

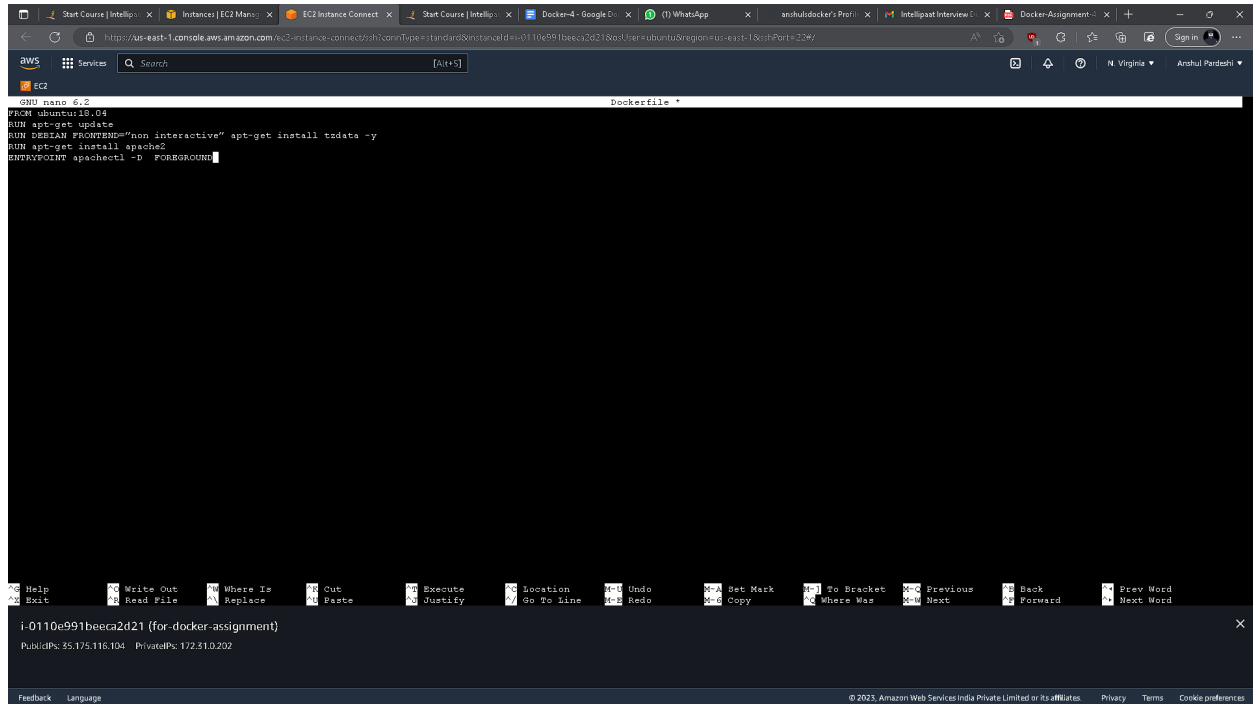
Docker-4

You have been asked to: Create a dockerfile with the following specs:

- Ubuntu container
 - Apache2 installed
 - Apache2 should automatically run once the container starts
- Submit the dockerfile, for assignment completion

To create a docker file: `sudo nano Dockerfile`

Note: Every first keyword should be in capital letter



```
GNU nano 6.2 Dockerfile
FROM ubuntu:18.04
RUN apt-get update
RUN DEBIAN_FRONTEND="non interactive" apt-get install tzdata -y
RUN apt-get install apache2
ENTRYPOINT apache2ctl -D FOREGROUND
```

#paste this:

FROM ubuntu:18.04

#it will pull ubuntu image

RUN apt-get update

#will update the ubuntu

RUN DEBIAN_FRONTEND="noninteractive" apt-get install tzdata -y

RUN apt-get install apache2 -y

#installs apache2

ENTRYPOINT apache2ctl -D FOREGROUND

'entrypoint' sets executed file & 'foreground' will start apache2 when container starts.

Now build docker using: **sudo docker build . -t <any name>**
Then check if image is installed: **sudo docker images**

```
Ubuntu Pro subscription. Free for personal use.
https://ubuntu.com/aws/pro

Expanded Security Maintenance for Applications is not enabled.
10 updates can be applied immediately.
10 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Thu Feb 16 11:28:16 2023 from 10.206.107.20
ubuntu@ip-172-31-0-202:~$ sudo docker build . -t for-assignment

i-0110e991beeca2d21 (for-docker-assignment)
PublicDns: 55.175.116.104 PrivateDns: 172.31.0.202

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```

```
Processing triggers for libc-bin (2.27-3ubuntu1.6) ...
Removing intermediate container 4e41890c7968
--> 4e41890c7968
Step 5/5 : ENTRYPOINT apache2ctl -D FOREGROUND
--> Running in esf3ce6c89e2
Removing intermediate container esf3ce6c89e2
--> 4e85ba3d34fd
Successfully built 4e85ba3d34fd
Successfully tagged for-assignment:latest
ubuntu@ip-172-31-0-202:~$ sudo docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
for-assignment       latest              4e85ba3d34fd        3 minutes ago      207MB
anubalsdocker/forassignment  v1                  c6ccad51c3b7        4 hours ago        204MB
newimagefromoldone   latest              c6ccad51c3b7        4 hours ago        204MB
ubuntu               18.04               5d2df19066ac        3 weeks ago        63.1MB
ubuntu@ip-172-31-0-202:~$

i-0110e991beeca2d21 (for-docker-assignment)
PublicDns: 55.175.116.104 PrivateDns: 172.31.0.202

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```

Lets run this image on any port say 7007:
Sudo docker run -itd -p 7007:80 <image name>

```
--> 4e85ba3d34fd
Successfully built 4e85ba3d34fd
Successfully tagged for-assignment:latest
ubuntu@ip-172-31-0-202:~$ sudo docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
for-assignment       latest              4e85ba3d34fd        3 minutes ago      207MB
anubalsdocker/forassignment  v1                  c6ccad51c3b7        4 hours ago        204MB
newimagefromoldone   latest              c6ccad51c3b7        4 hours ago        204MB
ubuntu               18.04               5d2df19066ac        3 weeks ago        63.1MB
ubuntu@ip-172-31-0-202:~$ sudo docker run -itd -p 7007:80 for-assignment
Command 'sudo' not found, did you mean:
  command 'ludo' from snap ludo (0.16.20)
  command 'ludo' from deb ludo (6.4.1-0)
  command 'sudo' from deb sudo (1.9.5-3ubuntu2.2)
  command 'sudo' from deb sudo-ldap (1.9.5-1ubuntu2.2)
See 'snap info <snapname>' for additional versions.
ubuntu@ip-172-31-0-202:~$ sudo docker run -itd -p 7007:80 for-assignment
bce30a641d4b1cb847a5f8cb34f44bae95e27e3de022948ccc5ff4fe6abb9c8b
ubuntu@ip-172-31-0-202:~$

i-0110e991beeca2d21 (for-docker-assignment)
PublicDns: 55.175.116.104 PrivateDns: 172.31.0.202

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```

If container is running: `sudo docker ps -a`

Then no need to check if apache is running by exec into container because we used **FOREGROUND** in dockerfile.

Let us copy paste ip with 7007 port to check apache2

```
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https://us-east-1.console.aws.amazon.com/ec2-instance-connect/shh?contentType=standard&instanceId=i-0110e991b6ca2d2d1&os=Ubuntu&region=us-east-1&sshPort=22#/?
[A++S]
EC2
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module ssl.
Enabling module setenvif.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
lnvke-rc.d: could not determine current runlevel
lnvke-rc.d: policy-rc.d denied execution of start.
Processing triggers for libc-bin (2.27-3ubuntu1.6) ...
Removing intermediate container 4e1893c7960
--> e0148b3b6d1
Step 5/5 : ENTRYPOINT apache2ctl -D FOREGROUND
--> Running in eaf306c09f2
Removing intermediate container eaf306c09f2
--> 4a05ba3d34fd
Successfully built 4a05ba3d34fd
Successfully tagged for-assignment:latest
ubuntu@ip-172-31-0-202:~$ sudo docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
for-assignment      latest         4a05ba3d34fd    3 minutes ago   207MB
anshuldocker/forassignment   vl             c6ccad5163b7    4 hours ago     204MB
newimagefromoldone latest         c6ccad5163b7    4 hours ago     204MB
ubuntu              18.04          5d21f19066ac    3 weeks ago     63.1MB
ubuntu@ip-172-31-0-202:~$ sudo docker run -itd -p 7007:80 for-assignment
Command 'sudo' not found, did you mean:
  command 'ludo' from snap ludo (0.16.20)
  command 'ludo' from deb ludo (6.4.1-4)
  command 'ludo' from deb ludo (1.9.9-1ubuntu2.2)
  command 'ludo' from deb ludo-lisp (1.9.9-1ubuntu2.2)
See 'snap info <snapname>' for additional versions.
ubuntu@ip-172-31-0-202:~$ sudo docker run -itd -p 7007:80 for-assignment
b0e3ca614db1cbb4745f9cb344f4bae95e27e3de0229480cc5ff4fe6abb9c8b
ubuntu@ip-172-31-0-202:~$ sudo docker ps
CONTAINER ID   IMAGE             COMMAND                  CREATED        STATUS        PORTS                               NAMES
b0e3ca614db1  for-assignment   "/bin/sh -c 'apache2..." 2 minutes ago  Up 2 minutes  0.0.0.0:7007->80/tcp, :::7007->80/tcp  hungry_bhaasara
07699e8ebba3  80da6d50b626     "/bin/sh -c 'apt-get ..." 10 minutes ago Exited (1) 10 minutes ago                                vigorous_rossini
4499a03a4e35  1a8f4d529e87c    "/bin/sh -c 'DEBIAN ..." 11 minutes ago Exited (127) 11 minutes ago                                gifted_ball
43731e93d0e   1a8f4d529e87c    "/bin/sh -c 'DEBIAN ..." 13 minutes ago Exited (127) 13 minutes ago                                wonderful_stonebraker
789d0b0c11fe  1a8f4d529e87c    "/bin/sh -c 'DEBIAN ..." 13 minutes ago Exited (127) 13 minutes ago                                condescending_proskuriakova
2884891486fd  newimagefromoldone "/bin/bash"              4 hours ago   Up 4 hours   0.0.0.0:81->80/tcp, :::81->80/tcp      newcontainer
bbfa729dd476  ubuntu:18.04     "/bin/bash"              5 hours ago   Up 5 hours   0.0.0.0:80->80/tcp, :::80->80/tcp      admiring_banach
ubuntu@ip-172-31-0-202:~$

i-0110e991b6ca2d2d1 (for-docker-assignment)
Public IP: 35.175.116.104 Private IP: 172.31.0.202
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```

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Not secure 35.175.116.104:7007



Apache2 Ubuntu 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 `/usr/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
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual host configurations, respectively.
- They are activated by symlinking available configuration files from their respective `*-available/` counterparts. These should be managed by using our helpers `a2enmod`, `a2dismod`, `a2ensite`, `a2dissite`, and `a2enconf`, `a2disconf`. See their respective man pages for detailed information.
- The binary is called `apache2`. Due to the use of environment variables, in the default configuration, `apache2` needs to be started/stopped with `/etc/init.d/apache2` or `apache2ctl`. Calling `/usr/bin/apache2` directly will not work with the default configuration.

Document Roots

By default, Ubuntu does not allow access through the web browser to any file apart of those located in