

CCL Assignment 5

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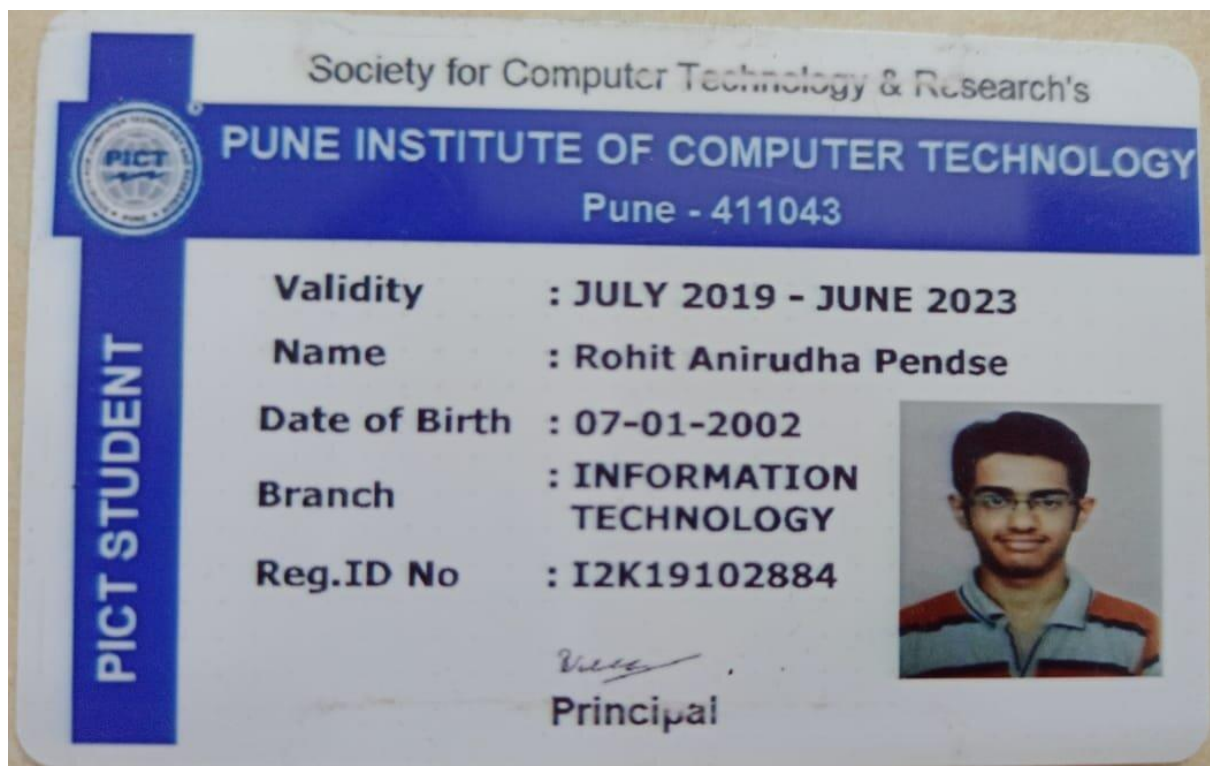
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CCL Assignment 5

Problem statement:

Find a procedure to launch virtual machine.

Theory:

Virtual Machine:

Virtual machines allow you to run an operating system in an app window on your desktop that behaves like a full, separate computer. You can use them to play around with different operating systems, run software your main operating system can't, and try out apps in a safe, sandboxed environment.

A virtual machine app creates a virtualized environment called simply enough, a virtual machine that behaves like a separate computer system, complete with virtual hardware devices. The VM runs a process in a window on the current operating system. You can boot an operating system installer disc inside a virtual machine; the operating system will be tricked into thinking it's running on a real computer. It will install and run just as it would on a real, physical machine. Whenever you want to use it, you can open the virtual machine program & use it in a window on your current desktop.

In the VM world, the operating system actually running on your computer is called the host & any operating system running inside VM's are called guests.

The main purpose of VMs is to operate multiple operating systems at the same time, from same place of hardware

Advantages of VM:

- The multiplicity of operating systems
- Reduced Overhead
- Safety Net for Data - Rapid Disaster Recovery and Auto backups.
- Scalability
- Centralization

Trystack:

Trystack is a free and easy way for users to try out openstack, and setup their own cloud with networking, storage & computer instances.

Requirement:

Account on AWS or Azure or Google Cloud

Steps:

- In the Google cloud console, go to Create an instance page
- Go to create an instance
- Specify a Name for your VM. For more information see resource naming convention
- Select a machine configuration for your VM.
- In the boot disk section, click Change change configure your boot disk, and then do the following:

- select custom Images tab.
- To select the image project, click select a project and do the following:
 - click open
 - In the image list, click the image you want to import
 - Select the type & size of your boot disk.
 - To confirm your boot disk options, click select.
- To permit HTTP or HTTPS traffic to VM, in the Firewall section, select Allow HTTP Traffic or Allow HTTPS Traffic
- The cloud console adds a network tag to your VM & creates ingress firewall rule that allows incoming traffic on tcp:80 (HTTP) or tcp:443 (HTTPS). The network tag associates firewall rule with the VM. For more information, see firewall rules overview in the Virtual Private Cloud documentation.
- To start and create a VM, click create

Output Screenshots:

1. Create_instance.png:

Create an instance

To create a VM instance, select one of the options:

New VM instance

Create a single VM instance from scratch

New VM instance from template

Create a single VM instance from an existing template

New VM instance from machine image

Create a single VM instance from an existing machine image

Marketplace

Deploy a ready-to-go solution onto a VM instance

Name *

instance-1

Labels

+ ADD LABELS

Region *

us-central1 (Iowa)

Zone *

us-central1-a

Machine configuration

Machine family

GENERAL-PURPOSE COMPUTE-OPTIMIZED MEMORY-OPTIMIZED GPU

Machine types for common workloads, optimized for cost and flexibility

Series

E2

CPU platform selection based on availability

Machine type

e2-medium (2 vCPU, 4 GB memory)

vCPU

1 shared core

Memory

4 GB

CPU PLATFORM AND GPU

Display device

Enable to use screen capturing and recording tools.

☐ Enable display device

Confidential VM service

☐ Enable the Confidential Computing service on this VM instance.

Container

Deploy a container image to this VM instance.

DEPLOY CONTAINER

Boot disk

Name

instance-1

Type

New balanced persistent disk

Size

10 GB

Image

Debian GNU/Linux 10 (buster)

CHANGE

Identity and API access

Service accounts

Service account

Compute Engine default service account

Requires the Service Account User role (roles/iam.serviceAccountUser) to be set for users who want to access VMs with this service account. [Learn more](#)

Access scopes

☒ Allow default access

☐ Allow full access to all Cloud APIs

☐ Set access for each API

Firewall

Add tags and firewall rules to allow specific network traffic from the Internet

☒ Allow HTTP traffic

☒ Allow HTTPS traffic

NETWORKING, DISKS, SECURITY, MANAGEMENT, SOLE-TENANCY

Your free trial credit will be used for this VM instance. [GCP Free Tier](#)

CREATE

CANCEL

EQUIVALENT COMMAND LINE

Monthly estimate

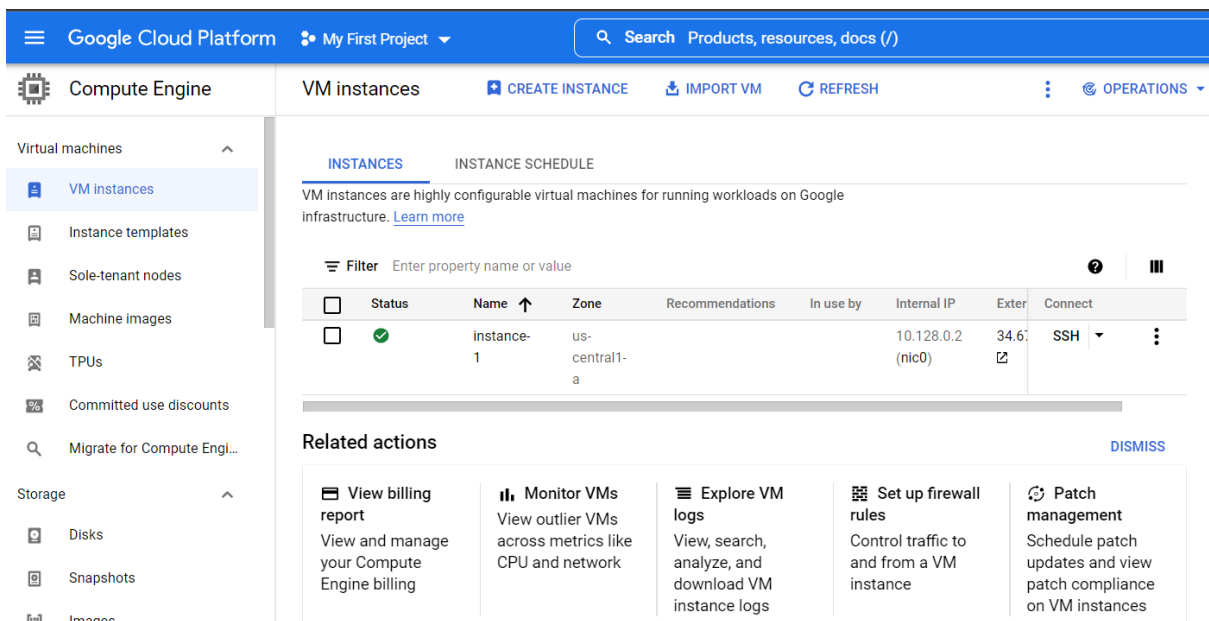
\$25.46

That's about \$0.03 hourly

Pay for what you use: No upfront costs and per second billing

DETAILS

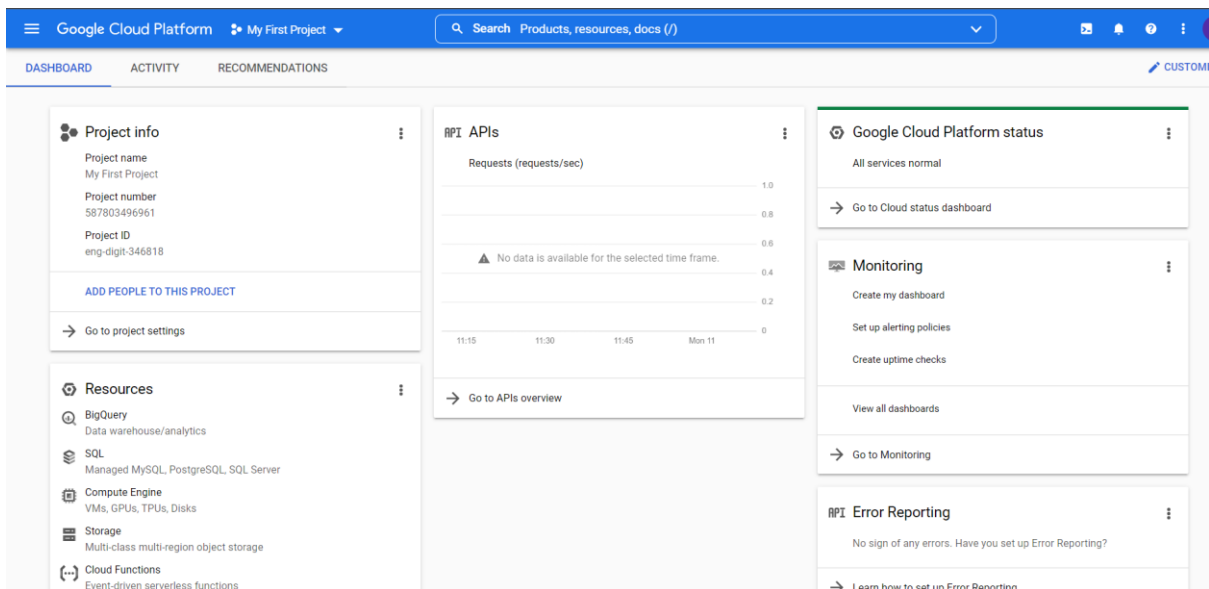
2. Instance_created.png:



The screenshot shows the Google Cloud Platform interface for the 'My First Project'. The left sidebar lists various services under 'Virtual machines' and 'Storage'. The main content area is titled 'VM instances' and includes buttons for 'CREATE INSTANCE', 'IMPORT VM', and 'REFRESH'. Below this, there are tabs for 'INSTANCES' and 'INSTANCE SCHEDULE'. A table lists the VM instances, showing one instance named 'instance-1' with a status of 'Running' (green checkmark). The table columns include Status, Name, Zone, Recommendations, In use by, Internal IP, External IP, and Connect. Below the table, there are 'Related actions' such as 'View billing report', 'Monitor VMs', 'Explore VM logs', 'Set up firewall rules', and 'Patch management'.

Status	Name	Zone	Recommendations	In use by	Internal IP	External IP	Connect
Running	instance-1	us-central1-a			10.128.0.2 (nic0)	34.63.24.102	SSH

3. Project_info.png:



The screenshot shows the Google Cloud Platform 'Project info' page for 'My First Project'. The page displays project details such as Project name, Project number, and Project ID. It also lists resources like BigQuery, SQL, Compute Engine, Storage, and Cloud Functions. The right sidebar shows the 'Google Cloud Platform status' as 'All services normal' and provides links to the Cloud status dashboard, Monitoring, and Error Reporting.

Project info

- Project name: My First Project
- Project number: 587803496961
- Project ID: eng-digit-346818

Resources

- BigQuery: Data warehouse/analytics
- SQL: Managed MySQL, PostgreSQL, SQL Server
- Compute Engine: VMs, GPUs, TPUs, Disks
- Storage: Multi-class multi-region object storage
- Cloud Functions: Event-driven serverless functions

Google Cloud Platform status

All services normal

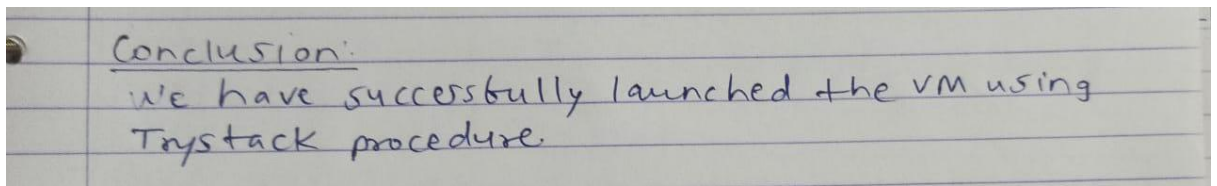
Monitoring

- Create my dashboard
- Set up alerting policies
- Create uptime checks

Error Reporting

No sign of any errors. Have you set up Error Reporting?

Conclusion:



Conclusion:
we have successfully launched the VM using
Trystack procedure.