



\* Practical 1: IPv4 Addressing and subnetting

- 1] An address in a block is given as 10.4.17.8 find the numbers of addresses in the block, the first address and the last address

Solution

∵ the given address is of class A ∴ n = 8

$$\begin{aligned}\text{Numbers of address} = N &= 2^{32-n} \\ &= 2^{32-8} \\ &= 2^{24}\end{aligned}$$

$$= 16777216$$

∴ Number of addresses are 16777216

First address

For class A net id is 16 ∴ subnet mask is

255.0.0.0

To find the first address we logically given address with subnet mask

given address	10	4	17	8
Network mask	255	0	0	0
AND operation	10	0	0	0

∴ first address is 10.0.0.0

Last address

To find last address we logically OR the given address with complement of Network mask





Network mask	255	0	0	0
Complement	0	255	255	255

given address	10	17	8	
complement of mask	0	255	255	255
OR operation	10	255	255	255

∴ last address is 10.255.255.255

hence we conclude that

a) Network address: the first address is network address  $\neq 10.0.0.0$

b) Network broadcast address: the last address is 10.255.255.255

c) total no of host bits are 8

d) Number of host:  $16777216 (16777216-3)$



2] An address in a block is given by 180.8.17.9 find number of addresses in the block, first address, last address

solution

the given address is of class B ∴  $n=16$

$$\begin{aligned} \text{no of addresses} &= N = 2^{32-n} \\ &= 2^{32-16} \\ &= 2^{16} \\ &= 65536 \end{aligned}$$

∴ total number of address is 65536

First address

∵ address is of class B ∴ net id = 16

therefore network mask is 255.255.0.0

to find the first address we logically AND given address with network mask

given address	180	8	17	9
Network address	255	255	0	0
AND operation	180	8	0	0

∴ first address is 180.8.0.0

Last address

to find last address we logically OR given address with complement of network mask





Network mask	255	255	0	0
complement	0	0	255	255
given address	180	8	17	9
complement of mask	0	0	255	255
OR operation	180	8	255	255

$\therefore$  given last address is 180.8.255.255

hence we conclude that

a) Network address: the first address is 180.8.0.0  
 b) Network broadcast: the last address is 180.8.255.255

c) total number of host bit is 16

d) Number of host 65534 (65536 - 2)



3) An address in a block is given as 194.7.15.8  
 Find the number of address in the block the first address and last address

solution

the given address is of class C  $\therefore n = 24$

$$\begin{aligned} \text{No of addresses} &= N = 2^{32-n} \\ &= 2^{32-24} \\ &= 2^8 \\ &= 256 \end{aligned}$$

$\therefore$  number of addresses are 256

first address

for class C Netid is 24

$\therefore$  Network mask is 255.255.255.0

to find first address we logically AND given address and Network address mask

given address	194	7	15	8
Network mask	255	255	255	0
AND operation	194	7	15	0

$\therefore$  first address is 194.7.15.0

Last address

to find last address we logically OR given address with complement of Network mask





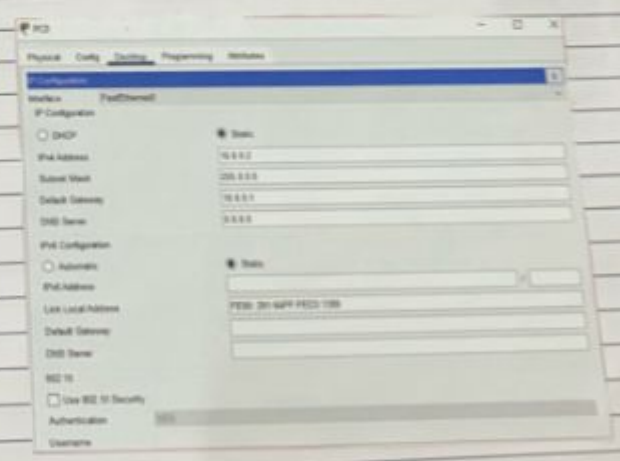
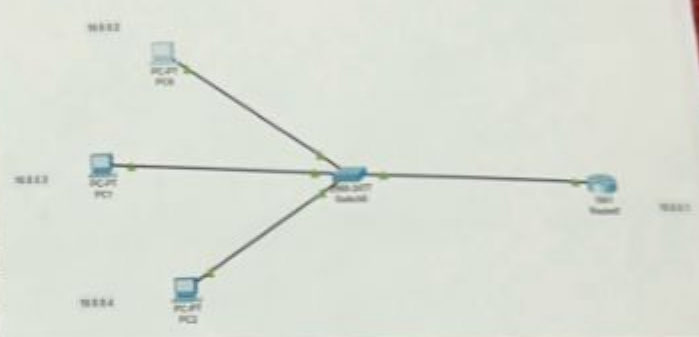
Network mask	255	255	255	0
complement	0	0	0	255
given address	194	7	15	8
complement of network mask	0	0	0	255
OR operation	194	7	15	255

∴ last address is 194.7.15.255  
hence we conclude that

- the first address is 194.7.15.0
- the last address is 194.7.15.255
- total number of host bit is 24
- number of hosts  $256(256-3)$



\* Practical 2: use of various command utilities





The screenshot shows the Mikrotik WinBox interface with the 'IP Configuration' tab selected. The 'ether1' interface is highlighted. The 'Static' tab is active, displaying the following configuration:

- Static:**
  - IP Address: 192.168.1.1
  - Subnet Mask: 255.255.255.0
  - Default Gateway: 192.168.1.1
  - DNS Server: 192.168.1.1
- DHCP:**
  - IP Address: (empty)
  - Subnet Mask: (empty)
  - Default Gateway: (empty)
  - DNS Server: (empty)

The 'Use Local Address' checkbox is checked under the DHCP section.

PC2

Physical Config **Config** Programming Attributes

Interface: **FastEthernet0**

IP Configuration

☐ DHCP ☒ Static

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IP Address: [ ]

Link Local Address: FE80:: [ ]

Default Gateway: [ ]

DNS Server: [ ]

RST 10 ☒ Use RST 10 Security

Authentication

The screenshot shows the Cisco IOS configuration interface for a router named "Routed". The "Config" tab is active, displaying the "Global" configuration page. The left sidebar contains a tree view with "GLOBAL" selected, which includes "Settings", "Algorithm Settings", "ROUTING", "Static", "RIP", "SWITCHING", "PLAN Database", and "INTERFACE". The main area shows the "Signed Members" configuration. Under "IP Configuration", the "IPv4 Address" is set to "10.0.0.1" and the "Subnet Mask" is "255.0.0.0". The "To Ring Load" is set to "10". On the right side, there are checkboxes for "Go", "Help", and "Save".

```

C:\>arp -a

Interface: 10.0.0.1
    Physical Address      Type
    -----
10.0.0.1                00-07-0A-00-00-00    Static

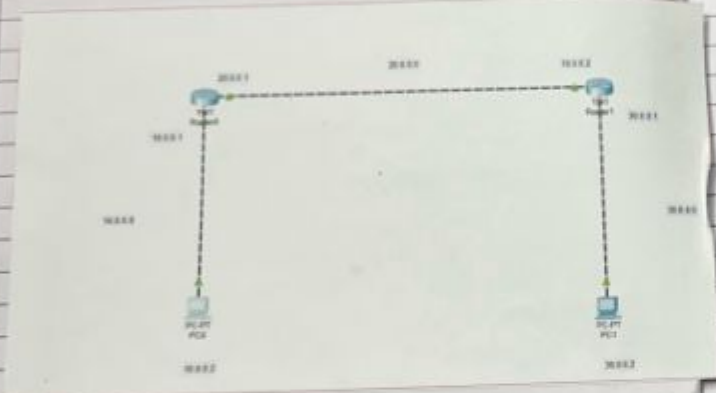
C:\>

```





### Practical 3: Static Routing



PC1

Physical Config CLI

IP Configuration

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 0.0.0.0

IP Configuration

Static

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 0.0.0.0

Use MD-5 Security

Authentication



Router0

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

IP

SWITCHING

VLAN Database

INTERFACE

Serial0/0/0

Serial0/0/1

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Tx Ring Limit

16

Router5

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

IP

SWITCHING

VLAN Database

INTERFACE

Serial0/0/0

Serial0/0/1

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Tx Ring Limit

16

Router1

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

IP

SWITCHING

VLAN Database

INTERFACE

Serial0/0/0

Serial0/0/1

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Tx Ring Limit

16



```

PCB
Physical Config Timing Programming Attributes

Corrupted Timing

Class Packet Tracer PC Command line 1.0
C:\>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 10.0.0.2: bytes=32 time=1ms TTL=126
Reply from 10.0.0.2: bytes=32 time=1ms TTL=126

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=1ms TTL=126
Reply from 10.0.0.3: bytes=32 time=1ms TTL=126
Reply from 10.0.0.3: bytes=32 time=1ms TTL=126
Reply from 10.0.0.3: bytes=32 time=1ms TTL=126

Ping statistics for 10.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

```





Router0

Physical Config CLI Attributes

Physical Device View

Zoom In Original Size Zoom Out

MODULES

- HMC-100-APP
- HMC-IT
- HMC-4030
- HMC-BA
- HMC-AP-A0-B
- WIC-100
- WIC-100ET
- WIC-IT
- WIC-200
- WIC-2T
- WIC-Cover
- SLC-100-000

OFF

Router0

Physical Config CLI Attributes

Physical Device View

Zoom In Original Size Zoom Out

MODULES

- HMC-100-APP
- HMC-IT
- HMC-4030
- HMC-BA
- HMC-AP-A0-B
- WIC-100
- WIC-100ET
- WIC-IT
- WIC-200
- WIC-2T
- WIC-Cover
- SLC-100-000

ON

Router0

Physical Config CLI Attributes

Global Settings

ROUTING

Static

IP Configuration

IP Address

Subnet Mask

To Ring Link

Router0

Physical Config CLI Attributes

Global Settings

ROUTING

Static

IP Configuration

IP Address

Subnet Mask

To Ring Link

Router0

Physical Config CLI Attributes

Global Settings

ROUTING

Static

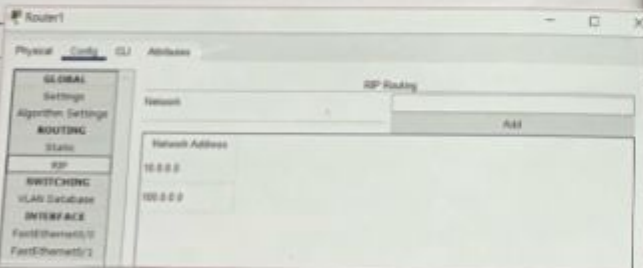
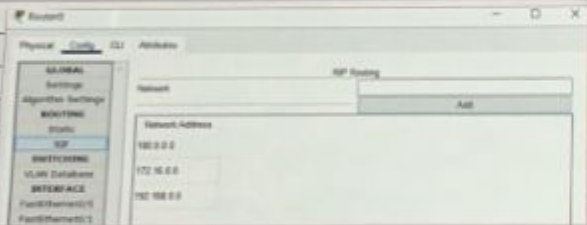
IP Configuration

IP Address

Subnet Mask

To Ring Link





```
C:\>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time<1ms TTL=126
Reply from 10.0.0.2: bytes=32 time<1ms TTL=126
Reply from 10.0.0.2: bytes=32 time<1ms TTL=126
Reply from 10.0.0.2: bytes=32 time=10ms TTL=126

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 2ms
```

```
C:\>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time<1ms TTL=126
Reply from 10.0.0.2: bytes=32 time<1ms TTL=126
Reply from 10.0.0.2: bytes=32 time<1ms TTL=126
Reply from 10.0.0.2: bytes=32 time=10ms TTL=126

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 2ms
```





Practical 5: Simple OSPF (Open Shortest Path First)



PC1 Configuration

IP Configuration

Static

IP Address: 192.168.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 9.9.9.9

IP Configuration

Automatic

IP Address: 192.168.1.2

Link Local Address: FE80::200:20FF:FE22:2001

Default Gateway: 192.168.1.1

DNS Server: 9.9.9.9

Use IPv6 Security

PC2 Configuration

IP Configuration

Static

IP Address: 192.168.1.3

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 9.9.9.9

IP Configuration

Automatic

IP Address: 192.168.1.3

Link Local Address: FE80::300:30FF:FE33:3001

Default Gateway: 192.168.1.1

DNS Server: 9.9.9.9



Router1 Configuration

Physical

Global

Settings

Algorithm Settings

ROUTING

Static

IP

SWITCHING

VLAN Database

INTERFACE

Configured Interfaces

Configured Interfaces

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IP Address

Subnet Mask

To Ring Link

Router2 Configuration

Physical

Global

Settings

Algorithm Settings

ROUTING

Static

IP

SWITCHING

VLAN Database

INTERFACE

Configured Interfaces

Configured Interfaces

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IP Address

Subnet Mask

To Ring Link

Router3 Configuration

Physical

Global

Settings

Algorithm Settings

ROUTING

Static

IP

SWITCHING

VLAN Database

INTERFACE

Configured Interfaces

Configured Interfaces

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IP Address

Subnet Mask

To Ring Link

Router4 Configuration

Physical

Global

Settings

Algorithm Settings

ROUTING

Static

IP

SWITCHING

VLAN Database

INTERFACE

Configured Interfaces

Configured Interfaces

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IP Address

Subnet Mask

To Ring Link





Router1

Physical Config **Config** Programming Utilities

Configuration

IP Configuration

State

IP Address: 192.168.1.1

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 8.8.8.8

IPv6 Configuration

State

IPv6 Address: FE80::203:B5FF:FE0D::1

IPv6 Subnet Mask: FE80::203:B5FF:FE0D::1

IPv6 Default Gateway: FE80::203:B5FF:FE0D::1

IPv6 DNS Server: FE80::203:B5FF:FE0D::1

IPv6 Security

Use IPv6 Security: [ ]

Authentication

Username: [ ]

Password: [ ]

Router2

Physical Config **Config** Programming Utilities

Configuration

IP Configuration

State

IP Address: 192.168.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 8.8.8.8

IPv6 Configuration

State

IPv6 Address: FE80::203:B5FF:FE0D::2

IPv6 Subnet Mask: FE80::203:B5FF:FE0D::1

IPv6 Default Gateway: FE80::203:B5FF:FE0D::1

IPv6 DNS Server: FE80::203:B5FF:FE0D::1

IPv6 Security

Use IPv6 Security: [ ]

Authentication

Username: [ ]

Password: [ ]



Router1

Physical Config **Config** Programming Utilities

Configuration

IP Configuration

State

IP Address: 192.168.1.1

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 8.8.8.8

IPv6 Configuration

State

IPv6 Address: FE80::203:B5FF:FE0D::1

IPv6 Subnet Mask: FE80::203:B5FF:FE0D::1

IPv6 Default Gateway: FE80::203:B5FF:FE0D::1

IPv6 DNS Server: FE80::203:B5FF:FE0D::1

IPv6 Security

Use IPv6 Security: [ ]

Authentication

Username: [ ]

Password: [ ]

Router2

Physical Config **Config** Programming Utilities

Configuration

IP Configuration

State

IP Address: 192.168.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 8.8.8.8

IPv6 Configuration

State

IPv6 Address: FE80::203:B5FF:FE0D::2

IPv6 Subnet Mask: FE80::203:B5FF:FE0D::1

IPv6 Default Gateway: FE80::203:B5FF:FE0D::1

IPv6 DNS Server: FE80::203:B5FF:FE0D::1

IPv6 Security

Use IPv6 Security: [ ]

Authentication

Username: [ ]

Password: [ ]



[illegible]

practical 6: DHCP (Dynamic Host Configuration Protocol)

[illegible]

The screenshot shows the 'Global Settings' tab of the DHCP server configuration. The 'Display Name' is 'DHCP server'. In the 'Gateway/DNS Pk' section, the 'Static' radio button is selected, with a 'Default Gateway' of '192.168.1.1' and an empty 'DNS Server' field. In the 'Gateway/DNS IPv6' section, the 'Automatic' radio button is selected, with empty fields for both 'Default Gateway' and 'DNS Server'.

**DHCP server**

Physical Config Services **DHCP** Programming Utilities

**Configuration**

Global Configuration

☒ Enabled

**Pool**

Pool Name: pool1

Start Address: 192.168.1.1

End Address: 192.168.1.254

Netmask: 255.255.255.0

Lease Time: 1d 0h 0m 0s

DNS Server: 192.168.1.1

**Bootp Configuration**

☒ Automatic

Use Local Address: ☒

**Authentication**

☒ Use RADIUS Security

User Name:

Password:





PC1 DHCP Server

Physical Config Services Programming Attributes

Services

Interface FastEthernet0

DHCP Service ☒ On ☐ Off

Pool Name Pool1

Default Gateway 10.0.0.1

DNS Server 0.0.0.0

Start IP Address 10.0.0.0

Subnet Mask 255.0.0.0

Maximum Number of Users 0

WTP Server 0.0.0.0

VLC Address

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	WTP Server	VLC Address
Pool1	10.0.0.1	0.0.0.0	10.0.0.0	255.0.0.0	0	0.0.0.0	0.0.0.0
UnusedPool	0.0.0.0	0.0.0.0	10.0.0.0	255.0.0.0	0	0.0.0.0	0.0.0.0

PC2

Physical Config Desktop Programming Attributes

Configuration

Interface FastEthernet0

IP Configuration

DHCP ☒ Static ☐

IP Address 10.0.0.1

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

Automatic ☐ Static ☒

IPv6 Address

Link Local Address FE80::201:1FF:FE24::1

Default Gateway

DNS Server

IGMP

Use IGMP v1 Security

Authentication

Username



PC1

Physical Config Desktop Programming Attributes

Configuration

Interface FastEthernet0

IP Configuration

DHCP ☒ Static ☐

IP Address 10.0.0.1

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

Automatic ☐ Static ☒

IPv6 Address

Link Local Address FE80::201:1FF:FE24::1

Default Gateway

DNS Server

IGMP

Use IGMP v1 Security

Authentication

Username

Password

PC2

Physical Config Desktop Programming Attributes

Configuration

Interface FastEthernet0

IP Configuration

DHCP ☒ Static ☐

IP Address 10.0.0.1

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

Automatic ☐ Static ☒

IPv6 Address

Link Local Address FE80::201:1FF:FE24::1

Default Gateway

DNS Server

IGMP

Use IGMP v1 Security

Authentication

Username





Practical 8: Configuring DNS server and

Router1 Configuration window showing the following settings:

- Physical: GigabitEthernet0/0/24
- Global: IP Address 192.168.1.1, Subnet Mask 255.255.255.0
- Interface: GigabitEthernet0/0/24, IP Address 192.168.1.1, Subnet Mask 255.255.255.0

Server1 Configuration window showing the following settings:

- Physical: Ethernet0/0
- Global: IP Address 192.168.1.2, Subnet Mask 255.255.255.0
- Interface: Ethernet0/0, IP Address 192.168.1.2, Subnet Mask 255.255.255.0

Server2 Configuration window showing the following settings:

- Physical: Ethernet0/0
- Global: IP Address 192.168.1.3, Subnet Mask 255.255.255.0
- Interface: Ethernet0/0, IP Address 192.168.1.3, Subnet Mask 255.255.255.0



DNS SERVER Configuration window showing the following settings:

- Physical: GigabitEthernet0/0/24
- Global: IP Address 192.168.1.1, Subnet Mask 255.255.255.0
- Interface: GigabitEthernet0/0/24, IP Address 192.168.1.1, Subnet Mask 255.255.255.0

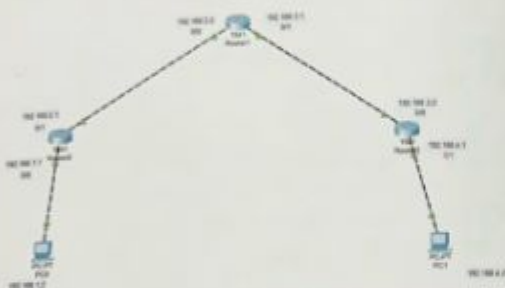
PC2 Configuration window showing the following settings:

- Physical: Ethernet0/0
- Global: IP Address 192.168.1.4, Subnet Mask 255.255.255.0
- Interface: Ethernet0/0, IP Address 192.168.1.4, Subnet Mask 255.255.255.0





# Practical 9: OSPF with multiple Areas



PC1

Physical Config **Interface** Programming Attributes

Interface: FastEthernet0/0

IP Configuration

☐ DHCP ☒ Static

IP Address: 192.168.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address:

Link Local Address: FE80::20A:FAFF:FE0A::1

Default Gateway:

DNS Server:

802.11

☐ Use 802.11 Security

PC2

Physical Config **Interface** Programming Attributes

Interface: FastEthernet0/0

IP Configuration

☐ DHCP ☒ Static

IP Address: 192.168.2.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.2.1

DNS Server: 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address:

Link Local Address: FE80::20A:FAFF:FE0A::1

Default Gateway:

DNS Server:

802.11



Router

Physical Config **Interface** Attributes

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]:

Enter YES to get started:

Router>enable

Router#configure terminal

Router(config)#interface gigabitEthernet 0/0

Router(config-if)#ip address 192.168.1.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

Router(config)#interface gigabitEthernet 0/1

Router(config-if)#ip address 192.168.2.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

Router(config)#interface gigabitEthernet 0/2

Router(config-if)#ip address 192.168.3.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

Router(config)#interface gigabitEthernet 0/3

Router(config-if)#ip address 192.168.4.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

Router(config)#

Router1

Physical Config **Interface** Attributes

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]:

Enter YES to get started:

Router>enable

Router#configure terminal

Router(config)#interface gigabitEthernet 0/0

Router(config-if)#ip address 192.168.1.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

Router(config)#interface gigabitEthernet 0/1

Router(config-if)#ip address 192.168.2.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

Router(config)#interface gigabitEthernet 0/2

Router(config-if)#ip address 192.168.3.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

Router(config)#interface gigabitEthernet 0/3

Router(config-if)#ip address 192.168.4.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

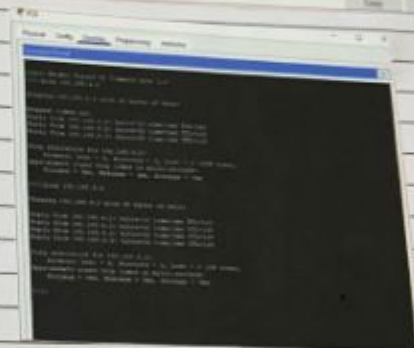
Router(config)#



[illegible][illegible]

```
Router(config)#router ospf 1
Router(config-router)#network 192.168.1.0 0.0.0.255 area 0
Router(config-router)#network 1
192.168.1.0/24: OSPF-0-ADJ-0: Process 1, Nbr 10.1.1.1 on GigabitEthernet0/1 from LOADING to FULL,
Loading Done
Router(config-router)#ospf 1
Router(config-router)#network 192.168.1.0 0.0.0.255 area 0
% Invalid input detected at '^' marker.

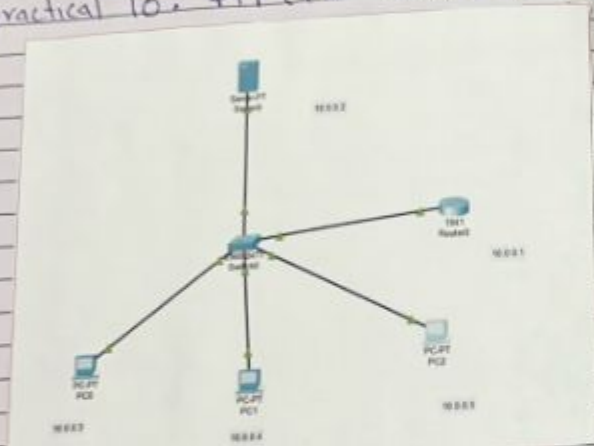
Router(config-router)#network 192.168.1.0 0.0.0.255 area 1
Router(config-router)#exit
Router(config)#
00:15:00 OSPF-0-ADJ-0: Process 1, Nbr 10.1.1.1 on GigabitEthernet0/1 from LOADING to FULL,
Loading Done
```

[illegible]





\* practical 10: FTP (file transfer protocol)



PC1 Configuration

Interface: FastEthernet0/0

IP Configuration

☐ DHCP ☒ Static

IP Address: 10.0.0.3

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address:

Link Local Address: FE80::2E3:7FF:FE2D:3C3D

Default Gateway:

DNS Server:

IGMP:

☐ Use IPv6 to Security



PC2 Configuration

Interface: FastEthernet0/0

IP Configuration

☐ DHCP ☒ Static

IP Address: 10.0.0.4

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address:

Link Local Address: FE80::2E3:7FF:FE2D:3C3D

Default Gateway:

DNS Server:

IGMP:

☐ Use IPv6 to Security

Authentication:

Username:

Password:

PC3 Configuration

Interface: FastEthernet0/0

IP Configuration

☐ DHCP ☒ Static

IP Address: 10.0.0.5

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address:

Link Local Address: FE80::2E3:7FF:FE2D:3C3D

Default Gateway:

DNS Server:

IGMP:

☐ Use IPv6 to Security

Authentication:

Username:

Password:

Router0 Configuration

Physical Config CU Attributes

GLOBAL Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0

GigabitEthernet0/1

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Tx Ring Limit



[illegible]

A network diagram showing a central router connected to a server, three PCs, and a switch. The router is labeled 'Router' and has four interfaces. It is connected to a 'Server' at the top, three 'PCs' (labeled 'PC1', 'PC2', and 'PC3') at the bottom, and a 'Switch' on the right. The connections are as follows: Router to Server, Router to PC1, Router to PC2, Router to PC3, and Router to Switch.

The screenshot shows the WinBox configuration window for the 'FastEthernet0/24' interface. The 'IP Configuration' tab is selected, and the 'Static' radio button is chosen. The IP Address is set to 10.0.0.1, Subnet Mask to 255.0.0.0, Default Gateway to 0.0.0.1, and DNS Server to 0.0.0.0. The 'IPv6 Configuration' section shows the 'Static' radio button selected, with the IP Address set to FE80::203:0:FE08::1A3.





PC1

Physical Config Settings Programming Attributes

Configuration

Interfaces

IP Configuration

Static

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 10.0.0.2

IP Configuration

Static

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 10.0.0.2

Router0

Physical Config CLI Attributes

Global

Settings

Algorithm Settings

ROUTING

Static

IP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0

GigabitEthernet0/1

Port Status: 100 Mbps 10 Mbps 10 Mbps

Bandwidth: 1000 Kbps

Duplex: Full Duplex

MAC Address: 0001 C331 4D01

IP Configuration

Static

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 10.0.0.2

Server0

Physical Config Services Settings Programming Attributes

Configuration

IP Configuration

Static

IP Address: 10.0.0.2

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 10.0.0.2

Server0

Physical Config Services Settings Programming Attributes

SERVICES

HTTP

HTTP

Static

IP Address: 10.0.0.2

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 10.0.0.2

File Name	Size	Delete
1. copyright.html	(4K)	(delete)
2. copyright17to11.jpg	(4K)	(delete)
3. helloworld.html	(4K)	(delete)
4. image.html	(4K)	(delete)
5. index.html	(4K)	(delete)



PC1

Physical Config Settings Programming Attributes

Configuration

IP Configuration

Static

IP Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server: 10.0.0.2

PC1

Physical Config Settings Programming Attributes

Web Browser

URL: http://hahimugol.com

Welcome to Cisco Packet Tracer. Opening browser to user opportunities. What's New Open.

Quick Links

A small page

Copyright

30.000.0000

Index

PC1

Physical Config Settings Programming Attributes

Web Browser

URL: http://hahimugol.com/helloworld.html

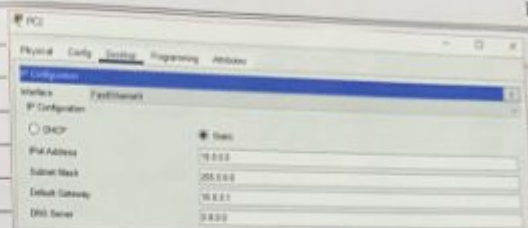
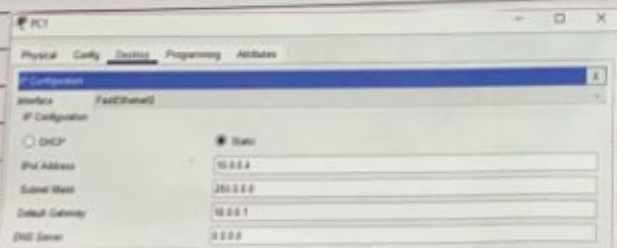
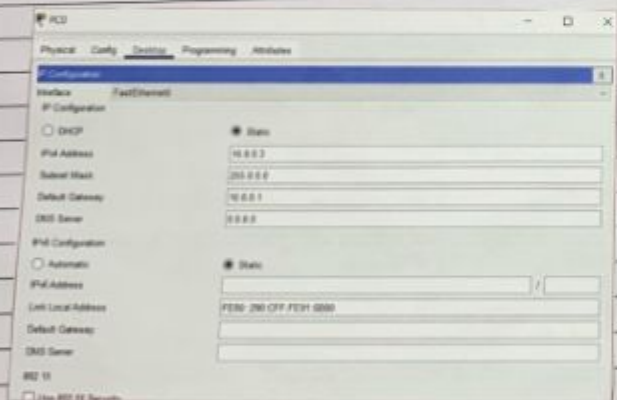
Hello, world!

Back



```

graph TD
    S[20K-LPT Server] --- SW[20K-LPT Switch]
    SW --- PC2[10K-LPT PC2]
    SW --- PC1[10K-LPT PC1]
    SW --- PC3[10K-LPT PC3]
    SW --- R[10K-LPT Router]
  
```



```
Router(config)#ifconfig
Router(config)#hostname switch
switch(config)#line vty 0 4
switch(config-line)#password 1234
switch(config-line)#login
switch(config-line)#enable secret 1234
switch(config)#exit
switch
AUC-8-CORVIA 1: Configured from console by console
```

