

## Docker iperf3

The presentation uses the configuration from "router01\_build", "router01\_nonroot-docker\_start-set\_addr.pdf" and docker01\_macvlan.pdf" as preparation for this presentation.

Preuss  
3/7/2020

```
albatross01@linux-s2020:~> /sbin/ip a sh
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
   inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
   inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
   link/ether 00:0c:29:2c:05:ca brd ff:ff:ff:ff:ff:ff
   inet 192.168.117.168/24 brd 192.168.117.255 scope global noprefixroute dynamic eth0
       valid_lft 1749sec preferred_lft 1749sec
   inet6 fe80::7bd7:3627:c0be:957c/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
   link/ether 00:0c:29:2c:05:d4 brd ff:ff:ff:ff:ff:ff
   inet 192.168.100.25/24 scope global eth1
       valid_lft forever preferred_lft forever
   inet6 2001:db8:abba:100::25/64 scope global
       valid_lft forever preferred_lft forever
   inet6 fe80::20c:29ff:fe2c:5d4/64 scope link
       valid_lft forever preferred_lft forever
4: eth2: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
   link/ether 00:0c:29:2c:05:de brd ff:ff:ff:ff:ff:ff
   inet 172.16.200.30/24 scope global eth2
       valid_lft forever preferred_lft forever
   inet6 2001:db8:abba:200::30/64 scope global
       valid_lft forever preferred_lft forever
   inet6 fe80::3de7:fe22:1bde:2f2f/64 scope link
       valid_lft forever preferred_lft forever
5: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
   link/ether 02:42:4d:ef:50:fd brd ff:ff:ff:ff:ff:ff
   inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
       valid_lft forever preferred_lft forever
albatross01@linux-s2020:~> █
```

The presentation verifies the host IP address settings.

```
albatross01@linux-s2020:~> docker version
```

```
Client:
```

```
Version:      19.03.5
API version:  1.40
Go version:   go1.12.12
Git commit:   633a0ea838f1
Built:        Thu Dec 12 12:00:00 2019
OS/Arch:      linux/amd64
Experimental: false
```

```
Server:
```

```
Engine:
```

```
Version:      19.03.5
API version:  1.40 (minimum version 1.12)
Go version:   go1.12.12
Git commit:   633a0ea838f1
Built:        Thu Dec 12 12:00:00 2019
OS/Arch:      linux/amd64
Experimental: false
```

```
containerd:
```

```
Version:      v1.2.10
GitCommit:    b34a5c8af56e510852c35414db4c1f4fa6172339
```

```
runc:
```

```
Version:      1.0.0-rc8+dev
GitCommit:    3e425f80a8c931f88e6d94a8c831b9d5aa481657
```

```
docker-init:
```

```
Version:      0.1.3_catatonit
GitCommit:
```

```
albatross01@linux-s2020:~> █
```

The presentation verifies Docker is running.

```
albatross01@linux-s2020:~> docker network ls
```

NETWORK ID	NAME	DRIVER	SCOPE
a9ff53448eaa	bridge	bridge	local
e90590eac5bf	host	host	local
783bb9fc00ca	internal01	macvlan	local
4bf624d8506a	internal02	macvlan	local
99e3796fd85f	none	null	local

```
albatross01@linux-s2020:~> █
```

The presentation verifies "internal01" and "internal02" macvlans are created.

```
albatross01@linux-s2020:~> docker network inspect internal01
```

```
[
  {
    "Name": "internal01",
    "Id": "783bb9fc00caa6dc8d53e9c3348ce5f634c9cbc10ee2aa17a20dedc70fccf0d1",
    "Created": "2020-03-07T11:41:26.567386207-06:00",
    "Scope": "local",
    "Driver": "macvlan",
    "EnableIPv6": false,
    "IPAM": {
      "Driver": "default",
      "Options": {},
      "Config": [
        {
          "Subnet": "192.168.100.0/24",
          "Gateway": "192.168.100.50"
        },
        {
          "Subnet": "2001:db8:abba:100::25/64",
          "Gateway": "2001:db8:abba:100::50"
        }
      ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
      "Network": ""
    },
    "ConfigOnly": false,
    "Containers": {},
    "Options": {
      "parent": "eth1"
    },
    "Labels": {}
  }
]
```

```
albatross01@linux-s2020:~> █
```

The presentation verifies "internal01" configuration.

```
albatross01@linux-s2020:~> docker network inspect internal02
```

```
[
  {
    "Name": "internal02",
    "Id": "4bf624d8506ad542eba8933b8a5e642f8bace085a29bd26c4030aafbbba29cf4",
    "Created": "2020-03-07T11:43:27.913961675-06:00",
    "Scope": "local",
    "Driver": "macvlan",
    "EnableIPv6": false,
    "IPAM": {
      "Driver": "default",
      "Options": {},
      "Config": [
        {
          "Subnet": "172.16.200.0/24",
          "Gateway": "172.16.200.60"
        },
        {
          "Subnet": "2001:db8:abba:200::/64",
          "Gateway": "2001:db8:abba:200::60"
        }
      ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
      "Network": ""
    },
    "ConfigOnly": false,
    "Containers": {},
    "Options": {
      "parent": "eth2"
    },
    "Labels": {}
  }
]
```

```
albatross01@linux-s2020:~> █
```

The presentation verifies "internal02" configuration.

```
albatross01@linux-s2020:~> docker run networkstatic/iperf3
Unable to find image 'networkstatic/iperf3:latest' locally
latest: Pulling from networkstatic/iperf3
fdd5d7827f33: Pull complete
a3ed95caeb02: Pull complete
22274e444c23: Pull complete
Digest: sha256:8988aad45ef7871dc73d6dfbdbc92496ab126b31cd1812fc4a977197f62fa3e4
Status: Downloaded newer image for networkstatic/iperf3:latest
iperf3: parameter error - must either be a client (-c) or server (-s)

Usage: iperf [-s|-c host] [options]
       iperf [-h|--help] [-v|--version]

Server or Client:
  -p, --port #          server port to listen on/connect to
  -f, --format [kmgKMG] format to report: Kbits, Mbits, KBytes, MBytes
  -i, --interval #     seconds between periodic bandwidth reports
  -F, --file name      xmit/recv the specified file
  -A, --affinity n/n,m set CPU affinity
  -B, --bind <host>   bind to a specific interface
  -V, --verbose        more detailed output
  -J, --json           output in JSON format
  -d, --debug          emit debugging output
  -v, --version        show version information and quit
  -h, --help          show this message and quit

Server specific:
  -s, --server         run in server mode
  -D, --daemon         run the server as a daemon

Client specific:
  -c, --client <host> run in client mode, connecting to <host>
  -u, --udp            use UDP rather than TCP
  -b, --bandwidth #[KMG][/#] target bandwidth in bits/sec (0 for unlimited)
                        (default 1 Mbit/sec for UDP, unlimited for TCP)
                        (optional slash and packet count for burst mode)
  -t, --time #        time in seconds to transmit for (default 10 secs)
  -n, --bytes #[KMG]  number of bytes to transmit (instead of -t)
  -k, --blockcount #[KMG] number of blocks (packets) to transmit (instead of -t or -n)
  -l, --len #[KMG]    length of buffer to read or write
                        (default 128 KB for TCP, 8 KB for UDP)
  -P, --parallel #    number of parallel client streams to run
  -R, --reverse        run in reverse mode (server sends, client receives)
  -w, --window #[KMG] TCP window size (socket buffer size)
```

The presentation pulls and starts the "networkstatic/iperf3" image.

```
albatross01@linux-s2020:~> docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
f69885e78bc9       networkstatic/iperf3  "iperf3"           39 seconds ago     Exited (1) 38 seconds ago                charming_shamir
albatross01@linux-s2020:~> █
```

The presentation verifies the image is available on the local system.



```
albatross01@linux-s2020:~> docker run -it --rm --name=iperf3-server --net=internal01 --ip=192.168.100.15 -p 5201:5201 networkstatic/iperf3 -s
```

The presentation names and starts an iperf3 server as shown.

```
albatross01@linux-s2020:~> docker run -it --rm --name=iperf3-server --net=internal01 --ip=192.168.100.15 -p 5201:5201 networkstatic/iperf3 -s  
-----  
Server listening on 5201  
-----  
█
```

The iperf3 server is successfully started.

```
albatross01@linux-s2020:~> docker run -it --rm --name=iperf3-server --net=internal01 --ip=192.168.100.15 -p 5201:5201 networkstatic/iperf3 -s
```

```
-----  
Server listening on 5201  
-----  
█
```

```
albatross01@linux-s2020:~> docker run -it --rm --name=test01 --net=internal01 networkstatic/iperf3 -c 192.168.100.15█
```

The presentation opens another terminal window. The presentation names and starts an iperf3 client.

```
Accepted connection from 192.168.100.1, port 47888
[ 5] local 192.168.100.15 port 5201 connected to 192.168.100.1 port 47890
[ ID] Interval      Transfer    Bandwidth
[ 5]  0.00-1.00    sec  6.79 GBytes 58.3 Gbits/sec
[ 5]  1.00-2.00    sec  7.62 GBytes 65.4 Gbits/sec
[ 5]  2.00-3.00    sec  6.88 GBytes 59.1 Gbits/sec
[ 5]  3.00-4.00    sec  7.48 GBytes 64.2 Gbits/sec
[ 5]  4.00-5.00    sec  7.13 GBytes 61.3 Gbits/sec
[ 5]  5.00-6.00    sec  8.03 GBytes 69.0 Gbits/sec
```

```
Connecting to host 192.168.100.15, port 5201
[ 4] local 192.168.100.1 port 47890 connected to 192.168.100.15 port 5201
[ ID] Interval      Transfer    Bandwidth    Retr  Cwnd
[ 4]  0.00-1.00    sec  7.01 GBytes 60.2 Gbits/sec  70  1.06 MBytes
[ 4]  1.00-2.00    sec  7.65 GBytes 65.7 Gbits/sec   0  1.07 MBytes
[ 4]  2.00-3.00    sec  6.84 GBytes 58.7 Gbits/sec   0  1.07 MBytes
[ 4]  3.00-4.00    sec  7.52 GBytes 64.6 Gbits/sec   0  1.07 MBytes
[ 4]  4.00-5.00    sec  7.14 GBytes 61.3 Gbits/sec   0  1.07 MBytes
[ 4]  5.00-6.00    sec  8.02 GBytes 68.9 Gbits/sec   0  1.07 MBytes
```

The iperf3 server and client measure the performance.

```
albatross01@linux-s2020:~> docker run -it --rm --name=iperf3-server --net=internal01 --ip=192.168.100.15 -p 5201:5201 networkstatic/iperf3 -s
```

```
-----  
Server listening on 5201  
-----
```

```
Accepted connection from 192.168.100.1, port 47888
```

```
[ 5] local 192.168.100.15 port 5201 connected to 192.168.100.1 port 47890
```

[ ID]	Interval		Transfer	Bandwidth
[ 5]	0.00-1.00	sec	6.79 GBytes	58.3 Gbits/sec
[ 5]	1.00-2.00	sec	7.62 GBytes	65.4 Gbits/sec
[ 5]	2.00-3.00	sec	6.88 GBytes	59.1 Gbits/sec

```
albatross01@linux-s2020:~> docker run -it --rm --name=test01 --net=internal01 networkstatic/iperf3 -c 192.168.100.15
```

```
Connecting to host 192.168.100.15, port 5201
```

```
[ 4] local 192.168.100.1 port 47890 connected to 192.168.100.15 port 5201
```

[ ID]	Interval		Transfer	Bandwidth	Retr	Cwnd
[ 4]	0.00-1.00	sec	7.01 GBytes	60.2 Gbits/sec	70	1.06 MBytes
[ 4]	1.00-2.00	sec	7.65 GBytes	65.7 Gbits/sec	0	1.07 MBytes
[ 4]	2.00-3.00	sec	6.84 GBytes	58.7 Gbits/sec	0	1.07 MBytes
[ 4]	3.00-4.00	sec	7.52 GBytes	64.6 Gbits/sec	0	1.07 MBytes
[ 4]	4.00-5.00	sec	7.14 GBytes	61.3 Gbits/sec	0	1.07 MBytes
[ 4]	5.00-6.00	sec	8.02 GBytes	68.9 Gbits/sec	0	1.07 MBytes

```
albatross01@linux-s2020:~> docker run -it --name=test02 --net=internal02 networkstatic/iperf3 -c 192.168.100.15
```

The presentation names and starts an iperf3 client in "internet02".

```

albatross01 : docker — Konsole
File Edit View Bookmarks Settings Help
[ 5] 9.00-10.00 sec 7.11 GBytes 61.0 Gbits/sec
[ 5] 10.00-10.04 sec 269 MBytes 64.4 Gbits/sec
-----
[ ID] Interval          Transfer      Bandwidth      Retr
[ 5]  0.00-10.04 sec 73.4 GBytes 62.8 Gbits/sec 70
[ 5]  0.00-10.04 sec 73.4 GBytes 62.8 Gbits/sec
-----
Server listening on 5201
-----

```

```

albatross01 : bash — Konsole
File Edit View Bookmarks Settings Help
[ 4] 7.00-8.00 sec 7.34 GBytes 63.0 Gbits/sec 0 1.10 MBytes
[ 4] 8.00-9.00 sec 7.51 GBytes 64.5 Gbits/sec 0 1.12 MBytes
[ 4] 9.00-10.00 sec 7.12 GBytes 61.2 Gbits/sec 0 1.13 MBytes
-----
[ ID] Interval          Transfer      Bandwidth      Retr
[ 4]  0.00-10.00 sec 73.4 GBytes 63.1 Gbits/sec 70
[ 4]  0.00-10.00 sec 73.4 GBytes 63.1 Gbits/sec
-----
iperf Done.
albatross01@linux-s2020:~>

```

```

albatross01 : bash — Konsole <2>
File Edit View Bookmarks Settings Help
albatross01@linux-s2020:~> docker run -it --name=test02 --net=internet02 networkstatic/iperf3 -c 192.168.100.15
^C- - - - -
[ ID] Interval          Transfer      Bandwidth      Retr
albatross01@linux-s2020:~>

```

The iperf3 client in "internet02" fails to connect. It is time to examine the firewall rules.



Home

The presentation connects to the pfSense GUI as shown.  
The presentation selects the "Advanced" option.

## Potential Security Risk Ahead

Firefox detected a potential security threat and did not continue to 192.168.100.50. If you visit this site, attackers could try to steal information like your passwords, emails, or credit card details.

[Learn more...](#)

Go Back (Recommended)

Advanced...



Home



# Warning: Potential Security Risk Ahead

Firefox detected a potential security threat and did not continue to 192.168.100.50. If you visit this site, attackers could try to steal information like your passwords, emails, or credit card details.

[Learn more...](#)

Go Back (Recommended)

Advanced...

The presentation selects "Accept the Risk and Continue"

via certificates. Firefox does not trust this site because it uses a  
192.168.100.50. The certificate is only valid for pfSense-

ERROR\_SELF\_SIGNED\_CERT

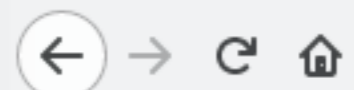
Go Back (Recommended)

Accept the Risk and Continue





Home



[Login to pfSense](#)

## SIGN IN

*admin*

.....

SIGN IN

The presentation log in with the "admin" account and the default password.



Home

pfSense.localdomain - Wizard: pfSense Setup: - Mozilla Firefox

pfSense.localdomain - Wiza X +

[https://192.168.100.50/wizard.php?xml=setup\\_wizard.xml](https://192.168.100.50/wizard.php?xml=setup_wizard.xml)

**pfSense**  
COMMUNITY EDITION

System ▾ Interfaces ▾ Firewall ▾ Services ▾ VPN ▾ Status ▾ Diagnostics ▾ Help ▾

**WARNING:** The 'admin' account password is set to the default value. [Change the password in the User Manager.](#)

Wizard / [pfSense Setup](#) /

Step

## pfSense Setup

**Welcome to pfSense® software!**

This wizard will provide guidance through the initial configuration of pfSense.

The wizard may be stopped at any time by clicking the logo image at the top of the screen.

**pfSense® software is developed and maintained by Netgate®**

[Learn more](#)

» Next

The presentation selects "Next" to continue.

pfSense is developed and maintained by **Netgate**. © ESF 2004 - 2020 [View license](#).





Home

**WARNING:** The 'admin' account password is set to the default value. [Change the password in the User Manager.](#)

Wizard / pfSense Setup / Netgate® Global Support is available 24/7

Step 1 of 9

### Netgate® Global Support is available 24/7

Our 24/7 worldwide team of support engineers are the most qualified to diagnose your issue and resolve it quickly, from branch office to enterprise – on premises to cloud.

We offer several support subscription plans tailored to fit different environment sizes and requirements. Many companies around the world choose Netgate support because:

- Support is available 24 hours a day, seven days a week, including holidays.
- Support engineers are located around the world, ensuring that no support call is missed.
- Our support engineers hold many prestigious network engineer certificates and have extensive experience.

[Learn more](#)

» Next

The presentation selects "Next" to continue.



Home



**WARNING:** The 'admin' account password is set to the default value. [Change the password in the User Manager.](#)

### Wizard / pfSense Setup / General Information

Step 2 of 9

#### General Information

On this screen the general pfSense parameters will be set.

**Hostname**

EXAMPLE: myserver

**Domain**

EXAMPLE: mydomain.com

The default behavior of the DNS Resolver will ignore manually configured DNS servers. To use manually configured DNS servers below for client queries, visit Services > DNS Resolver.

**Primary DNS Server**

**Secondary DNS Server**

**Override DNS**

Allow DNS servers to be overridden by DHCP/PPP on WAN

>> Next

The presentation sets the router name, then select "Next" to continue.



Home



**WARNING:** The 'admin' account password is set to the default value. [Change the password in the User Manager.](#)

Wizard / pfSense Setup / Time Server Information

Step 3 of 9

Time Server Information

Please enter the time, date and time zone.

**Time server hostname**

Enter the hostname (FQDN) of the time server.

**Timezone**

» Next

The presentation sets the time zone.



Home



**WARNING:** The 'admin' account password is set to the default value. [Change the password in the User Manager.](#)

### Wizard / pfSense Setup / Configure WAN Interface

Step 4 of 9

#### Configure WAN Interface

On this screen the Wide Area Network information will be configured.

**SelectedType**

#### General configuration

**MAC Address**

This field can be used to modify ("spoof") the MAC address of the WAN interface (may be required with some cable connections). Enter a MAC address in the following format: xx:xx:xx:xx:xx:xx or leave blank.

**MTU**

Set the MTU of the WAN interface. If this field is left blank, an MTU of 1492 bytes for PPPoE and 1500 bytes for all other connection types will be assumed.

**MSS**

If a value is entered in this field, then MSS clamping for TCP connections to the value entered above minus 40 (TCP/IP header size) will be in effect. If this field is left blank, an MSS of 1492 bytes for PPPoE and 1500 bytes for all other connection types will be assumed. This should match the above MTU value in most all cases.

#### Static IP Configuration



Home

**PPTP Local IP Address**

**pptplocalsubnet**

**PPTP Remote IP Address**

**PPTP Dial on demand**  Enable Dial-On-Demand mode  
 This option causes the interface to operate in dial-on-demand mode, allowing a virtual full time connection. The interface is configured, but the actual connection of the link is delayed until qualifying outgoing traffic is detected.

**PPTP Idle timeout**   
 If no qualifying outgoing packets are transmitted for the specified number of seconds, the connection is brought down. An idle timeout of zero disables this feature.

**RFC1918 Networks**

**Block RFC1918 Private Networks**  Block private networks from entering via WAN  
 When set, this option blocks traffic from IP addresses that are reserved for private networks and loopback addresses (127/8). This option should generally be left turned on, unless the WAN interface is configured to be used as a bridge.

**Block bogon networks**

**Block bogon networks**  Block non-Internet routed networks from entering via WAN  
 When set, this option blocks traffic from IP addresses that are reserved (but not RFC 1918) and should never appear in the Internet routing table, and obviously should not appear as the source of traffic.

» Next

The presentation selects "Next" to continue.



Home



**WARNING:** The 'admin' account password is set to the default value. [Change the password in the User Manager.](#)

Wizard / pfSense Setup / Configure LAN Interface

Step 5 of 9

Configure LAN Interface

On this screen the Local Area Network information will be configured.

LAN IP Address

Type dhcp if this interface uses DHCP to obtain its IP address.

Subnet Mask

» Next

The presentation selects "Next" to continue.





Home

**WARNING:** The 'admin' account password is set to the default value. [Change the password in the User Manager.](#)

Wizard / pfSense Setup / Set Admin WebGUI Password

Step 6 of 9

### Set Admin WebGUI Password

On this screen the admin password will be set, which is used to access the WebGUI and also SSH services if enabled.

**Admin Password**

**Admin Password AGAIN**

>> Next

The presentation changes the "admin" password.



Home

Wizard / pfSense Setup / Reload configuration ?

Step 7 of 9

**Reload configuration**

Click 'Reload' to reload pfSense with new changes.

» Reload

The presentation selects "Reload" to continue.





Home

### Firewall / Rules / WAN

Floating WAN LAN OPT1

Rules (Drag to Change Order)

<input type="checkbox"/>	States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
<input checked="" type="checkbox"/>	0 / 0 B	*	RFC 1918 networks	*	*	*	*	*		Block private networks	⚙️
<input checked="" type="checkbox"/>	0 / 4 KiB	*	Reserved Not assigned by IANA	*	*	*	*	*		Block bogon networks	⚙️

No rules are currently defined for this interface  
All incoming connections on this interface will be blocked until pass rules are added. Click the button to add a new rule.

The presentation does not change the WAN firewall rules.

↑ Add ↓ Add 🗑️ Delete 💾 Save + Separator





Home

### Firewall / Rules / LAN

Floating WAN LAN OPT1

#### Rules (Drag to Change Order)

<input type="checkbox"/>	States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
<input checked="" type="checkbox"/>	1 / 1.38 MiB	*	*	*	LAN Address	443 80	*	*		Anti-Lockout Rule	
<input type="checkbox"/>	0 / 504 B	IPv4 *	LAN net	*	*	*	*	none		Default allow LAN to any rule	
<input type="checkbox"/>	0 / 19 KiB	IPv6 *	LAN net	*	*	*	*	none		Default allow LAN IPv6 to any rule	

Add Add Delete Save Separator



The presentation does not change the default LAN firewall rules.



Home

Firewall / Rules / OPT1 ☰ 📊 📄 ?

Floating WAN LAN OPT1

Rules (Drag to Change Order)

<input type="checkbox"/>	States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
--------------------------	--------	----------	--------	------	-------------	------	---------	-------	----------	-------------	---------

No rules are currently defined for this interface  
All incoming connections on this interface will be blocked until pass rules are added. Click the button to add a new rule.

⬆️ Add ⬇️ Add 🗑️ Delete 💾 Save ➕ Separator



The presentation adds two firewall rules for "OPT1" interface.



Home

Firewall / Rules / Edit 🔗 | 📊 | 📄 | ?

**Edit Firewall Rule**

**Action** Pass ▾

Choose what to do with packets that match the criteria specified below.  
Hint: the difference between block and reject is that with reject, a packet (TCP RST or ICMP) with block the packet is dropped silently. In either case, the original packet is discarded.

**Disabled**  Disable this rule

Set this option to disable this rule without removing it from the list.

**Interface** OPT1 ▾

Choose the interface from which packets must come to match this rule.

**Address Family** IPv6 ▾

Select the Internet Protocol version this rule applies to.

**Protocol** TCP ▾

Choose which IP protocol this rule should match.

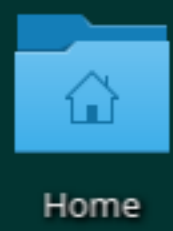
This is the first part of the IPv6 "OPT1" firewall rule.

**Source**

**Source**  Invert match. OPT1 net ▾ Source Address / ▾

⚙️ Display Advanced

The **Source Port Range** for a connection is typically random and almost never equal to the destination port. In most cases this setting must remain at



### Destination

**Destination**  Invert match. LAN net Destination Address /

**Destination Port Range** (other) 5201 (other) 5201  
From Custom To Custom

Specify the destination port or port range for this rule. The "To" field may be left empty if only filtering a single port.

### Extra Options

**Log**  Log packets that are handled by this rule  
Hint: the firewall has limited local log space. Don't turn on logging for everything. If doing a lot of logging, consider using a remote syslog server (see the [Status: System Logs: Settings](#) page).

**Description** TCP allow 5201 from OPT1 net  
A description may be entered here for administrative reference. A maximum of 52 characters will be used in the ruleset and displayed in the firewall log.

**Advanced Options** ⚙️ Display Advanced

### Rule Information

Tracking ID	1583605852
Created	3/8/20 00:30:52 by admin@192.168.100.25 (Local Database)
Updated	3/8/20 00:59:20 by admin@192.168.100.25 (Local Database)

📄 Save

This is the second part of the IPv6 "OPT1" firewall rule. This rule only allows traffic destined to port 5201.





Home

Firewall / Rules / Edit

**Edit Firewall Rule**

**Action** Pass ▾

Choose what to do with packets that match the criteria specified below.  
Hint: the difference between block and reject is that with reject, a packet (TCP RST or ICMP) with block the packet is dropped silently. In either case, the original packet is discarded.

**Disabled**  Disable this rule  
Set this option to disable this rule without removing it from the list.

**Interface** OPT1 ▾

Choose the interface from which packets must come to match this rule.

**Address Family** IPv4 ▾

Select the Internet Protocol version this rule applies to.

**Protocol** TCP ▾

Choose which IP protocol this rule should match.

This is the first part of the IPv4 "OPT1" firewall rule.

**Source**

**Source**  Invert match. OPT1 net ▾ Source Address / ▾

Display Advanced

The **Source Port Range** for a connection is typically random and almost never equal to the destination port. In most cases this setting must remain at



Home

### Destination

**Destination**  Invert match. LAN net Destination Address /

**Destination Port Range** (other) 5201 (other) 5201  
 From Custom To Custom

Specify the destination port or port range for this rule. The "To" field may be left empty if only filtering a single port.

### Extra Options

**Log**  Log packets that are handled by this rule  
 Hint: the firewall has limited local log space. Don't turn on logging for everything. If doing a lot of logging, consider using a remote syslog server (see the [Status: System Logs: Settings](#) page).

**Description** TCP allow 5201 from OPT1 net (IPv6)  
 A description may be entered here for administrative reference. A maximum of 52 characters will be used in the ruleset and displayed in the firewall log.

**Advanced Options**

### Rule Information

<b>Tracking ID</b>	1583605822
<b>Created</b>	3/8/20 00:30:22 by admin@192.168.100.25 (Local Database)
<b>Updated</b>	3/8/20 00:58:54 by admin@192.168.100.25 (Local Database)

Save

This is the secont part of the IPv4 "OPT1" firewall rule. This rule only allows traffic destined to port 5201.



Home

Firewall / Rules / OPT1

Floating   WAN   LAN   OPT1

Rules (Drag to Change Order)											
<input type="checkbox"/>	States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
<input type="checkbox"/>	✓ 0 / 0 B	IPv6 TCP	OPT1 net	*	LAN net	5201	*	none		TCP allow 5201 from OPT1 net	
<input type="checkbox"/>	✓ 0 / 2.53 GiB	IPv4 TCP	OPT1 net	*	LAN net	5201	*	none		TCP allow 5201 from OPT1 net (IPv6)	

Add   Add   Delete   Save   Separator



This is the presentation "OPT1" firewall rule settings.

```
albatross01 : docker — Konsole
File Edit View Bookmarks Settings Help
[ 5] 9.00-10.00 sec 7.11 GBytes 61.0 Gbits/sec
[ 5] 10.00-10.04 sec 269 MBytes 64.4 Gbits/sec
-----
[ ID] Interval          Transfer      Bandwidth      Retr
[ 5] 0.00-10.04 sec 73.4 GBytes 62.8 Gbits/sec 70
[ 5] 0.00-10.04 sec 73.4 GBytes 62.8 Gbits/sec
-----
Server listening on 5201
-----
```

```
albatross01 : bash — Konsole
File Edit View Bookmarks Settings Help
[ 4] 7.00-8.00 sec 7.34 GBytes 63.0 Gbits/sec 0 1.10 MBytes
[ 4] 8.00-9.00 sec 7.51 GBytes 64.5 Gbits/sec 0 1.12 MBytes
[ 4] 9.00-10.00 sec 7.12 GBytes 61.2 Gbits/sec 0 1.13 MBytes
-----
[ ID] Interval          Transfer      Bandwidth      Retr
[ 4] 0.00-10.00 sec 73.4 GBytes 63.1 Gbits/sec 70
[ 4] 0.00-10.00 sec 73.4 GBytes 63.1 Gbits/sec
-----
iperf Done.
albatross01@linux-s2020:~> █
```

```
albatross01 : bash — Konsole <2>
File Edit View Bookmarks Settings Help
albatross01@linux-s2020:~> docker run -it --name=test05 --net=internal02 networkstatic/iperf3 -c 192.168.100.15
```

The presentation creates another name for the client as shown.

```

albatross01 : docker — Konsole
File Edit View Bookmarks Settings Help
[ 5] 9.00-10.00 sec 127 MBytes 1.06 Gbits/sec
[ 5] 10.00-10.05 sec 6.29 MBytes 1.05 Gbits/sec
-----
[ ID] Interval          Transfer      Bandwidth      Retr
[ 5] 0.00-10.05 sec 1.21 GBytes 1.03 Gbits/sec 63
[ 5] 0.00-10.05 sec 1.20 GBytes 1.03 Gbits/sec
-----
Server listening on 5201
-----

```

```

albatross01 : bash — Konsole
File Edit View Bookmarks Settings Help
[ 4] 7.00-8.00 sec 7.34 GBytes 63.0 Gbits/sec 0 1.10 MBytes
[ 4] 8.00-9.00 sec 7.51 GBytes 64.5 Gbits/sec 0 1.12 MBytes
[ 4] 9.00-10.00 sec 7.12 GBytes 61.2 Gbits/sec 0 1.13 MBytes
-----
[ ID] Interval          Transfer      Bandwidth      Retr
[ 4] 0.00-10.00 sec 73.4 GBytes 63.1 Gbits/sec 70
[ 4] 0.00-10.00 sec 73.4 GBytes 63.1 Gbits/sec
-----
iperf Done.
albatross01@linux-s2020:~>

```

```

albatross01 : bash — Konsole <2>
File Edit View Bookmarks Settings Help
[ 4] 5.00-6.00 sec 116 MBytes 975 Mbits/sec 0 1.28 MBytes
[ 4] 6.00-7.00 sec 122 MBytes 1.03 Gbits/sec 0 1.33 MBytes
[ 4] 7.00-8.00 sec 125 MBytes 1.05 Gbits/sec 0 1.40 MBytes
[ 4] 8.00-9.00 sec 128 MBytes 1.07 Gbits/sec 0 1.47 MBytes
[ 4] 9.00-10.00 sec 126 MBytes 1.06 Gbits/sec 0 1.53 MBytes
-----
[ ID] Interval          Transfer      Bandwidth      Retr
[ 4] 0.00-10.00 sec 1.21 GBytes 1.04 Gbits/sec 63
[ 4] 0.00-10.00 sec 1.20 GBytes 1.03 Gbits/sec
-----
iperf Done.
albatross01@linux-s2020:~>

```

The iperf3 test between "internal01" and "internal02" is successful.