DOCKER>>running environment of an image

CONTAINER

* A way of package applications with all necessary dependencies and configuration
* Portable artifact, so easily shared (from dev to operation and vice versa) and moved
* Makes dev and deployment more efficiently

WHERE DO CONTAINER LIVE?

* Containers store in CONTAINER REPOSITORY
* Some private companies store containers in PRIVATE REPO
* Public repo for docker (dockerhub)

HOW CONTAINERS HELP?

Before containers,

* if dev team wants to develop any application first it needs to install all related resources ex:redis sql
* Instllation is different in each os
* Many steps of installation so smthng could go wrong

After containers,

* Own isolated environment
* Packaged with all needed configuration **(ex: sql, redis**, configuration
* Only one command to install
* Can run different versions of software in decoker..at a tym

**>\_cmd docker run postgress(what application u want to dwnld):9.6 (provide version)**

DEPLOYMENT EFFICIENCY

* Before

|  |  |
| --- | --- |
| DOCKER IMAGE | DOCKER CONTAINER |
| The actual image with configuration, dependencies (postgres) | Image in a machine (drag image and drop in lap) |
| Artifact, that can be moved |  |
| Not running in a machine | Runs ina machine |
|  |  |

Commands—

Docker ps

DOCKER VS VM:

OS has 2 layers:

* OS kernel (kernel communicates with Hardware)
* Applications (applications run on kernel layer)

Docker commands—

Docker pull Redis >>to pull redis images

Docker images. >>to list docker images

Docker ps >>list all running containers

Docker run -d redis >> runs container in a detach mode

Docker stop IDofContainer>> to stop the container

Docker start IDofConatiner >> start the container/restart

Docker ps -a>> shows all containers running/stopped

Docker run redis:5.0(version)>> pulls image and start d container

Ports:

Docker run -p6000(host port):6379 redis(redis port)🡪 for binding docker to host

Docker run -p6000:6379 -d redis. (detach)

Debug:

Docker logs containerID (or) docker logs ContainerName

Docker run -d -p:6001:6379 - - name anyname redis:4.0

If there is pblm with container, so if want to check log files or get environmental variables

Docker exec -it ContainerID /bin/bash. 🡪move to root which means inside the container and in order to exit use command “exit”

Docker run🡪where u create a new container from image

Docker start🡪not working with images but rather containers/ just to restart the stopped container

CONTAINER PORT VS HOST PORT

* Multiple containers can run on host machine
* Host and Container ports must be different but connect two containers of same port with different host ports
* Host port (50)…>container (50)—conflicts arise
* Container1(port 50) and container2(port 50)🡪host 1(port 30) and host2(port 31)—no conflicts

DEBUGGING CONTAINERS