

دوره پک MTCTCE و MTCUME میکروتیک

شرح مختصر

دوره جامع کیفیت خدمات مدیریت ترافیک شبکه و مدیریت شبکه ها در مقیاس بزرگ

مروری بر دوره

مروری بر دوره

شرکت کنندگان این دوره در پایان خواهند آموخت که چگونه به کمک RouterOS، امکان queues و فایروال و نیز دیگر ویژگی ها کیفیت خدمات ترافیک شبکه (QOS) را مدیریت کنند. مدیریت متمرکز کاربران شبکه های بزرگ مبتنی بر RouterOS از دیگر مهارت هایی است که شرکت کنندگان این دوره فرا خواهند گرفت.

آنچه در این دوره خواهید آموخت

آنچه خواهید آموخت

- مهندسين و تكنسین های شبکه که وظیفه مدیریت جریان ترافیک در شبکه را بر عهده دارند.
- مهندسين و تكنسین های شبکه که وظیفه توسعه و پشتیبانی از شبکه در مقیاس های بزرگ را بر عهده دارند.

سرفصل ها (حضور)

سرفصل ها

MTCTCE

۱- Packet flow diagram



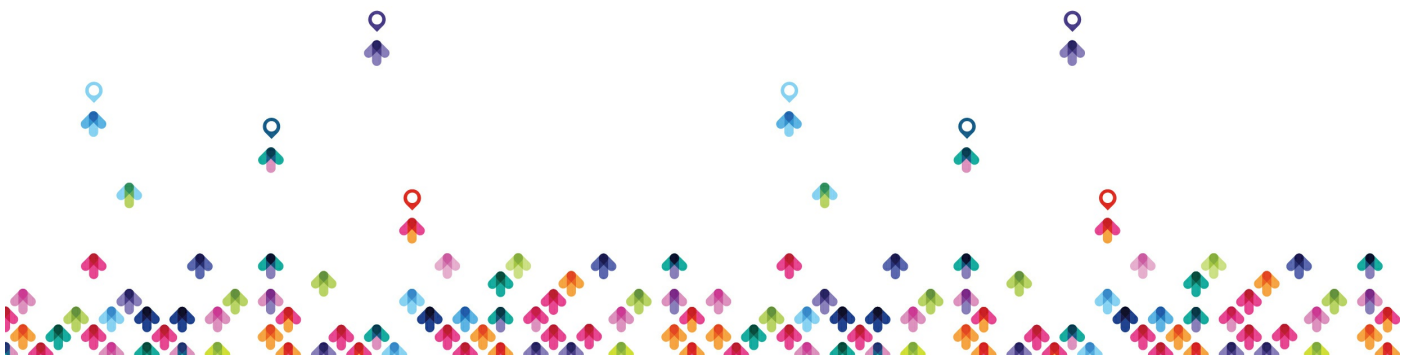
- Why this diagram is necessary?
- Full overview of all things covered by diagram
- Simple examples how packet travels through the diagram (routing, bridging, connection to router etc.) + LAB
- More complex examples of diagram usage + LAB

۲- Firewall filter/nat/mangle

- Connection tracking
 - chains (default/custom)
 - all rule "actions" covered
 - most common rule "conditions" covered
- NAT + LAB
 - chains (default/custom)
 - all rule "actions" covered
 - most common rule "conditions" covered
 - NAT helpers
- Mangle + LAB
 - chains (default/custom)
 - all rule "actions" covered
 - most common rule "conditions" covered
- Some complicated rule "conditions" covered ("advanced", "extra" tab) + LAB
- uPNP

۳- Quality of Service

- HTB
 - HTB general information
 - HTB implementation (queue tree)



- HTB structure + LAB
- HTB Dual Limitation + LAB
- HTB priority + LAB
 - Burst + LAB
 - Queue types
- FIFO + LAB
- SFQ + LAB
- RED + LAB
- PCQ + several LABs
- queue size + LAB
 - Simple queues + LAB
 - Simple queue and queue tree interaction

۴- **DNS client/cache**

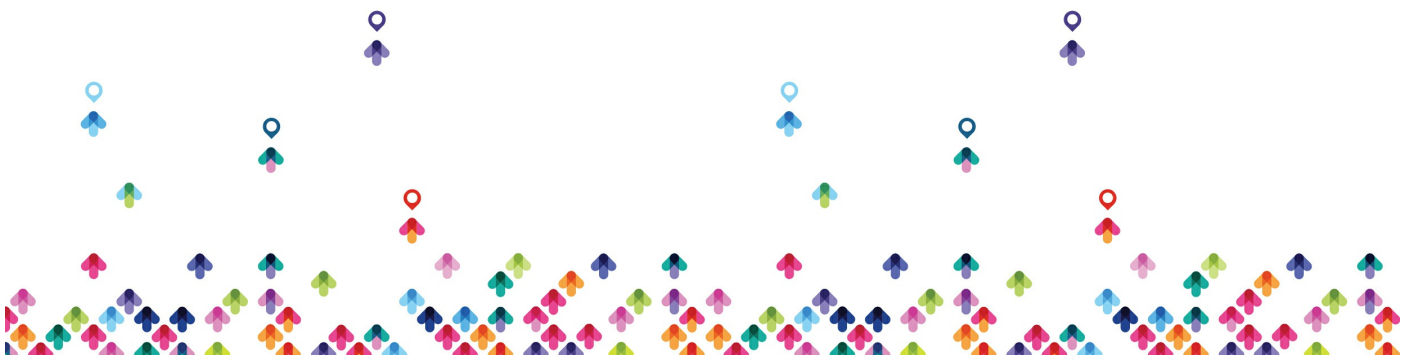
- Basic configuration + LAB
- Static DNS Entry + LAB

۵- **DHCP client/relay/server**

- DHCP communication analysis
- DHCP-client identification/ configuration + LAB
- DHCP server configuration: + LAB
- DHCP networks
- DHCP options (build-in and custom)
- IP Pool
- advanced DHCP
 - DHCP relay configuration + LAB

۶- **Web Proxy**

- Basic configuration

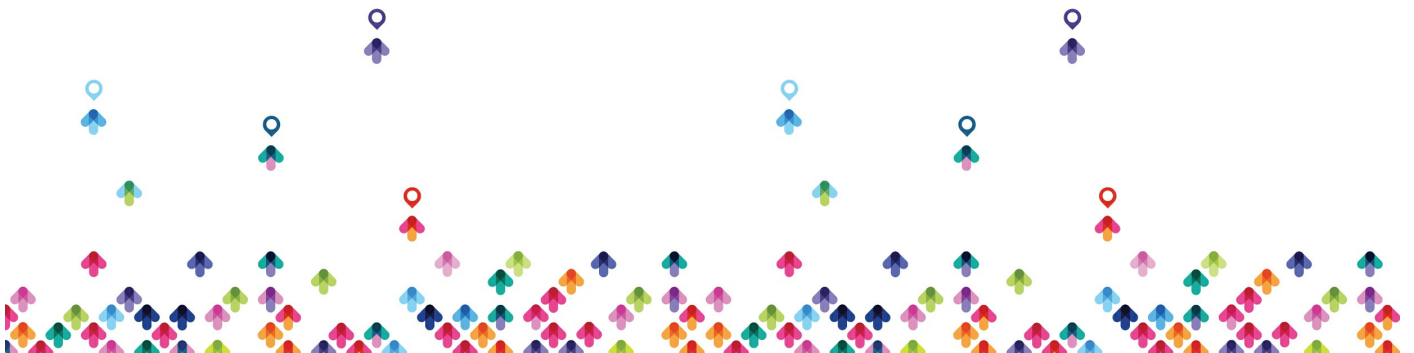


- Proxy rule lists
- Access list + LAB
- Direct Access list + LAB
- Cache list + LAB
- Regular expression + LAB

MTCUME

Module \ : PPP

- PPP Profile
- Local and remote addresses
- Incoming and outgoing filters
- Address list
- Change TCP-MSS
- Use encryption
- Session timeout
- Rate-limit configuration
- Only-one setting
- PPP Secret



- Service and Profile
- Local and Remote address
- Routes configuration
- Limit Bytes In/Limit Bytes Out configuration
- IP Pool
- Set addresses ranges
- Next pool options

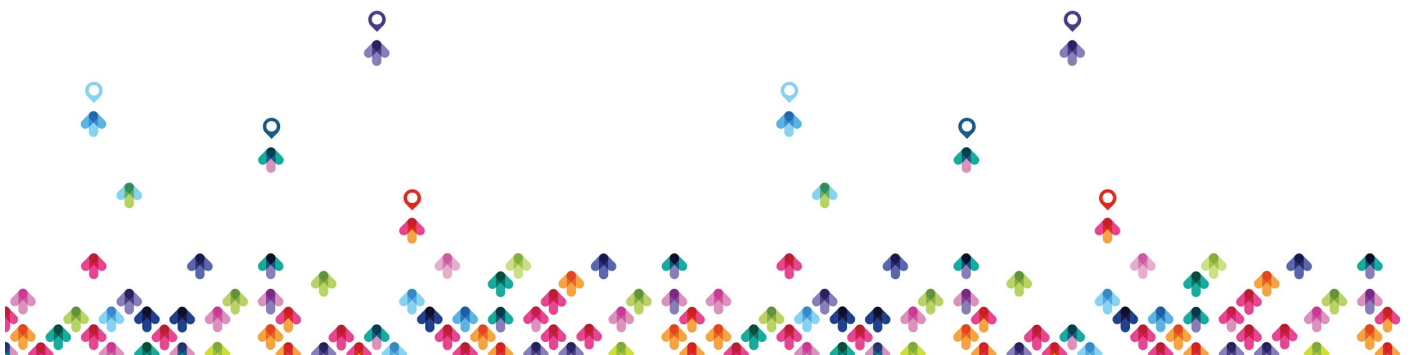
Module ۲ : PPTP, L2TP

- PPTP and L2TP
- Theory
- Comparison
- PPTP Client configuration
- Client setup
- Set profile
- Dial on demand
- Add default route and static routes

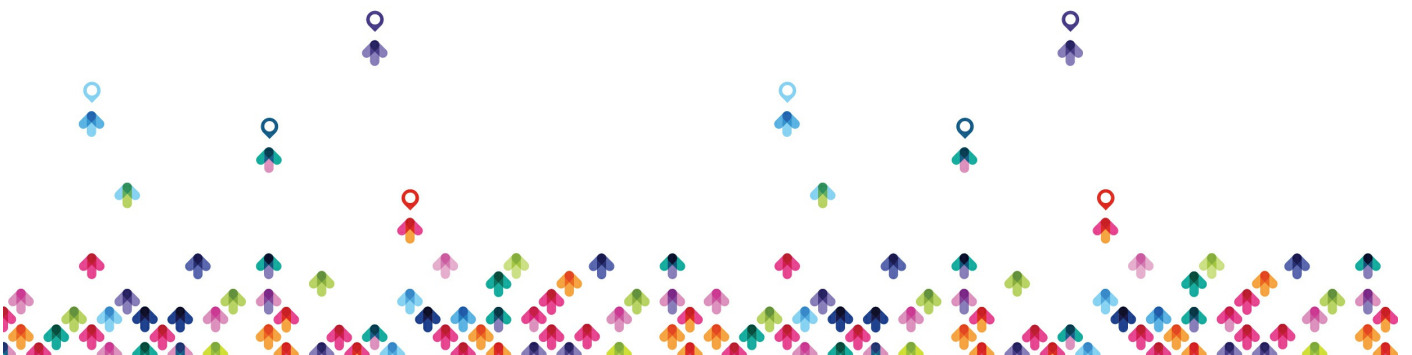


- PPTP Server configuration
 - Enable server
 - Setup profiles
 - Add clients to PPP secret
 - Set static interfaces for clients
- L2TP Client configuration
 - Client setup
 - Configure profile
 - Dial on demand
 - Add default route and static routes
- L2TP Server configuration
 - Enable server
 - Set profiles
 - Add clients to PPP secret
 - Set Static interfaces for clients

Module ۳ : PPPoE



- PPPoE server and client
 - Theory
 - Usage environment
 - Comparison to other PPP protocols
- PPPoE client configuration
 - Client setup
 - Select interface
 - Service name
 - Configure profile
- PPPoE Server configuration
 - Enable PPPoE server
 - Set profiles
 - Add clients to PPP secret
 - Add Static interfaces for clients
 - Secure server by removing any IP address from PPPoE server interface
- Encryption



- Set profile without encryption
- Set profile with encryption
- Configure PPPoE client without encryption
- Interface ECMP
- Set ECMP routes for PPP interfaces

Module ۴ : Bridging

- L۲TP and EoIP
- Set L۲TP tunnel
- Set EoIP tunnel
- Create bridge and add necessary interfaces to ports
- Confirm you have Ethernet connectivity between remote nodes
- L۲TP and VPLS
- Set L۲TP tunnel
- Set VPLS tunnel
- Create bridge and add necessary interfaces to ports
- L۲TP and BCP



- Set L2TP tunnel
- Use BCP to bridge PPP interface
- Add to bridge necessary interface
 - Multilink Protocol
- Enable multilink by specifying correct MRRU settings
- Disable mangle rules for MSS adjustment
 - MLPPP (optional)
- Setup client and specify multiple interfaces for one client
- Set PPPoE server with MLPPP support

Module ۵ : IPsec

- Introduction
 - Theory and concepts
 - Comparison to other VPN protocols
- IPsec Peer
 - Use different authentication methods
 - IPsec exchange modes



- Encryption and hash algorithms
- NAT-Traversal
- Lifetime and lifebytes
- DPD protocol
- Policy
- IPSec protocol and action
- Tunnels
- Generate dynamic Policy
- Proposal
- Encryption and authentication algorithms
- Lifetime
- PFS
- Installed-SA
- Flush SA
- Create IPSec between two routers with NAT
- Set peer



- Set policy
- Set NAT rules
- Confirm the secure link is established

Module ۶ : HotSpot

- Introduction
 - Concepts
 - Usage environments
 - Setup HotSpot with default settings
- HotSpot Login Methods
 - HTTP CHAP/PAP
 - MAC
 - Cookie
 - HTTPS
 - Trial
 - RADIUS
- Users



- Add users
- Set MAC-address for user
- Set MAC-address for username
- Limit Uptime and Limit Bytes In/Out
- Reset limits for user
- Monitor Users
 - Host Table
 - Active Table
 - SNMP for users
- Monitor Users
 - Host Table
 - Active Table
 - SNMP for users
- Profile
 - Keepalive timeout
 - Shared users



- Rate-Limit
- Address-list
- Incoming/Outgoing filter
- Incoming/Outgoing Packet Mark
- Bypass HotSpot
- Walled garden
- Walled garden IP
- IP binding
- Customize HotSpot
- Advertisement
- Customize pages

Module ۷ : Radius

- RADIUS client

Add radius client

Set service

Use RADIUS for the specific service



- RADIUS server
- User manager
- Install the latest user-manager
- Add routers
- Add users
- Set profile
- RADIUS incoming

پیش نیازها

پیش نیازها

- [دوره میکروتیک MTCNA | آموزش MTCNA](#)
- [دوره MTCRE میکروتیک](#)

دوره های مرتبط

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- [دوره میکروتیک MTCNA | آموزش MTCNA](#)
- [دوره MTCRE میکروتیک | MikroTik Certified Routing Engineer](#)

