

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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