

# Red Hat Ansible Automation Platform Boot Camp

Course code: D0710

Learn how to automate Linux system administration tasks with Red Hat Ansible Automation Platform and manage complex automation workflows at scale and prevent single points of failure. The Ansible Automation Platform Boot Camp (D0710) is designed for Linux administrators and developers who need to automate repeatable and error-prone steps for system provisioning, configuration, application deployment, and orchestration. Learn recommended practices for automation development using reusable code, advanced playbook techniques, shared execution environments, and preparing for scalable automation with the automation content navigator. Deploy automation controller to centrally manage automation workflows, automation mesh to scale up and distribute execution capacity, and private automation hub to manage Ansible Content Collections and automation execution environments for use by automation developers. This collection of courses is based on Red Hat Ansible Automation Platform 2.2. As part of enrollment, you will receive one year of Red Hat Learning Subscription Standard, which gives you unlimited access to all of our courses online, plus up to five certification exams.

## Who is the course for

This course is geared toward Linux system administrators, DevOps engineers, Site Reliability Engineers, infrastructure automation engineers, and developers who are responsible for repeatable tasks such as:

- Automating configuration management
- Ensuring consistent and repeatable application deployment
- Provisioning and deployment of development, testing, and production servers
- Integrating with DevOps continuous integration/continuous delivery workflows

## What we teach you

- Installing Red Hat Ansible Automation Platform on control nodes.
- Creating and updating inventories of managed hosts and managing connections to them.
- Automating administration tasks with Ansible Playbooks.
- Writing effective playbooks at scale.
- Protecting sensitive data used by Ansible Automation Platform with Ansible Vault.
- Reusing code and simplifying playbook development with Ansible Roles and Ansible Content Collections.
- Apply recommended practices for effective and efficient automation with Ansible.
- Perform automation operations as rolling updates.
- Use advanced features of Red Hat Ansible Automation Platform to work with data, including filters and plugins.
- Create automation execution environments to contain and scale Red Hat Ansible Automation.
- Leverage capabilities of the automation content navigator to develop Ansible Playbooks.
- Discussion of the architecture of Red Hat Ansible Automation Platform 2.
- Installation and configuration of automation controllers and private automation hubs to centrally coordinate and scale Red Hat Ansible Automation.
- Integration of Red Hat Ansible Automation Platform with centralized Git repository services such as GitLab.
- Management of users, teams, and access permissions in Red Hat Ansible Automation Platform services.
- Creation and management of workflows that execute automation based on the success or failure of previous jobs
- Troubleshooting and maintenance of Red Hat Ansible Automation Platform services.
- Discussion of recommended practices to ensure high availability and scalability of a large automation cluster.

## Required skills

Internet access is required for this course in order to access the OpenShift shared and dedicated clusters.

## Course outline

### Get started with container technology

Describe how applications can run in containers orchestrated by OpenShift Container Platform.

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## Create containerized services

Provision a service using container technology.

## Manage containers

Manipulate pre-built 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 Dockerfile to build a custom container image.

## Deploy containerized applications on OpenShift

Deploy single container applications on OpenShift Container Platform.

## Deploying multi-container applications

Deploy applications that are containerized using multiple container images.

## Publish enterprise container images

Interact with an enterprise registry and publish container images to it.

## Deploying multi-container applications

Deploy multi-container applications using Helm charts and Kustomize.

## Managing application deployments

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

## Describing the Red Hat OpenShift Container Platform

Describe the architecture of OpenShift Container Platform.

## Verify the health of a cluster

Describe OpenShift installation methods and verify the health of a newly installed cluster.

## Configuring authentication and authorization

Configure authentication with the HTPasswd identity provider and assign roles to users and groups.

## Configuring application security

Restrict permissions of applications using security context constraints and protect access credentials using secrets.

## Configuring OpenShift networking for applications

Troubleshoot OpenShift software-defined networking (SDN) and configure network policies.

## Controlling pod scheduling

Control the nodes on which a pod runs.

## Describing cluster updates

Describe how to perform a cluster update.

## Managing a cluster with the web console

Manage a Red Hat OpenShift cluster using the web console.

## Moving from Kubernetes to OpenShift

Demonstrate that OpenShift is Kubernetes by deploying Kubernetes-native applications on OpenShift.

## Introducing automation with OpenShift

Automate OpenShift using scripts and Ansible playbooks.

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## Managing OpenShift operators

Manage operators and OpenShift cluster operators.

## Implementing GitOps with Jenkins

Implement a GitOps workflow using containerized Jenkins to administer an OpenShift cluster.

## Configuring enterprise authentication

Configure OpenShift integration with enterprise identity providers.

## Configuring trusted TLS certificates

Configure trusted TLS certificates for external access to cluster services and applications.

## Configuring dedicated node pools

Add nodes to an OpenShift cluster with custom configurations.

## Configuring persistent storage

Configure storage providers and storage classes to ensure cluster user access to persistent volume resources.

## Managing cluster monitoring and metrics

Configure and manage the OpenShift monitoring stack.

## Provisioning and inspecting cluster logging

Deploy and query cluster-wide logging, and diagnose common issues using tools.

## Recovering failed worker nodes

Inspect, troubleshoot, and remediate worker nodes in a variety of failure scenarios.

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