

## Practical - 7

Name : Shivam Tawari

Roll no: A-58

Subject: Cloud Computing

Aim: Install Google App Engine, create simple web application.

### Theory:

Google App Engine:

Google app engine is a cloud computing platform as a service that allows web app developers and enterprises access to Google's Scalable hosting and tier 1 internet service.

The app engine requires that apps be written in Java or Python, store data in Google Bigtable and use the Google query language. Non-compliant applications require modification to use App Engine.

Google App Engine provides more infrastructure than other scalable hosting services such as Amazon Elastic compute cloud (EC2).

The app engine also eliminates some system administration and developmental tasks to make it easier to write scalable applications.

Google App Engine is free up to a certain amount of resources usage. Users exceeding the per-day or per-minute usage rates for CPU resources, storage, number of API calls or requests and concurrent requests can pay for more of these resources.

Conclusion: Hence, we have successfully completed Google App Engine to create simple web application.

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The screenshot shows the Google Cloud Platform dashboard for a project named 'My First Project'. The top navigation bar includes the Google Cloud logo, the project name, a search bar, and various utility icons. Below the navigation bar, there are three tabs: 'DASHBOARD', 'ACTIVITY', and 'RECOMMENDATIONS'. The 'DASHBOARD' tab is active, displaying several widgets:

- Project info:** Shows project details like Project name (My First Project), Project ID (ordinal-case-315819), and Project number (813205986115). It includes links to 'ADD PEOPLE TO THIS PROJECT' and 'Go to project settings'.
- Resources:** A section indicating that the project currently has no resources.
- Trace:** A section indicating that there is no trace data from the last 7 days.
- API APIs:** A section showing a line chart for 'Requests (requests/sec)'. The chart shows a flat line at 0, with a message: 'No data is available for the selected time frame.' Below the chart is a link to 'Go to APIs overview'.
- Google Cloud Platform status:** A section showing 'All services normal' and a link to 'Go to Cloud status dashboard'.
- Monitoring:** A section with links to 'Create my dashboard', 'Set up alerting policies', 'Create uptime checks', 'View all dashboards', and 'Go to Monitoring'.
- API Error Reporting:** A section for monitoring errors.

The screenshot shows the 'New Project' creation page in the Google Cloud Platform. The top navigation bar is identical to the dashboard. Below the navigation bar, the page title is 'New Project'. A warning message at the top states: 'You have 24 projects remaining in your quota. Request an increase or delete projects. [Learn more](#)'. Below this, there is a 'MANAGE QUOTAS' link. The main form contains the following fields:

- Project name \*:** A text input field containing 'Cloud Computing Practical 7'.
- Project ID:** A text input field containing 'cloud-computing-practical-7'. A note below it states: 'Project ID: cloud-computing-practical-7. It cannot be changed later. [EDIT](#)'.
- Location \*:** A dropdown menu showing 'No organisation'.
- Parent organisation or folder:** A text input field.

At the bottom of the form, there are two buttons: 'CREATE' and 'CANCEL'.

Google Cloud PlatformCloud Computing Practical 7

Search products and resources

DASHBOARDACTIVITYRECOMMENDATIONS

CUSTOMISE

Project info

Project name

Cloud Computing Practical 7

Project ID

cloud-computing-practical-7

Project number

894414391981

ADD PEOPLE TO THIS PROJECT

Go to project settings

Resources

This project has no resources

Trace

No trace data from the last 7 days

API APIs

Requests (requests/sec)

No data is available for the selected time frame.

Go to APIs overview

Google Cloud Platform status

All services normal

Go to Cloud status dashboard

Monitoring

Create my dashboard

Set up alerting policies

Create uptime checks

View all dashboards

Go to Monitoring

API Error Reporting

Google Cloud PlatformCloud Computing Practical 7

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DASHBOARDACTIVITYRECOMMENDATIONS

CUSTOMISE

Project info

Project name

Cloud Computing Practical 7

Project ID

cloud-computing-practical-7

API APIs

Requests (requests/sec)

Go to Cloud status dashboard

Google Cloud Platform status

All services normal

Go to Cloud status dashboard

Terminal

cloud-computing-practical-7

Open editor

If you decide to proceed anyway, your user credentials may be visible to others with access to this virtual machine. Are you sure you want to authenticate with your personal account?

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

Go to the following link in your browser:

[https://accounts.google.com/o/oauth2/auth?response\\_type=code&client\\_id=76408651850-6qr4p6gpi&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%2Faccounts.reauth&state=rnbV4Xod6OvUMrMxkv1MCPXUD11267&prompt=consent&access\\_type=offline&code\\_challenge=FPBS1fNSd5GanBmmFJ6DTjczUEwy0JYwnNWaz\\_ghLYi&code\\_challenge\\_method=S256](https://accounts.google.com/o/oauth2/auth?response_type=code&client_id=76408651850-6qr4p6gpi&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%2Faccounts.reauth&state=rnbV4Xod6OvUMrMxkv1MCPXUD11267&prompt=consent&access_type=offline&code_challenge=FPBS1fNSd5GanBmmFJ6DTjczUEwy0JYwnNWaz_ghLYi&code_challenge_method=S256)

Enter verification code: 4/1AX4XfWh3tIGiFLMgHsfPzqSeqITDbNvpynKo2zkuU6ro\_QhY-BowTmBU

Credentials saved to file: [/tmp/tmp.DkLsFRaKJU/application\_default\_credentials.json]

These credentials will be used by any library that requests Application Default Credentials (ADC).

Quota project "cloud-computing-practical-7" was added to ADC which can be used by Google client libraries for billing and quota. Note that some services may still bill the project owning the resource.

shivamtawari@cloudshell:~ (cloud-computing-practical-7)\$

Google Cloud PlatformCloud Computing Practical 7

app e

DASHBOARDACTIVITYRECOMMENDATIONS

CUSTOMISE

Project info

Project name

Cloud Computing Practical 7

Project ID

cloud-computing-practical-7

API APIs

Requests (requests/sec)

Go to Cloud status dashboard

Google Cloud Platform status

All services normal

Go to Cloud status dashboard

Terminal

cloud-computing-practical-7

Open editor

Enter verification code: 4/1AX4XfWh3tIGiFLMgHsfPzqSeqITDbNvpynKo2zkuU6ro\_QhY-BowTmBU

Credentials saved to file: [/tmp/tmp.DkLsFRaKJU/application\_default\_credentials.json]

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shivamtawari@cloudshell:~ (cloud-computing-practical-7)\$ git clone https://github.com/GoogleCloudPlatform/python-docs-samples

Cloning into 'python-docs-samples'...

remote: Enumerating objects: 57969, done.

remote: Counting objects: 100% (174/174), done.

remote: Compressing objects: 100% (143/143), done.

remote: Total 57969 (delta 43), reused 85 (delta 22), pack-reused 57795

Receiving objects: 100% (57969/57969), 79.25 MiB | 17.12 MiB/s, done.

Resolving deltas: 100% (32807/32807), done.

shivamtawari@cloudshell:~ (cloud-computing-practical-7)\$ cd python-docs-samples/appengine/standard\_python3/building-an-app/building-an-app-1

shivamtawari@cloudshell:~/python-docs-samples/appengine/standard\_python3/building-an-app/building-an-app-1 (cloud-computing-practical-7)\$

Google Cloud PlatformCloud Computing Practical 7

app e

DASHBOARDACTIVITYRECOMMENDATIONS

CUSTOMISE

Project info

Project name

Cloud Computing Practical 7

Project ID

cloud-computing-practical-7

API APIs

Requests (requests/sec)

1.0

0.8

Google Cloud Platform status

All services normal

Go to Cloud status dashboard

CLOUD SHELL

Terminal

(cloud-computing-practical-7) x +

Open editor

[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: 17

Creating App Engine application in project [cloud-computing-practical-7] and region [us-central]....done.

Services to deploy:

descriptor: [/home/shivamtawari/python-docs-samples/appengine/standard\_python3/building-an-app/building-an-app-1/app.yaml]

source: [/home/shivamtawari/python-docs-samples/appengine/standard\_python3/building-an-app/building-an-app-1]

target project: [cloud-computing-practical-7]

target service: [default]

target version: [20211022t193500]

target url: [https://cloud-computing-practical-7.uc.r.appspot.com]

target service account: [App Engine default service account]

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