[D0410]: Automation with Ansible and Ansible Tower

Length   : 5 Days
Delivery Method   : Instructor-led (Classroom)

Course Overview

Through hands-on labs, participants will learn to automate system administration tasks on managed hosts with Ansible, learn how to write Ansible playbooks to standardize task execution, and manage encryption for Ansible with Ansible Vault. This course will also teach participants how to deploy and use Red Hat® Ansible Tower to centrally manage existing Ansible projects, playbooks, and roles; perform basic maintenance and administration of the Ansible Tower installation; and configure users and teams and use them to control access to systems, projects, and other resources through role-based access controls. Participants will learn to use Ansible Tower's visual dashboard to launch, control, and monitor Ansible jobs; use the Ansible Tower application programming interface (API) to launch jobs from existing templates; automatically schedule Ansible jobs; and dynamically update host inventories.

Audience Profile

This course is designed for Linux system administrators, cloud administrators, and network administrators needing to automate configuration management, application deployment, and intraservice orchestration at an enterprise scale.

At Course Completion

- Install and troubleshoot Ansible on central nodes and managed hosts
- Automate administration tasks with Ansible playbooks and ad hoc commands
- Write effective Ansible playbooks
- Protect sensitive data used by tasks with Ansible Vault
- Install and configure Ansible Tower for enterprise Ansible management
- Use Ansible Tower to control access to inventories and machine credentials by users and teams
- Create job templates in Ansible Tower to standardize playbook execution
- Centrally launch playbooks and monitor and review job results with Ansible Tower

Pre-Requisites

Become a Red Hat Certified System Administrator, or demonstrate equivalent experience

Course Outline

Module 1: Introduce Ansible
Describe the terminology and architecture of Ansible

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Module 2: Deploy Ansible
Configure Ansible and run ad hoc commands

Module 3: Implement playbooks
Write Ansible plays and execute a playbook

Module 4: Manage variables and inclusions
Describe variable scope and precedence, manage variables and facts in a play, and manage inclusion

Module 5: Implement task control
Manage task control, handlers, and tags in Ansible playbooks

Module 6: Implement Jinja2 templates
Employ a Jinja2 template

Module 7: Implement roles
Create and manage roles

Module 8: Configure complex playbooks
Learn and replicate how Ansible executes plays and tasks using host patterns, delegation, and parallelism

Module 9: Implement Ansible Vault
Manage encryption with Ansible Vault

Module 10: Troubleshoot Ansible
Troubleshoot the Ansible control machine and managed nodes

Module 11: Install Ansible Tower and describe Ansible Tower's architecture
Explain what Ansible Tower is and demonstrate a basic ability to navigate and use its web user interface

Module 12: Create users and teams for role-based access control
Create user accounts and organize them into teams that can be used in conjunction with role-based access control to manage administration and access to organizational resources in Ansible Tower

Module 13: Create and manage inventories and credentials
Build inventories of machines to manage and set up credentials that will allow Ansible Tower to run jobs on those systems

Module 14: Manage projects for provisioning with Ansible Tower
Create basic projects and job templates in Ansible Tower that can be used to run Ansible playbooks in order to provision and configure managed systems

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Module 15: Construct advanced job workflows
This module Use additional features of job templates to improve workflows by creating simple job launch forms and templates to launch multiple jobs in sequence, and also to report job success or failure through external notification systems

Module 16: Update inventories dynamically and compare inventory members
Use advanced techniques to work with inventories, including dynamic generation of inventories from centralized information sources and monitoring of hosts in an inventory for configuration deviations or differences

Module 17: Maintenance and administration of Ansible Tower
Perform routine maintenance and administration on Ansible Tower and establish a basic familiarity with the command line tools and the Ansible Tower API

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