

# 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 +

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### v1.3 Released 29-07-2024

1. Add metric pricing for incoming/outgoing traffic

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### 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

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### v1.1 Released 15-12-2023

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

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### 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

Create Suspend Unsuspend Terminate Change Package Reset VPN Interface

API Connection Status

API Connection OK

Status

Peer: nkhZi6NebLvNISxAyszCIU0Uj9mG9KEbvMZqP/cgz4= (Disabled: false)

	publicKey	Endpoint	Latest handshake	Transfer RX	Transfer TX
Peer info	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 = iHqQM+huTISBxUj8bDQOK1vkveqsJ4Q9BhI28CEUAlw=

[Peer]

PersistentKeepalive = 60

Endpoint = vpn-test.uuq.pl:17464

PublicKey = EijHMaU0dSVo86uuQ3qcg80kssQ5yN280+1BZDEzgaXI=

AllowedIPs = 0.0.0.0/0

# Installation and configuration guide



# WHMCS

## setup(install/update)

Mikrotik WireGuard VPN module

# WHMCS

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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/](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

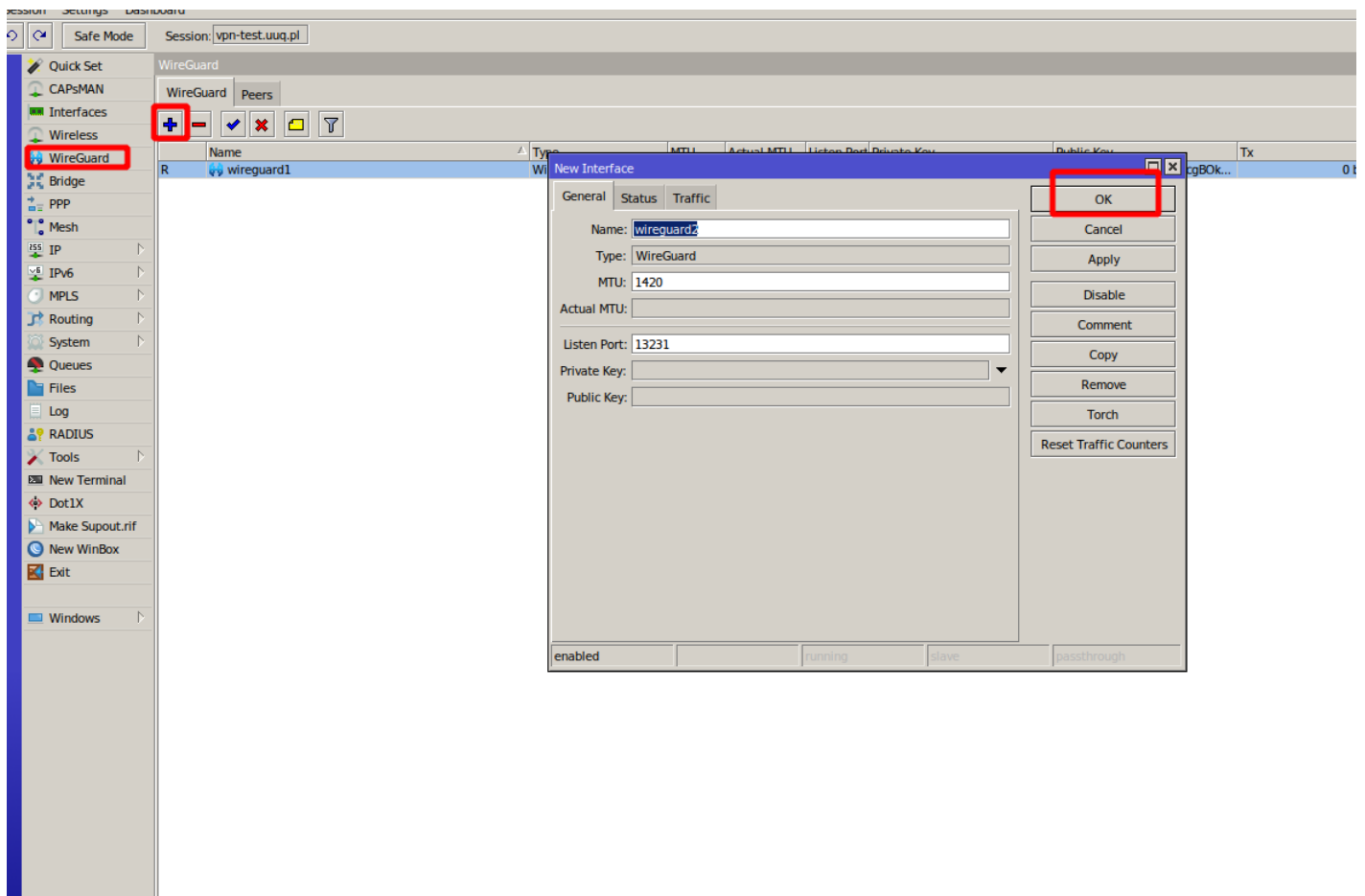
```
/ip service  
set www-ssl certificate=Webfig disabled=no
```

#### 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. <a href="https://www.example.com/status/">https://www.example.com/status/</a></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	<a href="#">Test Connection</a>	✓ 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 'Create a New Product' form in WHMCS, specifically the 'Module settings' tab for the 'PUQ Mikrotik WireGuard VPN' module. The form is divided into several sections: 'Module Name' (set to 'PUQ Mikrotik WireGuard VPN') and 'Server Group' (set to 'None'). Below this, there are three main configuration areas: 'License key' (with a text input field containing 'X3A1HN-CXCZVZ-JA7EOD-2NTT04-FOYCDK' and a success message), 'Peers configuration' (with 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' (set to 'wireguard1' with a link to 'WireGuard interface on Mikrotik'). To the right of the 'WireGuard interface' section, there are 'Additional settings' including 'Comment PREFIX' (whmcs-dev), 'Link to instruction' (a URL to a documentation page), and 'Link to VPN clients' (a URL to a documentation page). At the bottom of the form, there are two toggle switches for 'Metric Billing': 'Bandwidth Usage In (GB)' and 'Bandwidth Usage Out (GB)', both of which are currently turned '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

# WHMCS

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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](#)

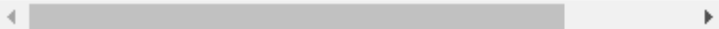


## [Interface]

```
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 BkuYe0NGZ7QxtDeOrXinC

Password eNdPjgOZqA08lVPfsj9e39Oi

Status Active

Module Commands Create Suspend Unsuspend Terminate Change Package Reset VPN Interface


API Connection Status API Connection OK

Status Peer: BkuYe0NGZ7QxtDeOrXinDhy2MAvTEmZK0BQt54uvhQ= (Disabled: false)

Peer info

publickey	Endpoint	Latest handshake	Transfer RX	Transfer TX
BkuYe0NGZ7QxtDeOrXinDhy2MAvTEmZK0BQt54uvhQ=	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 = E1HhauD8V0e6uuQ3qcg80kssQ5yN28D+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