# Docker Engine

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## Docker Engine Architecture

1. Docker Service Configuration
2. Basic Container Operations
3. Interacting with a Running Container
4. Inspecting a Container
5. Stopping and Removing a Container
6. Setting a Container Hostname
7. Restart Policies
8. Copying Contents into Container
9. Publishing Ports
10. Troubleshooting Docker Daemon

## Docker Image Management:

1. Docker Image Registry
2. Authenticating to Registries
3. Removing a Docker Image
4. Inspecting a Docker Image
5. Save and Load Images
6. Building a custom image
7. Docker commit method.
8. Build Contexts
9. Build Cache

## Docker File Creations:

1. COPY
2. ADD
3. EXPOSE
4. User
5. HEALTH CHECK
6. ONBUILD
7. RUN
8. CMD
9. ENTRYPOINT
10. VOLUMES
11. ENV
12. ARG
13. WORKING DIRECTORY
14. ONBUILD
15. COPY vs ADD
16. CMD vs Entrypoint
17. Base vs Parent Image
18. Multi-Stage Builds

## Docker Engine – Security:

1. Docker Daemon Security
2. Namespaces and Capabilities
3. Resource Limits CPU
4. Resource Limits Memory

## Docker Engine – Networking :

1. Docker Networking
2. Networking additional commands

## Docker Engine – Storage :

1. Docker Storage
2. Docker Volume

## Docker Compose :

1. Docker Compose
2. Example for Voting Application

## Docker Swarm :

1. Container Orchestration Introduction
2. Swarm Architecture
3. Swarm Setup 2 node Cluster
4. Swarm Operations
5. Swarm in HA mode
6. Auto-Lock
7. Swarm Services
8. Scaling Rolling Updates and Rollbacks
9. Swarm Service Types

## Docker Engine Enterprise :

1. Docker EE Introduction
2. Docker Enterprise Engine Setup
3. Universal Control Plane Setup
4. Deployment in Docker EE

## Disaster Recovery :

1. Disaster Recovery – Docker Swarm
2. Disaster Recovery – UCP
3. Disaster Recovery – DTR