Introduction to Containers, Kubernetes, and Red Hat OpenShift (DO180) introduces building and managing Docker containers for deployment on a Kubernetes cluster. This course helps students build core knowledge and skills in managing containers through hands-on experience with Docker, Kubernetes, and Red Hat® OpenShift Container Platform. The video classroom version is only available on Red Hat OpenShift Container Platform 3.5 and Red Hat Enterprise Linux 7.

Skills Gained
As a result of attending this class, students should be able to containerize simple software applications and services; deploy them with Docker, Kubernetes, and Red Hat OpenShift; test the containerized version; and troubleshoot issues with deployment. One of the key tenets of the DevOps movement is continuous integration and continuous deployment. Containers have become a key technology for the configuration and deployment of applications and microservices. Kubernetes is a container orchestration platform that provides foundational services in Red Hat OpenShift Container Platform.

- Understand container, Docker, and Red Hat OpenShift architecture.
- Create containerized services.
- Manage containers and container images.
- Create custom container images.
- Deploy containerized applications on Red Hat OpenShift.
- Deploy multi-container applications.

Who Can Benefit
- Developers who wish to containerize software applications
- Administrators who are new to container technology and container orchestration
- Architects who are considering using container technologies in software architectures

Prerequisites
- Be able to use a Linux terminal session and issue operating system commands · Have Red Hat Certified System Administrator (RHCSA) certification or equivalent experience
• Have experience with web application architectures and their corresponding technologies

Course Details

Course Introduction
• Introduce and review the course.

Get started with container technology
• Describe how software can run in containers orchestrated by Red Hat OpenShift Container Platform.

Create containerized services
• Provision a server using container technology.

Manage containers
• Manipulate pre-build container images to create and manage containerized services.

Manage container images
• Manage the life cycle of a container image from creation to deletion.

Create custom container images
• Design and code a Docker file to build a custom container image.

Deploy containerized applications on Red Hat OpenShift
• Deploy single container applications on Red Hat OpenShift Container Platform.

Deploy multi-container applications
• Deploy applications that are containerized using multiple container images.

Troubleshoot containerized applications
• Troubleshoot a containerized application deployed on Red Hat OpenShift.

Comprehensive review of Introduction to Container, Kubernetes, and Red Hat OpenShift
• Demonstrate how to containerize a software application, test it with Docker, and deploy it on a Red Hat OpenShift cluster.