

**Red Hat Enterprise Linux 9 System Administration III: Linux Automation with Ansible**

**Course Number:** LNX-142
**Duration:** 5 days

**Overview**

This Red Hat Enterprise Linux 9 (RHEL 9) System Administration III training course presents the system management and configuration tool Ansible, including methods, techniques, capabilities, and implementation. Participants learn how to configure an Ansible control machine and understand the impact on the Linux system. Attendees learn how to write and apply playbook definitions, a key part of Ansible, allowing the synchronization of Linux, Unix, and Windows systems. This course is comparable to Red Hat course 129.

**Note:** This class can be customized to be 3, 4, or 5 days depending on what areas are needed for your team.

**Prerequisites**

It is assumed that participants are working systems administrators/developers/testers with some very basic scripting knowledge (bash, ksh, Perl or Python) and have an understanding of fundamental system utilities/commands on Linux and Windows systems.

**Materials**

All Red Hat Linux training attendees receive comprehensive courseware.

**Software Needed on Each Student PC**

Attendees will not need to install any software on their computers for this class. The class will be conducted in a remote environment that Accelebrate will provide; students will only need a local computer with a web browser and a stable Internet connection. Any recent version of Microsoft Edge, Mozilla Firefox, or Google Chrome will work well.

**Objectives**

* Configure Ansible control-node and managed-node(s)
* Create and run playbooks
* Use standard Ansible modules
* Create and modify hosts (inventory) definitions
* Create, install, and access with the Ansible Galaxy
* Design a 'best practice' strategy for using Ansible capabilities
* Leverage the usage and capabilities of the Ansible Tower/AWX

**Outline**

* Introduction
	+ Software development (cycle) considerations
	+ Strengths and weaknesses of Ansible
	+ Ansible terminology
	+ Ansible required environment setup
* Initial Setup and Configuration
	+ Ansible Core installation methods: rpm, pip, and Tower
	+ Ansible component locations
	+ Ansible documentation
	+ Ansible configuration file
	+ Inventory (hosts) file contents (Linux and Windows nodes)
	+ (gathering) system facts (methods)
	+ Using system facts
* Ansible Playbooks
	+ The layout of playbook sections: directives, variable definitions, tasks, handlers, module modifiers
	+ Variable creation and usage
	+ Using modules in playbooks
	+ Controls: loops, conditionals, tags, notifications, plugins, filters, and lookups
	+ Running as root
* Ansible Modules
	+ Layout of an Ansible module
	+ Linux modules: file, yum, systemd, cron, user, shell, filesystem
	+ Using the Windows-specific (win\_) modules
	+ Common Linux and Windows modules
* Roles in Ansible
	+ Overview of a role
	+ Creating a role (structure)
	+ Using roles
	+ Packaging up a role
	+ Ansible Galaxy - capabilities and usage with roles
	+ Git repo (role) repository (creation)
	+ Local access of a Git repo role repository
	+ Remote access of a Git repo role repository
* Managed Nodes
	+ Requirements for a Linux-managed node
	+ Inventory and access control information on the control node
	+ Setup of a Linux-managed node
	+ Requirements for a Windows-managed node
	+ Setup of a Windows-managed node
* Ansible AWX / Tower
	+ Comparison of Ansible Tower and Ansible AWX
	+ Installation of Ansible AWX
	+ Using the Ansible AWX (dashboard)
	+ Define Ansible AWX user accounts
	+ Create inventories of systems (with credentials)
	+ Create projects and job templates
	+ Job scheduling (launch forms), status, and tracking
	+ Watching and chaining (multi-) playbooks (workflows)
	+ Controlling and viewing logs and audit trails
	+ Notifications
	+ Updating the Ansible Tower
	+ Ansible Tower clusters introduction
	+ Using the Ansible Tower API
* Conclusion