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← → C 🔒 console.cloud.google.com/home/dashboard?project=robotic-shelter-264402&authuser=5\_&\_ga=2.211044433.596900758.1582857324-2008027363.157...

Google Cloud Platform My First Project

Home Compute Engine BigQuery AI Platform

Dashboard AI Hub Data Labeling Notebooks Jobs Models

Marketplace Billing APIs & Services Support IAM & Admin Getting started Security

App Engine past 7 days Cloud Trace

Compute Engine Kubernetes Engine Cloud Functions

Compute Engine

CPU (%)

No data is available for the selected time frame.

1 PM 1:15 1:30 1:45

Go to Compute Engine

API APIs

Requests (requests/sec)

No data is available for the selected time frame.

Cloud Status

All services normal

Go to Cloud status dashboard

Billing

Estimated charges -USD \$0.30  
For the billing period Feb 1 – 28, 2020

View detailed charges

Error Reporting

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

Learn how to set up Error Reporting

News

Google named a Leader in the Gartner 2020 Magic Quadrant for Cloud AI Developer Services  
23 hours ago

Dreaming big, traveling far, and expanding access to technology  
1 day ago

region, now open

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

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Safari icon

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Cloud Functions icon

Chrome icon

Edge icon

PowerShell icon

OneDrive icon

File Explorer icon

Task View icon

File icon

Cloud Storage icon

Cloud Functions icon

PowerShell icon

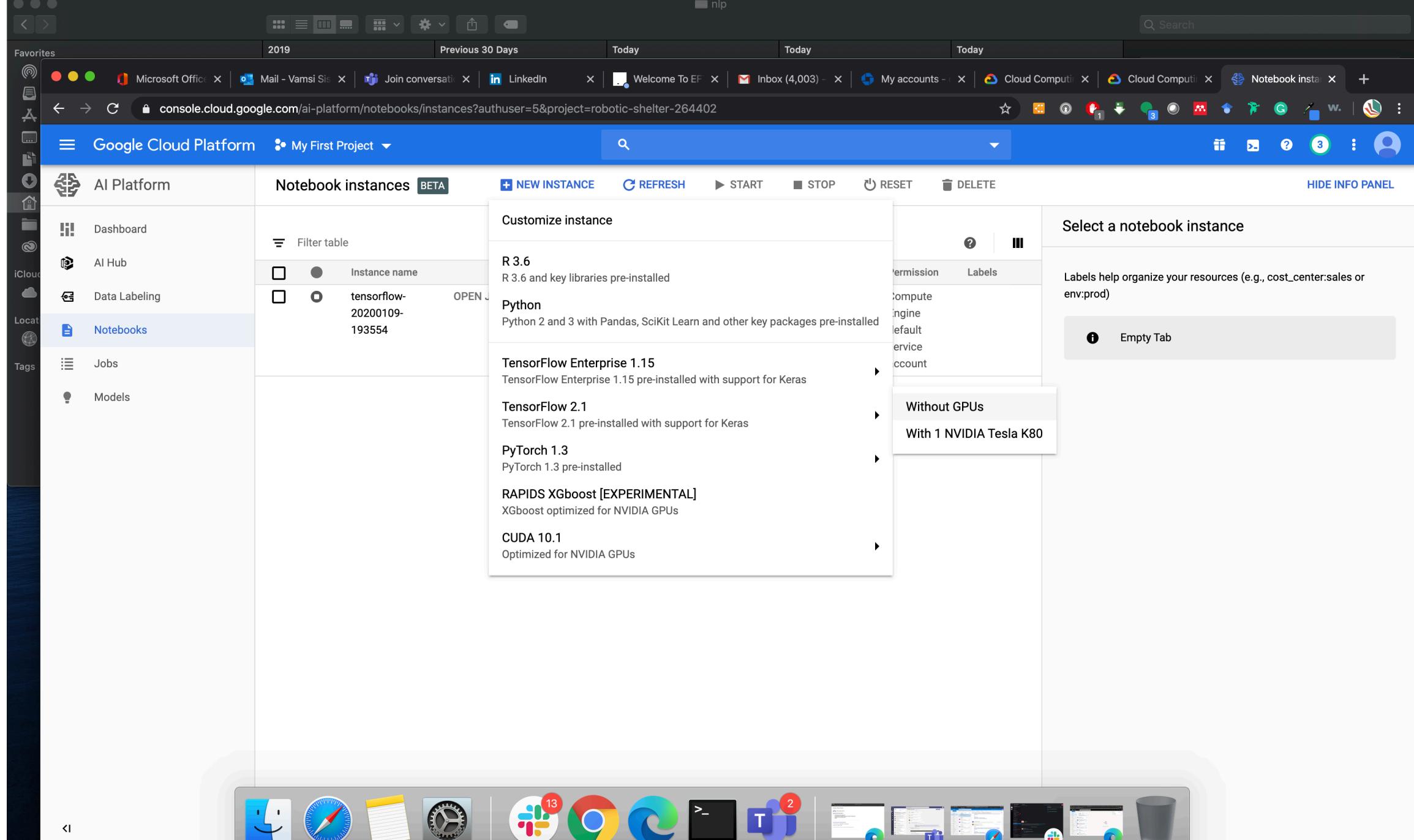
File icon

Cloud Storage icon

# Adv Docker Running Docker Cluster on GCP

Vamsi Sistla

Feb 2020



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Google Cloud Platform My First Project

AI Platform Notebook instances BETA

Dashboard AI Hub Data Labeling Notebooks Jobs Models

New notebook instance

Instance name:

Environment:

Image: TensorFlow 2.1 (with Intel® MKL-DNN/MKL and CUDA 10.1)  
Includes Keras and other key packages for handling data, such as scikit-learn, pandas, and nltk.

Machine configurations:

Region and zone: us-west1-b  
Machine type: 4 vCPUs, 15 GB RAM  
Boot disk: 100 GB Disk

Networking:

Subnetwork:

External IP: Ephemeral(Automatic)

Permission:

Compute Engine default service account

Estimated cost:

\$99.89 monthly, \$0.137 hourly

CUSTOMIZE CANCEL CREATE

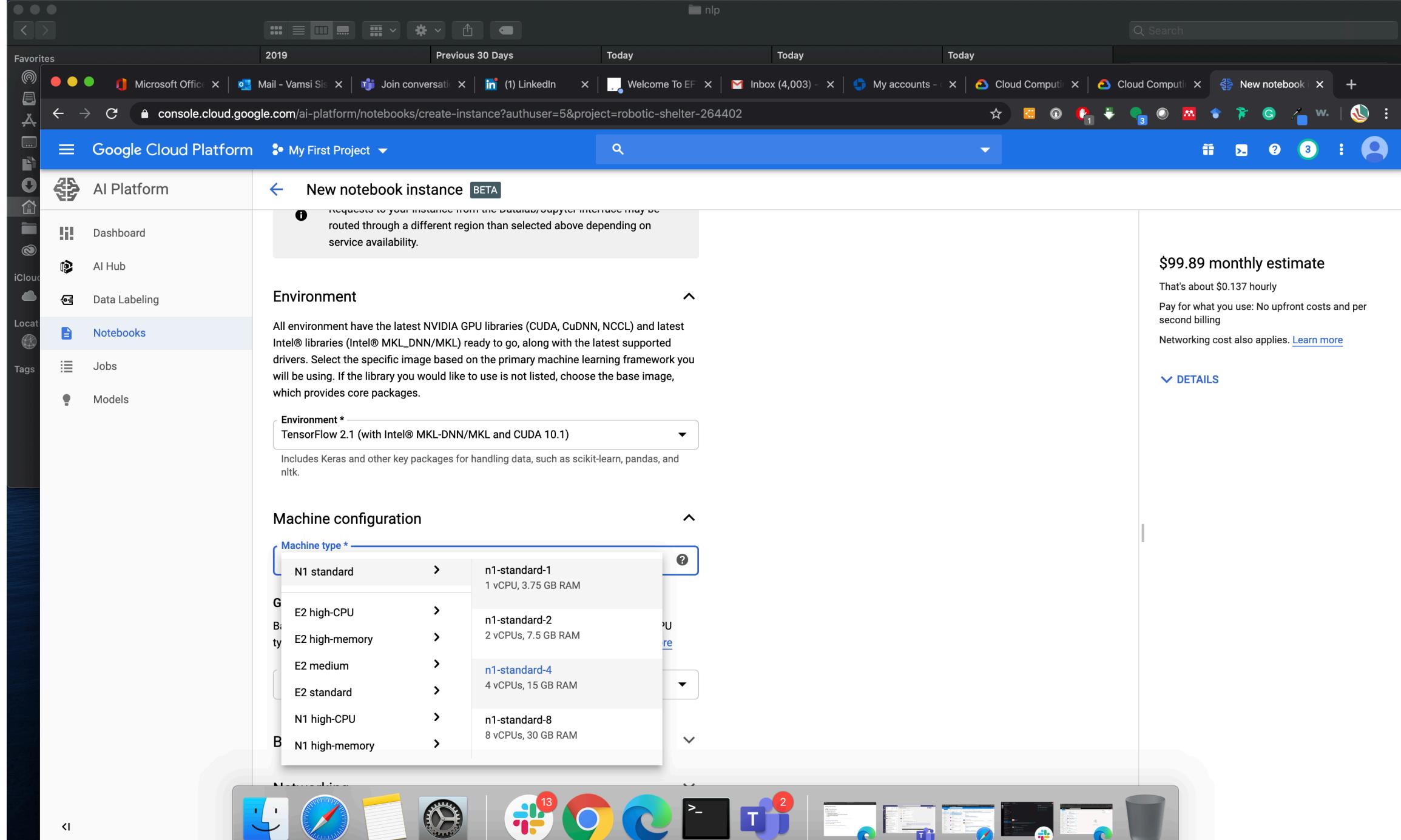
DELETE HIDE INFO PANEL

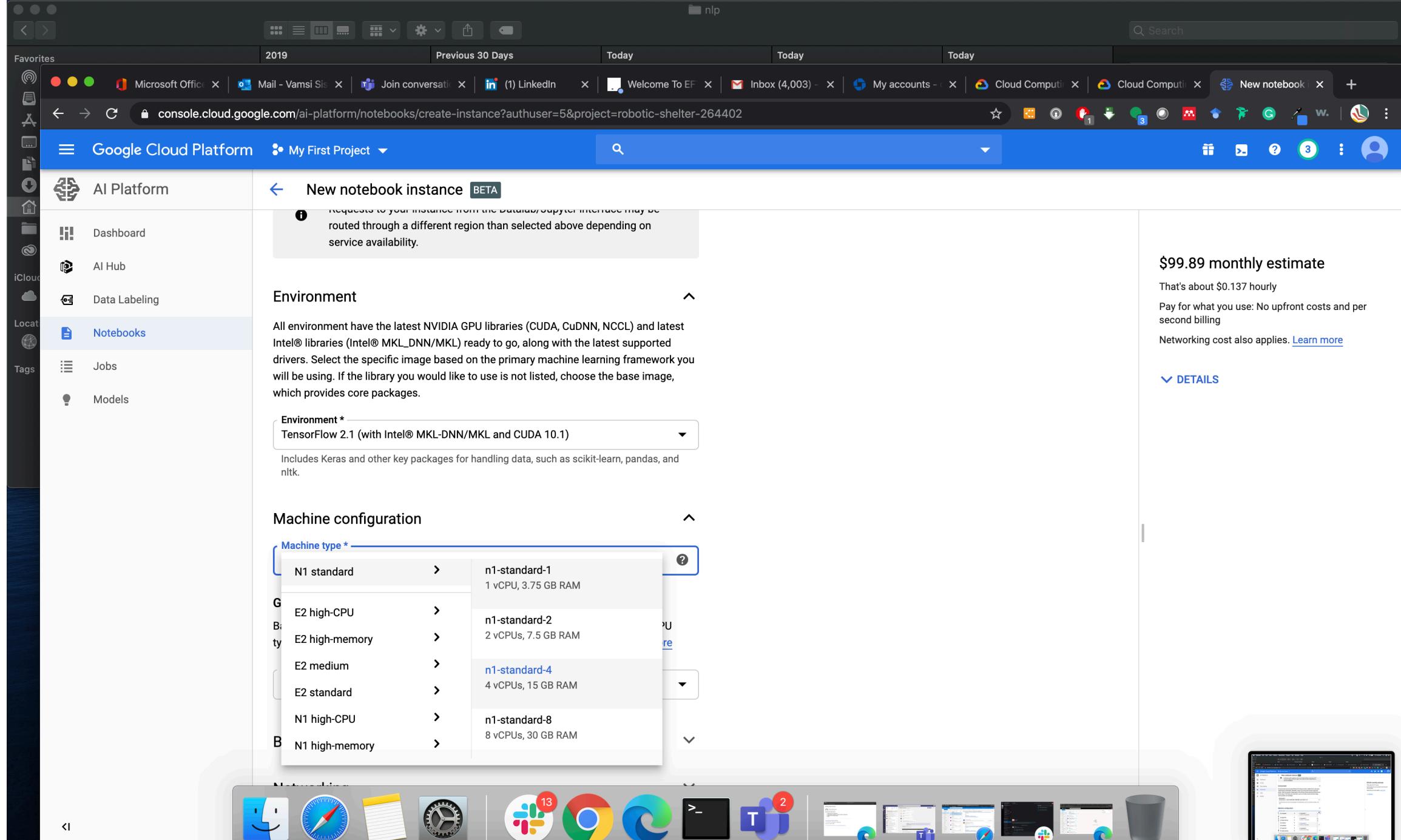
Select a notebook instance

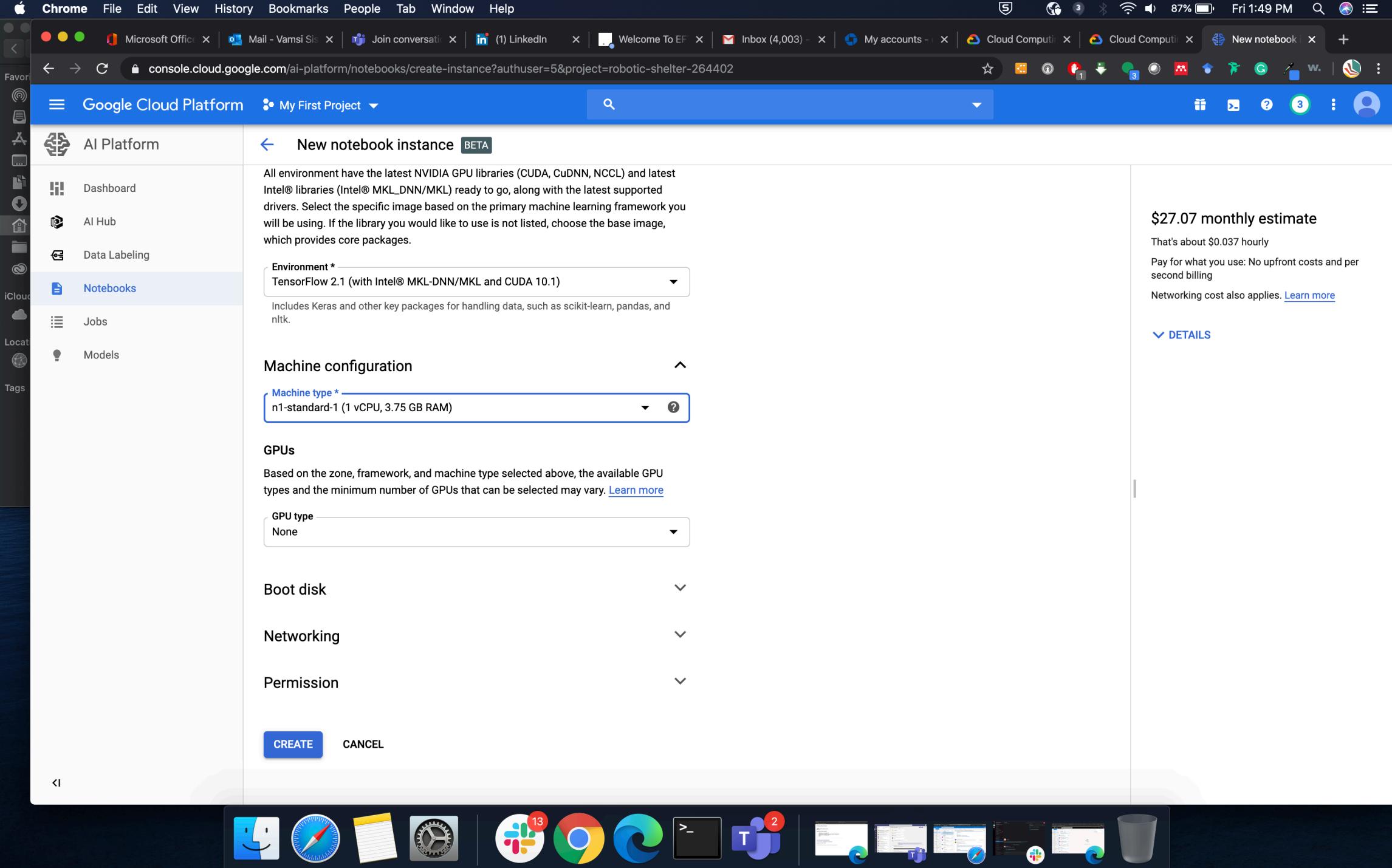
Labels help organize your resources (e.g., cost\_center:sales or env:prod)

Empty Tab









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console.cloud.google.com/ai-platform/notebooks/instances?authuser=5&project=robotic-shelter-264402

Google Cloud Platform My First Project

AI Platform Notebook instances BETA NEW INSTANCE REFRESH START STOP RESET DELETE HIDE INFO PANEL

Dashboard AI Hub Data Labeling Notebooks Jobs Models

Filter table

Instance name	Region	Environment	Machine type	GPUs	Permission	Labels
tensorflow-20200109-193554	OPEN JUPYTERLAB us-west1-b	TensorFlow:2.0	4 vCPUs, 15 GB RAM	None	Compute Engine default service account	No
unify-docker	OPEN JUPYTERLAB us-west1-b	TensorFlow:2.0	1 vCPU, 3.75 GB RAM	None	Compute Engine default service account	No

Select a notebook instance

Labels help organize your resources (e.g., cost\_center:sales or env:prod)

Empty Tab



## What do we need to do make a web app serve pages from this VM?

## ## Firewall rules

## Lets setup firewall rules in GCP so that your vm can accept  
HTTP traffic

## Under details tab in your VM, you want to edit and check  
box http

## You also need to set a firewall rule - lets set up a lack  
firewall rule

allow traffic from all IP addresses 0.0.0.0/0

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Select a notebook instance

Labels help organize your resources (e.g., cost\_center:sales or env:prod)

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≡ Google Cloud Platform

## Create a firewall rule

-  VPC networks
  -  External IP addresses
  -  Firewall rules
  -  Routes
  -  VPC network peering
  -  Shared VPC
  -  Serverless VPC access
  -  Packet mirroring

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

Name \*

lowercase letters, numbers, hyphens allowed

## Description

ogs

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

On

**network \*** \_\_\_\_\_

Priority \* \_\_\_\_\_  
000

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

irection of traffic ?

- Ingress
- Egress

ction on match ?

- Allow
- Deny

### Targets

specified target tags



## Google Cloud Platform

## My First Project

 VPC network

VPC networks

External IP addresses

 Firewall rules

Routes

VPC network peering

Shared VPC

Serverless VPC access

Packet mirroring

[Create a firewall rule](#)

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

 On  
 Off

## Network \*

default

## Priority \*

1000

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

## Direction of traffic ?

 Ingress  
 Egress

## Action on match ?

 Allow  
 Deny

## Targets

All instances in the network

## Source filter

IP ranges

## Source IP ranges \*

0.0.0.0/0  for example, 0.0.0.0/0, 192.168.2.0/24

## Second source filter

None

## Protocols and ports ?

 Allow all  
 Specified protocols and ports

Berkeley School of Information

Unify Consulting Vamsi Sistla

Jump to... Threads Channels # data-science

Zach Estela 6:32 PM so when you visit localhost:8000 what do you see?

Vamsi Sistla 6:32 PM since am running in the cloud, I go IPaddress:8000 - and it just hangs.

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console.cloud.google.com/networking/firewalls/list?authuser=5&project=robotic-shelter-264402

Google Cloud Platform My First Project

VPC network Firewall rules + CREATE FIREWALL RULE REFRESH DELETE

VPC networks External IP addresses Firewall rules Routes VPC network peering Shared VPC Serverless VPC access Packet mirroring

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](#).

Name	Type	Targets	Filters	Protocols / ports	Action	Priority	Network
default-allow-http	Ingress	http-server	IP ranges: 0.0.0.0/0	tcp:80	Allow	1000	default
docker-app	Ingress	Apply to all	IP ranges: 0.0.0.0/0	all	Allow	1000	default
jupyter-network	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:8888	Allow	1000	default
default-allow-icmp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	icmp	Allow	65534	default
default-allow-internal	Ingress	Apply to all	IP ranges: 10.128.0.0/9	tcp:0-65535 udp:0-65535 icmp	Allow	65534	default
default-allow-rdp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:3389	Allow	65534	default
default-allow-ssh	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:22	Allow	65534	default



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console.cloud.google.com/compute/instancesDetail/zones/us-west1-b/instances/unify-docker?authuser=5&project=robotic-shelter-264402

Google Cloud Platform My First Project

VM instance details

EDIT RESET CREATE SIMILAR STOP DELETE LEARN

VM instances

unify-docker

Details Monitoring

Remote access

SSH Connect to serial console

Open in browser window

Logs Stackdriver Serial port More

Open in browser window on custom port

Open in browser window using provided private SSH key

View gcloud command

Use another SSH client

Instance ID: 4805760556016612413

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

Reservation: Automatically choose (default)

CPU platform: Intel Broadwell

Display device: Turn on a display device if you want to use screen capturing and recording tools.

Zone: us-west1-b

Labels: None

Creation time: Feb 28, 2020, 1:49:06 PM

Network interfaces

Name	Network	Subnetwork	Primary internal IP	Alias IP ranges	External IP	Network Tier	IP forwarding	Network details
nic0	default	default	10.138.0.4	—	35.230.55.212 (ephemeral)	Premium	Off	<a href="#">View details</a>



What is the 1<sup>st</sup> thing we do when we get a brand new VM?

\$ sudo apt-get update

How to check what are all the packages available on your VM?

\$ pip list or pip3 list

## Two ways to install Docker-compose

Method 1

```
$ sudo curl -L https://github.com/docker/compose/releases/download/1.18.0/docker-compose-`uname -s`-`uname -m` -o /usr/local/bin/docker-compose
```

Next we'll set the permissions:

```
$ sudo chmod +x /usr/local/bin/docker-compose
```

Method 2

### You can also run to install docker-compose

```
$ sudo apt install docker-compose
```

Then we'll verify that the installation was successful by checking the version:

```
$ docker-compose --version
```

Install gitlab repo

(note you need to set up your ssh keys to connect with your gitlab)

In your home directory

```
$ ssh-keygen -t ed25519 -C "vsistla@yahoo.com"
```

```
## copy your ssh key
```

```
$ cat .ssh/id_ed25519.pub
```

```
## Paste that in your gitlab a/c using browser
```

```
## then clone the repo
```

```
$ git clone git@gitlab.com:zestela/docker-workshop-adv.git
```

```
$ ls  
$ cd into your new repo folder  
$ nano docker-compose.yaml  
$ docker-compose up -d
```

```
# Find your external IP address from GCP.  
# Open browser and go to http://IPaddress:8000
```

```
## Get into the habit of running down command to bring down your clusters  
$ docker-compose down  
$ docker network ls  
## to kill any stray images, you can run docker prune -  
$ docker image prune -a
```

```
## To prune all unused resources  
$ docker system prune  
## images
```

```
$ docker images prune -a
```

# Quick revision

What containers are running right now?

What containers exist?

What images do I have?

How to clean up a containers?

`docker rm -f name_of_container`

How to delete all unused resources?

Closing Comments  
Questions  
Acknowledgements