



Official Docker: CN210 - Docker Enterprise Operations

Duration 3 day(s) (DOCKER-CN210)

Explore all the operations features of the Docker Enterprise Platform

Official Training



Description

In this operations-focused course, you'll deep dive into all the features of the Docker Enterprise platform, and discover how it enables a secure software supply chain from development to production. We'll discuss managing and enhancing your Kubernetes and Swarm applications through Universal Control Plane, how to harden image security by building pipelines in Docker Trusted Registry, and how to enhance the security of the Docker Enterprise platform via operational best practices.

Goals

By the end of this course, you will be able to:

- Identify the key features of UCP and DTR
- Deploy applications on UCP using Swarm or Kubernetes, governed by secure, role-based authentication and authorization
- Establish a secure supply chain for containerized software development using DTR

Public

This course is targeted at students with the following:

- **Motivations:** Leverage all the features of Universal Control Plane and Docker Trusted registry to securely manage containerized applications in a cloud or datacenter.
- **Roles:** System Operators & Administrators

Prerequisites

- [CN110 - Docker Swarm Application Essentials](#) course and prerequisites therein, or equivalent experience
- Familiarity with the bash shell
 - Filesystem navigation and manipulation
 - Command line text editors like vim or nano
 - Common tooling like curl, wget and ping
- Familiarity with YAML and JSON notation

Structure

40% Theory, 60% Practice

Program

- Introduction to Docker Enterprise
 - Docker Enterprise architecture
- Universal Control Plane (UCP)
 - Networking & System requirements
 - PKI, client bundle and API authentication
 - Installing UCP
 - UCP high availability
- User management & access control
 - UCP RBAC system
 - Swarm resource collections
 - Swarm and Kubernetes access control comparison
- UCP Orchestration
 - Orchestrator architecture
 - Swarm and Kubernetes networking and architecture comparison
 - Application deployment on UCP
- Container network operations
 - Routing and service discovery for stateful and stateless applications on Swarm and Kubernetes
 - Ingress vs. cluster internal routing
 - L7 routing featuring sticky sessions and path based routing in Swarm and Kubernetes
 - Introduction to Istio service mesh
 - Canary and Blue-Green deployment patterns in UCP
- Logging
 - Engine log management
 - UCP audit logging
 - Log aggregation and management
- Platform security
 - Options for improving host-level container security
 - Kubernetes admission controllers and pod security policies
 - Container network encryption
 - Kubernetes network policies
- Docker Trusted Registry (DTR)
 - DTR architecture
 - Installing DTR
 - DTR high availability
- DTR organizations and teams
- Content Trust
 - Man-in-the-middle mitigation per the Update Framework
 - Setting up content trust keys
 - Signing images with content trust
- Image Security Scanning
 - Security scanning setup
 - Interpreting and filtering scanner results
- Repository automation
 - Image promotion
 - Image mirroring
 - Webhooks
- Image Management
 - Tag pruning and garbage collection
 - DTR sizing for development and production clusters
 - DTR content caching