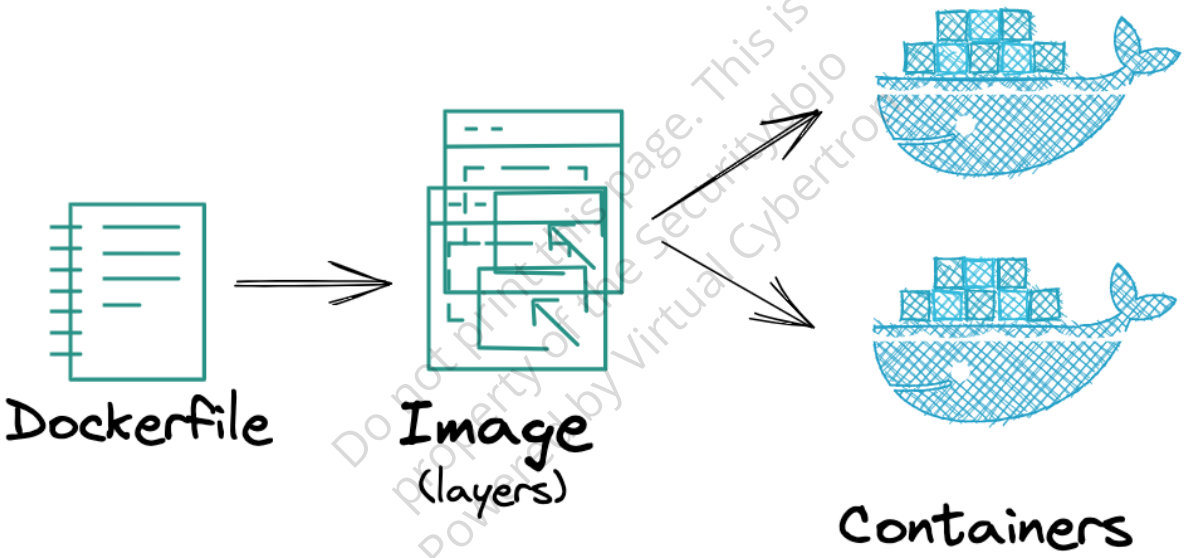
Understanding Container Layers

Docker Layers

A Docker build consists of a series of ordered build instructions, docker layers are files that result from executing a command. Layers offer the benefit of being reusable by multiple images, saving disk space and reducing the time it takes to build images, while still preserving their integrity.



Basics of Dockerfile

- A Dockerfile is a plain text file that contains instructions to build an image.
- The Dockerfile is essential as it specifies what should be downloaded, the arguments that need to be run after building the image, and how to configure the image.
- By executing the same steps repeatedly, Dockerfile can be used to create clean images that are consistent across multiple builds.

Demo Using Dockerfile?

- Dockerfile is a text file that contains a set of instructions for building a Docker image. Each instruction in the Dockerfile provides a step in the image building process.
- Typical Dockerfile:

```
FROM httpd:latest
LABEL maintainer="Security Dojo<namaste@securitydojo.co.in>"
LABEL version="1.0"
LABEL description="This is a sample Docker image."
EXPOSE 80
```

- Explanation of Dockerfile:
  - FROM — The base image can be Ubuntu, Redis, MySQL, etc.
  - LABEL — Labeling like EMAIL, AUTHOR, etc.
  - EXPOSE - The expose keyword in a Dockerfile tells Docker that a container listens for traffic on the specified port.
- The instructions in a Dockerfile are executed in order from top to bottom. Each instruction creates a new layer in the image, which is cached and can be reused in subsequent builds if the Dockerfile has not changed.