

Developing Advanced Automation with Red Hat Ansible Automation Platform

Course Duration: 40 Hours

Course Code: DO447

1. Course Overview

The **Developing Advanced Automation with Red Hat Ansible Automation Platform** course is designed for experienced IT automation professionals who want to expand their skills in designing, developing, and managing advanced automation solutions. This course focuses on building reusable, scalable, and secure automation content using Ansible, exploring topics such as custom modules, advanced playbooks, Jinja2 templating, collections, automation execution environments, and integrating Ansible with enterprise systems.

2. What You'll Learn?

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

- Develop **advanced Ansible Playbooks** using complex logic and error handling.
- Create and manage **custom modules, plugins, and roles**.
- Leverage **Ansible Collections** to share and reuse automation content.
- Build and use **Automation Execution Environments** for portability.
- Implement **Jinja2 templating** for dynamic automation.
- Integrate Ansible Automation Platform with **enterprise applications and APIs**.

- Design scalable and reusable automation strategies.
- Apply **best practices** for secure and efficient automation.

3. Target Audience

This course is best suited for:

- **Experienced Ansible users** who want to deepen their automation expertise.
- **Automation architects** designing enterprise automation solutions.
- **DevOps engineers** and **SREs** responsible for scaling automation.
- **System administrators** managing hybrid and multi-cloud environments.
- **Developers** extending Ansible functionality with custom modules and plugins.

4. Pre-Requisites

Participants should have:

- Completed **Red Hat Ansible Automation Platform I (DO374/DO457 equivalent)** or equivalent Ansible experience.
- Strong knowledge of **Ansible fundamentals** (playbooks, roles, inventories).
- Basic experience with **Linux administration** and scripting.
- Familiarity with **YAML, JSON, and APIs**.

5. Course Content

Module 1: Advanced Ansible Playbook Development

- Complex playbook logic (conditionals, loops, handlers)

- Error handling and debugging strategies

Module 2: Custom Modules and Plugins

- Writing and integrating custom Ansible modules
- Using and developing plugins for extended functionality

Module 3: Roles, Collections, and Reusability

- Structuring automation with roles
- Using and publishing Ansible Collections
- Sharing and reusing automation content

Module 4: Jinja2 Templating for Automation

- Advanced Jinja2 filters and expressions
- Creating dynamic configurations

Module 5: Automation Execution Environments

- Building and managing automation execution environments
- Ensuring portability across environments

Module 6: Integrating Ansible with Enterprise Systems

- API-driven automation with Ansible
- Connecting with cloud platforms and third-party tools

Module 7: Best Practices and Advanced Use Cases

- Security and compliance in automation
- Designing scalable enterprise automation solutions
- Real-world advanced automation scenarios