

# MTCINE outline

CERTIFIED INTER NETWORKING ENGINEER



Duration: 3 days

Outcomes: MTCINE is the highest level MikroTik training available. This is a 3 day training which consists of hands-on labs with BGP, MPLS, VPLS and Traffic Engineering. MTCINE focuses on building an interconnection network between Autonomous Systems (AS), as well as deploying an MPLS/VPLS network to provide more services to customers. By connecting to another AS with BGP, you will be part of the world network and eliminate NAT on your public interface. All Participants who pass the exam will receive an official MikroTik MTCINE certification.

Target Audience: Network engineers and technicians wanting to deploy BGP, MPLS.

Course prerequisites: A good working knowledge of TCP/IP Basics is required. You must be MikroTik MTCNA and MTCRE Certified (current or expired certificate is fine) to sit this course.

Title	Objective
BGP	<ul style="list-style-type: none"> <li>• What is Autonomous System</li> <li>• What is BGP?</li> <li>• Path Vector algorithm</li> <li>• BGP Transport and packet types</li> <li>• iBGP and eBGP + <b>LAB</b></li> <li>• Stub network scenarios and private AS removal + <b>LAB</b></li> <li>• Non-stub scenarios + <b>LAB</b></li> <li>• iBGP and eBGP multihop and loopback usage + <b>LAB</b></li> <li>• Route distribution and routing filters +<b>LAB</b></li> <li>• BGP best path selection algorithm</li> <li>• BGP prefix attributes and their usage + <b>LAB</b></li> <li>• BGP route reflectors and confederations + <b>LAB</b></li> </ul>
MPLS	<ul style="list-style-type: none"> <li>• What is MPLS (basics)</li> <li>• Static Label Mapping + <b>LAB</b></li> <li>• Label Distribution (LDP) + <b>LAB</b></li> <li>• What is Penultimate-hop-popping</li> <li>• MPLS traceroute differences</li> <li>• LDP based VPLS tunnels + <b>LAB</b></li> <li>• What is Bridge Split Horizon + <b>LAB</b></li> <li>• VPLS Control Word (CW) usage</li> <li>• L2MTU importance and MPLS fragmentation</li> <li>• BGP based VPLS + <b>LAB</b></li> <li>• VRF and route leaking + <b>LAB</b></li> <li>• L3VPN (BGP based Layer3 tunnels) + <b>LAB</b></li> <li>• OSPF as CE-PE protocol</li> </ul>
Traffic Engineering	<ul style="list-style-type: none"> <li>• What is traffic engineering and how it works</li> <li>• RSVP, Static path, dynamic path (CSPF) + <b>LAB</b></li> <li>• Bandwidth allocation and bandwidth limitation differences and settings + <b>LAB</b></li> </ul>