



**Enterprise Computing Solutions - Education Services**

## **TRAINING OFFERING**

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# Advanced Junos Platform Automation and DevOps (AJAUT)

CODE:	LENGTH:	PRICE:
JUN_AJAUT	32 Hours (4 days)	£3,195.00

## Description

This four-day course introduces students to popular open-source applications that are used to manage Junos OS devices in DevOps environments. Through demonstrations and hands-on labs, students will gain experience managing Junos OS devices using Ansible, AWX, Jenkins, Robot Framework, and NITA. This course combines these popular open-source tools with DevOps principles and practices to demonstrate the automation capabilities of Junos OS devices. This course is based on Junos OS Release 22.1R1.10.

## 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.

## Audience

- 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

## Programme

1 Course Introduction 2 Introduction to DevOps <ul style="list-style-type: none"> <li>• Explain DevOps principles</li> <li>• Describe infrastructure as code</li> </ul> 3 Using Docker for DevOps <ul style="list-style-type: none"> <li>• Describe the benefits of container applications</li> <li>• Create container images</li> <li>• Configure Docker networking</li> <li>• Deploy multi-container applications using Docker Compose</li> </ul>	
<b>DAY 1</b> Lab 1: Using Docker for DevOps	<b>DAY 2</b>
4 Using Git <ul style="list-style-type: none"> <li>• Describe Git</li> <li>• Create and manage a local Git repository</li> <li>• Create connections to remote repositories</li> <li>• Create and merge repository branches</li> </ul> Lab 2: Using Git 5 Ansible Fundamentals <ul style="list-style-type: none"> <li>• Describe Ansible fundamentals</li> <li>• Create an Ansible DevOps environment</li> </ul> Lab 3: Ansible Fundamentals 6 Automating Junos OS Devices Using Ansible <ul style="list-style-type: none"> <li>• Use JSNAPy modules to verify the Junos OS device state</li> <li>• Create Ansible playbooks and roles for a Junos OS NOOB environment</li> <li>• Use NAPALM modules to manage Junos OS devices</li> <li>• Use Ansible to deploy Junos OS configuration</li> </ul> Lab 4: Automating Junos OS Devices Using Ansible	
<b>DAY 3</b>	
7 Automating Junos OS Devices Using AWX <ul style="list-style-type: none"> <li>• Navigate the AWX UI</li> <li>• Create AWX projects, inventory, and templates</li> <li>• Create an AWX workflow template</li> <li>• Use the AWX REST API</li> </ul> Lab 5: Automating Junos OS Devices Using AWX 8 Testing Junos OS Devices Using the Robot Framework <ul style="list-style-type: none"> <li>• Describe the Robot Framework</li> <li>• Describe the Robot Framework project components</li> <li>• Create a Robot Framework test case for Junos OS devices</li> <li>• Create a custom Robot Framework library</li> </ul> Lab 6: Testing Junos OS Devices Using the Robot Framework 9 Automating Junos OS Devices Using Jenkins <ul style="list-style-type: none"> <li>• Navigate the Jenkins user interface</li> <li>• Create Jenkins projects that integrate the Robot Framework plugin</li> <li>• Create Jenkins projects that integrate the Ansible plugin</li> <li>• Create Jenkins projects that integrate the Ansible Tower plugin</li> <li>• Create Jenkins pipelines using a Jenkinsfile</li> </ul> Lab 7: Automating Junos OS Devices Using Jenkins	
	10 Automating Junos OS Devices Using NITA <ul style="list-style-type: none"> <li>• Explain NITA components</li> <li>• Perform NITA operations</li> <li>• Explain NITA customer use cases</li> </ul> Lab 8: Automating Junos OS Devices Using NITA 11 Continuous Integration and Continuous Delivery <ul style="list-style-type: none"> <li>• Explain the benefits of CI/CD</li> <li>• Create a CI/CD environment</li> </ul> Lab 9: Continuous Integration and Continuous Delivery A Appendix: Kubernetes Overview <ul style="list-style-type: none"> <li>• Describe Kubernetes fundamentals</li> <li>• Describe the Kubernetes Objects</li> <li>• Describe Kubernetes networking</li> </ul>
<b>DAY 4</b>	• Explore connecting applications with services

## Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
18 Aug 2025	Virtual Training Class - TP	BST	English	Classroom		£3,195.00

## Additional Information

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