Resize an Image in AWS S3 Using a Lambda Function

Solution Design Document

Overview

The objective of this solution design document is to provide the user interface to upload the images i.e., webpage which inserts the image into S3 bucket of AWS. The feature of webpage will help any merchant to upload an image to S3 bucket.

User Story: As a merchant, one should be able to upload the image (.png/.jpeg/.jpg) through a webpage for sellers.

Solution

The solution for functionality of uploading image from user interface will be implemented using following technology and service of AWS:

1.AWS S3: For storing the images that will be uploaded from user interface.

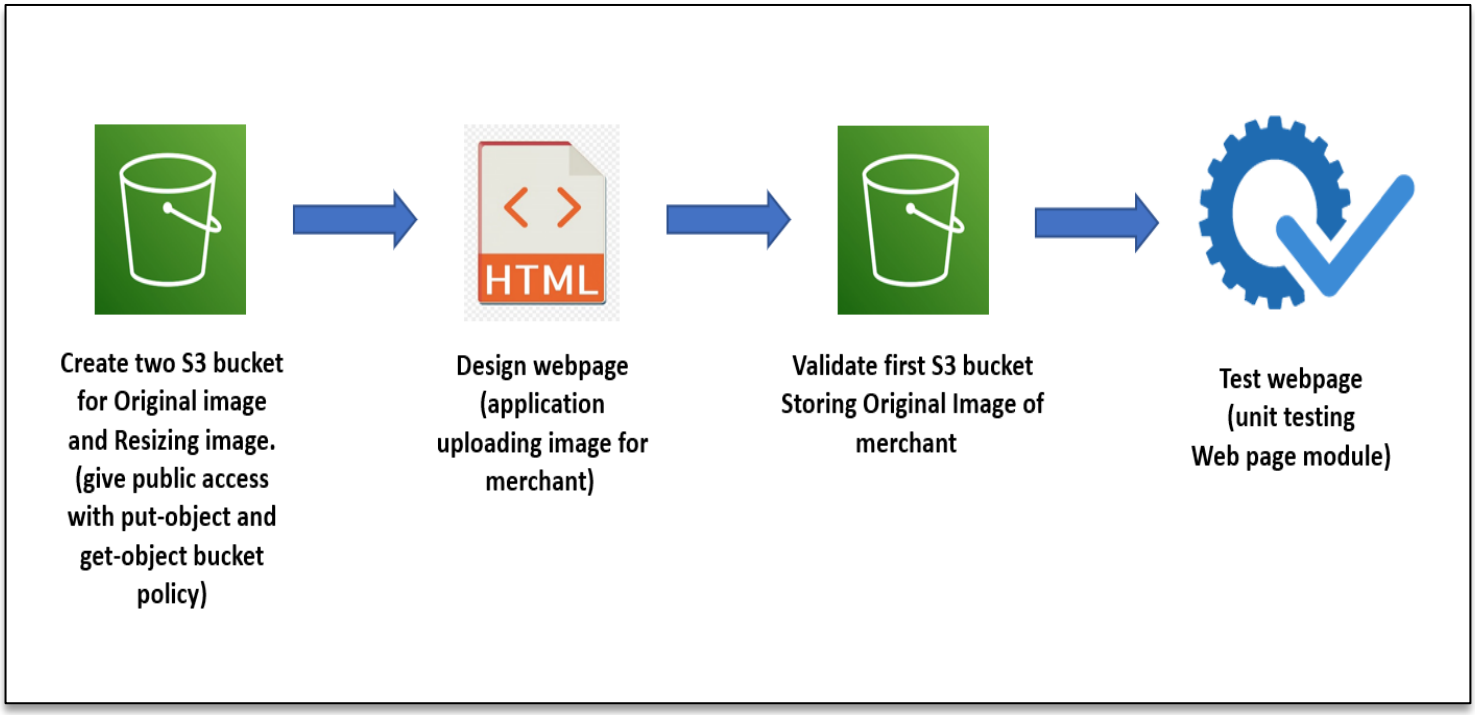
2. HTML: For designing the structure of the webpage .

3. CSS: For styling the web page and user interface with look and format.

4. Boto3: For building the application on top of Amazon S3. Provides a Python API for AWS infrastructure services

5. Python(Flask): Web framework for developing the web application with python modules.

FLOW CHART:



Design

1. **S3 Bucket:**
   AWS S3 bucket will be created which is publicly accessible for storing images that will be uploaded from UI.
2. **HTML design:**
   Using Pycharm , will created the components of HTML
   - Home.html component for designing upload module.
   - Uploaded.html component for knowing successful image upload.
   - Tryagain.html component for invalid submission of file other than image file.
3. **CSS:**
   CSS will be used for designing along with HTML for coloring and styling of web page.

4. **Flask:**
   Using Flask ,component i.e., app.py will be created in Pycharm with python modules for writing logic and routing through webpage.
5. **Boto3:**
   Import boto3 in app.py to use modules for getting access to Amazon S3 from UI.

Security

1. Giving public access to the buckets so as they can be access only using the access keys.
2. Getting unique secret access keys and id for using Boto3 and keeping them safe using .env file and .gitignore file for when the file is being uploaded on Github.

Scalability

1. S3 buckets are auto-scalable and are managed by the AWS platform.
2. N number of images can be uploaded through the webpage from any browser.

Monitoring

1. Cloudwatch will be used to monitor S3 performance metrics.