
Advanced Junos Platform Automation and DevOps

Duration: 3 Days Course Code: AJAUT

Overview:

The three-day AJAUT course gives students hands-on experience with DevOps and infrastructure as code (IaC) with devices running the Junos OS. Students will learn the tools needed to operate an open-source DevOps environment. Specifically, students will learn to use Docker, GitLab, Ansible, The Robot Framework, and Jenkins. Students will learn and utilize the tools to build a working DevOps project using two Juniper vMX devices.

This course uses Junos OS Release 17.3R1, PyEZ 2.1, Python 2.7, Git 2.17, and Ansible 2.4.

Target Audience:

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

Objectives:

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| ■ Upon completion of this course, you should be able to: | ■ Use Ansible to enforce design constraints using templates. |
| ■ Understand DevOps and how the DevOps process can improve Junos Automation. | ■ Use Ansible to build Ansible playbooks that work in multi-vendor environments. |
| ■ Create, configure, and manage Docker Containers. | ■ Install and configure Robot to perform automated tests on Junos devices. |
| ■ Use GitLab as a repository for code and configuration data. | ■ Use Jenkins to implement continuous code and configuration integration. |
| ■ Use Ansible and Jinja2 templates to configure multiple Junos devices. | ■ Implement a DevOps automated lab testing solution |
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Prerequisites:

Students should have taken the Junos Platform Automation and DevOps (JAUT) course or have equivalent knowledge.

Content:

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| Day 1 | LAB 2: Using GitLab | Day 3 |
| 1 COURSE INTRODUCTION | Day 2 | Robot Framework |
| 2 Introduction to DevOps and Event Driven Infrastructure | Using Ansible to Manage Networking Devices | <ul style="list-style-type: none">■ Robot Overview■ Examine the pybot_router Module■ Creating Robot Framework Keywords■ Creating Robot Framework Resource Files■ Perform Automated Testing using Robot■ Automated Testing - Use Case |
| <ul style="list-style-type: none">■ DevOps■ Infrastructure as Code■ Event Driven Infrastructure (EDI) | <ul style="list-style-type: none">■ Review of Ansible Basics■ Using Ansible with Jinja2 Templates■ Using Ansible to Enforce Network Design Constraints using Templates■ Using Ansible for (NOOB) Deployments while Maintaining Idempotency | LAB 4: Automation Testing with the Robot Framework |
| 3 Using Docker for DevOps | Managing Devices Running Junos OS using Ansible Roles | 7 Jenkins |
| <ul style="list-style-type: none">■ Introduction to Docker Containers■ Installing and Configuring Docker■ Managing Docker Networking■ Managing Applications Running in Docker■ Monitoring and Troubleshooting Docker | <ul style="list-style-type: none">■ Creating Multivendor Playbooks■ Using GitLab with Ansible for Automated Version Control■ Using Ansible for Auditing■ Using Ansible with Vagrant | <ul style="list-style-type: none">■ Jenkins Overview■ Creating Process Automation using Jenkins■ Installing and using the Robot Plugin for Jenkins■ Retrieving Repository Data from a Git Repository■ Executing Ansible Playbooks from within Jenkins■ Lab 5: Junos Process Automation with Jenkins |
| LAB 1: Using Docker Containers | LAB 3: | LAB 5: Using Jenkins to Implement Continuous Integration |
| 4 Using GitLab as a Configuration and Code Repository | Using Ansible in a DevOps Environment | |
| <ul style="list-style-type: none">■ Version Control Benefits■ Git and GitLab Explained■ GitLab Install Overview■ Creating GitLab Projects■ Creating Git Repositories■ Staging and Committing Files■ Cloning and Pushing Repository Data■ Branching and Merging■ Resolving Merge Conflicts | | |

Further Information:

For More information, or to book your course, please call us on 00 20 (0) 2 2269 1982 or 16142

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