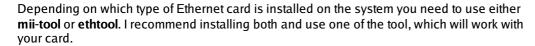Table Of Contents

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Linux change the speed and duplex settings of an Ethernet card

Posted by Vivek Gite <vivek@nixcraft.com>

Q. How do I change the speed, duplex on for my Ethernet card?

A. Under Linux use mii-tool or ethtool package which allows a Linux sys admin to modify/change and view the negotiated speed of network interface card (NIC) i.e. it is useful for forcing specific Ethernet speed and duplex settings.

Depending on which type of Ethernet card is installed on the system you need to use either **mii-tool** or **ethtool**. I recommend installing both and use one of the tool, which will work with your card.

[1]

Task: Install mii-tool and ethtool tools

If you are using Debian Linux you can install both of these package with following command:

```
# apt-get install ethtool net-tools
```

If you are using Red Hat Enterprise Linux you can install both of these package with following command:

```
# up2date ethtool net-tools
```

If you are using Fedora Core Linux you can install both of these package with following command:

```
# yum install ethtool net-tools
```

Task: Get speed and other information for eth0

Type following command as root user:

```
# ethtool eth0
```

Output:

```
Settings for eth0:
     Supported ports: [ TP MII ]
     Supported link modes:   10baseT/Half 10baseT/Full
                             100baseT/Half 100baseT/Full
     Supports auto-negotiation: Yes
     Advertised link modes:  10baseT/Half 10baseT/Full
                             100baseT/Half 100baseT/Full
     Advertised auto-negotiation: Yes
     Speed: 100Mb/s
     Duplex: Full
     Port: MII
     PHYAD: 32
     Transceiver: internal
     Auto-negotiation: on
     Supports Wake-on: pumbg
     Wake-on: d
     Current message level: 0x00000007 (7)
     Link detected: yes
```

Or use mii-tool command as follows:

```
# mii-tool eth0
```

Output:

```
eth0: negotiated 100baseTx-FD flow-control, link ok
```

Task: Change the speed and duplex settings

Setup eth0 negotiated speed with mii-tool
Disable autonegotiation, and force the MII to either 100baseTx-FD, 100baseTx-HD, 10baseT-FD, or 10baseT-HD:

```
# mii-tool -F 100baseTx-HD
# mii-tool -F 10baseT-HD
```

Setup eth0 negotiated speed with ethtool

```
# ethtool -s eth0 speed 100 duplex full
# ethtool -s eth0 speed 10 duplex half
```

To make these settings permanent [2] you need to create a shell script and call from **/etc/rc.local** (Red Hat) or if you are using Debian create a script into the directory **/etc/init.d/** directory and run update-rc.d command to update the script.

Read man page of mii-tool and ethtool for more information.

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[2] settings permanent: **http://www.cyberciti.biz/tips/howto-linux-add-ethtool-duplex-settings-permanent.html**