

**Introduction to Ansible Configuration and Administration**

**Course Number:** ANS-100
**Duration:** 3 days

**Overview**

Ansible is a powerful open-source engine for automating configuration management, software provisioning, and deploying applications. This Introduction to Ansible training course teaches attendees how to build playbooks, leverage modules, and configure roles on the way to fully automating complex tasks that formerly would have taken hours or even days. Attendees write and apply playbook definitions to synchronize environments easily and uniformly across Linux, Unix, and Windows systems.

**Prerequisites**

It is assumed that participants are working systems administrators, developers, and/or 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 Ansible training students receive comprehensive courseware covering all topics in the course.

**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 Ansible control-node and managed-node(s)
* Create and run playbooks
* Use standard Ansible modules
* Create custom modules
* Create and modify hosts (inventory) definitions
* Create and use roles
* Design a 'best practice' strategy for using Ansible capabilities
* 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 (Linux and Windows nodes)
	+ Gathering system facts (methods)
	+ Using system 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
	+ The layout of an Ansible module
	+ Linux modules :  file, yum, systemd, cron, user, shell, filesystem
	+ Using the Windows specific (win\_) modules common Linux
* 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
* 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 Tower
	+ Comparison of Ansible Tower and Ansible AWX
	+ Installation of Ansible Tower (and Ansible AWX)
	+ Using the Ansible Tower/AWX (dashboard)
	+ Define Ansible Tower/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
* Conclusion