

GOOGLE CLOUD PLATFORM

We'll go over how to set up a GCP project, billing, and create GPU-powered virtual machines in this guide.

First create a project,


The below link helps you to create a project

[Creating and managing projects | Resource Manager Documentation | Google Cloud](#)

Google Cloud Platform

Select a project ▼

Search Products, resources, docs (/)


 Compute Engine

Create a project


The Google Cloud Platform uses projects to manage resources. To use Google Compute Engine, create your first project.


Select a project

Create a project ▼

Project name 

My Project

Your project ID will be prefab-kit-344301  [Edit](#)

Organization 


iith.ac.in ▼

Terms of Service

☒ I agree to the [Google Cloud Platform Terms of Service](#), and the terms of service of any applicable services and APIs.

Country of residence


United States ▼

 Google Compute Engine requires billing to be enabled. You will be guided to set up your billing profile in the next step. [Pricing detail](#)

Create

You will be redirected to the billing profile and looks as shown below

Step 1 of 3 Account Information



Shravya Chillamcherla
shravyachillamcherla1@gmail.com

SWITCH ACCOUNT

Country

United States

What best describes your organization or needs?

Please select

Class project / assignment

Terms of Service

☒ I have read and agree to the [Google Cloud Platform Free Trial Terms of Service](#).

Required to continue

CONTINUE

Access to all Cloud Platform Products

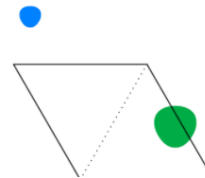
Get everything you need to build and run your apps, websites and services, including Firebase and the Google Maps API.

\$300 credit for free

Put Google Cloud to work with \$300 in credit to spend over the next 90 days.

No autocharge after free trial ends

We ask you for your credit card to make sure you are not a robot. You won't be charged unless you manually upgrade to a paid account.



Choose organization as Class project/ Assignment.

In the next step, you need to verify the payment method as shown below.

Choose the account type as Individual and give your payment method details.

Account type

Individual

Only Business accounts can have multiple users. You cannot change the account type after signing up. In some countries, this selection affects your tax options.
[Learn more](#)

Payment method

Add credit or debit card

#

Card number

MM / YY

CVC

Card number is required

Cardholder name

Shravya Chillamcherla

Billing address

START MY FREE TRIAL

Access to all Cloud Platform Products

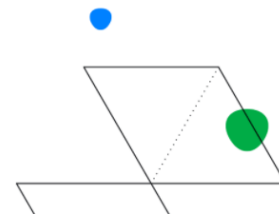
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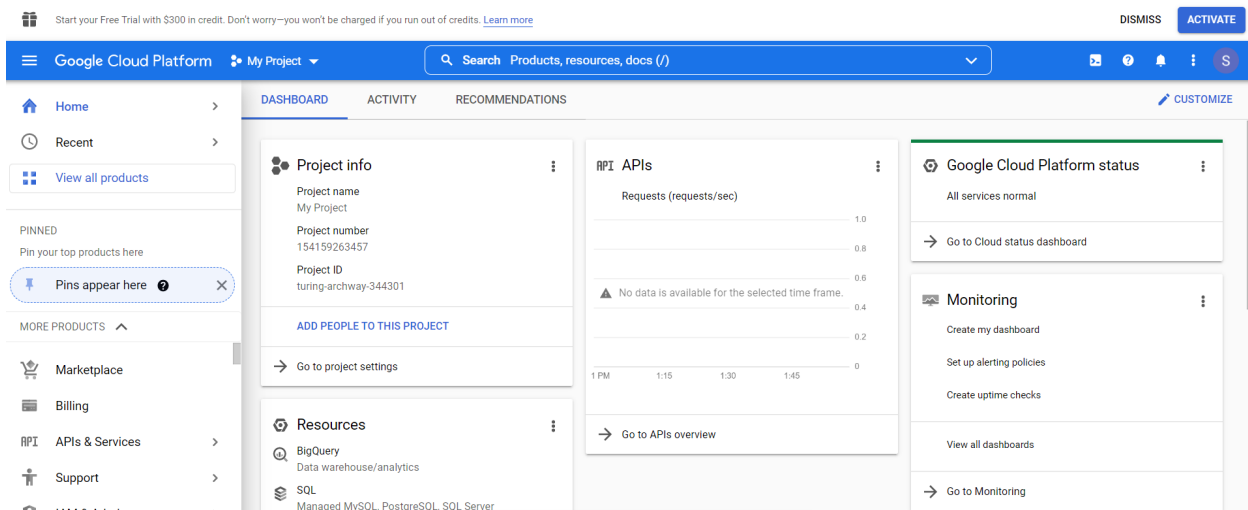
If you are using the GCP platform for the first time, it provides you a free credit of \$300.

Your [Free Trial ends](#) when one of the following occurs:

- You've spent the \$300 in credits.
- 90 days have elapsed since you signed up.

To activate your free credit

- Sign in to the google console <https://console.cloud.google.com/>
- Look for the **Free trial status** banner at the top of the page.
- Click **Activate**.



This link gives you more information on google cloud free-tier.

<https://cloud.google.com/free/docs/gcp-free-tier>

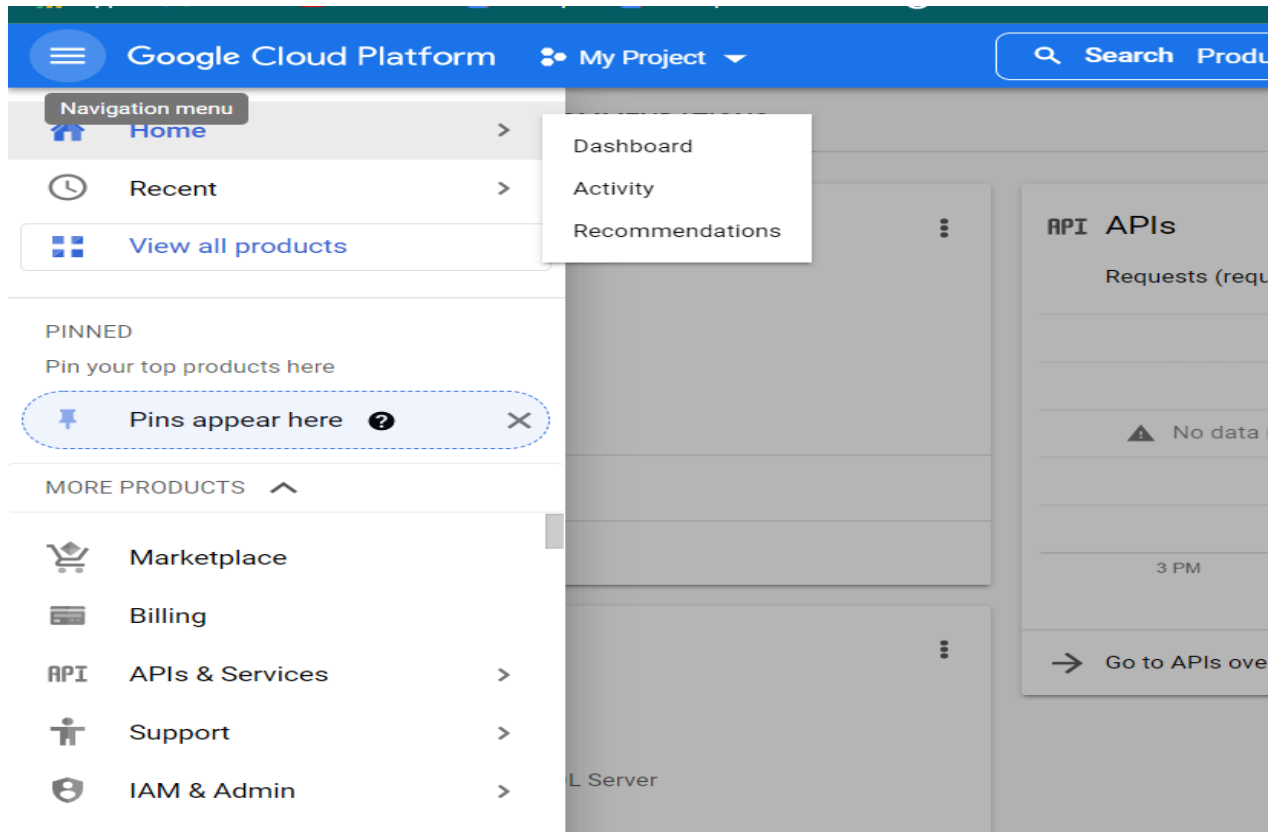
In order to create VM instances with GPU, you need to update the free-tier account to paid account

NOTE :

You can upgrade to a paid account at any time during the trial. After you have upgraded, you can still use any remaining credits (within the 90-day period). You will be charged after completely using \$ 300 credits or after the 90-day free period.

You can upgrade from the free trial to a paid Cloud Billing account through the Google Cloud Console.

In the Navigation bar, at top left , you can see an option billing . Click on it.



You can either an existing billing account or manage billing accounts for the project which you created.

After adding billing details, you can find the details as shown below.

Billing


MY BILLING ACCOUNTS							
MY PROJECTS							
CREATE ACCOUNT							
Filter Status : Active Enter property name or value							
<input type="checkbox"/>	Billing account name	Billing account ID	Status	Last 30 days' spend	Account type	Organization	Health checks
<input type="checkbox"/>	My Billing Account	010421-5ABFC6-8E2C35	Active	\$0	Direct	—	1


The below two links can help you understand on how to upgrade and status of the billing account


<https://cloud.google.com/free/docs/gcp-free-tier#how-to-upgrade>


<https://cloud.google.com/free/docs/gcp-free-tier#confirm-status-of-account>


Click on the compute Engine in the resources tab


 Google Cloud Platform

 My Project 67496

 Search Products, r

 Home >


 Recent >


 View all products


PINNED


Pin your top products here


MORE PRODUCTS ^

 Marketplace

 Billing

 APIs & Services >

 Support >

 IAM & Admin >

DASHBOARD

ACTIVITY

RECOMMENDATIONS

Project name

My Project 67496

Project number

1047619417779


Project ID


gold-doodad-273903

ADD PEOPLE TO THIS PROJECT


→ Go to project settings

Resources




 BigQuery

Data warehouse/analytics

 SQL

Managed MySQL, PostgreSQL, SQL Server

 Compute Engine

VMs, GPUs, TPUs, Disks

Choose the billing type for your project

Set the billing account for project "My Project"

Please select a **Google Cloud Platform** billing account to support this project. Some billing accounts may not be available. [Learn more](#)

Billing account *

My Billing Account


▼ ?

Any charges for this project will be billed to the account you select here.

CANCEL

SET ACCOUNT

Click enable



Compute Engine API

Google Enterprise API

Compute Engine API

ENABLE

TRY THIS API [↗](#)

OVERVIEW

DOCUMENTATION

SUPPORT

Click on create instance

Filter Enter property name or value



Status

Name ↑

Zone

Recommendations

In use by

Internal IP

External IP

Connect



VM Instances

Compute Engine lets you use virtual machines that run on Google's infrastructure. Create micro-VMs or larger instances running Debian, Windows, or other standard images. Create your first VM instance, import it using a migration service, or try the quickstart to build a sample app.

CREATE INSTANCE

TAKE THE QUICKSTART

Creating VM instances with GPU :

Give the instance name , region and zone. In the **Machine configuration** section, select the **GPU** machine family, you can choose the NVIDIA Tesla P4 as it costs less. Select the number of GPUs according to the requirement.

The below link has regions and zones with GPUs

<https://cloud.google.com/compute/docs/gpus/gpu-regions-zones>

Name *
instance-1

Labels ?
[+ ADD LABELS](#)

Region *
us-central1 (Iowa)
Region is permanent

Zone *
us-central1-c
Zone is permanent

Monthly estimate
\$334.87
That's about \$0.46 hourly
You have \$300.00 free trial credits remaining
Pay for what you use: No upfront costs and per second billing
[▼ DETAILS](#)

Machine configuration

Machine family

[GENERAL-PURPOSE](#) [COMPUTE-OPTIMIZED](#) [MEMORY-OPTIMIZED](#) [GPU](#)

Optimized for machine learning, high performance computing, and visualization workloads

GPU type
NVIDIA Tesla P4

Number of GPUs
1

☐ Enable Virtual Workstation (NVIDIA GRID)

Series

N1
Powered by Intel Skylake CPU platform or one of its predecessors

Machine type
n1-standard-1 (1 vCPU, 3.75 GB memory)

1. In the **Boot disk** section, click **Change**. This opens the **Boot disk configuration** page.
2. On the **Boot disk configuration** page, do the following:
 1. On the **Public images** tab, choose a [supported Compute Engine image](#) or [Deep Learning VM image](#).
 2. Specify a boot disk size of at least 40 GB.
 3. To confirm your boot disk options, click **Save**.

Boot disk

Select an image or snapshot to create a boot disk; or attach an existing disk. Can't find what you're looking for? Explore hundreds of VM solutions in [Marketplace](#)

PUBLIC IMAGES

CUSTOM IMAGES

SNAPSHOTS

EXISTING DISKS

Operating system

Debian

Version *

Debian GNU/Linux 10 (buster)

amd64 built on 20220310, supports Shielded VM features



The current selected image requires you to install NVIDIA CUDA stack manually. Click the button below to try the "GPU-optimized Debian 10 with CUDA 11.0" image to avoid the additional work at no additional cost.

[SWITCH IMAGE](#)

Boot disk type *

Balanced persistent disk

Size (GB) *

40

▼ [SHOW ADVANCED CONFIGURATION](#)

SELECT

CANCEL

To create and start the VM, click **Create**.

More information can be found here :

<https://cloud.google.com/compute/docs/gpus/create-vm-with-gpus#create-new-gpu-vm-a100>

Installing GPU drivers on VMs

One way to install the NVIDIA driver on most VMs is to install the [NVIDIA CUDA Toolkit](#).

To install the NVIDIA toolkit, complete the following steps:

1. Select a [CUDA toolkit](#) that supports the [minimum driver](#) that you need.
2. [Connect to the VM](#) where you want to install the driver.
3. On your VM, download and install the CUDA toolkit. The installation guide for each recommended toolkit is found in the following table. Before you install the toolkit, make sure you complete the pre-installation steps found in the installation guide.

GPU type	Minimum recommended CUDA toolkit version	Installation instructions
<ul style="list-style-type: none"> • NVIDIA A100 	<ul style="list-style-type: none"> • Linux: CUDA Toolkit 11.1 • Windows: CUDA Toolkit 11.2 	<ul style="list-style-type: none"> • Linux: CUDA 11.1 installation guide • Windows: CUDA 11.2 installation guide
<ul style="list-style-type: none"> • NVIDIA T4 • NVIDIA V100 • NVIDIA P100 • NVIDIA P4 • NVIDIA K80 		

More information can be found here

<https://cloud.google.com/compute/docs/gpus/install-drivers-gpu>

NOTE : Make sure to turn off your VM when not using it. This will reduce the billing.

If you aren't able to find resources in any regions and zones, you can create a reservation by following the steps in this link :

<https://cloud.google.com/compute/docs/instances/reserving-zonal-resources>