

# How to Authenticate All Stations using Capsman and user manager?

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# About Me .

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- Experienced in IT Field About 17 Years
- Consultor of Mikrotik
- Designer of Network
- Implomentation Network
- Penetration Test
- MTCNA,MTCRE,MTCWE,MTCUME,MTCTCE,MTCI  
PV6E,MTCINE
- Mikrotik Certified Trainer
- MCSA,MCP,MCSE
- Microsoft Certified Trainer



# Outline

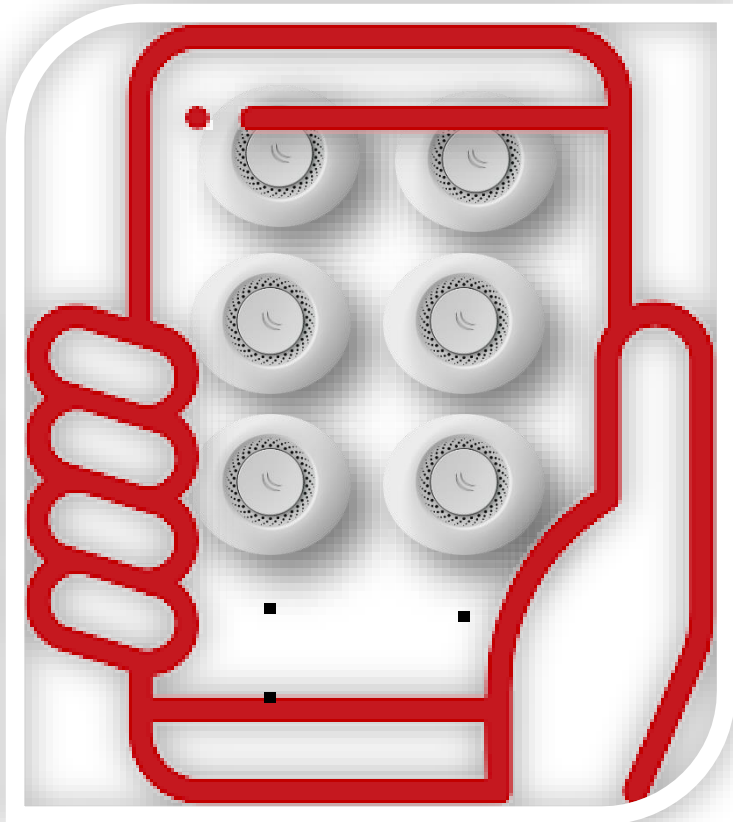
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- Capsman
- Certificate
- C.A
- Public Key / Private Key
- Access List
- Capsman Configuration
- Radius Server
- User Manager
- Integration Capsman and User Manager

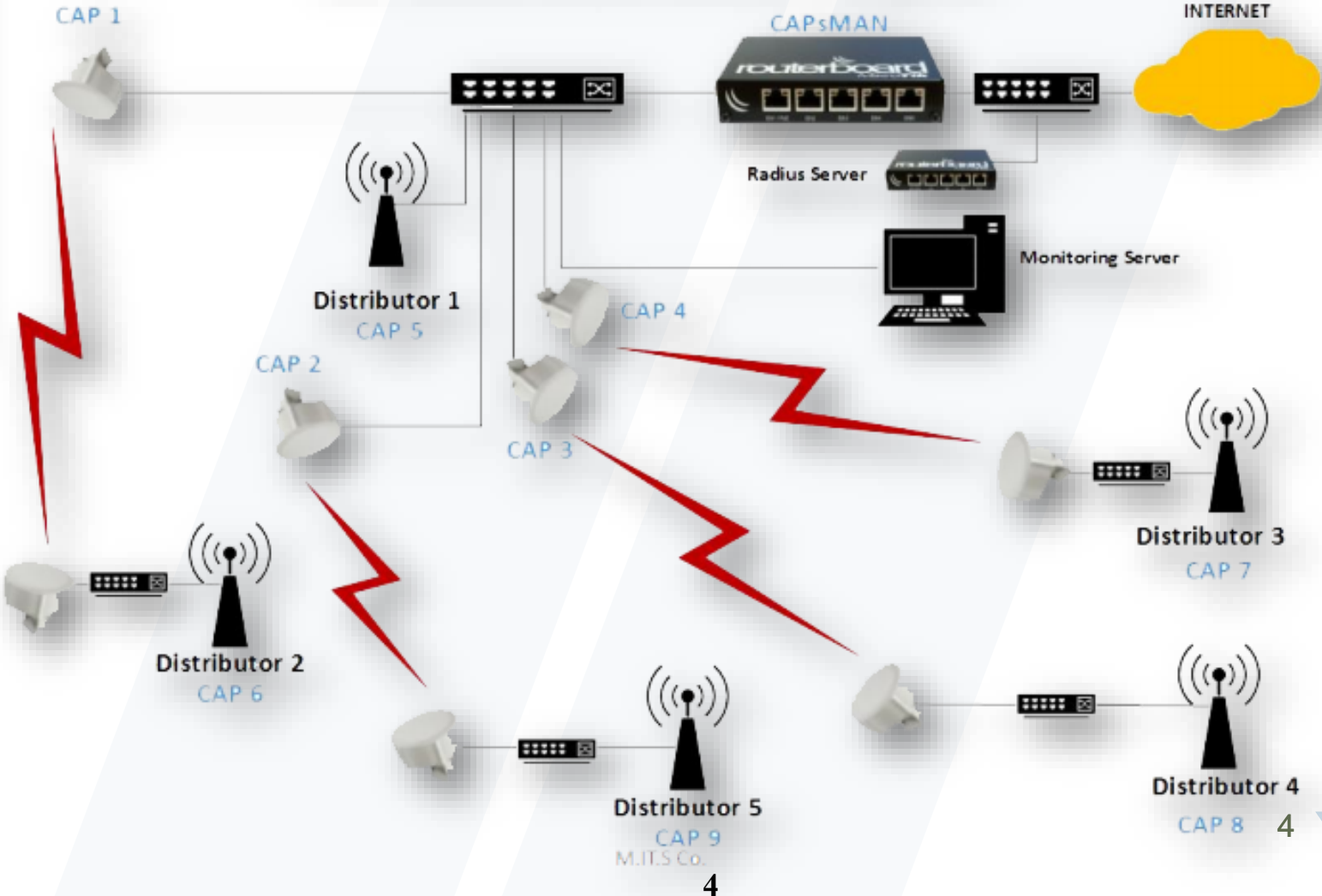


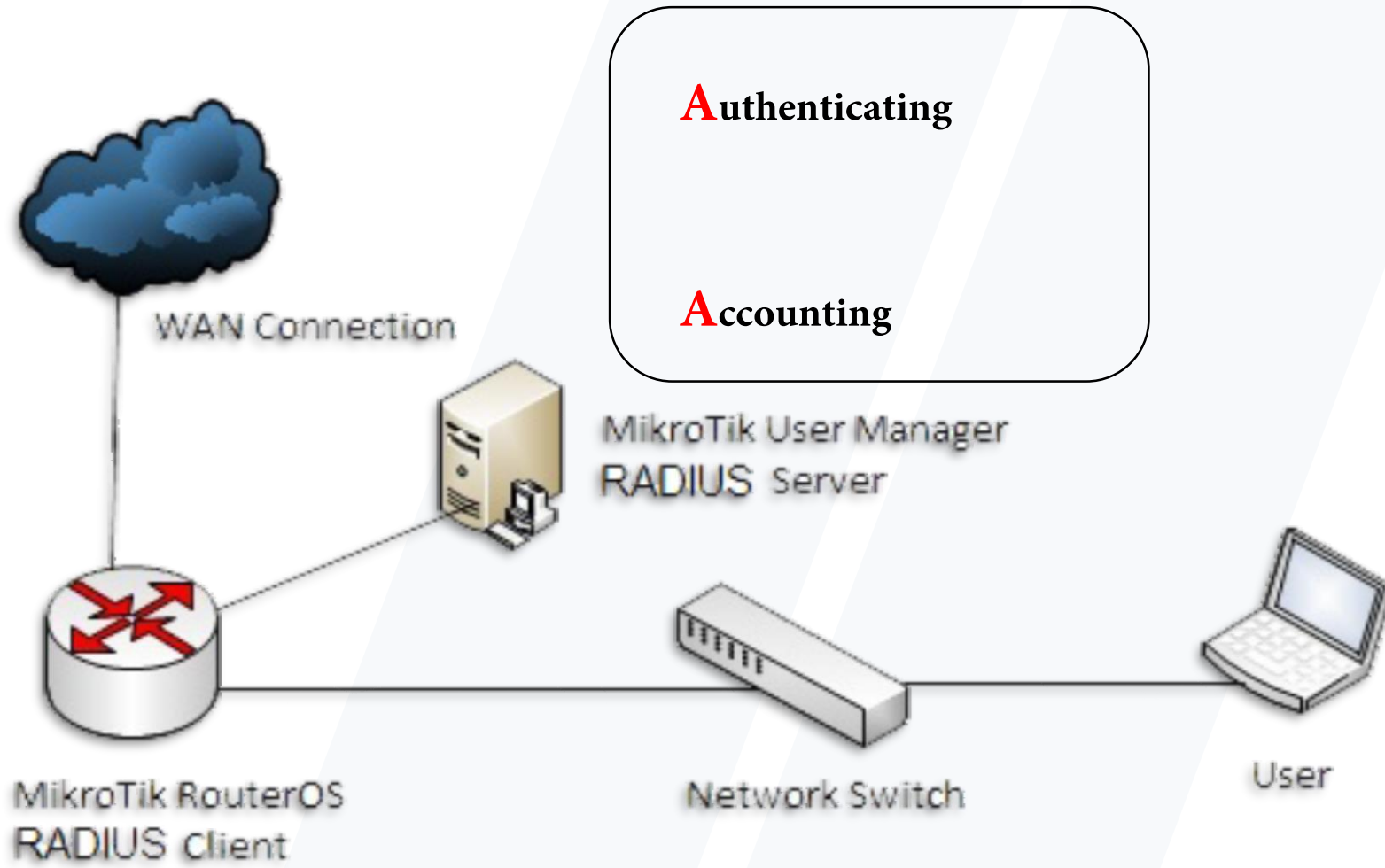


# Mikrotik Solution As a Caps Man



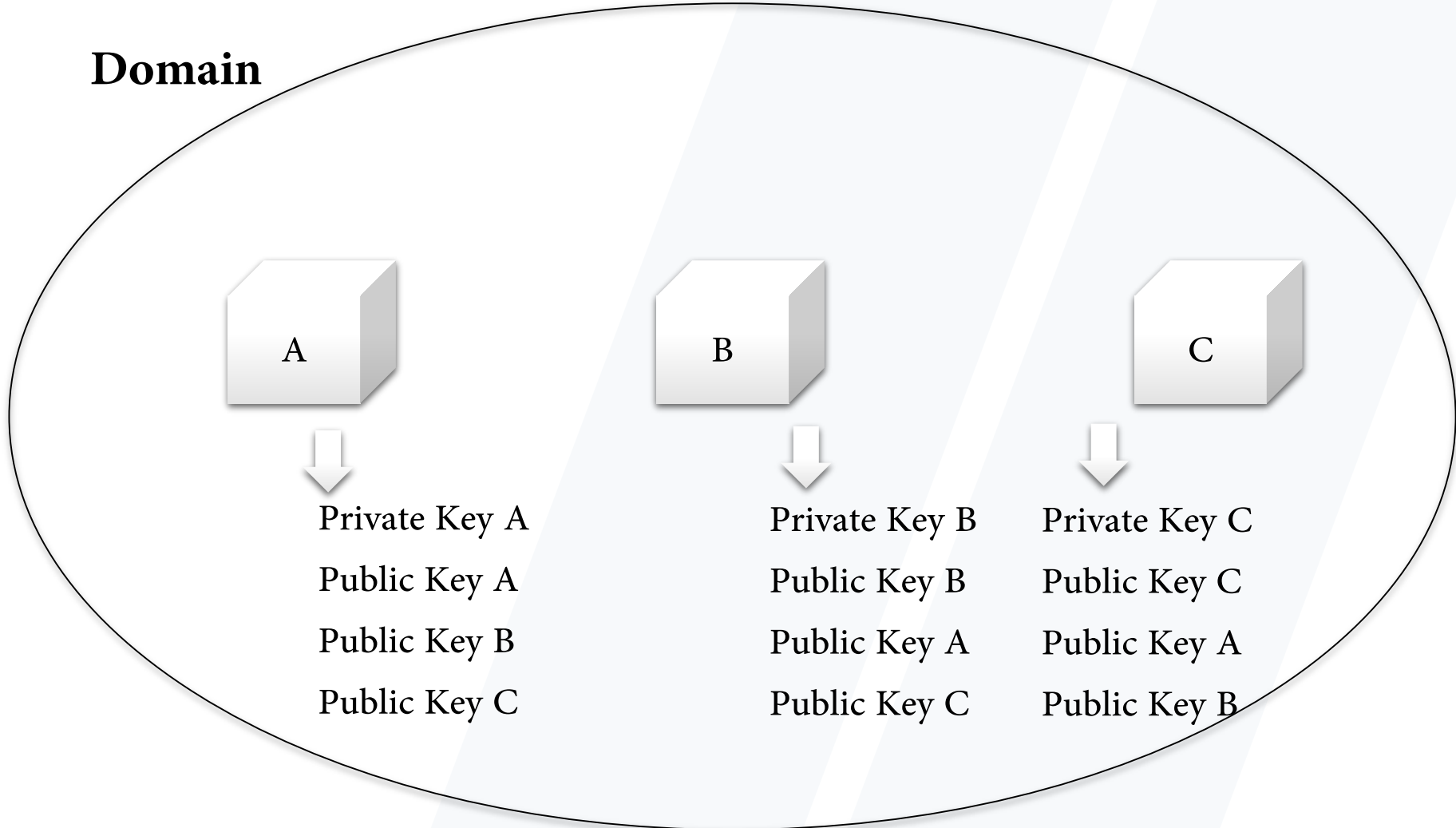
## CAP to CAPsMAN Network Diagram



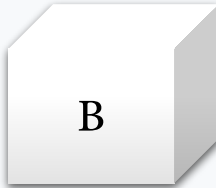


**C . A**

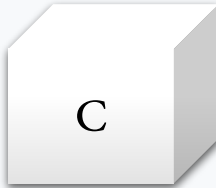
# Domain



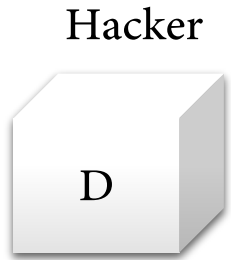
Private Key A  
Public Key A  
Public Key B  
Public Key C



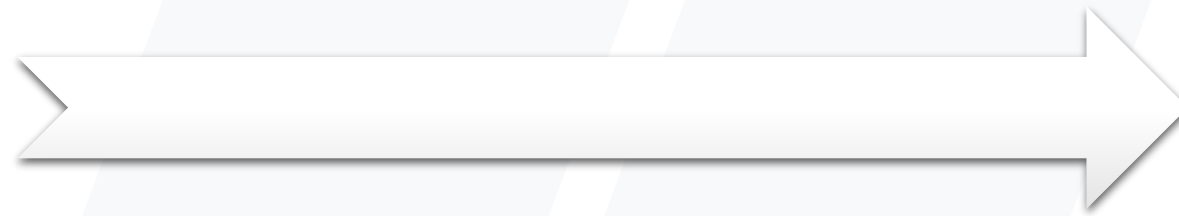
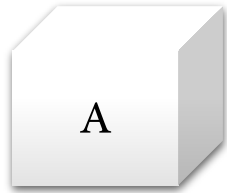
Private Key B  
Public Key B  
Public Key A  
Public Key C



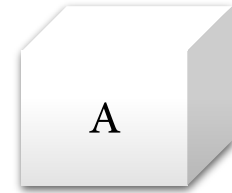
Private Key C  
Public Key C  
Public Key A  
Public Key B



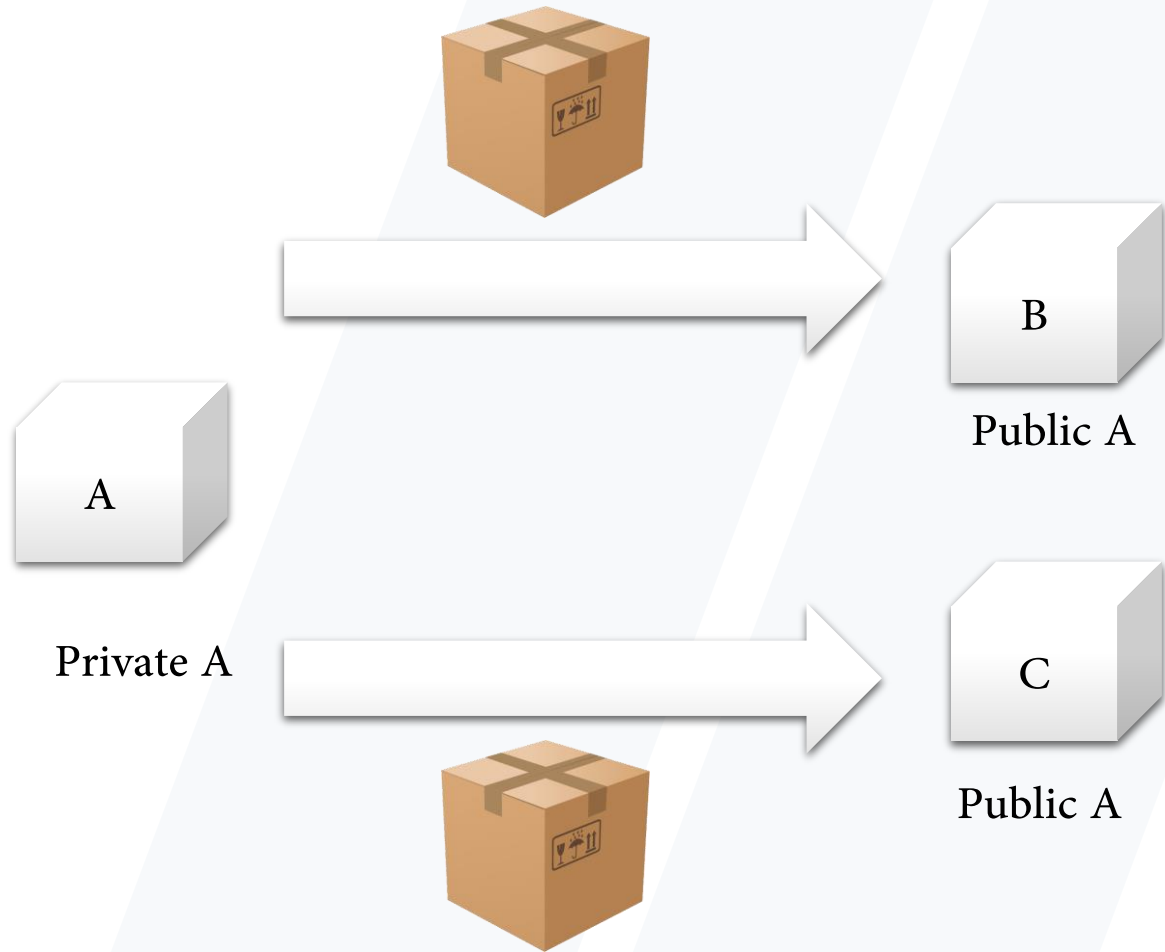
Public

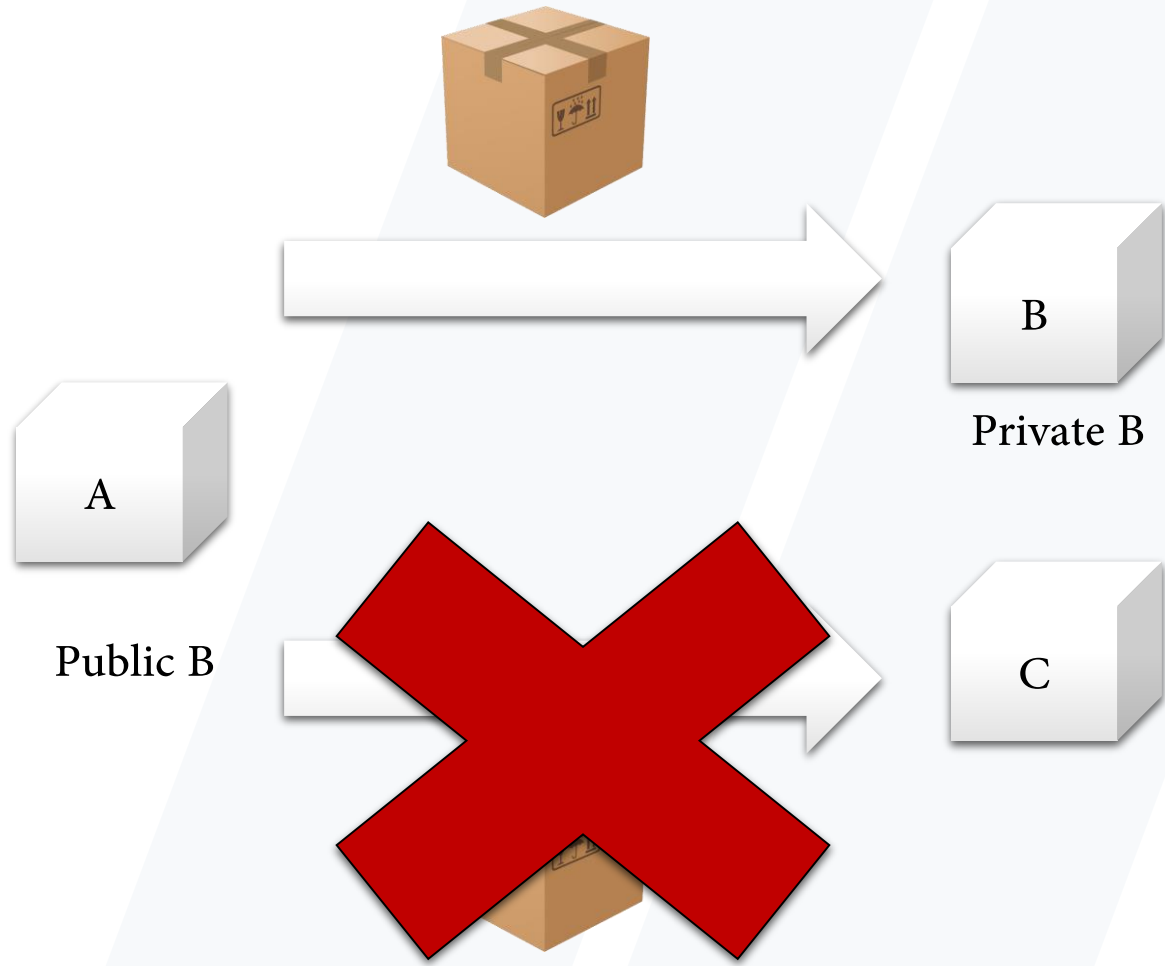


Private









# Certificate

on Settings Dashboard

Safe Mode Session: 64:D1:54:3B:03:FD

Quick Set  
CAPsMAN  
Interfaces  
Wireless  
Bridge  
PPP  
Switch  
Mesh  
IP  
IPv6  
MPLS  
OpenFlow  
Routing  
System  
Queues  
Files  
Log  
Radius  
Tools  
New Terminal  
TR069  
LCD  
MetaROUTER  
Partition  
Make Supout.rf  
Manual  
New WinBox  
Exit

**1** → Certificates

**2** → +

Name	Issuer
cert1	

**3** → cert1

**4** → Key Size: 2048, Days Valid: 365

**5** → Sign

**6** → Sign

**7** → Export

**Select Certificate**

Sign

Certificate: cert1 Start Stop Close

CA: CA CRL Host: Progress: done

Export

Certificate: cert1 Export Cancel

Type: PEM

Export Passphrase: Farkiantech

General Key Usage Status

Name: cert2

Issuer:

Country: GA  
State: Tbilisi  
Locality: Narikakla  
Organization: Farkiantech  
Unit:

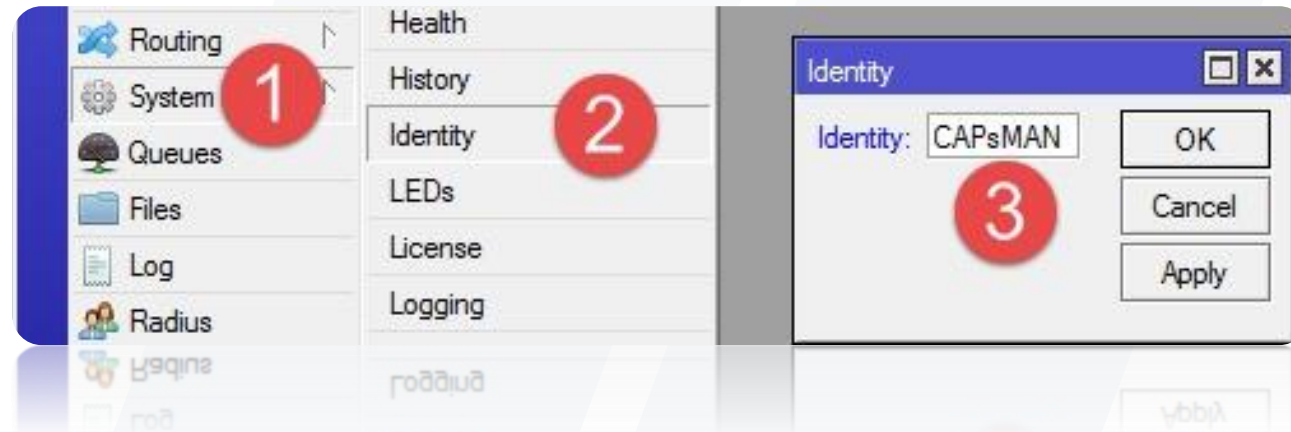
Common Name:  
Subject Alt. Name: IP

Key Size: 2048  
Days Valid: 365  
 Trusted

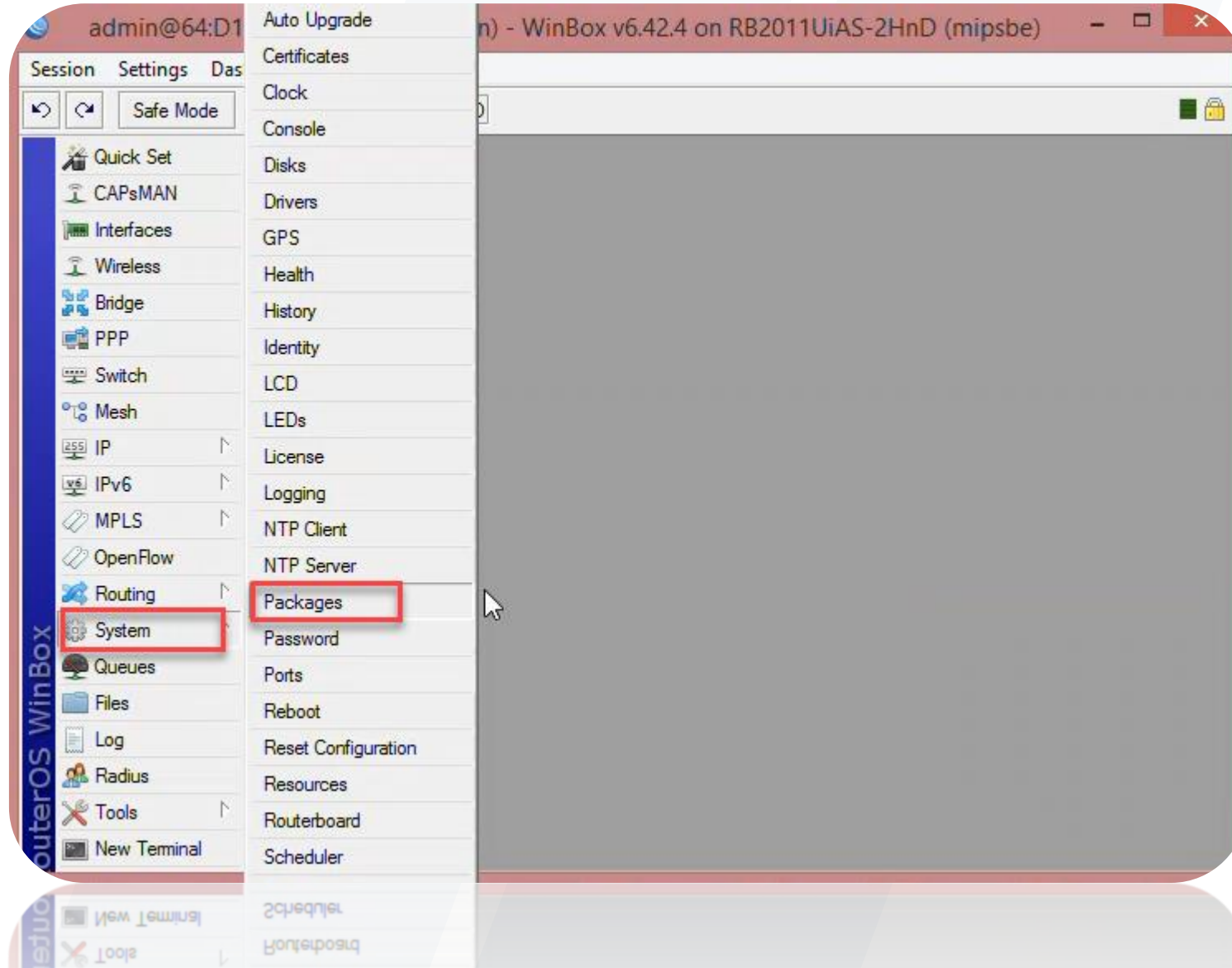
OK Cancel Apply Copy Remove Sign Sign via SCEP Import Card Reinstall Card Verify Set CA Passphrase Export Revoke

Fingerprint: b4c025f6659...

# Change Router Name

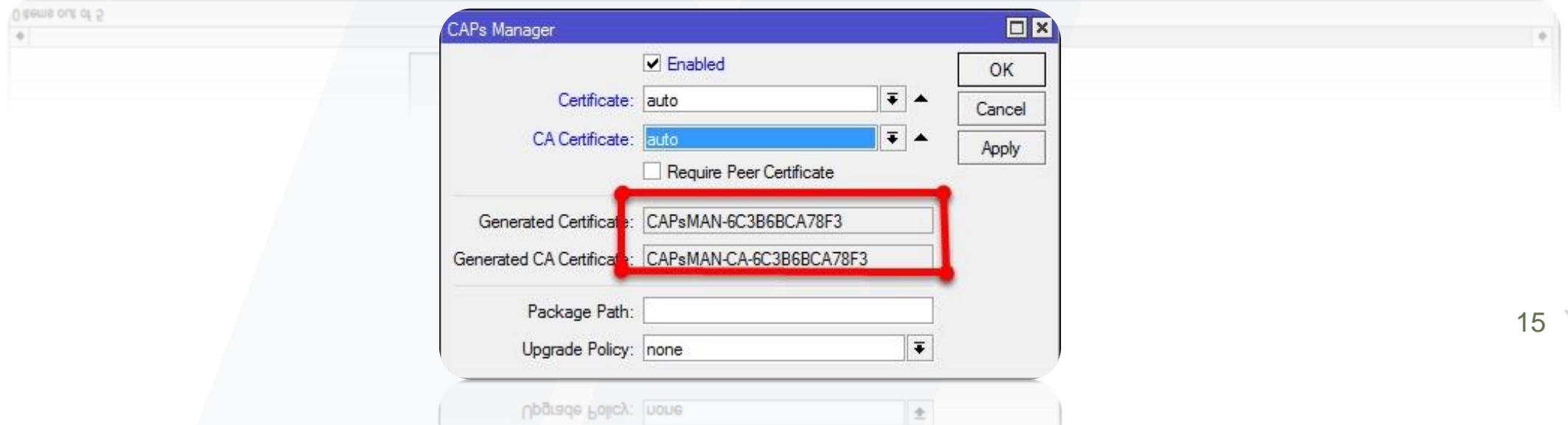
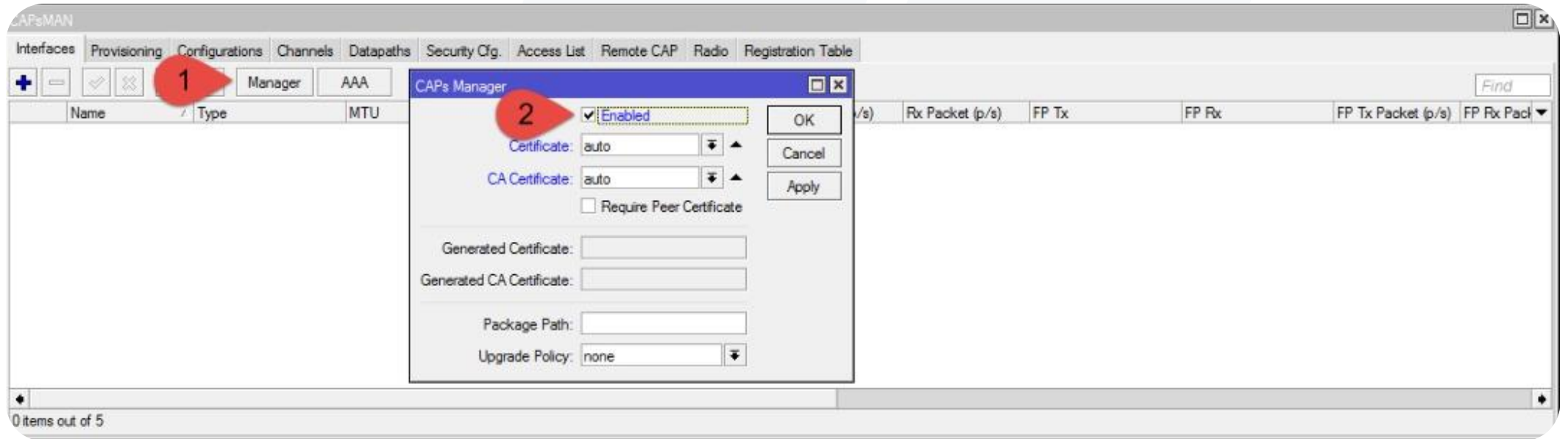


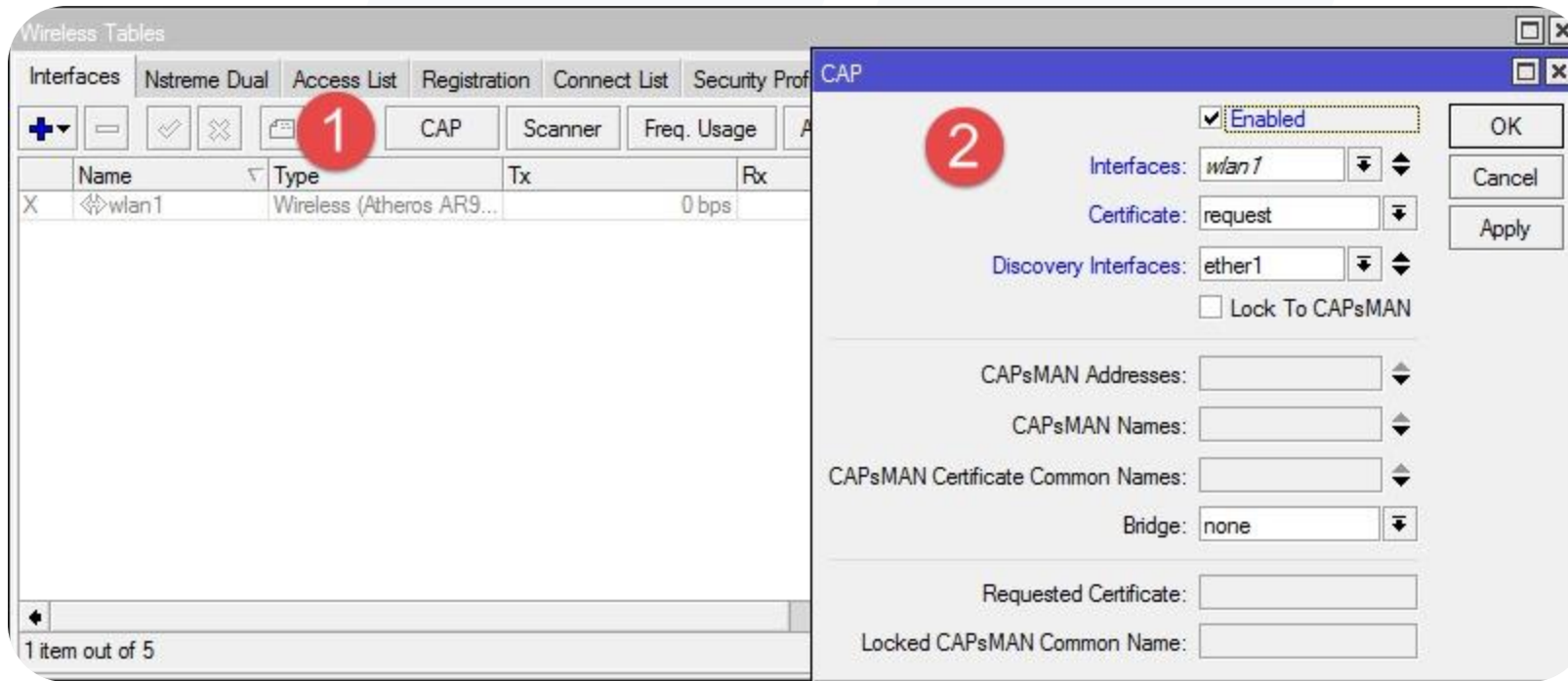
# Check the Installation of CapsMan Package





# Enable CapsMan





Wireless Tables

Interfaces Nstream Dual Access List Registration Connect List Security Prof

1

2

3

4

CAP

Enabled

OK

Cancel

Apply

Interfaces: wlan1

Certificate: request

Discovery Interfaces: ether1

Lock To CAPsMAN

CAPsMAN Addresses:

CAPsMAN Names:

CAPsMAN Certificate Common Names:

3 Bridge: bridge1

Requested Certificate:

Locked CAPsMAN Common Name:

Name Type Tx Rx

-- managed by CAPsMAN

XS wlan1 Wireless (wlan) AR9... 0 bps

1 item out of 6

CAPsMAN

CAP Interface Provisioning Configurations Channels Datapaths Security Op. Access List Rates Remote CAP Radio Registration Table

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The image shows a Mikrotik WinBox interface. On the left, a table titled 'CAPs Configuration' is shown with columns: Name, SSID, Hide SSID, Load Bal..., Country, and Channel. The table is currently empty, displaying '0 items'. A red circle '1' points to the 'Configurations' tab, and a red circle '2' points to the table area. On the right, a 'New CAPs Configuration' dialog box is open, with the 'Wireless' tab selected. A red circle '3' highlights the 'Name' field, which contains the text 'Tbilisi'. Other fields in the dialog include Mode, SSID, Hide SSID, Load Balancing Group, Distance, Hw. Retries, Hw. Protection Mode, Frame Lifetime, Disconnect Timeout, Keepalive Frames, Country, Max Station Count, Multicast Helper, HT Tx Chains, HT Rx Chains, HT Guard Interval, and several other advanced settings.

The screenshot shows a network management interface with a 'New CAPs Security Configuration' dialog box open. The dialog box has a blue title bar and contains the following fields and options:

- Name:** security1
- Authentication Type:**  WPA PSK  WPA2 PSK  WPA EAP  WPA2 EAP
- Encryption:**  aes ccm  tkip
- Group Encryption:** aes ccm
- Group Key Update:** (empty field)
- Passphrase:** 123@Farkiantech
- EAP Methods:** (empty field)
- EAP Radius Accounting:** (empty field)
- TLS Mode:** (empty field)
- TLS Certificate:** (empty field)

On the right side of the dialog, there are buttons for OK, Cancel, Apply, Comment, Copy, and Remove. In the background, a table with columns 'Name', 'Authentication Type', 'Encryption', 'Group Encryption', and 'Group Key Update' is visible. The 'Security Cfg.' tab is selected in the top navigation bar.



Wireless Tables

WiFi Interfaces W60G Station Nstreme Dual Acc

CAPsMAN

CAP Interface Provisioning Configurations Channels Datapaths

+ - ✓ ✗ 📁 🗑️ Reselect Channel Manager

	Name	Type	MTU	Actual
MB	cap1	CAP Interface	1500	
MB	cap2	CAP Interface	1500	
MB	cap3	CAP Interface	1500	

<cap1>

General Wireless Channel Rates Datapath Security Status Traffic

Configuration: Tbilisi

Mode:

SSID:

Hide SSID:

Load Balancing Group:

Distance:

Hw. Retries:

Hw. Protection Mode:

Frame Lifetime:

Disconnect Timeout:

Keepalive Frames:

Disconnect Timeout:

Frame Lifetime:

Hw. Protection Mode:

OK

Cancel

Apply

Disable

Comment

Copy

Remove

Torch

Scan...

Reselect Channel



CAPsMAN

CAP Interface | Profiles | **1** Configurations | Channels | Datapaths | Security Cfg. | Access List | Rates | Remote CAP | Radio | Registration Table

+ - ✓ ✗ 📁 🏠 Reselect Channel **2** AAA

	Name	Type	MTU	Actual MTU	L2 MTU	Tx	Rx	Tx Packet (p/s)
MB	cap1	CAP Interface	1500	1500	1600	0 bps	0 bps	0
MB	cap2	CAP Interface	1500	1500	1600	0 bps	0 bps	0
MB	cap3	CAP Interface	1500	1500	1600	0 bps	0 bps	0

**3** AAA

MAC Format: XX:XX:XX:XX:XX:XX

MAC Mode: as username and password

MAC Caching: 00:00:00

Interim Update: 00:00:59

OK Cancel Apply

Interim Update: 00:00:59

# Radius

The image shows a Mikrotik WinBox interface. On the left is a navigation tree with 'Radius' highlighted and marked with a red circle '1'. The main window shows the 'CAPsMAN' configuration page with a table of CAP interfaces. A red circle '2' is over the '+' button to add a new interface. The table contains:

Name	Type	MTU	Actual MTU
cap1	CAP Interface	1500	1500
cap2	CAP Interface	1500	1500
cap3	CAP Interface	1500	1500

On the right, the 'New Radius Server' dialog box is open, marked with a red circle '3'. It has the following fields:

- Service:  ppp,  login,  hotspot,  wireless,  dhcp,  ipsec
- Called ID: [ ]
- Domain: [ ]
- Address: 127.0.0.1
- Secret: hellohello
- Authentication Port: 1812
- Accounting Port: 1813
- Timeout: 300 ms
- Accounting Backup
- Realm: [ ]
- Src. Address: [ ]

Buttons on the right include OK, Cancel, Apply, Disable, Comment, Copy, Remove, and Reset Status.

# User Manager

1

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3

Name	Version	Build Time	Scheduled
ipv6	6.42.4	Jun/15/2018 14:14:17	
lcd	6.42.4	Jun/15/2018 14:14:17	
lte	6.42.4	Jun/15/2018 14:14:17	
mpls	6.42.4	Jun/15/2018 14:14:17	
multicast	6.42.4	Jun/15/2018 14:14:17	
ntp	6.42.4	Jun/15/2018 14:14:17	
openflow	6.42.4	Jun/15/2018 14:14:17	
ppp	6.42.4	Jun/15/2018 14:14:17	
routing	6.42.4	Jun/15/2018 14:14:17	
security	6.42.4	Jun/15/2018 14:14:17	
system	6.42.4	Jun/15/2018 14:14:17	
tr069-client	6.42.4	Jun/15/2018 14:14:17	
ups	6.42.4	Jun/15/2018 14:14:17	
user-manager	6.42.4	Jun/15/2018 14:14:17	
wireless	6.42.4	Jun/15/2018 14:14:17	

The image shows a web browser window displaying the Mikrotik User Manager interface. The browser's address bar shows the URL `192.168.100.1/userman`. The page title is "MikroTik Mikrotik User Manager".

On the left side, there is a navigation menu with the following items: Routers, Users, Sessions, Customers, Logs, Payments, Profiles, Settings, Reports, 0 A sessions, 0 A users, Advanced search, Maintenance, and Logout. The "Routers" item is highlighted.

The main content area shows a table with columns for "Name" and "IP address". Below the table, there is a "Router details" form. The form fields are as follows:

- Name: Capl
- Owner: admin
- IP address: 0.0.0.0
- Shared secret: (empty)
- Time zone: Parent time zone
- Disabled:
- Log events:  Authorization failure,  Accounting success,  Accounting failure

At the bottom of the form, there is an "Add" button.

Red circles with numbers 1, 2, 3, and 4 are overlaid on the image to highlight specific elements: 1 points to the browser address bar, 2 points to the "Routers" menu item, 3 points to the "Add" button in the top navigation bar, and 4 points to the "Router details" form.





Mikrotik User Manager

**Routers**  
**Users**  
**Sessions**  
**Customers**  
**Logs**  
**Payments**  
**Profiles**  
**Settings**  
**Reports**  
0 A sessions  
0 A users  
Advanced search  
Maintenance  
Logout

Profile: 1G1M512K  
Name: 1G1M512K  
Name for users:  
Owner: admin  
Validity:  
Starts: At first logon  
Price: 0.00  
Shared users: not used

Save profile Remove profile

Unlimited profile

Add new limitation **1**

**Limit details** **2**

▼ Main  
Name:  
Owner: admin

▲ Limits  
Download: 0B  
Upload: 0B  
Transfer: 102400  
Uptime:

▲ Rate limits  
Rate limit: Rx 512k Tx 512k  
Burst rate: Rx Tx  
Burst threshold: Rx Tx  
Burst time: Rx Tx  
Min rate: Rx Tx  
Priority: Not specified

▼ Constraints  
Add

The screenshot displays the MikroTik User Manager web interface in a browser window. The address bar shows "Not secure | 192.168.100.1/userman". The interface includes a sidebar with navigation options: Routers, Users, Sessions, Customers, Logs, Payments, Profiles, Settings, Reports, 0 A sessions, and 0 A users. The "Users" menu item is highlighted with a red circle containing the number "1".

The main content area features a table with columns for "Username", "Till time", and "Total time left". Above the table are buttons for "Add", "Edit", and "Generate". A "User details" dialog box is open, showing configuration fields for a user. The "Main" section includes "Username" and "Password" fields, both containing "00:0A:0B:BC:A0:12", a "Disabled" checkbox, and an "Owner" field set to "admin". The "Private information" section includes an "Assign profile" dropdown menu set to "1G1M512K". A red circle with the number "2" is positioned over the "Add" button in the dialog box.



**THANK  
YOU!**

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ANY?  
QUESTIONS

