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# Exercise: Exercise: Create a Dockerized Basic Web Server

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1. List the base images on the system. Choose a base image for Ubuntu and create a container from that image. This container should be named "basic\_web" and should be interactive, attached to the current console and run the bash prompt.

```
user@linuxacademy:~$ docker images
```

REPOSITORY	TAG	IMAGE ID
CREATED		VIRTUAL SIZE
mycustomimg/withservices	v1	
dcfdd130c812	31 hours ago	506.9 MB
newcentos	withapache	
18bd1fc4d60f	2 days ago	480.6 MB
ubuntu	trusty-20150814	
91e54dfb1179	4 days ago	188.4 MB
ubuntu	14.04	
91e54dfb1179	4 days ago	188.4 MB
ubuntu	14.04.3	
91e54dfb1179	4 days ago	188.4 MB
ubuntu	latest	
91e54dfb1179	4 days ago	188.4 MB
ubuntu	trusty	
91e54dfb1179	4 days ago	188.4 MB

```
user@linuxacademy:~$ docker run -it --name="basic_web"
```

```
ubuntu:latest /bin/bash
```

```
root@528b8c33ab7a:/#
```

2. Once you are logged into the container at the prompt, install all updates. After updates are installed, install the Apache Web Server and verify that it is listening on Port 80.

```
root@528b8c33ab7a:/# apt-get update && apt-get upgrade &&
apt-get install apache2

(OUTPUT) NOTE: sample of the end of the output

...

3Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
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.
invoke-rc.d: policy-rc.d denied execution of start.
Setting up ssl-cert (1.0.33) ...
Processing triggers for libc-bin (2.19-0ubuntu6.6) ...
Processing triggers for sgml-base (1.26+nmu4ubuntu1) ...
Processing triggers for ureadahead (0.100.0-16) ...
root@528b8c33ab7a:/#
root@528b8c33ab7a:/# apt-get install telnet
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
    telnet

0 upgraded, 1 newly installed, 0 to remove and 0 not
upgraded.
```

Need to get 67.1 kB of archives.

After this operation, 167 kB of additional disk space will be used.

Get:1 <http://archive.ubuntu.com/ubuntu/> trusty/main

telnet amd64 0.17-36build2 [67.1 kB]

Fetches 67.1 kB in 0s (89.7 kB/s)

Selecting previously unselected package telnet.

(Reading database ... 12458 files and directories currently installed.)

Preparing to unpack .../telnet\_0.17-36build2\_amd64.deb

...

Unpacking telnet (0.17-36build2) ...

Setting up telnet (0.17-36build2) ...

update-alternatives: using /usr/bin/telnet.netkit to provide /usr/bin/telnet (telnet) in auto mode

root@528b8c33ab7a:/# telnet localhost 80

Trying ::1...

Trying 127.0.0.1...

telnet: Unable to connect to remote host: Connection refused

root@528b8c33ab7a:/# service apache2 start

\* Starting web server apache2

AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.17.0.13. Set the 'ServerName' directive globally to suppress this message

\*

root@528b8c33ab7a:/# telnet localhost 80

Trying ::1...

Connected to localhost.

Escape character is '^['.

helo

501 Not Implemented

Not Implemented

helo to /index.html not supported.

---

Apache/2.4.7 (Ubuntu) Server at 172.17.0.13 Port 80

Connection closed by foreign host.

root@528b8c33ab7a:/#

3. Using the root account profile file in the root home directory, add the command to start the web server whenever a bash session is started.

```
root@528b8c33ab7a:~# vi .bashrc
```

NOTE: Add the line "service apache2 start" to the /root/.bashrc file at the very END

4. Stop the container. Once stopped, commit the container as a base image called "centos:baseweb".

```
root@528b8c33ab7a:~# exit
```

```
tcx@ubuntuvideo:~$ docker commit basic_web
```

```
centos:baseweb
```

```
e9c87aeba30b82e66edb7143b89c10b801b866002f0659d0fd78ba5b48a82e
```

```
tcx@ubuntuvideo:~$ docker images
```

REPOSITORY	TAG	IMAGE ID
CREATED	VIRTUAL SIZE	
centos	baseweb	
e9c87aeba30b	3 seconds ago	224.2 MB
mycustomimg/withservices	v1	
dcfdd130c812	31 hours ago	506.9 MB
newcentos	withapache	
18bd1fc4d60f	2 days ago	480.6 MB
ubuntu	trusty	
91e54dfb1179	4 days ago	188.4 MB
ubuntu	trusty-20150814	
91e54dfb1179	4 days ago	188.4 MB
ubuntu	14.04	
91e54dfb1179	4 days ago	188.4 MB
ubuntu	14.04.3	
91e54dfb1179	4 days ago	188.4 MB
ubuntu	latest	
91e54dfb1179	4 days ago	188.4 MB

5. Create a container based on the new "centos:baseweb" image called "test\_container". It should run interactively, attached to the console and starting a bash prompt. Once logged into the container, verify that the Apache service is running and port 80 is listening. Exit the container.

```
user@linuxacademy:~$ docker run -it --  
name="test_container" centos:baseweb /bin/bash
```

```
* Starting web server apache2
```

```
AH00558: apache2: Could not reliably determine the  
server's fully qualified domain name, using 172.17.0.14.  
Set the 'ServerName' directive globally to suppress this  
message
```

```
*
```

```
root@b830f2ecb2ca:/# telnet localhost 80
```

```
Trying ::1...
```

```
Connected to localhost.
```

```
Escape character is '^]'.
```

```
helo
```

```
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">
```

```
<html><head>
```

```
<title>501 Not Implemented</title>
```

```
</head><body>
```

```
<h1>Not Implemented</h1>
```

```
<p>helo to /index.html not supported.<br />
```

```
</p>
```

```
<hr>
```

```
<address>Apache/2.4.7 (Ubuntu) Server at 172.17.0.14  
Port 80</address>
```

```
</body></html>
```

```
Connection closed by foreign host.
```

```
root@b830f2ecb2ca:/# exit
```