CSS 436 – Program 4 Report

Neil Wiborg

# Website URL

Username: css436

Password: dimpsey

<https://www.neilwib.org/program4>

# Location of S3 Object

<https://neilwwebserver.s3.us-west-2.amazonaws.com/userDataText.txt>

(only available when data has been loaded)

# Design Diagram

Graphical user interface, application

Description automatically generated

# How Site will Scale with Load

Currently, my website does not have any capability to scale. This is because I have manually configured the infrastructure myself and set up NGINX myself. I would need to configure AWS Lightsail to automatically create new instances for me, and setup NGINX as a load balancer to direct traffic to the machines. I would also want to separate my frontend and backend applications onto separate machines so they can be scaled separately and to loosen the coupling between them. This would not require any code changes, only infrastructure to setup.

DynamoDB can be configured to auto scale by itself so that my service is not limited by the speed of DynamoDB updates and queries, however this would require configuring as well.

# How Monitoring is Done

Currently AWS Lightsail provides monitoring based on CPU usage, however it has no knowledge about the services running on my VPS. I would need to find a way to configure better monitoring in the future in order to be better aware of my site’s current condition and to be automatically alerted if an issue arises.

# Service Level Agreement (SLA) Estimate

Services used:

AWS Lightsail – 99.0% monthly uptime

AWS Simple Storage Service (S3) – 99.0% monthly uptime

AWS DynamoDB – 99.0% monthly uptime

The website can stay running as long as the Lightsail instance is running, however the program 4 features will not work if at least one of the three used services is down. For this reason, I am considering all three of these services as hard dependencies.

0.99 \* 0.99 \* 0.99 = 0.97

The SLA for my program 4 service is 97% (one nine)