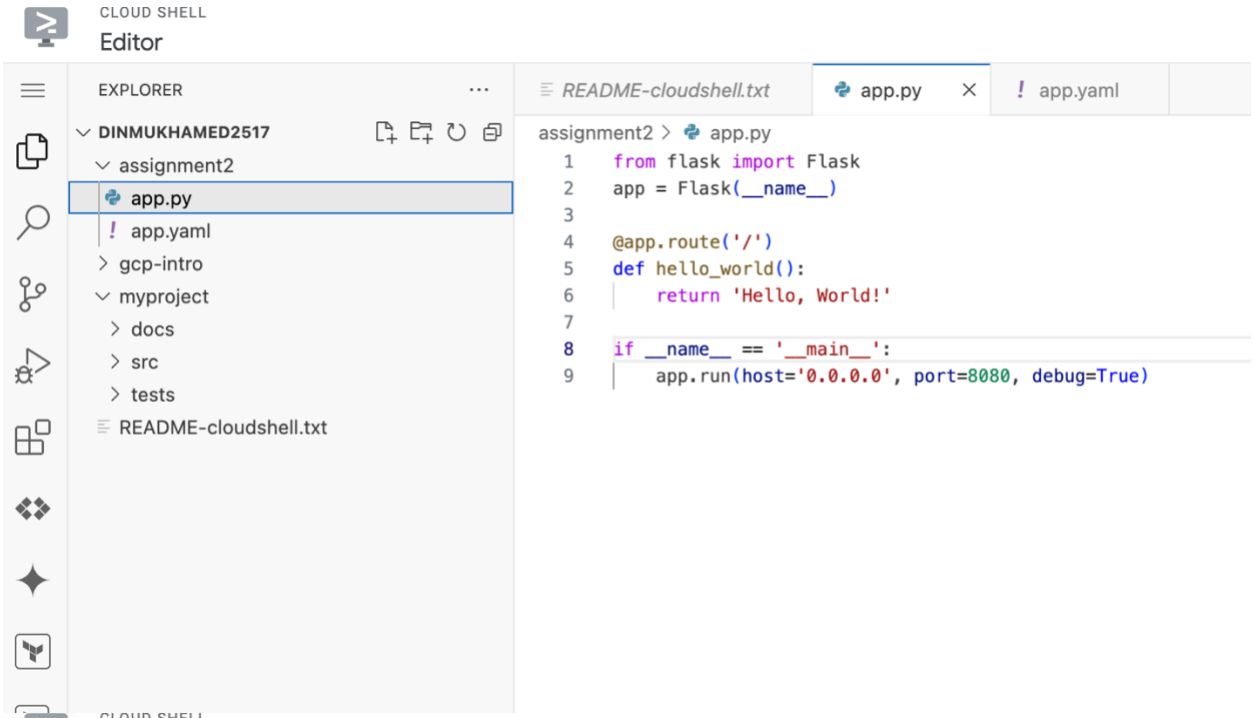
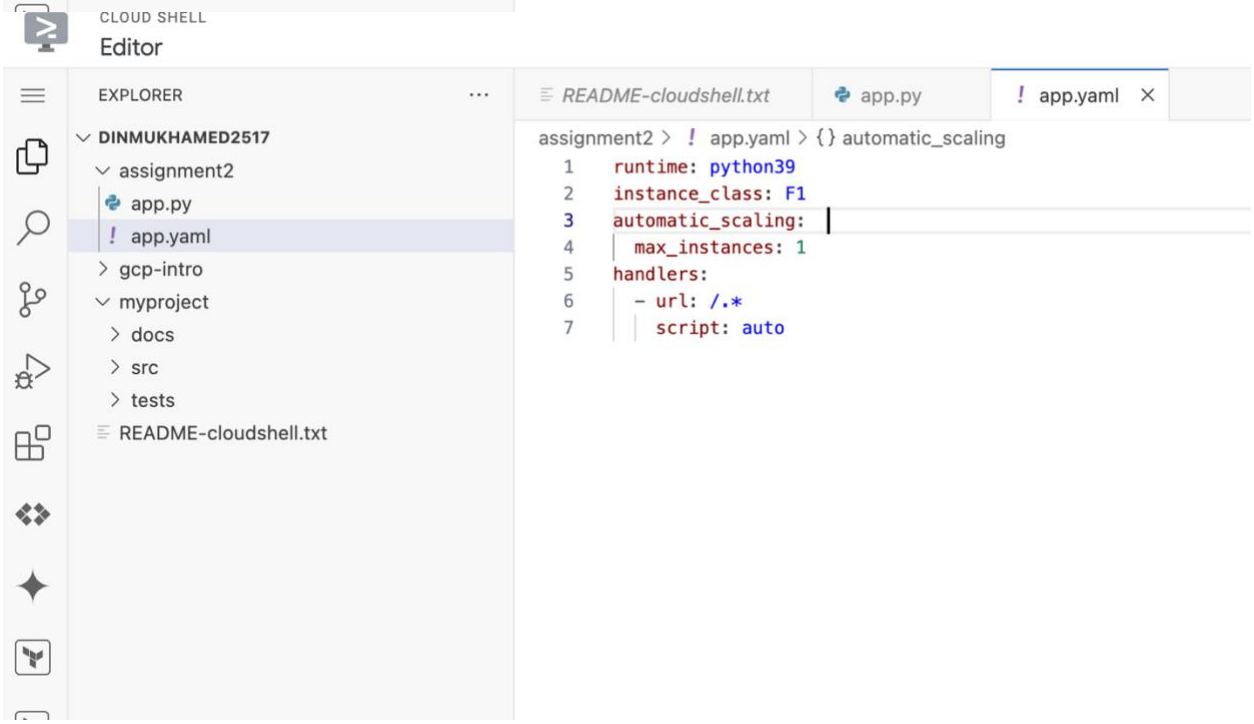
Cloud application development – Assignment 2

Exercise 1: Google App Engine

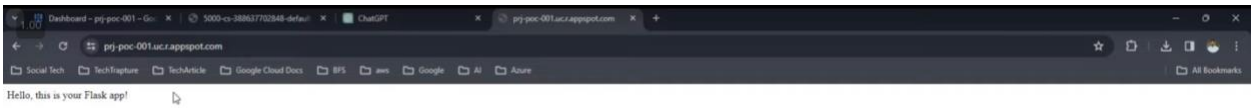




```
ERROR: (gcloud.app.deploy) Permissions error fetching application [apps/cad2-437510]. Please make sure that you have permission to view applications on the project and that dinmukha
med2517@gmail.com has the App Engine Deployer (roles/appengine.deployer) role.
dinmukhamed2517@cloudshell:~/assignment2 (cad2-437510)$
```

```
Services to deploy:

descriptor:                  [/home/vbulbule1994/flask-app/app.yaml]
source:                      [/home/vbulbule1994/flask-app]
target project:              [prj-poc-001]
target service:              [default]
target version:              [20231224t075428]
target url:                  [https://prj-poc-001.uc.r.appspot.com]
target service account:      [prj-poc-001@appspot.gserviceaccount.com]


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

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

Beginning deployment of service [default]...
Uploading 2 files to Google Cloud Storage
50%
100%
100%
File upload done.
WARNING: Python 2.7 is no longer supported by the Python community as of 1 January, 2020. Python 2.7 will be end of support on 2024-01-30. As of 2024-01-30 you will no longer be
able to deploy your App Engine Standard using python27. We recommend you to upgrade to the latest version of Python as soon as possible.

Updating service [default]...working.
```



Exercise 2: Building with Google Cloud Functions

hello-world-function > JS index.js > ...

```
1   exports.helloWorld = (req, res) => {
2       res.send('Hello, World!');
3   };
```

hello-world-function > {} package.json > ...

```
1   {
2       "name": "hello-world-function",
3       "version": "1.0.0",
4       "main": "index.js",
5       "dependencies": {}
6   }
```

```
dinmukhamed2517@cloudshell:~ (newproject-a8e24)$ gcloud services enable cloudfunctions.googleapis.com
Operation "operations/acf.p2-255314247350-c6d56d92-bd22-41ca-a402-37c7f42f7bb6" finished successfully.
dinmukhamed2517@cloudshell:~ (newproject-a8e24)$
```

```
dinmukhamed2517@cloudshell:~ (newproject-a8e24)$ cd hello-world-function/
dinmukhamed2517@cloudshell:~/hello-world-function (newproject-a8e24)$ gcloud functions deploy helloWorldFunction --runtime nodejs18 --trigger-http --allow-unauthenticated
As of this Cloud SDK release, new functions will be deployed as 2nd gen  functions by default. This is equivalent to currently deploying new  with the --gen2 flag. Existing 1st gen
functions will not be impacted and will continue to deploy as 1st gen functions.
You can disable this behavior by explicitly specifying the --no-gen2 flag or by setting the functions/gen2 config property to 'off'.
To learn more about the differences between 1st gen and 2nd gen functions, visit:
https://cloud.google.com/functions/docs/concepts/version-comparison
ERROR: (gcloud.functions.deploy) ResponseError: status=[403], code=[Ok], message=[Write access to project 'newproject-a8e24' was denied: please check billing account associated and
retry]
dinmukhamed2517@cloudshell:~/hello-world-function (newproject-a8e24)$
```

Exercise 3: Containerizing Applications

assignment2 > app.py

```python
print("Hello from inside the container!")
```

assignment2 > Dockerfile

```dockerfile
# Use an official Python runtime as a parent image
FROM python:3.9-slim

# Set the working directory in the container
WORKDIR /app

# Copy the current directory contents into the container at /app
COPY . /app

# Run the application
CMD ["python", "app.py"]
```

```
dinmukhamed2517@cloudshell:~/assignment2 (newproject-a8e24)$ docker build -t hello-world-app .
[+] Building 7.6s (8/8) FINISHED                                  docker:default
 => [internal] load build definition from Dockerfile                       0.0s
 => => transferring dockerfile: 295B                                       0.0s
 => [internal] load metadata for docker.io/library/python:3.9-slim         2.7s
 => [internal] load .dockerignore                                          0.0s
 => => transferring context: 2B                                            0.0s
 => [1/3] FROM docker.io/library/python:3.9-slim@sha256:49f94609e5a997dc1  4.0s
 => => resolve docker.io/library/python:3.9-slim@sha256:49f94609e5a997dc1  0.0s
 => => sha256:9d8cb7037cd8e90893e5f430ce4c048a872511e4145 5.20kB / 5.20kB  0.0s
 => => sha256:302e3ee498053a7b5332ac79e8efebec16e900289 29.13MB / 29.13MB  0.6s
 => => sha256:4c0965d3919510b506d8856ebc050a96e996c7dae96 3.51MB / 3.51MB  0.5s
 => => sha256:fdeeec85abbad3878f2008f9445f15a19a5a224d1 14.74MB / 14.74MB  0.7s
 => => sha256:49f94609e5a997dc16086a66ac9664591854031d4 10.41kB / 10.41kB  0.0s
 => => sha256:93ab151da4e5310ea79c4ecf306ece628262b86a4d7 1.75kB / 1.75kB  0.0s
 => => sha256:62a08b8dd4f53ad5493dabf2af00ccde91abb3771fb2187 248B / 248B  0.9s
 => => extracting sha256:302e3ee498053a7b5332ac79e8efebec16e900289fc1ecd1  1.8s
 => => extracting sha256:4c0965d3919510b506d8856ebc050a96e996c7dae96e4fb4  0.2s
 => => extracting sha256:fdeeec85abbad3878f2008f9445f15a19a5a224d1b7e7715  1.0s
 => => extracting sha256:62a08b8dd4f53ad5493dabf2af00ccde91abb3771fb21870  0.0s
 => [internal] load build context                                          0.0s
 => => transferring context: 525B                                          0.0s
 => [2/3] WORKDIR /app                                                     0.7s
 => [3/3] COPY . /app                                                      0.0s
 => exporting to image                                                     0.1s
 => => exporting layers                                                    0.0s
 => => writing image sha256:f8bbcd52de8f1d4e13d9e9b17d4019c66b6843988c432  0.0s
 => => naming to docker.io/library/hello-world-app                         0.0s
dinmukhamed2517@cloudshell:~/assignment2 (newproject-a8e24)$
```

```
 => => writing image sha256:f8bbcd52de8f1d4e13d9e9b17d4019c66b6843988c432  0.0s
dinmukhamed2517@cloudshell:~/assignment2 (newproject-a8e24)$ docker run --rm hello-world-app
Hello from inside the container!ignment2 (newproject-a8e24)$ docker run --rm hello-world-app
dinmukhamed2517@cloudshell:~/assignment2 (newproject-a8e24)$
```