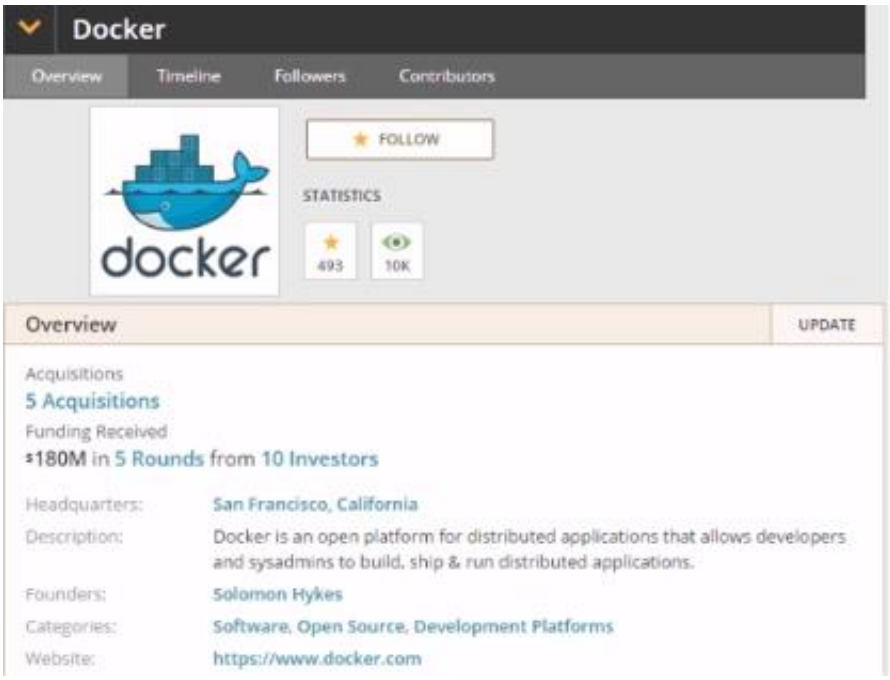
What are you going to learn?

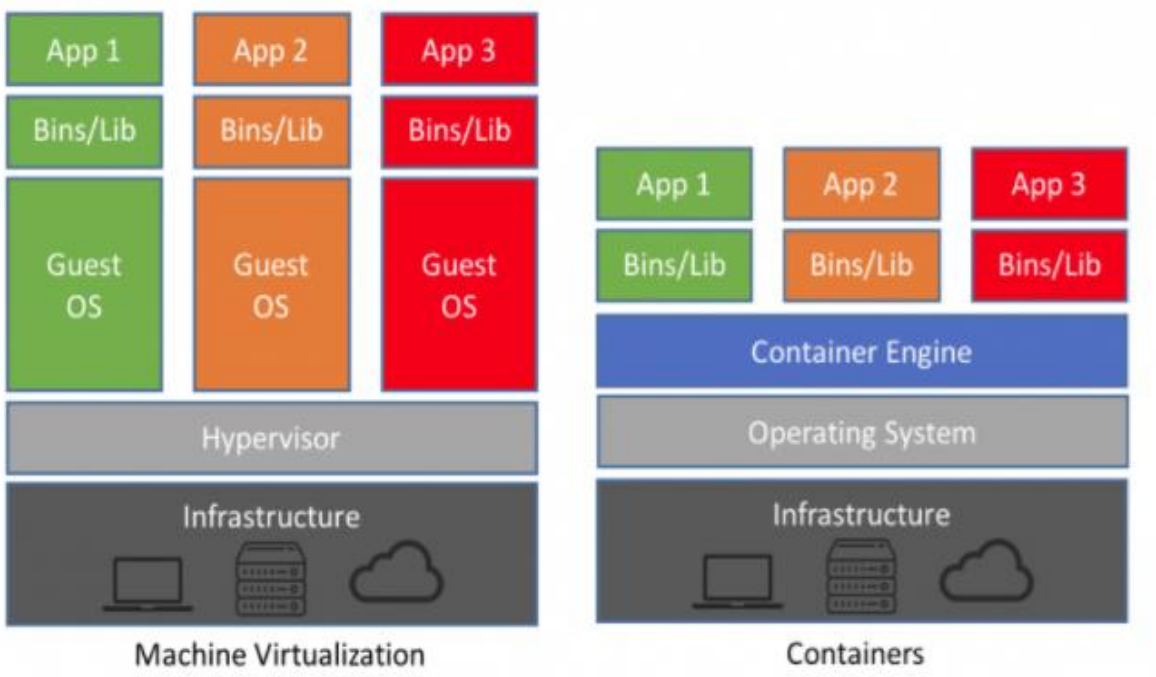
1. What is Docker
2. Running Business Application on Physical **Vs** Virtualization **Vs** Containers
3. Drawbacks of Virtualization
4. Introduction to Containers
5. Getting Started with Docker
6. Buzz words
   - Docker file
   - Docker Image
   - Docker Container
   - Docker Hub
7. How Docker works
8. Installation of Docker on Ubuntu and Windows
9. Quick insight on real time scenarios
10. Issue handling

<u>Getting started with Docker</u>

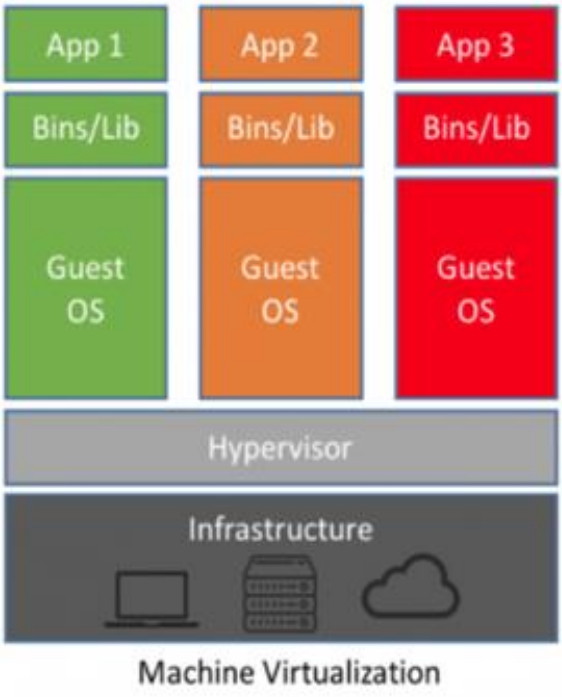


VMware – Hypervisor
Microsoft – Windows
Docker – Containerization

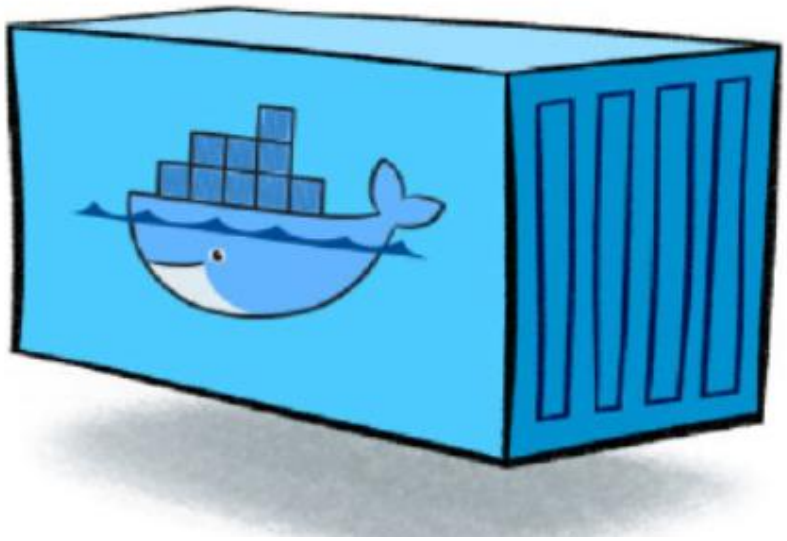
Running Business Application on Physical Vs Virtualization Vs Containers



Drawbacks of Virtualization



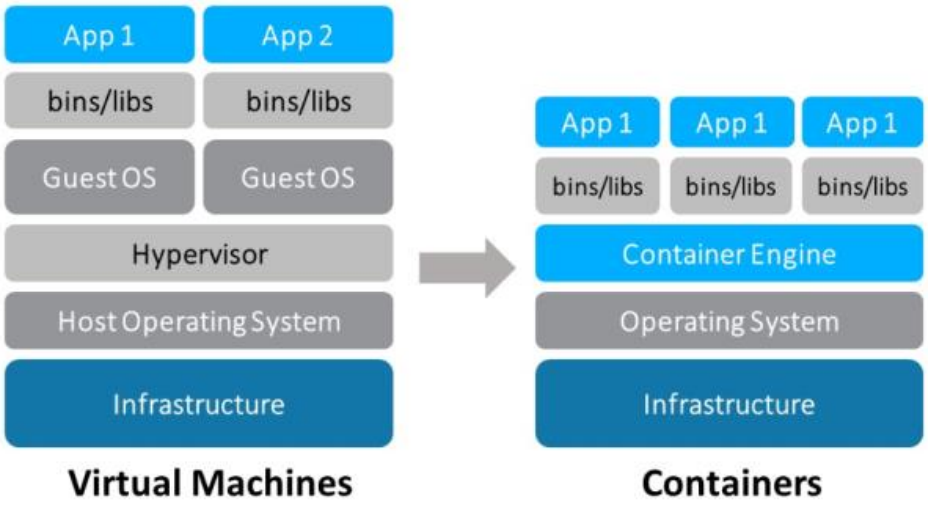
Intro Containers

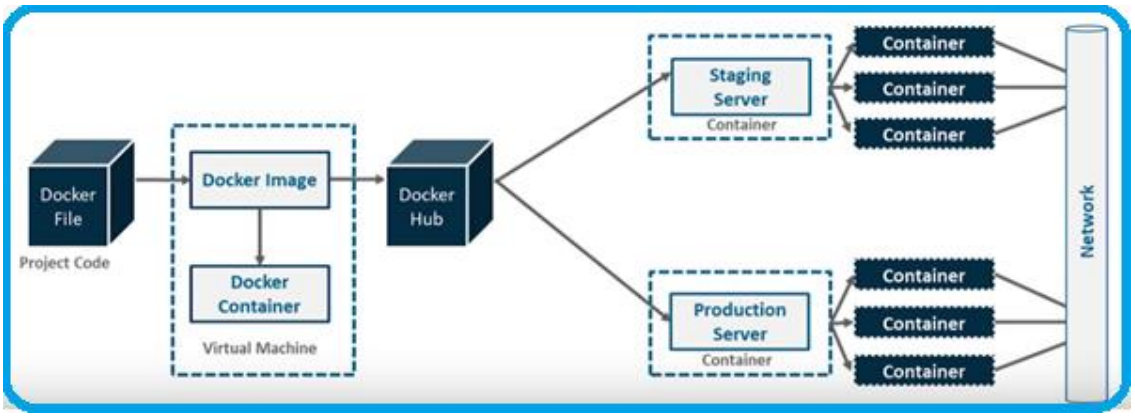


Buzz words

- Docker file
- Docker Image
- Docker Container
- Docker Hub

How Docker works





Installing Docker in Ubuntu Machine:

Reference URL - https://www.digitalocean.com/community/tutorials/how-to-install-and-use-docker-on-ubuntu-16-04

Installing Docker in Windows Machine:

Login Windows server and run below commands from PowerShell

```
install-module dockerprovider -force
```

```
install-package docker -providername dockerprovider -force
```

Docker Commands

Microsoft Word 97 - 2003 Document

Also –

TO remove all container

```
docker rm $(docker ps -aq)
```

To stop all running containers

```
docker stop $(docker ps -aq)
```

To remove all images from docker

```
docker rmi $(docker images -q)
```

Working with Containers

Playing with DockerHub Image

1. Pull an Image from DockerHub (Example – Nginx **OR** Jenkins)
2. Run that image on container
3. Do the port forwarding
    a. docker run -p 80:80 -d nginx **[OR]**
        i. docker run -p 81:8080 -d jenkins
    b. add inbound rules at the instace level without fail
4. Ensure that nginx **OR** Jenkins is accessible over Internet.

P.S. Jenkins PWD will be find `docker exec -it <ContatinerID> /bin/sh` and go to `Var`, follows

`cat jenkins_home/secrets/initialAdminPassword`

Create a custom Image using docker file

1. Ensure you have a Instance with Docker installed
2. Switch to super user
    a. $sudo su
    b. cd
    c. vi dockerfile
    d. Insert your code in order to build Docker Image
    e. Save
3. Now the images has created, and check if that is created or not
4. If there is no particualr name for that image give a name
    a. Docker tag <Image ID> <desired image name>
    b. Check if that is updated
5. Now this image push to DockerHub
    a. Docker login
        i. Provide your docker username and PWD
    b. Docker tag <Image ID/Name> <Docker username>/<Repository Name>:<Tag name>
    c. Docker push <Image ID/Name> <Docker username>/<Repository Name>
    d. Go and check if that is uploaded in DockerHub

Just FYI

https://docs.docker.com/install/

DESKTOP

Platform	x86_64
Docker Desktop for Mac (macOS)	✓
Docker Desktop for Windows (Microsoft Windows 10)	✓

SERVER

Platform	x86_64 / amd64	ARM	ARM64 / AARCH64	IBM Power (ppc64le)	IBM Z (s390x)
CentOS	✓		✓		
Debian	✓	✓	✓		
Fedora	✓		✓		
Ubuntu	✓	✓	✓	✓	✓

Linux free instance - https://aws.amazon.com/free/

Docker Manuals - https://docs.docker.com/manuals/

https://get.docker.com/

https://docs.docker.com/install/linux/docker-ce/binaries/

https://docs.aws.amazon.com/AmazonECS/latest/developerguide/docker-basics.html