

## WEEK 12 – Session 7

### Dockerfile:

Dockerfile is a simple text file that consists of instructions to build Docker images. Dockerfile consists of specific commands that guide you on how to build a specific Docker image.

The specific commands you can use in a dockerfile are:

FROM, PULL, RUN, and CMD

- FROM - Creates a layer from the ubuntu:18.04
- PULL - Adds files from your Docker repository
- RUN - Builds your container
- CMD - Specifies what command to run within the container

Mentioned below is an example of the dockerfile with the important commands

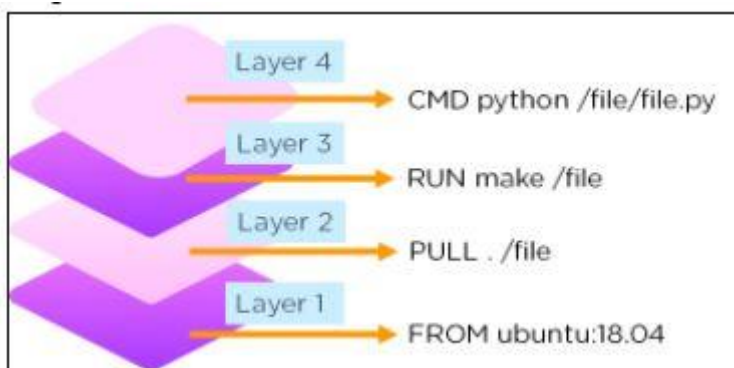
*FROM ubuntu:18.04*

*PULL ./file*

*RUN make /file*

*CMD python /file/file.py*

Have a look at the diagrammatic representation of how a dockerfile looks in a docker image:



let's go through some of the most common Docker commands used while creating dockerfiles.

### **List of Docker Commands for Creating a Dockerfile with example**

- ENTRYPOINT allows specifying a command along with the parameters

Syntax:

*ENTRYPOINT application "arg, arg1".*

Example:

*ENTRYPOINT echo "Hello, \$name".*

- ADD command helps in copying data into a Docker image

Syntax:

*ADD /[source]/[destination]*

Example:

*ADD /root\_folder/test\_folder*

- ENV provides default values for variables that can be accessed within the container

Syntax:

*ENV key value*

Example:

*ENV value\_1*

- MAINTAINER declares the author field of the images

Syntax:

*MAINTAINER [name]*

Example:

*MAINTAINER author\_name*

### **How to Build a Docker Image and Docker Container Using Dockerfile?**

First of all, you should create a directory in order to store all the Docker images you build.

- Now, we will create a directory named 'simplidocker' with the command:  
*mkdir simplidocker*
- Move Docker image into that directory and create a new empty file (Dockerfile) in it:  
*cd simplidocker*  
*touch Dockerfile*
- Open the file with the editor. In this example, we opened the file using vi:  
*vi Dockerfile*
- Then, add the following content:  
*FROM ubuntu*  
*MAINTAINER simpli*  
*RUN apt-get update*  
*CMD ["echo", "Welcome to Simplilearn"]*
- Save and exit the file.

## Build a Docker Image with Dockerfile

Let's first declare the path where we will be storing the dockerfile simplidocker

```
docker build [OPTIONS] PATH | URL | -
```

Now, let's build a basic image using a Dockerfile:

```
docker build [location of your dockerfile]
```

Now, by adding -t flag, the new image can be tagged with a name:

```
docker build -t simpli_image
```

Once the Docker image is created, you can verify by executing the command:

```
docker images
```

The output should show simpli\_docker available in the repository.

## Create a Docker container from Docker image

Now, create a Docker container from the Docker image we created in the previous step.

Let's name the container "simplilearn" and create it with the command:

```
docker run --name simplilearn simpli_docker
```

The message 'Welcome to Simplilearn' should appear in the command line.

**Congratulations, you just created a Docker image and a Docker container using a Dockerfile.**