CC Practical Assignment - 2

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Title - Installation and configuration of Google App Engine.

Aim -
Theory - Google App Engine is a cloud computing platform, which is platform as a service (PaaS). It is used for developing and hosting web applications in Google managed data unless.

Google App Engine offers automaticate scaling for web service applications. As number of requests increases for an application, App engine automatically allocates macro resources for the web application to handle additional demands.

* Installation of Google App Engine

1> Pre - requistes - Python

The app engine SDK allows you to run Google App Engine applications on your local computer.

It stimulates the run-time environment of Google App Engine infrastructure.

2> Download and Install Google App Engine SDK by going to http://code.google.com (app engine) downloads, html) and download on appropriate package for your system.

3> Double click on Google Application Engine. Click through the installation wizard and it should install the app.

Configuring an application for Google App Engine. The app engine does not understand the source code for deployment.

The source code needs to be repressed with the configuration file called app.yaml.
Here, it is important to mention the runtime and scale details.

Runtime environment - The source code is mentioned her during runtime so that the app engine can set up environment to support and deploy the code for public usuage.

Scaling information - Here, we provide the information of scaling, type of scaling required, number of instances required and available for scaling. It also checks how we can scale the application.

Environment variables - We need to provide environment variables for application like passwords, API keys, etc so that the application can be used safely.

Resources information - We need to mention the number of CPU, memory, disks size available, etc to the application.
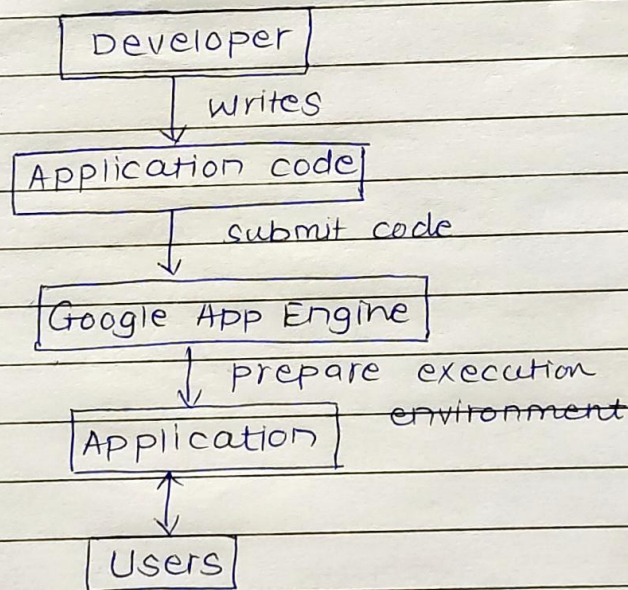
In google app engine, as a developers, you just bring your application code and upload it to the Google Cloud Engine.
The App Engine sets up the execution environment for the application code - virtual machines, run-time environment, etc. Then it runs the provided application.

We just need to focus on the application and not managing the underlying execution environment. It is fully managed and a serverless application program. It supports almost all of the popular programming languages.

It also scales automatically depending on the traffic. We can create and host different sessions of our application and do user testing. This is referred to as application versioning.

Working -

```
        ┌──────────────┐
        │  Developer   │
        └──────────────┘
               │ writes
               ▼
      ┌──────────────────┐
      │ Application code │
      └──────────────────┘
               │ submit code
               ▼
    ┌────────────────────┐
    │ Google App Engine  │
    └────────────────────┘
               │ prepare execution environment
               ▼
      ┌──────────────┐
      │ Application  │
      └──────────────┘
               ▲│
               │▼
        ┌──────────┐
        │  Users   │
        └──────────┘
```

We can use various other Google Cloud services along with Google App Engine.

Conclusion - Google APP Engine has been installed and configured.