

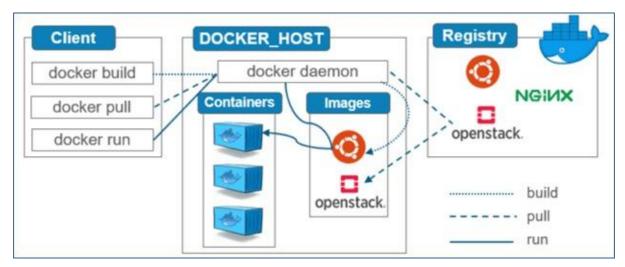
Software Development Life Cycle (SDLC)

SDLC is a structured approach to software development, ensuring quality and efficiency. It consists of several phases:

- 1. Requirement Analysis Gather and analyze project needs.
- 2. Planning Define scope, cost, and timeline.
- 3. Design Create architectural and UI/UX designs.
- 4. Development Write and implement the code.
- 5. Testing Identify and fix bugs, ensuring quality.
- 6. Deployment Release the software to production.
- 7. Maintenance Provide updates and fixes post-deployment.

Docker

Docker is a containerization platform that allows developers to package applications and dependencies into lightweight, portable containers. It ensures consistency across environments, making deployment faster and more reliable. Docker is a platform that provides virtual containers on which an application can be deployed independent of the underlying OS of the server. Further the container can be created from a replica called docker image which contains all the dependencies and can run on any OS that has docker engine, with similar results.



Jenkins

Jenkins is an open-source automation tool for continuous integration and continuous delivery (CI/CD). It automates building, testing, and deploying applications, improving development efficiency.

Docker Nginx

Docker Nginx refers to running the Nginx web server inside a Docker container. Nginx is commonly used as a reverse proxy, load balancer, or web server, ensuring efficient handling of web traffic in containerized applications.

Docker Commands:

docker ps
docker run -itd -P <img_id>
docker images
docker ls
docker cp <s.f> <c.i>:<path>
docker exec -it containerid bin/bash

BASIC DOCKER COMMANDS

Display docker images available in our machine

\$ docker images

Download docker image.

\$ docker pull <image-name / image-id>

Run docker image.

\$ docker run <image-name / image-id>

Delete docker image.

\$ docker rmi <image-name / image-id>

Display all running docker containers.

\$ docker ps

Display all running and stopped containers.

\$ docker ps -a

Delete docker container.

\$ docker rm <container-id>

Delete docker image forcefully.

\$ docker rmi -f <image-id>

Stop Docker container.

\$ docker stop <container-id>

#DOCKER COMMANDS FOR UBUNTU

\$ sudo apt update -y

\$ sudo apt install docker -y

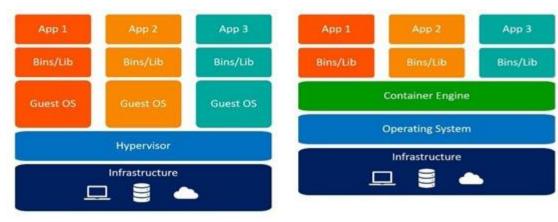
\$ sudo service docker start (or) sudo systemctl start docker

\$ sudo service docker enable (or) sudo systemctl enable docker

VIRTUALIZATION:

Virtualization is the process of sharing hardware resources across several virtually isolated and mutually independent systems. It is achieved by using a hypervisor which acts as a bridge between the Operating System of each of the virtual machines and the underlying hardware.

Applications in virtual environments run on a host operating system on top of the hypervisor.



Virtual Machines

Containers