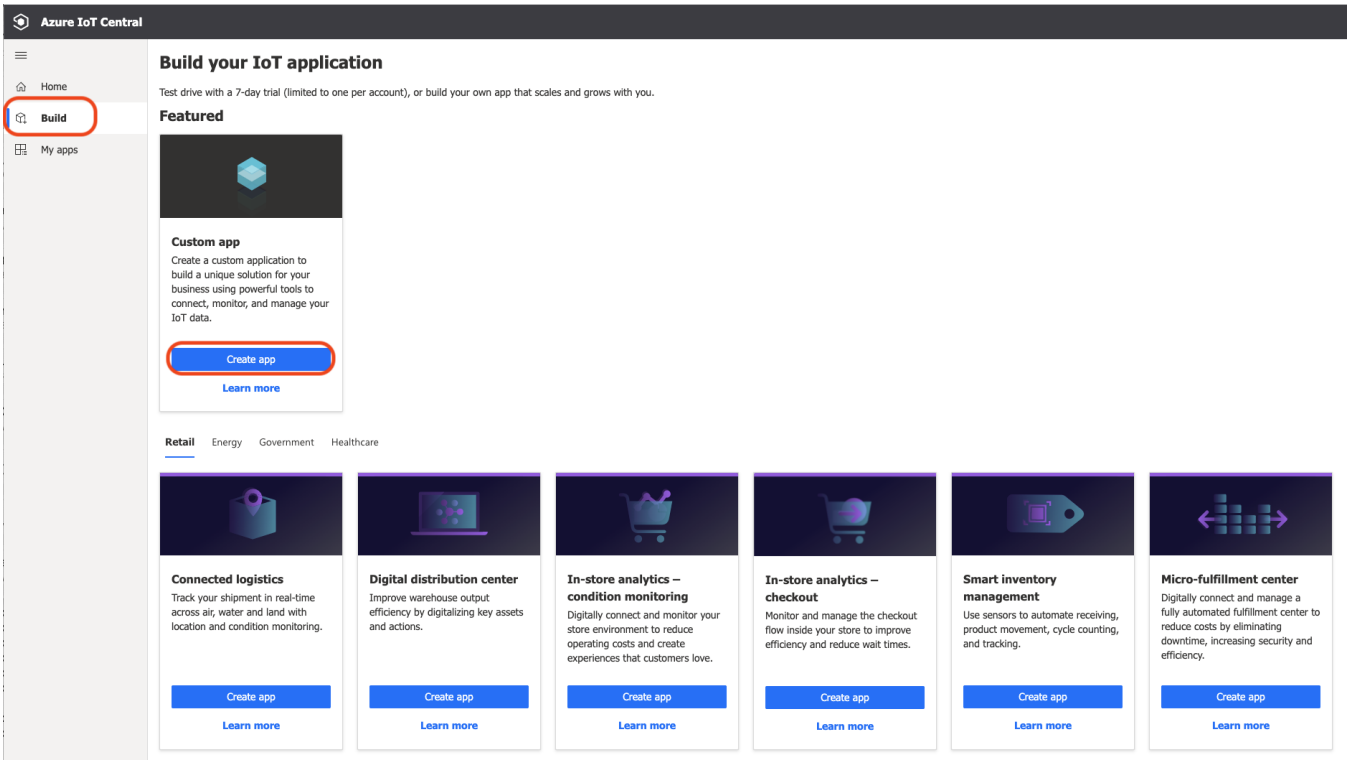
Azure IoT Central Integration User Guide

Aruba IAP and Controller can also connect to Azure IoT Central. Azure IoT Central is developed based DPS provisioning and IoT-Hub connection. so there are not difference on IAP/Controller perspective on transport establishing.

For detail information about IoT Central, please click to here.

access https://apps.azureiotcentral.com/ to build your iot central application.

Navigate to the Build page and select Create app in the custom app title to create your new IoT Central App.



Create IoT Central application

Azure IoT Central automatically suggests an Application name based on the application template you've selected. you can enter your own application name here we use aruba-iot.

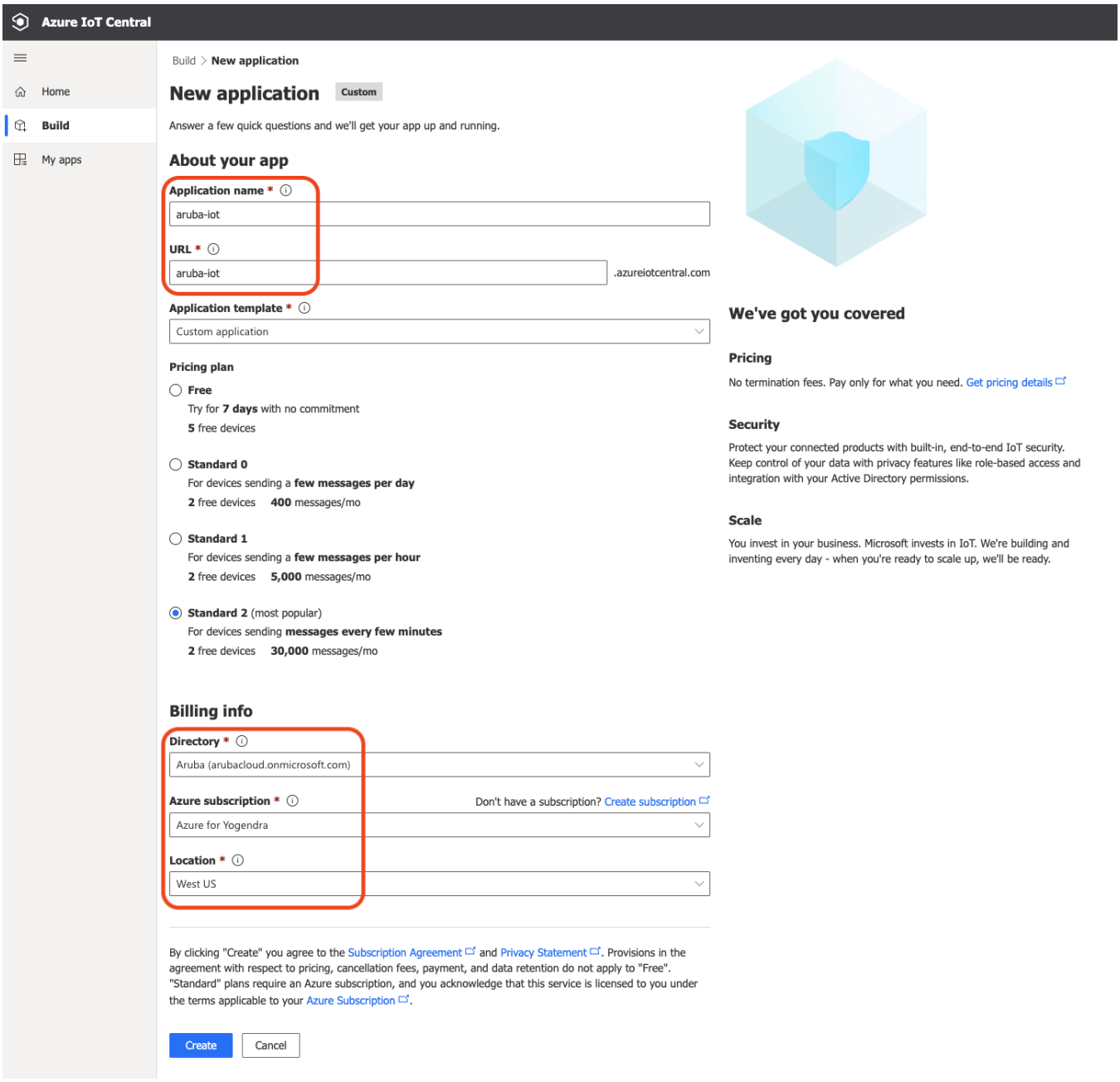
Azure IoT Central also generate a unique URL prefix for you based on the application name. you can change the URL to something else if you'd like. This URL must be unique.

by default the Custom application is selected under the Application template.

Choose the Pricing plan, by default is Standard 2.

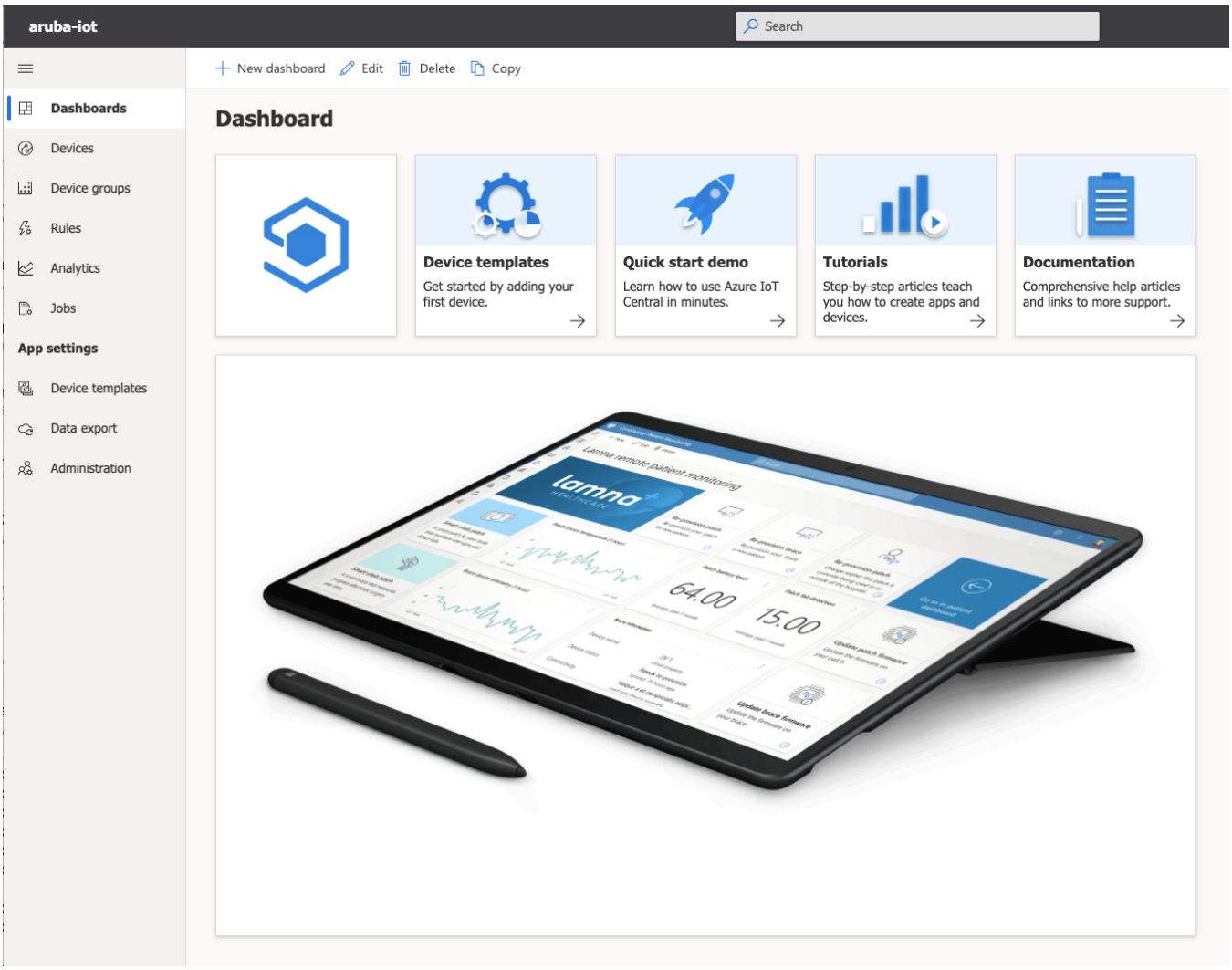
Select your Directory/Subscription/Location.

then click the Create button.



IoT Central application dashboard

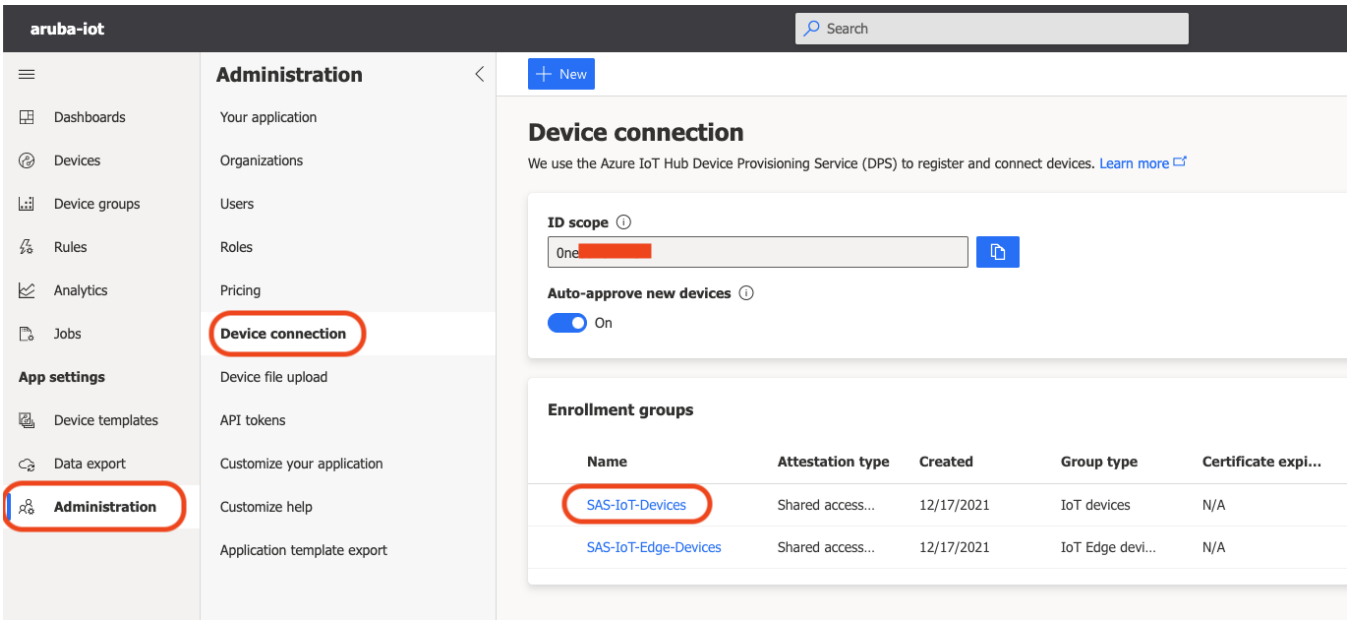
after create the IoT Central Application, we automatically be redirected to application Dashboard. for this example, we can notice the URL is "aruba-iot.azureiotcentral.com".



Device connection

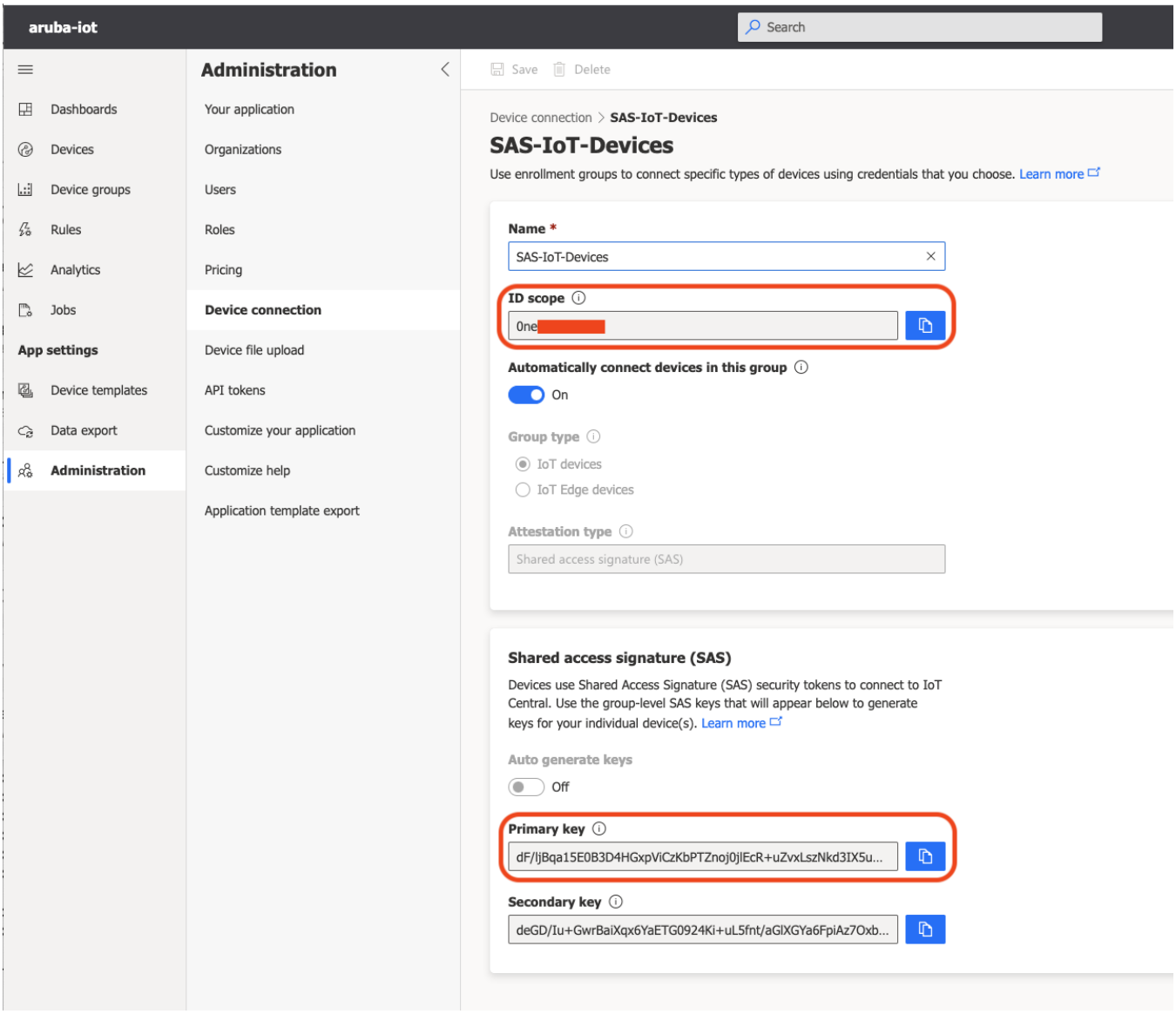
to connect a device to IoT Central, we need to get connection info, Navigate to the **Administration** page, then navigate **Device connection.** on the page of Device connection page, we can see **Enrollment groups**.

Azure IoT Central automatically generate two groups for us. for connect Aruba AP to IoT Central. we click **SAS-IoT-Devices**.



Device connection info

On the **SAS-IoT-Devices** page, we need to record **ID scope** and **Primary key**.



Config Azure IoT Central connection info in IAP.

Go to Aruba IAP or Controller to config Azure transport. bellow configure examples give both IAP and Controller config respectively.

Config Iot Central connection in Aruba IAP

```
48:4a:e9:cf:cc:3a# configure terminal
We now support CLI commit model, please type "commit apply" for configuration to take effect.
48:4a:e9:cf:cc:3a (config) #
48:4a:e9:cf:cc:3a (config) # iot transportProfile azure-iot-central
48:4a:e9:cf:cc:3a (IoT Transport Profile "azure-iot-central") # endpointType Azure-IoTHub
48:4a:e9:cf:cc:3a (IoT Transport Profile "azure-iot-central") # payloadContent serial-data
48:4a:e9:cf:cc:3a (IoT Transport Profile "azure-iot-central") # azure-dps-id-scope 0nexxxxxxxx
48:4a:e9:cf:cc:3a (IoT Transport Profile "azure-iot-central") # azure-dps-auth-type group-enrollment symmetric-
key dF/ljBqa15E0B3D4HGxpViCzKbPTZnoj0jlEcR+uZvxLszNkd3IX5ubQhxMTS2o9cFUDMwfJFdC4R2xxxxxxxxxx
48:4a:e9:cf:cc:3a (IoT Transport Profile "azure-iot-central") # end
48:4a:e9:cf:cc:3a#
48:4a:e9:cf:cc:3a# commit apply
committing configuration...
configuration committed.
48:4a:e9:cf:cc:3a# configure terminal
We now support CLI commit model, please type "commit apply" for configuration to take effect.
48:4a:e9:cf:cc:3a (config) # iot useTransportProfile azure-iot-central
48:4a:e9:cf:cc:3a (config) # end
48:4a:e9:cf:cc:3a# commit apply
committing configuration...
configuration committed.
48:4a:e9:cf:cc:3a#
```

Config IoT Central connection on Aruba Controller

```
(Aruba7010) [mynode] #configure terminal
Enter Configuration commands, one per line. End with CNTL/Z

(Aruba7010) [mynode] (config) #iot transportProfile azure-iot-central
(Aruba7010) ^[mynode] (IoT Data Profile "azure-iot-central") #
(Aruba7010) ^[mynode] (IoT Data Profile "azure-iot-central") #serverType Azure-IoTHub
(Aruba7010) ^[mynode] (IoT Data Profile "azure-iot-central") #deviceClassFilter serial-data
(Aruba7010) ^[mynode] (IoT Data Profile "azure-iot-central") #azure-dps-id-scope 0nexxxxxxxx
(Aruba7010) ^[mynode] (IoT Data Profile "azure-iot-central") #azure-dps-auth-type group-enrollment symmetric-
key dF/ljBqa15E0B3D4HGxpViCzKbPTZnoj0jlEcR+uZvxLszNkd3IX5ubQhxMTS2o9cFUDMwfJFdC4R2xxxxxxxxxx
(Aruba7010) [mynode] (IoT Data Profile "azure-iot-central") #include-ap-group zgj-group
(Aruba7010) ^[mynode] (IoT Data Profile "azure-iot-central") #end
(Aruba7010) ^[mynode] #write memory

Saving Configuration...

Configuration Saved.
(Aruba7010) [mynode] #
(Aruba7010) [mynode] #configure terminal
Enter Configuration commands, one per line. End with CNTL/Z

(Aruba7010) [mynode] (config) #iot useTransportProfile azure-iot-central
(Aruba7010) ^[mynode] (config) #end
(Aruba7010) ^[mynode] #write memory

Saving Configuration...

Configuration Saved.
(Aruba7010) [mynode] #
```

Check Azure IoT Central connection status

Bellow examples display both IAP and Controller connection status respectively.

Check IoT Central connection status on IAP

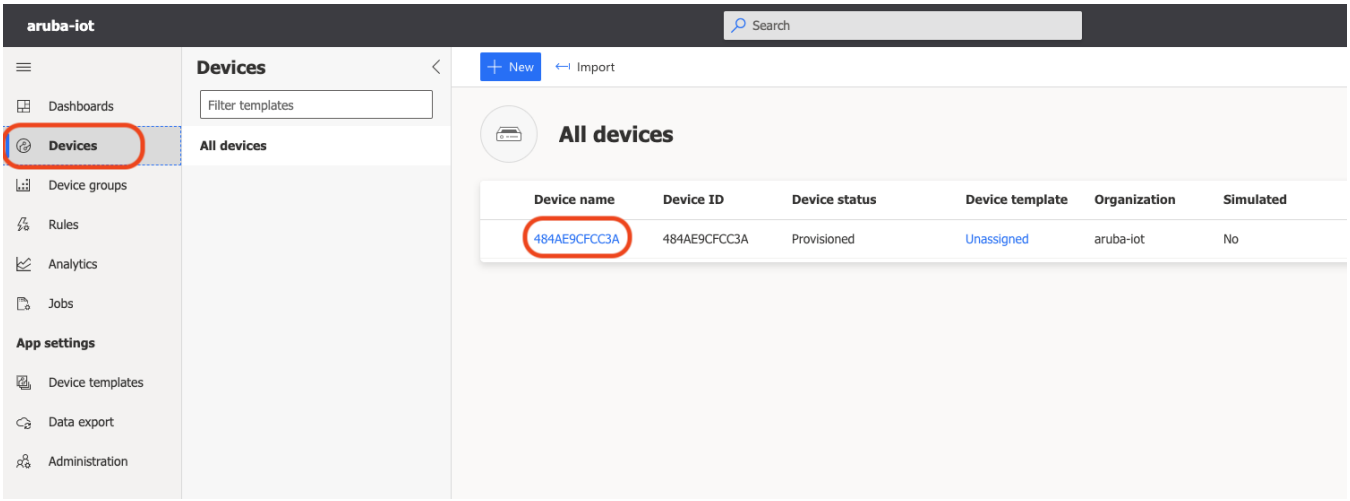
```
48:4a:e9:cf:cc:3a# show ap debug ble-daemon iot-profile

BLE IoT Transport Context Config ID: 19
Last Sync Time: 2021-12-17 15:36:44

---------------------------Profile[azure-iot-central]---------------------------

ServerType                 :Azure IoTHub
Last Update Sent           :2021-12-17 15:36:44
Num. Updates Sent          :9550811
ReportingInterval          :N/A
DeviceClassFilter          :Serial Data(22)
RSSI Reporting             :Average
EnvironmentType            :office
CustomFadingFactor         :20
DataFilter                 :00 00
Server Connection State
-------------------------
DPS Id Scope                 :0nexxxxxxxx
DPS group key                :****************************
IoTHub provision type        :DPS
IoTHub provision status      :Provision success
DPS provision failure times  :0
Last Provision Time          :2021-12-17 15:36:34
IoTHub register id           :484AE9CFCC3A
IoTHub URL                   :iotc-71488296-11c2-44fc-805b-7e1d5b6af52b.azure-devices.net
IoTHub key                   :****************************
IoTHub connection status     :Connect success
IoTHub connect failure times :0
Last connect Time            :2021-12-17 15:36:39
Current Time                 :2021-12-17 15:36:45
48:4a:e9:cf:cc:3a#
```

Check IoT Central connection status on Central

```
(Aruba7010) [mynode] #show ble_relay iot-profile

ConfigID                                : 3

--------------------------Profile[azure-iot-central]--------------------------

Identifier                              : 1640040087
serverType                              : Azure IoTHub
deviceClassFilter                       : Serial Data
reportingInterval                       : 600 second
authentication-mode                     : none
rssiReporting                           : Average
environmentType                         : office
azure-dps-id-scope                      : 0ne00461AD9
azure-dps-group-key                     : ************
include_ap_group                        : zgj-group
Server Connection State
-------------------------
TransportContext                        : Ready
Last Data Update                        : 2021-12-20 14:41:32
Last Send Time                          : 1969-12-31 16:00:00
TransType                               : Azure AMQP Over Websocket
Transport count                         : 1
-------------------------
---------------Azure Transport[iotc-71488296-11c2-44fc-805b-7e1d5b6af52b.azure-devices.net]---------------
Transport url                           : iotc-71488296-11c2-44fc-805b-7e1d5b6af52b.azure-devices.net
Transport created                       : Yes
Device count                            : 1
-------------------------
Device MAC                              : d0:15:a6:c3:ad:8e
Device id                               : D015A6C3AD8E
Device created                          : Yes
Status                                  : Connect success
Direct Method Status                    : Idle
-------------------------
(Aruba7010) [mynode] #
```

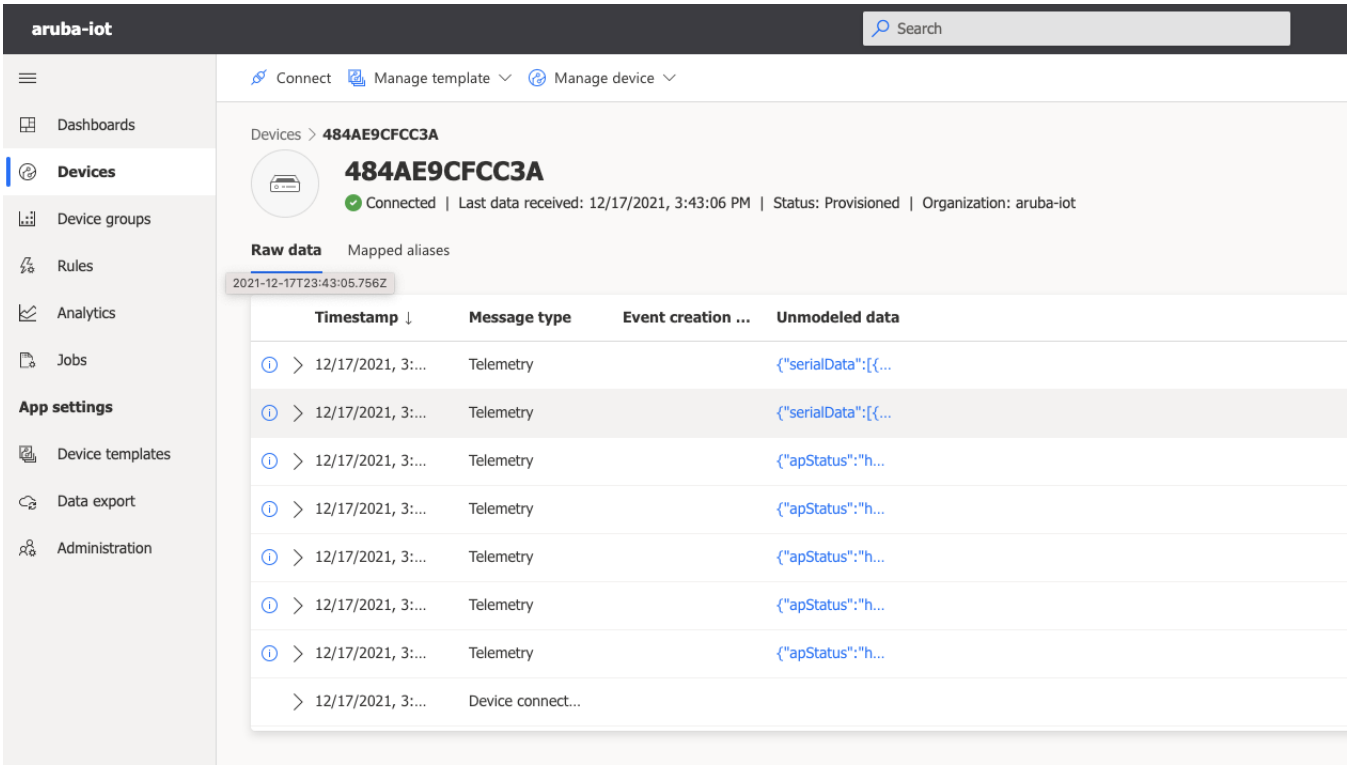
Check Devices in Azure IoT Central

Navigate to **Devices** page, we can see device "484AE9CFCC3A" automatically registered in the Azure IoT Central.



Check the device data in the Azure IoT Central

Click the device, we can see the messages Azure IoT Central received.



Check the detail of device data

by click the message, we can see the details of the message.