PRACTICAL 8

Step-by-Step Guide to Deploy a Web Application on GCP Free Tier

Step 1: Create a Google Cloud Account

If you haven't signed up for GCP:

1. Go to https://cloud.google.com.
2. Sign up for a new account and get **$300 free credits**.
3. Set up a **billing account** (you won't be charged if you stay within the free tier).
4. Create a new project:
    1. Open GCP Console → Click **Select a Project** → **New Project**.
    2. Name your project (e.g., "My Web App").
    3. Click **Create**.

Step 2: Set Up a Compute Engine Virtual Machine

1. Navigate to Compute Engine

- Open GCP Console.

- Go to Compute Engine → VM Instances.

- Click "Create Instance".

2. Configure the Instance

- Name: web-server

- Region: us-west1 (or any free-tier eligible region).

- Machine Type: e2-micro (free tier eligible).

Boot Disk:

- **Click Change → Choose Ubuntu 20.04 LTS.**
- **Click Select.**

Firewall:

- **Check Allow HTTP traffic.**
- **Check Allow HTTPS traffic.**
- **Click Create.**

Step 3: Connect to the VM and Install Apache Web Server

1. SSH into the VM

- **Once the instance is running, click SSH to open a terminal.**

2. Update & Install Apache

- **Run the following commands:**

```bash
sudo apt update
sudo apt install apache2 -y
```

3. Start and Enable Apache

```bash
sudo systemctl start apache2
sudo systemctl enable apache2
```

4. Verify Apache is Running

- **Open a browser**

```cpp
http://[YOUR_VM_EXTERNAL_IP]
```

You should see the **Apache default welcome page.**

Step 4: Deploy a Simple Web Page

1. **Replace Default Web Page**

- **Run the following command:**

```bash
echo '<h1>Welcome to My GCP Website!</h1>' | sudo tee /var/www/html/index.html
```

2. Restart Apache

```bash
sudo systemctl restart apache2
```

3. Verify the Website

- Open your **VM's external IP address** in a browser:

```cpp
http://[YOUR_VM_EXTERNAL_IP]
```

- You should see:

```css
Welcome to My GCP Website!
```