Configuring Port Forwarding on Donyx Routers with Multiple Service Providers

If a router utilizes connection methods from two different providers—such as a cellular network and wired Internet, or a cellular network and Wi-Fi—configuring a **DNAT** rule alone is insufficient for port forwarding. According to routing principles, return traffic from a device behind **NAT** is directed via the **Default Route**. If the initial traffic arrived through an interface with a higher metric, this results in service unreachability. To ensure the reachability of a device behind **NAT**, incoming traffic must be marked, with return packets routed back to the original sender based on these marks.

Configuration Overview

- **Primary WAN Interface:** Wired connection.
- **Backup Interface:** Cellular connection (*sim1*).
- **Local Server:** Located at *192.168.1.100*, listening on port *80*.

Both interfaces are assigned public static **IP** addresses and are accessible via the Internet. Port *8000* will be published for external access.

Step 1

Create a **DNAT** rule in the */firewall/nat* section by clicking **Add** and selecting *prerouting* as the **Chain**.

Complete the form as shown in the example:

- In the **Source** list, select *zone-wan*.
- In the **Destination Address** field, specify port *8000* (entered as *:8000*).
- In the **Action** list, select *dnat*.
- In the **NAT Address** field, specify the IP address and port of the destination node: *192.168.1.100:80*.

Click **Apply**.

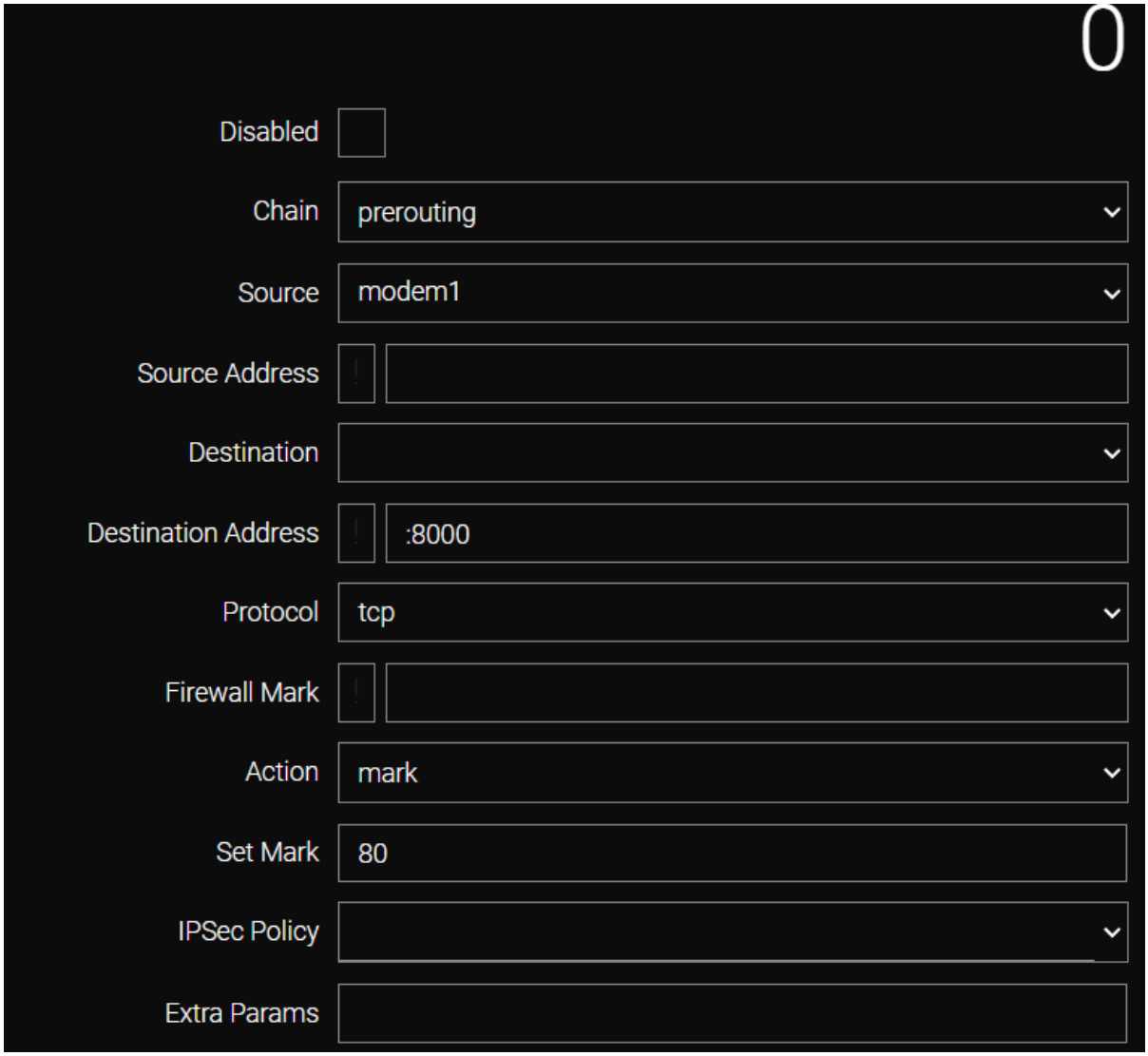
Step 2

Mark incoming traffic originating from the interface with the higher metric (lower priority).

Navigate to the */firewall/mangle* section, click **Add**, and select *prerouting* as the **Chain**.

Complete the form with the following parameters:

- **Source:** Specify the interface with the higher metric (lower priority). If the wired channel is primary, select the cellular interface (e.g., *modem1*).
- **Destination Address:** Specify port *8000* (the external port being forwarded).
- **Protocol:** Select *tcp*.
- **Action:** Select *mark*.
- **Set Mark:** Enter the mark value (e.g., *80*).


0
Disabled
Chain
prerouting
Source
modem1
Source Address
Destination
Destination Address
:8000
Protocol
tcp
Firewall Mark
Action
mark
Set Mark
80
IPSec Policy
Extra Params

Click **Apply**.

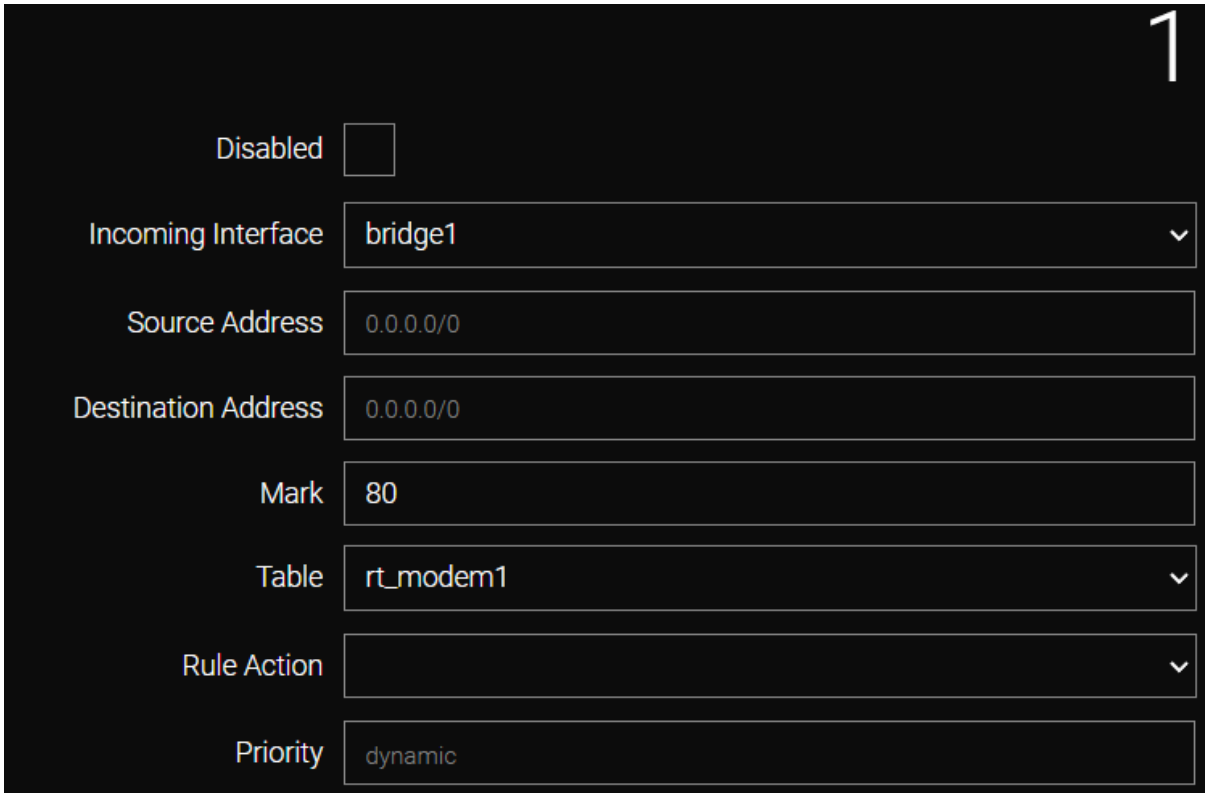
Step 3

Configure routing to ensure that marked return packets are directed to the correct interface.

In the */ip/route/rule* section, click **Add**. Complete the form as shown in the example:

- In the pop-up panel, select the bridge interface serving the local network from the **Incoming Interface** list.
- In the **Table** list, select *rt_modem1* (corresponding to the *modem1* interface) and click **OK**.

In the displayed form, specify the previously configured mark value in the **Mark** field and click **Apply**.



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.

CLI Configuration

1. DNAT rule creation.

```
/firewall nat add chain=prerouting
    action dnat
    dst-addr :8000
    nat-addr 192.168.1.100:80
    protocol tcp
    src zone-wan
    apply
```

2. Packet marking.

```
/firewall mangle add chain=prerouting
    action mark
    dst-addr :8000
    protocol tcp
    set-mark 80
    src modem1
    apply
```

3. Routing configuration.

```
/ip route rule add table=rt_modem1
    dst-addr 0.0.0.0/0
    interface bridge1
    mark 80
    src-addr 0.0.0.0/0
    apply
```

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.