1. Pull Ubuntu container
2. Run this container and map port 80 on the local
3. Install Apache2 on this container
4. Check if you are able to access the Apache page on your browser

sudo docker pull ubuntu

```
ubuntu@ip-172-31-38-198:~$ sudo docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
29202e855b20: Pull complete
Digest: sha256:e6173d4dc55e76b87c4af8db8821b1feae4146dd47341e4d431118c7dd060a74
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
ubuntu@ip-172-31-38-198:~$
```

i-0d69c4078ab12a6bb                                                        ×

   PublicIPs: 52.90.204.132   PrivateIPs: 172.31.38.198

sudo docker run -d -p 80:80 ubuntu

```
ubuntu@ip-172-31-38-198:~$ sudo docker run -d -p 80:80 ubuntu
4ef61d9dbae956a8f3c79587583910cee2ec69ef45f51013bcd98e815d8cae1b
ubuntu@ip-172-31-38-198:~$ sudo docker ps -a
CONTAINER ID   IMAGE     COMMAND       CREATED        STATUS                     PORTS       NAMES
4ef61d9dbae9   ubuntu    "/bin/bash"   6 seconds ago  Exited (0) 5 seconds ago               relaxed_goodall
ubuntu@ip-172-31-38-198:~$
```

i-0d69c4078ab12a6bb                                                        ×

   PublicIPs: 52.90.204.132   PrivateIPs: 172.31.38.198

sudo docker run -it -d -p 80:80 ubuntu (.....had to use -it to keep it running)

```
ubuntu@ip-172-31-38-198:~$ sudo docker run -it -d -p 80:80 ubuntu
c5fcfdf15ad12f93fb504619b2dd271df5f96e0d05578370e1740560c5c4dc5a
ubuntu@ip-172-31-38-198:~$ docker ps
permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get "http://%2Fvar%2Frun%2Fdocker.s
ock/v1.24/containers/json": dial unix /var/run/docker.sock: connect: permission denied
ubuntu@ip-172-31-38-198:~$ sudo docker ps
CONTAINER ID   IMAGE     COMMAND       CREATED         STATUS        PORTS                         NAMES
c5fcfdf15ad1   ubuntu    "/bin/bash"   17 seconds ago  Up 16 seconds 0.0.0.0:80->80/tcp, :::80->80/tcp  flamboyant_hoover
ubuntu@ip-172-31-38-198:~$
```

i-0d69c4078ab12a6bb                                                        ×

   PublicIPs: 52.90.204.132   PrivateIPs: 172.31.38.198

 docker exec -it container ID bash

```
subby@subby-ubuntu:~$ docker exec -it 66abd71e9d52 bash
root@66abd71e9d52:/#
```

apt-get update
apt-get apache2
service apache2 status
service apache2 start
service apache2 status

```
root@c5fcfdf15ad1:/# service apache2 status
 * apache2 is not running
root@c5fcfdf15ad1:/# 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@c5fcfdf15ad1:/# service apache2 status
 * apache2 is running
root@c5fcfdf15ad1:/#
```

**i-0d69c4078ab12a6bb**                                                                ✕

PublicIPs: 52.90.204.132    PrivateIPs: 172.31.38.198

← → ↻          🛡 52.90.204.132                                          ☆

# 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
```

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

sudo docker commit c5fcfdf15ad1 subby83/apache2

```
ubuntu@ip-172-31-38-198:~$ sudo docker commit c5fcfdf15ad1 subby83/apache2
sha256:5231a1c9a76746cc0e98a40c3e5c9b6ca3b908448bd6a70e22f5fe947b9e795f
ubuntu@ip-172-31-38-198:~$ sudo docker images
REPOSITORY        TAG       IMAGE ID       CREATED          SIZE
subby83/apache2   latest    5231a1c9a767   About a minute ago   233MB
ubuntu            latest    e34e831650c1   2 weeks ago          77.9MB
ubuntu@ip-172-31-38-198:~$
```

i-0d69c4078ab12a6bb                                                    ✕

PublicIPs: 52.90.204.132   PrivateIPs: 172.31.38.198

CloudShell    Feedback                              © 2024, Amazon Web Services, Inc. or its affiliates.    Privacy    Terms    Cookie prefere

sudo docker images

```
ubuntu@ip-172-31-38-198:~$ sudo docker images
REPOSITORY        TAG       IMAGE ID       CREATED          SIZE
subby83/apache2   latest    5231a1c9a767   37 minutes ago   233MB
ubuntu            latest    e34e831650c1   2 weeks ago      77.9MB
ubuntu@ip-172-31-38-198:~$
```

i-0d69c4078ab12a6bb                                                    ✕

PublicIPs: 52.90.204.132   PrivateIPs: 172.31.38.198

CloudShell    Feedback                              © 2024, Amazon Web Services, Inc. or its affiliates.    Privacy    Terms    Cookie prefere

sudo docker run -it -d -p 81:80 subby83/apache2

```
ubuntu@ip-172-31-38-198:~$ sudo docker run -it -d -p 81:80 subby83/apache2
fc4d01571081486f4b5e6a5a2ba84f4de3e4b3be885ba422eb1e23bfc85ad295
```

sodo docker ps

```
ubuntu@ip-172-31-38-198:~$ sudo docker ps
CONTAINER ID    IMAGE            COMMAND         CREATED              STATUS              PORTS                                        NAMES
b36f7f5a1a08    subby83/apache2  "/bin/bash"     44 minutes ago       Up 44 minutes       0.0.0.0:81->80/tcp, :::81->80/tcp            youthful_elgama
1
c5fcfdf15ad1    ubuntu           "/bin/bash"     About an hour ago    Up About an hour    0.0.0.0:80->80/tcp, :::80->80/tcp            flamboyant_hoov
er
ubuntu@ip-172-31-38-198:~$
```

i-0d69c4078ab12a6bb                                                                           ✕

PublicIPs: 52.90.204.132    PrivateIPs: 172.31.38.198

sudo docker exec -it b36f7f5a1a08 bash

```
ubuntu@ip-172-31-38-198:~$ sudo docker exec -it b36f7f5a1a08 bash
root@b36f7f5a1a08:/# service apache2 start
 * Starting Apache httpd web server apache2
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.17.0.3. Set the 'ServerName' directive
 globally to suppress this message
 *
root@b36f7f5a1a08:/# service apache2 status
 * apache2 is running
root@b36f7f5a1a08:/#
```

i-0d69c4078ab12a6bb                                                                           ✕

PublicIPs: 52.90.204.132    PrivateIPs: 172.31.38.198

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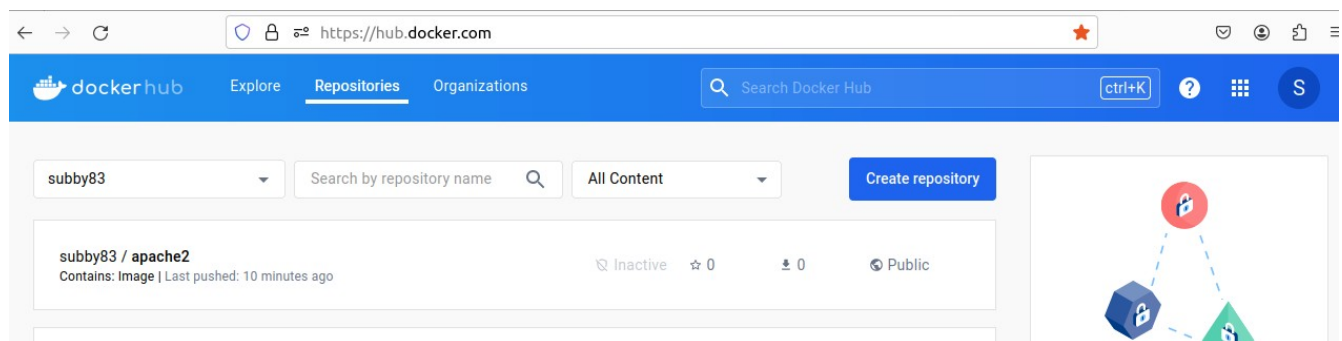5. Verify if you are able to see the Apache2 service

sudo docker login

```
ubuntu@ip-172-31-38-198:~$ sudo docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to
create one.
Username: subby83
Password:
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/#credentials-store

Login Succeeded
ubuntu@ip-172-31-38-198:~$ sudo docker push subby83/apache2
Using default tag: latest
The push refers to repository [docker.io/subby83/apache2]
90c16358ae96: Pushed
8e87ff28f1b5: Mounted from library/ubuntu
latest: digest: sha256:916b8384a0fb8127716f767d0ab6ecaea3140b890a1d460c6a063297609bbe20 size: 741
ubuntu@ip-172-31-38-198:~$
```

i-0d69c4078ab12a6bb                                                              ×

PublicIPs: 52.90.204.132   PrivateIPs: 172.31.38.198

← → C        ○ 🔒 ⇄ https://hub.docker.com                                          ⭐        ♡ ☺ ⅁ ≡

🐳 docker hub    Explore   **Repositories**   Organizations      Q Search Docker Hub        ctrl+K  ❓ ⠿ Ⓢ

subby83          ▾      Search by repository name  Q    All Content  ▾    **Create repository**

subby83 / **apache2**
Contains: Image | Last pushed: 10 minutes ago              ⏾ Inactive   ☆ 0    ⬇ 0    ⊕ Public

ubuntu@ip-172-31-84-63:~$ sudo docker pull subby83/apache2

```
ubuntu@ip-172-31-84-63:~$ sudo docker pull subby83/apache2
Using default tag: latest
latest: Pulling from subby83/apache2
29202e855b20: Pull complete
6267156d7ae0: Pull complete
Digest: sha256:916b8384a0fb8127716f767d0ab6ecaea3140b890a1d460c6a063297609bbe20
Status: Downloaded newer image for subby83/apache2:latest
docker.io/subby83/apache2:latest
ubuntu@ip-172-31-84-63:~$
```

sudo docker run -it -d -p 80:80 subby83/apache2:latest
sudo docker ps
sudo docker exec -it eb37377433ee bash

```
ubuntu@ip-172-31-84-63:~$ sudo docker pull subby83/apache2
Using default tag: latest
latest: Pulling from subby83/apache2
29202e855b20: Pull complete
6267156d7ae0: Pull complete
Digest: sha256:916b8384a0fb8127716f767d0ab6ecaea3140b890a1d460c6a063297609bbe20
Status: Downloaded newer image for subby83/apache2:latest
docker.io/subby83/apache2:latest
ubuntu@ip-172-31-84-63:~$ sudo docker run -d -p 80:80 subby83/apache2:latest
1d4385dcc5f21798b0d7b0d4e5418600926e3e5a2c7ed2e8f613590ab655b7f6
ubuntu@ip-172-31-84-63:~$ sudo docker ps
CONTAINER ID   IMAGE     COMMAND     CREATED     STATUS     PORTS     NAMES
ubuntu@ip-172-31-84-63:~$ sudo docker run -it -d -p 80:80 subby83/apache2:latest
eb37377433ee16c05b25bc41b6477f7a5d49275f4318e138ee7a79aed65935c8
ubuntu@ip-172-31-84-63:~$ sudo docker ps
CONTAINER ID   IMAGE                   COMMAND       CREATED        STATUS        PORTS                                      NAMES
eb37377433ee   subby83/apache2:latest  "/bin/bash"   5 seconds ago  Up 4 seconds  0.0.0.0:80->80/tcp, :::80->80/tcp          quizzical_nash
ubuntu@ip-172-31-84-63:~$ sudo docker exec -it eb37377433ee bash
root@eb37377433ee:/# service apache status
```

service apache2 status
service apache2 start

```
root@eb37377433ee:/# 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@eb37377433ee:/# service apache2 status
 * apache2 is running
root@eb37377433ee:/#
```

# Apache2 Default Page

**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
```