**Form submission using IAM, DymanoDB, Lambda func, RESTful API gateway**

**Overview**

In this exercise, we will first set an IAM role which AWS Lambda function uses for authorization to call other AWS services,

**Pre-requisites**

1. IAM
2. DynamoDB
3. Lambda Function
4. RESTful API gateway

**Procedures**

1. Creating **IAM Role**
2. Login to the AWS Console, select Ireland region
3. Goto the IAM management console and click on the Roles menu in the left and then click on the Create role button
4. On the next screen, select Lambda and click next
5. Inside, attach permissions policies check the box with PowerUserAccess and click Next
6. On the next screen, click on the Next:Review button
7. On the next screen, type in **dojolambdarole** for the **Role name** and click on the **Create role button**
8. The role is created in no time.
9. Create **DynamoDB Table**

DynamoDB table which is used to store data for the web application.

1. Select DynamoDB console, select Tables menu in the left and the click on the Create table button
2. Use the following information

Table name: dojotable

Partition Key: email: String

1. Table is created
2. Create **Lambda Function**
3. Click on functions in the left and then click on the create function button
4. Provide following information

Function name: dojowebfunction

Runtime: Python 3.8

Change default execution role: Use an existing role

Existing role: dojolambdarole

1. Configure Lambda function using code provided with the [link](https://aws-dojo.com/ws47/dojofunction.zip)
2. Select **dojofunction.zip** from the downloaded location and click on the **Save** button
3. Lambda function is ready.

4. Create API Gateway

1. In the API Gateway Console, click on the Build button for the REST API
2. Select **REST** for the protocol and select **New API** option. Type in **dojowebapi** for the **API Name** and select **Regional** for the endpoint type. Finally, click on the Create API button.
3. The API is created in no time. On the next screen, click on the **Create Method** option under the Action menu.
4. On the next screen, select GET as the method and click on the confirmation icon
5. Select **Lambda function** option for the integration type. Select **Use Lambda Proxy Integration** option. Select **dojowebfunction** for the Lambda Function. Select Use **Default Timeout** and Click **save.**
6. Create Method, create a POST method and then select Lambda Function, used Lambda Proxy Integration, lambda function - dojowebfunction and select Use Default Timeout
7. Select Actions button and click on **Deploy API** option under the Action menu
8. Configure the deployment stage using following details

Deployment stage: [New Stage]

Stage name: dev

1. API is deployed to the dev stage. Make note of the Invoke URL.

5. Test Web Application

a.Open web browser and navigate to Invoke URL. It will render Sample Contact Form web page.

b.Navigate to dojotable DynamoDB, you can find a new record

**Demo URL:**

<https://nf5e15fnsh.execute-api.eu-west-1.amazonaws.com/dev>