Course Name	Cisco Advanced Routing
About the Course	This course will teach you how to configure and troubleshoot routing protocols and IP services using a large-scale network topology
Key Skills You Will Learn	In Cisco Advanced Routing training you'll learn to design, configure, and manage a small Internet Service Provider (ISP), which in many ways resembles a large enterprise. First, you'll explore OSPF, a complex and popular routing protocol common deployed in enterprises and service providers alike. Next, you'll apply BGP both for upstream Internet connectivity and MPLS layer-3 VPN service, which large enterprises commonly use to provide multi-tenancy at scale. Finally, you'll learn how to optimize the network using a subset of common IP services relating to management, monitoring, and security. Most of these topics are discussed using both IPv4 and IPv6 in the context of dual-stacking
Course Pre-Requisite	Prerequisites for this course include: The Cisco Enterprise Core learning path
Target Audience	This course is for IT professionals who are looking to create and manage their own Cisco enterprise network.
Job prospects with this role	Network engineer, Network administrator, Systems engineer, Network consultant, Network security specialist
Course Duration	~ 14 Hrs
Course Customisation	Not applicable
Certification	READYBELL Cisco Advanced Routing Certificate
Mode of Training	Instructor-led 100% Online or 100% Classroom (Salt Lake, Kolkata - India) or hybrid mode (Online + Classroom) as suitable for the learner
Course Fees	Please contact us
Refund Policy	No refund
Job Assistance	Not applicable
Contact	**READYBELL SOFTWARE SERVICES PVT. LIMITED** **AH 12, SALT LAKE SECTOR 2, KOLKATA (INDIA) - 700 091** **E-MAIL: contact@readybellsoftware.com** **PH: +91 - 9147708045/9674552097, +91 - 33-79642872**

CURRICULUM		
Topic	**Sub-Topic**	**Duration (Hrs)**
Cisco Advanced Routing	Module 1: Course Overview	14 Hrs
	Module 2: Configuring OSPF Areas and Network Types	
	Course Prerequisites and Business Context	
	OSPF Protocol Refresher	
	Demo: Basic OSPF Configuration using Access Rings	
	How Area Border Routers (ABRs) Work	
	Demo: Exploring ABR Operations	
	Demo: Filtering Routes Between OSPF Areas	
	OSPF Network Types and their Uses	
	Demo: OSPF Point-to-point Networks	
	Demo: OSPF Multi-access Networks and the Designated Router	
	Demo: OSPF Point-to-multipoint Networks	
	Network Type Recap and Module Summary	
	Module 3: Connecting Our First Customer using Complex Redistribution	
	Redistribution; What is it Good For?	
	If You Want Simplicity, Filter by Administrative Distance (AD)	
	Demo: Preventing Loops with AD	
	If You Want Granular Control, Filter by Prefix	
	Demo: Preventing Loops with Prefix Filtering	
	If You want Dynamicity, Filter by Route Tags	
	Demo: Preventing Loops with Route Tag Filtering	
	Demo: Demystifying the OSPF Type-4 ASBR Summary LSA	
	Module 4: Connecting to Upstream ISPs using BGP	
	Understanding "Routing To" Versus "Routing Through"	
	Demo: BGP Prefix Suppression and Aggregation	
	Demo: Selective Redistribution from BGP into OSPF	
	Demo: OSPF Default Route Origination at the ASBRs	
	Anti-spoof Protection with Unicast RPF (URPF)	
	Demo: Applying Strict-mode URPF to Secure Our Uplinks	

	Module 5: Isolating Customers with MPLS Layer-3 VPNs	
	How Does MPLS Work?	
	Distributing Labels with LDP	
	Demo: Basic LDP Configuration and Verification	
	Demo: My Tried-and-true Method to Trace MPLS LSPs	
	Designing MPLS L3VPN Services	
	Scaling iBGP with Route-Reflectors	
	Demo: Connecting Provider Edge Routers to the BGP RR	
	Demo: Using BGP for PE-CE Routing Towards Customers	
	Demo: Tracing the Bidirectional Customer MPLS LSPs	
	Detour: Configuring BGP with VRF Lite	
	Module 6: Achieving High Availability for Customers and LAN Clients	
	A Refresher on First-hop Redundancy Protocols (FHRPs)	
	Demo: Using Hot Standby Router Protocol (HSRP) on the NOC LAN	
	Synthesizing Traffic with IP Service Level Agreement (IP SLA)	
	Demo: Configuring IP SLA To Measure Link Performance	
	Demo: Using Tracked Objects to Influence HSRP	
	Demo: Injecting a Performance-based OSPF Default Route	
	Module 7: Deploying IP Services to Manage and Secure the Network	
	How SNMP Works and Why It's Everywhere	
	Demo: SNMPv2c Configuration and Validation	
	Demo: Secure Device Management with SNMPv3	
	TACACS+; A Powerful Alternative to RADIUS	
	Controlling VTY Access using TACACS+	
	Configuring FNF in Three Easy Steps	
	Protecting MPLS PEs using Control-plane Policing (CPP)	
	Module8: Modernizing Networks Using IPv6	
	IPv6 Refresher and Common Operations	
	Demo: Basic OSPFv3 Configuration using IPv6	
	Demo: Validating IPv6 Internet Uplinks using BGP	
	Demo: Validating IPv6 HSRP and Object Tracking	
	Demo: Validating MPLS L3VPN for IPv6 Customers	
	To register for this course please e-mail/call us	