

Automating Cisco Data Center Networking Solutions (DCNAUTO)

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The Automating Cisco Data Center Networking Solutions (DCNAUTO) training teaches you how to implement and optimize automation in Cisco data center environments. You will gain hands-on experience with Cisco Nexus platforms, programmability features, and modern automation tools used to streamline operations across switching, compute, and fabric controllers. The training covers foundational concepts in network programmability, then advances into day-zero provisioning, on-box automation using Bash, Python, and Guest Shell, and off-box automation with Cisco NX-API, NETCONF/RESTCONF, and YANG models. You will also explore Infrastructure as Code (IaC) workflows with Cisco Nexus Dashboard Fabric Controller (NDFC), Ansible, and Terraform, as well as network validation and testing with Cisco pyATS. Finally, you will learn how AI-driven operations enhance network automation and simplify lifecycle management.

This training prepares you for the 300-635 DCNAUTO v2.0 exam. If passed, you earn the Cisco Certified Specialist - Data Center Networking Automation certification and satisfy the concentration exam requirements for the Cisco Certified Network Professional (CCNP) Data Center and Automation certifications. This training also earns you 43 Continuing Education (CE) credits toward recertification.

Why Attend with Current Technologies CLC

- Our Instructors are in the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

How You'll Benefit

This training will help you:

- Gain practical, hands-on experience with Cisco Nexus platforms and automation tools used in modern data centers
- Acquire skills in network programmability, including scripting with Python and using APIs for automating network operations
- Learn to implement IaC workflows using tools like Ansible and Terraform for efficient configuration management
- Develop troubleshooting expertise in both infrastructure automation and AI-driven operations, enhancing job readiness for advanced network roles
- Prepare for the 300-635 DCNAUTO v2.0 exam
- Earn 43 CE credits toward recertification

Who Should Attend

The primary audience for this course is as follows:

- Network Designers
- Systems Engineers

Course Duration

5 days

Course Price

\$4,395.00 or 44 CLCs

Methods of Delivery

- Instructor Led
- Virtual ILT
- On-Site

- Wireless Engineers
- Consulting Systems Engineers
- Technical Solutions Architects
- Network Administrators
- Wireless Design Engineers
- Network Managers
- Site Reliability Engineers
- Deployment Engineers
- Sales Engineers
- Account Managers
- Program Managers
- Project Managers

Prerequisites

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- Basic programming language concepts
- Basic understanding of virtualization and VMware
- Ability to use Linux and CLI tools, such as SSH and bash
- CCNP level data center knowledge
- Foundational understanding of Cisco ACI

OUTLINE

Module 1: Day-Zero Provisioning

Module 2: On-Box Automation with Cisco NX-OS

Module 3: Cisco Nexus Automation with NX-API CLI

Module 4: Cisco Nexus Programmability with NX-API REST

Module 5: Model-Driven Programmability on NX-OS

Module 6: IaC Tools

Module 7: Lifecycle

Module 8: Cisco NX-OS Automation with IaC Tools

Module 9: Cisco ACI Automation with IaC Tools

Module 10: Cisco Nexus Dashboard Automation with IaC Tools

Module 11: Simulation of Data Center Topologies

Module 12: Network Change Validation with pyATS

Module 13: Model-Driven Telemetry Implementation

Module 14: Troubleshoot Infrastructure Automation

Module 15: Troubleshoot Container Workloads Connectivity

Module 16: AI-Assisted Coding

Module 17: AI Security Considerations

LAB OUTLINE

Lab 1: Set Up PowerOn Auto Provisioning on the Cisco Nexus 9000

Lab 2: Use Bash and Guest Shell on Cisco NX-OS

Lab 3: Use Python to Enhance CLI Commands

Lab 4: Make NX-API Calls with NX-API Sandbox

Lab 5: Configure and Verify NX-OS Using Python

Lab 6: Set Up API Calls with Bruno

Lab 7: Use NX-API REST with Python

Lab 8: Configure and Verify Using NETCONF, RESTCONF, and YANG

Lab 9: Construct gRPC Payload

Lab 10: Track Changes with Git and GitHub

Lab 11: Use Ansible with Cisco NX-OS

Lab 12: Use Terraform with Cisco NX-OS

Lab 13: Generate Configuration Using Jinja2 Templates

Lab 14: Manage ACI Configuration Using Ansible

Lab 15: Set Up a New Tenant the NetDevOps Way

Lab 16: Automate ACI with Terraform

Lab 17: Automate NDFC with REST API and Python

Lab 18: Retrieve NX-OS Health Data Using Cisco Nexus Dashboard

Lab 19: Create NDFC Fabric with Ansible

Lab 20: Automate NDFC with Terraform

Lab 21: Explore Cisco Modeling Labs Basics

Lab 22: Simulate Data Center Network with Cisco Modeling Labs

Lab 23: Cisco ACI Simulator Installation and Initialization Simulation

Lab 24: Capture and Compare Network State with pyATS CLI

Lab 25: Run Network Tests Using pyATS and Python

Lab 26: Configure a Subscription for Model-Driven Telemetry

Lab 27: Troubleshoot Infrastructure as Code

Lab 28: Troubleshoot Linux Container Connectivity

Lab 29: AI Toolset—Jupyter Notebook

Lab 30: AI-Driven Monitoring Using Nexus Dashboard Simulation