



# Maintenance

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## Upgrade procedures

### Upgrade through the Cisco Cyber Vision sensor management extension

Before updating sensors, the Cisco Cyber Vision sensor management extension must be up-to-date.

It is possible to select which sensors to update. The update status will be visible in the [Management Jobs](#) page.

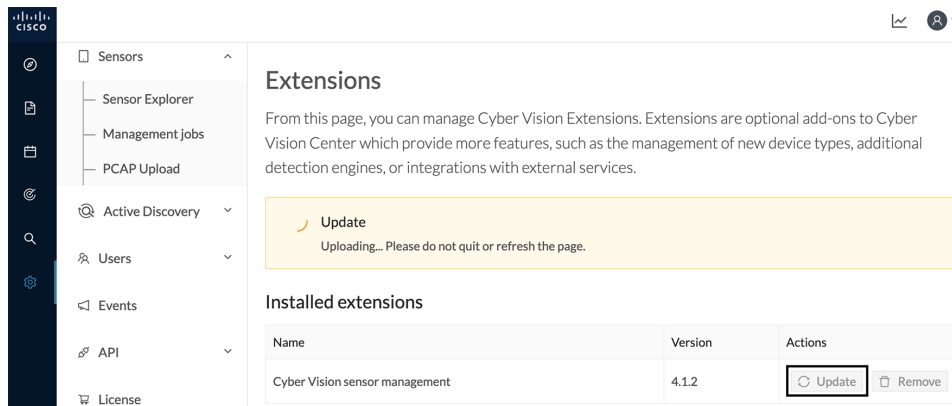
#### Update the sensor management extension

The Cisco Cyber Vision sensor management extension must be up-to-date to update IOx sensors.

##### Procedure

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- Step 1** Retrieve the sensor management extension file (i.e. CiscoCyberVision-sensor-management-<version>.ext) on [cisco.com](#).
- Step 2** In Cisco Cyber Vision, navigate to Admin > Extensions.
- Step 3** Click **Update** to browse the new version of the extension file.



**Extensions**

From this page, you can manage Cyber Vision Extensions. Extensions are optional add-ons to Cyber Vision Center which provide more features, such as the management of new device types, additional detection engines, or integrations with external services.

**Update**  
Uploading... Please do not quit or refresh the page.

**Installed extensions**

Name	Version	Actions
Cyber Vision sensor management	4.1.2	<input type="button" value="Update"/> <input type="button" value="Remove"/>

## Update sensors

Deployed sensors are listed in the **Admin > Sensors > Sensor Explorer** page of the Cisco Cyber Vision Center. For out of date sensors, the values in the **Version** column are displayed in red. You can hover over the version value to see the latest version that you can update the sensor to.

### Procedure

- Step 1** In the Cisco Cyber Vision Center, go to **Admin > Sensors > Sensor Explorer**.
- Step 2** From the list of sensors, select the sensors you want to update. To select all the sensors on the list, check the check box at the top of the table.
- Step 3** From the **More Actions** drop-down list, choose **Update Sensors**.
- Step 4** Click **OK**.

The center adds a new job to the sensor queue to update the sensor to the latest available version. The sensor automatically collects the job, and restarts with the new version. You can track the progress of the update by viewing the **Update Status** column in the **Sensor Explorer** page.

## Upgrade through the IOx Local Manager

The following section explains how to upgrade the sensor through the IOx Local Manager.



**Note** In the case of Cisco Cyber Vision upgrade for a Catalyst 9x00 from a release 4.1.2 or lower to a release 4.1.3, the update will fail due to the addition of the RSPAN option. The sensor application must be removed and deployed again.

In the example below, the sensor is upgraded from Cisco Cyber Vision version 3.2.2 to version 3.2.3.

Figure 1: The sensor in version 3.2.2 in the Sensors administration page of Cisco Cyber Vision

The screenshot displays the 'Sensors' administration page in Cisco Cyber Vision. The page title is 'Sensors' and includes a brief description: 'From this page, you can manage sensors in online and offline modes and generate provisioning packages to deploy Cisco Cyber Vision on remote sensors. Sensors can also be remotely and securely rebooted, shut down, and erased. When a sensor connects for the first time, you must authorize it so the Center can receive its data.'

Name	IP	Version	Status	Processing status	Active Discovery status	Capture Mode	Uptime
FOC2334V00H	192.168.69.20	3.2.2+202103181619	Connected	Pending data	Unavailable	All	4d 1h 3m 47s
FCH2312Y047	192.168.70.20	3.2.2+202103181753	Connected	Pending data	Unavailable	All	3m 27s

Details for FOC2334V00H:

- S/N: FOC2334V00H
- Name: FOC2334V00H
- IP address: 192.168.69.20
- Version: 3.2.2+202103181619
- System date (UTC): Monday, May 31, 2021 9:17 AM
- Status: Connected
- Processing status: Pending data
- Active discovery: Unavailable
- Deployment: Manual
- Uptime: 4d 1h 32m 47s
- Capture mode: All
- Start recording sensor
- Go to statistics

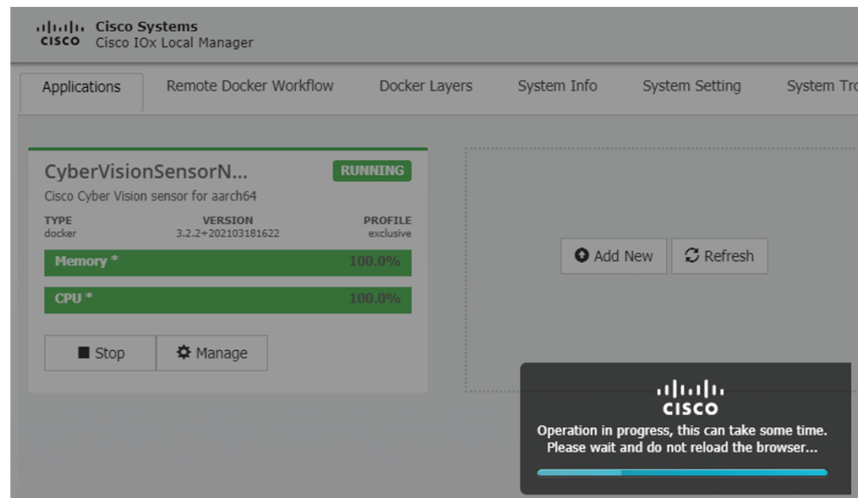
Action buttons: Remove, Get Provision, Capture Mode

Footer buttons: UPDATE CISCO DEVICES, DEPLOY CISCO DEVICE, INSTALL SENSOR MANUALLY, IMPORT OFFLINE FILE

1. Access the IOx Local Manager.
2. Stop the application.

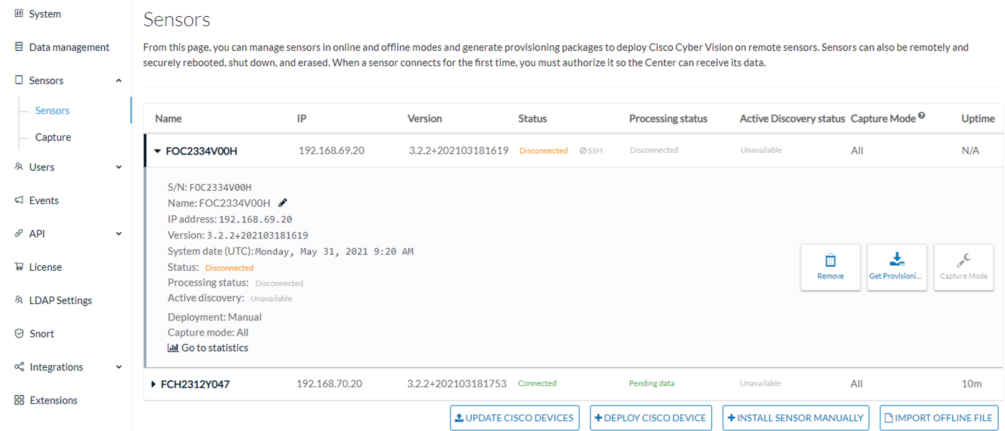
The screenshot shows the Cisco IOx Local Manager interface for a Cisco IE-3400-8T2S device. The breadcrumb navigation is 'Configuration > Services > IOx'. The main content area displays the status of a 'CyberVisionSensorN...' application, which is currently 'RUNNING'. The application is identified as 'Cisco Cyber Vision sensor for aarch64'. It shows resource usage: Memory \* 100.0% and CPU \* 100.0%. A 'Stop' button is highlighted with a red box, indicating the next step in the process.

The operation takes a few moments.



The application status switches to STOPPED.

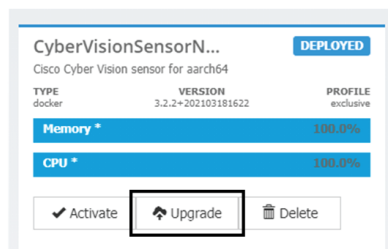
In Cisco Cyber Vision, the sensor status switches to Disconnected.



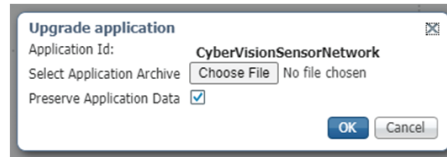
3. In the IOx Local Manager, click the **Deactivate** button.

The application status moves to DEPLOYED.

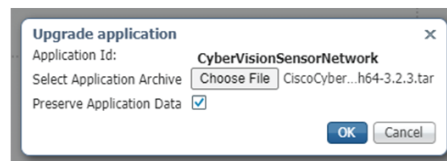
4. Click **Upgrade**.



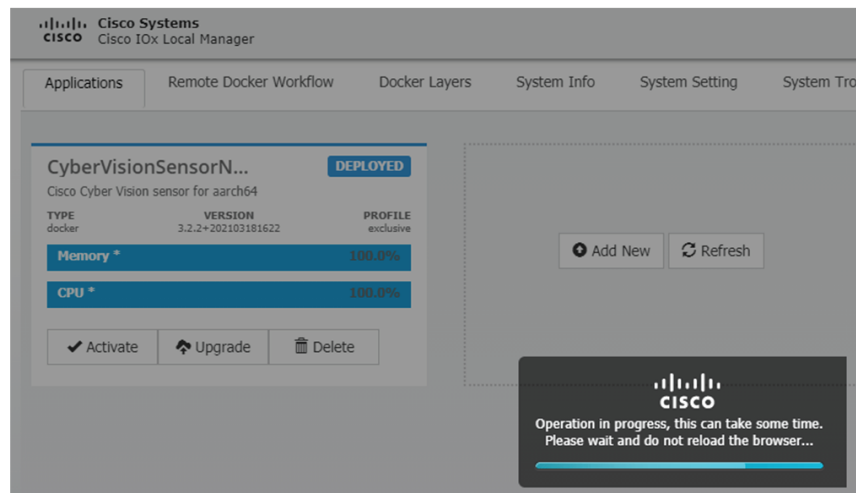
The pop up Upgrade application appears.



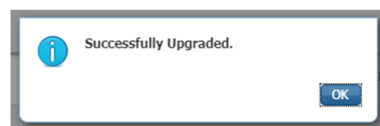
5. Select the **Preserve Application Data** option.
6. Select the new version of the application archive file.  
e.g. CiscoCyberVision-IOx-aarch64-3.2.3.tar



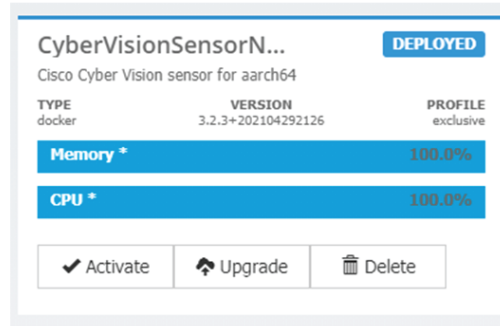
The operation takes a few moments.



A message indicating that the sensor has been successfully upgraded is displayed.



7. Check the number of the new version.
8. Click **Activate**.



9. Check configurations.

**It can happen that network configurations are lost during the upgrade. If they are, refer to Configure the sensor virtual application in the [procedure with the Local Manager](#) corresponding to the switch used and do as explained.**

10. Click the **Activate App** button.

The application status moves to ACTIVATED.

11. Click the **Start** button.

The application status changes to RUNNING.

In Cisco Cyber Vision, the sensor is upgraded from version 3.2.2 to 3.2.3 and its status moves to Connected.

## Sensor Self Update

Cisco Cyber Vision now allows sensor updates regardless of the installation method (for example, without the extension) and provides the necessary foundation for sensor self-updates. However, the self-update feature will only be functional in future releases. You can update all sensors automatically. The required steps are:

- Select sensors to update.
- The Center adds a new job to the sensor queue.
- The sensor automatically collects and validates the update file.
- The sensor restarts with the new version.

## Update Warnings

In the Cisco Cyber Vision Center on the Sensor Explorer page, you receive an alert to update the sensor. When this occurs, the latest version number appears in red, and a blue arrow with a tooltip indicates the sensor is upgradeable.

To update the sensor, follow these steps:

- From the main menu, choose **Admin > Sensors > Sensor Explorer**.
- Click the sensor that is upgradeable from the **Label** column.
- The right side panel appears with sensor details.
- Click **Update**.

## Update Procedure

### Procedure

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**Step 1** From the main menu, choose **Admin > Sensors > Sensor Explorer**.

**Step 2** Check the checkboxes to select multiple sensors.

**Step 3** Click the drop-down arrow of the **More Actions** button.

**Step 4** Click **Update sensors** from the drop-down list.

The **UPDATE SENSORS** pop-up appears.

**Step 5** Click **OK**.

During the update, a blue circle appears in the **Update status** column. After the update is complete, the version number turns black, and a green symbol appears in the same column.

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## Update Failure

If the update is unsuccessful, the **Update Status** column displays a red cross and a detailed message. To view the failure message, choose **Admin > Sensors > Sensor Explorer** from the main menu. Hover over the red cross in the **Update Status** column to see the details of the update failure.

## Replace SD card

This section explains how to replace a SD card on a Cisco IE3x00.

## Procedure

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**Step 1** Connect to the device CLI and use the following commands to disable IoX:

```
configure terminal
no iox
exit
```

**Step 2** Replace the SD card.

**Step 3** Format the SD card using the following command:

```
format sdflash: ext4
```

```
IE340CCV#format sdflash: ext4
Format operation may take a while. Continue? [confirm]
Format operation will destroy all data in "sdflash:". Continue? [confirm]
format completed with no errors

Format of sdflash: complete
IE340CCV#
```

**Step 4** Enable IOx using the following command:

```
configure terminal
iox
```

```
IE340CCV#
IE340CCV#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
IE340CCV(config)#iox
Warning: Do not remove SD flash card when IOx is enabled or errors on SD device could occur.
IE340CCV(config)#
```

**Step 5** Follow the instructions described in the following section to redeploy the sensor.

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### What to do next

[Reconfigure/Redeploy a sensor, on page 8](#)

## Reconfigure/Redeploy a sensor

The Redeploy button is used when you need to replace a sensor model with another one keeping the same network configurations (e.g. replacing a Cisco IE3400 with a Cat 9300), change configurations, or if you need to reconfigure the sensor (e.g. to enable Active Discovery).

To do so:

## Procedure

**Step 1** On the Sensor Explorer page, click the sensor to reconfigure/redeploy. The sensor right side panel appears.

**Step 2** Click **Redeploy**.

The screenshot shows the 'Sensor Explorer' interface. On the left is a navigation pane with categories like System, Data Management, Network Organization, Sensors, Management Jobs, PCAP Upload, Active Discovery, Users, Events, and API. The 'Sensors' category is expanded, and 'Sensor Explorer' is selected. The main area displays 'Folders and sensors (3)' with a table of sensors. The sensor 'FCW2445P6X5' with IP address '192.168.49.21' and status 'Disconnected' is selected. A right-side panel for this sensor shows details: Label: FCW2445P6X5, Serial Number: FCW2445P6X5, IP address: 192.168.49.21, Version: -, System date: N/A, Deployment: Sensor Management Extension, Active Discovery: Unavailable, Capture mode: All, System Health Status: Disconnected, Processing status: Disconnected, Uptime: N/A. At the bottom of this panel, the 'Redeploy' button is highlighted with a red box.

Label	IP Address	Version	Location	Health status	Pro
FCW2445P6X5	192.168.49.21			Disconnected	Dis

A pop up asking to confirm the redeployment of the sensor appears.

**Step 3** Click **OK** to proceed.

A summary of the sensor configuration is displayed. In this example, we're going to change the Collection VLAN number.

**Step 4** Click **Start**.

## Redeploy Cisco device

## Get Cisco device configuration

The current configuration of your Cisco device enables you to:

- Reconfigure the Cyber Vision IOx sensor app on this device;
- Reconfigure your Cisco device for Cyber Vision (i.e modify the IP address);
- Deploy the Cyber Vision IOx sensor app on a new device using this configuration.

Device IP:	Device port:
192.168.49.20	443
Capture IP address:	Capture prefix length:
169.254.1.2	30
Capture VLAN number:	Collection IP address:
2508	192.168.49.21
Collection prefix length:	Collection VLAN number:
24	507
Use global credentials:	Disk size:
No	Use as much space as possible
Active Discovery interfaces:	
192.168.50.21/24 VLAN#50	

[Exit](#)[Start](#)

**Step 5** Enter the credentials to reach the sensor to redeploy and click **Connect**.

## Redeploy Cisco device

## Reach Cisco device

Please fill the fields below to enable Cisco Cyber Vision to reach your device.

IP address\*

Port\*

For example 443 or 8443

Center collection IP

leave blank to use current collection IP

## Credentials

Login\*

Password\*

[Exit](#)[Connect](#)**Step 6**

Click the blue link to fill the warning fields with the current sensor configuration. We change the Collection VLAN number value to 49.

## Redeploy Cisco device

## Configure Cyber Vision IOx sensor app

The device requires additional parameters. Some parameters have been pre-filled. Please complete the remaining fields.

 [Click here to fill the warning fields with the current sensor configuration](#)

Cisco device: IE-3400-8T2S

Capture IP address\*

Capture prefix length\*

Like 24, 16 or 8

Capture VLAN number\*

Collection IP address\*

Collection prefix length\*

Like 24, 16 or 8

Collection gateway

Collection VLAN number\* 

 Exit

Next

**Step 7**

Click **Next**.

**Step 8**

You can enable Active Discovery selecting Passive and Active Discovery.

**Step 9**

Click Deploy.

A message saying that the sensor is being redeployed appears. You can either go the jobs page or go back to the Sensor Explorer page.

**Step 10**

Click **Go to the jobs page**.

## Redeploy Cisco device

## Done!

The Cyber Vision IOx sensor application is being redeployed on your device. A job has been created to track deployment progress.

What's next?

[Back to Sensor Explorer](#)

[Go to the jobs page](#)

You are redirected to the [Management jobs page](#) to see the redeployment advancement. This can take several minutes.

The screenshot shows the 'Management jobs' page with a table of jobs. The table has columns for 'Jobs', 'Steps', and 'Duration'. A single job is listed: 'Single redeployment (FCW2445P6X5)'. The 'Steps' column shows a progress bar with four steps: the first is a green checkmark, the second is a blue checkmark, and the last two are grey circles with a clock icon, indicating the job is in progress. The 'Duration' column shows 'In progress'.

Jobs	Steps	Duration
Single redeployment (FCW2445P6X5)		In progress

If you go back to the Sensor Explorer page, you will see that the sensor is in Redeploying status.

## Sensor Explorer

From this page, you can explore and manage sensors and sensors folders. Sensors can be remotely and securely rebooted, shut down, and erased. When a sensor connects for the first time, you must authorize it so the Center can receive its data.

[+ Install sensor](#)
[Manage Cisco devices](#)
[Organize](#)

### Folders and sensors (3)

Filter 0 Selected Move selection to More Actions As of: Feb 23, 2022 4:50 PM

<input type="checkbox"/>	Label	IP Address	Version	Location	Health status	Processing status	Active Discovery
<input type="checkbox"/>	FCW2445P6X5				Disconnected	Disconnected	
<input type="checkbox"/>	FCW2445P6X5				Disconnected	Disconnected	
<input type="checkbox"/>	FCW2445P6X5	192.168.49.21			Redeploying	Not enrolled	Unavailable

Once the redeployment is finished, the sensor will switch status to connected and the Active Discovery to Enabled.

<input type="checkbox"/>	FCW2445P6X5	192.168.49.21	4.1.0+202202151440		Connected	Pending data	Enabled	a minute
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## Certificate Renewal

Cisco Cyber Vision generates certificates valid for two years.

The center automatically renews sensor certificates. The system attempts to renew them 35 days before expiration at 00:00 UTC. If this attempt fails, the center retries randomly between 5 to 19 hours later.

If the center cannot renew the certificate before it expires, communication fails and is restored only after that renewal. The renewal process depends on the sensor deployment method.

- If the sensor is deployed with the sensor management extension, the center automatically attempts to renew it once communication with the Cisco platform is restored.
- For outdated certificates deployed manually, see [Sensor Certificate Renewal through the Local Manager](#).
- For outdated certificates deployed with ZTP, see [Sensor Certificate Renewal through ZTP Token Redeployment](#).

## Sensor Certificate Renewal through the Local Manager

If a certificate expires and the sensor has been manually deployed (without the sensor management extension), communication with the sensor stops. To renew the certificate, you must manually send the provisioning package to the sensor. This involves generating the provisioning package and sending it to the sensor via the Local Manager application.

### Procedure

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- Step 1** From the main menu, choose **Admin > Sensors > Sensor Explorer**.
- Step 2** Click the name of the sensor from the **Label** column.  
The right-side panel appears.
- Step 3** Click the **Download package** button.
- Step 4** Import the provisioning package in the Local Manager. To do so, see [Import the provisioning package](#).
- Step 5** The sensor's health status switches to Connected and its processing status to Normally processing.
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## Sensor Certificate Renewal through ZTP Token Redeployment

From the main menu, choose **Admin > Sensors > Deployment Tokens** to generate a new token. Then, use the same tool originally used to deploy the sensor for its redeployment.