**1. What is Docker?**

**Ans)** Docker is a containerization platform which packages your application and its all dependencies together in the form of containers. So as to ensure that your application works seamlessly in the environment be it *dev or test or production.*

Using this we can build ship and run applications as containers

Docker available in two editions: Community Edition (CE) and Enterprise Edition (EE).

**2. What is the difference between Docker image and Docker container?**

**Ans)** Docker image is the source of Docker container. In other words, Docker images are used to create containers. When a user runs a Docker image, an instance of a container is created. These docker images can be deployed to any Docker environment.

**3. How will you remove an image from Docker?**

**Ans)** docker rmi <imageName/ID> //delete single image

docker rmi <imageName/ID> <imageName/ID> .. etc //delete single image

docker rmi –f $(docker images –q) //delete all images with stopped container

**4. How is a Docker container different from a virtual machine?**

**Ans)**

**5. Explain basic Docker usage workflow?**

**Ans)**

**6. What is the most popular use of Docker?**

**Ans)**

**7. What is a Docker Image?**

**Ans)**

* Image is layers of multiple files, docker image is source of docker container

**8. What is a Docker Container?**

**Ans)**

* Running image is nothing docker container.
* Containers are lightweight and stand alone executable piece of software that includes everything needed to run it
* Each container will have its own IP address.
* Docker will maintain container information in var/lib/docker

**9. Can we lose our data when a Docker Container exits?**

**Ans)**

* No, you won’t lose any data when Docker container exits. Any data that your application writes to the container gets preserved on the disk until **you explicitly delete the container**. The file system for the container persists even after the container halts.

**10. How do you make sure our data exists even though you deleted container?**

**Ans)** use volume concept

**11. How can you do a Volume Mapping?**

**Ans)**

**12. Can I do a Read-only Mapping?**

**Ans)**

**13. How to mount files from physical server to docker container?**

**Ans)**

**14. Can we run more than one process in a Docker container?**

**Ans)**

**15. What is Docker Hub?**

**Ans)** central repository where we can maintain all images and including custom images.

**16. What are the main features of Docker Hub?**

**Ans)**

**17. How can we check the status of a Container in Docker?**

**Ans)**

* docker ps –a

**18. What is the difference between docker ps and dockerps-a commands?**

**Ans)**

* docker ps will display only running container
* docker ps –a will display all container ( running /stopped/paused containers)

**19. How do you login to the running container?**

**Ans)**

* docker exec -it <containerName|container\_id>/bin/bash
* docker exec -it <containerName|container\_id>/bin/sh

**20. What are the various states that a Docker container can be in at any given point in time?**

**Ans)**

**21. What are the main benefits of using Docker?**

**Ans)**

**22. What are the popular tasks that you can do with Docker Command line tool?**

**Ans)**

**23. What is the user of Dockerfile?**

**Ans)**

* We can create customized images using docker file
* Dockerfile is simple text file, which uses predefined keywords for creating customized docker images
* Keywords in docker file is case sensitive and we need to use upper case only
* Whenever we are creating customized images we need to create using base image
* From predefined images we need to build customized images
* Docker file contains set of keywords
* From dockerfile we will create customized images
* Filename should be dockerfile, we can customize the docker file name
* Dockerfile is file which will have instructions to create an image
* Docker will process these commands from top to bottom
* We will use docker DSL(Docker Specific Language) keywords in docker file
* Docker daemon will process this instructions from top to bottom while creating image.
* Dockerized any application we need dockerfile
* If you have docker file with custom name using -f <fileName> while building docker image.
* ***docker build -f DockerfileMaven -t <imageName> .***

**24. What is the difference between Add and Copy command in a Dockerfile?**

**Ans)**

**25. What is the difference between RUN and CMD command in a Dockerfile?**

**Ans)**

**26. What is Docker Entrypoint?**

**Ans)**

**27. What is the difference between CMD and ENTRYPOINT command in a Dockerfile?**

**Ans)** Both will use for starting the container

CMD will be override the values

ENTRYPOINT will be append the values

**28. What is Build cache in Docker?**

**Ans)**

**29. What are the most common instructions in Dockerfile?**

**Ans)**

**30. What is the purpose of EXPOSE command in Dockerfile?**

* Used to specify the internal port of the container
* EXPOSE indicates on which part our container is listening. It’s like documentation using this we can understand what port we are using.

**31. Which kind of network you are using in docker?**

**Ans)**

**32. What is Overlay network in Docker swarm?**

* container are running different nodes within the cluster will be communicate each other using overlay network(i.e multi host network)

**Ans)**

**33. What are the main features of Docker-compose?**

**Ans)**

**34. How can we control the start-up order of services in Docker compose?**

**Ans)**

**35. How will you customize Docker compose file for different environments?**

**Ans)**

* In Docker compose there are two files docker-compose.yml and docker-compose.override.yml. We specify our base configuration in docker-compose.yml file. For any environment specific customization we use docker-compose.override.yml file.  
  We can specify a service in both the files. Docker compose will merge these files based on following rules:  
  For single value options, new value replaces the old value.  
  For multi-value options, compose will concatenate the both set of values.  
  We can also use extends field to extend a service configuration to multiple environments. With extends, child services can use the common configuration defined by parent service

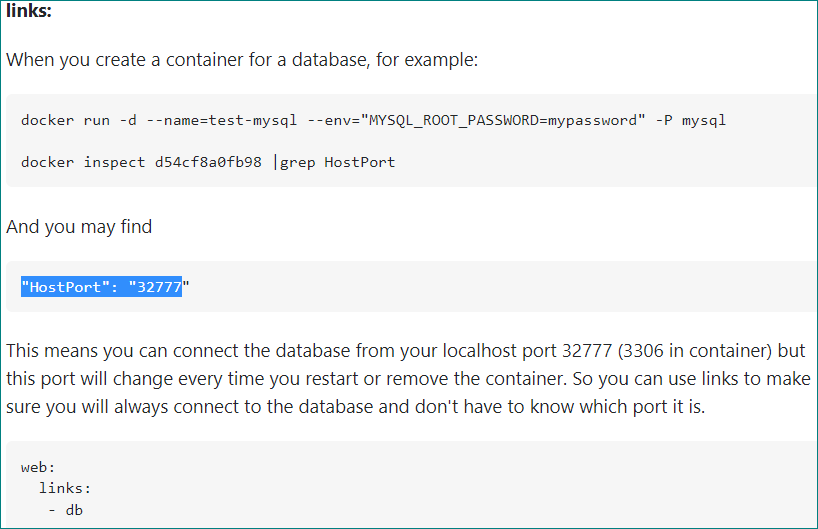
**36. Which version of docker compose you have used?**

**Ans)**

* docker-compose version 1.21.0, build 5920eb0

**37. In compose file what is the difference between Links and depends on?**

**Ans)**

* Docker compose always runs in the dependency order. These dependencies are specifications like depends\_on, links, volumes\_from, etc.
* 

**38. How to get docker container logs?**

**Ans)**

* docker logs <containerName | Id>
* docker logs springapp

**39. What is Docker Swarm?**

**Ans)**

**40. What are the features of Docker Swarm?**

**Ans)**

**41) What is a Docker Namespace?**

* A namespace is one of the Linux features and an important concept of containers. Namespace adds a layer of isolation in containers. Docker provides various namespaces in order to stay portable and not affect the underlying host system. Few namespace types supported by Docker – PID, Mount, IPC, User, Network

**42) What is the lifecycle of a Docker Container?**

This is one of the most popular questions asked in Docker interviews. Docker containers have the following lifecycle:

* 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

### 43) Can you use a container, edit it, and update it? Also, How do you make it a new and store it on the local system?

* Of course, you can use a container, edit it and update it. This sounds complicated but its actually just one command.
* $ docker commit <conatainer id> <username/imagename>

### 44) Do you know why *docker system prune* is used? What does it do?

* $ docker system prune
* The above command is used to remove all the stopped containers, all the networks that are not used, all dangling images and all build caches. It’s one of the most useful docker commands.

### 45) Can I use JSON instead of YAML for my compose file in Docker?

* You can use JSON instead of YAML for your compose file, to use JSON file with compose, specify the JSON filename to use, for eg:
* **$ docker-compose -f docker-compose.json up**

### 46) Can you remove a paused container from Docker?

* The answer is no. You cannot remove a paused container. The container has to be in the stopped state before it can be removed.

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

* It’s always better to stop the container and then remove it using the remove command.
* Stopping the container and then removing it will allow sending SIG\_HUP signal to recipients. This will ensure that all the containers have enough time to clean up their tasks. This method is considered a good practice, avoiding unwanted errors.
* docker stop <containerName | cotainerId>
* docker rm <containerName | cotainerId>

### 48) How many containers can run per host?

* There can be as many containers as you wish per host. Docker does not put any restrictions on it. But you need to consider every container needs storage space, CPU and memory which the hardware needs to support. You also need to consider the application size. Containers are considered to be lightweight but very dependant on the host OS.

### 49) How will you monitor Docker in production?

* Docker provides functionalities like docker stats and docker events to monitor docker in production. Docker stats provides CPU and memory usage of the container. Docker events provide information about the activities **taking place in the docker daemon.**

**50) Difference between docker stop and docker kill?**

* docker stop attempts to gracefully shutdown container(s) while docker kill (by default) immediately stops/terminates them;
* docker stop issues a SIGTERM signal to the main process inside the container, while docker kill (by default) issues a SIGKILL signal;
* With docker kill, you may specify to send a different signal (to the main process inside the container) than the default SIGKILL signal, using the --signal flag. Same thing is not possible with the docker stop command;
* With docker stop, the container(s) must comply to the shutdown request within a (configurable) grace period (which defaults to 10 seconds), after which it forcibly tries to kill the container. docker kill does not have any such timeout period.

**51) Command to list conatiners which state is exited?**

* docker ps -f "status=exited"
* docker container ls -f "status=exited"
* docker container list -f "status=exited"

1. **Command to clean-up docker host ( deleting stopped conatiners, dangling images and unused networks)?**

* Removing unused Docker objects
* Docker offers a command that will remove all unused containers, images (unreferenced and dangling), networks and (optionally) volumes. This utility is the command below :

docker system prune

***Which will also remove all stopped containers and all build cache.***

* Volumes are not deleted by default. This is to prevent important data from being removed if no container is currently using the volume. To additionally prune volumes as well, you can use the –volumes option as follows :

docker system prune -a

**10+ containers are running on my host server.All these containers stop on server reboot or docker engine restart which requires a manually container start.Is there any way to auto restart the containers in this scenario?**

one should enable auto restart policy to handle above scenario. Restart supports below policies

On-failure

always

unless-stopped

docker run --name myrun --restart=always -it d nginx

**Developers create multiple test containers in deve server in a day which consumes lot of disk space and manual cleanup is required.Is there any way to automate this cleanup?**

one should use -rm flag while starting a container to auto remove the container on its exit

docker run -itd --rm --name test2 nginx

once container exit/killed it will deleted automatically

docker run -it -v /mnt:/git alpine/git clone <https://github.com/alpine-docker/git.git>

Which is the base image you will prefer you docker file?

docker images | grep -i alpine

alpine is linux flavour

How to login a running container?

docker exec -it <container-id/name> /bin/bash

How to check live logs in docker containers?

docker logs -f <container-id/name>

How to check no of containers running your machine?

docker ps

How to check stop and running containers?

docker ps -a

What is port forwarding?

Hot to run container in backgroud?

docker run -d --name <container-name> <image-name>

-d is for run container background

What is first line in a dockerfile?

FROM key word

What are the commands in dockerfile?

[ADD,COPY,CMD,ENTRYPOINT,EXPOSE,MAINTAINER,RUN,VOLUME,LABEL,WORKDIR]

What is LABEL in docker?

What is docker tag?

How you store data persistently using docker?

using volume

What is docker network?

I have a one web application is running one container and database is running another container How you communicate each other?

Where you are store docker images?

How to run multiple containers at time?

Using docker-compose yaml file we have to mentioned all images names and run the compose file

To share the data b/w two containers?

docker run --volume-from container-1 --name container-2

What is COW(CopyOnWrite)?

dont dist

docker image nothing but read only part, we can’t write anything in the docker image

once we create a container on top of the read only layer there will be writable layer, so whatever changes done there will be reside the writable layer once the docker container is killed this containers are losted, if we stop and restart the container those container will be retained.

How do you push docker images to a insecure registry (http)?

https://docs.docker.com/registry/insecure/

/etc/docker/daemon.json

{

"insecure-registries":["IP:PORT"]

}

How do you save the changes done to a container ?

Stop the container

docker commit <container-id>

How to clean up the Docker host?

docker system df

docker system prune

docker system prune --all

We have a index.html file, serve it using a web server using docker?

docker run -it -v $PWD/index.html:/usr/share/nginx/html/index.html nginx

ARG TAG latest

FROM nginx:$TAG

COPY ./index.html /usr/share/nginx/index.html

docker build -t nginx:custom .

docker build --build-arg TAG=1.0 -t nginx:custom .

What is the diff b/w ADD and COPY command in a Dockerfile?

ADD is extracapabilities like untar the file and download the files from internet

In how many ways we can mention CMD/ENTRYPONT in Dockerfile?

shell form and Exec form

What is the purpose of EXPOSE command in Docker?

It is just for documentation

container listening on 8000

Which networks all available by default in Docker and how to create them?

bridge, none,host,overlay, macvlan

docker network create my\_net

docker network -drive=overlay create my\_net2

what is diff b/w bridge and custom bridge?

default bridge:

suppose we have container C1 and container C2 both have IP address and C1 want to talk to C2 using IP/DNS if it in IP,then we have to deloy C2 container and then C1

what is overlay n/w in Docker swarm?

Multihost networking

git hub:kunchalavikram1427

How can we control the startup order of services in Docker compose?

depends\_on

How to manage docker compose file for multiple environment?

docker-compose -f docker-compose.yml -f produciton.yml up -d