

Mastering Ansible Automation - Network Engineers

Duration: 6 days (8 hrs/day)

Prerequisites: Basic knowledge of Networking Concepts & Linux.

Course Objective: This course empowers learners to master Ansible for efficient network automation. Participants will gain expertise in Ansible fundamentals, playbooks, and modules to configure, deploy, and manage network devices effectively. Upon completion, learners will be proficient in automating network tasks, troubleshooting issues, and optimizing network operations.

Lab: Koenig-DC

Module 1 - Getting Started & Setting Up Labs

Introduction to Ansible

Difference Between Ansible Core vs Community

Lab: Installation of Ansible

Lab: Setting Up Labs

Basic Ansible Commands

Ansible Configuration File

Ansible Inventory File

SSH Key-Based Authentication

Lab: Setting up inventory and configuration file

Module 2 – Introduction to Ansible Playbooks

Understanding YAML

Lab: Creating Basic Ansible YAML Playbooks

Ansible Lint

Ansible Vault

Lab: Implementing Ansible Vault

Methods of User Defined Ansible Variables

Magic Variables

Understanding Ansible facts

Lab: Using Ansible Variables

Module 3 – Understanding Cisco Modules & CLI Parser & Filter Plugins

Lab: Understanding Cisco ios_facts

Lab: Understanding ios_command wait for

Lab: Understanding ios command prompt

Understanding Cisco ios_config module

Lab: Using Cisco ios_config module

Understanding Cisco IOS Resource Modules

Lab: Using Cisco IOS Resource Modules

Introduction to CLI Parser

Understanding Different types of parser – PyATS, NTC Templates, textFSM

Lab: Using parsers

Understanding Ansible Filter Plugins – default,dict2items,to_json,to_yaml,zip,combine,map,datetime

Understanding Ansible Filter Plugins – list_operations,json_query,ip_address,url,string_manipulation

Understanding Regexp Filters

Lab: Using Filters

Module 4 – PaloAlto Automation & Jinja2 Templates & Lookup & Callback Plugins

Lab: Setup Ansible Environment to run PaloAlto panos Module

Lab: Encrypt PaloAlto provider Credentials file using Ansible Vault

Lab: Gather PaloAlto Address Objects using 'panos_address_object' Module

Lab: PaloAlto gathered_filter for advance filtering

Lab: Gather PaloAlto Address Groups

Lab: Print Config Changes and Commit

Lab: Manage PaloAlto Security Rules

Lab: Manage PaloAlto Security Objects

Understanding Jinja2 Templates

Template for_loop and jinja2_include

Lab: Implementing Jinja2

Understanding Lookups – file,template,vars,env,pipe lookup

Lab: Implementing Lookup Plugins

Understanding Callback Plugins

Module 5 – Task Management in Ansible

Understanding Loops and Conditions

Lab: Implementing Loops and Conditions

Understanding Play Options – forks,serials,order,tags,limit

Lab: Implementing Play Options

Understanding Task Options – delegate_to,run_once,ignore_errors,failed_when,changed_when

Lab: Implementing Task Options

Understanding Handlers, Block & Assert

Lab: Implementing Handlers, Block & Assert

Module 6 – Understanding Collections & Roles

Understanding Roles and Collections

Lab: Implementing Roles and Collections

Understanding Include_role vs import_role

Using Import_playbook

Creating Custom Module using Python

Lab: Basic Module Creation

Module 7 – REST API using Ansible & AWX

YANG Suite Introduction

RESTCONF Introduction

REST API from Postman

Lab: Using GET,PUT,POST,PATCH,DELETE actions

Introduction to AWX

Lab: Setting up AWX