



# How to Resolve Connection Issues with SimpleRisk VM

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## Introduction

This guide is meant to help resolve any issues connecting a SimpleRisk VM instance to a network and help setup a static IP. This generally will not be necessary for most users unless you are not running DHCP on your network.

## How do I know if I'm affected?

If you are unable to get your SimpleRisk VM network adapter assigned an IP and it will not otherwise connect to other machines on the network. You will want to confirm your adapter settings in your VM software before proceeding to ensure the VM actually has a proper network adapter setup. If the adapter settings appear correct and you still can't get an IP assigned then you are most likely affected.

## How do I fix the issue?

First we need to identify the ethernet interfaces.

To quickly identify all available Ethernet interfaces, you can use the *ip* command as shown below.

```
ip a
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: enp0s25: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc
noqueue state UP group default qlen 1000
    link/ether 00:16:3e:e2:52:42 brd ff:ff:ff:ff:ff:ff
link-netnsid 0
    inet 10.102.66.200/24 brd 10.102.66.255 scope global
```



```
dynamic eth0
    valid_lft 3257sec preferred_lft 3257sec
    inet6 fe80::216:3eff:fee2:5242/64 scope link
    valid_lft forever preferred_lft forever
```

Another application that can help identify all network interfaces available to your system is the *lshw* command. This command provides greater details around the hardware capabilities of specific adapters. In the example below, *lshw* shows a single Ethernet interface with the logical name of *eth0* along with bus information, driver details and all supported capabilities.

```
sudo lshw -class network

*-network
    description: Ethernet interface
    product: MT26448 [ConnectX EN 10GigE, PCIe 2.0 5GT/s]
    vendor: Mellanox Technologies
    physical id: 0
    bus info: pci@0004:01:00.0
    logical name: eth4
    version: b0
    serial: e4:1d:2d:67:83:56
    slot: U78CB.001.WZS09KB-P1-C6-T1
    size: 10Gbit/s
    capacity: 10Gbit/s
    width: 64 bits
    clock: 33MHz
    capabilities: pm vpd msix pciexpress bus_master cap_list
ethernet physical fibre 10000bt-fd
    configuration: autonegotiation=off broadcast=yes
driver=mlx4_en driverversion=4.0-0 duplex=full firmware=2.9.1326
ip=192.168.1.1 latency=0 link=yes multicast=yes port=fibre
speed=10Gbit/s
```



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```
resources: iomemory:24000-23fff irq:481
memory:3fe200000000-3fe2000fffff
memory:240000000000-240007fffff
```

## Ethernet Interface Logical Names

Interface logical names can also be configured via a netplan configuration. If you would like control which interface receives a particular logical name use the *match* and *set-name* keys. The match key is used to find an adapter based on some criteria like MAC address, driver, etc. Then the set-name key can be used to change the device to the desired logical name.

```
network:
  version: 2
  renderer: networkd
  ethernets:
    eth_lan0:
      dhcp4: true
      match:
        macaddress: 00:11:22:33:44:55
      set-name: eth_lan0
```

## Ethernet Interface Settings

*ethtool* is a program that displays and changes Ethernet card settings such as auto-negotiation, port speed, duplex mode, and Wake-on-LAN. The following is an example of how to view supported features and configured settings of an Ethernet interface.

```
sudo ethtool eth4
```

```
Settings for eth4:
```

```
Supported ports: [ FIBRE ]
Supported link modes:  10000baseT/Full
Supported pause frame use: No
Supports auto-negotiation: No
Supported FEC modes: Not reported
```



```
Advertised link modes: 10000baseT/Full
Advertised pause frame use: No
Advertised auto-negotiation: No
Advertised FEC modes: Not reported
Speed: 10000Mb/s
Duplex: Full
Port: FIBRE
PHYAD: 0
Transceiver: internal
Auto-negotiation: off
Supports Wake-on: d
Wake-on: d
Current message level: 0x00000014 (20)
                                link ifdown
Link detected: yes
```

## IP Addressing

The following section describes the process of configuring your systems IP address and default gateway needed for communicating on a local area network and the Internet.

### Temporary IP Address Assignment

For temporary network configurations, you can use the *ip* command which is also found on most other GNU/Linux operating systems. The *ip* command allows you to configure settings which take effect immediately, however they are not persistent and will be lost after a reboot.

To temporarily configure an IP address, you can use the *ip* command in the following manner. Modify the IP address and subnet mask to match your network requirements.

```
sudo ip addr add 10.102.66.200/24 dev enp0s25
```

The *ip* can then be used to set the link up or down.

```
ip link set dev enp0s25 up
```



```
ip link set dev enp0s25 down
```

To verify the IP address configuration of *enp0s25*, you can use the *ip* command in the following manner.

```
ip address show dev enp0s25
```

```
10: enp0s25: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc  
noqueue state UP group default qlen 1000
```

```
    link/ether 00:16:3e:e2:52:42 brd ff:ff:ff:ff:ff:ff  
    link-netnsid 0
```

```
        inet 10.102.66.200/24 brd 10.102.66.255 scope global  
dynamic eth0
```

```
        valid_lft 2857sec preferred_lft 2857sec
```

```
        inet6 fe80::216:3eff:fee2:5242/64 scope link
```

```
        valid_lft forever preferred_lft forever6
```

To configure a default gateway, you can use the *ip* command in the following manner. Modify the default gateway address to match your network requirements.

```
sudo ip route add default via 10.102.66.1
```

To verify your default gateway configuration, you can use the *ip* command in the following manner.

```
ip route show
```

```
default via 10.102.66.1 dev eth0 proto dhcp src 10.102.66.200  
metric 100
```

```
10.102.66.0/24 dev eth0 proto kernel scope link src  
10.102.66.200
```

```
10.102.66.1 dev eth0 proto dhcp scope link src 10.102.66.200  
metric 100
```

If you require DNS for your temporary network configuration, you can add DNS server IP addresses in the file `/etc/resolv.conf`. In general, editing `/etc/resolv.conf` directly is not recommended, but this is a temporary and non-persistent configuration. The example below shows how to enter two DNS servers to `/etc/resolv.conf`, which should be changed to servers appropriate for your network. A more lengthy description of the proper persistent way to do DNS client configuration is in a following section.



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```
nameserver 8.8.8.8
```

```
nameserver 8.8.4.4
```

If you no longer need this configuration and wish to purge all IP configuration from an interface, you can use the *ip* command with the flush option as shown below.

```
ip addr flush eth0
```

Flushing the IP configuration using the *ip* command does not clear the contents of `/etc/resolv.conf`. You must remove or modify those entries manually, or re-boot which should also cause `/etc/resolv.conf`, which is a symlink to `/run/systemd/resolve/stub-resolv.conf`, to be re-written.

### Dynamic IP Address Assignment (DHCP Client)

To configure your server to use DHCP for dynamic address assignment, create a netplan configuration in the file `/etc/netplan/99_config.yaml`. The example below assumes you are configuring your first Ethernet interface identified as *enp3s0*.

```
network:
  version: 2
  renderer: networkd
  ethernets:
    enp3s0:
      dhcp4: true
```

The configuration can then be applied using the *netplan* command.

```
sudo netplan apply
```

## Summary

This FAQ has gone over resolving connection issues with SimpleRisk, if this did not work for you or you feel the documentation requires more information or simply have further questions please contact us a [support@simplerisk.com](mailto:support@simplerisk.com) and we will be happy to help.