

Module-3: Docker – I Assignment - 2

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Course Offered: -Advanced Cloud Computing and Devops

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Tasks To Be Performed:

1. Save the image created in assignment 1 as a Docker image
2. Launch container from this new image and map the port to 81
3. Go inside the container and start the Apache2 service
4. Check if you are able to access it on the browser

SOLUTION

1. Save the image created in assignment 1 as a Docker image

If I want to create the image with the same name we need to change the TAG.
we can't use the same TAG

```
root@ip-172-31-20-66:/home/ubuntu# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
ubuntu        myimage   0071ac623d8b   4 minutes ago  240MB
<none>        <none>    c1d14b993a5f   5 minutes ago  240MB
ubuntu        latest    a04dc4851cbc   13 days ago    78.1MB
```

docker commit b6dc43cdf815

```
root@ip-172-31-20-66:/home/ubuntu# docker commit b6dc43cdf815
sha256:c1d14b993a5f4a6e716735e6f2e16e6c417206e377bb4fd4a3c9b7522ceab1aa
root@ip-172-31-20-66:/home/ubuntu# sudo docker ps
```

sudo docker ps

```
root@ip-172-31-20-66:/home/ubuntu# sudo docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS                               NAMES
b6dc43cdf815  ubuntu   "/bin/bash" 6 minutes ago Up 6 minutes 0.0.0.0:80->80/tcp, :::80->80/tcp nice_dirac
```

Sudo docker commit b6dc43cdf815 ubuntu:myimage

```
root@ip-172-31-20-66:/home/ubuntu# sudo docker commit b6dc43cdf815 ubuntu:myimage
sha256:0071ac623d8b3ee81729d8ef81276b36cf4185561247a24a31fd94ee74ef26bb
root@ip-172-31-20-66:/home/ubuntu# docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS                               NAMES
b6dc43cdf815  ubuntu   "/bin/bash" 7 minutes ago Up 7 minutes 0.0.0.0:80->80/tcp, :::80->80/tcp nice_dirac
root@ip-172-31-20-66:/home/ubuntu# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
ubuntu        myimage   0071ac623d8b   39 seconds ago  240MB
<none>        <none>    c1d14b993a5f   About a minute ago  240MB
ubuntu        latest    a04dc4851cbc   13 days ago    78.1MB
```

2. Launch container from this new image and map the port to 81

```
root@ip-172-31-20-66:/home/ubuntu# sudo docker run -it -p 81:80 ubuntu:myimage
root@69aa67a46b33:/# root@ip-172-31-20-66:/home/ubuntu# ^C
root@ip-172-31-20-66:/home/ubuntu# ^C
root@ip-172-31-20-66:/home/ubuntu# ^C
root@ip-172-31-20-66:/home/ubuntu# docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS                               NAMES
69aa67a46b33  ubuntu:myimage "/bin/bash" 38 seconds ago Up 38 seconds 0.0.0.0:81->80/tcp, [::]:81->80/tcp sleepy_lumiere
b6dc43cdf815  ubuntu   "/bin/bash" 9 minutes ago Up 9 minutes 0.0.0.0:80->80/tcp, :::80->80/tcp nice_dirac
```

```
root@ip-172-31-20-66:/home/ubuntu# docker container ls
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS                               NAMES
69aa67a46b33  ubuntu:myimage "/bin/bash" 2 minutes ago Up 2 minutes 0.0.0.0:81->80/tcp, [::]:81->80/tcp sleepy_lumiere
b6dc43cdf815  ubuntu   "/bin/bash" 11 minutes ago Up 11 minutes 0.0.0.0:80->80/tcp, :::80->80/tcp nice_dirac
```

3. Go inside the container and start the Apache2 service

To get inside the container

sudo docker exec -it <CONTAINER ID> bash

```
root@69aa67a46b33:/# sudo apt update
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
13 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@69aa67a46b33:/# sudo apache2ctl start
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.17.0.3. Set the 'ServerName' directive globally to suppress this message
root@69aa67a46b33:/# sudo apache2ctl start
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.17.0.3. Set the 'ServerName' directive globally to suppress this message
httpd (pid 149) already running
```

4. Check if you are able to access it on the browser



← → ↻ Not secure 54.152.233.74:81

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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
```