

## Lab – 3: GNS3 and Cisco Packet Tracer Documentation

### GNS3

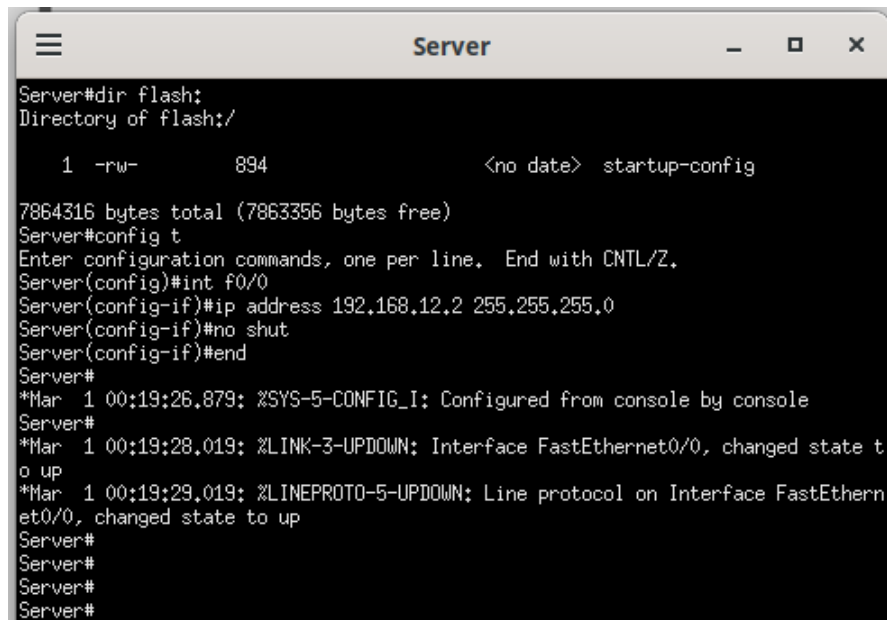
Arrangement of Routers as Client and Server:



Configuration of server Part – 1:

```
Server
Server#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Server(config)#ip http server
Server(config)#ip http path flash:
Server(config)#ip http max-connections 5
Server(config)#ip http port 5001
Server(config)#ip http access-class 1
Server(config)#access-list 1 permit 192.168.12.0 0.0.0.255
Server(config)#username student privilege 15 password student
Server(config)#ip http authentication local
Server(config)#do copy running-config flash:startup-config
Destination filename [startup-config]?
%Warning:There is a file already existing with this name
Do you want to over write? [confirm]
Erase flash; before copying? [confirm]
Erasing the flash filesystem will remove all files! Continue? [confirm]
Erasing device... ..erased
Erase of flash; complete
Verifying checksum... OK (0x9527)
894 bytes copied in 4.120 secs (217 bytes/sec)
Server(config)#end
Server#
*Mar 1 00:08:31.383: %SYS-5-CONFIG_I: Configured from console by console
Server#
```

## Configuration of server Part – 2:



```
Server#dir flash:
Directory of flash:/

   1  -rw-        894          <no date>  startup-config

7864316 bytes total (7863356 bytes free)
Server#config t
Enter configuration commands, one per line. End with CNTL/Z.
Server(config)#int f0/0
Server(config-if)#ip address 192.168.12.2 255.255.255.0
Server(config-if)#no shut
Server(config-if)#end
Server#
*Mar  1 00:19:26.879: %SYS-5-CONFIG_I: Configured from console by console
Server#
*Mar  1 00:19:28.019: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar  1 00:19:29.019: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Server#
Server#
Server#
Server#
```

## Code (at server):

```
conf t
ip http server
ip http path flash:
ip http max-connections 5
ip http port 5001
ip http access-class 1
access-list 1 permit 192.168.12.0 0.0.0.255
username student privilege 15 password student
ip http authentication local
do copy running-config flash:startup-config
end

# Part 2 – same server
Dir flash:
config t
int f0/0
ip address 192.168.12.2 255.255.255.0
no shut
end
```

## Client Configuration:

```
Client#
Client#
Client#config t
Enter configuration commands, one per line. End with CNTL/Z.
Client(config)#int f0/0
Client(config-if)#ip address 192.168.12.1 255.255.255.0
Client(config-if)#no shut
Client(config-if)#ip http client username student
Client(config-if)#ip http client password student
Client(config)#do wr
Building configuration...
[OK]
Client(config)#end
Client#
*Mar 1 00:10:34.519: %SYS-5-CONFIG_I: Configured from console by console
Client#
```

## Code (at client):

```
# Configuration code
config t
int f0/0
ip address 192.168.2.1 255.255.255.0
no shut
ip http client username student
ip http client password student
do wr
end
```

## Code (connecting to server from client end):

```
# Connecting to HTTP server from client end
copy http://192.168.12.2:5001/startup-config null:
```

## Connecting with the Server from Client:

```
Client#
Client#
Client#copy http://192.168.12.2:5001/startup-config null:
Loading http://192.168.12.2:5001/startup-config !
894 bytes copied in 0.084 secs (10643 bytes/sec)
Client#
```

## Captured Packets:

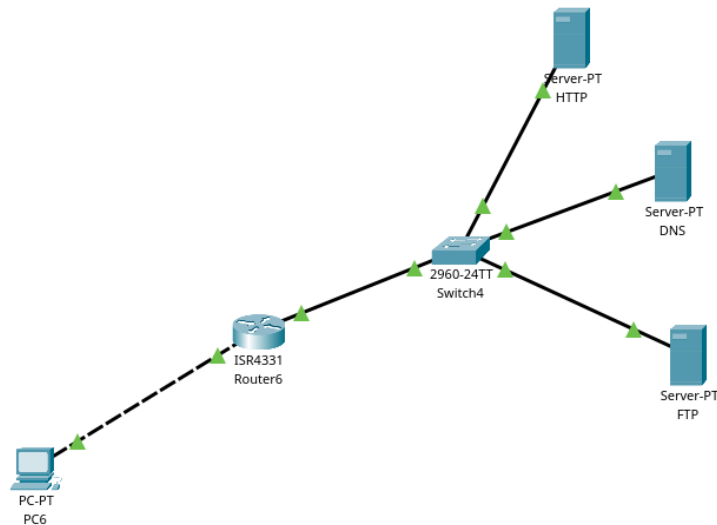
Capturing from - [Client FastEthernet0/0 to Server FastEthernet0/0]						
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help						
Apply a display filter ... <Ctrl-/>						
No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	cc:02:d6:01:00:00	cc:02:d6:01:00:00	LOOP	60	Reply
2	1.642376	cc:01:d1:a0:00:00	cc:01:d1:a0:00:00	LOOP	60	Reply
3	3.493283	192.168.12.1	192.168.12.2	TCP	60	11616 → 5001 [SYN] Seq=0 Win=4128 Len=0 MSS=1460
4	3.530688	192.168.12.2	192.168.12.1	TCP	60	5001 → 11616 [SYN, ACK] Seq=0 Ack=1 Win=4128 Len=0 MSS=1460
5	3.554146	192.168.12.1	192.168.12.2	TCP	60	11616 → 5001 [ACK] Seq=1 Ack=1 Win=4128 Len=0
6	3.554233	192.168.12.1	192.168.12.2	HTTP	233	GET /startup-config HTTP/1.1
7	3.562135	192.168.12.2	192.168.12.1	TCP	310	5001 → 11616 [ACK] Seq=1 Ack=180 Win=3949 Len=256 [TCP segment of a ...
8	3.562199	192.168.12.2	192.168.12.1	HTTP	966	HTTP/1.1 200 OK
9	3.594843	192.168.12.1	192.168.12.2	TCP	60	11616 → 5001 [ACK] Seq=180 Ack=257 Win=3872 Len=0
10	3.594950	192.168.12.1	192.168.12.2	TCP	60	11616 → 5001 [ACK] Seq=180 Ack=1170 Win=3872 Len=0
11	3.594975	192.168.12.1	192.168.12.2	TCP	60	[TCP Window Update] 11616 → 5001 [ACK] Seq=180 Ack=1170 Win=2960 Len=0
12	3.594991	192.168.12.1	192.168.12.2	TCP	60	11616 → 5001 [FIN, PSH, ACK] Seq=180 Ack=1170 Win=2960 Len=0
13	3.623134	192.168.12.2	192.168.12.1	TCP	60	5001 → 11616 [ACK] Seq=1170 Ack=181 Win=3949 Len=0

▶ Frame 1: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface  
▶ Ethernet II, Src: cc:02:d6:01:00:00 (cc:02:d6:01:00:00), Dst: cc:02:d6:01:00:00  
▶ Configuration Test Protocol (Loopback)  
▶ Data (40 bytes)

0000 cc 02 d6 01 00 00 cc 02 d6 01 00 00 00 00 00 00  
0010 01 00 00 00 00 00 00 00 00 00 00 00 00 00  
0020 00 00 00 00 00 00 00 00 00 00 00 00 00 00  
0030 00 00 00 00 00 00 00 00 00 00 00 00 00 00

## Cisco Packet Tracer

### Arrangement of PCs, Routers, Servers and Switches:



Router configuration:  
(configuration of other devices as per lab manual)

The screenshot shows the configuration window for Router1, specifically the 'Config' tab. On the left, a sidebar lists configuration categories: GLOBAL (Settings, Algorithm Settings), ROUTING (Static, RIP), SWITCHING (VLAN Database), and INTERFACE (GigabitEthernet0/0/0, GigabitEthernet0/0/1, GigabitEthernet0/0/2). The 'GigabitEthernet0/0/0' interface is selected. The main area shows settings for this interface: Port Status is 'On', Bandwidth is '100 Mbps', Duplex is 'Full Duplex', MAC Address is '0060.2F07.A301', IP Configuration shows IPv4 Address '192.168.1.254' and Subnet Mask '255.255.255.0', and Tx Ring Limit is '10'. At the bottom, a text box displays the equivalent IOS commands for the configuration.

```
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#ip address 192.168.1.254 255.255.255.0
Router(config-if)#ip address 192.168.1.254 255.255.255.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0/1
Router(config-if)#ip address 172.16.48.254 255.255.0.0
Router(config-if)#ip address 172.16.48.254 255.255.0.0
Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
```

Connecting to HTTP Server from VPC:

```
ftp 192.168.2.4
Trying to connect...192.168.2.4
Connected to 192.168.2.4
220- Welcome to PT Ftp server
Username:student
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>
```