Docker and Kubernetes Commands with Definitions

Docker - Definition

Docker is a platform designed to help developers build, share, and run applications using containers.
Containers package code and dependencies together to run reliably in different environments.

Docker - Important Commands

Images
- docker pull <image_name>: Download image from Docker Hub
- docker images: List all local images
- docker rmi <image_id>: Remove an image
- docker build -t <name>:<tag> .: Build image from Dockerfile
- docker tag <image_id> <repo/name:tag>: Tag an image
- docker save -o image.tar <image>: Save image to .tar
- docker load -i image.tar: Load image from .tar

Containers
- docker run -it <image> /bin/bash: Start container with shell
- docker run -d --name <name> <image>: Start container in detached mode
- docker ps: List running containers
- docker ps -a: List all containers
- docker exec -it <container> /bin/bash: Access container shell
- docker logs <container>: View container logs
- docker stop/start/rm <container>: Stop/start/remove container

Volumes & Networks
- docker volume create <vol_name>: Create volume
- docker network create <net_name>: Create network

Services (Docker Swarm)
- docker swarm init: Initialize Docker Swarm
- docker service create --name <svc> <img>: Create service
- docker service scale <svc>=3: Scale service

Kubernetes - Definition

Kubernetes is an open-source container orchestration platform that automates deployment,
scaling, and management of containerized applications.

Kubernetes - Important Commands

Minikube
- minikube start/stop/status: Start/stop/status for local Kubernetes cluster

kubectl Configuration
- kubectl config view/use-context <ctx>: View/switch config

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- kubectl cluster-info/version: Cluster information

Pods
- kubectl get/describe/logs/exec/delete pod: Manage pods

Deployments
- kubectl create/get/scale/delete deployment: Manage deployments
- kubectl rollout restart deployment <name>: Restart deployment

Services
- kubectl expose deployment <name>: Expose deployment as service
- kubectl get/describe/delete svc: Manage services

YAML Manifest Handling
- kubectl apply/delete/create -f <file.yaml>: Handle resources using YAML