

Module-3: Docker – I Assignment - 3

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Course Offered: -Advanced Cloud Computing and Devops

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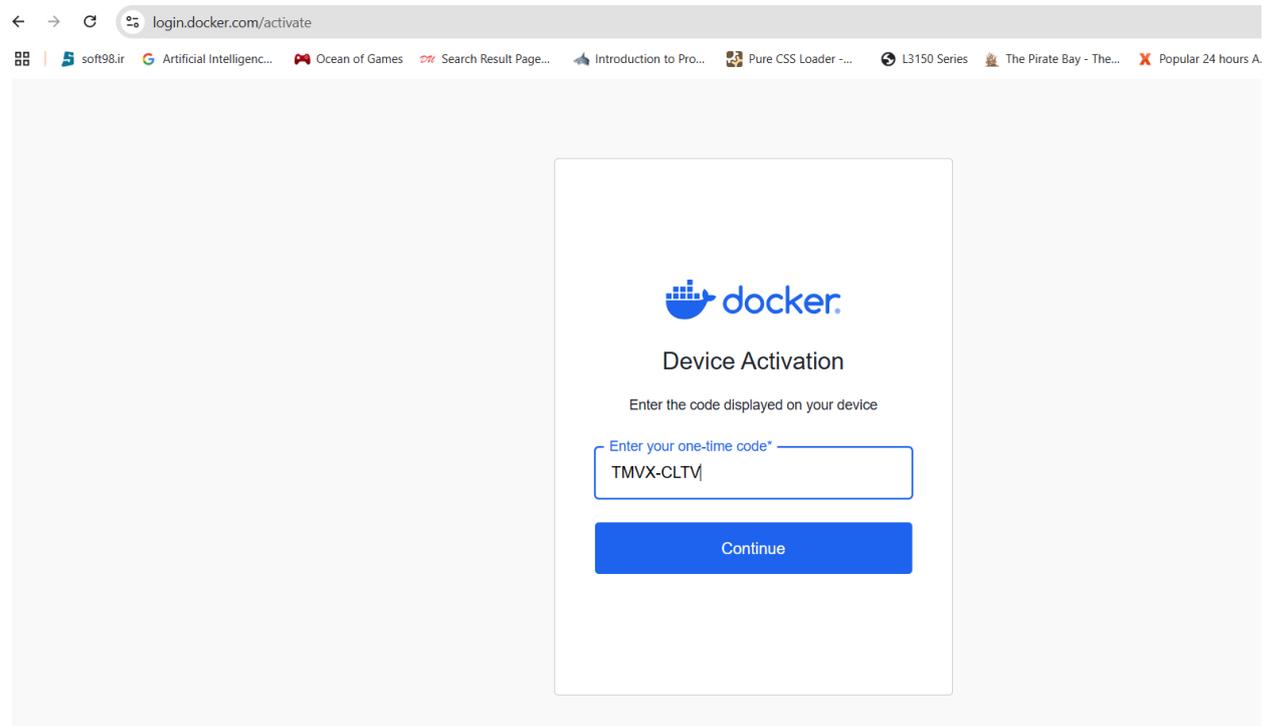
Tasks To Be Performed:

1. Use the saved image in the previous assignment
2. Upload this image on Docker Hub
3. On a separate machine pull this Docker Hub image and launch it on port 80
4. Start the Apache2 service
5. Verify if you are able to see the Apache2 service

SOLUTION

1. Use the saved image in the previous assignment
2. Upload this image on Docker Hub

First Login into Docker using



```
root@ip-172-31-20-66:/home/ubuntu# sudo docker login
USING WEB-BASED LOGIN
To sign in with credentials on the command line, use 'docker login -u <username>'

Your one-time device confirmation code is: TMVX-CLTV
Press ENTER to open your browser or submit your device code here: https://login.docker.com/activate

Waiting for authentication in the browser...
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credential-stores

Login Succeeded
root@ip-172-31-20-66:/home/ubuntu#
```

Name	Last Pushed	Contains	Visibility	Scout
hiteshtech003/friendlyhello	11 months ago	IMAGE	Public	Inactive
hiteshtech003/python_program	about 1 year ago	IMAGE	Public	Inactive
hiteshtech003/customnginx	about 1 year ago	IMAGE	Public	Inactive
hiteshtech003/mariadb	about 1 year ago	IMAGE	Public	Inactive
hiteshtech003/httpd	about 1 year ago	IMAGE	Public	Inactive
hiteshtech003/nginx	about 1 year ago	IMAGE	Public	Inactive
hiteshtech003/mysqltest	about 1 year ago	IMAGE	Public	Inactive
hiteshtech003/mysql	about 1 year ago		Public	Inactive
hiteshtech003/owncloud	about 1 year ago		Public	Inactive
hiteshtech003/centos	about 2 years ago	IMAGE	Public	Inactive

[Repositories](#) / [Create](#)

Create repository

Namespace: Repository Name*:

 Short description:

A short description to identify your repository. If the repository is public, this description is used to index your content on Docker Hub and in search engines, and is visible to users in search results.

Visibility

Using 0 of 1 private repositories. [Get more](#)

Public  Appears in Docker Hub search results

Private  Only visible to you

Pushing images

You can push a new image

```
docker tag local-image-name:tag-name hiteshtech003/hiteshubuntu:tag-name
docker push hiteshtech003/hiteshubuntu:tag-name
```

Make sure to replace tag-name with the tag you want to push.

hiteshtech003 / [Repositories](#) / [hiteshubuntu](#) / [General](#)

hiteshtech003/hiteshubuntu

Created less than a minute ago

Add a description

Add a category

General Tags Builds Collaborators Webhooks Settings

Tags INCOMPLETE

Pushed images appear here.

```
root@ip-172-31-20-66:/home/ubuntu# sudo docker tag ubuntu hiteshtech003/hiteshubuntu
root@ip-172-31-20-66:/home/ubuntu# docker images
REPOSITORY          TAG          IMAGE ID          CREATED          SIZE
ubuntu              myimage     0071ac623d8b     23 minutes ago  240MB
<none>              <none>     c1d14b993a5f     24 minutes ago  240MB
hiteshtech003/hiteshubuntu  latest      a04dc4851cbc     13 days ago     78.1MB
ubuntu              latest      a04dc4851cbc     13 days ago     78.1MB
root@ip-172-31-20-66:/home/ubuntu#
```

sudo docker push docker push hiteshtech003/hiteshubuntu (It is used for pushing docker Image to Docker Hub)

```
root@ip-172-31-20-66:/home/ubuntu# sudo docker push hiteshtech003/hiteshubuntu
Using default tag: latest
The push refers to repository [docker.io/hiteshtech003/hiteshubuntu]
4b7c01ed0534: Mounted from library/ubuntu
latest: digest: sha256:69911d2e5c6ec7d9ad230235b2a12892109e6e31cc2ad92f11f8ded8549485ff size: 529
root@ip-172-31-20-66:/home/ubuntu#
```

hiteshtech003 / [Repositories](#) / [hiteshubuntu](#) / [General](#)

hiteshtech003/hiteshubuntu

Last pushed less than a minute ago

Add a description

Add a category

General Tags Builds Collaborators Webhooks Settings

Tags

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
latest		Image	a few seconds ago	a few seconds ago

[See all](#)

3. On a separate machine pull this Docker Hub image and launch it on port 80

```
root@ip-172-31-23-85:/home/ubuntu# sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [618 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [118 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [8996 B]
Get:11 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [803 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [853 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [193 kB]
```

```

root@ip-172-31-23-85:/home/ubuntu# sudo apt install 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-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 92 not upgraded.
Need to get 78.6 MB of archives.
After this operation, 302 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 pigz amd64 2.8-1 [65.6 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 bridge-utils amd64 1.7.1-1ubuntu2 [33.9 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 runc amd64 1.1.12-0ubuntu3.1 [8599 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 containerd amd64 1.7.24-0ubuntu1~24.04.1 [37.0 MB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 dns-root-data all 2023112702-willsync1 [4450 B]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 dnsmasq-base amd64 2.90-2build2 [375 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 docker.io amd64 26.1.3-0ubuntu1~24.04.1 [32.4 MB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 ubuntu-fan all 0.12.16 [35.2 kB]
Fetched 78.6 MB in 2s (48.7 MB/s)
Preconfiguring packages ...
Selecting previously unselected package pigz.
(Reading database ... 70610 files and directories currently installed.)
Preparing to unpack .../0-pigz_2.8-1_amd64.deb ...
Unpacking pigz (2.8-1) ...
Selecting previously unselected package bridge-utils.
Preparing to unpack .../1-bridge-utils_1.7.1-1ubuntu2_amd64.deb ...
Unpacking bridge-utils (1.7.1-1ubuntu2) ...
Selecting previously unselected package runc.
Preparing to unpack .../2-runc_1.1.12-0ubuntu3.1_amd64.deb ...
Unpacking runc (1.1.12-0ubuntu3.1) ...
Selecting previously unselected package containerd.

```

sudo docker images

```

root@ip-172-31-23-85:/home/ubuntu# docker pull hiteshtech003/hiteshubuntu:latest
latest: Pulling from hiteshtech003/hiteshubuntu
5a7813e071bf: Pull complete
Digest: sha256:69911d2e5c6ec7d9ad230235b2a12892109e6e31cc2ad92f11f8ded8549485ff
Status: Downloaded newer image for hiteshtech003/hiteshubuntu:latest
docker.io/hiteshtech003/hiteshubuntu:latest
root@ip-172-31-23-85:/home/ubuntu# sudo docker images

```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
hiteshtech003/hiteshubuntu	latest	a04dc4851cbc	13 days ago	78.1MB

```

root@ip-172-31-23-85:/home/ubuntu#

```

To create a container from the image that we pulled from docker hub

sudo docker run -itd -p 80:80 hiteshtech003/hiteshubuntu

```

root@ip-172-31-23-85:/home/ubuntu# docker container ls

```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
b66ef2aabd09	hiteshtech003/hiteshubuntu	"/bin/bash"	9 minutes ago	Up 9 minutes	0.0.0.0:80->80/tcp, :::80->80/tcp	unruffled_bouman

```

root@ip-172-31-23-85:/home/ubuntu#

```

sudo docker exec -it b66ef2aabd09 bash

4. Start the Apache2 service

5. Verify if you are able to see the Apache2 service

```

root@b66ef2aabd09:/# service apache2 start
* Starting Apache httpd web server apache2
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.17.0.2. Set the 'ServerName' directive globally to suppress
this message
*
root@b66ef2aabd09:/#

```



Apache2 Default Page

Ubuntu

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/  
|-- apache2.conf  
|   |-- ports.conf  
|-- mods-enabled  
|   |-- *.Load  
|   |-- *.conf  
|-- conf-enabled  
|   |-- *.conf  
|-- sites-enabled  
|   |-- *.conf
```