



# National Polytechnic Institute of Cambodia

## Faculty of Computer Science

Subject: Linux

Professor: SAN EAMSOT

**Topic** : Configuration DHCP  
on Fedora Distribution



root@CS# cd Group\_4

root@group-4# ls -la

> នន់ សារ៉ាន់

> ហាក់ វិសាល

> ហួរ សៀកលាង

> សម្បត្តិ ដេវីឌ

# Introduction

1. **What's DHCP?**
2. **What does DHCP Server provide to clients?**
3. **How does DHCP work?**
4. **How to Configuration DHCP on Fedora?**
5. **How to Enable DHCP Client on Window or Client?**

# 1. What is DHCP?

- **DHCP** stand for **D**ynamic **H**ost **C**onfiguration **P**rotocol
- DHCP Server is a service used to assign IP addresses and configure networks to clients automatically.





## 2. What does DHCP provide to clients?

- IP Address e.g. 192.168.10.10
- Subnet Mask e.g. 255.255.255.0
- Default Gateway e.g. 192.168.10.1
- DNS e.g. 8.8.8.8



# 3. How does DHCP work?

Server



Client



IP Address Request



192.168.10.2





# 4. How to Configuration DHCP on Fedora

- Install and Configure DHCP

```
[root@fedora ~]# dnf -y install dhcp-server
```

```
[root@fedora ~]# dnf -y install dhcp-server
```

```
[root@savan ~]# vi /etc/dhcp/dhcpd.conf
```

```
[root@fedora ~]# vi /etc/dhcp/dhcpd.conf
```



# 4. How to Configuration DHCP on Fedora

default-lease-time 600;

Max-lease-time 7200;

authoritative;

subnet Network-ID netmask Subnet-Mask

range start-IP end-IP;

option router default-gateway;

option domain-name "your-domain-name";

```
default-lease-time 600;
max-lease-time 7200;
authoritative;

#subnet declaration
subnet 192.168.1.0 netmask 255.255.255.0 {
    range 192.168.1.100 192.168.1.200;
    option routers 192.168.1.1;
    option domain-name "dns01.server.local";
}
```





# 4. How to Configuration DHCP on Fedora

- Enable service DHCP and Firewall

```
[root@fedora ~]# systemctl enable --now dhcpd
```

```
success  
[root@fedora ~]# systemctl enable --now dhcpd  
[root@fedora ~]#
```

```
[root@fedora ~]# firewall-cmd --add-service=dhcp
```

```
[root@fedora ~]# firewall-cmd --runtime-to-perm
```

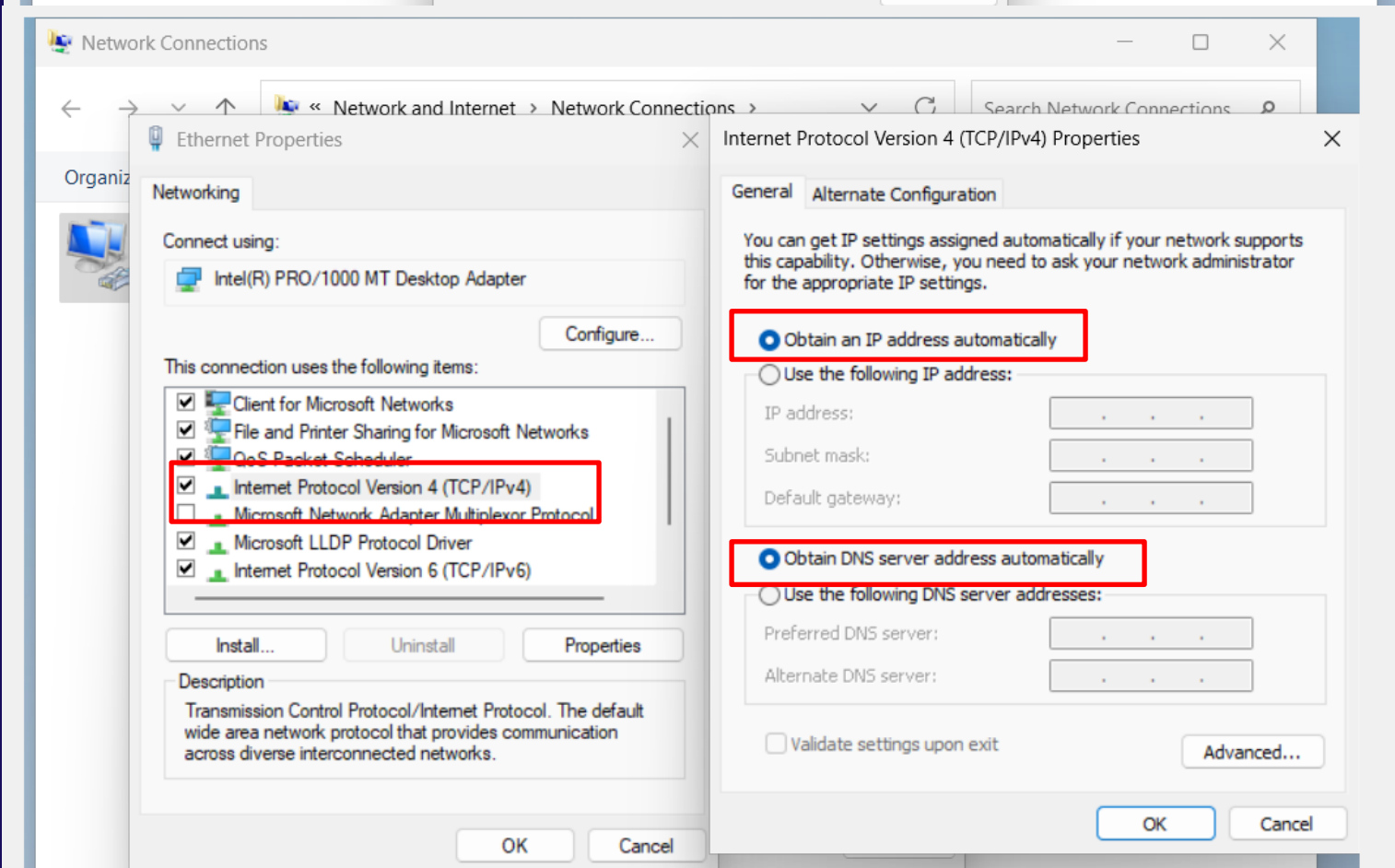
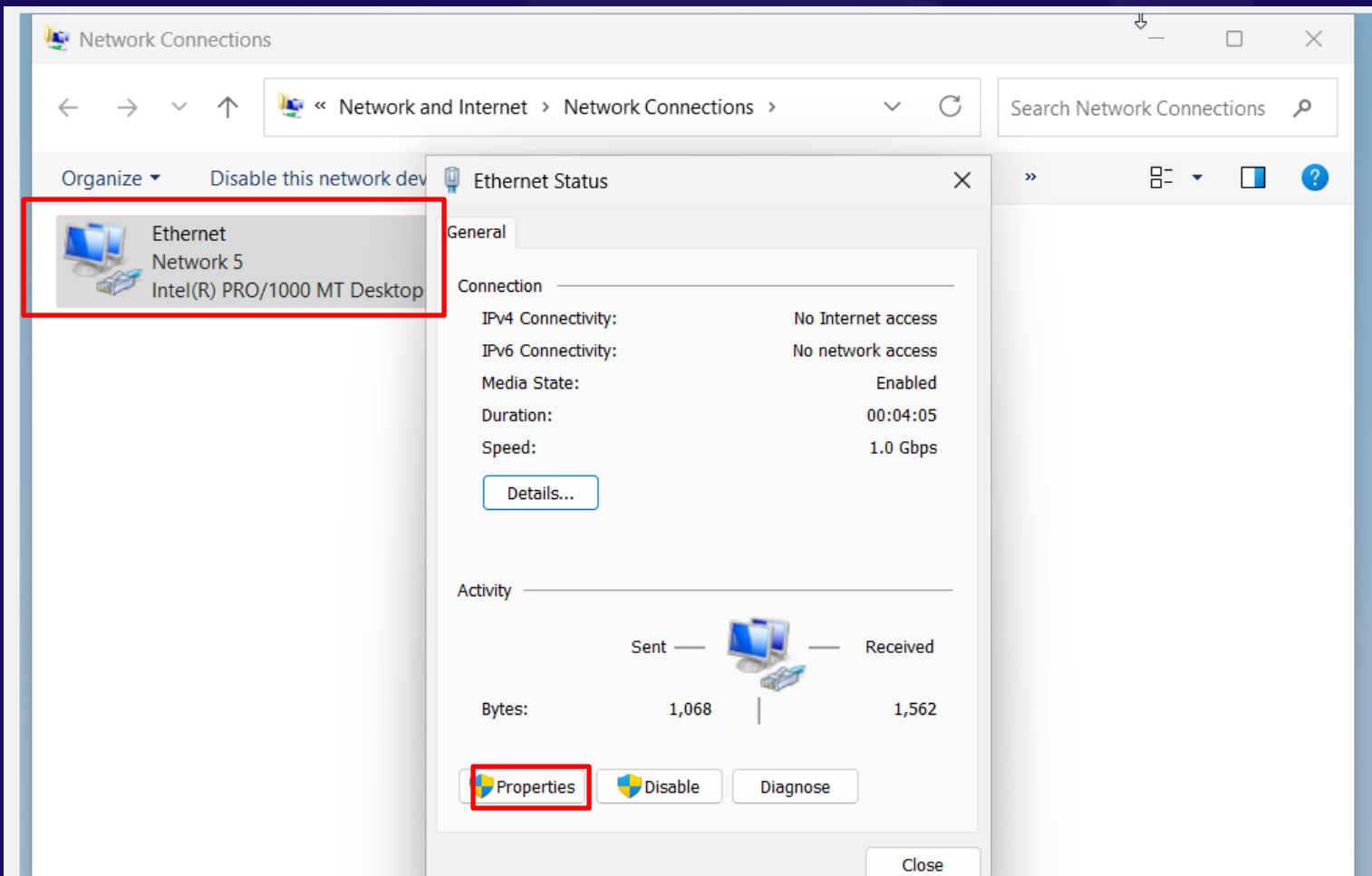
```
[root@fedora ~]# firewall-cmd --add-service=dhcp  
Warning: ALREADY_ENABLED: 'dhcp' already in 'FedoraWorkstation'  
success  
[root@fedora ~]# firewall-cmd --runtime-to-perm  
success
```



# 5. How to Enable DHCP Client on Window or Client?

➤ Enable DHCP client

1. Win + r and then type ncpa.cpl
2. Open Ethernet and click Properties
3. Click on IPV4
4. Choose Obtain IP and Obtain DNS and click ok





# 5. How to Enable DHCP Client on Window or Client?

Please type `ipconfig /release` for release an old IP address.

```
PS C:\> ipconfig /release

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::100b:aab6:b05c:d9fb%3
    Default Gateway . . . . . : 
PS C:\>
```

Please type `ipconfig /renew` for get a new IP address form DHCP.

```
PS C:\> ipconfig /renew

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : dns01.server.local
    Link-local IPv6 Address . . . . . : fe80::100b:aab6:b05c:d9fb%3
    IPv4 Address. . . . . : 192.168.1.102
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1
PS C:\> |
```





# 5. How to Enable DHCP Client on Window or Client?

Please type `ipconfig /all` for make sure your Client is got an IP from DHCP Server.

```
PS C:\> ipconfig /all

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : dns01.server.local
    Description . . . . . : Intel(R) PRO/1000 MT Desktop Adapter
    Physical Address. . . . . : 08-00-27-78-C2-8F
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    Link-local IPv6 Address . . . . . : fe80::100b:aab6:b05c:d9fb%3(Preferred)
    IPv4 Address. . . . . : 192.168.1.102(Preferred)
    Subnet Mask . . . . . : 255.255.255.0
    Lease Obtained. . . . . : Monday, June 9, 2025 4:04:50 PM
    Lease Expires . . . . . : Monday, June 9, 2025 4:14:49 PM
    Default Gateway . . . . . : 192.168.1.1
    DHCP Server . . . . . : 192.168.1.1
    DHCPv6 IAID . . . . . : 101187623
    DHCPv6 Client DUID. . . . . : 00-01-00-01-2F-BD-C5-6A-08-00-27-78-C2-8F
    DNS Servers . . . . . : fe80::1%3
    NetBIOS over Tcpip. . . . . : Enabled

PS C:\> |
```



**Thank you so much.**

