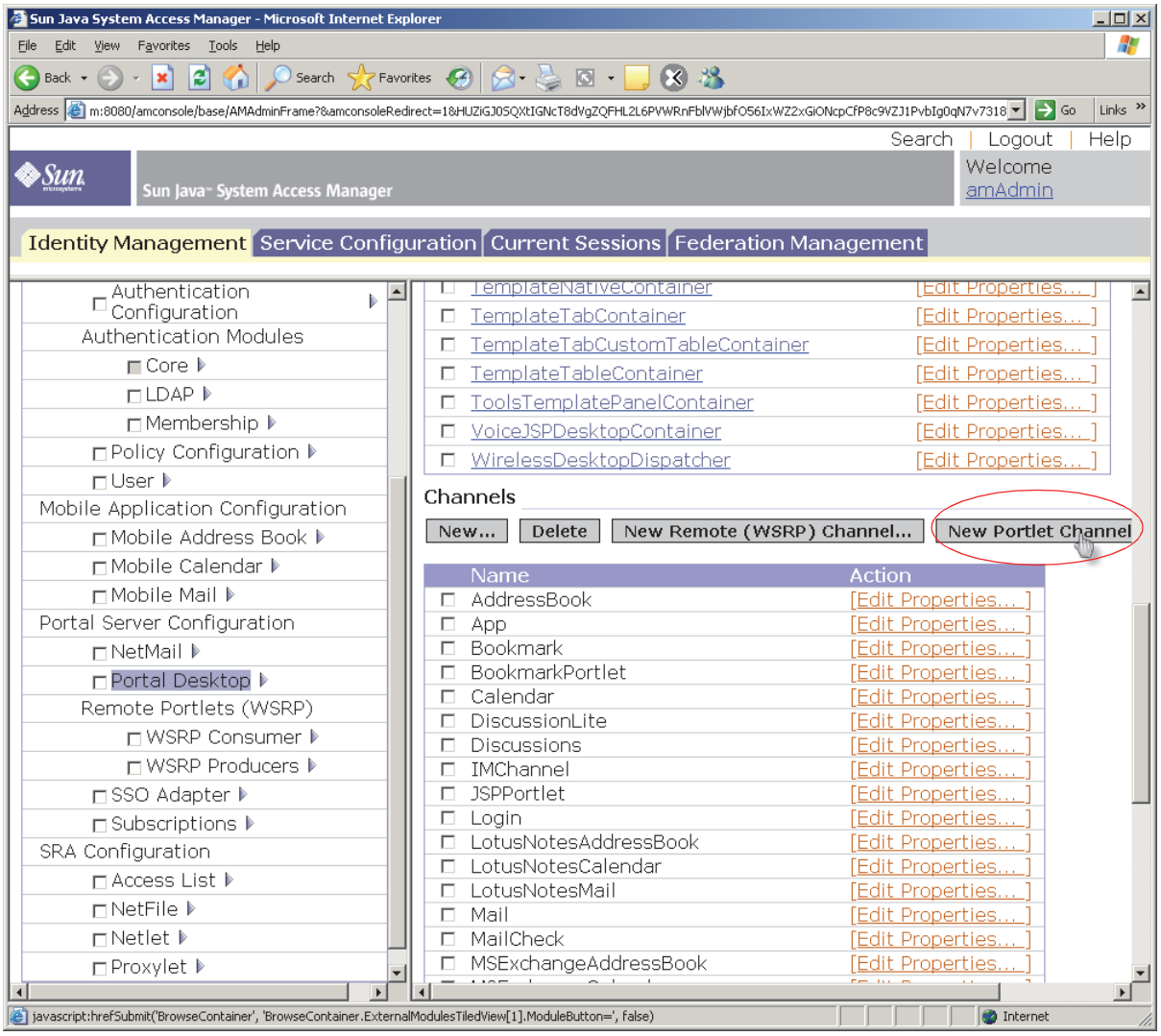
4. Click on the arrow next to **Portal Desktop**



5. Click on the link **Manage Channels and Containers** in the middle of the right-hand column.

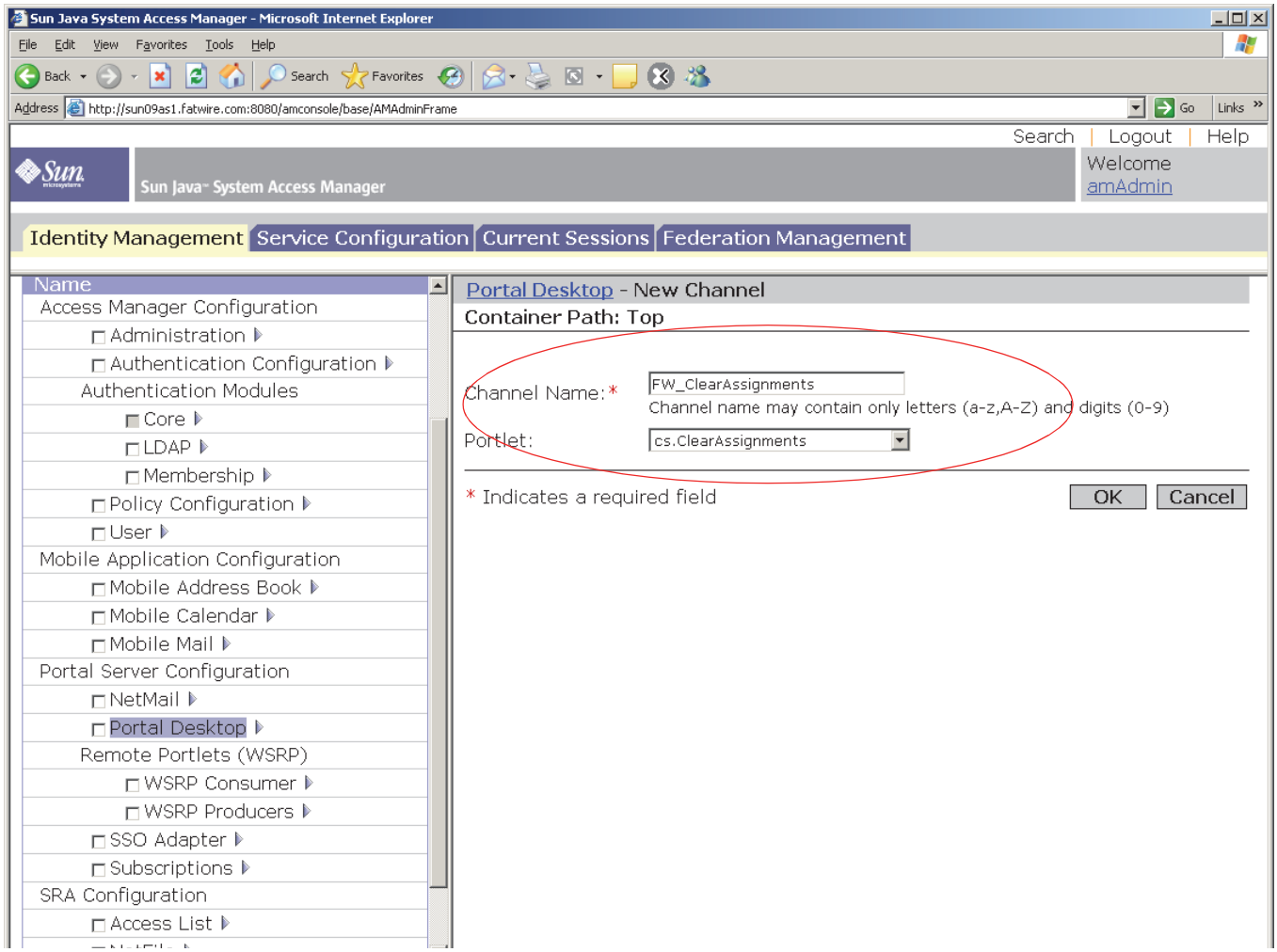


6. Create a portlet channel as follows:
   a. In the right-hand column, click **New Portlet Channel** (about half-way down the column).



7. Configure the portlet channel:

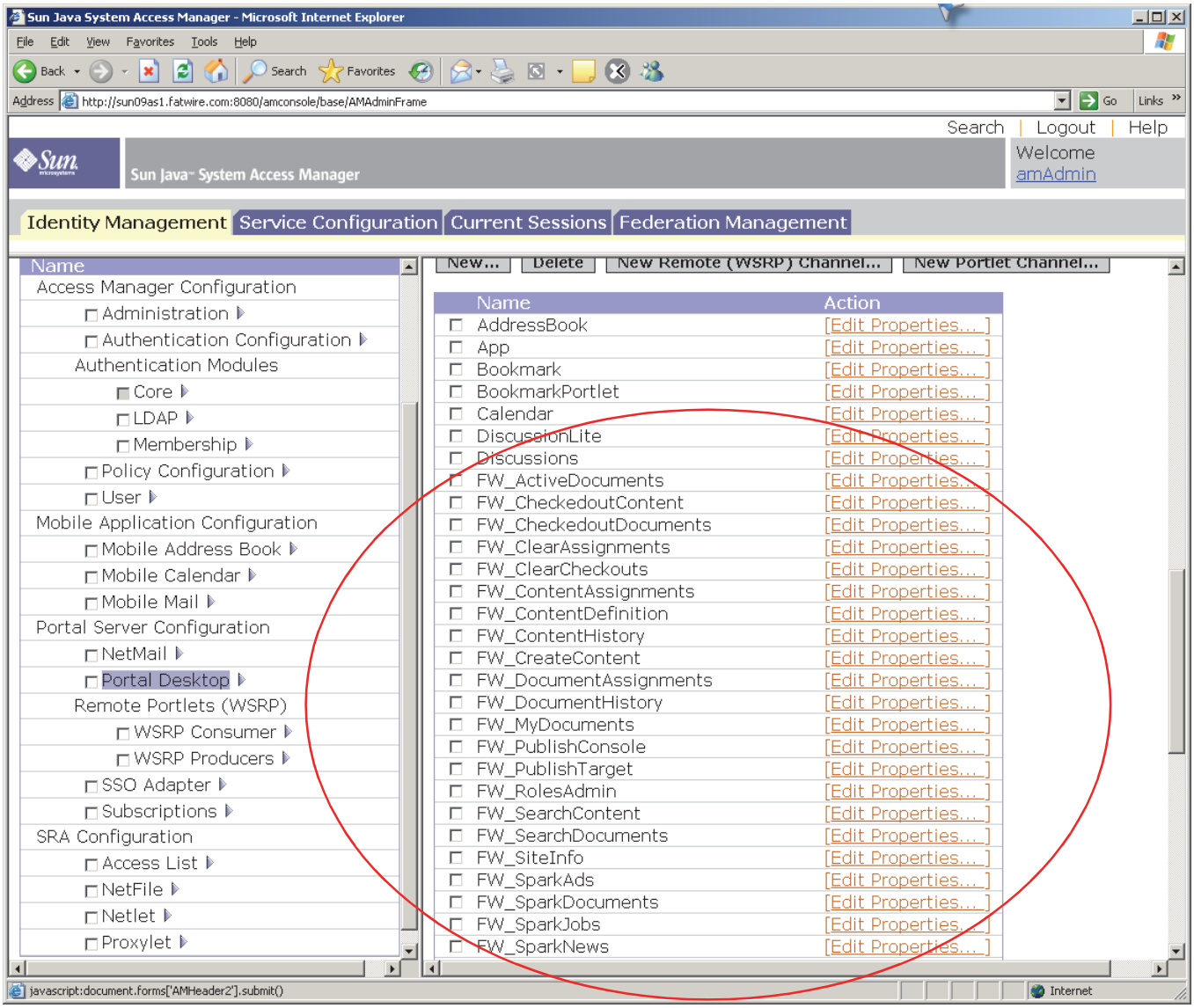
   a. Enter a channel name, for example, `FW_ <portlet name>`, where `<portlet name>` is one of the names in the table below the figure:



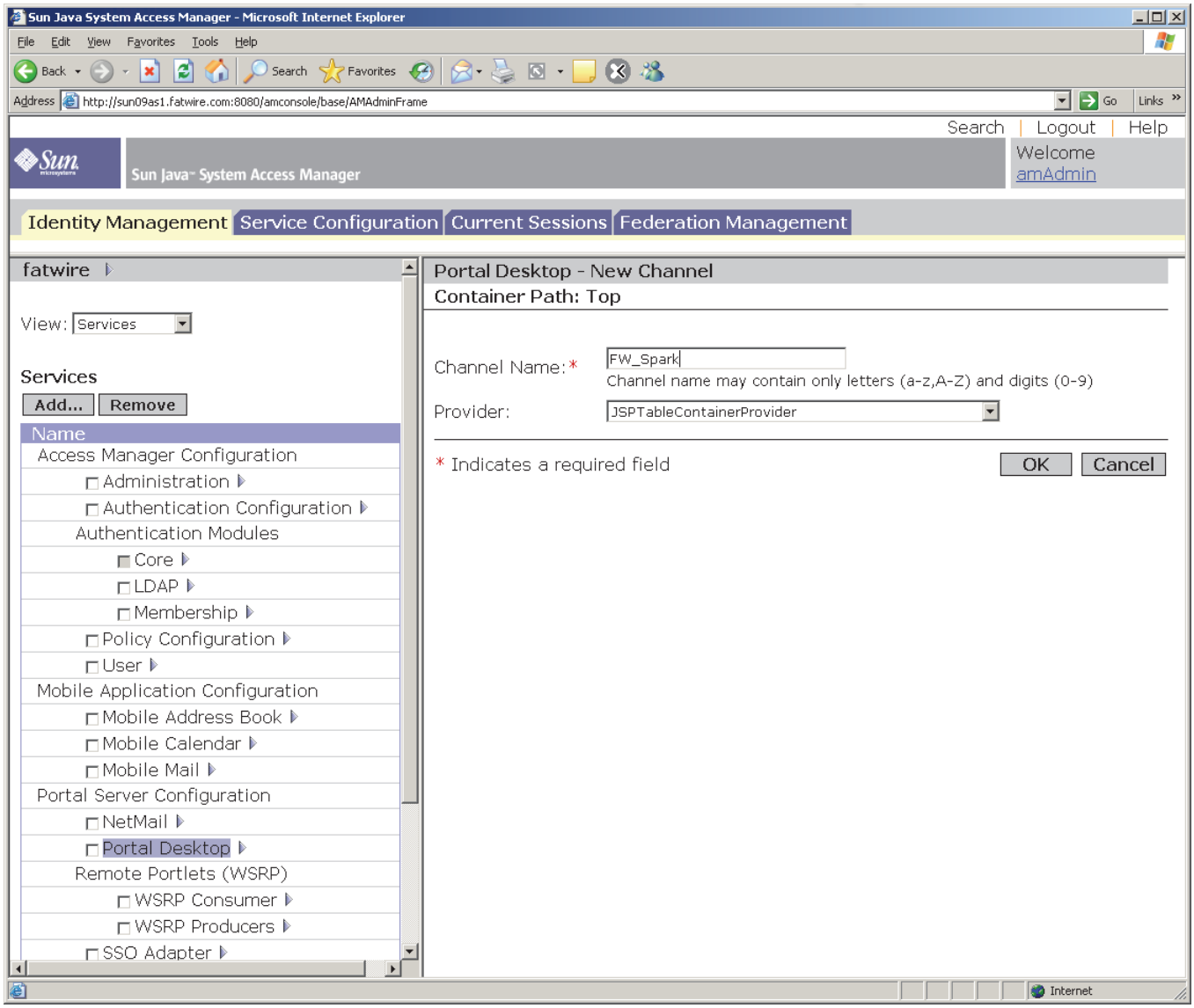
Default Portlet Names				Sample Portlet Names
Active Content	ClearCheckouts	Document Assignments	RolesAdmin	SparkAd
Active Documents	Content Assignments	Document History	Search Content	SparkDocuments
Checked Out Content	Content History	My Documents	Search Documents	SparkJobs
Checked Out Documents	ContentDefinition	Publish Console	Site Info	SparkNews
ClearAssignments	Create Content	PublishTarget		

b. Select a portlet for the channel and click **OK**.

8. Repeat steps 6 and 7 for every portlet that you installed during the Content Server installation process. When you complete the steps, your screen will look similar to the following:

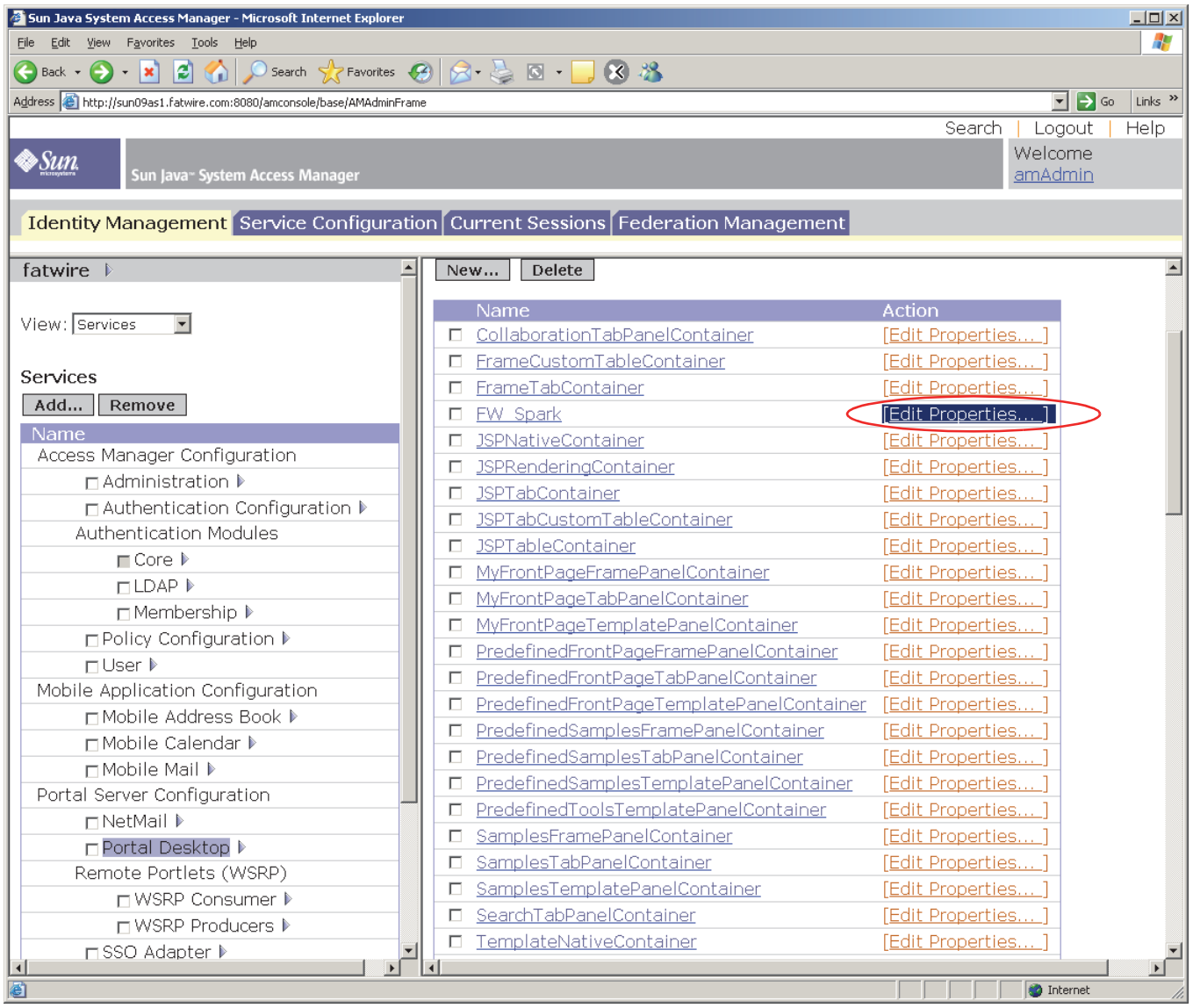


9. Create a container channel (i.e., a display page) in which to display the portlets you will choose:
   a. At the top of the right-hand column, click **New** under **Container Channels**.
   b. Enter a channel name (i.e., a display page name).
   c. For "Provider," select **JSPTableContainerProvider**.
   d. Click **OK**.



10. Configure the container channel:

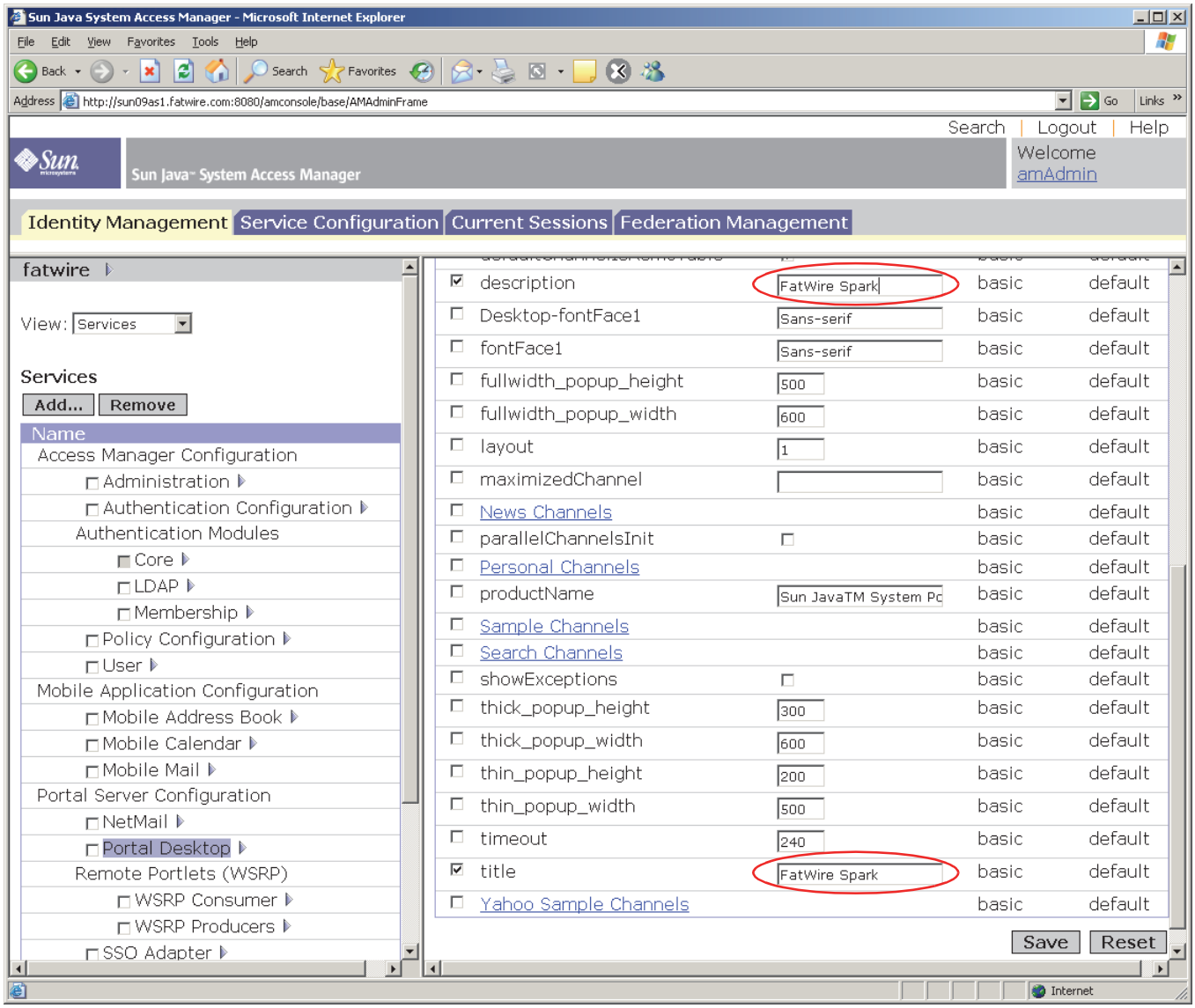
a. Click on **Edit Properties** next to the container channel that you created in step 9.



b. In the "description" and "title" fields, enter **FatWire_<container channel name>**. This is the name of the page that will display the portlets you will select in step d on page 129. Suggested container channel names are the following:

- FatWire Spark
- FatWire Content
- FatWire Documents
- FatWire Admin

c. Click **Save**.

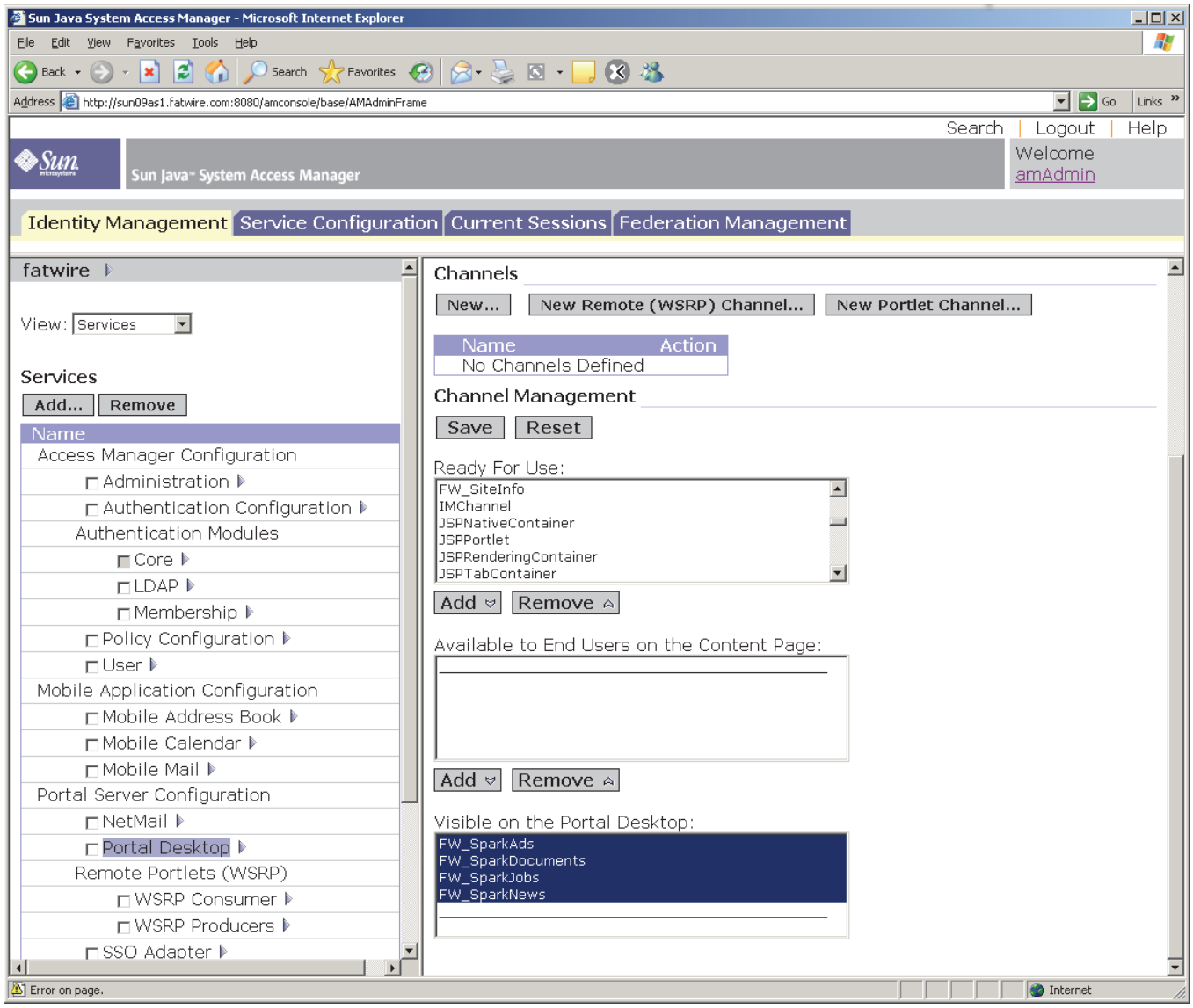


d. Select the container channel (display page) that you created in step 9 on page 126, then do the following:

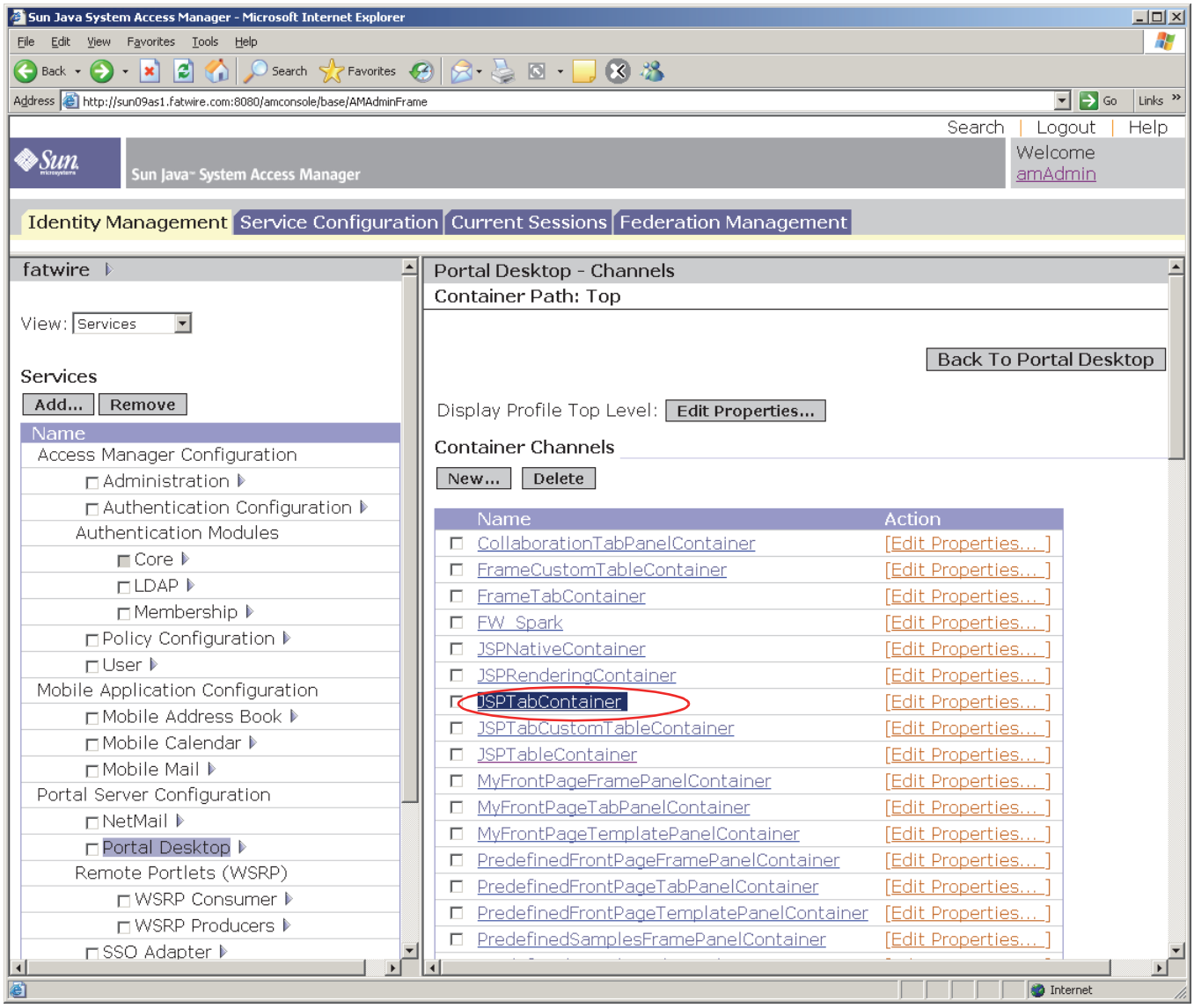
1) Select the portlets that you want to be displayed on this container channel (display page).

2) Click **Add** below the list-boxes "Available to End Users on the Content Page" and "Visible on the Portal Desktop."

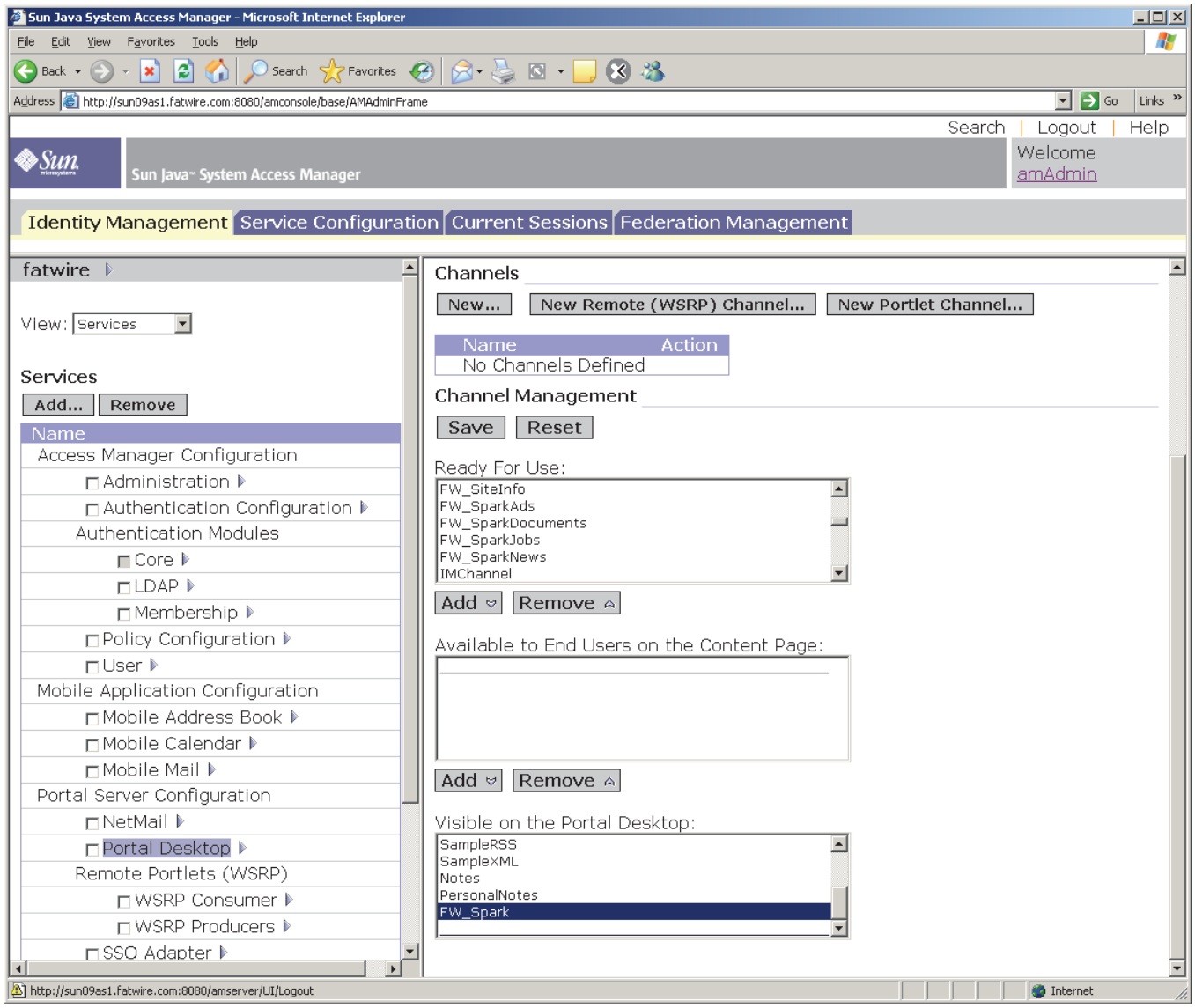
3) Click **Save**.



e. Click **JSPTabContainer**.



1) Select the container channel (display page) that you created in step 9 on page 126, then do the following:
2) Click **Add** under both the "Available to End Users on the Content Page" and "Visible on the Portal Desktop" list boxes.
3) Click **Save**.



11. Create as many container channels as you need by repeating steps 9 and 10.

Step III. Integrate with LDAP (Optional. Web Installations Only)

If you installed Content Server as a web application and wish to integrate with LDAP, follow instructions in the *Content Server Administrator's Guide*.

Step IV. Install Verity Search Engine (Optional)

1. Copy the `libFTVeritySearch.so` file into the `/opt/SUNWappserver/application/lib` directory.
2. Follow instructions in "Modifying the Classpath of a Domain," on page 32 with the following change—add the paths below to the section titled "`Native Library Path Prefix`":

   ```
   <content server installation directory>/VerityK2/<_platform>/
      filters
   <content server installation directory>/VerityK2/<_platform>/
      bin
   ```

3. Follow instructions in "Modifying the Classpath of a Domain," on page 32 and add `Verityse.jar`.
4. Restart the affected instance.

Step V. Set Up Content Server for Its Business Purpose (All Installations)

Once you have completed your Content Server installation, you are ready to configure it for business use. For instructions, see the *Content Server Administrator's Guide* and the *Developer's Guide*. The guides explain how to create and enable a content management environment including the data model, content management sites, site users, publishing functions, and client interfaces.

Note

If you plan to create clusters, you can do so first, and then configure the Content Servers for business use.

Appendixes

This section contains the following appendixes:

- Appendix A, “Sample Procedure for Installing JES”
- Appendix B, “Sample Procedure for Uninstalling JES”

Appendix A

Sample Procedure for Installing JES

This appendix provides a sample procedure for installing JES for use by Content Server. Use the procedure as a reference and a means of obtaining detailed information about the steps that apply to your own installation procedure.

Installing JES

Note

Procedures for installing JES are environment specific. They depend on licensing terms and the JES version, among other factors. For instructions on installing JES on your environment, consult the JES documentation. Commands for starting and stopping JES components are given in "Starting and Stopping JES Components," on page 20.

1. Download the JES packages for Ql05 and uncompress to a directory.
2. Ensure that installer has "execute" permissions. If not, run;

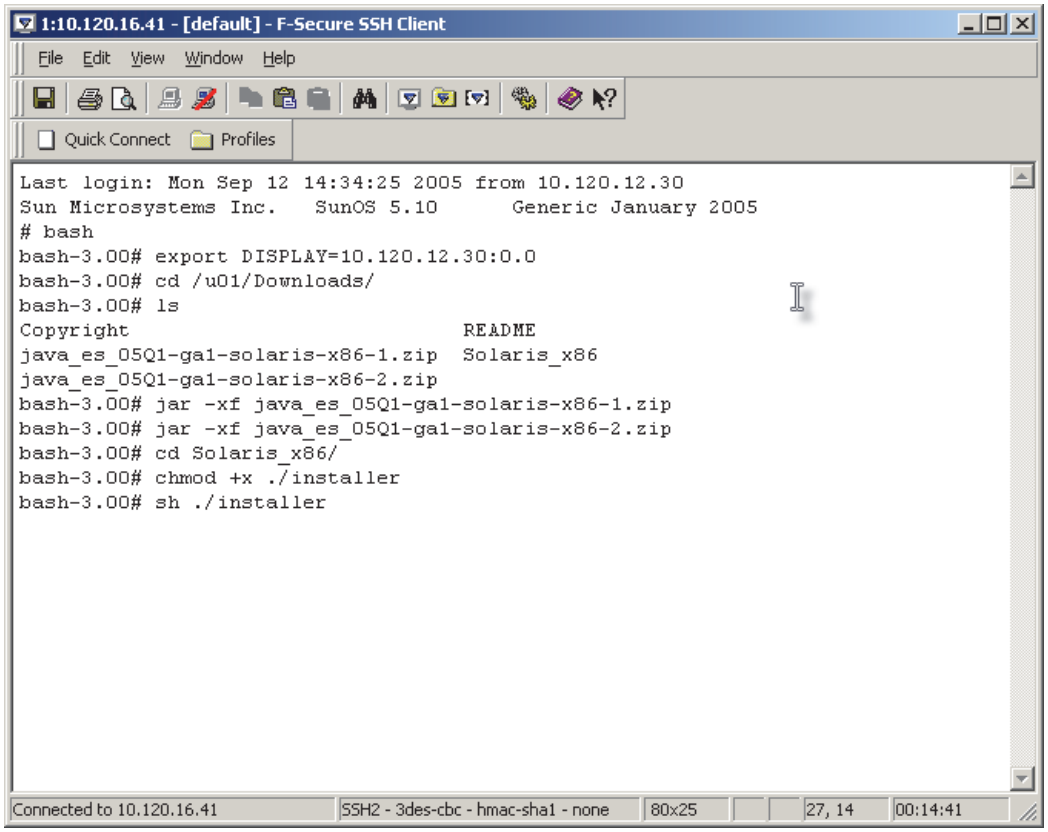
```
chmod +x ./installer; chmod +x ./install/utils/
   introspectPkgs.sh
```

Note

On Linux, also run: **.install/utils/introspectLinuxRPMS.sh**

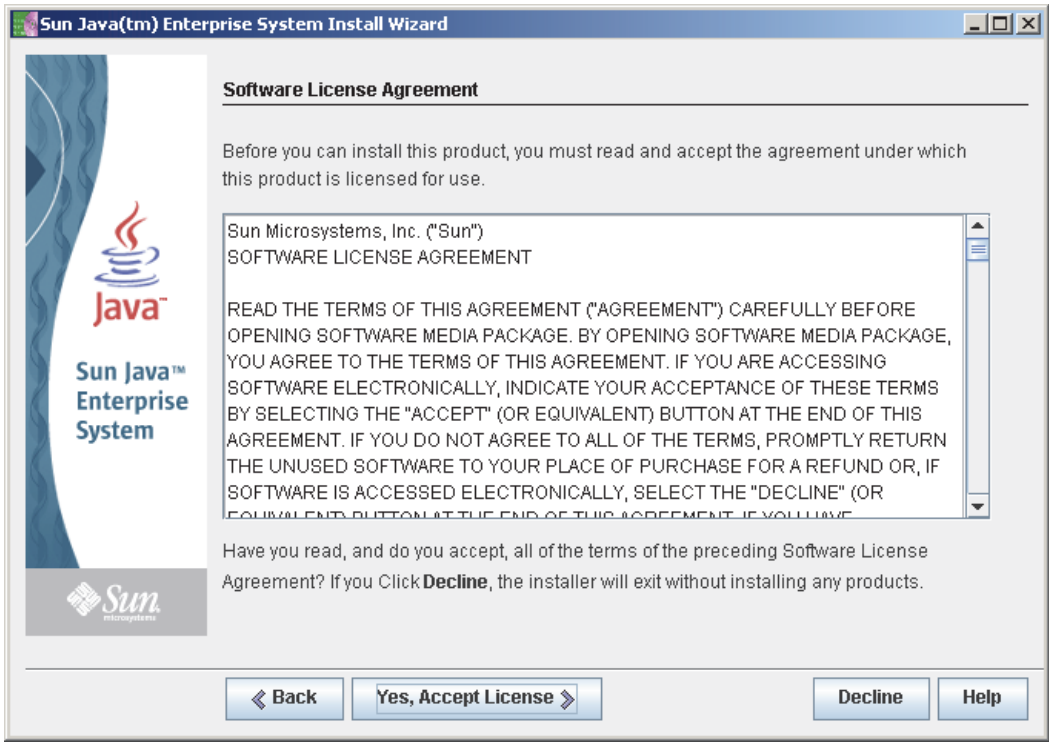
3. Execute the installer:

```
sh ./installer
```

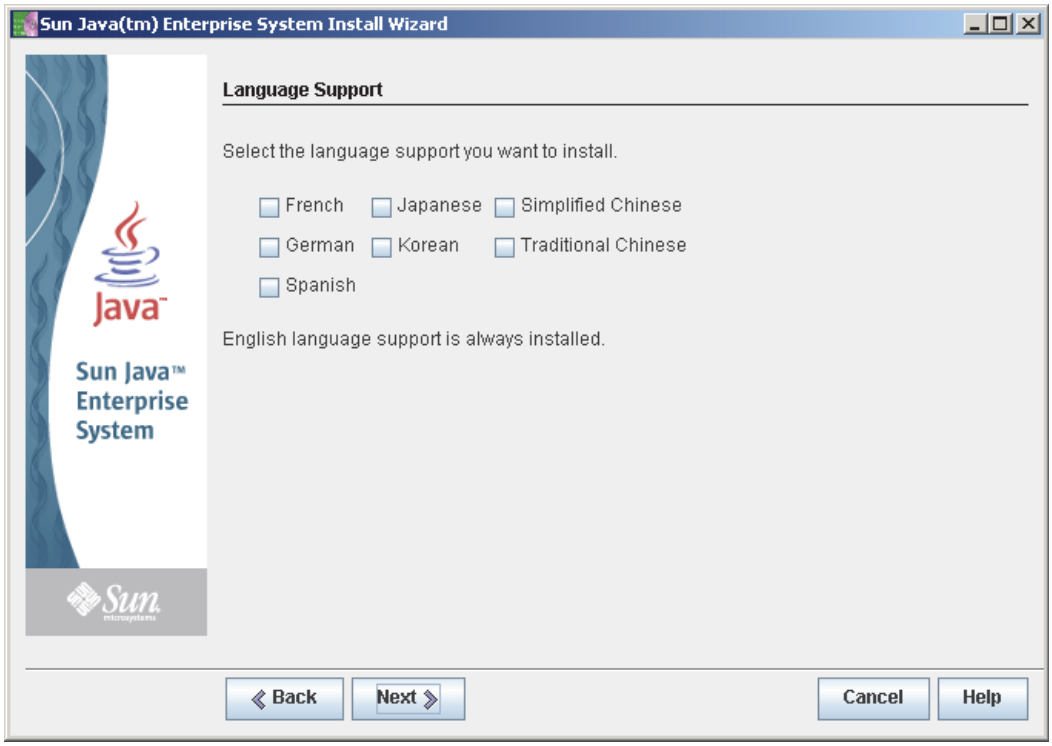


4. In the "Welcome" screen, click **Next**.

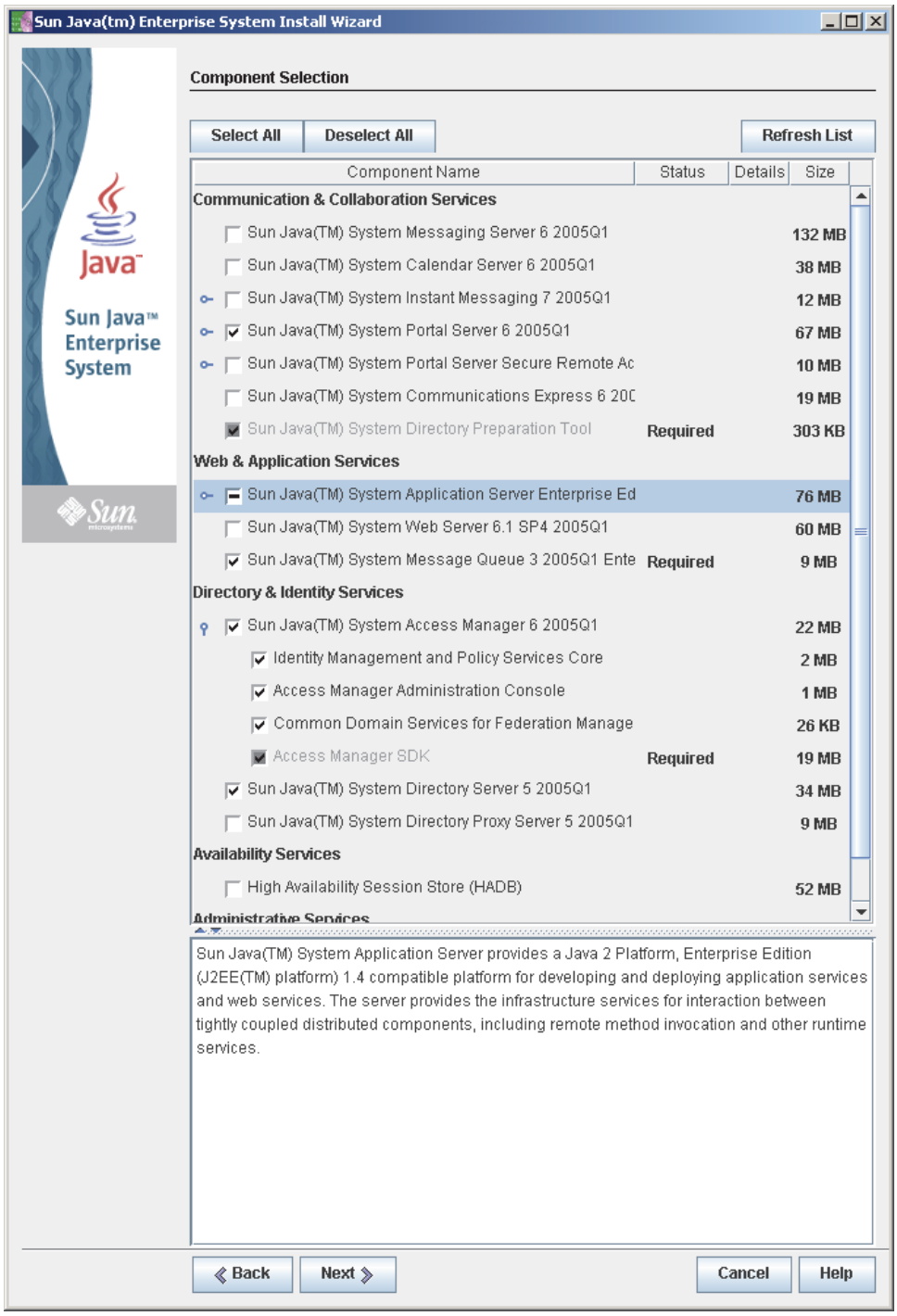
5. In the "Software License Agreement" screen, click **Yes, Accept License**.



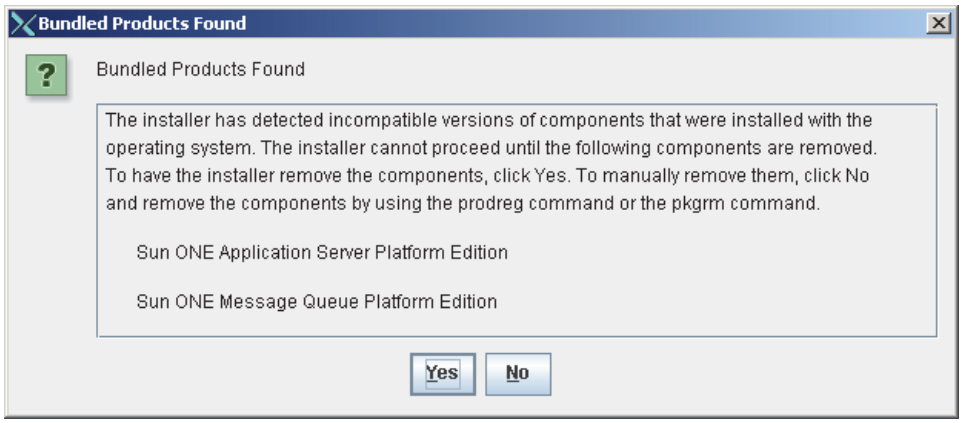
6. In the "Language Support" support screen, click **Next**.



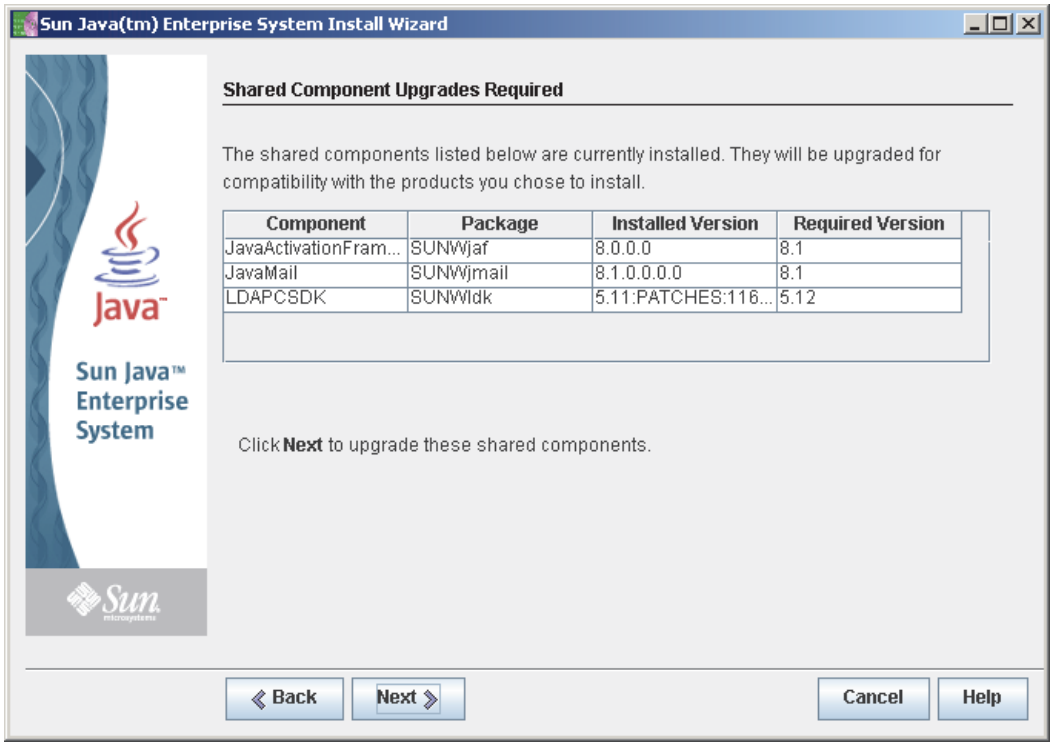
7. In the "Component Selection" screen, select the following:
   - **System Portal Server**
   - **System Application Server Enterprise Edition**
   - **System Access Manager**
   - **System Directory Server**



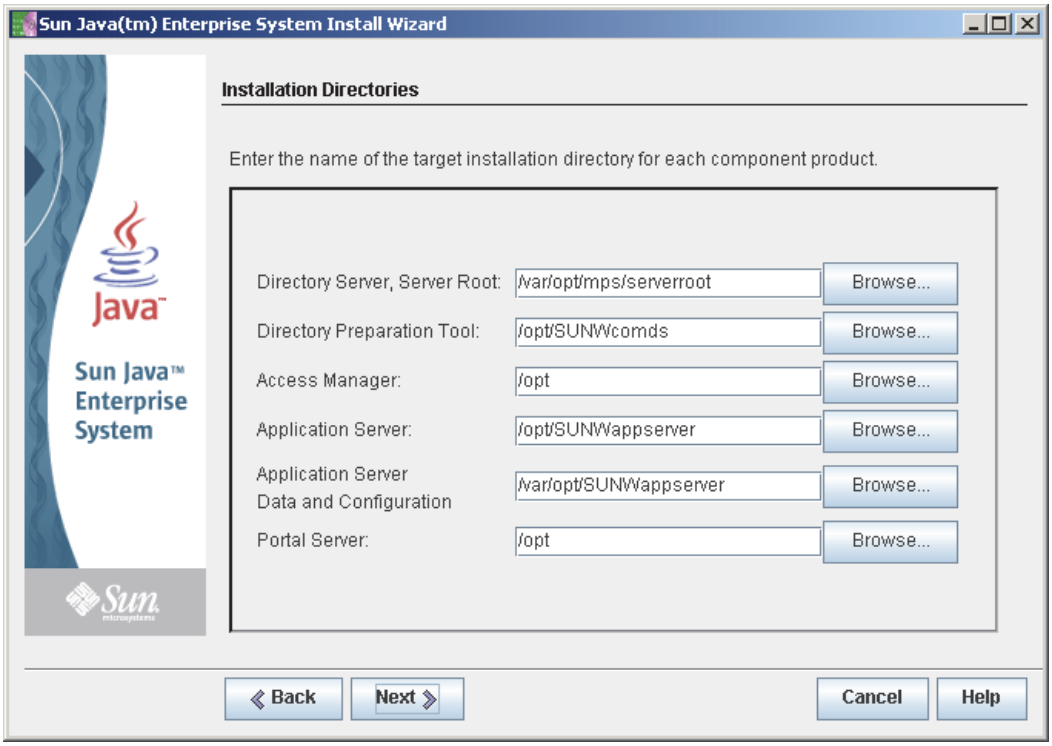
8. If you plan on using Sun Java Systems Web Server with the load balancing plugin, expand the option **Sun Java System Application Server Enterprise** and select **Loadbalancing Plugin**.
9. Click **Yes** on the pop-up dialog box.



10. In the "Shared Component Upgrades" screen, click **Next**.



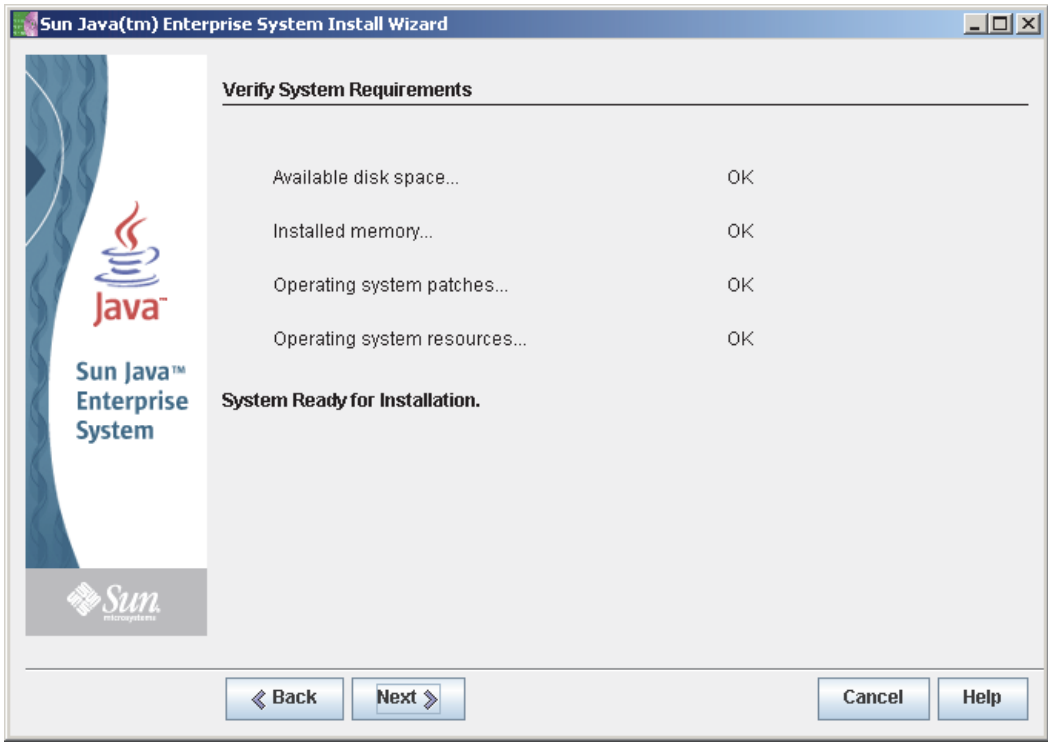
11. In the "Installation Directories" screen, click **Next**.



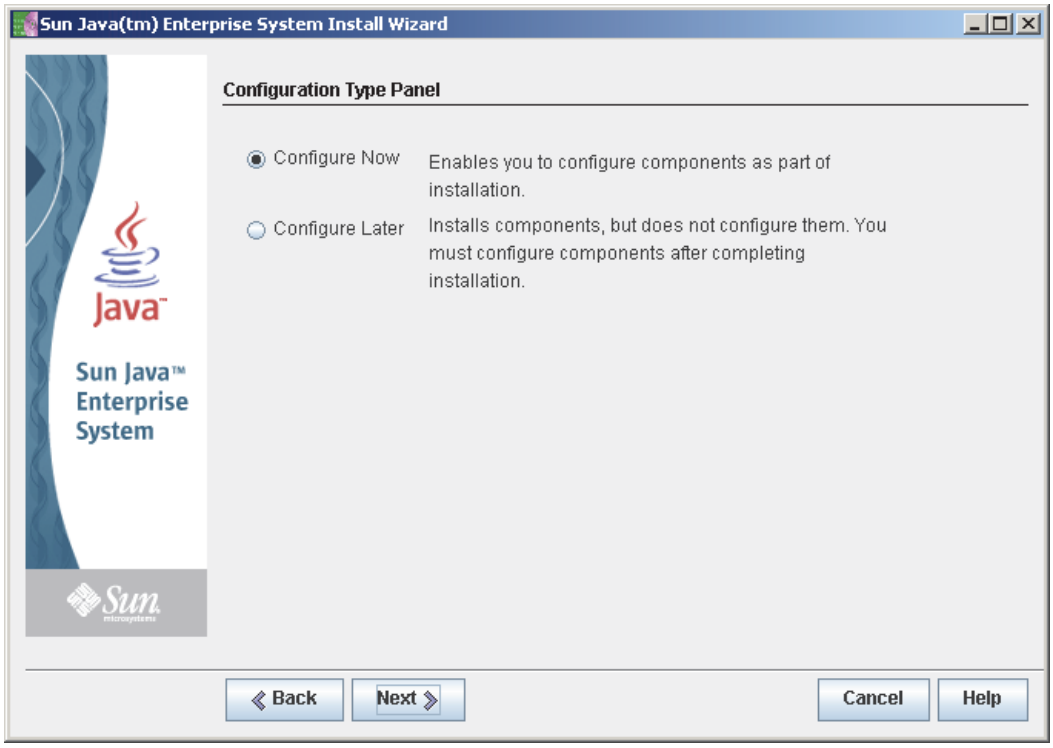
Note

While changes can be made to the directory structure, they should not be made unless you are thoroughly familiar with the Sun Java Enterprise Edition. Changes to the default directory structure will result in additional and substantial work. The associated steps are not covered in this guide.

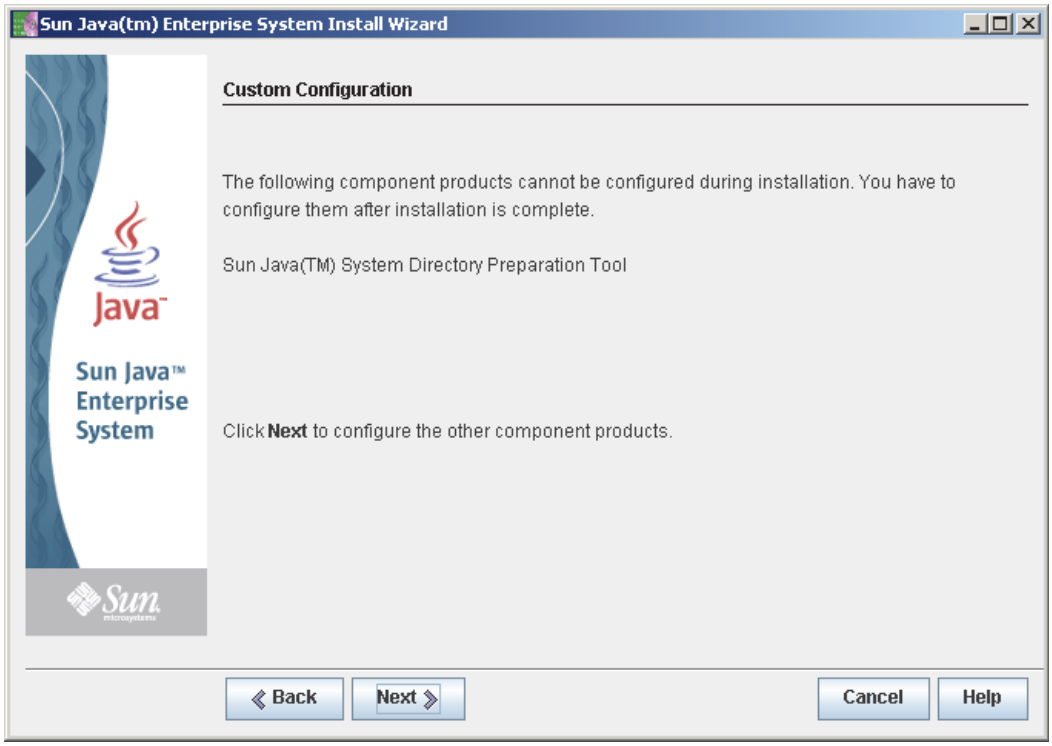
12. In the "Verify System Requirements" screen, allow the process to run to completion and click **Next**.



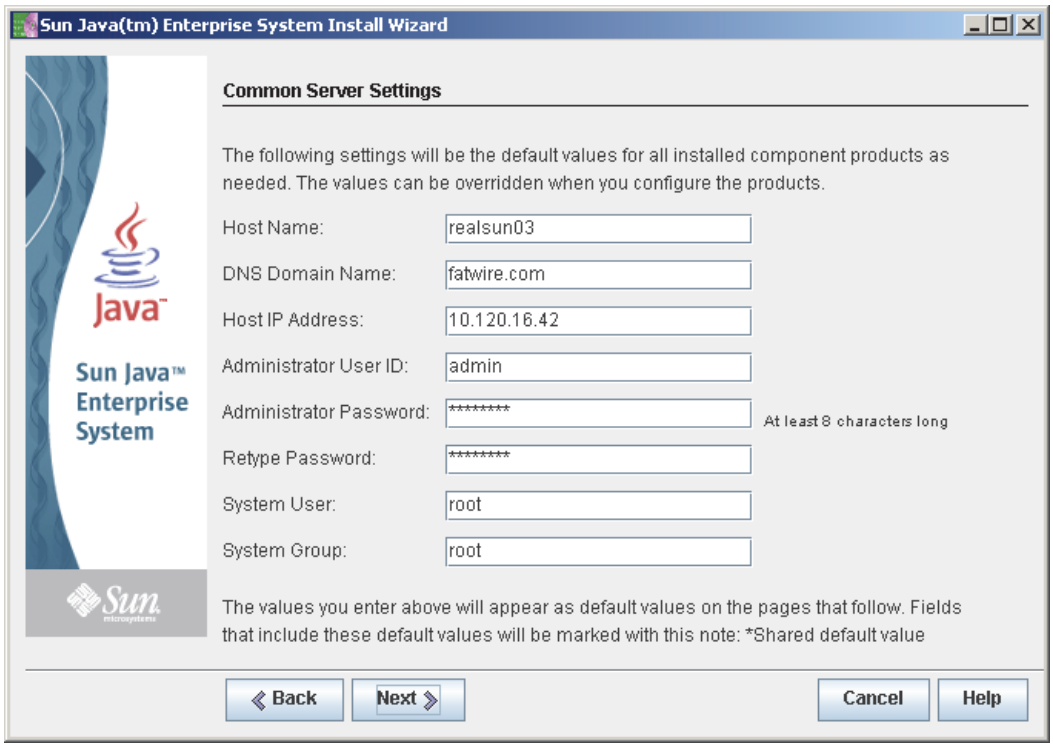
13. In the "Configuration Type Panel," click **Next**.



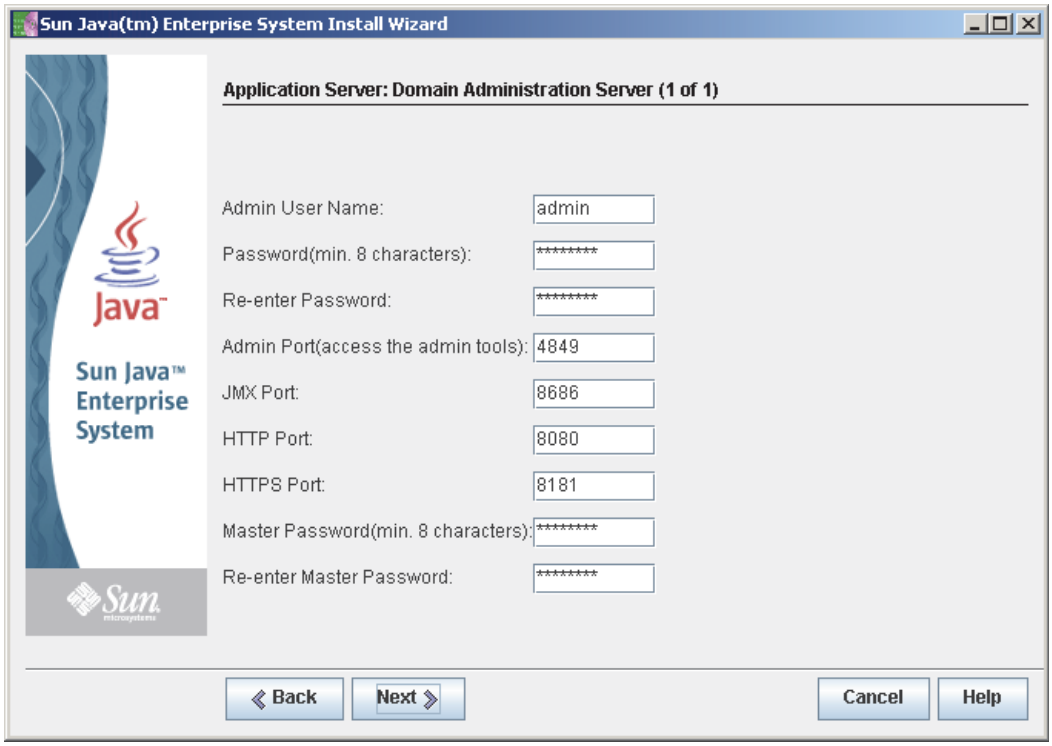
14. In the "Custom Configuration" screen, click **Next**.



15. In the "Common Server Settings" screen, enter an administrator password, retype the password (in the next field) to confirm it, and click **Next**.

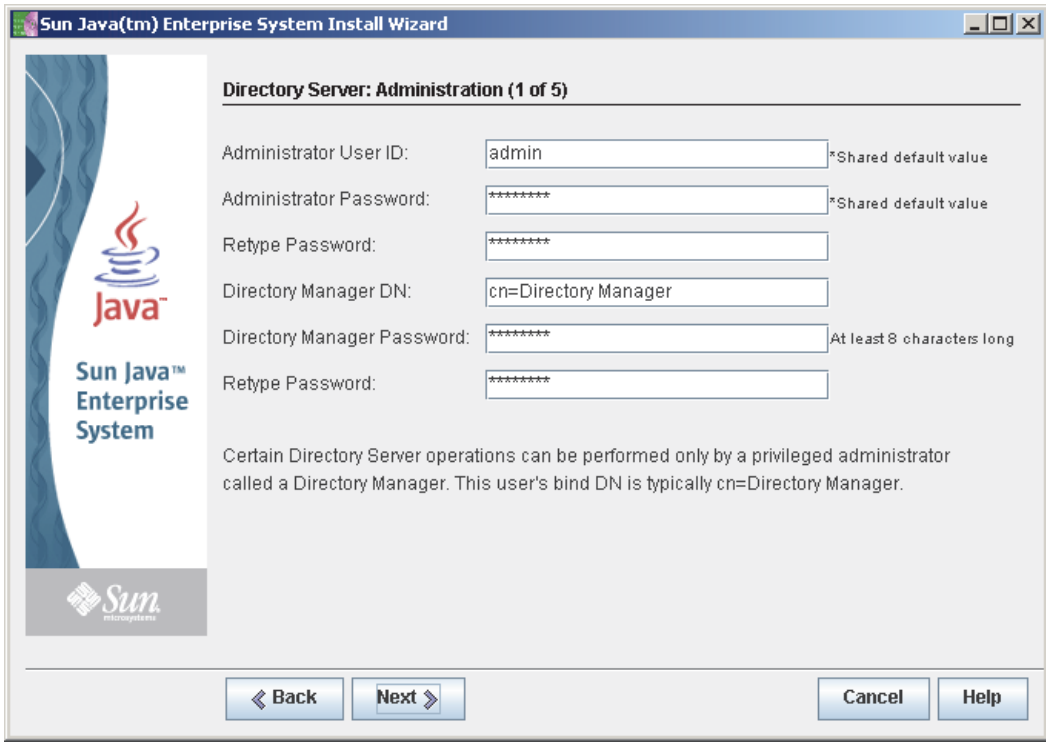


16. In the "Application Server: Domain" screen, click **Next**.

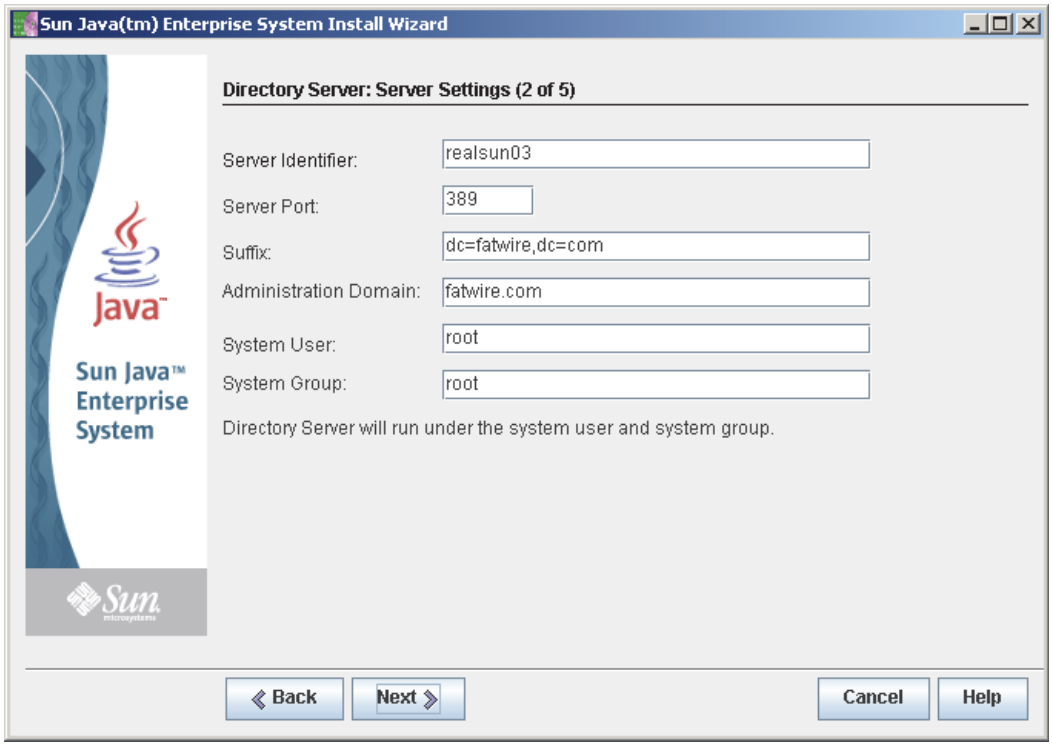


17. Configure the directory server:

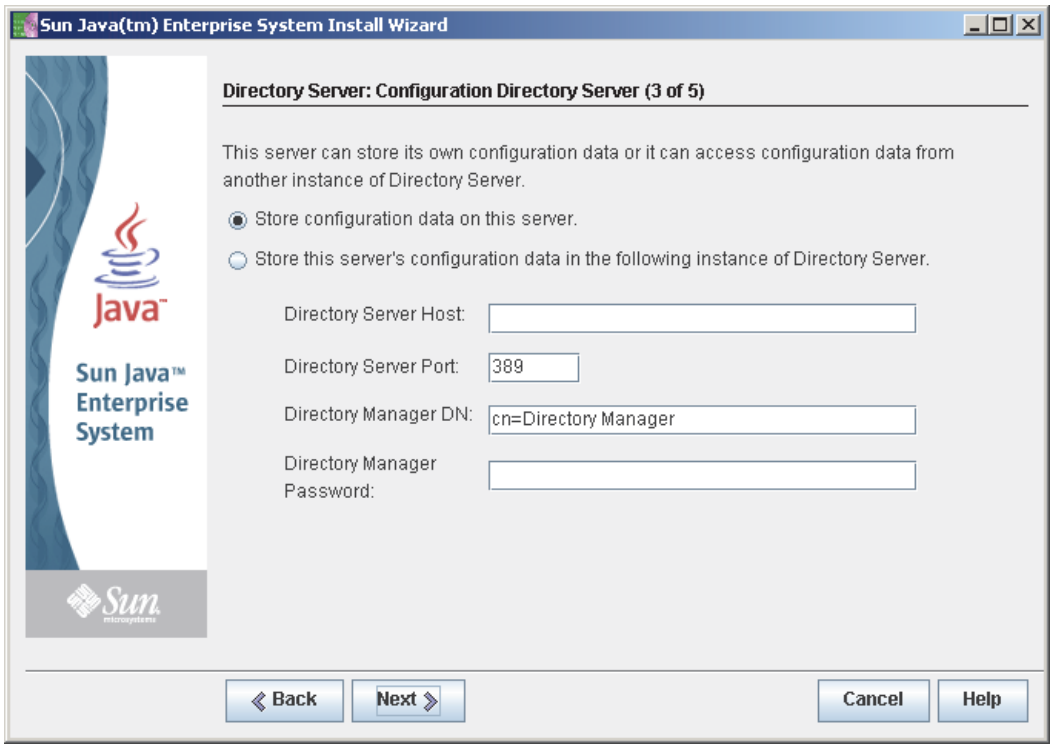
    a. In the "Directory Server" Administration" screen, click **Next**.



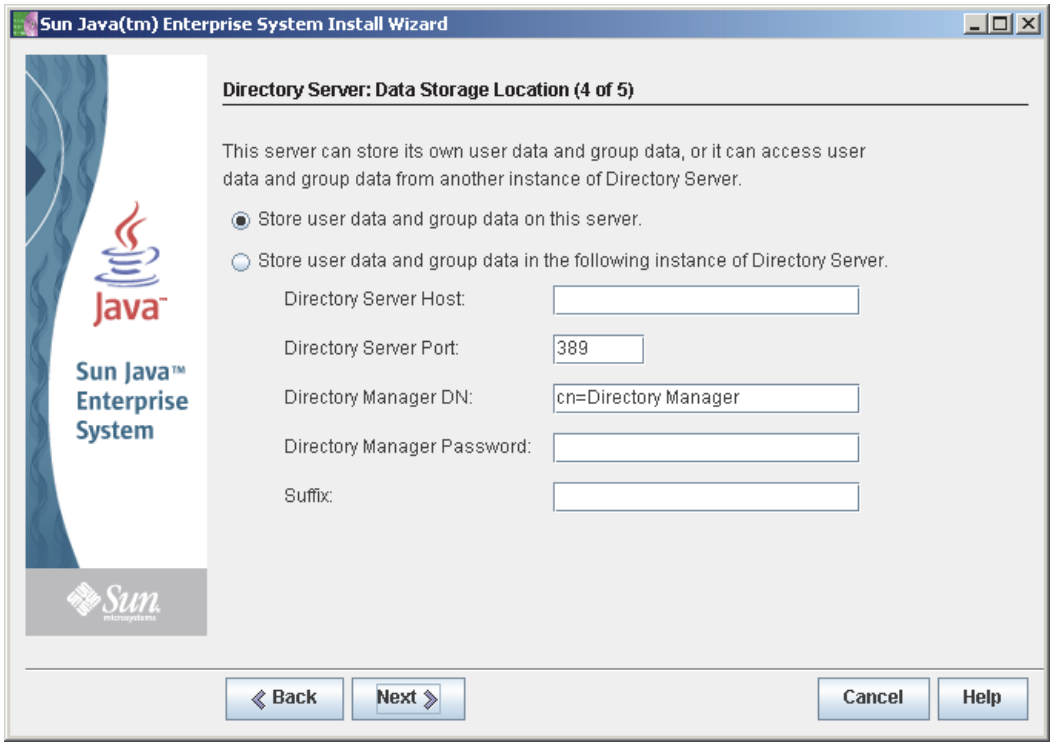
b. In the "Directory Server: Settings" screen, confirm that the suffix is correct and click **Next**.



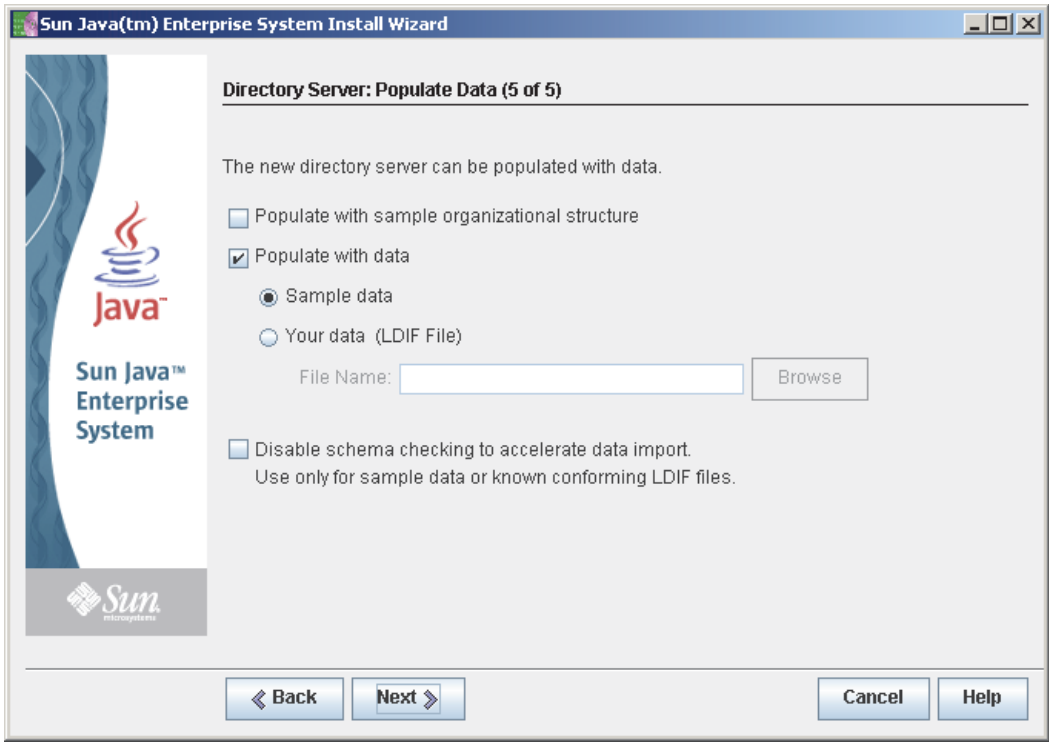
c. In the "Directory Server: Configuration" screen, click **Next** if the LDAP is local. If the LDAP is remote, fill out the form and click **Next**.



d. In the "Directory Server: Data Storage Location" screen, click **Next** if the LDAP is local. If the LDAP is remote, fill out the form and click **Next**.

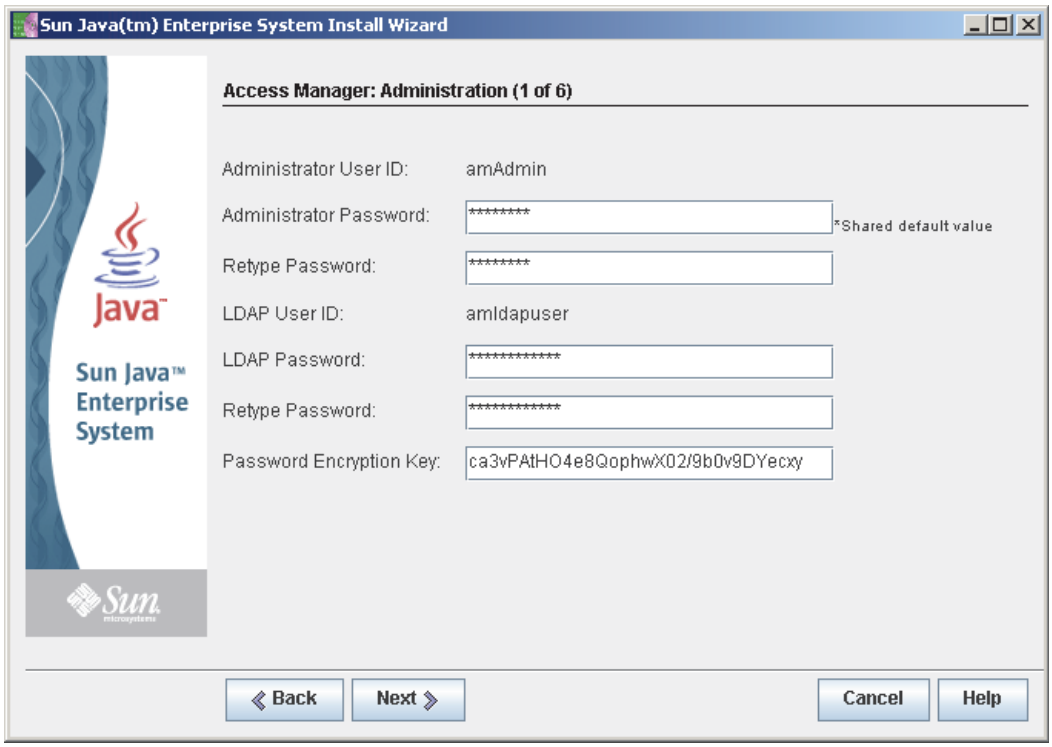


e. In the "Directory Server: Populate Data" screen, click **Next**.

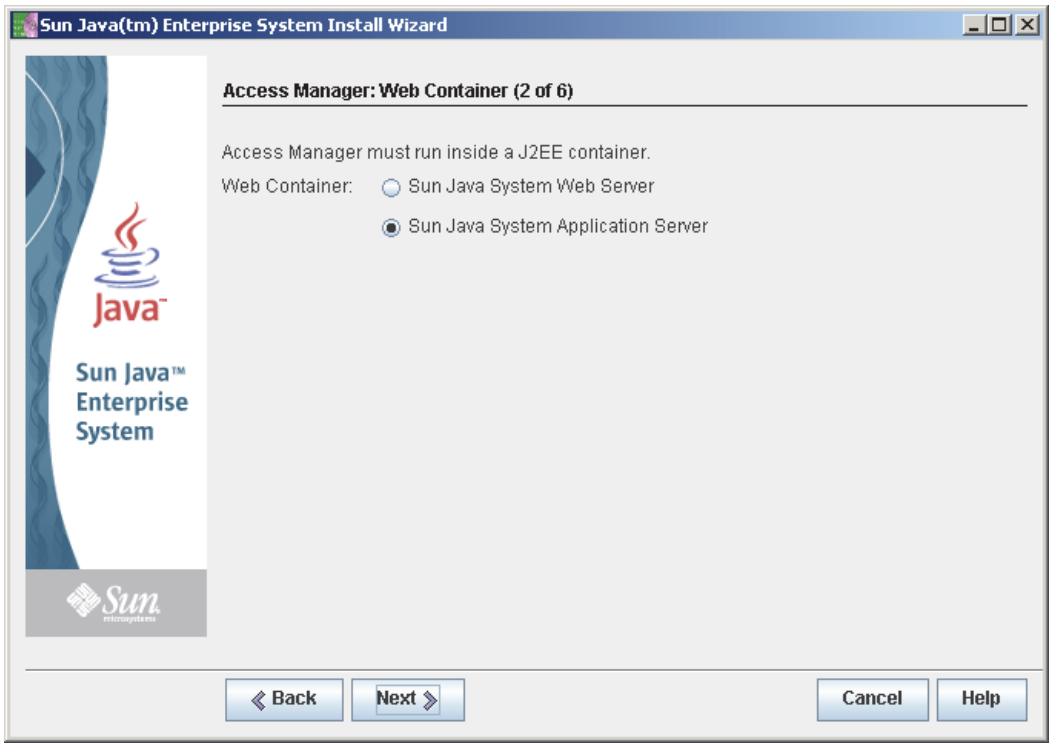


18. Configure the access manager:

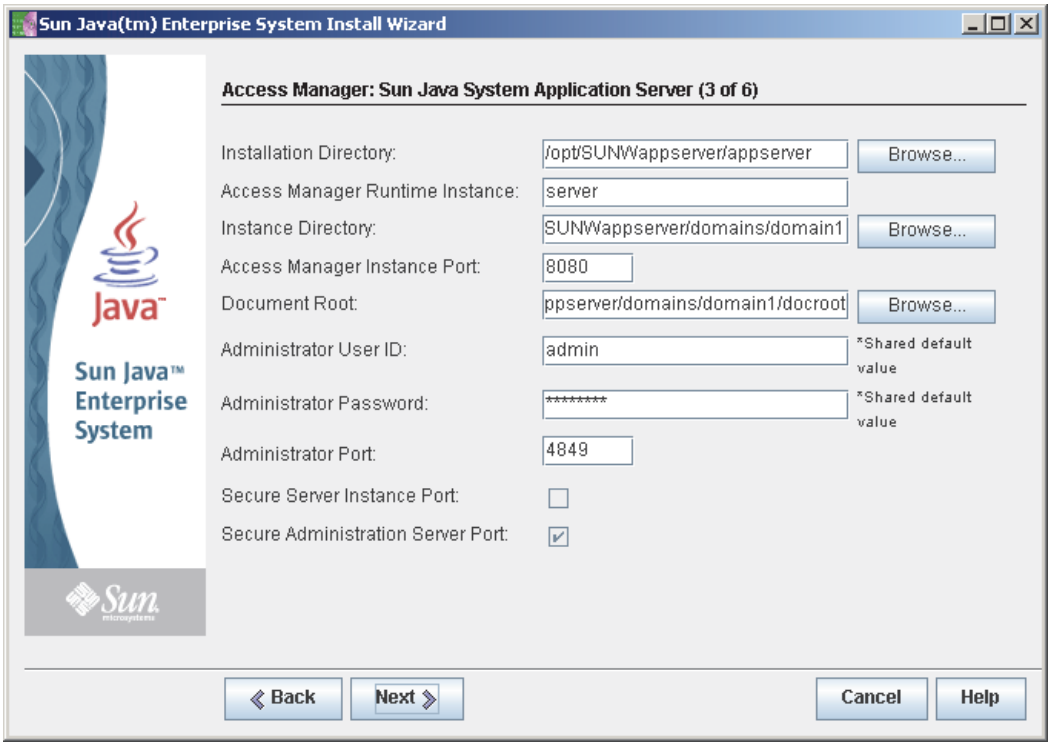
    a. In the "Administration" screen, enter an LDAP password for the `amldapuser`. This password must differ from the admin user password `(demo 4132` in our examples). Click **Next**.



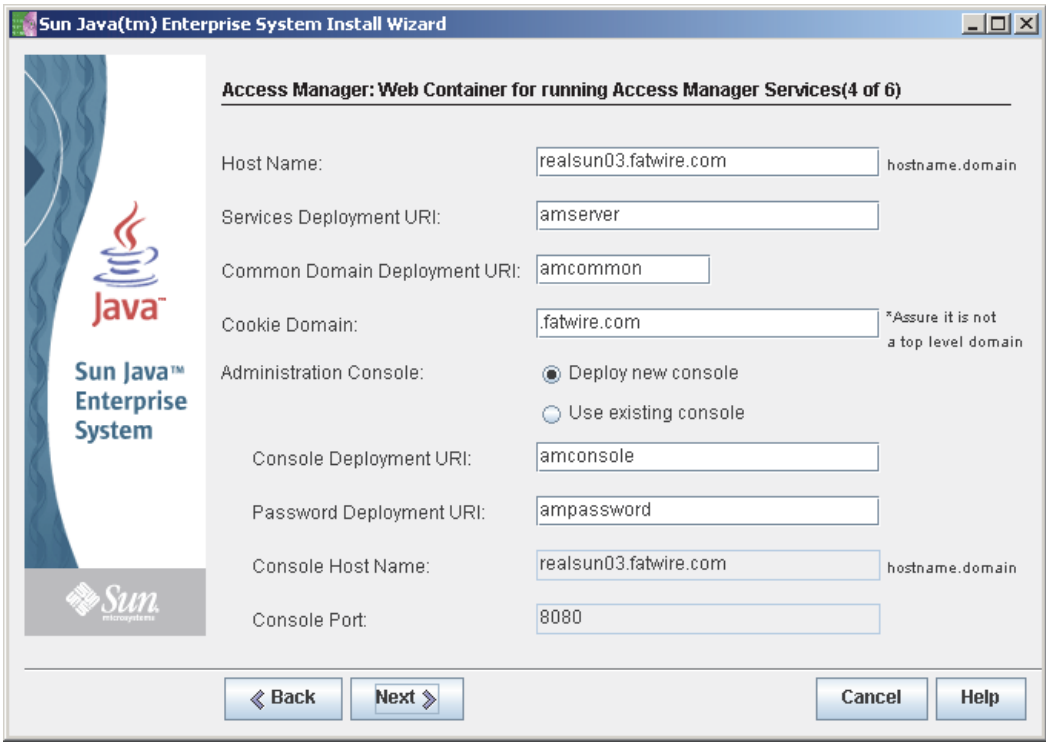
b. In the "Access Manager: Web Container" screen, click **Next**.



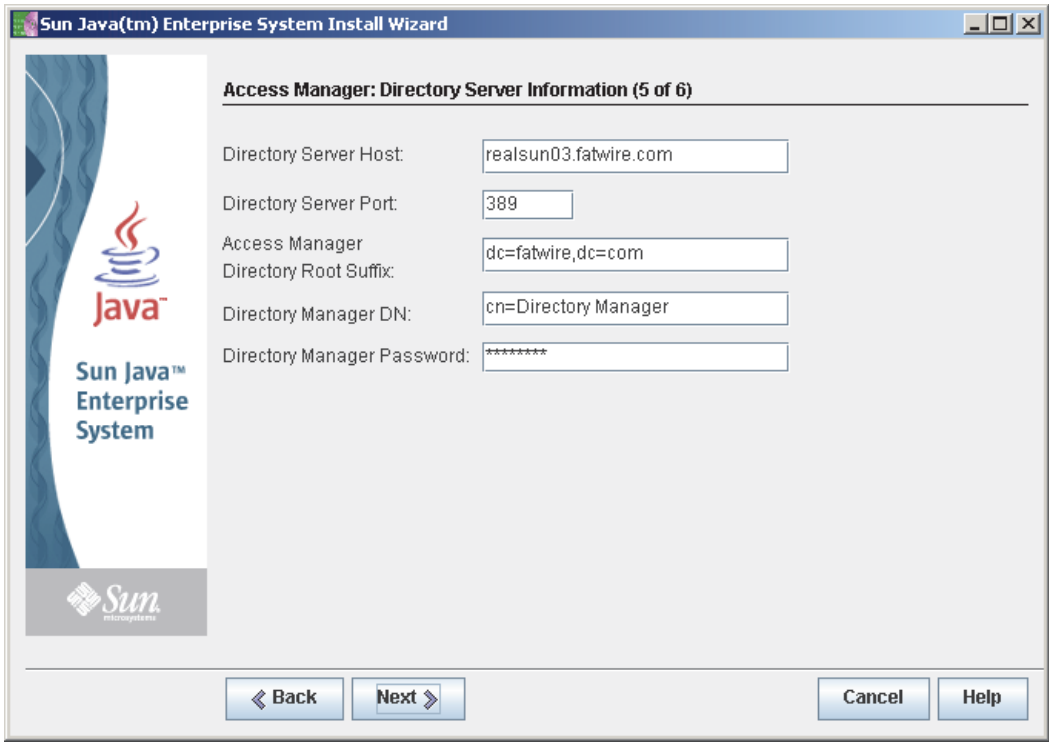
c. In the "Access Manager: Sun Java System Application Server" screen, click **Next**.



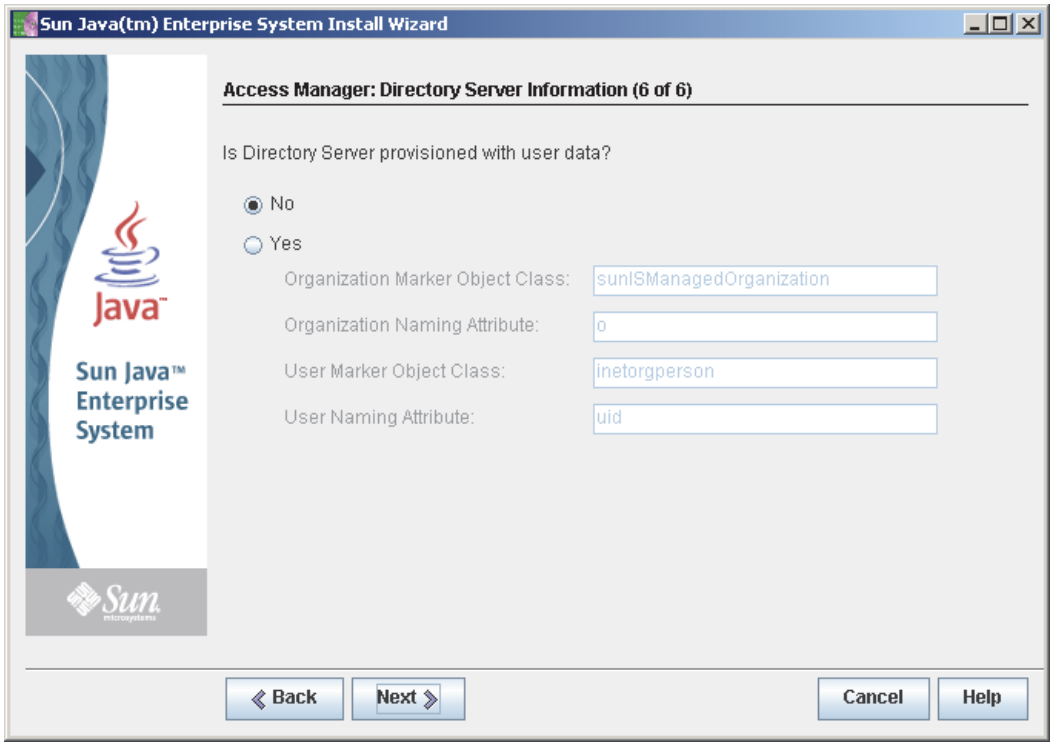
d. In the "Web Container" screen for running Access Manager Services, keep the displayed values and click **Next**.



e. In the "Directory Server Information" screen, keep the displayed values and click **Next**.

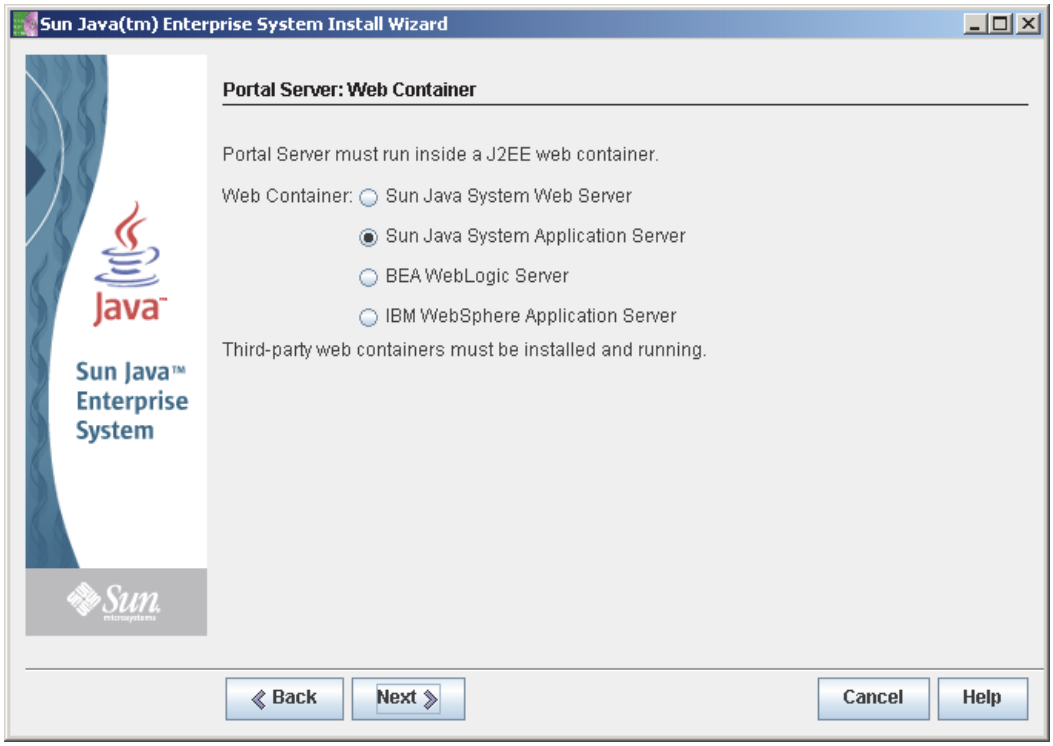


f. In the "Directory Server Information" screen, click **Next**.

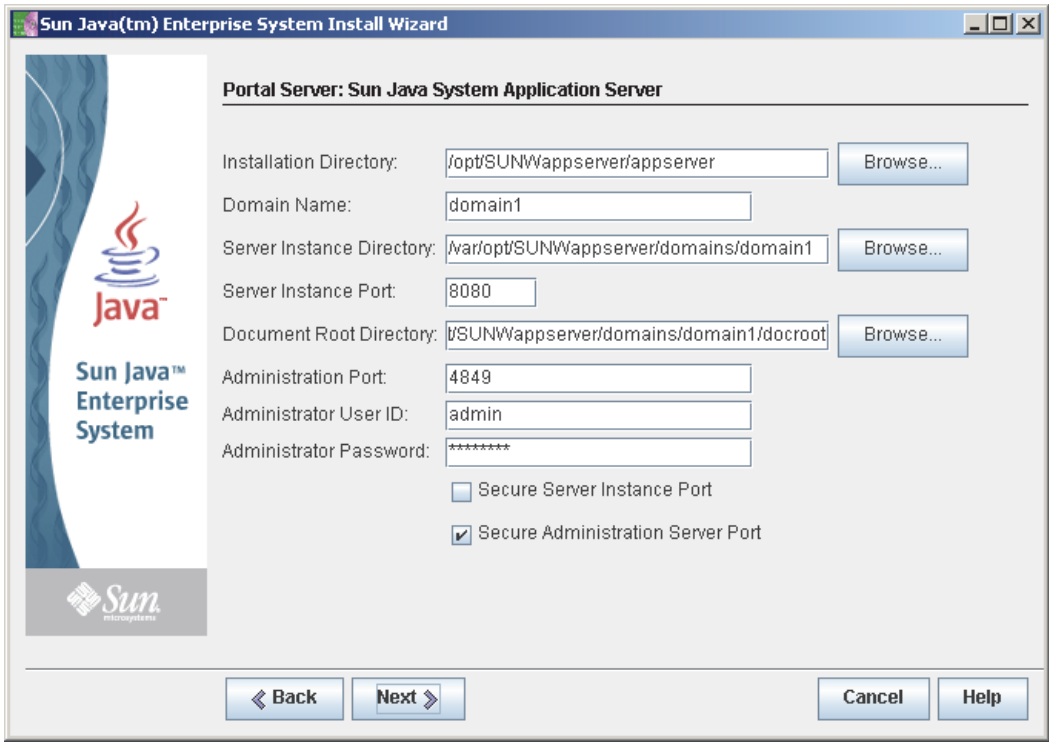


19. Configure the portal server:

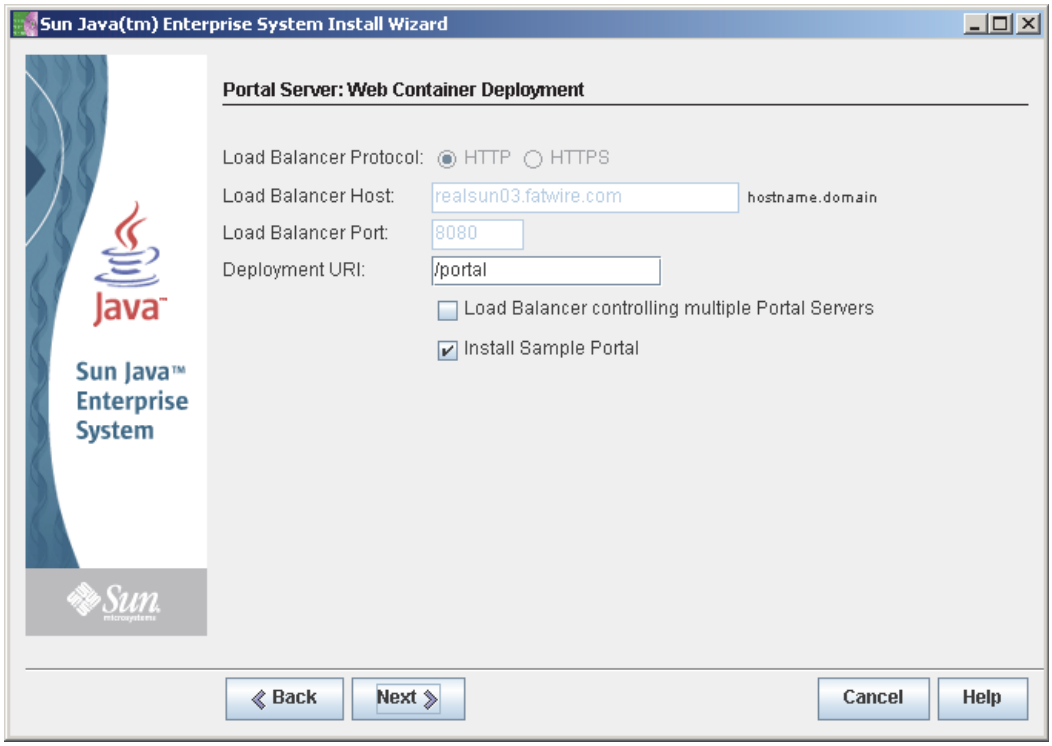
a. In the "Web Container" screen, click **Next**.



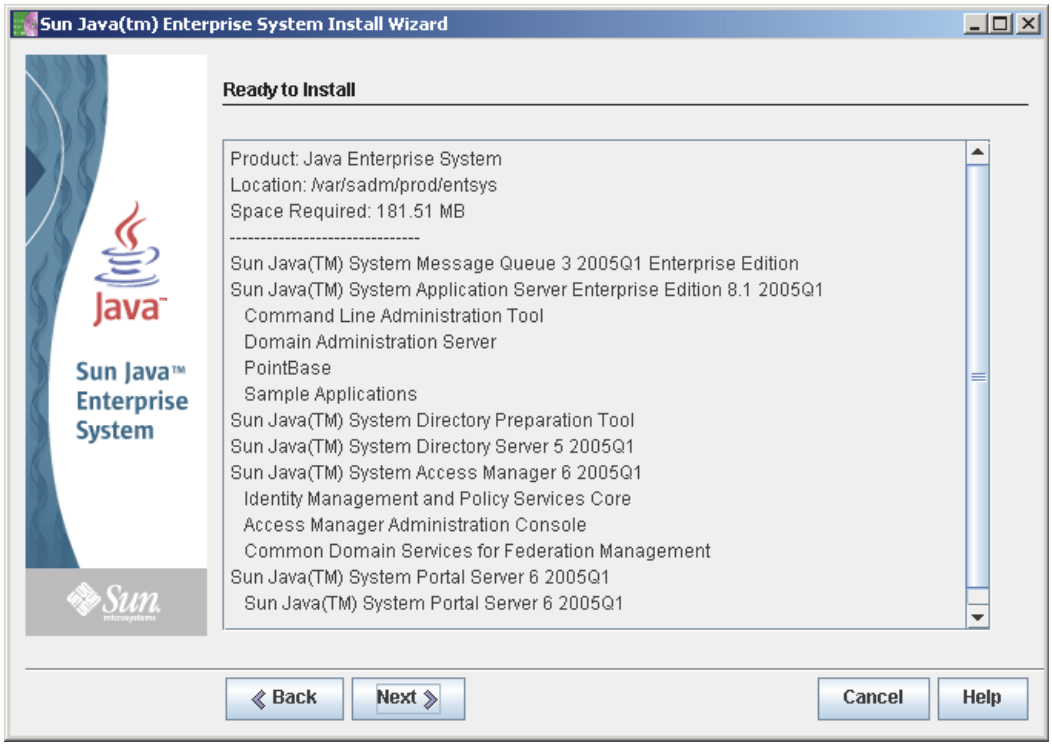
b. In the "Sun Java Application Server" screen, click **Next**.



c. In the "Web Container Deployment" screen, click **Next**.

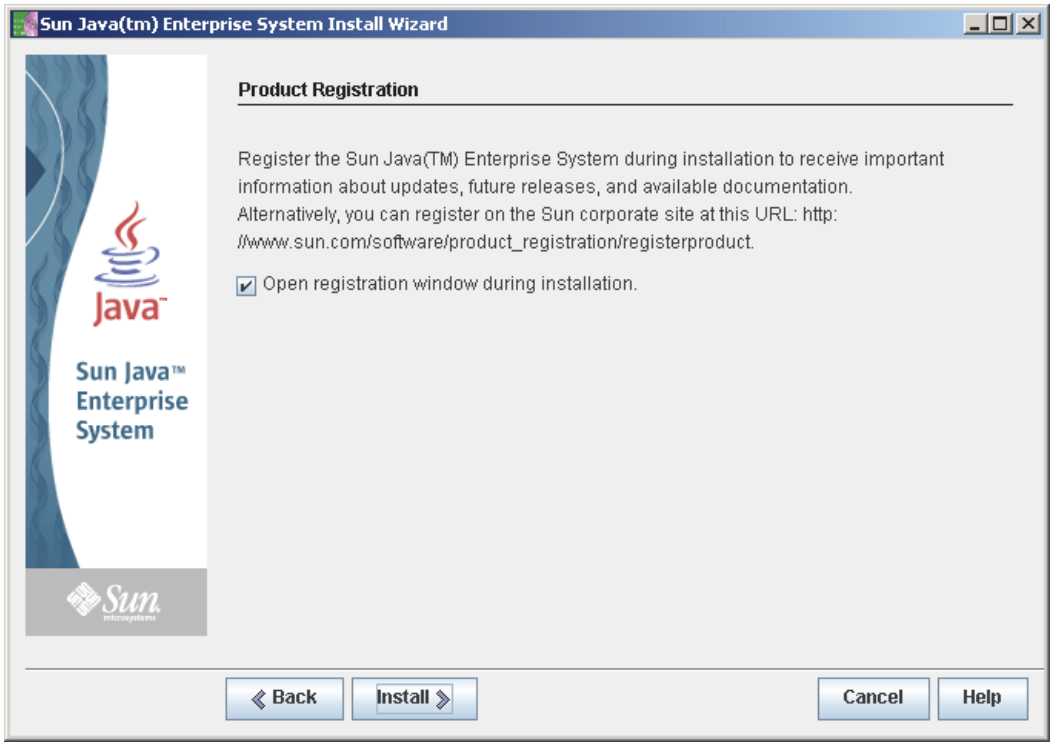


20. In the "Ready to Install" screen, click **Next**.

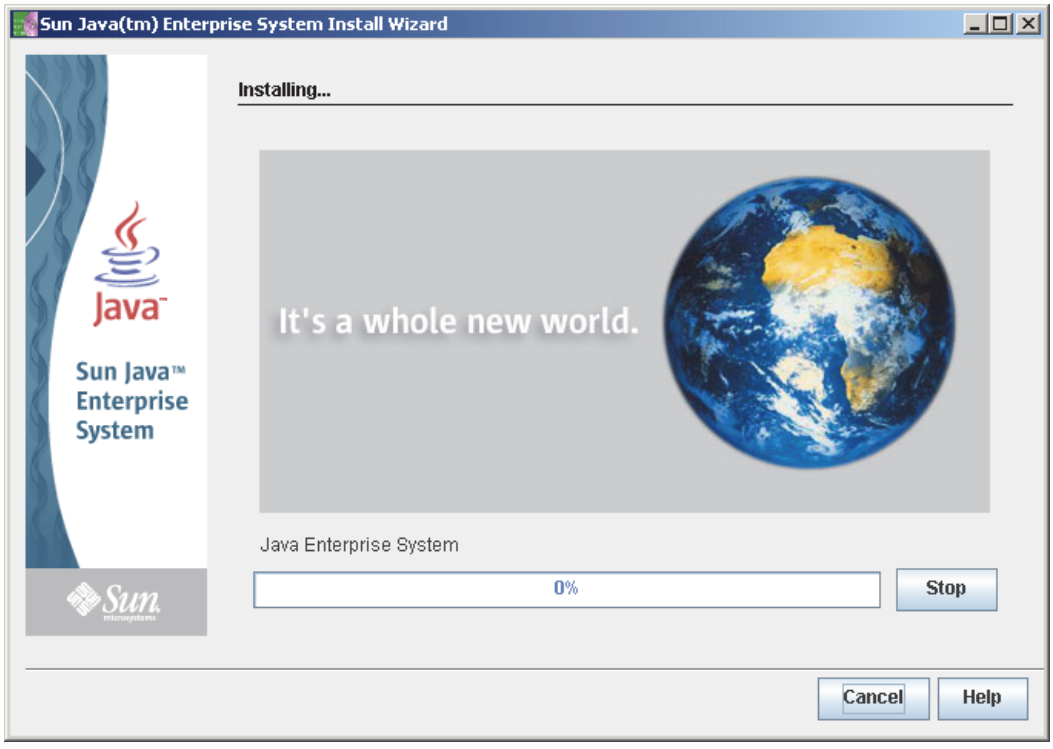


21. A pop-up message identifies the processes that are now running. Wait for the processes to finish running.

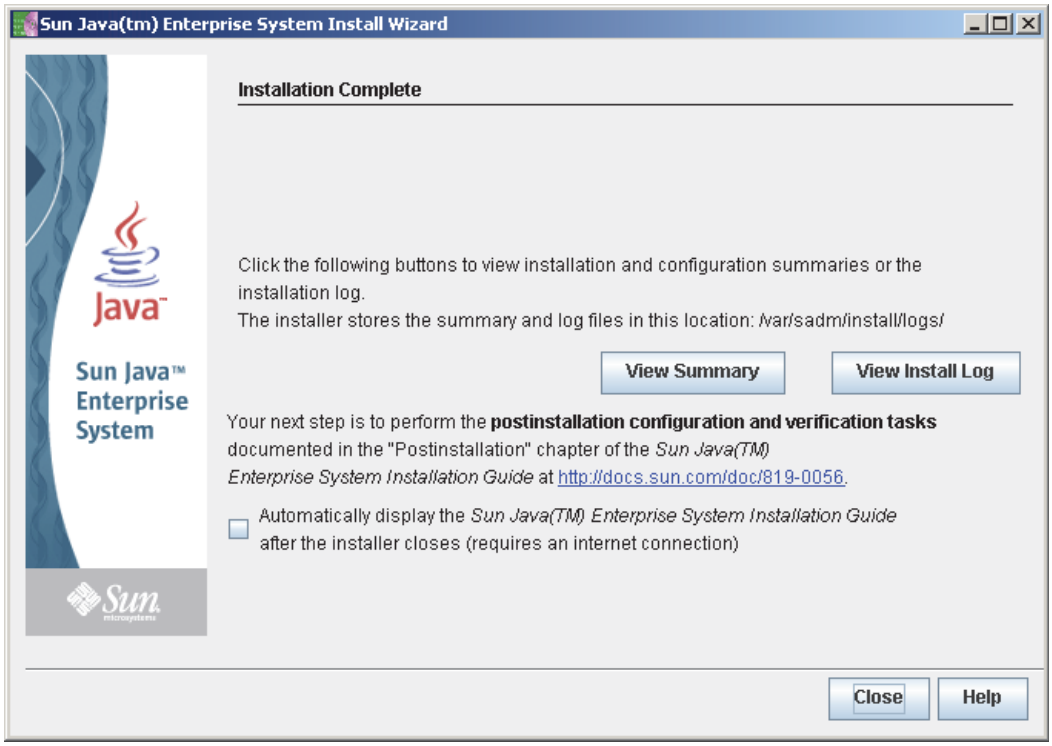
22. In the "Product Registration" screen, deselect **Open registration window during installation** and click **Install**.



23. In the "Installing …" screen, wait for the installation to complete.



24. In the “Installation Complete” screen, click **Close**.



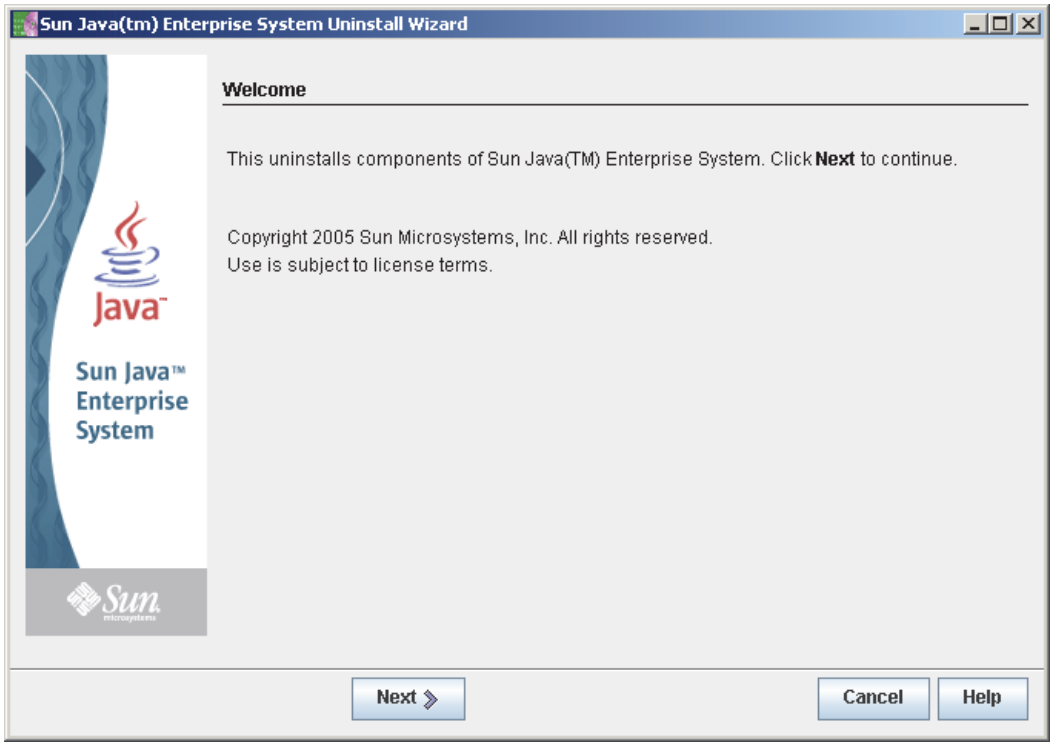
Appendix B

Sample Procedure for Uninstalling JES

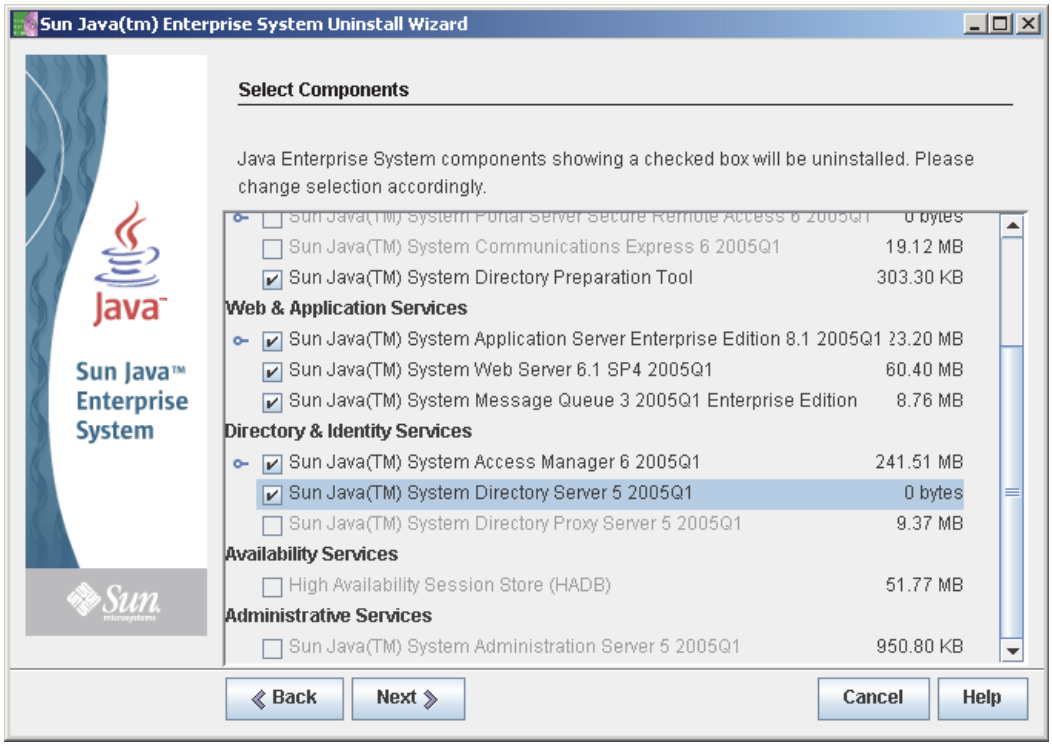
This appendix provides a sample procedure for uninstalling JES. The procedure is based on scripts provided by Sun Microsystems.

Uninstalling JES

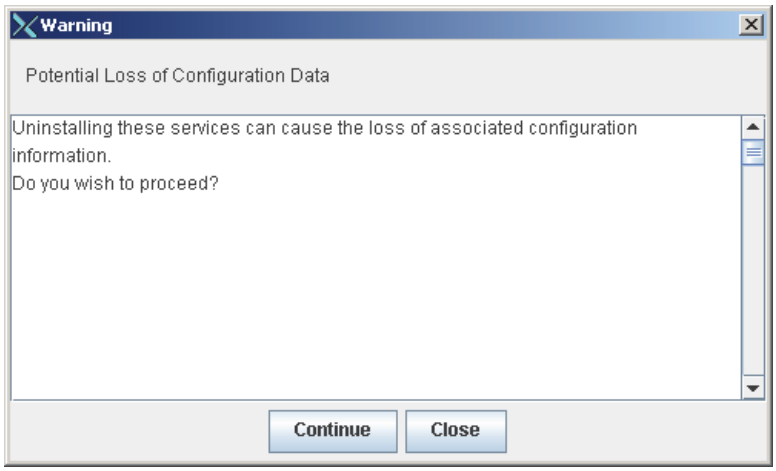
1. Execute the following command:
   `/var/scam/prod/entices/uninstall`
2. In the "Welcome" screen, click **Next**.



3. In the next screen, select all components. Click **Next**.

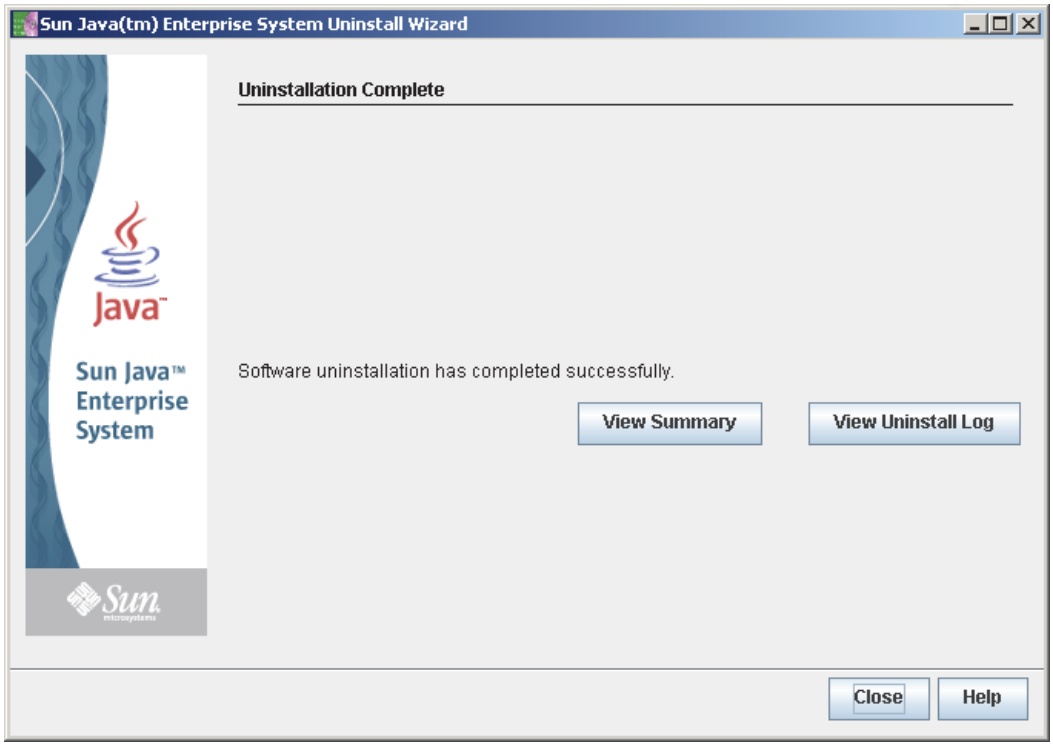


4. In the "Warning" screen (regarding the loss of configuration data), click **Continue**.



5. Wait for the uninstallation process to finish running.

6. Click **Close**.



7. Run `jesrm.sh` (this file can be found on the Sun site; it is not part of the FatWire distribution). Select option 8 from the menu.
8. Check that none of the following are running. If they are, stop them:

```
ps -ef|grep "appserver"
ps -ef|grep "webserv"
ps -ef|grep "dps"
ps -ef|grep "imq"
ps -ef|grep "slapd"
ps -ef|grep "admin"
```

9. Remove the following directories:

```
rm -rf /var/sadm/install/logs/Orion*
rm -rf /var/sadm/install/productregistry
rm -rf /var/sadm/install/.lockfile
rm -rf /var/sadm/install/.pkg.lock
rm -rf /var/sadm/install/logs/Administration_Server*
rm -rf /var/sadm/install/logs/Directory_Server*
rm -rf /var/sadm/prod/orion
rm -rf /usr/sunone/*
rm -rf /var/opt/SUNW*
rm -rf /etc/opt/SUNW*
rm -rf /opt/SUNWps
rm -rf /opt/SUNWam
rm -rf /opt/SUNWappserver
rm -rf /opt/SUNWwbsvr
```

10. Reboot the server.