Ansible for Storage Devices

- 5 days
- Lecture & Labs

Course Overview

This course offers a flexible (customizable) overview of using Ansible to automate the suite of Dell storage products including PowerMax, Isilon/PowerScale and PowerStore. Examples highlight Ansible's latest current release capabilities, building complex playbooks, and developing workflow strategies all while observing best-practice techniques.

Students will be encouraged to share with the class the manual ways they are currently doing work in an effort to create highly applicable Ansible solutions. Through these demonstrations, students will learn how to use code to extend structure and consistency to their specific job operations. Although this course focuses on Dell Storage solutions, Ansible is a Swiss-Army knife of abstracted automation. Every lesson is highly applicable beyond "just" the Dell storage suite.

Review this course online at https://www.alta3.com/courses/ansidell

Students are responsible for ensuring all required accounts, software, licenses, and online resources are accessible and functioning prior to class. See the prerequisites section for more details.

Who Should Attend

- Storage Engineers (specifically those using Dell Storage products), System Administrators, Network Engineers, and Developers will find this course a compelling overview for using Ansible to automate their workflows.

What You'll Learn

- Ansible for Storage Strategies
- Ansible and Dell PowerMax
- Ansible and Dell Isilon / PowerScale
- Ansible and Dell PowerStore
- Ansible and Dell PowerFlex (VxFlex OS)
- Ansible and Pure Storage
- Ansible for NetApp Storage
- Writing and Executing Ansible Playbooks
- Developing Roles with Molecule
- Installing and creating Collections for content delivery
- Using Ansible to target Linux, Windows, Clouds, Network Devices and REST APIs
- Ansible and AWX / Tower for Orchestration
- Ansible and Jenkins for Orchestration
- AI LLM prompt engineering for generating jumpstart solutions

Outline

AI Lab Assistance

Ansible Overview

- Lecture: Intro to Ansible

Software Control Management

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

Basics

- Lecture: Introduction to Ansible
- Lecture + Lab: Methods for Installing Ansible
- Lecture + Lab: Ansible Host Inventory
- Lecture + Lab: Ad-Hoc Modules and Gather Facts
- Lecture + Lab: Running a Playbook
- Lecture + Lab: Debug, Loops, and YAML Lists
- Lecture + Lab: When Conditionals, YAML Dictionaries, and Jinja
- Lecture + Lab: ansible.cfg setup
- Lecture + Lab: Building Playbooks - Bootstrap with raw, group and user Modules

Builtin Modules

- Lecture + Lab: Ansible Module - shell
- Lecture + Lab: Ansible Module - copy
- Lecture + Lab: Ansible Module - apt
- Lecture + Lab: Ansible Module - yum
- Lecture + Lab: Ansible Module - file
- Lecture + Lab: Ansible Module - git
- Lecture + Lab: Ansible Module - mount
- Lecture + Lab: Ansible Module - template
- Lecture + Lab: Deploying Web Services with Ansible

HTTP

- Lecture: Ansible and HTTP
- Lecture + Lab: Ansible Module - uri

Galaxy and Collections

- Lecture: Supporting a New Storage Vendor
- Lecture + Lab: Roles and ansible-galaxy
- Lecture + Lab: Ansible Galaxy
- Lecture + Lab: Ansible Collections

Dell Compute

- Lecture: Ansible for DellEMC PowerEdge Servers

Dell EMC Storage

- Lecture + Lab: Ansible for Dell EMC PowerMax Storage
- Lecture + Lab: Ansible for Dell EMC PowerScale (Isilon)
- Lecture + Lab: Ansible for Dell EMC Unity
- Lecture + Lab: Ansible and Dell ECS S3

Storage Automation

- Lecture + Lab: Ansible for Pure Flash Array
- Lecture + Lab: Ansible for NetApp

Beyond Basics

- Lecture + Lab: Loops and Mapping YAML Vars Files in Playbooks
- Lecture + Lab: Playbook Tags
- Lecture + Lab: Ansible Handlers and Listeners to deploy Apache Web Service
- Lecture + Lab: Ansible Error Handling
- Lecture + Lab: pre_tasks, roles, tasks, post_tasks, and handlers
- Lecture + Lab: Ansible Keywords: register and when
- Lecture + Lab:Reading Variables into Playbooks

Plugin System

- Lecture + Lab: ansible-doc
- Lecture + Lab: Ansible Lookup Plugin
- Lecture + Lab: Ansible Callback Plugins
- Lecture + Lab: Ansible Plugin System

Cloud

- Lecture: Ansible Dynamic Inventory
- Lecture + Lab: Ansible and AWS

Security

- Lecture + Lab: Playbook Vars Prompt
- Lecture + Lab: Ansible Vault

Testing

- Lecture + Lab: Roles and Molecule

Logging

- Lecture + Lab: Ansible Playbook Output Logging

Programming

- Lecture + Lab: Ansible Module - script
- Lecture + Lab: Ansible, Python Methods, and Jinja Filters

Network

- Lecture + Lab: Ansible for Brocade

Orchestration

- Lecture + Lab: Introduction to Jenkins
- Lecture + Lab: Case Study: Ansible Tower

Prerequisites

- Strong typing skills
- Coding experience in another language is helpful, but not required