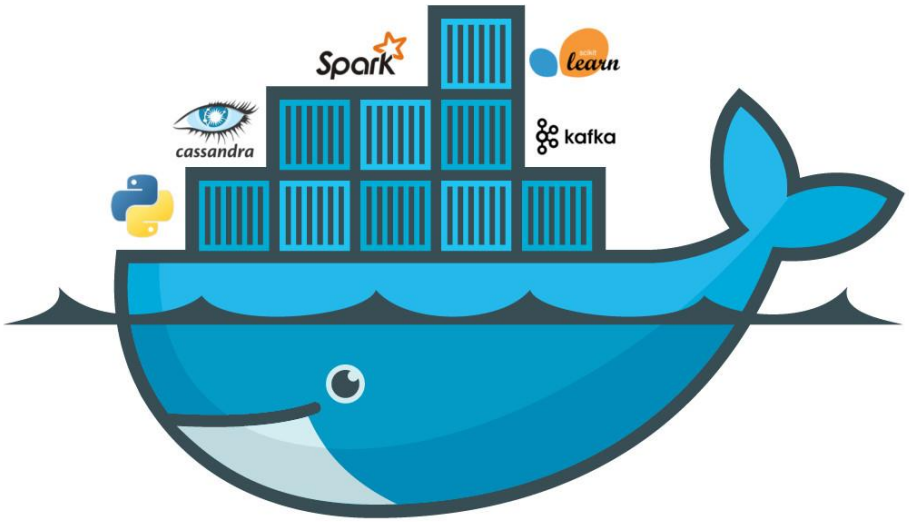


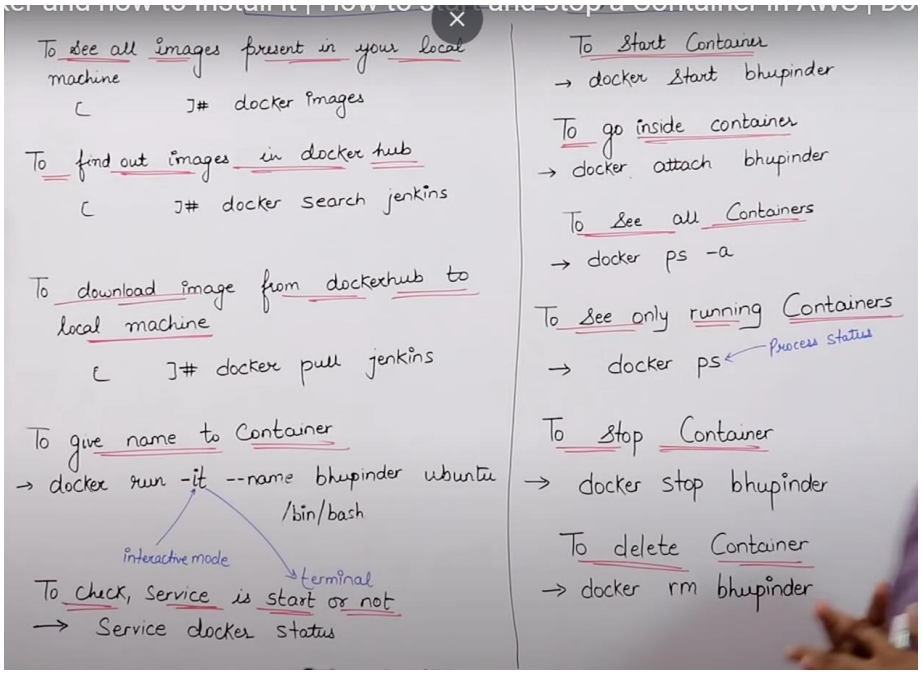
Docker Def: Docker is the open-source centralisd platform designed to create deploy and run the application

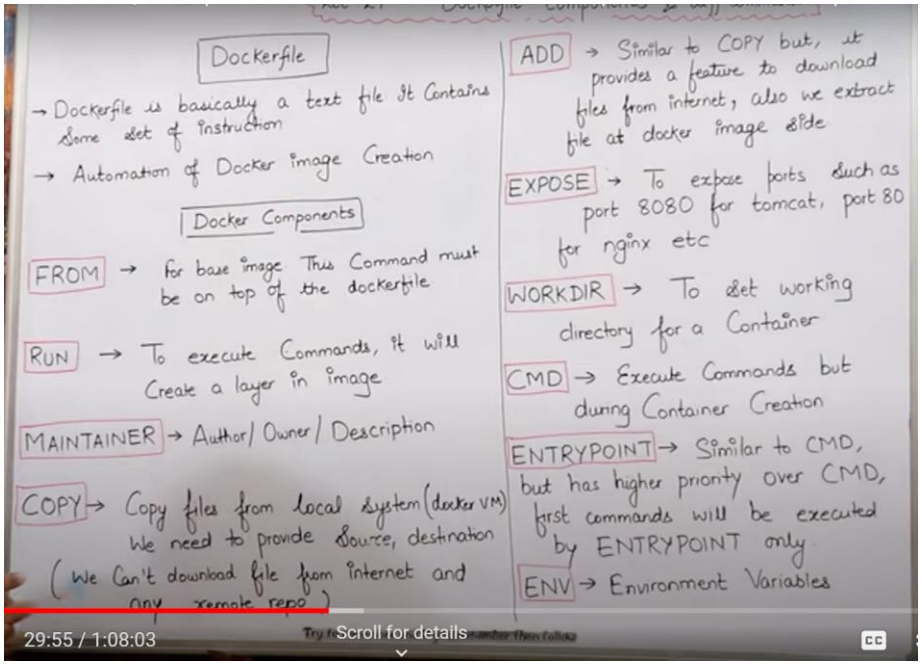
- Docker is written in "go" language
- Docker uses container on the host o.s to run applications it allows applications to use the same linux kernel as a system on the host computer rather than creating a whole virtual O.S
- We can install docker on any O.S but docker engine run natively on linux distribution.
- Docker is a tool that perform O.S level virtualization
- Docker was first release in march 2013 it is developed by Solomon hykes and sebastion rahl

Docker commands:

- **Docker images** to see the images
- **Docker search Jenkins** to find out images in docker hub
- **Docker pull Jenkins** download image from docker hub
- **Docker run -it –name Sohail ubuntu /bin/bash** to give name to container
- **Service docker start** to start the docker
- **Service docker stop** to stop docker
- **Service docker status** to check status of the docker
- docker rename (oldname)(new name)
- **docker run** `<image_name>`
- **docker -d** To start the Docker daemon.
- **docker info** To display Docker system-wide information.
- **docker version** To display the current installed Docker version.
- **docker login -u <username>** To login into Docker.
- **docker push <username>/<image_name>** To publish an image to Docker Hub.
- **docker commit <container_name>** To create a new image from a container's changes.
- **docker history <container_name>** docker history
- **docker rmi <container_name>** To remove one or more images.
- **docker tag** To tag an image into a repository.
- **docker run --name <container_name> <image_name>** To create and run a container from an image.

- **docker run -p <host_port>:<container_port> <image_name>** To run a container with port mapping.
- **docker rm <container_name>** To remove a stopped container.
- **docker ps**
- **docker ps -a** To list all docker containers.
- **docker volume create** To create a new Docker volume.





Dockerfile

1) → Create a file named Dockerfile (Capital)
2) → Add instructions in Dockerfile
3) → Build dockerfile to Create image
4) → Run image to Create Container

1. vi Dockerfile → i → :wq
2. FROM ubuntu
   RUN echo "Technical guftgu" >/tmp/testfile

To Create image out of dockerfile

```
docker build -t myimg .
```

(-t → tag)

```
docker ps -a
docker images
```

Creating Volume from Dockerfile

① Create a Dockerfile and Write :wq

```
FROM ubuntu
VOLUME ["/myvolume1"]
```

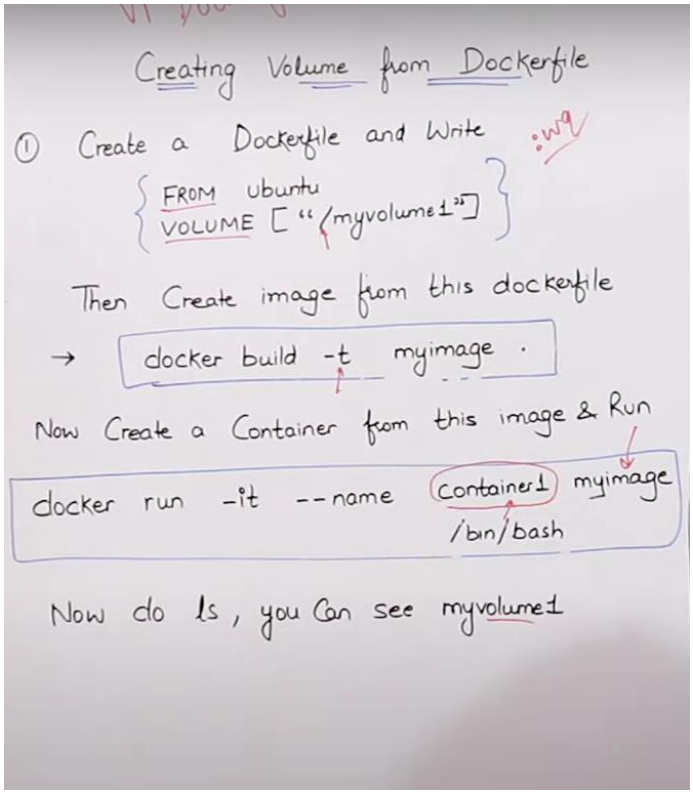
Then Create image from this dockerfile

→ `docker build -t myimage .`

Now Create a Container from this image & Run

`docker run -it --name container1 myimage /bin/bash`

Now do ls, you can see myvolume1



Docker Image: A Docker image is a file used to execute code in a Docker container .

Docker Container: A Docker container image is a lightweight, standalone, executable package of software that includes everything needed to run an application:

Deploying docker project using jenkins:

Install plugins

- CloudBees Docker Build and Publish plugin
- Docker API Plugin
- Docker Commons Plugin
- Docker Compose Build Step Plugin
- Docker Pipeline
- Docker plugin
- docker-build-step
- sonarscanner
- maven integration
- owsap dependency plugin
- jdk plugin

manage Jenkins configure the tools

Add Credentials for docker,git,sonarqube,

Create job

Select pipeline

Click ok

Pipeline select pipeline script

- pipeline {
- agent any
- tools{
- jdk 'jdk17'
- maven 'Maven'
- }
- environment{
- SCANNER_HOME=tool'Sonarqube'
- }

- stages {
- stage('GIT CHECKOUT') {
- steps {
    - git branch: 'main', url: 'https://github.com/GootySohail/Ekart.git'
- }
- }
- stage('COMPILE') {
- steps {
    - sh 'mvn compile'
- }
- }
- stage('SONAR ANALYSIS') {
- steps {
    - withSonarQubeEnv('Sonarqube') {
    - sh '"$SCANNER_HOME/bin/sonar-scanner \
        - -Dsonar.projectKey=Shopping-cart \
        - -Dsonar.sources=. \
        - -Dsonar.java.binaries=. \
        - -Dsonar.host.url=http://54.196.157.159:9000/ \
        - -Dsonar.login=squ_2e950989af73a77e9c419c4c80d179783091e080
- '

    - }
- }
- }
- stage('BUILD') {
- steps {
    - sh "mvn clean package -DskipTests=true"
- }
- }
- stage('DEPENDENCY CHECK') {
- steps {
    - dependencyCheck additionalArguments: '--scan target/', odcInstallation: 'DC'
    - dependencyCheckPublisher pattern: '**/dependency-check-report.xml'
- }

- }
- stage('BUILD DOCKER IMAGE') {
- steps {
    - script{

    - withDockerRegistry(credentialsId: 'b19f8c77-88fb-45a2-9a3c-bd2326b75cac', toolName: 'docker'){

        - sh "docker build -t shopping-cart -f docker/Dockerfile ."
        - sh "docker tag shopping-cart gootysohail/shopping-cart:latest"

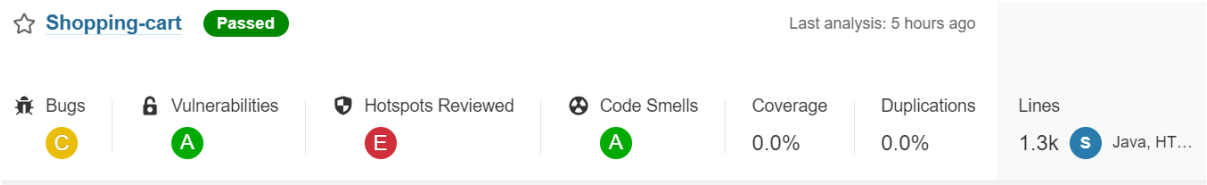
        - }
    - }
- }
- }
- stage('Push Docker Image') {
- steps {
    - script {
        - withDockerRegistry(credentialsId:'b19f8c77-88fb-45a2-9a3c-bd2326b75cac', toolName:'docker') {
        - sh "docker push gootysohail/shopping-cart:latest"
        - }
    - }
- }
- }

- stage('Deploy To Docker Container') {
- steps {
    - script {
        - withDockerRegistry(credentialsId:'b19f8c77-88fb-45a2-9a3c-bd2326b75cac', toolName:'docker') {
        - sh "docker run -d --name shopping -p 8070:8070 gootysohail/shopping-cart:latest"
        - }
    - }
- }
- }

- }
- }

Click apply and save

Click build now



After build success

Copy the ip and browse in browser