Resize an Image in AWS S3 Using a Lambda Function

Solution Design Document

Overview

The objective of this solution design document is to provide lambda function so as to resize the image that is uploaded from user interface. Resized image should directly be stored in second s3 bucket.

User Story: As a team we need to create lambda function for resizing the image and connecting to the s3 bucket.

Solution

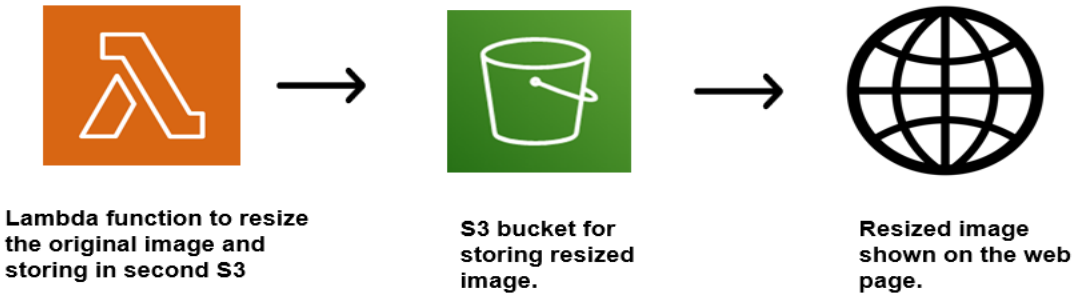
The solution for resizing the image will be implemented using following service of AWS:

1.AWS S3: For storing the images that will be resized using lambda function.

2. AWS Lambda:

- **Python 3.7**: A runtime provides a language-specific environment **.**
- **Boto3**: For building the application on top of Amazon S3. Provides a python API for AWS infrastructure services
- **PIL import Image**: Provides a way to represent and manipulate images in Python.

FLOW CHART:



Design

1. **S3 Bucket:**
   AWS S3 bucket will be created which is publicly accessible for storing images that are resized using lambda function.

2. **Lambda function:**
   - **Python 3.7**: For providing language-specific environment **.**
   - **Import boto3:** This line imports the Boto3 library, for building applications on top of their AWS services.
   - **PIL import Image:** This line imports the Image module from the Python Imaging Library (PIL).
   - **Import io:** This line imports the io module which provides a way to work with stream-based input/output operations.
   - **S3_client = boto3.client('s3'):** This line creates an S3 client object which is used to communicate with the Amazon S3 service.
   - **def lambda_handler(event, context):** This is the handler function for an AWS Lambda function, which is a serverless compute service provided by AWS.
   - **s3_client.put_object(Bucket='bucketname',Key=key, Body=buffer.getvalue()):** This line uploads the resized image to another S3 bucket.

Security

1.IAM roles and policies will be used to grant access to the Lambda function to read data from the S3 bucket.

Scalability

1. Lambda function created can be able to process any number of images.
2. It can be able to process any image of any dimension.

Monitoring

1. Cloudwatch will be used to monitor performance of lambda function.