## **Module 14 – Project 1**

## Project- Amplify- Lambda- API Gateway- IAM.

In this Project we are going to use Amplify which will work as the web server and we will upload the index.html file.

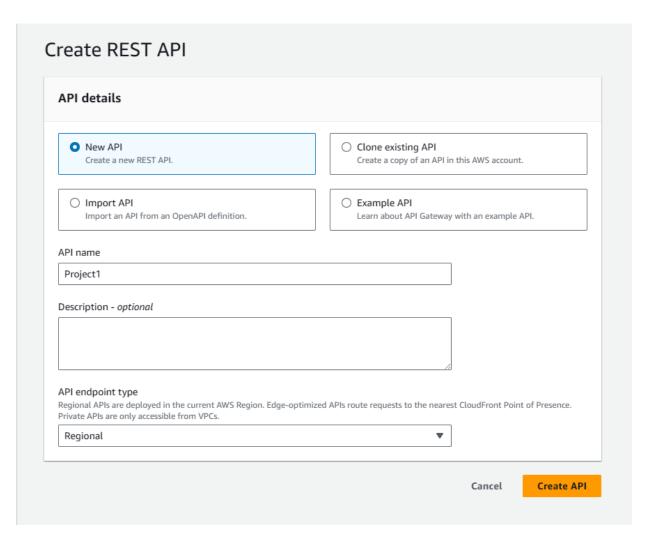
Lambda – we will create the lambda function which will list the number of EC2 instances that are in running state.

```
API Gateway – API gateway will trigger the Lambda function.
```

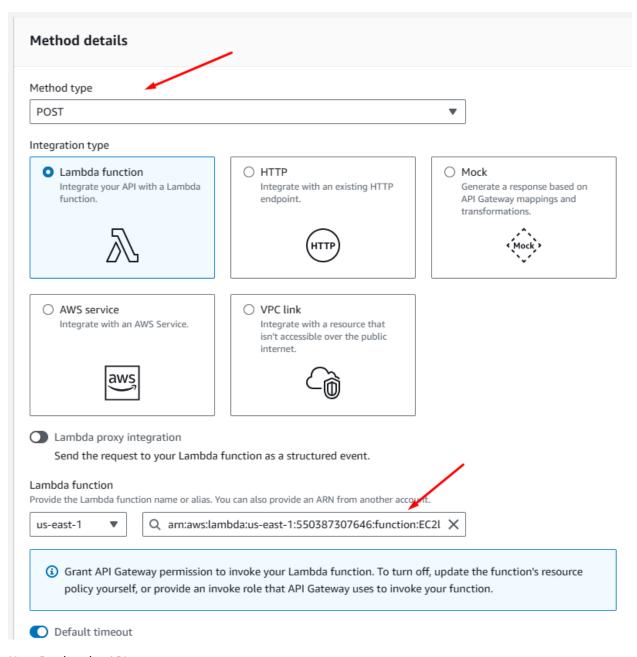
So first let's create the Lambda function.

```
import boto3
region = 'us-east-1'
ec2 = boto3.client('ec2', region_name=region)
def lambda_handler(event, context):
  instance_ids = []
  response = ec2.describe_instances(Filters=[{'Name': 'instance-state-name', 'Values': ['running']}])
  instances_full_details = response['Reservations']
  for instance_detail in instances_full_details:
    group_instances = instance_detail['Instances']
    for instance in group_instances:
      instance id = instance['InstanceId']
      instance ty = instance['InstanceType']
      instance_publicip = instance['PublicDnsName']
      instance_ids.append(instance_id)
      instance_ids.append(instance_ty)
      instance_ids.append(instance_publicip)
  return instance_ids
```

Lambda is running fine. Now let's create the API Gateway which will trigger the Lambda function. We will create Rest API



Now create a method.



Now Deploy the API.

Copy this Invoke URL this will be used in Index.html

Let create the Amplify. Zip the Index.html page and upload.

## Index.html

<!DOCTYPE html>

<html>

<head>

```
<meta charset="UTF-8">
<title>EC2 List</title>
<!-- Styling for the client UI -->
<style>
h1 {
  color: #8f2222;
  font-family: system-ui;
          margin-left: 20px;
  }
    body {
  background-color: #7b7c79;
  }
label {
  color: #86C232;
  font-family: system-ui;
  font-weight: bold;
  font-size: 20px;
  margin-left: 20px;
          margin-top: 20px;
  }
button {
  background-color: #86C232;
          border-color: #86C232;
          color: #FFFFFF;
```

```
font-family: system-ui;
    font-size: 15px;
            font-weight: bold;
    margin-left: 30px;
            margin-top: 20px;
            width: 140px;
    }
      input {
    color: #292223;
    font-family: system-ui;
    font-weight: bold;
    font-size: 20px;
    margin-left: 10px;
            margin-top: 20px;
            width: 100px;
    }
  </style>
<script> function target_popup(form) {
  window.open(", 'formpopup', 'width=1000,height=300,resizeable,scrollbars');
  form.target = 'formpopup';
</script>
</head>
```

}

```
<body>
 <h1>Running EC2 Instance id's </h1>
 AWS Account Name
  AWS Account No
  Result
 Demo
  550387307646
  <form id="myform" action="https://md2uwwznia.execute-api.us-east-
1.amazonaws.com/Dev" method="post" onsubmit="target_popup(this)">
    <button class="deploy_button" type="submit" formmethod="post">Click
Here</button>
   </form>
  </body>
</html>
```

Now Browse the URL.