Cloud Provider Analyse

This report is divided into 2 parts, The first is the Pricing Table of cloud providers for the first task of the assignment, and the second is the Google Cloud Deployment report.

# Cloud Providers Report

In the table below you will find the results of pricing for the 6 instances necessary to run the front and back-end with 1 to 1 redundance.

|  |  |  |  |
| --- | --- | --- | --- |
|  | AWS | Azure | GCP |
| Computing | $206.90 (N. Virginia)  $228.43 (Ireland)  $217.67 total | $312.99 (N. Europe)  $265.16 (N. Central US)  $578.15 total | $427.55 (S. Carolina)  $455.32 (Belgium)  $882.87 total |
| Load Balancer | $18.43 | Free of charge (Basic) | $18.25 |
| Total: | $453.76/month | $578.15/month | $901.12/month |

\*For more details about the calculation used on this table vide the tables attached within.

Two distinct regions were used to estimate the prices, one in North America and the other in Europe, this configuration ensure better performance serving user worldwide, considering the main marked of the start-up is in the occident. A brief breakdown of the providers result follows bellow.

## AWS

Amazon Web Services had the most affordable and customizable calculator of the three options. The number of products available and the extensive customization can make it more complicated to get the accurate predictions of the necessary resources demanded.

The plan used was EC2 Instance Savings Plans since we did not need Fargate or Lambda present on the other option of similar cost. For this results there the setup had reservation of 1 year and no upfront payment. For storage 250 of Cold HDD with no snapshot storage were added from EBS into each EC2 instance.

## GCP

Google Cloud Provider had the most expensive quote for the resources needed and its calculator was very limited in options. There was no option to use HDD, the only option was SSD which hiked the cost significantly or use the boot disk size, which was the chosen option on the estimate shown here, that I assume is HDD.

## Azure

Microsoft’s cloud provider’s calculator does not explicitly specify that the disks are assign to each instance like AWS. 6 HDD disks were added. The selection of disk size is pre-sized unlike to the other competitors that let you choose exact amount. Load balancer is free of charge on Basic model, and it comes with Basic Support included.

# Result

Azure being the balanced option bringing competitive pricing in relation to AWS and with the bonus of having free of charge load balancer along with basic support would be my final recommendation for the cloud provider.

Google Cloud Deployment

# Environment Setup

To deploy Google Cloud resources via scripts you will need to install the Google Cloud SDK in your local machine. All you need to do is to visit: <https://cloud.google.com/> and follow the instructions.

When you are done with the gcloud SDK setup you can run “gcloud -v” on your console, in my case its bash, to verify its installed.

A screenshot of a computer program

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In my environment the Google Cloud SDK 499.0.0 is installed and there are updates available.

Following you will need to authenticate with Google Cloud using the command line. You can do that by running the command “gcloud auth login”. You will be prompted to login with your Google account, select an account and you will be ready to the next step.

Finally, you will need to enable some configuration in order to use cloud resources from the command line. Visit <https://console.cloud.google.com> on the same account you used to authenticate the gcloud and select of create a new project.

After selecting you project on the search bar look for “compute engine” and click on enable API as in the picture below.

A screenshot of a computer

AI-generated content may be incorrect.

Next you will set up IAM (Identity and Access Management) on Google Cloud.

Go to the page IAM page and navigate to IAM & Admin page, you can find it on the left side tab menu, if it is not pinned you will find it on “view all products”.

Click on AIM within the AIM & Admin list and look for the “grant access” button and follow the steps, you can give the Principal (user) granular or total access to the project recourses.

This report is accompanied with a PDF file that contains the link bellow takes you to the repository were the final script to deploy a Compute Engine VM instance and screen shots of the VM execution. The script deploys an instance with the following specifications:

2 vCPUs and 8GB RAM

250GB storage

Ubuntu 20.04 image

Set up an external static IP address for the VM.

Configure a firewall rule to allow HTTP and SSH access.