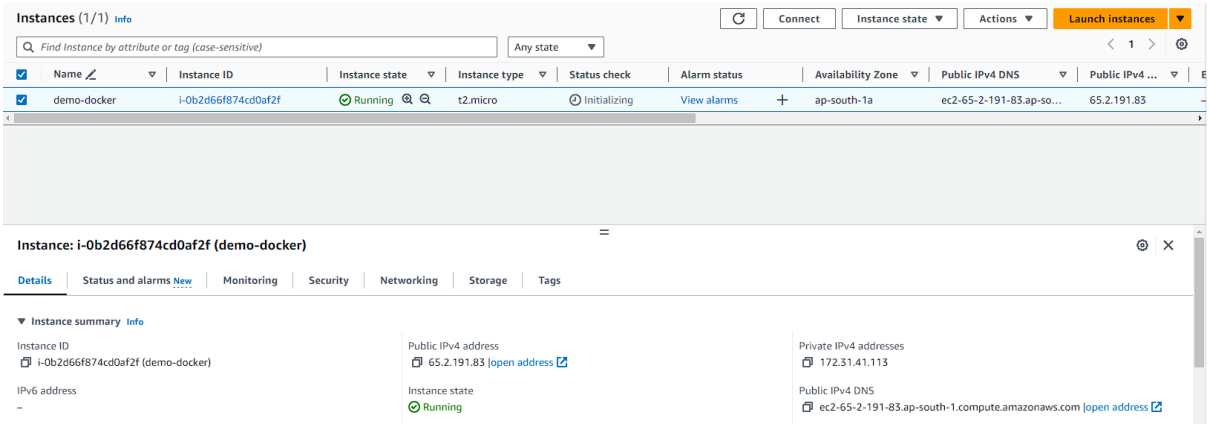
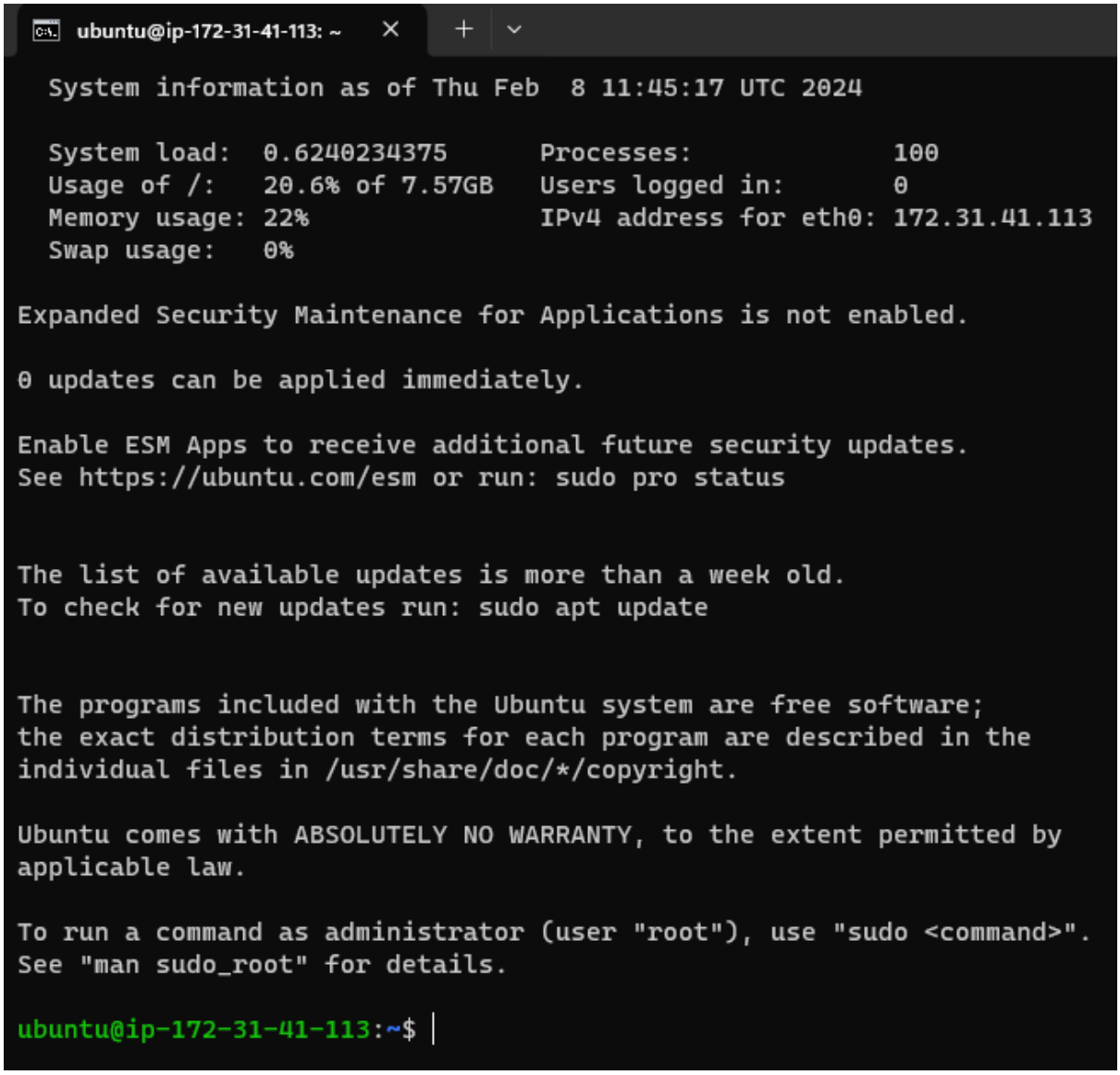
😊 Docker Setup

1. So, to setup Docker you need to create a Virtual Machine based on Ubuntu OS.
2. For that login to AWS Console and navigate to EC2. Then click on launch instances and create an instance based on Ubuntu OS.
3. Once the instance is launched then you need to SSH into it using Putty tool or command prompt.





4. Now you need to go to the docker documentation page to install it. You can follow the link below.

   https://docs.docker.com/engine/install/ubuntu/

5. After that you need to run the commands to install docker. Run the below commands one by one or you can also use the documentation for the installation of docker.

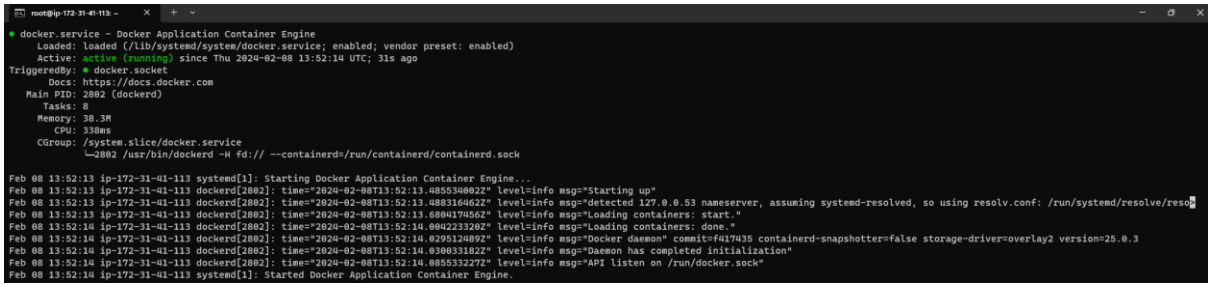
   # Add Docker's official GPG key:
   sudo apt-get update
   sudo apt-get install ca-certificates curl
   sudo install -m 0755 -d /etc/apt/keyrings
   sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o /etc/apt/keyrings/docker.asc
   sudo chmod a+r /etc/apt/keyrings/docker.asc

 # Add the repository to Apt sources:
**echo **
**"deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.asc] https://download.docker.com/linux/ubuntu **
**$(. /etc/os-release && echo "$VERSION_CODENAME") stable" | **
sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
sudo apt-get update

sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin

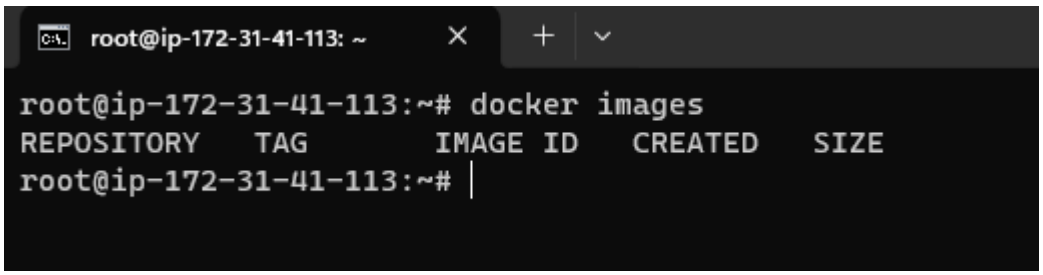
6. Once the docker is installed then you need to run the command for its status check.

   systemctl status docker



7. If you run the command to look for docker images you will see that there is nothing for now.

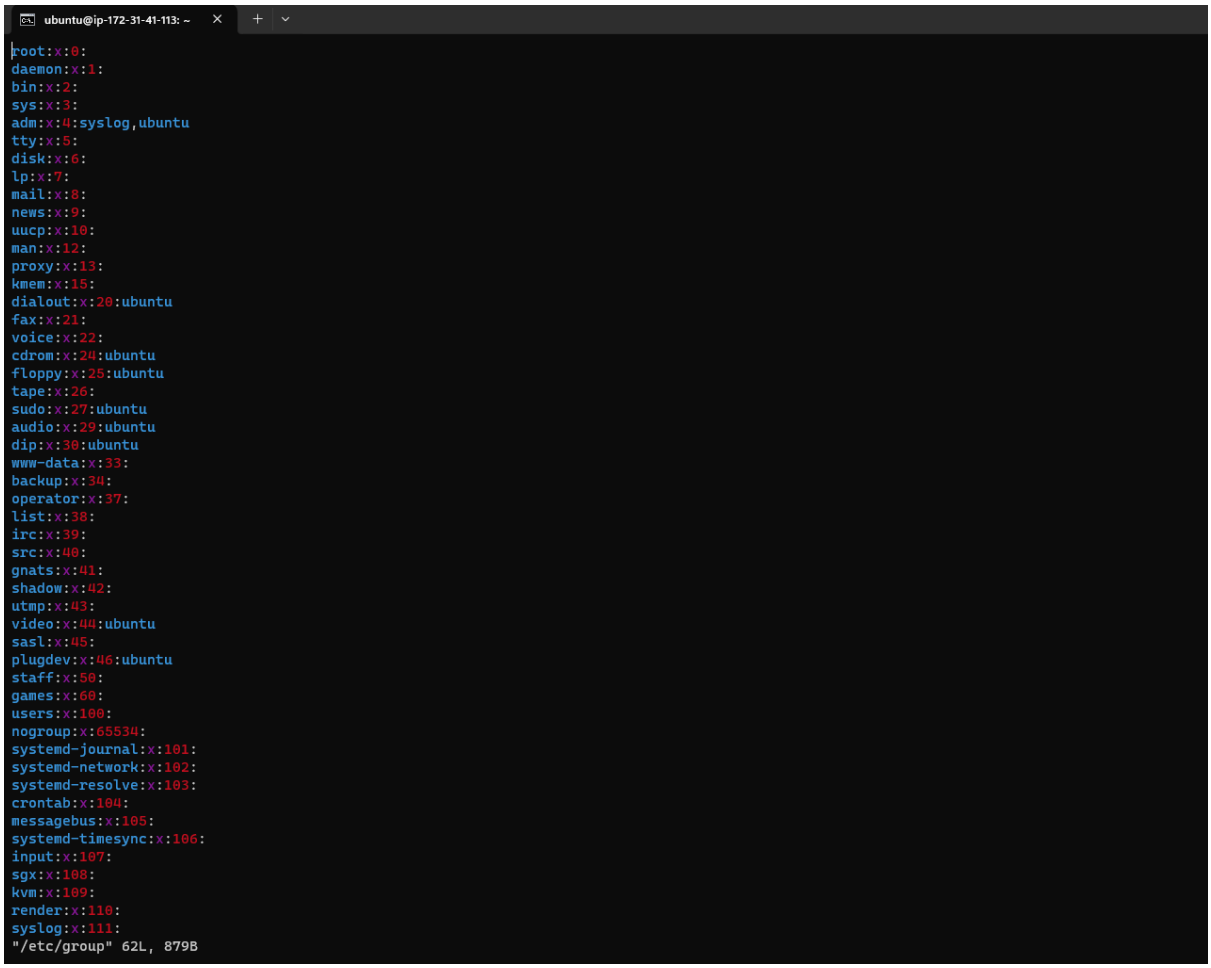
   docker images



8. Currently you are in root user but if you will try to run the same command using the Ubuntu user then you will see the error. So, by default only root user can access the docker daemon. If you want any other user to use docker then you need to add that user.

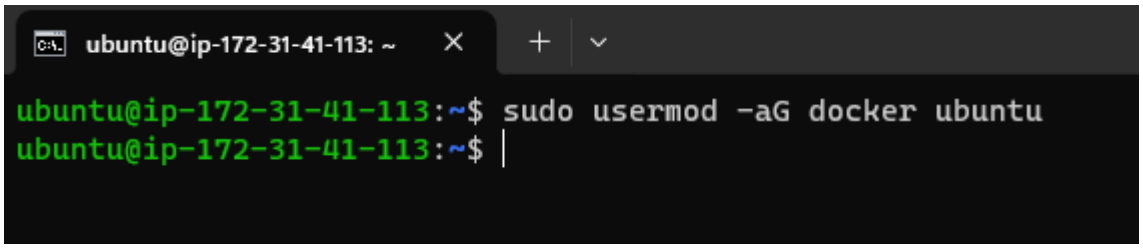
9. Now if you want to look at the groups you can use this command.

   sudo vim /etc/group



10. Now you'll use the user mod command to add Ubuntu as a user so that you can use docker on the Ubuntu user.

    sudo usermod -aG docker ubuntu

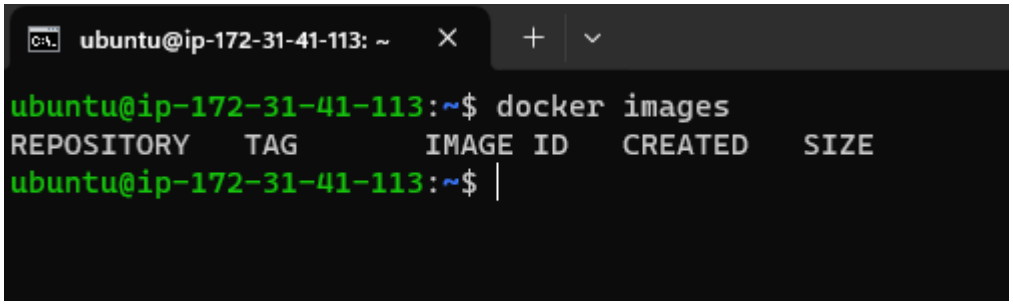


11. Now if you will run this below command, you can see that ubuntu has been added in docker as a user.

    id ubuntu

```
ubuntu@ip-172-31-41-113:~$ id ubuntu
uid=1000(ubuntu) gid=1000(ubuntu) groups=1000(ubuntu),4(adm),20(dialout),24(cdrom),25(floppy),27(sudo),29(audio),30(dip)
,44(video),46(plugdev),119(netdev),120(lxd),999(docker)
ubuntu@ip-172-31-41-113:~$
```

12. So, if you will run the docker images command you will see that you are still getting permission denied. For that you need to logout or exit from it then login again in the session you will see that it is working.



13. Now let's check and run some docker commands. The first command is for hello world.

    sudo docker run hello-world

14. Here you will see that in the start it was unable to find the image it will try and pull the image from docker hub.

```
ubuntu@ip-172-31-41-113:~$ sudo docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
c1ec31eb5944: Pull complete
Digest: sha256:4bd78111b6914a99dbc560e6a20eab57ff6655aea4a80c50b0c5491968cbc2e6
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/

ubuntu@ip-172-31-41-113:~$
```

15. Now run these commands to see you image.

    docker ps

    docker ps -a