

# TSW212 Network

[Main Page](#) > [TSW Switches](#) > [TSW212](#) > [TSW212 Manual](#) > [TSW212 WebUI](#) > [TSW212 Status section](#) > **TSW212 Network**

The information in this page is updated in accordance with firmware version .



## Contents

- [1 Summary](#)
- [2 Forwarding Table](#)
- [3 Spanning Tree](#)
- [4 DHCP Leases](#)
- [5 Routes](#)
  - [5.1 ARP](#)
  - [5.2 IPv4 Routes](#)
  - [5.3 IPv6 routes](#)
  - [5.4 IPv6 Neighbours](#)

## Summary

The **Network** page contains information related to the device's networking. This chapter is an overview of the Network page in TSW212 devices.

## Forwarding Table

The **Forwarding Table** also known as MAC table, is most commonly used in network bridging, routing, and similar functions to find the proper output network interface controller to which the input interface should forward a packet. It is a dynamic table that maps MAC addresses to ports.



field name	description
Port	Name of physical port.
VLAN	VLAN assigned to that port.
MAC Address	MAC address of devices connected to that port.

## Spanning Tree

The table shows the **Spanning Tree** states of each port.



Field name	Value	Description
Port	port number	Name of physical port.
Protocol	Inactive   STP   RSTP	Protocol used by the port.

State	Inactive   Learning   Forwarding   Blocking   Listening   Discarding	State of the port.
Role	Inactive   Root   Designated   Alternate   Backup	Role of the port. Roles are used only for RSTP.
Port cost	integer	Cost of the port is determined by the port speed. Higher speed ports have lower cost. Lower cost is more preferred by spanning tree.
Port priority	integer	Priority of the port is used when costs of the ports are the same. Lower priority is more preferred by spanning tree. Also the lowest priority port is put into forwarding state.

## DHCP Leases

The **DHCP Leases** table shows information about hosts and the time period for which a DHCP server allocates a network address to a client.



field name	description
Host name	Client name.
IP address	Leased IP address.
MAC address	MAC address of the device.
Leasing remaining	Remaining time on the lease.
-interactive button "Create Static"	This action will reserve currently assigned IP address for the device in <a href="#">Here</a>

## Routes

### ARP

The **Address Resolution Protocol (ARP)** is a communication protocol used for mapping an Internet Protocol address (IP address) to a physical machine's link layer address (MAC address) belonging to the local network.

The ARP section displays the router's **ARP cache** (also known as ARP table) data. The ARP cache contains information on each known MAC address and its corresponding IP address. When the router receives a packet destined for a local host, the ARP program attempts to find a physical host or MAC address in the ARP cache that matches the IP address. If the ARP cache doesn't contain the needed IP address, ARP broadcasts a request packet to all LAN machines in order to find the device with the IP address in question.

The figure below is an example of the ARP cache section:



Field name	Value	Description
IP address	ip; Default: <b>none</b>	IP address of a local host.
MAC address	mac; Default: <b>none</b>	MAC address of a local host.
Interface	string; Default: <b>none</b>	Interface through which the router is associated with the host.

You can also view the ARP cache via shell using the **arp** or **ip neigh** commands, depending on which output you prefer:

```
root@Teltonika-TSW212:~# arp
IP address      HW type  Flags       HW address    Mask
Device
192.168.11.126  0x1     0x2        00:1e:42:00:00:00  *
br0.1

root@Teltonika-TSW212:~# ip neigh
192.168.11.126 dev br0.1 lladdr 00:1e:42:00:00:00 STALE
```

## IPv4 Routes

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The **IPv4 Routes** section displays the router's **routing table**. A routing table contains a list of routes to network destinations associated with and known by the router.

The figure below is an example of the Active IP routes section:



Field name	Value	Description
Network	string; Default: <b>none</b>	Associated network interface name.
Target	ip   ip/netmask; Default: <b>none</b>	Destination network address.
IPv4 gateway	ip; Default: <b>none</b>	Indicates the IP address of the gateway through which the target network can be reached.
Metric	integer [0..4,294,967,295]; Default: <b>none</b>	Metrics help the router choose the best route among multiple feasible routes to a destination. The route will go in the direction of the gateway with the lowest metric value.
Table	string   integer; Default: <b>none</b>	Name or number of the associated routing table.

You can also view the routing table via shell using the **route** or **ip route** commands, depending on which output you prefer:

```
root@Teltonika-TSW212:~# route
Kernel IP routing table
Destination    Gateway        Genmask       Flags Metric Ref    Use Iface
default        RUTX12.lan    0.0.0.0       UG    2      0      0 br0.1
192.168.11.0   *             255.255.255.0 U    1      0      0 br0.1
192.168.12.0   *             255.255.255.0 U    2      0      0 br0.1
```


```
root@Teltonika-TSW212:~# ip route
default via 192.168.12.1 dev br0.1 proto static src 192.168.12.125 metric 2
192.168.11.0/24 dev br0.1 proto static scope link src 192.168.11.2 metric 1
offload
192.168.12.0/24 dev br0.1 proto static scope link src 192.168.12.125 metric 2
offload
```

# IPv6 routes

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The **IPv6 Routes** section displays the router's IPv6 routing table.

The figure below is an example of the IPv6 routes section:



Field name	Value	Description
Network	string; Default: <b>none</b>	Associated network interface name.
Target	ip6   ip6/netmask; Default: <b>none</b>	Destination network address.
IPv6-Gateway	ip6   ip6/netmask; Default: <b>none</b>	Source of the network address.
Metric	integer [0..4,294,967,295]; Default: <b>none</b>	Metrics help the router choose the best route among multiple feasible routes to a destination. The route will go in the direction of the gateway with the lowest metric value.
Table	string   integer; Default: <b>none</b>	Name or number of the associated routing table.

You can also view the routing table via shell using the **route -A inet6** or **ip -6 route show** commands, depending on which output you prefer:


```
root@Teltonika-TSW212:~# ip -6 route
fda0:4802:e99d::/48 from fda0:4802:e99d::/64 via fe80::21e:42ff:fe5a:7a10 dev
br0.1 proto static metric 512 pref medium
fda0:4802:e99d::/64 dev br0.1 proto static metric 256 pref medium
unreachable fda0:4802:e99d::/64 dev lo proto static metric 2147483647 pref
medium
fe80::/64 dev eth0 proto kernel metric 256 pref medium
fe80::/64 dev br0 proto kernel metric 256 pref medium
fe80::/64 dev br0.1 proto kernel metric 256 pref medium
```

# IPv6 Neighbours

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The **IPv6 Neighbours** section displays IPv6 associated neighbours.

The figure below is an example of the Active IPv6 Neighbours section:



Field name	Value	Description
IPv6 Address	ip6; Default: <b>none</b>	IPv6 address of the associated neighbour.
MAC Address	ip6; Default: <b>none</b>	MAC address of the associated neighbour.
Interface	string; Default: <b>none</b>	Name of the associated network interface.