



Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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Introduction to Junos Platform Automation and DevOps (IJAUT)

CODE: **LENGTH:** **PRICE:**

JUN_IJAUT 24 Hours (3 days) £2,395.00

Description

This three-day introductory level course provides students with the foundational knowledge required to automate Junos using NetDevOps automation tools, protocols, and technologies. Students receive hands-on experience with tools and languages relevant to automating the Junos OS platform in a NetDevOps environment. The course includes an introduction to the basic NetDevOps practices, Junos APIs, and Network Configuration Protocol (NETCONF). It also focuses on using Python, Junos PyEZ, Representational State Transfer (REST) API methods, and the Junos REST API to automate Junos. This course introduces XML, JavaScript Object Notation (JSON), and YAML, as these languages facilitate Junos automation. This course also introduces Juniper platform automation using REST API. Through demonstrations and hands-on labs, students will gain experience with automating the Junos operating system. This course uses Junos OS Release 24.2R1, Junos PyEZ 2.6.3, and Python 3.8.10.

Objectives

- Describe the principles, practices, and benefits of NetDevOps.
- Explain the interfaces, libraries, and tools used to automate Junos devices.
- Describe and automate Junos devices using XML.
- Describe and demonstrate Junos device automation using XML and NETCONF.
- Describe the fundamental Python concepts.
- Describe Python operations and control flow tools.
- Describe Python modules, packages, and libraries.
- Perform Junos device operations using Junos PyEZ.
- Explain and demonstrate how to automate Junos device configurations using Junos PyEZ.
- Explain the fundamentals of JSON and YAML.
- Explain and demonstrate the REST API methods.
- Demonstrate the Junos REST API.
- Describe the automation of Juniper management platforms using REST API.

Audience

Individuals responsible for configuring and monitoring devices running Junos OS.

Prerequisites

- Basic understanding of the OSI model and the TCP/IP protocol suite
- Basic understanding of computer networking concepts
- Basic understanding of programming knowledge

Programme

DAY 1

Introduction to NetDevOps

- Describe traditional and modern network operations
- Explain NetDevOps principles, practices, and benefits
- List and describe Junos automation APIs
- Discuss the frameworks, libraries, and tools used to automate Junos devices
- Discuss the ways to automate Juniper management platforms
- Explain XML and XPath
- Explain XML document formatting

- Explain how Junos uses XML
- Use XPath to navigate a Junos XML document

Lab 1: XML and XPath 4 XML and NETCONF

- Explain NETCONF
- Execute Junos RPCs using NETCONF and the Junos XML API
- List the Junos XML API programming languages

Lab 2: XML and NETCONF 5 Python Fundamentals

- Explain Python basics
- Describe Python variables and data types with examples
- Explain Python data structures

DAY 2

Python Operations and Flow Control Tools

- Describe Python input and output operations
- Describe the Python control flow tools

Lab 3: Python Fundamentals 7 Python Modules, Packages, and Libraries

- Explain Python modules, packages, and libraries
- Describe Python libraries with examples
- Describe the Netmiko module
- Demonstrate the installation of the Junos PyEZ library and create a Python script

Lab 4: Python Modules, Packages, and Libraries 8 Querying Junos Devices Using Junos PyEZ

- Connect Junos devices using Junos PyEZ
- Demonstrate Junos device operations using Junos PyEZ
- Automate Junos device operations using PyEZ RPCs

Lab 5: Querying Junos Devices Using Junos PyEZ 9 Configuring Junos Devices Using Junos PyEZ

- Demonstrate how to use Junos PyEZ to automate device configurations
- Configure Junos PyEZ exception handling
- Integrate Junos PyEZ with Jinja2 templates
- Explain and demonstrate the Python Junos XML API automation

Lab 6: Configuring Junos Devices Using Junos PyEZ

DAY 3

Data Serialization—JSON and YAML

- Explain JSON and YAML data structures
- Explain how JSON and YAML are used to automate Junos devices

Lab 7: JSON and YAML 11 REST API

- Explain the REST API architecture
- Describe the REST HTTP methods
- Explain and demonstrate the REST HTTP request and response methods using Swagger
- Explain and demonstrate the REST HTTP request and response methods using Hoppscotch

Lab 8: Performing the REST API HTTP Methods

Automating Junos Devices Using REST API

- Describe the Junos REST API functionality
- Demonstrate how to query the Junos REST API
- Illustrate the Junos REST API explorer
- Create a Python script that uses the Junos REST API to automate Junos devices

Lab 9: Junos REST API 13 Automating Juniper Management Platforms Using REST API

- Describe Juniper management platforms
- Describe Juniper Mist automation using the REST APIs Python script

Lab 10: Automating Juniper Management Platform Using REST API

Follow on courses

RECOMMENDED NEXT COURSE

Juniper Platform Automation and DevOps

Test and Certification

RELATED CERTIFICATION

JNCIA-DevOps

Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
08 Apr 2026	Virtual Training Class - TP	BST	English	Instructor Led Online		£2,395.00

Additional Information

This training is also available as onsite training. Please contact us to find out more.