Configure Controlled Application Restart in ISE 3.3

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Introduction

This document describes how to configure the Controlled Application Restart for the Admin Certificate in ISE 3.3.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- ISE Nodes/Personas
- ISE Certificate Renewal/Edit/Creation

Components Used

The information in this document is based on these hardware and software versions:

- 2 Node Deployment
- Identity Service Engine (ISE) Software Version 3.3

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

In ISE, when the Admin certificate of the Primary Admin Node (PAN) is changed, all nodes in the deployment are reloaded. First the PAN and then the rest of the nodes, which causes a disruption in all services. When the Admin certificate is replaced in any other node, the only node that is restarted is that single node.

ISE 3.3 introduces a new feature that allows you to schedule when the nodes reload. This provides better control over the restart of each node, and helps to avoid disruption in all the services.

Configure

There are different options to change the Admin certificate of the PAN node such as:

- Create Certificate Signing Request (CSR) and assigning the Admin role.
- Import certificate, private key, and assigning the Admin role.
- Create self-signed certificate and assigning the Admin role.

This document describes the method using a CSR.

Create a Certificate Signing Request (CSR)

1. On ISE, navigate to **Administration > System > Certificates > Certificate Signing Requests**.

2. Click **Generate Certificate Signing Request (CSR)**.

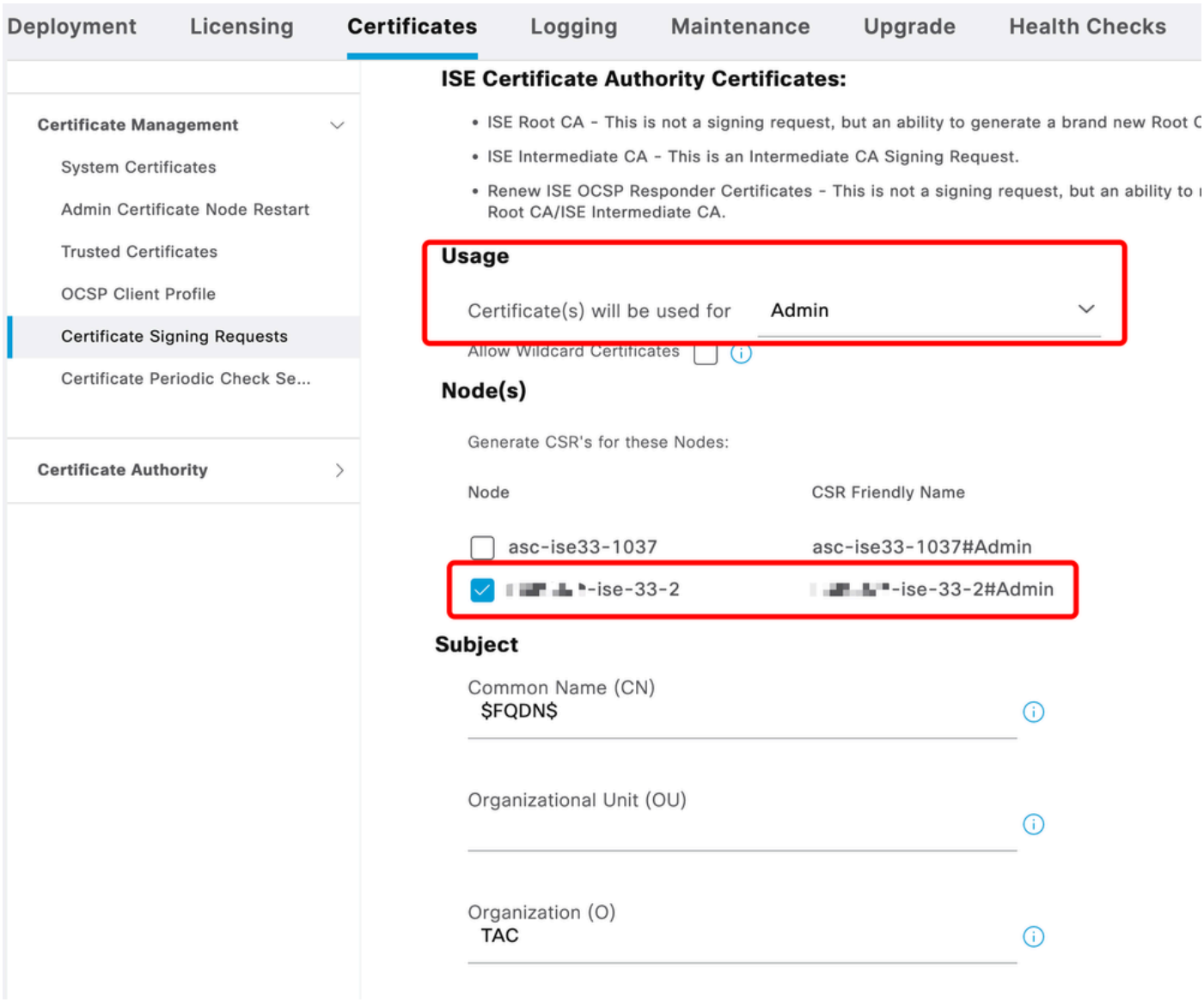
3. In **Usage**, select **Admin**.

4. In **Node(s)**, select the **Primary Admin** node.

5. Complete the certificate information.

6. Click **Generate**.

7, Export the file and sign it with a valid authority.



CSR Creation

Import the Root CA that Signed your CSR

1. On ISE, navigate to **Administration > System > Certificates > Trusted Certificates**.

2. Click **Import**.

3. Click **Choose File** and select the **Root CA Certificate**.

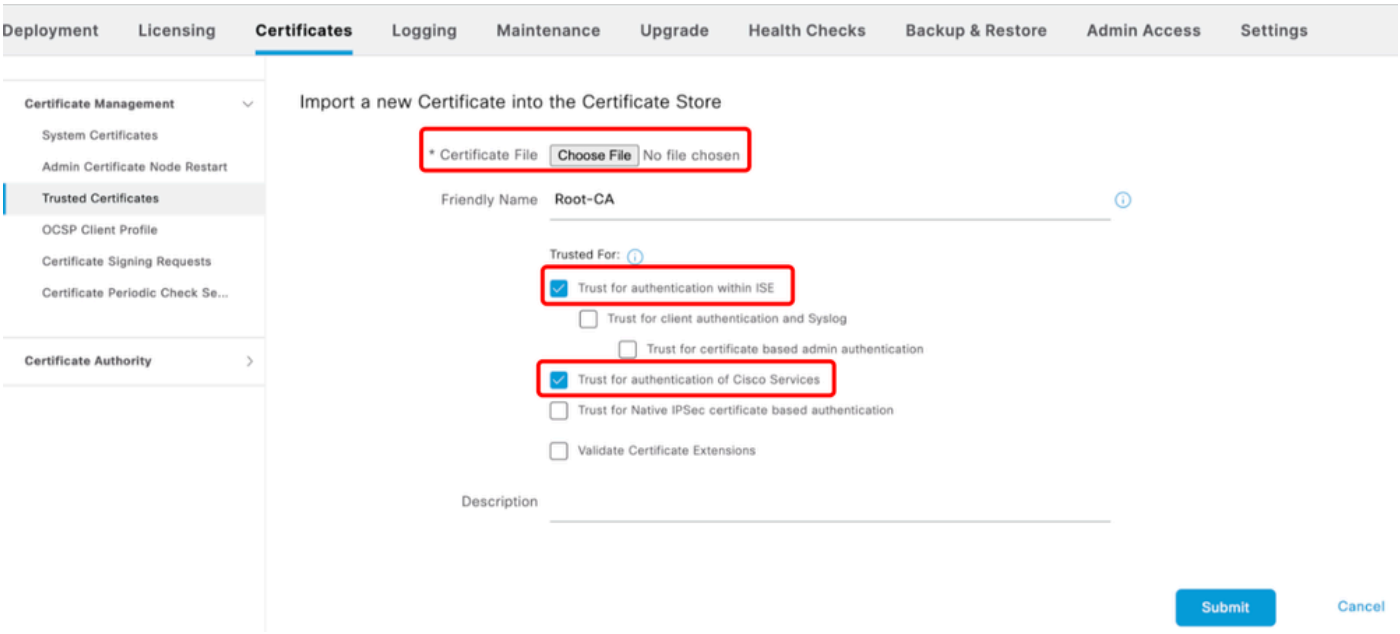
4. Write a **Friendly Name**.

5. Enable the checkboxes.

6. **Trust for Authentication within ISE**.

7. **Trust for Authentication of Cisco Services**.

8. Click **Submit**.



Import Root Certificate

Import the Signed CSR

1. On ISE, navigate to **Administration > System > Certificates > Certificate Signing Requests**.

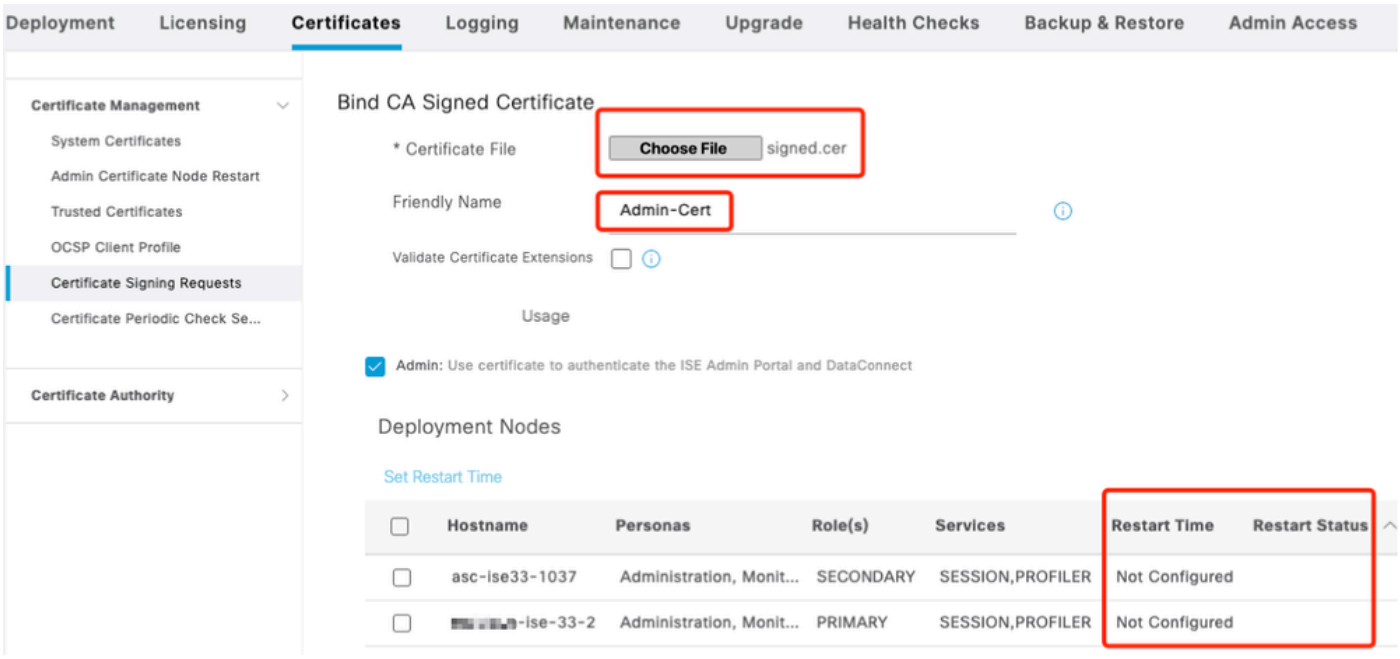
2. Select the CSR and click **Bind Certificate**.

3. Click **Choose File** and select the **Signed Certificate**.

4. Configure a **Friendly Name**.



Bind Certificate



Bind Certificate

Configure the Restart Time

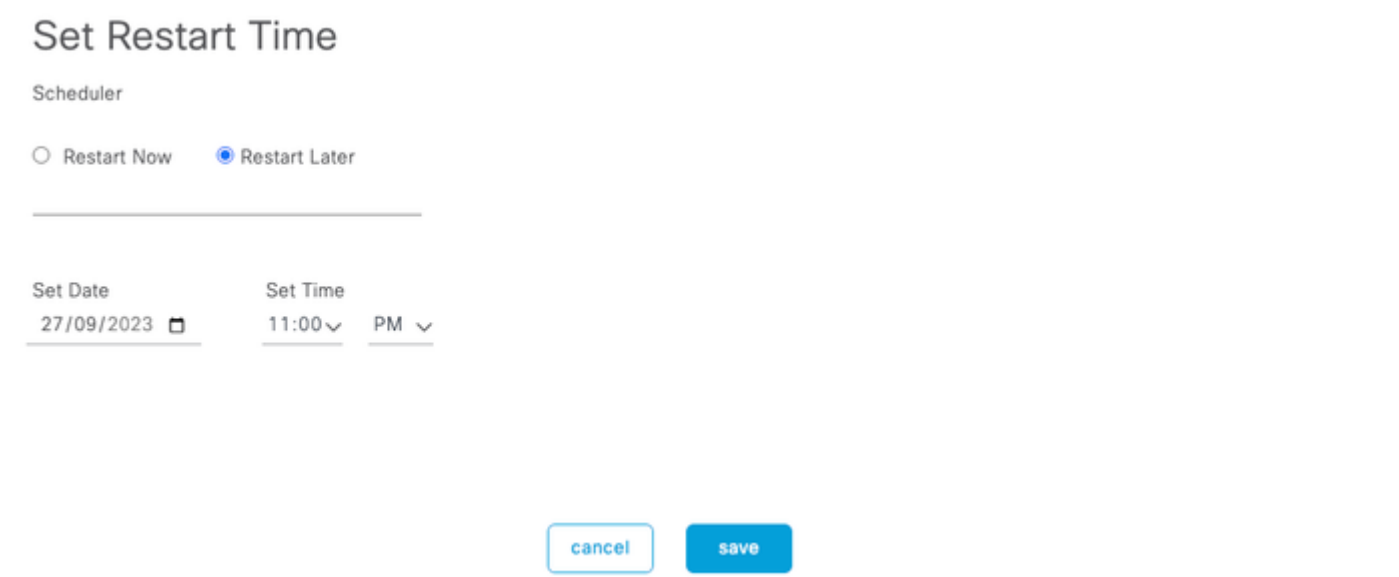
1. Now, you can see a new section and you can configure the restart process.

2. You configure a time per node or select both nodes and apply the same configuration.

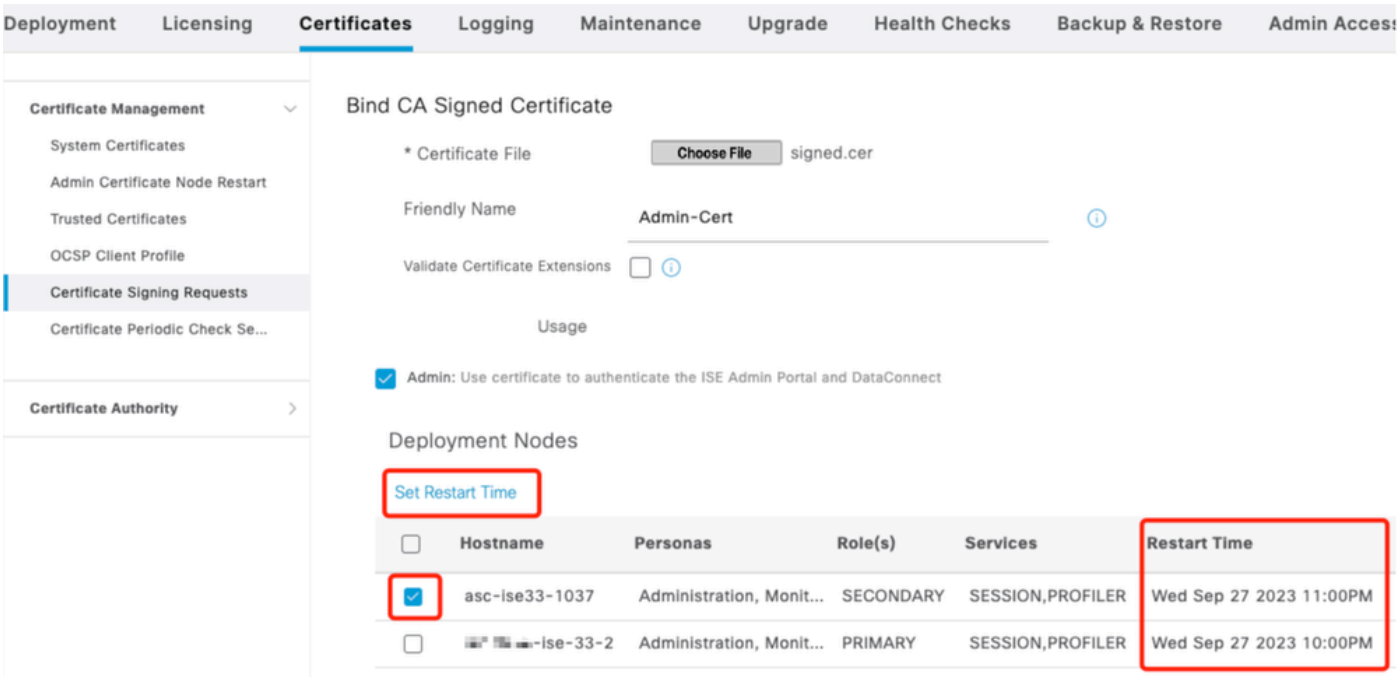
3. Choose **one node** and click **Set Restart Time**.

4. Choose the **date**, **time** and click **Save**.

5. Verify the time and if everything is correct, click **Submit**.



Set Restart Time

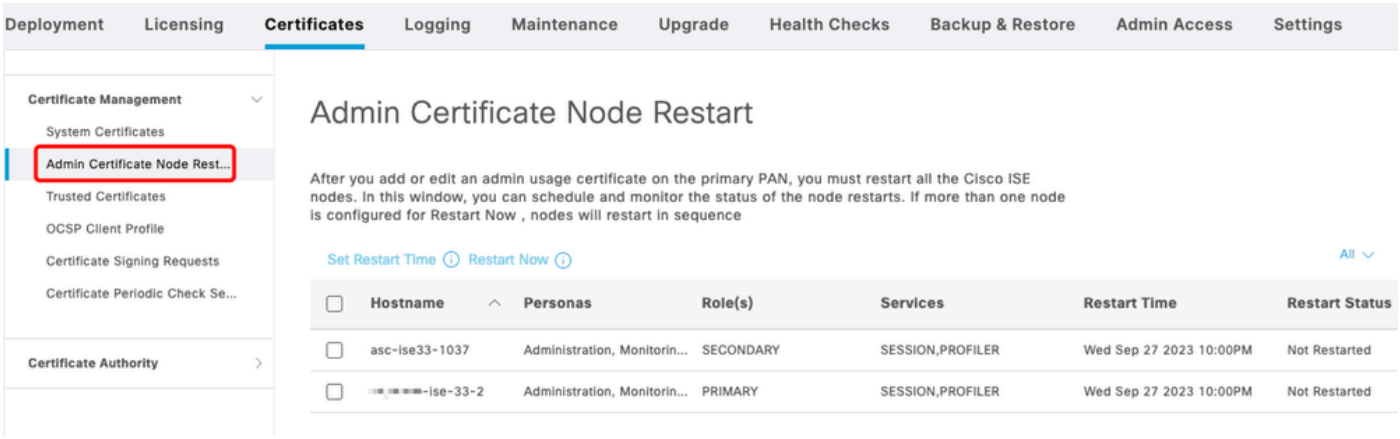


Confirm Restart Time

Verify

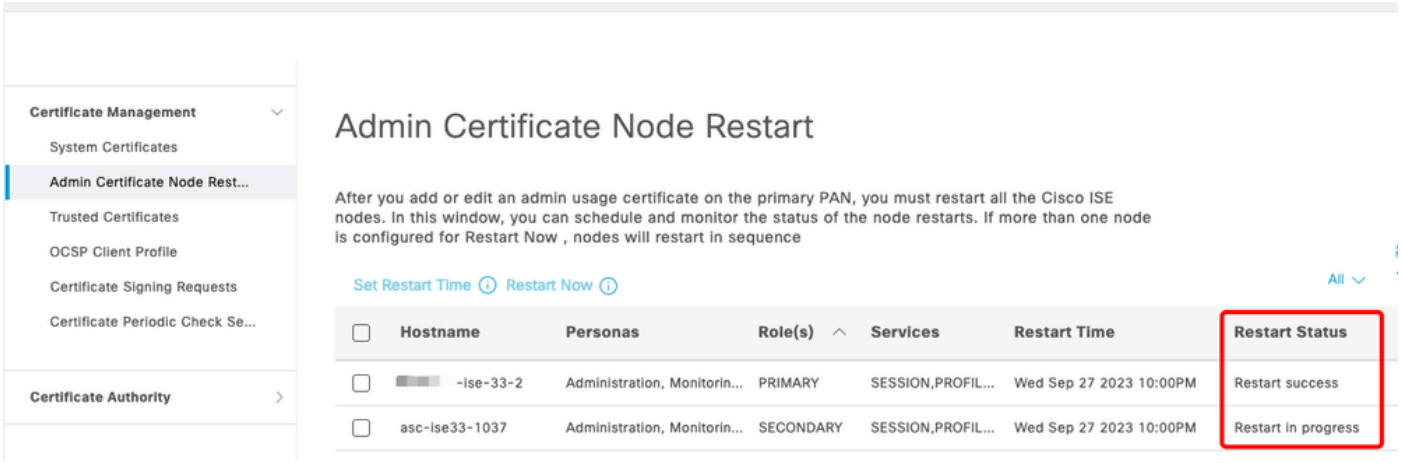
A new tab is available, navigate to **Administration > System > Certificates > Admin Certificate Node Restart**. You can validate the configuration and change it if needed.

To change it, click **Set Restart Time** or **Restart Now**.



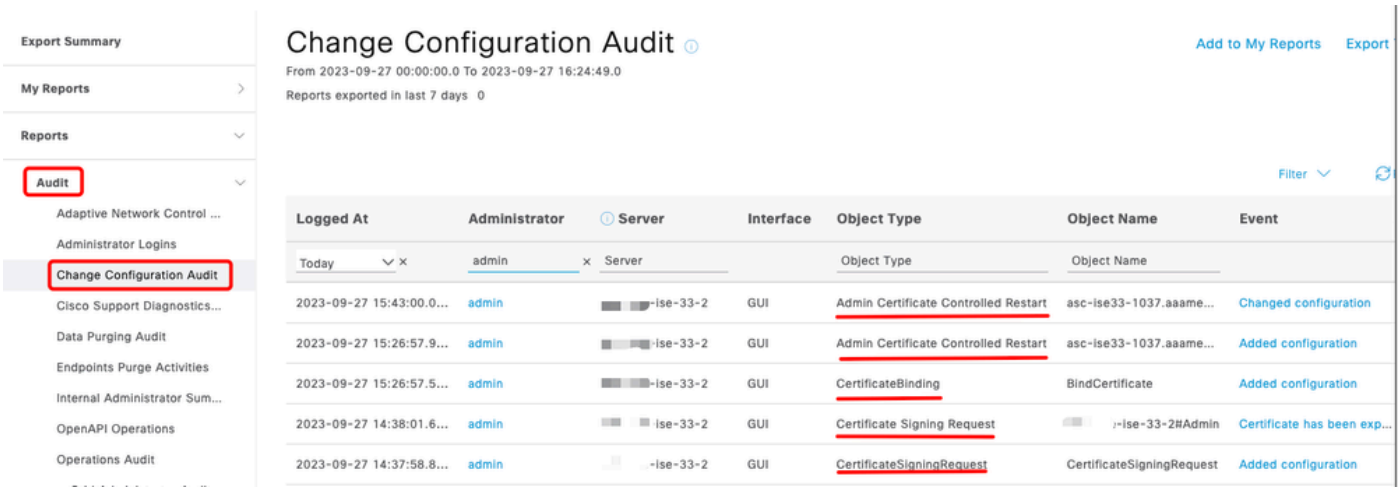
Verify Restart Status

You can validate the node status during the process. The next image is an example of when one node is reloaded and the other is in progress:



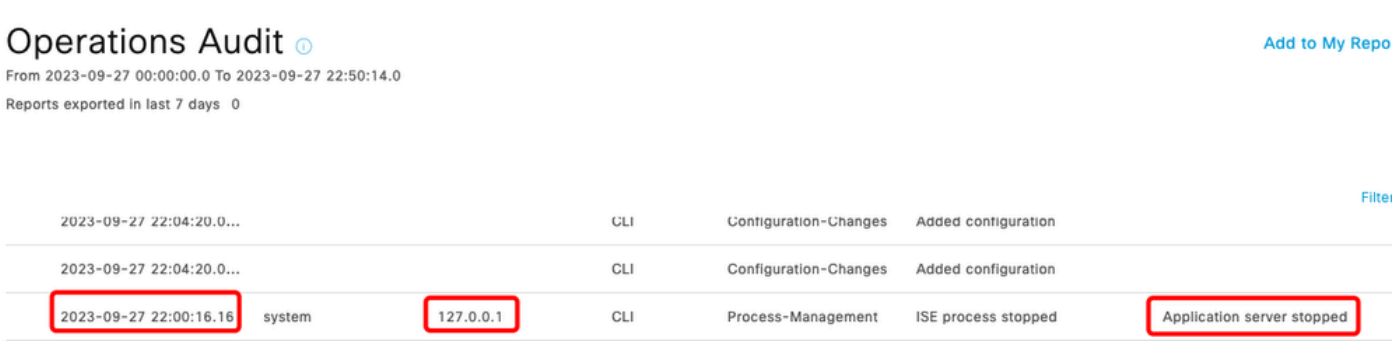
PAN Restarted

To verify the changes and reload with the reports and to review the configuration changes, navigate to **Operations > Reports > Reports > Audit > Change Configuration Audit**.



Configuration Report

To check the restart, navigate to **Operations > Reports > Reports > Audit > Operations Audit**.



Restart Report

Sample logs from ***-ise-33-2, ise-psc.log:

<#root>

Configuration applied:

```
2023-09-27 15:26:12,109 INFO  [DefaultQuartzScheduler_Worker-6][[]] admin.caservice.certmgmt.scheduler.
Restart is Not configured , Hence skipping restart status check for asc-ise33-1037
2023-09-27 15:26:57,775 INFO  [admin-http-pool6][[]] cpm.admin.infra.action.RestartAction -::admin:::-
adminCertRestartData  received --{"items":[{"hostName":"asc-ise33-1037","restartTime":"2023-09-27:10:00
{"hostName":"***-ise-33-2","restartTime":"2023-09-27:10:00PM"}]}
```

Restart starts:

```
2023-09-27 21:59:11,952 INFO  [DefaultQuartzScheduler_Worker-6][[]] admin.caservice.certmgmt.scheduler.
```

```
Executing AdminCertControlledRestartStatusJob [AdminCertControlledRestart[id=4af7d9c4-31d9-48e0-83dc-19
noderestartconfig=2023-09-27:10:00PM,noderestartstatus=Not Restarted,details=Not Restarted,maxdate=Thu
AdminCertControlledRestart[id=38b811df-03b5-4a64-87b6-363290b6b4ce,hostname=asc-ise33-1037,noderestartc
noderestartstatus=Not Restarted,details=Not Restarted,maxdate=Thu Oct 12 2023 14:43:01 GMT-0600 (hora e
2023-09-27 21:59:12,113 INFO  [DefaultQuartzScheduler_Worker-6][[]] admin.caservice.certmgmt.scheduler.
Restart configured , proceeding to trackRestartStatus for ***-ise-33-2
2023-09-27 21:59:12,113 INFO  [DefaultQuartzScheduler_Worker-6][[]] admin.caservice.certmgmt.scheduler.
Restart configured , proceeding to trackRestartStatus for asc-ise33-1037
2023-09-27 22:00:00,003 INFO  [DefaultQuartzScheduler_Worker-3][[]] admin.caservice.certmgmt.scheduler.
Executing AdminCertControlledRestartSchedulerJob
2023-09-27 22:00:00,022 INFO  [DefaultQuartzScheduler_Worker-3][[]] admin.caservice.certmgmt.scheduler.
Executing AdminCertControlledRestartSchedulerJob [AdminCertControlledRestart[id=4af7d9c4-31d9-48e0-83dc
noderestartconfig=2023-09-27:10:00PM,noderestartstatus=Not Restarted,details=Not Restarted,maxdate=Thu
AdminCertControlledRestart[id=38b811df-03b5-4a64-87b6-363290b6b4ce,hostname=asc-ise33-1037,noderestartc
noderestartstatus=Not Restarted,details=Not Restarted,maxdate=Thu Oct 12 2023 14:43:01 GMT-0600 (hora e
2023-09-27 22:00:00,288 INFO  [DefaultQuartzScheduler_Worker-3][[]] admin.caservice.certmgmt.scheduler.
Restart failed or not restarted yet , hence preparing restart for ***-ise-33-2
2023-09-27 22:00:00,288 INFO  [DefaultQuartzScheduler_Worker-3][[]] admin.caservice.certmgmt.scheduler.
Configured Date is now , hence proceeding for restart ,  for ***-ise-33-2
023-09-27 22:00:00,288 INFO  [DefaultQuartzScheduler_Worker-3][[]] cpm.infrastructure.certmgmt.api.Admi
updateRestartStatus updating restarted status
2023-09-27 22:00:00,288 INFO  [DefaultQuartzScheduler_Worker-3][[]] cpm.infrastructure.certmgmt.api.Adm
Updating the data for node: ***-ise-33-2
2023-09-27 22:00:00,313 INFO  [DefaultQuartzScheduler_Worker-3][[]] admin.caservice.certmgmt.scheduler.
Restart failed or not restarted yet , hence preparing restart for asc-ise33-1037
2023-09-27 22:00:00,313 INFO  [DefaultQuartzScheduler_Worker-3][[]] admin.caservice.certmgmt.scheduler.
Configured Date is now , hence proceeding for restart ,  forasc-ise33-1037
2023-09-27 22:00:00,324 INFO  [DefaultQuartzScheduler_Worker-3][[]] admin.caservice.certmgmt.scheduler.
restartNowList : ***-ise-33-2.aaamexrub.com,asc-ise33-1037.aaamexrub.com
```

Sample logs from ***-ise-33-2, restartutil.log:

```
[main] Wed Sep 27 22:00:09 EST 2023:------------------------------------------------------------------
[main] Wed Sep 27 22:00:09 EST 2023:RestartUtil: BEGIN - Restart called with args apponly:1377:***-ise-
[main] Wed Sep 27 22:00:09 EST 2023:------------------------------------------------------------------
[main] Wed Sep 27 22:00:14 EST 2023:RestartUtil: Restarting Local node
[main] Wed Sep 27 22:00:14 EST 2023:[/usr/bin/sudo, /opt/CSCOcpm/bin/cpmcontrol.sh, restart_appserver_e
[main] Wed Sep 27 22:27:13 EST 2023:RestartUtil: Restarted local node and waiting for it to come up...
[main] Wed Sep 27 22:37:47 EST 2023:RestartUtil: Restart success for  local node .
[main] Wed Sep 27 22:37:48 EST 2023:RestartUtil: Restarting node asc-ise33-1037.aaamexrub.com
[main] Wed Sep 27 22:37:54 EST 2023:RestartUtil: statusLine>>>HTTP/1.1 200
[main] Wed Sep 27 22:37:54 EST 2023:RestartUtil: Waiting for node asc-ise33-1037.aaamexrub.com to come
[main] Wed Sep 27 22:52:43 EST 2023:RestartUtil: Restart successful on node: asc-ise33-1037.aaamexrub.c
[main] Wed Sep 27 22:52:43 EST 2023:RestartUtil: cred file deleted
[main] Wed Sep 27 22:52:43 EST 2023:------------------------------------------------------------------
[main] Wed Sep 27 22:52:43 EST 2023:RestartUtil:END-  Restart called with args apponly:1377:***-ise-33-
[main] Wed Sep 27 22:52:43 EST 2023:------------------------------------------------------------------
[main] Wed Sep 27 23:00:10 EST 2023: Usage RestartUtil local||remote  apponly|full
```

Sample logs from asc-ise33-1037, restartutil.log:

```
main] Wed Sep 27 19:00:10 UTC 2023: Usage RestartUtil local||remote  apponly|full
[main] Thu Sep 28 04:37:14 UTC 2023:------------------------------------------------------------------
[main] Thu Sep 28 04:37:14 UTC 2023:RestartUtil: BEGIN - Restart called with args apponly:1377:localhos
[main] Thu Sep 28 04:37:14 UTC 2023:------------------------------------------------------------------
[main] Thu Sep 28 04:37:16 UTC 2023:RestartUtil: Restarting Local node
[main] Thu Sep 28 04:37:16 UTC 2023:[/usr/bin/sudo, /opt/CSCOcpm/bin/cpmcontrol.sh, restart_appserver_e
[main] Thu Sep 28 04:52:41 UTC 2023:RestartUtil: Restarted local node and waiting for it to come up...

[main] Thu Sep 28 04:53:12 UTC 2023:RestartUtil: Restart success for  local node .
[main] Thu Sep 28 04:53:12 UTC 2023:RestartUtil: cred file deleted
[main] Thu Sep 28 04:53:12 UTC 2023:------------------------------------------------------------------
[main] Thu Sep 28 04:53:12 UTC 2023:RestartUtil:END-  Restart called with args apponly:1377:localhost
[main] Thu Sep 28 04:53:12 UTC 2023:------------------------------------------------------------------
```

Troubleshoot

For additional information on this feature, you can review these files:

- ise-psc.log
- restartutil.log

To view them in real-time from the command line, you can run these commands:

```
show logging application restartutil.log tail
show logging application ise-psc.log tail
```

Related Information

• Cisco Technical Support & Downloads