

উবুন্টু(লিনাক্স)-এ ইথারনেট ইন্টারফেসের IP address কনফিগার করুন:

ধরুন একটি কম্পিউটারের অপারেটিং সিস্টেম উবুন্টু (লিনাক্স)। উক্ত কম্পিউটারটির ইথারনেট ইন্টারফেসে IP address কনফিগার করতে হবে। ইথারনেট ইন্টারফেসটিতে নিম্নলিখিত প্যারামিটার সমূহ সেটআপ করতে হবে।

Interface:	enp2s0
IP:	172.17.200.250/24
Gateway IP:	172.17.200.254
DNS:	8.8.4.4 ও 8.8.8.8

সমাধান: (ইথারনেট ইন্টারফেস কনফিগারকরণ):

nano এডিটর দ্বারা /etc/network/interfaces ফাইলটি খুলুন:

```
sudo nano /etc/network/interfaces
```

```
admin@mypc:~
```

```
admin@mypc:~$ sudo nano /etc/network/interfaces
```

ইথারনেট ইন্টারফেসে আইপি কনফিগারের জন্য /etc/network/interfaces নিম্নলিখিত লাইন সমূহ যুক্ত করুন:

```
auto enp2s0
iface enp2s0 inet static
    address 172.17.200.250
    netmask 255.255.255.0
    broadcast 172.17.200.255
    gateway 172.17.200.254
    dns-nameservers 103.8.8.4.4 8.8.8.8
```

```
admin@mypc:~
```

```
GNU nano 2.2.6
```

```
File: /etc/network/interfaces
```

```
auto lo
iface lo inet loopback
```

```
auto enp2s0
iface enp2s0 inet static
    address 172.17.200.250
    netmask 255.255.255.0
    broadcast 172.17.200.255
    gateway 172.17.200.254
    dns-nameservers 8.8.4.4 8.8.8.8
```

```
^G Get Help  ^O WriteOut  ^R Read File  ^Y Prev Page  ^K Cut Text   ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is   ^V Next Page  ^U UnCut Text ^T To Spell
```

টেস্টিং

ইন্টারফেসটির লিংকের অবস্থা যাচাইয়ের জন্য:

```
sudo ethtool enp2s0
```

```
admin@mypc:~
```

```
admin@mypc:~$ sudo ethtool enp2s0
[sudo] password for admin:
Settings for enp2s0:
    . . .
    . . .
    . . .
    Link detected: yes
```

অথবা,

```
sudo mii-tool enp2s0
```

```
admin@mypc:~
```

```
admin@mypc:~$ sudo mii-tool enp2s0
enp2s0: negotiated . . . , link ok
```

ইন্টারফেসটির আইপি কনফিগার যাচাইয়ের জন্য:

```
ifconfig enp2s0
```

```
admin@mypc:~
```

```
admin@mypc:~$ ifconfig enp2s0
enp2s0      Link encap:Ethernet  HWaddr xx:xx:xx:xx:xx:xx
            inet addr:172.17.200.250  Bcast:172.17.200.255  Mask:255.255.255.0
            inet6 addr: fe80::xxxx:xxxx:xxxx:xxxx/64  Scope:Link
            UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
            RX packets:55 errors:0 dropped:0 overruns:0 frame:0
            TX packets:51 errors:0 dropped:0 overruns:0 carrier:0
            collisions:0 txqueuelen:1000
            RX bytes:2916 (2.9 KB)  TX bytes:5820 (5.8 KB)
            Interrupt:43 Base address:0xe000
```

অথবা,

```
ip addr show dev eth0
```

```
admin@mypc:~
```

```
admin@mypc:~$ ip addr show dev enp2s0
2:enp2s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP qlen 1000
    link/ether xx:xx:xx:xx:xx:xx brd ff:ff:ff:ff:ff:ff
    inet 172.17.200.250/24 brd 172.17.200.255 scope global eth0
    inet6 fe80::xxxx:xxxx:xxxx:xxxx/64 scope link
        valid_lft forever preferred_lft forever
```

ইন্টারফেসটির নিজের আইপি'র সাথে সংযুক্ততা যাচাইয়ের জন্য:

```
ping -n -c 5 172.17.200.250
```

```
admin@mypc:~
```

```
admin@mypc:~$ ping -n -c 5 172.17.200.250
PING 172.17.200.250 (172.17.200.250) 56(84) bytes of data.
64 bytes from 172.17.200.250: icmp_req=1 ttl=64 time=0.032 ms
64 bytes from 172.17.200.250: icmp_req=2 ttl=64 time=0.030 ms
64 bytes from 172.17.200.250: icmp_req=3 ttl=64 time=0.029 ms
64 bytes from 172.17.200.250: icmp_req=4 ttl=64 time=0.028 ms
64 bytes from 172.17.200.250: icmp_req=5 ttl=64 time=0.037 ms

--- 172.17.200.250 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 3996ms
rtt min/avg/max/mdev = 0.028/0.031/0.037/0.004 ms
```

ইন্টারফেসটির লিংকের কোন আইপি'র (যেমন: Gateway IP) সাথে সংযুক্ততা যাচাইয়ের জন্য:

```
ping -n -c 5 172.17.200.254
```

```
admin@mypc:~
```

```
admin@mypc:~$ ping -n -c 5 172.17.200.254
PING 172.17.200.254 (172.17.200.254) 56(84) bytes of data.
64 bytes from 172.17.200.254: icmp_req=1 ttl=64 time=1.74 ms
64 bytes from 172.17.200.254: icmp_req=2 ttl=64 time=3.22 ms
64 bytes from 172.17.200.254: icmp_req=3 ttl=64 time=3.09 ms
64 bytes from 172.17.200.254: icmp_req=4 ttl=64 time=1.98 ms
64 bytes from 172.17.200.254: icmp_req=5 ttl=64 time=1.45 ms

--- 172.17.200.254 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 1.451/2.299/3.223/0.724 ms
```

Routing Table দেখার জন্য:

```
route -n
```

```
admin@mypc:~
```

```
admin@mypc:~$ route -n
```

অথবা,

```
netstat -n -r
```

```
admin@mypc:~
```

```
admin@mypc:~$ netstat -n -r
```

অথবা,

```
ip route show
```

```
admin@mypc:~
```

```
admin@mypc:~$ ip route show
```

ইন্টারনেটের কোন আইপি (যেমন: DNS IP) সাথে সংযুক্ততা যাচাইয়ের জন্য:

```
ping -n -c 5 8.8.8.8
```

```
admin@mypc:~
```

```
admin@mypc:~$ ping -n -c 5 8.8.8.8
```

```
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
```

```
64 bytes from 8.8.8.8: icmp_req=1 ttl=55 time=237 ms
```

```
64 bytes from 8.8.8.8: icmp_req=2 ttl=55 time=211 ms
```

```
64 bytes from 8.8.8.8: icmp_req=3 ttl=55 time=239 ms
```

```
64 bytes from 8.8.8.8: icmp_req=4 ttl=55 time=238 ms
```

```
64 bytes from 8.8.8.8: icmp_req=5 ttl=55 time=237 ms
```

```
--- 8.8.8.8 ping statistics ---
```

```
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
```

```
rtt min/avg/max/mdev = 211.424/232.955/239.947/10.820 ms 1.451/2.299/3.223/0.724 ms
```

নেইম সার্ভারের ব্যবহারোপযোগীতা যাচাইয়ের জন্য:

```
dig @8.8.4.4 www.yahoo.com
```

```
admin@mypc:~
```

```
admin@mypc:~$ dig @8.8.4.4 www.yahoo.com
; <<>> DiG 9.8.1-P1 <<>> @8.8.4.4 www.yahoo.com
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 16389
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 0

;; QUESTION SECTION:
;www.yahoo.com.                IN      A

;; ANSWER SECTION:
www.yahoo.com.                 36      IN      CNAME   fd-fp3.wg1.b.yahoo.com.
fd-fp3.wg1.b.yahoo.com.       34      IN      A       106.10.139.246
fd-fp3.wg1.b.yahoo.com.       34      IN      A       106.10.138.240

;; Query time: 190 msec
;; SERVER: 8.8.4.4#53(8.8.4.4)
;; WHEN: Thu Sep 3 01:04:56 2015
;; MSG SIZE rcvd: 90
```

অথবা,

```
host www.yahoo.com 8.8.4.4
```

```
admin@mypc:~
```

```
admin@mypc:~$ host www.yahoo.com 8.8.4.4
Using domain server:
Name: 8.8.4.4
Address: 8.8.4.4#53
Aliases:

www.yahoo.com is an alias for fd-fp3.wg1.b.yahoo.com.
fd-fp3.wg1.b.yahoo.com has address 106.10.139.246
fd-fp3.wg1.b.yahoo.com has address 106.10.138.240
fd-fp3.wg1.b.yahoo.com has IPv6 address 2406:2000:e4:200::4001
```

এবং,

```
dig @8.8.8.8 www.yahoo.com
```

```
admin@mypc:~
```

```
admin@mypc:~$ dig @8.8.8.8 www.yahoo.com
```

```
; <<>> DiG 9.8.1-P1 <<>> @8.8.8.8 www.yahoo.com
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 28081
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 0

;; QUESTION SECTION:
;www.yahoo.com.                IN      A

;; ANSWER SECTION:
www.yahoo.com.                 88      IN      CNAME   fd-fp3.wg1.b.yahoo.com.
fd-fp3.wg1.b.yahoo.com. 45      IN      A       106.10.138.240
fd-fp3.wg1.b.yahoo.com. 45      IN      A       106.10.139.246

;; Query time: 207 msec
;; SERVER: 8.8.8.8#53(8.8.8.8)
;; WHEN: Thu Sep  3 01:06:43 2015
;; MSG SIZE rcvd: 90
```

অথবা,

```
host www.yahoo.com 8.8.8.8
```

```
admin@mypc:~
```

```
admin@mypc:~$ host www.yahoo.com 8.8.8.8
```

```
Using domain server:
```

```
Name: 8.8.8.8
```

```
Address: 8.8.8.8#53
```

```
Aliases:
```

```
www.yahoo.com is an alias for fd-fp3.wg1.b.yahoo.com.
fd-fp3.wg1.b.yahoo.com has address 106.10.139.246
fd-fp3.wg1.b.yahoo.com has address 106.10.138.240
fd-fp3.wg1.b.yahoo.com has IPv6 address 2406:2000:e4:200::4001
```