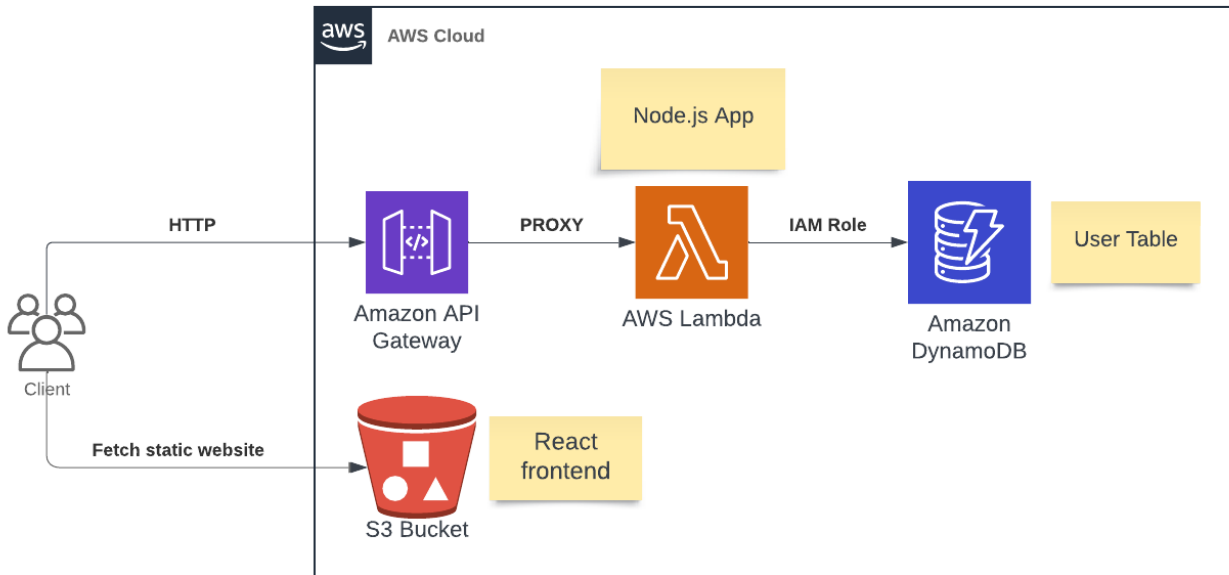# Vial SWE Calculator Assignment

1 - Architecture Diagram:

2 - Database:

The option for the database used is the NoSQL DynamoDB provided in the AWS environment. We use only one table (UserTable) with unique ID matching the user email at login. We also store the hashed (HMAC-SHA256) password.

3 - Back-end:

For back-end we have a node.js app created with express.js handled at a AWS Lambda function. Three routes are provided:

- /login: check if the user exists and try to match the encrypted password with the one in the database.
- /signup: check if the user does not exist yet and create a new one.
- check-token: verify if the JWT token is still valid.

The Lambda function is exposed to the HTTP request via API Gateway, which controls access (headers, CORS, etc). All three routes are exposed in API Gateway. The Gateway is only accessible to those who have a valid access key.

4 - Front-end:

The front-end app is a SPA created using React and deployed on a public S3 bucke and thus anyone can fetch the web files. The app comprises a login located at "/login" and the root page containing the calculator. One does not need to be logged in in order to access