Ansible 202 - Linux Server Automation

- 5 days
- Lecture & Labs

Course Overview

Continue your studies of Ansible, with a focus on automating servers and applications. In addition to Ansible, students will study enough Python to understand Ansible's plugin architecture. Lessons and labs focus on using both Python and Ansible to interact with and configure your Linux and Windows servers, as well as common applications. At the conclusion of this course you will return to work empowered with skills necessary to create or improve Ansible solutions. This class is a combination of live demonstrations and hands-on labs with virtual network devices and endpoints as targets for your configuration.

For many of the lessons, we use the Dell PowerEdge (including the iDRAC and RedFish APIs) as a source of reference and study. However, the lessons are transferable to all server platforms. Linux and Windows are both covered.

Students looking for Ansible for network applications should see: Ansible 201 (Networking)

Review this course online at https://www.alta3.com/courses/ansible-202-server

Who Should Attend

- Network Administrators
- Ansible Developers
- Python Developers
- Administrators interested in Automation
- Individuals interested in devops, specifically for networking

What You'll Learn

- Version controlling code with Git
- Open SSH sessions and pass commands to remote servers
- Basic Python for automation applications
- Ansible collections for server automation
- Understanding plugin architecture of Ansible modules written with Python
- Best practices for automation
- AI LLM prompt engineering for generating Ansible solutions

Outline

Certification

- 🖥 Lecture + Lab: Alta3 Research Ansible 202 Server Certification

LLM AI Toolkit

- 🖥 Lecture + Lab: Large Language Model toolkit for AI Solution Assistance

Overview

- 🗨 Lecture: Ansible for Dell Servers: The Big Picture

Software Control Management

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

Ansible and Python Subsystem

- 🗨 Lecture: Ansible Playbook Components
- 🖥 Lecture + Lab: Reading Variables into Playbooks
- 🗨 Lecture: Introducing Python for Ansible
- 🗨 Lecture: Data Types for Python and Ansible
- 🖥 Lecture + Lab: Python Lists and Dictionaries with Dell Codes

Ansible and APIs

- 🗨 Lecture: RESTful APIs and JSON
- 🖥 Lecture + Lab: Ansible Module - uri

Prechecks

- 🖥 Lecture + Lab: Ansible Module - assert
- 🖥 Lecture + Lab: Organizing Playbooks with import_tasks

Redfish DMTF

- 🗨 Lecture: Out-Of-Band Management with RedFish
- 🖥 Lecture + Lab: Redfish API Server
- 🖥 Lecture + Lab: Ansible script and Redfish API Scripting

Redfish Modules

- 🖥 Lecture + Lab: Constructing Ansible Collections
- 🖥 Lecture + Lab: Setup Mock Redfish Container
- 🖥 Lecture + Lab: Redfish Module: redfish_info
- 🖥 Lecture + Lab: Redfish Module: redfish_command
- 🖥 Lecture + Lab: Redfish Module: redfish_config
- 🖥 Lecture + Lab: Ansible and RedFish
- 🖥 Lecture + Lab: Ansible, Dell and RedFish

Dell PowerEdge

- 🗨 Lecture: Ansible PowerEdge Collection
- 🖥 Lecture + Lab: Ansible for DellEMC PowerEdge Servers
- 🖥 Lecture + Lab: Ansible Power State of PowerEdge
- 🖥 Lecture + Lab: Dell PowerEdge - Firmware Info with Ansible
- 🖥 Lecture + Lab: Building Prechecks with Dell PowerEdge Modules
- 🖥 Lecture + Lab: Provisioning PowerEdge Users with Ansible
- 🏆 Challenge: Create an Ansible Solution for the PowerEdge

HPE OneView

- 🖥 Lecture + Lab: Ansible for HPE OneView Servers

Cloud and Hypervisors

- 🖥 Lecture + Lab: Ansible for VMWare VCenter
- 🖥 Lecture + Lab: VMWare ESXi and Dell PowerStore
- 🖥 Lecture + Lab: Launch a VM with Ansible

Security

- 🖥 Lecture + Lab: Complete Ansible Vault

Windows

- 🗩 Lecture: Automating Windows with Ansible
- 🖥 Lecture + Lab: Ansible Windows gather_facts

CI CD Tools

- 🗩 Lecture: Ansible Workflow
- 🖥 Lecture + Lab: Ansible and CI CD
- 🖥 Lecture + Lab: Ansible Runner
- 🖥 Lecture + Lab: ansible-builder
- 🖥 Lecture + Lab: Ansible and CI Workflows with GitLab

Customizing Ansible

- 🖥 Lecture + Lab: YAML, JSON, Dynamic, and Cloud Inventories
- 🖥 Lecture + Lab: Dynamic Inventory Plugins - VMWare
- 🖥 Lecture + Lab: Writing an Ansible Module with Python

Testing

Prerequisites

- Ansible 101 (Ansible Essentials)
- Coding experience in another language serves as an adequate prerequisite