Ansible Essentials

- 5 days
- Lecture & Labs

Course Overview

Ansible is used to bring structure and consistency to system deployments, implementations, and changes. Students tempted to write a complex Python script to do a networking automation task will discover that the problem is already solved by an Ansible module. Lots of unnecessary Python scripts can be eliminated by using Ansible whenever possible. Ansible is used for both network and server administrators alike.

Review this course online at https://www.alta3.com/courses/ansible-101

Who Should Attend

- DevOps Engineers
- System and Cloud Administrators
- Network Engineers and Developers
- Python Developers

What You'll Learn

- Overview of Ansible and critical modules
- AI LLM prompt engineering for generating Ansible solutions
- Ansible collections for content delivery
- Building roles for code reuse
- YAML formatting
- Playbook construction and order of execution
- Jinja2 templating
- Static and Dynamic inventory management
- Credential Management and Encryption with Vault
- Finding solutions on Ansible Galaxy
- Version controlling code with Git

Outline

Certification

- Lecture + Lab: Alta3 Research Ansible Essentials Certification

AI Lab Assistance

Ansible Overview

- Lecture: Introduction to Ansible

Software Control Management

- Lecture + Lab: SCM Option #1 - GitHub
- Lecture + Lab: SCM Option #2 - GitLab

Ansible Basics

- Lecture + Lab: Methods for Installing Ansible
- Lecture: Static Inventory
- Lecture + Lab: Ansible Host Inventory
- Lecture + Lab: Ad-Hoc Modules and Gather Facts
- Lecture: Introduction to YAML
- Lecture + Lab: Running a Playbook
- Lecture + Lab: ansible.cfg setup
- Lecture + Lab: Building Playbooks - Bootstrap with raw, group and user Modules
- Lecture + Lab: Loops and Vars Files in Playbooks

Critical Modules

- Lecture + Lab: Ansible Module - shell
- Lecture: Fully Qualified Collection Names
- Lecture + Lab: Ansible Module - copy
- Lecture + Lab: Ansible Module - apt
- Lecture + Lab: Ansible Module - yum
- Lecture + Lab: Ansible Module - get_url and uri
- Lecture + Lab: Ansible Module - file
- Lecture + Lab: Ansible Module - git
- Lecture + Lab: Ansible Module - lineinfile and replace

Templating

- Lecture: Templating with Jinja
- Lecture + Lab: Ansible Module - template

Beyond Basics

- Lecture + Lab: Debug, Loops, and YAML Lists
- Lecture + Lab: When Conditionals, YAML Dictionaries, and Jinja
- Lecture + Lab: Playbook Tags
- Lecture + Lab: Playbook Vars Prompt
- Lecture + Lab: Ansible Handlers and Listeners
- Lecture + Lab: Ansible Error Handling
- Lecture: Ansible Roles
- Lecture + Lab: pre_tasks, roles, tasks, post_tasks, and handlers
- Lecture + Lab: Ansible Playbook Output Logging
- Lecture + Lab: Ansible Keywords - register and when
- Lecture + Lab: Reading Variables into Playbooks

Plugin System

- Lecture + Lab: Ansible Lookup Plugin
- Lecture + Lab: Ansible Callback Plugins
- Lecture + Lab: Ansible Plugin System
- Lecture: Ansible Connection

Networking

- Lecture + Lab: Exploring Switches with Ansible
- Lecture + Lab: network_cli Playbook
- Lecture + Lab: Backup Cisco, Juniper, Arista, and More
- Lecture + Lab: Network Playbooks and Vendor Specific Modules
- Lecture + Lab: Simplifying Network Playbooks with Agnostic Modules

Roles and Collections

- Lecture: Augmenting Ansible with Collections
- Lecture + Lab: Ansible Galaxy
- Lecture + Lab: Ansible Collections

Cloud

- Lecture: Ansible Dynamic Inventory
- Lecture + Lab: YAML, JSON, Dynamic, and Cloud Inventories
- Lecture: Configuring the Cloud with Ansible
- Lecture: Ansible and Openstack
- Lecture: Ansible and Azure
- Lecture: Ansible and AWS

Security

- Lecture + Lab: Ansible Vault

Testing

- Lecture + Lab: Roles and Molecule

Programming

- Lecture + Lab: Ansible Module - script
- Lecture + Lab: Writing an Ansible Module with Python

Triggering

- Lecture + Lab: Ansible AWX

Prerequisites

- Coding experience in another language serves as an adequate prerequisite .