

# Cloud computing lab

## EXP-3

## Steps to Deploy a Flask App on Google App Engine (GCP)

---

### Step 1: Install Required Tools

Make sure the following are installed:

- Google Cloud SDK: <https://cloud.google.com/sdk/docs/install>
- Python 3.9 or later

### Step 2: Set Up Billing Account (One-Time)

You only need to do this once per account.

1. Go to <https://console.cloud.google.com/billing>
2. Click “Manage Billing Accounts”
3. Click “Create Account”
4. Enter your payment details
5. Save and activate your billing account

### Step 3: Create a Google Cloud Project

1. Visit <https://console.cloud.google.com/>
2. Click the project dropdown (top left) → New Project
3. Enter:
  - Project Name (e.g., flask-demo-app)
  - Organization (if applicable)
4. Click Create

#### Link the Billing Account:

1. Go to <https://console.cloud.google.com/billing>
2. Click “My Projects”
3. Link your billing account to the new project

## Step 4: Create the Project Folder

Create a folder (e.g., E:\GAE) and add the following files:

main.py:

```
from flask import Flask
```

```
app = Flask(__name__)
```

```
@app.route('/')
```

```
def home():
```

```
    return 'Hello from Google App Engine!'
```

requirements.txt:

```
Flask==2.3.2
```

```
gunicorn==21.2.0
```

app.yaml:

```
runtime: python39
```

```
entrypoint: gunicorn -b :$PORT main:app
```

## Step 5: Initialize Google Cloud SDK

Run the following command in terminal:

```
gcloud init
```

- Login with Google account

- Choose your created project

- Set the default region

## Step 6: Enable App Engine

Run:

```
gcloud app create
```

## Step 7: Install Python Libraries

Navigate to your project directory and run:

```
python -m ensurepip --upgrade  
pip install -r requirements.txt
```

## Step 8: Deploy the App

In the project folder, run:

```
gcloud app deploy
```

- Confirm with Y
- Wait for deployment to complete

## Step 9: Visit Your Live App

After successful deployment, open the URL shown in terminal (e.g.):

<https://your-project-id.firebaseioapp.com>

 You're live on the web with your Flask app!