**Sept Docker part5 HW**

1. What is the difference between ADD and COPY in the Dockerfile?

ADD instruction is used to download an external file and copy it to the wanted destination. It can copy files from the URL and can also copy files and directories into the docker image.

COPY instruction is only used to copy files from the local of our host into our docker image.

1. Are instructions in Dockerfile case sensitive?

Yes, they must be capitalized.

1. What is the meaning of base image in docker?

A base image is an image to which we add a couple of Dockerfile instructions when we build our Dockerfile.

1. Write a Dockerfile that can download a zip file and put it **in target** directory without using wget, cd or mkdir . The link is <https://linux-devops-course.s3.amazonaws.com/WEB+SIDE+HTML/covid19.zip>

FROM httpd

RUN apt update

WORKDIR /usr/local/apache2/htdocs/

ADD <https://linux-devops-course.s3.amazonaws.com/WEB+SIDE+HTML/covid19.zip>

EXPOSE 80

CMD [“apachectl”, “-D”, “FOREGROUND”]

FROM httpd

RUN apt update

WORKDIR /usr/local/apache2/htdocs/

VOLUME article

ADD <https://linux-devops-course.s3.amazonaws.com/WEB+SIDE+HTML/covid19.zip>/usr/local/apache2/htdocs/

EXPOSE 80

CMD [“apachectl”, “-D”, “FOREGROUND”]

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1. What is the purpose of LABEL in the Dockerfile?

A LABEL instruction in Dockerfile helps to give more information about the user who create the files, date, and time.

1. What is the difference between ARG and ENV in Dockerfile?

An ARG ‘argument’ defines variables in a Dockerfile.

ENV set an environment variable in Dockerfile.

1. Using ARG and ENV, write a Dockerfile that can create a user call ansible with its home directory /home/ansible and proper permission, with the complete name ansible Kubernetes, add that user to a secondary group Jenkins, expose the port 8080

FROM ubuntu

ARG user=ansible

ARG group=ansible

ARG ANSIBLE\_HOME=/var/ansible\_home

ARG http\_port=8080

RUN usermod -c ‘ansible Kubernetes’ ansible

EXPOSE ${http\_port}

Useradd ansible -G ansible

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1. What is the difference between ENTRYPOINT and CMD in Dockerfile?

CMD and ENTRYOINT are both used to start a daemon or a process when the container start. They are also used to run script when the container start.

With CMD instruction, we can overwrite our Dockerfile, ENTRYPOINT does not overwrite a Dockerfile, unless we force it by putting - - entrypoint in our command when running our docker image to create a container.

1. What is the difference between image and layer in docker?

A docker image is built as series of layers. Each layer is built from every instruction put in our Dockerfile.

1. Write a Dockerfile that will give the kernel version of the container such a way we can’t overwrite it accidentally.

FROM ubuntu

RUN apt get update -y

ENTRYPOINT ["/bin/bash", "-C", "uname -r"]

1. Write a docker file to containerize an application from the link <https://linux-devops-course.s3.amazonaws.com/articles.zip> and using instructions such as WORKDIR, ENTRYPOINT and ADD to minimize the use of RUN.

FROM httpd

WORKDIR /usr/local/apache2/htdocs/

RUN apt update -y && \

apt install unzip -y && \

apt install vim -y && \

mkdir article && \

cd article

ADD <https://linux-devops-course.s3.amazonaws.com/articles.zip>

EXPOSE 80

ENTRYPOINT [“apachectl”, “-D”, “FOREGROUND”]