Task 1:

Create and Manage Cloud Resources

- a) Tour of Google Cloud
- b) Creating a Virtual Machine
- c) Getting Started with Cloud Shell and g cloud

a) Tour of Google Cloud

1. Sign Up for Google Cloud

Go to the Google Cloud Console

https://console.cloud.google.com/

If you don't have an account, sign up for one. Google offers a free tier with credits for new users.

Once signed in, you'll be in the Google Cloud Console, which is the web-based management interface for Google Cloud.

2. Explore the Google Cloud Console

Navigation Menu: Located on the top left (three horizontal lines), this menu gives you access to all GCP services such as Compute Engine, Cloud Storage, BigQuery, etc.

Dashboard: The main dashboard provides an overview of your resources, billing information, and project information.

Projects: GCP organizes resources under projects. You can create multiple projects to manage different environments or applications.

IAM & Admin: Manage user permissions and access control here.

Billing: Monitor your usage and costs associated with your projects.

APIs & Services: Manage API usage, enable or disable APIs, and access API credentials.

X Google Cloud

- Cloud overview >
- Solutions >
- PINNED PRODUCTS
- API APIs & Services ->
- **■** Billing
- **№** Marketplace
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 Vertex AI

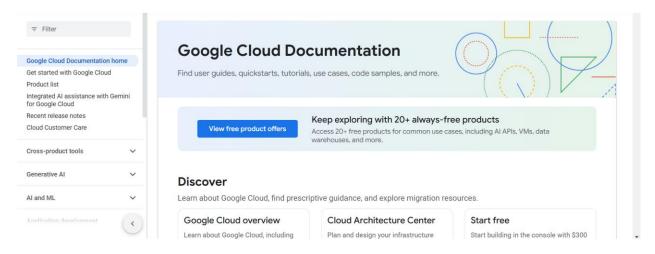
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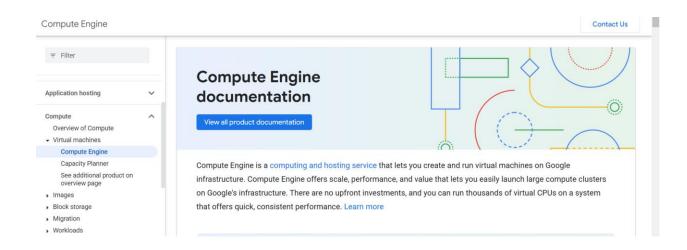
 →
- Compute Engine →

3. Explore Documentation and Support

Access the documentation through the "Documentation" link in the console. This is a valuable resource for learning more about specific services.

The "Help" option offers various support options, including community forums and direct support (depending on your support plan).





b) Creating a Virtual Machine

Navigate to Compute Engine

In the Google Cloud Console, click on the Navigation Menu (top left).

Select Compute Engine > VM instances.

2. Create a New VM Instance

Click on the Create Instance button.

Name your instance something identifiable (e.g., my-vm-instance).

Region and Zone: Select a region close to your user base or requirements. The zone is a specific data center within a region.

Machine Configuration:

Choose a machine family (e.g., General-purpose).

Select a machine type (e.g., e2-medium with 2 vCPUs and 4 GB RAM).

Boot Disk:

The default is a Debian Linux image, but you can choose other operating systems.

Set the disk size (default is 10 GB).

Firewall: You can allow HTTP and HTTPS traffic if you plan to run a web server.

Identity and API access: Choose default service account or a specific service account for the VM.

Click Create to launch your virtual machine.

3. Accessing Your VM

Once the VM is created, it will appear in the VM instances list.

Click on the SSH button next to your VM to open a terminal session directly in your browser.

4. Stop/Delete VM (When Not in Use)

To avoid charges, remember to stop or delete your VM when it's not needed. You can do this from the VM instances page by clicking on the three-dot menu next to your instance.

c) Getting Started with Cloud Shell and gcloud

1. Open Cloud Shell

In the Google Cloud Console, look for the Cloud Shell icon in the upper right

corner (a terminal icon).

Click the icon to open a Cloud Shell session. This gives you access to a Debianbased

shell with gcloud and other tools pre-installed.

Cloud Shell is free to use, with a small amount of persistent storage.

2. Initialize the gcloud CLI

Cloud Shell will automatically authenticate with your Google account and set up the gcloud CLI.

You can check your gcloud configuration by running:
gcloud config list

If needed, set the project you're working on:
gcloud config set project [PROJECT_ID]

3. Basic gcloud Commands

List Available Zones:

gcloud compute zones list