Performing a System Upgrade, Downgrade or Recovery

Important Notes

Important Notes For Release 25.0(3)

Following are important notes for release 25.0(3) regarding the installation, upgrade or downgrade procedures for the Cisco Cloud APIC:

- Because of the move from the Cisco Cloud Services Router 1000v to the Cisco Catalyst 8000V, you must add the necessary policy before upgrading from a release prior to 25.0(3) to release 25.0(3):

  1. Go to the infra tenant in the AWS portal.
  2. Click **IAM** > **Policies**.
  3. In the **Policies** window, click the **ApicAdminFullAccess** policy.

     The **Summary** page for this policy is displayed.
  4. Click **Edit Policy**.
  5. Click the **JSON** tab.
  6. Copy the entry below and paste it into the policy:

```
{
    "Effect": "Allow",
    "Action": "ssm:*",
```

```
        "Resource": "*"
    }
```

7. Click **Review Policy**, then click **Save Changes**.

- The Cisco Catalyst 8000V supports subscription-based licensing. Before upgrading from a release prior to 25.0(3) to release 25.0(3), you must first subscribe to one of the tier-based Cisco Catalyst 8000V licenses.
  - For instructions on subscribing to one of the tier-based Cisco Catalyst 8000V licenses, see Cisco Catalyst 8000V Edge Software.
  - For more information on different throughputs based on the tiers, see Requirements for the AWS Public Cloud.

  Cisco Cloud APIC makes use of the “Cisco DNA Advantage” subscription. For features supported by the “Cisco DNA Advantage” subscription, see Cisco DNA SoftwareSD-WAN and Routing Matrices.
- When you upgrade your Cisco Cloud APIC to release 25.0(3), you should then upgrade the CCRs as soon after the Cisco Cloud APIC upgrade as possible. For those instructions, see:
  - Upgrading the Software, on page 5
  - Triggering an Upgrade of the CCRs, on page 29

  Following are examples of how you would go through these upgrade processes:
  - **Single-Site Upgrade**: You normally would not need to have CCRs for a single-site AWS deployment. However, if you do have CCRs deployed in this situation, once the Cisco Cloud APIC has completed the upgrade to release 25.0(3) and reached the ready state, you must then start the upgrade of the older CCRs (the Cisco Cloud Services Router 1000v) to the newer CCRs (the Cisco Catalyst 8000V) before making any configuration changes.
  - **Multi-Cloud/Hybrid-Cloud Upgrade**: As an example of this upgrade process, assume that you have the following setup:
    - Site 1: AWS
    - Site 2: Azure
    - Site 3: On-premises site

    You would then upgrade these sites the following way:

    1. Upgrade Nexus Dashboard Orchestrator to the 3.7(1) release.
    2. Upgrade site 1 (AWS site) to the Cisco Cloud APIC release 25.0(3) using the procedures in Upgrading the Software, on page 5.

       Wait until this upgrade has reached the steady state before proceeding to the next step.
    3. Upgrade the CCRs on site 1 (AWS site) from the older CCRs (the Cisco Cloud Services Router 1000v) to the newer CCRs (the Cisco Catalyst 8000V) using the procedures in Triggering an Upgrade of the CCRs, on page 29.

       Wait until the CCRs are fully upgraded to the newer Cisco Catalyst 8000Vs before proceeding to the next step.

4. Once the CCRs on site 1 (AWS site) are fully upgraded, repeat these steps for site 2 (Azure site), where you will first upgrade the Cisco Cloud APIC software to release 25.0(3). After that upgrade has reached the steady state, then you will upgrade the CCRs on site 2 to the newer Cisco Catalyst 8000Vs.

- Prior to Cisco Cloud APIC release 25.0(3), the older Cisco Cloud Services Router 1000v routers were configured with number-based throughput, as described in Requirements for the AWS Public Cloud. Since the Cisco Catalyst 8000V routers will only support tier-based throughput options, during upgrades to release 25.0(3), the Cisco Cloud APIC will map the throughput values from the number-based throughput used by the older Cisco Cloud Services Router 1000v routers to the tier-based throughput used by the newer Cisco Catalyst 8000V routers.

  The following table shows the mapping of throughput from the older Cisco Cloud Services Router 1000v routers to the newer Cisco Catalyst 8000V routers during an upgrade:

Throughput on Cisco Cloud Services Router 1000v	Throughput on Cisco Catalyst 8000V
10M	T0 (up to 15M throughput)
50M	T1 (up to 100M throughput)
100M	T1 (up to 100M throughput)
250M	T2 (up to 1G throughput)
500M	T2 (up to 1G throughput)
1G	T2 (up to 1G throughput)
2.5G	T3 (up to 10G throughput)
5G	T3 (up to 10G throughput)
7.5G	T3 (up to 10G throughput)
10G	T3 (up to 10G throughput)

  When migrating from the older Cisco Cloud Services Router 1000v routers to the newer Cisco Catalyst 8000V routers during an upgrade, the Cisco Cloud APIC will migrate the comparable bandwidth as described above. When these Cisco Catalyst 8000V routers come up, they will try to register for that bandwidth to the smart licensing account. If the smart licensing server does not have these licenses, then the Cisco Catalyst 8000V will fall back to the default bandwidth and will fail to service the existing workload traffic. So you must procure and provision the required Cisco Catalyst 8000V licenses in your smart account before migrating from the older Cisco Cloud Services Router 1000v routers to the newer Cisco Catalyst 8000V routers during an upgrade.

- Similarly, when downgrading from release 25.0(3) to an earlier release, the Cisco Cloud APIC will map the throughput values from the tier-based throughput used by the newer Cisco Catalyst 8000V routers to the number-based throughput used by the older Cisco Cloud Services Router 1000v routers.

  The following table shows the mapping of throughput from the newer Cisco Catalyst 8000V routers to the number-based throughput used by the older Cisco Cloud Services Router 1000v routers during a downgrade:

Throughput on Cisco Catalyst 8000V	Throughput on Cisco Cloud Services Router 1000v
T0 (up to 15M throughput)	10M
T1 (up to 100M throughput)	100M
T2 (up to 1G throughput)	1G
T3 (up to 10G throughput)	10G

Note Do not make any configuration changes when the Cisco Cloud APIC and the CCRs are in incompatible mode. When upgrading to release 25.0(3), verify that both the Cisco Cloud APIC and the CCRs are upgraded to that latest release before making any configuration changes.

General Important Notes

Following are general important notes:

- Cisco Cloud APIC supports policy-based upgrades for the following upgrade paths:
  - Release 5.2(1) to 25.0(2), 25.0(3), or 25.0(4)
  - Release 25.0(1) to 25.0(2), 25.0(3), or 25.0(4)
  - Release 25.0(2) to 25.0(3) or 25.0(4)
  - Release 25.0(3) to 25.0(4)
- When you downgrade from release 5.0(x) to a previous release, as the CCRs downgrade to a lower release, you could see some of the tunnels in a “down” state in the CCRs. This could occur due to stale VPN resources in the AWS accounts that did not get cleaned up.

  To correct this issue, manually clean up the stale VPN connections.
- As noted in Requirements for the AWS Public Cloud, the supported instance type for the Cisco Cloud APIC deployment has changed for release 5.0(x) or later:
  - For releases prior to release 5.0(x), Cisco Cloud APIC is deployed using the m4.2xlarge instance.
  - For release 5.0(x) and later, Cisco Cloud APIC is deployed using the m5.2xlarge instance.

  When upgrading from a 4.2(x) release to release 5.0(x) or later, policy-based upgrades are not supported because you cannot change the instance type through a policy-based upgrade; instead, for these upgrades, you must upgrade using a migration procedure, as provided in Migration-Based Upgrade, on page 9.
- There is an issue with the upgrade process where an upgrade from release 5.2(1g) to any later release will fail.

  To work around this issue, enable the **Ignore Compatibility Check** option:

  1. Follow the normal upgrade instructions provided in Upgrading the Software Using the Policy-Based Upgrade Process, on page 8 until you get to the **Ignore Compatibility Check** step in the **Schedule Upgrade** window.

2. Enter a check mark in the box next to the **Ignore Compatibility Check** field to enable the **Ignore Compatibility Check** option.

   Enabling the **Ignore Compatibility Check** option allows this specific upgrade to proceed normally.

3. Complete the upgrade to the post-5.2(1g) release.

4. Once you have completed the upgrade to the post-5.2(1g) release, return to the **Schedule Upgrade** window and remove the check mark in the box next to the **Ignore Compatibility Check** field.

   This disables the **Ignore Compatibility Check** option, which is the default setting for this field.

- Due to the issue described in the previous bullet, if you are upgrading from a release prior to release 5.2(1) to a 5.2(1) release, we recommend that you upgrade directly to release 5.2(1**h**) and not release 5.2(1**g**).

Upgrading the Software

The following sections provide information on upgrading the Cisco Cloud APIC software using either a policy-based upgrade or a migration-based upgrade.

Cisco Cloud APIC supports policy-based upgrades for the following upgrade paths:

- Release 5.2(1) to 25.0(2), 25.0(3), or 25.0(4)
- Release 25.0(1) to 25.0(2), 25.0(3), or 25.0(4)
- Release 25.0(2) to 25.0(3) or 25.0(4)
- Release 25.0(3) to 25.0(4)

Go to Policy-Based Upgrade, on page 6 for those procedures.

Note If the policy-based upgrade does not work for some reason, you can upgrade using the migration-based process as described in Migration-Based Upgrade, on page 9.

Upgrading the CCRs

Regardless of the method that you use to upgrade your Cisco Cloud APIC software, the CCRs must also be upgraded whenever the Cloud APIC software is upgraded.

- Prior to release 5.2(1), the CCRs are upgraded automatically whenever you trigger an upgrade for the Cisco Cloud APIC.
- Beginning with release 5.2(1), you can trigger upgrades to the CCRs and monitor those CCR upgrades, independent from the Cisco Cloud APIC upgrades. This is useful to reduce traffic loss by allowing you to split up the upgrades for the management plane (Cisco Cloud APIC) and the data plane (CCRs).

See Triggering an Upgrade of the CCRs, on page 29 for more information.

Policy-Based Upgrade

Use the procedures in the following sections to perform a policy-based upgrade of your Cisco Cloud APIC software.

Backing Up Your Existing Configuration

We recommend that you back up your existing configuration before performing any policy-based upgrades.

If you decide to downgrade back to that previous release at some point afterward using the procedures provided in Downgrading the Software, on page 14, you will need the backed-up configuration files in order to perform that downgrade successfully.

Step 1 Enable Global AES encryption before performing the backup.

a) In your Cisco Cloud APIC GUI, navigate to **Infrastructure** > **System Configuration**.

You should see the **General** tab selected by default; if not, click the **General** tab.

b) Click the pencil icon at the upper right part of the **Global AES Encryption** area.

The **Global AES Encryption Settings** window appears.

c) Click the box next to the **Encryption: Enabled** area, enter a passphrase in the **Passphrase/Confirm Passphrase** fields, then click **Save** at the bottom of the window.

Make a note of the passphrase that you entered in this step, as you will need it if you need as part of the backup restoration process.

Step 2 Make a note of the infra VPC pool that you configured during the stack deployment.

For the infra VPC pool, you might have multiple infra subnet pools, so be sure to locate the information for the infra subnet that was used when you launched the original Cisco Cloud APIC.

a) Log into your AWS account for the infra tenant:

https://signin.aws.amazon.com/

b) Click the **Services** link at the top of the screen, then click the **CloudFormation** link.

The **CloudFormation** screen appears.

c) On the AWS **CloudFormation** dashboard, click your existing Cloud APIC stack.

The **Stack details** window appears for your Cloud APIC stack.

d) Click the **Parameters** tab in the **Stack details** window.

e) Locate the **pInfraVPCPool** line in the **Paramaters** table.

Make a note of the entry in the **pInfraVPCPool** line. This is infra VPC pool that you configured during the stack deployment.

Step 3 Back up your existing configuration.

a) Navigate to **Operations** > **Backup & Restore**.

b) Click the **Backup Policies** tab.

c) Click **Actions** > **Create Backup Configuration**.

d) Back up your existing configuration.

For more information on the options available in the **Create Backup Configuration**, see the "Creating a Backup Configuration Using the Cisco Cloud APIC GUI" procedure in the *Cisco Cloud APIC for AWS User Guide*.

Downloading an Image

Step 1 Log in to your Cisco Cloud APIC, if you aren't logged in already.

Step 2 From the **Navigation** menu, choose **Operations** > **Firmware Management**.

The **Firmware Management** window appears.

Step 3 Click the **Images** tab in the **Firmware Management** window.

Step 4 Click **Actions**, then choose **Add Firmware Image** from the scroll-down menu.

The **Add Firmware Image** pop-up appears.

Step 5 Determine if you want to add the firmware image from a local or a remote location.

- If you want to add the firmware image from a *local* location, click the **Local** radio button in the **Image Location** field. Click the **Choose File** button, then navigate to the folder on your local system with the firmware image that you want to import and select the file. Go to Step 6, on page 8.
- If you want to import the firmware image from a *remote* location, click the **Remote** radio button in the **Image Location** field, then perform the following actions:

a) In the **Protocol** field, click either the **HTTP** or the **SCP** radio button.
b) In the **URL** field, enter the URL from where the image will be downloaded.

- If you selected the **HTTP** radio button in the previous step, enter the http source that you want to use to download the software image. An example URL is `10.67.82.87:/home/<username>/ACI/aci-capic-dk9.25.0.2f.iso`. Go to Step 6, on page 8.
- If you selected the **SCP** radio button in the previous step, enter the Secure Copy Protocol (SCP) source that you want to use to download the software image, using the format `<SCP server>:/<path>`. An example URL is `10.67.82.87:/home/<username>/ACI/aci-capic-dk9.25.0.2f.iso`.

c) In the **Username** field, enter your username for secure copy.
d) In the **Authentication Type** field, select the type of authentication for the download. The type can be:

- **Password**
- **SSH Key**

The default is **Password**.

e) If you selected **Password**, in the **Password** field, enter your password for secure copy. Go to Step 6, on page 8.
f) If you selected **SSH Key**, enter the following information:

- **SSH Key Content** — The SSH Key Content is used to create the SSH Key File which is required when creating a Remote location for the download.

Note The public key is generated at the time of the transfer. After the transfer the key files that were generated in the background are deleted. The temporary key files are stored in dataexport directory of the Cisco Cloud APIC.

- **SSH Key Passphrase** — The SSH Key Passphrase is used to create the SSH Key File which is required when creating a Remote location for the download.

  Note The Passphrase field can remain empty.

Step 6 Click **Select**.
Wait for the Cisco Cloud APIC firmware images to download.

Upgrading the Software Using the Policy-Based Upgrade Process

Use the procedures in the following sections to perform a policy-based upgrade of your Cisco Cloud APIC software.

Before you begin

Verify that you have downloaded an image using the procedures provided in Downloading an Image, on page 7.

Step 1 Back up your existing configuration before performing the policy-based upgrade.

We recommend that you back up the configuration for your existing release using the information provided in Backing Up Your Existing Configuration, on page 6 before performing a policy-based upgrade.

After you have completed the policy-based upgrade, if you decide to downgrade back to the previous release at some point afterward using the procedures provided in Downgrading the Software, on page 14, you will need the backed-up configuration files from the previous release in order to perform that downgrade successfully.

Step 2 In the Cloud APIC GUI, from the **Navigation** menu, choose the **Operations** > **Firmware Management**.

The **Firmware Management** window appears.

Step 3 Click **Schedule Upgrade**.

The **Schedule Upgrade** pop-up appears.

If you see a message that says that faults are present in your fabric, we recommend that you resolve these faults before performing a upgrade. See "Viewing Health Details Using the Cisco Cloud APIC GUI" in the *Cisco Cloud APIC for AWS User Guide* for more information.

Step 4 In the **Target Firmware** field, choose a firmware image from the scroll-down menu.

Step 5 In the **Upgrade Start Time** field, determine if you want to begin the upgrade now or later.

- Click **Now** if you want to schedule the upgrade for now. Go to Step 6, on page 9.
- Click **Later** if you want to schedule the upgrade for a later date or time, then select the date and time from the pop-up calendar for the scheduled upgrade.

Step 6 In the **Ignore Compatibility Check** field, leave the setting in the default off (unchecked) setting, unless you are specifically told to disable the compatibility check feature.

In Cloud APIC, there is a compatibility check feature that verifies if an upgrade path from the currently-running version of the system to a specific newer version is supported or not. The **Ignore Compatibility Check** setting is set to off by default, so the system automatically checks the compatibility for possible upgrades by default.

Note If you choose to disable the compatibility check feature by entering a check mark in the box next to the **Ignore Compatibility Check** field, you run the risk of making an unsupported upgrade to your system, which could result in your system going to an unavailable state.

Step 7 Click **Schedule Upgrade**.

You can monitor the progress of the upgrade in the main **Firmware Management** window, under the **Upgrade Status** area.

Migration-Based Upgrade

The following section provides migration-based upgrade procedures, which will allow you to upgrade without losing traffic flow.

Upgrading Your Cloud APIC Software Using Migration Procedures

This section provides the migration-based upgrade procedures for your Cisco Cloud APIC. There should be no effect on traffic with this migration.

Step 1 Enable the encryption passphrase control, if it is not enabled already.

a) In your Cloud APIC GUI, navigate to **Infrastructure** > **System Configuration**.

You should be underneath the **General** tab by default; if not, click the **General** tab.

b) Determine if the encrypted passphrase control is enabled already.

- In the **Global AES Encryption** area, if you see **Yes** underneath the **Encryption** and **Key Configured** fields, then you have the encrypted passphrase control enabled already. Go to Step 2, on page 9.
- If you do not see **Yes** underneath the **Encryption** and **Key Configured** fields:
  1. Click the pencil icon at the upper right part of the **Global AES Encryption** area.

     The **Global AES Encryption Settings** window appears.
  2. Click the box next to the **Encryption: Enabled** area, enter a passphrase in the **Passphrase/Confirm Passphrase** fields, then click **Save** at the bottom of the window.

Step 2 Back up your existing Cloud APIC configuration.

There are a number of different ways that you can back up your Cloud APIC configuration. See the *Cloud APIC for AWS Users Guide* for more information. Note that if you want to use a remote backup, you will also need to add a remote location first.

Step 3 Terminate the Cloud APIC EC2 instance from the AWS infra account.

a) Log into your Amazon Web Services account for the Cloud APIC infra tenant and go to the AWS Management Console, if you are not there already:

https://signin.aws.amazon.com/

https://console.aws.amazon.com/

b) Go into **Instances** in the EC2 Dashboard in the AWS Management Console.

c) Locate the Cloud APIC instance.

- For releases prior to release 5.0(x), Cisco Cloud APIC is deployed using the m4.2xlarge instance.
- For release 5.0(x) and later, Cisco Cloud APIC is deployed using the m5.2xlarge instance.

d) Check the box next to the Cloud APIC instance to select it, then click **Actions** > **Instance State** > **Terminate**.

In the **Terminate Instances** popup window, select **Yes, Terminate** to terminate this instance.

The **Instances** window reappears and the status changes to **shutting-down** in the **Instance State** row for the Cloud APIC instance. Even though you are terminating the Cloud APIC instance here, there should be no traffic drop for your Cloud APIC.

Step 4 Go to the Cloud APIC page on the AWS Marketplace:

http://cs.co/capic-aws

Step 5 Click **Continue to Subscribe**.

Step 6 In the **Subscribe to this software** page, click the **Continue to Configuration** button.

The **Configure this software** page appears.

Step 7 Select the following parameters:

- **Delivery Method:** Cisco Cloud APIC Cloud Formation Template (selected by default)
- **Software Version:** Select the appropriate version of the Cloud APIC software.
- **Region:** Region where Cloud APIC will be deployed

Step 8 Click the **Continue to Launch** button.

The **Launch this software** page appears, which shows a summary of your configuration and lets you launch the cloud formation template.

Step 9 In the **Choose Action** field, choose **Launch CloudFormation**, then click **Launch** to go directly to the CloudFormation service in the correct region, with the correct Amazon S3 template URL already populated. The **Specify template** page appears within the **Create stack** page.

Step 10 In the **Specify template** page, make the following selections:

- **Prerequisite - Prepare template** field: Leave the default **Template is ready** option selected.
- **Specify template** area:
  - In the **Template source** field, leave the default **Amazon S3 URL** option selected.
  - In the **Amazon S3 URL** field, leave the automatically-generated entry as-is.
  - Click **View in designer**.

Step 11 In the **template1** area in the lower half of the screen:

- Leave the **Choose template language** selection as **JSON**.
- Place your cursor at the very beginning of the text string on line 1, press the Shift key and scroll down to the bottom of the window to select the entire text string in the window, then copy all of the text in this window (press Ctrl+C, or right-click and select **Copy**).

Step 12 On your local computer, navigate to an appropriate folder and create a text file, giving it a unique name, and paste the text string that you just copied into the text file.

This will be the Cloud APIC CFT, which has the m5.2xlarge instance type.

Step 13 Save and close the text file.

Step 14 Upload the Cloud APIC CFT to AWS.

a) Log in to the AWS CloudFormation console:

https://console.aws.amazon.com/cloudformation

b) On the AWS CloudFormation dashboard, click your existing Cloud APIC stack, then click **Update**.

c) In the **Update Stack** wizard, in the **Prepare template** screen, select **Replace current template**.

The **Specify template** area appears.

d) In the **Update Stack** wizard, on the **Specify template** area, select **Upload a template file**.

The **Upload a template file** option appears.

e) Click **Choose file** underneath the **Upload a template file** option and navigate to the area where you created the Cloud APIC CFT.

f) Select the Cloud APIC CFT and then click **Next**.

g) In the **Specify stack details** screen, verify that the instance type shown in the **Other parameters** area at the bottom of the screen is correctly set to **m5.2xlarge**, then click **Next**.

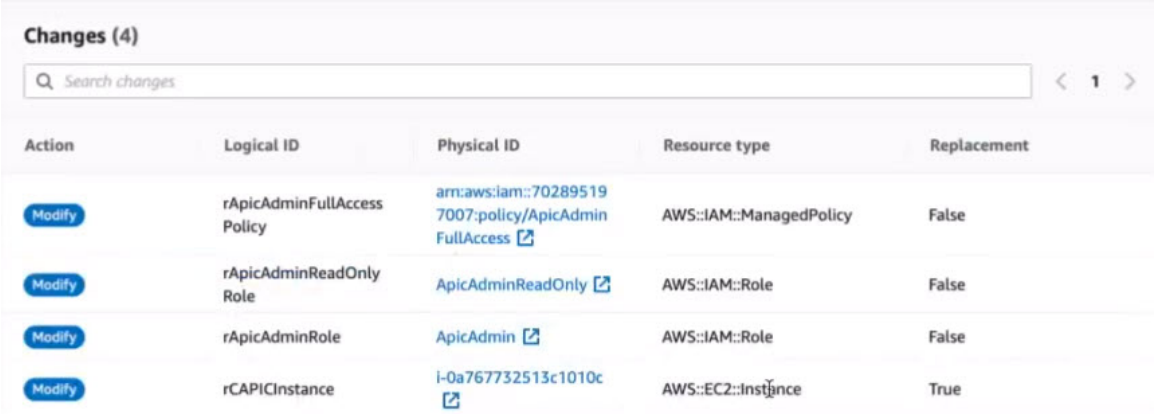
Do not change the instance type to **m4.2xlarge** in this step.

h) In the **Configure stack options** screen, click **Next**.

i) In the **Review** screen, click **Update stack**.

The following actions take place at this point:

- The AWS infra detects three IAM resources that will be updated (shown as **False** in the Replacement column).
- The AWS infra detects one EC2 instance that will be replaced (shown as **True** in the Replacement column).



This will bring up the new Cloud APIC instance with the release image, with the same public IP address as you had previously. You can check the progress of the new Cloud APIC instance coming up by navigating back to **Instances** in the EC2 Dashboard in the AWS Management Console.

Step 15 When you see the **Instance State** change to **running**, you can then log into your Cloud APIC is you did previously.

The Cloud APIC will come up with no configurations at this point.

Note If you see an error message when you try to log in, such as **REST Endpoint user authentication datastore is not initialized - Check Fabric Membership Status of this fabric node**, wait for several minutes, then try again after a few minutes. You might also have to refresh the page in order to log in.

Step 16 Enable the same encryption passphrase.

a) In your Cloud APIC GUI, navigate to **Infrastructure** > **System Configuration**.

You should be underneath the **General** tab by default; if not, click the **General** tab.

b) In the **Global AES Encryption** area, click the pencil icon at the upper right part of the **Global AES Encryption** area.

The **Global AES Encryption Settings** window appears.

c) Click the box next to the **Encryption: Enabled** area, enter the same passphrase in the **Passphrase/Confirm Passphrase** fields that you used in Step 1, on page 9, then click **Save** at the bottom of the window.

Step 17 Import the configuration that you backed up in Step 2, on page 9.

If you configured a remote location when you backed up your configuration, you might have to create the remote location again to access the backup.

a) In your Cloud APIC GUI, navigate to **Operations** > **Backup & Restore**.
b) In the **Backup & Restore** window, click the **Backups** tab.
c) Click the **Actions** scrolldown menu, then choose **Restore Configuration**.

The **Restore Configuration** window appears.

d) Enter the necessary information to restore the configuration that you backed up in Step 2, on page 9.

Use the following settings:

- In the **Restore Type** field, choose **Merge**.
- In the **Restore Mode** field, choose **Best Effort**.

Click **Restore Configuration** when you have entered the necessary information in this window. Click the **Job Status** tab in the **Backup & Restore** window to get the status of the backup restore.

Step 18 Run the CapicTenantRole update to change the set for all trusted tenants.

a) Locate the tenant role CFT.

The tenant role CFT is located in the S3 bucket in the AWS account for the Cisco Cloud APIC infra tenant. The name of the S3 bucket is `capic-common-[capicAccountId]-data` and the tenant role CFT object is `tenant-cft.json` in that bucket. The capicAccountId is the AWS account number for the Cisco Cloud APIC infra tenant, which is the account in which Cloud APIC is deployed.

b) Click the tenant role CFT link.

The **Overview** page for this tenant role CFT appears.

c) Click the box next to the **tenant-cft.json** entry on the **Overview** page.

A slide-in pane appears for this JSON-formatted tenant role CFT.

d) Click **Download** to download the tenant role CFT to a location on your computer.

For security reasons, public access to this S3 bucket in AWS is not allowed, so you must download this file and use it in the tenant account.

e) In AWS, go to the user account of the trusted tenants, then click **CloudFormation**.

f) On the AWS CloudFormation dashboard, locate the trusted tenant stack and click on the stack name for that trusted tenant.

The stack properties page appears for this particular stack.

g) Click the **Change sets** tab.

h) In the **Change sets** area, click **Create change set** .

i) In the Create change set window for this stack, click **Replace current template**.

j) In the **Specify template** area, click the circle next to **Upload a template file**, then click the **Choose File** button.

k) Navigate to the location on your computer where you downloaded the tenant role CFT and select that template file.

l) Click **Next** in the Create change set window for this stack.

The **Create Change Set** pop-up appears.

m) Click **Create Change Set** in the **Create Change Set** pop-up window.

The Status will show as **CREATE_PENDING** for a period of time, then will change to **CREATE_COMPLETE**.

n) Repeat these steps for each trusted tenant.

On each trusted tenant, use this **tenant-cft.json** file to create a change set and run that change set.

Step 19 In your Cloud APIC GUI, verify that all the configurations that you previously had for your Cloud APIC prior to the migration are present now.

Note that for releases prior to 5.2(1), the CCRs will also get upgraded automatically, from the 16.x version to the 17.x version. You can verify this by navigating to **Instances** in the EC2 Dashboard in the AWS Management Console and locating the CCR instances to verify that they are also upgraded.

For release 5.2(1) and later, CCRs are no longer upgraded automatically when the Cisco Cloud APIC is upgraded, so you must trigger the CCR upgrades separately after the Cisco Cloud APIC has finished upgrading. See Triggering an Upgrade of the CCRs, on page 29 for more information.

Downgrading the Software

The following sections provide the necessary information that you will need to successfully downgrade your Cisco Cloud APIC software.

Downgrading the Software: Release 25.0(1) to 5.2(1)

These procedures describe how to downgrade the software from release 25.0(1) to release 5.2(1).

These procedures assume the following scenario:

1. At some point previously, you were running release 5.2(1) and you decided to upgrade to release 25.0(1). Before you performed that upgrade, however, you backed up your release 5.2(1) configuration and saved that backed-up configuration file.
2. You then performed a policy-based upgrade to release 25.0(1) and, at some pointer later on, decided to revert back to release 5.2(1).

These procedures describe how to revert back to release 5.2(1), but you will need that backed-up release 5.2(1) configuration file in order for these downgrade procedures to work.

Step 1 Verify that you have the backed-up release 5.2(1) configuration file, as described in Backing Up Your Existing Configuration, on page 6.

Do not use these procedures to downgrade from release 25.0(1) if you do not have that backed-up release 5.2(1) configuration file available. You will need that backup configuration file for these downgrade procedures.

Step 2 Verify that there are non-home region CCRs configured.

Step 3 Remove the CCRs from the home region.

There will be an intersite traffic loss for around 3-5 minutes while the home region CCRs are getting deleted and the traffic flow switches to the non-home region CCRs.

a) In your Cloud APIC GUI, click the Intent icon (the icon with an arrow pointing into several circles) and choose **Cloud APIC Setup**.
b) In the Region Management area, click **Edit Configuration**.

The **Regions to Manage** window appears.

c) Unselect (remove checks from boxes) in the **Cloud Routers** column for the home region (the region that has the text **Cloud APIC Deployed**).
d) Click **Next**, then enter the necessary information in the following page and click **Save and Continue**.

The process of removing the CCRs might take 5-10 minutes. You can monitor the process of the CCR removal by looking at the virtual machines in AWS portal.

Note Do not proceed to the next step until the CCRs in the home region have been completely removed.

Step 4 From the infra account in the AWS portal, manually delete all infra VPC peering connections between the home region VPC and any remote region VPCs.

a) In the navigation pane, choose **Peering connections**.
b) Select the VPC peering connection, then choose **Actions** > **Delete VPC peering connection**.
c) Inside the **Delete VPC peering connection** dialog box, review the connection details, check the **Delete related route table entries** checkbox to remove the necessary routes, then choose **Yes, Delete** to delete the selected VPC peering connection.

Do not alter any VPC peering connections from a remote region VPC to other remote region VPCs.

Step 5 Wait 10-15 minutes for the remaining configurations to be deleted automatically.

The following configurations should be deleted automatically after 10-15 minutes:

- The connect peers for the transit gateway connect attachment in the home region
- The transit gateway connect attachment
- The transit gateway attachment to the infra VPC

If they do not delete automatically, delete them manually as follows:

a) For the transit gateway connect attachment in the home region, delete the connect peers.
   1. In the navigation pane, choose **Transit Gateway Attachments**.
   2. Select the Connect attachment.
   3. In the **Connect peers** tab, select the Transit Gateway Connect peer and choose **Actions** > **Delete Connect peer**.
   4. In the confirmation dialog box, choose **Yes, Delete**.
   5. Repeat these steps to delete additional connect peers for the transit gateway connect attachment in the home region.

b) Delete the transit gateway connect attachment.
   1. In the navigation pane, choose **Transit Gateway Attachments**.
   2. Select the Connect attachment.
   3. Choose **Actions** > **Delete**.
   4. When prompted for confirmation, choose **Delete**.

c) Delete the transit gateway attachment to the infra VPC.
   1. In the navigation pane, choose **Transit Gateway Attachments**.
   2. Select the infra VPC attachment only.

      There may be other user VPC attachments, so verify that you are selecting the infra VPC attachment for this procedure.
   3. Choose **Actions** > **Delete**.
   4. When prompted for confirmation, choose **Delete**.

Step 6 Delete the stack.

a) In the AWS console, navigate to **Services** > **CloudFormation** > **Stacks**.
b) Select the stack that you want to delete.
c) Click **Delete Stack**.

This will delete the Cisco Cloud APIC VM and will attempt to delete the other resources.

Step 7 Wait 15-20 minutes for the stack to be deleted.

If the stack deletion is stuck in `Delete in Progress`, then delete the infra VPC manually in the home region:

a) In the AWS console, navigate to **Services** > **Virtual Private Cloud** > **Your VPCs**.
b) Select the infra VPC.
c) Choose **Actions** > **Delete VPC**.
The **Delete VPC** window appears.
d) Type `delete` in the **To confirm deletion, type delete in the field** area, then click **Delete**.

Step 8 Recreate a fresh stack with the cloud formation template for the release image that you're downloading to.

Note Alternatively, you can deploy a cloud formation template from the AWS Marketplace in place of steps a-c below.

a) In the AWS console, navigate to **Services** > **CloudFormation** > **Stacks**.
b) Click **Create Stack** > **With new resources (standard)**.
The **Create stack** window appears.
c) In the **Specify template** area, click the circle next to **Upload a template file**, then click the **Choose File** button.
d) Navigate to the location on your computer with the appropriate JSON-formatted tenant role CFT and select that template file, then click **Next**.

The **Specify Details** page appears within the **Create stack** page.

e) Enter the necessary information on the **Specify Details** page.

- **Stack name:** Enter the name for this Cloud APIC configuration.
- **Fabric name:** Leave the default value as-is or enter a fabric name. This entry will be the name for this Cloud APIC.
- **Infra VPC Pool:** Use the same infra VPC pool information that you originally had when you first deployed your Cloud APIC.

  You should have noted this infra VPC pool information as part of the procedures in Backing Up Your Existing Configuration, on page 6.
- **Availability Zone:** Select an availability zone for the Cloud APIC subnets from the scroll-down menu.
- **Instance Type:** Select the EC2 instance type.
- **Password/Confirm Password:** Enter and confirm an admin password. This entry is the password that you will use to log into the Cloud APIC after you have enabled SSH access.
- **SSH Key Pair:** Choose the name of the SSH key pair.

  You will use this SSH key pair to log into the Cloud APIC.
- **Access Control:** Enter the IP addresses and subnets of the external networks that you will allow to connect to Cloud APIC (for example, 192.0.2.0/24). Only the IP addresses from this subnet are allowed to connect to Cloud APIC. Entering a value of `0.0.0.0/0` means that anyone is allowed to connect to Cloud APIC.

- **Assign Public IP address**: Select whether to assign a public IP address to the Out-of-Band (OOB) management interface for the Cloud APIC or not.

  Prior to release 5.2(1), the management interface of the Cloud APIC was assigned a public IP address and a private IP address. Beginning with release 5.2(1), a private IP address is assigned to the management interface of the Cloud APIC and assigning a public IP address is optional. For more information, see the "Private IP Address Support for Cisco Cloud APIC and CCR" topic in the *Cisco Cloud APIC for AWS User Guide*, Release 5.2(1) or later.

  - **true**: Assigns a public IP address to the Out-of-Band (OOB) management interface for the Cloud APIC.
  - **false**: Disables the public IP address and assigns a private IP address to the Out-of-Band (OOB) management interface for the Cloud APIC.

f) Click **Next** at the bottom of the screen.

The **Options** page appears within the **Create stack** page.

g) Accept all the default values in the **Options** screen, then click **Next** at the bottom of the **Options** screen.

The **Review** page appears within the **Create stack** page.

h) Verify that all the information on the **Review** page is correct.

If you see any errors on the **Review** page, click the **Previous** button to go back to the page with the incorrect information.

i) When you have verified that all the information on the **Review** page is correct, check the box next to the **I acknowledge that AWS CloudFormation might create IAM resources with custom names** area.

j) Click the **Create stack** button at the bottom of the page.

The **CloudFormation** page reappears, and the Cloud APIC template that you created is displayed with the text **CREATE_IN_PROGRESS** displayed in the Status column.

The system now uses the information that you provided in the template to create the Cisco Cloud APIC instance. This process takes 5-10 minutes to complete. You can monitor the progress of the creation process by checking the box next to the name of your Cisco Cloud APIC template, then clicking on the Events tab. The text **CREATE_IN_PROGRESS** is displayed in the Status column under the Events tab.

k) When the **CREATE_COMPLETE** message is shown, verify that the instance is ready before proceeding.

1. Click the **Services** link at the top of the screen, then click the **EC2** link.

   The **EC2 Dashboard** screen appears.

2. In the EC2 Dashboard screen, you should see text displaying the number of running instances in the **Resources** area (for example, **1 Running Instances**). Click this running instances link.

   The **Instances** screen appears.

3. Wait until you see that instance is ready before proceeding.

   You will see the new instance going through the **Initializing** stage under **Status check**. Wait until you see the **2/2 Checks Passed** message under **Status check** before proceeding.

Step 9 Enable Global AES encryption using the same passphrase that you noted when you backed up your configuration in Backing Up Your Existing Configuration, on page 6.

a) In your Cisco Cloud APIC GUI, navigate to **Infrastructure** > **System Configuration**.

It should be underneath the **General** tab by default; if not, click the **General** tab.

b) Click the pencil icon at the upper right part of the **Global AES Encryption** area.

The **Global AES Encryption Settings** window appears.

c) Click the box next to the **Encryption: Enabled** area, then enter the passphrase that you noted in Backing Up Your Existing Configuration, on page 6 in the **Passphrase/Confirm Passphrase** fields.

d) Click **Save** at the bottom of the window.

Step 10 Import the release 5.2(1) configuration that you backed up before you upgraded to release 25.0(1) and verify that the previous configurations converge.

Use the following settings when importing the release 5.2(1) configuration that you backed up:

- In the **Restore Type** field, choose **Merge**.
- In the **Restore Mode** field, choose **Best Effort**.

The home region CCR creation will automatically begin after this step.

Step 11 If the site is managed by ACI Multi-Site Orchestrator/Nexus Dashboard Orchestrator, update the new Cloud APIC VM IP address.

a) Log into ACI Multi-Site Orchestrator/Nexus Dashboard.

b) Edit and reregister the site.

1. In Nexus Dashboard, navigate to **Sites** and click on the correct site.
2. Click the Details icon to bring up the Overview window.
3. Click on the pencil icon to edit the information for this site.
4. Click the box next to **Re-register Site** and enter the necessary information to update with the new Cloud APIC VM IP address.
5. Click **Save**.

c) Go into ACI Multi-Site Orchestrator/Nexus Dashboard Orchestrator and verify that the site is still managed.

1. In Nexus Dashboard Orchestrator, navigate to **Sites**.
2. Locate your site and verify that **Managed** is displayed in the **State** column.

d) Perform a cloud site refresh.

1. In Nexus Dashboard Orchestrator, navigate to **Infrastructure** > **Infra Configuration**, then click **Configure Infra**.
2. Select the site in the left nav bar, then click **Refresh**.

   Click **Yes** in the confirmation window to continue with the cloud site refresh.

e) Click **DEPLOY** > **Deploy Only** to deploy the infra configuration.

Downgrading the Software: Release 25.0(2) to 25.0(1) or 5.2(1)

These procedures describe how to downgrade the software from release 25.0(2) to 25.0(1) or 5.2(1).

These procedures assume the following scenario:

1. At some point previously, you were running release 25.0(1) or 5.2(1) and you decided to upgrade to release 25.0(2). Before you performed that upgrade, however, you backed up your release 25.0(1) or 5.2(1) configuration and saved that backed-up configuration file, as described in Backing Up Your Existing Configuration, on page 6.
2. You then performed a policy-based upgrade to release 25.0(2) and, at some pointer later on, decided to revert back to release 25.0(1) or 5.2(1).

These procedures describe how to revert back to that previous release, but you will need that backed-up configuration file for that previous release in order for these downgrade procedures to work.

Step 1 Verify that you have the backed-up configuration file from the previous release, as described in Backing Up Your Existing Configuration, on page 6.

Do not use these procedures to downgrade from release 25.0(2) if you do not have that backed-up configuration file from the previous release available. You will need that backup configuration file for these downgrade procedures.

Step 2 Create a duplicate of the SSH key with the same contents (the same public or private key).

a) Open the Amazon EC2 console at https://console.aws.amazon.com/ec2/.
b) In the navigation pane, choose **Key Pairs**.
c) Choose **Import key pair**.

d) For **Name**, enter a descriptive name for the public key. The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Note When you connect to your instance from the EC2 console, the console suggests this name for the name of your private key file.

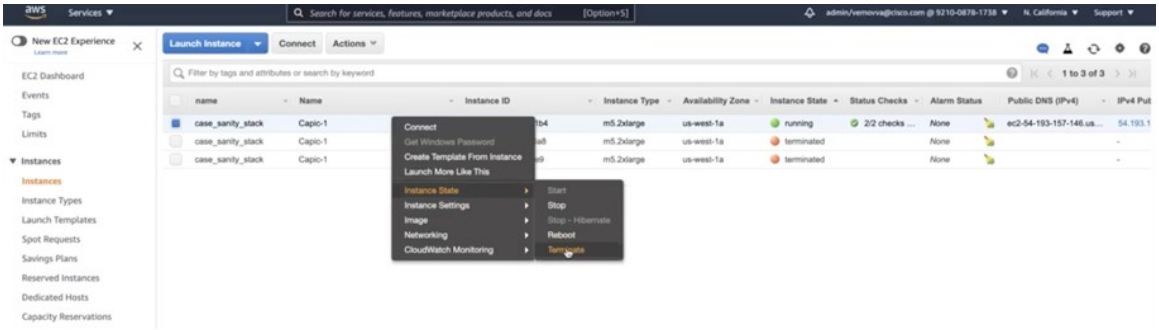
e) Either choose **Browse** to navigate to and select your public key, or paste the contents of your public key into the **Public key contents** field.
f) Choose **Import key pair**.
g) Verify that the public key that you imported appears in the list of key pairs.

Note If the **Import key pair** process doesn't work for any reason, you can create a new key pair using the **Create key pair** option, and use that in Step 7, on page 21, if necessary.

Step 3 Navigate to the EC2 instance area and terminate the Cloud APIC VM instance.

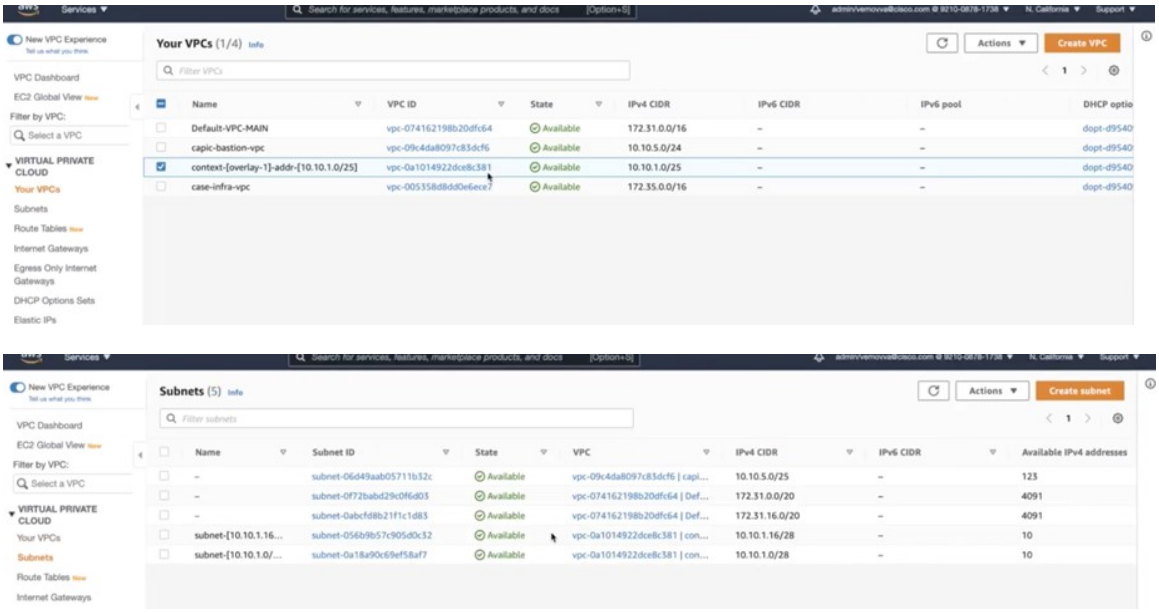
a) In the navigation pane, choose **Instances**.
b) Check the box next to the Cloud APIC VM instance.
c) Right-click on the line for the Cloud APIC VM instance and choose **Instance State** > **Terminate**.

It will take a few minutes for the Cloud APIC VM instance to terminate.



After you the Cloud APIC VM instance is terminated, the two interfaces associated with the VM will hang at this point. Once the new VM comes up as part of the upgrade, it will get reattached to the same interfaces.

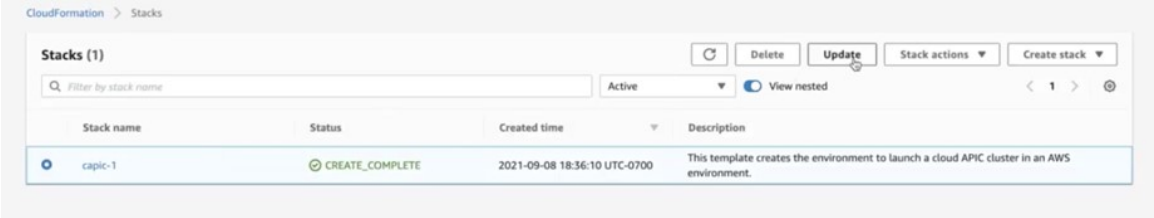
Once the termination process is completed for the Cloud APIC VM, you will note that the VPCs and other network resources, such as the CIDRs and subnets, are still intact.



Step 4 When the termination process is completed for the Cloud APIC VM, go back to the stack and verify that it is still in the running state.

Navigate to the **CloudFormation** area and verify that the Cloud APIC stack is still in the running state.

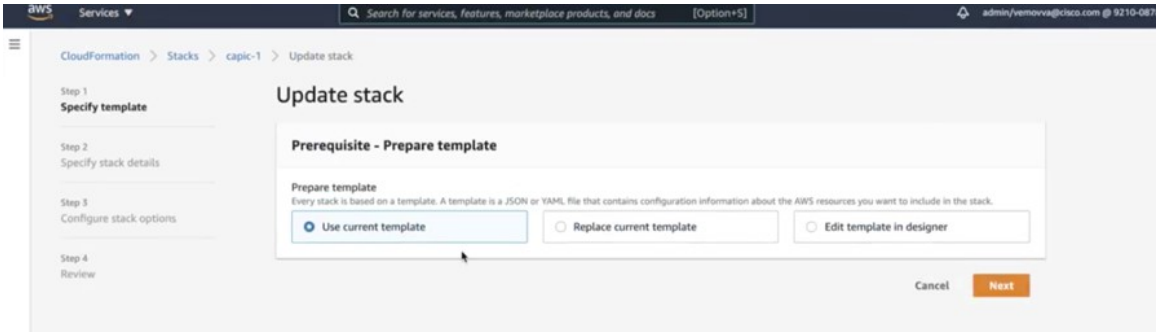
Step 5 Click the circle next to the Cloud APIC stack and click **Update**.



The **Update stack** window appears.

Step 6 Click **Use current template**, then click **Next**.

Because you are not changing anything in the template, you will choose the **Use current template** option in this window.

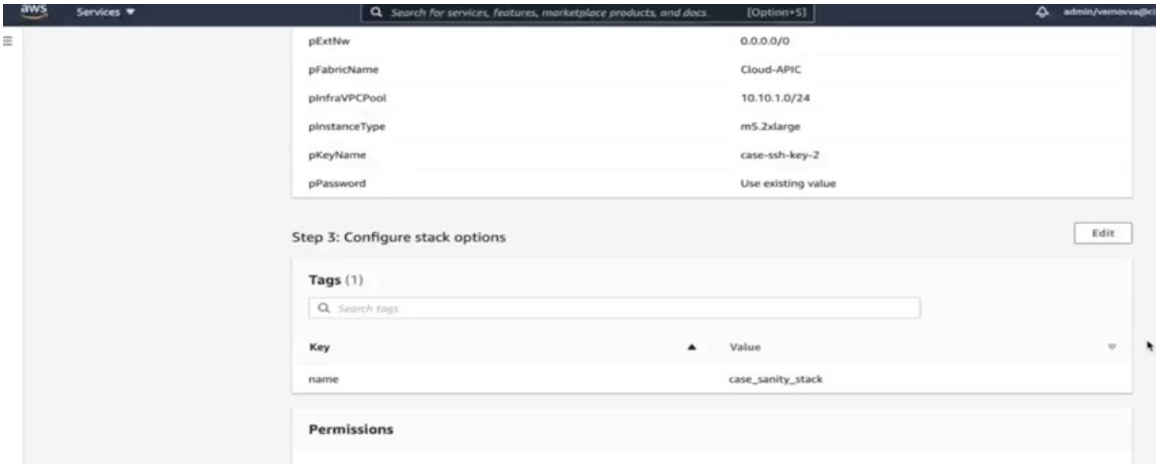


The **Specify stack details** window appears.

Step 7 In the **Specify stack details** window, leave all of the fields as-is, except for the **SSH Key Pair** field.

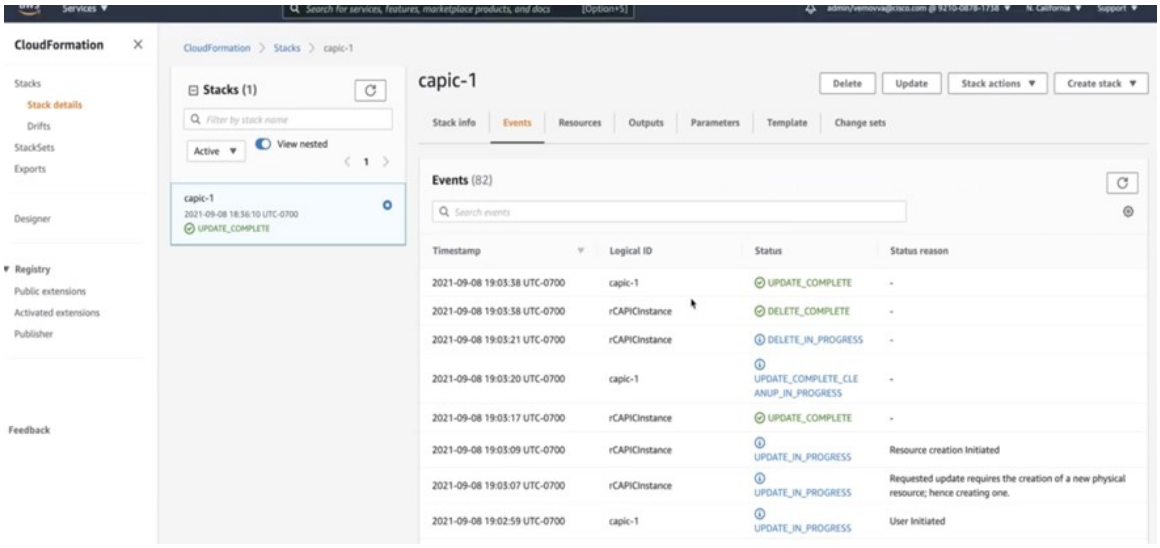
In the **SSH Key Pair** field, select the new SSH key file name that you configured in Step 2, on page 19.

Step 8 Click **Next** at the bottom of the **Specify stack details** window, then navigate through the remaining windows in the **Update stack** windows, verifying that you see the new SSH key file name in the fields in those windows.



Step 9 Click on **Update stack** at the end of the process.

The update for the stack begins.



Step 10 Monitor the progress of the update for the stack.

The update for the stack will go through the following stages:

- AWS will first create a new Cloud APIC VM.
- As part of the stack update, it will try to delete the old Cloud APIC VM, which was already deleted manually.
- The Cisco Cloud APIC will be posted in the stack.

Step 11 Wait until you see the **UPDATE_COMPLETE** message in the **Stacks** window, then navigate back to the **Instances** window.

- The Cloud APIC instance will have the new instance ID and will be using the new SSH key.
- The old interfaces will be reattached to the new instance, and the CIDRs and subnets will all remain the same.
- The Cloud APIC management IP address will also be the same.

Step 12 After roughly 5-10 minutes, verify that the version is correct in the Cloud APIC.

Log into your Cloud APIC using the management IP address. You should see the version of release that was running previously, before you upgraded to release 25.0(2).

Step 13 Enable Global AES encryption using the same passphrase that you noted when you backed up your configuration in Backing Up Your Existing Configuration, on page 6.

a) In your Cisco Cloud APIC GUI, navigate to **Infrastructure** > **System Configuration**.

It should be underneath the **General** tab by default; if not, click the **General** tab.

b) Click the pencil icon at the upper right part of the **Global AES Encryption** area.

The **Global AES Encryption Settings** window appears.

c) Click the box next to the **Encryption: Enabled** area, then enter the passphrase that you noted in Backing Up Your Existing Configuration, on page 6 in the **Passphrase/Confirm Passphrase** fields.

d) Click **Save** at the bottom of the window.

Step 14 Import the configuration for the previous release that you backed up before you upgraded to release 25.0(2) and verify that the previous configurations converge.

Use the following settings when importing the configuration for the previous release that you backed up:

- In the **Restore Type** field, choose **Merge**.
- In the **Restore Mode** field, choose **Best Effort**.

The home region CCR creation will automatically begin after this step.

Step 15 If the site is managed by ACI Multi-Site Orchestrator/Nexus Dashboard Orchestrator, update the new Cloud APIC VM IP address.

a) Log into ACI Multi-Site Orchestrator/Nexus Dashboard.

b) Edit and reregister the site.

1. In Nexus Dashboard, navigate to **Sites** and click on the correct site.
2. Click the Details icon to bring up the Overview window.
3. Click on the pencil icon to edit the information for this site.
4. Click the box next to **Re-register Site** and enter the necessary information to update with the new Cloud APIC VM IP address.
5. Click **Save**.

c) Go into ACI Multi-Site Orchestrator/Nexus Dashboard Orchestrator and verify that the site is still managed.

1. In Nexus Dashboard Orchestrator, navigate to **Sites**.
2. Locate your site and verify that **Managed** is displayed in the **State** column.

d) Perform a cloud site refresh.

1. In Nexus Dashboard Orchestrator, navigate to **Infrastructure** > **Infra Configuration**, then click **Configure Infra**.
2. Select the site in the left nav bar, then click **Refresh**.

   Click **Yes** in the confirmation window to continue with the cloud site refresh.

e) Click **DEPLOY** > **Deploy Only** to deploy the infra configuration.

Downgrading the Software: Release 25.0(3) to 25.0(2), 25.0(1), or 5.2(1)

These procedures describe how to downgrade the software from release 25.0(3) to 25.0(2), 25.0(1), or 5.2(1).

These procedures assume the following scenario:

1. At some point previously, you were running release 25.0(2), 25.0(1), or 5.2(1) and you decided to upgrade to release 25.0(3). Before you performed that upgrade, however, you backed up your release 25.0(2), 25.0(1), or 5.2(1) configuration and saved that backed-up configuration file, as described in Backing Up Your Existing Configuration, on page 6.

2. You then performed a policy-based upgrade to release 25.0(3) and, at some pointer later on, decided to revert back to release 25.0(2), 25.0(1), or 5.2(1) .

These procedures describe how to revert back to that previous release, but you will need that backed-up configuration file for that previous release in order for these downgrade procedures to work.

Step 1 Verify that you have the backed-up configuration file from the previous release, as described in Backing Up Your Existing Configuration, on page 6.

Do not use these procedures to downgrade from release 25.0(3) if you do not have that backed-up configuration file from the previous release available. You will need that backup configuration file for these downgrade procedures.

Step 2 Create a duplicate of the SSH key with the same contents (the same public or private key).

a) Open the Amazon EC2 console at https://console.aws.amazon.com/ec2/.
b) In the navigation pane, choose **Key Pairs**.
c) Choose **Import key pair**.

d) For **Name**, enter a descriptive name for the public key. The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Note When you connect to your instance from the EC2 console, the console suggests this name for the name of your private key file.

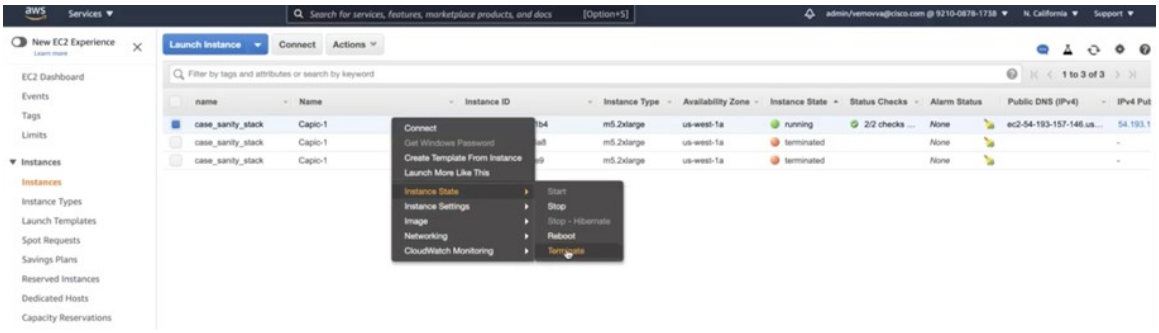
e) Either choose **Browse** to navigate to and select your public key, or paste the contents of your public key into the **Public key contents** field.
f) Choose **Import key pair**.
g) Verify that the public key that you imported appears in the list of key pairs.

Note If the **Import key pair** process doesn't work for any reason, you can create a new key pair using the **Create key pair** option, and use that in #unique_67 unique_67_Connect_42_step_it2_mtz_yrb, if necessary.

Step 3 Navigate to the EC2 instance area and terminate the Cloud APIC VM instance.

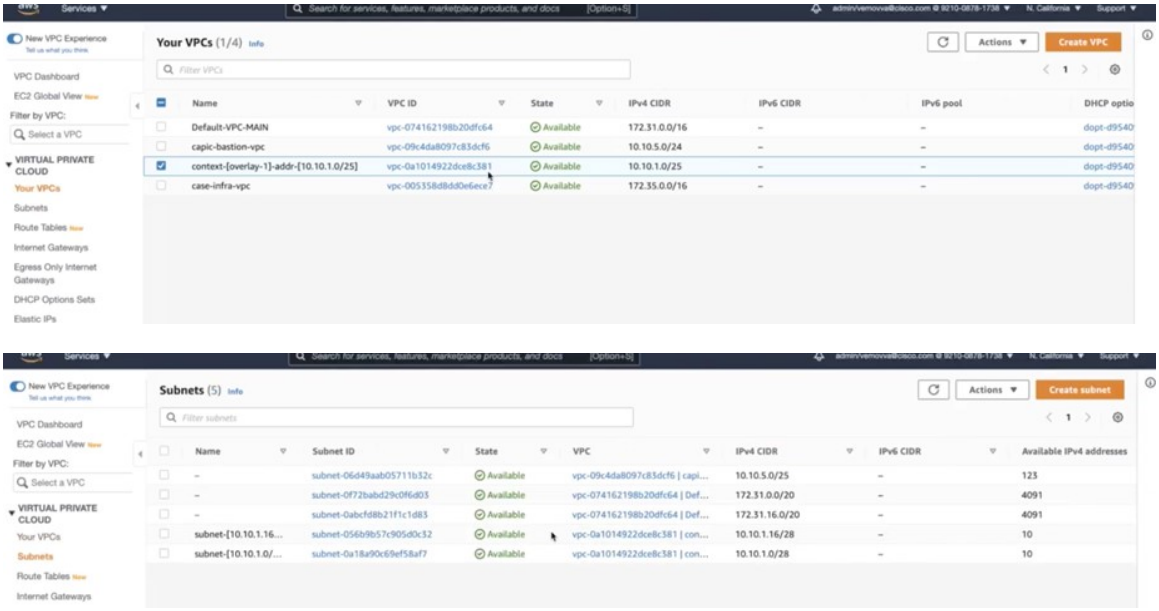
a) In the navigation pane, choose **Instances**.
b) Check the box next to the Cloud APIC VM instance.
c) Right-click on the line for the Cloud APIC VM instance and choose **Instance State** > **Terminate**.

It will take a few minutes for the Cloud APIC VM instance to terminate.



After you the Cloud APIC VM instance is terminated, the two interfaces associated with the VM will hang at this point. Once the new VM comes up as part of the upgrade, it will get reattached to the same interfaces.

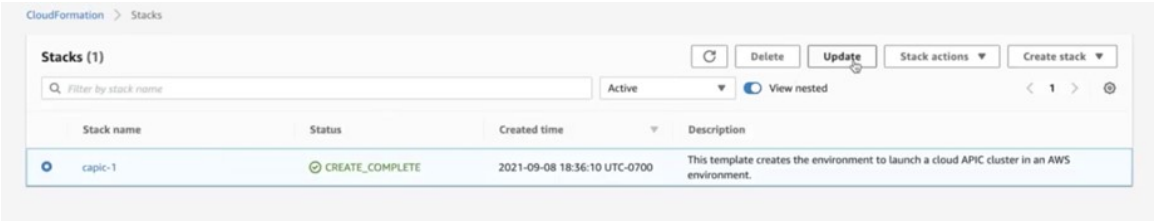
Once the termination process is completed for the Cloud APIC VM, you will note that the VPCs and other network resources, such as the CIDRs and subnets, are still intact.



Step 4 When the termination process is completed for the Cloud APIC VM, go back to the stack and verify that it is still in the running state.

Navigate to the **CloudFormation** area and verify that the Cloud APIC stack is still in the running state.

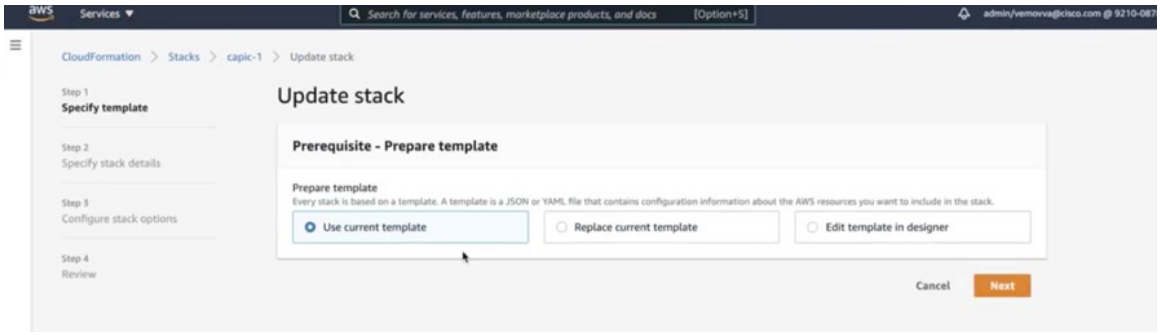
Step 5 Click the circle next to the Cloud APIC stack and click **Update**.



The **Update stack** window appears.

Step 6 Click **Use current template**, then click **Next**.

Because you are not changing anything in the template, you will choose the **Use current template** option in this window.

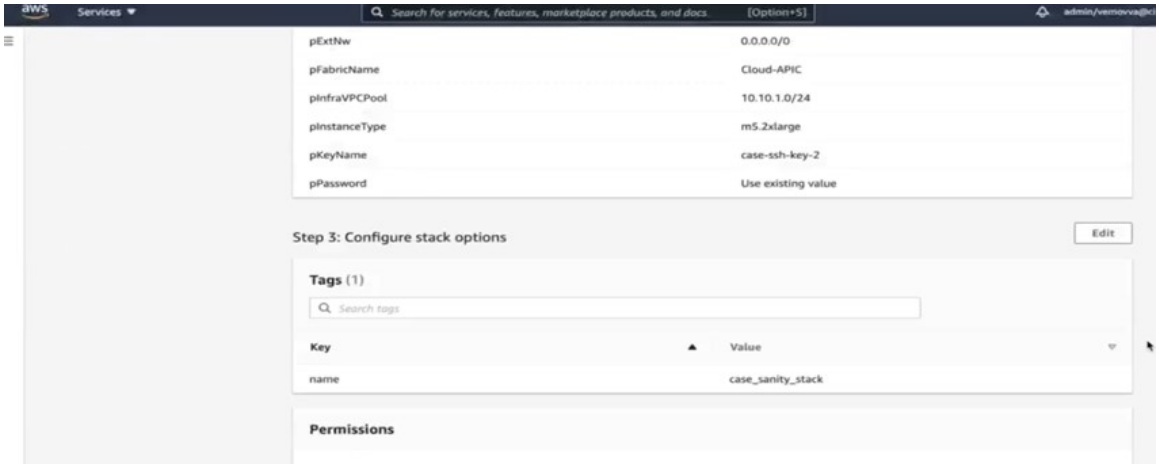


The **Specify stack details** window appears.

Step 7 In the **Specify stack details** window, leave all of the fields as-is, except for the **SSH Key Pair** field.

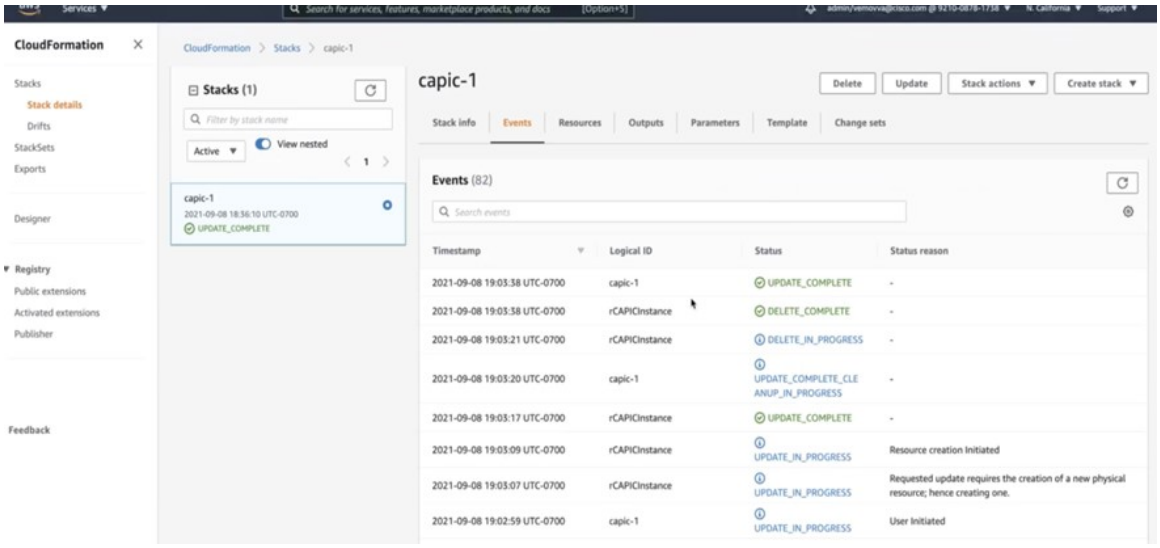
In the **SSH Key Pair** field, select the new SSH key file name that you configured in #unique_67 unique_67_Connect_42_step_ayv_tsz_yrb.

Step 8 Click **Next** at the bottom of the **Specify stack details** window, then navigate through the remaining windows in the **Update stack** windows, verifying that you see the new SSH key file name in the fields in those windows.



Step 9 Click on **Update stack** at the end of the process.

The update for the stack begins.



Step 10 Monitor the progress of the update for the stack.

The update for the stack will go through the following stages:

- AWS will first create a new Cloud APIC VM.
- As part of the stack update, it will try to delete the old Cloud APIC VM, which was already deleted manually.
- The Cisco Cloud APIC will be posted in the stack.

Step 11 Wait until you see the **UPDATE_COMPLETE** message in the **Stacks** window, then navigate back to the **Instances** window.

- The Cloud APIC instance will have the new instance ID and will be using the new SSH key.
- The old interfaces will be reattached to the new instance, and the CIDRs and subnets will all remain the same.
- The Cloud APIC management IP address will also be the same.

Step 12 After roughly 5-10 minutes, verify that the version is correct in the Cloud APIC.

Log into your Cloud APIC using the management IP address. You should see the version of release that was running previously, before you upgraded to release 25.0(3).

Step 13 Trigger a CCR downgrade to the older Cisco Cloud Services Router 1000v.

As part of the upgrade to 25.0(3), you also moved from the older Cisco Cloud Services Router 1000v to the newer Cisco Catalyst 8000V. Downgrading from 25.0(3) to an earlier release therefore requires downgrading the CCR back to the older Cisco Cloud Services Router 1000v.

When the downgrade is completed, the system will recognize that the CCRs are now incompatible with the Cisco Cloud APIC. You will see a message saying that the CCRs and the Cisco Cloud APIC are incompatible and that any new policies configured for the Cisco Cloud APIC will not be applied to the CCRs until you've downgraded the CCRs.

You can begin the process of triggering the CCR downgrade using either of the following methods. Note that while the menu option is shown as **Upgrade CCRs** in both methods, you are actually downgrading the CCRs in this situation by selecting this option.

- In the banner at the top of the screen when your first log into the Cisco Cloud APIC, click on the **Upgrade CCRs** link, or
- Through the **CCRs** area in the **Firmware Management** page by navigating to:

  Operations > **Firmware Management**

  Click the **CCRs** tab, then choose **Upgrade CCRs**.

Step 14 Enable Global AES encryption using the same passphrase that you noted when you backed up your configuration in Backing Up Your Existing Configuration, on page 6.

a) In your Cisco Cloud APIC GUI, navigate to **Infrastructure** > **System Configuration**.

   It should be underneath the **General** tab by default; if not, click the **General** tab.

b) Click the pencil icon at the upper right part of the **Global AES Encryption** area.

   The **Global AES Encryption Settings** window appears.

c) Click the box next to the **Encryption: Enabled** area, then enter the passphrase that you noted in Backing Up Your Existing Configuration, on page 6 in the **Passphrase/Confirm Passphrase** fields.

d) Click **Save** at the bottom of the window.

Step 15 Import the configuration for the previous release that you backed up before you upgraded to release 25.0(3) and verify that the previous configurations converge.

Use the following settings when importing the configuration for the previous release that you backed up:

- In the **Restore Type** field, choose **Merge**.
- In the **Restore Mode** field, choose **Best Effort**.

The home region CCR creation will automatically begin after this step.

Step 16 If the site is managed by ACI Multi-Site Orchestrator/Nexus Dashboard Orchestrator, update the new Cloud APIC VM IP address.

a) Log into ACI Multi-Site Orchestrator/Nexus Dashboard.

b) Edit and reregister the site.

1. In Nexus Dashboard, navigate to **Sites** and click on the correct site.
2. Click the Details icon to bring up the Overview window.
3. Click on the pencil icon to edit the information for this site.
4. Click the box next to **Re-register Site** and enter the necessary information to update with the new Cloud APIC VM IP address.
5. Click **Save**.

c) Go into ACI Multi-Site Orchestrator/Nexus Dashboard Orchestrator and verify that the site is still managed.

1. In Nexus Dashboard Orchestrator, navigate to **Sites**.
2. Locate your site and verify that **Managed** is displayed in the **State** column.

d) Perform a cloud site refresh.

1. In Nexus Dashboard Orchestrator, navigate to **Infrastructure** > **Infra Configuration**, then click **Configure Infra**.
2. Select the site in the left nav bar, then click **Refresh**.

   Click **Yes** in the confirmation window to continue with the cloud site refresh.

e) Click **DEPLOY** > **Deploy Only** to deploy the infra configuration.

Performing a System Recovery

The procedures for performing a system recovery is identical to the procedures for performing a migration-based upgrade. Refer to the section Migration-Based Upgrade, on page 9 for those procedures.

Triggering an Upgrade of the CCRs

The following topics provide information and procedures for triggering an upgrade of the CCRs.

Triggering an Upgrade of the CCRs

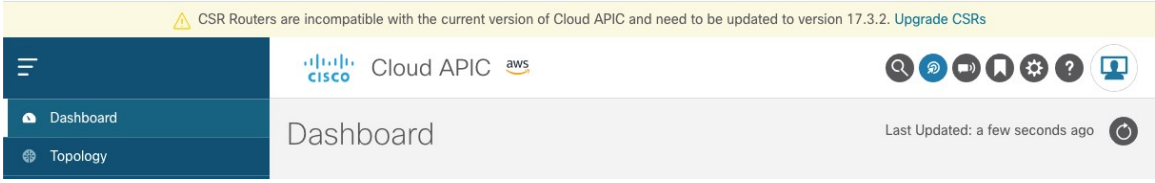
Prior to Release 5.2(1), the CCRs are upgraded automatically whenever you trigger an upgrade for the Cisco Cloud APIC. Beginning with Release 5.2(1), you can trigger upgrades to the CCRs and monitor those CCR upgrades, independent from the Cisco Cloud APIC upgrades. This is useful to reduce traffic loss by allowing you to split up the upgrades for the management plane (Cisco Cloud APIC) and the data plane (CCRs).

Beginning with Release 5.2(1), this feature is enabled by default, where the default assumption is that you will be triggering the upgrades to the CCRs after you trigger an upgrade to the Cisco Cloud APIC. You cannot disable this feature once it's enabled.

When this feature is enabled, the proper upgrade sequence for the Cisco Cloud APIC and the CCRs is as follows.

Note Following are upper-level steps to describe the overall process for triggering upgrades to the CCRs. For specific step-by-step instructions, see Triggering an Upgrade of the CCRs Using the Cisco Cloud APIC GUI, on page 30.

1. Upgrade Cisco Cloud APIC using the instructions provided in this chapter.
2. Wait for the Cisco Cloud APIC upgrade process to complete. When that upgrade is completed, the system will recognize that the CCRs are now incompatible with the Cisco Cloud APIC. You will then see a message saying that the CCRs and the Cisco Cloud APIC are incompatible and that any new policies configured for the Cisco Cloud APIC will not be applied to the CCRs until you've upgraded the CCRs.



3. View and accept the terms and conditions for the CCRs on the AWS portal.
4. Trigger the CCR upgrade so that it is now at a compatible version as the Cisco Cloud APIC.

   You can begin the process of triggering the CCR upgrade using either of these two methods:

   - In the banner at the top of the screen, click on the **Upgrade CCRs** link, or
   - Through the **CCRs** area in the **Firmware Management** page. Navigate to:

     Operations > **Firmware Management**

     Click the **CCRs** tab, then choose **Upgrade CCRs**.

You can also trigger the CCR upgrade through the REST API. See Triggering an Upgrade of the CCRs Using the REST API, on page 31 for those instructions.

Guidelines and Limitations

- After you have upgraded the Cisco Cloud APIC, if you do not see the message saying that the CCRs and the Cisco Cloud APIC are incompatible, you might have to refresh the browser for that message to appear.
- Trigger an upgrade to the CCRs *after* you have upgraded the Cisco Cloud APIC. Do not trigger an upgrade to the CCRs before you have upgraded the Cisco Cloud APIC.
- Once you have triggered an upgrade to the CCRs, it cannot be stopped.
- If you see any errors after you trigger an upgrade to the CCRs, check and resolve those errors. The CCR upgrade will continue automatically once those CCR upgrade errors have been resolved.

Triggering an Upgrade of the CCRs Using the Cisco Cloud APIC GUI

This section describes how to trigger an upgrade to the CCRs using the Cisco Cloud APIC GUI. For more information, see Triggering an Upgrade of the CCRs, on page 29.

Step 1 Begin the process of triggering the CCR upgrade to a compatible CCR version.

You can begin the process of triggering the CCR upgrade using either of these two methods:

- In the banner at the top of the screen, click on the **Upgrade CCRs** link, or
- Through the **CCRs** area in the **Firmware Management** page. Navigate to:

  Operations > **Firmware Management**

  Click the **CCRs** tab, then choose **Upgrade CCRs**.

A warning appears after clicking **Upgrade CCRs**, stating that upgrading the CCRs will cause the CCRs to reboot, which may cause temporary disruption in traffic.

Step 2 If this is a good time to upgrade the CCRs and have a temporary disruption in traffic, click **Confirm Upgrade** in the warning message.
The CCR software upgrade begins. A banner appears at the top of the screen, saying that the CCR upgrade is in process. Click **View CCR upgrade status** in the message to view the status of the CCR upgrade.

Step 3 Fix any faults that might occur during the upgrade of the CCRs.

If a fault occurs during the upgrade, you can get more information on the fault by navigating to:

Operations > **Event Analytics** > **Faults**

Triggering an Upgrade of the CCRs Using the REST API

This section describes how to trigger an upgrade to the CCRs using the REST API. For more information, see Triggering an Upgrade of the CCRs, on page 29.

Set the value for the `routerUpgrade` field to `"true"` in the cloud template to trigger an upgrade to the CCRs through the REST API (`routerUpgrade="true"`).

```
<polUni>
<fvTenant name="infra">
    <cloudtemplateInfraNetwork name="default" vrfName="overlay-1">
       <cloudtemplateProfile name="defaultxyz" routerUsername="SomeFirstName" routerPassword="SomePass"
 routerUpgrade="true">
        </cloudtemplateProfile>
        <cloudtemplateExtSubnetPool subnetpool="10.20.0.0/16"/>
        <cloudtemplateIntNetwork name="default">
            <cloudRegionName provider="aws" region="us-west-1"/>
            <cloudRegionName provider="aws" region="us-west-2"/>
        </cloudtemplateIntNetwork>
        <cloudtemplateExtNetwork name="default">
            <cloudRegionName provider="aws" region="us-west-2"/>
            <cloudtemplateVpnNetwork name="default">
                <cloudtemplateIpSecTunnel peeraddr="23.2.1.1/32" />
                <cloudtemplateIpSecTunnel peeraddr="23.0.1.1/32" />
                <cloudtemplateIpSecTunnel peeraddr="23.1.1.1/32" />
                <cloudtemplateOspf area="0.0.0.1"/>
            </cloudtemplateVpnNetwork>
           <cloudtemplateBgpEvpn peeraddr="34.1.1.1/32" asn="63000" siteId="123" password="abcd1234"
 />
        </cloudtemplateExtNetwork>
    </cloudtemplateInfraNetwork>
</fvTenant>
</polUni>
```