AWS Web Application

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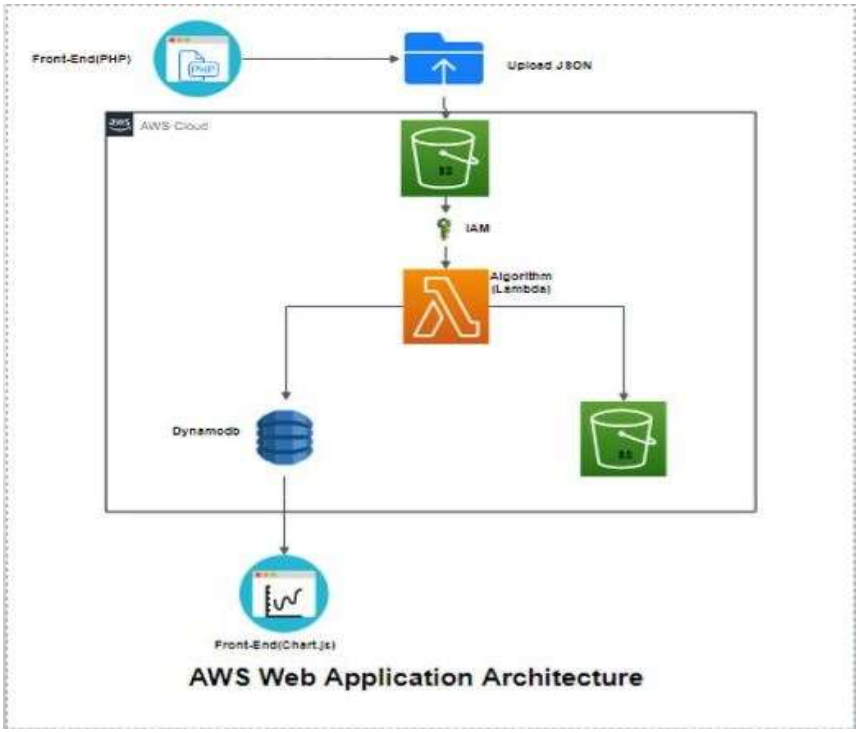
Introduction:

This project involves creating a web app deployed using AWS Cloud services. This application takes in some raw user health and fitness data, processes it using AWS web services and outputs some meaningful data back to the user on a webpage using graphs.

Project Path:

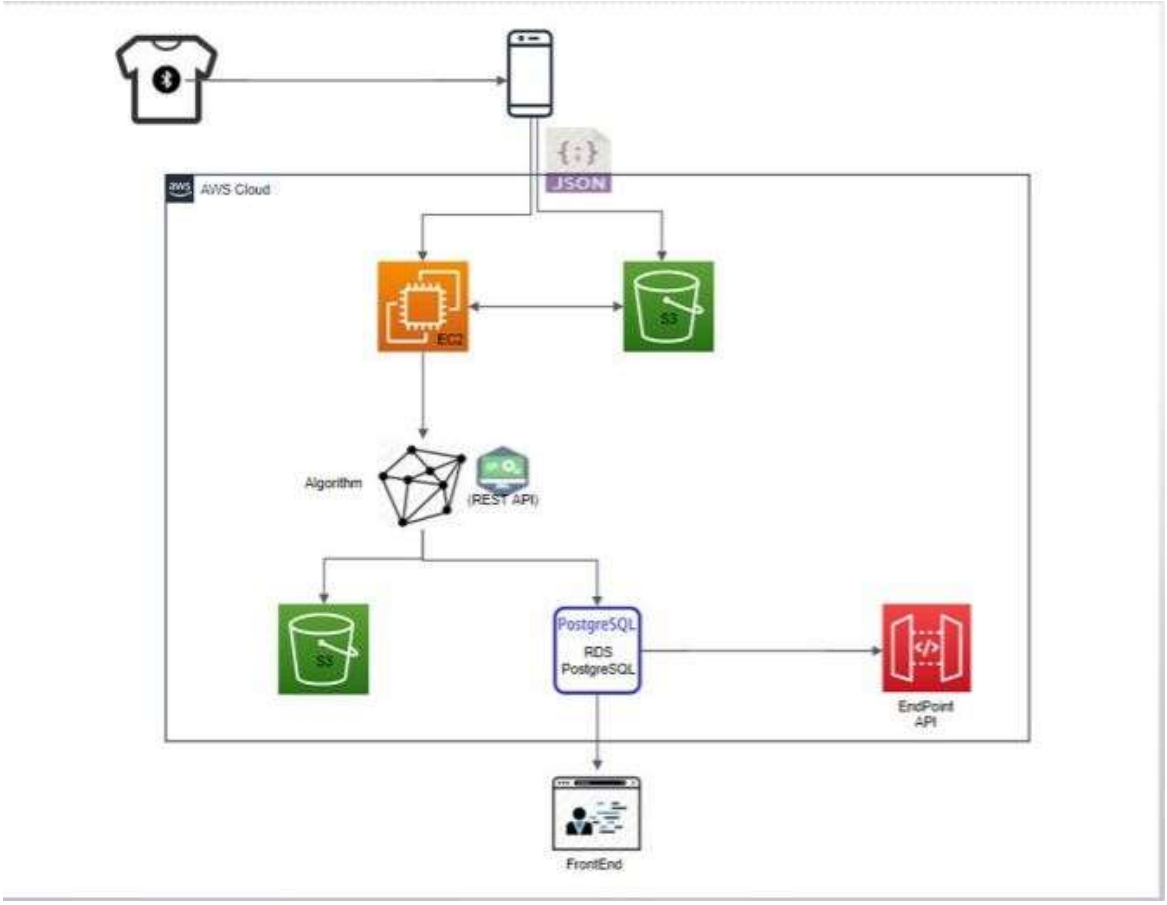
The current project path involves using lambda service to run our processing algorithm after fetching the file from a S3 bucket. The Processed data would then be sent to a DynamoDB instance while an output in the form of a graph is accessible to the user.



AWS Web Application Architecture

Initial Approach/Discarded Approach:

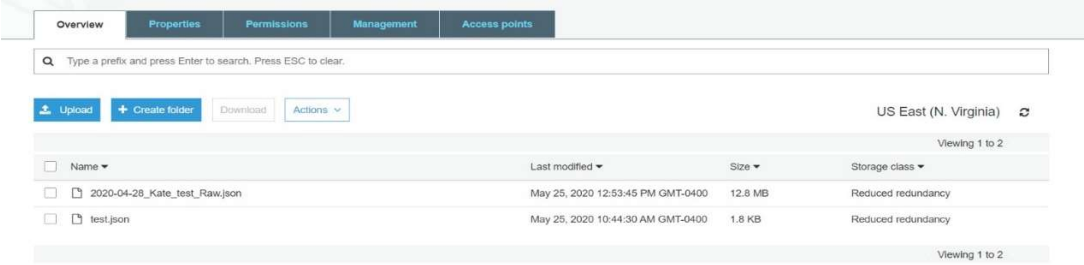
- Initially a few different approaches were tried. Testing and learning phase also involved using POSTMAN service to save the file to a S3 bucket as well as retrieve a file from a S3 bucket.
- An earlier approach involved creating an EC2 instance and using it to fetch the file from the S3 bucket. This approach was discarded for it being inefficient for the project.
- Different database options were initially tested before going ahead with DynamoDB.



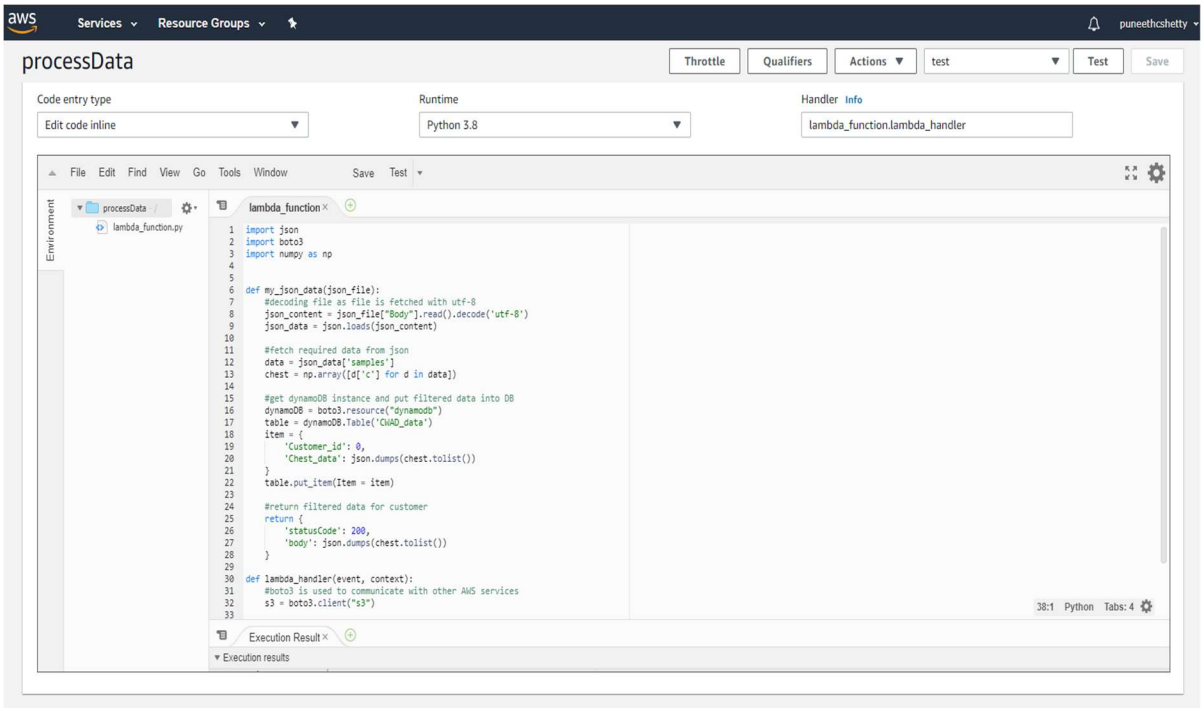
Project Flow:

- The user first uploads a JSON file containing raw data on a web page that acts as a substitute to a mobile app.

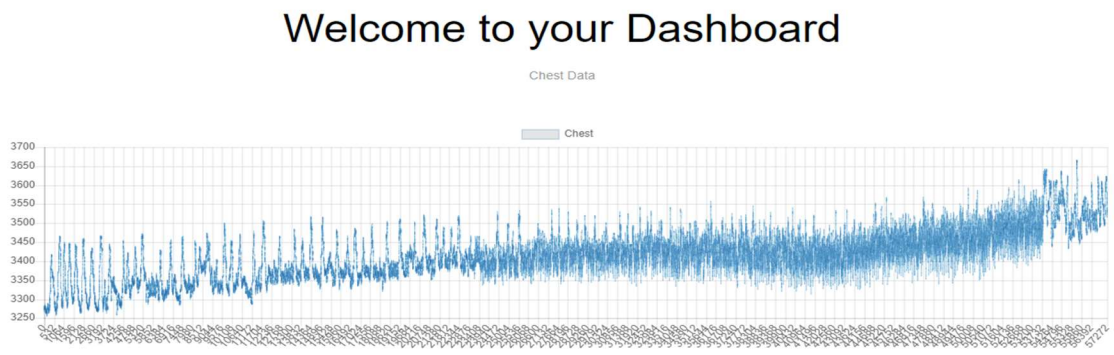
- The uploaded JSON file is stored in a S3 bucket, which is authenticated using IAM services.



- A Lambda function then fetches the JSON file from the bucket and using an algorithm processes the data to get the required data (in this case, “chest data”) of the user.



- The output is then stored in a DynamoDB instance as well as posted on a webpage using ChartJS that shows the data using a graph.



- This repository contains some of the code used in different AWS services.

Contents:

- **LambdaFunction/src/ChestLambdaFunc.py :** Contains the lambda function that takes in the JSON file containing user health data from the S3 bucket, fetches the required data (chest data) and outputs the data into a DynamoDB instance.

- **LambdaFunction/test/test_function.py:** Contains the unit test case that takes in the test JSON file containing test health data from S3 bucket. Then check if the lambda function's actual value is equal to expected value.

- **Web Page/index.php:** Contain the webpage which acts as a substitute to the mobile application. This is where the user uploads the JSON file.

- **Web Page/upload.php:** It contain the information of bucket name, IAM user key and secret key through which JSON file is then stored in a S3 bucket.

- **Static Webpage:** Contains the webpage that will display the graphs of user data processed using AWS services

- **CWAD/src:** the *_init_.py* file is part of the original approach taken for the project, where an EC2 instance would fetch the file from a S3 bucket. This approach was later discarded.