FREE FOR STUDENTS & RESEARCHERS

ENTERPRISE SONiC ADMINISTRATION COURSE

Build Next-Gen Networking Skills Learn SONiC for Free

Academy and university students and researchers get the full course, hands-on labs and community access at no cost, taught by Volker Scheel.

54 VIDEO LESSONS | **9** MODULES | **22** HANDS-ON LABS

MASTER SONiC. BUILD THE SKILLS TO RUN OPEN NETWORKS.

Take your networking expertise further with **Enterprise SONiC Administration**, a self-paced course based on **Enterprise SONiC Distribution by Broadcom**, led by Volker Scheel. From switching and routing to VXLAN EVPN, automation, redundancy, troubleshooting, and campus networking — build the knowledge and practical skills to operate modern networks.

Go beyond theory. Get hands-on.

- Understand the architecture
- Configure real-world scenarios
- Validate your configurations
- Troubleshoot with confidence

NEW EDITION **FULL COURSE + HANDS-ON LABS + COMMUNITY FORUM**

Turn knowledge into practical skills with ready-to-use SONiC labs. Practice real-world networking scenarios in pre-configured virtual environments, free for eligible students.

Connect with a community of learners, ask questions, and share insights in our dedicated forum.

WHY SONiC

MARKET
$9B+
SONiC data-centre switching market projected by 2028 (650 Group)

ENTERPRISE ADOPTION
10%
of enterprises with large DC networks by 2027, forecast to double (Gartner)

BEYOND HYPERSCALERS
Tier-2
and enterprise networks drive demand for SONiC administration skills

HARDWARE FREEDOM
1 NOS
across Edgecore, Celestica, Dell, Micas, QCT, UfiSpace and more

THE CURRICULUM — From first access to modern fabrics

9 modules · 54 lessons · 22 hands-on labs

M1 SONiC Introduction

- 01 What is SONiC
- 02 SONiC Building Blocks
- 03 SONiC Architecture

FOUNDATIONS
Concepts and architecture you build on in every lab from Module 2 onward.

M2 Installation & Initial Setup

- 01 Accessing the Switch
- 02 Installation
- 03 Booting & Switch Management
- 04 Users
- 05 Zero Touch Provisioning (ZTP)

HANDS-ON LABS INCLUDED
- Installing a Switch OS with ONIE
- Configuring Switch Management
- User Accounts and Authentication
- Zero Touch Provisioning (ZTP)

M3 Configuration Methods

- 01 Configuration Methods
- 02 Klish – Management Framework CLI
- 03 Interface Configuration
- 04 VLAN Configuration
- 05 Layer 3 Interfaces NEW

HANDS-ON LABS INCLUDED
- CLICK Configuration
- Klish (Management Framework CLI)
- Basic Interface Configuration
- Configuring VLANs

FREE FOR STUDENTS & RESEARCHERS

Enterprise SONiC Administration Course with Hands-On Labs

SONiC by BROADCOM

M4 Layer 2 & Layer 3 Redundancy

01 Spanning Tree Protocol (STP)
02 Multi-Chassis Link Aggregation (MC-LAG)
03 Virtual Router Redundancy Protocol (VRRP)
04 Static Anycast Gateway (SAG)
05 Example Use Case

HANDS-ON LABS — INCLUDED
- MCLAG Configuration
- VRRP Configuration

M5 Routing Protocols in SONiC

01 Introduction to Routing Protocols
02 BGP – Intro & Configuration
03 Routing Information for BGP
04 OSPF – Intro & Configuration
05 Routing Information for OSPF
06 OSPFv3 NEW
07 Static Routes
08 Displaying & Influencing the Routing Table
09 BFD
10 DHCP Relay

HANDS-ON LABS — INCLUDED
- OSPF Configuration
- BGP Configuration
- Static Routes Configuration
- BGP with BFD
- DHCP Relay

M6 Automation for SONiC

01 Introduction to Automation
02 Automation with Ansible
03 Automation with RESTCONF
04 Automation with gNMI

HANDS-ON LABS — INCLUDED
- Ansible Configuration
- RESTCONF Automation
- gNMI Configuration

M7 Troubleshooting SONiC

01 Troubleshooting Overview
02 Interface Problems
03 Traffic Information
04 Analysing Packet Drops
05 Traffic Mirroring
06 Switch Information
07 Debugging on the Switch
08 Tech Support Files

HANDS-ON LABS — INCLUDED
- Interface Troubleshooting
- Packet Drops and Tech-Support Logs

M8 VXLAN, EVPN & DCI

01 Introduction to VXLAN
02 Layer 2 VPNs
03 Redundant Host Connections NEW
04 Layer 3 VPNs
05 EVPN
06 Monitoring VXLAN & EVPN
07 Datacenter Interconnect (DCI)

HANDS-ON LABS — INCLUDED
- EVPN VXLAN

M9 Campus Access & Security

01 Power over Ethernet (PoE)
02 LLDP-MED
03 Port Access Control
04 IP Helper
05 Port Security
06 DHCP Snooping
07 Access Control Lists (ACLs)

HANDS-ON LABS — INCLUDED
- ACL Configuration

YOUR TRAINER



Volker Scheel

Network engineering · route2open · STORDIS Group

More than 28 years of network engineering experience, including roles at AT&T and STORDIS. Volker teaches as an engineer who has designed, built and operated enterprise networks, so you learn not only the command, but when and why to use it.

28+ years in networking
1600+ engineers trained
2022 teaching SONiC since

HOW TO GET FREE ACCESS

1 **Check eligibility**
Academy or university students and members of research institutions.

2 **Send proof of status**
Email your student ID to **info@route2open.com**

3 **Start learning**
Full course, labs, community and certificate after confirmation.

Free for eligible students and researchers only · No sharing or commercial use · Complete within one year · Programme may change at any time.

READY TO START LEARNING?

Enterprise SONiC Administration Course · ~~700 €~~ 0 € for students

Email your student ID or proof of status. No payment details required.

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