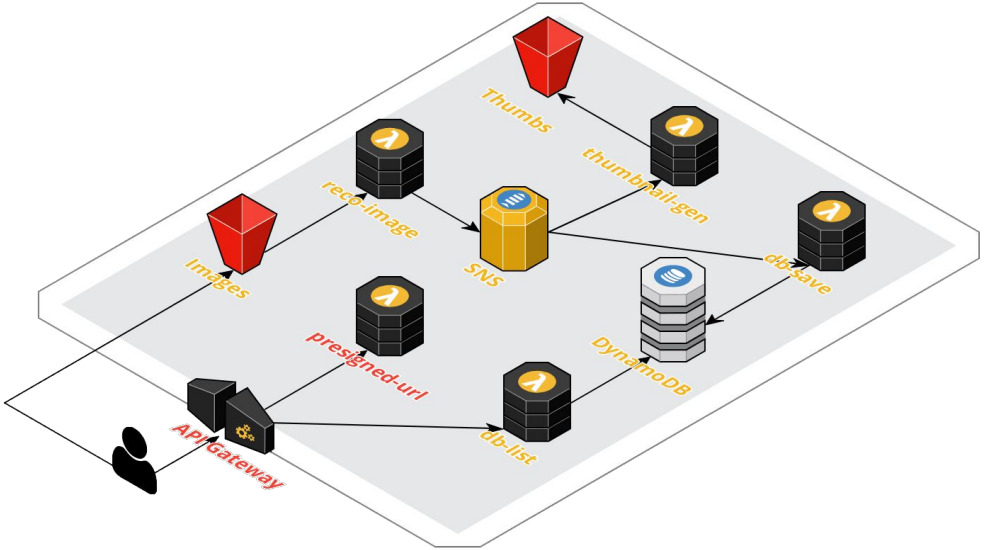
AWStack training - Serverless

Hands On #2 - Lambda | API Gateway - Upload Image

Overview

This Hands-on is composed of 2 parts:

1. Lambda Part : new function to generate a S3 pre-signed url
2. API Gateway Part : new REST API Gateway and new GET method to route the ingress traffic to the Lambda function



Let’s go! | Lambda Part

Go to Virginia region N. Virginia

Create a lambda function having these properties:

- **Name**: py-aws-lambda-presigned-url
- **Runtime**: Python 3.6
- **Role**: serverless_lambda_role
- Add a new **Environment variable** containing the bucket name created previously
  - Name: bucketName
  - Value: serverless-training-img-<xxx>
- Upload the **Function code** from the S3 bucket: https://s3.amazonaws.com/awstacktraining-serverless-resources/code-templates/py-aws-lambda-presigned-url-template.zip

Once done -> Go to **Testing** part to test your Lambda

Context:

In this part we create a lambda in charge of generating a S3 pre-signed url. This url will be used later by the front-end web-ui to upload a new image in the bucket

Documentation:

https://docs.aws.amazon.com/fr_fr/IAM/latest/UserGuide/introduction.html

https://boto3.amazonaws.com/v1/documentation/api/latest/reference/services/s3.html

https://docs.aws.amazon.com/fr_fr/apigateway/latest/developerguide/welcome.html

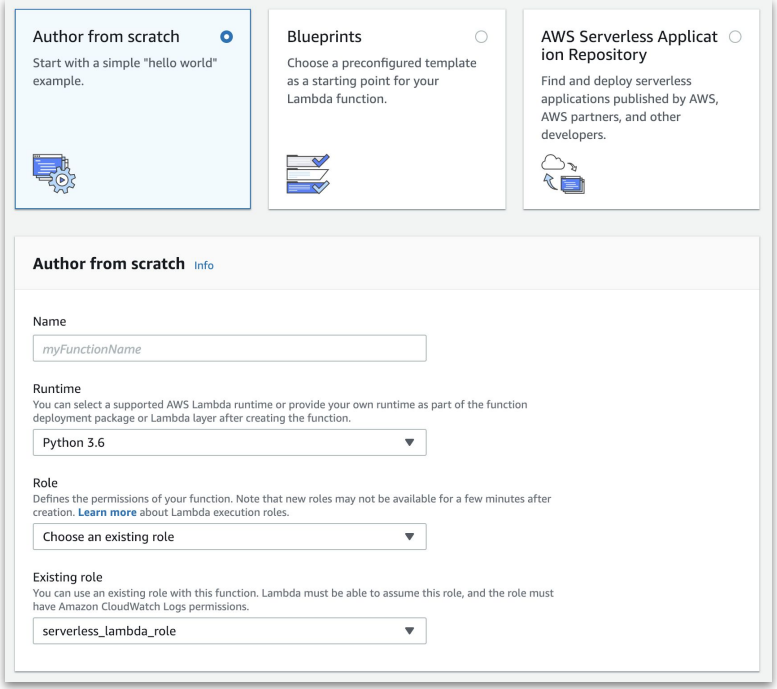
Hint 1

Lambda Creation - create a new Lambda function

“py-aws-lambda-presigned-url”

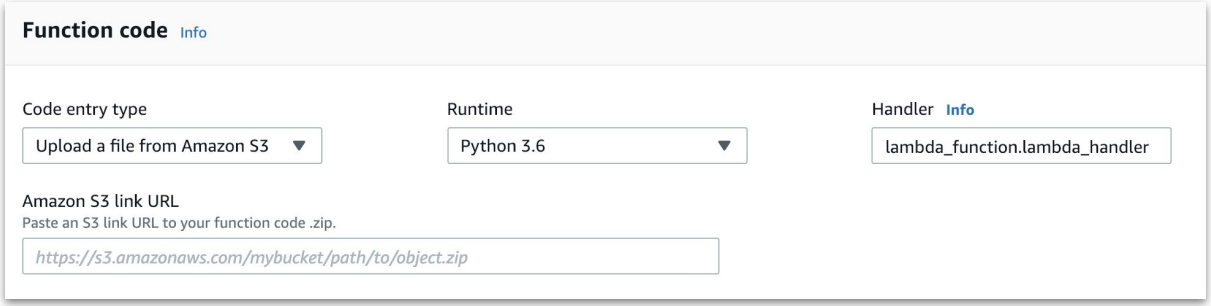
using the existing role

“serverless_lambda_role”



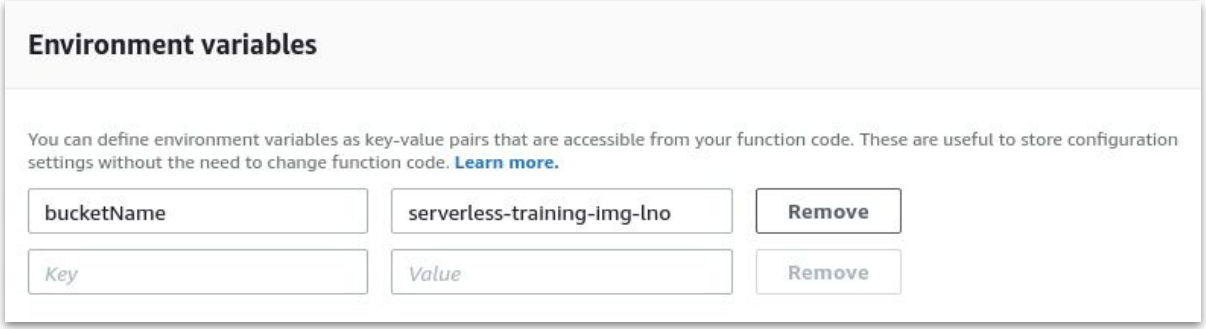
Hint 2

Lambda Configuration - Upload the function code from the S3 link URL given in “Let’s Go” section



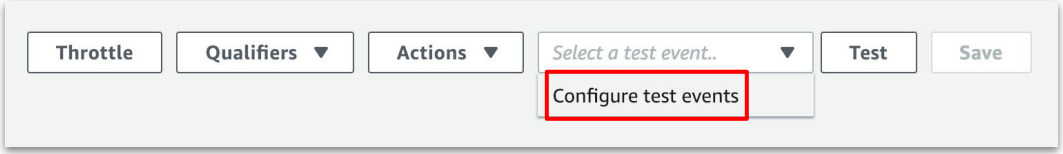
Hint 3

Lambda Configuration - Add a new environment variable "bucketName"



Test the lambda function

1. Copy the test json sample **test-sample.json** from **Function code**
2. Configure a new **Test event** from the top menu



3. Paste the json sample, create the test event and test !

Let’s go! | API Gateway Part

Create a new **REST** API Gateway having these properties:

- **Name**: reco-image

Create a new resource and a GET method on this API :

- **Name**: upload
- **Resource**: /upload
- Create a new **GET** method
- **CORS** has to be enabled
- Use **Lambda proxy integration**
- Integrate with the **py-aws-lambda-presigned-url** lambda function

Before deploying -> Go to **Testing** part to test the API endpoint

- Deploy the API on a new stage **dev** (test the API first)

After deploying -> Go to **Done !** part to test the full integration

Context:

In this part we create the API Gateway resource in front of the lambda. The proxy mode will route the ingress traffic directly to the function without any modification.

Documentation:

https://docs.aws.amazon.com/fr_fr/apigateway/latest/developerguide/welcome.html

Hint 4

API Gateway - create a new REST API Gateway “reco-image”

Choose the protocol

Select whether you would like to create a REST API or a WebSocket API.

REST WebSocket

Create new API

In Amazon API Gateway, a REST API refers to a collection of resources and methods that can be invoked through HTTPS endpoints.

New API Clone from existing API Import from Swagger or Open API 3 Example API

Settings

Choose a friendly name and description for your API.

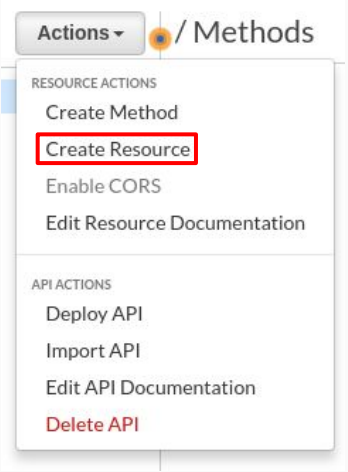
API name* reco-image

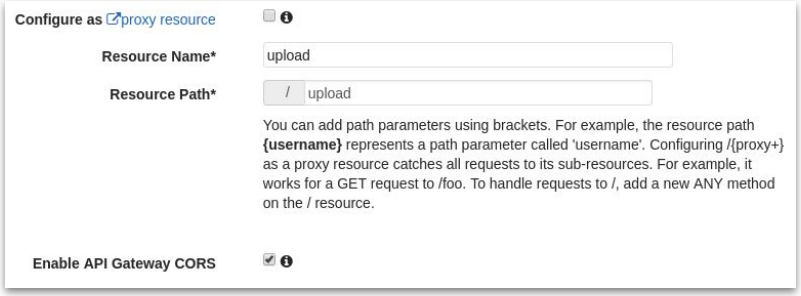
Description

Endpoint Type Regional

Hint 5

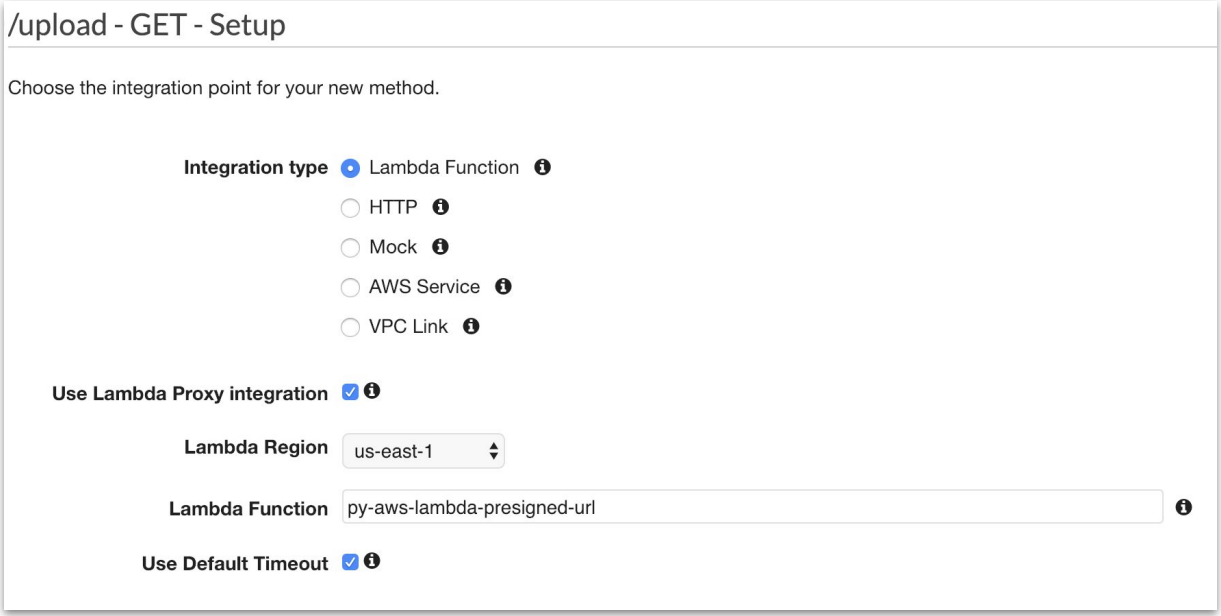
API Gateway - create a new resource “upload”, with CORS enabled





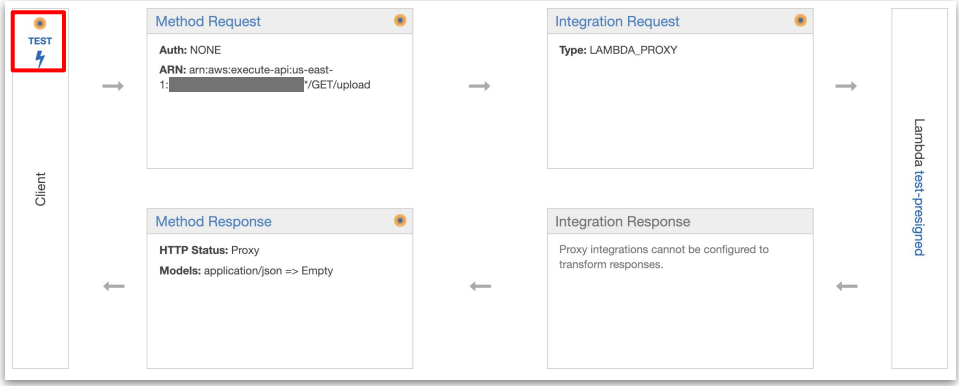
Hint 6

API Gateway - create a new **GET** method pointing to the lambda function created previously. Use the proxy mode integration



Test the API Gateway resource

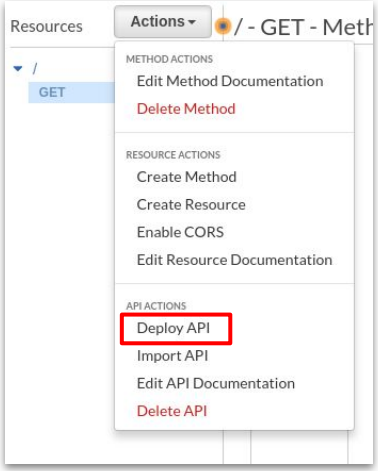
1. Click on test icon

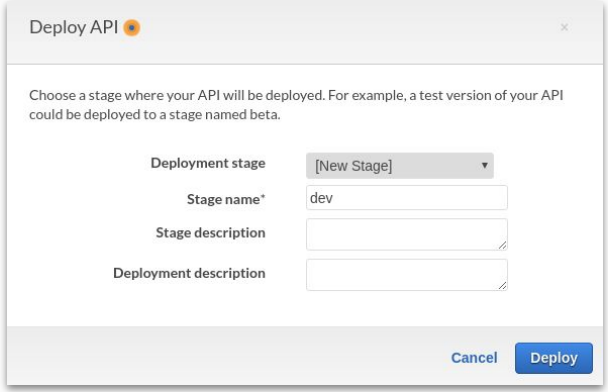


2. Set the **Query String** with “**filename=image-test.jpg**” and test !

Hint 7

API Gateway - Deploy the API to the stage “dev” (create it if needed)





Done !

Test the API endpoint using the invoke URL !

<YOUR_API_INVOKE_URL>/upload?filename=image-test.jpg

You can download the Lambda code at

https://github.com/laurentnoireterre/py-aws-lambda-presigned-url