CSE421

Lab Project Report

ISP company: "Fastest"

Section - 07   Group: 57
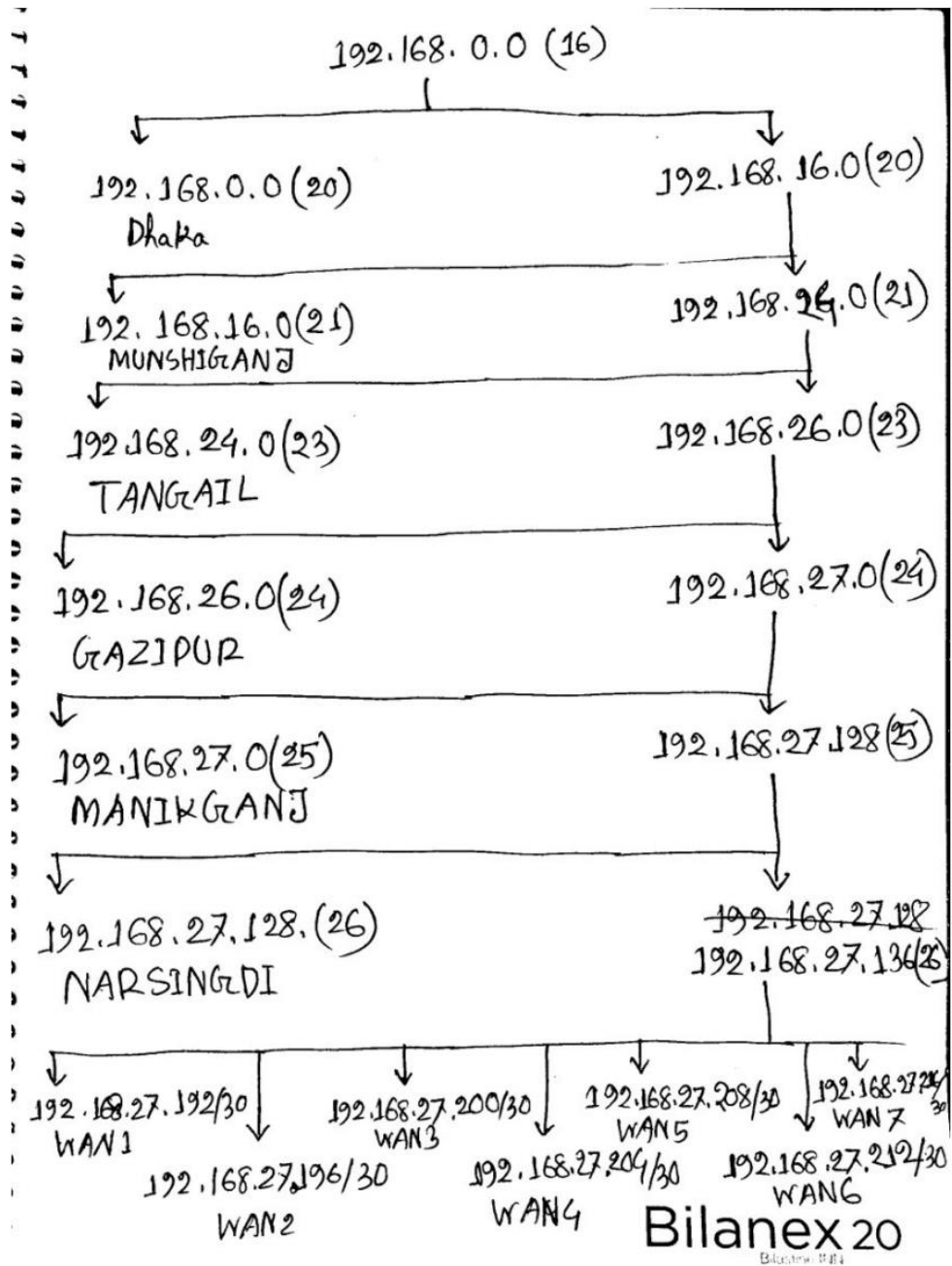
Group Members

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VLSM/Network Address Table

Parent Network Address: 192.168.0.0/24

Node	4*Current Host	Hosts needed	Hosts given	Host Bits	Network Address	Prefix mask
DHAKA	4*512	2048	4094	12	192.168.0.0	/20
MUNSHIGANJ	4*256	1024	2046	11	192.168.16.0	/21
TANGAIL	4*64	256	510	9	192.168.24.0	/23
GAZIPUR	4*32	128	254	8	192.168.26.0	/24
MANIKGANJ	4*16	64	126	7	192.168.27.0	/25
NARSHINDI	4*8	32	62	6	192.168.27.128	/26
WAN1		2	2	2	192.168.27.192	/30
WAN2		2	2	2	192.168.27.196	/30
WAN3		2	2	2	192.168.27.200	/30
WAN4		2	2	2	192.168.27.204	/30
WAN5		2	2	2	192.168.27.208	/30
WAN6		2	2	2	192.168.27.212	/30
WAN7		2	2	2	192.168.27.216	/30

192.168.0.0 (16)

192.168.0.0 (20)
Dhaka

192.168.16.0 (20)

192.168.16.0 (21)
MUNSHIGANJ

192.168.24.0 (21)

192.168.24.0 (23)
TANGAIL

192.168.26.0 (23)

192.168.26.0 (24)
GAZIPUR

192.168.27.0 (24)

192.168.27.0 (25)
MANIKGANJ

192.168.27.128 (25)

192.168.27.128. (26)
NARSINGDI

192.168.27.128
192.168.27.136 (26)

192.168.27.192/30
WAN 1

192.168.27.196/30
WAN 2

192.168.27.200/30
WAN 3

192.168.27.204/30
WAN 4

192.168.27.208/30
WAN 5

192.168.27.212/30
WAN 6

192.168.27.216/30
WAN 7

Bilanex 20

IP Address Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
PC0		192.168.26.3	255.255.255.0	192.168.26.1
PC1		192.168.26.4	255.255.255.0	192.168.26.1
PC2		192.168.24.2	255.255.254.0	192.168.24.1
PC3		192.168.24.3	255.255.254.0	192.168.24.1
PC4		DHCP Assigned	DHCP Assigned	DHCP Assigned
PC5		DHCP Assigned	DHCP Assigned	DHCP Assigned
PC6		192.168.16.2	255.255.248.0	192.168.16.1
PC7	NIC	192.168.16.3	255.255.248.0	192.168.16.1
PC8		192.168.27.2	255.255.255.128	192.168.27.1
PC9		192.168.27.3	255.255.255.128	192.168.27.1
PC10		192.168.27.130	255.255.255.192	192.168.27.129
PC11		192.168.27.131	255.255.255.192	192.168.27.129
DHCP Server (Distributor)		192.168.0.2	255.255.240.0	192.168.0.1
Web Server (Bari)		192.168.26.2	255.255.255.0	192.168.26.1

Device	Interface	IP Address	Subnet Mask	Default Gateway
DHAKA	Fa0/0	192.168.0.1	255.255.240.0	
	Se2/0	192.168.27.194	255.255.255.252	
	Se3/0	192.168.27.197	255.255.255.252	
MUNSHIGANJ	Fa0/0	192.168.16.1	255.255.248.0	
	Se2/0	192.168.27.198	255.255.255.252	
	Se3/0	192.168.27.201	255.255.255.252	
	Se6/0	192.168.27.209	255.255.255.252	
TANGAIL	Fa0/0	192.168.24.1	255.255.254.0	
	Se2/0	192.168.27.217	255.255.255.252	
	Se3/0	192.168.27.193	255.255.255.252	
GAZIPUR	Fa0/0	192.168.26.1	255.255.255.0	NA
	Se2/0	192.168.27.218	255.255.255.252	
	Se3/0	192.168.27.213	255.255.255.252	
MANIKGANJ	Fa0/0	192.168.27.1	255.255.255.128	
	Se2/0	192.168.27.202	255.255.255.252	
	Se3/0	192.168.27.205	255.255.255.252	
NARSHINGDHI	Fa0/0	192.168.27.129	255.255.255.192	
	Se2/0	192.168.27.206	255.255.255.252	
	Se3/0	192.168.27.214	255.255.255.252	
	Se6/0	192.168.27.210	255.255.255.252	

Router Configuration Commands

Router Configuration

enable
configure terminal
hostname DHAKA

interface FastEthernet0/0
ip address 192.168.0.1 255.255.240.0
no shut

interface Serial2/0
ip address 192.168.27.194 255.255.255.252
no shut

interface Serial3/0
ip address 192.168.27.197 255.255.255.252
no shut

exit

Dynamic Routing And Redistribute

router rip
version 2
redistribute static
redistribute connected
passive-interface FastEthernet0/0
network 192.168.0.0 **(Dhaka)**
network 192.168.27.192 **(WAN 1)**
network 192.168.27.196 **(WAN 2)**
no auto-summary
end
copy run start

Static Routing

ip route 192.168.16.0 255.255.248.0 192.168.27.198 **(Munshiganj Lan)**
ip route 192.168.27.200 255.255.255.252 192.168.27.198 **(WAN 3)**
ip route 192.168.27.0 255.255.255.128 192.168.27.198 **(Manikganj Lan)**
ip route 192.168.27.204 255.255.255.252 192.168.27.198 **(WAN 4)**
ip route 192.168.27.128 255.255.255.192 192.168.27.198 **(Narshindi Lan)**

Floating Static Routing

ip route 192.168.27.208 255.255.255.252 192.168.27.198 **5** **(WAN 5)**

MUNSHIGANJ

Router Configuration

enable
configure terminal
hostname DHAKA

interface FastEthernet0/0
ip address 192.168.16.1 255.255.248.0
no shut

interface Serial2/0
ip address 192.168.27.198 255.255.255.252
no shut

interface Serial3/0
ip address 192.168.27.201 255.255.255.252
no shut

interface Serial6/0
ip address 192.168.27.209 255.255.255.252
no shut

exit

Redistribute Command

router rip
version 2
redistribute static
redistribute connected

Static Routing

ip route 192.168.27.192 255.255.255.252 192.168.27.197 **(WAN 1)**
ip route 192.168.27.204 255.255.255.252 192.168.27.202 **(WAN 4)**
ip route 192.168.27.212 255.255.255.252 192.168.27.197 **(WAN 6)**
ip route 192.168.27.216 255.255.255.252 192.168.27.197 **(WAN 7)**
ip route 192.168.27.0 255.255.255.128 192.168.27.202 **(Manikganj Lan)**
ip route 192.168.27.128 255.255.255.192 192.168.27.202 **(Narsingdi Lan)**
ip route 192.168.0.0 255.255.240.0 192.168.27.197 **(Dhaka Lan)**
ip route 192.168.24.0 255.255.254.0 192.168.27.197 **(Tangail Lan)**
ip route 192.168.26.0 255.255.255.0 192.168.27.197 **(Gazipur Lan)**

Floating Static Routing

ip route 192.168.27.128 255.255.255.192 192.168.27.210 **5** **(Narsingdi Lan)**

Router Configuration

enable
configure terminal
hostname TANGAIL

interface FastEthernet0/0
ip address 192.168.24.1 255.255.254.0
no shut

interface Serial2/0
ip address 192.168.27.217 255.255.255.252
no shut

interface Serial3/0
ip address 192.168.27.193 255.255.255.252
no shut

exit

Dynamic Routing

router rip
version 2
passive-interface FastEthernet0/0
network 192.168.24.0 **(Tangail)**
network 192.168.27.216 **(WAN 7)**
network 192.168.27.192 **(WAN 1)**
no auto-summary
end
copy run start

Router Configuration

enable
configure terminal
hostname GAZIPUR

interface FastEthernet0/0
ip address 192.168.26.1 255.255.255.0
no shut

interface Serial2/0
ip address 192.168.27.218 255.255.255.252
no shut

interface Serial3/0
ip address 192.168.27.213 255.255.255.252
no shut

exit

Dynamic Routing

router rip
version 2
passive-interface FastEthernet0/0
network 192.168.26.0   **(Gazipur)**
network 192.168.27.216 **(WAN 7)**
network 192.168.27.212 **(WAN 6)**
no auto-summary
end
copy run start

Floating Static Routing

ip route 192.168.27.128 255.255.255.192 192.168.27.214 **130 (Narsingdi Lan)**

MANIKGANJ

Router Configuration
enable
configure terminal
hostname MANIKGANJ

interface FastEthernet0/0
ip address 192.168.27.1 255.255.255.128
no shut

interface Serial2/0
ip address 192.168.27.202 255.255.255.252
no shut

interface Serial3/0
ip address 192.168.27.205 255.255.255.252
no shut

Exit

Static Route
ip route 192.168.27.192 255.255.255.252 192.168.27.201 **(WAN 1)**
ip route 192.168.27.196 255.255.255.252 192.168.27.201 **(WAN 2)**
ip route 192.168.27.208 255.255.255.252 192.168.27.201 **(WAN 5)**
ip route 192.168.27.212 255.255.255.252 192.168.27.201 **(WAN 6)**
ip route 192.168.27.216 255.255.255.252 192.168.27.201 **(WAN 7)**
ip route 192.168.27.128 255.255.255.192 192.168.27.206 **(Narsingdi Lan)**
ip route 192.168.16.0 255.255.248.0 192.168.27.201 **(Munshiganj Lan)**
ip route 192.168.0.0 255.255.240.0 192.168.27.201 **(Dhaka Lan)**
ip route 192.168.24.0 255.255.254.0 192.168.27.201 **(Tangail Lan)**
ip route 192.168.26.0 255.255.255.0 192.168.27.201 **(Gazipur Lan)**

Router Configuration

enable
configure terminal
hostname NARSINGDI

interface FastEthernet0/0
ip address 192.168.27.129 255.255.255.192
no shut

interface Serial2/0
ip address 192.168.27.206 255.255.255.252
no shut

interface Serial3/0
ip address 192.168.27.214 255.255.255.252
no shut

interface Serial6/0
ip address 192.168.27.210 255.255.255.252
no shut

Exit

Static Routing

ip route 192.168.27.192 255.255.255.252 192.168.27.205 **(WAN 1)**
ip route 192.168.27.196 255.255.255.252 192.168.27.205 **(WAN 2)**
ip route 192.168.27.200 255.255.255.252 192.168.27.205 **(WAN 3)**
ip route 192.168.27.216 255.255.255.252 192.168.27.205 **(WAN 7)**
ip route 192.168.27.0 255.255.255.128 192.168.27.205 **(Manikganj Lan)**
ip route 192.168.16.0 255.255.248.0 192.168.27.205 **(Munshiganj Lan)**
ip route 192.168.0.0 255.255.240.0 192.168.27.205 **(Dhaka Lan)**
ip route 192.168.24.0 255.255.254.0 192.168.27.205 **(Tangail Lan)**
ip route 192.168.26.0 255.255.255.0 192.168.27.205 **(Gazipur Lan)**
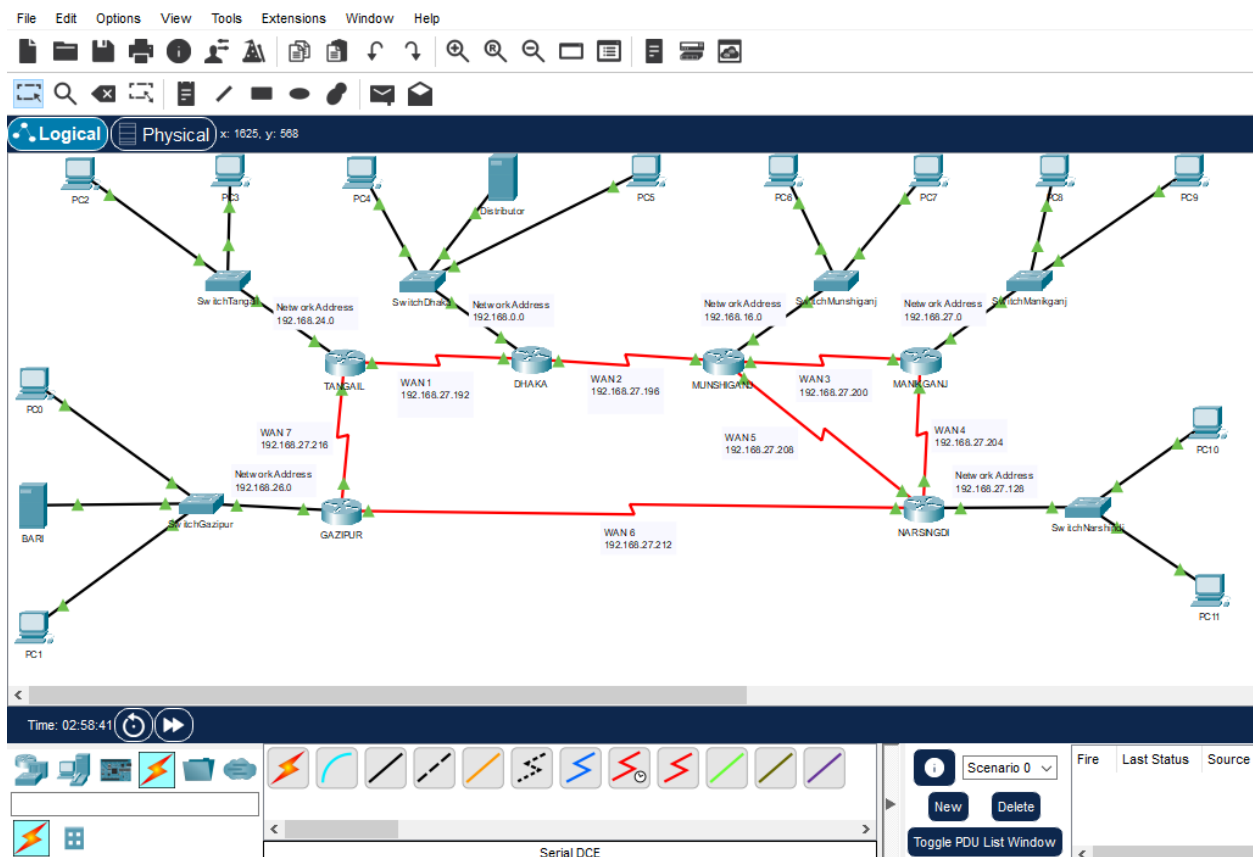
Floating Static Routing

ip route 192.168.16.0 255.255.248.0 192.168.27.209 **130** **(Munshiganj Lan)**
ip route 192.168.27.196 255.255.255.252 192.168.27.209 **130** **(WAN 2)**
ip route 192.168.0.0 255.255.240.0 192.168.27.209 **130** **(Dhaka Lan)**
ip route 192.168.27.192 255.255.255.252 192.168.27.209 **130** **(WAN 1)**
ip route 192.168.24.0 255.255.254.0 192.168.27.209 **130** **(Tangail Lan)**
ip route 192.168.27.216 255.255.255.252 192.168.27.209 **130** **(WAN 7)**
ip route 192.168.26.0 255.255.255.0 192.168.27.209 **130** **(Gazipur Lan)**

ip route 192.168.26.0 255.255.255.0 192.168.27.213 **122** **(Gazipur Lan)**

ASSUMPTIONS

1. Tangail and Gazipur have to communicate without human intervention. We configured this two network dynamically as in dynamic routing human don't need to access each router and configure static rule. All the router information will be dynamically configured.

2. We statically configured Munshiganj, Manikganj, and Narshindhi as the connection between them should be 100% secure.

3. Dhaka is working as a connector between these two groups and we configured it as dynamically redistributed.

Some Rough Notes: