

**Course Content: Introduction to Junos Platform Automation and DevOps (IJAUT)**

**TOPIC 1: COURSE INTRODUCTION**

- Introduction about the Course

**TOPIC 2: INTRODUCTION TO JUNOS OS**

Junos OS Basic Design Architecture  
Traffic Processing  
CLI Modes and Features  
Initial Configuration Tasks  
Interface Types and Configuration  
Lab 1: Configuring a Device using Junos CLI

**TOPIC 3: INTRODUCTION TO DEVOPS**

Why DevOps?  
The Benefits of DevOps  
DevOps Goals and Best Practices

**TOPIC 4: THE JUNOS AUTOMATION STACK**

The Junos Automation Stack and DevOps  
Junos XML API Overview  
Junos REST API Overview  
Junos JET API Overview  
Review of Junos Automation Tools

**TOPIC 5: INTRODUCTION TO XML AND XPATH**

Basic XML Syntax  
the Junos XML Schema  
Navigating the Junos XML Schema with XPath  
Lab 2: Working with XML and XPath

**TOPIC 6: THE XML API AND NETCONF**

NETCONF  
the Junos XML API  
Languages and Libraries Used to Automate the Junos XML API  
Case Study  
Lab 3: Using XML and NETCONF for Automation

**TOPIC 7: INTRODUCTION TO JSON AND YAML**

The Need to Structure Data  
JSON Basics  
YAML Basics  
Use of JSON and YAML in Junos Automation  
Lab 4: Using JSON and YAML

**TOPIC 8: INTRODUCTION TO ANSIBLE**

Ansible Architecture and Capabilities  
Ansible Playbook Basics  
Using Ansible to Retrieve Junos Status Information  
Using Ansible to Retrieve and Modify Configuration Information  
Case Study  
Lab 5: Using Ansible to Automate Junos

**TOPIC 9: INTRODUCTION TO PYTHON**

Basic Python Syntax  
Python 2 vs. Python 3  
Python Data Types and Variables  
Python Sequences, Tuples, Sets, and Dictionaries  
Python Libraries  
The Python Interactive Interpreter  
Case Study: Creating a Python Script to Solve a Problem  
Lab 6: Using the Python Interpreter

**TOPIC 10: INTRODUCTION TO XML AND XPATH**

Connecting to Junos Devices with PyEZ  
Retrieving Junos Device Status and Configuration Handling  
Modifying the Junos Configuration with PyEZ  
Using PyEZ utilities to upgrade Junos software  
Case Study  
Lab 7: Using PyEZ to Manage Junos Devices

**TOPIC 11: THE JUNOS REST API**

Overview of the Junos REST API  
Methods of Connecting to the Junos REST API  
Configuring the Junos REST API  
Using the Junos REST API Explorer  
Using the Junos REST API to Retrieve Junos Configuration Data  
Case Study  
Lab 4: Using the REST API