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Lab Assignment No.: 4. Hosting using Google App engine

### Google App Engine (GAE):

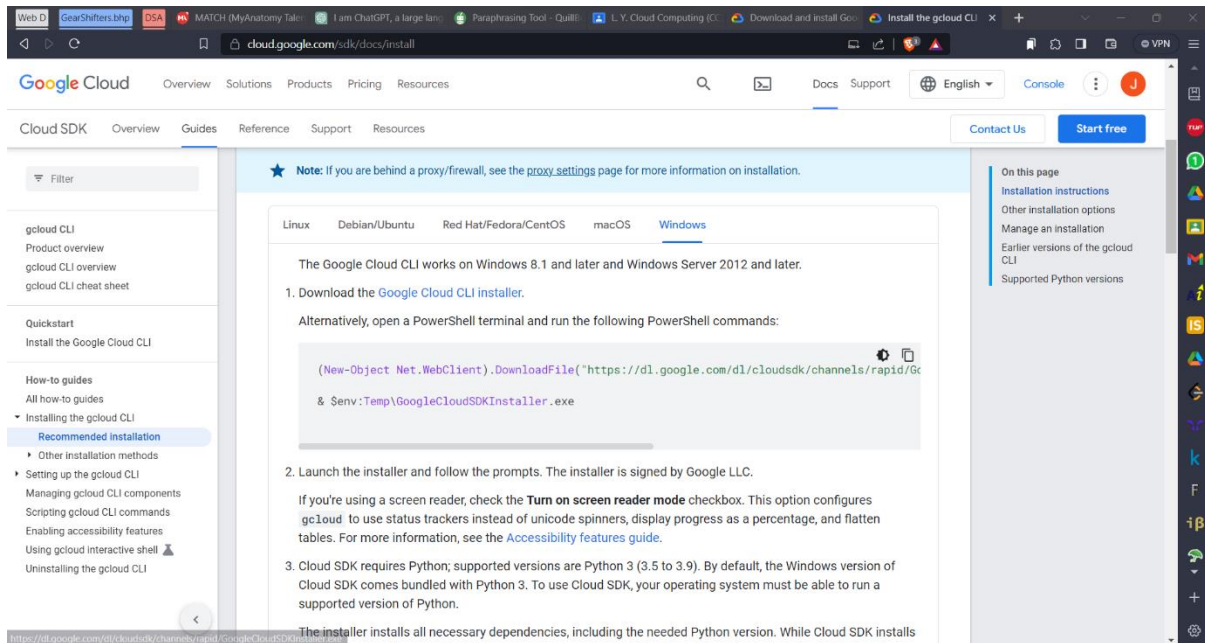
- Service Focus: GAE is a Platform as a Service (PaaS) offering designed to simplify application deployment and management.
- Ease of Use: It abstracts infrastructure complexities, allowing developers to focus on writing code and applications rather than managing servers and resources.
- Scalability: GAE automatically scales applications to handle traffic fluctuations, making it ideal for web applications and APIs.
- Configuration: While it offers less control over infrastructure details compared to Infrastructure as a Service (IaaS), it provides a hassle-free development experience.
- Pricing: GAE offers straightforward pricing based on resources consumed, with predictable costs.

### Google Cloud:

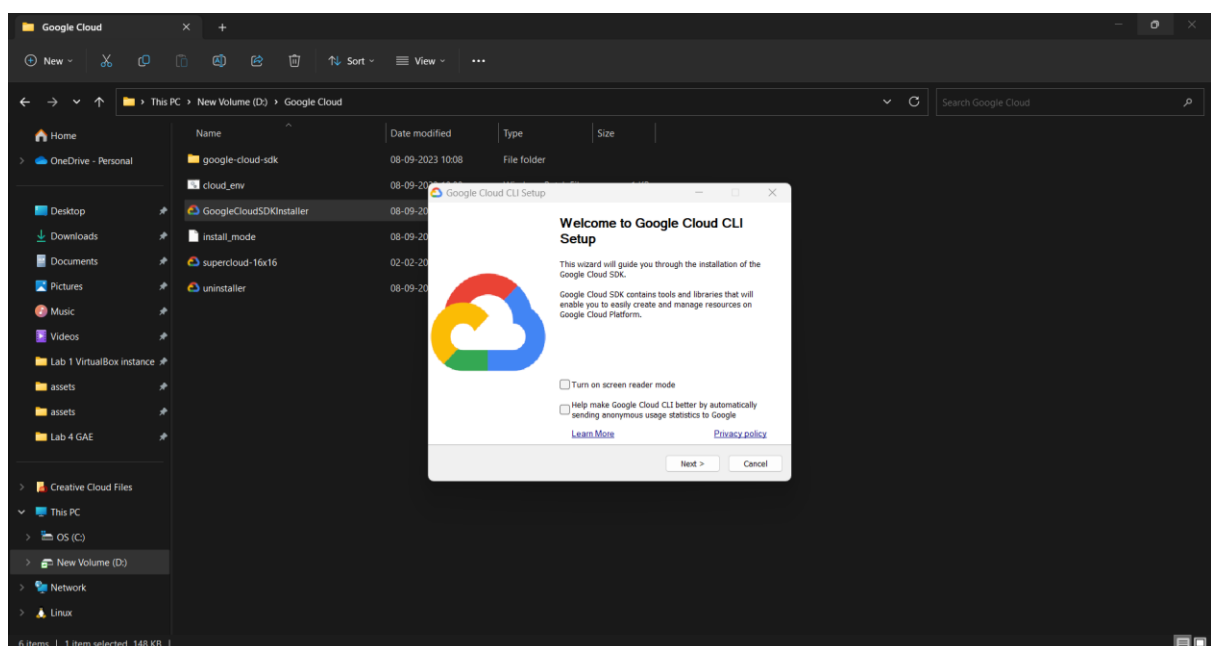
- Service Range: Google Cloud Platform (GCP) provides a comprehensive suite of cloud services, including IaaS, PaaS, and SaaS solutions, catering to diverse business needs.
- Use Cases: GCP is suitable for a wide array of applications, from web hosting and data storage to machine learning and big data analytics.
- Control: GCP offers greater control and flexibility, allowing users to configure and manage infrastructure, virtual machines, and various cloud resources.
- Scalability: GCP provides fine-grained control over resource scaling, making it suitable for complex, high-performance workloads.
- Pricing: GCP offers various pricing models for different services, enabling users to optimize costs based on their specific requirements.

## Steps:

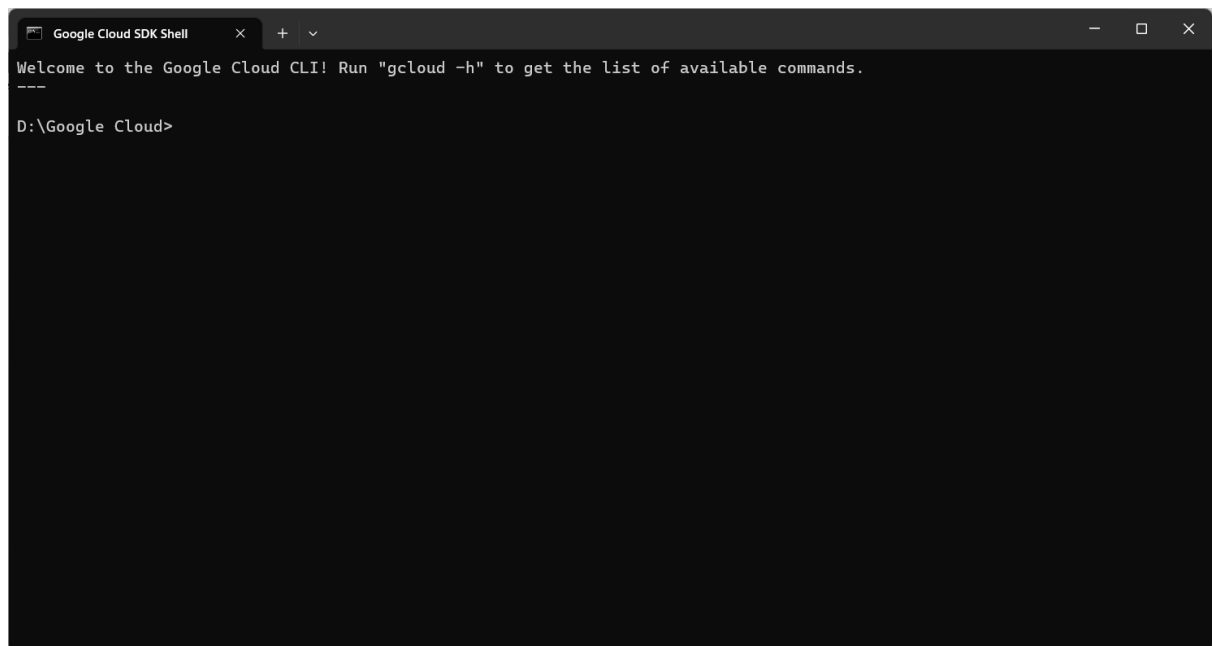
1. Download and install google cloud cli on your machine (<https://cloud.google.com/sdk/docs/install>)



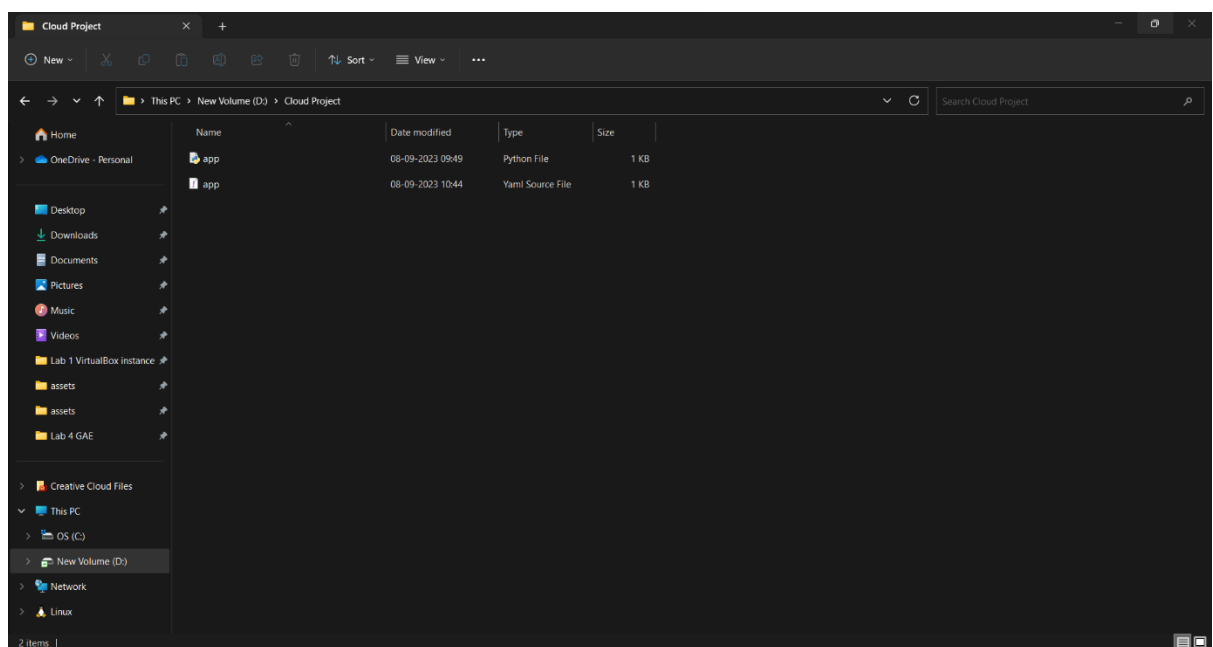
2. Complete the setup as directed via cloud setup wizard



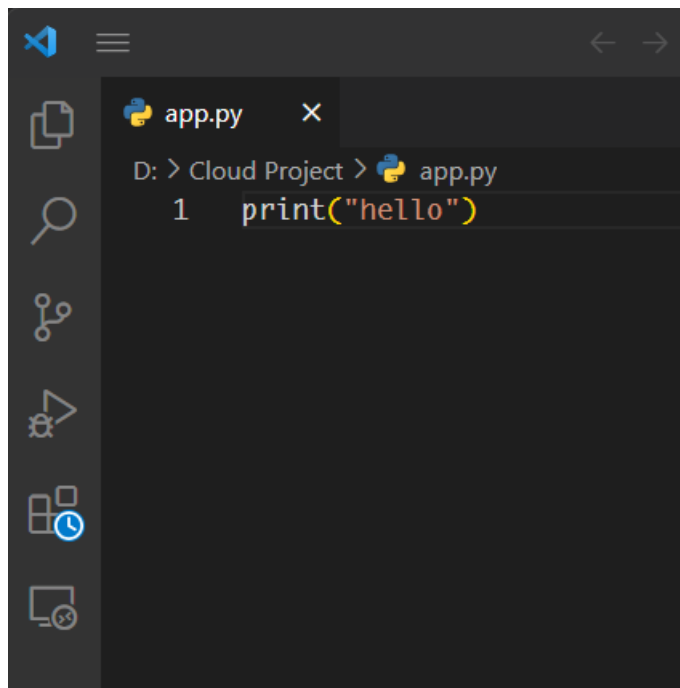
### 3. Launch Google cloud shell



### 4. Create new directory and create two files inside it app.py and app.yaml

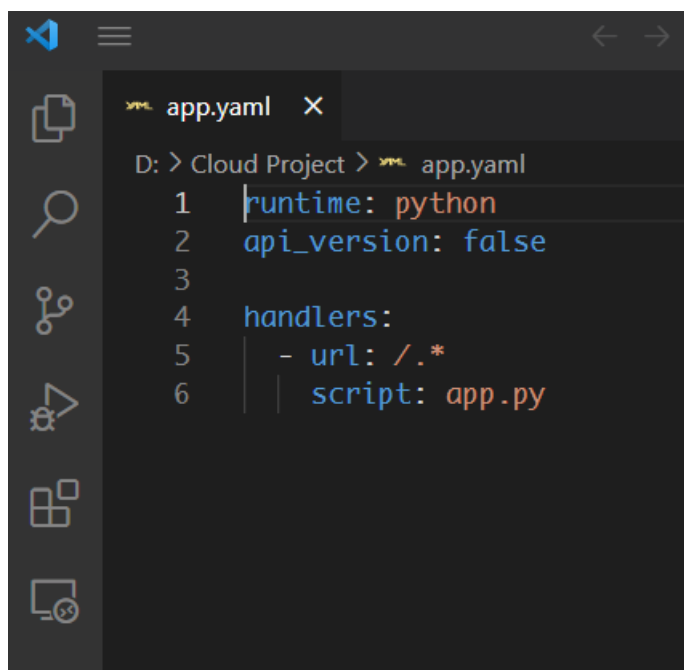


5. app.py and app.yaml files contains following contents in it



A screenshot of the Visual Studio Code editor interface. The file explorer on the left shows the project structure. The main editor window displays the file `app.py` with the following content:

```
D: > Cloud Project > app.py
1 print("hello")
```



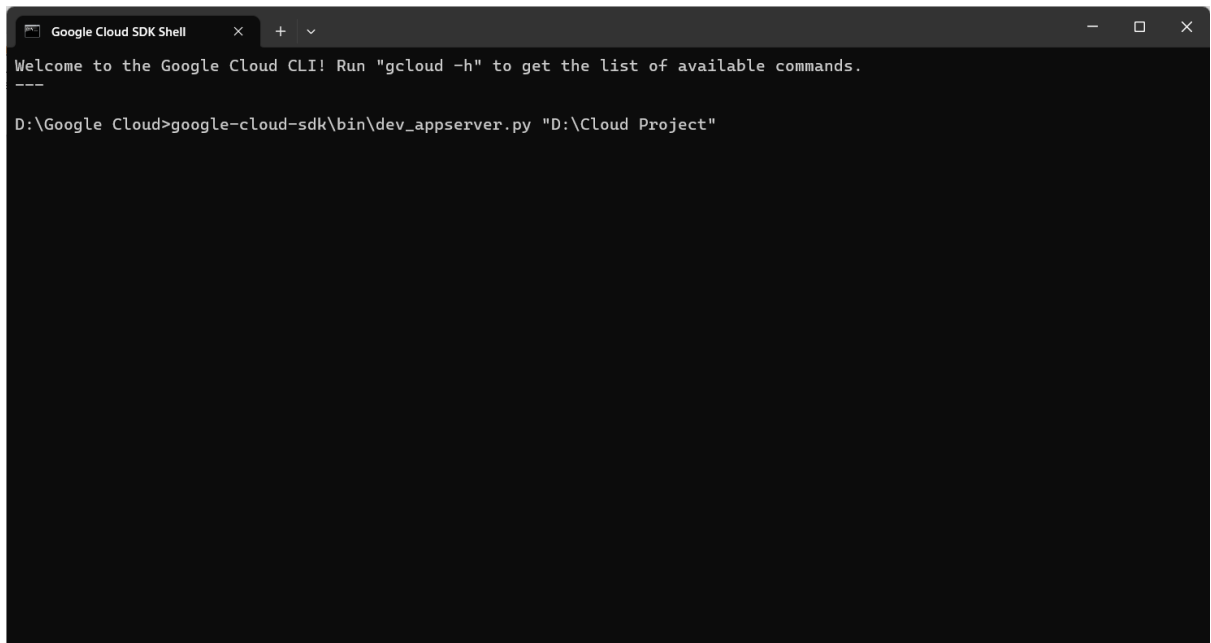
A screenshot of the Visual Studio Code editor interface. The file explorer on the left shows the project structure. The main editor window displays the file `app.yaml` with the following content:

```
D: > Cloud Project > app.yaml
1 runtime: python
2 api_version: false
3
4 handlers:
5   - url: /*
6     script: app.py
```

6. Open google cloud and launch this host this python file on localhost using google app engine

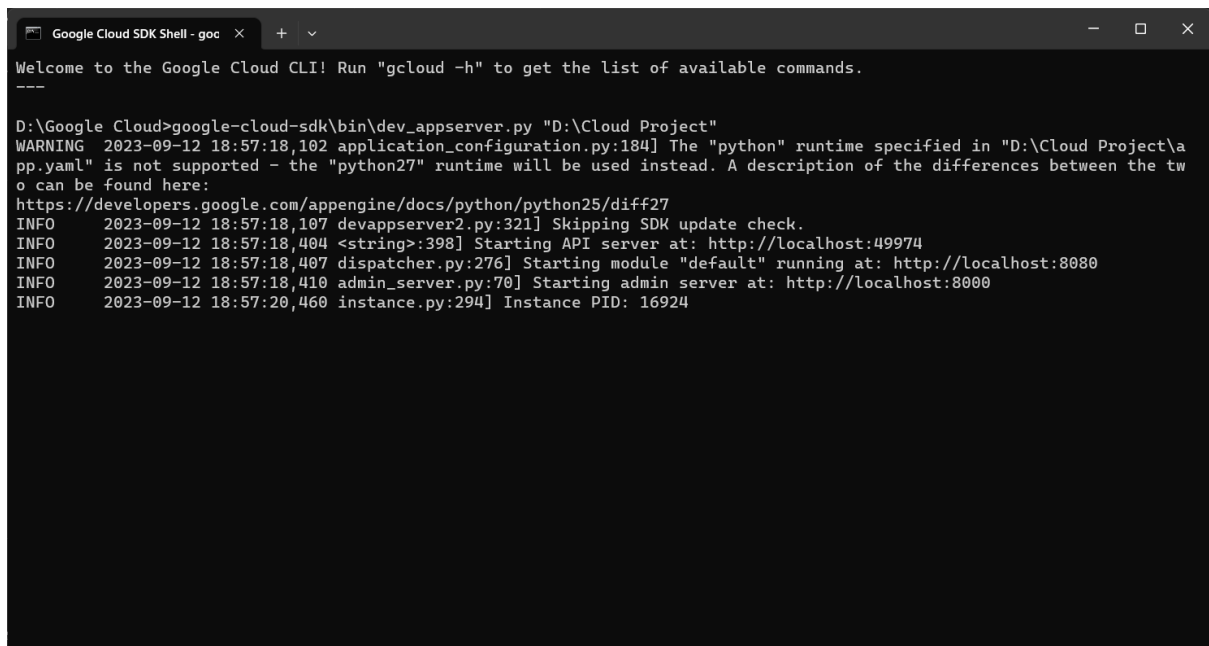
Set following path on the cloud shell terminal  
google-cloud-sdk\bin\dev\_appserver.py

and then type the location of folder name where we have our app.py and app.yaml file

A screenshot of a Google Cloud SDK Shell terminal window. The window has a title bar that says "Google Cloud SDK Shell" and standard window controls (minimize, maximize, close). The terminal text shows a welcome message: "Welcome to the Google Cloud CLI! Run 'gcloud -h' to get the list of available commands." followed by a separator line "----". Below that, the command "D:\Google Cloud>google-cloud-sdk\bin\dev\_appserver.py "D:\Cloud Project"" is entered at the prompt.

```
Google Cloud SDK Shell
Welcome to the Google Cloud CLI! Run "gcloud -h" to get the list of available commands.
----
D:\Google Cloud>google-cloud-sdk\bin\dev_appserver.py "D:\Cloud Project"
```

Hit enter after entering folder location



```
Google Cloud SDK Shell - goc x + v
Welcome to the Google Cloud CLI! Run "gcloud -h" to get the list of available commands.
---
D:\Google Cloud>google-cloud-sdk\bin\dev_appserver.py "D:\Cloud Project"
WARNING 2023-09-12 18:57:18,102 application_configuration.py:184] The "python" runtime specified in "D:\Cloud Project\app.yaml" is not supported - the "python27" runtime will be used instead. A description of the differences between the two can be found here:
https://developers.google.com/appengine/docs/python/python25/diff27
INFO 2023-09-12 18:57:18,107 devappserver2.py:321] Skipping SDK update check.
INFO 2023-09-12 18:57:18,404 <string>:398] Starting API server at: http://localhost:49974
INFO 2023-09-12 18:57:18,407 dispatcher.py:276] Starting module "default" running at: http://localhost:8080
INFO 2023-09-12 18:57:18,410 admin_server.py:70] Starting admin server at: http://localhost:8000
INFO 2023-09-12 18:57:20,460 instance.py:294] Instance PID: 16924
```

Our site has started running on localhost:8080 as mentioned in the console

Output:

