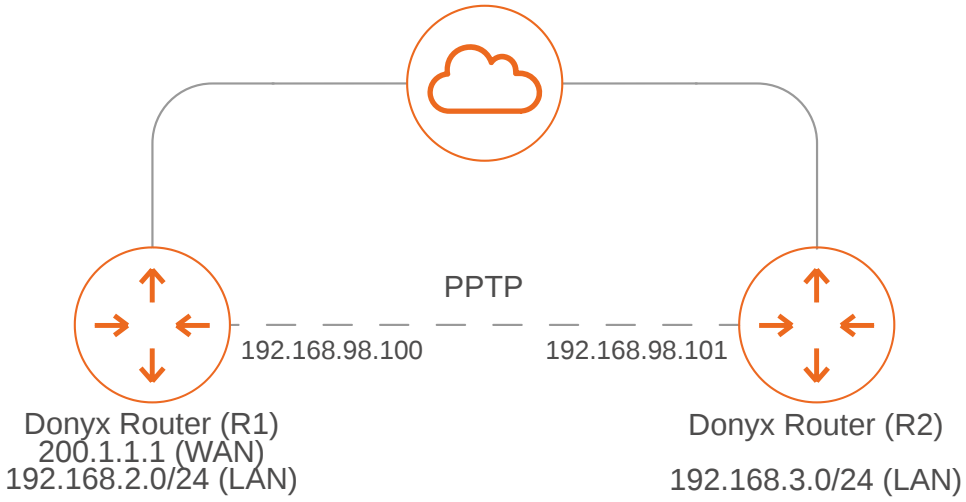
PPTP Server and Client Configuration on Donyx Routers

PPTP (Point-to-Point Tunneling Protocol) is a legacy protocol developed by Microsoft in the 1990s for establishing **Virtual Private Networks (VPN)**. While it provides basic secure connectivity, it is widely considered insecure due to outdated encryption methods. Consequently, it is recommended to implement **PPTP** in conjunction with **IPsec** rather than as a standalone protocol.

Donyx routers support both **PPTP Server** and **PPTP Client** modes. These devices feature automatic **IPsec** configuration for PPTP tunnels. Note that full mutual compatibility is guaranteed only between devices running the *dnxOS* platform; interoperability with third-party equipment may require manual adjustment.

Network integration via a PPTP tunnel:

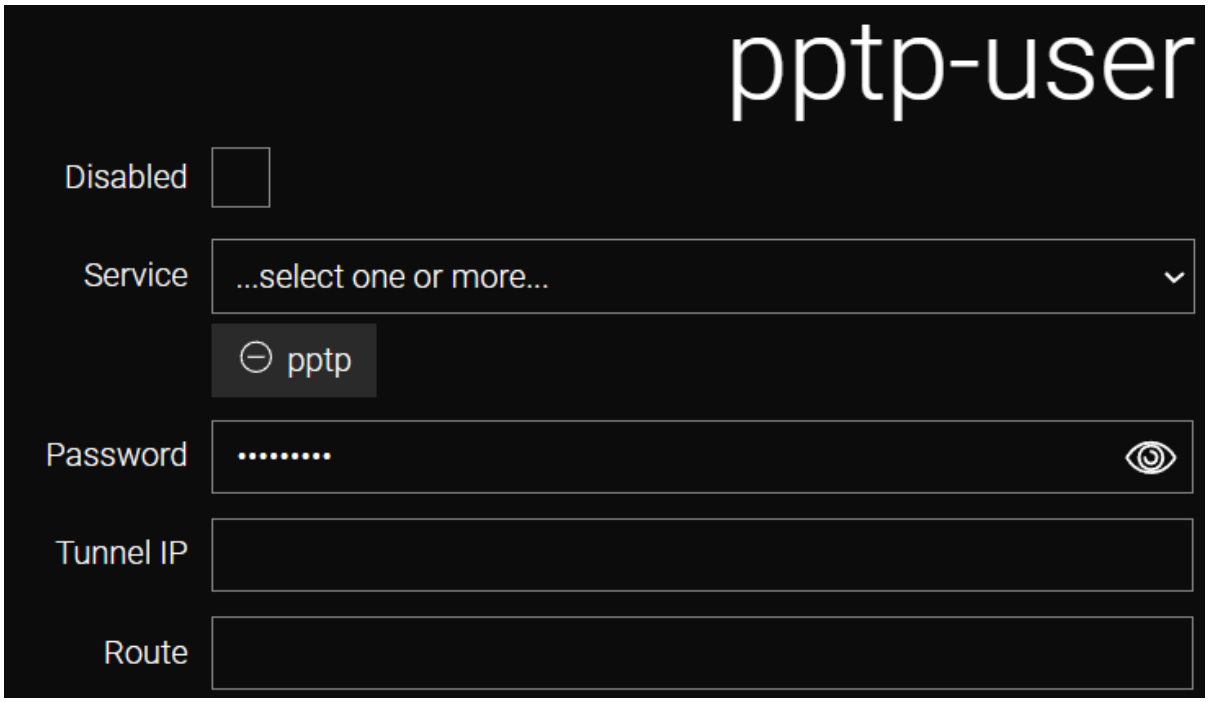


In this scenario, router *R1* acts as the **PPTP Server** with the public IP address *200.1.1.1* and the local network *192.168.2.0/24*. Router *R2* acts as the **PPTP Client** with the local network *192.168.3.0/24*.

Configuration on Router R1 (Server)

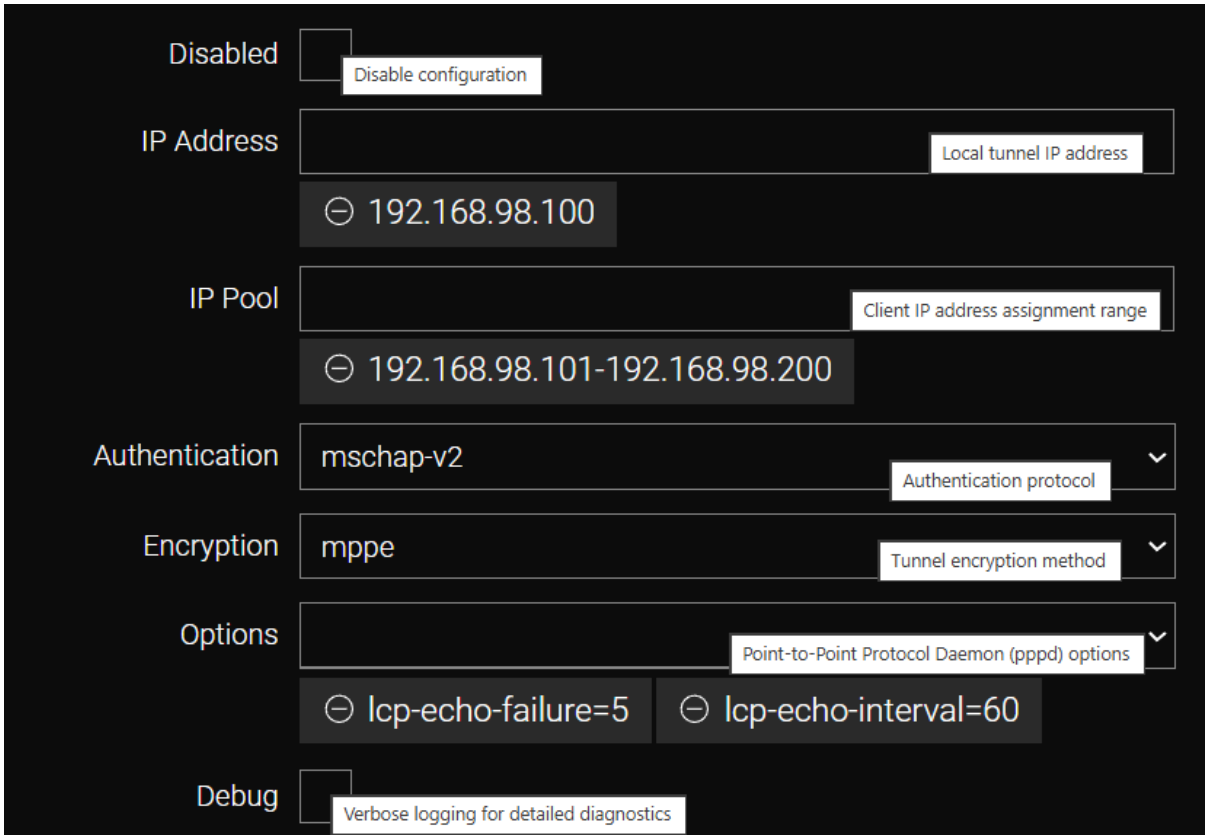
The first step in server configuration is the creation of user accounts for connecting clients.

The following procedure is performed in the */service/client* section:



1. Click the **Add** button and assign a name.
2. In the **Service** dropdown list, select the service for which the user is being created (e.g., *pptp*).
3. Specify the user password in the **Password** field.
4. Click **Apply**.

Once the account is created, navigate to the */service/pptp-server* section:



1. Set the **Encryption** parameter to *ipsec* and specify the key in the **Pre-Shared Key** field. Other settings remain at their default values.

CLI Configuration

```
/service pptp-server
    auth mschap-v2
    debug -
    disabled true
    encryption ipsec
    ip-addr -
    ip-addr 192.168.98.100
    ip-pool -
    ip-pool 192.168.98.101-192.168.98.200
    ppp-option -
    ppp-option lcp-echo-failure=5,lcp-echo-interval=60
    psk password

  /service pptp-server apply
```

Configuration on Router R2 (Client)

Navigate to the */tunnel/pptp* section and click the **Add** button. Assign a name for the connection (e.g., *PPTP*).

The PPTP Client configuration for router *R2* is illustrated in the figure below.

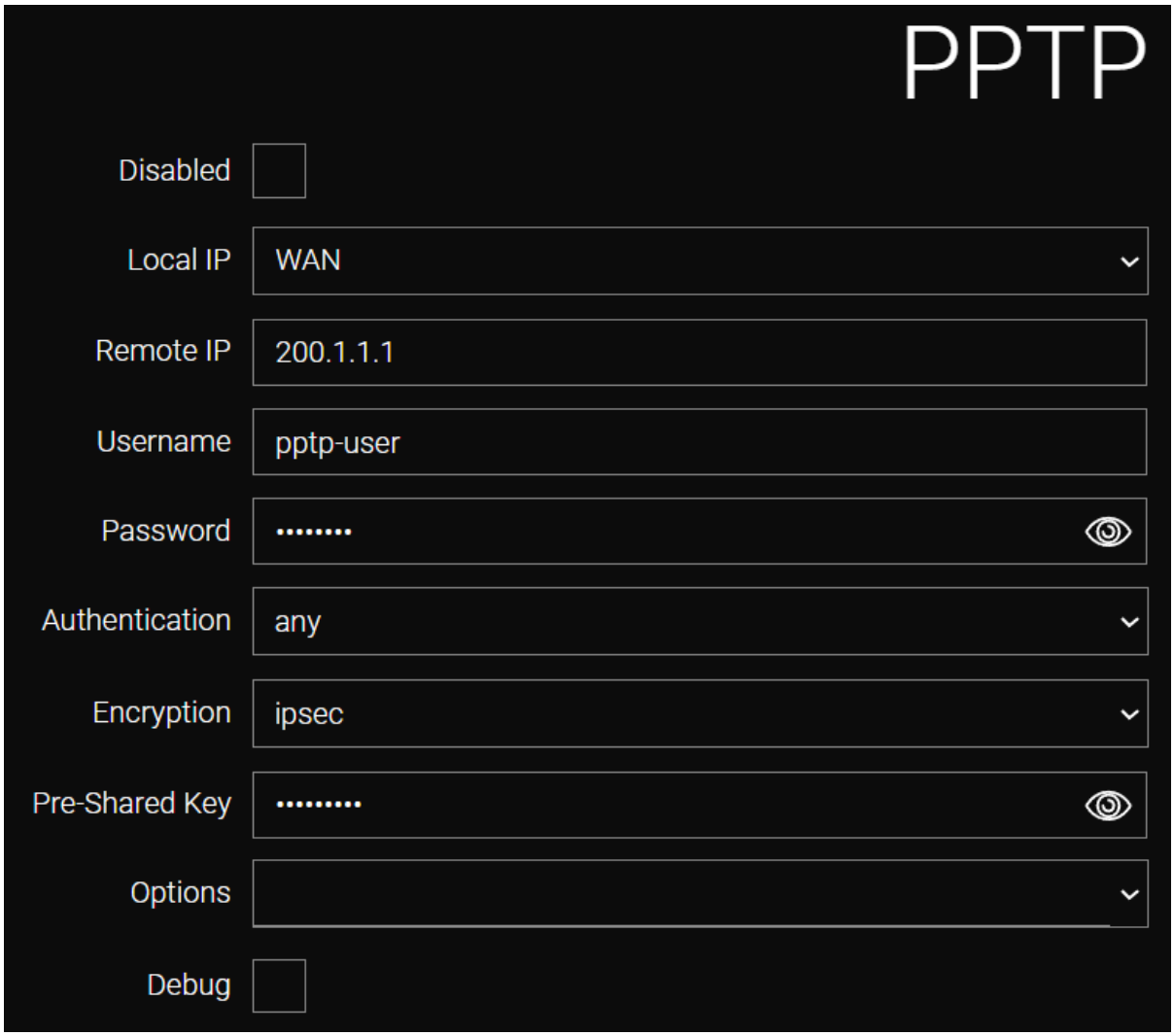


Table 1. Parameters for Router R2 (Client)

Field	Value
Local IP	*WAN* (selected from the list).
Remote IP	*200.1.1.1* (the server's public IP address).
User	*user* (must match the username created on the server).
Password	(password assigned to the user).
Encryption	*ipsec*
Pre-Shared Key	(the secret key, must match the server configuration).

CLI Configuration

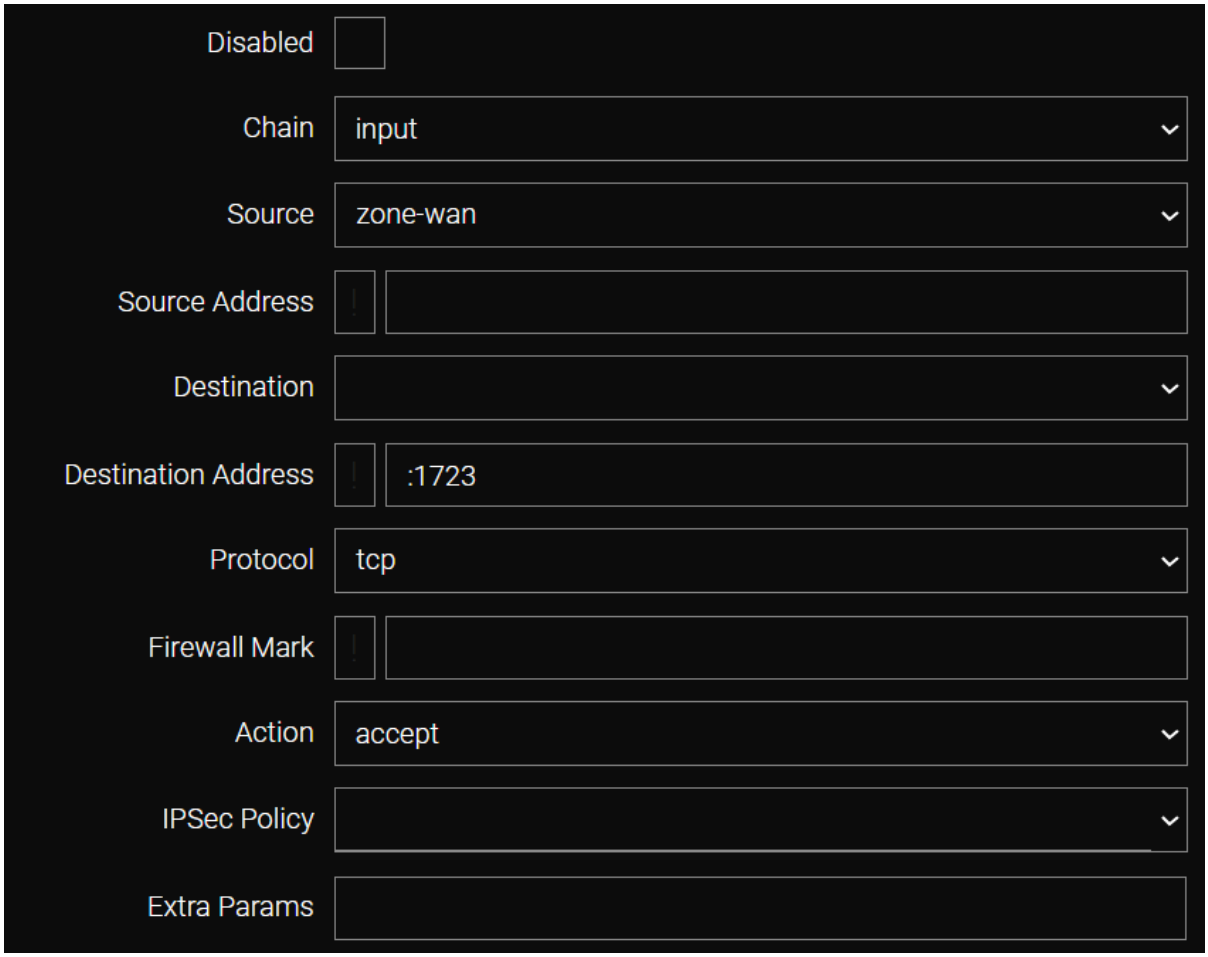
```
/tunnel pptp add name=PPTP
    auth any
    debug -
    disabled -
    encryption ipsec
    local-ip WAN
    password password
    ppp-option -
    psk ipseckey
    remote-ip 200.1.1.1
    username user

  /tunnel pptp apply
```

Firewall Configuration

When the **Encryption** parameter is set to *ipsec*, no additional firewall configuration is required on the router. However, if the *mmp* or *none* options are selected, a manual rule must be created to permit incoming traffic on TCP port *1723* for the **PPTP** server.

The rule is created in the */firewall/filter* section by clicking **Add** and completing the form with the following parameters:



After completing the configuration, click **Apply**. In the */firewall/filter* section, the newly created rule must be moved to the top of the list, ensuring it is positioned above any rules that deny traffic.

CLI Configuration

```
/firewall filter add chain=input
    action accept
    dst-addr :1723
    protocol tcp
    src zone-wan
    reorder position=-1
    apply
/firewall filter status
```

Configuring Routes for Local Network Access

In the */ip/route/list* section, click the **Add** button and define the routing parameters.

Router R1 (Server)

On the router acting as the server, the tunnel interface is automatically assigned the name *in_pptp0*.

1. In the **Target** field, specify the destination subnet (in this scenario, *192.168.3.0/24*).
2. In the **Source Interface** field, manually enter the interface name: *in_pptp0*.
3. The **Gateway** field should be left blank.
4. Click **OK**, then click **Apply**.

CLI Configuration

```
/ip route list add dst-addr=192.168.3.0/24 interface=in_pptp0
    disabled true
    metric -
    src-addr -
    table main
    type unicast
/ip route list apply
```

Router R2 (Client)

The following parameters are configured in the */ip/route/list* section:

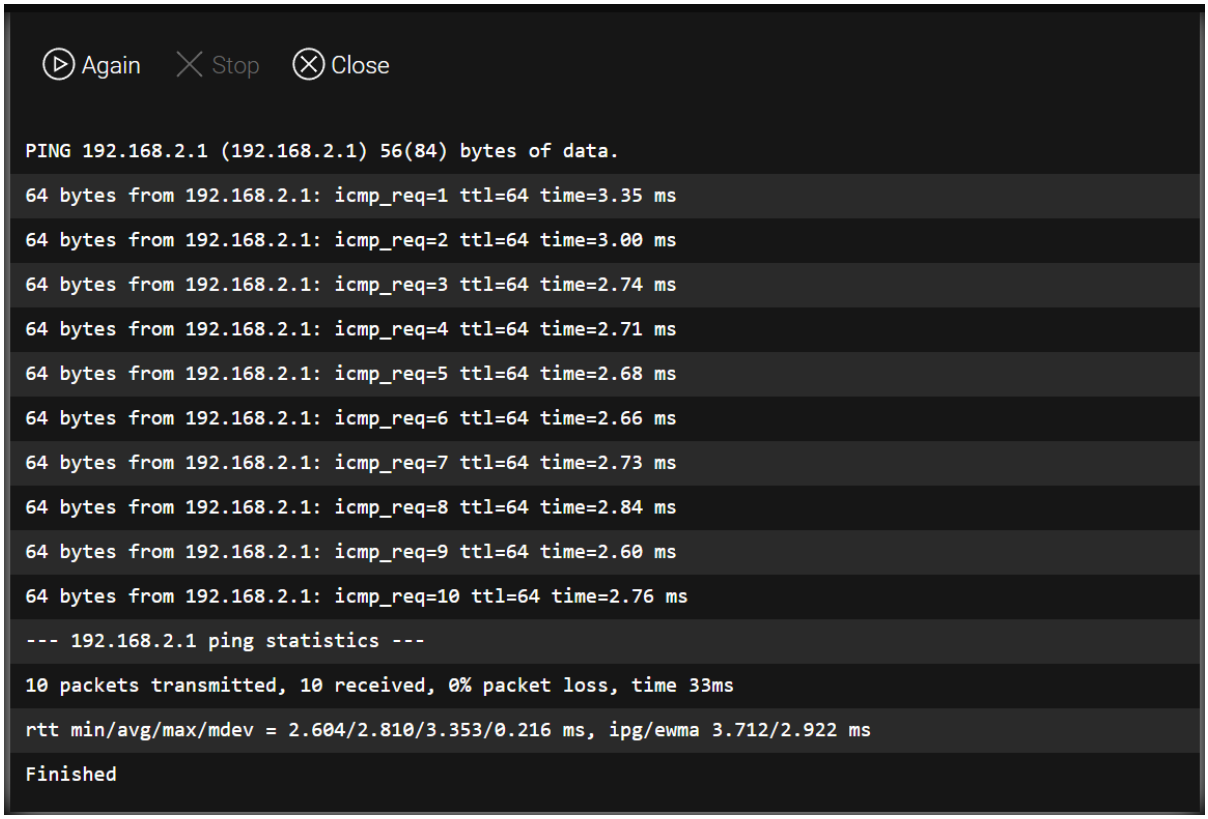
1. In the **Target** field, specify the destination subnet (in this scenario, *192.168.2.0/24*).
2. In the **Source Interface** field, select the tunnel interface name (in this example, *PPTP*).
3. The **Gateway** field should be left blank.
4. Click **OK**, then click **Apply**.

CLI Configuration

```
/ip route list add dst-addr=192.168.2.0/24 interface=PPTP
    disabled -
    gateway -
    metric -
    src-addr -
    table main
    type unicast
/ip route list apply
```

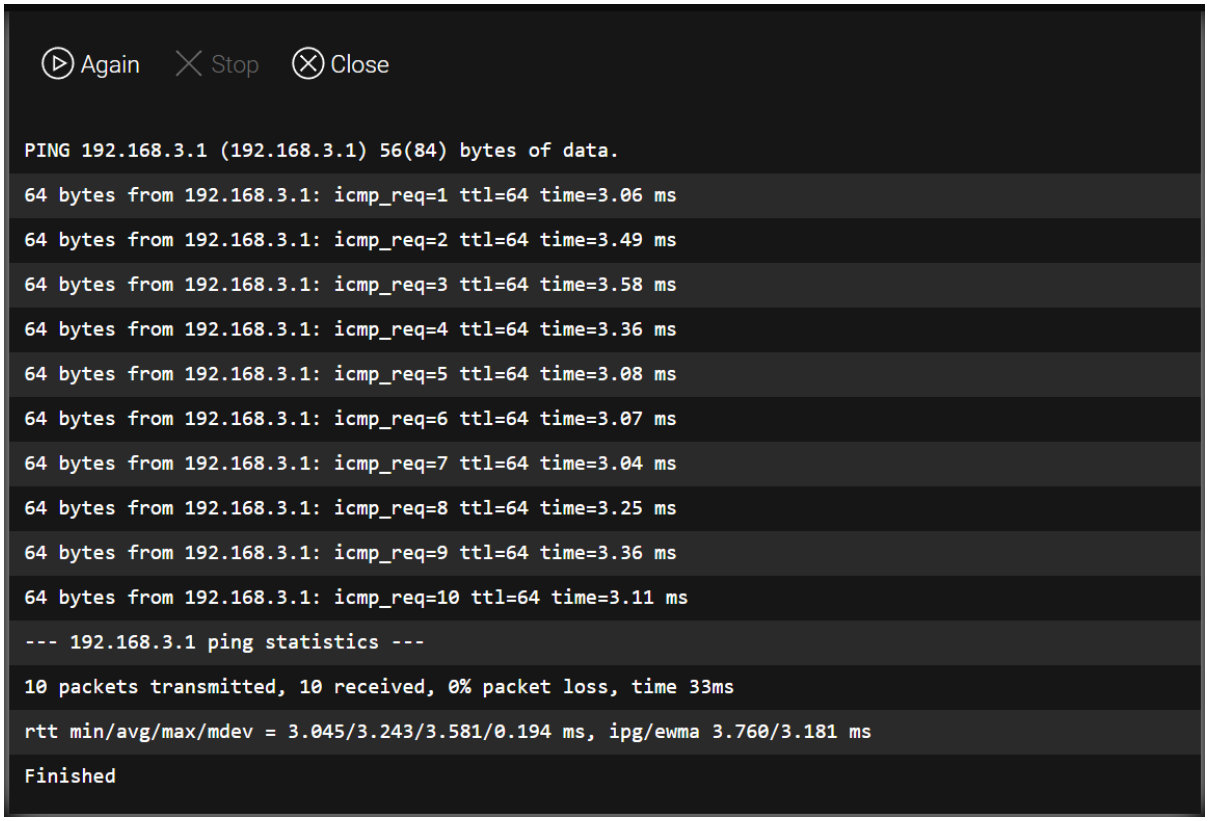
Ping (*/tools/ping*) — R2 to R1

Verify connectivity from the **PPTP Client** (*R2*) to the **PPTP Server** network (*R1*):



Ping (*/tools/ping*) — R1 to R2

Verify connectivity from the **PPTP Server** (*R1*) to the **PPTP Client** network (*R2*):



All modifications are permanently saved to the router configuration only after executing the */system config commit* command or clicking the **commit** button in the web interface.