CN Session 4: DNS

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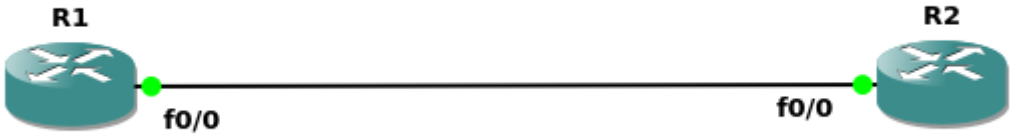
7.4



R1 IP configurations:

```
R1#enable
R1#conf t

R1(config)#hostname R1
R1(config)#interface f0/0

R1(config-if)#ip address 10.10.10.1 255.255.255.0
R1(config-if)#no shut
R1(config-if)#do
R1(config-if)#do wr
R1(config-if)#end
```

R2 IP and Hostname Configurations:

```
R2#enable
R2#conf t
R2(config)#hostname R2
R2(config)#int f0/0
R2(config-if)#ip address 10.10.10.2 255.255.255.0
R2(config-if)#no shutdown
R2(config-if)#do wr
R2(config-if)#end
```

Setting up R2 as DNS Server

```
R2#conf t

R2(config)#ip dns server
R2(config)#ip host loopback.R2.com 2.2.2.2
```

create loopback interface on R2

```
R2(config)#interface loopback1
R2(config-if)#ip address 2.2.2.2 255.255.255.255
R2(config-if)#end
```

try pinging to check loopback

```
R2#ping loopback.R2.com

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 2.2.2.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2#
```

Setup R1 to resolve hostnames

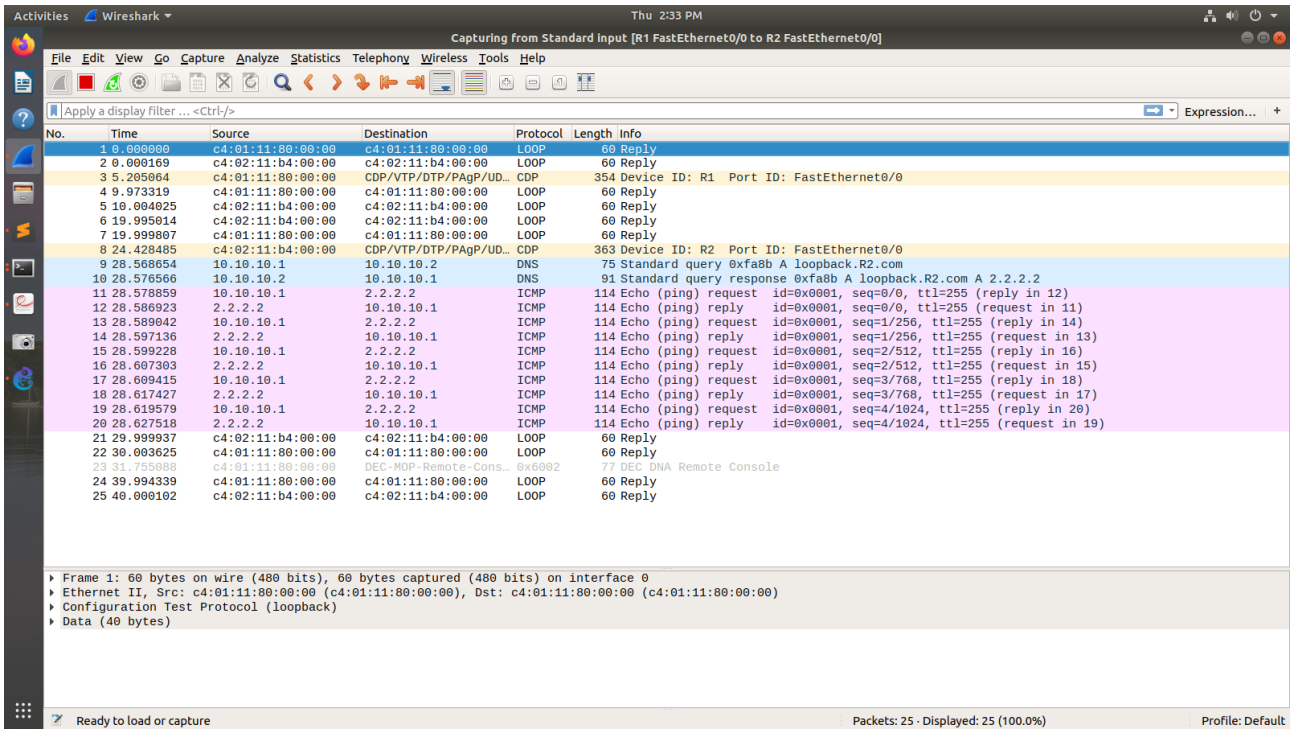
```
R1#conf t
R1(config)#ip domain lookup
R1(config)#ip name-server 10.10.10.2
R1(config)#ip route 0.0.0.0 0.0.0.0 10.10.10.2
R1(config)#end
```

ping from R1 to R2

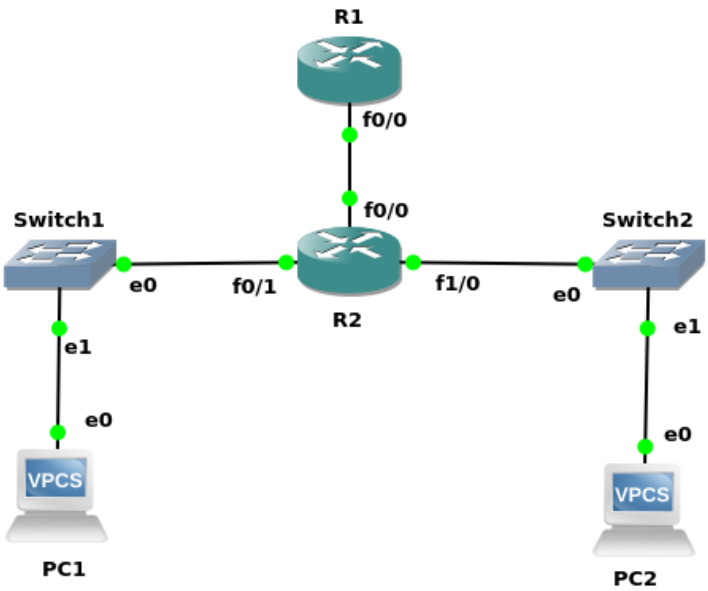
```
R1#ping loopback.R2.com

Translating "loopback.R2.com"...domain server (10.10.10.2) [OK]

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 2.2.2.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/67/72 ms
```



7.5



R1

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```
[OK]
R1(config-if)#end
R1#
*Mar  1 00:04:29.835: %SYS-5-CONFIG_I: Configured from console by console
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int f2/0
R1(config-if)#ip address 30.30.30.1 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#
*Mar  1 00:05:26.703: %LINK-3-UPDOWN: Interface FastEthernet2/0, changed state to up
*Mar  1 00:05:27.703: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet2/0, changed state to up
R1(config-if)#do wr
Building configuration...
[OK]
R1(config-if)#end
R1#c
*Mar  1 00:05:32.487: %SYS-5-CONFIG_I: Configured from console by console
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int f0/0
R1(config-if)#ip address 40.40.40.1 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#
*Mar  1 00:12:17.039: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar  1 00:12:18.039: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
R1(config-if)#do wr
Building configuration...
[OK]
R1(config-if)#exit
R1(config)#ip domain lookup
R1(config)#ip name-server 40.40.40.2
R1(config)#ip route 0.0.0.0 0.0.0.0 40.40.40.2
R1(config)#end
R1#ping
*Mar  1 00:21:26.735: %SYS-5-CONFIG_I: Configured from console by console
R1#ping pcone.PCONE.com

Translating "pcone.PCONE.com"...domain server (40.40.40.2) [OK]

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.10.10.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/8/16 ms
R1#
```

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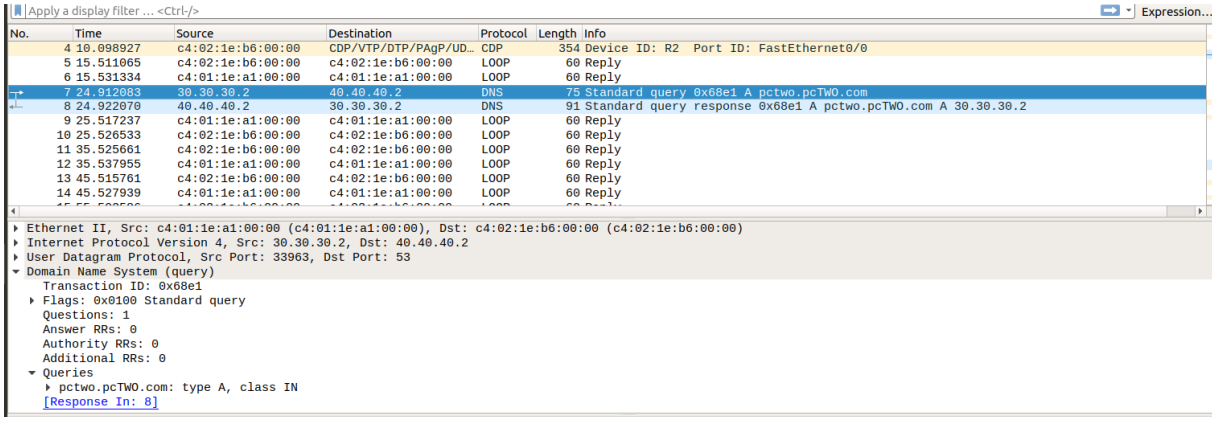
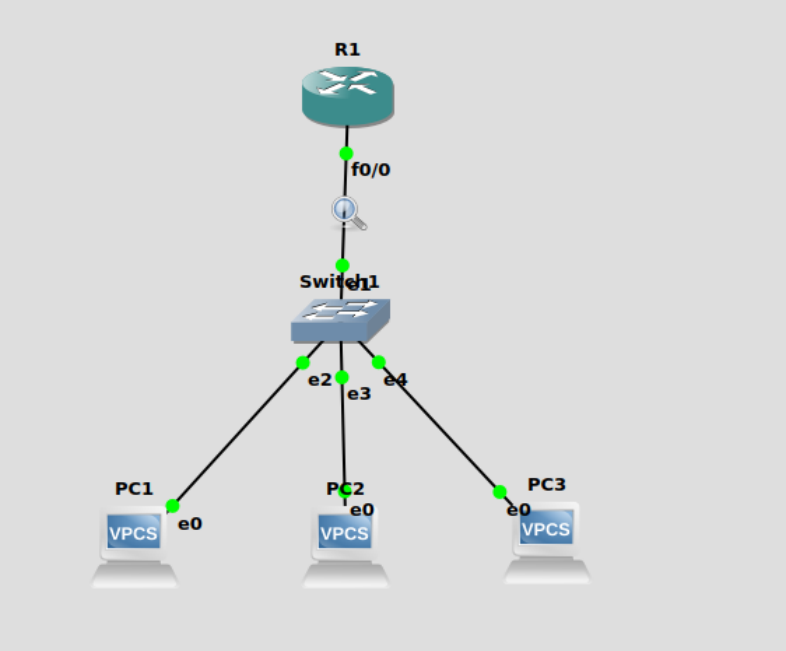
```
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 30.30.30.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 16/20/28 ms
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#ip dns server
R2(config)#ip host pcone.PCONE.com 10.10.10.2
R2(config)#end
R2#pin
*Mar  1 00:16:30.439: %SYS-5-CONFIG_I: Configured from console by console
R2#ping pcone.PCONE.com

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.10.10.2, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 24/276/1024 ms
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#ip host pctwo.PCTWO.com
% Incomplete command.

R2(config)#ip host pctwo.PCTWO.com 30.30.30.2
R2(config)#end
R2#pi
*Mar  1 00:17:38.879: %SYS-5-CONFIG_I: Configured from console by console
R2#ping pctwo.PCTWO.com

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 30.30.30.2, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 24/275/1020 ms
R2#ping pcone.PCONE.com

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.10.10.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 24/30/36 ms
R2#ping pctwo.PCTWO.com

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 30.30.30.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 24/28/36 ms
R2#
```

```
PC1> ip 10.10.10.2/24 10.10.10.1
Checking for duplicate address...
PC1 : 10.10.10.2 255.255.255.0 gateway 10.10.10.1

PC1> ping pctwo.PCTWO.com
Cannot resolve pctwo.PCTWO.com

PC1> ping pcONE.PCONE.com
Cannot resolve pcONE.PCONE.com

PC1> ip dns 40.40.40.2

PC1> ping pcONE.PCONE.com
pcONE.PCONE.com resolved to 10.10.10.2
10.10.10.2 icmp_seq=1 ttl=64 time=0.001 ms
10.10.10.2 icmp_seq=2 ttl=64 time=0.001 ms
10.10.10.2 icmp_seq=3 ttl=64 time=0.001 ms
10.10.10.2 icmp_seq=4 ttl=64 time=0.001 ms
10.10.10.2 icmp_seq=5 ttl=64 time=0.001 ms

PC1> ping pctwo.PCTWO.com
pctwo.PCTWO.com resolved to 30.30.30.2
pctwo.PCTWO.com icmp_seq=1 timeout
pctwo.PCTWO.com icmp_seq=2 timeout
84 bytes from 30.30.30.2 icmp_seq=3 ttl=63 time=18.708 ms
84 bytes from 30.30.30.2 icmp_seq=4 ttl=63 time=16.909 ms
84 bytes from 30.30.30.2 icmp_seq=5 ttl=63 time=17.423 ms

PC1>
```

```
PC2> ip address 30.30.30.2/24
Invalid address

PC2> ip 30.30.30.2/24 30.30.30.1
Checking for duplicate address...
PC1 : 30.30.30.2 255.255.255.0 gateway 30.30.30.1

PC2> ip dns 40.40.40.2

PC2> ping pctwo.pcTWO.com
pctwo.pcTWO.com resolved to 30.30.30.2
30.30.30.2 icmp_seq=1 ttl=64 time=0.001 ms
30.30.30.2 icmp_seq=2 ttl=64 time=0.001 ms
30.30.30.2 icmp_seq=3 ttl=64 time=0.001 ms
30.30.30.2 icmp_seq=4 ttl=64 time=0.001 ms
30.30.30.2 icmp_seq=5 ttl=64 time=0.001 ms

PC2> ping pcone.pcONE.com
pcone.pcONE.com resolved to 10.10.10.2
pcone.pcONE.com icmp_seq=1 timeout
pcone.pcONE.com icmp_seq=2 timeout
84 bytes from 10.10.10.2 icmp_seq=3 ttl=63 time=17.407 ms
84 bytes from 10.10.10.2 icmp_seq=4 ttl=63 time=16.407 ms
84 bytes from 10.10.10.2 icmp_seq=5 ttl=63 time=16.238 ms

PC2>
```



8.1

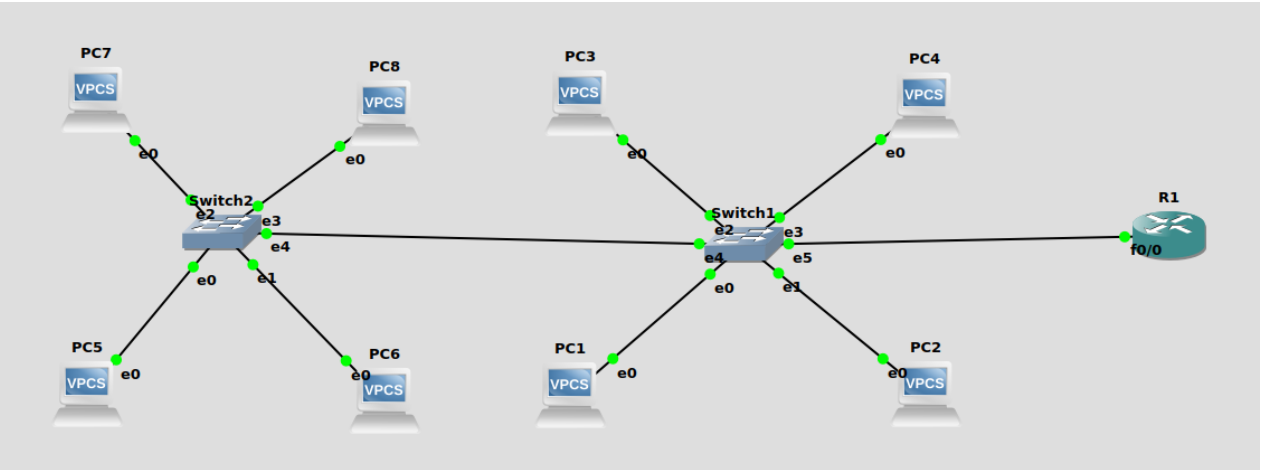



```
PC3> ip 20.20.20.2/24 20.20.20.1
Checking for duplicate address...
PC1 : 20.20.20.2 255.255.255.0 gateway 20.20.20.1

PC3> ping 10.10.10.2
84 bytes from 10.10.10.2 icmp_seq=1 ttl=63 time=12.097 ms
84 bytes from 10.10.10.2 icmp_seq=2 ttl=63 time=14.985 ms
84 bytes from 10.10.10.2 icmp_seq=3 ttl=63 time=14.745 ms
84 bytes from 10.10.10.2 icmp_seq=4 ttl=63 time=19.167 ms
84 bytes from 10.10.10.2 icmp_seq=5 ttl=63 time=14.995 ms

PC3>
```

```
PC1> ip 10.10.10.2/24
Checking for duplicate address...
PC1 : 10.10.10.2 255.255.255.0

PC1> ip 10.10.10.2/24 10.10.10.1
Checking for duplicate address...
PC1 : 10.10.10.2 255.255.255.0 gateway 10.10.10.1

PC1> save
Saving startup configuration to startup.vpc
.  done

PC1> ping 20.20.20.2
20.20.20.2 icmp_seq=1 timeout
84 bytes from 20.20.20.2 icmp_seq=2 ttl=63 time=19.339 ms
84 bytes from 20.20.20.2 icmp_seq=3 ttl=63 time=14.953 ms
84 bytes from 20.20.20.2 icmp_seq=4 ttl=63 time=14.847 ms
84 bytes from 20.20.20.2 icmp_seq=5 ttl=63 time=14.894 ms

PC1>
```

```
R1#enable
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int f0/0
R1(config-if)#ip address 30.30.30.1 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#
*Mar  1 00:03:28.579: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar  1 00:03:29.579: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
R1(config-if)#exit
R1(config)#interface f0/0.2
R1(config-subif)#ip address 10.10.10.1 255.255.255.0

% Configuring IP routing on a LAN subinterface is only allowed if that
subinterface is already configured as part of an IEEE 802.10, IEEE 802.1Q,
or ISL vLAN.

R1(config-subif)#encapsulatio
R1(config-subif)#encapsulation dot1q 2
R1(config-subif)#
*Mar  1 00:06:41.187: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
R1(config-subif)#ip address 10.10.10.1 255.255.255.0
R1(config-subif)#no shutdown
R1(config-subif)#exit
R1(config)#interface f0/0.10
R1(config-subif)#encap
R1(config-subif)#encapsulation dot1q 10
R1(config-subif)#ip address 20.20.20.1 255.255.255.0
R1(config-subif)#no shutdown
R1(config-subif)#
```

8.2




```
PC6> ip 10.10.10.5/25 10.10.10.1
Checking for duplicate address...
PC1 : 10.10.10.5 255.255.255.128 gateway 10.10.10.1

PC6> show ip

NAME        : PC6[1]
IP/MASK     : 10.10.10.5/25
GATEWAY     : 10.10.10.1
DNS         :
MAC         : 00:50:79:66:68:05
LPORT       : 10014
RHOST:PORT  : 127.0.0.1:10015
MTU:        : 1500

PC6> ping 20.20.20.3
20.20.20.3 icmp_seq=1 timeout
84 bytes from 20.20.20.3 icmp_seq=2 ttl=63 time=21.976 ms
84 bytes from 20.20.20.3 icmp_seq=3 ttl=63 time=16.651 ms
84 bytes from 20.20.20.3 icmp_seq=4 ttl=63 time=16.507 ms
84 bytes from 20.20.20.3 icmp_seq=5 ttl=63 time=16.471 ms

PC6>
```