# Sun N1 Service Provisioning System User's Guide and Release Notes for the Sun Java System App Server Plug-In 2.0

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# Preface

This book explains how to use the Sun N1 Service Provisioning System software to capture and deploy Sun Java Enterprise System Application Server applications and files.

## Who Should Use This Book

The main audience for the Sun N1 Service Provisioning System User's Guide for the Sun Java Enterprise System App Server Plug-In 2.0 includes system administrators and operators of Sun N1 Service Provisioning System software who want to be able to incorporate Sun Java Enterprise System Application Server functionality with Sun N1 Service Provisioning System software. These users are expected to have the following background:

- Familiar with the Sun N1 Service Provisioning System product
- Familiar with standard UNIX® commands and utilities
- Familiar with the general concepts and management features available in the Sun Java Enterprise System Application Server product

## Before You Read This Book

If you are not already familiar with using the Sun N1 Service Provisioning System software, read the following books:

- *Sun N1 Service Provisioning System 5.1 System Administration Guide*
- *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*

- *Sun N1 Service Provisioning System 5.1 Release Notes*

# How This Book Is Organized

Chapter 1 provides an overview of the plug-in solution.

Chapter 2 contains installation and runtime issues.

Chapter 3 explains how to install and configure the plug-in.

Chapter 4 explains how to capture and deploy applications and files through the plug-in and describes the specific component types that are provided with the plug-in.

# Related Third-Party Web Site References

Third-party URLs are referenced in this document and provide additional, related information.

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# Typographic Conventions

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

**TABLE P–1** Typographic Conventions

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

# Shell Prompts in Command Examples

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

**TABLE P–2** Shell Prompts

| Shell | Prompt |
|---|---|
| C shell prompt | `machine_name%` |
| C shell superuser prompt | `machine_name#` |
| Bourne shell and Korn shell prompt | `$` |
| Bourne shell and Korn shell superuser prompt | `#` |

CHAPTER 1

# Overview of Sun Java Enterprise System Application Server Plug-In

This chapter explains general information about using Sun N1 Service Provisioning System to provision Sun Java Enterprise System Application Server applications. This chapter includes the following information:


- "Purpose of the Sun Java Enterprise System Application Server Plug-In" on page 11
- "What the Sun Java Enterprise System Application Server Plug-In Includes" on page 12
- "Requirements for Using the Sun Java Enterprise System Application Server Plug-In" on page 12


## Purpose of the Sun Java Enterprise System Application Server Plug-In

The Sun N1 Service Provisioning System software provides enhanced capabilities in out-of-the-box support for Sun Java Enterprise System Application Server applications. You can capture an Application Server application from a reference server, select precisely how this application should be configured, and deploy the application to standalone, managed, or clustered Application Server environments.

The following benefits are achieved when using the provisioning system rather than performing Application Server installations and deployments manually.

- Simultaneous deployment to all hosts in a host set.
- Logging and reporting that creates detailed logs of every action taken by the system across all applications and managed servers. These logs provide a complete audit history of every change made to every host.

# What the Sun Java Enterprise System Application Server Plug-In Includes

The Sun Java Enterprise System Application Server Plug-In includes several Sun Java Enterprise System Application Server-specific components that allow Sun Java Enterprise System Application Server applications to be easily captured, configured, and deployed.

# Requirements for Using the Sun Java Enterprise System Application Server Plug-In

Any host on which you intend to deploy the Sun Java Enterprise System Application Server plug-in must meet the following requirements:

| | |
|---|---|
| Operating system | The Sun Java Enterprise System Application Server plug-in runs on the following operating systems:<br>■ Solaris 8 for SPARC<br>■ Solaris 9 for SPARC<br>■ Solaris 10 for SPARC<br>■ Solaris 9 for x86<br>■ Solaris 10 for x86<br>■ Redhat Enterprise Linux 2.1 Update 2<br>■ Redhat Enterprise Linux 3.0 Update 1 |
| Disk space | On Solaris you must have at least 250 MB of free disk space (500 MB recommended). On Redhat Enterprise Linux you must have at least 220 MB of free disk space (300 MB recommended). |
| RAM | 512 MB minimum; 1 GB recommended |
| Java Runtime Environment | J2SE 1.4.2_06 or J2SE 5.0 |

CHAPTER 2

# Release Notes for the Sun Java Enterprise System Application Server Plug-In

This chapter describes late-breaking news and known issues with the Sun Java Enterprise System Application Server Plug-In.

The chapter contains the following information:


- "Installation Issues" on page 13
- "Runtime Issues" on page 14


## Installation Issues

The following are known issues when installing the Sun Java Enterprise System Application Server plug-in.

### Log Files May Not Be in Specified Location Upon Installation Failure (6256822)

If an installation fails, you will see an error message reading:

```
Please check the installation log file under /tmp.
```

The actual location of the log files is determined by the `[tempStateFile]` variable, which is `/tmp` by default. If `[tempStateFile]` has been changed, the log files will be located in the specified directory.

# Runtime Issues

The following are known-issues when running the Sun Java Enterprise System Application Server plug-in.

## Deleting a Domain Does Not Completely Delete the Managed Servers or Clusters Associated with the Domain (6227939)

The `deleteDomain` task does not completely delete the domain. When this occurs, the following error message is displayed:

```
Error: Domain domain_name delete failed.
```



**Caution –** The following workaround should only be performed if you have one domain. If there are multiple domains, all domains are deleted.

Workaround: To completely delete the domain, you uninstall and reinstall the Install component.

1. To uninstall - see "How to Uninstall the Sun Java Enterprise System Application Server Software" on page 34.
2. To install - see "How to Install the Sun Java Enterprise System Application Server Software" on page 23.

## The Load Balancer Configuration File Is Not Updated Correctly When Multiple Clusters are Created in a Domain (6233520)

If you have more than one cluster created in a domain and are using the load balancer, the load balancer configuration file, `loadbalancer.xml`, is not properly updated. On starting the domain, you will see the following error message:

```
Error occured while initializing Loadbalancer config Parser. Please check the config file:
```

The workaround is to either not run multiple clusters on a domain, or write out `loadbalancer.xml` to a temporary location and copy in the relevant sections to the web server's `loadbalancer.xml`.

## Two Domain Administration Servers Cannot Run on the Same Host (6228738)

You cannot run more than one Domain Administration Servers on a host due to a port conflict.

## Load Balancer Configuration Entries Are Not Deleted When a Cluster is Deleted (6233521)

If you are deleting a cluster on a domain that uses the load balancer, the cluster's entries in the load balancer configuration file, `loadbalancer.xml`, are not deleted.

The load balancer will automatically remove unavailable nodes from the

## Listing JDBC or JMS Resources for a Cluster or Server Instance Displays All the Resources in the Domain (6235760)

The output of the `listJMSResources` or `listJDBCResources` tasks for a specified target (a cluster or server instance name) displays the resources for the domain on which the cluster or instance is running.

CHAPTER 3

# Installing and Configuring the Sun Java Enterprise System Application Server Plug-In

This chapter explains how to install and configure the Sun Java Enterprise System Application Server plug-in. The chapter contains the following information:


- "Acquiring the Sun Java Enterprise System Application Server Plug-In" on page 17
- "Adding the Sun Java Enterprise System Application Server Plug-In to the Sun N1 Service Provisioning System" on page 18
- "Upgrading Considerations" on page 19


## Acquiring the Sun Java Enterprise System Application Server Plug-In

Sun Java Enterprise System Application Server Plug-In is packaged as a *plug-in* to the Sun N1 Service Provisioning System software. Plug-ins are packaged in Java™ Archive (JAR) files. The plug-in files for the Sun Java Enterprise System Application Server Plug-In are available from the Sun N1 Service Provisioning System Supplement CD or from the Sun Download Center.

The Sun Java Enterprise System Application Server Plug-In is available for import from two different JAR files. Choose the correct file depending upon your situation.

- If you are importing the Sun Java Enterprise System Application Server Plug-In for the first time, acquire the `com.sun.sjsas81_2.0.jar` file.
- If you have already imported the previous version of the Sun Java Enterprise System Application Server Plug-In, acquire the `com.sun.sjsas81_1.0_2.0.jar` file.

# Adding the Sun Java Enterprise System Application Server Plug-In to the Sun N1 Service Provisioning System

To make a given plug-in known to the Sun N1 Service Provisioning System, you need to import the plug-in to the Master Server. If you have already imported a previous version of the Sun Java Enterprise System Application Server Plug-In, you need to upgrade to the new plug-in.

## ▼ How to Import the Sun Java Enterprise System Application Server Plug-In Using the Browser Interface

To import or upgrade a plug-in, follow these steps as explained in detail in Chapter 5, "Plug-In Administration," in *Sun N1 Service Provisioning System 5.1 System Administration Guide.*

**Steps**

1. **In the Administrative section of the browser interface main window, click Plug-ins.**
2. **In the Action column of the Plug-ins page, click Import.**
3. **Browse to the location where you downloaded the JAR file.**
   - If you are importing the Sun Java Enterprise System Application Server Plug-In for the first time, select the `com.sun.sjsas81_2.0.jar` file.
   - If you have already imported a previous version of the Sun Java Enterprise System Application Server Plug-In, select the `com.sun.sjsas81_1.0_2.0.jar` file.
4. **Click the Continue to Import button.**
   When the import completes successfully, a plug-in details page appears and shows you the objects that the plug-in provides.

## ▼ How to Import the Sun Java Enterprise System Application Server Plug-In Using the CLI

You can also import a plug-in by using the command line.

**Step**

- **To import a plug-in file from the CLI, type:**

% **cr_cli -cmd plg.d.add -path** *plugin-filename* **-u** *username* **–p** *password*

- If you are importing the Sun Java Enterprise System Application Server Plug-In for the first time, *plugin-filename* is `com.sun.sjsas81_2.0.jar`.
- If you have already imported the previous version of the Sun Java Enterprise System Application Server Plug-In, *plugin-filename* is `com.sun.sjsas81_1.0_2.0.jar`.

# Upgrading Considerations

The following information is related to viewing previous versions of components after upgrading.

The following components might be affected:

- Domains
- JDBC Resources
- Managed Server Instances

## ▼ How to Access Previous Versions of a Component

When you upgrade to a new version of a plug-in, the Common Tasks page for the plug-in is updated to provide links to components that are installed with the new plug-in version. This feature enables you to easily view components that contain the most current features and improvements. Components that rely on old functionality are not linked to from the Common Tasks page.

If you have trouble finding a component that you previously installed, the component was likely created from the previous version of the plug-in.

Follow these steps to view or work with a previous version of the component:

**Steps**

1. **Click the appropriate component procedure on the Common Tasks page.**
   The Component Detail page appears.
2. **On the Component Details page, click Version History.**
   A list of components and versions appears.
3. **Click the appropriate link.**
   a. **To perform a task with a component, click the version number or the details link that applies to the component that you want to use.**

**b. To view where a component is installed, click Where Installed.**

CHAPTER 4

# Using the Sun Java Enterprise System Application Server Plug-In

The Sun Java Enterprise System Application Server plug-in provides a number of specific component types and provides easy access to functions for working with Sun Java Enterprise System Application Server applications. This chapter describes the following information:


- "Installing and Using the Sun Java Enterprise System Application Server Environment with the Sun N1 Service Provisioning System" on page 21
- "Creating the Sun Java Enterprise System Application Server Domain Infrastructure" on page 23
- "Troubleshooting" on page 56


## Installing and Using the Sun Java Enterprise System Application Server Environment with the Sun N1 Service Provisioning System

Use the Sun Java Enterprise System Application Server Common Tasks page as a starting point to create and manage Application Server instances and clusters.

### Plug-In Conventions

The provisioning system allows you to provision and manage applications.

## Plans and Component Procedures

The Sun Java Enterprise System Application Server plug-in provides both plans and component procedures as tools for you to perform tasks. By using plans, you link directly to the functionality you desire. Using component procedures, you have a greater number of tasks that you can perform.

# Global Prerequisites

This section describes the requirements for using the Sun Java Enterprise System Application Server Plug-In.

---

**Note –** To configure topologies involving clusters spanning multiple machines, ensure the following:

- The user who owns the distributions (Master Server and Remote Agents) and the user who runs the Master Server and Remote Agents are the same.
- The user's home directory is an NFS mounted directory.

---

# Process Overview

Creating a Sun Java Enterprise System Application Server environment within the provisioning system is similar to the process of creating the environment without the provisioning system.

1. Import the Application Server plug-in.
2. Set the Application Server session variables.
3. Prepare all hosts.
4. Create an Application Server Domain Administration Server.
5. (Optional) Create an Application Server cluster.
6. Create server instances as a part of the cluster or domain.
7. (Optional) Create additional resources used by the applications.
8. (Optional) Configure the JMS server.
9. Capture application files (EARs and WARs).
10. Deploy applications to target instances or clusters.

# Creating the Sun Java Enterprise System Application Server Domain Infrastructure

This section describes how to prepare your Sun N1 Service Provisioning System installation to take advantage of the features provided by Sun Java Enterprise System Application Server Plug-In.

## ▼ How to Install the Sun Java Enterprise System Application Server Software

**Steps**

1. **Select the AppServer 8.1 icon under the Common Tasks section of the left control panel.**
2. **Click the SJSAS 8.1 Install Management: Install or Uninstall link.**
3. **Click the `Run` action next to `install: default`.**
4. **In the Plan Parameters area, select the variable settings for the Install component that you plan to deploy.**

   The `Install` component installs the Sun Java Enterprise System Application Server on a Remote Agent. After you have installed the `Install` component on a Remote Agent, you do not have to reinstall that component again.

   When you run the plan to install a new domain or server instance, the provisioning system checks to see if an `Install` component exists in the `installPath` directory. If the `Install` component is already installed, the provisioning system does not reinstall the Install component.

   - If the variable settings have been established for this component, select the appropriate settings from the menu.
   - If the settings are not available from the menu, click `Select From List`.

     The Select Variable Settings From List window displays.

     - To create a new set of variable settings, select `Create Set`.

       The following list provides commonly-updated variables for the `Install` component.

       | | |
       |---|---|
       | variable set name | Required. A name for the new variable set you create. |

| | |
|---|---|
| `installDirectory` | Required. The location where the Sun Java Enterprise System Application Server software will be installed.<br><br>This should be an NFS mounted directory, otherwise we would need to install the Install component on every node that is a part of the Domain infrastructure. |
| `sourceImage` | Required. The location of the Sun Java Enterprise System Application Server package installer.<br><br>Typically this is an NFS-mounted directory containing the extracted Sun Java Enterprise System Application Server installer. For example, if the value of `sourceImage` is `/net/mymachine/nfs/sjsappserver8.1`, you would do the following before installing the plug-in:<br><br>`% mkdir /net/mymachine/nfs/sjsappserver8.1`<br>`% cd /net/mymachine/nfs/sjsappserver8.1`<br>`% unzip .../sjsas_ee-8_1_01_2005Q1-solaris-sparc.bin` |
| `installId` | Required. A unique ID to associate domains, clusters, node agents, and Application Server instances with an Install component. |
| `adminUserId` | The user name of the administrator of the domain or cluster.<br><br>Typically this will be picked up from the session variables. |
| `adminPassword` | The password for the administrator login of the domain or cluster.<br><br>Typically this will be picked up from the session variables. |
| `httpLoadBalancerPluginType` | If you are using a web server load balancer with the domain or cluster, enter the type of web server here. Valid entries are `Sun ONE Web Server` or `Apache HTTP Server`. |

| | |
|---|---|
| | The web server must already be installed on the target host. |
| `webserverInstallDirectory` | Location of the web server, used when installing the load balancer plug-in. For Sun ONE Web Server, enter the instance directory. For Apache HTTP Server, enter the install directory. |
| `webserverConfigDirectory` | The directory where the load balancer configuration file, `loadbalancer.xml` will be located.<br><br>Only set this variable if the load balancing plug-in is already installed on the web server gateway host. |
| `adminPasswordEncryptedFlag` | If set to true, the administrator's password will be encrypted. The default is false. |
| `asadminPort` | The port on which the Application Server domain administration server listens. The default is 4849. |
| `adminWebPort` | The port on which deployed web applications run. The default is 8090. |
| `instanceHTTPSPort` | The port on which secure HTTP (HTTPS) applications are run. The default is 1043. |
| `createSamplesDomain` | If true, a domain containing Application Server sample applications will be installed on the instance. The default is false. |
| `storeAdminAuth` | If true, the administrator's password will be written to a file. The default is false. |
| `tempStateFile` | The location of temporary files used during installation.<br><br>We recommend that you do not change this variable. |

- To use variable components from another component, click Import Set.

  For more information about importing variable sets, see "How to Run a Plan" in *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*.

5. **Select the target host.**

   Install the Application Server software on the Remote Agent.

6. **Deselect the `Target Host Set` checkbox.**

7. **If you want to run a detailed check (preflight) before installing, select `Perform Detailed Preflight`.**

8. **Click the Run Plan (includes preflight) button.**

## ▼ How To Create a Sun Java Enterprise System Application Server Domain Administration Server

The Domain Administration Server manages Application Server domains. It must be installed before you can create individual domains. When you install a Domain Administration Server, you create an initial domain and an administration server that controls that domain.

**Before You Begin**

To create an Application Server domain, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click `AppServer 8.1`.**

2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 domains click `Manage`.**

3. **Under Component Procedures click the `Run` action next to `default: install`.**

4. **In the Plan Parameters area, select the variable settings for the Domain Administration Server you want to install.**

   - If the variable settings have been established for this component, select the appropriate settings from the menu.
   - If the settings are not available from the menu, click `Select From List`.

     The Select Variable Settings From List window displays.

     - To create a new set of variable settings, select `Create Set`.

       The following list provides commonly-updated variables for the `Install` component.

       | | |
       |---|---|
       | variable set name | Required. A name for the new variable set you create. |

| | |
|---|---|
| `installIdentifier` | A unique ID to associate a Domain Administration Server with an install image. |
| `domainName` | The name of the domain you wish to create. |
| `adminUserId` | The user name of the administrator of the domain or cluster. |
| `adminPassword` | The password for the administrator login of the domain or cluster. |
| `adminHost` | The name of the host on which the Domain Administration Server will be installed. |
| `portRangePrefix` | The HTTP port range prefix. For example, a value of 100 means the HTTP port range begin with 10000. The default value is 100. |
| `httpListenerPort` | The HTTP listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 00. If `portRangePrefix` is set to 100, the HTTP listener port is 10000. |
| `httpsListenerPort` | The HTTPS listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 05. If `portRangePrefix` is set to 100, the HTTPS listener port is 10005. |
| `instancePort` | The default port number for the Domain Administration Server. |
| `iiopListenerPort` | The Internet Inter-Orb Protrocol (IIOP) listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 10. If `portRangePrefix` is set to 100, the IIOP listener port is 10010. |
| `iiopsslListenerPort` | The SSL-enabled Internet Inter-Orb Protrocol (IIOP) listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The |

| | |
|---|---|
| | default is `portRangePrefix` plus 15. If `portRangePrefix` is set to 100, the secure IIOP listener port is 10015. |
| `iiopsslmutualauthPort` | The SSL-enabled Internet Inter-Orb Protrocol (IIOP) listener port for mutual authorization, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 20. If `portRangePrefix` is set to 100, the mutual authorization secure IIOP listener port is 10020. |
| `jmsConnectorPort` | The port on which the Java Messaging Service (JMS) connector listens. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 25. If `portRangePrefix` is set to 100, the JMS connector port is 10025. |
| `installDirectory` | The location where the Application Server is installed. |

- To use variable components from another component, click Import Set.

  For more information about importing variable sets, see "How to Run a Plan" in *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*.

5. **Select the target host.**

   Install the Domain Administration Server and the domain on the Remote Agent.

6. **Deselect the `Target Host Set` checkbox.**

7. **If you want to run a detailed check (preflight) before installing, select `Perform Detailed Preflight`.**

8. **Click the Run Plan (includes preflight) button.**

# ▼ How To Create a Sun Java Enterprise System Application Server Instance

You can run multiple Application Server instances in each domain.

**Before You Begin**

Before you create an Application Server instance, you must do the following:

- Create the domain on which the server instance will run.

  For information on creating a domain, see
- The Domain Administration Server must be running.

  To manually start a Domain Administration Server,
- You must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 Managed Server Instances click `Manage`.**
3. **Under Component Procedures click the `Run` action next to `default: install`.**
4. **In the Plan Parameters area, select the variable settings for the managed server instance you want to install.**
   - If the variable settings have been established for this component, select the appropriate settings from the menu.
   - If the settings are not available from the menu, click `Select From List`.

     The Select Variable Settings From List window displays.
     - To create a new set of variable settings, select `Create Set`.

       The following list provides commonly-updated variables for the `Install` component.

| | |
|---|---|
| variable set name | Required. A name for the new variable set you create. |
| `installIdentifier` | A unique ID to associate an Application Server instance with an Install Component. |
| `domainName` | The domain name in which this server instance will be located |
| `targetName` | The name of the server. |

| | |
|---|---|
| `portRangePrefix` | The HTTP port range prefix. For example, a value of 100 means the HTTP port range begin with 10000. The default value is 100. |
| `httpListenerPort` | The HTTP listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 00. If `portRangePrefix` is set to 100, the HTTP listener port is 10000. |
| `httpsListenerPort` | The HTTPS listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 05. If `portRangePrefix` is set to 100, the HTTPS listener port is 10005. |
| `iiopListenerPort` | The Internet Inter-Orb Protocol (IIOP) listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 10. If `portRangePrefix` is set to 100, the IIOP listener port is 10010. |
| `iiopsslListenerPort` | The SSL-enabled Internet Inter-Orb Protocol (IIOP) listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 15. If `portRangePrefix` is set to 100, the secure IIOP listener port is 10015. |
| `iiopsslmutualauthPort` | The SSL-enabled Internet Inter-Orb Protocol (IIOP) listener port for mutual authorization, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 20. If `portRangePrefix` is set to 100, the mutual authorization secure IIOP listener port is 10020. |

| | |
|---|---|
| `jmsConnectorPort` | The port on which the Java Messaging Service (JMS) connector listens. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 25. If `portRangePrefix` is set to 100, the JMS connector port is 10025. |
| `clusterName` | The name of the cluster to which this server instance belongs. If no cluster is specified the server instance is a standalone server. By default no cluster is specified. |

- To use variable components from another component, click Import Set.

  For more information about importing variable sets, see "How to Run a Plan" in *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*.

5. **Select the target host.**

   Install the server instance on the Remote Agent.

6. **Deselect the `Target Host Set` checkbox.**

7. **If you want to run a detailed check (preflight) before installing, select `Perform Detailed Preflight`.**

8. **Click the Run Plan (includes preflight) button.**

## ▼ How To Create a Sun Java Enterprise System Application Server Cluster

A cluster appears to clients as a single Application Server instance. The server instances that constitute a cluster can run on the same machine, or can be located on different machines. Each cluster member in a cluster must run the same version of Application Server.

A cluster provides:

- Increase application availability with the server's failover capabilities.
- Increase throughput by scaling applications across multiple servers.

**Before You Begin** Before you create a cluster, you must create an Application Server domain and an Domain Administration Server.

To create a cluster, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 clusters click `Manage`.**
3. **Under Component Procedures click the `Run` action next to `default: install`.**
4. **In the Plan Parameters area, select the variable settings for the cluster you want to install.**
   - If the variable settings have been established for this component, select the appropriate settings from the menu.
   - If the settings are not available from the menu, click `Select From List`.

     The Select Variable Settings From List window displays.
     - To create a new set of variable settings, select `Create Set`.

       The following list provides commonly-updated variables for the `Install` component.

| | |
|---|---|
| variable set name | Required. A name for the new variable set you create. |
| `installIdentifier` | A unique ID to associate a Cluster with an Install Component. |
| `domainName` | The domain name in which this cluster will be located |
| `targetName` | The name of the cluster. |
| `portRangePrefix` | The HTTP port range prefix. For example, a value of 100 means the HTTP port range begin with 10000. The default value is 100. |
| `httpListenerPort` | The HTTP listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 00. If `portRangePrefix` is set to 100, the HTTP listener port is 10000. |
| `httpsListenerPort` | The HTTPS listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The |

| | |
|---|---|
| | default is `portRangePrefix` plus 05. If `portRangePrefix` is set to 100, the HTTPS listener port is 10005. |
| `iiopListenerPort` | The Internet Inter-Orb Protocol (IIOP) listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 10. If `portRangePrefix` is set to 100, the IIOP listener port is 10010. |
| `iiopsslListenerPort` | The SSL-enabled Internet Inter-Orb Protocol (IIOP) listener port, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 15. If `portRangePrefix` is set to 100, the secure IIOP listener port is 10015. |
| `iiopsslmutualauthPort` | The SSL-enabled Internet Inter-Orb Protocol (IIOP) listener port for mutual authorization, used with `portRangePrefix`. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 20. If `portRangePrefix` is set to 100, the mutual authorization secure IIOP listener port is 10020. |
| `jmsConnectorPort` | The port on which the Java Messaging Service (JMS) connector listens. The valid range is 1–65553. For port numbers 1–1024, superuser permissions are required. The default is `portRangePrefix` plus 25. If `portRangePrefix` is set to 100, the JMS connector port is 10025. |
| `httpLoadBalancer` | If true, applications deployed to this cluster will be load balanced. The default is false. |
| `httpsLoadBalancer` | If true, applications responding to HTTPS requests will be load balanced. This variable has no effect if `httpLoadBalancer` is false. The default is false. |

| | |
|---|---|
| `routeCookie` | If true, the load balancer will route cookies. This variable has no effect if `httpLoadBalancer` is false. The default is false. |

- To use variable components from another component, click Import Set.

  For more information about importing variable sets, see "How to Run a Plan" in *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*.

5. **Select the target host.**

   Install the cluster on the Remote Agent.

6. **Deselect the `Target Host Set` checkbox.**

7. **If you want to run a detailed check (preflight) before installing, select `Perform Detailed Preflight`.**

8. **Click the Run Plan (includes preflight) button.**

### ▼ How to Uninstall the Sun Java Enterprise System Application Server Software

**Steps**

1. **Click the AppServer 8.1 link under the Common Tasks section of the left control panel.**
2. **Click the SJSAS 8.1 Install Management: Install or Uninstall link.**
3. **Click the Run action next to uninstall: uninstallAppServer.**

# Managing Sun Java Enterprise System Application Server Instances and Clusters

This section describes how to maintain Sun Java Enterprise System Application Server managed server instances and clusters.

# Managing Sun Java Enterprise System Application Server Domains and Domain Administration Servers

## ▼ How to Remove a Sun Java Enterprise System Application Server Domain and Domain Administration Server

By removing an Application Server domain through the provisioning system, you automatically perform the following tasks:

- Uninstall the Domain Administration Server.
- Uninstall all Managed Servers components in the domain.
- Uninstall all cluster components in the domain.
- Remove application components and applications.

**Before You Begin**

To remove an Application Server domain, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to run the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 domains click `Manage`.**
3. **Under Component Procedures click the `Run` action next to `uninstall: default`.**
4. **Under Current Installations, select the domains that you would like to remove.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

## ▼ How to Start a Complete Domain

Starting a complete domain starts the domain's Domain Administration Server if it is not currently running, all clusters in the domain, and all managed server instances in the domain.

**Before You Begin**

To start an Application Server domain, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to run the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 domains, click `Manage`.**
3. **Under Component Procedures, click the `Run` action next to `default: startCompleteDomain`.**
4. **Under Current Installations, select the domain that you would like to start.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

## ▼ How to Stop a Complete Domain

Stopping a completed domain stops all running clusters and all running managed server instances for a particular domain.

**Before You Begin**

To stop an Application Server domain, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to run the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 domains click `Manage`.**
3. **Under Component Procedures click the `Run` action next to `default: stopCompleteDomain`.**
4. **Under Current Installations, select the domain that you would like to stop.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

## ▼ How to Start a Domain Administration Server

**Before You Begin**

To start an Application Server Domain Administration Server, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to run the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 domains click `Manage`.**
3. **Under Component Procedures click the `Run` action next to `startDomainServer`.**
4. **Under Current Installations, select the domains that you would like to start.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

## ▼ How to Stop a Domain Administration Server

**Before You Begin**

To stop an Application Server Domain Administration Server, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to run the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 domains click `Manage`.**
3. **Under Component Procedures click the `Run` action next to `stopDomainServer`.**
4. **Under Current Installations, select the domains that you would like to stop.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

## ▼ How to Verify a Domain Administration Server is Running

You can verify that a Domain Administration Server is running on a particular installation.

**Before You Begin**

To verify a Domain Administration Server is running, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to run the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 domains click `Manage`.**
3. **Under Component Procedures, click the `Run` action next to `verifyDomainServerRunning`.**
4. **Under Current Installations, select the domains that you would like to verify.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

# Managing Sun Java Enterprise System Application Server Clusters

## ▼ How to Remove a Sun Java Enterprise System Application Server Cluster

When you remove a cluster, all cluster members associated with that cluster are also removed.

**Before You Begin**

To remove a cluster, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 clusters click `Manage`.**
3. **Under Component Procedures, click the `Run` action next to `uninstall: default`.**
4. **Under Current Installations, select the clusters that you would like to remove.**
5. **Click the Run Selected Installations button.**

6. **Click the Run Plan (Includes Preflight) button.**

## ▼ How to Start a Sun Java Enterprise System Application Server Cluster

**Before You Begin**

To start a cluster, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 clusters click `Manage`.**
3. **Under Component Procedures, click the `Run` action next to `start`.**
4. **Under Current Installations, select the clusters that you would like to start.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

## ▼ How to Stop a Sun Java Enterprise System Application Server Cluster

**Before You Begin**

To stop a cluster, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 clusters click `Manage`.**
3. **Under Component Procedures, click the `Run` action next to `stop`.**
4. **Under Current Installations, select the clusters that you would like to stop.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

### ▼ How to Verify a Sun Java Enterprise System Application Server Cluster is Running

**Before You Begin** To verify a cluster, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 clusters click `Manage`.**
3. **Under Component Procedures, click the `Run` action next to `verifyClusterRunning`.**
4. **Under Current Installations, select the clusters that you would like to verify.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

## Managing Sun Java Enterprise System Application Server Instances

### ▼ How to Remove a Sun Java Enterprise System Application Server Instance

**Before You Begin** To remove a server instance you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 Managed Server Instances click `Manage`.**
3. **Under Component Procedures, click the `Run` action next to `uninstall: default`.**
4. **Under Current Installations, select the server instances that you would like to remove.**

5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

## ▼ How to Start a Sun Java Enterprise System Application Server Instance

**Before You Begin**

To start a server instance, you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 Managed Server Instances click `Manage`.**
3. **Under Component Procedures, click the `Run` action next to `start`.**
4. **Under Current Installations, select the server instances that you would like to start.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

## ▼ How to Stop a Sun Java Enterprise System Application Server Instance

**Before You Begin**

To stop a server instance you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 Managed Server Instances click `Manage`.**
3. **Under Component Procedures, click the `Run` action next to `stop`.**
4. **Under Current Installations, select the server instances that you would like to stop.**
5. **Click the Run Selected Installations button.**

6. **Click the Run Plan (Includes Preflight) button.**

### ▼ How to Verify a Sun Java Enterprise System Application Server Instance is Running

**Before You Begin**

To verify a server instance is running you must belong to a user group that has the Run Component Procedures permission on the folder that contains the component. You must also have the Allow on Host Set permission for the host set on which you plan to deploy the component.

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS 8.1 AppServer infrastructure→SJSAS 8.1 Managed Server Instances click `Manage`.**
3. **Under Component Procedures, click the `Run` action next to `verifyServerRunning`.**
4. **Under Current Installations, select the server instance that you would like to verify.**
5. **Click the Run Selected Installations button.**
6. **Click the Run Plan (Includes Preflight) button.**

## Capturing and Installing Sun Java Enterprise System Application Server Applications

This section describes how to manage Sun Java Enterprise System Application Server applications.

### ▼ How to Capture a Sun Java Enterprise System Application Server Enterprise Application

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**

2. **Under SJSAS Application Tasks→Enterprise Applications (EARs) click `Create New`.**
3. **Enter a component directory for this component. The `com/sun/sjsas81` namespace is not valid.**
4. **Enter a label for this component.**
5. **Enter a description for this component.**
6. **Enter the host where the EAR file is located.**
   To select the host from a list, click `Select From List`.
7. **Navigate to the location of the EAR.**
   a. **If you know the path to the EAR, enter it in `com.sun.sjsas81#EntappCT path`.**
   b. **To browse the selected host, select the directory and click `Open Highlighted Item`.**
8. **Select the EAR and click `Open Highlighted Item`.**
9. **Click `Check In Selected Item`.**
10. **Confirm the information on the check-in page, then click `Continue to Check-in`.**

## ▼ How to Install a Sun Java Enterprise System Application Server Enterprise Application

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS Application Tasks→Enterprise Applications (EARs) click `View All`.**
3. **Click the name of the EAR you want to install.**
4. **Under Component Procedures click the `Run` action next to `default: install`.**
5. **In the Plan Parameters area, select the variable settings for the EAR you want to install.**
   - If the variable settings have been established for this component, select the appropriate settings from the menu.
   - If the settings are not available from the menu, click `Select From List`.

The Select Variable Settings From List window displays.

- To create a new set of variable settings, select `Create Set`.

  The following list provides commonly-updated variables for the `Install` component.

  variable set name — Required. A name for the new variable set you create.

  `installIdentifier` — A unique ID to associate the EAR with an `Install` component.

  `domainName` — The domain name in which this EAR will be installed

  `targetName` — The cluster name or server instance where the EAR will be deployed.

- To use variable components from another component, click Import Set.

  For more information about importing variable sets, see "How to Run a Plan" in *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*.

6. **Select the target host.**
7. **Deselect the `Target Host Set` checkbox.**
8. **If you want to run a detailed check (preflight) before installing, select `Perform Detailed Preflight`.**
9. **Click the Run Plan (includes preflight) button.**

## ▼ How to Uninstall a Sun Java Enterprise System Application Server Enterprise Application

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS Application Tasks→Enterprise Applications (EARs) click `View All`.**
3. **Click the name of the EAR you want to uninstall.**
4. **Under Component Procedures click the `Run` action next to `default: uninstall`.**
5. **Select the installation from which you want the EAR removed.**
6. **Click the Run Selected Installations button.**
7. **Click the Run Plan (includes preflight) button.**

## ▼ How to Capture a Sun Java Enterprise System Application Server Web Application

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS Application Tasks→Web Applications (WARs) click `Create New`.**
3. **Enter a component directory for this component. The `com/sun/sjsas81` namespace is not valid.**
4. **Enter a label for this component.**
5. **Enter a description for this component.**
6. **Enter the host where the WAR file is located.**
   To select the host from a list, click `Select From List`.
7. **Navigate to the location of the WAR.**
   a. **If you know the path to the WAR, enter it in `com.sun.sjsas81#WebappCT` path.**
   b. **To browse the selected host, select the directory and click `Open Highlighted Item`.**
8. **Select the WAR and click `Open Highlighted Item`.**
9. **Click `Check In Selected Item`.**
10. **Confirm the information on the check-in page, then click `Continue to Check-in`.**

## ▼ How to Install a Sun Java Enterprise System Application Server Web Application

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS Application Tasks→Web Applications (WARs) click `View All`.**
3. **Click the name of the WAR you want to install.**
4. **Under Component Procedures click the `Run` action next to `default: install`.**
5. **In the Plan Parameters area, select the variable settings for the WAR you want to install.**

- If the variable settings have been established for this component, select the appropriate settings from the menu.
- If the settings are not available from the menu, click `Select From List`.

  The Select Variable Settings From List window displays.

  - To create a new set of variable settings, select `Create Set`.

    The following list provides commonly-updated variables for the `Install` component.

    variable set name — Required. A name for the new variable set you create.

    `installIdentifier` — A unique ID to associate the WAR with an `Install` component.

    `domainName` — The domain name in which this WAR will be installed

    `targetName` — The cluster name or server instance where the WAR will be deployed.
  - To use variable components from another component, click Import Set.

    For more information about importing variable sets, see "How to Run a Plan" in *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*.

6. **Select the target host.**
7. **Deselect the `Target Host Set` checkbox.**
8. **Under Plan Variables set the context root of the web application.**
9. **If you want to run a detailed check (preflight) before installing, select `Perform Detailed Preflight`.**
10. **Click the Run Plan (includes preflight) button.**

## ▼ How to Uninstall a Sun Java Enterprise System Application Server Web Application

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS Application Tasks→Web Applications (WARs) click `View All`.**
3. **Click the name of the WAR you want to uninstall.**
4. **Under Component Procedures click the `Run` action next to `default: uninstall`.**

5. **Select the installation from which you want the WAR removed.**
6. **Click the Run Selected Installations button.**
7. **Click the Run Plan (includes preflight) button.**

# Managing Sun Java Enterprise System Application Server Resources

This section describes how to manage Sun Java Enterprise System Application Server resources: JMS resources, JDBC resources, and thread pools.

## Managing Java Messaging Service (JMS) Resources

### ▼ How to Install a JMS Resource on a Host

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 JMS Resource click `Manage JMS Resources`.**
3. **Under Component Procedures click the `Run` action next to `default: install`.**
4. **In the Plan Parameters area, select the variable settings for the JMS Resource you want to install.**
   - If the variable settings have been established for this component, select the appropriate settings from the menu.
   - If the settings are not available from the menu, click `Select From List`.

     The Select Variable Settings From List window displays.
     - To create a new set of variable settings, select `Create Set`.

       The following list provides commonly-updated variables for the `Install` component.

       variable set name — Required. A name for the new variable set you create.

       `installIdentifier` — A unique ID to associate the JMS Resource with an `Install` component.

| | |
|---|---|
| `domainName` | The domain name in which this JMS Resource will be located |

- To use variable components from another component, click Import Set.

  For more information about importing variable sets, see "How to Run a Plan" in *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*.

5. **Select the target host.**
6. **Deselect the `Target Host Set` checkbox.**
7. **If you want to run a detailed check (preflight) before installing, select `Perform Detailed Preflight`.**
8. **Click the Run Plan (includes preflight) button.**

## ▼ How to Create a JMS Resource

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 JMS Resource click `Manage JMS Resources`.**
3. **Under Component Procedures click the `Run` action next to `createJMSResource`.**
4. **Select the installation on which you want to create the JMS resource.**
5. **Under Plan Variables:**
   a. **Select the resource type. It can be one of:**
      - `Topic`
      - `Queue`
      - `ConnectionFactory`
      - `TopicConnectionFactory`
      - `QueueConnectionFactory`

   b. **Enter the JNDI name for the resource.**
   c. **Enter the target cluster or server name where the resource will be created.**
   d. **(Optional) Enter a description of the resource.**
   e. **Enter any JMS properties, separated by colons (`:`).**
      Valid property names are:

- ClientId
- AddressList
- MessageServiceAddressList
- UserName
- Password
- ReconnectEnabled
- ReconnectAttempts
- ReconnectInterval
- AddressListBehavior
- AddressListIterations

6. **Click `Run Plan (includes preflight).`**

### ▼ How to Delete a JMS Resource

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 JMS Resource click `Manage JMS Resources`.**
3. **Under Component Procedures click the `Run` action next to `deleteJMSResource`.**
4. **Select the installation on which you want to delete the JMS resource.**
5. **Under Plan Variables:**
   a. **Enter the JNDI name of the resource you want to delete.**
   b. **Enter the target name of the resource you want to delete.**
6. **Click the Run Plan (includes preflight) button.**

## Managing Java Database Connectivity (JDBC) Resources

### ▼ How to Install a JDBC Resource on a Host

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**

2. **Under SJSAS AppServer Resources→SJSAS 8.1 JDBC Resource click `Manage JDBC Resources`.**

3. **Under Component Procedures click the `Run` action next to `default: install`.**

4. **In the Plan Parameters area, select the variable settings for the JDBC Resource you want to install.**

   - If the variable settings have been established for this component, select the appropriate settings from the menu.
   - If the settings are not available from the menu, click `Select From List`.

     The Select Variable Settings From List window displays.

     - To create a new set of variable settings, select `Create Set`.

       The following list provides commonly-updated variables for the `Install` component.

       | | |
       |---|---|
       | variable set name | Required. A name for the new variable set you create. |
       | `installIdentifier` | A unique ID to associate the JDBC Resource with an `Install` component. |
       | `domainName` | The domain name in which this JDBC Resource will be located |

     - To use variable components from another component, click Import Set.

       For more information about importing variable sets, see "How to Run a Plan" in *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*.

5. **Select the target host.**

6. **Deselect the `Target Host Set` checkbox.**

7. **If you want to run a detailed check (preflight) before installing, select `Perform Detailed Preflight`.**

8. **Click the Run Plan (includes preflight) button.**

## ▼ How to Create a JDBC Resource

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**

2. **Under SJSAS AppServer Resources→SJSAS 8.1 JDBC Resource click `Manage JDBC Resources`.**

3. **Under Component Procedures click the `Run` action next to `createJDBCResource`.**

4. **Select the installation on which you want to create the JDBC resource.**
5. **Under Plan Variables:**
   a. **Set the name of the Connection Pool.**
   b. **Enter the JNDI name for the resource.**
   c. **Enter the target cluster or server name where the resource will be created.**
   d. **(Optional) Enter a description of the resource.**
   e. **Enter any JDBC properties, separated by colons (`:`).**
6. **Click the Run Plan (includes preflight) button.**

## ▼ How to Delete a JDBC Resource

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 JDBC Resource click `Manage JDBC Resources`.**
3. **Under Component Procedures click the `Run` action next to `deleteJDBCResource`.**
4. **Select the installation on which you want to delete the JDBC resource.**
5. **Under Plan Variables:**
   a. **Enter the JNDI name of the resource you want to delete.**
   b. **Enter the target cluster or server instance name of the resource you want to delete.**
6. **Click the Run Plan (includes preflight) button.**

## ▼ How to List JDBC Resources

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 JDBC Resource click `Manage JDBC Resources`.**
3. **Under Component Procedures click the `Run` action next to `listJDBCResources`.**

4. **Select the installation on which you want to list the JDBC resources.**
5. **Under Plan Variables enter the target cluster or server instance name of the resource you want to delete.**
6. **Click the Run Plan (includes preflight) button.**

## ▼ How to Create a JDBC Connection Pool

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 JDBC Resource click `Manage JDBC Resources`.**
3. **Under Component Procedures click the `Run` action next to `createJDBCConnectionPool`.**
4. **Select the installation on which you want to create the connection pool.**
5. **Under Plan Variables:**
   a. **Set the name of the Connection Pool.**
   b. **(Optional) Enter a description of the connection pool.**
   c. **Enter the JDBC data source resource manager for your connection pool.**
   d. **Enter the interface the data source class implements.**
      Valid entries are:
      - `DataSource`
      - `ConnectionPoolDataSource`
      - `XADataSource`
   e. **Enter the minimum number of connections created by the pool.**
   f. **Enter the maximum number of connections maintained by the pool.**
   g. **Enter the number of connections to be removed when the time out timer expires.**
   h. **Enter the maximum number of seconds a connection can be idle in the pool.**
   i. **Enter the transaction isolation level for the connection pool.**
      Valid entries are:
      - `read-uncommitted`
      - `read-committed`

- `repeatable-read`
- `serialize`

If the entry is blank, the default isolation level of the JDBC driver is used.

j. **Specify whether the connections should be validated before being allocated to an application. Valid entries are `true` or `false`.**

k. **Enter any attribute name/value pairs for the JDBC driver.**

6. **Click the Run Plan (includes preflight) button.**

## ▼ How to Delete a JDBC Connection Pool

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 JDBC Resource click `Manage JDBC Resources`.**
3. **Under Component Procedures click the `Run` action next to `deleteJDBCConnectionPool`.**
4. **Select the installation on which you want to delete the JDBC resource.**
5. **Under Plan Variables:**
   a. **Enter the name of the connection pool you want to delete.**
   b. **Specify whether all connector resources associated with the connection pool should also be deleted. Valid entries are `true` or `false`.**
6. **Click the Run Plan (includes preflight) button.**

## ▼ How to List JDBC Connection Pools

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 JDBC Resource click `Manage JDBC Resources`.**
3. **Under Component Procedures click the `Run` action next to `listJDBCConnectionPools`.**
4. **Select the installation on which you want to list the JDBC resources.**
5. **Click the Run Plan (includes preflight) button.**

# Managing Thread Pool Resources

## ▼ How to Install a Thread Pool Resource on a Host

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 Threadpool Resource click `Manage Threadpool Resources`.**
3. **Under Component Procedures click the `Run` action next to `default: install`.**
4. **In the Plan Parameters area, select the variable settings for the Thread Pool Resource you want to install.**
   - If the variable settings have been established for this component, select the appropriate settings from the menu.
   - If the settings are not available from the menu, click `Select From List`.

     The Select Variable Settings From List window displays.
     - To create a new set of variable settings, select `Create Set`.

       The following list provides commonly-updated variables for the `Install` component.

       | | |
       |---|---|
       | variable set name | Required. A name for the new variable set you create. |
       | `installIdentifier` | A unique ID to associate the thread pool resource with an `Install` component. |
       | `domainName` | The domain name in which this thread pool resource will be located |

     - To use variable components from another component, click Import Set.

       For more information about importing variable sets, see "How to Run a Plan" in *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*.
5. **Select the target host.**
6. **Deselect the `Target Host Set` checkbox.**
7. **If you want to run a detailed check (preflight) before installing, select `Perform Detailed Preflight`.**
8. **Click the Run Plan (includes preflight) button.**

## ▼ How to Create a Thread Pool Resource

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 Threadpool Resource click Manage Threadpool Resources.**
3. **Under Component Procedures click the `Run` action next to `createThreadpool`.**
4. **Select the installation on which you want to create the connection pool.**
5. **Under Plan Variables:**
   a. **Enter the thread pool ID.**
   b. **Enter the maximum number of threads in the thread pool servicing requests.**
   c. **Enter the minimum number of threads in the thread pool servicing requests.**
   d. **Enter the idle time out value, in seconds, after which idle threads will be returned to the pool.**
   e. **Enter the total number of work queues serviced by the thread pool.**
   f. **Enter the cluster or server instance name on which the thread pool will be created.**
6. **Click the Run Plan (includes preflight) button.**

## ▼ How to Delete a Thread Pool Resource

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**
2. **Under SJSAS AppServer Resources→SJSAS 8.1 Threadpool Resource click `Manage Threadpool Resources`.**
3. **Under Component Procedures click the `Run` action next to `deleteThreadpool`.**
4. **Select the installation on which you want to delete the thread pool.**
5. **Click the Run Plan (includes preflight) button.**

## ▼ How to List Threadpools on a Target

**Steps**

1. **From the Common Tasks section in the browser interface, click AppServer 8.1.**

2. **Under SJSAS AppServer Resources→SJSAS 8.1 Threadpool Resource click `Manage Threadpool Resources`.**
3. **Under Component Procedures click the `Run` action next to `listThreadpools`.**
4. **Select the installation on which you want to list the thread pools.**
5. **Under Plan Variables enter the target cluster or server instance name on which you want to list the thread pools.**
6. **Click the Run Plan (includes preflight) button.**

# Troubleshooting

This section describes common problem you might encounter while using the Sun Java Enterprise System Application Server Plug-In.

## If You Encounter Errors When Running a Task

If you encounter an error when running a task, double check that you didn't make these common mistakes.

### Check Your Variable Names

When you create a variable set used by a plan, it is easy to enter the wrong variable value. For example, you might incorrectly enter a cluster name instead of a domain name.

### Unavailable Ports

When entering port ranges in a variable set, check to make sure the ports are available on the target host or host sets.

## Component Directory Namespace Problems When Installing Applications

The `com.sun.sjsas81` namespace is invalid for user-supplied applications. When you enter a component directory for an application, make sure you change the namespace, as `com.sun.sjsas81` is selected by default.

## Problems During Installation

If you encounter errors when trying to install plug-in components, make sure the `sourceImage` variable points to a directory containing a valid install image of Sun Java Enterprise System Application Server.

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