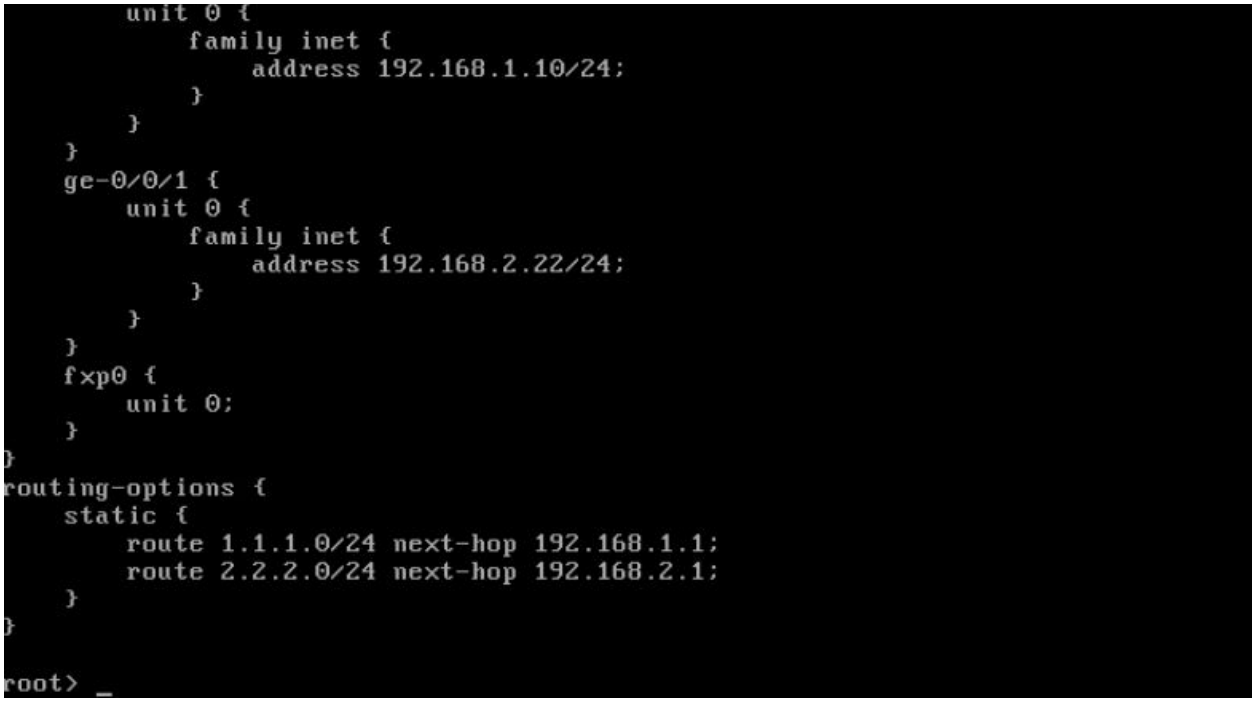
```
root> show configuration
## Last commit: 2019-03-07 04:02:12 UTC by root
version 15.1X49-D142.1;
system {
    root-authentication {
        encrypted-password "$5$G0yKw4ex$fwsPd72lpcZ5R0hnLWgZAFL4xIcsjxSsaG7ZUmpl
lf4"; ## SECRET-DATA
    }
    services {
        ssh;
        web-management {
            http {
                interface fxp0.0;
            }
        }
    }
    syslog {
        user * {
            any emergency;
        }
        file messages {
            any any;
            authorization info;
        }
---(more)---
```

```
        file interactive-commands {
            interactive-commands any;
        }
    }
    license {
        autoupdate {
            url https://ae1.juniper.net/junos/key_retrieval;
        }
    }
}
security {
    forwarding-options {
        family {
            mpls {
                mode packet-based;
            }
        }
    }
}
interfaces {
    ge-0/0/0 {
        unit 0 {
            family inet {
                address 192.168.1.10/24;
---(more 69%)---
```



To remove security features and make it act as a router, assign IP address to interfaces, add static routes and run the below commands:

configure
delete security
< confirm this will delete everything below this level>
set security forwarding-options family mpls mode packet-based
commit and-quit
request system reboot

Iperf output

```
t9eqx@t9eqx:~$ iperf3 -c 2.2.2.2
Connecting to host 2.2.2.2, port 5201
[  4] local 1.1.1.1 port 54604 connected to 2.2.2.2 port 5201
[ ID] Interval           Transfer     Bandwidth       Retr  Cwnd
[  4]   0.00-1.00   sec  72.2 MBytes   605 Mbits/sec  177    459 KBytes
[  4]   1.00-2.00   sec  56.2 MBytes   472 Mbits/sec   24    423 KBytes
[  4]   2.00-3.00   sec  65.0 MBytes   545 Mbits/sec   66    419 KBytes
[  4]   3.00-4.00   sec  68.8 MBytes   577 Mbits/sec    3    374 KBytes
[  4]   4.00-5.00   sec  68.8 MBytes   577 Mbits/sec    0    491 KBytes
[  4]   5.00-6.00   sec  72.5 MBytes   608 Mbits/sec   15    459 KBytes
[  4]   6.00-7.00   sec  62.5 MBytes   524 Mbits/sec    4    431 KBytes
[  4]   7.00-8.00   sec  61.2 MBytes   514 Mbits/sec    6    407 KBytes
[  4]   8.00-9.00   sec  63.8 MBytes   535 Mbits/sec    3    405 KBytes
[  4]   9.00-10.00  sec  63.8 MBytes   535 Mbits/sec    5    385 KBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bandwidth       Retr
[  4]   0.00-10.00  sec   655 MBytes   549 Mbits/sec  303             sender
[  4]   0.00-10.00  sec   652 MBytes   547 Mbits/sec                  receiver

iperf Done.
t9eqx@t9eqx:~$
t9eqx@t9eqx:~$
t9eqx@t9eqx:~$ iperf3 -c 2.2.2.2
Connecting to host 2.2.2.2, port 5201
[  4] local 1.1.1.1 port 54608 connected to 2.2.2.2 port 5201
[ ID] Interval           Transfer     Bandwidth       Retr  Cwnd
[  4]   0.00-1.00   sec  91.4 MBytes   766 Mbits/sec  211    470 KBytes
[  4]   1.00-2.00   sec  68.8 MBytes   577 Mbits/sec    1    426 KBytes
[  4]   2.00-3.00   sec  81.2 MBytes   682 Mbits/sec    0    547 KBytes
[  4]   3.00-4.00   sec  80.0 MBytes   671 Mbits/sec   38    482 KBytes
[  4]   4.00-5.00   sec  73.8 MBytes   619 Mbits/sec   26    438 KBytes
[  4]   5.00-6.00   sec  81.2 MBytes   682 Mbits/sec   26    399 KBytes
[  4]   6.00-7.00   sec  70.0 MBytes   587 Mbits/sec    0    513 KBytes
[  4]   7.00-8.00   sec  71.2 MBytes   598 Mbits/sec   22    464 KBytes
[  4]   8.00-9.00   sec  68.8 MBytes   577 Mbits/sec   31    426 KBytes
[  4]   9.00-10.00  sec  80.0 MBytes   671 Mbits/sec    0    546 KBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bandwidth       Retr
[  4]   0.00-10.00  sec   766 MBytes   643 Mbits/sec  355             sender
[  4]   0.00-10.00  sec   764 MBytes   641 Mbits/sec                  receiver
```

```
Accepted connection from 1.1.1.1, port 54602
[  5] local 2.2.2.2 port 5201 connected to 1.1.1.1 port 54604
[ ID] Interval           Transfer     Bandwidth
[  5]   0.00-1.00   sec  66.5 MBytes   558 Mbits/sec
[  5]   1.00-2.00   sec  56.6 MBytes   474 Mbits/sec
[  5]   2.00-3.00   sec  64.6 MBytes   542 Mbits/sec
[  5]   3.00-4.00   sec  68.8 MBytes   577 Mbits/sec
[  5]   4.00-5.00   sec  68.3 MBytes   573 Mbits/sec
[  5]   5.00-6.00   sec  71.9 MBytes   603 Mbits/sec
[  5]   6.00-7.00   sec  63.6 MBytes   533 Mbits/sec
[  5]   7.00-8.00   sec  60.9 MBytes   511 Mbits/sec
[  5]   8.00-9.00   sec  64.6 MBytes   542 Mbits/sec
[  5]   9.00-10.00  sec  63.0 MBytes   528 Mbits/sec
[  5]  10.00-10.04  sec  2.83 MBytes   628 Mbits/sec
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bandwidth       Retr
[  5]   0.00-10.04  sec   655 MBytes   547 Mbits/sec  303             sender
[  5]   0.00-10.04  sec   652 MBytes   545 Mbits/sec                  receiver
-----------------------------------------------------------
Server listening on 5201
-----------------------------------------------------------
Accepted connection from 1.1.1.1, port 54606
[  5] local 2.2.2.2 port 5201 connected to 1.1.1.1 port 54608
[ ID] Interval           Transfer     Bandwidth
[  5]   0.00-1.00   sec  86.4 MBytes   725 Mbits/sec
[  5]   1.00-2.00   sec  68.6 MBytes   575 Mbits/sec
[  5]   2.00-3.00   sec  80.2 MBytes   672 Mbits/sec
[  5]   3.00-4.00   sec  80.8 MBytes   678 Mbits/sec
[  5]   4.00-5.00   sec  73.0 MBytes   612 Mbits/sec
[  5]   5.00-6.00   sec  81.7 MBytes   685 Mbits/sec
[  5]   6.00-7.00   sec  69.6 MBytes   583 Mbits/sec
[  5]   7.00-8.00   sec  72.5 MBytes   608 Mbits/sec
[  5]   8.00-9.00   sec  68.2 MBytes   572 Mbits/sec
[  5]   9.00-10.00  sec  79.8 MBytes   670 Mbits/sec
[  5]  10.00-10.04  sec  3.28 MBytes   725 Mbits/sec
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bandwidth       Retr
[  5]   0.00-10.04  sec   766 MBytes   640 Mbits/sec  355             sender
[  5]   0.00-10.04  sec   764 MBytes   638 Mbits/sec                  receiver
-----------------------------------------------------------
Server listening on 5201
```

Security policies for it to act as a firewall

```
        from-zone Left to-zone Right {
            policy Left-to-Right {
                match {
                    source-address any;
                    destination-address any;
                    application any;
                }
                then {
                    permit;
                }
            }
        }
        from-zone Right to-zone Left {
            policy Right-to-Left {
                match {
                    source-address any;
                    destination-address any;
                    application any;
                }
                then {
                    permit;
                }
            }
        }
---(more 70%)---
```

Juniper vSRX's timeout for TCP connections is 1800 seconds (30 minutes). To conduct our tests for TCP and UDP traffic, we needed to create custom applications and add them to the security policies.

In configuration mode,

Create applications:

set applications application TCP_ALL protocol tcp inactivity_timeout 3700
set applications application UDP_ALL protocol udp inactivity_timeout 3700
set applications application ICMP_ALL protocol icmpinactivity_timeout 3700

Add applications to security policy:

To the previous configuration, if "match application any" exists in the security policy,
delete security policies Left inside to-zone Right policy Left-to-Right match application any
delete security policies Right inside to-zone Left policy Right-to-Left match application any

Once deleted, add applications to the security policies:

set security policies Left to-zone Right policy Left-to-Right match application TCP_ALL
set security policies Left to-zone Right policy Left-to-Right match application UDP_ALL
set security policies Left to-zone Right policy Left-to-Right match application ICMP_ALL

set security policies Right to-zone Left policy Right-to-Left match application TCP_ALL
set security policies Right to-zone Left policy Right-to-Left match application UDP_ALL
set security policies Right to-zone Left policy Right-to-Left match application ICMP_ALL

This will prevent the security flows from getting timed out while the testing traffic is being passed through the service chain.