

# GCP and PyTorch set up document

## GCP instance set up

1. Create an account on GCP. GCP gives you USD credit that you can use on various services within GCP.
2. Install or update to the latest version of the Google Cloud CLI if you intend to connect to the VM from your command line
3. Login to GCP console and go to the VM instances page
4. Select the project and continue.
5. Choose your desired configurations (We have used e2-standard-8 instance)

The screenshot displays the Google Cloud Platform console for creating a new VM instance. The configuration is as follows:

- Name:** instance-3
- Labels:** + ADD LABELS
- Region:** us-central1 (Iowa) (Permanent)
- Zone:** us-central1-a (Permanent)
- Machine configuration:**
  - Machine family:** GENERAL-PURPOSE (selected), COMPUTE-OPTIMIZED, MEMORY-OPTIMIZED, GPU
  - Series:** E2 (CPU platform selection based on availability)
  - Machine type:** e2-medium (2 vCPU, 4 GB memory)
  - vCPU:** 1 shared core
  - Memory:** 4 GB
- 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.

**Monthly estimate:** \$25.46 (That's about \$0.03 hourly). Pay for what you use: No upfront costs and per second billing.

Item	Monthly estimate
2 vCPU + 4 GB memory	\$24.46
10 GB balanced persistent disk	\$1.00
Sustained use discount	-\$0.00
<b>Total</b>	<b>\$25.46</b>

[Compute Engine pricing](#)  
[^ LESS](#)

6. Choose Ubuntu 20.04 image
7. Choose Firewall setting to allow HTTPS traffic

# Installing PyTorch

1. PyTorch can be installed and used on various linux distributions. In our case we have Ubuntu flavor of Linux.
2. To install the Anaconda on the linux machine, we use the command line installer and run the below command:

```
curl -O
https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh
sh Miniconda3-latest-Linux-x86_64.sh
```

3. To install PyTorch via Anaconda, and we should have a CUDA-capable system, in the above selector, choose OS: Linux, Package: Conda and the CUDA version suited to your machine. Often, the latest CUDA version is better. Then, run the command that is presented to you.

```
conda install pytorch torchvision torchaudio cpuonly -c pytorch
```

PyTorch Build	Stable (1.11.0)	Preview (Nightly)	LTS (1.8.2)	
Your OS	Linux	Mac	Windows	
Package	Conda	Pip	LibTorch	Source
Language	Python	C++ / Java		
Compute Platform	CUDA 10.2	CUDA 11.3	ROCm 4.5.2 (beta)	CPU
Run this Command:	conda install pytorch torchvision torchaudio cpuonly -c pytorch			

## Verification:

To ensure that PyTorch was installed correctly, we can verify the installation by running sample PyTorch code.

```
import torch
x = torch.rand(5, 3)
print(x)
```

The output should come something like this:

```
tensor([[0.3380, 0.3845, 0.3217],
        [0.8337, 0.9050, 0.2650],
        [0.2979, 0.7141, 0.9069],
        [0.1449, 0.1132, 0.1375],
        [0.4675, 0.3947, 0.1426]])
```

4. To install the packages, run the below command in your terminal  
`conda install --file requirements.txt`