Juniper Platform Automation and NetDevOps (JAUT)

ID JAUT **Prix** US $ 5 000,– (Hors Taxe) **Durée** 5 jours

A qui s'adresse cette formation

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

Pré-requis

- Intermediate-level networking knowledge.
- Understanding of the Open SystemsInterconnection (OSI) model and the TCP/IP protocol suite.
- Attendance of the Introduction to Introduction to Juniper Platform Automation and NetDevOps (IJAUT) course prior to attending this class.

Objectifs

- Describe the benefits of network automation
- Explain basic principles of DevOps and NRE
- Describe different approaches and tools used for Junos Automation
- Discuss how templates are used for Junos automation
- Understand Jinja2 syntax
- Describe various methods Junos PyEZ can use to connect to a Junos device
- Execute Junos RPCs using Junos PyEZ
- Explain the functionality of various Junos PyEZ utilities
- Use Jinja2 templates with Junos PyEZ
- Use Junos PyEZ Tables and Views
- Securely connect to Junos devices using Ansible
- Use advanced Ansible playbook functionality
- Work with Ansible variables
- Manage Junos device configurations using Jinja2 templates and Ansible
- Explain the use of SLAX language with Junos
- Understand basic SLAX syntax
- Describe SLAX templates, variables, and flow control statements
- Understand the Junos function library
- Explain the difference between available SLAX versions
- Explain how to create and run Junos op scripts
- Use SLAX and Python languages to develop op scripts
- Use arguments with op scripts
- Issue RPCs from op scripts
- Change the configuration with op scripts
- Describe how commit scripts can be used to make changes to the configuration
- Describe how to use commit scripts to generate custom warnings and errors during a commit
- Explain how to use SLAX and Python languages to develop commit scripts
- Configure and enable commit scripts
- Identify Junos OS events
- Create Junos OS event policies
- Create Junos OS event scripts
- Understand the use of Junos OS SNMP scripts
- Create and configure Junos OS SNMP scripts
- Explain basic Salt architecture
- Understand how Junos devices are managed with Salt
- Use Junos execution and state modules for Salt
- Understand the SLS file format
- Describe how JSNAPy can help automate Junos
- Install and configure JSNAPy
- Use JSNAPy to create snapshots
- Use JSNAPy to perform tests
- Describe the YANG language features
- Understand the syntax of YANG
- Explain how YANG is used in Junos OS
- Describe the advantages of OpenConfig
- Modify the Junos OS configuration using OpenConfig
- Describe using OpenConfig with the Junos Telemetry Interface (JTI)
- Explain what is JET
- Understand the JET Service API
- Understand the JET Notification API
- List protocols and data formats used with JET
- Develop simple JET applications
- Understand the Junos Telemetry Interface
- Provision Junos Telemetry sensors
- Explain the difference between Native and gRPC sensors
- Understand Telemetry message formats
- Explain the advantages of Contrail HealthBot
- Explain the purpose and value of ZTP
- Describe the components and operations of ZTP
- Deploy a QFX5100 Series switch using ZTP
- Setup the JET VM
- Create JET Packages

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Day 1

Juniper Platform Automation and NetDevOps (JAUT)

Course Introduction

Junos Automation Fundamentals

- Benefits of Automation
- DevOps and NRE
- Junos Automation Stack
- Junos Automation Tools
- Introduction to NITA

Day 2

Ansible Intermediate

- Ansible for Junos Review
- Securing Device Connection
- Playbook Flow Control

LAB 2: Ansible Operations with Junos

- Ansible Variables and Jinja2 Templates
- Case Study

LAB 3: Using Ansible for Junos Configuration Management

SLAX

- Junos On-Box Automation Overview
- Basics of SLAX
- SLAX Variables
- Flow Control
- Junos Function Library
- SLAX Versions

Jinja2

- Jinja2 Overview
- Working with Jinja2 in Python
- Jinja2 Syntax

Advanced Junos PyEZ

- Connecting to a Junos Device
- Working with RPCs
- Junos PyEZ Utilities
- Junos PyEZ and Jinja2
- Tables and Views

LAB 1: Using Junos PyEZ with Jinja2 Templates

Junos Op Scripts

- Junos Op Scripts Using SLAX
- Customizing Junos Command Output
- Configuration Changes with SLAX Op Scripts
- Junos Op Scripts Using Python
- Configuration Changes with Python Op Scripts
- Op Script Configuration and Debugging

LAB 4: Junos Op Scripts

Junos Commit Scripts

- Junos Commit Scripts Overview
- Junos Commit Scripts Using SLAX
- Junos Commit Scripts Using Python
- Custom Configuration Syntax
- Commit Script Configuration and Debugging

LAB 5: Junos Commit Scripts

Day 3

Junos Event Policies and Event Scripts

- Junos OS Events
- Event Policies
- Event Scripts

LAB 6: Junos Event Policies and Event Scripts

Junos SNMP Scripts

- Junos OS SNMP Scripts
- Case Study

LAB 7: Junos SNMP Scripts

Day 4

JSNAPy

- JSNAPy Overview and Installation
- Configuration Files
- JSNAPy Commands
- Test Files
- Integration with Other Tools

LAB 9: Using JSNAPy

YANG

- YANG Overview
- YANG Statements and Syntax
- Junos YANG Modules
- Custom YANG Modules for Junos
- Custom Configuration and Translation Script Example
- Custom RPC and Action Script Example

Day 5

Juniper Extension Toolkit

- Overview of JET
- gRPC and JET IDL Files
- JET Service API
- JET Notification API

LAB 11: Using JET

Junos Telemetry

- Junos Telemetry Overview
- Native Sensors for JTI
- OpenConfig and gRPC Sensors for JTI
- Contrail HealthBot Overview
- Contrail HealthBot Rules and Playbooks
- Case Study

Lab 11: Using Junos Telemetry

Salt

- Salt Overview
- Junos and Salt
- Junos Execution Module
- Salt States and Junos State Module
- Case Studies

LAB 8: Automating Junos with Salt

OpenConfig

- OpenConfig Overview
- OpenConfig Package
- Using OpenConfig
- OpenConfig Telemetry

LAB 10: Implementing OpenConfig

Appendix: Zero Touch Provisioning

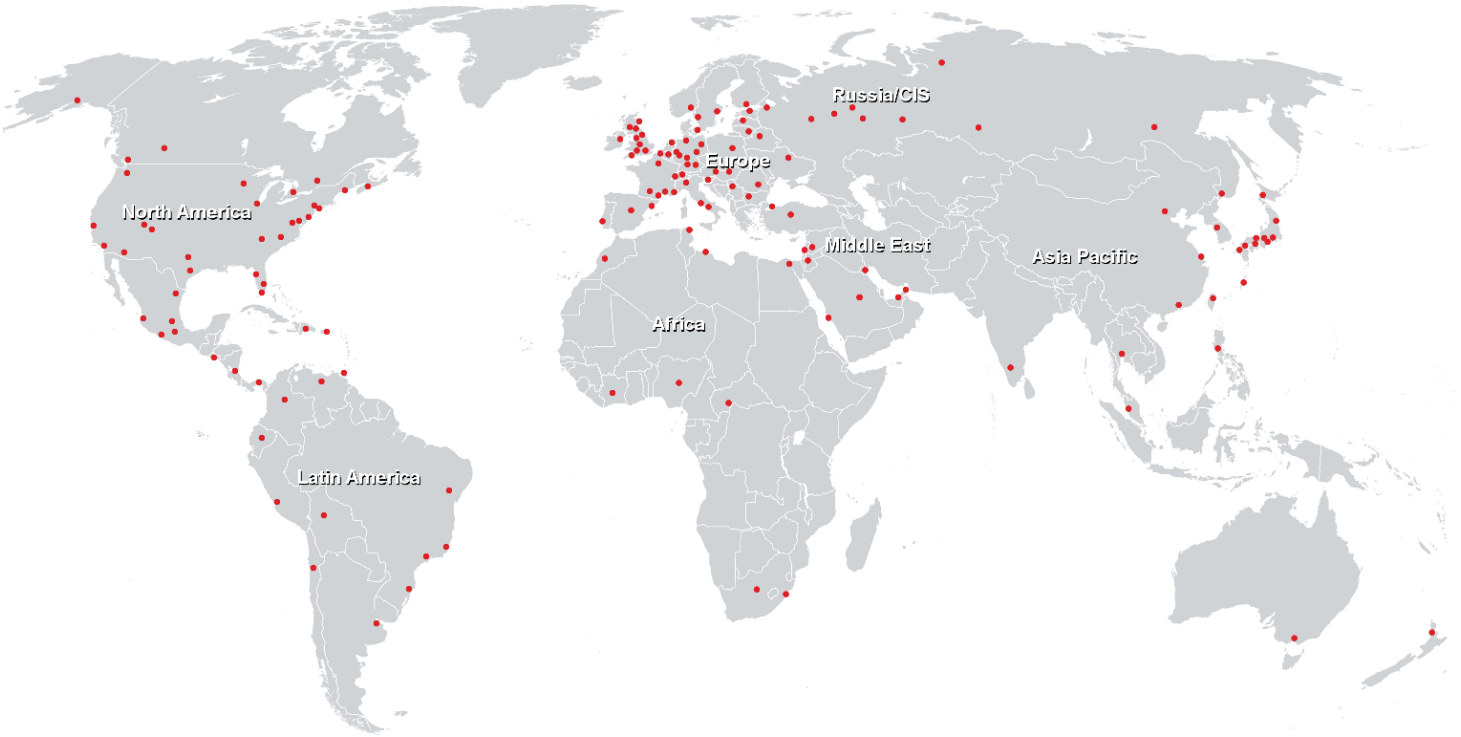
- Understanding Zero Touch Provisioning
- ZTP in Action: A Working Example

Appendix: Using JET Virtual Machine

- Setting Up the JET VM
- Creating Signed JET Applications

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Centres de formation dans le monde entier





Fast Lane Institute for Knowledge Transfer (Switzerland) AG

Husacherstrasse 3
CH-8304 Wallisellen
Tel. +41 44 832 50 80

info@flane.ch, https://www.flane.ch