Advanced Data Center Automation Using Juniper Apstra

Juniper Networks | Education Services

Juniper Apstra™

COURSE OVERVIEW

This advanced three-day course provides students with advanced-level knowledge that might be helpful when working with Juniper Apstra™ software and when managing data center networks with Juniper Apstra software. This class provides attendees with the knowledge to automate Juniper Apstra using the Representational State Transfer (REST) API and Terraform, and uses Terraform to integrate Apstra with external systems. It is assumed that students have already attended the Data Center Automation Using Juniper Apstra (APSTRA) course or have a similar foundational knowledge of Apstra.

Through demonstrations and hands-on labs, students will gain advanced experience in automating Juniper Apstra. This course is based on Juniper Apstra Release 4.2.1.

COURSE LEVEL

Advanced

AUDIENCE

- Networking architects and operators, system engineers, and DevOps and IT professionals
- Individuals responsible for configuring, monitoring, and troubleshooting modern spine-and-leaf data centers of any size leveraging any networking vendor hardware or operating system

PREREQUISITES

- Strong background in network design and operations
- Understanding of Clos IP fabric
- Overlay and underlay routing designs
- Basic automation design and workflows
- Understanding of network device configuration through the CLI
- Knowledge of BGP
- Completion of the *Data Center Automation Using Juniper Apstra* course

RELATED JUNIPER PRODUCTS

- Junos OS
- EX Series
- QFX Series
- SRX Series
- Juniper Apstra

RECOMMENDED NEXT COURSE

Implementing Data Center Fabric with EVPN and VXLAN

CONTACT YOUR REGIONAL EDUCATION SERVICES TEAM:

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OBJECTIVES

- Describe the basic REST API functionality.
- Describe the functions of the Apstra-CLI utility.
- Describe the Apstra provider for Terraform.
- Manage resource pools with Terraform.
- Manage devices with Terraform.
- Create designs with Terraform.
- Create a blueprint using Terraform.
- Demonstrate how to scale blueprints with Terraform.
- Describe how to integrate Apstra with an external IP Address Management (IPAM) system.

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COURSE CONTENTS

DAY 1

1 Introduction to the REST API

- Describe the basic REST API functionality

Lab 1: Using the REST API

2 Using the Apstra-CLI Utility

- Describe the functions of the Apstra-CLI utility

Lab 2: Using the Apstra-CLI Utility

3 Introduction to Terraform

- Perform the initialization of Terraform and the Apstra provider
- Create a Terraform resource using the Apstra provider

DAY 2

4 Creating Apstra Resources with Terraform

- Create resource pools with Terraform
- Explain additional Terraform features

Lab 3: Creating Apstra Resources with Terraform

5 Managing Devices with Terraform

- Install device agents with Terraform
- Explain additional Terraform features

Lab 4: Managing Devices with Terraform

6 Creating Designs with Terraform

- Create rack types
- Create templates

Lab 5: Creating Designs with Terraform

DAY 3

7 Creating Blueprints with Terraform

- Create and build a blueprint
- Describe how to add a routing zone and an external router to a blueprint
- Describe how to add virtual networks to a blueprint

Lab 6: Creating an Apstra Blueprint with Terraform

8 Scaling Blueprints with Terraform

- Demonstrate how to scale out a blueprint with Terraform

Lab 7: Scaling Blueprints with Terraform

9 Integration with External IPAM

- Describe how to use Terraform to integrate Apstra with an external IPAM

Lab 8: Integrating Apstra with an External IPAM

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