

Cs 571 cloud computing infrastructure

19615 Gayatri Kolekar

Homework 04

Step 1: Creating running and sharing a container image

1) create new VM instance

Go to compute engine > vm instances

The screenshot shows the 'Create an instance' form on the Google Cloud Platform. On the left, a sidebar lists options: 'New VM instance' (selected), 'New VM instance from template', 'New VM instance from machine image', and 'Marketplace'. The main form has fields for 'Name' (set to 'instance-1'), 'Labels' (with a '+ ADD LABELS' button), 'Region' (set to 'us-east1 (South ...)'), 'Zone' (set to 'us-east1-b'), and 'Machine configuration' (under 'GENERAL-PURPOSE' tab, showing 'Series' as 'N1' and 'Machine type' as 'f1-micro (1 vCPU, 614 MB memory)'). To the right, a 'Monthly estimate' section shows '\$4.88' with a note: 'That's about \$0.01 hourly' and 'Pay for what you use: No upfront costs and per second billing'. A 'DETAILS' section is partially visible.

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HELP ASSISTANT

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
- New VM instance from machine image**
Create a single VM instance from an existing machine image
- Marketplace**
Deploy a ready-to-go solution onto a VM instance

vCPU
1 shared core

Memory
614 MB

Monthly estimate
\$4.88
That's about \$0.01 hourly
Pay for what you use: No upfront costs and per second billing

CPU PLATFORM AND GPU

Display device
Enable to use screen capturing and recording tools.

Enable display device

DETAILS

Confidential VM service ?
 Enable the Confidential Computing service on this VM instance.

Container ?
Deploy a container image to this VM instance

DEPLOY CONTAINER

Boot disk ?

Name	instance-1
Type	New balanced persistent disk
Size	10 GB
Image	Debian GNU/Linux 10 (buster)

console.cloud.google.com/compute/instancesAdd?project=cs-571-demo-project&supportedpurview=project

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Identity and API access

Service accounts Service account Compute Engine default service account

Requires the Service Account User role (roles/iam.serviceAccountUser) to be set for users who want to access VMs with this service account. [Learn more](#)

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

Networking

Hostname and network interfaces

Network tags

Hostname

Set a custom hostname for this instance or leave it default. Choice is permanent

← → C ⌂ 🔒 console.cloud.google.com/compute/instancesAdd?project=cs-571-demo-project&supportedpurview=project ⌂ ⌂ G Update ⌂

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Create an instance HELP ASSISTANT

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IP forwarding [?](#)

Enable

Network performance configuration

Network interface card [▼](#)

Network bandwidth

Increase total egress bandwidth
Maximum outbound network bandwidth: 1Gbps

Network interfaces [?](#)

Network interface is permanent

Edit network interface [^](#)

Network * default [?](#)

Subnetwork * default (10.142.0.0/20) [?](#)

Primary internal IP Ephemeral (Automatic) [?](#)

Alias IP ranges

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⬅ Create an instance HELP ASSISTANT

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+ ADD IP RANGE

External IP: **Ephemeral** ?

Network Service Tier:
 Premium ?
 Standard (us-east1) ?

Public DNS PTR Record ?
 Enable
PTR domain name:

DONE

ADD NETWORK INTERFACE

? To create another network interface you need to have a new network first.

Disks
Additional disks

The screenshot shows the Google Cloud Platform Compute Engine VM instances page. The left sidebar is titled 'Compute Engine' and contains sections for 'Virtual machines' (selected), 'Storage', and 'Marketplace'. Under 'Virtual machines', there are links for 'VM instances' (selected), 'Instance templates', 'Sole-tenant nodes', 'Machine images', 'TPUs', 'Committed use discounts', and 'Migrate for Compute Eng...'. Under 'Storage', there are links for 'Disks', 'Snapshots', and 'Images'. The main content area is titled 'VM instances' and includes a 'CREATE INSTANCE' button, an 'IMPORT VM' button, and a 'DISMISS' button. Below this is a table with columns: Status, Name, Zone, Recommendations, and Connect. A single row is selected, showing 'Status' as green (running), 'Name' as 'instance-1', 'Zone' as 'us-east1-b', 'Recommendations' as 'SSH', and 'Connect' with a three-dot menu icon. To the right of the table is a sidebar titled 'Select an instance' with tabs for 'PERMISSIONS', 'LABELS', and 'MONITORING'. A message says 'Please select at least one resource.' Below the table is a section titled 'Related actions' with five items: 'View billing report', 'Monitor VMs', 'Explore VM logs', 'Set up firewall rules', and 'View and manage your Compute Engine billing'.

2) activate cloud shell from top right corner

The screenshot shows the Google Cloud Platform search bar at the top of the page. It includes a 'DISMISS' button, an 'ACTIVATE' button, a search bar with the placeholder 'Search products and resources', and a notification badge with the number '6'.

3) Authorize when prompted

← → C ⌂ console.cloud.google.com/compute/instances?onCreate=true&project=cs-571-demo... ⌂ ⌂ G Update ⌂

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Compute Engine VM instances OPERATIONS HELP ASSISTANT HIDE INFO PANEL

Virtual machines

- VM instances
- Instance templates
- Sole-tenant nodes
- Machine images

Marketplace

Release Notes

INSTANCES INSTAN

VM instances are highly configurable virtual machines for running workloads on Google infrastructure. [Learn more](#)

Filter Enter property name or value

Name	Zone	Recom
instance-1	us-east1-b	

Select an instance

PERMISSIONS LABELS MONITORING

Please select at least one resource.

Related actions DISMISS

View billing Monitor

CLOUD SHELL Terminal (cs-571-demo)

```
kolekar19615@cloudshell:~ (cs-571-demo)
ERROR: (gcloud.compute.zones.describe) Please run:
$ gcloud auth login
to obtain new credentials.

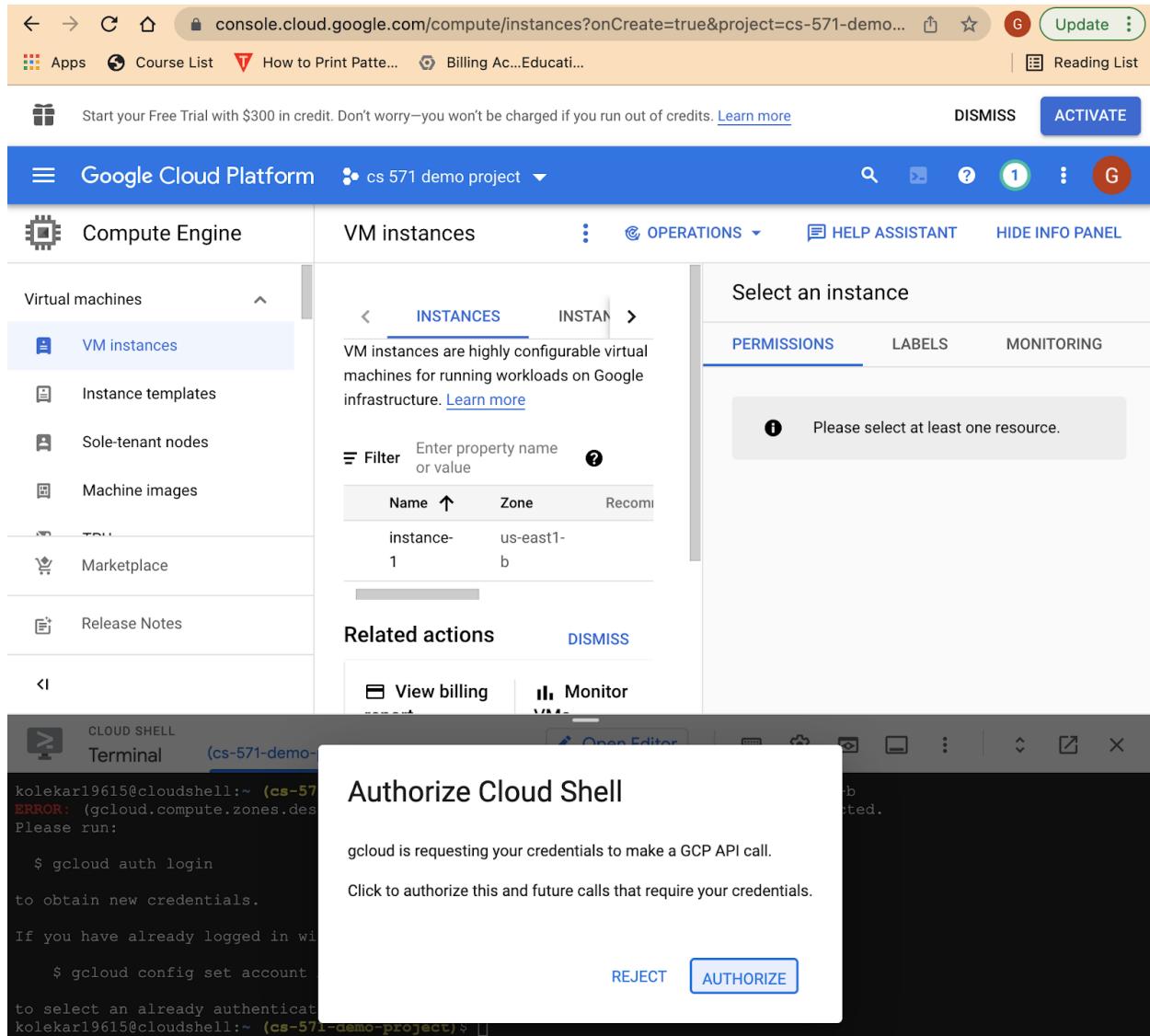
If you have already logged in with:
$ gcloud config set account
to select an already authenticated account.
kolekar19615@cloudshell:~ (cs-571-demo-project)~
```

Authorize Cloud Shell

gcloud is requesting your credentials to make a GCP API call.

Click to authorize this and future calls that require your credentials.

REJECT AUTHORIZE



← → C https://console.cloud.google.com/getting-started?_ga=2.135715057.1114673333.1643935227-1430448327.16... DISMISS ACTIVATE

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Google Cloud Platform Select a project Search Products, resources...

Home Recent View all products

PINNED Pin your top products here Pins appear here

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90-day, \$300 free trial to get you started
Always free products to keep you going

CLOUD SHELL Terminal cloudshell x + Open Editor

```
You are already authenticated with gcloud when running inside the Cloud Shell and so do not need to run this command. Do you wish to proceed anyway?  
Do you want to continue (y/n)? y  
Go to the following link in your browser:  
https://accounts.google.com/o/oauth2/auth?response\_type=code&client\_id=32555940559.apps.googleusercontent.com&redirect\_uri=https%3A%2F%2Fwww.googleapis.com%2Faauth%2Fcloud-platform&state=67195v7az4Tz7a7aRCvezD2KwJBlhs&prompt=consent&access\_type=offline&code\_challenge=0Y-Oh34acbeFk0mfixb7jMRT9Co62gxn8jxyJKznkc&code\_challenge\_method=S256  
Enter verification code: 4/1AX4XfWjGhjecTQwm3y9WCZC7pcznIflwunYON-U8cdw4r9xyA355hsIvs-A  
You are now logged in as [kolekar19615@mail.npu.edu].  
Your current project is [None]. You can change this setting by running:  
$ gcloud config set project PROJECT_ID  
gayatri_kolekar@cloudshell:~$ ]
```

← → C https://accounts.google.com/signin/oauth/consent?authuser=0&part=AJi8hANa6KPkX_iylbL0Aa91UJ_18lc... DISMISS 6 Apps Course List How to Print Pattern Billing Ac...Educational Reading List

Sign in with Google

Google Cloud SDK wants to access your Google Account

kolekar19615@mail.npu.edu

This will allow Google Cloud SDK to:

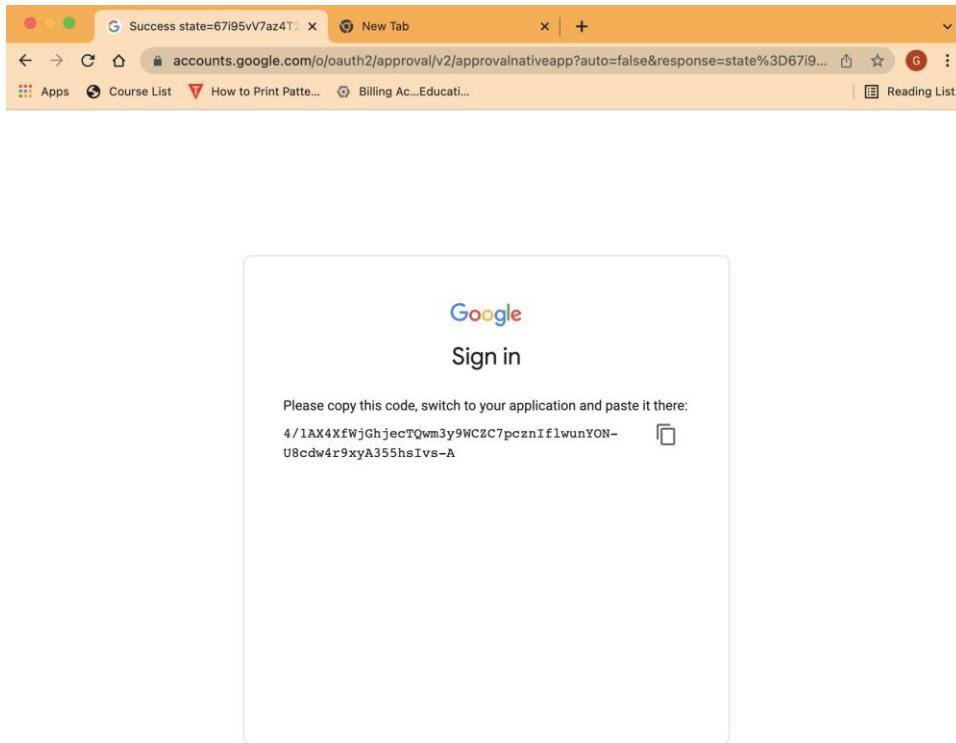
- See, edit, configure, and delete your Google Cloud data and see the email address for your Google Account.
- View and manage your Google Compute Engine resources
- View and manage your applications deployed on Google App Engine

Make sure you trust Google Cloud SDK

You may be sharing sensitive info with this site or app. You can always see or remove access in your [Google Account](#).

Learn how Google helps you [share data safely](#).

See Google Cloud SDK's Privacy Policy and Terms of Service.



4) Confirm zonal Support for Intel Haswell platform is available or not

With gcloud compute zones describe us-east4-c in terminal

```
kolekar19615@cloudshell:~ (cs-571-demo-project)$ gcloud compute zones describe us-east1-b
availableCpuPlatforms:
- Intel Cascade Lake
- Intel Skylake
- Intel Broadwell
- Intel Haswell
- Intel Ivy Bridge
- Intel Sandy Bridge
- AMD Milan
- AMD Rome
creationTimestamp: '1969-12-31T16:00:00.000-08:00'
description: us-east1-b
id: '2231'
kind: compute#zone
name: us-east1-b
region: https://www.googleapis.com/compute/v1/projects/cs-571-demo-project/regions/us-east1
selfLink: https://www.googleapis.com/compute/v1/projects/cs-571-demo-project/zones/us-east1-b
status: UP
supportsPzs: false
```

5) Create a boot disk which one is a staging disk with the command listed right below:

```
gcloud compute disks create stagingdisk --image-project centos-cloud --image-family centos-7 --zone us-east4-c
```

```
kolekar19615@cloudshell:~ (cs-571-demo-project)$ gcloud compute disks create
  stagingdisk --image-project centos-cloud --image-family centos-7 --zone us-
  east1-b
Created [https://www.googleapis.com/compute/v1/projects/cs-571-demo-project/
zones/us-east1-b/disks/stagingdisk].
NAME: stagingdisk
ZONE: us-east1-b
SIZE_GB: 20
TYPE: pd-standard
STATUS: READY
```

6) Create nested vm with Syntax below:

```
Gcloud compute images create nested-vm-image --source-disk=stagingdisk --source-disk-zone=us-east1-
b --licenses=https://www.googleapis.com/compute/v1/projects/vm-options/global/licenses/enable-vmx
```

Delete staging disk with syntax below:

```
gcloud compute disks delete stagingdisk --zone us-east1-b
```

```
kolekar19615@cloudshell:~ (cs-571-demo-project)$ gcloud compute images create nested-vm-imag
e --source-disk=stagingdisk --source-disk-zone=us-east1-b --licenses=https://www.googleapis.
com/compute/v1/projects/vm-options/global/licenses/enable-vmx
Created [https://www.googleapis.com/compute/v1/projects/cs-571-demo-project/global/images/ne
sted-vm-image].
NAME: nested-vm-image
PROJECT: cs-571-demo-project
FAMILY:
DEPRECATED:
STATUS: READY
kolekar19615@cloudshell:~ (cs-571-demo-project)$ gcloud compute disks delete stagingdisk --z
one us-east1-b
The following disks will be deleted:
 - [stagingdisk] in [us-east1-b]

Do you want to continue (Y/n)? y
Deleted [https://www.googleapis.com/compute/v1/projects/cs-571-demo-project/zones/us-east1-b
/disks/stagingdisk].
```

7) Create Image:

```
gcloud compute instances create nested-vm-image1 --zone us-east1-b --min-cpu-platform "Intel
Haswell" --machine-type n1-standard-4 --image nested-vm-image
```

```
kolekar19615@cloudshell:~ (cs-571-demo-project)$ gcloud compute instances create nested-vm-image1 --zone us-east1-b -
-min-cpu-platform "Intel Haswell" --machine-type n1-standard-4 --image nested-vm-image
Created [https://www.googleapis.com/compute/v1/projects/cs-571-demo-project/zones/us-east1-b/instances/nested-vm-im
age1].
NAME: nested-vm-image1
ZONE: us-east1-b
MACHINE_TYPE: n1-standard-4
PREEMPTIBLE:
INTERNAL_IP: 10.142.0.3
EXTERNAL_IP: 34.148.129.131
STATUS: RUNNING
```

8) From ssh, selecting open in Browser window option,

Opened nested vm image in browser window:

The screenshot shows the Google Cloud Platform Compute Engine VM instances page. On the left sidebar, under 'Virtual machines', 'VM instances' is selected. In the main area, there is a table with one row for 'nested-vm-image2'. The table columns include Status (green checkmark), Name (nested-vm-image2), Zone (us-central1-a), Recommendations (Save \$94 / mo, Save \$50 / mo), and Connect (SSH dropdown). A context menu is open over the 'nested-vm-image2' row, listing options: 'Open in browser window', 'Open in browser window on custom port', 'Open in browser window using provided private SSH key', 'View gcloud command', 'Use another SSH client', and 'Schedule for updates'. Below the table, there are 'Related actions' buttons for View billing report, Monitor VMs, Explore VM logs, Set up firewall rules, View and manage your VMs across, and View, search, analyze, and Control traffic to and from a VM.

9) Verify vm is available

The screenshot shows an SSH session connected to a Google Cloud VM. The terminal output is as follows:

```

Connected, host fingerprint: ssh-rsa 0 F0:56:6E:FE:9E:0E:D2:93:EF:40:D9:E1:20:40
:52:FA:C3:5B:53:EB:5A:3F:E9:80:F5:99:1C:4D:9B:DE:33:77
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.11.0-1029-gcp x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

 * Super-optimized for small spaces - read how we shrank the memory
   footprint of MicroK8s to make it the smallest full K8s around.

   https://ubuntu.com/blog/microk8s-memory-optimisation

This system has been minimized by removing packages and content that are
not required on a system that users do not log into.

To restore this content, you can run the 'unminimize' command.

3 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Last login: Sun Feb  6 07:32:45 2022 from 35.235.241.16
kolekar19615@nested-vm-image2:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:    Ubuntu 20.04.3 LTS
Release:        20.04
Codename:      focal
kolekar19615@nested-vm-image2:~$ 

```

10) Install Kubectl (code from <https://kubernetes.io/docs/tasks/tools/install-kubectl/#install-kubectl>):

1. Sudo apt-get update && sudo apt-get install -y apt-transport-https gnupg2 curl
2. Curl -s <https://packages.cloud.google.com/apt/doc/apt-key.gpg> | sudo apt-key add -
3. echo "deb https://apt.kubernetes.io/ kubernetes-xenial main" | sudo tee -a /etc/apt/sources.list.d/kubernetes.list
4. sudo apt-get update

```
kolekar19615@nested-vm-image2:~$ curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | sudo apt-key add -  
OK
```

```
kolekar19615@nested-vm-image2:~$ echo "deb https://apt.kubernetes.io/ kubernetes-xenial main" | sudo tee -a /etc/apt/sources.list.d/kubernetes.list  
deb https://apt.kubernetes.io/ kubernetes-xenial main  
kolekar19615@nested-vm-image2:~$ sudo apt-get update  
Hit:1 http://us-central1.gce.archive.ubuntu.com/ubuntu focal InRelease  
Hit:2 http://us-central1.gce.archive.ubuntu.com/ubuntu focal-updates InRelease  
Hit:3 http://us-central1.gce.archive.ubuntu.com/ubuntu focal-backports InRelease  
Hit:4 http://security.ubuntu.com/ubuntu focal-security InRelease  
Get:5 https://packages.cloud.google.com/apt kubernetes-xenial InRelease [9383 B]  
Get:6 https://packages.cloud.google.com/apt kubernetes-xenial/main amd64 Packages [53.6 kB]  
Fetched 63.0 kB in 0s (126 kB/s)  
Reading package lists... Done
```

11) Kubectl installation with sudo apt-get install -y kubectl

```
kolekar19615@nested-vm-image2:~$ sudo apt-get install -y kubectl  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following package was automatically installed and is no longer required:  
  libpolkit-gobject-1-0  
Use 'sudo apt autoremove' to remove it.  
The following NEW packages will be installed:  
  kubectl  
0 upgraded, 1 newly installed, 0 to remove and 5 not upgraded.  
Need to get 8929 kB of archives.  
After this operation, 46.6 MB of additional disk space will be used.  
Get:1 https://packages.cloud.google.com/apt kubernetes-xenial/main amd64 kubectl amd64 1.23.3-00 [8929 kB]  
Fetched 8929 kB in 0s (36.4 MB/s)  
debcfg: delaying package configuration, since apt-utils is not installed  
Selecting previously unselected package kubectl.  
(Reading database ... 53426 files and directories currently installed.)  
Preparing to unpack .../kubectl_1.23.3-00_amd64.deb ...  
Unpacking kubectl (1.23.3-00) ...  
Setting up kubectl (1.23.3-00) ...
```

12) Verify if kubectl installation is successful: kubectl version --client

```
kolekar19615@nested-vm-image2:~$ kubectl version --client  
Client Version: version.Info{Major:"1", Minor:"23", GitVersion:"v1.23.3", GitCommit:"816c97ab8cff8a1c72eccca1026f7820e93e  
0d25", GitTreeState:"clean", BuildDate:"2022-01-25T21:25:17Z", GoVersion:"go1.17.6", Compiler:"gc", Platform:"linux/amd64  
"}
```

13) Install minikube:

Curl -Lo minikube <https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64> &&
chmod +x minikube

```
kolekar19615@nested-vm-image2:~$ curl -Lo minikube https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64 && chmod +x minikube
% Total    % Received % Xferd  Average Speed   Time     Time      Time  Current
          Dload  Upload   Total   Spent    Left  Speed
100  67.3M  100  67.3M    0     0  104M    0 --:--:-- --:--:-- --:--:-- 104M
```

14) Move minikube to /user/bin

```
kolekar19615@nested-vm-image2:~$ sudo cp minikube /usr/bin/
```

15) Install docker

Sudo apt-get install curl wget apt-transport-https virtualbox virtualbox-ext-pack -y

Sudo apt-get install docker.io -y

16) Verify if docker installation is successful: docker --version

```
kolekar19615@nested-vm-image2:~$ docker --version
Docker version 20.10.7, build 20.10.7-0ubuntu5~20.04.2
```

17) Start docker: sudo service docker start

18) Install conntrack: sudo apt-get install conntrack

```
kolekar19615@nested-vm-image2:~$ sudo service docker start
kolekar19615@nested-vm-image2:~$ sudo apt-get install conntrack
Reading package lists... Done
Building dependency tree
Reading state information... Done
conntrack is already the newest version (1:1.4.5-2).
The following package was automatically installed and is no longer required:
  libpolkit-gobject-1-0
Use 'sudo apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 5 not upgraded.
```

19) Set permission: sudo chown -R \$USER \$HOME/minikube; chmod -R u+wr \$HOME/minikube

20) Go to /usr/bin: cd /usr/bin

21) Start Minikube:

```
kolekar19615@nested-vm-image2:/usr/bin$ minikube start
😄  minikube v1.25.1 on Ubuntu 20.04 (kvm/amd64)
⭐  Automatically selected the virtualbox driver. Other choices: none, ssh
⬇️  Downloading VM boot image ...
> minikube-v1.25.0.iso.sha256: 65 B / 65 B [-----] 100.00% ? p/s 0s
> minikube-v1.25.0.iso: 226.25 MiB / 226.25 MiB 100.00% 209.12 MiB p/s 1.3
👍  Starting control plane node minikube in cluster minikube
⬇️  Downloading Kubernetes v1.23.1 preload ...
> preloaded-images-k8s-v16-v1...: 504.42 MiB / 504.42 MiB 100.00% 205.44 M
🔥  Creating virtualbox VM (CPUs=2, Memory=3700MB, Disk=20000MB) ...\\

🕒  Preparing Kubernetes v1.23.1 on Docker 20.10.12 ...
  kubelet.housekeeping-interval=5m

  ▪ Generating certificates and keys ...
  ▪ Booting up control plane ...
  ▪ Configuring RBAC rules ...
●  Verifying Kubernetes components...
  ▪ Using image gcr.io/k8s-minikube/storage-provisioner:v5
🌟  Enabled addons: storage-provisioner, default-storageclass
🚀  Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
```

22) Install code editor: sudo apt-get install vim

```
kolekar19615@nested-vm-image2:/usr/bin$ sudo apt-get install vim
Reading package lists... Done
Building dependency tree
Reading state information... Done
vim is already the newest version (2:8.1.2269-1lubuntu5.7).
The following package was automatically installed and is no longer required:
  libpolkit-gobject-1-0
Use 'sudo apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 5 not upgraded.
```

23) From the home directory, create a new directory: mkdir dockerimg

24) Go to dockerimg directory: cd dockerimg/

25) Create app.js: nano app.js

```
const os = require('os');

console.log("Kubia server starting...");

var handler = function(request, response) {

  console.log("Received request from "
    + request.connection.remoteAddress);

  response.writeHead(200);

  response.end("You've hit " + os.hostname() + "\n");

};

var www = http.createServer(handler);
```

[www.listen\(8080\);](http://www.listen(8080);)

26) create Dockerfile: nano Dockerfile

```
FROM node:7  
ADD app.js /app.js  
ENTRYPOINT ["node", "app.js"]
```

```
kolekar19615@nested-vm-image2:~/dockerimg$ nano app.js  
kolekar19615@nested-vm-image2:~/dockerimg$ nano Dockerfile  
kolekar19615@nested-vm-image2:~/dockerimg$ ls
```

27) Build docker image: sudo docker build -t kubia .

```
kolekar19615@nested-vm-image2:~/dockerimg$ sudo docker build -t kubia .  
Sending build context to Docker daemon 3.072kB  
Step 1/3 : FROM node:7  
7: Pulling from library/node  
ad74af05f5a2: Pull complete  
2b032b8bbe8b: Pull complete  
a9a5b35f6ead: Pull complete  
3245b5a1c52c: Pull complete  
afa075743392: Pull complete  
9fb9f21641cd: Pull complete  
3f40ad2666bc: Pull complete  
49c0ed396b49: Pull complete  
Digest: sha256:af5c2c6ac8bc3fa372ac031ef60c45a285eeba7bce9ee9ed66dad3a01e29ab8d  
Status: Downloaded newer image for node:7  
    --> d9aed20b68a4  
Step 2/3 : ADD app.js /app.js  
    --> 82aaeaa5378b  
Step 3/3 : ENTRYPOINT ["node", "app.js"]  
    --> Running in fc4448f01a58  
Removing intermediate container fc4448f01a58  
    --> ca7223d523c9  
Successfully built ca7223d523c9  
Successfully tagged kubia:latest
```

28) Run image on a container on localhost: sudo docker run --name kubia-container -p 8080:8080 -d kubia

```
kolekar19615@nested-vm-image2:~/dockerimg$ sudo docker run --name kubia-container -p 8080:8080 -d kubia  
da02b7a985dddc10dc973262d8d84be046f450bab8963a1175876f2fe52514b5
```

29) check if it is running: curl localhost:8080

30) stop container: sudo docker stop kubia-container

```
kolekar19615@nested-vm-image2:~/dockering$ sudo docker build -t kubia .
Sending build context to Docker daemon 3.072kB
Step 1/3 : FROM node:7
--> d9aed20b68a4
Step 2/3 : ADD app.js /app.js
--> a4b55bcf6806
Step 3/3 : ENTRYPOINT ["node", "app.js"]
--> Running in 604de644b691
Removing intermediate container 604de644b691
--> d4ff75da431c
Successfully built d4ff75da431c
Successfully tagged kubia:latest
kolekar19615@nested-vm-image2:~/dockering$ sudo docker run --name kubia-container -p 8080:8080 -d kubia
1bc419d2f5c38f05513864c39eda492ddd2a2f4299b973c7a604e2ffef490d45
kolekar19615@nested-vm-image2:~/dockering$ curl localhost:8080
You've hit 1bc419d2f5c3
```

- 31) Go to hub.docker.com and create an account
- 32) Confirm email
- 33) In hub.docker.com go to Repositories>create repository

← → C hub.docker.com

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Update

Welcome to Docker

Download the desktop application

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Create a Repository

Push container images to a repository on Docker Hub.



Docker Hub Basics

Watch the guide on how to create and push your first image into a Docker Hub repository.



Language-Specific Guides

Learn how to containerize language-specific applications using Docker.

hub.docker.com/repository/create?namespace=gayatrikolekar

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Repositories Create Using 0 of 1 private repositories. [Get more](#)

Create Repository

Name: gayatrikolekar

Description:

Visibility

Using 0 of 1 private repositories. [Get more](#)

Public Appears in Docker Hub search results

Private Only visible to you

[Cancel](#) [Create](#)

hub.docker.com/repositories

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gayatrikolekar Search by repository name [Create Repository](#)

There are no repositories in this namespace. Tip: Not finding your repository? Try switching namespace via the top left dropdown.

34) tag kubia docker image: sudo docker tag kubia<username>/<repository>

```
kolekar19615@nested-vm-image2:~/dockerimg$ sudo docker tag kubia gayatrikolekar/npu_repo
```

35) Login to docker hub: sudo docker login -u=<username> -p=<password>

```
kolekar19615@nested-vm-image2:~/dockering$ sudo docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: gayatrikolekar
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
```

36) Push docker image to repository: sudo docker push <username>/<repository>

```
kolekar19615@nested-vm-image2:~/dockering$ sudo docker push gayatrikolekar/npu_repo
Using default tag: latest
The push refers to repository [docker.io/gayatrikolekar/npu_repo]
98fd65d892ac: Pushed
ab90d83fa34a: Mounted from library/node
8ee318e54723: Mounted from library/node
e6995624484e: Mounted from library/node
da59b99bbd3b: Mounted from library/node
5616a6292c16: Mounted from library/node
f3ed6cb59ab0: Mounted from library/node
654f45ecb7e3: Mounted from library/node
2c40c66f7667: Mounted from library/node
latest: digest: sha256:b2142a1f032e87cefef23b98a604bdea84523239f5b923004cd9a628528d412b size: 2213
```

37) Go to hub.docker.com/repositories to see the result

The screenshot shows the Docker Hub interface. At the top, there's a navigation bar with links for 'Explore', 'Repositories', 'Organizations', 'Help', and a user dropdown for 'gayatrikolekar'. Below the navigation, a breadcrumb trail shows the path: 'gayatrikolekar' > 'Repositories' > 'npu_repo'. A message 'We are hiring! Check out our [Careers](#) page.' is displayed above the repository details. The repository name 'npu_repo' is shown in large blue text. Below it, there are tabs for 'General', 'Tags', 'Builds', 'Collaborators', 'Webhooks', and 'Settings', with 'Tags' being the active tab. Under the 'Tags' tab, there's a section titled 'Advanced Image Management' with a note about viewing images and tags. A table lists the available tags:

TAG	DIGEST	OS/ARCH	LAST PULL	COMPRESSED SIZE
latest	b2142a1f032e	linux/amd64	---	251.45 MB