



## Deep Learning Bootcamp

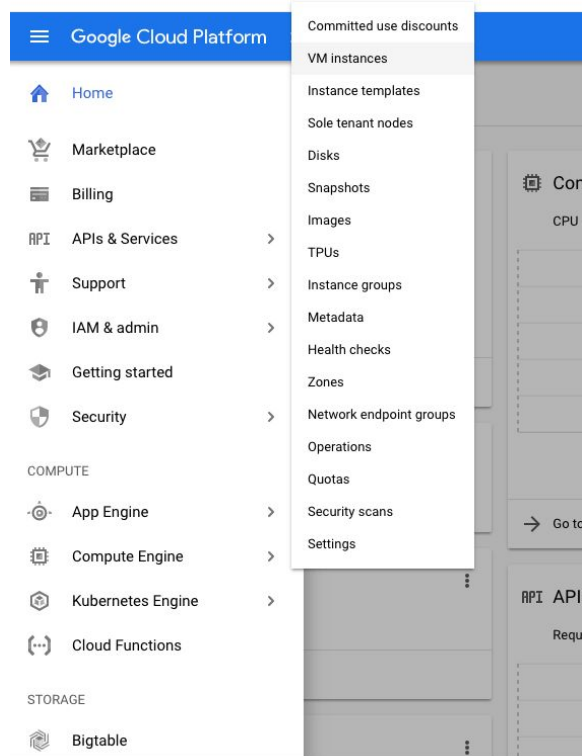
### Guide to create a Google Cloud Platform instance

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# Creating an instance

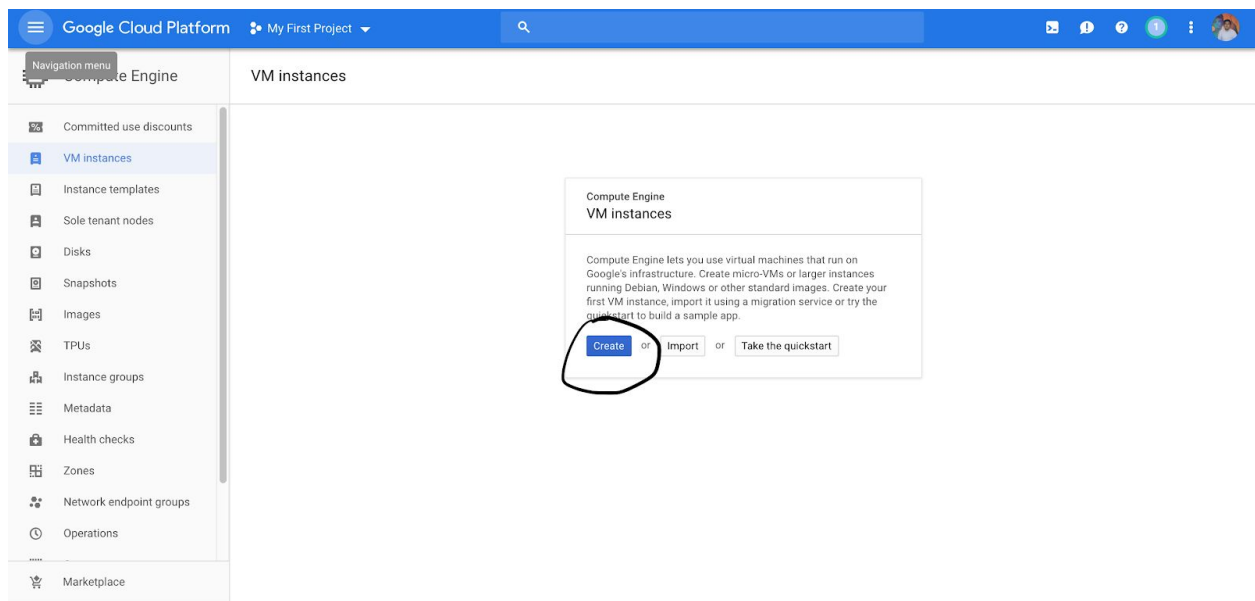
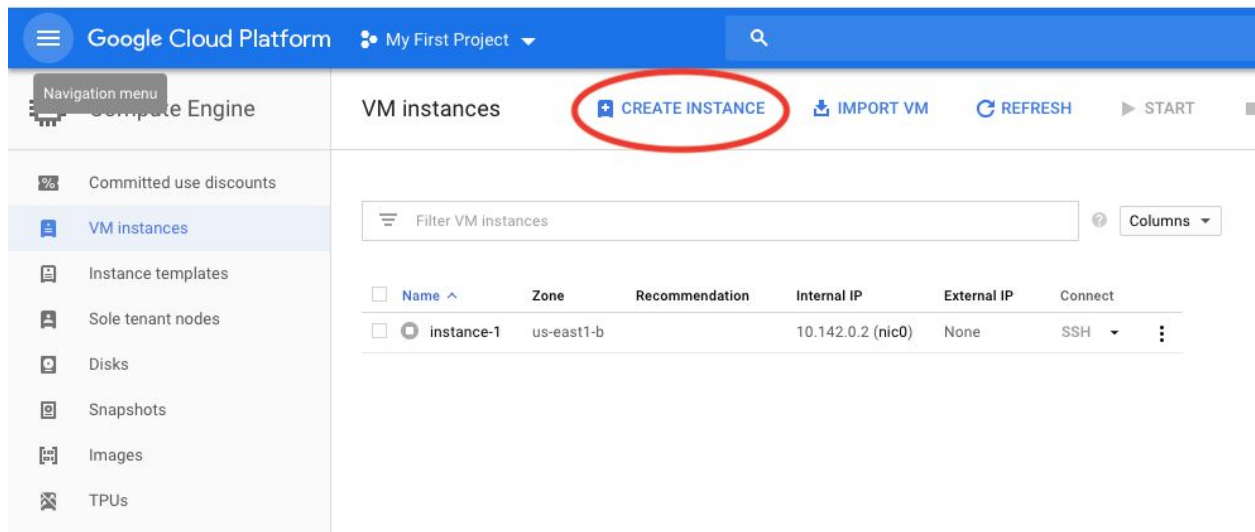
Once you have signed up for Google Cloud Platform and created your first project, follow the steps given below to start an instance which will be required for Deep Learning Bootcamp.

## 1. Navigate to Menu >> Compute Engine >> VM Instances as shown in the image below



<https://console.cloud.google.com/compute/instances?organizationId=0&project=focused-actor-219510>

2. Post which you will see a screen similar to the following. Over here I already have an instance made which is being displayed. Click on the create instance button as shown





Or you could see the above screen. You can create from here also.


### 3. You will be directed to the following screen

[←](#) 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

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

**Name** ⓘ

**Region** ⓘ **Zone** ⓘ  

us-east1 (South Carolina) us-east1-b


**Machine type** ⓘ  
Customize to select cores, memory and GPUs.  

1 vCPU 3.75 GB memory [Customize](#)

  
[Upgrade your account](#) to create instances with up to 96 cores

**Container** ⓘ  
☐ Deploy a container image to this VM instance. [Learn more](#)

**Boot disk** ⓘ  

 New 10 GB standard persistent disk  
Image  
Debian GNU/Linux 9 (stretch) [Change](#)

**Identity and API access** ⓘ  

**Service account** ⓘ  
Compute Engine default service account

**Access scopes** ⓘ  
☒ Allow default access  
☐ Allow full access to all Cloud APIs  
☐ Set access for each API

On this screen, select the options as follows

- Name: name the instance as per your liking
- Region: asia-east1 (Taiwan)
- Zone: asia-east1-a
- Machine type: click on customize and configure it as shown in the following screen

## Machine type

Customize to select cores, memory and GPUs.

**Cores**

Basic view

8 vCPU 1 - 8

**Memory**

32 GB 7.2 - 52

☐ Extend memory ?

**CPU platform** ?

Intel Skylake or later

**GPUs**

The number of GPU dies is linked to the number of CPU cores and memory selected for this instance. For this machine type, you can select no fewer than 1 GPU die.  
[Learn more](#)

**Number of GPUs**

1

**GPU type**

NVIDIA Tesla P100

Machines with GPUs can't migrate on host maintenance

[Choosing a machine type](#) ↗


[Upgrade your account](#) to create instances with up to 96 cores

- Boot Disk: click on change and configure to Ubuntu 16.04 LTS with disk space as 40GB. The configuration should look as follows


## Boot disk

Select an image or snapshot to create a boot disk; or attach an existing disk

[OS images](#) [Application images](#) [Custom images](#) [Snapshots](#) [Existing disks](#)


 Shielded VM is in Beta. [Learn more](#)

[Dismiss](#)

☐ Show images with Shielded VM features 

- ☐ Debian GNU/Linux 9 (stretch)  
amd64 built on 20181011
- ☐ CentOS 6  
x86\_64 built on 20181011
- ☐ CentOS 7  
x86\_64 built on 20181011
- ☐ CoreOS alpha 1939.0.0  
amd64-usr published on 2018-10-24
- ☐ CoreOS beta 1911.2.0  
amd64-usr published on 2018-10-24
- ☐ CoreOS stable 1855.5.0  
amd64-usr published on 2018-10-24
- ☐ Ubuntu 14.04 LTS  
amd64 trusty image built on 2018-10-22
- ☒ Ubuntu 16.04 LTS  
amd64 xenial image built on 2018-10-23
- ☐ Ubuntu 18.04 LTS  
amd64 bionic image built on 2018-10-24
- ☐ Ubuntu 18.10  
amd64 cosmic image built on 2018-10-18
- ☐ Ubuntu 16.04 LTS Minimal  
amd64 xenial minimal image built on 2018-10-22
- ☐ Ubuntu 18.04 LTS Minimal  
amd64 bionic minimal image built on 2018-10-23
- ☐ Ubuntu 18.10 Minimal  
amd64 cosmic minimal image built on 2018-10-18
- ☐ Container-Optimized OS 69-10895.85.0 stable

Can't find what you're looking for? Explore hundreds of VM solutions in [Marketplace](#)

Boot disk type 

Standard persistent disk

Size (GB) 

40

[Select](#)

[Cancel](#)

- Firewall: Check both the options as follows

**Identity and API access** ?

**Service account** ?

Compute Engine default service account

**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

- Click on management and security, navigate to disks and uncheck the option **Delete boot disk when instance is deleted**

Management Security **Disks** Networking Sole Tenancy

**Boot disk**

**Deletion rule**

☐ Delete boot disk when instance is deleted

**Encryption**

Data is encrypted automatically. Select an encryption key management solution.

☒ Google-managed key  
No configuration required

☐ Customer-managed key  
Manage via Google Cloud Key Management Service

☐ Customer-supplied key  
Manage outside of Google Cloud

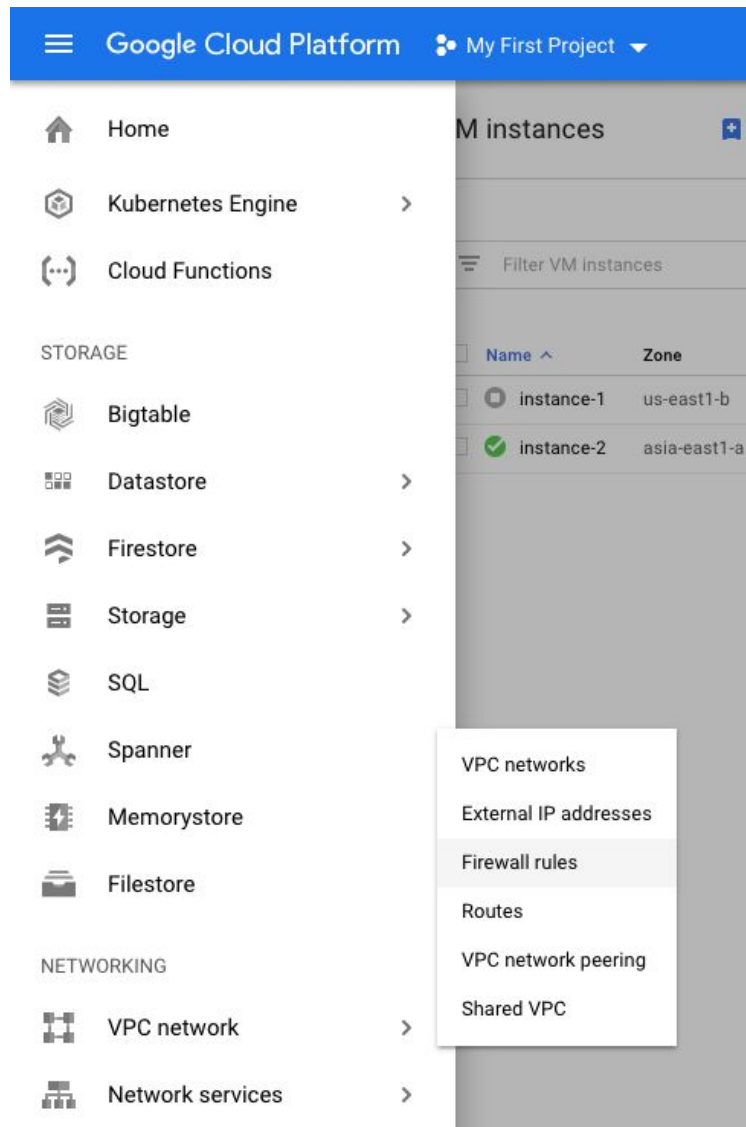
- Click on the **Create** button and your it would take a few minutes to start your instance. When you instance is ready it would show a green tick beside the same as shown below

<input type="checkbox"/> Name ^	Zone	Recommendation	Internal IP	External IP	Connect
<input type="checkbox"/> instance-1	us-east1-b		10.142.0.2 (nic0)	None	SSH ▾ ⋮
<input checked="" type="checkbox"/> instance-2	asia-east1-a		10.140.0.2 (nic0)	35.201.208.31 ↗	SSH ▾ ⋮

## Setting the firewall rule

Now that your instance is created we need to set up a firewall rule to open port 8888 so that we can access the Jupyter Notebook from the same.

Navigate to menu >> VPC network >> Firewall rules. You should see a screen as follows. Click on the Create Firewall Rule button as shown





Google Cloud Platform My First Project

VPC network

Firewall rules

[+ CREATE FIREWALL RULE](#) [REFRESH](#) [DELETE](#)

Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. [Learn more](#)

Note: App Engine firewalls are managed [here](#).

Filter resources

Name	Type	Targets	Filters	Protocols / ports	Action	Priority	Network
<input type="checkbox"/> default-allow-http	Ingress	http-server	IP ranges: 0.0.0.0/0	tcp:80	Allow	1000	default
<input type="checkbox"/> default-allow-https	Ingress	https-server	IP ranges: 0.0.0.0/0	tcp:443	Allow	1000	default
<input type="checkbox"/> default-allow-icmp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	icmp	Allow	65534	default

On the following screen, you need to change the following 4 settings

**Name:** deep-learning

**Source IP ranges:** 0.0.0.0/0

**Target tags:** deep

**Protocols and ports:** Allow all

Click on the create button and the rule should be created

[←](#) Create a firewall rule

Name [?](#)

deep-learning

Description (Optional)

Logs

Turning on firewall logs can generate a large number of logs which can increase costs in Stackdriver. [Learn more](#)

☐ On

☒ Off

Network [?](#)

default

Priority [?](#)

Priority can be 0 - 65535 [Check priority of other firewall rules](#)

1000

Direction of traffic [?](#)

☒ Ingress

☐ Egress

Action on match [?](#)

☒ Allow

☐ Deny

Targets [?](#)

Specified target tags

Target tags

Source filter [?](#)

IP ranges

Source IP ranges [?](#)

## Starting the instance terminal

Now you are all set to start the terminal and start working. Navigate to VM instances as shown in the first part, where your instance is up and running

Click on the SSH button under Connect column for the running instance as shows below. A new tab with the terminal shall open up for you

<input type="checkbox"/> Name ^	Zone	Recommendation	Internal IP	External IP	Connect
<input type="checkbox"/>  instance-1	us-east1-b		10.142.0.2 (nic0)	None	SSH ▾ ⋮
<input type="checkbox"/>  instance-2	asia-east1-a		10.140.0.2 (nic0)	35.201.208.31 ↗	SSH ▾ ⋮

You can start working on the terminal now.

## Stopping the instance

This is one of the most important steps. **Never forget to stop your instance once the work is done as a running instance will incur charges on your account.**

The steps to stop the instance are

- Exit the terminal
- Click on the menu of running instance and select stop

<input type="checkbox"/> Name ^	Zone	Recommendation	Internal IP	External IP	Connect
<input type="checkbox"/>  instance-1	us-east1-b		10.142.0.2 (nic0)	None	SSH ▾ ⋮
<input type="checkbox"/>  instance-2	asia-east1-a		10.140.0.2 (nic0)	35.201.208.31 ↗	SSH ▾ ⋮

Start

Stop

Reset

Delete

New instance group

View network details

View logs

Once you are finished working with the instance completely kindly delete the instance and you might still be charged for a stopped instance for disk space, etc.