

## CLOUD COMPUTING

### PRACTICAL 4: To Demonstrate Platform as a Service using Google app Engine

MSc SDS Batch 2

1. Create an account with Google Cloud Platform and Click on My First Project and then NEW PROJECT.

Select a project NEW PROJECT

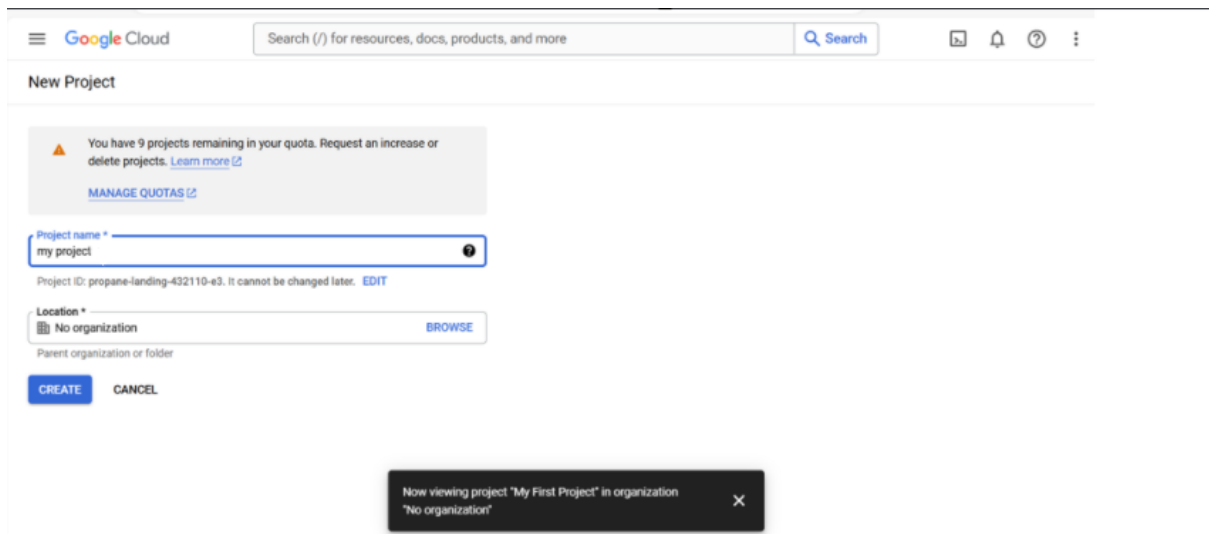
Search projects and folders

**RECENT**   STARRED   ALL

	Name	ID
☆	<a href="#">my project neha</a> ?	my-project-neha-432110
✓ ☆	<a href="#">My First Project</a> ?	dev-accord-432110-i8
☆	<a href="#">My First Project</a> ?	wired-trees-432110-e7

CANCEL

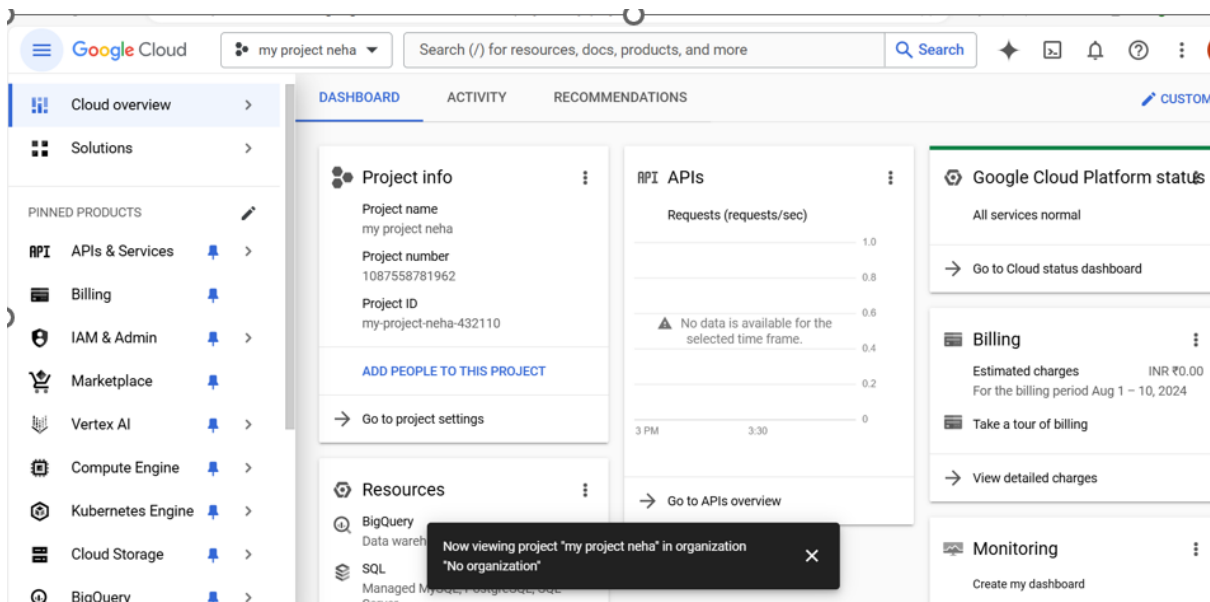
2. Provide Project name “my project ”. Location can be No organization.



The screenshot shows the 'New Project' page in the Google Cloud console. At the top, there's a search bar and a 'Google Cloud' logo. Below that, a notification states: 'You have 9 projects remaining in your quota. Request an increase or delete projects. [Learn more](#)'. A link to 'MANAGE QUOTAS' is also present. The 'Project name' field is filled with 'my project'. Below it, the 'Project ID' is shown as 'propane-landing-432110-e3', with a note that it cannot be changed later and an 'EDIT' link. The 'Location' is set to 'No organization', with a 'BROWSE' link. At the bottom, there are 'CREATE' and 'CANCEL' buttons. A dark toast message at the bottom center reads: 'Now viewing project "My First Project" in organization "No organization"'. A sidebar on the left lists various Google Cloud services like Cloud overview, Solutions, and PINNED PRODUCTS.

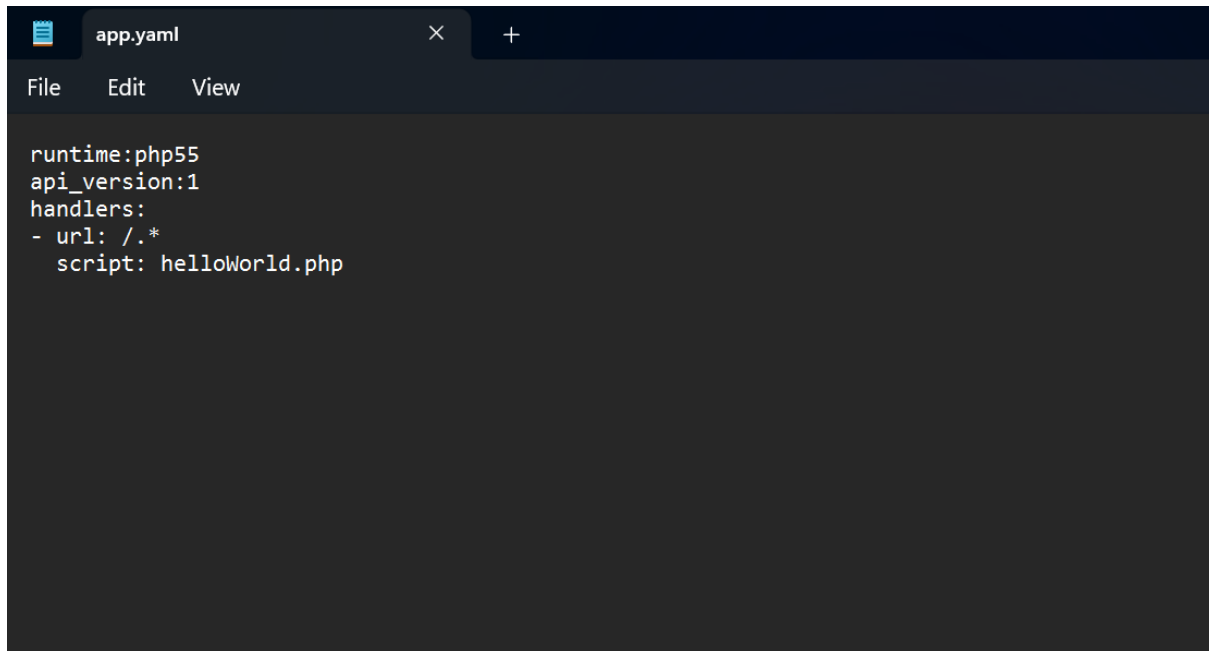
2. After Google cloud creates new project as per name specified in previous step, it opens up project home, showing dashboard.

3.



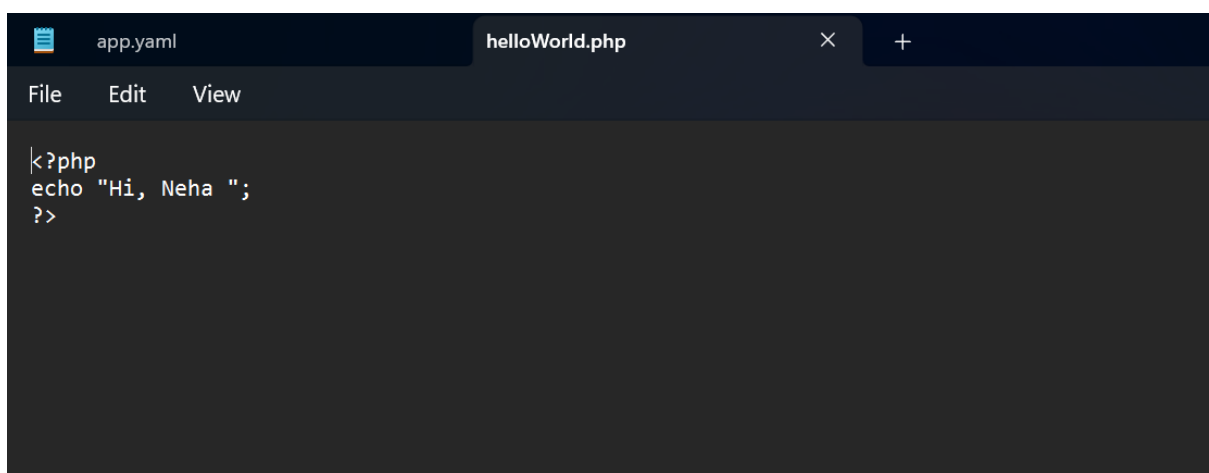
The screenshot displays the project dashboard for 'my project neha'. The top navigation bar includes the Google Cloud logo, a dropdown menu for 'my project neha', a search bar, and various utility icons. The left sidebar shows a navigation menu with 'Cloud overview' selected, and a list of 'PINNED PRODUCTS' including APIs & Services, Billing, IAM & Admin, Marketplace, Vertex AI, Compute Engine, Kubernetes Engine, Cloud Storage, and BigQuery. The main content area is divided into three columns. The first column, 'Project info', displays the project name 'my project neha', project number '1087558781962', and project ID 'my-project-neha-432110', along with links to 'ADD PEOPLE TO THIS PROJECT' and 'Go to project settings'. The second column, 'APIs', shows a graph of 'Requests (requests/sec)' over time, with a note that no data is available for the selected time frame, and a link to 'Go to APIs overview'. The third column contains 'Google Cloud Platform status' (All services normal), 'Billing' (Estimated charges: INR ₹0.00 for Aug 1 - 10, 2024), and 'Monitoring' (Create my dashboard). A dark toast message at the bottom center reads: 'Now viewing project "my project neha" in organization "No organization"'. A sidebar on the left lists various Google Cloud services like Cloud overview, Solutions, and PINNED PRODUCTS.

4. Create a new configuration file app.yaml. yaml file contains information about your app's code, such as the runtime and the latest version identifier. Each service in your app has its own app. yaml file, which acts as a descriptor for its deployment.

A screenshot of a code editor window with a dark theme. The title bar shows 'app.yaml' with a close button and a plus sign. The menu bar has 'File', 'Edit', and 'View'. The code content is as follows:

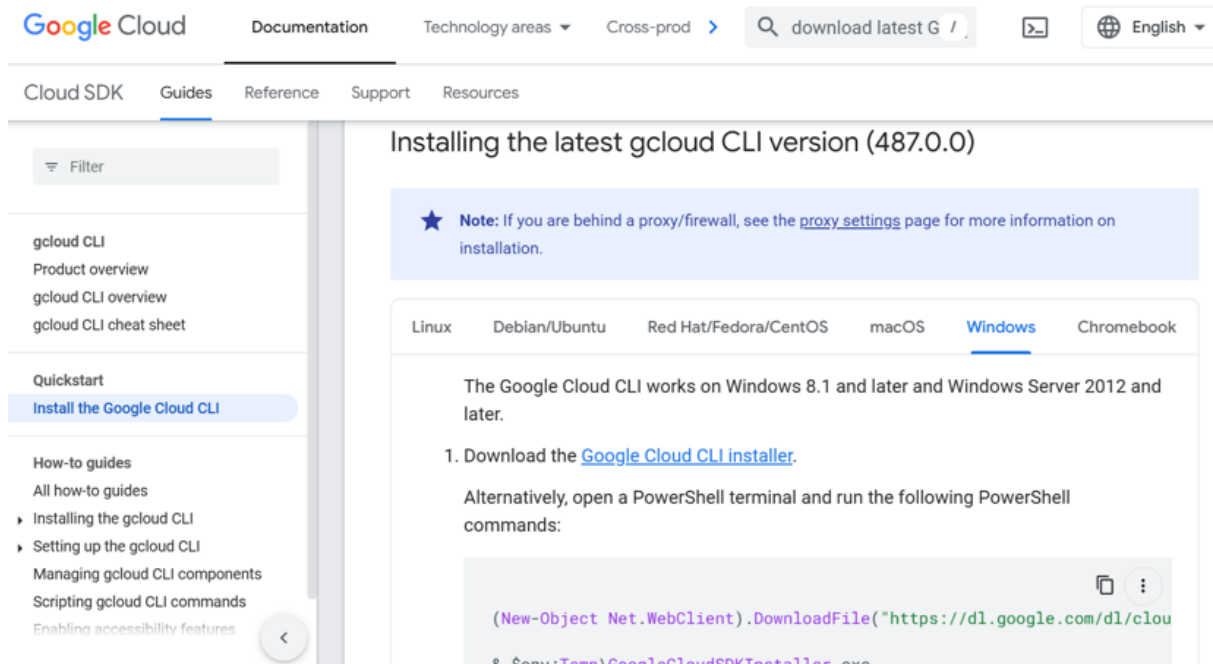
```
runtime:php55
api_version:1
handlers:
- url: /.*
  script: helloWorld.php
```

5. Create a PHP code to upload and run and save it as “helloWorld.php”

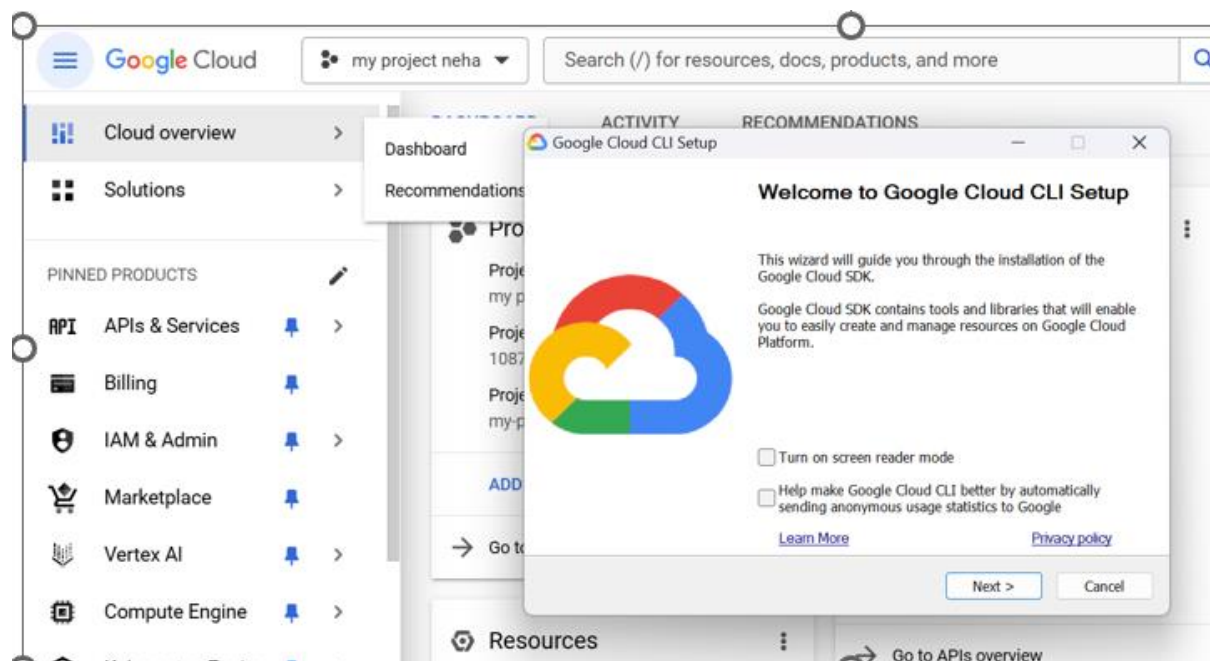
A screenshot of a code editor window with a dark theme. The title bar shows two tabs: 'app.yaml' and 'helloWorld.php', with close buttons and a plus sign. The menu bar has 'File', 'Edit', and 'View'. The code content in the 'helloWorld.php' tab is as follows:

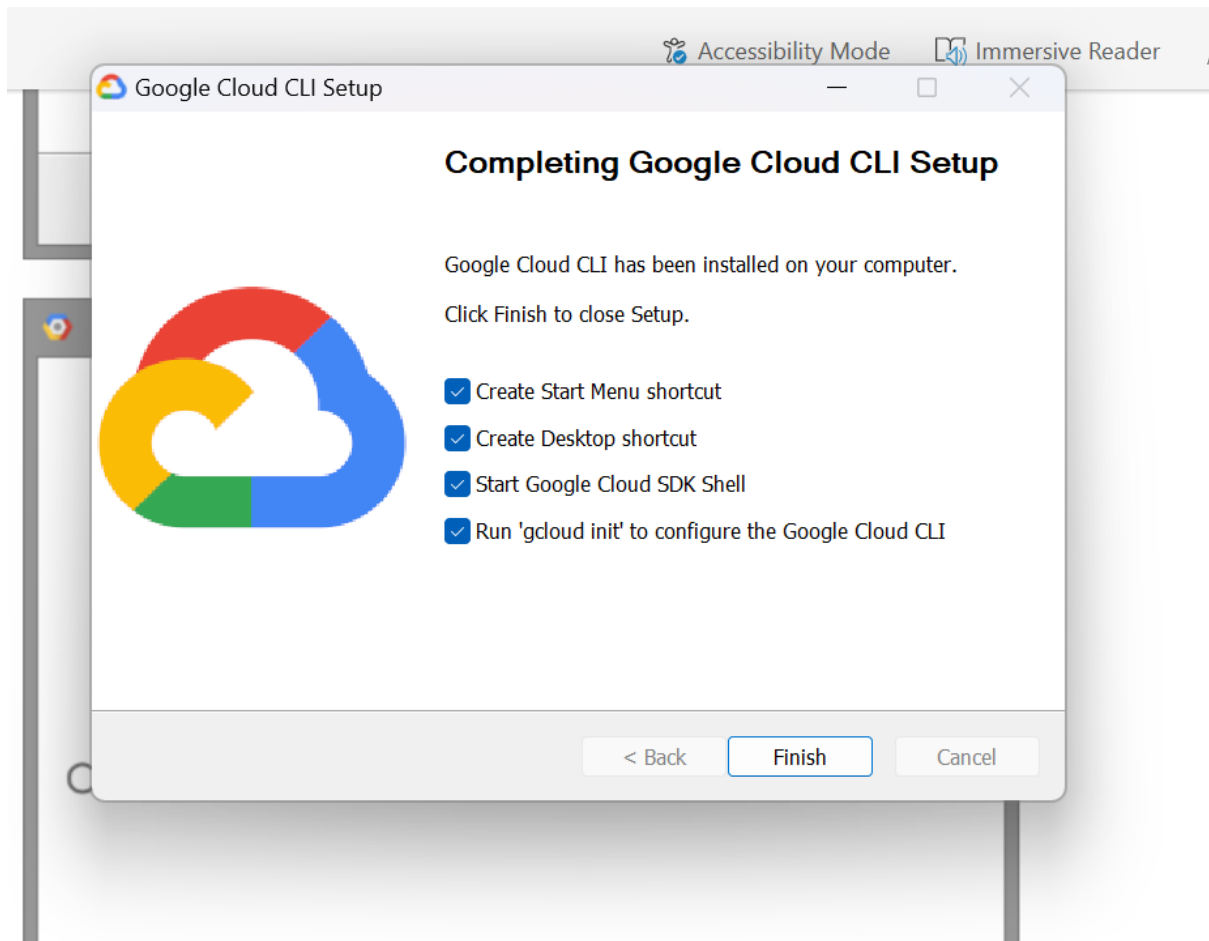
```
<?php
echo "Hi, Neha ";
?>
```

6:In order to deploy and run the PHP code on Google cloud platform, visit <https://cloud.google.com/sdk/docs> to download latest Google Cloud SDK and to know how to install it.



7. open Google cloud SDK installer. It will take some time to download and install SDK from Google Server. At end of installation check Start Google Cloud SDK Shell and Run 'gcloud init' to configure the Cloud SDK.





8. Previous step will open up command prompt with `gcloud init` command running automatically. It will ask you to login using Google account on which you have joined Google Cloud Platform. After successful login web browser page of `cloud.google.com` will show You are now authenticated with Google Cloud SDK.

```
C:\Windows\SYSTEM32\cmd.exe
Welcome to the Google Cloud CLI! Run "gcloud -h" to get the list of available commands.
---
Welcome! This command will take you through the configuration of gcloud.

Your current configuration has been set to: [default]

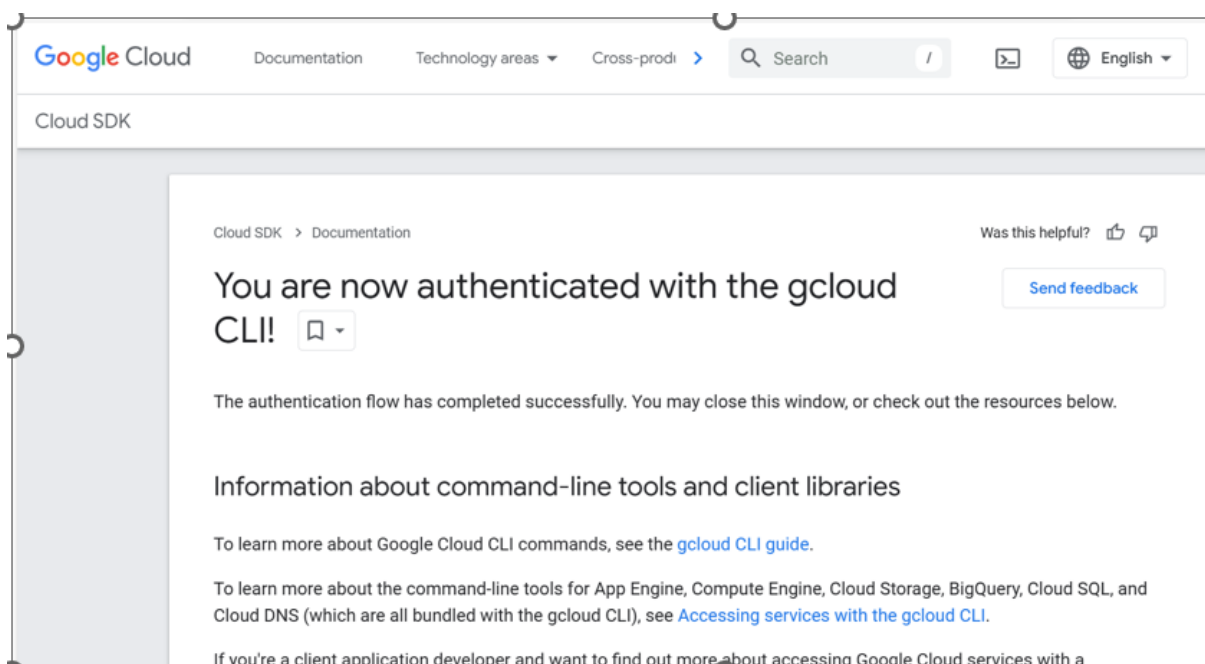
You can skip diagnostics next time by using the following flag:
  gcloud init --skip-diagnostics

Network diagnostic detects and fixes local network connection issues.
Checking network connection...done.
Reachability Check passed.
Network diagnostic passed (1/1 checks passed).

You must sign in to continue. Would you like to sign in (Y/n)? y

Your browser has been opened to visit:

  https://accounts.google.com/o/oauth2/auth?response_type=code&client_id=32555940559.apps.googleusercontent.com&redirect_uri=http%3A%2F%2Flocalhost%3A8085%2F&scope=openid+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fuserinfo.email+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcloud-platform+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fappengine.admin+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fsqlservice.login+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcompute+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Faccounts.reauth&state=BLZeshQ5WjRp02Vp4BQZ0edoaC6AzV&access_type=offline&code_challenge=RR8XT1Ng0F3d0vEKri09ejMaCGZiGMZLwrLKIP5QWD8&code_challenge_method=S256
```



9. In command prompt, running in background will ask you to select project you want to deploy and run. Enter appropriate number and hit enter.

```
C:\Windows\SYSTEM32\cmd.exe
Your current configuration has been set to: [default]

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).

You must sign in to continue. Would you like to sign in (Y/n)? y

Your browser has been opened to visit:

  https://accounts.google.com/o/oauth2/auth?response_type=code&client_id=32555940559.apps.googleusercontent.com&redirect_uri=http%3A%2F%2Flocalhost%3A8085%2F&scope=openid+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fuserinfo.email+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcloud-platform+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fappengine.admin+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fsqlservice.login+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcompute+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Faccounts.reauth&state=BLZeshQ5WjRp02Vp4BQZ0edoac6AzV&access_type=offline&code_challenge=RR8XT1Ng0F3d0vEKri09ejMacGZiGMZLwrLKIP5QwD8&code_challenge_method=S256

You are signed in as: [nehatmathew@gmail.com].

Pick cloud project to use:
[1] dev-accord-432110-i8
[2] my-project-neha-432110
[3] wired-trees-432110-e7
[4] Enter a project ID
[5] Create a new project
Please enter numeric choice or text value (must exactly match list item): |
```

10. Change directory to folder where PHP and YAML file is residing.

```
* Commands that require authentication will use nehatmathew@gmail.com by default
* Commands will reference project 'my-project-neha-432110' by default
Run 'gcloud help config' to learn how to change individual settings

This gcloud configuration is called [default]. You can create additional configurations if you work with multiple accounts and/or projects.
Run 'gcloud topic configurations' to learn more.

Some things to try next:

* Run 'gcloud --help' to see the Cloud Platform services you can interact with. And run 'gcloud help COMMAND' to get help on any gcloud command.
* Run 'gcloud topic --help' to learn about advanced features of the CLI like arg files and output formatting
* Run 'gcloud cheat-sheet' to see a roster of go-to 'gcloud' commands.

C:\Users\Neha Mathew\AppData\Local\Google\Cloud SDK>dir
Volume in drive C has no label.
Volume Serial Number is 0051-EE9C

Directory of C:\Users\Neha Mathew\AppData\Local\Google\Cloud SDK

10-08-2024 16:20 <DIR>      .
10-08-2024 16:16 <DIR>      ..
10-08-2024 16:17      275 cloud_env.bat
10-08-2024 16:18 <DIR>      google-cloud-sdk
10-08-2024 16:20      1 install_mode
12-06-2024 00:00    1,150 supercloud-16x16.ico
10-08-2024 16:20    63,591 uninstaller.exe
               4 File(s)      65,017 bytes
               3 Dir(s)    11,566,944,256 bytes free

C:\Users\Neha Mathew\AppData\Local\Google\Cloud SDK>
```

11. Type `gcloud app deploy` and select region of Google Data Center where you want to deploy your app, press 5 and press Enter for `asia-south1`, i.e. Mumbai. Press Y to continue with deployment. Result will show URL to launch your GoogleApp. Alternatively you can type `gcloud app browse` to open your App in browser

WARNING: Creating an App Engine application for a project is irreversible and the region cannot be changed. More information about regions is at <<https://cloud.google.com/appengine/docs/locations>>.

Please choose the region where you want your App Engine application located:

- [1] asia-east1 (supports standard and flexible)
- [2] asia-east2 (supports standard and flexible and search\_api)
- [3] asia-northeast1 (supports standard and flexible and search\_api)
- [4] asia-northeast2 (supports standard and flexible and search\_api)
- [5] asia-northeast3 (supports standard and flexible and search\_api)
- [6] asia-south1 (supports standard and flexible and search\_api)
- [7] asia-southeast1 (supports standard and flexible)
- [8] asia-southeast2 (supports standard and flexible and search\_api)
- [9] australia-southeast1 (supports standard and flexible and search\_api)
- [10] europe-central2 (supports standard and flexible)
- [11] europe-west (supports standard and flexible and search\_api)
- [12] europe-west2 (supports standard and flexible and search\_api)
- [13] europe-west3 (supports standard and flexible and search\_api)
- [14] europe-west6 (supports standard and flexible and search\_api)
- [15] northamerica-northeast1 (supports standard and flexible and search\_api)
- [16] southamerica-east1 (supports standard and flexible and search\_api)
- [17] us-central (supports standard and flexible and search\_api)
- [18] us-east1 (supports standard and flexible and search\_api)
- [19] us-east4 (supports standard and flexible and search\_api)
- [20] us-west1 (supports standard and flexible)
- [21] us-west2 (supports standard and flexible and search\_api)
- [22] us-west3 (supports standard and flexible and search\_api)
- [23] us-west4 (supports standard and flexible and search\_api)
- [24] cancel

Please enter your numeric choice: 5

Creating App Engine application in project [my-project-neha-432110] and region [asia-northeast3]...\

- ```
C:\Windows\SYSTEM32\cmd.exe
```
- [11] europe-west (supports standard and flexible and search\_api)
  - [12] europe-west2 (supports standard and flexible and search\_api)
  - [13] europe-west3 (supports standard and flexible and search\_api)
  - [14] europe-west6 (supports standard and flexible and search\_api)
  - [15] northamerica-northeast1 (supports standard and flexible and search\_api)
  - [16] southamerica-east1 (supports standard and flexible and search\_api)
  - [17] us-central (supports standard and flexible and search\_api)
  - [18] us-east1 (supports standard and flexible and search\_api)
  - [19] us-east4 (supports standard and flexible and search\_api)
  - [20] us-west1 (supports standard and flexible)
  - [21] us-west2 (supports standard and flexible and search\_api)
  - [22] us-west3 (supports standard and flexible and search\_api)
  - [23] us-west4 (supports standard and flexible and search\_api)
  - [24] cancel

Please enter your numeric choice: 5

Creating App Engine application in project [my-project-neha-432110] and region [asia-northeast3]...done.  
Services to deploy:

```
descriptor:      [C:\Users\Neha Mathew\app.yaml]
source:          [C:\Users\Neha Mathew]
target project:  [my-project-neha-432110]
target service:  [default]
target version:  [20240810t163645]
target url:      [https://my-project-neha-432110.du.r.appspot.com]
target service account: [my-project-neha-432110@appspot.gserviceaccount.com]
```

Do you want to continue (Y/n)? y

Beginning deployment of service [default]...  
Created .gcloudignore file. See 'gcloud topic gcloudignore' for details.



```
Google Cloud SDK Shell - gck x + v
#=#
Command killed by keyboard interrupt
Terminate batch job (Y/N)? y
C:\Users\Neha Mathew\AppData\Local\Google\Cloud SDK>cd..
C:\Users\Neha Mathew\AppData\Local\Google>cd Cloud SDK
C:\Users\Neha Mathew\AppData\Local\Google\Cloud SDK>cd cc
C:\Users\Neha Mathew\AppData\Local\Google\Cloud SDK\cc>gcloud app deploy
Services to deploy:

descriptor:      [C:\Users\Neha Mathew\AppData\Local\Google\Cloud SDK\cc\app.yaml]
source:          [C:\Users\Neha Mathew\AppData\Local\Google\Cloud SDK\cc]
target project:  [my-project-neha-432110]
target service:  [default]
target version:  [20240817t140855]
target url:      [https://my-project-neha-432110.du.r.appspot.com]
target service account: [my-project-neha-432110@appspot.gserviceaccount.com]

Do you want to continue (Y/n)? y

Beginning deployment of service [default]...
Created .gcloudignore file. See 'gcloud topic gcloudignore' for details.
#=#
#=# Uploading 2 files to Google Cloud Storage =#
#=#
File upload done.
Updating service [default]...\|
```