**👉Assignment on DOCKER**

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**Q1**

**For installation of docker Architecture Required is 64 bit kernel Version required is 3.8 or more**

**How To Check Prerequisites on linux box?**

To check Architecture -> uname -m

To check Kernel version -> uname -r

**Q2**

**What is difference between docker image & Container?**

|  |  |
| --- | --- |
| **DOCKER IMAGE** | **DOCKER CONTAINER** |
| It is Blueprint of the Container. | A container is an instance of an image. Each container can be identified by its ID. |
| Image is a logical entity. | Container is a real world entity. |
| Image is created only once. | Containers are created any number of times using image. |
| Images are immutable. | Containers changes only if old image is deleted and new is used to build the container. |
| Images does not require computing resource to work. | Containers requires computing resources to run as they run as Docker Virtual Machine. |
| To make a docker image, you have to write script in Dockerfile. | To make container from image, you have to run “docker build .” command |
| Docker Images are used to package up applications and pre-configured server environments. | Containers use server information and file system provided by image in order to operate. |
| Images can be shared on Docker Hub. | It makes no sense in sharing a running entity, always docker images are shared. |
| There is no such running state of Docker Image. | Containers uses RAM when created and in running state. |

**Q3**

**Put them in Correct Order**

**1. Docker Image**

**2. File**

**3. Docker Container**

**Ans :**

1.File

2.Docker Image

3.Docker Container

Dockerfile is a recipe for creating Docker images

Docker image gets built by running a Docker command (which uses that Dockerfile)

Docker container is a running instance of a Docker image

**Q4**

**What are various commands to find docker version**

**Ans –**

$ docker –v -> only shows the client version

docker version  - > will show both client and server version.

**Q5**

**Which command can be run to make sure that you can connect to repository of docker Over internet i.e. docker hub.**

Ans:

docker run hello-world

**Q6**

**If i want to know that if centos image is available on DockerHub or not, which command do i need to run**

**Ans :**

docker search centos

**Q7**

**what is diff betn running an image with/without "-it"**

**Ans:**

Docker run -it centos /bin/bash starts the container in the interactive mode that allows you to interact with /bin/bash of the container. That means now you will have bash session inside the container, so you can ls, mkdir, or do any bash command inside the container.

The key here is the word "interactive". If you omit the “-it” flag, the container still executes /bin/bash but exits immediately. With the flag, the container executes /bin/bash then patiently waits for your input.

**Q8**

**If i make changes to particular container**

**for eg web server and I exit from it**

**A. How do back to that container**

**B. if i go back to that Container will that web server will be installed ?**

1. Run below command to see that all the container services both running and stopped on. Option -a is given to see that the container stops as well

docker ps -a

Then start the docker container either by container\_id or container tag names

docker start <CONTAINER\_ID> or <NAMES>

B. If i go back to that Container will that web server will be installed - Yes.

**Q9.**

**So from above question when we have installed web server in the Container, can i save that modified container as new image**

To save the changes use commit. To commit your changes you need to create a new image based on yout additions. To do this, we need to once again use the container ID. When we commit these changes we effectively create a new image that will include all of the additions that were done

docker commit <container id> <new container name>

**Q10.**

**How do i list the following type Container**

1. **Active**

docker ps --filter status=running

1. **InActive**

docker ps -f "status=exited"

1. **Active+InActive**

docker ps -a

1. **Latest Container I Created.**

docker ps -l

**Q11.**

**Using Docker Command what actions can be executed on a particular container ID**

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attach Attach local standard input, output, and error streams to a running container

commit Create a new image from a container's changes

cp Copy files/folders between a container and the local filesystem

exec Run a command in a running container

export Export a container's filesystem as a tar archive

kill Kill one or more running containers

logs Fetch the logs of a container

pause Pause all processes within one or more containers

port List port mappings or a specific mapping for the container

rename Rename a container

restart Restart one or more containers

rm Remove one or more containers

start Start one or more stopped containers

stats Display a live stream of container(s) resource usage statistics

stop Stop one or more running containers

top Display the running processes of a container

unpause Unpause all processes within one or more containers

update Update configuration of one or more containers

wait Block until one or more containers stop, then print their exit codes

**Q12.**

**From Que 9 lets say I able to to save modified container as new image , now can i push that image over docker hub, If Yes How ?**

docker build -t name\_of\_ image\_with\_version local\_docker\_dir\_path

Get docker image tag id

docker images

docker tag ${image\_id} docker.io/${login\_name}/${image\_name}

docker push docker.io/${login\_name}/${image\_name}

**Q13.**

**There are 2 ways to create image**

**1. Pulling from Docker**

**2. To create image**

**Create a sample docker file which will create/build a ubuntu18.0 image.**

**Ans ;-** Attached the file