

**Ansible Automation and DevOps**

**Course Number:** DVOP-114
**Duration:** 4 days

**Overview**

Ansible is Red Hat’s primary software provisioning, configuration management, and application deployment tool. This Ansible Automation and DevOps training course teaches all the core Ansible features, as well as the use of Ansible Tower, the web-based interface for managing Ansible.

**Prerequisites**

All students must have experience with Linux shell, text editing, and basic systems administration needed.

**Materials**

All Ansible training attendees receive comprehensive courseware.

**Software Needed on Each Student PC**

Attendees will not need to install any software on their computer 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 be fine.

**Objectives**

* Install and configure the Ansible control node and managed node(s)
* Create and run playbooks
* Use standard Ansible modules
* Create and use roles to control access to Ansible functionality
* Explore Ansible Tower as a solution for graphically managing Ansible enterprise-wide

**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, Unix, and Windows nodes)
	+ Using dynamic inventories
	+ (Gathering) system facts (methods)
	+ Using system facts
	+ Creating local (control node-specific) facts
* Ansible Playbooks
	+ 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
	+ (Selected) Linux modules:  file, yum, systemd, cron, user, shell, filesystem
	+ Using the Windows-specific (win\_) modules
	+ Common Linux and Windows modules
	+ Creating a site-specific Ansible module
	+ Encrypting sensitive data with the Ansible Vault
	+ Introduction to Ansible control of AWS
* Roles in Ansible
	+ Overview of a role
	+ Creating a role (structure)
	+ Using (a) role(s)
	+ 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
	+ Reusing role definitions (dependencies)
* 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
	+ Setup of a Unix (HP-UX, Solaris 10/11, IBM AIX) managed node
* Ansible Tower
	+ Installation of Ansible Tower
	+ Using the Ansible Tower dashboard
	+ Create organizations
	+ Define Ansible Tower 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
	+ Remote command execution
	+ Using the Ansible Tower API
	+ Controlling the Tower with the tower-cli interface
	+ Updating the Ansible Tower
	+ Introduction to Ansible Tower clusters
* Conclusion