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Ansible Automation Platform Training: Network Automation

3 days (21 hours)

Overview

The Ansible Automation Platform enables the industrialization of network automation—including configuration, compliance, backups, and deployments—in a reproducible and traceable manner. The training focuses on real-world use cases involving multi-vendor equipment and hybrid environments.

You will learn how to structure network playbooks, manage inventory, variables, and collections, and then orchestrate changes while minimizing risks (pre-checks, idempotence, rollback). The goal is to transition from manual actions to reliable, versioned, and auditable workflows.

The approach is hands-on: guided workshops, demos, troubleshooting exercises, and the implementation of best practices. Deliverables: reusable playbooks, inventory templates, roles, configuration templates, and an execution pipeline via the AAP interface (projects, credentials, job templates).

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Design idempotent and maintainable network playbooks.
- Automate the configuration, backup, and restoration of equipment.
- Implement compliance checks and execution reports.
- Use the Ansible Automation Platform (projects, inventories, credentials, jobs).
- Diagnose and correct errors (facts, logs, check/diff modes).

Target Audience

- Network administrators and engineers
- Systems/DevOps engineers working on network infrastructure
- Operations managers looking to standardize changes

Prerequisites

- Solid foundation in TCP/IP, VLANs, routing, and network services
- Knowledge of a Linux OS and the command line
- Basic understanding of YAML and Git (reading/committing)
- Understanding of SSH and access/key management

Technical requirements

- PC with at least 8 GB of RAM (16 GB recommended) and 20 GB of free disk space
- Linux/macOS or Windows with WSL2
- Access to a lab environment (network equipment or simulators) via SSH
- Tools: Ansible Core, network collections, code editor, Git

Our Ansible Automation Platform training program: Automating Networks

[Day 1 - Morning]

Ansible fundamentals for network automation

- Positioning Ansible within a NetDevOps approach: idempotence, declarative, GitOps
- Setting up an environment: ansible-core, network collections, SSH/HTTPS access, bastion
- Structuring the network inventory: groups, variables, host_vars/group_vars, ansible_network_os
- Understanding network modules (config, facts, command) and check/diff modes
- Hands-on workshop: Building a multi-device inventory and running an initial fact-gathering playbook.

[Day 1 - Afternoon]

Configuring network devices with robust playbooks

- Deploy a basic configuration: hostname, NTP, DNS, syslog, banners, accounts
- Manage differences by site/model using variables, Jinja2 templates, and conditions
- Implement safeguards: validation, handlers, tags, serial, rollback strategy
- Monitor changes: diff, running-config backup, Git versioning
- Hands-on workshop: Apply a network baseline using Jinja2 templates and verify changes in diff mode.

[Day 2 - Morning]

Automate with roles, collections, and tests

- Convert playbooks into roles: defaults, vars, tasks, handlers, templates
- Using collections (cisco.ios, arista.eos, junipernetworks.junos) and managing dependencies
- Establish standards: naming, tags, linting, minimal documentation
- Testing and validation: check mode, assertions, backups, non-regression scenarios
- Hands-on workshop: Create a reusable "baseline" role and run it on multiple groups of devices.

[Day 2 - Afternoon]

Ansible Automation Platform: projects, inventories, and controlled executions

- Getting started with AAP/Controller: organizations, teams, RBAC, and best practices
- Connecting a Git project: branches, credentials, synchronization, and traceability
- Create inventories, credentials (SSH, API), job templates, and surveys
- Planning and management: schedules, notifications, execution limits, logs, and auditing
- Hands-on workshop: Publish a network playbook in AAP, create a job template with a survey, and run it on a targeted scope.

[Day 3 - Morning]

Automate network use cases: VLANs, interfaces, routing, and ACLs

- Manage VLANs and trunks: creation, assignment, compliance
- Configure interfaces: descriptions, MTU, LACP/port-channel, administrative states
- Deploy routing (OSPF/BGP) and common settings via variables and templates
- Applying security policies: ACLs, prefix lists, rules by environment
- Hands-on workshop: Deploy an end-to-end "new VLAN + interfaces + ACL" service using a preconfigured playbook.

[Day 3 - Afternoon]

Compliance, observability, and automation at scale

- Implement compliance controls: collection, comparison, remediation
- Generate reports: execution artifacts, exports (JSON/CSV), site-level summary
- Manage secrets and security: credentials, rotation, RBAC best practices

- Scaling Up: Execution Strategies, Parallelism, Change Windows, Limitations
- Hands-on workshop: Building an AAP workflow for “compliance audit → remediation → reporting” with manual approval.

Target Audience

This training is intended for both individuals and companies, large or small, seeking to train their teams in new advanced IT technologies or to acquire specific business knowledge or modern methods.

Assessment upon enrollment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency in various types of technologies, as well as their expectations and personal goals regarding the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Practical Course: 60% Practical, 40% Theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the trainer, supported by examples and reflection sessions, and group work.

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been properly acquired.

Certification

A certificate will be issued to each trainee who has completed the entire training program.