

# Module-6: Containerization using Docker Part - I

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Demo Document - 4

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## DEMO-4: Writing a Dockerfile to Create an Image

**Note:** All commands are executed as root.

1. Create a new directory in which you will build the Dockerfile

```
$ mkdir <direcotryName>
$ cd <direcotryName>
```

2. Create a custom index.html file

```
$ vi index.html
```

```
<html>
  <head>
    <title>This page has a Title :)</title>
  </head>
  <body>
    <p>I used to be an adventurer like you, but then I took an arrow in the
knee.</p>
  </body>
</html>
```

3. Create a new Dockerfile with the base ubuntu:18.04 and command to install apache httpd server with the custom index.html file we created

```
$ vi Dockerfile
```

```
FROM ubuntu:18.04
RUN apt update
RUN apt install -y apache2
COPY index.html /var/www/html/
CMD ["apache2ctl", "-D", "FOREGROUND"]
EXPOSE 80
```

4. Create a garbage file and a .dockerignore file to demonstrate its use

```
$ touch <fileName>
$ vi .dockerignore
```

```
root@docker-1:~/dockDemo# ls -lha
total 20K
drwxr-xr-x 2 root root 4.0K Jun 25 09:09 .
drwx----- 4 root root 4.0K Jun 25 09:09 ..
-rw-r--r-- 1 root root  14 Jun 25 09:09 .dockerignore
-rw-r--r-- 1 root root 130 Jun 25 08:23 Dockerfile
-rw-r--r-- 1 root root 183 Jun 25 08:15 index.html
-rw-r--r-- 1 root root  0 Jun 25 08:26 redundantFile
root@docker-1:~/dockDemo# cat .dockerignore
redundantFile
```

5. Now, build the docker image using the docker build command

```
$ docker build .
```

```
root@docker-1:~/dockDemo# docker build .
Sending build context to Docker daemon 4.096kB
Step 1/6 : FROM ubuntu:18.04
--> 8e4ce0a6ce69
Step 2/6 : RUN apt update
--> Using cache
--> 9ec0fde46861
Step 3/6 : RUN apt install -y apache2
--> Using cache
--> 1968902cb6f4
Step 4/6 : COPY index.html /var/www/html/
--> Using cache
--> 06acf78a74e6
Step 5/6 : CMD ["apache2ctl", "-D", "FOREGROUND"]
--> Running in 6ea7f48486f7
Removing intermediate container 6ea7f48486f7
--> d8a1775948e4
Step 6/6 : EXPOSE 80
--> Running in e72e5bc332ca
Removing intermediate container e72e5bc332ca
--> 7d5435a627e7
Successfully built 7d5435a627e7
```

6. Create a container using the image and bind it to port of your choice

```
$ docker run -d -p 8005:80 <imageID>
```

```
root@docker-1:~/dockDemo# docker run -d -p 8005:80 7d5435a627e7
fdbf2c5d5c347be00754217fc2854944fb9e0ecf796142a749d1a1da68dba829
```

7. Now, to curl the localhost on the container bound port

```
$ curl localhost:8005
```

```
root@docker-1:~/dockDemo# curl localhost:8005
<html>
  <head>
    <title>This page has a Title :)</title>
  </head>
  <body>
    <p>I used to be an adventurer like you, but then I took an arrow in the knee.</p>
  </body>
</html>
```

## Creating images from running containers

1. To create a container from a deployed container a commit command is used

```
$ docker commit <containerID> <username>/<imageName>
```

```
root@docker-1:~/dockDemo# docker commit fdbf2c5d5c34 edureka01/myimage
sha256:168d5ca32694e5f9e9ecd0831bd485c8784bf8f57318a8aea4f5fa916fbca80d
root@docker-1:~/dockDemo# docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
edureka01/myimage	latest	168d5ca32694	6 seconds ago	189MB