**Introduction**

The Amazon IoT Enterprise button is a programmable Wi-Fi button with easy configuration through Bluetooth. The device works only with AWS IoT 1-Click service and eliminates the steps to install certificates to connect to AWS IoT Core right out of the box. It supports up to 2,000 clicks.

The button can be used in various scenarios by using it to trigger a new process every time it is clicked. In the Flexible Plug Load project, the button can be used to get exact timestamps when a user has started to use any equipment in a lab. This information can later be used to derive conclusions on usage statistics and power consumption of devices when in-use.

**Requirements**

* Amazon Web Services account
* 1-Click (Mobile App)
* Wi-Fi connection

**Set-Up**

Amazon Web Services account

1. The first step is to create Roles and Users:
2. Giving access to specific services to users outside of root can be done in the Identity and Access Management (IAM) service.
3. Create a new group that has access to the services required for the IoT project.
4. Follow the instructions below within the ‘Groups’ tab

Set Group Name:

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Description automatically generated

Attach Policies:

* 1. AmazonDynamoDBFullAccess
  2. AmazonLambdaFullAccess
  3. CloudWatchFullAccess
  4. AWSIoT1ClickFullAccess

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Review and Create Group

( ‘AWSIoT1ClickFullAccess’ should also be present in the list of Policies below )

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1. After creating the new group, create a new user under the ‘Users’ tab and attach them to the new group created that you just created.

Follow the instructions:

Give any User Name and select the specified options below:

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Add user to the group you have created in the previous step:

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You can skip the Add Tags step and move to the Review:

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Once you’ve created the user, make sure to save the credentials information by clicking the Download.csv button. This file contains information required for the newly created user to log in to AWS

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1. The new user can now log in to AWS account and have access to the specified services in the group that was attached to the user.
2. Next step is to create a role that will be used by the Lambda function we will create in the next couple of steps. Under the ‘Roles’ tab, create a new role using the following instructions:

Select ‘Lambda’ as the service that the role will use:

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Attach the following permission policies:

* 1. AmazonDynamoDBFullAccess
  2. AWSIoT1ClickFullAccess
  3. CloudWatchFullAccess

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Skip the ‘Add tags’ section and move on to Review

Give any role name and create the role:

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1. Now that we have completed user and role creation, we can create a Lambda function that will be used by the IoT button. The function must be created before an IoT project is created later on.
2. Navigate to the Lambda service and create a new Lambda function using the following instructions:

Create a new function using the Create function button:

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For the ‘Existing role’ option select the role that you have created in step 7:

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1. Once the Lambda function is created, we can use the provided code editor to upload the lambda function that will receive trigger information from the Iot button every time is pressed and put that information in DynamoDB to be access later.
2. Copy the contents of the lambda\_function.py file into the functions code editor.