A. P. SHAH INSTITUTE OF TECHNOLOGY

PARSHVANATH CHARITABLE TRUST'S

Department of Information Technology

(NBA Accredited)

Department of Information Technology

Academic Year: 2025-26
Semester: V
Class / Branch: TEIT/Div C
Subject: DevOps Lab
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Date of Performance:6.8.2025
Date of Submission:6.8.2025

Experiment No. 9

Aim: To build an image for a sample web application from a docker file using various docker file instructions.

Output:

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker pull nginx:latest
latest: Pulling from library/nginx
Digest: sha256:84ec966e61a8c7846f509da7eb081c55c1d56817448728924a87ab32f12a72fb
Status: Image is up to date for nginx:latest
docker.io/library/nginx:latest
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker images
REPOSITORY    TAG        IMAGE ID       CREATED        SIZE
nginx         latest     2cd1d97f893f   3 weeks ago    192MB
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha#
```

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker run --name webserverj nginx
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2025/08/06 05:18:34 [notice] 1#1: using the "epoll" event method
2025/08/06 05:18:34 [notice] 1#1: nginx/1.29.0
2025/08/06 05:18:34 [notice] 1#1: built by gcc 12.2.0 (Debian 12.2.0-14+deb12u1)
2025/08/06 05:18:34 [notice] 1#1: OS: Linux 6.8.0-41-generic
2025/08/06 05:18:34 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2025/08/06 05:18:34 [notice] 1#1: start worker processes
2025/08/06 05:18:34 [notice] 1#1: start worker process 29
2025/08/06 05:18:34 [notice] 1#1: start worker process 30
2025/08/06 05:18:34 [notice] 1#1: start worker process 31
2025/08/06 05:18:34 [notice] 1#1: start worker process 32
2025/08/06 05:18:34 [notice] 1#1: start worker process 33
2025/08/06 05:18:34 [notice] 1#1: start worker process 34
2025/08/06 05:18:34 [notice] 1#1: start worker process 35
2025/08/06 05:18:34 [notice] 1#1: start worker process 36
2025/08/06 05:18:34 [notice] 1#1: start worker process 37
2025/08/06 05:18:34 [notice] 1#1: start worker process 38
2025/08/06 05:18:34 [notice] 1#1: start worker process 39
2025/08/06 05:18:34 [notice] 1#1: start worker process 40
2025/08/06 05:20:09 [notice] 1#1: signal 28 (SIGWINCH) received
```

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED          STATUS                    PORTS     NAMES
ff575b7ac9d8   nginx     "/docker-entrypoint..…"   About a minute ago   Up About a minute     80/tcp    webserverj
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED          STATUS                    PORTS     NAMES
ff575b7ac9d8   nginx     "/docker-entrypoint..…"   2 minutes ago    Exited (0) 4 seconds ago            webserverj
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha#
```

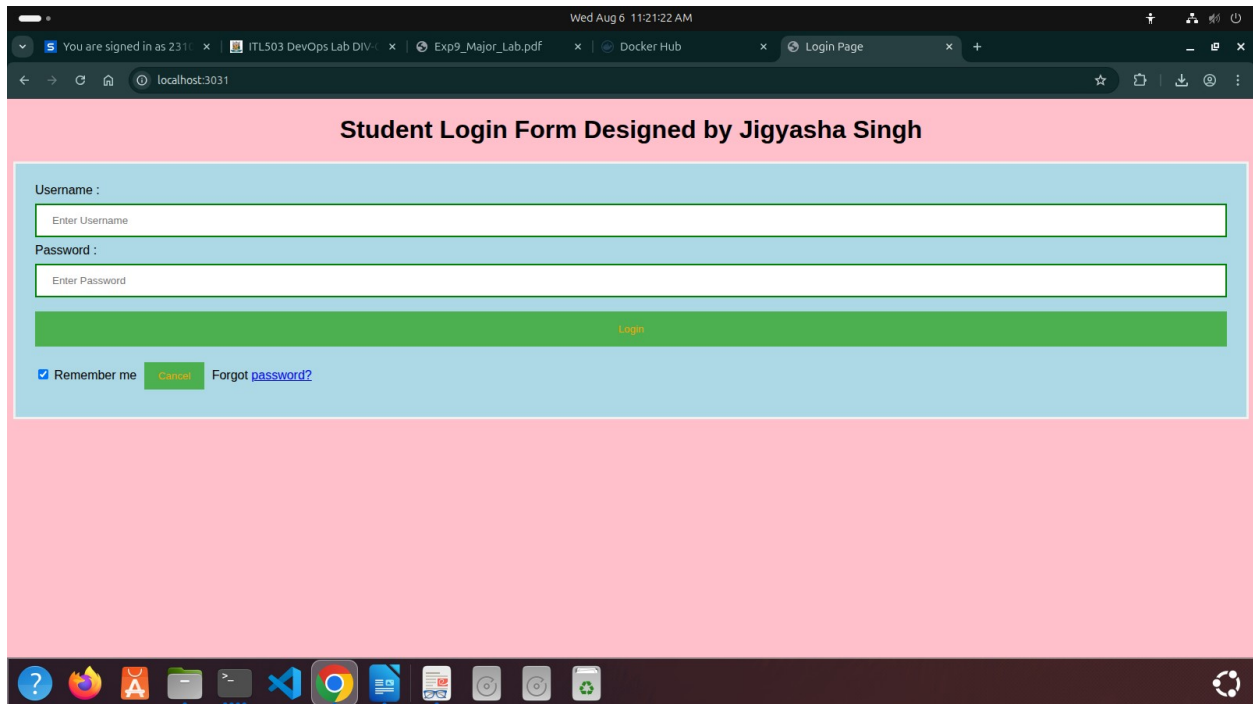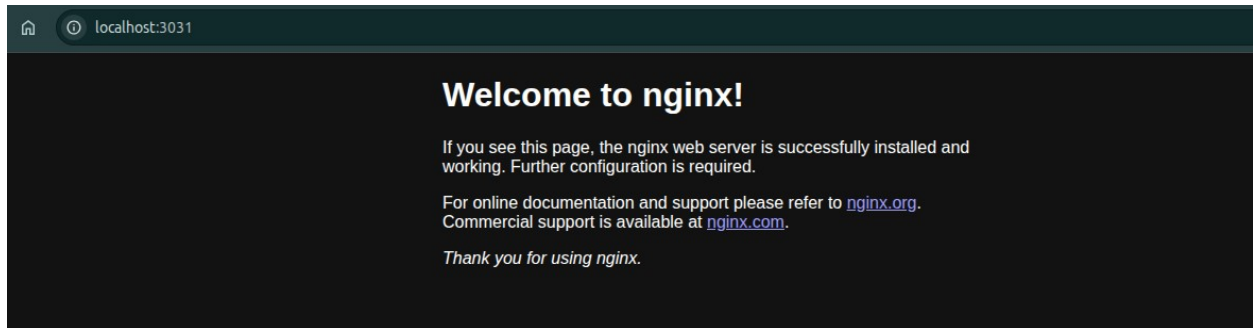```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker container ls -a
CONTAINER ID   IMAGE   COMMAND   CREATED   STATUS   PORTS   NAMES
ff575b7ac9d8   nginx   "/docker-entrypoint..…"   4 minutes ago   Exited (0) 2 minutes ago   webserverj
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker rm ff575b7ac9d8
ff575b7ac9d8
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker container ls -a
CONTAINER ID   IMAGE   COMMAND   CREATED   STATUS   PORTS   NAMES
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha#
```

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# netstat -nltp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 127.0.0.1:3306          0.0.0.0:*               LISTEN      2180/mysqld
tcp        0      0 127.0.0.1:631           0.0.0.0:*               LISTEN      1963/cupsd
tcp        0      0 127.0.0.1:33060         0.0.0.0:*               LISTEN      2180/mysqld
tcp        0      0 127.0.0.53:53           0.0.0.0:*               LISTEN      1442/systemd-resolv
tcp        0      0 0.0.0.0:902             0.0.0.0:*               LISTEN      2296/vmware-authdla
tcp        0      0 127.0.0.54:53           0.0.0.0:*               LISTEN      1442/systemd-resolv
tcp6       0      0 ::1:631                 :::*                    LISTEN      1963/cupsd
tcp6       0      0 :::80                   :::*                    LISTEN      2011/apache2
tcp6       0      0 :::902                  :::*                    LISTEN      2296/vmware-authdla
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha#
```

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

Wed Aug 6 11:21:22 AM

localhost:3031

Student Login Form Designed by Jigyasha Singh

Username :

Enter Username

Password :

Enter Password

Login

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```
root@f9a76deddf32:/# service nginx status
nginx is not running ... failed!
root@f9a76deddf32:/# service nginx start
2025/08/06 05:38:00 [notice] 19#19: using the "epoll" event method
2025/08/06 05:38:00 [notice] 19#19: nginx/1.29.0
2025/08/06 05:38:00 [notice] 19#19: built by gcc 12.2.0 (Debian 12.2.0-14+deb12u1)
2025/08/06 05:38:00 [notice] 19#19: OS: Linux 6.8.0-41-generic
2025/08/06 05:38:00 [notice] 19#19: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2025/08/06 05:38:00 [notice] 20#20: start worker processes
2025/08/06 05:38:00 [notice] 20#20: start worker process 21
2025/08/06 05:38:00 [notice] 20#20: start worker process 22
2025/08/06 05:38:00 [notice] 20#20: start worker process 23
2025/08/06 05:38:00 [notice] 20#20: start worker process 24
2025/08/06 05:38:00 [notice] 20#20: start worker process 25
```

```
root@f9a76deddf32:/# cd /usr/share/nginx/html/
root@f9a76deddf32:/usr/share/nginx/html# /usr/share/nginx/html#ls
bash: /usr/share/nginx/html#ls: No such file or directory
root@f9a76deddf32:/usr/share/nginx/html# /usr/share/nginx/html
bash: /usr/share/nginx/html: Is a directory
root@f9a76deddf32:/usr/share/nginx/html# ls
50x.html  index.html
root@f9a76deddf32:/usr/share/nginx/html# mv index.html index.html_backup
root@f9a76deddf32:/usr/share/nginx/html# nano index.html
bash: nano: command not found
root@f9a76deddf32:/usr/share/nginx/html# apt install nano
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package nano is not available, but is referred to by another package.
This may mean that the package is missing, has been obsoleted, or
is only available from another source

E: Package 'nano' has no installation candidate
root@f9a76deddf32:/usr/share/nginx/html# apt update
Get:1 http://deb.debian.org/debian bookworm InRelease [151 kB]
Get:2 http://deb.debian.org/debian bookworm-updates InRelease [55.4 kB]
Get:3 http://deb.debian.org/debian-security bookworm-security InRelease [48.0 kB]
Get:4 http://deb.debian.org/debian bookworm/main amd64 Packages [8793 kB]
Get:5 http://deb.debian.org/debian bookworm-updates/main amd64 Packages [6916 B]
```

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker stop f9a76deddf32
f9a76deddf32
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha#
```
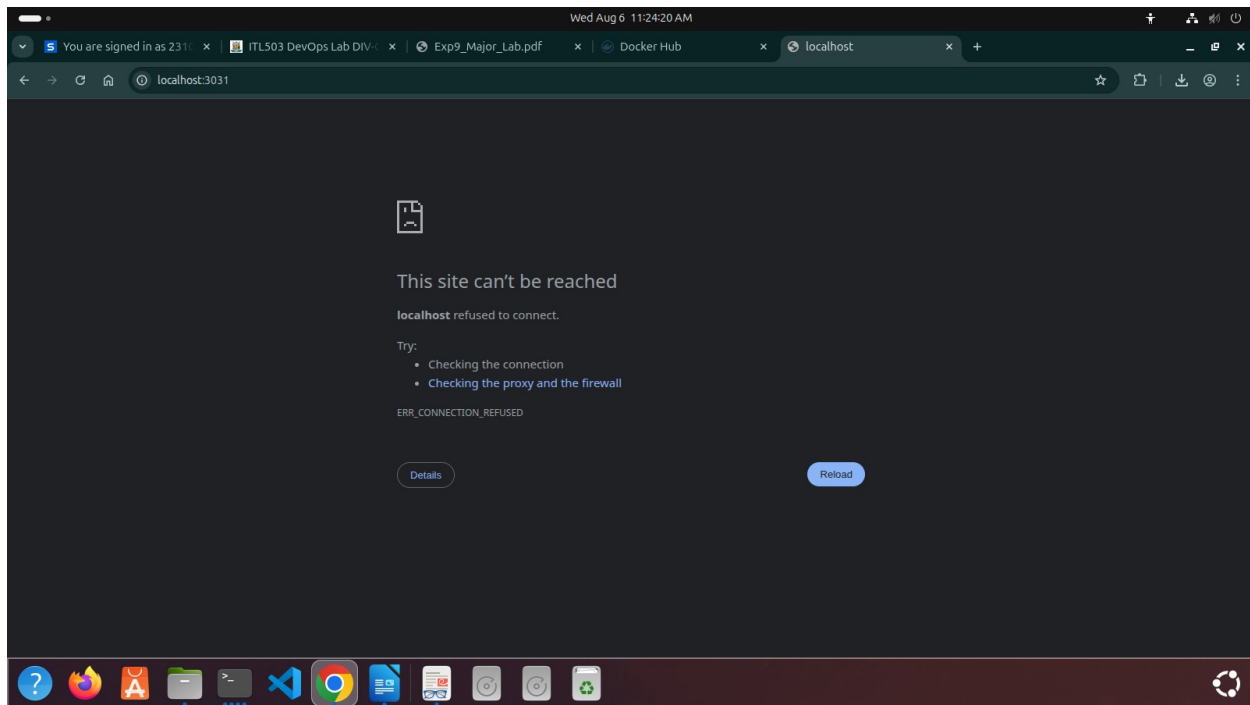
```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker start f9a76deddf32
f9a76deddf32
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker restart f9a76deddf32
f9a76deddf32
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker exec f9a76deddf32 service nginx start
2025/08/06 05:58:24 [notice] 17#17: using the "epoll" event method
2025/08/06 05:58:24 [notice] 17#17: nginx/1.29.0
2025/08/06 05:58:24 [notice] 17#17: built by gcc 12.2.0 (Debian 12.2.0-14+deb12u1)
2025/08/06 05:58:24 [notice] 17#17: OS: Linux 6.8.0-41-generic
2025/08/06 05:58:24 [notice] 17#17: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2025/08/06 05:58:24 [notice] 18#18: start worker processes
2025/08/06 05:58:24 [notice] 18#18: start worker process 19
2025/08/06 05:58:24 [notice] 18#18: start worker process 20
2025/08/06 05:58:24 [notice] 18#18: start worker process 21
2025/08/06 05:58:24 [notice] 18#18: start worker process 22
2025/08/06 05:58:24 [notice] 18#18: start worker process 23
2025/08/06 05:58:24 [notice] 18#18: start worker process 24
2025/08/06 05:58:24 [notice] 18#18: start worker process 25
2025/08/06 05:58:24 [notice] 18#18: start worker process 26
2025/08/06 05:58:24 [notice] 18#18: start worker process 27
2025/08/06 05:58:24 [notice] 18#18: start worker process 28
2025/08/06 05:58:24 [notice] 18#18: start worker process 29
2025/08/06 05:58:24 [notice] 18#18: start worker process 30
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha#
```

Student Login Form Designed by Jigyasha Singh

Username :

Enter Username

Password :

Enter Password

Login

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```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker pause f9a76deddf32
f9a76deddf32
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# docker unpause f9a76deddf32
f9a76deddf32
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha#
```

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# git clone https://github.com/sujataoak799/docker-nginx.git
Cloning into 'docker-nginx'...
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (5/5), done.
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# ls
 23104017_jigyasha_exp3.pdf    docker-nginx          get-docker.sh      jigyasha_exp8.pdf      token.odt
 23104017_jigyasha.pdf         Exp8_Major_Lab.pdf    gitdemo16072025   'Output Template.doc'
```

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# ls
 23104017_jigyasha_exp3.pdf    docker-nginx          get-docker.sh      jigyasha_exp8.pdf      token.odt
 23104017_jigyasha.pdf         Exp8_Major_Lab.pdf    gitdemo16072025   'Output Template.doc'
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha# cd docker-nginx
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# ls
Dockerfile  index.html  style.css
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# nano Dockerfile
```

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# docker build -t jigyasha2025/websitetest25 .        docker:default
[+] Building 87.4s (10/10) FINISHED
 => [internal] load build definition from Dockerfile                                              0.4s
 => => transferring dockerfile: 194B                                                              0.0s
 => [internal] load metadata for docker.io/library/ubuntu:latest                                  3.5s
 => [auth] library/ubuntu:pull token for registry-1.docker.io                                     0.0s
 => [internal] load .dockerignore                                                                 0.3s
 => => transferring context: 2B                                                                   0.0s
 => [1/4] FROM docker.io/library/ubuntu:latest@sha256:a08e551cb33850e4740772b38217fc1796a66da2506d312abe51acda354ff061   3.4s
 => => resolve docker.io/library/ubuntu:latest@sha256:a08e551cb33850e4740772b38217fc1796a66da2506d312abe51acda354ff061   0.5s
 => => sha256:4f1db91d9560cf107b5832c0761364ec64f46777aa4ec637cca3008f287c975e 424B / 424B        0.0s
 => => sha256:a08e551cb33850e4740772b38217fc1796a66da2506d312abe51acda354ff061 6.69kB / 6.69kB    0.0s
 => => sha256:65ae7a6f3544bd2d2b6d19b13bfc64752d776bc92c510f874188bfd404d205a3 2.30kB / 2.30kB    0.0s
 => => sha256:32f112e3802cadcab3543160f4d2aa607b3cc1c62140d57b4f5441384f40e927 29.72MB / 29.72MB  1.4s
```

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# docker images
REPOSITORY                   TAG       IMAGE ID       CREATED         SIZE
jigyasha2025/websitetest25   latest    4f01264d62b0   3 minutes ago   136MB
nginx                        latest    2cd1d97f893f   3 weeks ago     192MB
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# docker run -d -p 3032:80 --name jigyasha_webcontainer 4f01264d62b0
88b96e54c92f86a8a0b4da66bad5fcf17870803c3f7e504f77f5c674433e7ad5
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# docker ps -a
CONTAINER ID   IMAGE          COMMAND                CREATED          STATUS          PORTS                                        NAMES
88b96e54c92f   4f01264d62b0   "nginx -g 'daemon of…"   11 seconds ago   Up 10 seconds   0.0.0.0:3032->80/tcp, [::]:3032->80/tcp   jigyasha_webcontainer
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx#
```
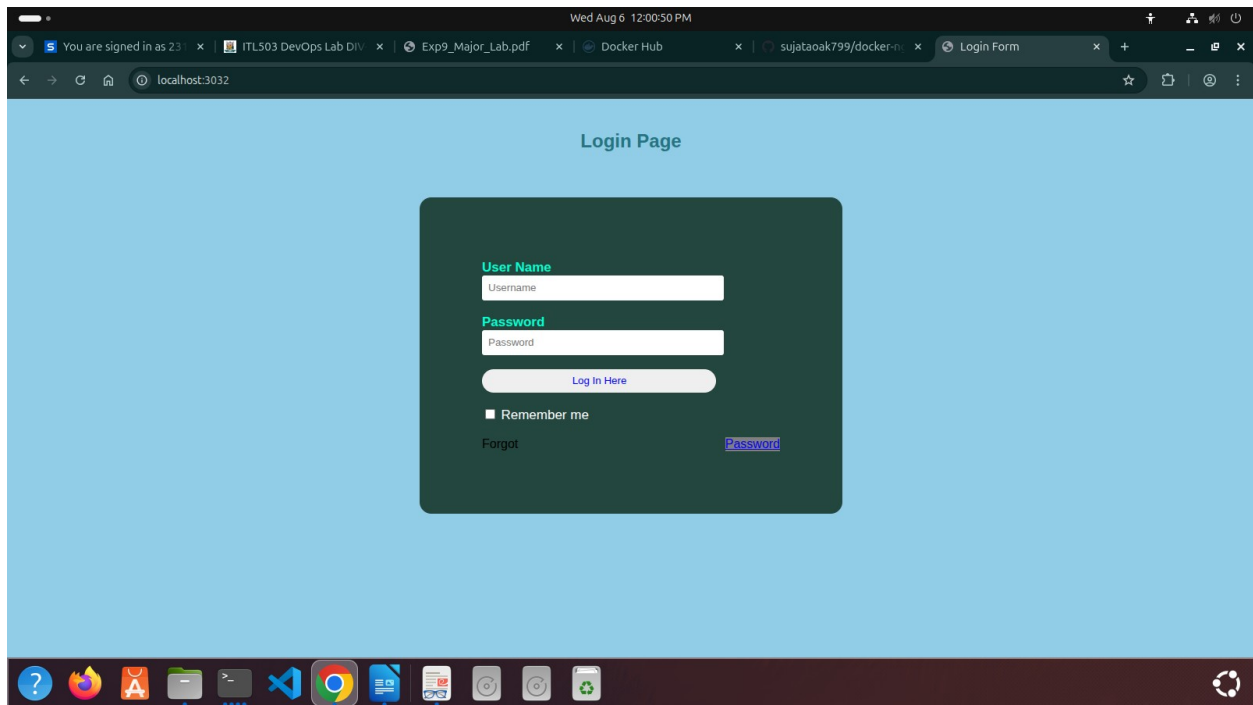
Login Page

User Name

Password

Log In Here

Remember me

Forgot   Password

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# docker push jigyasha2025/websitetest25
Using default tag: latest
The push refers to repository [docker.io/jigyasha2025/websitetest25]
fa956a1ff004: Preparing
9601d741b671: Preparing
a9684e8d3274: Preparing
107cbdaeec04: Preparing
denied: requested access to the resource is denied
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# docker tag 4f0 jigyasha12/apsit-jigyashacontainer25:v1
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# docker images
REPOSITORY                           TAG       IMAGE ID       CREATED         SIZE
jigyasha12/apsit-jigyashacontainer25 v1        4f01264d62b0   9 minutes ago   136MB
jigyasha2025/websitetest25           latest    4f01264d62b0   9 minutes ago   136MB
nginx                                latest    2cd1d97f893f   3 weeks ago     192MB
```

```
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# docker login
Authenticating with existing credentials... [Username: jigyasha12]

i Info → To login with a different account, run 'docker logout' followed by 'docker login'


Login Succeeded
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx# docker push jigyasha12/apsit-jigyashacontainer25:v1
The push refers to repository [docker.io/jigyasha12/apsit-jigyashacontainer25]
fa956a1ff004: Pushed
9601d741b671: Pushed
a9684e8d3274: Pushed
107cbdaeec04: Pushed
v1: digest: sha256:dc3b4cde194f5b9ff4acc045b0a45e8fb589c8ef628e651457f36f9383d08333 size: 1161
root@apsit-HP-ProDesk-600-G4-PCI-MT:/home/apsit/Desktop/git-jigyasha/docker-nginx#
```
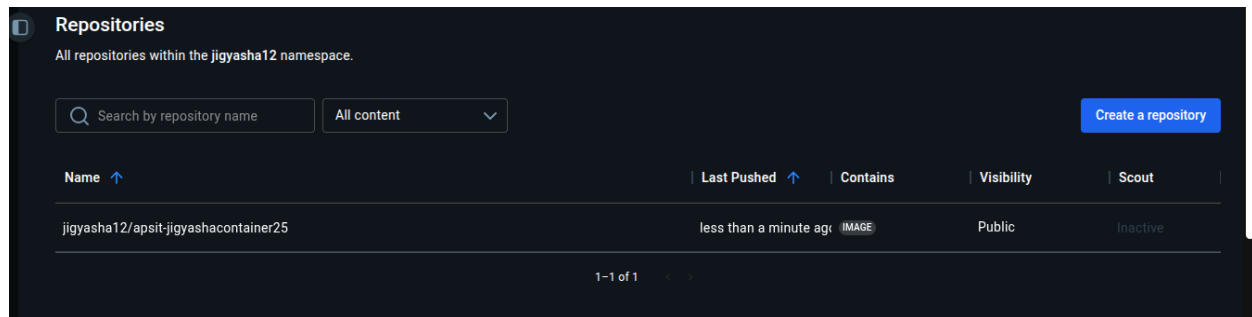
Conclusion: In the experiment, we used various docker commands to pull images that were already built, also we created our own images by using docker file instructions for a sample web application and at last we have pushed the image to docker hub account for others to use the repository.