



# IoT Module Management in the Controller

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## Information About IoT Module Management in the Controller

The IoT Module Management feature uses the USB interface on the Cisco Catalyst 9105AXI, 9105AXW, 9115AX, 9117AX, 9120AX, and 9130AX Series access points (APs), to connect to the Cisco Internet of Things (IoT) connector. These APs host the third-party application software components, that act as containers. Cisco Catalyst Center helps in the provisioning, deployment, and life cycle management of the container applications on the APs. The controller and the APs are managed by Cisco Catalyst Center.

You can connect the USB modules to the APs, and then log in to the controller and run commands to enable the USB modules and the Cisco IOx application in the APs associated with an AP profile group.

## Enabling a USB on the Controller

To enable a USB for all the APs connected in an AP profile and to enable Cisco IOx on all the APs, follow this procedure.

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	<b>configure terminal</b> <b>Example:</b> Device# <code>configure terminal</code>	Enters global configuration mode.
<b>Step 2</b>	<b>ap profile <i>ap profile name</i></b> <b>Example:</b> Device(config)# <code>ap profile ap-profile-test</code>	Configures an AP profile and enters AP profile configuration mode.  <b>Note</b> You can use the default AP profile (default-ap-profile) or create a named AP profile, as shown in the example in the adjacent column.

	Command or Action	Purpose
<b>Step 3</b>	<b>apphost</b> <b>Example:</b> Device(config-ap-profile)# apphost	Enables the apphost framework on Cisco APs.
<b>Step 4</b>	<b>usb-enable</b> <b>Example:</b> Device(config-ap-profile)# usb-enable	Enables a USB for Cisco APs.
<b>Step 5</b>	<b>exit</b> <b>Example:</b> Device(config-ap-profile)# exit	Exits AP profile configuration mode.
<b>Step 6</b>	<b>copy running-config startup-config</b> <b>Example:</b> Device(config)# copy running-config startup-config	Writes running configuration to the memory.

## Verifying the USB Modules

To verify the state of USB modules, run the following command:

```
Device# show ap config general
USB Module Type      : USB Module
USB Module State     : Enabled
USB Operational State : Enabled
USB Override         : Disabled
```

To verify the apphost status, run the following command:

```
Device# show ap apphost summary
AP Name          AP Mac              Apphost Status      CAF Port
Apphost HW capable
-----
SS-2027          00xx.abXX.bXXX      Up                   8443           Yes
Axel-2036        04xx.40XX.aXXX      Up                   8443           Yes
Haida-PrePilot  0cxx.f8XX.0XXX      Up                   8443           Yes
Sommer-infra-2022 3cxx.0eXX.0XXX      Up                   8443           Yes
AP5C71.0DEC.DB5C 3cxx.0eXX.0XXX      Up                   8443           Yes
AP5C71.0DEC.E3D8 3cxx.0eXX.4XXX      Up                   8443           Yes
Sommer-WP-2021   3cxx.0eXX.5XXX      Up                   8443           Yes
AP5C71.0DEC.EC60 3cxx.0eXX.9XXX      Up                   8443           Yes
SS-2005          6cXX.05XX.dXXX      Up                   8443           Yes
Vanc-2042        d4XX.bdXX.2XXX      Up                   8443           Yes
```

To verify the apphost status, run the following command:

```
Device# show ap module summary
AP Name          External Module      External Module PID  External Module Description
-----
Axel-2036        Enable 10xx/eaXX/100  CP2XXXX             USB to UART Bridge C
Haxx-PrePilot    Enable 10xx/eaXX/100  CP2XXXX             USB to UART Bridge C
APXXX.0XXX.EXX  Enable 10xx/eaXX/100  CP2XXXX             USB to UART Bridge C
SS-2005          Enable 10xx/eaXX/100  CP2XXXX             USB to UART Bridge C
Vaxx-2006        Enable 10xx/eaXX/100  CP2XXXX             USB to UART Bridge C
```