MIKROTIK

ACADEMY

MTCRE outline

CERTIFIED ROUTING ENGINEER

Duration:	2 days
Overview:	This is an advanced Mikrotik training class that focuses on routing. It covers routing basics and techniques, VPN, OSPF and MME. You will delve deeper into the routing capabilities of Mikrotik RouterOS. All Participants who pass the exam will receive an official MikroTik MTCRE certification.
Outcomes:	By the end of this training session, the student will be able to plan, implement and troubleshoot routed MikroTik RouterOS network configurations.
Target Audience:	Network engineers and technicians wanting to deploy and support static and/or dynamic routed networks.
Course prerequisites:	A good working knowledge of TCP/IP Basics is required. You must be MikroTik MTCNA Certified (current or expired certificate is fine) to sit this course.

Title	Objective
Module 1 Static Routing	• More specific routes • ECMP • How to force gateway over specific interface • Gateway reachability check and route distance • Routing mark and route policy • Recursive next-hop and scope/target-scope usage • **Module 1 laboratory**
Module 2 Point to Point Addressing	• Point to Point address configuration • **Module 2 laboratory**
Module 3 VPN	• What is VPN? • Different types of VPN • Site to site connectivity with tunnels • IPIP, EoIP, PPTP, SSTP, L2TP, PPPoE • VLAN and it's usage • QinQ implementation • VLAN and managed switch • VLAN and switch chip configuration on RouterBOARDs • **Module 3 laboratory**

Module 4
OSPF
	• What is OSPF?
	• How OSPF protocol works
	  • Hello protocol
	  • Database distribution and LSA types explained
	• OSPF network structure
	  • Areas
	  • Router types
	• OSPF neighbors and neighbor states (DR and BDR election)
	• External Route Distribution methods (type1, type2)
	• Interface cost and interface types (broadcast, NBMA, etc.)
	• SPT calculation algorithm
	• OSPF and multicast (problems with NBMA)
	• Stub, NSSA and area ranges (route aggregation)
	• Virtual links, usage and limitations
	• OSPF routing filters and limitations
	• **Module 4 laboratory**