**Docker**

Docker is software which provides centralized platform to execute your application.  
 Docker provides the facility to run an application in a isolated environment which is called **container**. We can run many container and that will share the OS

**Docker Engine :** Used to building docker images and create docker container.

**Docker Hub :** Is a registry which is used to host various docker images.

**Docker Images :**  images are the source of the container which contains binary instruction to run the application. Build command is used to create image. There is no status for images.

**Docker Container :** Docker container include the application and all of its dependencies. It is a running instance of image. There are status stop/start/pause

**Installlation in unix machine :**

$ Yum install epel-release  
$ yum install docker

or   
use the below script created by docker community   
$ curl -fsSL https://get.docker.com -o get-docker.sh

$ sh get-docker.sh

Script available in : <https://get.docker.com/>

After successful running of script start the docker service  
$ service docker start

if we restart the docker then again we need to start the service so we are enabling docker in booting process   
$ systemcti enable docker

**Basic commands :**

docker pull httpd // used to pull image from docker hub  
docker images // list the images   
docker run <image> // used to run the container   
 -d -> detached mode   
 -v /usr/local/bin:/chethan -> mount the volume   
 here host serevr (/usr/local/bin) volume will be mounted to container (/chethan)  
 -it -> interactive mode   
 -rm -> remove the container automatically when it exist   
 -p 80:8000-> used to publish port or open port to external environment   
 here 8080 will be exposed to container  
 80 will be the host tcp port   
 -e -> used to set environment variable   
 -name -> assign name to container

docker ps // list running container   
docker ps -a // list all container   
docker logs <container> // provide the logs for the container  
docker start <container> // used to start stopped container  
docker stop <container> // used to stop the container  
docker rm <conatiner> // used to remove container  
docker rmi <image\_id> // used to delete image  
docker exec <container> //  
docker attach <container> // once docker container started attcach used to enter inside container  
docker commit <new\_image\_name> // this will commit the image   
docker pause <container> // this will keep container in pause state   
docker unpause <container> // this will unpause the container   
docker build -t ImageName:TagName // used to build the image (need to be in dockerfile path)  
docker search <image\_name> // this will search for image in hub  
docker commit <CID> // this will create new image   
docker tag <IID> i <name > //this will tag for the image