What is Docker?

       Docker is tool use to create container

What is the advantage of Docker over hypervisors?

       Hypervisor install in guest os or use in VM but docker engine can install directly in base os and we can shift entire code as image in vm and setup ci/cd

What is Docker Image?

       Is a software configuration or snapshot of code as base image(code+base machine library file)

What is Docker Container?

       Running instance of docker image,

       Docker image does not have stages but container has like stop,pause,exit

What is Docker hub?

       We can create 1 private repo and store image also download image from anywhere for free

How to create a Docker container?

       docker run -iti image

How many containers can run per host?

       As many as container you but it based on your hardware capacity

Is Container technology new?

       It's really growing very faster

What are the networks that are available by default?

       bridge,none,host

Difference between Docker Image and container?

       Docker image is snapshot of bared base machine with your code and container is running state of your docker image

       Docker container is the runtime instance of the docker image.

       Docker Image does not have a state, and its state never changes as it is just a set of files whereas docker container has its execution state.

What is the difference b/w docker and VM?

       Vm is server+hostos+hypervisor+guest os+binaries/libs+app

       Docker is server+hostos+docker engine+binaries/lib+app

Why do my services take 10 seconds to recreate or stop?

       When we configure docker engine we define default time for accept connection and exist connection so default time is 10seconds we can increase and decrease it

How do I run multiple copies of a Compose file on the same host?

       custom project name using the -p command-line option or the COMPOSE_PROJECT_NAME environment variable.

Can I use JSON instead of YAML for my Compose file?

       docker-compose -f docker-compose.json up

Should I include my code with COPY/ADD or a volume? OR

What is the difference between ADD and COPY in Dockerfile?

       Copy work in current system local files copy to docker image or container

       Add use when we call some url or zip file

       Volume will override both commands

How do you save Docker Image?

       docker save -o image.tar.gz container-tag

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How do you load your image?

     docker load -i imagename.tar

Tell us something about Docker Compose or what do you know about docker compose?

     When you want manage multiple containers which contains details about the image,services, networks port, and volumes for setting up the Docker application,it is a file to run multiple containers using command docker-compose up and docker-compose down

What is Docker Swarm?

     Use to manage your docker orchestration like run 10 containers with same code and same image as replica so we can use swarm,its by default available when we install docker

     docker swarm init

What is a Docker Namespace and control group?
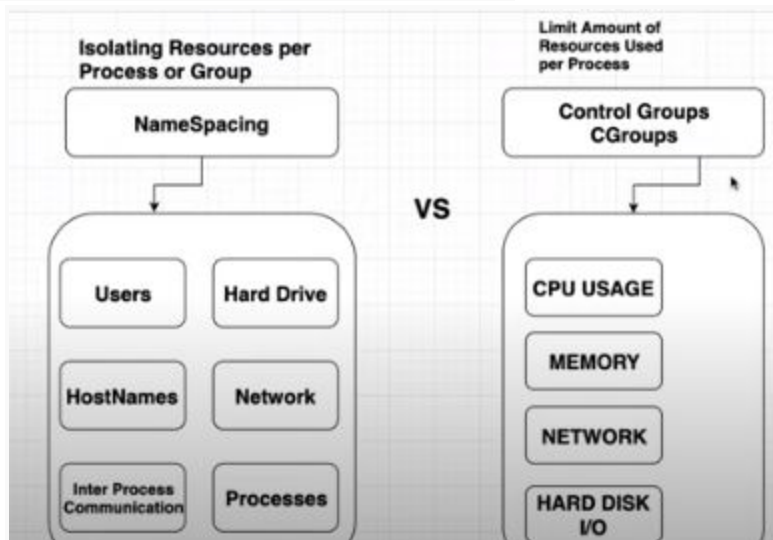
What is the lifecycle of a Docker Container?

     * Create a container

     * Run the container

     * Pause the container(optional)

     * Un-pause the container(optional)

     * Start the container

     * Stop the container

     * Restart the container

     * Kill the container

     * Destroy the container

What is Docker Machine?

     Manage state of docker container

How to check for Docker Client and Docker Server version?

     docker version

How do you get the number of containers running, paused and stopped?

     docker info

How to get help about any docker command?

     docker command --help

How to login into docker repository?

docker login

How do you create a docker container from an image?

docker run -it -d image_name (detached mode)

How do you list all the images?

docker image ls or docker images

How do you list all the running containers?

docker ps

docker ps -f or filter "status=exited"

Suppose you have 3 containers running and out of these, you wish to access one of them. How do you access a running container?

docker exec -it container id bash or /bin/bash or sh

How to start, stop and kill a container?

docker start container_id

docker stop container_id - stop container use SIGTERM

docker kill container_id - kill container process id use SIGKILL

how do you push it to docker hub?

docker push username/image name

How to delete a stopped container?

docker rm container id

docker rm -f containerid

docker stop $(docker ps -aq)

docker rm $(docker ps -aq)

How to delete an image from the local storage system?

docker rmi image-id

How to build an image from Dockerfile?

docker build -f dockerfile path or .(. Means current directory)

Do you know why docker system prune is used? What does it do?

docker system prune is used to remove all stopped containers.

Will you lose your data, when a docker container exists?

No

Is there a way to identify the status of a Docker container?

docker ps -a

Can a container restart by itself?

By default the flag -restart is set to false we can set it true to restart automatically

Is it better to directly remove the container using the rm command or stop the container followed by removing the container?

Stop and remove is better because if you force remove it will effect exist container service

Is it a good practice to run stateful applications on Docker?

No,because it preferred data on localhost drive so if we migrate system from one system to other then its very dificult to retrieve data so we should preferred stateless application

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How to secure and increase docker service and performance?
- Prefer minimal base image
- Use add and copy
- Do not leak sensitive data in docker file
- Use metadata labels
- Use multi stage build for small and secure image
- Run layer

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