

Firewall rules:Need to create firewall rules

Create 4 compute instances

Disable swap

```
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to cloudcomputingproject-370420.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
anjanakillamsetty@cloudshell:~$ (cloudcomputingproject-370420)$ swapoff -a
anjanakillamsetty@cloudshell:~$ (cloudcomputingproject-370420)$ sudo sed -i 's/ swap / s/^(.*)$/#1/g' /etc/fstab
anjanakillamsetty@cloudshell:~$ (cloudcomputingproject-370420)$
```

Install container run time on master and worker node

```
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to cloudcomputingproject-370420.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ sudo apt-get install -y \
> apt-transport-https \
ca-certificates \
curl \
gnupg \
lsb-release
*****
You are running apt-get inside of Cloud Shell. Note that your Cloud Shell
machine is ephemeral and no system-wide change will persist beyond session end.

To suppress this warning, create an empty ~/.cloudshell/no-apt-get-warning file.
The command will automatically proceed in 5 seconds or on any key.

Visit https://cloud.google.com/shell/help for more information.
*****
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
apt-transport-https is already the newest version (2.2.4).
ca-certificates is already the newest version (20210119).
curl is already the newest version (7.74.0-1.3+deb11u3).
gnupg is already the newest version (2.2.27-2+deb11u2).
lsb-release is already the newest version (11.1.0).
lsb-release set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$
```

```
anjanakillamsetty@instance-3:~$ sudo apt-get install -y \
> apt-transport-https \
> ca-certificates \
> curl \
> gnupg \
> lsb-release
Reading package lists... Done
Building dependency tree
Reading state information... Done
Note, selecting 'apt' instead of 'apt-transport-https'
lsb-release is already the newest version (11.1.0ubuntu2).
lsb-release set to manually installed.
apt is already the newest version (2.0.9).
apt set to manually installed.
ca-certificates is already the newest version (20211016-20.04.1).
ca-certificates set to manually installed.
curl is already the newest version (7.68.0-1ubuntu2.14).
curl set to manually installed.
gnupg is already the newest version (2.2.19-3ubuntu2.2).
gnupg set to manually installed.
The following packages were automatically installed and are no longer required:
  libatasmart4 libblockdev-fs2 libblockdev-loop2 libblockdev-part-err2 libblockdev-part2 libblockdev-swap2
  libblockdev-utils2 libblockdev2 libbim-glib4 libbim-proxy libmm-glib0 libnspr4 libnss3 libnuma1
  libparted-fs-resize0 libqmi-glib5 libqmi-proxy libudisks2-0 libxmlb2 usb-modeswitch usb-modeswitch-data
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

Add docker GPGkey

```
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /usr/share/keyrings/docker-archive-keyring.gpg
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ echo "deb [arch=amd64 signed-by=/usr/share/keyrings/docker-archive-keyring.gpg] https://download.docker.com/linux/ubuntu \
$(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ sudo apt-get update -y
*****
You are running apt-get inside of Cloud Shell. Note that your Cloud Shell
machine is ephemeral and no system-wide change will persist beyond session end.

To suppress this warning, create an empty ~/.cloudshell/no-apt-get-warning file.
The command will automatically proceed in 5 seconds or on any key.

Visit https://cloud.google.com/shell/help for more information.
*****
Get:1 https://packages.cloud.google.com/apt gcsfuse-stretch InRelease [5,393 B]
```

Installing docker

```
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ sudo apt-get install docker-ce docker-ce-cli containerd.io -y
*****
You are running apt-get inside of Cloud Shell. Note that your Cloud Shell
machine is ephemeral and no system-wide change will persist beyond session end.

To suppress this warning, create an empty ~/.cloudshell/no-apt-get-warning file.
The command will automatically proceed in 5 seconds or on any key.

Visit https://cloud.google.com/shell/help for more information.
*****
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
containerd.io is already the newest version (1.6.9-1).
containerd.io set to manually installed.
docker-ce is already the newest version (5:20.10.21~3-0~debian-bullseye).
docker-ce-cli is already the newest version (5:20.10.21~3-0~debian-bullseye).
docker-ce-cli set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 41 not upgraded.
```

Add the docker daemon configurations as the cgroup driver

```
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ cat <<EOF | sudo tee /etc/docker/daemon.json
{
  "exec-opts": ["native.cgroupdriver=systemd"],
  "log-driver": "json-file",
  "log-opts": {
    "max-size": "100m"
  },
  "storage-driver": "overlay2"
}
EOF
{
  "exec-opts": ["native.cgroupdriver=systemd"],
  "log-driver": "json-file",
  "log-opts": {
    "max-size": "100m"
  },
  "storage-driver": "overlay2"
}
```

Enable and restart docker server

```
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ sudo systemctl enable docker
Synchronizing state of docker.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable docker
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$
```

Set Kubernetes GPG key and APT nodes

```
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ sudo curl -fsSLo /usr/share/keyrings/kubernetes-archive-keyring.gpg https://packages.cloud.google.com/apt/doc/apt-key.gpg
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ echo "deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring.gpg] https://apt.kubernetes.io/ kubernetes-xenial main" | sudo tee /etc/apt/sources.list.d/kubernetes.list
deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring.gpg] https://apt.kubernetes.io/ kubernetes-xenial main
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ sudo apt-get update
*****
You are running apt-get inside of Cloud Shell. Note that your Cloud Shell machine is ephemeral and no system-wide change will persist beyond session end.

To suppress this warning, create an empty ~/.cloudshell/no-apt-get-warning file.
The command will automatically proceed in 5 seconds or on any key.

Visit https://cloud.google.com/shell/help for more information.
*****
Ign:1 https://apt.releases.hashicorp.com bullseye InRelease
Hit:2 https://storage.googleapis.com/bazel-apt stable InRelease
Hit:4 https://repo.mysql.com/apt/debian bullseye InRelease
Get:5 https://cli.github.com/packages bullseye InRelease [3,921 B]
Hit:6 https://deb.debian.org/debian bullseye InRelease
Get:7 https://packages.microsoft.com/debian/11/prod bullseye InRelease [10.5 kB]
Hit:8 https://apt.llvm.org/bullseye llvm-toolchain-bullseye-13 InRelease
Get:9 https://deb.debian.org/debian bullseye-updates InRelease [44.1 kB]
Get:10 https://deb.debian.org/debian-security bullseye-security InRelease [48.4 kB]
Get:11 https://cli.github.com/packages bullseye/main amd64 Packages [344 B]
Get:12 https://apt.postgresql.org/pub/repos/apt bullseye-pgdg InRelease [91.7 kB]
Get:13 https://packages.sury.org/php bullseye InRelease [6,841 B]
Get:14 https://packages.microsoft.com/debian/11/prod bullseye/main armhf Packages [23.1 kB]
Get:15 https://packages.microsoft.com/debian/11/prod bullseye/main amd64 Packages [107 kB]
Get:16 https://deb.debian.org/debian-security bullseye-security/main Sources [270 kB]
Get:17 https://deb.debian.org/debian-security bullseye-security/main amd64 Packages [261 kB]
Get:18 https://apt.postgresql.org/pub/repos/apt bullseye-pgdg/main amd64 Packages [439 kB]
Get:19 https://packages.sury.org/php bullseye/main amd64 Packages [337 kB]
Get:20 https://packages.cloud.google.com/apt gcsfuse-stretch InRelease [5,393 B]
Get:21 https://packages.cloud.google.com/apt cloud-sdk-bullseye InRelease [6,784 B]
Get:22 https://download.docker.com/linux/debian bullseye InRelease [43.3 kB]
Get:1 https://apt.releases.hashicorp.com bullseye InRelease [12.0 kB]
Get:3 https://packages.cloud.google.com/apt kubernetes-xenial InRelease [9,383 B]
Get:23 https://packages.cloud.google.com/apt gcsfuse-stretch/main amd64 Packages [1,655 B]
Ign:24 https://ftp.debian.org/debian stretch InRelease
Get:25 https://ftp.debian.org/debian stretch-backports InRelease [99.9 kB]
Get:26 https://packages.cloud.google.com/apt cloud-sdk-bullseye/main amd64 Packages [211 kB]
Hit:27 https://ftp.debian.org/debian stretch-updates InRelease
Get:28 https://download.docker.com/linux/debian bullseye/stable amd64 Packages [16.5 kB]
Hit:29 https://ftp.debian.org/debian stretch Release
Get:30 https://apt.releases.hashicorp.com bullseye/main amd64 Packages [89.6 kB]
Get:31 https://packages.cloud.google.com/apt kubernetes-xenial/main amd64 Packages [61.4 kB]
Fetched 2,200 kB in 7s (330 kB/s)
Reading package lists... Done
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ █
```

Install kublet,kubeadm ,kubectl

```
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ sudo apt-get install -y kubelet kubeadm kubect1
*****
You are running apt-get inside of Cloud Shell. Note that your Cloud Shell machine is ephemeral and no system-wide change will persist beyond session end.

To suppress this warning, create an empty ~/.cloudshell/no-apt-get-warning file.
The command will automatically proceed in 5 seconds or on any key.

Visit https://cloud.google.com/shell/help for more information.
*****
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  conntrack cri-tools ebtables ethtool kubernetes-cni socat
The following NEW packages will be installed:
  conntrack cri-tools ebtables ethtool kubeadm kubelet kubernetes-cni socat
The following packages will be upgraded:
  kubect1
1 upgraded, 8 newly installed, 0 to remove and 41 not upgraded.
Need to get 81.8 MB of archives.
After this operation, 283 MB of additional disk space will be used.
Get:5 https://packages.cloud.google.com/apt cloud-sdk-bullseye/main amd64 kubect1 amd64 1.25.4-00 [9,498 kB]
Get:6 https://deb.debian.org/debian bullseye/main amd64 conntrack amd64 1:1.4.6-2 [33.9 kB]
9% [6 conntrack 8,268 B/33.9 kB 24%] [5 kubect1 9,498 kB/9,498 kB 100%]█
```

```
Processing triggers for man-db (2.9.4-2) ...
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$ sudo apt-mark hold kubelet kubeadm kubectl
kubelet set on hold.
kubeadm set on hold.
kubectl set on hold.
anjanakillamsetty@cloudshell:~ (cloudcomputingproject-370420)$
```

```
[3622 kB]
Fetched 102 MB in 4s (24.7 MB/s)
Selecting previously unselected package pigz.
(Reading database ... 62046 files and directories currently installed.)
Preparing to unpack .../0-pigz_2.4-1_amd64.deb ...
Unpacking pigz (2.4-1) ...
Selecting previously unselected package containerd.io.
Preparing to unpack .../1-containerd.io_1.6.10-1_amd64.deb ...
Unpacking containerd.io (1.6.10-1) ...
Selecting previously unselected package docker-ce-cli.
Preparing to unpack .../2-docker-ce-cli_5%3a20.10.21~3-0~ubuntu-focal_amd64.deb ...
Unpacking docker-ce-cli (5:20.10.21~3-0~ubuntu-focal) ...
Selecting previously unselected package docker-ce.
Preparing to unpack .../3-docker-ce_5%3a20.10.21~3-0~ubuntu-focal_amd64.deb ...
Unpacking docker-ce (5:20.10.21~3-0~ubuntu-focal) ...
Selecting previously unselected package docker-ce-rootless-extras.
Preparing to unpack .../4-docker-ce-rootless-extras_5%3a20.10.21~3-0~ubuntu-focal_amd64.deb ...
Unpacking docker-ce-rootless-extras (5:20.10.21~3-0~ubuntu-focal) ...
Selecting previously unselected package docker-scan-plugin.
Preparing to unpack .../5-docker-scan-plugin_0.21.0~ubuntu-focal_amd64.deb ...
Unpacking docker-scan-plugin (0.21.0~ubuntu-focal) ...
Selecting previously unselected package slirp4netns.
Preparing to unpack .../6-slirp4netns_0.4.3-1_amd64.deb ...
Unpacking slirp4netns (0.4.3-1) ...
Setting up slirp4netns (0.4.3-1) ...
Setting up docker-scan-plugin (0.21.0~ubuntu-focal) ...
Setting up containerd.io (1.6.10-1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/containerd.service → /lib/systemd/system/containerd.service.
Setting up docker-ce-cli (5:20.10.21~3-0~ubuntu-focal) ...
Setting up pigz (2.4-1) ...
Setting up docker-ce-rootless-extras (5:20.10.21~3-0~ubuntu-focal) ...
Setting up docker-ce (5:20.10.21~3-0~ubuntu-focal) ...
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /lib/systemd/system/docker.service.
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /lib/systemd/system/docker.socket.
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for systemd (245.4-4ubuntu3.19) ...
anjanakillamsetty@instance-3:~$
```

```

[3622 KB]
Fetched 102 MB in 4s (24.7 MB/s)
Selecting previously unselected package pigz.
(Reading database ... 62046 files and directories currently installed.)
Preparing to unpack .../0-pigz_2.4-1_amd64.deb ...
Unpacking pigz (2.4-1) ...
Selecting previously unselected package containerd.io.
Preparing to unpack .../1-containerd.io_1.6.10-1_amd64.deb ...
Unpacking containerd.io (1.6.10-1) ...
Selecting previously unselected package docker-ce-cli.
Preparing to unpack .../2-docker-ce-cli_5%3a20.10.21~3-0~ubuntu-focal_amd64.deb ...
Unpacking docker-ce-cli (5:20.10.21~3-0~ubuntu-focal) ...
Selecting previously unselected package docker-ce.
Preparing to unpack .../3-docker-ce_5%3a20.10.21~3-0~ubuntu-focal_amd64.deb ...
Unpacking docker-ce (5:20.10.21~3-0~ubuntu-focal) ...
Selecting previously unselected package docker-ce-rootless-extras.
Preparing to unpack .../4-docker-ce-rootless-extras_5%3a20.10.21~3-0~ubuntu-focal_amd64.deb ...
Unpacking docker-ce-rootless-extras (5:20.10.21~3-0~ubuntu-focal) ...
Selecting previously unselected package docker-scan-plugin.
Preparing to unpack .../5-docker-scan-plugin_0.21.0~ubuntu-focal_amd64.deb ...
Unpacking docker-scan-plugin (0.21.0~ubuntu-focal) ...
Selecting previously unselected package slirp4netns.
Preparing to unpack .../6-slirp4netns_0.4.3-1_amd64.deb ...
Unpacking slirp4netns (0.4.3-1) ...
Setting up slirp4netns (0.4.3-1) ...
Setting up docker-scan-plugin (0.21.0~ubuntu-focal) ...
Setting up containerd.io (1.6.10-1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/containerd.service → /lib/systemd/system/containerd.service.
Setting up docker-ce-cli (5:20.10.21~3-0~ubuntu-focal) ...
Setting up pigz (2.4-1) ...
Setting up docker-ce-rootless-extras (5:20.10.21~3-0~ubuntu-focal) ...
Setting up docker-ce (5:20.10.21~3-0~ubuntu-focal) ...
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /lib/systemd/system/docker.service.
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /lib/systemd/system/docker.socket.
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for systemd (245.4-4ubuntu3.19) ...

```

```

anjanakillamsetty@instance-3:~$ sudo systemctl enable docker
Synchronizing state of docker.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable docker
anjanakillamsetty@instance-3:~$ sudo systemctl restart docker
anjanakillamsetty@instance-3:~$ sudo curl -fsSLo /usr/share/keyrings/kubernetes-archive-keyring.gpg https://packages.cloud.google.com/apt/doc/apt-key.gpg
anjanakillamsetty@instance-3:~$ echo "deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring.gpg] https://apt.kubernetes.io/ kubernetes-xenial main" | sudo tee /etc/apt/sources.list.d/kubernetes.list
deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring.gpg] https://apt.kubernetes.io/ kubernetes-xenial main
anjanakillamsetty@instance-3:~$ 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:5 https://download.docker.com/linux/ubuntu focal InRelease
Get:6 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:4 https://packages.cloud.google.com/apt kubernetes-xenial InRelease [9383 B]
Get:7 https://packages.cloud.google.com/apt kubernetes-xenial/main amd64 Packages [61.4 kB]
Fetched 185 kB in 1s (255 kB/s)
Reading package lists... Done
anjanakillamsetty@instance-3:~$

```



```

anjanakillamsetty@instance-3:~$ sudo systemctl enable docker
Synchronizing state of docker.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable docker
anjanakillamsetty@instance-3:~$ sudo systemctl restart docker
anjanakillamsetty@instance-3:~$ sudo curl -fsSLo /usr/share/keyrings/kubernetes-archive-keyring.gpg https://packages.cloud.google.com/apt/doc/apt-key.gpg
anjanakillamsetty@instance-3:~$ echo "deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring.gpg] https://apt.kubernetes.io/ kubernetes-xenial main" | sudo tee /etc/apt/sources.list.d/kubernetes.list
deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring.gpg] https://apt.kubernetes.io/ kubernetes-xenial main
anjanakillamsetty@instance-3:~$ 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:5 https://download.docker.com/linux/ubuntu focal InRelease
Get:6 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:4 https://packages.cloud.google.com/apt kubernetes-xenial InRelease [9383 B]
Get:7 https://packages.cloud.google.com/apt kubernetes-xenial/main amd64 Packages [61.4 kB]
Fetched 185 kB in 1s (255 kB/s)
Reading package lists... Done
anjanakillamsetty@instance-3:~$

```

To see the stack trace of this error execute with `-v` or higher

```

anjanakillamsetty@instance-2:~$ sudo snap install docker
docker 20.10.17 from Canonical✓ installed
anjanakillamsetty@instance-2:~$

```

```

anjanakillamsetty@instance-2:~$ sudo systemctl enable docker
Synchronizing state of docker.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable docker
anjanakillamsetty@instance-2:~$

```

```

anjanakillamsetty@instance-2:~$ sudo /etc/init.d/docker status
• docker.service - Docker Application Container Engine
   Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2022-12-03 01:48:48 UTC; 25min ago
   TriggeredBy: • docker.socket
     Docs: https://docs.docker.com
    Main PID: 15815 (dockerd)
      Tasks: 8
     Memory: 19.9M
    CGroup: /system.slice/docker.service
            └─15815 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Dec 03 01:48:48 instance-2 dockerd[15815]: time="2022-12-03T01:48:48.295484112Z" level=warning msg="You_eduler"
Dec 03 01:48:48 instance-2 dockerd[15815]: time="2022-12-03T01:48:48.295529892Z" level=warning msg="You_weight"
Dec 03 01:48:48 instance-2 dockerd[15815]: time="2022-12-03T01:48:48.295578438Z" level=warning msg="You_device"
Dec 03 01:48:48 instance-2 dockerd[15815]: time="2022-12-03T01:48:48.295969085Z" level=info msg="Loadin_start."
Dec 03 01:48:48 instance-2 dockerd[15815]: time="2022-12-03T01:48:48.448285818Z" level=info msg="Defaul_ddress"
Dec 03 01:48:48 instance-2 dockerd[15815]: time="2022-12-03T01:48:48.510857716Z" level=info msg="Loadin_done."
Dec 03 01:48:48 instance-2 dockerd[15815]: time="2022-12-03T01:48:48.546067705Z" level=info msg="Docker_0.10.21"
Dec 03 01:48:48 instance-2 dockerd[15815]: time="2022-12-03T01:48:48.546177298Z" level=info msg="Daemon_zation"
Dec 03 01:48:48 instance-2 systemd[1]: Started Docker Application Container Engine.
Dec 03 01:48:48 instance-2 dockerd[15815]: time="2022-12-03T01:48:48.579728175Z" level=info msg="API li_r.sock"
Hint: Some lines were ellipsized, use -l to show in full.
anjanakillamsetty@instance-2:~$

```

```

anjanakillamsetty@instance-2:~$ sudo apt update
Hit:2 https://download.docker.com/linux/ubuntu focal InRelease
Get:3 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:4 http://us-central1.gce.archive.ubuntu.com/ubuntu focal InRelease
Hit:5 http://us-central1.gce.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:6 http://us-central1.gce.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:1 https://packages.cloud.google.com/apt kubernetes-xenial InRelease
Fetched 114 kB in 2s (48.1 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
11 packages can be upgraded. Run 'apt list --upgradable' to see them.
anjanakillamsetty@instance-2:~$

```

Initializing the master node

```

[certs] Using existing etcd/ca certificate authority
[certs] Using existing etcd/server certificate and key on disk
[certs] Using existing etcd/peer certificate and key on disk
[certs] Using existing etcd/healthcheck-client certificate and key on disk
[certs] Using existing apiserver-etcd-client certificate and key on disk
[certs] Using the existing "sa" key
[kubeconfig] Using kubeconfig folder "/etc/kubernetes"
[kubeconfig] Using existing kubeconfig file: "/etc/kubernetes/admin.conf"
[kubeconfig] Using existing kubeconfig file: "/etc/kubernetes/kubelet.conf"
[kubeconfig] Using existing kubeconfig file: "/etc/kubernetes/controller-manager.conf"
[kubeconfig] Using existing kubeconfig file: "/etc/kubernetes/scheduler.conf"
[kubelet-start] Writing kubelet environment file with flags to file "/var/lib/kubelet/kubeadm-flags.env"
[kubelet-start] Writing kubelet configuration to file "/var/lib/kubelet/config.yaml"
[kubelet-start] Starting the kubelet
[control-plane] Using manifest folder "/etc/kubernetes/manifests"
[control-plane] Creating static Pod manifest for "kube-apiserver"
[control-plane] Creating static Pod manifest for "kube-controller-manager"
[control-plane] Creating static Pod manifest for "kube-scheduler"
[etcd] Creating static Pod manifest for local etcd in "/etc/kubernetes/manifests"
[wait-control-plane] Waiting for the kubelet to boot up the control plane as static Pods from directory "/etc/kubernetes/manifests". This can take up to 4m0s
[apiclient] All control plane components are healthy after 0.017101 seconds
[upload-config] Storing the configuration used in ConfigMap "kubeadm-config" in the "kube-system" Namespace
[kubelet] Creating a ConfigMap "kubelet-config" in namespace kube-system with the configuration for the kubelets in the cluster
[upload-certs] Skipping phase. Please see --upload-certs
[mark-control-plane] Marking the node instance-2 as control-plane by adding the labels: [node-role.kubernetes.io/control-plane node.kubernetes.io/exclude-from-external-load-balancers]
[mark-control-plane] Marking the node instance-2 as control-plane by adding the taints [node-role.kubernetes.io/control-plane:NoSchedule]
[bootstrap-token] Using token: 3c5267.6snos2g7gxyndvi4
[bootstrap-token] Configuring bootstrap tokens, cluster-info ConfigMap, RBAC Roles
[bootstrap-token] Configured RBAC rules to allow Node Bootstrap tokens to get nodes
[bootstrap-token] Configured RBAC rules to allow Node Bootstrap tokens to post CSRs in order for nodes to get long term certificate credentials
[bootstrap-token] Configured RBAC rules to allow the certprover controller to automatically approve CSRs from a Node Bootstrap token
[bootstrap-token] Configured RBAC rules to allow certificate rotation for all node client certificates in the cluster
[bootstrap-token] Creating the "cluster-info" ConfigMap in the "kube-public" namespace
[kubelet-finalize] Updating "/etc/kubernetes/kubelet.conf" to point to a rotatable kubelet client certificate and key
[addons] Applied essential addon: CoreDNS
[addons] Applied essential addon: kube-proxy

Your Kubernetes control-plane has initialized successfully!

To start using your cluster, you need to run the following as a regular user:

  mkdir -p $HOME/.kube
  sudo cp -i /etc/kubernetes/admin.conf $HOME/.kube/config
  sudo chown $(id -u):$(id -g) $HOME/.kube/config

Alternatively, if you are the root user, you can run:

  export KUBECONFIG=/etc/kubernetes/admin.conf

You should now deploy a pod network to the cluster.
Run "kubectl apply -f [podnetwork].yaml" with one of the options listed at:
  https://kubernetes.io/docs/concepts/cluster-administration/addons/

Then you can join any number of worker nodes by running the following on each as root:

kubeadm join 10.128.0.3:6443 --token 3c5267.6snos2g7gxyndvi4 \
  --discovery-token-ca-cert-hash sha256:25b7ddb1e7df8a38c7f9a4b2c74e42d47820e41a355b814f31ac962867bdc376

```

Copying the config file

```

anjanakillamsetty@instance-3:~$ ^C
anjanakillamsetty@instance-3:~$ mkdir -p $HOME/.kube
anjanakillamsetty@instance-3:~$ sudo cp -i /etc/kubernetes/admin.conf $HOME/.kube/config
anjanakillamsetty@instance-3:~$ sudo chown $(id -u):$(id -g) $HOME/.kube/config
anjanakillamsetty@instance-3:~$

```

kubeadm join 10.128.0.3:6443 --token 3c5267.6snos2g7gxyndvi4 \

--discovery-token-ca-cert-hash

sha256:25b7ddb1e7df8a38c7f9a4b2c74e42d47820e41a355b814f31ac962867bdc376


```

kubeadm: command not found
root@instance-3:~# kubeadm join 10.128.0.3:6443 --token hlbulp.efgkm9jsc4f107ke --discovery-token-ca-cert-hash sha256:25b7ddble7df8a38c7f9a4b2c74e42d47820e41a355b814f31ac962867bdc376 --ignore-preflight-errors=all
[preflight] Running pre-flight checks
[WARNING FileAvailable--etc-kubernetes-kubelet.conf]: /etc/kubernetes/kubelet.conf already exists
[WARNING Port-10250]: Port 10250 is in use
[WARNING FileAvailable--etc-kubernetes-pki-ca.crt]: /etc/kubernetes/pki/ca.crt already exists
[preflight] Reading configuration from the cluster...
[preflight] FYI: You can look at this config file with 'kubectl -n kube-system get cm kubeadm-config -o yaml'
[kubelet-start] Writing kubelet configuration to file "/var/lib/kubelet/config.yaml"
[kubelet-start] Writing kubelet environment file with flags to file "/var/lib/kubelet/kubeadm-flags.env"
[kubelet-start] Starting the kubelet
[kubelet-start] Waiting for the kubelet to perform the TLS Bootstrap...

This node has joined the cluster:
* Certificate signing request was sent to apiservert and a response was received.
* The Kubelet was informed of the new secure connection details.

Run 'kubectl get nodes' on the control-plane to see this node join the cluster.

```

Above screenshot is running the join command

Below is the pods details

```

root@instance-2:~# sudo kubectl --kubeconfig ~/.kube/config get node
error: stat /root/.kube/config: no such file or directory
root@instance-2:~# kubectl get pods -A

```

NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE
kube-system	coredns-565d847f94-2wqnb	1/1	Running	0	51m
kube-system	coredns-565d847f94-9cszw	1/1	Running	0	51m
kube-system	etcd-instance-2	1/1	Running	0	54m
kube-system	kube-apiserver-instance-2	1/1	Running	0	55m
kube-system	kube-controller-manager-instance-2	1/1	Running	1 (31m ago)	31m
kube-system	kube-proxy-rzpbs	1/1	Running	0	51m
kube-system	kube-scheduler-instance-2	1/1	Running	0	56m
kube-system	weave-net-v6k2s	2/2	Running	1 (10m ago)	10m

Deployed nginx server

Kubectl create deployment nginx --image nginx --port 80

Kubectl create deployment nginx --target-port 80 --type NodePort

```

root@instance-2:~# sudo kubectl get pods --all-namespaces

```

NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE
default	nginx-ff6774dc6-575jl	0/1	Pending	0	112m
kube-system	coredns-565d847f94-2wqnb	1/1	Running	0	166m
kube-system	coredns-565d847f94-9cszw	1/1	Running	0	166m
kube-system	etcd-instance-2	1/1	Running	0	169m
kube-system	kube-apiserver-instance-2	1/1	Running	0	170m
kube-system	kube-controller-manager-instance-2	1/1	Running	1 (145m ago)	145m
kube-system	kube-proxy-rzpbs	1/1	Running	0	166m
kube-system	kube-scheduler-instance-2	1/1	Running	0	170m
kube-system	weave-net-v6k2s	2/2	Running	1 (124m ago)	124m

```

root@instance-2:~# █

```