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One of my purposes for 2021 is to simplify Docker for beginners.

Let's start with some definitions:

■Docker host
■■Docker engine
■ Docker client
■Dockerfile
■Docker Image
■Docker Container
■Docker Compose
■ Docker Registry
■■■Docker Swarm

Definitions Below ■

■Docker (Active) Host

A computer with Docker installed and the daemon running.

It can process Docker and non-Docker workloads.

■■Docker Engine

A Client-Server application. It has 3 components:

- "daemon process": A server that is a type of long-running program.

- "Rest API": to specify interfaces that programs can use to talk and interact with the daemon.

- "CLI": A command-line interface client

■Docker Client

It sends commands to dockerd, using the Docker API.
It can communicate with multiple daemons.

■Dockerfile

It's a text document that contains all the commands a user could call on the command line to assemble an image.

■Docker Image

It's a file, composed of multiple layers, often based on another image, that contains everything you need to run your application.

Containers run on top of existing images.

■Docker Container

It's a standard unit of software that packages up code and dependencies, running as a process on the host machine.

■Docker Compose

It's a tool for defining and running multi-container Docker applications, called services.

You use a YAML file to configure the services, that can be created/started/stopped with a single command.

It works well in development, testing, and production.

■ Docker registry

It's a stateless server-side application to store Docker images. The images can be pulled or pushed.

It can be public/private.

Docker Hub is a public Docker registry.

■■■Docker Swarm

It's used to manage multiple machines where Docker is installed.

It allows you to manage multiple containers deployed across multiple host machines (nodes).