

- 4 **Since you are using a Hardware Token, you can delete the `keystore.jks` for the migrated domain.**
- 5 **Ensure the `token-alias` for the hardware token (private key) that you intend to use as the Server's Key for SSL is mentioned in every relevant place in the `domain.xml` for the domain.**  
For example, the `cert-nickname` attribute for the `<ssl/>` element under the `protocol` configuration.
- 6 **If the Hardware Token is to act as a TrustStore as well then remove the `cacerts.jks` file from the `as-install/domains/domain-name/config` directory.**

Ensure that the following two `jvm-options` are set in the `domain.xml` file:

```
<jvm-options>-Djavax.net.ssl.trustStore=NONE</jvm-options>
<jvm-options>-Djavax.net.ssl.trustStoreType=PKCS11</jvm-options>
```

## Upgrading Clusters and Node Agent Configurations

GlassFish Server 3.1 does not support node agents. When upgrading from a clustered configuration, the older cluster information is retained in a new `domain.xml` file in the GlassFish Server 3.1 installation directories. However, it is still necessary to manually recreate the server instances that are contained in the clusters.

As part of the upgrade process, node agents are transformed into GlassFish Server CONFIG nodes. If the configuration of the nodes is incompatible with your upgraded installation of GlassFish Server, you must correct the configuration after the upgrade.

### ▼ To Upgrade Clusters

This procedure explains how to upgrade clustered GlassFish Server and Enterprise Server configurations to GlassFish Server 3.1.

**Before You Begin** Before proceeding with these instructions, perform the standard upgrade to GlassFish Server 3.1, as described in [“Performing a Side-By-Side Upgrade With Upgrade Tool” on page 33](#).

Also note that GlassFish Server 3.1 does not support NSS authentication. If you are upgrading from a Enterprise Profile configuration that uses NSS authentication, follow the procedure in [“Upgrading Installations That Use NSS Cryptographic Tokens” on page 42](#) before proceeding with the instructions in this procedure.

- 1 **Verify that the DAS is running and the cluster definitions were correctly recreated during the upgrade process.**

```
rm -rf as-install/domains/domain1.original
as-install/bin/asadmin start-domain
as-install/bin/asadmin get-health cluster-name
```

If the upgrade worked correctly, the migrated clusters will exist, and the DAS will think that the clustered server instances also exist but are not running.

## 2 Recreate the clustered server instances.

It is possible to use the `asadmin export-sync-bundle` and `import-sync-bundle` subcommands, but it is often more reliable to simply recreate the instances using the `asadmin create-local-instance` subcommand.

For example:

```
asadmin> create-local-instance --node na1 --cluster cluster1 instance1
asadmin> create-local-instance --node na1 --cluster cluster1 instance2
```

## 3 After creating the instances, you must manually copy the `instance-dir/imq` directory for each instance from the older source installation to the target GlassFish Server 3.1 installation.

## 4 Start the cluster(s).

For example:

```
asadmin> start-cluster cluster1
```

## ▼ To Correct the Configuration of a Node After an Upgrade

As part of the upgrade process, node agents are transformed into GlassFish Server CONFIG nodes. The name of a node is the name of the node agent from which the node was transformed. The host that the node represents is obtained from the configuration of the original node agent or is set to `localhost` if not specified. Default values are applied to the remainder of the node's configuration data.

The default values of the following items in a node's configuration data might not match your upgraded installation of GlassFish Server:

- The parent of the base installation directory of the GlassFish Server software on the host, for example, `/export/glassfish3/`.

The default is the parent of the default base installation directory of the GlassFish Server software for the DAS. If the GlassFish Server software is installed under a different directory, you must update the node's configuration to specify the correct directory.

- The directory that contains the GlassFish Server instances that reside on the node.

The default is `as-install/nodes`, where `as-install` is the base installation directory of the GlassFish Server software on the host. If the instances are contained in a different directory, you must update the node's configuration to specify the correct directory.

If you are using secure shell (SSH) for centralized administration, you must also change the type of the node to SSH to enable the node for remote communication.

For more information about GlassFish Server nodes, see Chapter 3, “Administering GlassFish Server Nodes,” in *GlassFish Server Open Source Edition 3.1 High Availability Administration Guide*.

**Before You Begin** If you are changing the type of the node, ensure that SSH is configured on the host where the DAS is running and on the host that the node represents. For more information, see Chapter 2, “Setting Up SSH for Centralized Administration,” in *GlassFish Server Open Source Edition 3.1 High Availability Administration Guide*.

**1 Ensure that the DAS is running.**

Remote subcommands require a running server.

**2 Update the node's configuration data to specify the correct directories and, if necessary, change the type of the node.**

---

**Note** – Only the options that are required to complete this task are provided in this step. For information about all the options for changing the node's configuration data, see the `update-node-ssh(1)` help page or the `update-node-config(1)` help page.

---

```
asadmin> node-update-subcommand [--installdir install-dir] [--nodedir node-dir] node-name
node-update-subcommand
```

The subcommand to run to update the node.

- If you are leaving the type of the node unchanged, run the `update-node-config` subcommand on the node.
- If you are changing the type of the node, run the `update-node-ssh` subcommand on the node.

*install-dir*

The full path to the parent of the base installation directory of the GlassFish Server software on the host, for example, `/export/glassfish3/`.

*node-dir*

The path to the directory that contains GlassFish Server instances that reside on the node. If a relative path is specified, the path is relative to the *as-install* directory.

*node-name*

The name of the node to update. This name is the name of the node agent from which the node was transformed.

**Example 2–2 Correcting the Configuration of a Node After an Upgrade**

This example updates the path to the directory that contains instances that reside on the node `xk01` to `/export/glassfish3/glassfish/nodes`. The type of the node is not changed.

```
asadmin> update-node-config --nodedir /export/glassfish3/glassfish/nodes xk01
Command update-node-config executed successfully.
```

- See Also**
- Chapter 2, “Setting Up SSH for Centralized Administration,” in *GlassFish Server Open Source Edition 3.1 High Availability Administration Guide*
  - Chapter 3, “Administering GlassFish Server Nodes,” in *GlassFish Server Open Source Edition 3.1 High Availability Administration Guide*
  - `update-node-config(1)`
  - `update-node-ssh(1)`

## Correcting Potential Upgrade Problems

This section addresses the following issues that could occur during an upgrade to GlassFish Server 3.1:

### Cluster Profile Security Setting

When you upgrade a cluster domain from Application Server 9.1/GlassFish v2 to GlassFish Server 3.1, you could encounter problems because the security setting is incorrect for the `admin-service` whose `type` attribute is `das-and-server` in the target `domain.xml`. The solution is to edit the `domain.xml` file in the corresponding upgraded domain and correct the setting of the `security-enabled` attribute. Look for the following statements in the `domain.xml` file.

```
<admin-service system-jmx-connector-name="system" type="das-and-server">
<!-- The JSR 160 "system-jmx-connector"-->
<jmx-connector accept-all="false" address="0.0.0.0"
auth-realm-name="admin-realm" enabled=true" name="system" port="8686"
protocol="rmi_jrmp" security-enabled="true">
```

### Cluster Profile Upgrade on Windows

On Windows, when you upgrade cluster profile domains, you could encounter the following error:

```
Fatal error while backing up the domain directory
```

To resolve this error, look for and remove any hidden files in the source domain's directory and run Upgrade tool.