

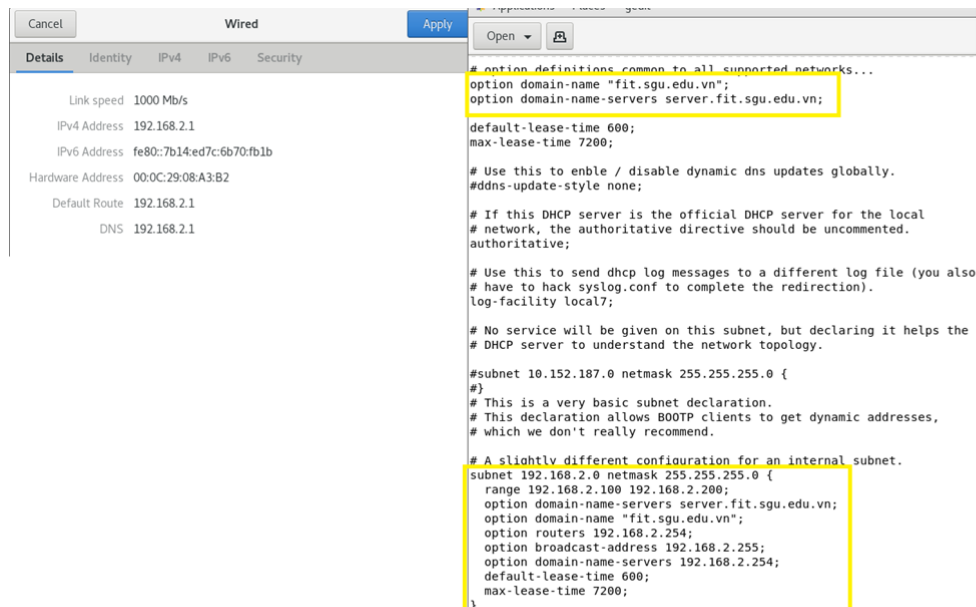
# Thực hiện cấu hình DHCP Server và DHCP Relay Agent trên CentOS, Windows Server.

Huỳnh Tấn Dương

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Hoàn thành 2/2

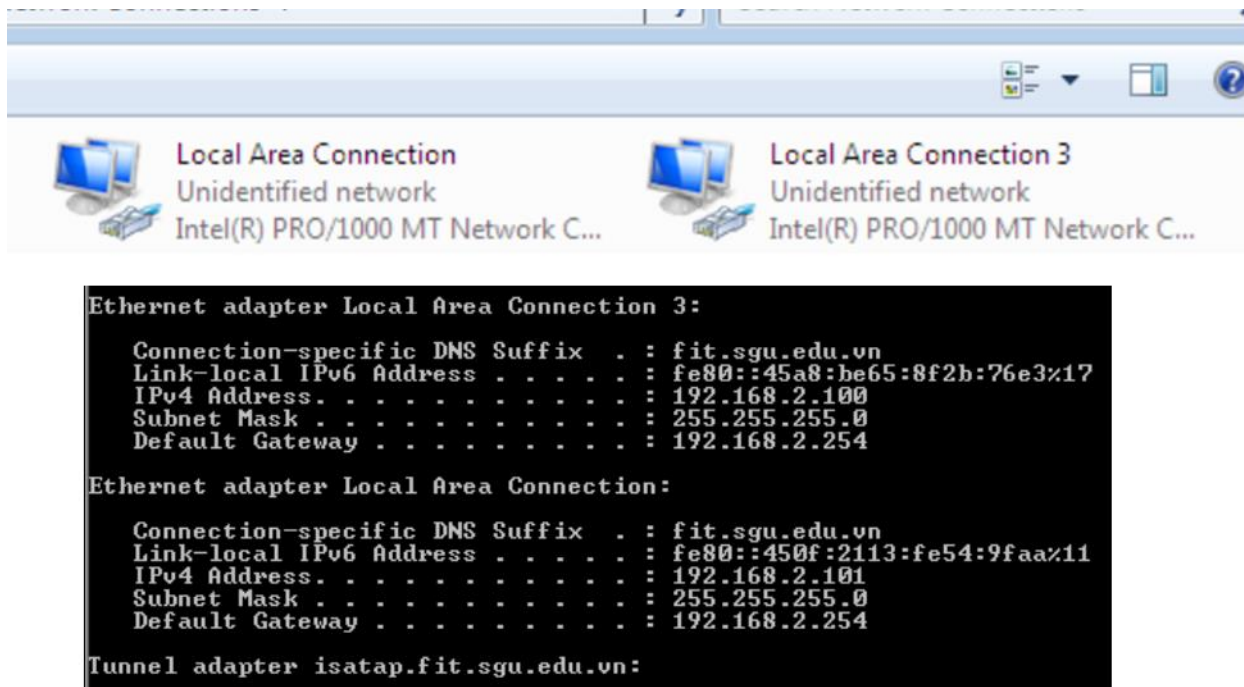
## 1/ Cấu hình DHCP server trên CentOS



```
[root@localhost htd]# systemctl status dhcpd
```

```
● dhcpd.service - DHCPv4 Server Daemon
   Loaded: loaded (/usr/lib/systemd/system/dhcpd.service; enabled; vendor preset: disabled)
   Active: active (running) since Sat 2024-10-05 05:05:03 PDT; 7min ago
     Docs: man:dhcpd(8)
           man:dhcpd.conf(5)
  Main PID: 1082 (dhcpd)
    Status: "Dispatching packets..."
     Tasks: 1
   CGroup: /system.slice/dhcpd.service
           └─1082 /usr/sbin/dhcpd -f -cf /etc/dhcp/dhcpd.conf -user dhcpd -group dhcpd --no-pid
```

```
Oct 05 05:11:49 fit.sgu.edu.vn dhcpd[1082]: DHCPREQUEST for 192.168.2.100 (192.168.2.1) from 00:0c:29:f1:3f:e6 (WIN-1BU3SGKU9HR) via ens33
Oct 05 05:11:49 fit.sgu.edu.vn dhcpd[1082]: DHCPACK on 192.168.2.100 to 00:0c:29:f1:3f:e6 (WIN-1BU3SGKU9HR) via ens33
Oct 05 05:11:56 fit.sgu.edu.vn dhcpd[1082]: DHCPINFORM from 192.168.2.100 via ens33
Oct 05 05:11:56 fit.sgu.edu.vn dhcpd[1082]: DHCPACK to 192.168.2.100 (00:0c:29:f1:3f:e6) via ens33
Oct 05 05:11:56 fit.sgu.edu.vn dhcpd[1082]: DHCPDISCOVER from 00:0c:29:f1:3f:dc via ens33
Oct 05 05:11:57 fit.sgu.edu.vn dhcpd[1082]: DHCPOFFER on 192.168.2.101 to 00:0c:29:f1:3f:dc (WIN-1BU3SGKU9HR) via ens33
Oct 05 05:11:57 fit.sgu.edu.vn dhcpd[1082]: DHCPREQUEST for 192.168.2.101 (192.168.2.1) from 00:0c:29:f1:3f:dc (WIN-1BU3SGKU9HR) via ens33
Oct 05 05:11:57 fit.sgu.edu.vn dhcpd[1082]: DHCPACK on 192.168.2.101 to 00:0c:29:f1:3f:dc (WIN-1BU3SGKU9HR) via ens33
Oct 05 05:12:04 fit.sgu.edu.vn dhcpd[1082]: DHCPINFORM from 192.168.2.101 via ens33
Oct 05 05:12:04 fit.sgu.edu.vn dhcpd[1082]: DHCPACK to 192.168.2.101 (00:0c:29:f1:3f:dc) via ens33
[root@localhost htd]#
```



## 2/ Cấu hình DHCP relay agent

<p><b>địa chỉ ip server DHCP, card mạng VMnet1</b></p> <p>Link speed 1000 Mb/s</p> <p>IPv4 Address 192.168.2.1</p> <p>IPv6 Address fe80::94a4:c65f:ac0:38ee</p> <p>Hardware Address 00:0C:29:08:A3:A8</p> <p>Default Route 192.168.2.1</p> <p>DNS 192.168.2.1</p>	<p><b>địa chỉ ip relay agent, card mạng VMnet2</b></p> <p>Link speed 1000 Mb/s</p> <p>IPv4 Address 192.168.3.1</p> <p>IPv6 Address fe80::442f:8952:544c:f530</p> <p>Hardware Address 00:0C:29:76:7A:23</p> <p>Default Route 192.168.2.2</p> <p>DNS 192.168.3.1</p>
<p><b>địa chỉ ip relay agent, card mạng VMnet1</b></p> <p>Link speed 1000 Mb/s</p> <p>IPv4 Address 192.168.2.2</p> <p>IPv6 Address fe80::c5bf:243a:f0b7:95b4</p> <p>Hardware Address 00:0C:29:76:7A:19</p> <p>Default Route 192.168.2.2</p> <p>DNS 192.168.2.2</p> <p>client VMnet1 chung card mạng với server, VMnet2 khác card nên dùng để demon DHCP relay agent</p>	<pre> <b>Ethernet adapter Local Area Connection 3:</b> Connection-specific DNS Suffix  . : sgu.edu.vn Link-local IPv6 Address . . . . . : fe80::45a8:be65:8f2b:76e3%17 IPv4 Address. . . . . : 192.168.3.100 Subnet Mask . . . . . : 255.255.255.0 Default Gateway . . . . . : 192.168.2.1  <b>Ethernet adapter Local Area Connection:</b> Connection-specific DNS Suffix  . : sgu.edu.vn Link-local IPv6 Address . . . . . : fe80::450f:2113:fe54:9faa%11 IPv4 Address. . . . . : 192.168.2.101 Subnet Mask . . . . . : 255.255.255.0 Default Gateway . . . . . : 192.168.2.1 </pre>

GNU nano 2.3.1 File: /etc/systemd/system/dhcrelay.service	GNU nano 2.3.1 File: /etc/dhcp/dhcpd.conf
<pre>[Unit] Description=DHCP Relay Agent Daemon Documentation=man:dhcrelay(8) Wants=network-online.target After=network-online.target  [Service] Type=notify ExecStart=/usr/sbin/dhcrelay -d --no-pid 192.168.2.1  [Install] WantedBy=multi-user.target</pre>	<pre># This declaration allows BOOTP clients to get dynamic # which we don't really recommend.  # A slightly different configuration for an internal s subnet 192.168.2.0 netmask 255.255.255.0 {     range 192.168.2.100 192.168.2.200;     option domain-name-servers fit.sgu.edu.vn;     option domain-name "sgu.edu.vn";     option routers 192.168.2.1;     option broadcast-address 192.168.2.255;     option domain-name-servers 192.168.2.1;     default-lease-time 600;     max-lease-time 7200; } subnet 192.168.3.0 netmask 255.255.255.0 {     range 192.168.3.100 192.168.3.200;     option domain-name-servers fit.sgu.edu.vn;     option domain-name "sgu.edu.vn";     option routers 192.168.2.1;     option broadcast-address 192.168.3.255;     option domain-name-servers 192.168.2.1;     default-lease-time 600;     max-lease-time 7200; }</pre>

### 3/ Cấu hình DHCP trên Windows server

**Internet Protocol Version 4 (TCP/IPv4) Properties**

**General**

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 6 . 1

Subnet mask: 255 . 255 . 255 . 0

Default gateway: 192 . 168 . 6 . 1

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses

Preferred DNS server: 192 . 168 . 6 . 1

Alternate DNS server: . . . .

☐ Validate settings upon exit

Advanced...

OK Cancel

DHCP
 

- win-g6mdr76omoq
  - IPv4
    - Scope [192.168.6.0] HuynhTanDuong
      - Address Pool
      - Address Leases

Start IP Address	End IP Address
192.168.6.100	192.168.6.200

DHCP
 

- win-g6mdr/6omoq
  - IPv4
    - Scope [192.168.6.0] HuynhTanDuong
      - Address Pool
      - Address Leases
      - Reservations
      - Scope Options
      - Policies

Option Name	Vendor	Value	Policy
003 Router	Standard	192.168.6.1	None
006 DNS Servers	Standard	192.168.6.1	None
015 DNS Domain Name	Standard	HuynhTanDucng.edu.vn	None

```

C:\Users\DELL>ipconfig /renew

Windows IP Configuration

Ethernet adapter Local Area Connection 3:

    Connection-specific DNS Suffix  . : HuynhTanDuong.edu.vn
    Link-local IPv6 Address . . . . . : fe80::45a8:be65:8f2b:76e3%17
    IPv4 Address. . . . . : 192.168.6.100
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.6.1

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : HuynhTanDuong.edu.vn
    Link-local IPv6 Address . . . . . : fe80::450f:2113:fe54:9faa%11
    IPv4 Address. . . . . : 192.168.6.102
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.6.1
  
```

## 4/ Cấu hình DHCP reply trên Windows server

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

**DHCP server VMnet1**

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 6 . 1

Subnet mask: 255 . 255 . 255 . 0

Default gateway: 192 . 168 . 6 . 2

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses

Preferred DNS server: . . .

Alternate DNS server: . . .

☐ Validate settings upon exit

Advanced...

OK Cancel

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

**DHCP reply agent VMnet1**

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 6 . 2

Subnet mask: 255 . 255 . 255 . 0

Default gateway: . . .

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses

Preferred DNS server: . . .

Alternate DNS server: . . .

☐ Validate settings upon exit

Advanced...

OK Cancel

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

**DHCP reply agent VMnet2**

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 7 . 1

Subnet mask: 255 . 255 . 255 . 0

Default gateway: . . .

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses

Preferred DNS server: . . .

Alternate DNS server: . . .

☐ Validate settings upon exit

Advanced...

OK Cancel

```
Ethernet adapter Local Area Connection 3:                               Clinet có 2 card mạng

Connection-specific DNS Suffix . : HuynhTanDuong.edu.vn
Link-local IPv6 Address . . . . . : fe80::45a8:be65:8f2b:76e3%17
IPv4 Address. . . . . : 192.168.7.100
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.6.1

Ethernet adapter Local Area Connection:

Connection-specific DNS Suffix . : HuynhTanDuong.edu.vn
Link-local IPv6 Address . . . . . : fe80::450f:2113:fe54:9faa%11
IPv4 Address. . . . . : 192.168.6.102
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.6.1
```

VMnet2 nhận ip lớp 192.168.7.0/24

VMnet1 nhập ip lớp 192.168.6.0/24

DHCP <ul style="list-style-type: none"> <li>win-g6mdr76omoq <ul style="list-style-type: none"> <li>IPv4 <ul style="list-style-type: none"> <li>Scope [192.168.7.0] 2HuynhTanDuong <ul style="list-style-type: none"> <li>Address Pool</li> <li>Address Leases</li> <li>Reservations</li> <li>Scope Options</li> <li>Policies</li> </ul> </li> <li>Scope [192.168.6.0] HuynhTanDuong <ul style="list-style-type: none"> <li>Address Pool</li> <li>Address Leases</li> <li>Reservations</li> <li>Scope Options</li> <li>Policies</li> </ul> </li> </ul> </li> </ul> </li> </ul>	<table border="1"> <thead> <tr> <th>Start IP Address</th><th>End IP Address</th></tr> </thead> <tbody> <tr> <td>192.168.7.100</td><td>192.168.7.200</td></tr> </tbody> </table>	Start IP Address	End IP Address	192.168.7.100	192.168.7.200				
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192.168.6.102	WIN-1BU3SGKU9HR.HuynhTanDu...								