ANSIBLE FOR NETWORK AUTOMATION(5 days)
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1. Configure and manage network infrastructure using Red Hat Ansible Automation
   for Networking.
2. Ansible for Network Automation is designed for network administrators
   or infrastructure automation engineers who want to use network automation to
   centrally manage the switches, routers, and other devices in the organization's
   network infrastructure.
3. Learn how to use Red Hat Ansible Automation for Networking to remotely
   automate configuration of network devices, test and validate the current network
   state, and perform compliance checks to detect and correct configuration drift.

Course content summary

• Install and configure Red Hat Ansible Automation for Networking on a management system
• Use Ansible to run ad hoc commands and playbooks to automate tasks
• Write effective Ansible playbooks for network automation
• Gather information about network infrastructure configuration and backup
• Automate specific network administration use cases, including configuration of routers and switches, ports, VLANs, SNMP monitoring, and routing protocols
• Use Ansible playbooks to target devices from various hardware vendors, including Cisco, Juniper, and Arista

Audience for this course

•   This course is designed for network administrators, network automation engineers, and infrastructure automation engineers who want to learn how to use Ansible to automate the administration, deployment, and configuration management of the network infrastructure of their organization or enterprise.

Prerequisites for this course

•   Experience with network administration, including a solid understanding of TCP/IP, routers, and managed switches
•   Familiarity with managing network devices from the command line, preferably with one or more of Cisco IOS, IOS XR, or NX-OS; Juniper JUNOS; Arista EOS;
•   A working knowledge of Linux, including how to edit text files and run commands from the shell, and how to use SSH to log in to remote systems
•   Knowledge equivalent to Red Hat System Administration or better is recommended
•   Prior Ansible knowledge is not required

Course Contents

Ansible Fundamentals
Introduction to Ansible
 Ansible Overview
 Describe Ansible concepts and install Red Hat Ansible Engine.
 Inventory
 YAML - this is not the indentation you are looking for
 Ansible Playbook Structure
Deploy Ansible
Configure Ansible to manage hosts and run ad hoc Ansible commands.
Implement playbooks
Write a simple Ansible playbook and run it to automate tasks on multiple
managed hosts.
Manage variables and facts
Write playbooks that use variables to simplify management of the playbook
and facts to reference information about managed hosts.
 Variables, Modules, Network Fact Gathering
 Ansible Variables
 Ansible Modules
 Cisco IOS Modules (basics)
 Arista EOS Modules (basics)
 Using cli_command
 Directly Passing Credentials
 Privilege Escalation (Become/Enable)
Conditionals, Loops, and Configuration Templating
 Idempotency - what the what
 Tags/Limit/Check Mode
 Conditionals
 Loops

Making Network Configuration Changes (Basics)
 Ansible Network Configuration Overview
 Collections and Collection Search Path
 Feature Specific Modules (IOS)
 Feature Specific Modules (EOS)
 Feature Specific Modules (NX-OS)
 Resource Modules
 Write Mem and Ansible Handlers
 Why Templating?
 Jinja2 as part of Ansible
 Configuration Templating Basics
 Advanced Configuration Templating
 Pushing Templates using Ansible Modules (Intro)
Simplify playbooks with roles
Use Ansible roles to develop playbooks more quickly and to reuse Ansible
code.
Making Network Configuration Changes