Advanced Junos Platform Automation and DevOps (AJAUT)

ID AJAUT **Price** US $ 4,000.—(excl. VAT) **Duration** 4 days

Who should attend

- Individuals who want to use DevOps practices and principles to manage network devices
- Network engineers and operators who are responsible for managing Junos OS devices
- Network engineers and operators who are looking for open-source methods to deploy services
- Developers who support network operations
- Network integrators

Prerequisites

- Basic understanding of the Junos OS
- General understanding of network concepts and devices
- Basic understanding of scripting and automation

Course Objectives

- Explain DevOps principles.
- Describe Infrastructure as Code.
- Describe the benefits of container applications.
- Create container images.
- Configure Docker networking.
- Deploy multi-container applications using Docker Compose.
- Describe Git.
- Create and manage a local Git repository.
- Create connections to remote repositories.
- Create and merge repository branches.
- Describe Ansible fundamentals.
- Create an Ansible DevOps environment.
- Use JSNAPy modules to verify the Junos OS device state.
- Create Ansible playbooks and roles for a Junos OS NOOB environment.
- Use NAPALM modules to manage Junos OS devices.
- Use Ansible to deploy Junos OS configuration.
- Navigate the AWX UI.
- Create AWX projects, inventory, and templates.
- Create an AWX workflow template.
- Use the AWX REST API.
- Describe the Robot Framework.
- Describe the Robot Framework project components.
- Create a Robot Framework test case for Junos OS devices.
- Create a custom Robot Framework library.
- Navigate the Jenkins user interface.
- Create Jenkins projects that integrate the Robot Framework plugin.
- Create Jenkins projects that integrate the Ansible plugin.
- Create Jenkins projects that integrate the Ansible Tower plugin.
- Create Jenkins pipelines using a Jenkinsfile.
- Explain NITA components.
- Perform NITA operations.
- Explain NITA customer use cases.
- Explain the benefits of CI/CD.
- Create a CI/CD environment.

Course Content

DAY 1

- 1 Course Introduction
- 2 Introduction to DevOps
  - Explain DevOps principles
  - Describe infrastructure as code
- 3 Using Docker for DevOps
  - Describe the benefits of container applications
  - Create container images
  - Configure Docker networking
  - Deploy multi-container applications using Docker Compose
  - Lab 1: Using Docker for DevOps

DAY 2

- 4 Using Git
  - Describe Git
  - Create and manage a local Git repository
  - Create connections to remote repositories
  - Create and merge repository branches
  - Lab 2: Using Git
- 5 Ansible Fundamentals
  - Describe Ansible fundamentals
  - Create an Ansible DevOps environment
  - Lab 3: Ansible Fundamentals
- 6 Automating Junos OS Devices Using Ansible
  - Use JSNAPy modules to verify the Junos OS device state
  - Create Ansible playbooks and roles for a Junos OS NOOB environment

    - Use NAPALM modules to manage Junos OS devices
    - Use Ansible to deploy Junos OS configuration
    - Lab 4: Automating Junos OS Devices Using Ansible

DAY 3

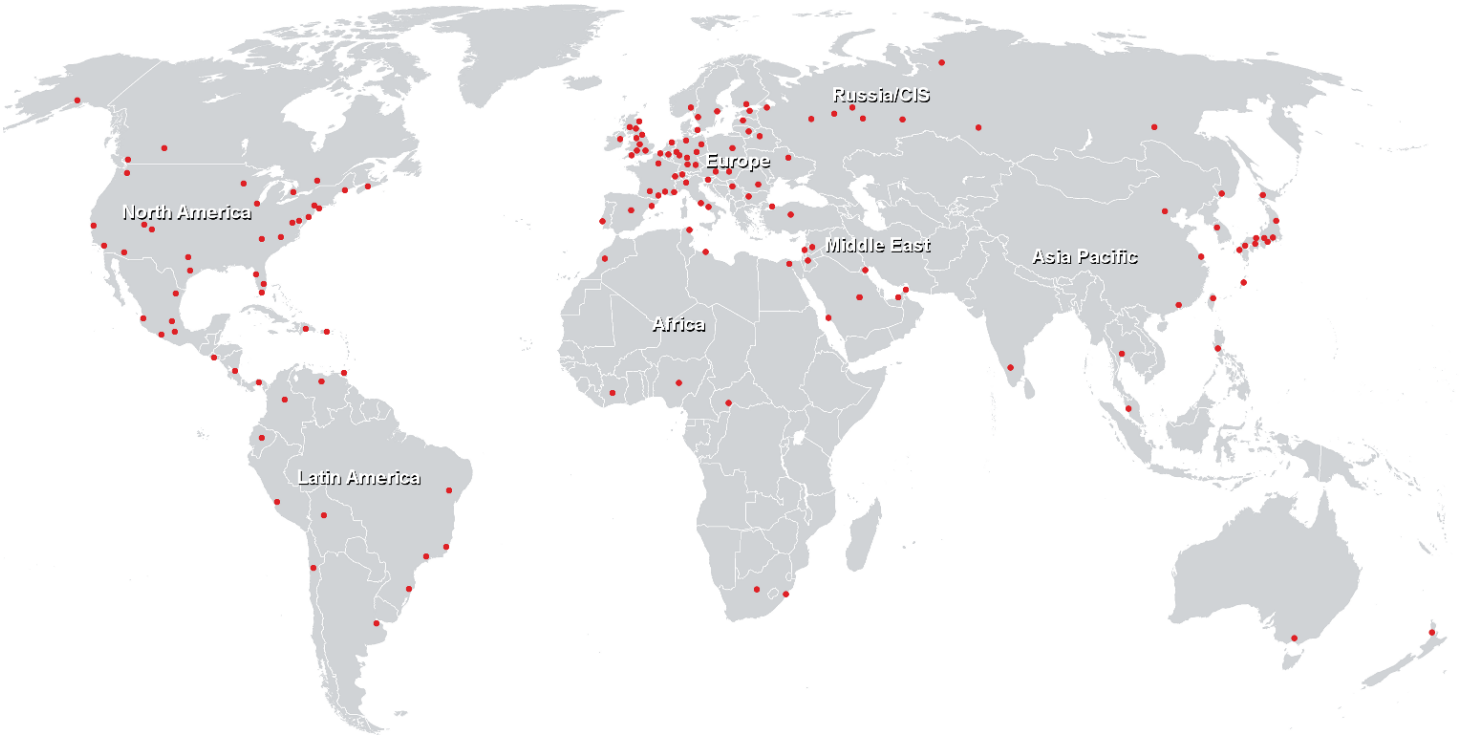
- 7 Automating Junos OS Devices Using AWX
    - Navigate the AWX UI
    - Create AWX projects, inventory, and templates
    - Create an AWX workflow template
    - Use the AWX REST API
    - Lab 5: Automating Junos OS Devices Using AWX
- 8 Testing Junos OS Devices Using the Robot Framework
    - Describe the Robot Framework
    - Describe the Robot Framework project components
    - Create a Robot Framework test case for Junos OS devices
    - Create a custom Robot Framework library
    - Lab 6: Testing Junos OS Devices Using the Robot Framework
- 9 Automating Junos OS Devices Using Jenkins
    - Navigate the Jenkins user interface
    - Create Jenkins projects that integrate the Robot Framework plugin
    - Create Jenkins projects that integrate the Ansible plugin
    - Create Jenkins projects that integrate the Ansible Tower plugin
    - Create Jenkins pipelines using a Jenkinsfile
    - Lab 7: Automating Junos OS Devices Using Jenkins

DAY 4

- 10 Automating Junos OS Devices Using NITA
    - Explain NITA components
    - Perform NITA operations
    - Explain NITA customer use cases
    - Lab 8: Automating Junos OS Devices Using NITA
- 11 Continuous Integration and Continuous Delivery
    - Explain the benefits of CI/CD
    - Create a CI/CD environment
    - Lab 9: Continuous Integration and Continuous Delivery
- A Appendix: Kubernetes Overview
    - Describe Kubernetes fundamentals
    - Describe the Kubernetes Objects
    - Describe Kubernetes networking
    - Explore connecting applications with services

Advanced Junos Platform Automation and DevOps (AJAUT)

Training Centres worldwide





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