

Manage Device Configuration

In order to manage a device, Security Cloud Control must have its own copy of the device's configuration stored in its local database. When Security Cloud Control "reads" a configuration from a device it manages, it takes a copy of the device's configuration and saves it. The first time Security Cloud Control reads and saves a copy of a device's configuration is when the device is onboarded. These choices describe reading a configuration for different purposes:

- **Discard Changes**: This action is available when a device's configuration status is "Not Synced." In the Not Synced state, there are changes to the device's configuration pending on Security Cloud Control. This option allows you to undo all pending changes. The pending changes are deleted and Security Cloud Control overwrites its copy of the configuration with copy of the configuration stored on the device.
- Check for Changes: This action is available if the device's configuration status is Synced. Clicking Checking for Changes directs Security Cloud Control to compare its copy of the device's configuration with the copy of the configuration stored on the device. If there is a difference, Security Cloud Control immediately overwrites its copy of the device's configuration with the copy stored on the device.
- Review Conflict and Accept Without Review: If you have enabled Conflict Detection on a device, Security Cloud Control checks for configuration changes made on the device every 10 minutes. If the copy of the configuration stored on the device has changed, Security Cloud Control notifies you by displaying the "Conflict Detected" configuration status.
 - **Review Conflict**: Click Review Conflict allows you to review changes made directly on a device and accept or reject them.
 - Accept Without Review: This action overwrites Security Cloud Control's copy of a device's configuration with the latest copy of the configuration stored on the device. Security Cloud Control does not prompt you to confirm the differences in the two copies of the configuration before taking the overwriting action.

Read All: This is a bulk operation. You can select more than one device, in any state, and click **Read All** to overwrite all the devices' configurations stored on Security Cloud Control with the configurations stored on the devices.

• **Deploy Changes**: As you make changes to a device's configuration, Security Cloud Control saves the changes you make to its own copy of the configuration. Those changes are "pending" on Security Cloud Control until they are deployed to the device. When there are changes to a device's configuration that have not been deployed to the device, the device is in the Not Synced configuration state.

Pending configuration changes have no effect on the network traffic running through the device. Only after Security Cloud Control deploys the changes to the device do they have an effect. When Security

Cloud Control deploys changes to the device's configuration, it only overwrites those elements of the configuration that were changed. It does not overwrite the entire configuration file stored on the device. Deployments can be initiated for a single device or on more than one device simultaneously.

• **Discard All** is an option that is only available after you click **Preview and Deploy...** After clicking Preview and Deploy, Security Cloud Control shows you a preview of the pending changes in Security Cloud Control. Clicking **Discard All** deletes all pending changes from Security Cloud Control and does not deploy anything to the selected device(s). Unlike "Discard Changes" above, deleting the pending changes is the end of the operation.



Note

You can schedule deployments or recurring deployments. See Schedule an Automatic Deployment, on page 15 for more information.

- Reading, Discarding, and Deploying Configuration Changes, on page 2
- Synchronizing Configurations Between Security Cloud Control and Device, on page 19

Reading, Discarding, and Deploying Configuration Changes

Read All Device Configurations

If a configuration change is made to a device outside of Security Cloud Control, the device's configuration stored on Security Cloud Control and the device's local copy of its configuration are no longer the same. You many want to overwrite Security Cloud Control's copy of the device's configuration with the configuration stored on the device to make the configurations the same again. You can perform this task on many devices simultaneously using the **Read All** link.

See Reading, Discarding, Checking for, and Deploying Configuration Changes for more information about how Security Cloud Control manages the two copies of the device's configuration.

Here are three configuration statuses where clicking **Read All** will overwrite Security Cloud Control's copy of the device's configuration with the device's copy of the configuration.

- Conflict Detected-If conflict detection is enabled, Security Cloud Control polls the devices it manages every 10 minutes for changes made to their configurations. If Security Cloud Control finds that the configuration on the device has changed, Security Cloud Control displays a "Conflict detected" configuration status for the device.
- Synced-If the device is in a synced state, and you click **Read All**, Security Cloud Control immediately checks the devices to determine if there have been any changes made to its configurations directly. After clicking **Read All**, Security Cloud Control confirms your intent to overwrite its copy of the device's configuration and then Security Cloud Control performs the overwrite.
- Not Synced-If the device is in the Not Synced state, and you click **Read All**, Security Cloud Control warns you that there are pending changes made to to the device's configuration using Security Cloud Control and that proceeding with the Read All operation will delete those changes and then overwrite Security Cloud Control's copy of the configuration with the configuration on the device. This Read All functions like Discard Changes.

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the **Devices** tab.
- **Step 4** Click the appropriate device type tab.
- Step 5 Select the devices whose configurations you want to save Security Cloud Control. Notice that Security Cloud Control only provides command buttons for actions that can be applied to all the selected devices.
- Step 6 Click Read All.
- Step 7 Security Cloud Control warns you if there are configuration changes staged on Security Cloud Control, for any of the devices you selected, and asks if you want to continue with the bulk reading configurations action. Click **Read All** to continue.
- **Step 8** If you created and activated a change request label, remember to clear it so that you don't inadvertently associate other configuration changes with this event.

Related Information

- Reading, Discarding, Checking for, and Deploying Configuration Changes
- Discard Changes

Read Configuration Changes from an ASA to Security Cloud Control

Why Does Security Cloud Control "Read" ASA Configurations?

In order to manage an ASA, Security Cloud Control must have it's own stored copy of the ASA's running configuration file. The first time Security Cloud Control reads and saves a copy of the device's configuration file is when the device is onboarded. Subsequently, when Security Cloud Control reads a configuration from an ASA, you are opting to either **Check for Changes**, **Accept without Review**, or **Read Configuration**. See Reading, Discarding, Checking for, and Deploying Configuration Changes for more information.

Security Cloud Control also needs to read an ASA configuration in these circumstances:

- Deploying configuration changes to the ASA has failed and the device state is not listed or Not Synced.
- Onboarding a device has failed and the device state is No Config.
- You have made changes to the device configuration outside of Security Cloud Control and the changes have not been polled or detected. The device state would be either Synced or Conflict Detected.

In these cases, Security Cloud Control needs a copy of the last known configuration stored on the device.

Read Configuration Changes on ASA

When prompted to Read Configuration changes on an ASA:

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the **Devices** tab.
- **Step 4** Click the appropriate device type tab.
- Step 5 Select the device that Security Cloud Control has recently failed to onboard or the device that Security Cloud Control has failed to deploy a change to.
- **Step 6** Click **Read Configuration** in the Synced pane at the right. This option overwrites the configuration currently saved to Security Cloud Control.

Read Configuration Changes from FDM-Managed Device to Security Cloud Control

Why Does Security Cloud Control Read FDM-managed device Configurations?

In order to manage an FDM-managed device, Security Cloud Control must have its own stored copy of the FDM-managed device's configuration. When Security Cloud Control reads a configuration from an FDM-managed device, it takes a copy of the FDM-managed device's deployed configuration and saves it to its own database. The first time Security Cloud Control reads and saves a copy of the device's configuration file is when the device is onboarded. See Reading, Discarding, Checking for, and Deploying Configuration Changes for more information.

Pending and Deployed Changes

Configuration changes made to the FDM-managed device directly through the Firepower Device Manager (FDM) or its CLI are referred to as staged changes on the FDM-managed device until they are deployed. A staged, or pending, change can be edited or deleted without having any affect on traffic running through the FDM-managed device. Once the pending changes are deployed, however, they are enforced by the FDM-managed device and affect traffic running through the device.

Conflict Detected

If you enable Conflict Detection on the device, Security Cloud Control checks for configuration changes every 10 minutes. If the copy of the configuration stored on the device has changed, Security Cloud Control notifies you by displaying the "Conflict Detected" configuration status. If you do **not** have Conflict Detection enabled, or a change has been made to the device's configuration within the 10 minute interval between automatic polling, clicking **Check for Changes** prompts Security Cloud Control to immediately compare the copy of the configuration on the device with the copy of the configuration stored on Security Cloud Control. You can choose to **Review Conflict** to examine the differences between the device configuration and the configuration saved to Security Cloud Control, then select **Discard Changes** to remove the staged changes and revert to the saved configuration or confirm the changes. You can also choose to **Accept without Review**; this option takes the configuration and overwrites what is currently saved to Security Cloud Control.

Discard Changes Procedure

To discard configuration changes from the FDM-managed device, follow this procedure:

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the **Devices** tab.
- **Step 4** Click the appopriate device type tab.
- Step 5 Select the device whose configuration is set to Conflict Detected and gives you the link to Revert Pending Changes. The message explains that you can click the link to revert pending changes or you can log on to the device using the local manager FDM and deploy the changes first.

Caution

Clicking the Revert Pending Changes link deletes pending changes on FDM-managed device immediately. You are not given an opportunity to review the changes first.

- **Step 6** Review the changes on FDM before clicking Revert Pending Changes:
 - **a.** Open a browser window and enter https://<IP_address_of_the_FTD>.
 - **b.** Look for the deployment icon in FDM. It will have an orange circle indicating that there are changes ready to deploy ...
 - c. Click the icon and review the pending changes:
 - If the changes can be deleted, return to Security Cloud Control and click "Revert Pending Changes." At this point, the configuration on the FDM-managed device and the copy of the configuration on Security Cloud Control should be the same. You are done.
 - If you want to deploy the changes to the device, click **Deploy Now**. Now the deployed configuration on the FDM-managed device and the configuration on stored on Security Cloud Control are different. You can then return to Security Cloud Control and poll the device for changes. Security Cloud Control identifies identifies that there has been a change on the FDM-managed device, and gives you an opportunity to review the conflict. See Conflict Detected-Review Conflict to resolve that state.

If Reverting Pending Changes Fails

Changes to the system databases and security feeds can't be reverted by Security Cloud Control. Security Cloud Control recognizes that there are pending changes, attempts to revert them and then fails. To determine if the revert failure is due to pending database updates or security feed updates, log into the device's FDM

console. It will have an orange circle indicating that there are changes ready to deploy button to review the pending changes and deploy them or discard them as is appropriate.

Review Conflict Procedure

To review configuration changes from the FDM-managed device, follow this procedure:

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the **Devices** tab.
- **Step 4** Click the appropriate device type tab.
- Step 5 Select the device whose configuration is marked Conflict Detected and gives you a link to **Review Conflict** in the Conflict Detected pane on the right.
- Step 6 Click Review Conflict.
- **Step 7** Compare the two configurations presented to you.
- **Step 8** Take one of these actions:
 - Click **Accept** to overwrite the last known configuration on Security Cloud Control with the one found on the device. **Note**: The entire configuration stored on Security Cloud Control will be completely overwritten by the configuration found on the device.
 - Click **Reject** to reject the changes made on the device and replace them with the last known configuration on Security Cloud Control.
 - Click Cancel to stop the action.

Note

You can prompt Security Cloud Control to immediately check a device for an out-of-band change by clicking Check for Changes while the device is in the Synced state.

Accept Without Review Procedure

To accept configuration changes from the FDM-managed device without reviewing, follow this procedure:

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click the **Security Devices** tab.
- **Step 3** Click the appopriate device type tab.
- Step 4 Select the device whose configuration is marked Conflict Detected and gives you a link to **Accept Without**Review in the Conflict Detected pane on the right.
- **Step 5** Click **Accept Without Review**. Security Cloud Control accepts and overwrites the current configuration.

Related Information:

- Reading, Discarding, Checking for, and Deploying Configuration Changes
- Check for Changes
- Discard Changes

Preview and Deploy Configuration Changes for All Devices

Security Cloud Control informs you when you have made a configuration change to a device in your tenant,

but you have not deployed that change, by displaying an orange dot on the Deploy icon effected by these changes show the status "Not Synced" in the **Security Devices** page. By clicking **Deploy**, you can review which devices have pending changes and deploy the changes to those devices.

This deployment method is available for all supported devices.

You can use this deployment method for single configuration changes or wait and deploy multiple changes at once.

Procedure

- Step 1 In the menu bar of Security Cloud Control click the **Deploy** button
- Step 2 Select the devices with changes you want to deploy. If a device has a yellow caution triangle, you can not deploy changes to that device. Hover your mouse over the yellow caution triangle to find out why you can't deploy changes to that device.
- Step 3 (Optional) If you want to see more information about a pending change, click the View Detailed Changelog link to open the change log associated with that change. Click the Deploy icon to return to the Devices with Pending Changes page.
- Step 4 Click **Deploy Now** to deploy the changes immediately to the devices you selected. You'll see the progress in the Active jobs indicator in the Jobs tray.
- **Step 5** (Optional) After the deployment has finished, click **Jobs** in the Security Cloud Control navigation bar. You will see a recent "Deploy Changes" job showing the results of the deployment.
- **Step 6** If you created a change request label, and you have no more configuration changes to associate with it, clear it.

Deploy Configuration Changes from Security Cloud Control to ASA

Why Does Security Cloud Control Deploy Changes to an ASA?

As you manage and make changes to a device's configuration with Security Cloud Control, Security Cloud Control saves the changes you make to its own copy of the configuration file. Those changes are considered "staged" on Security Cloud Control until they are "deployed" to the device. Staged configuration changes have no effect on the network traffic running through the device. Only after Security Cloud Control "deploys" the changes to the device do they have an effect on the traffic running through the device. When Security Cloud Control deploys changes to the device's configuration, it only overwrites those elements of the configuration that were changed. It does not overwrite the entire configuration file stored on the device.

The ASA has a "running" configuration file, sometimes called the "running config" and a "startup" configuration file that is sometimes called the "startup config." The configuration stored in the running config file is enforced on traffic passing through the ASA. After you make changes to the running config and you are happy with the behavior those changes produce, you can deploy them to the startup config. If the ASA is ever rebooted, it uses the startup config as its configuration starting point. Any changes you make to the running config that are not saved to the startup config are lost after an ASA is rebooted.

When you deploy changes from Security Cloud Control to an ASA, you are writing those changes into the running configuration file. After you are satisfied with the behavior those changes produce, you can deploy those changes to the startup configuration file.

Deployments can be initiated for a single device or on more than one device simultaneously. You can schedule individual deployments or recurring deployments for a single device.

Some Changes are Deployed Directly to the ASA

If you use the command line interface interface on Security Cloud Control to make a change to an ASA, those changes are not "staged" on Security Cloud Control. They are deployed directly to the running configuration of the ASA. When you make changes that way, your device remains "synced" with Security Cloud Control.

About Deploying Configuration Changes

This section assumes you are using Security Cloud Control's GUI or editing the Device Configuration page, *not* using Security Cloud Control's CLI interface or CLI macro interface, to make changes to an ASA configuration file.

Updating an ASA configuration is a two-step process.

Procedure

- **Step 1** Make changes on Security Cloud Control using one of these methods:
 - The Security Cloud Control GUI
 - The device configuration on the Device Configuration page
- Step 2 After you make your changes, return to the Security Devices page and then Preview and Deploy... the change to the device.

What to do next

When Security Cloud Control updates an ASA's running configuration with the one staged on Security Cloud Control, or when it changes the configuration on Security Cloud Control with the running configuration stored on the ASA, it attempts to change only the relevant lines of the configuration file if that aspect of the configuration can be managed by the Security Cloud Control GUI. If the desired configuration change **cannot** be made using the Security Cloud Control GUI, Security Cloud Control attempts to overwrite the entire configuration file to make the change.

Here are two examples:

- You can create or change a network object using the Security Cloud Control GUI. If Security Cloud Control needs to deploy that change to an ASA's configuration, it would overwrite the relevant lines of the running configuration file on the ASA when the change occurs.
- You **cannot** create a new local ASA user using the Security Cloud Control GUI but you can create one by editing the ASA's configuration on the Device Configuration page. If you add a user on the Device Configuration page, and you deploy that change to the ASA, Security Cloud Control will try to save that change to the ASA's running configuration file by overwriting the entire running configuration file.

Deploy Configuration Changes Made Using the Security Cloud Control GUI

Procedure

- **Step 1** After you make a configuration change using the Security Cloud Control GUI and save your change, that change is saved in Security Cloud Control's stored version of the ASA's running configuration file.
- **Step 2** Return to the device on the **Security Devices** page.
- **Step 3** Click the <u>Devices</u> tab. You should see that the device is now "Not synced."
- **Step 4** Deploy the changes using one of these methods:
 - Click the **Deploy** icon at the top-right of the screen. This gives you a chance to review the changes you made to the device before you deploy them. Check the device you made changes to, expand the device to review the changes, click **Deploy Now** to deploy the changes.

Note

If you see a yellow warning triangle next to your device on the Devices with Pending Changes screen, you cannot deploy a change to it. Hover your mouse over the warning triangle to learn why you can't deploy changes to the device.

- In the Not Synced pane, click Preview and Deploy....
- **a.** Review the commands that will change the ASA configuration file.
- **b.** If you are satisfied with the commands, choose a Configuration Recovery Preference.

Note

If you choose "Let me know and I will restore the configuration manually." click **View Manual Synchronization Instructions** before continuing.

- c. Click Apply Changes to Device.
- **d.** Click **OK** to acknowledge the success message.

Schedule Automatic Deployments

You can also configure your tenant to schedule deployments to a single device or all devices with pending changes by scheduling automatic deployments.

Deploy Configuration Changes Using Security Cloud Control's CLI Interface

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the Devices tab.
- **Step 4** Click the appropriate device type tab.
- **Step 5** Select the device whose configuration you want to change.
- Step 6 Click >_Command Line Interface in the Actions pane.
- **Step 7** If there are any commands in the command line interface table, click **Clear** to remove them.
- **Step 8** In the top box of the command line interface table, enter your commands at the command prompt. You can run a single command, several commands in a batch by entering each command on its own line, or entering a section of configuration file as a command. Here are some examples of commands you can enter in the command line interface table:

A single command creating the network object "albany"

```
object network albany host 209.165.30.2
```

Multiple commands sent together:

object network albany host 209.165.30.2 object network boston host 209.165.40.2 object network cambridge host 209.165.50.2

A section of a running configuration file entered as a command:

```
interface GigabitEthernet0/5
nameif guest
security-level 0
no ip address
```

Note

Security Cloud Control does not require you to move between EXEC mode, Privileged EXEC mode, and Global Configuration mode. It interprets the command you enter in the proper context.

- Step 9 After you have entered your commands, click Send. After Security Cloud Control has successfully deployed the changes to the ASA's running config file, you receive the message, Done!
- **Step 10** After you send the command you may see the message, "Some commands may have made changes to the running config" along with two links.
 - Clicking Deploy to Disk saves the changes made by this command, and any other change in the running config, to the ASA's startup config.
 - Clicking **Dismiss**, dismisses the message.

Deploy Configuration Changes by Editing the Device Configuration



Caution

This procedure is for advanced users who are familiar with the syntax of an ASA configuration file. This method makes changes directly to the running configuration file stored on Security Cloud Control.

Procedure

Step 1	In the left pane, choose Security Devices
Step 2	In the left pane, click Inventory .
Step 3	Click the appropriate device type tab.
Step 4	Select the device whose configuration you want to change.
Step 5	Click View Configuration in the Actions pane.
Step 6	Click Edit.
Step 7	Make your changes to the running configuration and Save them.
Step 8	Return to the Security Devices page. In the Not Synced pane, click Preview and Deploy
Step 9	In the Device Sync pane review the changes.
Step 10	Click Replace Configuration or Apply Changes to Device depending on the kind of change it is.

Deploy Configuration Changes for a Shared Object on Multiple Devices

Use this procedure when you are making changes to a policy or object shared by two or more devices. You can change a common policy on however many devices use it.

Procedure

Step 1	Open and edit the Policies page or the Objects page containing the shared object you want to edit.
Step 2	Review the shared device list and confirm that you want to make the changes on all the devices mentioned.
Step 3	Click Confirm.
Step 4	Click Save.
Step 5	Click the Deploy icon and deploy your changes to the affected devices.

Deploy Configuration Changes from Security Cloud Control to FDM-Managed Device

Why Does Security Cloud Control Deploy Changes to an FDM-Managed Device?

As you manage and make changes to a device's configuration with Security Cloud Control, Security Cloud Control saves the changes you make to its own copy of the configuration file. Those changes are considered staged on Security Cloud Control until they are deployed to the device. Staged configuration changes have no effect on the network traffic running through the device. Only after Security Cloud Control deploys the changes to the device do they have an affect on the traffic running through the device. When Security Cloud Control deploys changes to the device's configuration, it only overwrites those elements of the configuration that were changed. It does not not overwrite the entire configuration file stored on the device.

Like Security Cloud Control, FDM-managed device has the concept of pending changes and deployed changes. Pending changes on FDM-managed device are the equivalent of staged changes on Security Cloud Control. A pending change can be edited or deleted without having any affect on traffic running through the FDM-managed device. Once the pending changes are deployed, however, they are enforced by the FDM-managed device and affect traffic running through the device.

Because of FDM-managed devices two step process for editing configuration files, Security Cloud Control deploys changes to an FDM-managed device slightly differently than it does to other devices it manages. Security Cloud Control first deploys the changes to FDM-managed device and the changes are in the pending state. Then, Security Cloud Control deploys the changes on the devices and they become live. Now that the changes have been deployed, they are enforced and affect traffic running through the FDM-managed device. This applies to both standalone and high availability (HA) devices.

Deployments can be initiated for a single device or on more than one device simultaneously. You can schedule individual deployments or recurring deployments for a single device.

Two things will prevent Security Cloud Control from deploying changes to an FDM-managed device:

- If there are staged changes on the FDM-managed device. See Conflict Detected for more information on how to resolve this state.
- Security Cloud Control does not deploy changes if there are changes in the process of being deployed to the FDM-managed device.

Scheduling Automatic Deployments

You can also configure your tenant to schedule deployments to a single device with pending changes scheduling automatic deployments.

Deploy Changes to a Device

Procedure

- **Step 1** After you make a configuration change for a device using Security Cloud Control and save it, that change is saved in Security Cloud Control instance of the device's configuration.
- **Step 2** In the navigation bar, click **Inventory**.

- **Step 3** In the navigation bar, click **Security Devices**.
- Step 4 Click the Devices tab.
- **Step 5** Click the appropriate device type tab. You should see that the configuration status of the device you made changes to is now "Not synced."
- **Step 6** Deploy the changes using one of these methods:
 - Select the device and in the Not Synced pane on the right, click **Preview and Deploy.** On the Pending Changes screen, review the changes. If you are satisfied with the pending version, click **Deploy Now**.
 - Click the **Deploy** icon at the top-right of the screen. See Preview and Deploy Configuration Changes for All Devices, on page 7 for more information.

Cancelling Changes

If, when deploying a change from Security Cloud Control to a device, you click **Cancel**, the changes you made are not deployed to the device. The process is canceled. The changes you made are still pending on Security Cloud Control and can be edited further before you finally deploy them to FDM-managed device.

Discarding Changes

If, when previewing changes, you click **Discard all**, the changes you made, and any other changes any other user made but did not deploy to the device, are deleted. Security Cloud Control reverts its pending configuration to the last read or deployed configuration before any changes were made.

Bulk Deploy Device Configurations

If you have made changes to multiple devices, for instance by editing a shared object, you can apply those change to all of the affected devices at once:

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the **Devices** tab.
- **Step 4** Click the appropriate device type tab.
- Step 5 Select all of the devices for which you have made configuration changes on Security Cloud Control. These devices should show "Not Synced" status.
- **Step 6** Deploy the changes using one of these methods:
 - Click the button at the top-right of the screen to view the **Devices with Pending Changes** window. This gives you a chance to review the pending changes on the devices you selected before you deploy them. Click **Deploy Now** to deploy the changes.

Note

If you see a yellow warning triangle next to a device on the **Devices with Pending Changes** screen, you cannot deploy a change to that device. Hover your mouse over the warning triangle for information about why changes cannot be deployed to that device.

• Click **Deploy All 2** on the details pane. Review any warnings and click **OK**. The bulk deployment starts immediately without a review of the changes.

Step 7 (Optional) Click the Jobs icon in the navigation bar to view the results of the bulk deploy.

Related Information:

• Schedule an Automatic Deployment, on page 15

Preview and Deploy On-Premises Firewall Management Center Configurations

If you have made configuration changes to an object, for instance, changing a value or adding an override to an object, you can deploy all of those changes at once to your on-premises management center:



Note

Note that this task only pushes the configuration changes to the on-premises management center. Ensure you manually deploy these changes to your Firewall Threat Defense devices on your on-premises management center. See Configuration Deployment in the Cisco Secure Firewall Management Center Device Configuration Guide for more information.

Procedure

Step 1 In the navigation pane, click Tools & Services > Firewall Management CenterAdministration > Integrations > Firewall Management Center and select the On-Premises Firewall Management Center, to which you want to preview and deploy changes.

Note

Security Cloud Control detects that your on-premises management center is out of sync and displays the status as **Not Synced**.

- **Step 2** Click **Preview and Deploy** on the details pane on the right.
- Step 3 Review any warnings and click **Deploy Now**. The deployment starts immediately without a review of the changes. Click **Discard All** if you do not want to proceed with the deploy after previewing.
- Alternatively, you can also click the button at the top-right of the screen to view the **Devices with Pending Changes** window. Select the devices you want and review the pending changes on the devices that you selected before you deploy them.
- **Step 5** Click **Deploy Now** to deploy the changes.

About Scheduled Automatic Deployments

Using Security Cloud Control, you can make configuration changes to one or more of the devices it manages and then schedule the changes to be deployed to those devices at a time that is convenient for you.

If there were changes made directly to the device that have not been read to Security Cloud Control, the scheduled deployment will be skipped until that conflict is resolved. The Jobs page will list any instance where a scheduled deployment fails. If **Enable the Option to Schedule Automatic Deployments** is turned off, all scheduled deployments are deleted.



Caution

If you schedule a new deployment for multiple devices, and some of those devices already have deployments scheduled, the new scheduled deployment overwrites the existing scheduled deployments.



Note

When you create a scheduled deployment, the schedule is created in your local time, not in the time zone of the device. Scheduled deployments *do not* automatically adjust for daylight savings time.

Schedule an Automatic Deployment

The deployment schedule can be a single event or a recurring event. You may find recurring automatic deployments a convenient way to line up recurring deployments with your maintenance window. Follow this procedure to schedule a one-time or a recurring deployment for a single device:



Note

If you schedule a deployment for a device that has an existing deployment scheduled, the new scheduled deployment overwrites the existing deployment.

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the **Devices** tab.
- **Step 4** Click the appropriate device type tab.
- **Step 5** Select one ore more devices.
- **Step 6** In the Device Details pane, locate the Scheduled Deployments tab and click **Schedule**.
- **Step 7** Select when the deployment should occur.
 - For a one-time deployment, click the **Once on** option to select a date and time from the calendar.
 - For a recurring deployment, click the **Every** option. You can choose either a daily or once a week deployment. Select the **Day** and **Time** the deployment should occur.

Step 8 Click Save.

Edit a Scheduled Deployment

Follow this procedure to edit a scheduled deployment:

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the **Devices** tab.
- **Step 4** Click the appropriate device type tab.
- **Step 5** Select one or more devices.
- Step 6 In the Device Details pane, locate the Scheduled Deployments tab and click Edit.



- **Step 7** Edit the recurrence, date, or time of a scheduled deployment.
- Step 8 Click Save.

Delete a Scheduled Deployment

Follow this procedure to delete a scheduled deployment:



Note

If you schedule a deployment for multiple devices, and then change or delete the schedule for some of the devices, the original scheduled deployment for the remaining devices will be preserved.

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the **Devices** tab.
- **Step 4** Click the appropriate device type tab.
- **Step 5** Select one or more devices.
- Step 6 In the Device Details pane, locate the Scheduled Deployments tab and click Delete .

What to do next

- Reading, Discarding, Checking for, and Deploying Configuration Changes
- Read All Device Configurations, on page 2
- Deploy Configuration Changes from Security Cloud Control to ASA, on page 7

- Deploy Configuration Changes from Security Cloud Control to FDM-Managed Device, on page 12
- Preview and Deploy Configuration Changes for All Devices, on page 7

Check for Configuration Changes

Check for Changes to determine if the device's configuration has been changed directly on the device and it is no longer the same as the copy of the configuration stored on Security Cloud Control. You will see the this option when the device is in the "Synced" state.

To check changes:

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the **Devices** tab.
- **Step 4** Click the appropriate device type tab.
- **Step 5** Select the device, whose configuration you suspect may have been changed directly on the device.
- **Step 6** Click **Check for Changes** in the Synced pane on the right.
- **Step 7** The behavior that follows is slightly different depending on the device:
 - For FTD device if there has been a change to the device's configuration, you will receive the message:

Reading the policy from the device. If there are active deployments on the device, reading will start after they are finished.

- Click **OK** to continue. The configuration on the device will overwrite the stored configuration on Security Cloud Control.
- Click Cancel to cancel the action.
- For ASA device:
- a. Compare the two configurations presented to you. Click Continue. The configuration labeled Last Known Device Configuration is the configuration stored on Security Cloud Control. The configuration labeled Found on Device is the configuration saved on the ASA.
- **b.** Select either:
 - 1. Reject the out-of-band changes to keep the "Last Known Device Configuration."
 - **2. Accept** the out-of-band changes to overwrite the device's configuration stored in Security Cloud Control with the configuration found on the device.
- c. Click Continue.

Discard Configuration Changes

Click **Discard Changes** when you want to "undo" all the *undeployed* configuration changes you made to a device's configuration using Security Cloud Control. When you click **Discard Changes**, Security Cloud Control *completely overwrites* its local copy of a device's configuration with the configuration stored on the device.

When you click **Discard Changes**, your device's configuration status is in a **Not Synced** state. After you discard your changes, the copy of the configuration on Security Cloud Control will be the same as the copy of the configuration on the device and the configuration status in Security Cloud Control will return to Synced.

To discard, or "undo," all of your undeployed configuration changes for a device:

Procedure

- **Step 1** In the left pane, click **Inventory**.
- **Step 2** In the left pane, click **Security Devices**.
- Step 3 Click the **Devices** tab.
- **Step 4** Click the appropriate device type tab.
- **Step 5** Select the device you have been making configuration changes to.
- Step 6 Click Discard Changes in the Not Synced pane on the right.
 - For FDM-managed devices-Security Cloud Control warns you that "Pending changes on Security Cloud Control will be discarded and the Security Cloud Control configuration for this device will be replaced with the configuration currently running on the device." Click **Continue** to discard your changes.

Discard On-Premises Firewall Management Center Configuration Changes

If you want to undo all the configuration changes you made in Security Cloud Control, for instance to the objects that are shared between your Security Cloud Control and on-premises management center, use this procedure. Note that when you do this, Security Cloud Control *completely overwrites* its local copy of the configuration with the configuration stored on the device.

Procedure

- Step 1 In the left pane, click Tools & Services > Firewall Management CenterAdministration > Integrations > Firewall Management Center.
- **Step 2** Select the On-Premises Firewall Management Center, for which you want to discard changes.
- Step 3 Click Discard Changes in the Not Synced pane on the right.

When you click **Discard Changes**, your on-premises management center's configuration status is in a **Not Synced** state. After you discard your changes, the copy of the configuration on Security Cloud Control will

be the same as the copy of the configuration on the on-premises management center and the configuration status in Security Cloud Control returns to **Synced**.

Out-of-Band Changes on Devices

Out-of-band changes refer to changes made directly on the device without using Security Cloud Control. These changes may be made using the device's command-line interface over an SSH connection or by using a local manager like the Adaptive Security Device Manager (ASDM) for the ASA, the FDM for the FDM-managed device, or for an On-Premises Firewall Management Center on the On-Premises Firewall Management Center user interface. An out-of-band change causes a conflict between the device's configuration stored on Security Cloud Control and the configuration stored on the device itself.

Detecting Out-of-Band Changes on Devices

If Conflict Detection is enabled for an ASA, or an FDM-managed device, a Cisco IOS device, or an On-Premises Firewall Management Center, Security Cloud Control checks the device every 10 minutes searching for any new changes made directly to the device's configuration outside of Security Cloud Control.

If Security Cloud Control finds that there are changes to the device's configuration that are not stored on Security Cloud Control, it changes the **Configuration Status** of that device to the "Conflict Detected" state.

When Security Cloud Control detects a conflict, one of two conditions is likely:

- There have been configuration changes made to the device directly that have not been saved to Security Cloud Control's database.
- In the case of an FDM-managed device, there may be "pending" configuration changes on the FDM-managed device that have not been deployed.
- In the case of an On-Premises Firewall Management Center, there may be changes made, for instance, to objects outside Security Cloud Control, which are pending to be synchronized with Security Cloud Control or changes made in Security Cloud Control which are pending to be deployed to the On-Premises Firewall Management Center.

Synchronizing Configurations Between Security Cloud Control and Device

About Configuration Conflicts

In the **Security Devices** page, you may see devices or services have the status "Synced," "Not Synced," or "Conflict Detected." To know the status of an On-Premises Firewall Management Center that you manage using Security Cloud Control, navigate **Administration** > **Integrations** > **Firewall Management Center**.

- When a device is **Synced**, the configuration on Security Cloud Control) and the configuration stored locally on the device are the same.
- When a device is Not Synced, the configuration stored in Security Cloud Control was changed and it is now different that the configuration stored locally on the device. Deploying your changes from Security

Cloud Control to the device changes the configuration on the device to match Security Cloud Control's version.

• Changes made to devices outside of Security Cloud Control are called **out-of-band changes**. When out-of-band changes are made, you'll see the device state change to "Conflict Detected," if conflict detection is enabled for the device. Accepting the out-of-band changes, changes the configuration on Security Cloud Control to match the configuration on the device.

Conflict Detection

When conflict detection is enabled, Security Cloud Control polls the device for the default interval to to determine if a change has been made to the device's configuration outside of Security Cloud Control. If Security Cloud Control detects that a change was made, it changes the configuration status for the device to **Conflict Detected**. Changes made to a device outside of Security Cloud Control are called "out-of-band" changes.

In the case of an On-Premises Firewall Management Center that is managed by Security Cloud Control, if there are changes that are staged and the device is in **Not Synced** state, Security Cloud Control stops polling the device to check for changes. When there are changes made outside Security Cloud Control which are pending to be synchronized with Security Cloud Control and changes made in Security Cloud Control which are pending to be deployed to the on-premises management center, Security Cloud Control declares the on-premises management center to be in the **Conflict Detected** state.

Once this option is enabled, you can configure how often conflicts or OOB changes are detected per device. See Schedule Polling for Device Changes, on page 24 for more information.

Enable Conflict Detection

Enabling conflict detection alerts you to instances where changes have been made to a device outside of Security Cloud Control.

Procedure

- **Step 1** In the left pane, click **Security Devices**.
- Step 2 Click the **Devices** tab.
- **Step 3** Select the appropriate device type tab.
- **Step 4** Select the device or devices for which you want to enable conflict detection.
- **Step 5** In the **Conflict Detection** box at the right of the device table, select **Enabled** from the list.



Enable Conflict Detection for an On-Premises Management Center

Enabling conflict detection for an on-premises management center keeps you informed when there are changes made outside Security Cloud Control which are pending to be synchronized with Security Cloud Control and changes made in Security Cloud Control which are pending to be deployed to the on-prem management center.

Procedure

- Step 1 In the navigation bar, click Tools & Services > Firewall Management CenterAdministration > Integrations > Firewall Management Center.
- **Step 2** From the list, select the on-prem management center for which you want to enable conflict detection.
- **Step 3** In the **Conflict Detection** box on the right pane, select **Enabled** from the list.

Note

Unlike other devices managed by Security Cloud Control, for an on-premises management center, you can either enable or disable conflict detection; you cannot opt to auto-accept changes.

Automatically Accept Out-of-Band Changes from your Device

You can configure Security Cloud Control to automatically accept any change made directly to a managed device by enabling auto-accept changes. Changes made directly to a device without using Security Cloud Control are referred to as out-of-band changes. An out-of-band change creates a *conflict* between the device's configuration stored on Security Cloud Control and the configuration stored on the device itself.

The auto-accept changes feature is an enhancement to conflict detection. If you have auto-accept changes enabled on your device, Security Cloud Control checks for changes every 10 minutes to determine if there have been any out-of-band changes made to the device's configuration. If there have been configuration changes, Security Cloud Control automatically updates its local version of the device's configuration without prompting you.

Security Cloud Control will **not** automatically accept a configuration change if there are configuration changes made on Security Cloud Control that have not yet been deployed to the device. Follow the prompts on the screen to determine your next action.

To use auto-accept changes, you first enable the tenant to display the auto-accept option in the Conflict Detection menu on the **Security Devices** page; then, you enable auto-accept changes for individual devices. For on-premises management center, you can do this from the **Services** page by navigating **Administration** > **Integrations** > **Firewall Management Center** and selecting the FMC.

If you want Security Cloud Control to detect out-of-band changes but give you the option to accept or reject them manually, enable Conflict Detection, on page 20 instead.

Configure Auto-Accept Changes

Procedure

- **Step 1** Log in to Security Cloud Control using an account with Admin or Super Admin privileges.
- Step 2 In the left pane, click Settings > General SettingsAdministration > General Settings.
- Step 3 In the Tenant Settings area, click the toggle to Enable the option to auto-accept device changes. This enables the Auto-Accept Changes menu option to appear in the Conflict Detection menu on the Security Devices page.
- **Step 4** In the left pane, click **Security Devices** and select the device for which you want to automatically accept out-of-band changes.
- Step 5 In the Conflict Detection menu, select Auto-Accept Changes in the drop-down menu.



Disabling Auto-Accept Changes for All Devices on the Tenant

Procedure

- **Step 1** Log-in to Security Cloud Control using an account with Admin or Super Admin privileges.
- Step 2 In left pane, click Settings > General SettingsAdministration > General Settings.
- Step 3 In the Tenant Settings area, disable the "Enable the option to auto-accept device changes" by sliding the toggle to the left so it shows a grey X. This disables Auto-Accept Changes option in the Conflict Detection menu and disables the feature for every device on your tenant.

Note

Disabling "Auto-Accept" will require you to review each device conflict before you can accept it into Security Cloud Control. This includes devices previously configured to auto-accept changes.

Resolve Configuration Conflicts

This section provides information about resolving configuration conflicts that occur on the device.

Resolve the Not Synced Status

Use the following procedure to resolve a device with a "Not Synced" Configuration Status:

Procedure

Step 1 In the navigation bar, click **Inventory**.

Note

For an On-Premises Firewall Management Center, navigate **Tools & Services** > **Firewall Management Center** and select the FMC that is in **Not Synced** state and continue from Step 5.

Step 2 In the navigation bar, click **Security Devices**.

Note

For an On-Premises Firewall Management Center, click **Administration** > **Integrations** > **Firewall Management Center** and select the FMC that is in **Not Synced** state and continue from Step 5.

- **Step 3** Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
- **Step 4** Click the appropriate device type tab.
- **Step 5** Select the device reported as Not Synced.
- **Step 6** In the **Not synced** panel to the right, select either of the following:
 - **Preview and Deploy...** -If you want to push the configuration change from Security Cloud Control to the device, preview and deploy the changes you made now, or wait and deploy multiple changes at once.
 - **Discard Changes** -If you do **not** want to push the configuration change from Security Cloud Control to the device, or you want to "undo" the configuration changes you started making on Security Cloud Control. This option overwrites the configuration stored in Security Cloud Control with the running configuration stored on the device.

Resolve the Conflict Detected Status

Security Cloud Control allows you to enable or disable conflict detection on each live device. If Conflict Detection, on page 20 is enabled and there was a change made to the device's configuration without using Security Cloud Control, the device's configuration status will show Conflict Detected.

To resolve a "Conflict Detected" status, follow this procedure:

Procedure

Step 1 In the navigation bar, click **Inventory**.

Note

For an On-Premises Firewall Management Center, navigate **Tools & Services** > **Firewall Management Center** and select the FMC that is in **Not Synced** state and continue from Step 5.

Step 2 In the navigation bar, click **Security Devices**.

Note

For an On-Premises Firewall Management Center, click **Administration** > **Integrations** > **Firewall Management Center** and select the FMC that is in **Not Synced** state and continue from Step 5.

- **Step 3** Click the **Devices** tab to locate your device.
- **Step 4** Click the appropriate device type tab.
- **Step 5** Select the device reporting the conflict and click **Review Conflict** in the details pane on the right.
- **Step 6** In the **Device Sync** page, compare the two configurations by reviewing the highlighted differences.
 - The panel labeled "Last Known Device Configuration" is the device configuration stored on Security Cloud Control.
 - The panel labeled "Found on Device" is the configuration stored in the running configuration on the ASA.
- **Step 7** Resolve the conflict by selecting one of the following:
 - Accept Device changes: This will overwrite the configuration and any pending changes stored on Security Cloud Control with the device's running configuration.

Note

As Security Cloud Control does not support deploying changes to the Cisco IOS devices outside of the command line interface, your only choice for a Cisco IOS device will be to select **Accept Without Review** when resolving the conflict.

• **Reject Device Changes**: This will overwrite the configuration stored on the device with the configuration stored on Security Cloud Control.

Note

All configuration changes, rejected or accepted, are recorded in the change log.

Schedule Polling for Device Changes

If you have Conflict Detection, on page 20 enabled, or if you **Enable the option to auto-accept device changes** from the Settings page, Security Cloud Control polls the device for the default interval to determine if a change has been made to the device's configuration outside of Security Cloud Control. You can customize how often Security Cloud Control polls for changes per device. These changes can be applied to more than one device.

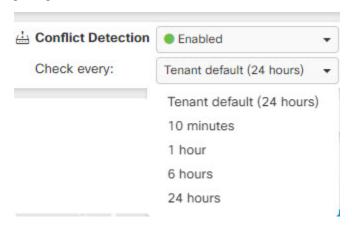
If there is no selection configured for a device, the interval is automatically configured for "tenant default".

After you enable **Conflict Detection** from the **Security Devices** page or **Enable the option to auto-accept device changes** from the Settings page, use the following procedure to schedule how often you want Security Cloud Control to poll your devices:

Procedure

- **Step 1** In the left pane, click **Inventory**.
- Step 2 In the left pane, click Security Devices.

- **Step 3** Click the **Devices** tab to locate your device.
- **Step 4** Click the appropriate device type tab.
- **Step 5** Select the device or devices for which you want to enable conflict detection.
- **Step 6** In the same area as **Conflict Detection**, click the drop-down menu for **Check every** and select the desired polling interval:



Schedule a Security Database Update

This section provides information about scheduling a security database update on the device.

Create a Scheduled Security Database Update

Use the following procedure to create a scheduled task to check and update the security databases for an FDM-managed device:

Procedure

- **Step 1** In the navigation bar, click **Inventory**.
- **Step 2** In the navigation bar, click **Security Devices**.
- **Step 3** Click the **Devices** tab to locate your device.
- Step 4 Click the FTD tab.
- **Step 5** Select a device.
- Step 6 In the Actions pane, locate the Security Database Updates section and click theadd + button.

Note

If there is an existing scheduled task for the selected device, click the edit icon to create a new task. Creating a new task will overwrite the existing one.

- **Step 7** Configure the scheduled task with the following:
 - Frequency . Choose for the update to occur daily, weekly, or monthly.

- **Time**. Choose the time of day. Note that the time displayed is UTC.
- Select Days. Choose which day(s) of the week you want the update to occur.

Step 8 Click Save.

The device's Configuration Status will change to "Updating Databases".

Edit a Scheduled Security Database Update

Use the following procedure to edit an existing scheduled task to check and update the security databases for an FDM-managed device.

Procedure

- Step 1 In the left pane, click Security Devices.
- Step 2 Click the **Devices** tab to locate your device.
- Step 3 Click the **FTD** tab.
- Step 4 Select a device.
- In the Actions pane, locate the Security Database Updates section and click the edit icon ... Step 5

- Step 6 Edit the scheduled task with the following:
 - **Frequency** . Choose for the update to occur daily, weekly, or monthly.
 - **Time**. Choose the time of day. Note that the time displayed is UTC.
 - Select Days. Choose which day(s) of the week you want the update to occur.
- Step 7 Click Save.
- Step 8 The device's Configuration Status will change to "Updating Databases".

Update FDM-Managed Device Security Databases

By updating the security databases on an FDM-managed device, you are updating the following: SRUs (intrusion rules), security intelligence (SI), vulnerability databases (VDB), and geolocation databases. If you opt into updating the security databases through the Security Cloud Control UI, note that all of the mentioned databases are updated; you cannot select which databases you want to update.

Please note that security database updates cannot be reverted.



Note

When you update the security databases, some packets may be dropped or pass uninspected. We recommend you schedule your security database updates during a maintenance window.

Update FDM-Managed Device Security Database While Onboarding

When you onboard an FDM-managed device to Security Cloud Control, part of the onboarding process allows you to **Enable scheduled recurring updates for databases**. This option is checked by default. When enabled, Security Cloud Control immediately checks for and applies any security updates as well as automatically schedules the device to check for additional updates. You are able to modify the date and time of the scheduled task after the device is onboarded.

Update FDM-Managed Device Security Database After Onboarding

After an FDM-managed device is onboarded to Security Cloud Control, you can configure a device to check for security database updates by scheduling an update. You can modify this scheduled task at any time by selecting the device the update is scheduled for. See Schedule a Security Database Update for more information.

Workflows

Device licenses

Security Cloud Control cannot update the security databases if there is no license. We recommend that your FDM-managed device has at least an license.

If you are onboarding a device that has no license, this does not inhibit Security Cloud Control from onboarding the device. Instead, the device will experience a **Connectivity** status of "insufficient licenses". To resolve this issue, you must apply the correct licenses through the FDM-managed device UI.



Note

If you onboard an FDM-managed device and opt in to schedule future security database updates and the device does **not** have a registered license, Security Cloud Control still creates the scheduled task but does not trigger the task until the appropriate licenses have been applied and the device is successfully synchronized.

Security database updates are pending in FDM

If you update the security databases through the FDM-managed device UI, and you have **conflict detection** enabled on your device, Security Cloud Control detects the pending update as a conflict.



Note

If you onboard your FDM-managed device and opt to schedule the updates, Security Cloud Control automatically updates the security databases as well as any other pending changes to the stored configuration during the next deploy. **does not have to be a configuration deploy**

Device has OOB changes, or staged changes, during a security database update

If you schedule a security database update for an FDM-managed device that has out of band (OOB) changes, or staged changes that have not been deployed, Security Cloud Control only checks and updates the security databases. Security Cloud Control does **not** deploy OOB or staged changes.

Device already has a scheduled task to update the security databases

Each device can only have one scheduled task. If the device already has a scheduled task to update the security databases, creating a new one overwrites it. This applies to tasks that are created in either Security Cloud Control or an FDM-managed device.

No security database updates available

If there are no updates available, Security Cloud Control does not deploy anything to the device.

Security database updates for FDM-managed High Availability (HA) pair

Security database updates are applied only to the primary device of an HA pair.

Related Information:

• Schedule a Security Database Update