NEW PRODUCT

SONiC HANDS-ON LABS

Scenario-based SONiC labs in a ready-to-use environment

Self-paced, remote, hands-on practice for network professionals.
Build, automate and troubleshoot real SONiC topologies.

SONiC by BROADCOM

22 SCENARIO-BASED LABS

LEARN SONiC BY CONFIGURING IT YOURSELF

SONiC Hands-On Labs by route2open give you your own pre-built lab environment where you build, automate and troubleshoot SONiC switches the way you would in a real data center or campus network. Every lab comes with a scenario, a topology with IP plan, step-by-step instructions, hints and a verification step.

MODULE 01 Getting Started with the Labs

LESSON 1
Welcome to SONiC Hands-On Labs
How the labs are organised and how to get the most out of them

LESSON 2
Logging in to a lab
Connecting to your lab environment with your personal credentials

LESSON 3
Booking rules
How to book and use your lab time

MODULE 02 Switch Installation and Management

LAB 1
Installing a Switch OS with ONIE
- Configure and verify IP addressing on SERVER1 and SW1
- Install SONiC from the ONIE installer and verify the image

LAB 2
Configuring Switch Management
- Change the hostname, set a static IP and port parameters
- Revert the port to DHCP configuration

LAB 3
User Accounts and Authentication
- Check the AAA configuration with default privileges
- Add a RADIUS server and set it as the default login method

LAB 4
Zero Touch Provisioning (ZTP)
- Update the DHCP server on SERVER1 to serve the ZTP file
- Enable ZTP on SW1 and check the provisioning result

MODULE 03 Configuration Methods and Layer 2

LAB 1
CLICK Configuration
- Assign a static management address with the CLICK CLI
- Save the configuration to config_db

LAB 2
Klish (Management Framework CLI)
- Back up the running configuration and copy it to SERVER1
- Prepare a restore for a replacement switch

LAB 3
Basic Interface Configuration
- Configure switch interfaces for HR and Sales across two floors
- Validate link state and port parameters

LAB 4
Configuring VLANs
- Isolate HR (VLAN 10) and Sales (VLAN 20) with access and trunk ports
- Verify traffic stays within each department

MODULE 04 Layer 2 and Layer 3 Redundancy

LAB 1
MCLAG Configuration
- Configure SW1 and SW2 as an MCLAG pair with a peer link
- Build trunk PortChannels on SW1, SW2 and the SERVER

LAB 2
VRRP Configuration
- Configure VRRP between SW1 and SW2 with a virtual IP
- Make SW1 the Master (higher priority) and SW2 the Backup

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Scenario-based labs in a ready-to-use SONiC environment

MODULE 05 Routing and IP Services

LAB 1
OSPF Configuration
- Configure IPs, loopbacks and OSPF area 0 on three routers
- Check OSPF adjacencies and end-to-end reachability

LAB 2
BGP Configuration
- Configure eBGP peers with the IPv4 unicast address family
- Advertise loopbacks and verify sessions between all routers

LAB 3
Static Routes Configuration
- Define static routes for full reachability
- Add a blackhole route and verify the routing table

LAB 4
BGP with BFD
- Establish BGP sessions in a triangular topology
- Enable BFD on every neighbor for fast failure detection

LAB 5
DHCP Relay
- Configure L3 interfaces on R-1 (10.10.1.2/24, 10.10.10.101/24)
- Relay DHCP to 10.10.10.100 and verify the client lease

MODULE 06 Automation and Programmability

LAB 1
Ansible Configuration
- Build a hosts.ini inventory with ALPHA / BRAVO groups
- Run a playbook setting Ethernet1 MTU to 1520 on both switches

LAB 2
RESTCONF Automation
- Open Swagger UI over an SSH tunnel, explore OpenConfig
- GET Ethernet1 MTU, then PATCH it to 9200 (HTTP 204)

LAB 3
gNMI Configuration
- Check the telemetry container that runs the gNMI server
- Set password authentication, query capabilities on :8080

MODULE 07 Troubleshooting

LAB 1
Interface Troubleshooting
- Compare both ends with interface status and the LLDP table
- Fix admin-down, FEC (RS vs none) and VLAN mismatches, then ping

LABS 2 & 3
Packet Drops and Tech-Support Logs
- Read drop counters and create an ACL ingress drop counter
- Generate a tech-support dump for vendor escalation

MODULE 08 VXLAN and EVPN

LAB 1
EVPN VXLAN
- Loopback0 as VTEP source, Loopback1 as BGP router-ID
- Anycast gateway for VLAN 60 / 70 and VLAN-to-VNI mapping
- eBGP unnumbered with IPv4 unicast + L2VPN EVPN, advertise-all-vni

MODULE 09 Security

LAB 1
ACL Configuration
- Block PC1 from SRV-FTP with an extended ACL, permit everything else
- Bind the ACL inbound and check bindings and hit counters

WHO IT'S FOR
- Network engineers
- Data center and campus admins
- NetOps and automation engineers

WHAT'S INCLUDED
- Scenario, topology and IP plan
- Step-by-step instructions
- Hints and verification steps
- Personal lab access

WHAT YOU NEED
- A PC with an SSH client
- A modern web browser
- An internet connection
- Basic networking knowledge

THE PERFECT MATCH
Practise every topic from the **Enterprise SONiC Linux Bootcamp** and prepare for the **Certified SONiC System Administrator** exam.

READY TO GET HANDS-ON?

Start building real SONiC networks today.

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