Cloud Computing Assignment: 6

TITLE:
Assignment to install and configure Google App Engine

AIM:
From this assignment we will understand the Configuration and deploying of apps on Google App Engine.

THEORY:

Introduction
Google App Engine is a web application hosting service. By "web application," we mean an application or service accessed over the Web, usually with a web browser: storefronts with shopping carts, social networking sites, multiplayer games, mobile applications, survey applications, project management, collaboration, publishing, and all the other things we're discovering are good uses for the Web. App Engine can serve traditional website content too, such as documents and images, but the environment is especially designed for real-time dynamic applications. Of course, a web browser is merely one kind of client: web application infrastructure is well suited to mobile applications, as well. In particular, Google App Engine is designed to host applications with many simultaneous users. When an application can serve many simultaneous users without degrading performance, we say it scales. Applications written for App Engine scale automatically. As more people use the application, App Engine allocates more resources for the application and manages the use of those resources. The application itself does not need to know anything about the resources it is using. The app engine is a Cloud-based platform, is quite comprehensive and combines infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS). The app engine supports the delivery, testing and development of software on demand in a Cloud computing environment that supports millions of users and is highly scalable. The company extends its platform and infrastructure to the Cloud through its app engine. It presents the platform to those who want to develop SaaS solutions at competitive costs .Have you ever wondered as to who stands to benefit the most from the Google app engine? If you are a business SME or enterprise which owns any web-based application that needs to be scaled without any compromise on the performance then Google App Engine is a good fit. Companies like Best Buy and Khan Academy have chosen Google App Engine for their apps.

Google App Engine:
It is a platform-as-a-service (PaaS) Cloud computing platform that is fully managed and uses inbuilt services to run your apps. You can start development almost instantly after downloading the software development kit (SDK). You can go on to the developer's guide right away when you click on the language you wish to develop your app in.

Generally Available Features

These are covered by the depreciation policy and the service-level agreement of the app engine.

Any changes made to such a feature are backward-compatible and implementation of such a feature is usually stable. These include data storage, retrieval, and search; communications; process management; computation; app configuration and management.

✔ Data storage, retrieval, and search include features such as HRD migration tool, Google

Cloud SQL, logs, datastore, dedicated Memcache, blobstore, Memcache and search.

✔ Communications include features such as XMPP. channel, URL fetch, mail, and Google

Cloud Endpoints.

✔ Process management includes features like scheduled tasks and task queue

✔ Computation includes images.

✔ App management and configuration cover app identity, users, capabilities, traffic splitting,

modules, SSL for custom domains, modules, remote access, and multitenancy.

Advantages of Google App Engine:

✔ Infrastructure for Security

Around the world, the Internet infrastructure that Google has is probably the most secure. There is rarely any type of unauthorized access till date as the application data and code are stored in highly secure servers.

You can be sure that your app will be available to users worldwide at all times since Google has several hundred servers globally. Google's security and privacy policies are applicable to the apps developed using Google's infrastructure.

✔ Scalability

For any app's success, this is among the deciding factors. Google creates its own apps using GFS, Big Table and other such technologies, which are available to you when you utilize the Google app engine to create apps. You only have to write the code for the app and Google looks after the testing on account of the automatic scaling feature that the app engine has. Regardless of the amount of data or number of users that your app stores, the app engine can meet your needs by scaling up or down as required.

✔ Performance and Reliability

Google is among the leaders worldwide among global brands. So, when you discuss performance and reliability you have to keep that in mind. In the past 15 years, the company has created new benchmarks based on its services' and products' performance. The app engine provides the same reliability and performance as any other Google product.

✔ Cost Savings

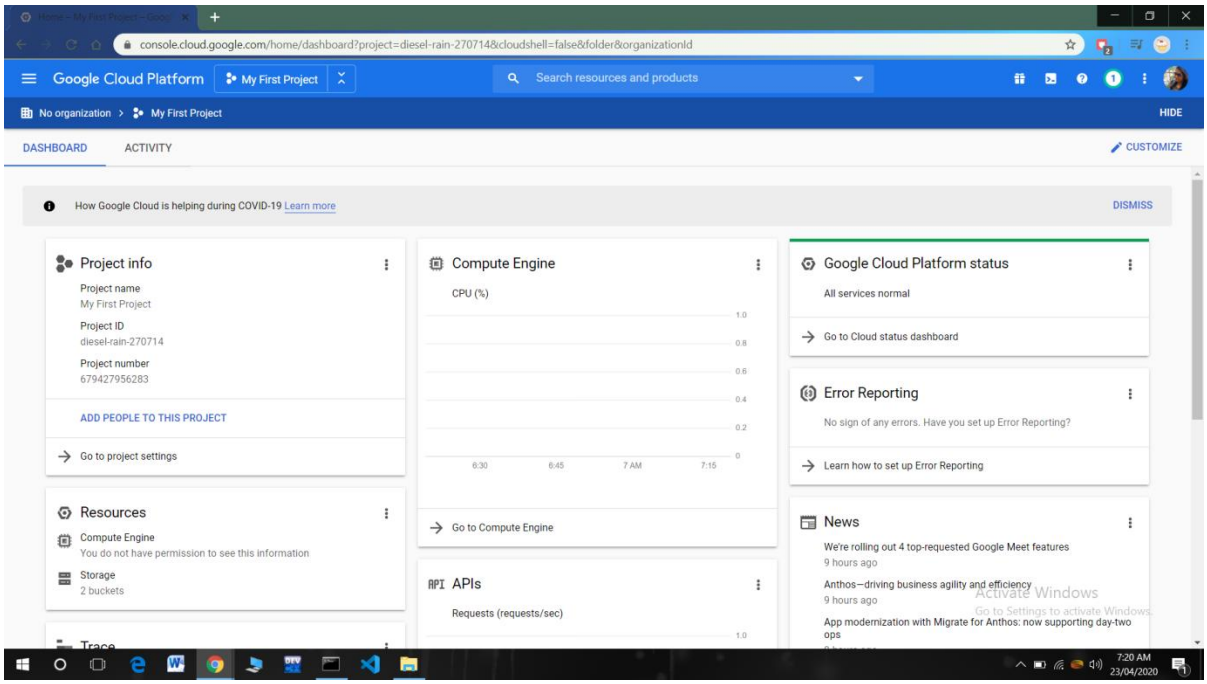
You don't have to hire engineers to manage your servers or to do that yourself. You can invest the money saved into other parts of your business.

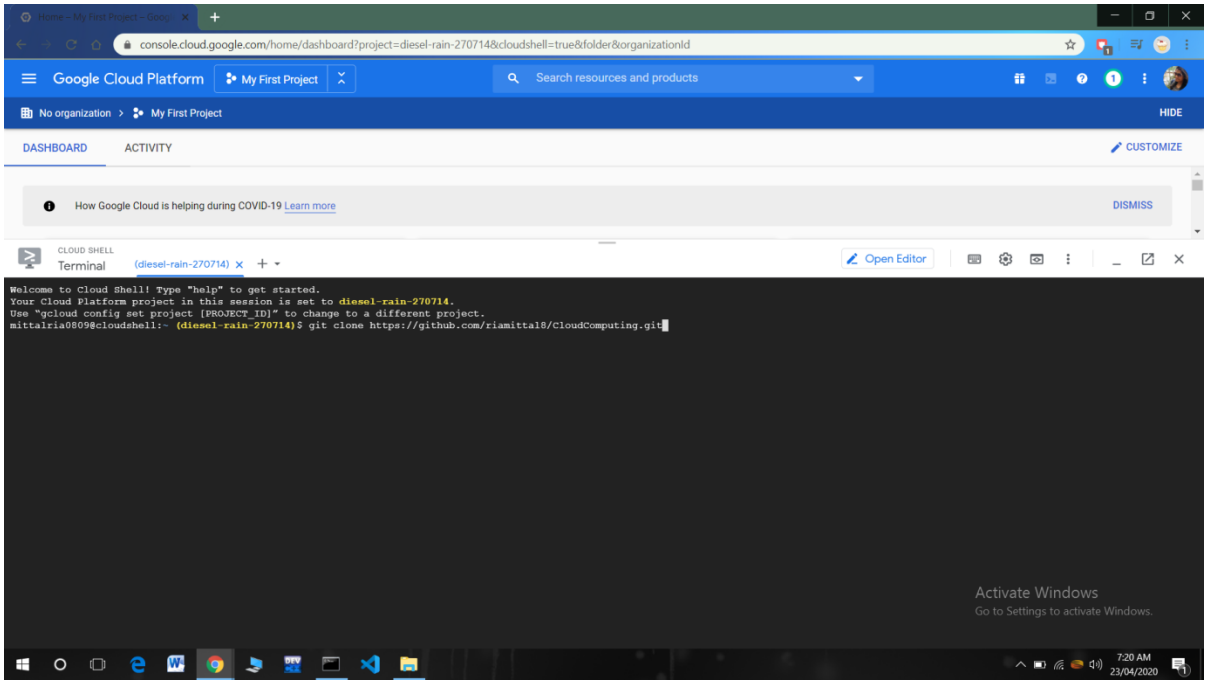
✔ Platform Independence

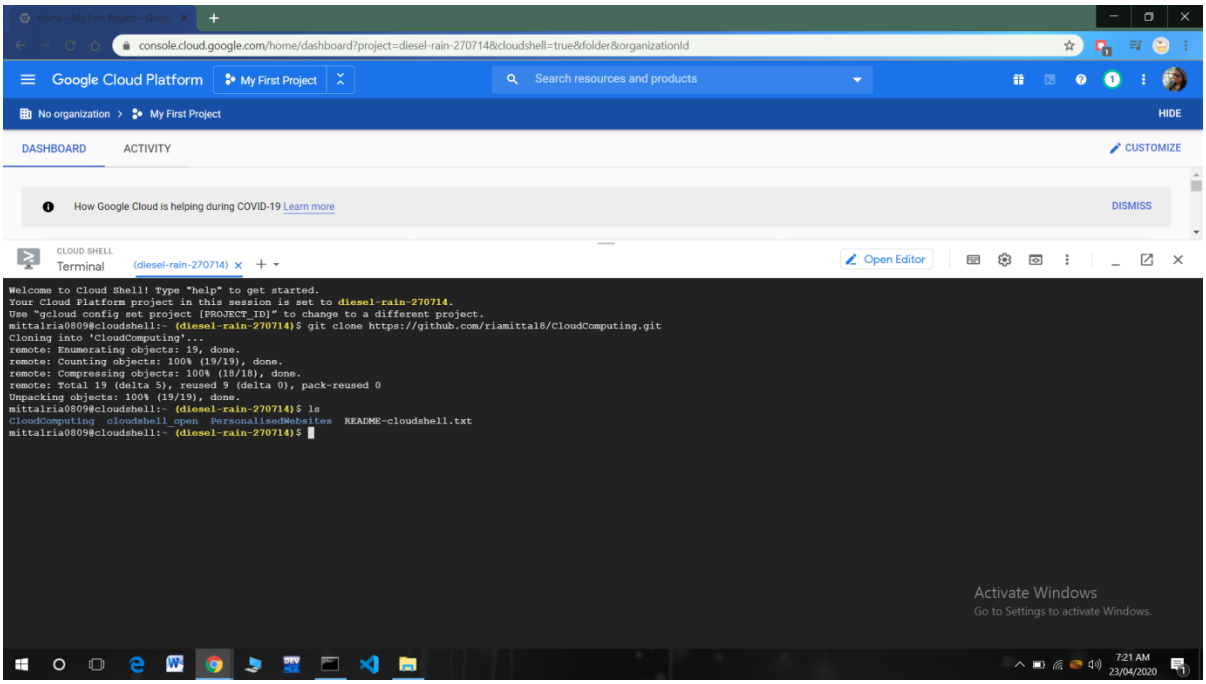
You can move all your data to another environment without any difficulty as there is not many dependencies on the app engine platform.

CODE AND OUTPUT:

Steps with output:



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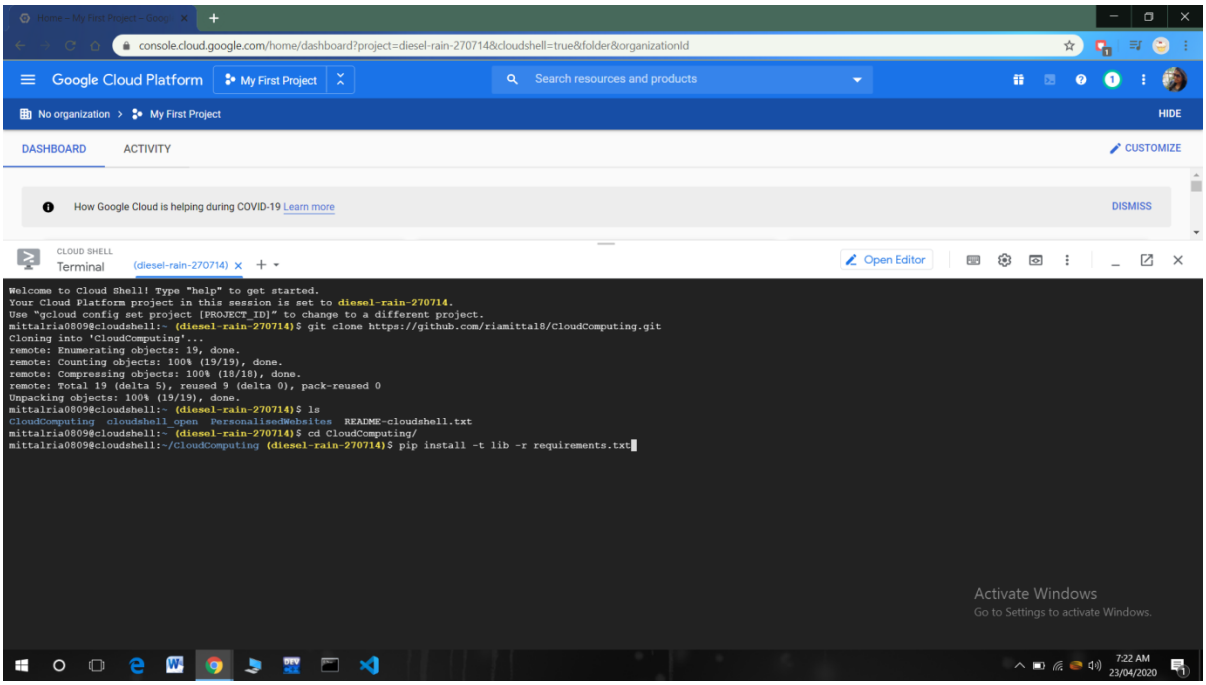
DISMISS
CLOUD SHELL
Terminal
(diesel-rain-270714)
Open Editor
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to diesel-rain-270714.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
mittalria0809@cloudshell:~ (diesel-rain-270714)$ git clone https://github.com/riamittal8/CloudComputing.git
Cloning into 'CloudComputing'...
remote: Enumerating objects: 19, done.
remote: Counting objects: 100% (19/19), done.
remote: Compressing objects: 100% (18/18), done.
remote: Total 19 (delta 5), reused 9 (delta 0), pack-reused 0
Unpacking objects: 100% (19/19), done.
mittalria0809@cloudshell:~ (diesel-rain-270714)$ ls
CloudComputing cloudshell_open PersonalisedWebsites README-cloudshell.txt
mittalria0809@cloudshell:~ (diesel-rain-270714)$
Activate Windows
Go to Settings to activate Windows.
7:21 AM
23/04/2020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CloudComputing cloudshell_open PersonalisedWebsites README-cloudshell.txt
mittalria0809@cloudshell:~ (diesel-rain-270714)$ cd CloudComputing/
mittalria0809@cloudshell:~/CloudComputing (diesel-rain-270714)$ pip install -t lib -r requirements.txt
Activate Windows
Go to Settings to activate Windows.
7:22 AM
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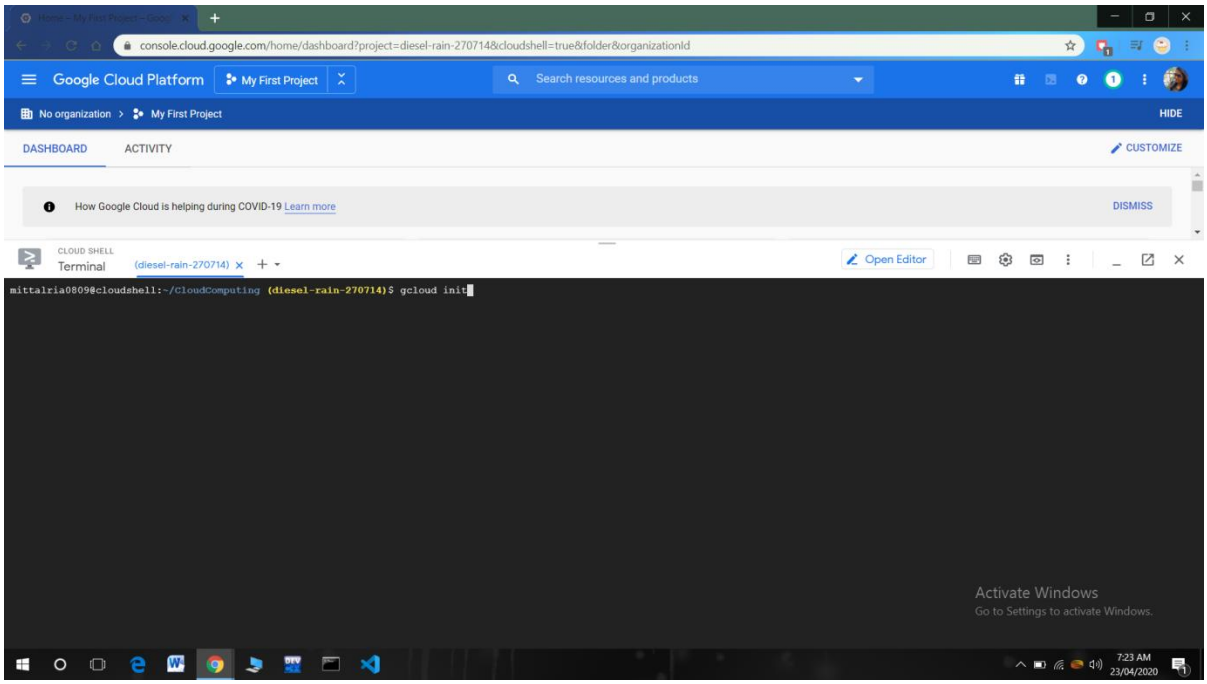
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mittalria0809@cloudshell:~/CloudComputing (diesel-rain-270714)$ gcloud init
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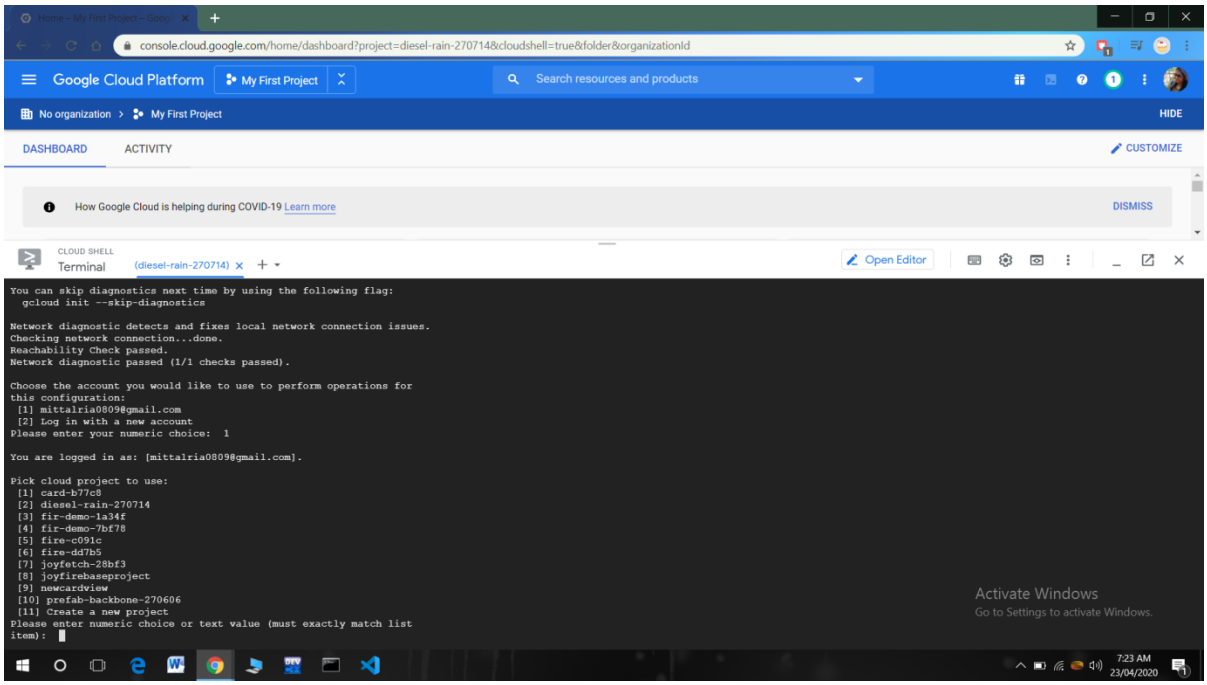
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Open Editor
You can skip diagnostics next time by using the following flag:
gcloud init --skip-diagnostics
Network diagnostic detects and fixes local network connection issues.
Checking network connection...done.
Reachability Check passed.
Network diagnostic passed (1/1 checks passed).
Choose the account you would like to use to perform operations for
this configuration:
[1] mittalria0809@gmail.com
[2] Log in with a new account
Please enter your numeric choice: 1
You are logged in as: [mittalria0809@gmail.com].
Pick cloud project to use:
[1] card-b77c8
[2] diesel-rain-270714
[3] fir-demo-1a34f
[4] fir-demo-7bf78
[5] fire-c091c
[6] fire-dd7b5
[7] joyfetch-28bf3
[8] joyfirebaseproject
[9] newcardview
[10] prefab-backbone-270606
[11] Create a new project
Please enter numeric choice or text value (must exactly match list
item):
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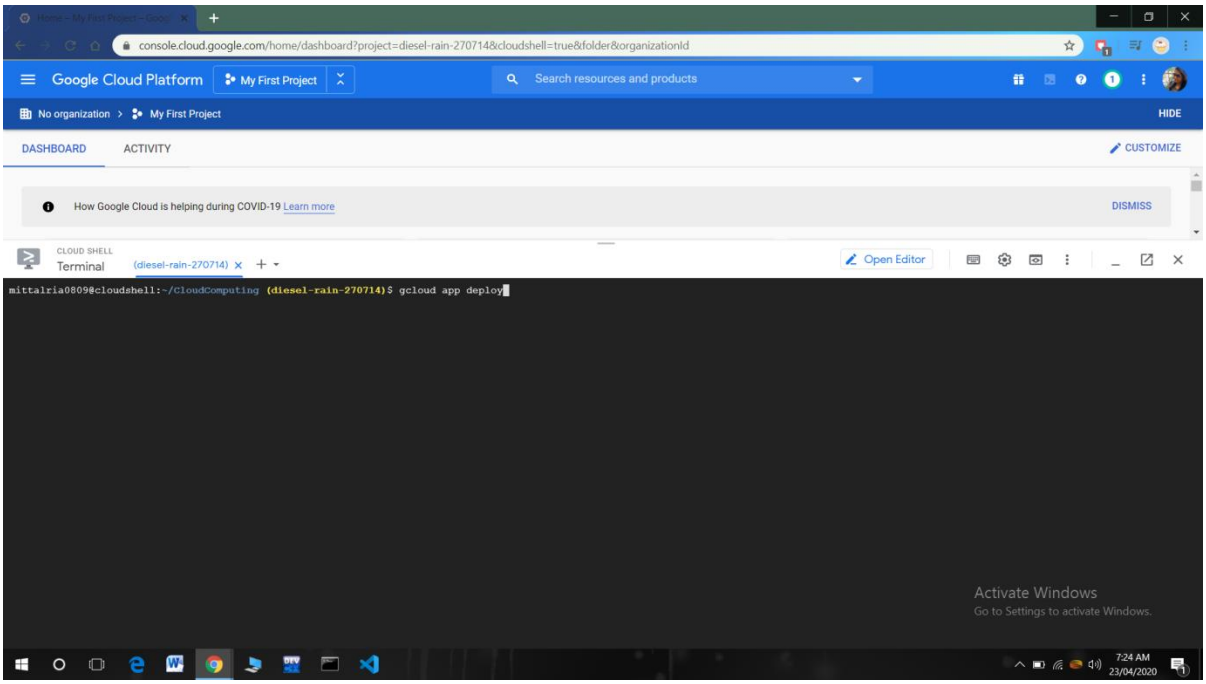
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Open Editor
mittalria0809@cloudshell:~/CloudComputing (diesel-rain-270714)$ gcloud app deploy
Activate Windows
Go to Settings to activate Windows.
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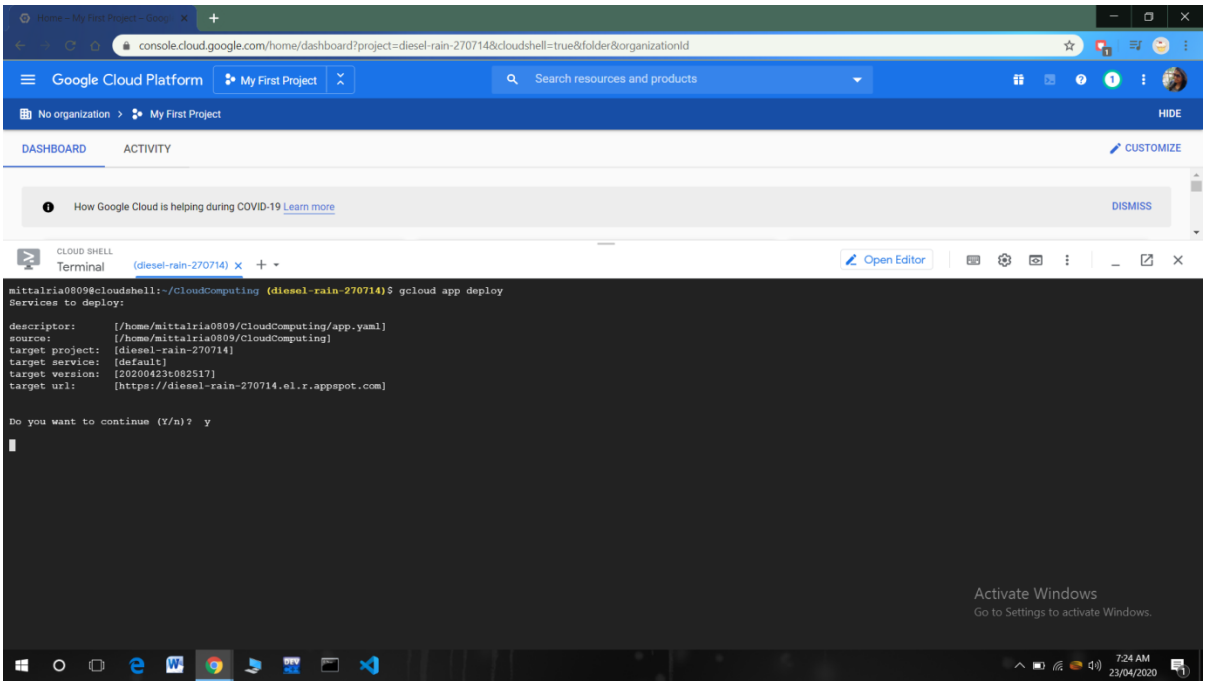
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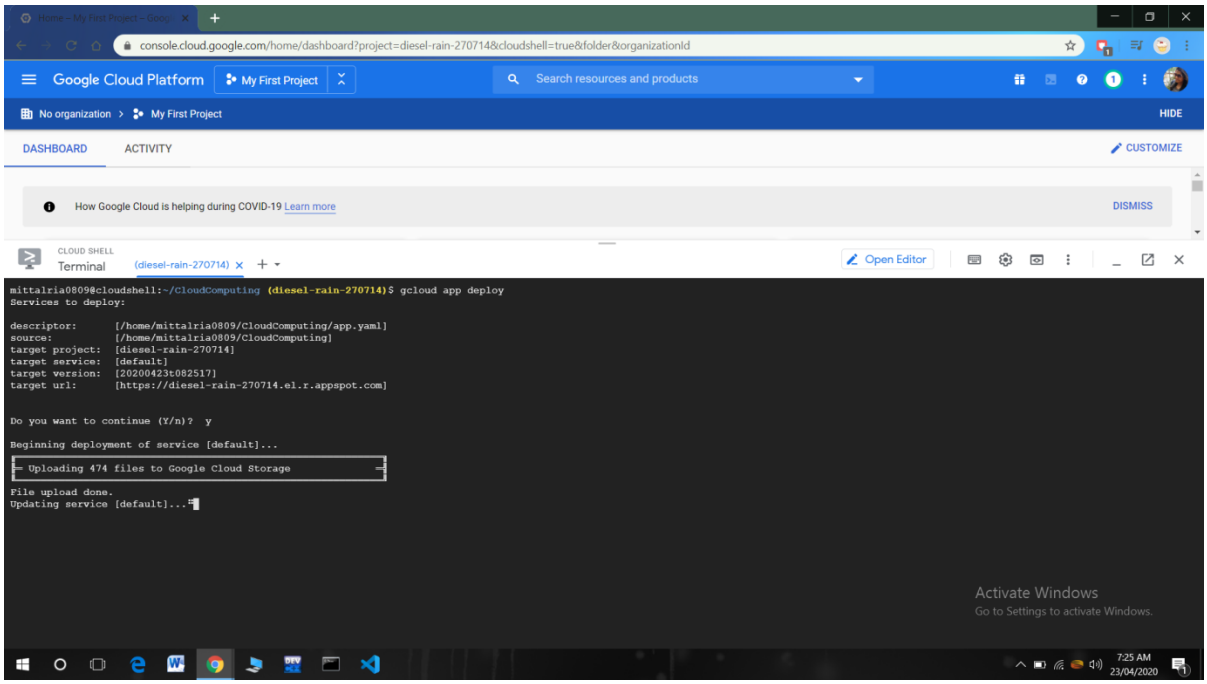
Open Editor
mittalria0809@cloudshell:~/CloudComputing (diesel-rain-270714)$ gcloud app deploy
Services to deploy:
descriptor: [/home/mittalria0809/CloudComputing/app.yaml]
source: [/home/mittalria0809/CloudComputing]
target project: [diesel-rain-270714]
target service: [default]
target version: [20200423t082517]
target url: [https://diesel-rain-270714.el.r.appspot.com]
Do you want to continue (Y/n)? y
Activate Windows
Go to Settings to activate Windows.
7:24 AM
23/04/2020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Services to deploy:
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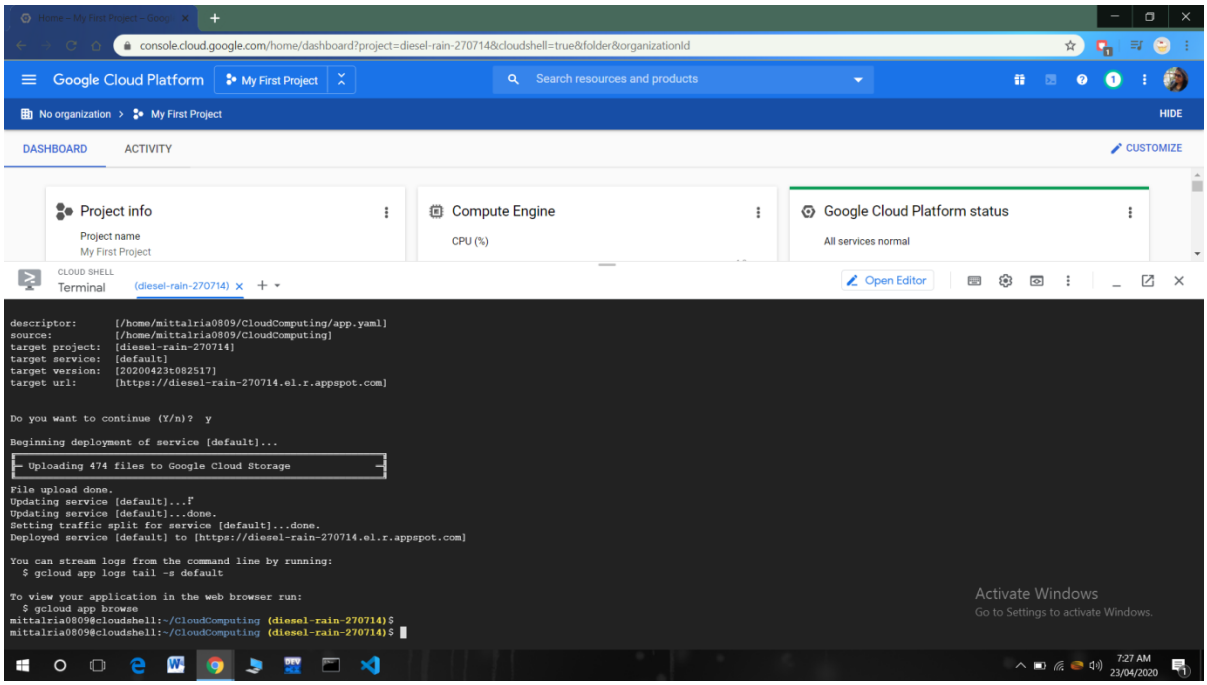
target service: [default]
target version: [20200423t082517]
target url: [https://diesel-rain-270714.el.r.appspot.com]
Do you want to continue (Y/n)? y
Beginning deployment of service [default]...
Uploading 474 files to Google Cloud Storage
File upload done.
Updating service [default]...
Activate Windows
Go to Settings to activate Windows.
7:25 AM
23/04/2020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CUSTOMIZE
Project info
Project name
My First Project
Compute Engine
CPU (%)
Google Cloud Platform status
All services normal
CLOUD SHELL
Terminal
(diesel-rain-270714)
Open Editor
descriptor: [/home/mittalria0809/CloudComputing/app.yaml]
source: [/home/mittalria0809/CloudComputing]
target project: [diesel-rain-270714]
target service: [default]
target version: [20200423t082517]
target url: [https://diesel-rain-270714.el.r.appspot.com]
Do you want to continue (Y/n)? y
Beginning deployment of service [default]...
Uploading 474 files to Google Cloud Storage
File upload done.
Updating service [default]...
Updating service [default]...done.
Setting traffic split for service [default]...done.
Deployed service [default] to [https://diesel-rain-270714.el.r.appspot.com]
You can stream logs from the command line by running:
$ gcloud app logs tail -s default
To view your application in the web browser run:
$ gcloud app browse
mittalria0809@cloudshell:~/CloudComputing (diesel-rain-270714)$
mittalria0809@cloudshell:~/CloudComputing (diesel-rain-270714)$
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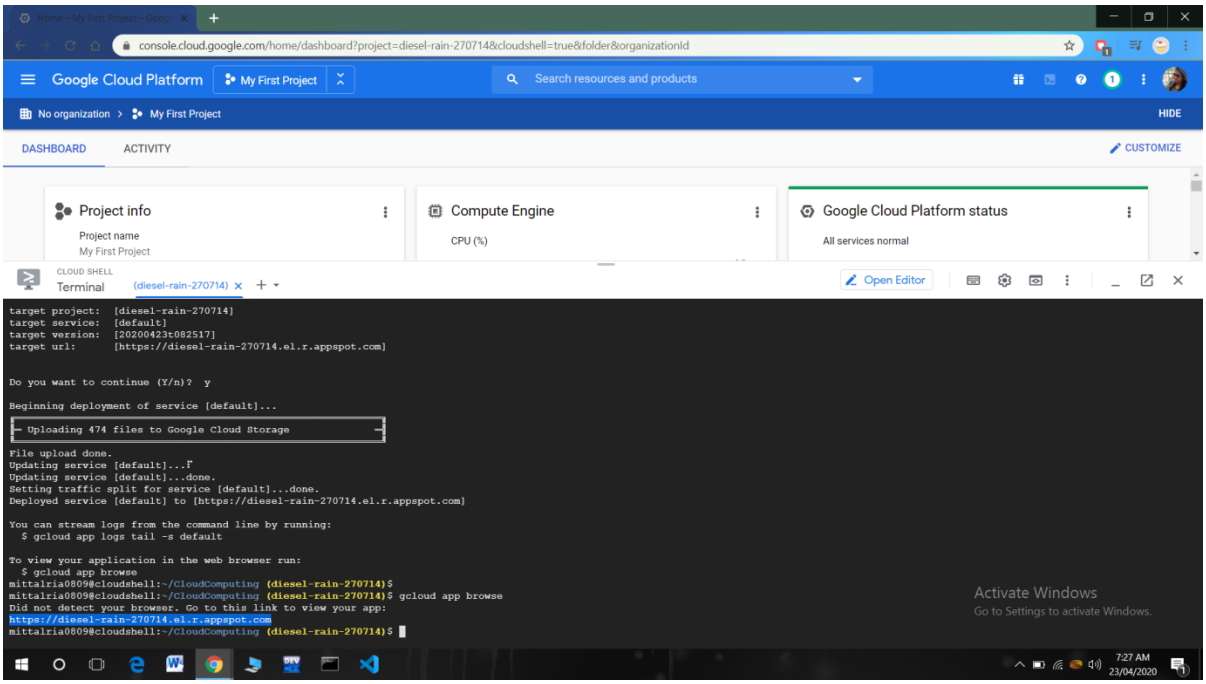
console.cloud.google.com/home/dashboard?project=diesel-rain-270714&cloudshell=true&folder&organizationId
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Project info
Project name
My First Project
Compute Engine
CPU (%)
Google Cloud Platform status
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(diesel-rain-270714)
Open Editor
target project: [diesel-rain-270714]
target service: [default]
target version: [20200423t082517]
target url: [https://diesel-rain-270714.el.r.appspot.com]
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File upload done.
Updating service [default]...
Updating service [default]...done.
Setting traffic split for service [default]...done.
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Did not detect your browser. Go to this link to view your app:
https://diesel-rain-270714.el.r.appspot.com
mittalria0809@cloudshell:~/CloudComputing (diesel-rain-270714)$
Activate Windows
Go to Settings to activate Windows.
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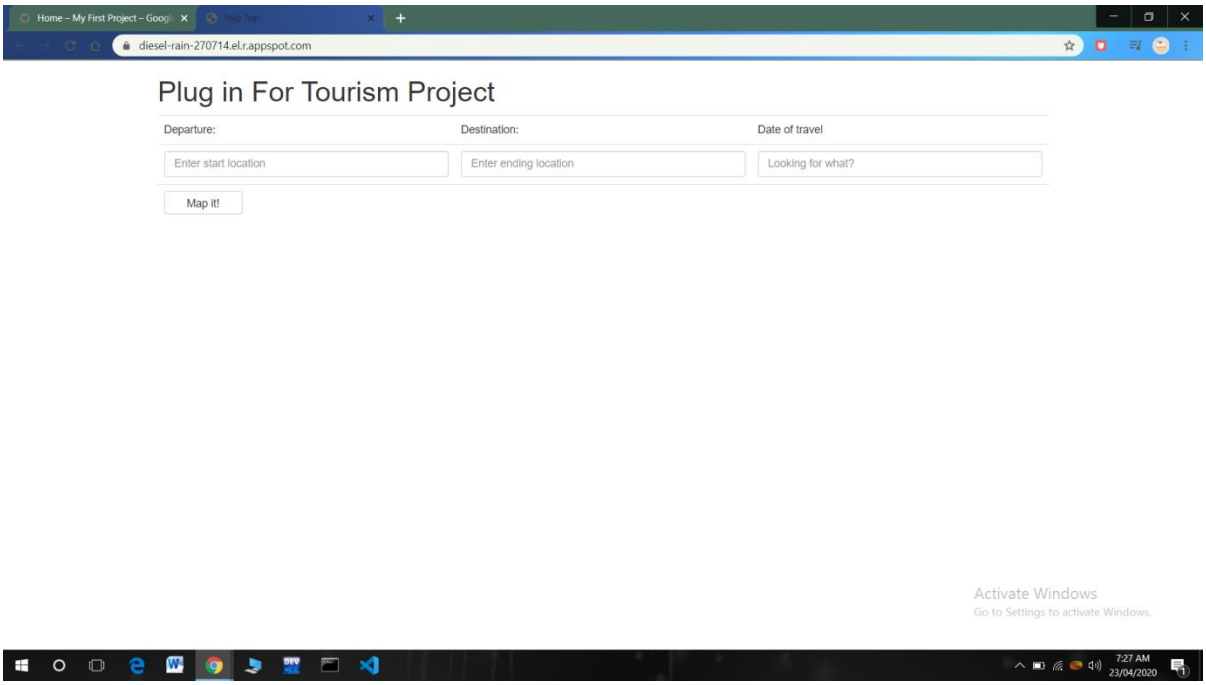
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Plug in For Tourism Project
Departure:
Destination:
Date of travel
Enter start location
Enter ending location
Looking for what?
Map it!
Activate Windows
Go to Settings to activate Windows.
7:27 AM
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