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Department of Information Technology

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Semester: V Name of Student: Soham Dalvi

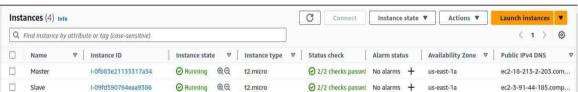
Academic Year: 2023-24 Student ID: 21104010 Class / Branch: TE IT

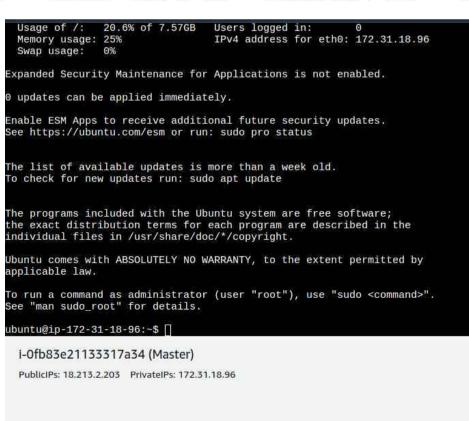
Subject: Advanced Devops Lab (ADL) Name of Instructor: Prof. Manjusha K.

EXPERIMENT NO. 03

Aim: To understand the Kubernetes Cluster Architecture, install and Spin Up a Kubernetes Cluster on Linux Machines/Cloud Platforms.

Outputs:-





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Usage of /: 20.6% of 7.57GB Users logged in: 0

Memory usage: 23% IPv4 address for eth0: 172.31.30.63

Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

O updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.

See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.

To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software; the exact distribution terms for each program are described in the individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.

To run a command as administrator (user "root"), use "sudo <command>". See "man sudo_root" for details.

ubuntu@ip-172-31-30-63:~\$

i-09fd590764eaa9386 (Slave)

PublicIPs: 3.91.44.185 PrivateIPs: 172.31.30.63

```
ubuntu@ip-172-31-30-63:^$ sudo su
root@ip-172-31-30-63:/home/ubuntu# apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [14.1 MB]
```

root@ip-172-31-30-63:/home/ubuntu# apt-get install -y docker.io
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
 bridge-utils containerd dns-root-data dnsmasq-base pigz runc ubuntu-fan
Suggested packages:
 ifupdown aufs-tools cgroupfs-mount | cgroup-lite debootstrap docker-doc ri
The following NEW packages will be installed:

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root@ip-172-31-18-96:/home/ubuntu# docker --version Docker version 24.0.5, build 24.0.5-0ubuntu1~22.04.1

```
root@ip-172-31-18-96:/home/ubuntu# apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
root@ip-172-31-18-96:/home/ubuntu# sudo apt-get install -y apt-transport-https ca-certificates curl
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
```

```
root@ip-172-31-18-96:/home/ubuntu# apt-mark hold kubelet kubeadm kubectl kubelet set on hold.
kubeadm set on hold.
kubectl set on hold.
kubectl set on hold.
root@ip-172-31-18-96:/home/ubuntu# kubeadm version
kubeadm version: &version.Info{Major:"1", Minor:"28", GitVersion:"v1.28.2", (34:32Z", GoVersion:"go1.20.8", Compiler:"gc", Platform:"linux/amd64"}
root@ip-172-31-18-96:/home/ubuntu#
```



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Conclusion: Thus, we have successfully understood the Kubernetes Cluster Architecture, install and Spin Up a Kubernetes Cluster on Linux Machines/Cloud Platforms.