Mastering OSPF and BGP

Module 1: OSPF Intro

- OSPF Intro & Features
- OSPF Packet Types
- OSPF Hello Packet Components
- Router Id
- OSPF Seven States Neighborship
- Designated Router And Backup Designated Router

Module 2: OSPF Neighborship

- OSPF Configuration
- Passive Interfaces
- Requirements For Neighbor Adjacency
- OSPF Networks Types
- Types Of OSPF LSAs
- OSPF Areas Types
- OSPF Path Selection

Module 3: OSPF Path Selection

- Metric: (Cost)
- Auto-cost Reference-bandwidth
- Summarization Of Routes
- Route Filtering
- Default Route Originate
- Virtual Links

Module 4: OSPF LAB Workbook

- LAB#1: Initial Configs
- LAB#2: Configure OSPF (single-area)
- LAB#3: Manipulate DR/BDR Election
- LAB#4: Manipulate Router-id Election
- LAB#5: Manipulate Hello/hold Timer
- LAB#6: Change Area Id
- LAB#7: OSPF Authentication

Module 5: OSPF LAB Workbook (contd)

- LAB#8: OSPF Area Type
- LAB#9: OSPF MTU Mismatch
- LAB#10: Verify OSPF Mutlicast Address 224.0.0.6 And 224.0.0.5
- LAB#11: Configure OSPF (Multi-area)
- LAB#12: Configure “Point-to-Point” OSPF

- LAB#13: Configure “Passive Interface” on MumbaiR2_fa1/0

Module 6: OSPF LAB Workbook (contd)

- LAB#14: Configure AREA 80 as STUB AREA
- LAB#15: Configure AREA 40 as STUB and then NSSA
- LAB#16: Configure Virtual Links

BGP

Module 1: BGP Intro

- BGP Introduction
- BGP Key Points
- BGP ASN

Module 2: BGP ASN

- What is ASN?
- ASN FAQs
- 4 Bytes ASN (32-bit range)
- ASN Allocation Policies
- BGP Peering States

Module 3: BGP Messages

- BGP Peering States
- BGP Message Types
- BGP Active and Passive
- BGP Timers

Module 4: BGP Types

- BGP Next-Hop-Self
- BGP Flavors – iBGP & eBGP
- BGP Multihop
- BGP Update-source
- BGP Peer Group

Module 5: BGP Best Path Selection

- BGP Best Path Selection
- BGP Attributes
- Weight
- MED
- AS Path
- Local Pref

- Atomic Aggregates
- BGP Communities

Module 6: BGP Advance & Troubleshooting

- BGP Troubleshooting Discussions
- BGP Confederation
- 25+ BGP Practical Lab (GNS3/EVENG)

Module 7: LAB Workbook

- LAB#1: Configure basic BGP lab
- LAB#2: Configure Active/Passive BGP behaviour
- LAB#3: Manipulate BGP Timers
- LAB#4: Configure BGP's Next-Hop-Self
- LAB#5: Configure BGP Multihop & Update-source
- LAB#6: Configure BGP Peer Group
- LAB#7: Manipulate BGP path using BGP attributes

Module 8: LAB Workbook (contd)

- LAB#8: Manipulate BGP path using BGP attributes, Local_pref, AS_path, MED
- LAB#9: Influence Outgoing (outbound) traffic using BGP attribute "Local_pref" on router CE2 LAB#10: Local_pref using route_map
- LAB#11: Local_pref filtering route_map and prefix_list
- LAB#12: Influence Incoming (inbound) traffic using BGP attribute "AS_path" on router CE1
- LAB#13: Influence Incoming (inbound) traffic using BGP attribute "MED" on router PE1
- LAB#14: BGP Full Mesh vs Router Reflector

Module 9: LAB Workbook (contd)

- LAB#15: BGP Full Mesh
- LAB#16: BGP Route Reflector
- LAB#17: BGP Confederation
- LAB#18: CONFIGURE – REDISTRIBUTION
- LAB#19: CONFIGURE – REDISTRIBUTION between EIGRP and OSPF
- LAB#20: CONFIGURE – REDISTRIBUTION between eBGP and OSPF
- LAB#21: CONFIGURE – REDISTRIBUTION between iBGP and OSPF