

Mikrotik WireGuard VPN WHMCS module

The module is intended as an opportunity for IT companies to expand their offer for customers by offering paid WireGuard VPN accounts. After installation, the module will fully manage the creation, edition, and suspension of WireGuard VPN accounts and interact with the WHMCS billing system, exchanging data needed for settlements with customers, activations or service blocking. Initial assumptions: the company uses WHMCS and owns or is able to install Mikrotik routers. Mikrotik routers are necessary to provide VPN service. WHMCS is necessary to manage the WireGuard VPN service.

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Changelog

Mikrotik WireGuard VPN module

WHMCS

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v2.0 Released 23-09-2024

Module is coded ionCube v13

Supported php version:

- php 7.4 WHMCS 8.11.0 -
- php 8.1 WHMCS 8.11.0 +
- php 8.2 WHMCS 8.11.0 +

v1.3 Released 29-07-2024

1. Add metric pricing for incoming/outgoing traffic

v1.2 Released 17-06-2024

1. Added VPN interface reboot function (to reset a frozen connection)
2. Improved adaptation to the mobile version of the client area
3. Some changes in translations

v1.1 Released 15-12-2023

1. Added functionality for changing packages
2. Minor changes to the admin/client interface

v1.0 Released 09-10-2023

First version

Description

Mikrotik WireGuard VPN module

WHMCS

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The module, fully installed and correctly implemented in the system, offers the following functionalities.

Module Functions:

- Auto create and deploy WireGuard VPN account
- Suspend/Unsuspend/Terminate
- Use only Mikrotik API
- Possibility to set Bandwidth speed limits
- Module supports multilingualism (**Arabic, Azerbaijani, Catalan, Chinese, Croatian, Czech, Danish, Dutch, English, Estonian, Farsi, French, German, Hebrew, Hungarian, Italian, Macedonian, Norwegian, Polish, Romanian, Russian, Spanish, Swedish, Turkish, Ukrainian**)
- Link to instructions for setting up the service in the client area.
- Link to VPN clients for setting up the service in the client area.
- In the WHMCS settings, a list of IPs is specified for use by clients.
- Ability to use both private and public IPs for clients

Available options in the admin panel:

- Create users
- Suspend users
- Terminate users
- Unsuspend users
- Change package
- VPN connection status
- VPN interface reboot function (to reset a frozen connection)
- Text and QR code configuration types
- Metric Billing (Bandwidth Usage In/Out)

Available options in the client panel:

- VPN connection status
 - Text and QR code configuration types
 - VPN interface reboot function (to reset a frozen connection)
-

WHMCS minimal version: 8 +

Mikrotik minimal version: 7 +

The settings of the whmcs module when it comes to upload and download speeds register the opposite values in the mikrotik router (e.g. download speed in whmcs 1mb = upload speed in mikrotik 1mb). This is due to the fact that from the point of view of Mikrotik, the traffic is incoming, and from the point of view of the VPN client, this is outgoing traffic.

Please be aware that to ensure proper functionality of VPN connections, it is essential for you, as an administrator, to correctly configure the Mikrotik router. This entails configuring NAT, Firewall, routing, and all the required settings for VPN to operate correctly on your router.



VPN client



User manual



Configuration



Reset VPN
Interface

Network configuration

☒ Enable



VPN Protocol:

WireGuard



Bandwidth download/upload:

15/15M



Endpoint

N/A



Latest handshake

N/A



Transfer RX

0 bytes



Transfer TX

0 bytes

WireGuard configuration



DOWNLOAD CONFIG



Order # 832 - View Order

Product/Service MikrotikWireGuardVPN - 15/15M

Server vpn-test.uuq.pl-MikrotikWireGuardVPN (1/

Domain

Dedicated IP 192.168.123.2

Username nkhZi6NebLvNISxAyszCIU0l

Password iHqQM+huTISBxUj8bDQOK

Status Active

Registration Date 2024/06/17

Quantity 1

First Payment Amount 3.76

Recurring Amount 0.00

Recalculate on Save

Next Due Date 2024/07/17

Termination Date

Billing Cycle Monthly

Payment Method Bank Transfer

Promotion Code None

Module Commands

CreateSuspendUnsuspendTerminateChange PackageReset VPN Interface

API Connection Status

API Connection OK

Status

Peer: nkhZi6NebLvNISxAyszCIU0Uj9mG9KEbvMZqP/cgz4= (Disabled: false)

Peer info

publicKey	Endpoint	Latest handshake	Transfer RX	Transfer TX
nkhZi6NebLvNISxAyszCIU0Uj9mG9KEbvMZqP/cgz4=	45.44.164.152:37430	3s	18.49 KB	37.37 KB

Config

[Interface]

Address = 192.168.123.2

DNS = 8.8.8.8,1.1.1.1

PrivateKey = iHqQl+huTISBxUj8bDQOK1vkveqsJ4Q9BhI2BCEUAlw=

[Peer]

PersistentKeepalive = 60

Endpoint = vpn-test.uuq.pl:7464

PublicKey = EijHMaUOdSVo86uuQ3qcg80kssQ5yN28D+1BZDEzgaXI=

AllowedIPs = 0.0.0.0/0

Installation and configuration guide

WHMCS

setup(install/update)

Mikrotik WireGuard VPN module

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Module is coded ionCube v13

Supported php version:

- php 7.4 WHMCS 8.11.0 -
- php 8.1 WHMCS 8.11.0 +
- php 8.2 WHMCS 8.11.0 +

To install and update a module, you must perform one and the same action.

1. Download the latest version of the module.

PHP 8.2

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Mikrotik-WireGuard-VPN/php82/PUQ_WHMCS-Mikrotik-WireGuard-VPN-latest.zip
```

PHP 8.1

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Mikrotik-WireGuard-VPN/php81/PUQ_WHMCS-Mikrotik-WireGuard-VPN-latest.zip
```

PHP 7.4

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Mikrotik-WireGuard-VPN/php74/PUQ_WHMCS-Mikrotik-WireGuard-VPN-latest.zip
```

All versions are available via link:

http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Mikrotik-WireGuard-VPN/

2. Unzip the archive with the module.

```
unzip PUQ_WHMCS-Mikrotik-WireGuard-VPN-latest.zip
```

3. Copy and Replace "puqMikrotikWireGuardVPN" to "WHMCS_WEB_DIR/modules/servers/"

Setup guide: Mikrotik preparation and configuration

Mikrotik WireGuard VPN module

WHMCS

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Note: **Enter the following commands one by one and wait for the command to complete.**

I. Check RouterOS version

Make sure that the version of RouterOS is 7+

```
system/package/print
```

II. Enabling HTTPS Create your own root CA on your router

```
/certificate  
add name=LocalCA common-name=LocalCA key-usage=key-cert-sign,crl-sign
```

III. Sign the newly created CA certificate

```
/certificate  
sign LocalCA
```

IV. Create a new certificate for Webfig (non-root certificate)

Note: as common-name=XXX.XXX.XXX.XXX You enter public IP address of the router.

```
/certificate  
add name=Webfig common-name=XXX.XXX.XXX.XXX
```

V. Sign the newly created certificate for Webfig

```
/certificate  
sign Webfig ca=LocalCA
```

VI. Enable SSL (*www-ssl*) and specify to use the newly created certificate for Webfig

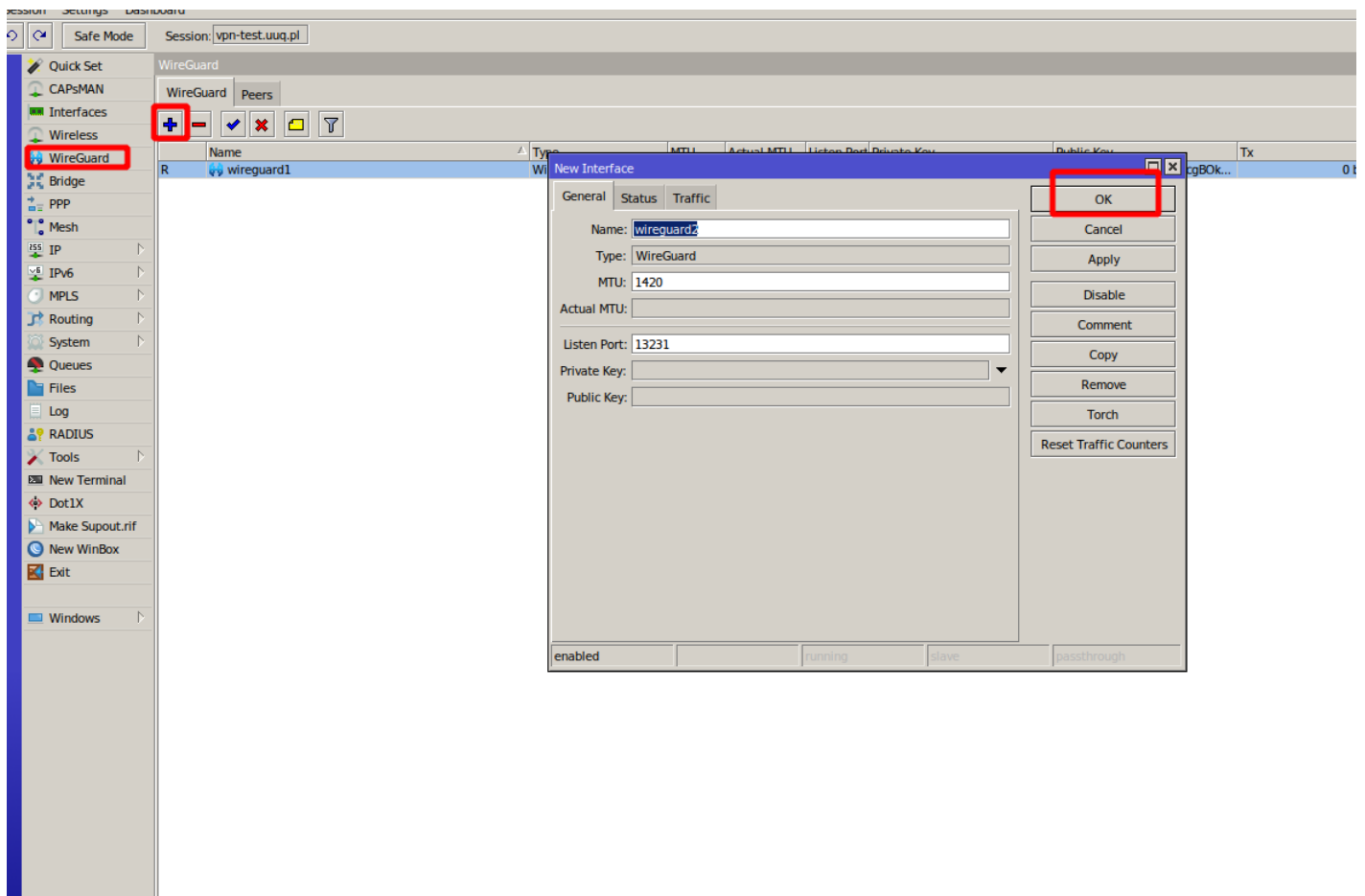
```
/ip service  
set www-ssl certificate=Webfig disabled=no
```

VII. Enable api-ssl and specify to use the newly created certificate for Webfig

```
/ip service  
set api-ssl certificate=Webfig disabled=no
```

VIII. Creating a WireGuard Server

To enable the WireGuard VPN server



Add server (router Mikrotik) in WHMCS

Mikrotik WireGuard VPN module

WHMCS

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Add a new server to the system WHMCS.

System Settings->Servers->Add New Server

- Enter the correct **Name** and **Hostname**

Name is just for Your convenience and You can put there anything You like ie:
Mygreat mikrotik routr

You can choose whatever hostname You want. Valid entries look similar to:
vpn.mydomain.com, ourgreatvpn.mydomain.net. You can also dedicate whole domain ie: myVPNservices.com if You like. The important thing is to resolve the choosen IP address of the Mikrotik router in DNS server for Your domain.

- In the "**Assigned IP Addresses field**", enter a list of IP addresses that will be issued to users.

Name	vpn [REDACTED].pl
Hostname	vpn [REDACTED].pl
IP Address	
Assigned IP Addresses (One per line)	<div> 192.168.222.14 192.168.222.15 192.168.222.16 192.168.222.17 192.168.222.18 192.168.222.19 192.168.222.20 192.168.222.21 </div>
Monthly Cost	0.00
Datacenter/NOC	
Maximum No. of Accounts	200
Server Status Address	<div></div> <p>To display this server on the server status page, enter the full path to the server status folder (required to be uploaded to each server you want to monitor) - eg. https://www.example.com/status/</p>
Enable/Disable	<input type="checkbox"/> Tick to disable this server

- In the **Server Details** section, select the "**PUQ Mikrotik WireGuard VPN**" module and enter the correct **username** and **password** for the **Mikrotik** router.
- To check, click the "**Test connection**" button

Module	PUQ Mikrotik WireGuard VPN	Test Connection	✓ Connection successful. Some values have been auto-filled.
Username	admin-dev-MWG		
Password	*****		
Access Hash	<div></div>		
Secure	<input checked="" type="checkbox"/> Check to use SSL Mode for Connections		
Port	<div>443</div> <input type="checkbox"/> Override with Custom Port		

Save Changes

Cancel Changes

Product Configuration in WHMCS

Mikrotik WireGuard VPN module

WHMCS

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Add new product to WHMCS

System Settings->Products/Services->Create a New Product

In the **Module settings** section, select the "**PUQ Mikrotik WireGuard VPN**" module

The screenshot shows the 'Module Settings' page for the 'PUQ Mikrotik WireGuard VPN' module. The page has a top navigation bar with tabs: Details, Pricing, Module Settings (selected), Custom Fields, Configurable Options, Upgrades, Free Domain, Cross-sells, Other, and Links. Below the tabs, there are two dropdown menus: 'Module Name' (set to 'PUQ Mikrotik WireGuard VPN') and 'Server Group' (set to 'None'). The main content area is divided into three sections: 'License key' (containing a text input with 'X3A1HN-CXCZVZ-JA7EOD-2NTT04-FOYCDK' and a success message), 'Peers configuration' (containing fields for 'Bandwidth Download' (15 M), 'Bandwidth Upload' (15 M), 'DNS Servers' (8.8.8.8,1.1.1.1), 'AllowedIPs' (0.0.0.0/0), and 'Persistent Keepalive' (60)), and 'WireGuard interface' (containing a dropdown set to 'wireguard1' and a link to 'WireGuard interface on Mikrotik'). To the right of the 'WireGuard interface' section is an 'Additional settings' section with fields for 'Comment PREFIX' (whmcs-dev), 'Link to instruction' (https://doc.puq.info/books/puqvpncp), and 'Link to VPN clients' (https://doc.puq.info/books/puqvpncp/page). At the bottom of the page, there are two sections: 'Metric Billing' (with a toggle for 'Bandwidth Usage In (GB)' set to 'ON') and 'Bandwidth Usage Out (GB)' (with a toggle set to 'ON').

- **License key:** A pre-purchased license key for the "**PUQ Mikrotik WireGuard VPN**" module. For the module to work correctly, the key must be active
- **WireGuard interface:** A pre-created WireGuard server on a Mikrotik router, which will serve as peers for clients of this service.
- **Comment PREFIX:** The prefix that will be added to the VPN user's comment on the Mikrotik router
- **Bandwidth Download:** Download Bandwidth Limit in M/s
- **Bandwidth Upload:** Upload Bandwidth Limit M/s
- **DNS Servers:** Option in WireGuard client configuration

- **AllowedIPs:** Option in WireGuard client configuration
- **Persistent Keepalive:** Option in WireGuard client configuration
- **Link to instruction:** Link to the instruction, if filled out, it will be reflected in the client area
- **Link to VPN clients:** The URL that will be shown to the client in the client panel in order to download the VPN client

Metric Billing

It is also possible to set up tariffs for incoming and outgoing traffic.
 Standard methods for setting up metrics

Bandwidth Usage In

Configure Pricing

Bandwidth Usage In (GB)

Metric Type: Monthly

Metric Unit: Gigabytes

Pricing

Scheme:

☐ Per Unit ⓘ
 ☒ Total Volume ⓘ
 ☐ Graduated ⓘ

Quantity Included

12

Starting Quantity ⓘ	Price Per GB			
	PLN	EUR	UAH	USD
0	1	2	3	4

Add Range

Close

Save

Bandwidth Usage Out

Configure Pricing



Bandwidth Usage Out (GB)

Metric Type: Monthly

Metric Unit: Gigabytes


Pricing

Quantity Included

Scheme:

11

☐ Per Unit  ☒ Total Volume  ☐ Graduated 

Starting Quantity 	Price Per GB			
	PLN	EUR	UAH	USD
0	5	6	7	8

Add Range

Close

Save

Client Area

Home screen

Mikrotik WireGuard VPN module

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The end customer, after logging in to his own customer panel, has access to the following information and options:

- Link to the user manual (*which was defined by the administrator when setting up the service.*).
- Link to the VPN clients (*which was defined by the administrator when setting up the service.*).
- Information about available VPN protocols and statuses
- Button to download WireGuard client configuration
- VPN WireGuard client configuration text and QR-code
- VPN interface reboot function (to reset a frozen connection)

★ Overview

Information

⚙️ Actions

⚙️ Reset VPN Interface

⬆️ Upgrade/Downgrade

🚫 Request Cancellation



MikrotikWireGuardVPN
- 15/15M
MikrotikWireGuardVPN

ACTIVE

⬆️ Upgrade

🚫 Request Cancellation

Registration Date

Monday, June 17th, 2024

First Payment Amount

\$3.76

Recurring Amount

\$0.00

Billing Cycle

Monthly

Next Due Date

Wednesday, July 17th, 2024

Payment Method

Bank Transfer

🌐 Manage



VPN client



User manual



Configuration



Reset VPN
Interface

Network configuration

🔘 Enable



📖 VPN Protocol:

WireGuard



VPN client



User manual



Configuration



Reset VPN
Interface

Network configuration

☒ Enable



VPN Protocol:	WireGuard
Bandwidth download/upload:	15/15M
Endpoint	N/A
Latest handshake	N/A
Transfer RX	0 bytes
Transfer TX	0 bytes


WireGuard configuration



DOWNLOAD CONFIG



WireGuard configuration

 [DOWNLOAD CONFIG](#)



[Interface]

```
Address = 192.168.123.2
DNS = 8.8.8.8,1.1.1.1
PrivateKey = iHqQM+huTiSBrxUJ8bDQOK1vkveqsJ4Q9BW2BCEUA1w=
```

[Peer]

```
PersistentKeepalive = 60
Endpoint = vpn-test.uuq.pl:7464
PublicKey = EiHHaUOd8Vo06uuQ3qcgB0kssQSyN28D+1BZDEzgaXI=
AllowedIPs = 0.0.0.0/0
```




VPN client



User manual



Configuration



Reset VPN
Interface

Network configuration

☒ Enable



VPN Protocol:

WireGuard

Bandwidth download/upload:

15/15M

Endpoint

N/A

Latest handshake

N/A

Transfer RX

0 bytes

Transfer TX

0 bytes

WireGuard configuration



DOWNLOAD CONFIG

WireGuard configuration

 [DOWNLOAD CONFIG](#)



[Interface]

```
Address = 192.168.123.2
DNS = 8.8.8.8,1.1.1.1
PrivateKey = iHqQM+huTiSBrxUJ8bDQOK1vkveqsJ4C
```

[Peer]

```
PersistentKeepalive = 60
Endpoint = vpn-test.uuq.pl:7464
PublicKey = EiHHaUOd8Vo06uuQ3qcgBOKssQSyN28D+
AllowedIPs = 0.0.0.0/0
```



Admin Area

Product Information

Mikrotik WireGuard VPN module

WHMCS

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Product Information Screen

MikrotikWireGuardVPN - 15/15M

Go

+ New Addon

More

Order # 832 - View Order

Product/Service MikrotikWireGuardVPN - 15/15M

Server vpn-test.uuq.pl-MikrotikWireGuardVPN (1)

Domain

Dedicated IP 192.168.123.2

Username BkuYe0NGZ7QxtdOrXinC

Password eNdPjgOZqA08lVPfsj9e39Oi

Status Active

Registration Date 17/06/2024

Quantity 1

First Payment Amount 3.76

Recurring Amount 0.00 Recalculate on Save

Next Due Date 17/08/2024

Termination Date

Billing Cycle Monthly

Payment Method Bank Transfer

Promotion Code None

Create

Suspend

Unsuspend

Terminate

Change Package

Reset VPN Interface

API Connection Status

API Connection OK


Status

Peer: BkuYe0NGZ7QxtdOrXinDhy2MAvTEmZK0BQt54uvhQ= (Disabled: false)

Peer info

publickey	Endpoint	Latest handshake	Transfer RX	Transfer TX
BkuYe0NGZ7QxtdOrXinDhy2MAvTEmZK0BQt54uvhQ=	45.44.164.152:49669	40s	4.52 KB	3.87 KB

Config



[Interface]

Address = 192.168.123.2

DNS = 8.8.8.8,1.1.1.1

PrivateKey = eNdPjgOZqA08lVPfsj9e39OiZuRQFL4PMZp1lw1s=

[Peer]

PersistentKeepalive = 60

Endpoint = vpn-test.uuq.pl:7464

PublicKey = E1HhauD8V0e6uuQ3qcg80kssQ5yhQ28d+1B2DEgaxI=

AllowedIPs = 0.0.0.0/0

Metric Statistics

Metric	Enabled	Current Usage	Last Update
Bandwidth Usage In (GB)	✓	0.12 GB	1 second ago
Bandwidth Usage Out (GB)	✓	0.24 GB	1 second ago

Refresh Now