

Carrier Grade NAT 6

OEM: A10 Networks • Code: CARRIER_GRADE_NAT_6

COURSE DESCRIPTION

This course provides users with the necessary skills to implement IPv6 migration and Carrier Grade NAT scenarios for A10 ACOS deployments in service provider and data center environments.

AUDIENCE PROFILE

- Network Operations (NetOps)
- Development Operations (DevOps)
- Application Engineers (AppEng)
- Network Security (NetSec)
- Architects (Arch)

PREREQUISITES

- A10 Networks SysAdmin Course OR equivalent ACOS CLI, aVCS, and VRRP-A experience

COURSE OBJECTIVES

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

- Carrier Grade NAT (CGN/LSN) to mitigate IPv4 address exhaustion
- DNS64/NAT64 for providing IPv4 resources to IPv6 clients
- CGN logging to manage NAT mappings

COURSE OUTLINE

Module 1: Carrier Grade Networking Concepts (Required)

- Context of CGNetworking
- IPv4 and IPv6 Topologies
- CGNAT vs. Traditional NAT
- User-Quota, Sticky NAT

Module 2: LSN NAT44(4) Configuration

- 5 Parts of Dynamic NAT configuration
- Alternative: Fixed NAT
- Troubleshooting NAT(4)44 (i.e., lsn)

Module 3: LSN Additional Features

- ALGs
- Static Port Mapping
- Full-Cone NAT (EIM, EIF, Session User Quota)
- Hairpinning Filtering

Module 4: IPv6 Overview

- What is IPv6
- IPv6 Features and Tools

Module 5: IPv6 Migration (NAT/DNS64)

- Stateless NAT46
- DNS64 and Stateful NAT64
- NAT64 Prefix
- DNS64 Virtual Server Configuration
- 5 Parts of Dynamic NAT64 configuration
- Alternative: Fixed NAT64
- Troubleshooting NAT64

Module 6: NAT64 Additional Features

- ALGs
- Static Port Mapping
- Full-Cone NAT (EIM, EIF, Session User Quota)
- Hairpinning Filtering

Module 7: Routing and Networking

- CGN Topologies
- Configuring Routing: Static, BGP, OSPF, OSPFv3

Module 8: CGN Logging

- Issues in Logging
- Data Plane Logging Configuration
- Logging Template: Custom format, HTTP Request logging
- Port Batching (v1 and v2)

- Fixed-NAT Table Export and Logging
- RADIUS Accounting integrations
- NetFLOW (IPFIX) Logging/Accounting

Module 9: Troubleshooting and Performance Monitoring

- Monitoring: system log, interface counters, CPU, memory usage, NAT pool utilization
- Capture packets, storing and exporting packets
- Debug Routing
- Contacting A10 Support