Solution Center Americas

Quick Start Guide

Product name: Ewon Flexy AWS IoT Core Connector

Version 1.0

Version history

Version	History	Author	Date D-M-Y
1.0	Release	Tom Kimsey	28-5-2020

Table of Contents

1 Introduction

The HMS Networks MU Americas Solution Center has produced a connector application for linking the Ewon Flexy to AWS IoT Core. This quick start guide details the minimal steps required to setup an Ewon Flexy to connect to AWS IoT Core.

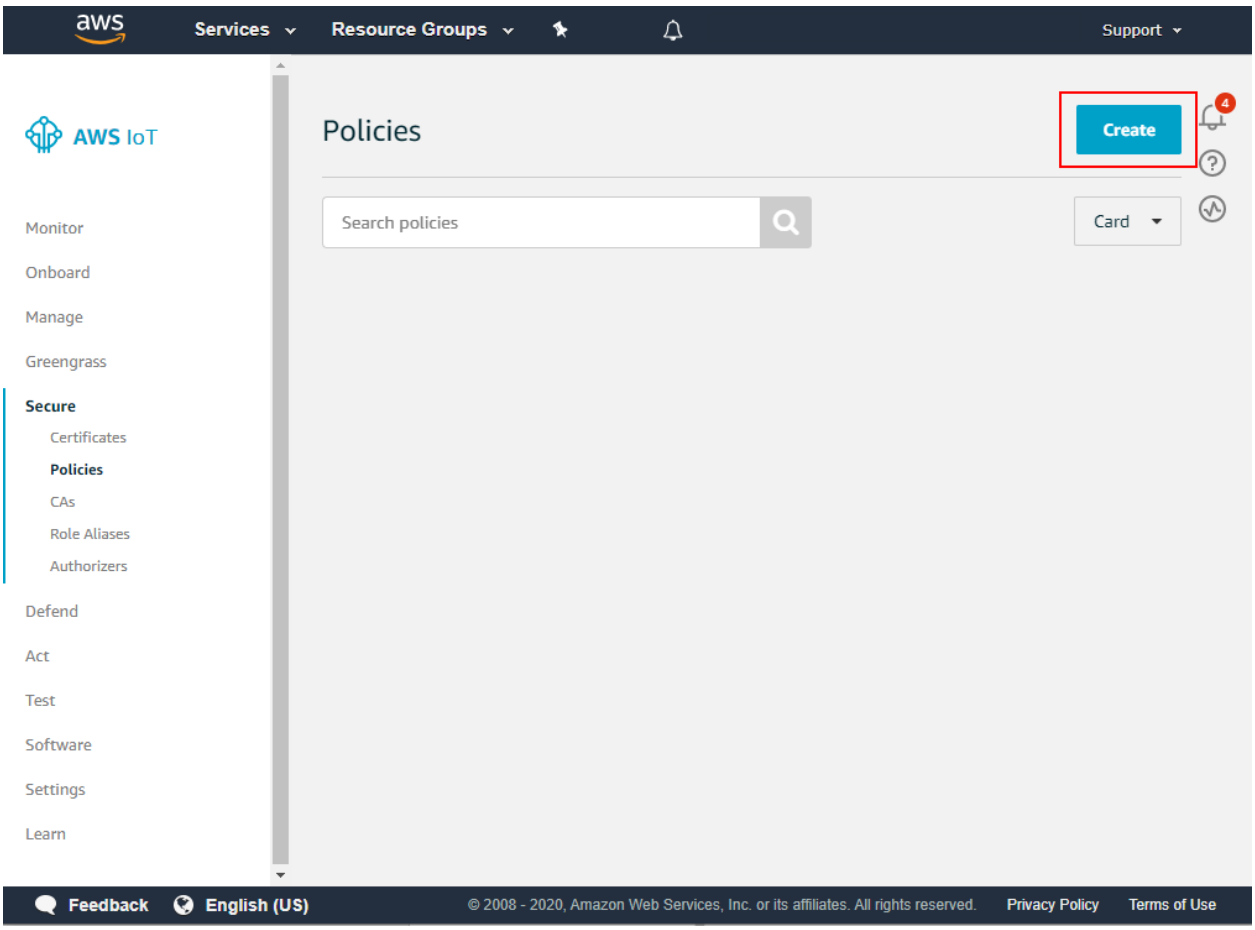
2 Configuration

2.1 Configure AWS IoT Core

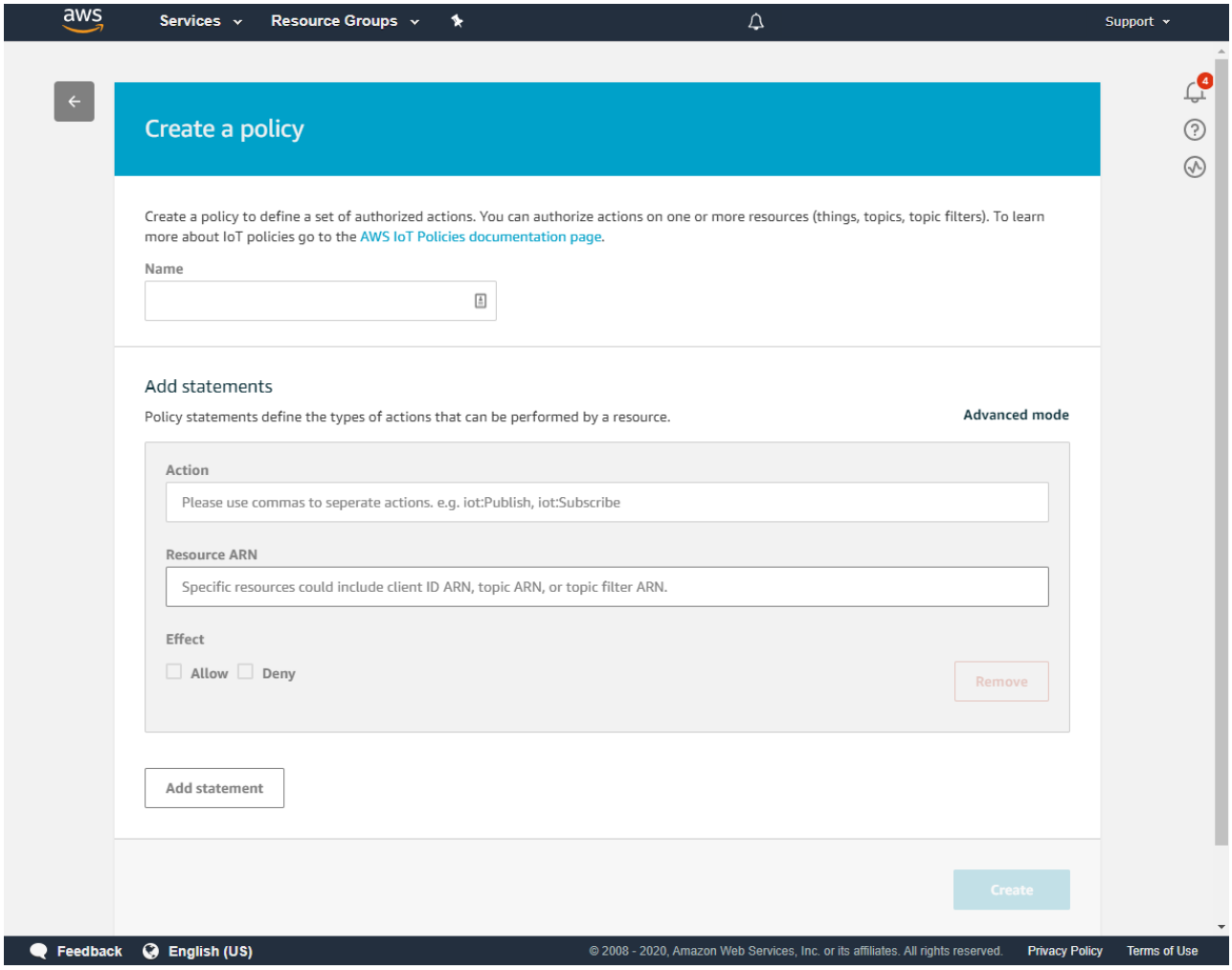
IoT Core needs to be configured before an Ewon Flexy can be connected. The process consists of creating a policy, creating a device, downloading the device certificates, and attaching the created policy to the device.

2.1.1 Create a policy

A policy defines a device's access permissions to IoT Core. To create a policy, navigate to **Secure** -> **Policies** in the left-hand navigation menu. Then click **Create** in the top right of the page.



A new policy must be given a name and policy statements. For more about IoT Core policies see: https://docs.aws.amazon.com/iot/latest/developerguide/iot-policies.html.



Sample Policy

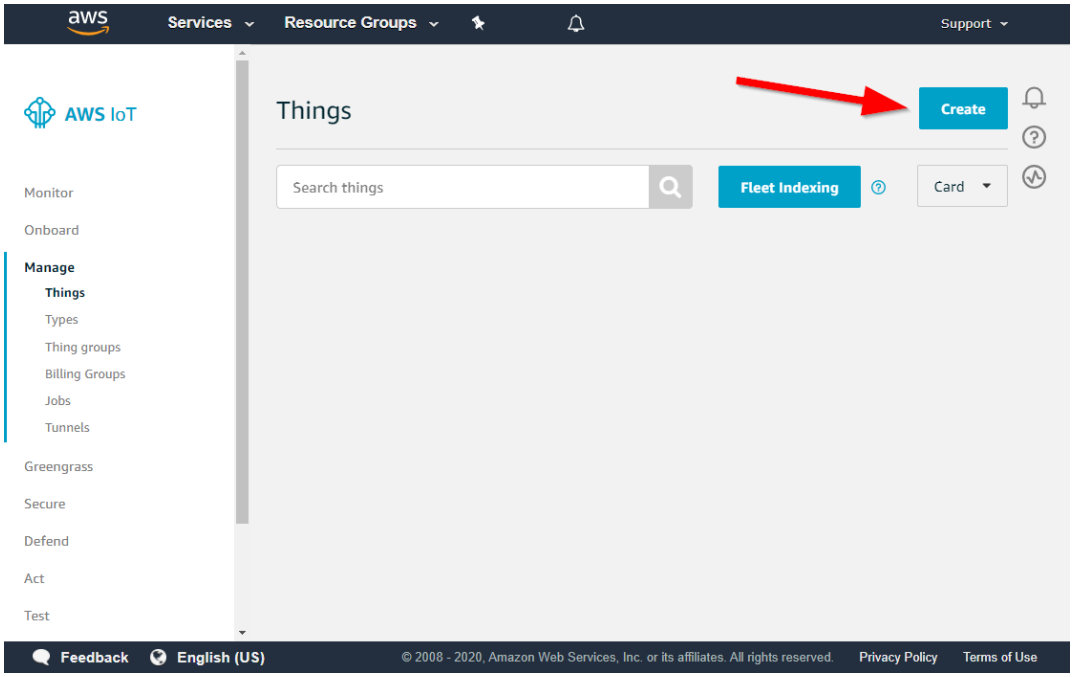
For getting started this sample policy document will provide an Ewon Flexy with the ability to connect to IoT Core as well as publish, receive, and subscribe to all topics. The resource will have to be modified to match the unique Amazon Resource Name (ARN) of the device.

Note: This policy should be used for testing only. A policy used in production should only allow topics required by the application.

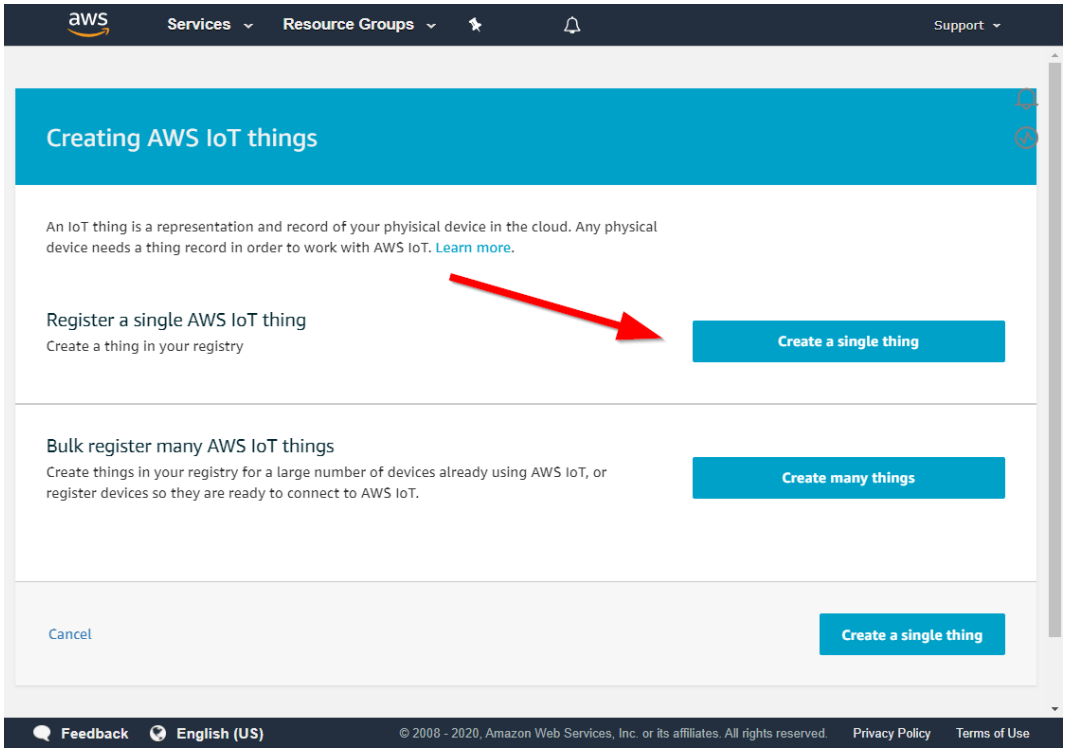
```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "iot:Publish",
        "iot:Receive",
        "iot:Subscribe"
      ],
      "Resource": [
        "*"
      ]
    },
    {
      "Effect": "Allow",
      "Action": [
        "iot:Connect"
      ],
      "Resource": [
        "arn:aws:iot:XXXXXXXX:YYYYYYYYYY:client/*"
      ]
    }
  ]
}
```

2.1.2 Create a New Device

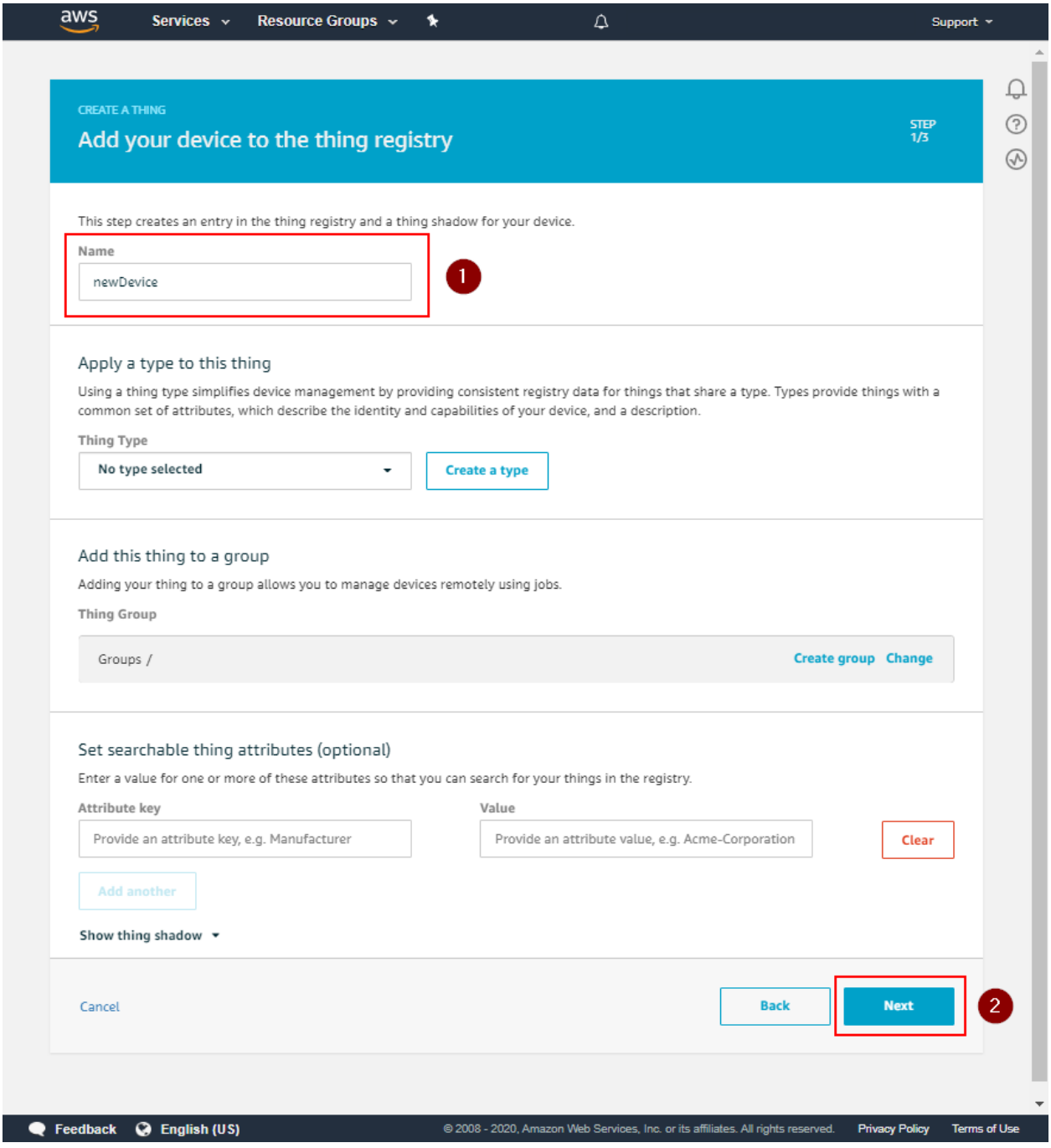
To create a new device, navigate to **Manage** -> **Things** in the left-hand navigation menu. Then click **Create** in the top right of the page.



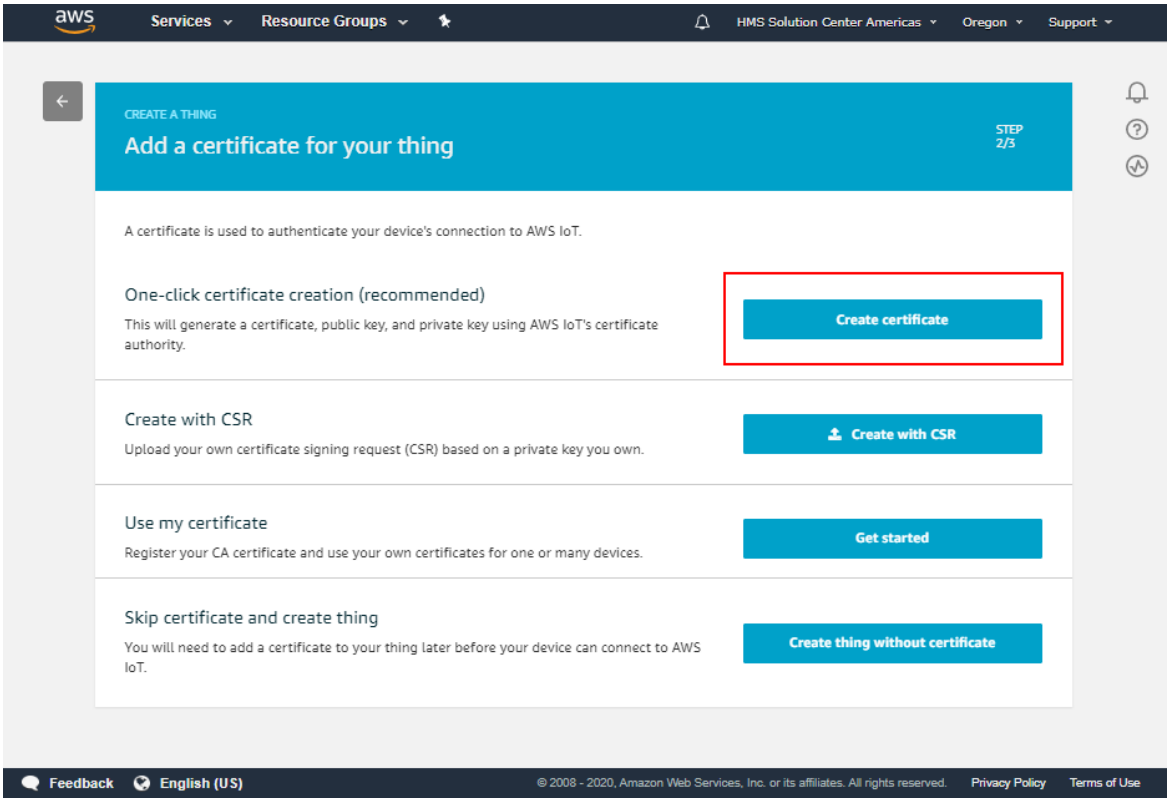
Then click **Create a single thing**.



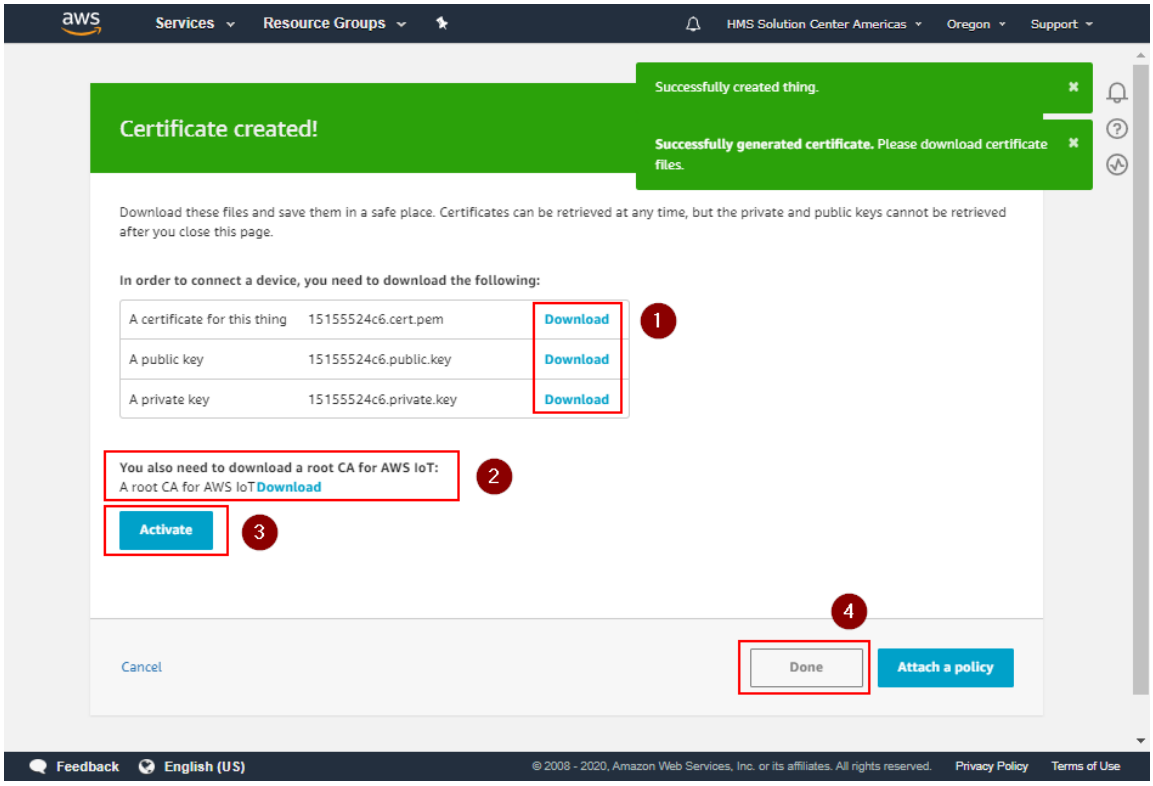
Then, name the new device. This example uses the name **newDevice**. Once named, click **Next** at the bottom right-hand section of the page.

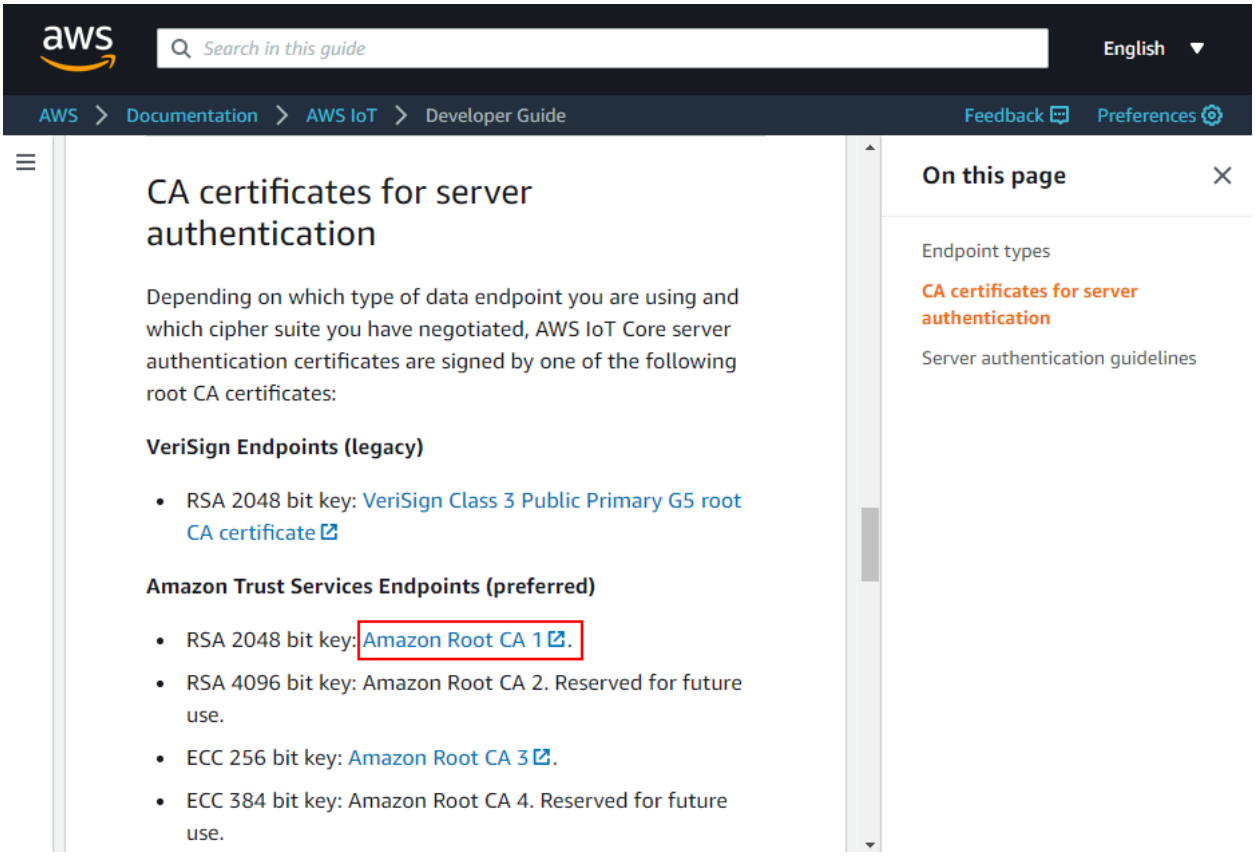


Create a unique certificate for the device by clicking **Create certificate**.



Download the certificate, public key, and private key for the device by clicking **Download** next to each item (Box 1). Next, download the root CA for AWS IoT by clicking to the **Download** link in Box 2 then clicking the link for **RSA 2048 bit key: Amazon Root CA 1**. Once all the certificate and keys have been downloaded, click **Activate** (Box 3). Finally, click **Done** (Box 4).

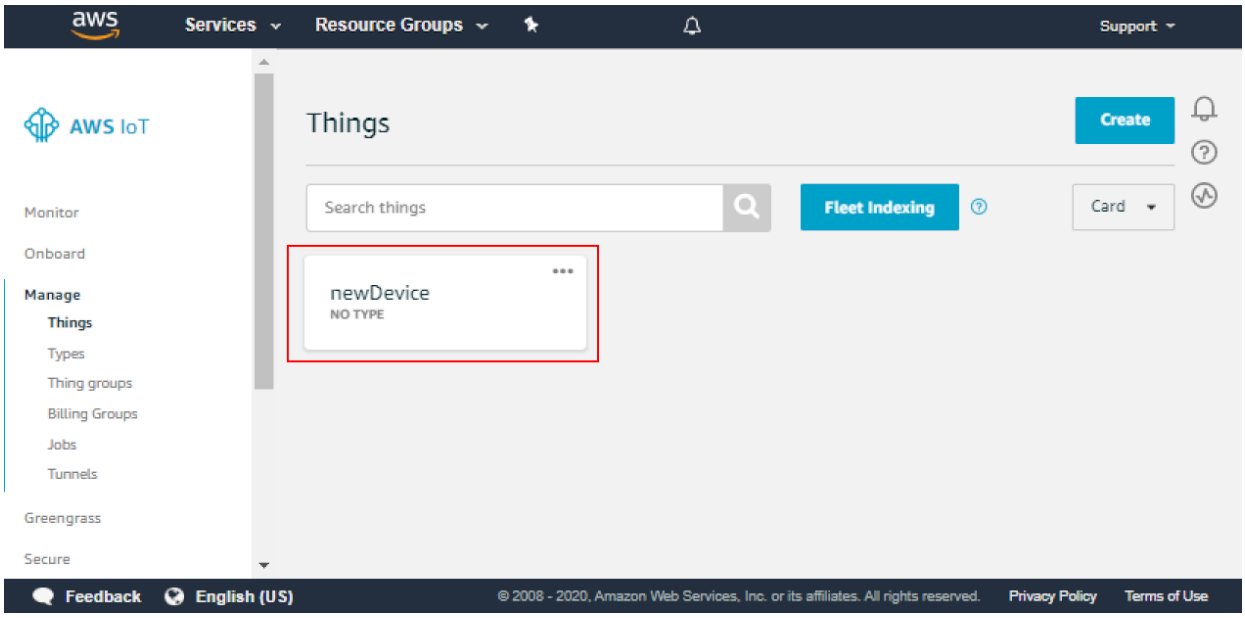




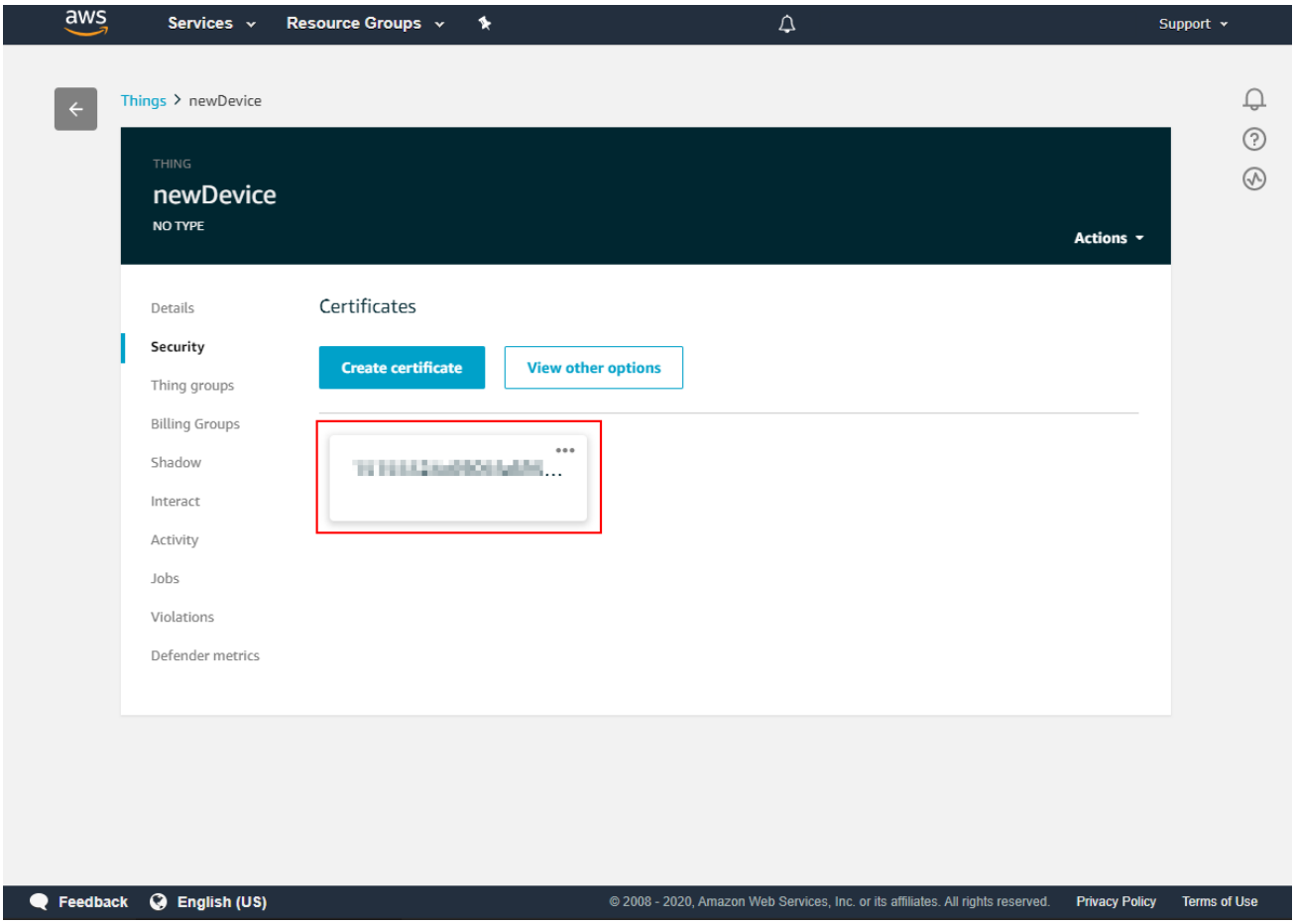
The device has now been created and activated.

2.1.3 Attach Policy to New Device

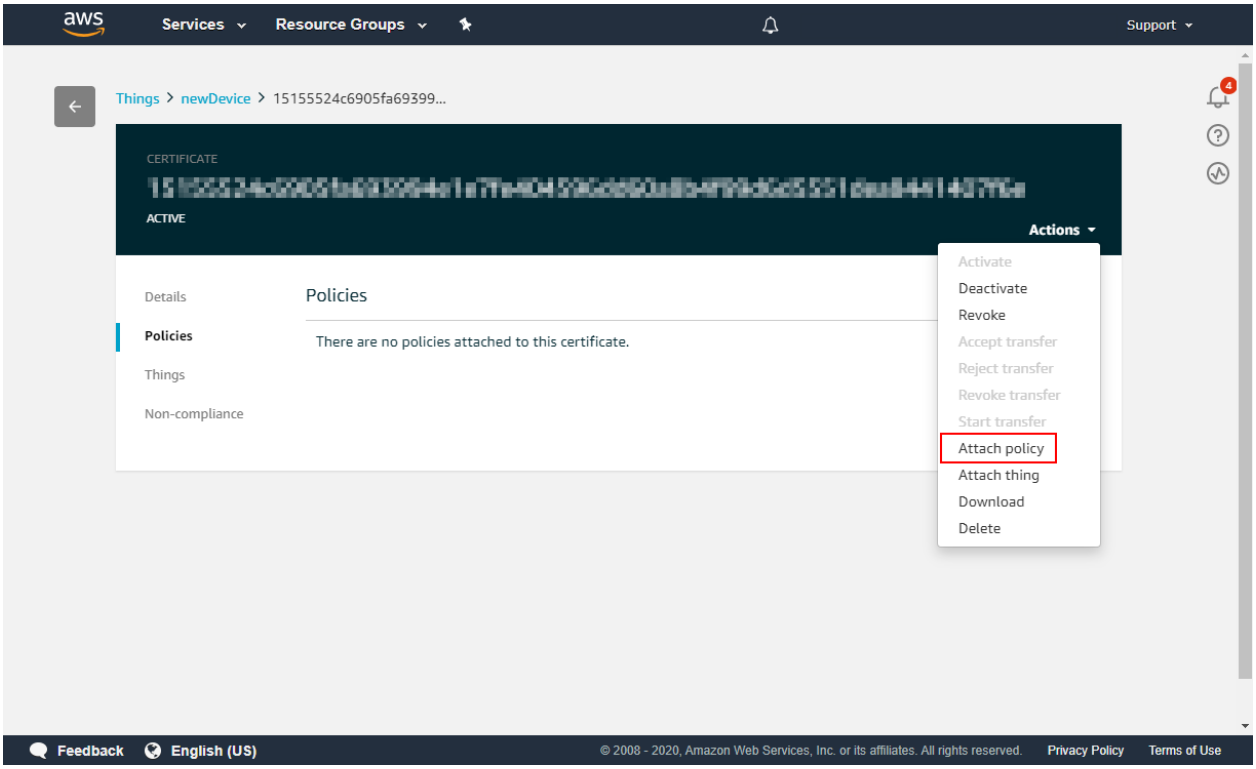
The last step to configuring the device is attaching a policy. To attach a policy to a new device, navigate to **Manage** -> **Things** in the left-hand navigation menu. Then click on the device that was just created.



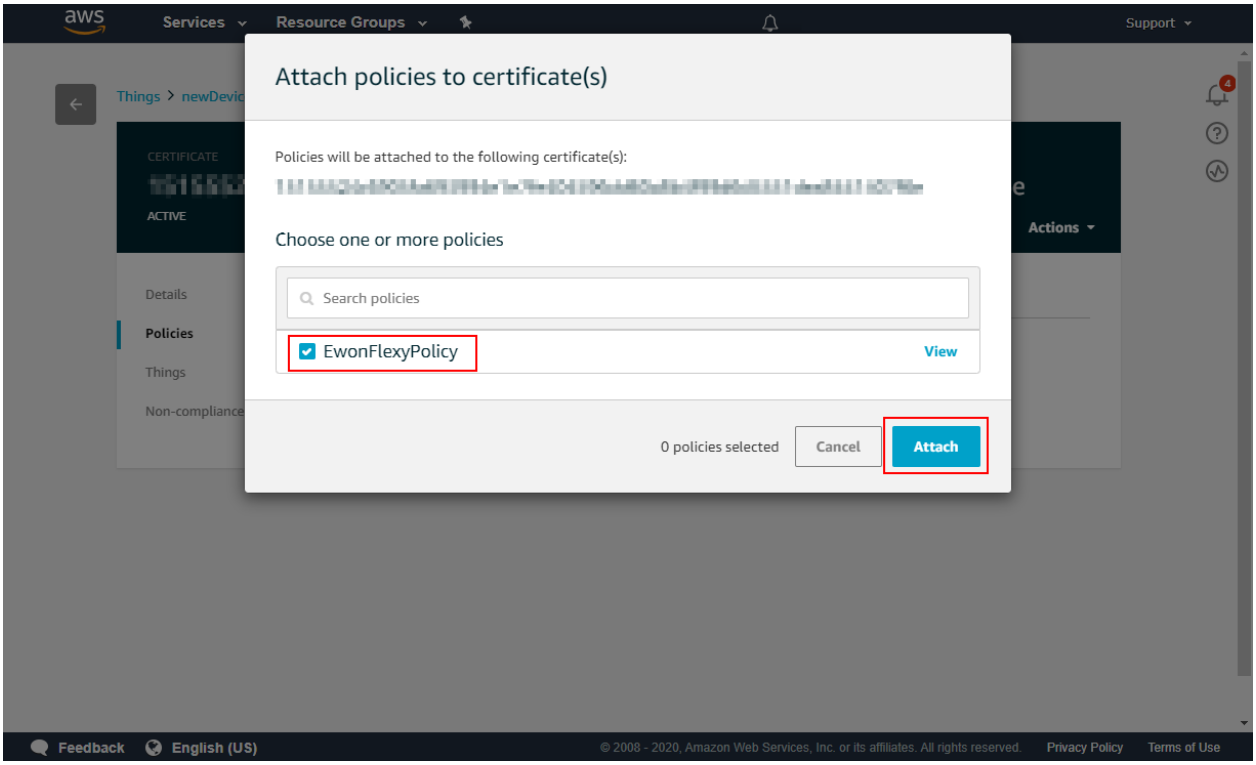
On the left-hand navigation menu click **Security**, then click the certificate created in the previous steps.



On the certificate page click on **Policies** in the left-hand navigation menu. Next, click the **Actions** drop down on the right of the page. In the **Actions** drop down menu click **Attach Policy**.



Select the policy created in section 2.1.1, then click **Attach.**



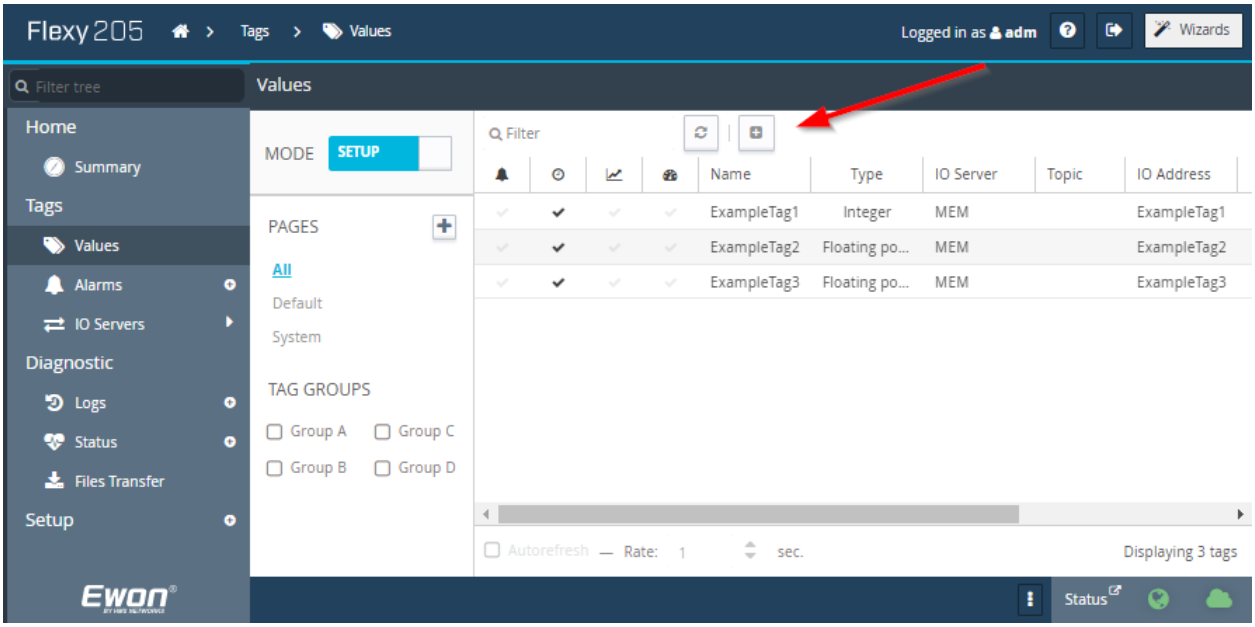
2.2 Configure Ewon Flexy

2.2.1 Configure Tags on the Ewon Flexy

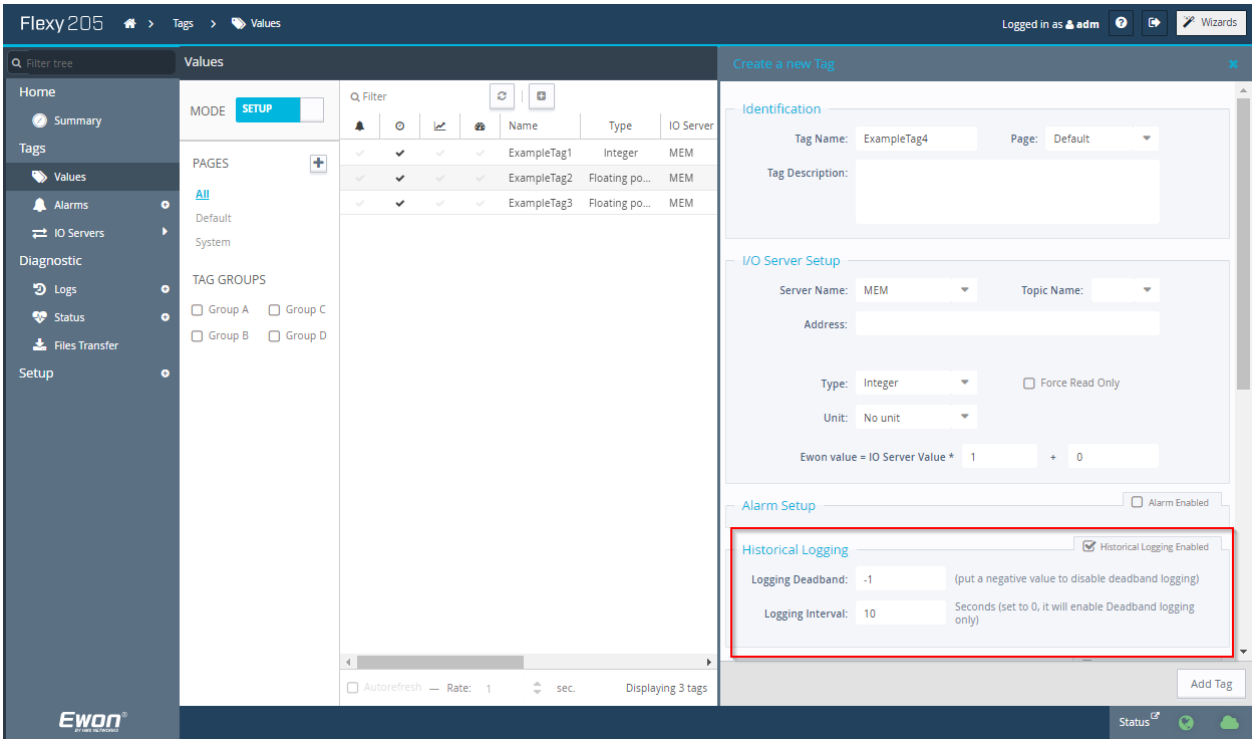
Each tag that should be sent to AWS IoT Core must have historical logging enabled. The historical logging interval configured for a tag sets the interval it will be posted to IoT Core. For information on the Ewon's historical logging functionality, and how to set it up, please visit https://www.ewon.biz/technical-support/pages/data-services/data-logging.

In addition to historical logging being enabled, the Ewon AWS IoT Core Connector application uses tag groups to determine which tags are to be sent to IoT Core. There are four tag groups, A, B, C, and D. Any tag assigned to one of the four tag groups will be sent to IoT Core, but tags that have not been assigned a tag group will be ignored.

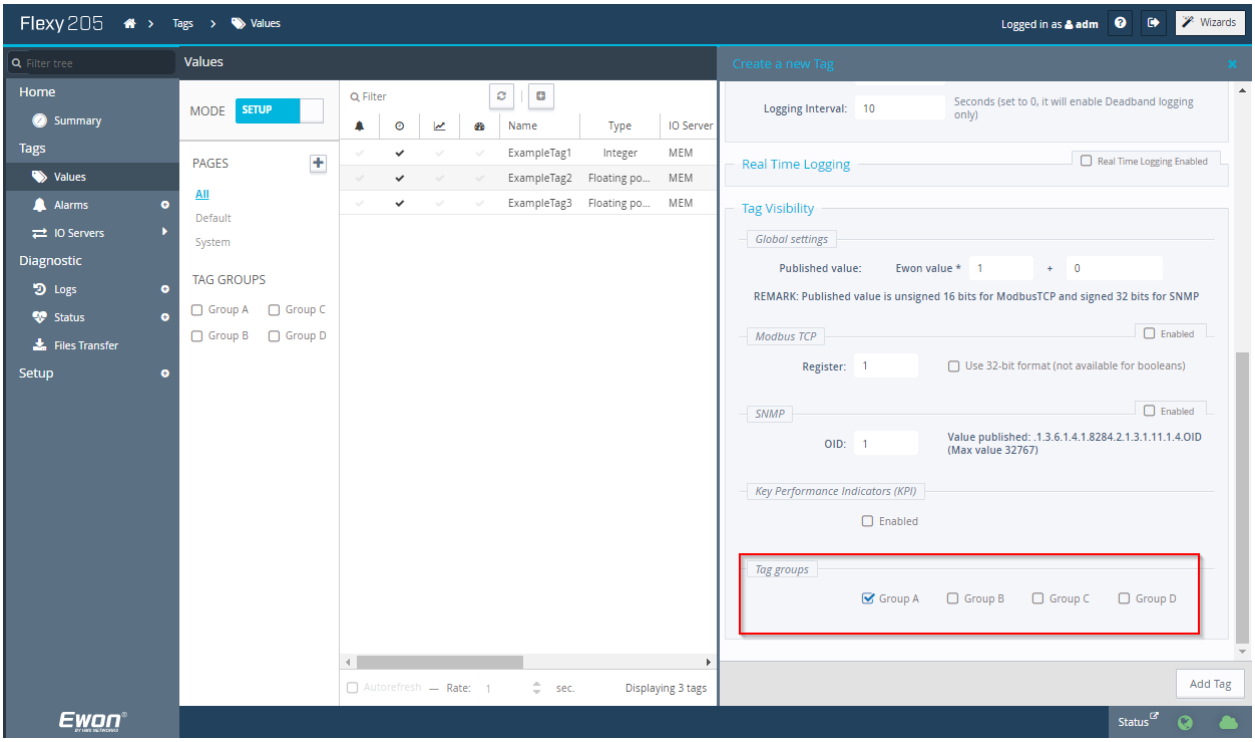
To create a new tag click the **+ / + Add** button above the tag list on the **Values** page of the Ewon Flexy webserver.



Create the tag following standard Ewon Flexy documentation. Make sure that **Historical Logging** is enabled and configured to the desired settings.



Add the tag to a **Tag group** then click **Add Tag** at the bottom right-hand side of the page.



2.2.2 Configure and Load the Connector Application

2.2.2.1 Modify AwsConnectorConfig.json

Replace the values for **IoTCoreURL** and **DeviceID** in the AwsConnectorConfig.json file to match the values being used.

IoTCoreURL – URL for IoT Core instance.

DeviceID – Must match name given to device during IoT Core device registration.

```
{
   "Connector": {
      "LogLevel": 1
   },
   "Aws": {
      "DeviceMode": 1,
      "IoTCoreURL": "xxxxxxxxxxx.iot.yyyyyyy.amazonaws.com",
      "DeviceID": "newDevice"
   }
}
```

2.2.2.2 Transfer Application Files

Using an FTP client transfer the following files to the /usr directory of the Ewon Flexy.

- AwsConnectoConfig.json
- flexy-aws-connector.jar
- jvmrun

2.2.2.3 Transfer Certificates

1. Using an FTP client create a directory named “AwsCertificates” in the /usr directory of the Ewon Flexy.
2. Rename the root CA certificate to “rootCA.crt” and transfer it to the “AwsCertificates” directory on the Ewon Flexy.
3. Rename the device certificate to “device.cert.pem” and transfer it to the “AwsCertificates” directory on the Ewon Flexy.
4. Rename the private key to “device.private.key” and transfer it to the “AwsCertificates” directory on the Ewon Flexy.

3 Testing

Once the Ewon Flexy has been rebooted the application will automatically start and begin publishing data to IoT Core. Data publishing verified by subscribing to the “ewonTelemetry” topic using the Test page.