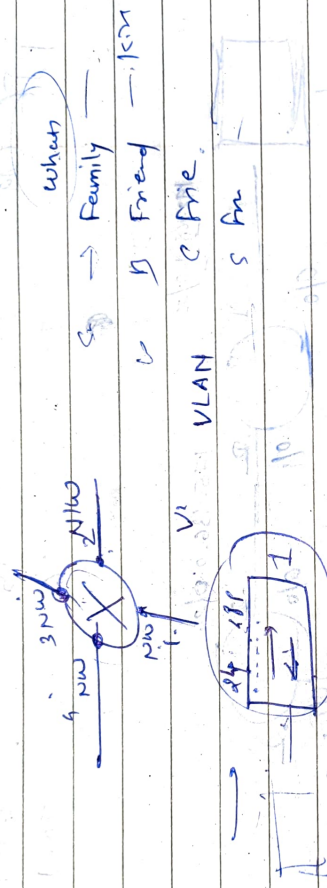


Banking N/w.

VLAN →

Router routes b/w the Networks
Switch Switches within subnet-



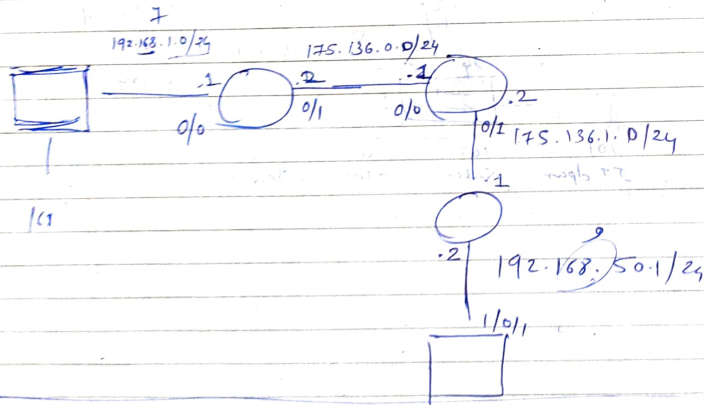
101	IT dept	102	Sales	103	ATM	104	Trn.
-----	---------	-----	-------	-----	-----	-----	------

15.03.2019

... of ... of ...

Gi 1/0/1	VLAN 10	192.168.10.1
2	11	20.1
3	12	30.1
4	13	40.1
5	14	50.1
6	15	60.1
7	16	70.1

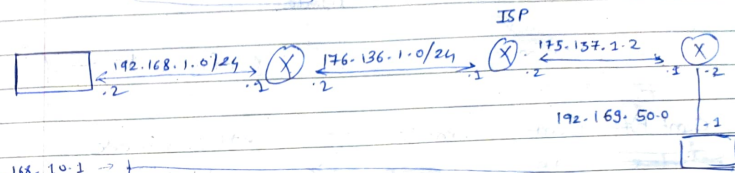
RIP Cla



- ① sh ip int brief To check ip address
- ② sh run To check configuration
- ③ sh vlan Vlan

254

192.168.10.0/24



192.168.10.1
20.1
30.1
40.1
50.1
60.1
70.1

ip range is 0 255 usable 1 254
we can use 254 ip, first ip is used for network address and last ip is called broadcast
we have used rip protocol for routing
rip is routing protocol.
Routing

Show ip interface brief

Vlan configured on L3 device is called SVI (Switch virtual interface) for LAN

Different VLAN need to communicate, have to use "inter-vlan routing" hence we create SVI on L3 switch

Network

To minimize NW utilisation we create VLAN

L3 switch can perform switching & Routing

Switching is faster than routing

L3 device has many mode

> User mode

Configure terminal

privileged mode

(Conf) # Configure mode → interface mode

~~interface # interface mode~~ → router mode

router rip (eg. OSPF, ISIS, EIGRP, IGRP)

rip v2 → config terminal → rip - v2

net, need to advertise

* 6x3 PC for 6 Banking Department

* 6 & 2-2 switches per dept.
(2960-24TT)

* 2 Multilayer switches (3650-24PS)
(L3)

* 3 Routers including Bank router
ISP Router & Head Quarter Router.

- The 6 Bank Dept are given
Separate / diff VLAN (Virtual
Local Area N/w)

VLAN (n/w devices are logically
connected regardless of their
physical location) to separate
Reason? n/w broadcast

- Improved Security
- Traffic management
- Make a n/w simpler.

- VLAN are assigned to ports.

- All the End devices IP are
assigned dynamically using a
DHCP Server → lease

↓
reason it doesn't
run out of
ip address.

* why first Packet / Ping fails.
→ ARP (Address Resolution Protocol)

↓
want to know L2/MAC
It ask for MAC address &
once receives it it works.

C> do debug arp

VLAN → conf t
vlan 100
Name xyz
end.

↓
conf t
interface vlan 100
ip add xx.yy.zz subnet

- * DHCP
- * VLAN
- * RIP V2
- * Multilayer Switch
- * Home Router + Smartphone
- * Access list control

* Tier 2 Topology

↓
Access & core

↓

10000 L2, PC L3 & router

↓

Mobile

(PAT)

192.168.0.0/16

NAT
10 IP

192.168.10.0/28 → 14

192.168.12.0/28

Port

(11)

Source

Port 2

1.1.1.1

Inside

Public

3.3.3.3

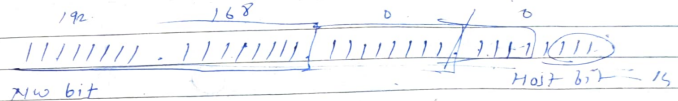
3.3.3.3

4.4.4.4

AT.1.1.1

12

13



192.168.10.0/24 → 254
/28

0
31
0
16
15

NAT/PAT

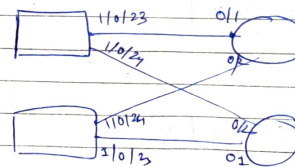
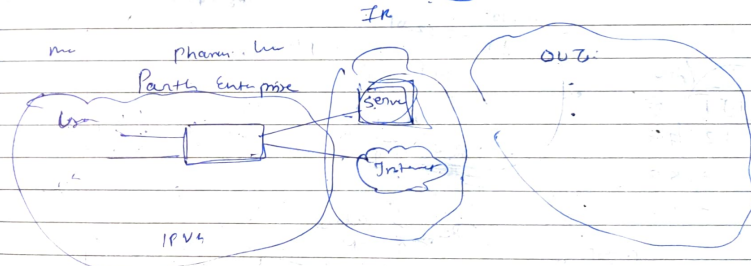
ACL

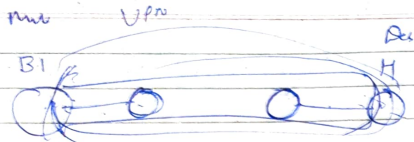
Routing

S-T-VPN

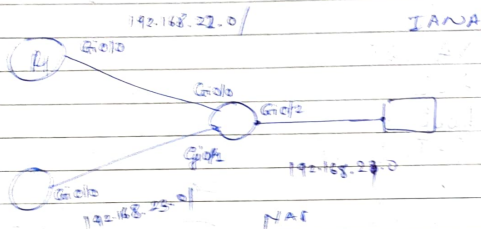
Public 2

man

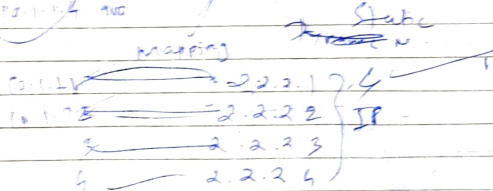
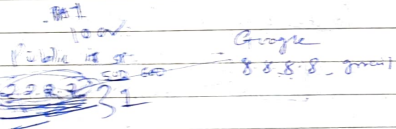




Virtual private net over public network



IP	Subnet
10.1.1.1	5000
10.1.1.2	200
10.1.1.3	800
10.1.1.4	400



2.2.2.0/3

Vaishnavi Pasupati

access-list 110 permit ip 192.168.10.0 255.255.255.0
192.168.21.0 255.255.255.0

Crypto isakmp policy 10
encr aes
authentication pre-share
group 2
exit

V-NK

Crypto isakmp key ps123 address {destination ip}

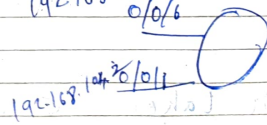
Crypto ipsec transform-set VPN-SET esp-3des esp-sha-hmac

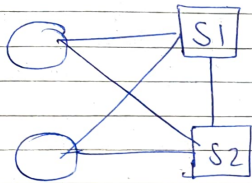
Crypto map VPN-MAP 10 ipsec-isakmp
set peer <dest-public-ip>
set transform-set VPN-SET
match address 110

int s0/0

Crypto map VPN-MAP

192.168.10.2
0/0/0





write memory
↓
Build conf

128 192 224

S1 → en.
conf t
interface Gigabit Ethernet 1/0/1
shut.

↓
1/0/2.

127
191

127
191

192
127

127
191

Site-to-Site VPN

[Between Gateway Router & HQ Router]

→ sh ip int b

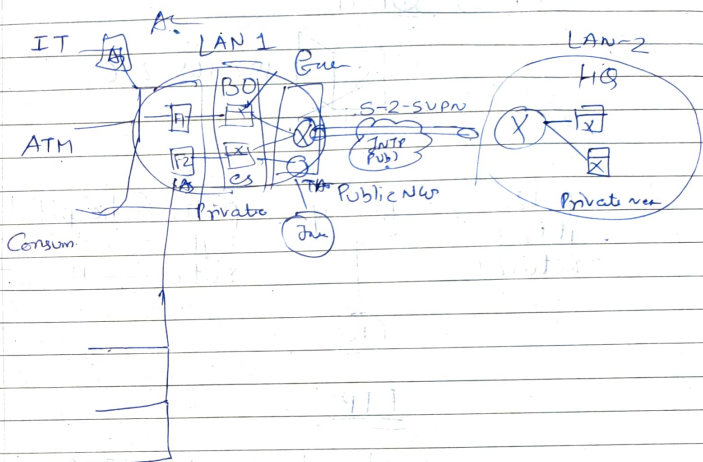
★ why not RIP v2 → Redundancy

↓
RIP takes default subnet mask

A	18
B	116
C	124
D	
E	
F	

→ It takes 0.192.168.10.0

↗



- DHCP
- Server farm
- Redundancy
- Server - static ip
- OSPF routing protocol - Dynamic routing
- S-2-S VPN → static routing
- Subnetting
- VLAN
- Diff Dept
- ACL on IT/ATM/Cons Banking for S-2-S VPN
- SMTP
- FTP
- int crypto ipsec sa

(HMS) SMTP



192.168.2.6.

ps123
it123
80tu123



US8
parth@hospital.com
it ———
80tu ———

FTP



192.168.2.6



IT.

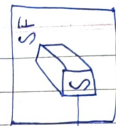
CP → ping 192.168.2.6

→ ftp 192.168.2.6

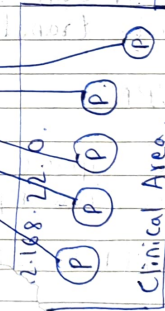
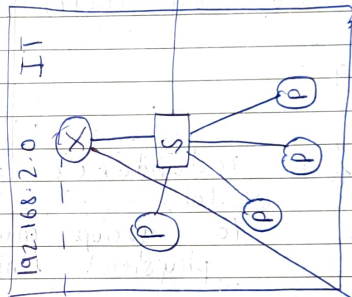
→ dir

→ put name of file.txt

know
the
working



HTTP
DNS
SMTP
FTP
DB.



192.168.44.0
192.168.54.0

2nd Pass H
ital N/w Design

→ interface gigabiteth
shut.

post-channel
ether
channel

- SMTP
 - FTP
 - DNS
 - HTTP
 - Edge module - Gateway router.
 - Redundancy
 - Multi-switching
 - Subnetting
 - VLAN.
 - Port-channel for redundancy in multi-layer switch.
- called as Ether channel 1. to group multiple physical links.
- ↓
technology

* PAT Config devices on LAN mapper to single IP add to conserve
→ sh ip nat translation IP add

* D-2-D VPN.

→ sh crypto ipsec sa
sh crypto isakmp sa

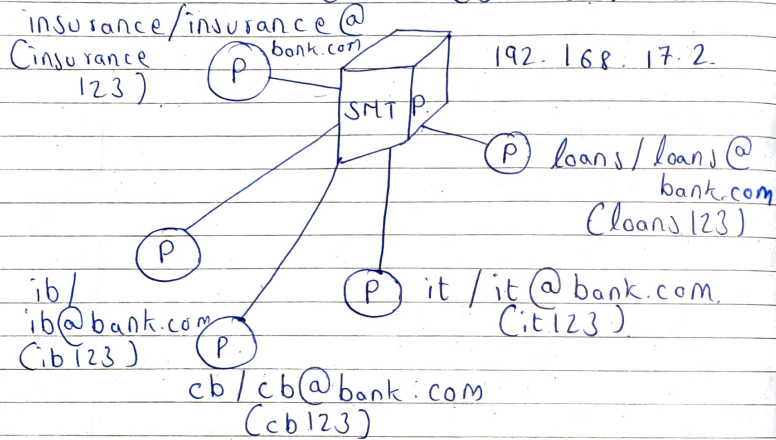
* DNS + HTTP + SMTP + FTP.

* Redundancy *no off file. xl.*
→ interface giga
shut.

know the working

→ interface gigabitEthernet 1/0/1
1/0/2.
shut.

SMTP (Bank) / FTP.



C > ping 192.168.17.2
 ftp 192.168.17.2.
 dir
 put name of file.txt.

9 → know the commands.

