

MikroTik Certified Network Associate (MTCNA) DUMPS

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1. For static routing functionality, additionally to the RouterOS “system” package, you will also need the following software package:

- A. no extra package required
- B. advanced-tools
- C. dhcp
- D. routing

2. Action of type “masquerade” in IP -> Firewall -> NAT is a “special case” of the following action:

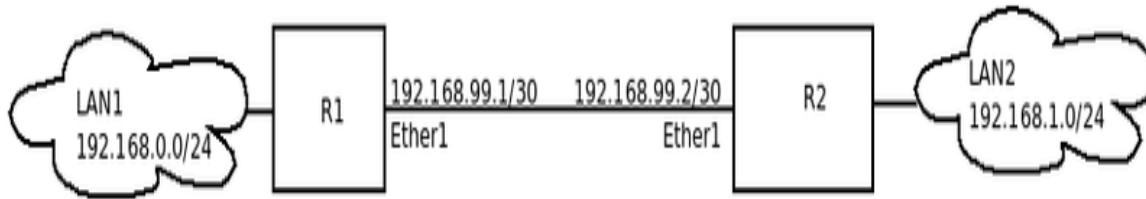
- A. redirect
- B. dst-nat
- C. src-nat
- D. same
- E. netmap

3. Which route will be used to reach host 192.168.1.55?

```
/ip route  
add disabled=no distance=1 dst-address=192.168.1.0/24 gateway=1.1.1.1  
add disabled=no distance=1 dst-address=192.168.1.0/25 gateway=2.2.2.2  
add disabled=no distance=1 dst-address=192.168.0.0/16 gateway=3.3.3.3
```

- A. Route via gateway 1.1.1.1
- B. Route via gateway 2.2.2.2
- C. Route via gateway 3.3.3.3

4. Consider the following diagram. Assuming that all the necessary configuration has already been done on R2 (proxy-arp is disabled), to communicate from a device on LAN1 to a device on LAN2, which of the following configurations on R1 would enable this?



- A. /ip route add dst-address=0.0.0.0/0 gateway=Ether1
- B. /ip route add dst-address=0.0.0.0/0 gateway=192.168.99.2
- C. /ip route add dst-address=192.168.1.0/24 gateway=192.168.99.2
- D. /ip route add dst-address=192.168.0.0/24 gateway=192.168.0.1
- E. /ip route add dst-address=192.168.1.0/24 src-address=192.168.0.0/24 gateway=192.168.99.2

5. Which port(s) and protocol(s) are used by MikroTik RouterOS DNS forwarder:

- A. UDP 80
- B. UDP 53
- C. TCP 80
- D. TCP 53

6. Why it is useful to set a Radio Name on a wireless interface?

- A. To identify a wireless access point on your mobile device
- B. To identify a RouterOS station in a list of connected clients
- C. To identify a station in Neighbor discovery
- D. To identify a station in the Access List

7. Is action=masquerade allowed in the chain=dstnat?

- A. yes, but it works only for incoming connections
- B. yes, but only if dst-addr is specified
- C. no
- D. yes

9. It is required to set up a web server residing on a private subnet in a LAN to be accessible from the public Internet. The web server is directly connected to a router which is facing the public Internet. Only the web server port should be accessible from the public. Which of the following configuration steps must be met (select all that apply):

- A. Connection tracking must be enabled on the router
- B. The private IP address of the web server should be routable on the Internet
- C. The public IP address of the web server must be installed on the router
- D. In IP firewall NAT there should be a dst-nat rule between the public IP address of the webserver and the private IP of the web server
- D. A static route from the router to the web server has to be manually created

9. In the Route List, the identification DAb for a route stands for

- A. direct – active – bgp
- B. direct – acknowledge – backup
- C. dynamic – active – bgp
- D. dynamic – active – backup

10. Mark all correct answers about wireless:

- A. The only way to prevent wireless client connections is to disable wireless interface
- B. Forwarding between client can be enable by using wireless access-list
- C. Wireless access-list on the access point (AP) can be used to allow or deny client connections to your AP
- D. /ip firewall filter allows to deny authentication to the AP

11. To be able to do NAT the connection tracking does not need to be enabled

false

12. Router has Wireless and Ethernet client interfaces, all client interfaces are bridged. To create a DHCP service for all clients you must configure DHCP server on

- A. Ethernet and wireless interfaces
- B. Every bridge port
- C. Only on bridge interface
- D. DHCP service is not possible in this setup

13. Netinstall can be used to

- A. Install package for different hardware architecture
- B. Install different software version (upgrade or downgrade)**
- C. Keep configuration, but reset a lost admin password
- D. Reinstall software without losing licence**

14. Which is the default port of IP-Winbox?

- A. TCP 80
- B. TCP 8291**
- C. UDP 8291
- D. TCP 8192

15. What can be used as “Target” in the simple queue?

Note: The “client” is the one accessing the resources, the “server” is the one providing.

- A. Client MAC address
- B. Server IP address
- C. Address list name
- D. Client IP address**

16. In RouterOS queue configurations the word “total” usually represents

- A. download – upload
- B. download
- C. upload + download**
- D. upload

17. If ARP=reply-only is configured on an interface, the interface will

- A. add new MAC addresses in '/ip arp' list
- B. accept all IP addresses listed in '/ip arp' as static entries
- C. accept all MAC-addresses listed in '/ip arp' as static entries
- D. add new IP addresses in '/ip arp' list
- E. accept IP and MAC address combinations listed in '/ip arp' list**

18. Which type of encryption could be used to establish a connection with a simple passkey without using a 802.1X authentication server?

- A. WPA PSK/WPA2 PSK
- B. WPA EAP/WPA2 EAP**

19. Choose the correct PCQ argument values to allow 256kbps maximum download and upload for each client:

- A. kind=pcq pcq-rate=5000000 pcq-classifier=dst-address
- B. kind=pcq pcq-rate=256000 pcq-classifier=dst-address**
- C. kind=pcq pcq-rate=5000000 pcq-classifier=src-address
- D. kind=pcq pcq-rate=256000 pcq-classifier=src-address**
- E. kind=pcq pcq-rate=1256000 pcq-classifier=dst-address

20. Which option can be used when you want to prevent access from one specific address to your router web interface?

- A. WWW service from IP Service**
- B. Firewall Filter Chain Input**
- C. Firewall Filter Chain Forward
- D. Group setting for System users

21. By default info, error and warning messages are logged into memory of your RouterOS device. You can add logging of visited web-pages and other message topics:

true

22. Which facility should be used, to ensure that clients with radio signal strength poorer than -90 dBm can't connect to interface wlan1 on MikroTik AP? Choose one answer:

- A. Access list**
- B. Connect list
- C. Registration table
- D. Security profiles

23. What will happen if "Default forward" is disabled in wireless menu on a RouterOS AP?

- A. Only clients with matching access control list rule will be able to connect to the AP
- B. Clients will not be able to connect to the AP
- C. Clients will not be able to communicate with each other**
- D. AP will not be able to communicate with the clients

24. Which configuration menu should you use to change router's Winbox default port?

- A. /ip firewall service-ports
- B. /ip firewall filter
- C. /system resource
- D. /ip service**

25. When setting up a server, PPP Secrets are used for

- A. Router users
- B. IPSec clients
- C. PPPoE clients**
- D. PPP clients
- E. L2TP clients**
- F. PPTP clients**
- G. SSTP clients**

26. Router firewall rules are:

```
/ip firewall filter add chain=forward action=jump jump-target=custom
```

```
/ip firewall filter add chain=custom action=passthrough
```

```
/ip firewall filter add chain=forward action=log
```

When traffic reaches the end of the 'chain=custom'. What will happen next?

- A. Traffic will be logged in chain=forward**
- B. Traffic will be dropped in chain=custom
- C. Traffic will be accepted in chain=custom
- D. Traffic will be accepted in chain=output

27. Which port does PPTP use by default?

- A. TCP 1723
- B. TCP 1721
- C. UDP 1723
- D. UDP 1721

28. What is the meaning of the status letter “R” on a PPPoE client interface in RouterOS Interface menu?

- A. Running
- B. Remote
- C. Radius
- D. Reconnecting

29. When using routing option 'check-gateway=ping' what is the ICMP echo request interval (in seconds)?

- A. 30s
- B. 60s
- C. 20s
- D. 10s

30. To connect a MikroTik router to a wireless access point, you have to:

- A. Use the same band (5 GHz, 2.4 GHz, ...) as on the access point
- B. Use the same SSID as on the access point
- C. Use the same radio name as on the access point

31. A RouterBOARD clock is configured in '/system clock'. The clock resets to default after each reboot. Select the best solution for the problem.

- A. Configure '/system ntp client' and set a valid and reachable NTP server address
- B. Open the router and ensure the CMOS battery is fine
- C. Write a script in '/system script' to set the clock
- D. Configure '/system ntp server' and set a valid and reachable NTP client address

32. Besides enabling the interface what is the minimal required wireless configuration needed to be set (after interface configuration is reset) to create an access point?

- A. frequency
- B. DFS mode
- C. band
- D. mode**
- E. scan-list
- F. radio name
- G. SSID
- H. WDS

33. Router has wireless and ethernet client interfaces, all client interfaces are bridged. To create a DHCP service for all clients, DHCP server must be configured on:

- A. Only on the bridge interface**
- B. DHCP service is not possible in this setup
- C. Every bridge port
- D. Ethernet and wireless interfaces

34. Which of the following is true for connection tracking

- A. Connection tracking must be enabled to be able to use all firewall features**
- B. Connection tracking must be enabled for NAT'ed network**
- C. Disable connection tracking for mangle to work
- D. Enabling connection tracking reduces CPU usage in RouterOS

35. Select how many different priority values are available for queues in MikroTik RouterOS:

- A. 8**
- B. 16
- C. 0
- D. 1

36. The 'connect-list' of wireless interfaces is used

- A. for specifying APs to connect to
- B. for configuring SSID on the interface
- C. for preventing communications between the clients
- D. for specifying APs not to connect to

37. Simple Queue number 0 defines 2M for upload and download for target IP 10.10.0.33. Simple Queue number 1 defines 4M for upload and download for target IP 10.10.0.33.

The maximum bandwidth that the client 10.10.0.33 is be able to obtain is:

- A. 6M upload/download
- B. 4M upload/download
- C. 2M upload/download
- D. 0M upload/download

38. The highest queue priority is

- A. 256
- B. 8
- C. 16
- D. 1

39. How long is level 1 (free) license valid?

- A. Infinite time
- B. 1 year
- C. 24 hours
- D. 1 month

40. When sending out an ARP request, an IP host is expecting what kind of address for an answer?

- A. IP address
- B. MAC Address
- C. VLAN ID
- D. 802.11g

41. Select statements that are true regarding the following command:

/ip route add dst-address=172.16.4.0/24 gateway=192.168.4.2

- A. The subnet mask for the destination network is 255.255.255.0
- B. The command is used to establish a static route
- C. The default administrative distance of 100 is used
- D. The command is used to configure the default route

42. What kind of packet is marked by connection-state=established matcher?

- A. Packet belongs to an existing connection, for example a reply packet or a packet which belongs to already replied connection
- B. Packet is related to, but not part of an existing connection
- C. Packet does not correspond to any known connection
- D. Packet begins a new TCP connection

43. What is the correct action for a NAT rule on a router that should intercept SMTP traffic and send it over to a specified mail server?

A. tarpit

B. passthrough

C. redirect

D. dst-nat

44. A MikroTik PPPoE Server can be used only within a broadcast domain, that is, users can not run PPPoE protocol with a server if there is a router between the customer and that PPPoE server.

true

45. Assuming DHCP relay is not being used, how many DHCP servers can be configured per interface on RouterOS?

A. 2

B. 5

C. Unlimited

D. 1

46. To block communications between wireless clients connected to the same access point interface, you should set

- A. 'default-forwarding=no'
- B. 'default-authentication=no'
- C. 'default-authentication=no' and 'default-forwarding=no'
- D. 'max-station-count=1'

47. Which option in the configuration of a wireless card must be disabled to cause the router to permit ONLY known clients listed in the access list to connect?

- A. Default Authenticate
- B. Enable Access List
- C. Security Profile
- D. Default Forward

48. Select which RouterOS facilities can be used to monitor (observe addresses and ports) in real-time all new connections that are processed by the router:

- A. Tool torch
- B. Queue tree
- C. Firewall connection tracking
- D. Firewall counters

49. Which of the following routing status flags are possible in RouterOS:

- A. C = Connected
- B. S = Static
- C. D = Drop
- D. A = Active

50. What is possible with Netinstall?

- A. MikroTik RouterOS reinstall
- B. MikroTik RouterOS configuration reset
- C. MikroTik RouterOS password reset with saving router's configuration

51. What does the firewall action "Redirect" do? Select all true statements.

- A. Redirects a packet to a specified IP
- B. Redirects a packet to the router
- C. Redirects a packet to a specified port on the router
- D. Redirects a packet to a specified port on a host in the network

52. What is necessary for PPPoE client configuration?

- A. Interface (on which PPPoE client is going to work)
- B. Static IP address on PPPoE client interface
- C. Wireless interface configured as an access point
- D. ip firewall nat masquerade rule

53. Possible actions of ip firewall filter are:

- A. tarpit
- B. tarp
- C. accept
- D. log
- E. netmap
- F. bounce

54. Which of the following would prevent unknown clients from connecting to your AP? Choose the BEST answer.

- A. Configure the radius server under '/radius'
- B. Check the 'Do not permit unknown client' box in the wireless configuration
- C. Uncheck 'Default Authenticate' in the wireless card configuration, and add each known client's MAC address to your access-list configuration ensuring that you enable 'authenticate' in the entry
- D. Uncheck 'Default Authenticate' in the wireless card configuration, and add each known client's MAC address to your connect-list configuration
- E. Add each known client's MAC address to your access-list configuration is the only step needed

55. DHCP server is configured on an ether1 interface of a RouterOS device. IP address 192.168.0.100/24 is assigned to the same interface. For this DHCP server to issue IP addresses from the 192.168.0.0/24 network that do not overlap with statically assigned one the valid IP pool ranges are:

- A. 192.168.0.101-192.168.0.254
- B. 192.168.0.1-192.168.0.255
- C. 192.168.0.1-192.168.0.99
- D. 192.168.0.1-192.168.0.14
- E. 192.169.0.1-192.169.0.254

56. When viewing the routes in Winbox, some routes will show "DAC" in the first column. These flags mean:

- A. Dynamic, Active, Connected
- B. Direct, Available, Connected
- C. Dynamic, Available, Created
- D. Dynamic, Active, Console

57. Netinstall can be used to

- A. Reinstall software without losing licence
- B. Install package for different hardware architecture
- C. Install different software version (upgrade or downgrade)
- D. Keep configuration, but reset a lost admin password

58. The 'check-gateway' option is enabled for one route. Select all statements that are true:

- A. Check gateway option can be configured for Ping, ARP and RARP (reverse ARP)
- B. Gateway is checked every 10 seconds and after a single failure, the gateway is considered unreachable
- C. Gateway is checked every 10 seconds and after 2 failures, the gateway is considered unreachable
- D. In case of failure of the gateway, routes pointing to that gateway will become inactive

59. Why is it useful to set a Radio Name on a wireless interface?

- A. To identify a station in the Access List
- B. To identify a station in Neighbor discovery
- C. To identify a wireless access point on your mobile device
- D. To identify a RouterOS station in a list of connected clients**

60. You can control the bandwidth of a client connected to an AP using the menu /interface wireless access-list (assume the client uses MikroTik RouterOS).

true

61. You have 802.11b/g wireless card. What frequencies are available to you?

- A. 2327MHz
- B. 5210MHz
- C. 2412MHz**
- D. 2422MHz**

62. Mark all correct answers about wireless:

- A. /ip firewall filter allows to deny authentication to the AP
- B. Wireless access-list on the access point (AP) can be used to allow or deny client connection to your AP**
- C. The only way to prevent wireless client connections is to disable wireless interface
- D. Forwarding between clients can be enabled by using wireless access-list**

63. Your Company has been assigned a 172.16.25.0/25 network from your ISP. What are the possible options to divide the network into subnets ?

- A. two times /26**
- B. one /23 and one /27
- C. four times /27**
- D. two time /24

64. NAT rule is going to catch SMTP traffic and send it to a specific mail server. What is the correct action for a NAT rule?

- A. redirect
- B. passthrough
- C. tarpit
- D. dst-nat**

65. When making router configuration export to file which of the statements are true:

- A. Export file name should be provided**
- B. The export file can be edited with a standard text editor after its creation**
- C. Winbox usernames and passwords are backed up
- D. Only full router configuration can be exported

66. To block traffic going from a laptop in internal network to the Internet through a RouterOS device, which firewall chain should be used?

- A. input
- B. output
- C. forward**
- D. static

67. There are two routes in the routing table:

0 dst-addr=10.1.1.0/24 gateway=5.5.5.5

1 dst-addr=10.1.1.4/30 gateway=5.6.6.6

Which gateway will be used to get to the IP address 10.1.1.6?

- A. 5.6.6.6**
- B. 5.5.5.5
- C. both - half of the traffic will be routed through one gateway, half through the other
- D. the required route is not in the routing table

68. To set up masquerading of the network 192.168.0.0/24, configured on the interface ether1, you should add rule

- A. /ip firewall nat add chain=srcnat src-address=192.168.0.0/24 action=masquerade
- B. /ip firewall nat add chain=srcnat src-address=192.168.1.0/24 action=masquerade
- C. /ip firewall nat add chain=dstnat in-interface=ether1 src-address=192.168.0.0/24 action=masquerade
- D. /ip firewall nat add chain=dstnat out-interface=ether1 src-address=192.168.0.0/24 action=masquerade

69. What is the correct action to be specified in the NAT rule to hide a private network when communicating to the outside world?

- A. passthrough
- B. allow
- C. masquerade
- D. tarpit

70. Mark all packages required for PPPoE server on MikroTik RouterOS

- A. user-manager
- B. synchronous
- C. ppp
- D. radius
- E. system

71. A client that has successfully connected to a wireless network is considered to be which of the following? Choose all that apply:

- A. Unassociated
- B. Associated
- C. Unauthenticated
- D. Authenticated

72. Which of the protocols below is used by Netinstall?

A. arp

B. bootp

C. dhcp

D. rarp

73. Mark correct answer for action=dstnat in chain=dst-nat.

A. Change source address and port

B. Add destination address to address-list

C. NAT source address

D. Change destination address and port

74. MikroTik RouterOS commands can be run once a day by:

A. /system watchdog

B. /system scheduler

C. /system cron

D. /system log

75. /ip firewall nat

```
add chain=dstnat in-interface=ether1 protocol=tcp dst-port=3389 action=dst-nat to-address=192.168.1.2 to-ports=81
```

The command shown above:

A. Forwards all TCP traffic from 192.168.1.2 to port 81 of the interface ether1

B. Forwards any TCP traffic incoming through ether1 port 81 to the port 3389 of the internal host 192.168.1.2

C. Forwards any TCP traffic incoming through ether1 port 3389 to the port 81 of the internal host 192.168.1.2

D. Adds IP address 192.168.1.2 to the interface ether1

76. Action=redirect allows you to make

- A. A transparent HTTP proxy
- B. Forward DNS requests to another device
- C. Enable a local service
- D. A transparent DNS cache

77. /ip route configuration on router,

```
/ip route add gateway=192.168.0.1  
/ip route add dst-address=192.168.1.0/24 gateway=192.168.0.2  
/ip route add dst-address=192.168.2.0/24 gateway=192.168.0.3  
/ip route add dst-address=192.168.3.0/26 gateway=192.168.0.4
```

Router needs to send packets to 192.168.3.240. Which gateway will be used?

- A. 192.168.0.2
- B. 192.168.0.3
- C. 192.168.0.1
- D. 192.168.0.4

78. When frequency mode is set to 'regulatory domain' in wireless interface configuration:

- A. Allows any transmit power to be set with any frequency
- B. It ignores transmit power restrictions, but obeys frequency limitations for the value of country selected
- C. It restricts operation to only the permitted channels and transmit powers according to the value of country selected
- D. It ignores all restrictions

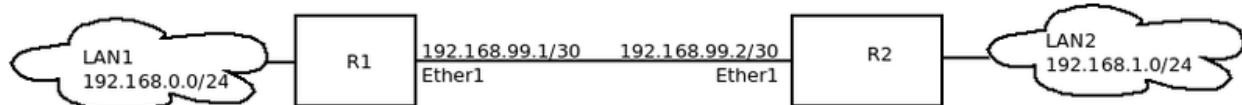
79. Mark correct statement.

- A. Backup files are not editable
- B. Backup files are editable
- C. Export files are not editable

80. Is it possible to limit how many clients are able to connect to an access point (1x 'ap bridge' instance)?

- A. Yes, but only with access-lists
- B. No it's not possible at all
- C. Yes, but only for 5GHz interfaces
- D. Yes**

81. Consider the following network diagram.



In R1, you have the following configuration:

```
/ip route  
add dst-address=192.168.1.0/24 gateway=192.168.99.2  
  
/ip firewall nat  
  
add chain=srcnat out-interface=Ether1 action=masquerade
```

On R2, if you wish to prevent all access to a server located at 192.168.1.10 from LAN1 devices, which of the following rules would be needed?

- A. /ip firewall filter add chain=forward src-address=192.168.0.0/24 dst-address=192.168.1.10 action=drop
- B. /ip firewall nat add chain=dstnat src-address=192.168.99.1 dst-address=192.168.1.10 action=drop
- C. /ip firewall filter add chain=forward src-address=192.168.99.1 dst-address=192.168.1.10 action=drop**
- D. /ip firewall filter add chain=input src-address=192.168.99.1 dst-address=192.168.1.10 action=drop

82. What can be monitored by Torch tool?

- A. Vlan ID**
- B. Dst. Port**
- C. Protocol**
- D. None of the mentioned
- E. Dst. Address**
- F. Src. Address**

83. Action=redirect is applied in

- A. chain=forward
- B. chain=dstnat**
- C. chain=srcnat

84. Which firewall chain should be used for filters that protect your router interface?

- A. forward
- B. pre-routing
- C. post-routing
- D. input**

85. What protocol is used for Ping and Trace route (not MTR)?

- A. IP
- B. DHCP
- C. UDP
- D. TCP
- E. ICMP**

86. Sending a broadcast ARP message (FF:FF:FF:FF:FF:FF) is used to:

- A. For a device to promote itself in broadcast network
- B. Address conflict detection in IPv4
- C. Send a request to a destination in the same network to clarify a MAC address of a host**
- D. It is not possible to send such message

87. Which of the following keystrokes enables safe mode in console:

- A. Ctrl+d
- B. Ctrl+s
- C. Ctrl+x**
- D. Ctrl+c

88. Which port does SSTP use by default?

A. UDP 443

B. TCP 443

C. UDP 80

D. TCP 80

89. Is action=masquerade allowed in chain=dstnat?

A. no

B. yes, but only if dst-addr is specified

C. yes, but it works only for incoming connections

D. yes

90. How many wireless clients can connect, when wireless card is configured to mode=bridge ?

A. 1

B. 2007

C. 2

D. 100

91. What kind of users are listed in the "/user" menu?

A. wireless users

B. hotspot users

C. router users

D. pptp users

92. In which order are the entries in Access List and Connect List processed?

A. By interface name

B. In a random order

C. In sequence order

D. By Signal Strength Range

93. Action of type 'masquerade' in 'IP -> Firewall -> NAT' is a 'special case' of the following action:

A. dst-nat

B. netmap

C. redirect

D. src-nat

E. same

94. A routing table has following entries:

0 dst-address=10.0.0.0/24 gateway=10.1.5.126

1 dst-address=10.1.5.0/24 gateway=10.1.1.1

2 dst-address=10.1.0.0/24 gateway=25.1.1.1

3 dst-address=10.1.5.0/25 gateway=10.1.1.2

Which gateway will be used for a packet with destination address 10.1.5.126?

A. 10.1.1.1

B. 10.1.5.126

C. 10.1.1.2

D. 25.1.1.1

95. /interface wireless access-list is used for

A. Shows a list of Client's MAC Address that are already registered at AP

B. Handles a list of Client's MAC Address to permit/deny connection to AP

C. Authenticate Hotspot users

D. Contains the security profiles settings

96. Which facility should be used, to ensure that clients with radio signal strength poorer than -90 dBm can not connect to interface wlan1 on a MikroTik AP? Choose one answer:

A. Connect list

B. Security profiles

C. Registration table

D. Access list

97. Which features are removed when advanced-tools package is uninstalled?

- A. neighbors
- B. ip-scan**
- C. bandwidth-test
- D. ping**
- E. netwatch**
- F. LCD support

98. If a packet comes to a router and starts a new, previously unseen connection, which connection state would be applied to it?

- A. established
- B. no connection state would be applied to such packet
- C. new**
- D. invalid
- E. unknown

99. In WinBox when clicking the 'Backup' button in the Files window, the following happens (select all that apply):

- A. Backup file is saved to the computer desktop
- B. Backup file will contain usernames and passwords of the router**
- C. Optionally backup name and password can be specified
- D. Backup file is created. Name contains the router identity, the date and time of its creation**

100. A DHCP server is configured on a LAN interface which is a port on a bridge. The DHCP server does not start. What could be the reason(s)?

- A. The DHCP server can not run on an interface which is also a bridge port**
- B. There might not be an IP address assigned to the LAN Interface
- C. The IP address pool could be incorrectly defined
- D. There may be multiple IP addresses set on the LAN interface

101. Select true statements about Mikrotik RouterOS backup file:

- A. Entire router configuration is saved
- B. /user menu usernames and passwords are saved in the backup file
- C. Backup file is editable
- D. Files from /files are included in the backup file

102. How many usable IP addresses are there in a 23-bit (255.255.254.0) subnet?

- A. 508
- B. 512
- C. 510
- D. 254

103. During a scan, in order to see all the available wireless frequencies that are supported by the card, the following option must be selected in the wireless card's "Frequency Mode":

- A. superchannel
- B. regulatory domain
- C. manual txpower

104. Which firewall chain should you use to filter ICMP packets from the router itself?

- A. postrouting
- B. output
- C. forward
- D. input

105. What is the default protocol/port of (secure) winbox?

- A. UDP/5678
- B. TCP/8291
- C. TCP/8080
- D. TCP/22

106. How to restore a RouterOS device configuration from a .backup file?

- A. /file load name=routerboard.backup
- B. /system import file=routerboard.backup
- C. /load name=routerboard.backup
- D. /system backup load name=routerboard.backup**

107. Mark all the features that can be used for limiting client registrations to your access point:

- A. wpa
- B. access-list**
- C. connect-list**
- D. registration-table

108. A PC with an IP 192.168.1.2 can access the Internet, and static ARP has been set for that IP address on the ISP gateway. When the ethernet card failed, the customer replaced it with a new card and set the same IP 192.168.1.2 for it.

What else should be done in order to restore the access to the Internet?

- A. MAC address of the new card has to be changed to MAC address of old card on the customer's PC**
- B. Another IP has to be added for Internet access
- C. The static ARP entry on the ISP gateway has to be updated with the MAC address of the new ethernet card**
- D. Nothing - it will work as before

109. DHCP server can serve clients without using IP address pool

false

110. The 'connect-list' of wireless interfaces is used

- A. for preventing communications between the clients
- B. for specifying APs to connect to**
- C. for specifying APs not to connect to**
- D. for configuring SSID on the interface

111. Action=redirect applies to

A. Firewall Filter rules

B. DST-NAT rules

C. Route rules

D. SRC-NAT rules

112. To use masquerade, you need to specify

A. action=masquerade, out-interface, chain=dst-nat

B. action=masquerade, out-interface, chain=src-nat

C. action=accept, out-interface, chain=src-nat

D. action=masquerade, in-interface, chain=src-nat

113. Select the rule that is used to block SMTP protocol for clients connected to the LAN interface:

A. /ip firewall filter add chain=forward protocol=tcp dst-port=25 action=drop in-interface=LAN

B. /ip firewall filter add chain=forward dst-port=25 action=drop in-interface=LAN

C. /ip firewall filter add chain=input protocol=tcp dst-port=25 action=drop in-interface=LAN

D. /ip firewall filter add chain=output protocol=tcp dst-port=25 action=drop in-interface=LAN

114. In WinBox, Hide Passwords unchecked shows passwords for the following

A. Hotspot User

B. PPP secrets

C. RADIUS shared secret

D. RouterOS user

115. One host on an internal network is accessing an external web page through a MikroTik router that is doing source NAT. Select correct statement about the packets that flow from that web page to the host ?

A. Packets go through the forward chain

B. Packets go through the input chain before the routing decision and after that through output chain

C. Packets go through the output chain

D. Packets go through the input chain

116. What action should be used to inform source that packets reached destination, but was not accepted ?

- A. action=tarpit
- B. action=reject**
- C. action=drop
- D. action=accept

117. Mark all correct statements about command 'export file={name of the script file}' :

- A. Full configuration of the router (without RouterOS user passwords) can be exported**
- B. Only part of the configuration (for example /ip firewall) can be exported**
- C. Log entries from /log print can be exported
- D. Export files can not be edited

118. Evaluate the following information:

Access Point configuration:

- wlan1 is in 'AP-Bridge' mode
- Bridge1 has wlan1 and ether1 as ports

CPE configuration:

- wlan1 is in 'Station-Bridge' mode
- Bridge1 has wlan1 and ether1 as ports

Select protocols that will pass from ether1 on the CPE to ether1 on the Access Point.

- A. PPPoE**
- B. IPv4**
- C. IPv6**
- D. USB
- E. Firewire
- F. ARP**
- G. DHCP**
- H. BGP

119. To understand the operation of bridges it is essential to understand the operation of switches. Select which of the following characterize the correct operation of bridges and switches:

- A. Switches are mainly software based while bridges are hardware based
- B. Bridges are more robust and faster than switches
- C. Both bridges and switches forward traffic based on layer 2 addresses**
- D. Switches operate on link layer while bridges operate on physical layer
- E. Both switches and bridges forward link layer broadcast**

120. To apply bandwidth restrictions using Simple queue on traffic that travels from one bridge port to another bridge port within the same bridge interface, following must be done:

- A. Use mangle to mark the connections
- B. Configure an IP address on the bridge interface
- C. Enable 'Use IP Firewall' in bridge settings**
- D. Associate the Simple queue to the bridge

121. Assuming a functional wireless interface is present and working, is it possible to create a wireless access point with a RouterOS level 5 licence?

- A. No, only with level 4 licence
- B. Yes**
- C. No, only with level 3 license
- D. No, only with level 6 licence

122. By default info, error and warning messages are logged into memory of your RouterOS device. You can add logging of visited web-pages and other message topics

true

123. Where should you upload new MikroTik RouterOS version packages for upgrading router?

- A. FTP root directory or /files directory of the router**
- B. System Backup menu
- C. System Package menu
- D. Any directory in /files

124. You have to connect to a RouterBOARD without any previous configuration. Select all possibilities to connect and do some basic configuration

- A. Serial Connection
- B. Telnet
- C. Attach monitor/keyboard
- D. MAC-Winbox**

125. The RouterOS graphing is used for

- A. real-time traffic and resource usage display
- B. bandwidth testing
- C. average traffic and resource usage display**
- D. bandwidth limitation

126. Which of the following is used in standard 802.11 wireless networks?

- A. FDD
- B. CDMA
- C. CSMA/CA**
- D. CSMA/CD

127. It is possible to create EoIP tunnels between two locations over the Internet

true

128. To securely bridge (Layer 2) together two remote networks the following methods can be used:

- A. EoIP over SSTP or over L2TP/IPsec**
- B. IPIP with IPsec secret specified
- C. SSTP or L2TP/IPsec
- D. SSTP with BCP or L2TP/IPsec with BCP**
- E. EoIP with IPsec secret specified**

129. Select minimal set of software packages in RouterOS required to configuring a wireless AP

- A. wireless
- B. advanced-tools
- C. system
- D. dhcp
- E. routing

130. Destination NAT (chain dstnat, action dst-nat) can be used to:

- A. Direct users from the Internet to a server within your local network
- B. Change destination port
- C. Change source port
- D. Hide your local network from the Internet

131. Which firewall chain you should use to filter SSH access to the router itself?

- A. forward
- B. prerouting
- C. output
- D. input

132. /ip firewall nat

```
add chain=dstnat in-interface=ether1 protocol=tcp dst-port=3389 action=dst-nat to-address=192.168.1.2 to-ports=81
```

The command shown above:

- A. Adds IP address 192.168.1.2 to the interface ether1
- B. Forwards any TCP traffic incoming through ether1 port 81 to the port 3389 of the internal host 192.168.1.2
- C. Forwards all TCP traffic from 192.168.1.2 to port 81 of the interface ether1
- D. Forwards any TCP traffic incoming through ether1 port 3389 to the port 81 of the internal host 192.168.1.2

133. Which options can be used when you want to allow access from one specific address to your router web interface?

A. Group settings for System users

B. WWW service from IP Services

C. Firewall Filter Chain Forward

D. Firewall Filter Chain Input