Network Automation with Red Hat Ansible Automation Platform

Course Duration: 32 Hours **Course Code: DO457**

1. Course Overview

The **Network Automation with Red Hat Ansible Automation Platform (DO457)** course is designed to help network administrators and automation engineers manage and automate network infrastructure at scale. Participants will learn how to use Ansible Automation Platform to configure, provision, and manage network devices across multi-vendor environments. The course focuses on simplifying repetitive network management tasks, improving consistency, and enabling agile network operations through automation.

2. What You'll Learn?

By the end of this course, you will be able to:

- Understand the **fundamentals of Ansible Automation Platform for networks**.
- Automate configuration of **routers, switches, and firewalls** across vendors.
- Write and execute **playbooks for network provisioning, updates, and monitoring**.
- Use **Ansible Collections and Roles** for network automation.
- Manage **configuration backups and rollbacks**.
- Automate **compliance enforcement** across network devices.

- Integrate network automation into **enterprise CI/CD workflows**.
- Troubleshoot and optimize **Ansible network automation workflows**.

3. Target Audience

This course is ideal for:

- **Network administrators and engineers** managing large-scale environments.
- **Automation and DevOps engineers** working on network integration.
- **IT operations teams** adopting infrastructure-as-code (IaC) practices.
- Professionals preparing for **network automation specialist roles**.

4. Pre-Requisites

- Basic knowledge of **networking concepts (routing, switching, VLANs, ACLs)**.
- Familiarity with **network device management (CLI, SNMP, APIs)**.
- Experience with **Ansible basics** (completion of DO374 – Ansible Basics recommended).
- Understanding of **Linux command-line tools**.

5. Course Content

Module 1: Introduction to Network Automation

- Role of automation in modern networking
- Overview of Ansible Automation Platform for network devices

Module 2: Setting Up Network Automation Environment

- Preparing control nodes and inventories

- Managing network credentials and connectivity

Module 3: Writing Playbooks for Network Devices

- Using Ansible network modules
- Creating playbooks for common configurations

Module 4: Multi-Vendor Network Automation

- Automating Cisco, Juniper, Arista, and other devices
- Cross-platform consistency

Module 5: Configuration Management and Backups

- Backing up and restoring device configurations
- Rollback strategies

Module 6: Automating Network Provisioning

- VLANs, interfaces, and routing automation
- Firewall and ACL automation

Module 7: Compliance and Policy Automation

- Enforcing security and compliance standards
- Continuous validation of configurations

Module 8: Roles, Collections, and Best Practices

- Leveraging Ansible Galaxy network collections
- Structuring scalable playbooks

Module 9: Advanced Integrations and Troubleshooting

- Integrating with CI/CD pipelines
- Debugging and optimizing automation workflows

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