Cumulus Linux Professional

Outline

Training Overview

The course provides network and system professionals with practical skills for deploying and managing Cumulus Linux-based data center networks. Through interactive sessions and extensive hands-on labs, participants will configure switches VLANs, routing protocols, and advanced features like VXLAN and EVPN. The curriculum covers topics including network automation, troubleshooting, and monitoring, ensuring learners gain real-world experience.

Training Delivery Method

Instructor-led remote training sessions via NVIDIA Teams platform.
Hands-on lab exercises.

Target Audience

The course is designed for Network and System Administrators/Engineers, Devops, Solution Architects, Infrastructure Engineers.

Training Duration

Remote | 3 sessions of 5 hours.

Prerequisites

- Knowledge of networking concepts and principles and practical experience configurating layer 2/3 networking features.
- Hands-on experience with configuring and administering Linux-based systems.

Training Objectives

By the end of this course, participants will be able to:

- Manage Cumulus Linux environments, including configuring basic switch and router functions like bridging, VLANs, bonds, and MLAG.
- Implement advanced features such as BGP, VXLAN, and EVPN.
- Apply practical skills through hands-on labs using NVIDIA AIR, covering software upgrades, basic switch functions
- Perform system troubleshooting, monitoring, and maintenance tasks across various layers and features.

Training Outline

Module I: Introduction to Cumulus Linux

- NVIDIA networking ecosystem & Cumulus Linux Fundamentals: Cumulus Linux architecture, & configuration tools like NVUE and FRRouting.
- NVIDIA User Experience (NVUE), command types, workflows, REST API, and automation with Ansible.
- Configuring and troubleshooting network interfaces.

Module II: Basic Switch & Router Functions

- Layer 2 features: Bridging, VLANs, Trunks, Spanning Tree Protocol.
- Link Aggregation & High Availability using bonds and MLAG.
- Routing Essentials: Default gateway redundancy, SVIs, VRR and VRF.
- BGP concepts, BGP in the data center & BGP unnumbered.
- Network virtualization: VXLAN tunnelling, EVPN control planes, various VXLAN routing models (centralized, distributed symmetric/asymmetric).

Module III: Advanced Features and Troubleshooting

- System diagnostics & maintenance equips participants with skills for monitoring hardware, resource/ASIC diagnostics, Open Telemetry.
- Operational best practices: advanced maintenance procedures like In-Service Software Upgrade (ISSU) and factory default resets.

Hands-on practices carried out on the NVIDIA Air platform

- Starting by configuring basic switch functions
- Implementing layer 2 services, high availability solutions using MLAG and VRR.
- Configuring the underlay network with BGP unnumbered.
- Building virtualized networks using VXLAN with EVPN for both layer 2 and distributed layer 3 routing.