



## **DIGICAMP NETWORK**

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Class:

2CS1

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## PROJECT INFORMATION

Project Title : Digicamp Network

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## **CERTIFICATE OF ORIGINALITY**

This is to certify that the project report titled "Digicamp Network" is an original work completed by Abdur Rashid Firdaus, Ahmad Maulana Ibrahim, and Ayunda Pramita Kurnia Hapsari. This project has been submitted in partial fulfillment of their course requirement at the National Institute of Information Technology (NIIT).

The project report has been prepared under our research and experiment, and it is ensured that the work presented in this report is the result of the individual efforts of the aforementioned students. The contents of this report have not been submitted to any other institution or organization for the award of any degree, diploma, or other similar recognition.

Authors acknowledge that the ideas, designs, and implementations presented in this project report are the intellectual properties of the students mentioned above. Any use or reproduction of this work must give proper credit to the original authors.

Authors hereby endorse the authenticity and originality of the work presented in this project report and confirm that it meets the academic standards and requirements set forth by the National Institute of Information Technology (NIIT).

Coordinator:

Mr. Tri Agus Riyadi, S.Kom, MT

## **ACKNOWLEDGEMENT**

Author would like to acknowledge the completion of the insightful paper titled "Digicamp Network." This paper comprehensively discusses the simulation of network implementation of the Digicamp building.

The contents of this paper provide a detailed overview of the current state of residence gate systems and the potential benefits of incorporating such simulation. The authors have meticulously examined the various aspects of network features, such as static IP, DHCP, and web server. Furthermore, the paper explores the challenges and limitations associated with the implementation of the network, offering valuable insights for future research and development in this area.

Overall, the paper serves as a significant contribution to the growing body of knowledge on network implementation in the context of office or building network. It is evident that the implementation of IoT in residence gates has the potential to revolutionize the way author secure and manage our office, paving the way for a safer and more connected living environment.

Depok, 13 April 2024

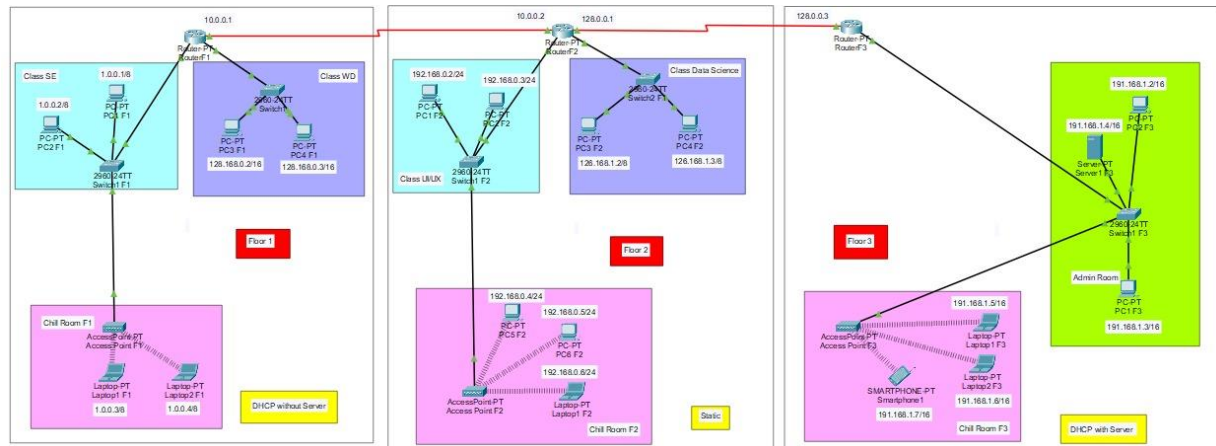
Authors

## **SYSTEM ANALYSIS**

The paper delves into the simulation of network implemented in the Digicamp building, a course provider specializing in digital skills. The study aims to explore the potential benefits and challenges associated with the adoption of the network solutions.

The paper contains a comprehensive simulation of the network implementations, its applications, and its potential for revolutionizing residential security systems. The authors discuss the various components and features involved in the network, components include three routers, PC, three access points, five switches and one server, the features include static IP, DHCP, and Web server

## NETWORK TOPOLOGY



SECTION	NETWORK ADDRESS	SUBNETMASK	STATUS
CLASS SE	1.168.0.1	255.0.0.0	DHCP
CLASS WD	128.168.0.1	255.255.0.0	DHCP
CHILL ROOM F1	172.200.1.0	255.255.255.224	DHCP
CLASS UI/UX	192.168.0.1	255.255.255.0	STATIC
CLASS DS	126.168.1.1	255.255.0.0	STATIC
CHILL ROOM F2	192.168.0.1	255.255.255.0	STATIC
ADMIN ROOM	191.168.1.1	255.255.0.0	DHCP
CHILL ROOM F3	191.168.1.1	255.255.0.0	DHCP

## NETWORK DEVICES

### FLOOR 1

Devices	Device Name	IP Address	Gateway	Features
Routers PT-Empty	Router F1	SE 0/0 1.168.0.1/6 WD 0/1 128.168.0.1	ISP IP	- RIP - DHCP Pool
Switch	Switch F1	-	-	-
PC	PC1 F1	1.0.0.1 (DHCP)	1.168.0.1	- Browser - CMD
PC	PC2 F1	1.0.0.2 (DHCP)	1.168.0.1	- Browser - CMD
PC	PC3 F1	128.168.0.2 (DHCP)	128.168.0.1	- Browser - CMD
PC	PC4 F1	128.168.0.3 (DHCP)	128.168.0.1	- Browser - CMD
Access Point-PT	AP F1	-	1.168.0.1	-
Laptop	LP 1 F1	1.0.0.3 (DHCP)	1.168.0.1	- Browser - CMD
Laptop	LP 2 F1	1.0.0.4 (DHCP)	1.168.0.1	- Browser - CMD

## NETWORK DEVICES

### FLOOR 2

Devices	Device Name	IP Address	Gateway	Features
Routers PT-Empty	Router F2	UI/UX 0/0 192.168.0.1 DS 0/1 126.168.1.1	ISP IP	- RIP
Switch	Switch F2	-	-	-
PC	PC1 F2	192.168.0.2	192.168.0.1	- Browser - CMD
PC	PC2 F2	192.168.0.3	192.168.0.1	- Browser - CMD
PC	PC3 F2	126.168.1.2	126.168.1.1	- Browser - CMD
PC	PC4 F2	126.168.1.3	126.168.1.1	- Browser - CMD
Access Point-PT	AP F2	-	192.168.0.1	-
PC	PC5 F2	192.168.0.4	192.168.0.1	- Browser - CMD
PC	PC5 F2	192.168.0.5	192.168.0.1	- Browser - CMD
Laptop	LP 1 F2	192.168.0.6	192.168.0.1	- Browser - CMD



## NETWORK DEVICES

### FLOOR 3

Devices	Device Name	IP Address	Gateway	Features
Routers PT-Empty	Router F3	SE 0/0 1.168.0.1/6 WD 0/1 128.168.0.1	ISP IP	- RIP - DHCP Pool
Switch	Switch F3	-	-	-
PC	PC1 F3	191.168.1.2	191.168.1.1	- Browser - CMD
PC	PC2 F3	191.168.1.3	191.168.1.1	- Browser - CMD
Server	Server1 F3	191.168.1.4	191.168.1.1	- Web Server - DHCP
Access Point-PT	AP F3	-	191.168.1.1	-
Laptop	LP 1 F3	191.168.1.5	191.168.1.1	- Browser - CMD
Laptop	LP 2 F3	191.168.1.6	191.168.1.1	- Browser - CMD
Smartphone	SP 1	191.168.1.7	191.168.1.1	- Browser

# FLOOR 1 CONFIGURATION

## Router IP 1 Configuration

RouterF1

Physical Config CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**INTERFACE**

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

FastEthernet0/0

Port Status ☒ On

Bandwidth ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0040.0BA2.1C14

IP Configuration

IPv4 Address 1.168.0.1

Subnet Mask 255.0.0.0

Tx Ring Limit 10

## Router IP 2 Configuration

RouterF1

Physical Config CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**INTERFACE**

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

FastEthernet1/0

Port Status ☒ On

Bandwidth ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0030.F262.6037

IP Configuration

IPv4 Address 128.168.0.1

Subnet Mask 255.255.0.0

Tx Ring Limit 10

## Router Serial Port Configuration

RouterF1

Physical Config CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**INTERFACE**

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

Serial2/0

Port Status ☒ On

Duplex ☒ Full Duplex

Clock Rate 2000000

IP Configuration

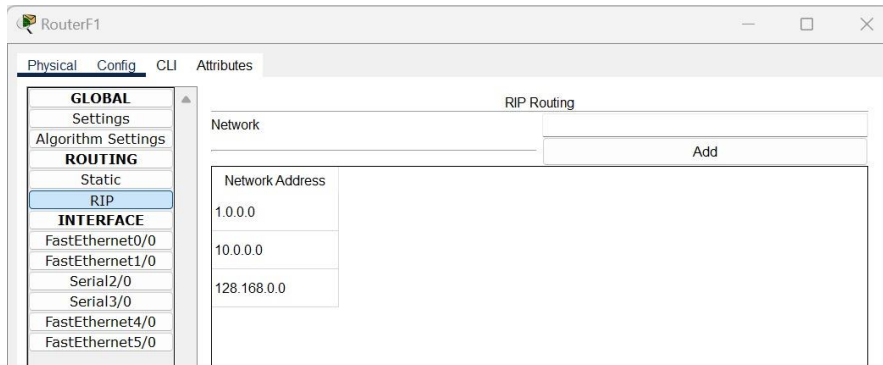
IPv4 Address 10.0.0.1

Subnet Mask 255.0.0.0

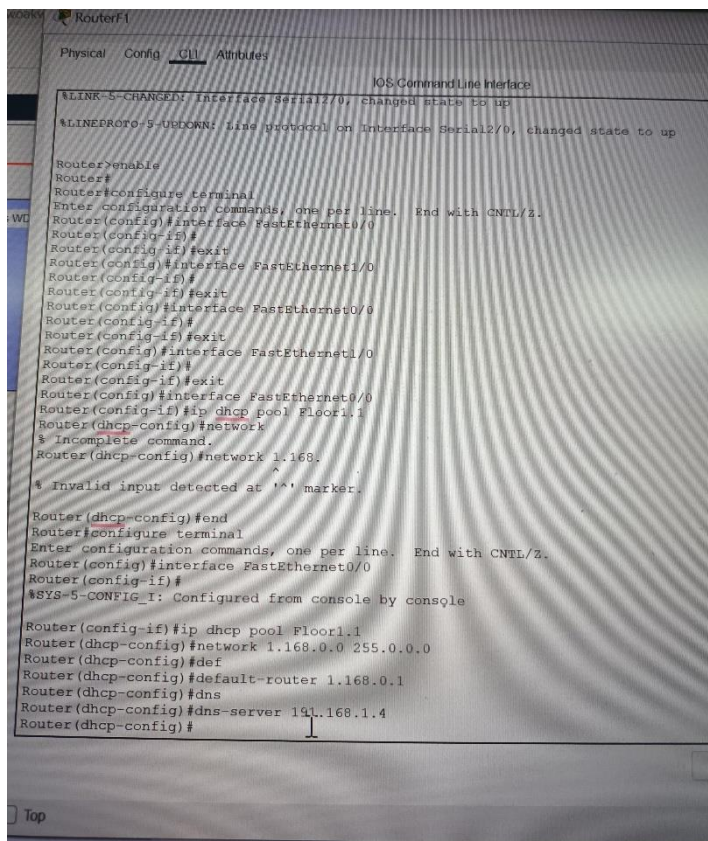
Tx Ring Limit 10

## FLOOR 1 CONFIGURATION

### Router Routing RIP



### CLI Turning F1 IP to DHCP without server



## FLOOR 1 CONFIGURATION

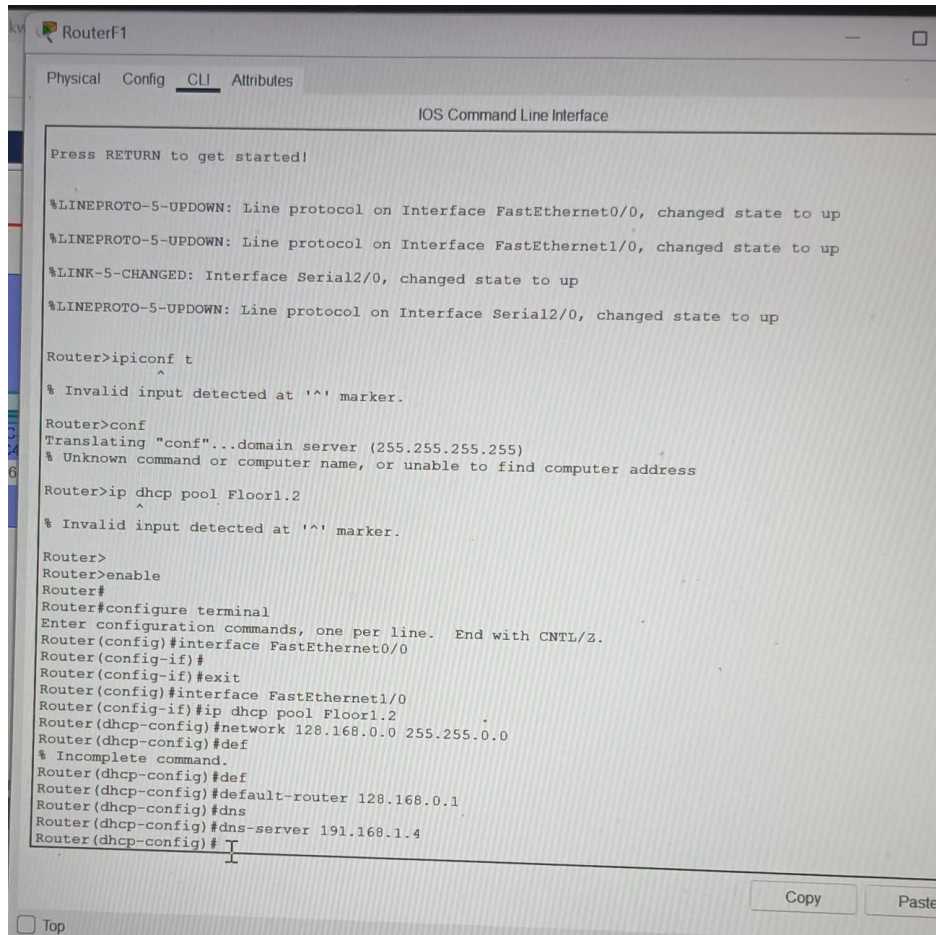
### PC 1 DHCP IP 1 Configuration

The screenshot shows the configuration window for PC1 F1. The 'Desktop' tab is selected, and the 'IP Configuration' window is open. The interface is 'FastEthernet0'. Under 'IP Configuration', 'DHCP' is selected. The IPv4 Address is 1.0.0.1, Subnet Mask is 255.0.0.0, Default Gateway is 1.168.0.1, and DNS Server is 191.168.1.4. Under 'IPv6 Configuration', 'Static' is selected. The IPv6 Address is empty, Link Local Address is FE80::206:2AFF:FE6B:EE4E, Default Gateway is empty, and DNS Server is empty. Under '802.1X', 'Use 802.1X Security' is unchecked, Authentication is MD5, Username is empty, and Password is empty.

Section	Field	Value
IP Configuration	Interface	FastEthernet0
	IP Configuration	
	<input checked="" type="radio"/> DHCP	
	<input type="radio"/> Static	
	IPv4 Address	1.0.0.1
	Subnet Mask	255.0.0.0
	Default Gateway	1.168.0.1
	DNS Server	191.168.1.4
	IPv6 Configuration	<input type="radio"/> Automatic
<input checked="" type="radio"/> Static		
IPv6 Address		
Link Local Address		FE80::206:2AFF:FE6B:EE4E
Default Gateway		
802.1X	DNS Server	
	<input type="checkbox"/> Use 802.1X Security	
	Authentication	MD5
	Username	
	Password	

## FLOOR 1 CONFIGURATION

CLI Turning IP 2 to DHCP without server



```
RouterF1
Physical Config CLI Attributes
IOS Command Line Interface

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
%LINK-5-CHANGED: Interface Serial2/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router>ipconf t
^
% Invalid input detected at '^' marker.

Router>conf
Translating "conf"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer address

Router>ip dhcp pool Floor1.2
^
% Invalid input detected at '^' marker.

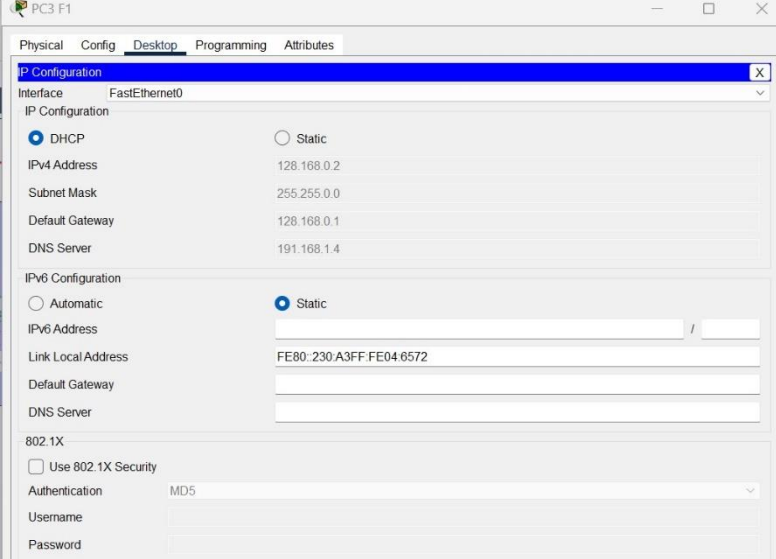
Router>
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#ip dhcp pool Floor1.2
Router(dhcp-config)#network 128.168.0.0 255.255.0.0
Router(dhcp-config)#def
% Incomplete command.
Router(dhcp-config)#def
Router(dhcp-config)#default-router 128.168.0.1
Router(dhcp-config)#dns
Router(dhcp-config)#dns-server 191.168.1.4
Router(dhcp-config)#
```

☐ Top

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## FLOOR 1 CONFIGURATION

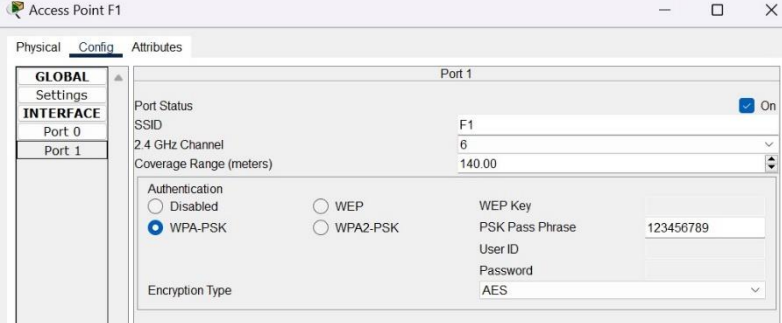
### PC F1 IP 2 Configuration



The screenshot shows the 'PC F1' configuration window with the 'Desktop' tab selected. The 'IP Configuration' section is active, showing settings for the 'FastEthernet0' interface. The 'DHCP' option is selected under 'IP Configuration', and the 'Static' option is selected under 'IPv6 Configuration'. The IPv6 Address is set to 'FE80::230:A3FF:FE04:6572'.

Interface	FastEthernet0
<b>IP Configuration</b>	
<input checked="" type="radio"/> DHCP	<input type="radio"/> Static
IPv4 Address	128.168.0.2
Subnet Mask	255.255.0.0
Default Gateway	128.168.0.1
DNS Server	191.168.1.4
<b>IPv6 Configuration</b>	
<input type="radio"/> Automatic	<input checked="" type="radio"/> Static
IPv6 Address	FE80::230:A3FF:FE04:6572
Link Local Address	
Default Gateway	
DNS Server	
<b>802.1X</b>	
<input type="checkbox"/> Use 802.1X Security	
Authentication	MD5
Username	
Password	

### Access Point IP Configuration



The screenshot shows the 'Access Point F1' configuration window with the 'Config' tab selected. The 'Port 1' configuration is active, showing settings for the 'Port 1' interface. The 'Port Status' is 'On'. The 'Authentication' is set to 'WPA-PSK'. The 'Encryption Type' is set to 'AES'.

Port 1			
Port Status	<input checked="" type="checkbox"/> On		
SSID	F1		
2.4 GHz Channel	6		
Coverage Range (meters)	140.00		
<b>Authentication</b>			
<input type="radio"/> Disabled	<input type="radio"/> WEP	WEP Key	
<input checked="" type="radio"/> WPA-PSK	<input type="radio"/> WPA2-PSK	PSK Pass Phrase	123456789
		User ID	
		Password	
<b>Encryption Type</b>			AES

## FLOOR 1 SIMULATION

Ping PC SE Class to WD

```
C:\>ping 128.168.0.2

Pinging 128.168.0.2 with 32 bytes of data:

Reply from 128.168.0.2: bytes=32 time<1ms TTL=127
Reply from 128.168.0.2: bytes=32 time<1ms TTL=127
Reply from 128.168.0.2: bytes=32 time<1ms TTL=127
Reply from 128.168.0.2: bytes=32 time<1ms TTL=127

Ping statistics for 128.168.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Ping SE Class to UI/UX

```
Pinging 192.168.0.2 with 32 bytes of data:

Reply from 192.168.0.2: bytes=32 time=1ms TTL=126
Reply from 192.168.0.2: bytes=32 time=1ms TTL=126
Reply from 192.168.0.2: bytes=32 time=21ms TTL=126
Reply from 192.168.0.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 21ms, Average = 6ms
```

Ping SE Class to Data Science

```
Pinging 126.168.1.2 with 32 bytes of data:

Reply from 126.168.1.2: bytes=32 time=16ms TTL=126
Reply from 126.168.1.2: bytes=32 time=2ms TTL=126
Reply from 126.168.1.2: bytes=32 time=1ms TTL=126
Reply from 126.168.1.2: bytes=32 time=2ms TTL=126

Ping statistics for 126.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 16ms, Average = 5ms

C:\>
```

## FLOOR 1 SIMULATION

Ping SE Class to Admin Room

```
C:\>ping 191.168.1.2

Pinging 191.168.1.2 with 32 bytes of data:

Reply from 191.168.1.2: bytes=32 time=4ms TTL=125
Reply from 191.168.1.2: bytes=32 time=4ms TTL=125
Reply from 191.168.1.2: bytes=32 time=13ms TTL=125
Reply from 191.168.1.2: bytes=32 time=2ms TTL=125

Ping statistics for 191.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 13ms, Average = 5ms

C:\>
```

Ping SE Class to Chill Room

```
C:\>ping 1.0.0.3

Pinging 1.0.0.3 with 32 bytes of data:

Reply from 1.0.0.3: bytes=32 time=28ms TTL=128
Reply from 1.0.0.3: bytes=32 time=17ms TTL=128
Reply from 1.0.0.3: bytes=32 time=26ms TTL=128
Reply from 1.0.0.3: bytes=32 time=7ms TTL=128

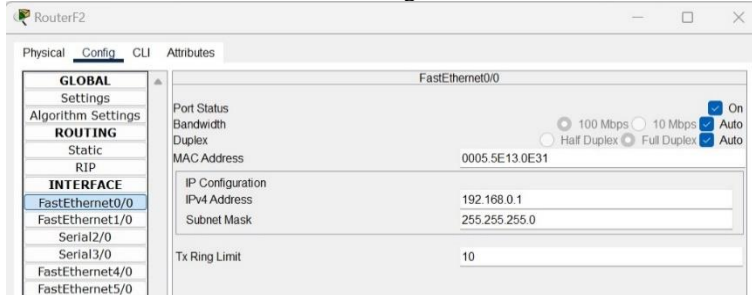
Ping statistics for 1.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 28ms, Average = 19ms

C:\>
```



## FLOOR 2 CONFIGURATION

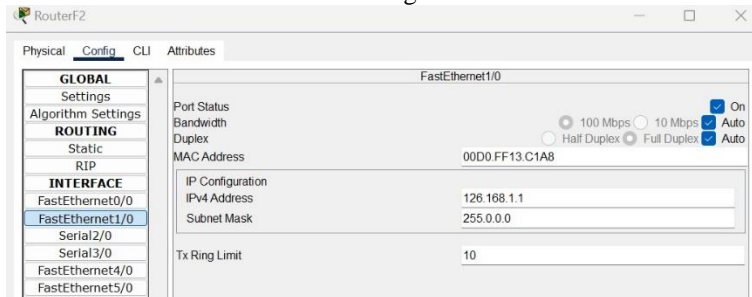
### Router IP Port FastEthernet0/0 Configuration



RouterF2 configuration window for FastEthernet0/0. The left sidebar shows the configuration tree with 'FastEthernet0/0' selected under the 'INTERFACE' section. The main panel displays the configuration for this interface.

Section	Parameter	Value
Port Status	Port Status	<input checked="" type="checkbox"/> On
	Bandwidth	<input type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
	Duplex	<input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
MAC Address	MAC Address	0005.5E13.0E31
	IP Configuration	
IP Configuration	IPv4 Address	192.168.0.1
	Subnet Mask	255.255.255.0
Tx Ring Limit	Tx Ring Limit	10

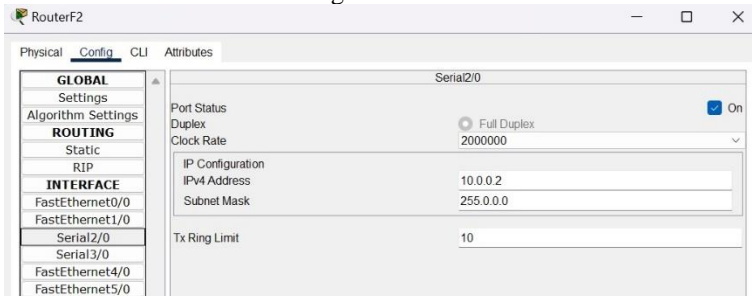
### Router IP Port FastEthernet1/0 Configuration



RouterF2 configuration window for FastEthernet1/0. The left sidebar shows the configuration tree with 'FastEthernet1/0' selected under the 'INTERFACE' section. The main panel displays the configuration for this interface.

Section	Parameter	Value
Port Status	Port Status	<input checked="" type="checkbox"/> On
	Bandwidth	<input type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
	Duplex	<input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
MAC Address	MAC Address	00D0.FF13.C1A8
	IP Configuration	
IP Configuration	IPv4 Address	126.168.1.1
	Subnet Mask	255.0.0.0
Tx Ring Limit	Tx Ring Limit	10

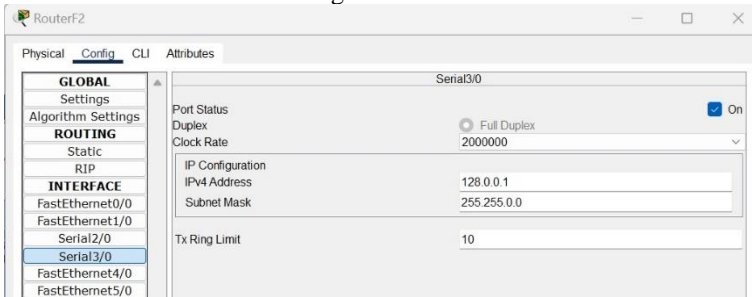
### Router IP Port Serial2/0 Configuration



RouterF2 configuration window for Serial2/0. The left sidebar shows the configuration tree with 'Serial2/0' selected under the 'INTERFACE' section. The main panel displays the configuration for this interface.

Section	Parameter	Value
Port Status	Port Status	<input checked="" type="checkbox"/> On
	Duplex	<input checked="" type="radio"/> Full Duplex
	Clock Rate	2000000
IP Configuration	IPv4 Address	10.0.0.2
	Subnet Mask	255.0.0.0
Tx Ring Limit	Tx Ring Limit	10

### Router IP Port Serial3/0 Configuration



RouterF2 configuration window for Serial3/0. The left sidebar shows the configuration tree with 'Serial3/0' selected under the 'INTERFACE' section. The main panel displays the configuration for this interface.

Section	Parameter	Value
Port Status	Port Status	<input checked="" type="checkbox"/> On
	Duplex	<input checked="" type="radio"/> Full Duplex
	Clock Rate	2000000
IP Configuration	IPv4 Address	128.0.0.1
	Subnet Mask	255.255.0.0
Tx Ring Limit	Tx Ring Limit	10

## FLOOR 2 CONFIGURATION

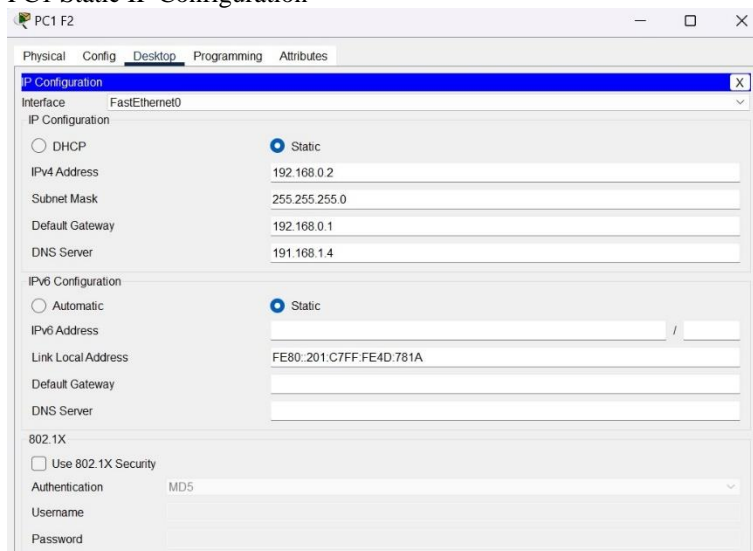
### Router RIP Routing Configuration



The RouterF2 RIP Routing Configuration window shows the 'RIP Routing' tab. On the left, a tree view includes 'GLOBAL' (Settings, Algorithm Settings), 'ROUTING' (Static, RIP), and 'INTERFACE' (FastEthernet0/0, FastEthernet1/0, Serial2/0, Serial3/0, FastEthernet4/0, FastEthernet5/0). The main area is titled 'RIP Routing' and contains a table for adding networks.

Network Address	Add
10.0.0.0	
126.0.0.0	
128.0.0.0	
192.168.0.0	

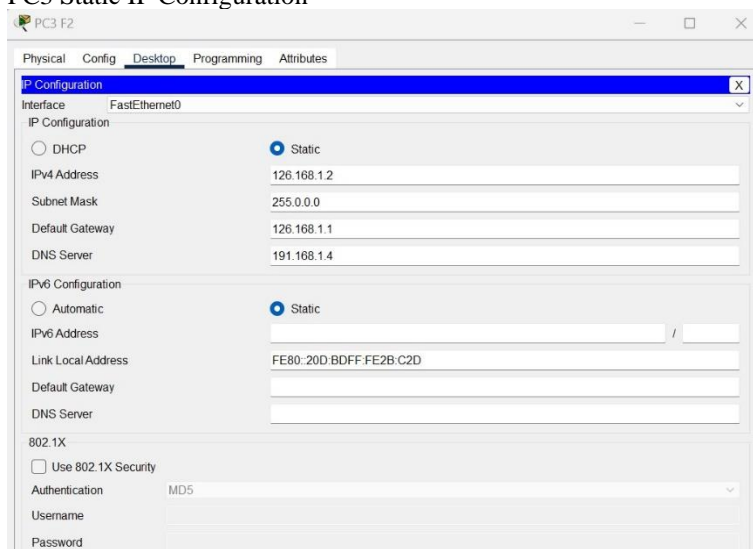
### PC1 Static IP Configuration



The PC1 F2 Static IP Configuration window shows the 'Desktop' tab. The 'IP Configuration' section is active, showing 'Interface: FastEthernet0'. The 'IP Configuration' section has 'Static' selected. The 'IPv4 Configuration' section has 'Static' selected. The 'IPv6 Configuration' section has 'Static' selected. The '802.1X' section is collapsed.

Field	Value
IPv4 Address	192.168.0.2
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.1
DNS Server	191.168.1.4
IPv6 Address	
Link Local Address	FE80::201:C7FF:FE4D:781A
Default Gateway	
DNS Server	
802.1X	
Use 802.1X Security	<input type="checkbox"/>
Authentication	MD5
Username	
Password	

### PC3 Static IP Configuration



The PC3 F2 Static IP Configuration window shows the 'Desktop' tab. The 'IP Configuration' section is active, showing 'Interface: FastEthernet0'. The 'IP Configuration' section has 'Static' selected. The 'IPv4 Configuration' section has 'Static' selected. The 'IPv6 Configuration' section has 'Static' selected. The '802.1X' section is collapsed.

Field	Value
IPv4 Address	126.168.1.2
Subnet Mask	255.0.0.0
Default Gateway	126.168.1.1
DNS Server	191.168.1.4
IPv6 Address	
Link Local Address	FE80::20D:BDFF:FE2B:C2D
Default Gateway	
DNS Server	
802.1X	
Use 802.1X Security	<input type="checkbox"/>
Authentication	MD5
Username	
Password	

## FLOOR 2 CONFIGURATION

### Access Point Configuration

The screenshot shows the 'Access Point F2' configuration window. The 'Config' tab is selected, and 'Port 1' is chosen from the left sidebar. The main area displays settings for Port 1, including Port Status (On), SSID (F2), 2.4 GHz Channel (6), and Coverage Range (140.00 meters). Under the 'Authentication' section, 'WPA-PSK' is selected. The 'Encryption Type' is set to 'AES'. The 'PSK Pass Phrase' is entered as '192837465'.

Port 1	
Port Status	<input checked="" type="checkbox"/> On
SSID	F2
2.4 GHz Channel	6
Coverage Range (meters)	140.00
Authentication	
<input type="radio"/> Disabled	<input type="radio"/> WEP
<input checked="" type="radio"/> WPA-PSK	<input type="radio"/> WPA2-PSK
WEP Key	
PSK Pass Phrase	192837465
User ID	
Password	
Encryption Type	AES

## FLOOR 2 SIMULATION

Ping from UI/UX PC to SE PC

```
C:\>ping 1.0.0.2

Pinging 1.0.0.2 with 32 bytes of data:

Reply from 1.0.0.2: bytes=32 time=1ms TTL=126
Reply from 1.0.0.2: bytes=32 time=28ms TTL=126
Reply from 1.0.0.2: bytes=32 time=1ms TTL=126
Reply from 1.0.0.2: bytes=32 time=1ms TTL=126

Ping statistics for 1.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 28ms, Average = 7ms
```

Ping from UI/UX PC to WD PC

```
C:\>ping 128.168.0.2

Pinging 128.168.0.2 with 32 bytes of data:

Reply from 128.168.0.2: bytes=32 time=16ms TTL=126
Reply from 128.168.0.2: bytes=32 time=10ms TTL=126
Reply from 128.168.0.2: bytes=32 time=22ms TTL=126
Reply from 128.168.0.2: bytes=32 time=7ms TTL=126

Ping statistics for 128.168.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 7ms, Maximum = 22ms, Average = 13ms
```

Ping from UI/UX PC to DS PC

```
C:\>ping 126.168.1.2

Pinging 126.168.1.2 with 32 bytes of data:

Reply from 126.168.1.2: bytes=32 time<1ms TTL=127
Reply from 126.168.1.2: bytes=32 time<1ms TTL=127
Reply from 126.168.1.2: bytes=32 time<1ms TTL=127
Reply from 126.168.1.2: bytes=32 time<1ms TTL=127

Ping statistics for 126.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

## FLOOR 2 SIMULATION

Ping from UI/UX PC to Admin Room PC

```
C:\>ping 191.168.1.2

Pinging 191.168.1.2 with 32 bytes of data:

Reply from 191.168.1.2: bytes=32 time=14ms TTL=126
Reply from 191.168.1.2: bytes=32 time=13ms TTL=126
Reply from 191.168.1.2: bytes=32 time=2ms TTL=126
Reply from 191.168.1.2: bytes=32 time=1ms TTL=126

Ping statistics for 191.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 14ms, Average = 7ms

C:\>
```

Ping from UI/UX PC to Chill Room PC

```
C:\>ping 1.0.0.3

Pinging 1.0.0.3 with 32 bytes of data:

Reply from 1.0.0.3: bytes=32 time=29ms TTL=126
Reply from 1.0.0.3: bytes=32 time=28ms TTL=126
Reply from 1.0.0.3: bytes=32 time=23ms TTL=126
Reply from 1.0.0.3: bytes=32 time=5ms TTL=126

Ping statistics for 1.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 5ms, Maximum = 29ms, Average = 21ms
```

## FLOOR 3 CONFIGURATION

### Router IP Port FastEthernet0/0 Configuration

The screenshot shows the configuration window for the FastEthernet0/0 interface on RouterF3. The left sidebar has a tree view with categories: GLOBAL (Settings, Algorithm Settings), ROUTING (Static, RIP), and INTERFACE (FastEthernet0/0, FastEthernet1/0, Serial2/0, Serial3/0, FastEthernet4/0, FastEthernet5/0). The 'FastEthernet0/0' interface is selected. The main panel shows the following configuration:

FastEthernet0/0	
Port Status	<input type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> On
Bandwidth	<input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
Duplex	
MAC Address	0010.11B3.EE68
IP Configuration	
IPv4 Address	191.168.1.1
Subnet Mask	255.255.0.0
Tx Ring Limit	10

### Router IP Port FastEthernet1/0 Configuration

The screenshot shows the configuration window for the Serial2/0 interface on RouterF3. The left sidebar is the same as the previous screenshot, but 'Serial2/0' is selected under the INTERFACE category. The main panel shows the following configuration:

Serial2/0	
Port Status	<input checked="" type="checkbox"/> On
Duplex	<input checked="" type="radio"/> Full Duplex
Clock Rate	2000000
IP Configuration	
IPv4 Address	128.0.0.3
Subnet Mask	255.255.0.0
Tx Ring Limit	10

### Router RIP Routing Configuration

The screenshot shows the configuration window for RIP Routing on RouterF3. The left sidebar is the same as the previous screenshots, but 'RIP' is selected under the ROUTING category. The main panel shows the following configuration:

RIP Routing	
Network	
Add	
Network Address	
128.0.0.0	
191.168.0.0	

## FLOOR 3 CONFIGURATION

### Server Static IP Address Configuration

Server1 F3

Physical Config Services Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 191.168.1.4

Subnet Mask: 255.255.0.0

Default Gateway: 191.168.1.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::201:C9FF:FE03:4D80

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

### Server DHCP Services Configuration

Server1 F3

Physical Config Services Desktop Programming Attributes

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 191.168.1.1

DNS Server: 191.168.1.4

Start IP Address: 191 168 1 2

Subnet Mask: 255 255 0 0

Maximum Number of Users: 512

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	191.168.1.1	191.168.1.4	191.168.1.2	255.255.0.0	512	0.0.0.0	0.0.0.0

### Server DNS Services Configuration

Server1 F3

Physical Config Services Desktop Programming Attributes

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

DNS

DNS Service: ☒ On ☐ Off

Resource Records

Name: Type: A Record

Address:

Add Save Remove

No.	Name	Type	Detail
0	studentabsent.com	A Record	191.168.1.4

## FLOOR 3 CONFIGURATION

### PC2 IP Address Configuration by Using DHCP

PC2 F3

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 191.168.1.2

Subnet Mask 255.255.0.0

Default Gateway 191.168.1.1

DNS Server 191.168.1.4

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address FE80::2E0:F9FF:FEEB:C02A

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

### Access Point Configuration

Access Point F3

Physical Config Attributes

GLOBAL

Settings

INTERFACE

Port 0

Port 1

Port 1

Port Status ☒ On

SSID F3

2.4 GHz Channel 6

Coverage Range (meters) 140.00

Authentication

☐ Disabled ☒ WPA-PSK ☐ WEP ☐ WPA2-PSK

WEP Key

PSK Pass Phrase 987654321

User ID

Password

Encryption Type AES



## FLOOR 3 SIMULATION

Ping from Admin Room PC to SE Class PC

```
C:\>ping 1.0.0.2
```

```
Pinging 1.0.0.2 with 32 bytes of data:
```

```
Reply from 1.0.0.2: bytes=32 time=2ms TTL=125
Reply from 1.0.0.2: bytes=32 time=41ms TTL=125
Reply from 1.0.0.2: bytes=32 time=16ms TTL=125
Reply from 1.0.0.2: bytes=32 time=4ms TTL=125
```

```
Ping statistics for 1.0.0.2:
```

```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 41ms, Average = 15ms
```

Ping from Admin Room PC to WD Class PC

```
C:\>ping 128.168.0.2
```

```
Pinging 128.168.0.2 with 32 bytes of data:
```

```
Reply from 128.168.0.2: bytes=32 time=24ms TTL=125
Reply from 128.168.0.2: bytes=32 time=2ms TTL=125
Reply from 128.168.0.2: bytes=32 time=16ms TTL=125
Reply from 128.168.0.2: bytes=32 time=2ms TTL=125
```

```
Ping statistics for 128.168.0.2:
```

```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 24ms, Average = 11ms
```

## FLOOR 3 SIMULATION

Ping from Admin Room PC to Chill Room PC

```
C:\>ping 192.168.0.5

Pinging 192.168.0.5 with 32 bytes of data:

Reply from 192.168.0.5: bytes=32 time=27ms TTL=126
Reply from 192.168.0.5: bytes=32 time=35ms TTL=126
Reply from 192.168.0.5: bytes=32 time=22ms TTL=126
Reply from 192.168.0.5: bytes=32 time=11ms TTL=126

Ping statistics for 192.168.0.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 11ms, Maximum = 35ms, Average = 23ms

C:\>
```

Ping from Admin Room PC to UI/UX Class PC

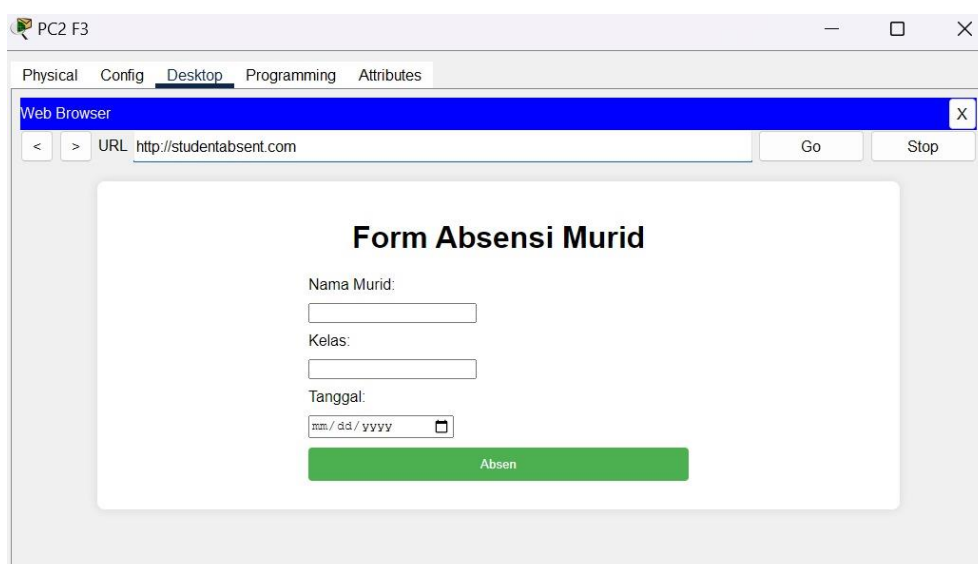
```
C:\>ping 192.168.0.3

Pinging 192.168.0.3 with 32 bytes of data:

Reply from 192.168.0.3: bytes=32 time=2ms TTL=126
Reply from 192.168.0.3: bytes=32 time=1ms TTL=126
Reply from 192.168.0.3: bytes=32 time=2ms TTL=126
Reply from 192.168.0.3: bytes=32 time=2ms TTL=126

Ping statistics for 192.168.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

DNS Server Test



The screenshot shows a web browser window titled "PC2 F3" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Web Browser" window. The address bar shows the URL "http://studentabsent.com". The page content is a form titled "Form Absensi Murid" (Student Absence Form). The form includes three input fields: "Nama Murid:" (Student Name), "Kelas:" (Class), and "Tanggal:" (Date). The date field is set to "mm/dd/yyyy" with a calendar icon. Below the input fields is a green button labeled "Absen".

## REQUIREMENTS

**Hardware :**

1. ASUS Vivobook

**Operating System :**

1. Windows 11 64-bit

**Software :**

1. Cisco Packet Tracer
2. Ms. Word
3. Google Drive

## PROJECT FILE DETAILS

No	Filename	Remarks
1	Grup 2 Project 1.pdf	Paper File
2	Project 1.pkt	Packet Tracer File
3	Project 1 Presentation.pptx	Presentation