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// TUTORIAL //

Building an Apache Web Server through a Dockerfile

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Hello, readers! In this article, we will be focusing on **Building an Apache Web Server through a Dockerfile**.

So, let us begin!

What is Apache Server?

Apache Server is an open source web server to configure and host the web applications online and locally as well using `localhost` as the medium.

It requires a lot of configuration when one wishes to set up an Apache server on the workstation.

To reduce this over, Docker has introduced the concept of Dockerfile to build and set up

configurations easily.

In the course of this topic, we will be setting up Apache server on our systems with just minimal steps to work with.

Apache Server through a Dockerfile

We need to follow the below steps to set up an Apache Server through a Dockerfile:

1. Create a directory for all the files related to Apache set up
2. Create a Dockerfile
3. Build an image over the Dockerfile and tag the same for convenience
4. Run the Apache server as a container

Step 1: Create a directory for Apache server files

At first, we make use of the `mkdir` command to create a directory specifically for all the Apache-related files.

Copy

```
$ mkdir apache_folder
```

Step 2: Building a Dockerfile

Having created a folder, now we go ahead and create a Dockerfile within that folder with the `vi` editor:

Copy

```
$ vi Dockerfile
```

As soon as we execute the previous command, a `vi` editor opens. Paste the following content in the Dockerfile:

Copy

```
$ FROM ubuntu
$ RUN apt update
$ RUN apt install –y apache2
$ RUN apt install –y apache2-utils
$ RUN apt clean
$ EXPOSE 80
```

```
$ CMD [“apache2ctl”, “-D”, “FOREGROUND”]
```

To exit the editor, press `ESC` then `:<wq!` then `Enter`.

Step 3: Tag and build the Docker image

Now, we build the Dockerfile using the `docker build` command. Within which, we tag the image to be created as `1.0` and give a customized name to our image (i.e., `apache_image`).

Copy

```
$ docker build -t apache_image:1.0 .
```

Once the image has been built, we should check for the presence of the image using `docker images` command.

The `docker images` command gives us a list of all the images that are built or pulled from any public/private registry.

Copy

```
$ docker images
$ REPOSITORY                                                    TAG
$ apache_image                                                   1.0
```

Step 4: Run the Docker image as a container

Once the image has been built, run the image as a container locally:

1. We run the container in **detached** mode so that it runs continuously in the background. Include `-d` in the `docker run` command.
2. In order to host the Apache server, we provide port `80` (HTTP) for the same. Make use of `-p 80:80` to have the server running on `localhost`.

Thus, the `docker run` command also takes the image along with the associated tag as input to run it as a container.

Copy

```
$ docker run --name myapache -d -p 80:80 apache_image:1.0
```

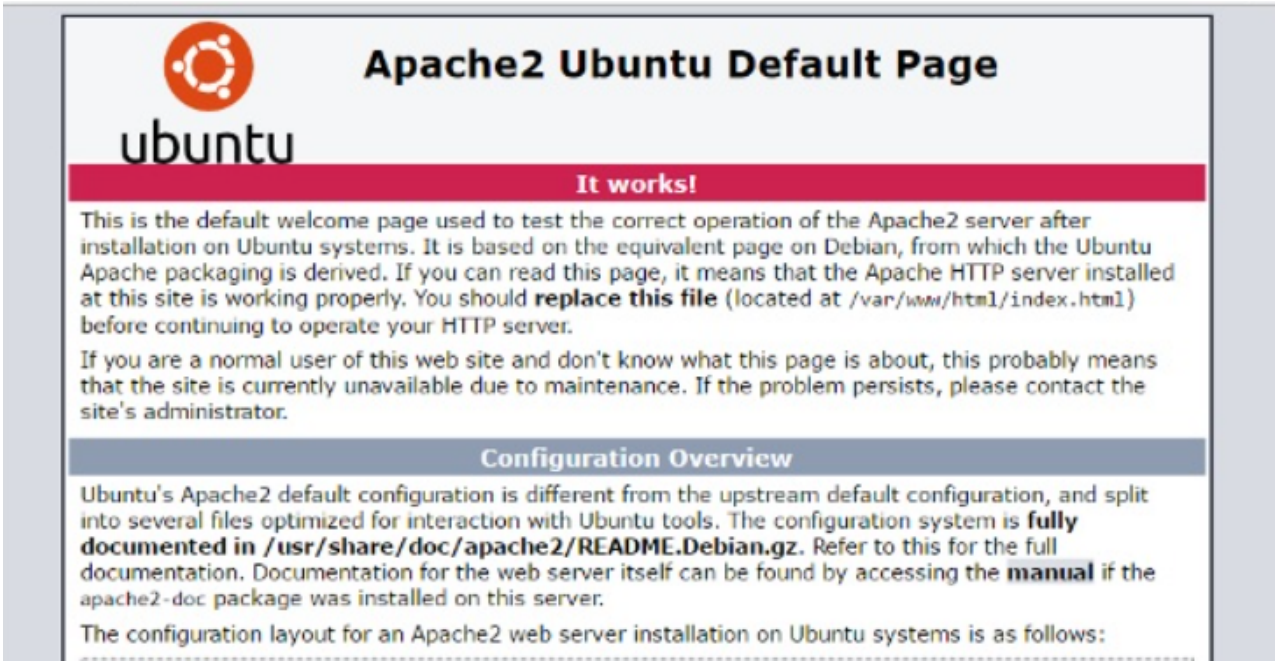
Copy

```
docker ps
```

```
CONTAINER ID        IMAGE                 COMMAND                  CREATED
443848c30b74        apache_image:1.0      "/docker-entrypoint.…"   7 seconds a
```

Step 5: Review the online presence of Apache Server

In order to test the presence of Apache server on the system, visit any local browser and type `localhost`:



Apache Server - localhost

Conclusion

By this, we have come to the end of this topic. Feel free to comment in case you come across any questions.

For more such posts related to Docker, Stay tuned with us.

Do let us know your experience in setting up the Apache Server on your workstations in the comment box.

Till then, Happy Learning!

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About the authors

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