OpenShift Essentials Bootcamp Training Course: Build, Deploy & Operate

15 – 19 August 2027
Manama

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Ref: 78_79049 **Date:** 15 – 19 August 2027 **Location:** Manama **Fees:** 4700 Euro

Overview

Enterprise engineering teams transitioning to cloud-native platforms need reliable methods to package, release, and manage containerized services. The OpenShift Essentials Bootcamp provides software developers, platform engineers, and DevOps practitioners with practical capabilities to build, deploy, and operate services on Red Hat OpenShift. Participants examine the core distinctions between OpenShift and standard Kubernetes, gaining fluency with both the oc CLI and Web Console interfaces. The curriculum emphasizes developer workflows, Source-to-Image automation, declarative build configurations, and integrated pipeline execution. This course is delivered by Agile Leaders Training Center.

Who Should Attend

- Software developers packaging containerized services for cloud-native deployment.
- DevOps engineers configuring automated continuous integration and delivery workflows.
- Platform engineers and system administrators maintaining operational stability across enterprise projects.
- Cloud engineers implementing service routing, network policies, and persistent storage.
- Technical team leads standardizing container deployment protocols across project teams.

Targeted Organizational Departments and Industries

This training supports technical teams driving modernization across high-demand enterprise environments.

- Application Development and Platform Engineering units in Financial Services
- Cloud Infrastructure and IT Operations groups in Telecommunications
- DevOps and Automation departments in Healthcare and Life Sciences
- Digital Transformation teams in Energy and Utilities
- IT Systems and Infrastructure divisions in Public Sector Organizations

Course Objectives

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

- Build and deploy applications efficiently using Source-to-Image automation.
- Configure automated delivery workflows using OpenShift Pipelines and Tekton.
- Operate container workloads using the oc CLI and Web Console navigation.
- Manage project namespaces, internal services, and external application routes.
- Implement application health checks using readiness and liveness probes.
- Configure persistent storage volumes and manage stateful application components.
- Diagnose operational issues using platform logs, events, and container metrics.

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Course Agenda

Day 1: OpenShift Architecture and Navigation

- Architectural Differences between OpenShift and Standard Kubernetes
- Project Partitioning, Service Exposure, and Route Creation Principles
- Cluster Navigation using the oc CLI and Web Console
- Developer Workspace Configuration and Project Access Control
- Deploying Container Workloads using BuildConfig and DeploymentConfig
- Verification of Running Pods, Services, and Cluster Endpoints

Day 2: Application Deployment and Source-to-Image

- Building Applications from Source Code using Source-to-Image automation
- Integrating Remote Git Repositories with Automated Build Triggers
- Configuring Ingress Traffic through Standard and Secure Routes
- Implementing Horizontal Pod Autoscaling and Manual Replica Adjustments
- Configuring application health checks with Liveness and Readiness Probes
- Debugging Failing Container Deployments via Terminal and Log Streams

Day 3: CI/CD Automation with OpenShift Pipelines

- Core Architecture of OpenShift Pipelines and Tekton Task Definitions
- Structuring Reusable Tasks, Pipelines, and Workspace Resources
- Executing Automated Builds with PipelineRun and TaskRun Artifacts
- Configuring Git Webhooks and Event Triggers for Automated Deployment
- Decoupling Application Configurations using ConfigMaps and Secrets
- Managing Environment Bindings across Pipeline Execution Stages

Day 4: Operational Monitoring and Platform Management

- Monitoring Pod Health, Memory Usage, and CPU Utilization via Dashboards
- Extracting Deployment Events and Aggregated Logs using the CLI
- Automating Multi-Tier Deployments with Reusable Application Templates
- Managing Role-Based Access Permissions across Collaborative Projects
- Configuring Container Runtime Limits and Resource Quota Allocation
- Operational Troubleshooting Routines for Container Crashes and Restarts

Day 5: Production Readiness and Cluster Workflows

- Managing Stateful Applications with Persistent Volumes and Claims
- Implementing Granular Ingress Controls and Network Isolation Policies
- Configuring Local Development Sandboxes and Cluster Workflows
- Designing Resilient Cloud-Native Architectures for High Availability
- Reviewing Production Readiness Checklists and Operational Runbooks
- Capstone Team Demonstration: Multi-Tier Build, Deployment, and Triage

Course Toolbox

- Interactive sandbox environment configured with OpenShift CLI access
- Reference templates for Source-to-Image builds and application manifests
- YAML definitions for Tekton pipelines, tasks, and webhooks
- Operational troubleshooting runbooks and log-inspection commands

Frequently Asked Questions

What specific qualifications or prerequisites are needed for participants before enrolling in the course?

Familiarity with basic software development concepts and version control tools such as Git is recommended. Prior experience with containers or Kubernetes is helpful but not required.

How long is each day's session, and is there a total number of hours required for the entire course?

Each day's session is structured to last around 4 to 5 hours, including practical exercises and collaborative discussions. The total course duration spans one week, amounting to approximately 20 to 25 instructional hours.

What is the difference between OpenShift Pipelines and Jenkins for CI/CD?

While Jenkins is a general-purpose automation server, OpenShift Pipelines is a Kubernetes-native solution based on Tekton. It runs each execution step in its own container, integrates tightly with platform security policies, and scales resources on demand.

How This Course Compares to Other OpenShift Courses

Unlike system administration courses that focus strictly on cluster maintenance and infrastructure provisioning, this programme emphasizes developer workflows, deployment automation, and operational day-two tasks. Participants gain concrete, repeatable techniques for Source-to-Image compilation, pipeline automation, and diagnostic troubleshooting without requiring cluster-admin privileges.