Final-Term Assignment

Name: Mithun Chanda Shuvo

ID:19-39592-1

ST-UVWXY-Z

S=1,T=9,U=3,V=9,W=5,X=9,Y=2,Z=1

Subnet	IP requirement	IP Address is19-39592-1
P	YX	29
Q	XW	95
VLAN 10	YWV	259
VLAN 15	ZZS	111
VLAN which the Last Name Web server connected to	TX	99

The IP block is 1YX.UV.0.0/16

129.39.0.0/16

Subnet	Number of IP required	How many bits to borrow	Number of allocated IP	No. of host bit No. of net bit	Subnet Mask	Allocated IP range
VLAN 10	259	$2^9>259>2^8$	512	x=9,y=32-9=23	255.255.254.0	129.39.0.0-129.39.1.255/23
VLAN 15	111	$2^7>111>2^6$	128	x=7,y=32-7=25	255.255.255.128	129.39.2.0-129.39.2.127/25
VLAN which the Last name	99	$2^7>99>2^6$	128	x=7,y=32-7=25	255.255.255.128	129.39.2.128-129.39.2.255/25
Q	95	$2^7>95>2^6$	128	x=7,y=32-7=25	255.255.255.128	129.39.3.0-129.39.3.127/25
P	29	$2^5>29>2^4$	32	x=5,y=32-5=27	255.255.255.224	172.16.0.0-172.16.0.31/27
WAN1	12	$2^4>12>2^3$	16	x=4,y=32-4=28	255.255.255.240	129.39.3.128-129.39.3.143/28
WAN2	12	$2^4>12>2^3$	16	x=4,y=32-4=28	255.255.255.240	129.39.3.144-129.39.3.159/28

Configuration R1:

interface se0/0/0	Select interface
ip address 129.39.3.129 255.255.255.240	Set ip address and subnet mask
clock rate 64000	Plugged in DCE
no shutdown	change the state of connection from down to up

Configuration R2:

interface se0/0/0	Select interface
ip address 129.39.3.130 255.255.255.240	Set ip address and subnet mask
no shutdown	change the state of connection from down to up
interface fa0/0	Select interface
ip address 172.16.0.30 255.255.255.224	Set ip address and subnet mask
no shutdown	change the state of connection from down to up
interface se0/0/1	Select interface
ip address 129.39.3.145 255.255.255.240	Set ip address and subnet mask
clock rate 64000	Plugged in DCE
no shutdown	change the state of connection from down to up

Configuration R3:

interfacefa/0	Select interface
ip address 129.39.3.126 255.255.255.128	Set ip address and subnet mask
no shutdown	change the state of connection from down to up
interface se0/0/0	Select interface
ip address 129.39.3.146 255.255.255.240	Set ip address and subnet mask
no shutdown	change the state of connection from down to up

Routing R1:

router eigrp 20	eigrp routing protocol
network 129.39.2.0 255.255.255.128	
network 129.39.0.0 255.255.254.0	set network ip and subnet mask
network 129.39.3.128 255.255.255.240	
network 129.39.2.128 255.255.255.128	
no auto-summary	

Routing R2:

router eigrp 20	eigrp routing protocol
network 129.39.3.128 255.255.255.240	
network 172.16.0.0 255.255.255.224	set network ip and subnet mask
network 129.39.3.144 255.255.255.240	
no auto-summary	

Routing R3:

router eigrp 20	eigrp routing protocol
network 129.39.3.144 255.255.255.240	
network 129.39.3.0 255.255.255.128	set network ip and subnet mask
no auto-summary	

VLAN:

SW0:

vlan 10	Create vlan
name mithun	Set vlan name
vlan 15	Create vlan
name chanda	Set vlan name
interface fa0/3	
switchport access vlan 10	
switchport mode access	
interface fa0/4	
switchport access vlan 10	
switchport mode access	Add interface for vlan
interface fa0/5	
switchport access vlan 15	
switchport mode access	
interface fa0/6	
switchport access vlan 15	
switchport mode access	
interface fa0/2	Switch to switch use trunk
switchport mode trunk	

SW1:

vlan 10	Create vlan
name mithun	Set vlan name
vlan 15	Create vlan
name chanda	Set vlan name
interface fa0/1	
switchport mode trunk	
interface fa0/2	Switch to switch use trunk
switchport mode trunk	

SW2:

vlan 10	Create vlan
name mithun	Set vlan name
vlan 15	Create vlan
name chanda	Set vlan name
interface fa0/1	
switchport mode trunk	Switch to switch use trunk
interface fa0/2	
switchport access vlan 15	
switchport mode access	Add interface for vlan
interface fa0/3	
switchport access vlan 15	
switchport mode access	

ROAS:

ROUTER1:

interface fa0/0.10	Make sub interface
encapsulation dot1Q 10	(protocol dot1q) Which vlan
ip address 129.39.1.254 255.255.254.0	Ip address (default gateway) and subnet mask
interface fa0/0.15	Make sub interface
encapsulation dot1Q 15	(protocol dot1q) Which vlan
ip address 129.39.2.126 255.255.255.128	Ip address (default gateway) and subnet mask
interface fa0/0.1	Make sub interface
encapsulation dot1Q 1	(protocol dot1q) Which vlan
ip address 129.39.2.254 255.255.255.128	Ip address (default gateway) and subnet mask

NAT:
**ROUTER2:**

|	
ip nat pool Mithun 129.39.3.147 129.39.3.156 netmask 255.255.255.240	take a public ip which didn't use and this is free ip, then subnet mask
access-list 1 permit 172.16.0.0 0.0.0.31	ip address and wildcard mask
interface fa0/0 ip nat inside	which interface inside
interface se0/0/1 ip nat outside	which interface outside
ip nat inside source list 1 pool Mithun	

DHCP:
In my id x=9 that's odd so I take Router2 for doing DHCP and y=2 which is for vlan 10

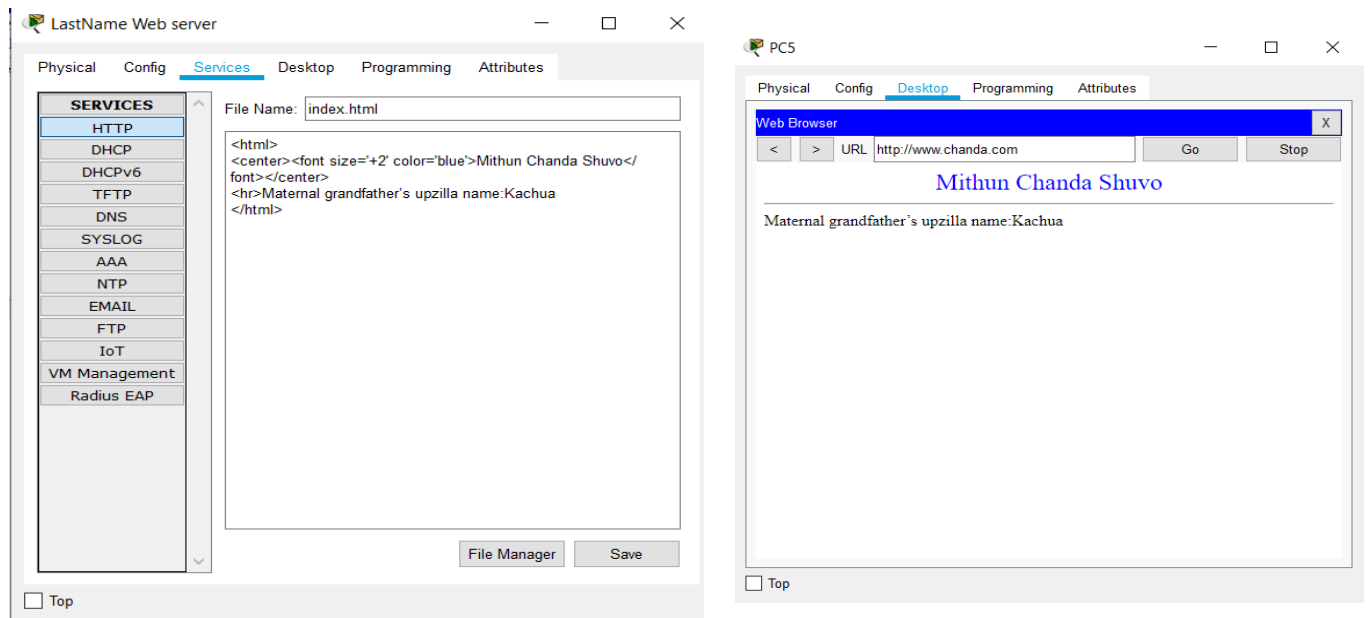|	
In Router2: ip dhcp pool mithun network 129.39.0.0 255.255.254.0 default-router 129.39.1.254 dns-server 129.39.3.2 **In Router1:(Ip helper)** interface fa0/0.10 ip helper-address 129.39.3.130	Make dhcp Network Ip and subnet mask Default gateway Add dns server
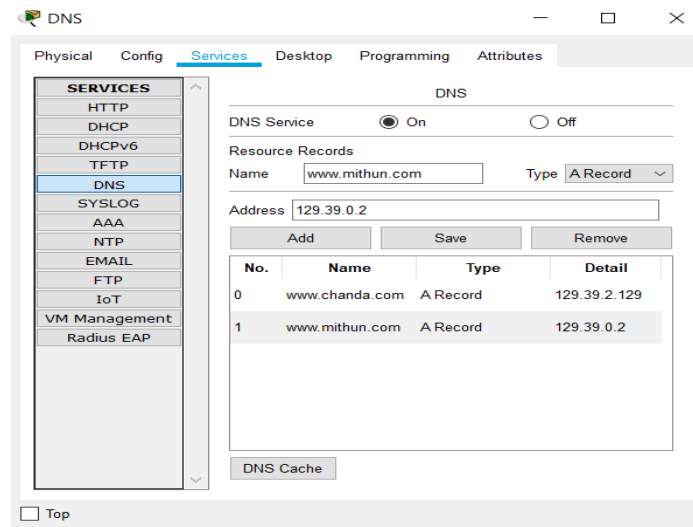
Web Server:

First web server
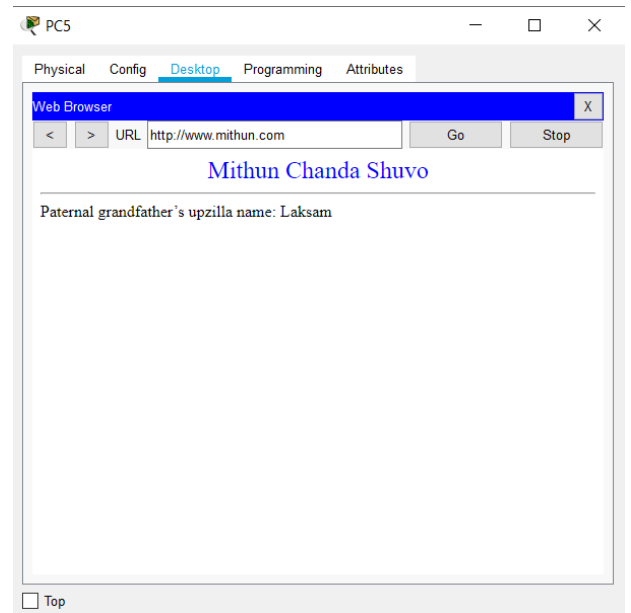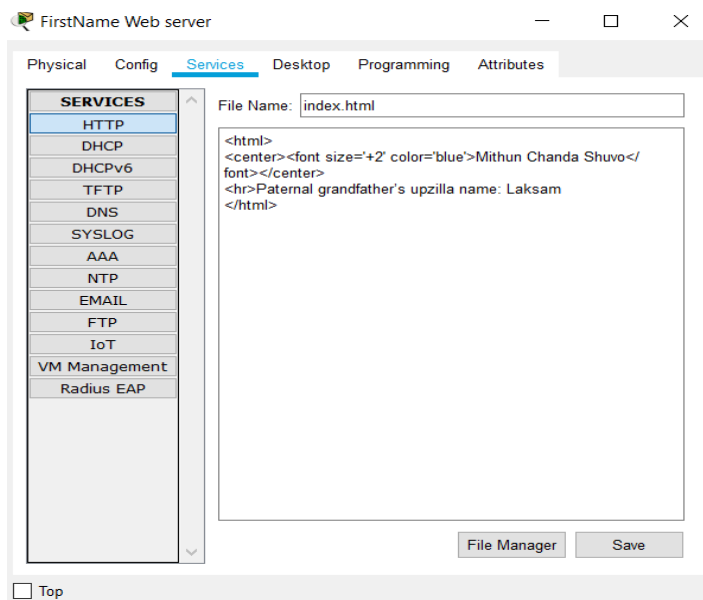
Second Web server

VTP:

In my id z=1,

 Z-1=1-1=0,

So Switch0 my server and others 2 switch client(Switch1,Switch2)

Switch1:

vtp mode server vtp domain aiub vtp password 123	Make switch0 server, only server can assigned new vlan

Switch2:

vtp mode client vtp domain aiub vtp password 123	Make switch1 Client, switch 1 can't add new vlan

Switch3:

vtp mode client vtp domain aiub vtp password 123	Make switch2 Client, switch 1 can't add new vlan