

# MTCUME training outline

## Course prerequisites - MTCNA certificate

Title	Objective
<b>Module 1 PPP</b>	<ul style="list-style-type: none"><li>• PPP Profile + LAB;</li><li>• Local and Remote addresses;</li><li>• Incoming/Outgoing Filters;</li><li>• Address List;</li><li>• Change TCP-MSS;</li><li>• Use Encryption;</li><li>• Session Timeout;</li><li>• Rate-Limit configuration;</li><li>• Only-one setting;</li><li>• PPP Secret + LAB;</li><li>• Service and Profile;</li><li>• Local and Remote address;</li><li>• Routes configuration;</li><li>• Limit Bytes In/Limit Bytes Out configuration;</li><li>• IP Pool;</li><li>• Set addresses ranges;</li><li>• Next Pool options;</li></ul>

Title	Objective
<b>Module 2 PPTP/L2TP</b>	<ul style="list-style-type: none"><li>• PPTP and L2TP;</li><li>• Theory;</li><li>• Comparison;</li><li>• PPTP Client configuration + LAB;</li><li>• Client Setup;</li><li>• Set profile;</li><li>• Dial-on-Demand;</li><li>• Add Default Route and static routes;</li><li>• PPTP Server configuration + LAB;</li><li>• Enable server;</li><li>• Setup profiles;</li><li>• Add clients to /ppp secret;</li><li>• Set static interfaces for clients;</li><li>• L2TP Client configuration + LAB;</li><li>• Client setup;</li><li>• Configure profile;</li><li>• Dial-on-Demand;</li><li>• Add Default Route and static routes;</li><li>• PPTP Server configuration + LAB;</li><li>• Enable server;</li><li>• Set profiles;</li><li>• Add clients to /ppp secret;</li><li>• Set Static interfaces for clients;</li></ul>

Title	Objective
<b>Module 3</b> <b>PPPoE</b>	<ul style="list-style-type: none"> <li>• PPPoE server and client;</li> <li>• Theory;</li> <li>• Usage environment;</li> <li>• Comparison to other PPP protocols;</li> <li>• PPPoE client configuration + LAB;</li> <li>• Client setup;</li> <li>• Select interface;</li> <li>• Service name</li> <li>• Configure profile;</li> <li>• PPPoE Server configuration + LAB;</li> <li>• Enable PPPoE server;</li> <li>• Set profiles;</li> <li>• Add clients to /ppp secret;</li> <li>• Add Static interfaces for clients;</li> <li>• Secure server by removing any IP address from PPPoE server interface;</li> <li>• Encryption + LAB;</li> <li>• Set profile without encryption;</li> <li>• Set profile with encryption;</li> <li>• Configure PPPoE client without encryption;</li> <li>• Interface ECMP;</li> <li>• set ECMP routes for ppp interfaces;</li> </ul>

Title	Objective
<b>Module 4</b> <b>PPP Bridging</b>	<ul style="list-style-type: none"> <li>• L2TP and EoIP + LAB;</li> <li>• Set L2TP tunnel;</li> <li>• Set EoIP tunnel;</li> <li>• Create bridge and add necessary interfaces to ports;</li> <li>• Confirm you have Ethernet connectivity between remote nodes;</li> <li>• L2TP and VPLS + LAB;</li> <li>• Set L2TP tunnel;</li> <li>• Set VPLS tunnel;</li> <li>• Create bridge and add necessary interfaces to ports;</li> <li>• L2TP and BCP + LAB;</li> <li>• Set L2TP tunnel;</li> <li>• Use BCP to bridge PPP interface;</li> <li>• Add to bridge necessary interface;</li> <li>• Multilink Protocol;</li> <li>• Enable Multilink by specifying correct MRRU settings;</li> <li>• Disable Mangle rules for MSS adjustment;</li> <li>• MLPPP [optional];</li> <li>• Setup client and specify multiple interfaces for one client;</li> <li>• Set PPPoE server with MLPPP support;</li> </ul>

Title	Objective
<b>Module 5</b> <b>IPSec</b>	<ul style="list-style-type: none"> <li>• Introduction;</li> <li>• Theory and concepts;</li> <li>• Comparison to other VPN protocols;</li> <li>• IPSec Peer;</li> <li>• Use different authentication methods;</li> <li>• IPSec exchange modes;</li> <li>• Encryption and Hash algorithms;</li> <li>• NAT-Traversal;</li> <li>• Lifetime and Lifebytes;</li> <li>• DPD protocol;</li> <li>• Policy;</li> <li>• IPsec protocol and action;</li> <li>• Tunnels;</li> <li>• Generate dynamic Policy;</li> <li>• Proposal;</li> <li>• Encryption and Authentication algorithms;</li> <li>• Lifetime;</li> <li>• PFS;</li> <li>• Installed-SA;</li> <li>• Flush SA;</li> <li>• Create IPSec between two routers with NAT + LAB;</li> <li>• Set peer;</li> <li>• Set policy;</li> <li>• Set NAT rules;</li> <li>• Confirm the secure link is established;</li> </ul>

Title	Objective
<b>Module 6</b> <b>HotSpot</b>	<ul style="list-style-type: none"> <li>• Introduction;</li> <li>• Concepts;</li> <li>• Usage environments;</li> <li>• Setup HotSpot with default settings + LAB;</li> <li>• HotSpot Login Methods + LAB;</li> <li>• HTTP CHAP/PAP;</li> <li>• MAC;</li> <li>• Cookie;</li> <li>• HTTPS;</li> <li>• Trial;</li> <li>• RADIUS</li> <li>• Users + LAB;</li> <li>• Add users;</li> <li>• Set MAC-address for user;</li> <li>• Set MAC-address for username;</li> <li>• Limit Uptime and Limit Bytes In/Out;</li> <li>• Reset limits for user;</li> <li>• Monitor Users;</li> <li>• Host Table;</li> <li>• Active Table;</li> <li>• SNMP for users;</li> <li>• Profile + LAB;</li> <li>• Keepalive timeout;</li> <li>• Shared users;</li> <li>• Rate-Limit;</li> <li>• Address-list;</li> <li>• Incoming/Outgoing filter;</li> <li>• Incoming/Outgoing Packet Mark;</li> <li>• Bypass HotSpot;</li> <li>• walled-garden;</li> <li>• walled-garden ip;</li> <li>• ip-binding;</li> <li>• Customize HotSpot + LAB;</li> <li>• Advertisement;</li> <li>• Customize pages;</li> </ul>

Title	Objective
<b>Module 7</b> <b>RADIUS</b>	<ul style="list-style-type: none"> <li>• RADIUS client + LAB;</li> <li>• add radius client;</li> <li>• set service;</li> <li>• use-radius for the specific service;</li> <li>• RADIUS server;</li> <li>• User Manager + LAB;</li> <li>• Install the latest user-manager;</li> <li>• Add routers;</li> <li>• Add users;</li> <li>• Set profile;</li> <li>• RADIUS incoming</li> </ul>