

# Data Center Automation using Juniper Apstra (APSTRA)

**ID** APSTRA **Price** US \$ 5,000.—(excl. VAT) **Duration** 5 days

## Who should attend

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

## This course is part of the following Certifications

Juniper Networks Certified Internet Specialist Data Center (JNCIS-DC)

## Prerequisites

- Basic knowledge of networking and data center designs
- Understanding of Clos IP fabrics
- Routing protocol design, configuration, and performance
- Overlay/underlay routing designs
- Basic automation design and workflows
- An understanding of network device configuration via CLI
- BGP knowledge is recommended but not required

## Course Objectives

After successfully completing this course, you should be able to:

- Describe the Juniper Apstra architecture.
- Navigate the Juniper Apstra web user interface.
- Describe the build procedures.
- Create and use System Agents to manage devices.
- Configure Resources.
- Configure External Systems.
- Configure Racks (server to Leaf node connectivity).
- Configure Rack-based Templates (Rack to Spine node connectivity).
- Configure Blueprints.
- Configure Multitenancy.
- Enable Configlets.
- Create and use IBA probes.
- Perform root cause identification.
- Place a IP fabric device in and out of maintenance mode.
- Add and remove a device from an existing IP fabric.
- Revert uncommitted changes to the network.

- Use Time Voyager to restore a previous state of the IP fabric.
- Enable group-based policies.
- Perform administration of the Juniper Apstra server including adding new users and configuring syslog.

## Course Content

### Day 1

#### Module 1: Course Introduction

#### Module 2: Intent-Based Networking

- What Do We Mean by Intent?
- Juniper Apstra Overview
- Where Is Apstra Fabric Conductor Positioned?

#### Module 3: Juniper Apstra Overview

- Juniper Apstra Server
- Juniper Apstra Agents

#### Module 4: DC Reference Design

- Clos in the Data Center
- 3-Stage Versus 5-Stage Fabrics
- EBGP in the Data Center
- Host Connectivity
- Lifecycle Management (Design, Build, Deploy, Validate)

#### Module 5: Design Phase

- Resources
- Device Profiles
- Logical Devices
- Port Groups and Roles
- Interface Maps
- Racks
- Templates

#### Module 6: Build Phase

- System Agents
- Managed Devices
- Juniper Apstra Device Config Stages
- Blueprints

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- Assigning Resources to a Blueprint
- LAB 1: Milestone 1

## Module 7: Deploy Phase

- Deploying Nodes
- Uncommitted View
- Committing
- Deployment Status
- Blueprint Dashboard
- Physical
- LAB 1: Milestone 2

## Module 8: Connectivity Templates

- Connectivity Template Overview
- CT Example: Adding an External Router

## Module 9: Multitenancy

- VXLAN Overlay Networks
- Hardware VTEPs
- VXLAN to VLAN Mapping
- EVPN
- Routing Zones
- Virtual Networks
- Apply CTs to Interfaces
- LAB 1: Milestone 3

## Day 2

## Module 10: Configlets

- Configlets and Property Sets
- Configlet Modeling
- Configlet Processing Order

## Module 11: Intent-Based Analytics

- What Is Intent-based Analytics?
- Leveraging the Graph Datastore
- Asking Multidimensional Questions
- IBA Probes
- IBA Example
- How to Create Probes

## Module 12: Root Cause Identification

- A Lot of Data When Something Goes Wrong
- Juniper Apstra Monitors Various Event Types and Can Determine the Root Cause
- Root Cause Identification User Interface
- LAB 1: Milestone 4

## Module 13: Group-Based Policies

- What Is Group-Based Policy?
- Objects
- Endpoints
- Endpoint Groups
- Policies
- Workflow
- Conflict Resolution (Auto or User-Based)
- Incremental Changes

## Module 14: Time Voyager

- What Is Time Voyager?
- Blueprint Revisions
- Permanently Saving a Revision
- Restoring a Revision
- Caveats

## Chapter 15: REST API and Graph Interface

- Overview
- User Documentation
- Swagger 2.0
- Platform API
- Reference Design API
- Getting the Specifications
- Tools in the GUI
- LAB 2
- Lab 3

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## Training Centres worldwide



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