

Họ và tên: Trần Thanh Phong  
Mssv: 3118410332

## Bài tập thực hành – Tuần 2

### Môn: Quản trị mạng

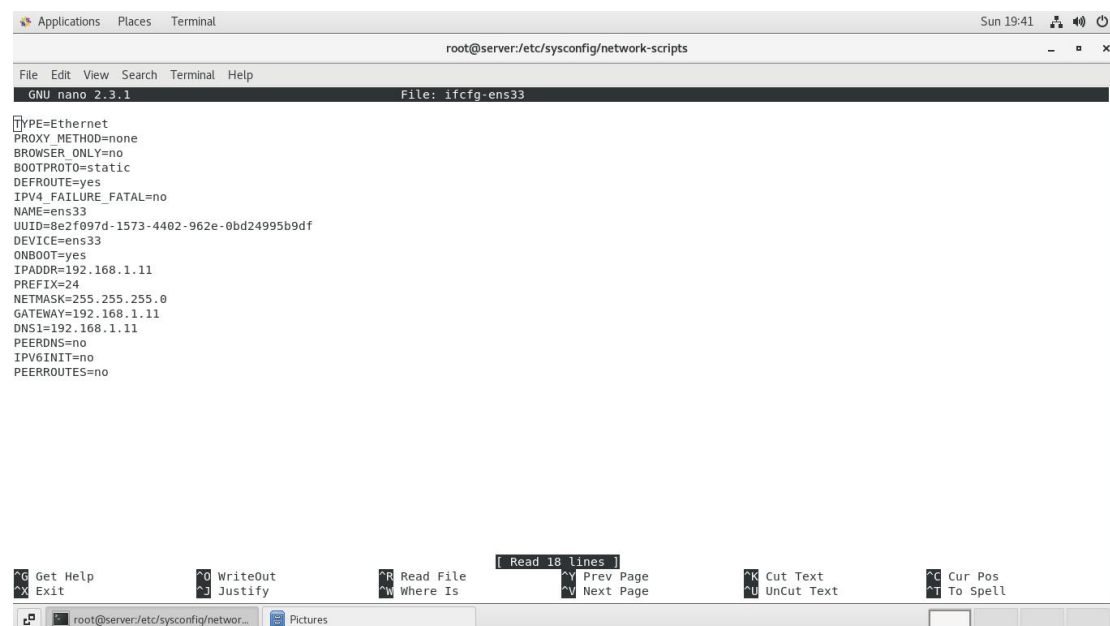
#### Bài tập thực hành:

Hãy thực hiện các yêu cầu sau:

- Đối với server sử dụng hệ điều hành CentOS 7, thực hiện cài đặt dịch vụ DNS:
  - DNS: quản lý tên miền: sgu.edu.vn trở về địa chỉ: 192.168.1.210/24, qtm.vn trở về địa chỉ 192.168.1.200/24 và lab.net trở về địa chỉ: 172.16.0.1/16
- Đối với server sử dụng hệ điều hành windows server 2012, thực hiện cài đặt dịch vụ DNS:
  - DNS: quản lý tên miền: IT.net trở về địa chỉ: 192.168.1.150/24, data.org trở về địa chỉ: 172.16.20.5/16, và relax.com trở về địa chỉ: 210.5.3.100/16.
- Hãy cấu hình để máy CentOS7 và máy Windows server có thể trao đổi quá trình phân giải tên với nhau.

## PHẦN I: CENTOS 7

### 1. Cấu hình IP tĩnh.



```
Applications  Places  Terminal  Sun 19:41  root@server:/etc/sysconfig/network-scripts
File Edit View Search Terminal Help
GNU nano 2.3.1 File: ifcfg-ens33
TYPE=Ethernet
PROXY_METHOD=none
BROWSER_ONLY=no
BOOTPROTO=static
DEFROUTE=yes
IPV4_FAILURE_FATAL=no
NAME=ens33
UUID=8e2f097d-1573-4402-962e-0bd24995b9df
DEVICE=ens33
ONBOOT=yes
IPADDR=192.168.1.11
PREFIX=24
NETMASK=255.255.255.0
GATEWAY=192.168.1.11
DNS1=192.168.1.11
PEERDNS=no
IPV6INIT=no
PEERROUTES=no

Get Help  WriteOut  Read File  Read 18 lines  Cut Text  Cur Pos
Exit      Justify    Where Is   Next Page   UnCut Text To Spell
root@server:/etc/sysconfig/network- Pictures
```

### 2. Cấu hình DNS file /etc/named.conf

```
options {
    listen-on port 53 { 127.0.0.1; 192.168.1.11; };
    #listen-on v6 port 53 { ::1; };
    directory "/var/named";
    forwarders {192.168.1.1; };
    dump-file "/var/named/data/cache_dump.db";
    statistics-file "/var/named/data/named_stats.txt";
    memstatistics-file "/var/named/data/named_mem_stats.txt";
    recursing-file "/var/named/data/named.recursing";
    secroots-file "/var/named/data/named.secroots";
    allow-query { localhost; 192.168.1.0/24; 172.16.0.0/16; };
    recursion yes;

    dnssec-enable no;
    dnssec-validation no;
    bindkeys-file "/etc/named.root.key";

    managed-keys-directory "/var/named/dynamic";

    pid-file "/run/named/named.pid";
    session-keyfile "/run/named/session.key";
};

logging {
    channel default_debug {
        file "data/named.run";
        severity dynamic;
    };
};

zone "." IN {
    type hint;
    file "named.ca";
};

type master;
file "forward.sgu.edu.vn";
allow-update { none; };

zone "210.1.168.192.in-addr.arpa" IN {
    type master;
    file "reverse.sgu.edu.vn";
    allow-update { none; };
};

zone "qtm.vn" IN {
    type master;
    file "forward.qtm.vn";
    allow-update { none; };
};

zone "200.1.168.192.in-addr.arpa" IN {
    type master;
    file "reverse.qtm.vn";
    allow-update { none; };
};

zone "lab.net" IN {
    type master;
    file "forward.lab.net";
    allow-update { none; };
};

zone "1.0.16.172.in-addr.arpa" IN {
    type master;
    file "reverse.lab.net";
    allow-update { none; };
};
```

### 3. Cấu hình file forward zone:

#### a) vnlab.com.vn

The screenshot shows a terminal window with the nano text editor open. The file being edited is `/var/named/forward.vnlab.com.vn`. The content of the file is a DNS zone configuration for `vnlab.com.vn`. The configuration includes a TTL of 86400, an SOA record for `server.vnlab.com.vn`, and an A record for `server` pointing to `192.168.1.11`. The terminal window has a menu bar with options like File, Edit, View, Search, Terminal, and Help. The status bar at the bottom shows the current line and column.

```
GNU nano 2.3.1 File: /var/named/forward.vnlab.com.vn

TTL 86400
@ IN SOA server.vnlab.com.vn. root.vnlab.com.vn. (
2011071001 ;Serial
3600 ;Refresh
1800 ;Retry
604800 ;Expire
86400 ;Minimum TTL
)
@ IN NS server.vnlab.com.vn.
@ IN A 192.168.1.11
server IN A 192.168.1.11
```

## b) sgu.edu.vn

The screenshot shows a terminal window with the nano text editor open. The file being edited is `/var/named/forward.sgu.edu.vn`. The content of the file is a DNS zone configuration for `sgu.edu.vn`. The configuration includes a TTL of 86400, an SOA record for `server.sgu.edu.vn`, and an A record for `server` pointing to `192.168.1.210`. The terminal window has a menu bar with options like File, Edit, View, Search, Terminal, and Help. The status bar at the bottom shows the current line and column.

```
GNU nano 2.3.1 File: /var/named/forward.sgu.edu.vn

TTL 86400
@ IN SOA server.sgu.edu.vn. root.sgu.edu.vn. (
2011071001 ;Serial
3600 ;Refresh
1800 ;Retry
604800 ;Expire
86400 ;Minimum TTL
)
@ IN NS server.sgu.edu.vn.
@ IN A 192.168.1.210
server IN A 192.168.1.210
```

## c) qtm.vn

The screenshot shows a terminal window with the title bar "Applications Places Terminal" and the system clock "Sun 20:13". The terminal prompt is "root@server:~". The user has opened the file "/var/named/forward.qtm.vn" in the nano 2.3.1 editor. The file contains the following DNS zone file configuration:

```
TTL 86400
@ IN SOA server.qtm.vn. root.qtm.vn. (
2011071001 ;Serial
3600 ;Refresh
1800 ;Retry
604800 ;Expire
86400 ;Minimum TTL
)@ IN NS server.qtm.vn.
@ IN A 192.168.1.200
server IN A 192.168.1.200
```

The nano editor interface includes a menu bar with "File Edit View Search Terminal Help" and a status bar at the bottom with various keyboard shortcuts like "Get Help", "Exit", "WriteOut", "Justify", "Read File", "Where Is", "Read 10 lines", "Prev Page", "Next Page", "Cut Text", "UnCut Text", "Cur Pos", and "To Spell".

#### d) lab.net

The screenshot shows a terminal window with the title bar "Applications Places Terminal" and the system clock "Sun 20:13". The terminal prompt is "root@server:~". The user has opened the file "/var/named/forward.lab.net" in the nano 2.3.1 editor. The file contains the following DNS zone file configuration:

```
TTL 86400
@ IN SOA server.lab.net. root.lab.net. (
2011071001 ;Serial
3600 ;Refresh
1800 ;Retry
604800 ;Expire
86400 ;Minimum TTL
)@ IN NS server.lab.net.
@ IN A 172.16.0.1
server IN A 172.16.0.1
```

The nano editor interface is identical to the one in the previous screenshot, showing the same menu bar and status bar.

### 4. Cấu hình file reverse zone

#### a) vnlab.com.vn

The screenshot shows a terminal window with the nano text editor open. The file being edited is `/var/named/reverse.vnlab.com.vn`. The content of the file is as follows:

```
TTL 86400
@ IN SOA server.vnlab.com.vn. root.vnlab.com.vn. (
2011071001 ;Serial
3600 ;Refresh
1800 ;Retry
604800 ;Expire
86400 ;Minimum TTL
)
@ IN NS server.vnlab.com.vn.
@ IN PTR vnlab.com.vn.
server IN A 192.168.1.11
11 IN PTR server.vnlab.com.vn.
```

The terminal window title is `root@server:~`. The status bar at the bottom shows various nano editor commands and the current position.

## b) sgu.edu.vn

The screenshot shows a terminal window with the nano text editor open. The file being edited is `/var/named/reverse.sgu.edu.vn`. The content of the file is as follows:

```
TTL 86400
@ IN SOA server.sgu.edu.vn. root.sgu.edu.vn. (
2011071001 ;Serial
3600 ;Refresh
1800 ;Retry
604800 ;Expire
86400 ;Minimum TTL
)
@ IN NS server.sgu.edu.vn.
@ IN PTR sgu.edu.vn
server IN A 192.168.1.210
210 IN PTR server.sgu.edu.vn.
```

The terminal window title is `root@server:~`. The status bar at the bottom shows various nano editor commands and the current position.

## c) qtm.vn

```
Applications  Places  Terminal  Sun 20:17  root@server:~
root@server:~
File Edit View Search Terminal Help
GNU nano 2.3.1 File: /var/named/reverse.qtm.vn

TTL 86400
@ IN SOA server.qtm.vn. root.qtm.vn. (
2011071001 ;Serial
3600 ;Refresh
1800 ;Retry
604800 ;Expire
86400 ;Minimum TTL
)
@ IN NS server.qtm.vn.
@ IN PTR qtm.vn.
server IN A 192.168.1.200
200 IN PTR server.qtm.vn.
```

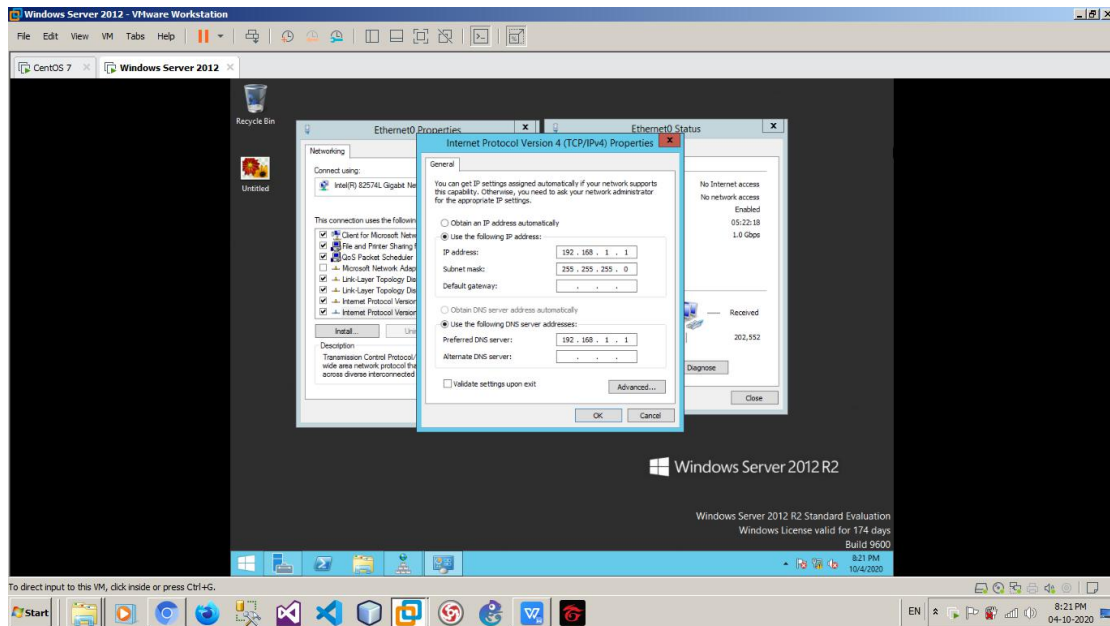
**d) lab.net**

```
Applications  Places  Terminal  Sun 20:17  root@server:~
root@server:~
File Edit View Search Terminal Help
GNU nano 2.3.1 File: /var/named/reverse.lab.net

TTL 86400
@ IN SOA server.lab.net. root.lab.net. (
2011071001 ;Serial
3600 ;Refresh
1800 ;Retry
604800 ;Expire
86400 ;Minimum TTL
)
@ IN NS server.lab.net.
@ IN PTR lab.net.
server IN A 172.16.0.1
1 IN PTR server.lab.net.
```

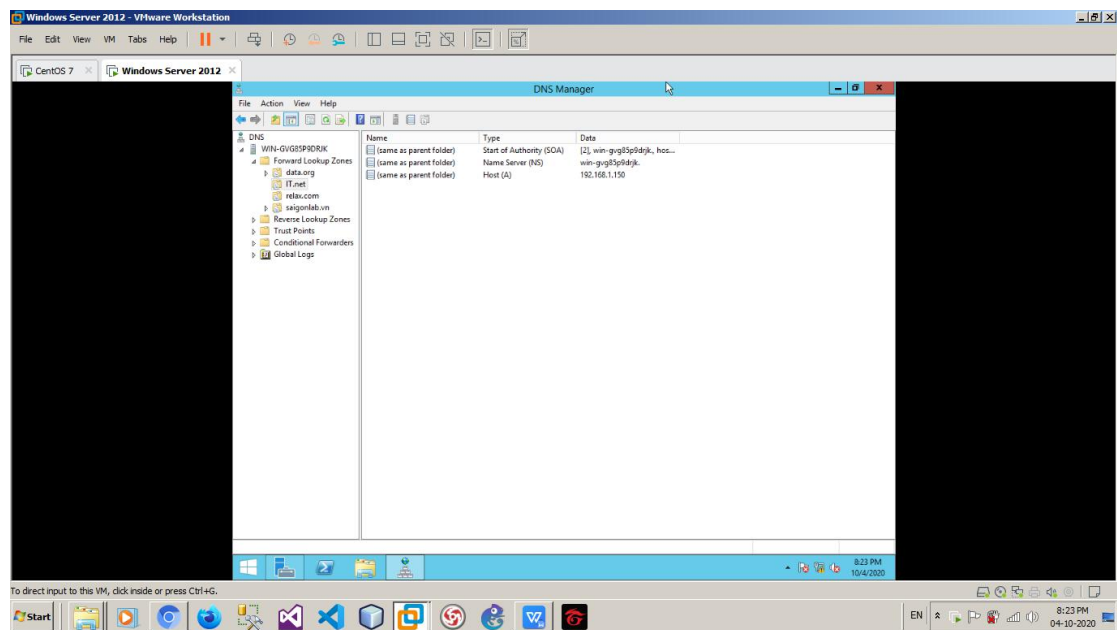
## PHẦN II: WINDOWS SERVER 2012

### 1. Cấu hình IP tĩnh

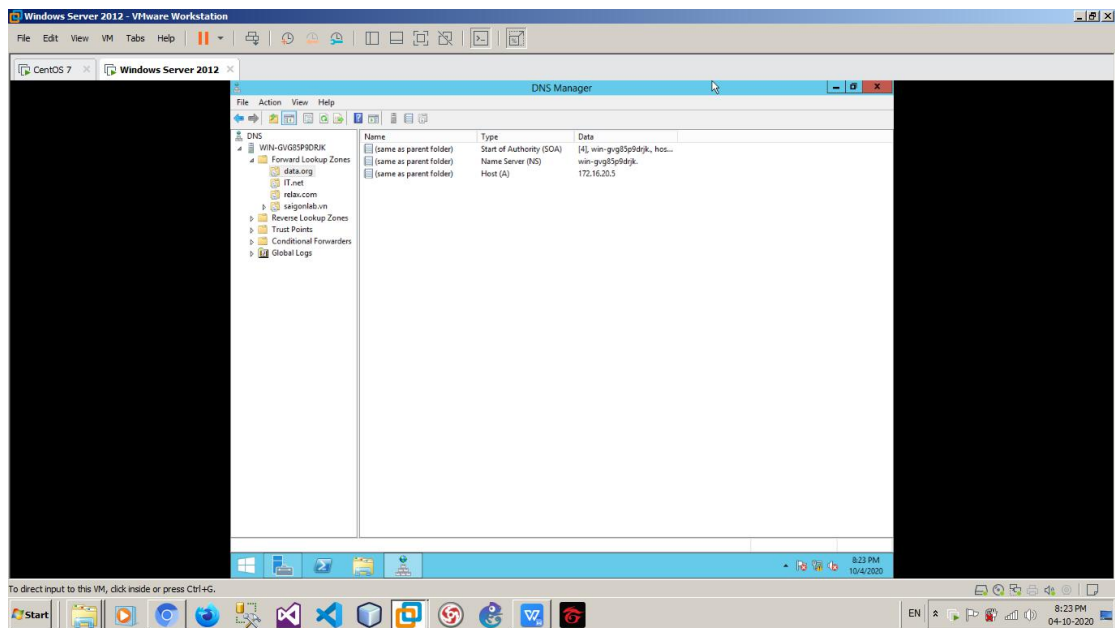


## 2. Cấu hình Forward lookup zone: cấu hình zone thuận

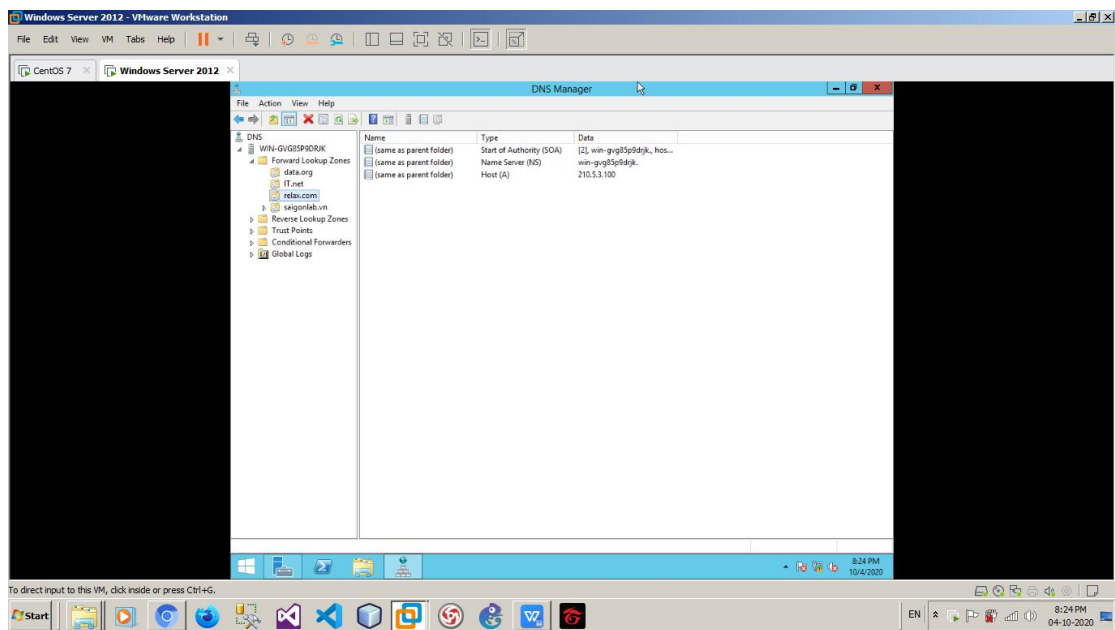
### a) IT.net



### b) data.org



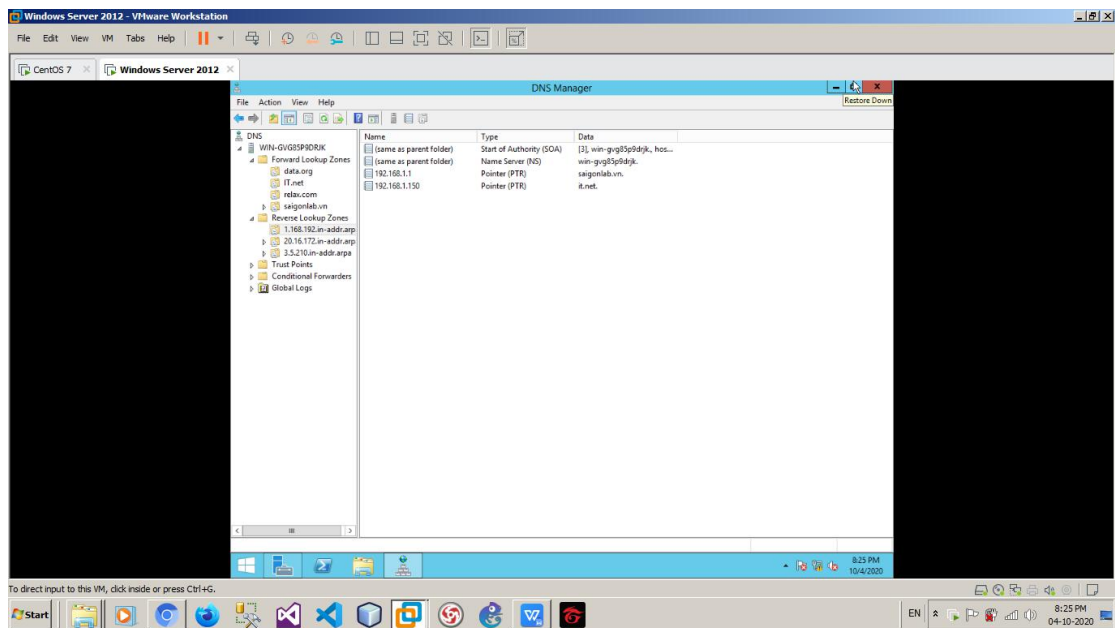
c) relax.com



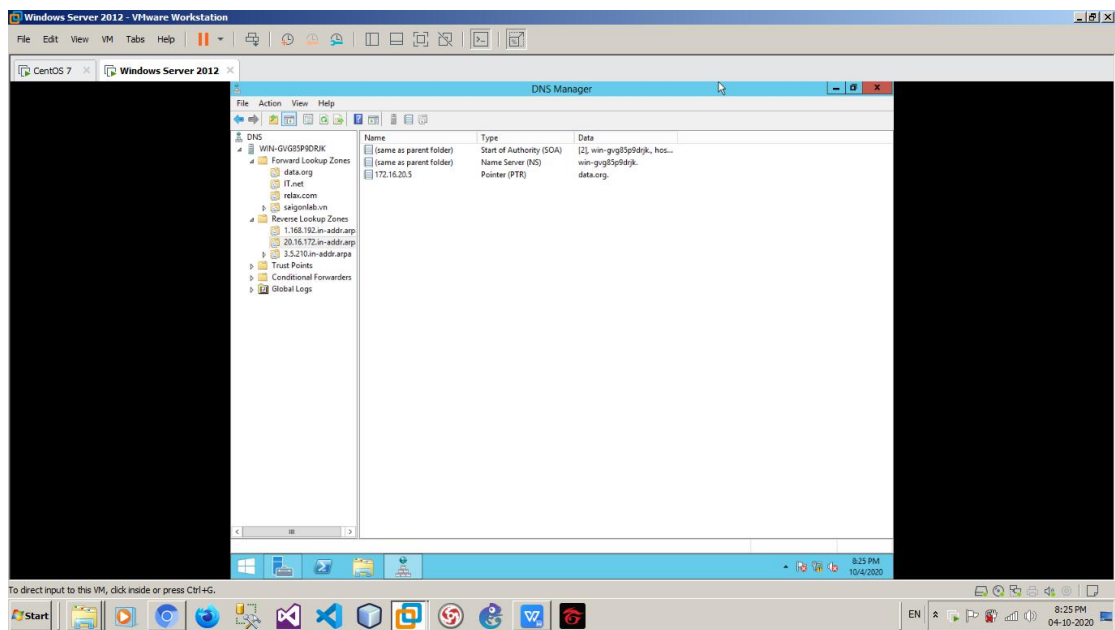
### 3. Cấu hình Reverse lookup zone: cấu hình zone nghịch

a) IT.net

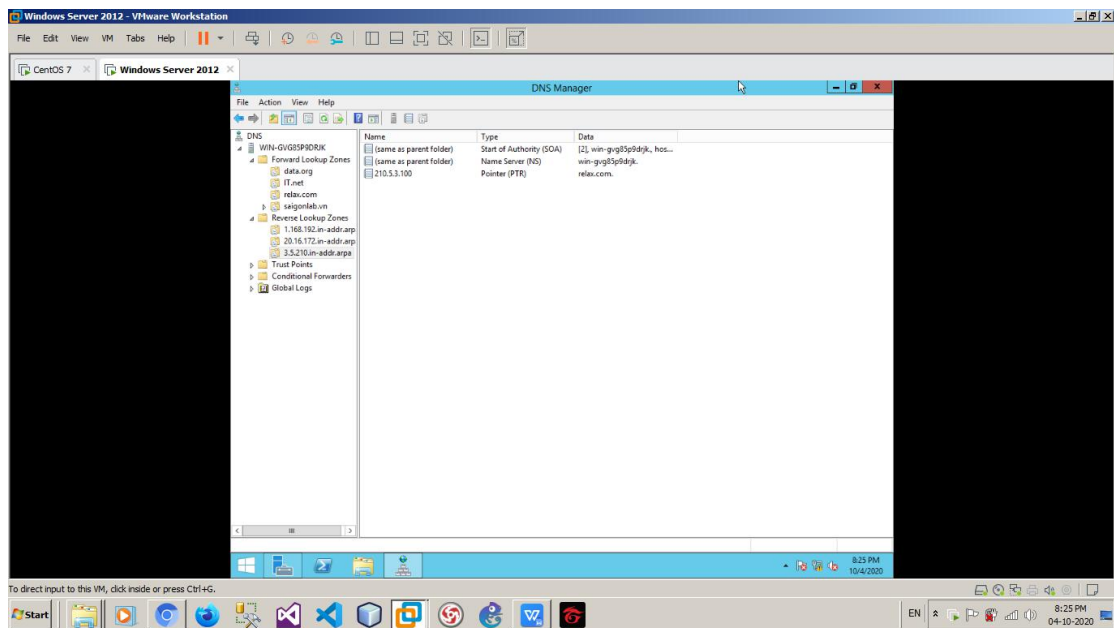




b) data.org



c) relax.com



#### 4. Kết quả

5.

```
File Edit View Search Terminal Help
[root@localhost ntmen]# nslookup
> it.net
Server:          192.168.1.2
Address:         192.168.1.2#53

Non-authoritative answer:
Name:   it.net
Address: 192.168.1.150
> data.org
Server:          192.168.1.2
Address:         192.168.1.2#53

Non-authoritative answer:
Name:   data.org
Address: 172.16.20.5
> relax.com
Server:          192.168.1.2
Address:         192.168.1.2#53

Non-authoritative answer:
Name:   relax.com
Address: 210.5.3.100
> █
```

```
Administrator: Windows PowerShell
PS C:\Users\Administrator> nslookup
Default Server: saigonlab.vn
Address: 192.168.1.1

> sgu.edu.vn
Server: saigonlab.vn
Address: 192.168.1.1

Non-authoritative answer:
Name: sgu.edu.vn
Address: 192.168.1.210

> qtm.vn
Server: saigonlab.vn
Address: 192.168.1.1

Non-authoritative answer:
Name: qtm.vn
Address: 192.168.1.200

> lab.net
Server: saigonlab.vn
Address: 192.168.1.1

Non-authoritative answer:
Name: lab.net
Address: 172.16.0.1

>
```