Practical 2- Installation and configure Google App Engine.

Practical Title: Installation and configure Google App Engine.

Objectives:

• To learn basic of Google App Engine.

• To install and configure Google App Engine.

Hardware Requirements :

• Pentium IV with latest configuration

Software Requirements:

• Ubuntu 20.04, Web application i.e. 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.

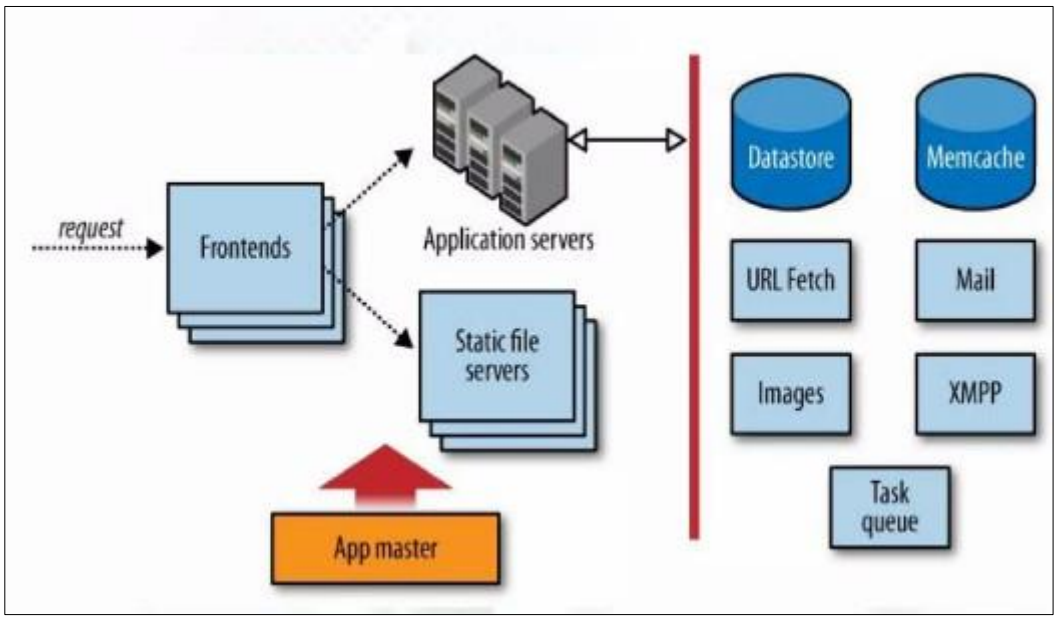
The app engine is a Cloud-based platform, is quite comprehensive and combines infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS). The app engine supports the delivery, testing and development of software on

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.

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. As soon as you have signed up for a Cloud account, you can build your app: Cloud SQL in PHP 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.

Architecture of Google App Engine



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.

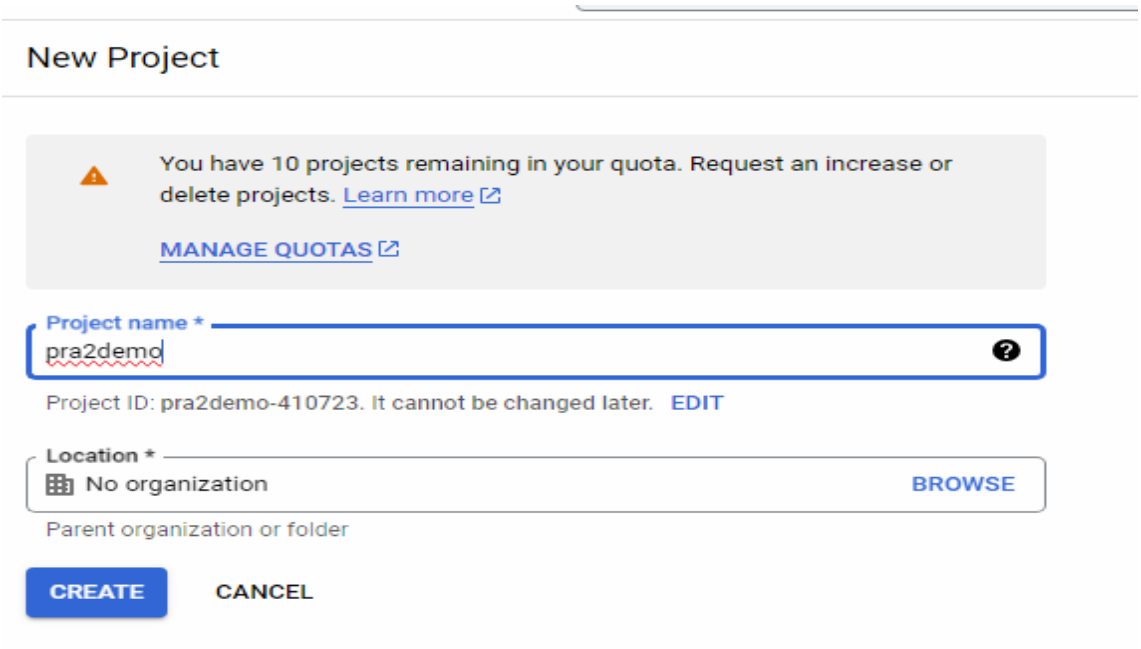
- Google's security and privacy policies are applicable to the apps developed using Google's infrastructure. Scalability For any app's success, this is among the deciding factors. Google creates its own apps using GFS, Big Table and other such technologies, which are available to you when you utilize 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.

Take a printout from here

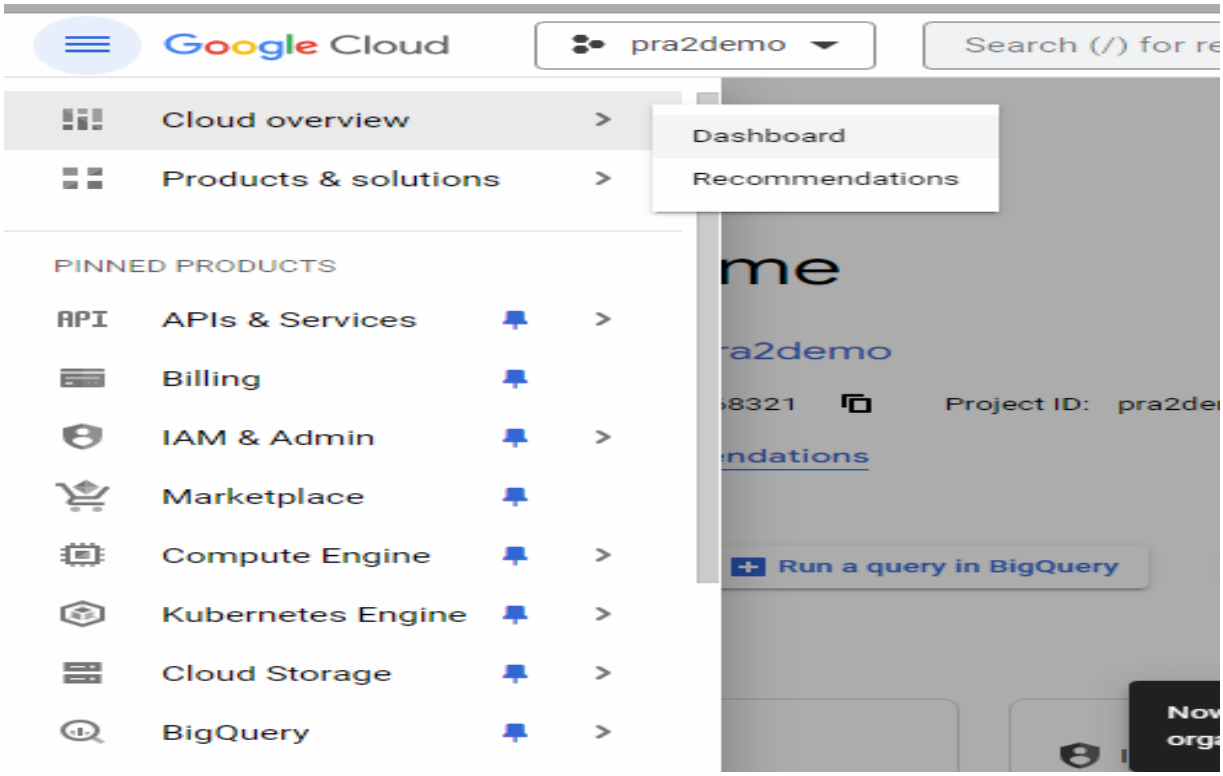
Installation and configuration Google app Engine

Step 1: https://console.cloud.google.com/ and sign up

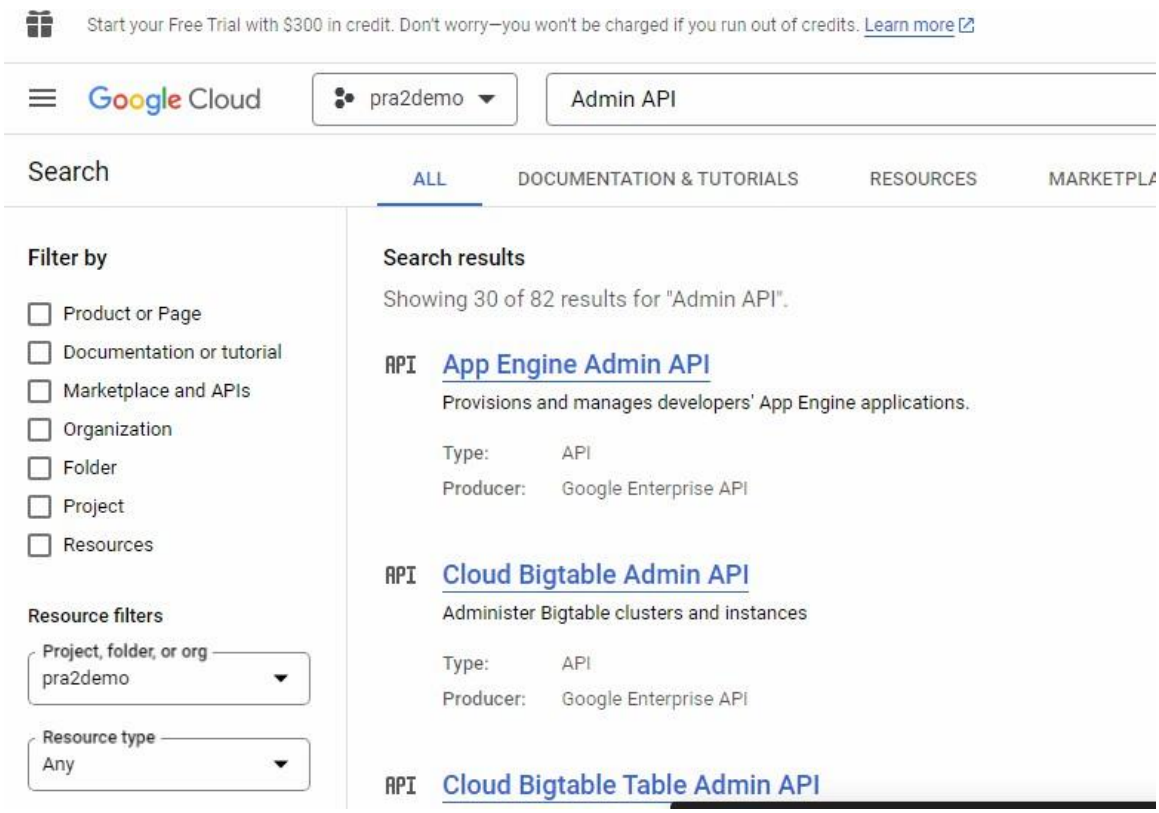
Step 2: create new project



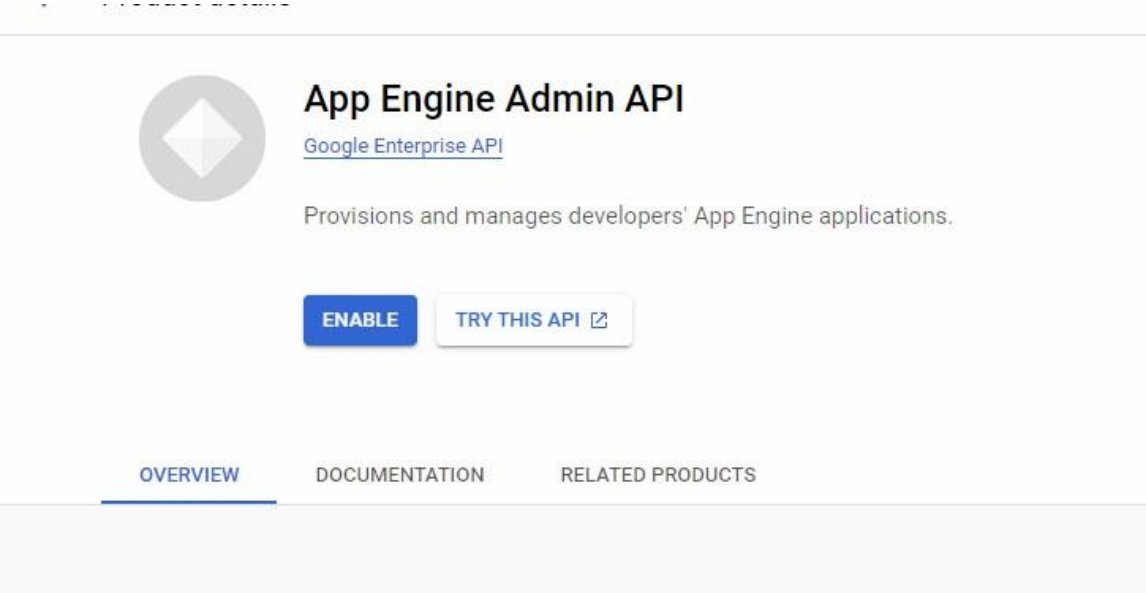
Step3: click on navigation menu -> cloud overview -> dashboard



Step 4: search Admin API in the search box and click on App engine adminAPI

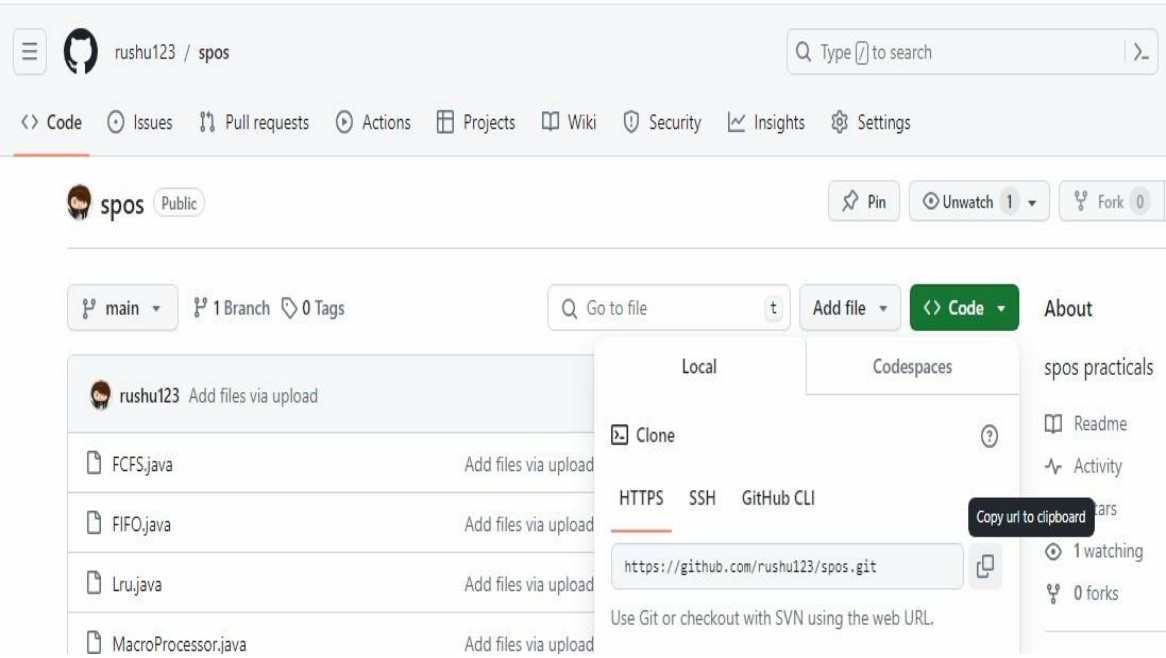


Step 5: Enable it



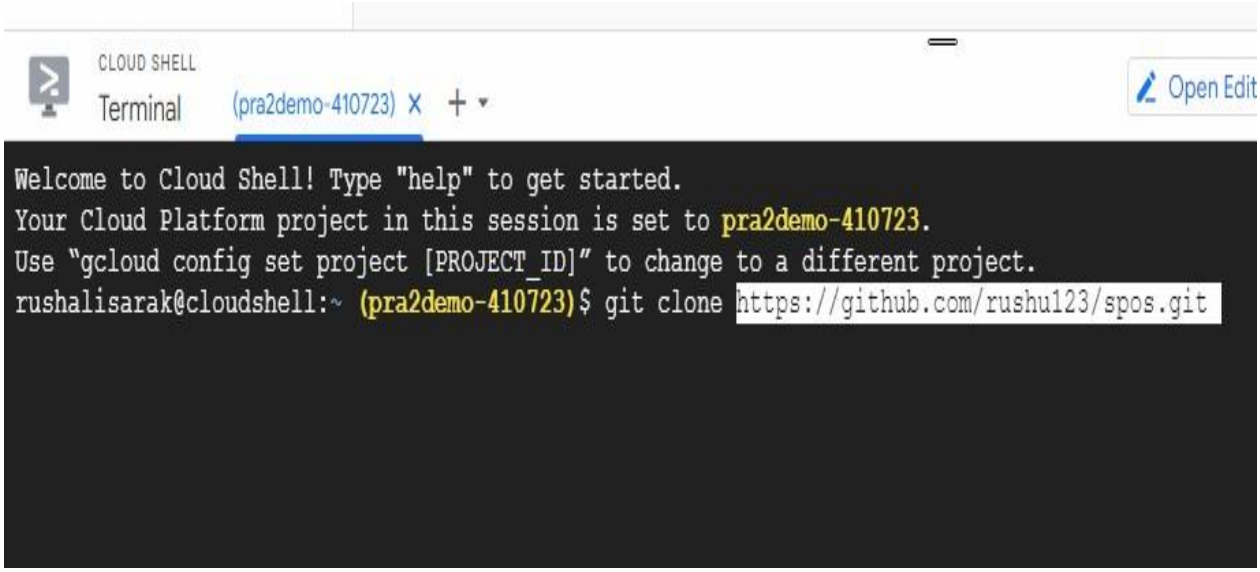
Step 6: Activate the cloud shell (option is available at the top navigation bar)

Step 7: open the github repository and copy http link of repository



Step 8: in shell write the command git clone <your copied link of repository> and press enter

ex: git clone https://github.com/rushu123/spos.git



Step 9: after repository is cloned type command LS to view all repositories

Step 10: select the repository cd <your repository name>

```
rushalisarak@cloudshell:~ (pra2demo-410723)$ cd spos
rushalisarak@cloudshell:~/spos (pra2demo-410723)$ ls
add1.php      FCFS.java  firstfit.java  lifo.java  MacroProcessor.java
bestfit.java  FIFO.java  input.asm      Lru.java   nextfit.java
rushalisarak@cloudshell:~/spos (pra2demo-410723)$
```

Step 11: Then run the program you want

Step 12: To run java program

Command: javac <programname.java> Ex: javac firstfit.java

java firstfit

```
rushalisarak@cloudshell:~/spos (pra2demo-410723)$ javac firstfit.java
rushalisarak@cloudshell:~/spos (pra2demo-410723)$ java firstfit

Process No.     Process Size    Block no.

1                       20                      1
2                       60                      1
3                       70                      4
4                       40                      2
rushalisarak@cloudshell:~/spos (pra2demo-410723)$
```

Step 13: To run Python program (use python command)

Command: python <programname.py>

Ex: python hello.py

```
yayatin_cd2208@cloudshell:~/GoogleCloud (mystic-gradient-410803)$ python ppy1.py
Hello World
yayatin_cd2208@cloudshell:~/GoogleCloud (mystic-gradient-410803)$
```

Conclusion: Thus, We have installed and Configured Google App Engine.