Docker Foundations

Course Overview

This class is for developers, operation managers, and IT professionals who would like to learn Docker.

Course Description

This two-day introductory course is designed to provide participants with a strong practical foundation in Docker technologies, container concepts, and real-world deployment workflows. The training focuses on hands-on operational knowledge aligned with current industry practices, including container image management, Docker networking, storage, Docker Compose, container security considerations, and integration into modern DevOps workflows. Current enterprise trends such as cloud-native development, container security hardening, remote development environments, and Kubernetes integration concepts are also incorporated to ensure relevance to today's infrastructure landscape.
The course is delivered by an instructor with over 30 years of industry experience who emphasizes practical, production-oriented knowledge and real operational scenarios instead of purely academic theory.

Learning Curriculum

Module 1

Introduction to Containerization

Evolution of deployment, Containers vs Virtual Machines, Docker ecosystem, Cloud-native concepts

Module 2

Installing Docker & Environment Setup

Docker Desktop, Linux installation, Docker CLI, Docker Engine, configuration, verification

Module 3

Docker Architecture & Core Components

Docker Engine, Images, Containers, Networks, Volumes, Registries, Container lifecycle

Module 4

Working with Docker Images

Docker Hub, Image management, Image optimization, Best practices, Hands-on Lab 1

Module 5

Building Images with Dockerfiles

Dockerfile syntax, Instructions, Building images, Multi-stage builds, Best practices

Module 6

Running & Managing Containers

Container operations, Troubleshooting, Executing commands, Monitoring, Hands-on Lab 2

Module 7

Docker Networking & Storage

Docker networks, Port mapping, Volumes, Bind mounts, Persistent storage

Module 8

Docker Compose

Docker Compose architecture, YAML files, Multi-container deployment, Service orchestration

Module 9

Docker Security Fundamentals

Image security, Least privilege, Image hardening, Security best practices

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