

# Red Hat OpenShift Developer II: Building and Deploying Cloud-native Applications

Course code: D0288

Red Hat OpenShift Developer II: Building Kubernetes Applications (D0288) teaches you how to design, build, and deploy containerized software applications on an OpenShift cluster. Whether you are migrating existing applications or writing container-native applications, you will learn how to boost developer productivity powered by Red Hat® OpenShift Container Platform, a containerized application platform that allows enterprises to manage container deployments and scale their applications using Kubernetes. This course is based on Red Hat OpenShift Container Platform 4.10.

## Who is the course for

- Enterprise application developers
- DevOps site reliability engineers

## What we teach you

- Design containerized applications for OpenShift.
- Manage and trigger application builds using Source-to-Image (S2I).
- Customize an existing source-to-image base image.
- Deploy multi-container applications using Helm Charts.
- Create health checks to monitor and improve application reliability.
- Create and deploy cloud-native applications on OpenShift.

## Required skills

- Complete the Introduction to Containers, Kubernetes, and Red Hat OpenShift course (D0180), or have equivalent knowledge
- Being a Red Hat Certified System Administrator or having earned a higher certification is helpful for navigation and usage of the command line, but is not required

## Impact of this training

This course provides application developers with the essential skills to design, build, and deploy containerized applications, whether they are migrating existing applications to OpenShift, or creating new cloud-native applications. It provides the gateway to organizational and digital transformation by demonstrating the potential of DevOps using a container-based architecture.

As developers seek ways to improve application time to market for minimum viable products, containers and OpenShift have quickly become the de facto solution for agile development and application deployment. A container-based architecture, orchestrated with Kubernetes and OpenShift, improves application reliability and scalability while decreasing developer overhead and facilitating continuous deployment.

## Impact on the individual

You will learn about the fundamental concepts behind containerizing, scaling, deploying, and managing applications in Red Hat OpenShift Container Platform. You will acquire these skills:

- Design container images to containerize applications.
- Customize application builds and use Source-to-Image builds.
- Deploy multi-container applications.
- Implement health checks to improve system reliability.

## Recommended next exam or course

- Red Hat Certified Specialist in OpenShift Application Development exam (EX288)
- Building Resilient Microservices with Istio and Red Hat OpenShift Service Mesh (D0328)
- Red Hat Cloud-native Microservices Development with Quarkus (D0378)
- Developing Applications with Red Hat OpenShift Serverless and Knative (D0244)

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## Course outline

### Deploy and manage applications on an OpenShift cluster

- Deploy applications using various application packaging methods to an OpenShift cluster and manage their resources.

### Design containerized applications for OpenShift

- Select a containerization method for an application and create a container to run on an OpenShift cluster.

### Publish enterprise container images

- Create an enterprise registry and publish container images to it.

### Manage builds on OpenShift

- Describe the OpenShift build process, in addition to triggering and managing builds.

### Customize source-to-image builds

- Customize an existing S2I base image and create a new one.

### Deploy multi-container applications

- Deploy multi-container applications using Helm charts and Kustomize.

### Manage application deployments

- Monitor application health and implement various deployment methods for cloud-native applications.

### Build applications for OpenShift

- Create, deploy, and integrate third-party applications on OpenShift.

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