

MTCTCE outline

CERTIFIED TRAFFIC CONTROL ENGINEER



Duration: 2 days

Outcomes: MTCTCE is one of the six, second level courses on the MikroTik certification path. This course offers deeper knowledge in management, analysis, control and traffic prioritisation methodologies and network services. The main headlines of this course are Firewall Filter / NAT / Mangle and Quality of Service (QoS). All Participants who pass the exam will receive an official MikroTik MTCTCE certification.

Target Audience: Network Engineers and technicians wanting to deploy and support MikroTik wireless 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
Packet flow diagram	<ul style="list-style-type: none"> • Why this diagram is necessary? • Full overview of all things covered by diagram • Simple examples how packet travels through the diagram (routing, bridging, connection to router etc.) + LAB • More complex examples of diagram usage + LAB
Firewall filter/nat/mangle	<ul style="list-style-type: none"> • Connection tracking • Filter + LAB <ul style="list-style-type: none"> ○ chains (default/custom) ○ all rule "actions" covered ○ most common rule "conditions" covered • NAT + LAB <ul style="list-style-type: none"> ○ chains (default/custom) ○ all rule "actions" covered ○ most common rule "conditions" covered ○ NAT helpers • Mangle + LAB <ul style="list-style-type: none"> ○ chains (default/custom) ○ all rule "actions" covered ○ most common rule "conditions" covered • Some complicated rule "conditions" covered ("advanced", "extra" tab) + LAB • uPNP
Quality of Service	<ul style="list-style-type: none"> • HTB <ul style="list-style-type: none"> ○ HTB general information ○ HTB implementation (queue tree) ○ HTB structure + LAB ○ HTB Dual Limitation + LAB ○ HTB priority + LAB • Burst + LAB • Queue types <ul style="list-style-type: none"> ○ FIFO + LAB ○ SFQ + LAB ○ RED + LAB ○ PCQ + several LABs ○ queue size + LAB • Simple queues + LAB • Simple queue and queue tree interaction
DNS client/cache	<ul style="list-style-type: none"> • Basic configuration + LAB • Static DNS Entry + LAB
DHCP client/relay/server	<ul style="list-style-type: none"> • DHCP communication analysis • DHCP-client identification/ configuration + LAB • DHCP server configuration: + LAB <ul style="list-style-type: none"> ○ DHCP networks ○ DHCP options (build-in and custom) ○ IP Pool

Title	Objective
	<ul style="list-style-type: none">○ advanced DHCP● DHCP relay configuration + LAB
Web Proxy	<ul style="list-style-type: none">● Basic configuration● Proxy rule lists<ul style="list-style-type: none">○ Access list + LAB○ Direct Access list + LAB○ Cache list + LAB● Regular expression + LAB