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Sun Java System Application Server 9.1 Administration Guide



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Automatically Restarting a Domain or Node Agent

If your domain or node agent is stopped unexpectedly (for example, if you need to restart your machine), you can configure your system to automatically restart the domain or node agent.

This Appendix contains the following topics:

- “Restarting Automatically on Solaris 10” on page 3
- “Restarting Automatically Using inittab on Solaris 9 and Linux Platforms” on page 5
- “Restarting Automatically on the Microsoft Windows Platform” on page 5
- “Security for Automatic Restarts” on page 7

Restarting Automatically on Solaris 10

Solaris 10 users can use the command `asadmin create-service` to create a service that restarts a node agent or Domain Administration Server (DAS). The service created uses the Solaris Service Management Facility (SMF).

The start process of a service depends on whether the service is to restart a DAS or a node agent.

- If the service is to restart a DAS, the process is `asadmin start-domain`.
- If the service is to restart a node agent, the process is `asadmin start-node-agent`.

Remark A-1 **Which user's privileges are granted to the start process of a service? The user as whom the process is started when the service runs? How is this user determined?**

The start process of a service is granted the privileges of the user account. If your process is to bind to a privileged port of the Solaris OS, the process requires the `net_privaddr` privilege. The privileged ports of the Solaris OS have a port numbers less than 1024.

To determine if a user has the `net_privaddr` privilege, log in as that user and type the command `ppriv -l | grep net_privaddr`.

To run the `asadmin create-service` command, you must have `solaris.smf.*` authorization. See the `useradd` and `usermod` man pages to find out how to set the authorizations. You must also have write permission in the directory tree:

`/var/svc/manifest/application/SUNWappserver`. Usually, the superuser has both these permissions. Additionally, the Solaris 10 administration commands such as `svccfg`, `svcs`, and `auths` must be available in the `PATH`. For complete information on running this command, see `create-service(1)`.

The syntax is as follows:

```
asadmin create-service [--name service-name] [--type das|node-agent]  
--passwordfile password-file [--serviceproperties serviceproperties]  
domain-or-node-agent-configuration-directory
```

For example, to create a service called `domain1` for `domain1`:

1. Run the following:

```
asadmin create-service --type das --passwordfile password.txt  
/appserver/domains/domain1
```

This creates a service to restart the domain `domain1` automatically. In the background, the command creates a manifest file from a template, validates the file, and imports it as a service.

Note – If a particular Application Server domain should not have default user privileges, modify the service's manifest and reimport the service.

2. Once the service is created, enable it using the `svcadm enable` command:

```
svcadm enable /appserver/domains/domain1
```

3. Once enabled, if the domain goes down, SMF restarts it.

As you administer your service, the following Solaris commands are useful:

- `auths`
- `smf_security`
- `svcadm`
- `svccfg`
- `rbac`
- `useradd`
- `usermod`

For more information on these commands, see the command manpages.

Restarting Automatically Using inittab on Solaris 9 and Linux Platforms

To restart your domain on the Solaris 9 or Linux platform, add a line of text to the `/etc/inittab` file.

If you use `/etc/rc.local`, or your system's equivalent, place a line in `/etc/rc.local` that calls the desired `asadmin` command.

For example, to restart `domain1` for an Application Server installed in the `opt/SUNWappserver` directory, using a password file called `password.txt`:

```
das:3:respawn:/opt/SUNWappserver/bin/asadmin start-domain --user admin
--passwordfile /opt/SUNWappserver/password.txt domain1
```

Put the text on one line. The first three letters are a unique designator for the process and can be altered.

To restart a node agent, the syntax is similar. For example, to restart `agent1` for an Application Server installed in the `opt/SUNWappserver` directory, using a password file called `password.txt`:

```
das:3:respawn:/opt/SUNWappserver/bin/asadmin start-node-agent --user admin
--passwordfile /opt/SUNWappserver/password.txt agent1
```

Restarting Automatically on the Microsoft Windows Platform

To restart automatically on Microsoft Windows, create a Windows Service and prevent the service from shutting down when a user logs out.

Creating a Windows Service

Use the `appservService.exe` and `appserverAgentService.exe` executable files shipped with the Sun Java System Application Server in conjunction with the Service Control command (`sc.exe`) provided by Microsoft.

The `sc.exe` command comes with Windows XP and is in the `system32` subdirectory of the Windows installation directory (usually either `C:\windows\system32` or `C:\winnt\system32`). As of this writing, the Windows 2000 `sc.exe` is available for download at <ftp://ftp.microsoft.com/reskit/win2000/sc.zip>. For more information on using `sc.exe`, see http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dndllpro/html/msdn_scmlite.asp.

Use `appservService.exe` and `appserverAgentService.exe` as follows:

```
C:\winnt\system32\sc.exe create service-name binPath= \"fully-qualified-path-to-appservService.exe  
\"fully-qualified-path-to-asadmin.bat start-command\"  
\"fully-qualified-path-to-asadmin.bat stop-command\"  
start= auto DisplayName= \"display-name\"
```

Note – There is no space between binpath and the equals sign (=). There must be a space after the equals sign and before the path.

For example, to create a service called SunJavaSystemAppServer DOMAIN1 that starts and stops the domain domain1, using a password file C:\Sun\AppServer\password.txt:

```
C:\windows\system32\sc.exe create domain1 binPath=  
\"C:\Sun\AppServer\lib\appservService.exe \"C:\Sun\AppServer\bin\asadmin.bat  
start-domain --user admin --passwordfile C:\Sun\AppServer\password.txt domain1\"  
\"C:\Sun\AppServer\bin\asadmin.bat stop-domain domain1\" start= auto  
DisplayName= \"SunJavaSystemAppServer DOMAIN1\"
```

To create a service that starts and stops the node agent agent1:

```
C:\windows\system32\sc.exe create agent1 binPath=  
\"C:\Sun\AppServer\lib\appservAgentService.exe \"C:\Sun\AppServer\bin\asadmin.bat  
start-node-agent --user admin --passwordfile C:\Sun\AppServer\password.txt agent1\"  
\"C:\Sun\AppServer\bin\asadmin.bat stop-node-agent agent1\" start= auto  
DisplayName= \"SunJavaSystemAppServer AGENT1\"
```

Note – The start and stop commands entered as part of the binPath= parameter must have the correct syntax. To test, run the commands from the command prompt. If the commands do not properly start or stop the domain or node agent, the service does not work correctly.

Note – Don't use a mixture of asadmin start and stop commands and service start and stops. Mixing the two can cause the server status to be out of sync. For example, the service might not show that the component has started even though the component is not running. To avoid this situation, always use the sc . exe command to start and stop the component when using services.

If your sc.exe create command did not properly create the service, delete the service and try again. To delete the service, use the sc . exe delete *"service-name"* command.

Preventing the Service From Shutting Down When a User Logs Out

By default, the Java VM catches signals from Windows that indicate that the operating system is shutting down, or that a user is logging out, and shuts itself down cleanly. This behavior causes the Application Server service to shut down when a user logs out of Windows. To prevent the service from shutting down when a user logs out, set the `-Xrs` Java VM option (<http://java.sun.com/j2se/1.3/docs/tooldocs/solaris/java.html#Xrs>).

To set the `-Xrs` Java VM option, add the following line to the section of the `as-install\domains\domain-name\config\domain.xml` file that defines Java VM options:

```
<jvm-options>-Xrs</jvm-options>
```

If the Application Server service is running, stop and restart the service for your changes to become effective.

Note – In some Windows 2003 Server installations, adding the `-Xrs` option to the `domain.xml` file fails to prevent the service from shutting down. In this situation, add the option to the `as-install\lib\processLauncher.xml` file as follows:

```
<process name="as-service-name">
  ...
  <sysproperty key="-Xrs"/>
  ...
</process>
```

Security for Automatic Restarts

If you are using the cluster or enterprise profile, the administration password and master password are required when automatically restarting Application Server. If you are using the Developer Profile, no

Handle the password and master password requirements for cluster and enterprise profiles in one of the following ways:

- On Microsoft Windows, configure the service to ask the user for the password.
 1. In the Services Control Panel, double-click the service you created.
 2. In the Properties window, click the Log On tab.
 3. Check “Allow service to interact with desktop” to prompt for the required passwords when starting the component.

You have to log in to see the prompts, and entries are not echoed back as you type them. This method is the most secure way to use the services option, but user interaction is required before the service becomes available.

If the “interact with desktop” option is not set, the service stays in a “start-pending” state and appears to hang. Kill the service process to recover from this state.

- On Windows or UNIX, create a domain using the `--savemasterpassword=true` option and create a password file to store the admin password. When starting the component, use the `--passwordfile` option to point to the file that contains the password.

For example:

1. Create domain with a saved master password. In this syntax, you are prompted for the administration password and master password:

```
asadmin create-domain --adminport 4848 --adminuser admin
--savemasterpassword=true --instanceport 8080 domain1
```

2. On Windows, create a service using a password file to populate the admin password:

```
C:\windows\system32\sc.exe create domain1 binPath=
"C:\Sun\AppServer\lib\appservService.exe \"C:\Sun\AppServer\bin\asadmin.bat
start-domain --user admin
--passwordfile C:\Sun\AppServer\password.txt domain1\"
\"C:\Sun\AppServer\bin\asadmin.bat stop-domain domain1\" start= auto
DisplayName= "SunJavaSystemAppServer DOMAIN1"
```

The path to the password file `password.txt` is `C:\Sun\AppServer\password.txt`. It contains the password in the following format

`AS_ADMIN_password=password`

For example, for a password `adminadmin`:

`AS_ADMIN_password=adminadmin`

3. On UNIX, use the `--passwordfile` option in the line you add to the `inittab` file:

```
das:3:respawn:/opt/SUNWappserver/bin/asadmin start-domain --user admin
--passwordfile /opt/SUNWappserver/password.txt domain1
```

The path to the password file `password.txt` is `/opt/SUNWappserver/password.txt`. It contains the password in the following format

`AS_ADMIN_password=password`

For example, for a password `adminadmin`:

`AS_ADMIN_password=adminadmin`