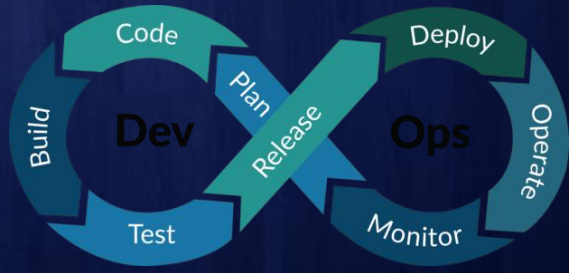
# AWS SAA + SysOps + Developer + DevOps Course #Day-58

We will start at 8 AM,
Stay tuned

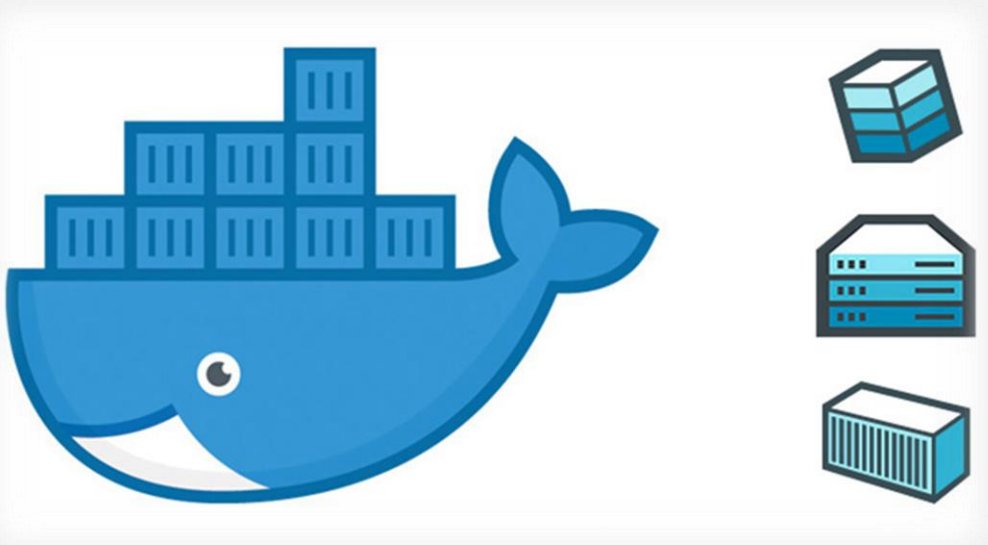

RAKESH TANINKI
LEARN TO UNLEARN

# Recap:

- AWS Code Deploy – with Auto Scaling group & Load balancer
- Rolling deployments
- What happens on scale out
- In place rolling deployments
- Blue Green deployments

# Today's topics:

- Docker & Containers
  - Virtualization problems
  - Containerization
  - Container Registry
- Demos
  - Docker
- ECR – Elastic Container Registry
- Docker Desktop

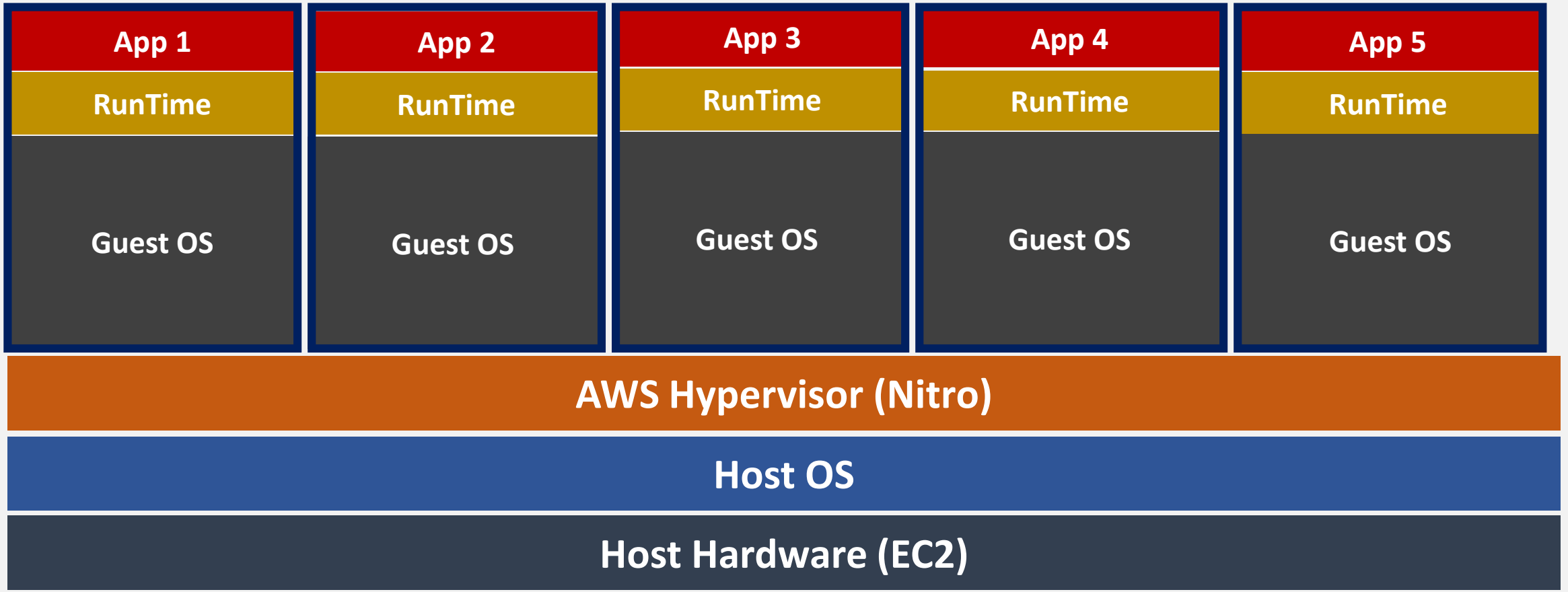


# Introduction to Docker & Containers

# Virtualization Problems

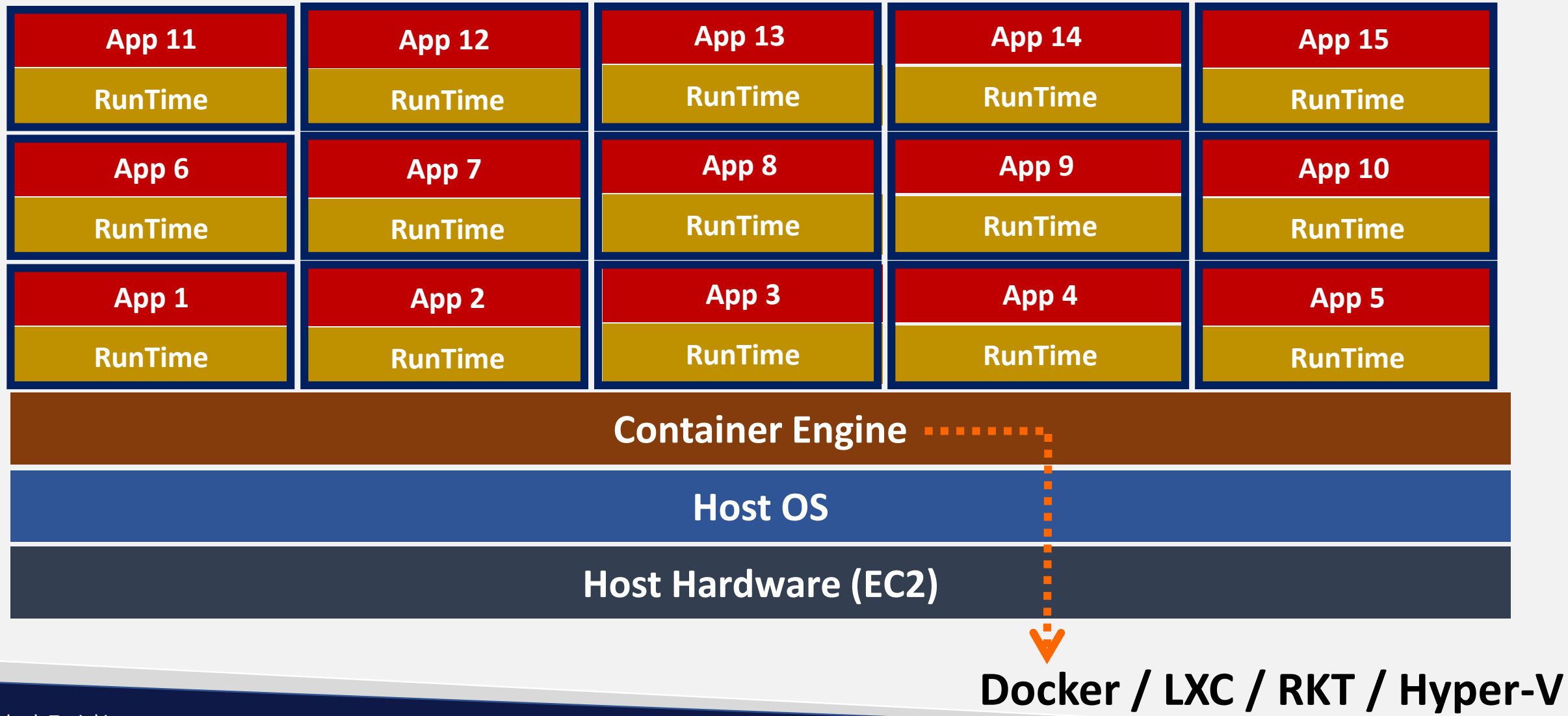
**Heavy Usage & duplication**

**Deploying different OS on each VM**



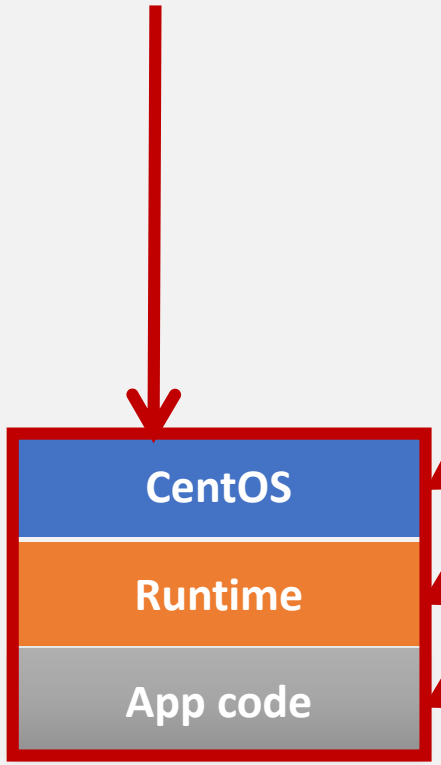
# Containerization

## No Guest OS, optimized performance



# Image Anatomy

Images are created from
a base image or scratch



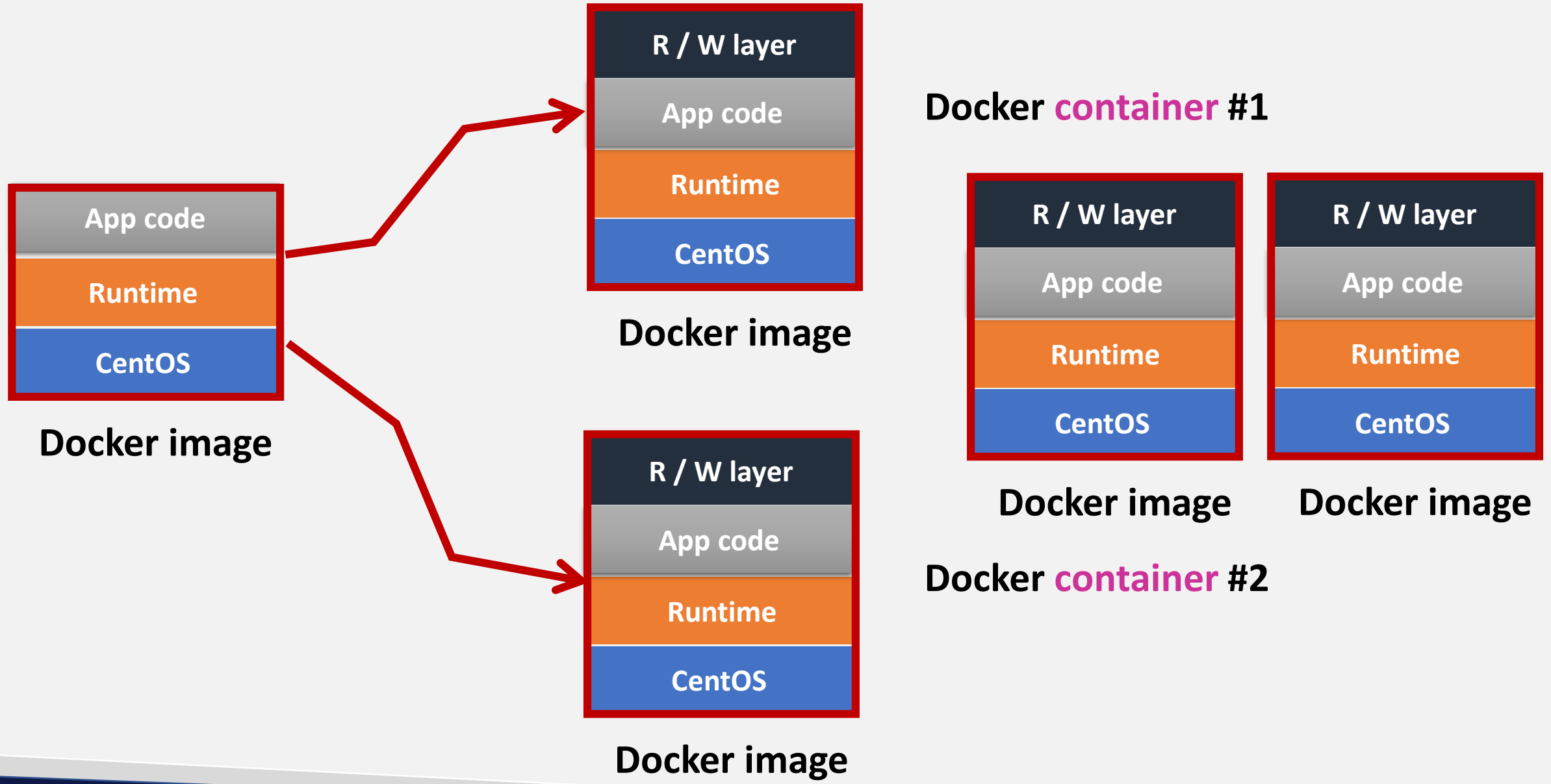

Docker image

```
1  FROM centos:7
2  LABEL maintainer="Rakesh Taninki"
3  RUN yum -y install httpd
4  COPY index.html /var/www/html/
5  COPY container.png /var/www/html/
6  ENTRYPOINT ["/usr/sbin/httpd", "-D", "FOREGROUND"]
7  EXPOSE 80
```

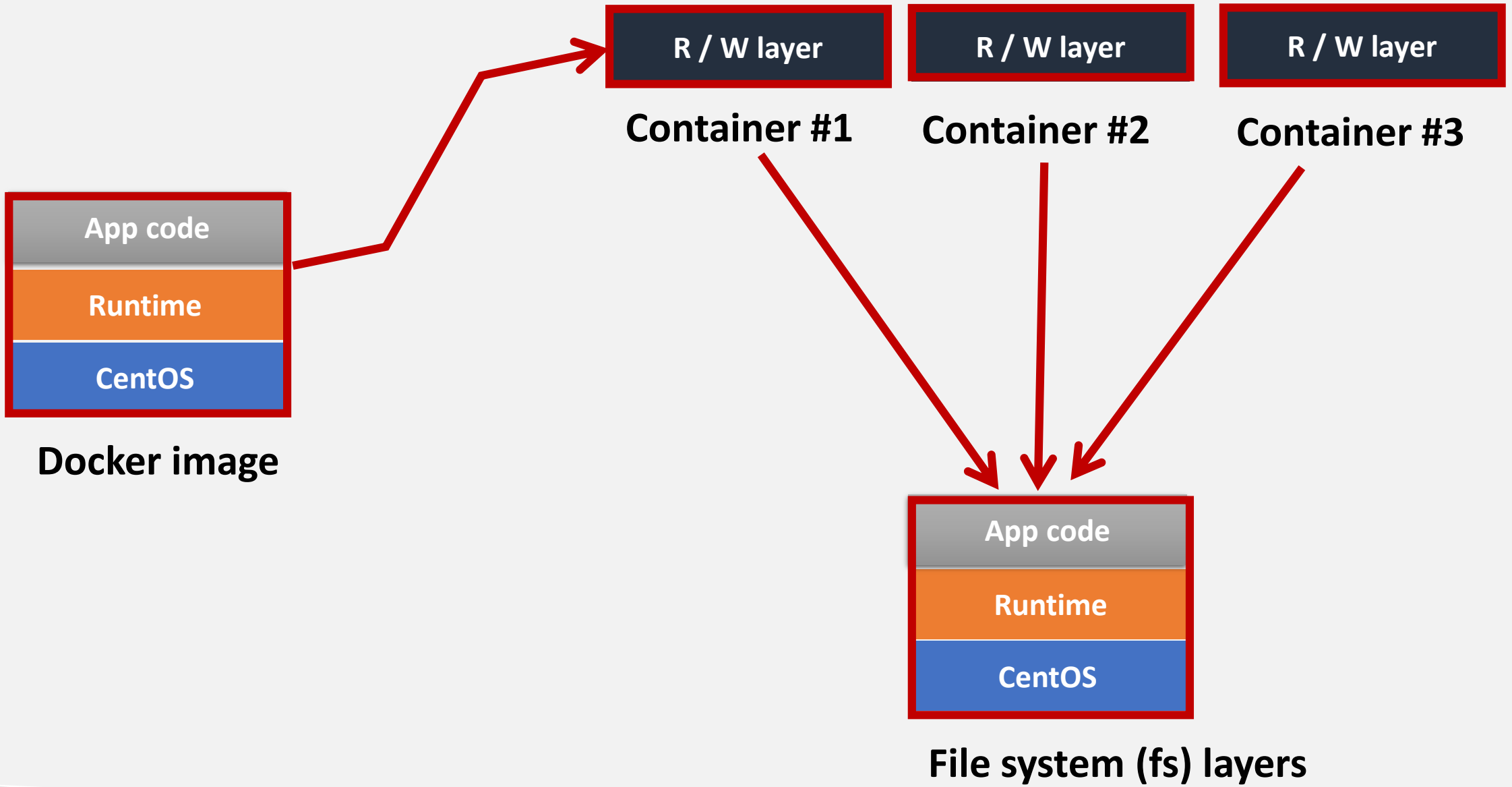
- images contain read only layers
- Independent layers
- Stack of layers

Dockerfile used to build docker images

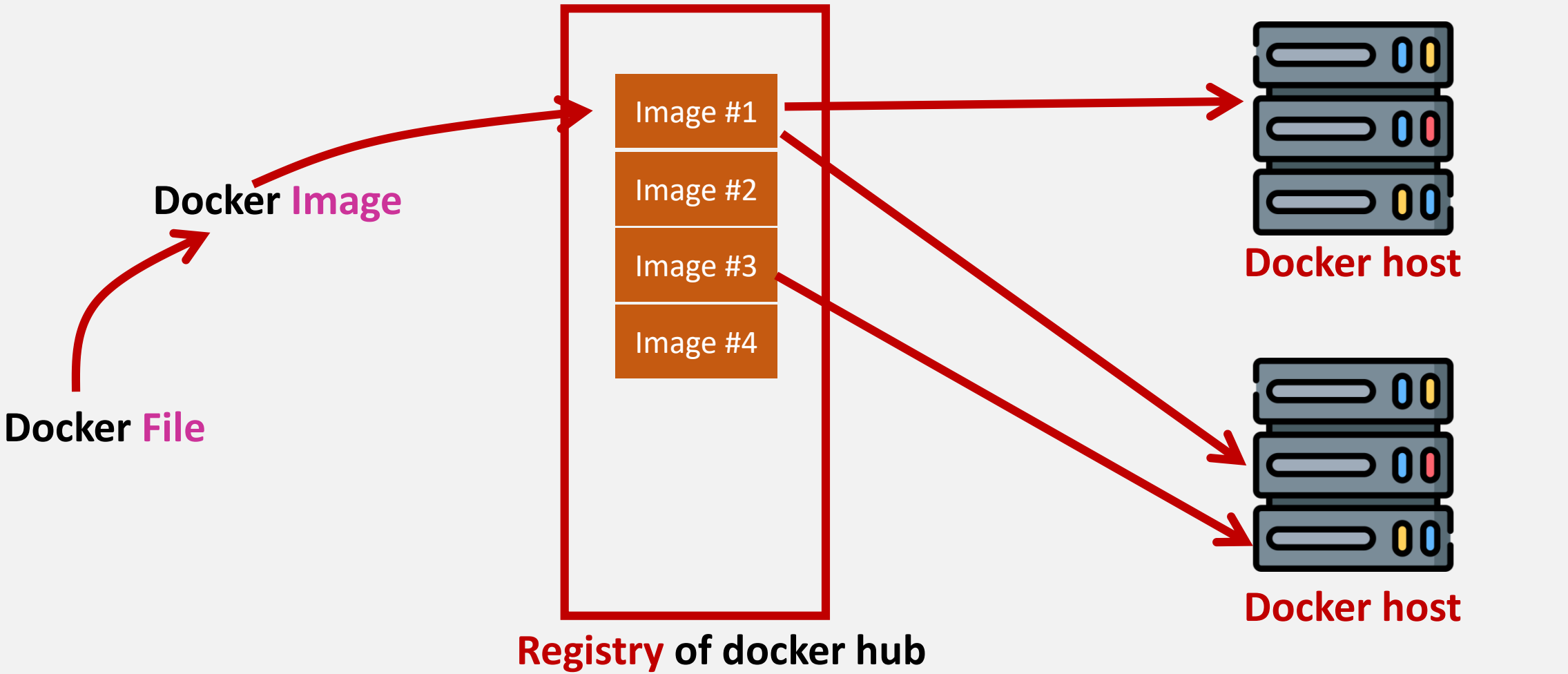
# Container Anatomy



# Container Anatomy



# Container Registry




1. Private Registry
2. Public Registry

# Key Concepts

- **Dockerfiles** are used to **build images**
- **Docker images** are used to run containers
- Portable – self container, always run as expected
- Lightweight – Parent OS used, FS layers are shared
- Container only runs the applications it needs
- Provides much isolation as VMs do
- Ports are exposed to the host
- Application stacks can be multi containers

# AWS Container related services

**Amazon Elastic Kubernetes Service (Amazon EKS)**

**Amazon Elastic Container Registry (Amazon ECR)**

**Amazon Elastic Container Service (Amazon ECS)**

**AWS Fargate**

# Demo – Docker and containers

- Launch CFT for base infra
- Install docker on EC2
- Create Image
- Run container
- Push the image to Registry
- Pull image to another EC2


# Thank you, will meet in tomorrow's session