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[Fall 233 CSE 324/CSE 3712 \(D\)](#)

[14 December - 20 December](#)

[Lab Final](#)

Started on Wednesday, 20 December 2023, 11:37 AM

State Finished

Completed on Wednesday, 20 December 2023, 12:39 PM

Time taken 1 hour 2 mins

Grade 23.50 out of 30.00 (78%)

Question 1

Complete

Mark 2.00 out of 2.00

Refer to the given "[Topology](#)." with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.8/29 and the public network address is 201.179.201.0/29

You want to configure NAT for the following roles,

To configure Static NAT you use the 1st Public IP address for the Web Server and the 2nd Public IP address for the E-mail Server.

To configure Dynamic NAT you use 3rd and 4th Public IP addresses.

Write down the configuration how to create of Dynamic NAT Pool.

```
R2(config)#ip nat inside source static 192.168.1.10 201.179.201.1
```

```
R2(config)#ip nat inside source static 192.168.1.11 201.179.201.2
```

```
R2(config)#access-list 1 permit 192.168.1.0 0.0.0.255
```

```
R2(config)#ip nat pool NAT-POOL
```

```
% Incomplete command.
```

```
R2(config)#ip nat pool NAT-POOL
```

```
% Incomplete command.
```

```
R2(config)#ip nat pool NAT-POOL?
```

```
WORD
```

```
R2(config)#ip nat pool NAT-POOL 201.179.201.3 201.179.201.4 netmask 255.255.255.248
```

```
R2(config)#
```

Question **2**

Complete

Mark 1.00 out of 1.00

From the following socket programming code, identify what type of Socket it is, (Chose any two)

```
from socket import *  
host="127.0.0.1"  
port=4446  
s = socket(AF_INET, SOCK_STREAM)  
s.bind((host,port))  
s.listen(1)  
print ("Listening for connections.. ")  
q,addr=s.accept()  
print("Connected with "+addr[0]+ ':' + str(addr[1]))  
data=input("Enter data to be send: ")  
q.send(data.encode())  
s.close()
```

Select one or more:

- ☐ a.
Client Socket
- ☐ b.
UDP type connections
- ☒ c.
TCP type connections
- ☒ d.
Server Socket

Question **3**

Complete

Mark 0.50 out of 1.50

Refer to the given "[Topology](#)", which interfaces of **NAT-Router** will you configure as **"inside"** and which interfaces as **"outside"**?

```
R1(config)#int serial 0/0/0
R1(config-if)#ip nat out
R1(config-if)#ip nat outside
R1(config-if)#exit
R1(config)#int se 0/1/0
R1(config-if)#ip nat inside
R1(config-if)#exit
R1(config)#
R1(config)#int se 0/0/1
R1(config-if)#ip nat im
R1(config-if)#ip nat in
R1(config-if)#ip nat inside
R1(config-if)#exit
R1(config)#
R1(config)#int gi
R1(config)#int gigabitEthernet 0/0
R1(config-if)#ip nat in
R1(config-if)#ip nat inside
R1(config-if)#exit
R1(config)#exit
```

Question **4**

Complete

Mark 1.00 out of 1.00

Which type of Access Control List (ACL) is defined using the number range 100 to 199?

Answer: Extended Access Control Lists (ACLs)

Question 5

Complete

Mark 0.50 out of 2.00

Refer to the given "[Topology](#)." with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.32/27

You need to configure the LAN-2 DHCP for auto IP Configuration. Now write down the DHCP Configuration.

```
Router(config)#
Router(config)#hostname R3
R3(config)#
R3(config)#
R3(config)#ip dhcp pool R3G0/0
R3(dhcp-config)#network 192.168.2.32 255.255.255.224
R3(dhcp-config)#
R3(dhcp-config)#default-router 192.168.2.33
R3(dhcp-config)#dns-server 8.8.8.8
R3(dhcp-config)#
R3(dhcp-config)#
R3(dhcp-config)#
```

Question 6

Complete

Mark 1.00 out of 1.00

What is the difference between the TCP and UDP protocols, and how do you implement them in Python with the socket module?

Select one:

- ☒ a.
TCP is connection-oriented, while UDP is not
- ☐ b.
TCP is not connection-oriented, while UDP is
- ☐ c.
There are no differences
- ☐ d.
TCP is compatible with Python, while UDP is not

Question 7

Complete

Mark 0.00 out of 2.00

Refer to the given "[Topology](#)." with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.8/29 and the public network address is 201.159.202.0/29

You want to configure NAT for the following roles,

To configure Static NAT you use the 1st Public IP address for the Web Server and the 2nd Public IP address for the E-mail Server.

To configure Dynamic NAT you use 3rd and 4th Public IP addresses.

After NAT is correctly configured, if a **LAN-2 PC 1** will browse the **Public Server**. What will be the NAT Table (output of the "show ip nat translations")? Write down the Inside global address.

```
R2(config)#
R2(config)#
R2(config)#ip nat inside source static 192.168.1.10 201.179.201.1
R2(config)#ip nat inside source static 192.168.1.11 201.179.201.2
R2(config)#
R2(config)#access-list 1 permit 192.168.1.0 0.0.0.255
R2(config)#ip nat pool NAT-POOL
% Incomplete command.
R2(config)#ip nat pool NAT-POOL
% Incomplete command.
R2(config)#ip nat pool NAT-POOL?
WORD
R2(config)#ip nat pool NAT-POOL 201.179.201.3 201.179.201.4 netmask 255.255.255.248
R2(config)#
R2(config)#ip nat inside source list 1 pool NAT-POOL overload
R2(config)#
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#show ip nat translations
Pro Inside global Inside local Outside local Outside global
--- 201.179.201.1 192.168.1.10 --- ---
```

--- 201.179.201.2 192.168.1.11 --- ---

R2#

Question 8

Complete

Mark 2.00 out of 2.00

Refer to the given "[Topology](#)" with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.8/29 and the public network address is 201.159.202.0/29

You want to configure NAT, so you need to configure routing on the LAN Side correctly. Write down the required routing and Addresses for Router R3.

R3(config)#

R3(config)#router rip

R3(config-router)#

R3(config-router)#net 192.168.10.0

R3(config-router)#net 192.168.2.8

R3(config-router)#exit

R3(config)#

Question 9

Complete

Mark 0.50 out of 1.00

From the following socket programming code, identify what type of Socket it is, (Chose any two)

```
from socket import *  
host="127.0.0.1"  
port=4446  
s=socket(AF_INET, SOCK_STREAM)  
s.connect((host,port))  
msg = s.recv(1024)  
print ("Message from server : " + msg.decode())  
s.close()
```

Select one or more:

- ☒ a.
Client socket
- ☐ b.
UDP type connections
- ☒ c.
Server socket
- ☐ d.
TCP type connections

Question **10**
Complete
Mark 2.00 out of 2.00

Refer to the given "[Topology](#)" with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.8/29 and the public network address is 201.129.204.0/29

You want to configure NAT, write down the ISP Side routing with next hop ip address.

```
ISP(config)#ip route 201.129.204.0 255.255.255.248 192.168.251.1
```

Question **11**
Complete
Mark 1.00 out of 1.00

Refer to the given "[Topology](#)" with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.64/26

You need to configure the LAN-2 DHCP for auto IP Configuration. Now write down the Subnet-Mask of LAN-2 Default gateway address.

Answer: 255.255.255.192

Question **12**

Complete

Mark 1.50 out of 1.50

Refer to the given "[Topology](#)" with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.8/29

you will configure an ACL to prevent the **LAN-1 Network** from accessing the **LAN-2 Network**.
write the router name and router interface you will apply the ACL and whether it is in or
outbound.

```
Router(config)#hostname R3
R3(config)# access-list 1 deny ip 192.168.2.8 0.0.0.7
R3(config)# access-list 1 permit ip any any
R3(config)# interface se0/1/0
R3(config-if)# ip access-group 1 out
```

Question **13**

Complete

Mark 1.00 out of 1.00

Refer to the following code, what is the size fo "msg" ?

```
host = "127.168.2.75"  
port=4446  
from socket import *  
s=socket(AF_INET, SOCK_STREAM)  
s.connect((host,port))  
msg = s.recv(1024)  
print ("Message from server : " + msg.decode())  
s.close()
```

Select one:

- ☐ a.
1024 Kbit
- ☐ b.
1024 bit
- ☐ c.
1024 Kbps
- ☒ d.
1024 byte

Question **14**

Complete

Mark 0.00 out of 1.50

Refer to the given "[Topology](#)" with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.8/29

You need to configure the LAN-2 DHCP for auto IP Configuration. Now write down the default gateway IP address for LAN-2.

```
R3(config)#ip dhcp pool R3G0/0
R3(dhcp-config)#network 192.168.2.32 255.255.255.224
R3(dhcp-config)#
R3(dhcp-config)#default-router 192.168.2.33
R3(dhcp-config)#dns-server 8.8.8.8
```

Question **15**

Complete

Mark 1.50 out of 1.50

Refer to the given "[Topology](#)" with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.96/28

Write down the LAN-2 Access Control List (ACL) Wildcard Mask.

Answer: 0.0.0.15

Question **16**
Complete
Mark 1.00 out of 1.00

Refer to the given "[Topology](#)", you want to configure NAT, so in which router you will configure a default route?

R1

Question **17**
Complete
Mark 2.00 out of 2.00

Refer to the given "[Topology](#)" with the following network address, LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.32/27 You need to configure the LAN-2 DHCP for auto IP Configuration. You will reserve last 5 IP address for static IP uses. Now write down the command.

R2(config)#ip dhcp excluded-address 192.168.2.33 192.168.2.37

Question **18**

Complete

Mark 2.00 out of 2.00

Refer to the given "[Topology](#)" with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.8/29

You need to configure the LAN-2 DHCP for auto IP Configuration. You will reserve last 3 IP address for static IP uses. Now write down the File server IP address.

Answer: 192.168.2.12

Question 19

Complete

Mark 2.00 out of 2.00

Refer to the given "[Topology](#)" with the following network address,

LAN-1: 192.168.1.0/24 and LAN-2: 192.168.2.8/29 and the public network address is 201.179.201.0/29

You want to configure NAT for the following roles,

To configure Static NAT you use the 1st Public IP address for the Web Server and the 2nd Public IP address for the E-mail Server.

To configure Dynamic NAT you use 3rd and 4th Public IP addresses.

Write down the configuration of Static NAT.

```
R2(config)#
```

```
R2(config)#
```

```
R2(config)#ip nat inside source static 192.168.1.10 201.179.201.1
```

```
R2(config)#ip nat inside source static 192.168.1.11 201.179.201.2
```

```
R2(config)#
```

```
R2(config)#access-list 1 permit 192.168.1.0 0.0.0.255
```

```
R2(config)#ip nat pool NAT-POOL
```

```
% Incomplete command.
```

```
R2(config)#ip nat pool NAT-POOL
```

```
% Incomplete command.
```

```
R2(config)#ip nat pool NAT-POOL?
```

```
WORD
```

```
R2(config)#ip nat pool NAT-POOL 201.179.201.3 201.179.201.4 netmask 255.255.255.248
```

```
R2(config)#
```

Question **20**

Complete

Mark 1.00 out of 1.00

The client in socket programming must know which information?

Select one:

- ☐ a.
Port number
- ☐ b.
IP address of Server
- ☐ c.
Only its own IP address
- ☒ d.
Both IP address of Server & Port number

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 Data retention summary