Docker Curriculum

1. What is Devops?

- What is Container?
- How to create light-weight images. (Techniques).

2. Difference between VM and Containers?

- Docker Containers v/s Virtualization.
- Docker Engine (Understanding Containerization)

3. Docker Overview

- Architecture (Client | REST API | Docker Daemon)
- Docker-Hub-Registry (Public | Private).
- Register/ Sign-up Process

4. Docker Engine Installation on Linux Servers (Centos/Ubuntu)

- Docker Installation Process & Start Docker Engine/Services.
- Hello-World from Docker (Verification/Validation)

5. Docker commands - Hands-on sessions with real-time assignments.

- docker login| docker pull | docker images | docker ps | docker top | docker inspect | docker commit | docker prune | docker volumes
- docker policies and other arguments

6. Docker Build – Building the Container Based Applications

- Understanding Docker file and build container images

7. Real-time examples: –

- o Real time examples
  - Dot Net Application Building.
  - Web-based Apps using Apache
  - Java-based **Spring-Boot Applications**
  - Python Applications **with dependencies**
  - **Nodejs| Angular | npm install** (package. Json)

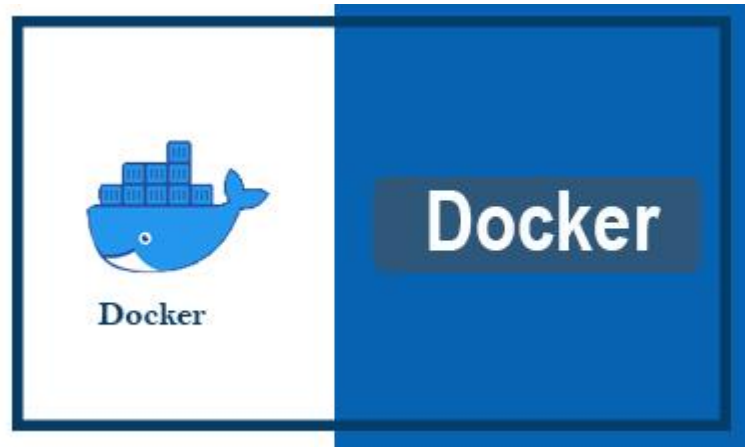## 8. Setup Jenkins in docker container and configure (CI-CD pipeline)

- Understanding Jenkins CI-CD and Setup Builds on Jenkins with examples.

9. Docker networking and volumes (storage).

- Creating volumes and attaching to containers (Persistent Data storage)
- CNM Model for Networking
- Drivers and creating customer-based networks
- Deploy Containers (Plug-in/Plug Out)

10. Docker-Compose micro service-based architecture –

- Understanding and learning YAML (for automation)
- Creating and playing with Single-Service
- Multi-tier Application (through YAML files)
- Real-time web-based Project Implementation (Frontend-&-Backend).

11. Docker Orchestration - Docker Swarm

- Understanding Cluster concepts and Environment

- Setup Cluster Multiple Node Cluster

- Manager-Node & Worker Nodes and deploy services.

- Build Application Stack (real-time project deployment)

- Rolling updates, Rollbacks and Scaling Up/down.

12. Monitoring using Prometheus and Trouble-shooting skills

KEY FEATURES

- Instructor-led Sessions
- Learn from Experts
- Assignments
- 24 x 7 Support
- Real-time Case Studies
- Get Certified

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