

Unique Names Identification

a. What is a Dockerfile?

What does the following Dockerfile instructions mean:

i. FROM

ii. CMD

iii. RUN

iv. ENTRYPOINT

a. A Dockerfile is a text file used to define the steps and instructions needed to build a Docker image. Docker itself manages and operates containers efficiently. Unlike virtual machines that virtualize the underlying hardware, Docker containers virtualize the host operating system, resulting in containers being lighter weight and faster.

i. The FROM instruction specifies the base image that the Docker image will be built upon. Base images are standalone images that have no parent image.

ii. The CMD instruction specifies the default command to run when a container is created. For example, using CMD ["python", "hellow_world.py"] tells the docker to run the hellow_world.py file using Python when the container starts.

iii. The RUN instruction executes a command within the Docker container during the build process. It is used to install dependencies, set up configurations, or perform any other actions needed to prepare the environment inside the container.

iv. The ENTRYPOINT instruction specifies the primary command to run when the container starts. Unlike CMD, the command specified with ENTRYPOINT is not overridden by command-line arguments provided when running the container.

b. What is a docker image?

A Docker image is an executable package that contains everything needed to run a piece of software. When a Docker image is built, it captures not just the application code but also the specific runtime environment needed to support that code, libraries, dependencies, and configuration files. 'docker build' command is used to build a Docker image from a Dockerfile.

c. What is a docker container?

A Docker container is a runnable instance of a Docker image. It represents a lightweight and isolated runtime environment that encapsulates an application and its dependencies. Containers are created from Docker images using the docker run command or similar commands.