



COURSE CURRICULUM · RED HAT, LINUX & VMWARE · RED HAT

OpenShift Fundamentals (DO180-aligned)

Deploy, expose, scale and troubleshoot applications on Red Hat OpenShift with confidence.

DURATION

4 days · 32 hours

LEVEL

Intermediate

CURRICULUM

13 modules · 9 labs

DELIVERY

Live online, Onsite,
Corporate

Course overview

Red Hat OpenShift adds developer workflows, security defaults and operational tooling on top of Kubernetes, and it is widely used by banks, telecoms and large enterprises. This four-day course gives developers and administrators a practical grounding in running applications on it.

Day one introduces containers, Kubernetes concepts and the OpenShift architecture, then gets you working in the web console and with the oc command line: projects, pods, logs and resources. Day two covers deploying applications from images, templates and source code, configuring them with ConfigMaps and Secrets, and attaching persistent storage.

Day three focuses on networking and reliability: Services, routes and TLS, health probes, resource limits, scaling manually and automatically, and rolling out updates safely. Day four looks at managing applications with Helm and operators, basic security with service accounts and security context constraints, troubleshooting failing workloads, and finishes with a capstone that deploys and exposes a multi-tier application.

Labs run on a live OpenShift cluster so you can use both the console and the CLI throughout.

This course covers topics aligned to Red Hat DO180. Ace Skills is not a Red Hat training partner and does not use official courseware. There is no exam attached to this course; you receive an Ace Skills course completion certificate.

Highlights

- 32 hours of live, trainer-led sessions
- Hands-on OpenShift cluster access for every lab
- Web console and oc command line side by side
- Routes, storage, scaling and updates in practice
- Capstone: deploy a multi-tier application

What's included

- Live OpenShift cluster access
- Web console and oc CLI in every topic
- Persistent storage and routes labs
- Scaling, probes and rolling updates
- Helm and operators introduction
- Multi-tier capstone deployment
- Course completion certificate from Ace Skills Consulting

Who this course is for

Who should attend

- Developers deploying applications to OpenShift
- System administrators supporting OpenShift platforms
- DevOps engineers in organisations adopting OpenShift
- Kubernetes users moving to OpenShift

Prerequisites

- Comfort with the Linux command line
- Basic understanding of web applications
- Container experience is helpful but not required

Detailed curriculum — 4 days, 32 hours, 13 modules, 9 hands-on labs

Day 1 Containers, Kubernetes and OpenShift Basics

8 hours

1.1 Container and Kubernetes concepts

- Containers and images
- Declarative resource management
- Pods, Deployments and Services

1.2 OpenShift architecture

- Control plane and worker nodes
- Operators and cluster updates overview
- Projects and namespaces

1.3 Working with the cluster

- Web console tour
- Inspecting pods, events and logs
- oc login, projects and resources
- Running commands in containers

LAB Explore a project with the console and oc · 45 min

LAB Run and inspect a containerised database · 40 min

Day 2 Deploying and Configuring Applications

8 hours

2.1 Deploying applications

- Deploying from container images
- Templates
- Deploying from source with S2I
- Image streams

LAB Deploy an application from source code · 50 min

2.2 Configuration

- ConfigMaps
- Environment variables
- Secrets
- Externalising configuration

LAB Configure an app with ConfigMaps and Secrets · 35 min

2.3 Persistent storage

- Persistent volume claims
- StatefulSets for databases
- Storage classes

LAB Attach persistent storage to a database · 40 min

Day 3 Networking, Reliability and Updates

8 hours

3.1 Networking

- Services and DNS
- Ingress
- Routes and TLS edge termination
- Network policies overview

LAB Expose an app securely with a route · 40 min

3.2 Reliability

- Liveness and readiness probes
- Quotas and limit ranges
- Resource requests and limits
- Manual and horizontal autoscaling

LAB Add probes and autoscale under load · 45 min

3.3 Application updates

- Rolling and recreate strategies
- Image tags and triggers
- Rollbacks

Day 4 Managing Applications, Troubleshooting and Capstone

8 hours

4.1 Application management

- Helm charts
- Kustomize overview
- Operators and OperatorHub

4.2 Security basics

- Users and roles
- Security context constraints
- Service accounts

4.3 Troubleshooting

- CrashLoopBackOff and image pull errors
- oc debug
- Debugging with logs and events

LAB Fix four broken deployments · 45 min

4.4 Capstone

- Planning a multi-tier deployment
- Review and next steps

LAB Deploy, expose and scale a multi-tier application · 75 min

Skills and tools

Skills you will build

Red Hat OpenShift

oc CLI

OpenShift web console

Source-to-Image

Routes

Persistent storage

ConfigMaps & Secrets

Health probes

Autoscaling

Helm

Operators

Troubleshooting

Tools used in class

Red Hat OpenShift

oc CLI

Web console

Helm

Podman

Frequently asked questions

Is there an exam with this course?

No. This course does not include an exam; you receive an Ace Skills course completion certificate.

Is this the official Red Hat DO180 course?

No. It is an independent Ace Skills course that covers topics aligned to DO180 and does not use Red Hat courseware.

Do I need Kubernetes experience?

No. Day one covers the Kubernetes concepts you need before moving to OpenShift.

Is it for developers or administrators?

Both. The focus is on running applications, which both roles need; cluster installation is outside the scope.

Book a batch or talk to an advisor

Course page: aceskillsconsulting.com/course/do180-openshift-fundamentals · Email: info@aceskillsconsulting.com

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