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HowTo: Change Speed and Duplex of Ethernet card in Linux

Posted on Tuesday December 27th, 2016 (https://www.shellhacks.com/change-speed-duplex-ethernet-card-linux/) by admin (https://www.shellhacks.com/author/admin/)

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To change Speed and Duplex of an ethernet card, we can use **ethtool** – a Linux utility for Displaying or Changing ethernet card settings.

1. Install ethtool

You can install **ethtool** by typing one of the following commands, depending upon your Linux distribution.

Install ethtool in **Fedora, CentOS, RHEL** etc.:

```
# yum install ethtool
```

Install ethtool in **Ubuntu, Debian** etc.:

```
# sudo apt-get install ethtool
```

2. Get the Speed, Duplex and other information for the interface eth0

To get speed, duplex and other information for the network interface eth0, type the
following command as root.

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```
# ethtool eth0
```

Sample output:

```
Settings for eth0:
        Supported ports: [ MII ]
        Supported link modes:   10baseT/Half 10baseT/Full
                                100baseT/Half 100baseT/Full
                                1000baseT/Half 1000baseT/Full

        Supports auto-negotiation: Yes
        Advertised link modes:  10baseT/Half 10baseT/Full
                                100baseT/Half 100baseT/Full
                                1000baseT/Half 1000baseT/Full
        Advertised auto-negotiation: Yes
        Speed: 100Mb/s
        Duplex: Half
        Port: Twisted Pair
        PHYAD: 1
        Transceiver: internal
        Auto-negotiation: on
        Supports Wake-on: g
        Wake-on: d
        Current message level: 0x000000ff (255)
        Link detected: yes
```

3. Change the Speed and Duplex settings

> The following changes are temporary and they'll stop working after reboot. Read the
> next section, to make settings permanent.

The next command enables Auto-Negotiate feature:

```
# ethtool -s eth0 autoneg on
```

The next command disables Auto-Negotiation, enables Half Duplex and sets up Speed to 10
Mb/s:

```
# ethtool -s eth0 speed 10 duplex half autoneg off
```

The next command disables Auto-Negotiation, enables Full Duplex and sets up Speed to

100 Mb/s:

```
# ethtool -s eth0 speed 100 duplex full autoneg off
```

4. Change the Speed and Duplex settings Permanently on CentOS/RHEL

To make settings permanent, you need to edit `/etc/sysconfig/network-scripts/ifcfg-eth0` file for eth0 interface. This file is used by RHEL, CentOS, Fedora etc.

```
# vi /etc/sysconfig/network-scripts/ifcfg-eth0
```

Append the line as follows to disable Auto-Negotiation, enable Full Duplex and set up

Speed to 100 Mb/s:

```
ETHTOOL_OPTS="speed 100 duplex full autoneg off"
```

Restart the interface to apply changes:

```
# ifdown eth0 && ifup eth0
```

Comments (3) (https://www.shellhacks.com/change-speed-duplex-ethernet-card-

linux/#comments)

NETWORK (HTTPS://WWW.SHELLHACKS.COM/TAG/NETWORK/)

3 REPLIES TO "HOWTO: CHANGE SPEED AND DUPLEX OF ETHERNET CARD IN LINUX"

NAMELESSSSS   REPLY

*Monday July 23rd, 2018 at 11:44 PM (https://www.shellhacks.com/change-speed-duplex-ethernet-card-
linux/#comment-5987)*

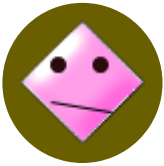$ sudo ethtool eth0

Settings for eth0:

Cannot get device settings: No such device

Cannot get wake-on-lan settings: No such device

Cannot get message level: No such device

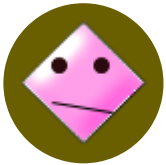Cannot get link status: No such device

What I have to do now

PAUL JENSEN   REPLY

Saturday July 28th, 2018 at 08:34 AM (https://www.shellhacks.com/change-speed-duplex-ethernet-card-linux/#comment-6068)

ifconfig for adapter information. on my ubuntu 18.04 it is enp1s0 yours may not be eth0 as well

PAUL JENSEN   REPLY

Saturday July 28th, 2018 at 08:33 AM (https://www.shellhacks.com/change-speed-duplex-ethernet-card-linux/#comment-6067)

ifconfig and check for your adapter name. I know for ubuntu 18.04 mine is enp1s0 and not eth0 🙂

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