Cloud Automation Using Contrail

Category: Cloud Platforms | **Vendor:** Juniper

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

This five-day course is designed to provide students with the knowledge required to work with the Juniper Contrail software-defined networking (SDN) solution. Students will gain in-depth knowledge of how to use the Contrail Command user interface, Contrail Networking, Contrail’s fabric management and administration features, and Contrail Security, as well as AppFormix analytics features. Students will also learn to use APIs and the CLI to perform the Contrail configuration tasks. Through demonstrations and hands-on labs, students will gain experience with the features of Contrail and AppFormix. This course is based on Contrail Release 1912 and AppFormix 2.19.10.

About This Course

- Course Introduction
- SDN and Contrail
- Orchestration Fundamentals
- Contrail Architecture Fundamentals
- Contrail Configuration
- IP Fabric Automation
- VM to BMS Bridging
- VXLAN Routing
- Data Center Interconnect
- Interacting with External Networks
- Fabric Administration
- Contrail Security
- AppFormix Overview
- Alarms and Composite Alarms
- Junos Telemetry Interface

Who Should Attend

This course benefits individuals responsible for working with software-defined networking solutions in data center, service provider, and enterprise network environments.

Prerequisites & Entry Requirements

General Prerequisites:

The prerequisites for this course are as follows:

- Basic TCP/IP skills;
- General understanding of data center virtualization;
- Basic understanding of the Junos operating system;
- Completion of the Juniper Cloud Fundamentals (JCF) course; and
- Basic knowledge of object-oriented programming and Python scripting is recommended.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

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

- Explain the role of Contrail SDN Controller.
- List available Contrail solutions.
- Describe the purpose of an orchestrator.
- Describe the basics of Kubernetes.
- Identify the function of each of the main OpenStack Projects.
- Describe the purpose of Contrail.
- Explain how the versions of Contrail differ.
- Discuss Contrail related solutions.
- Describe the functions of the Contrail vRouter and Contrail Controller.
- Explain the role of the control, configuration, and analytic nodes.
- Configure and deploy virtual DNS and IPAMs.
- Create virtual networks.
- Create policies to control the flow of traffic.
- Explain the routing behavior of an IP Fabric
- Describe the steps to onboard a Brownfield IP Fabric.
- Describe the steps to onboard a Greenfield IP Fabric.
- Describe the various commands to troubleshoot the onboarding of an IP Fabric.
- Explain the benefits of VXLAN in the data center.
- Describe EVPN signaling for VXLAN.
- Describe how CEM can bridge between a VM and a BMS.
- Implement bridging between VMs and BMSs using VXLAN and EVPN signaling.
- Describe EVPN signaling for VXLAN routing in the Spine.
- Describe how to enable central routing using CEM.
- Describe EVPN signaling for DCI.
- Describe how to enable DCI using CEM.
- Create physical gateways.
- Describe architecture and capabilities of Contrail Security.
- Configure main Contrail Security features.
- Explain the benefits of AppFormix.

- Explain the operation and use of AppFormix.
- Explain how to setup and install AppFormix in different environments.
- Explain the purpose and use of the different AppFormix features.
- Understand the purpose of the Clusters feature.
- Describe how to use the dashboard to examine the state of the network.
- Understand the purpose and use of the Charts feature.
- Explain the benefits of capacity planning.
- Explain how to setup the chargeback functionality.
- Explain how to use AppFormix charts.
- Explain how to use AppFormix heat maps.
- Describe the benefits of reports and service monitoring functionalities.
- Explain the purpose and use of AppFormix alarms.
- Explain the purpose and use of AppFormix Composite Alarms.
- Explain the purpose of JTI.
- Discuss native sensors.
- Explain OpenConfig and gRPC sensors.
- Describe best practices for JTI.
- Explain how to use JTI with AppFormix.

Detailed Course Outline

Day 1

Chapter 1: Course Introduction

Chapter 2: SDN and Contrail

- Review of SDN
- Contrail Basics Contrail Advantages, Capabilities, and Features Contrail Products and Solutions

Contrail Use Cases Contrail Command

- Lab 1: Contrail Command Walkthrough

Chapter 3: Orchestration Fundamentals

- Orchestrator Overview
- Kubernetes Orchestrator
- OpenStack Orchestrator
- Lab 2: Instantiating Virtual Workloads

Day 2

Chapter 4: Contrail Architecture Fundamentals

- Contrail Architecture Overview
- Contrail Management and Analytics
- Contrail Control Plane Communications
- Contrail Data Plane Communications
- Basic Contrail Troubleshooting
- Lab 3: Exploring and Troubleshooting the Contrail vRouter and SDN Controller

Chapter 5: Contrail Configuration

- Contrail Configuration Methods
- Configuring DNS and IPAM
- Configuring the Metadata Service
- Configuring Virtual Networks
- Configuring Network Policies and Security Groups
- Contrail Configuration API
- Lab 4: Configuring Virtual Networks and Policies

Chapter 6: IP Fabric Automation

- IP Fabric Review
- Greenfield Fabric Automation
- Brownfield Fabric Automation
- Troubleshooting Fabric Automation

- Lab 5: IP Fabric Automation

Day 3

Chapter 7: VM to BMS Bridging

- VXLAN Review
- EVPN Signaling for BMS to BMS VXLAN Forwarding
- Contrail VM to BMS Bridging
- Server/Instance example
- Virtual Port Groups
- Lab 6: VM to BMS Bridging

Chapter 8: VXLAN Routing

- EVPN Signaling for Central Routing
- Central Routing Example
- EVPN Signaling for Edge Routing
- Edge Routing Example
- Lab 7: VXLAN Routing

Chapter 9: Data Center Interconnect

- DCI Overview
- DCI Options for a VXLAN Overlay using Contrail Automation
- DCI Example using Contrail Automation
- Lab 8: Data Center Interconnect

Day 4

Chapter 10: Interacting with External Networks

- DC Gateway Use Case/LI>

- Implementing a DC Gateway

- Lab 9: DC Gateway

Chapter 11: Fabric Administration

- Generic Device Operations

- Hitless Fabric Upgrade

- Lab 10: Fabric Administration

Chapter 12: Contrail Security

- The Need for Contrail Security

- Contrail Security Configuration

- Monitoring and Visualization

- Lab 11: Contrail Security

Day 5

Chapter 13: AppFormix Overview

- AppFormix Overview

- AppFormix UI and General Settings AppFormix Features Overview: Clusters, Dashboard, Charts, Heat Map, Plan, Reports, Chargeback

Chapter 14: Alarms and Composite Alarms

- Alarms

- Alarms Case Study

- Composite Alarms

- Lab 12: Implementing AppFormix Features

Chapter 15: Junos Telemetry Interface

- JTI Overview

- Native Sensors for JTI

- OpenConfig and gRPC Sensors for JTI

- Lab 13: Implementing JTI with AppFormix

Skills You Will Learn:

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Frequently Asked Questions

Q: What delivery options are available for Cloud Automation Using Contrail?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 5-day Cloud Automation Using Contrail course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Cloud Automation Using Contrail training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Cloud Automation Using Contrail?

Yes, we provide corporate training, dedicated training, and closed classes for Cloud Automation Using Contrail. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Cloud Automation Using Contrail, Cloud, CAC

Q: Why choose Nexus Human for Cloud Automation Using Contrail?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Cloud Automation Using Contrail training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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