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Linux LAN card: Find out full duplex / half speed or mode

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Q. How do I find out if my Lan (NIC) card working at full or halt duplex mode / speed under Linux?

A. LAN card or NIC is use to send and receive data. Technically, we use word Duplex for this functionality. Full duplex means you are able to send and receive data (files) simultaneously. In half duplex, you can either send or receive data at a time (i.e. you cannot send receive data (files) simultaneously). Obviously, full duplex gives you best user experience. However, how can I find out whether I am using full duplex/half duplex speed/mode?

[1]

Task: Find full or half duplex speed

You can use dmesg command to find out your duplex mode:

```
# dmesg | grep -i duplex
```

Output:

```
eth0: link up, 100Mbps, full-duplex, lpa 0x45E1
```

ethtool command

Uss ethtool to display or change ethernet card settings. To display duplex speed, enter:

```
# ethtool eth1
```

Output:

```
Settings for eth1:
        Supported ports: [ TP ]
        Supported link modes:   10baseT/Half 10baseT/Full
                                100baseT/Half 100baseT/Full
                                1000baseT/Full
        Supports auto-negotiation: Yes
        Advertised link modes:  10baseT/Half 10baseT/Full
                                100baseT/Half 100baseT/Full
                                1000baseT/Full
        Advertised auto-negotiation: Yes
        Speed: 10Mb/s
        Duplex: Full
        Port: Twisted Pair
        PHYAD: 0
        Transceiver: internal
        Auto-negotiation: on
        Supports Wake-on: umbg
        Wake-on: g
        Current message level: 0x00000007 (7)
        Link detected: yes
```

mii-tool command

You can also use mii-tool to find out your duplex mode. Type following command at shell prompt:

```
# mii-tool
```

Output:

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

Remember,

1. 100baseTx-FD: 100Mbps full duplex (FD)
2. 100baseTx-HD: 100Mbps half duplex (HD)
3. 10baseT-FD: 10Mbps full duplex (FD)
4. 10baseT-HD: 10Mbps half duplex (HD)

mii-tool utility checks or sets the status of a network interfaceâ€™s Media Independent Interface (MII) unit. Most fast ethernet adapters use an MII to autonegotiate link speed and duplex setting. If you are using old card then this utility may not work (use dmesg command).

This utility is useful for forcing specific Ethernet speed and duplex settings too, setup 100Mbps full duplex speed under Linux:

```
# mii-tool -F 100baseTx-FD
```

Setup 10Mbps half duplex:

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

You can find more information about setting duplex speed here [2] using **ethtool** command.

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