

Cisco CCNP Automating Enterprise Solutions (300-435 ENAUTO)

This CCNP Enterprise training covers how to use advanced network engineering solutions to enhance the implementation and operation of Cisco enterprise networks. This intermediate Cisco training covers the objectives in the ENAUTO 300-435 exam, which is one of six concentration exams you can take to earn the CCNP Enterprise certification.

[CBT Nuggets course material](#) →

WEEK 1

Implement Source Control with Git

Supplemental Files

Understanding Version Control and Git

Installing Git and Initializing a Repository

Staging and Committing Files

Viewing Repository History

Comparing Changes with Git diff

Git Checkout and Detached Head

Git Reset and Revert to Undo Changes

Untracking and Unstaging Files

Using Git Summary

Collaborate with Git

Overview

Supplemental File

Using Git for Collaboration

Initializing a Repository with Clone

Synchronizing with Remote Repositories

Working With Branches

Merging Branches and Resolving Conflicts

Git Collaboration Summary

Describe Characteristics of API Styles

Overview

Introduction to API Styles

Remote Procedure Calls (RPC)

Simple Object Access Protocol (SOAP)

Representational State Transfer (REST)

REST In Action

API Styles Summary

Understand the Challenges of Consuming APIs

Overview

Understand the Challenges of Consuming APIs

Synchronous vs. Asynchronous APIs

Creating an Asynchronous API Call in Python

Handling HTTP Error Codes

Implementing a Backoff Script

API Challenges Summary

Python Virtual Environments

Overview

Intro to Python Virtual Environments

Installing Python Dependencies

Using venv to Create Python Virtual Environments

Using virtualenv to Create a Python Virtual Environment

Isolating with Virtual Machines and Containers

Python Virtual Environments Summary

Configuration Management for IOS XE

Overview

Configuration Management for IOS XE

Why do we use Configuration Management?

Using Ansible for IOS XE Configuration

Using Puppet for IOS XE Configuration

Using Chef for Configuration Management

Summary Configuration Management for IOS XE Summary

Master YANG Data Models for the Real World

Overview

Prep a Dev Environment for Big Kids

Get ALL the Models and Pyang

The Pyang Tree

Interpret YANG for Restconf URLs

Interpret YANG for Netconf Subtree

Interpret YANG for Netconf XPath

Create Your Own Netconf RPC Payload

Summarizing YANG

Automate Cisco IOS-XE Devices with Netconf

Overview

Introducing Netconf

The Netconf Protocol

The Netconf Protocol Workflow

Netconf Capabilities

Getting Data with Netconf and Ncclient

Changing Configurations with Ncclient

Summarizing Netconf

WEEK 2

WEEK 3

Automate IOS-XE Devices with Restconf

Overview

Restconf, the New Kid on the Block

The Restconf Request Architecture

Getting Capabilities with Restconf

GETting Data with Restconf

Changing Configurations with Restconf

Leveraging Restconf with Ansible

Summarizing Restconf

Other Automation Techniques for Cisco IOS-XE Devices

Overview

There's More Than One Way to Automate

Automating over SSH with Netmiko

Setting Configurations with Netmiko

Automating IOS-XE with Ansible

Model-Driven Telemetry Explained

Deploying a Netconf Telemetry Subscription

Summarizing Other Automation Techniques

SD-Access Automation with DNA Center Platform

Overview

The New Network Controller

The DNA Center Architecture

Exploring the Platform Documentation

Getting Authenticated

Retrieve Sites and Topologies

Retrieve Your Inventory

Summarizing DNA Center

Deeper Automation Techniques with DNA Center Platform

Overview

Digging Deeper in DNA Center

Assurance

The Command Runner API

Device Discovery

Enabling Webhooks

Summarizing Deeper DNA Center Automation

Automating with the SD-WAN vManage API

Overview

Introducing SD-WAN

SD-WAN - A Concept or a Product?

Explore the vManage API Documentation

Getting Authenticated to the vManage API

Getting Device and Fabric Information

WEEK 4

Getting Template Information

Summarizing the vManage API

Deeper Automation with the vManage API

Overview

vManage API - Beyond the Basics

Reserving a CRUD Lab

Perform User Administration

Certificate Management API

Deeper Template Automation

Digging Into Fabric Data

Summarizing Deeper SD-WAN Automation

Develop for the Meraki Dashboard API and Webhooks

Overview

Introducing the Meraki Dashboard API

The Cloud Platform Architecture

Meraki Documentation Deep Dive

Testing the API with Postman

GETting Device Data with Python

Creating a New Network with Python

Deploying Meraki Webhooks

Summarizing the Meraki Dashboard API

Deploy a Python Azure Function App with VS Code

Overview

The Scenario

Required Apps, Extensions, and Packages

Developing a Python Function

Adding Queue Storage Bindings

Deploying to Azure

Summarizing Function Apps

Implement the Meraki Location Scanning API

Overview

More Than Just WiFi

The Location Scanning API Architecture

Initial Configuration Items

Code! A Python Function App for Azure

Exploring the Received Payload

Summarizing the Location Scanning API

Deploy the Meraki Captive Portal API

Overview

Building Your Own Splash Page

The Captive Portal API Architecture

Enable the Splash Page

Clone and Understand Your Website

Deploy Your Website to Azure App Services

Configure and Test the Captive Portal

Summarizing the Captive Portal API

Automate Cisco Meraki Security Cameras with MV Sense API

Overview

Integrating Your Smart Camera

REST or MQTT

WEEK 5

Deploying the MQTT API

Subscribing to the MQTT API

Automating with the REST API

Summarizing the MV Sense API

Interpret Python Scripts

Overview

Interpreting Python Scripts

Understanding Python Variables

Working with Python Data Types

Understanding Python Lists and Dictionaries

Running Code Conditionally

Looping Code

Bundling Code into Functions

Using Parameters with Functions

Introduction to Classes in Python

Interpreting Python Scripts Summary

Understand and Explore Data Models

Overview

Structuring Structured Data

The Core Concept of Data Models

Where YANG Comes Into Play

Exploring YANG Data Models in Depth

OpenConfig, Native, and IETF Models

Summarizing Data Models