D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (CCSA)
Subject : Containers and Orchestration (P)

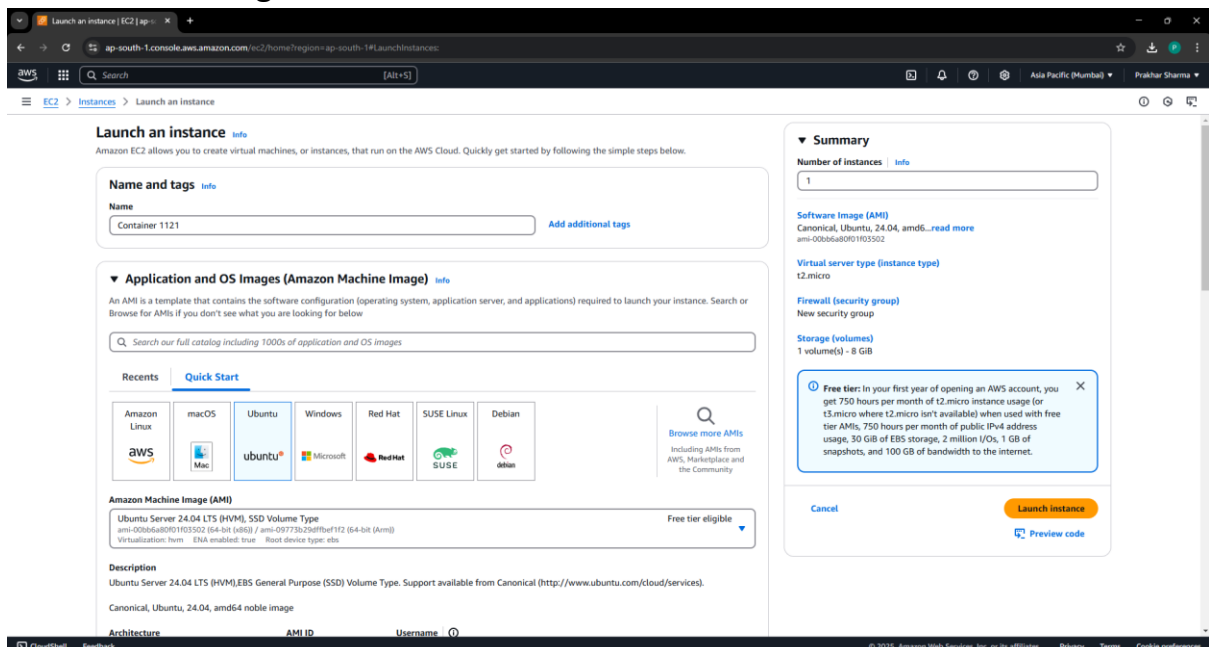|			
Name of the Student:	**Prakhar Anil Sharma**	**PRN:**	**20220801121**

Title of Practical: **Create a ubuntu Docker Container and Host a website through the container**

Step 1] Launch a EC2 Instance .

- Name the Instance : Container 1121 .

- Select AMI Image as : Ubuntu 24.04 LTS .

- Select Instance type : t2.micro .

- Select Key Pair : Key 007 .

- Select or Create Security Group and tick allow HTTP and SSH traffic checkbox.

- Click on Launch Instance .

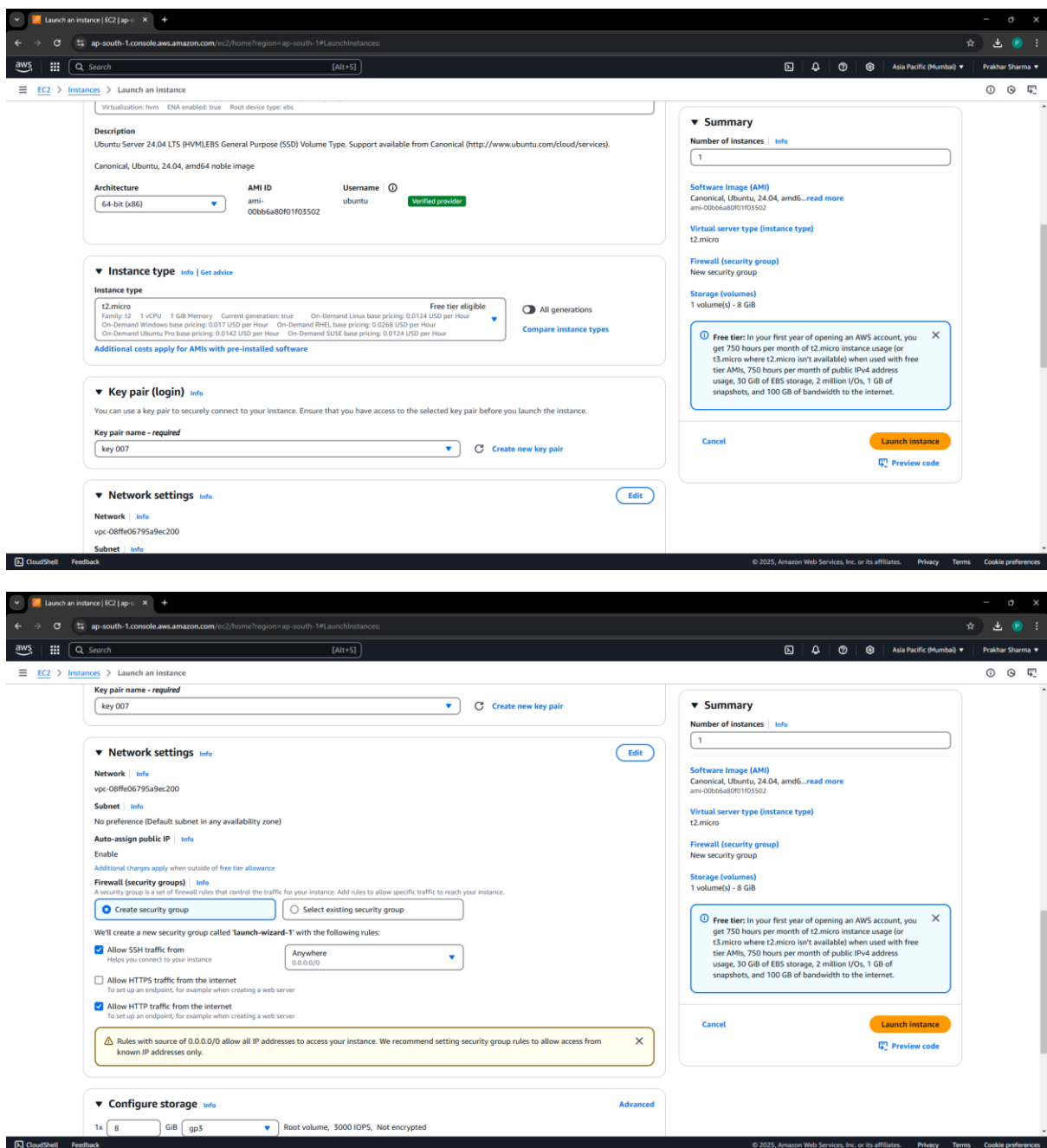- Select the launched Instance and Click on connect .

- Go to the SSH Tab and Copy the example .

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Title of Practical: Create a ubuntu Docker Container and Host a website through the container
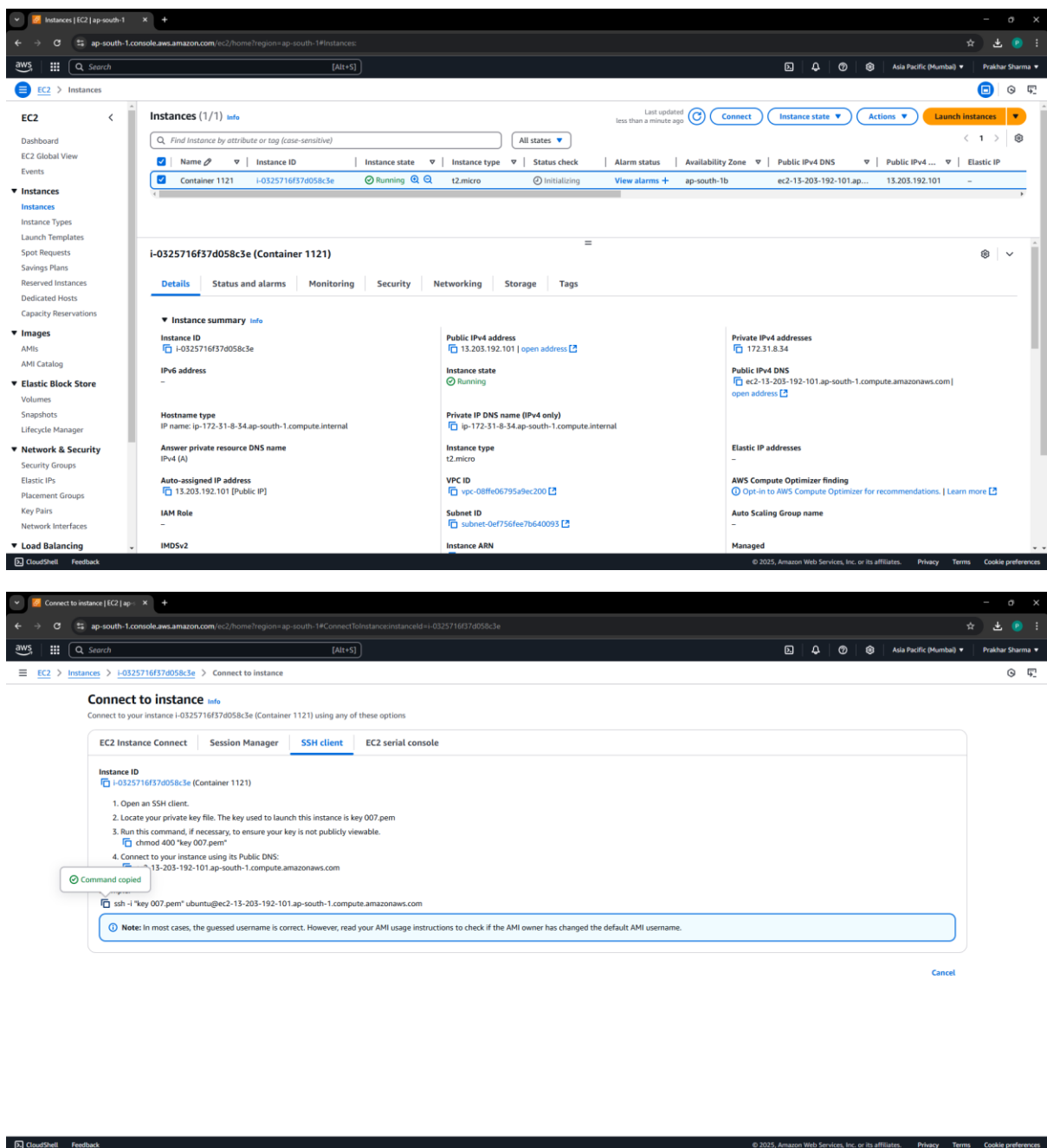

Step 2] Creating a Ubuntu Docker Container .

School of Computer Science, Engineering and Applications(SCSEA)
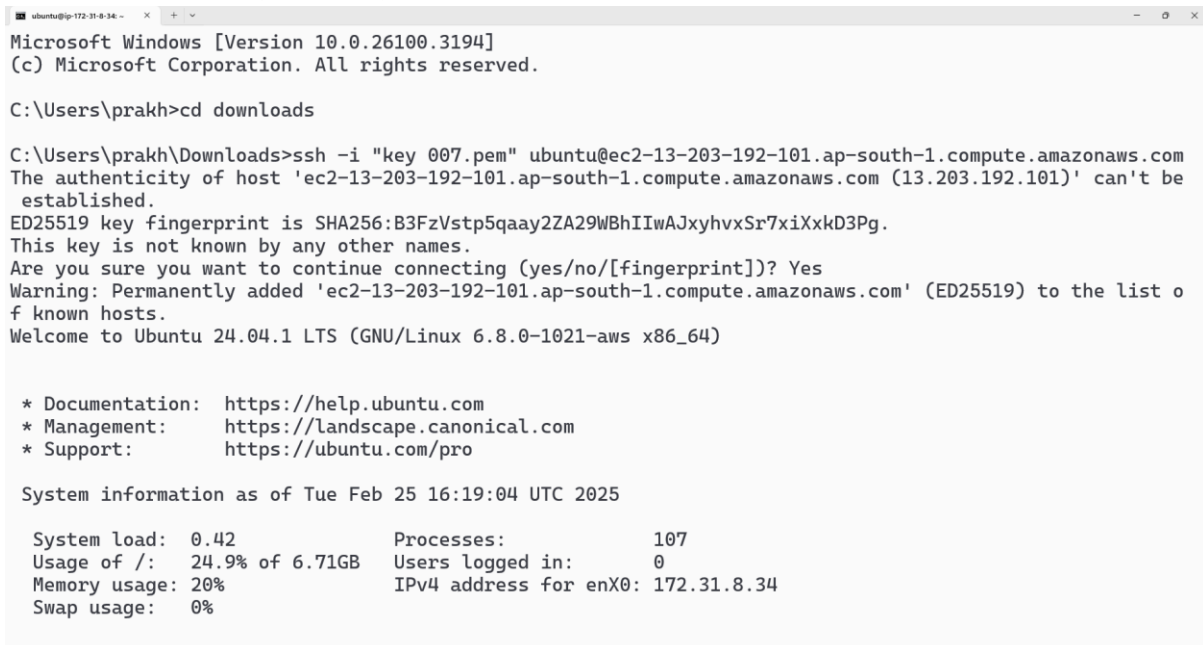## B.C.A. TY (CCSA)
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Title of Practical: **Create a ubuntu Docker Container and Host a website through the container**

- Go to Command prompt .

- Go to the folder where the key pair is downloaded through cd command .

- Paste the example and press enter .

```
Microsoft Windows [Version 10.0.26100.3194]
(c) Microsoft Corporation. All rights reserved.

C:\Users\prakh>cd downloads

C:\Users\prakh\Downloads>ssh -i "key 007.pem" ubuntu@ec2-13-203-192-101.ap-south-1.compute.amazonaws.com
The authenticity of host 'ec2-13-203-192-101.ap-south-1.compute.amazonaws.com (13.203.192.101)' can't be
established.
ED25519 key fingerprint is SHA256:B3FzVstp5qaay2ZA29WBhIIwAJxyhvxSr7xiXxkD3Pg.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? Yes
Warning: Permanently added 'ec2-13-203-192-101.ap-south-1.compute.amazonaws.com' (ED25519) to the list o
f known hosts.
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1021-aws x86_64)

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

 System information as of Tue Feb 25 16:19:04 UTC 2025

  System load:  0.42              Processes:             107
  Usage of /:   24.9% of 6.71GB   Users logged in:       0
  Memory usage: 20%               IPv4 address for enX0: 172.31.8.34
  Swap usage:   0%
```

- Now enter the following commands given below :

- sudo -i

- sudo apt-get update && sudo apt-get upgrade -y

- sudo apt install docker.io -y (for installing docker)

- docker –version (to check docker version)

- systemctl start docker (to start the docker)

-systemctl status docker (to check running status of docker)

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```
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-172-31-8-34:~$ sudo -i
root@ip-172-31-8-34:~# sudo apt-get update && sudo apt-get upgrade -y
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [881 kB]
Get:14 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [198 kB]
Get:15 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [151 kB]
Get:16 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1022 kB]
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [255 kB]
```

```
/etc/needrestart/restart.d/dbus.service
 systemctl restart getty@tty1.service
 systemctl restart networkd-dispatcher.service
 systemctl restart serial-getty@ttyS0.service
 systemctl restart systemd-logind.service
 systemctl restart unattended-upgrades.service

No containers need to be restarted.

User sessions running outdated binaries:
 ubuntu @ session #1: sshd[1020,1130]
 ubuntu @ user manager service: systemd[1025]

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-172-31-8-34:~# sudo apt install docker.io -y
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-buildx docker-compose-v2
  docker-doc rinse zfs-fuse | zfsutils
The following NEW packages will be installed:
  bridge-utils containerd dns-root-data dnsmasq-base docker.io pigz runc ubuntu-fan
0 upgraded, 8 newly installed, 0 to remove and 0 not upgraded.
Need to get 78.6 MB of archives.
```

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Title of Practical: **Create a ubuntu Docker Container and Host a website through the container**

```
ubuntu @ user manager service: systemd[1025]
root@ip-172-31-8-34:~# docker --version
Docker version 26.1.3, build 26.1.3-0ubuntu1~24.04.1
root@ip-172-31-8-34:~# systemctl start docker
root@ip-172-31-8-34:~# systemctl status docker
● docker.service – Docker Application Container Engine
     Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: enabled)
     Active: active (running) since Tue 2025-02-25 16:21:17 UTC; 57s ago
TriggeredBy: ● docker.socket
       Docs: https://docs.docker.com
   Main PID: 9455 (dockerd)
      Tasks: 8
     Memory: 37.7M (peak: 37.8M)
        CPU: 242ms
     CGroup: /system.slice/docker.service
             └─9455 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Feb 25 16:21:16 ip-172-31-8-34 systemd[1]: Starting docker.service – Docker Application Container Engin>
Feb 25 16:21:16 ip-172-31-8-34 dockerd[9455]: time="2025-02-25T16:21:16.6444242236Z" level=info msg="Sta>
Feb 25 16:21:16 ip-172-31-8-34 dockerd[9455]: time="2025-02-25T16:21:16.6455011163Z" level=info msg="det>
Feb 25 16:21:16 ip-172-31-8-34 dockerd[9455]: time="2025-02-25T16:21:16.8080288864Z" level=info msg="Loa>
Feb 25 16:21:17 ip-172-31-8-34 dockerd[9455]: time="2025-02-25T16:21:17.1643876182Z" level=info msg="Loa>
Feb 25 16:21:17 ip-172-31-8-34 dockerd[9455]: time="2025-02-25T16:21:17.1950327062Z" level=info msg="Doc>
Feb 25 16:21:17 ip-172-31-8-34 dockerd[9455]: time="2025-02-25T16:21:17.1953106872Z" level=info msg="Dae>
Feb 25 16:21:17 ip-172-31-8-34 dockerd[9455]: time="2025-02-25T16:21:17.2616413232Z" level=info msg="API>
Feb 25 16:21:17 ip-172-31-8-34 systemd[1]: Started docker.service – Docker Application Container Engine.
lines 1-21/21 (END)
```

- docker pull ubuntu/apache2 (to pull ubuntu/apache2 server)

- docker images

- docker run -d –name prakhar -p 80:80 ubuntu/apache2 (for making docker container)

-docker port prakhar (to check port number)

- docker exec -it prakhar /bin/bash (for get into the docker terminal)

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Title of Practical: Create a ubuntu Docker Container and Host a website through the container

- paste the instance ip address on the new browser tab .

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Title of Practical:	**Create a ubuntu Docker Container and Host a website through the container**		

- apt update -y

- apt install httpd -y

-ls

- cd var/www/html

- ls

- mkdir web1

- ls

- rm index.html

- ls

- apt install wget (for installing wget command)

- wget https://www.tooplate.com/zip-templates/2134_gotto_job.zip

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```
Fetched 28.2 MB in 4s (6392 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
54 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@376a326aa292:/# apt install httpd -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package httpd is a virtual package provided by:
  merecat 2.31+git20220513+ds-4.1ubuntu0.1
  nginx 1.24.0-2ubuntu7.1
  apache2 2.4.58-1ubuntu8.5
  yaws 2.1.1+dfsg-2
  webfs 1.21+ds1-12build3
  tntnet 3.0-3.1build1
  mini-httpd 1.30-8build2
  micro-httpd 20140814-2.1
  lighttpd 1.4.74-1ubuntu3
You should explicitly select one to install.

E: Package 'httpd' has no installation candidate
root@376a326aa292:/# ls
bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@376a326aa292:/# cd var/www/html
root@376a326aa292:/var/www/html# ls
index.html
```

```
root@376a326aa292:/var/www/html# mkdir web1
root@376a326aa292:/var/www/html# ls
index.html  web1
root@376a326aa292:/var/www/html# rm index.html
root@376a326aa292:/var/www/html# ls
web1
root@376a326aa292:/var/www/html# wget https://www.tooplate.com/zip-templates/2134_gotto_job.zip
bash: wget: command not found
root@376a326aa292:/var/www/html# apt install wget
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  ca-certificates libssl3t64 openssl
The following NEW packages will be installed:
  ca-certificates openssl wget
The following packages will be upgraded:
  libssl3t64
1 upgraded, 3 newly installed, 0 to remove and 53 not upgraded.
Need to get 3436 kB of archives.
After this operation, 3263 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssl3t64 amd64 3.0.13-0ubuntu3.5 [1940
 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssl amd64 3.0.13-0ubuntu3.5 [1002 kB
]
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 ca-certificates all 20240203 [159 kB]
```

- apt install unzip (for installing unzip command)

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- unzip 2134_gotto_job.zip (for unzipping the website)

```
--2025-02-25 16:29:48--  https://www.tooplate.com/zip-templates/2134_gotto_job.zip
Resolving www.tooplate.com (www.tooplate.com)... 72.52.176.250
Connecting to www.tooplate.com (www.tooplate.com)|72.52.176.250|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2256895 (2.2M) [application/zip]
Saving to: '2134_gotto_job.zip'

2134_gotto_job.zip     100%[===================================>]   2.15M  1.22MB/s    in 1.8s

2025-02-25 16:29:51 (1.22 MB/s) - '2134_gotto_job.zip' saved [2256895/2256895]

root@376a326aa292:/var/www/html# apt install unzip
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
  zip
The following NEW packages will be installed:
  unzip
0 upgraded, 1 newly installed, 0 to remove and 53 not upgraded.
Need to get 174 kB of archives.
After this operation, 384 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 unzip amd64 6.0-28ubuntu4.1 [174 kB]
Fetched 174 kB in 1s (234 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package unzip.
(Reading database ... 8351 files and directories currently installed.)
```

```
Selecting previously unselected package unzip.
(Reading database ... 8351 files and directories currently installed.)
Preparing to unpack .../unzip_6.0-28ubuntu4.1_amd64.deb ...
Unpacking unzip (6.0-28ubuntu4.1) ...
Setting up unzip (6.0-28ubuntu4.1) ...
root@376a326aa292:/var/www/html# unzip 2134_gotto_job.zip
Archive:  2134_gotto_job.zip
   creating: 2134_gotto_job/
  inflating: 2134_gotto_job/about.html
  inflating: 2134_gotto_job/contact.html
   creating: 2134_gotto_job/css/
  inflating: 2134_gotto_job/css/bootstrap-icons.css
  inflating: 2134_gotto_job/css/bootstrap.min.css
  inflating: 2134_gotto_job/css/owl.carousel.min.css
  inflating: 2134_gotto_job/css/owl.theme.default.min.css
  inflating: 2134_gotto_job/css/tooplate-gotto-job.css
   creating: 2134_gotto_job/fonts/
  inflating: 2134_gotto_job/fonts/bootstrap-icons.woff
  inflating: 2134_gotto_job/fonts/bootstrap-icons.woff2
   creating: 2134_gotto_job/images/
   creating: 2134_gotto_job/images/avatar/
  inflating: 2134_gotto_job/images/avatar/blond-man-happy-expression.jpg
  inflating: 2134_gotto_job/images/avatar/medium-shot-smiley-senior-man.jpg
  inflating: 2134_gotto_job/images/avatar/portrait-beautiful-young-woman.jpg
  inflating: 2134_gotto_job/images/avatar/portrait-charming-middle-aged-attractive-woman-with-blonde-hai
r.jpg
  inflating: 2134_gotto_job/images/avatar/university-study-abroad-lifestyle-concept.jpg
```

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- cp -r 2134_gotto_job/* /var/www/html/web1 (for copying images to web1)

```
inflating: 2134_gotto_job/images/logos/meta.png
inflating: 2134_gotto_job/images/logos/microsoft.png
inflating: 2134_gotto_job/images/logos/paypal.png
inflating: 2134_gotto_job/images/logos/salesforce.png
inflating: 2134_gotto_job/images/logos/shopify.png
inflating: 2134_gotto_job/images/logos/slack.png
inflating: 2134_gotto_job/images/logos/soundcloud.png
inflating: 2134_gotto_job/images/logos/spotify.png
inflating: 2134_gotto_job/images/logos/twitter.png
inflating: 2134_gotto_job/images/logos/yelp.png
inflating: 2134_gotto_job/images/millennial-group-young-businesspeople.jpg
inflating: 2134_gotto_job/images/people-working-as-team-company.jpg
inflating: 2134_gotto_job/images/professional-asian-businesswoman-gray-blazer.jpg
 creating: 2134_gotto_job/images/site-header/
inflating: 2134_gotto_job/images/site-header/close-up-young-business-team-working.jpg
inflating: 2134_gotto_job/index.html
inflating: 2134_gotto_job/job-details.html
inflating: 2134_gotto_job/job-listings.html
 creating: 2134_gotto_job/js/
inflating: 2134_gotto_job/js/bootstrap.min.js
inflating: 2134_gotto_job/js/counter.js
inflating: 2134_gotto_job/js/custom.js
inflating: 2134_gotto_job/js/jquery.min.js
inflating: 2134_gotto_job/js/owl.carousel.min.js
inflating: 2134_gotto_job/ABOUT THIS TEMPLATE.txt
root@376a326aa292:/var/www/html# cp -r 2134_gotto_job/* /var/www/html/web1
root@376a326aa292:/var/www/html#
```

- Add /web1 after the ip address and Refresh the browser