Introduction to Juniper Platform Automation and NetDevOps (IJAUT)

ID IJAUT **Price** CHF 2,800.—(excl. VAT) **Duration** 3 days

Who should attend

This course benefits individuals responsible for configuring and monitoring devices running the Junos OS.

This course is part of the following Certifications

Juniper Networks Certified Internet Associate Automation and DevOps (JNCIA-DEVOPS)

Prerequisites

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

Course Objectives

- Describe the Junos operating system and its basic design architecture.
- Explain traffic processing for transit and exception traffic.
- Describe the Junos CLI and its features.
- List and perform initial configuration tasks.
- Describe interface types and perform basic interface configuration tasks.
- Describe DevOps principles and practices.
- Explain how DevOps can benefit an IT organization.
- List and describe the various APIs Junos provides for automation.
- Discuss various frameworks, libraries and tools available to automate Junos devices.
- Read Junos XML documents.
- Use XPath to navigate a Junos XML document.
- Use NETCONF and the XML API to issue RPCs.
- Use NETCONF and the XML API to configure a Junos device.
- Understand JSON syntax.
- Understand YAML syntax.
- Create JSON and YAML documents.
- Perform Ansible installation.
- Retrieve information from Junos devices using Ansible.
- Use Ansible to configure Junos devices.
- Create and execute simple Python scripts.
- Use the Python interactive interpreter.
- Install Junos PyEZ.
- Use PyEZ to connect to Junos devices.
- Use PyEZ to issue RPCs.
- Use PyEZ to modify a Junos device configuration.
- Use PyEZ to upgrade Junos devices.
- Describe basic PyEZ exception handling.
- Describe the capabilities of the Junos REST API.
- Use the Junos REST API Explorer.
- Issue Junos REST API RPCs.

Course Content

Introduction to Junos OS

- Junos OS Basic Design Architecture
- Traffic Processing
- CLI Modes and Features
- Initial Configuration Tasks
- Interface Types and Configuration

Introduction to DevOps

- Why DevOps?
- The Benefits of DevOps
- DevOps Goals and Best Practices

The Junos Automation Stack

- The Junos Automation Stack and DevOps
- Junos XML API Overview
- Junos REST API Overview
- Junos JET API Overview
- Review of Junos Automation Tools

Introduction to XML and XPath

- Basic XML Syntax
- The Junos XML Schema
- Navigating the Junos XML Schema with XPath

The XML API and NETCONF

- NETCONF

- The Junos XML API
- Languages and Libraries Used to Automate the Junos XML API
- Case Study

Introduction to JSON and YAML

- The Need to Structure Data
- JSON Basics
- YAML Basics
- Use of JSON and YAML in Junos Automation

Introduction to Ansible

- Ansible Architecture and Capabilities
- Ansible Playbook Basics
- Using Ansible to Retrieve Junos Status Information
- Using Ansible to Retrieve and Modify Configuration Information
- Case Study

Introduction to Python

- Basic Python Syntax
- Python 2 vs. Python 3
- Python Data Types and Variables
- Python Sequences, Tuples, Sets, and Dictionaries
- Python Libraries
- The Python Interactive Interpreter
- Case Study: Creating a Python Script to Solve a Problem

Introduction to Junos PyEZ

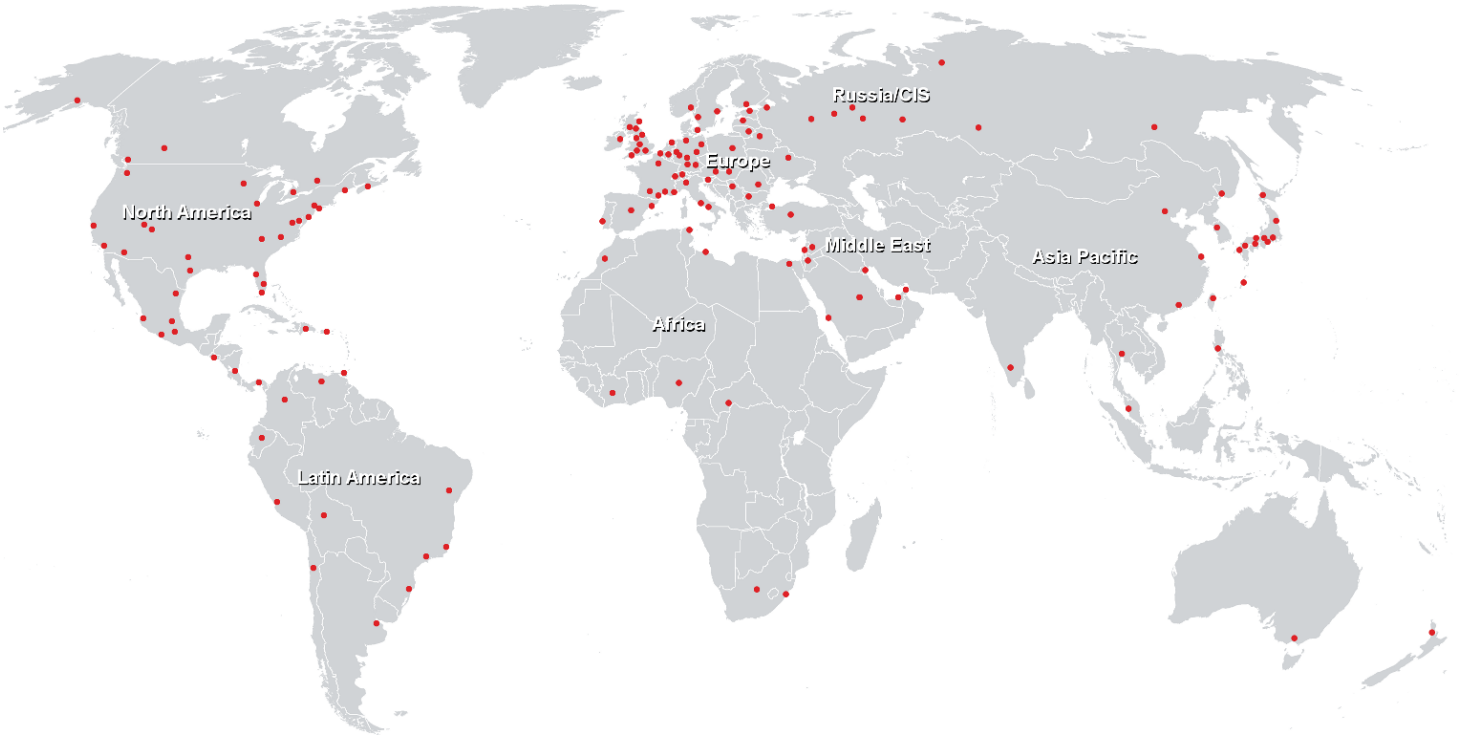
- Connecting to Junos Devices with PyEZ
- Retrieving Junos Device Status and Configuration Handling
- Modifying the Junos Configuration with PyEZ
- Using PyEZ utilities to upgrade Junos software
- Case Study

The Junos REST API

- Overview of the Junos REST API
- Methods of Connecting to the Junos REST API
- Configuring the Junos REST API
- Using the Junos REST API Explorer
- Using the Junos REST API to Retrieve Junos Configuration Data
- Case Study

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Training Centres worldwide





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