Advanced Junos Platform Automation and DevOps

Day 1

1 COURSE INTRODUCTION

2 Introduction to DevOps and Event Driven Infrastructure

- DevOps

- Infrastructure as Code

- Event Driven Infrastructure (EDI)

3 Using Docker for DevOps

- Introduction to Docker Containers

- Installing and Configuring Docker

- Managing Docker Networking

- Managing Applications Running in Docker

- Monitoring and Troubleshooting Docker

LAB 1: Using Docker Containers

4 Using GitLab as a Configuration and Code Repository

- 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

LAB 2: Using GitLab

Day 2

Using Ansible to Manage Networking Devices

- 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

Managing Devices Running Junos OS using Ansible Roles

- Creating Multivendor Playbooks

- Using GitLab with Ansible for Automated Version Control

- Using Ansible for Auditing

- Using Ansible with Vagrant

LAB 3:

Using Ansible in a DevOps Environment

Day 3

Robot Framework

- Robot Overview

- Examine the pybot_jrouter Module

- Creating Robot Framework Keywords

- Creating Robot Framework Resource Files

- Perform Automated Testing using Robot

- Automated Testing - Use Case

LAB 4: Automation Testing with the Robot Framework

7 Jenkins

- 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 5: Using Jenkins to Implement Continuous Integration