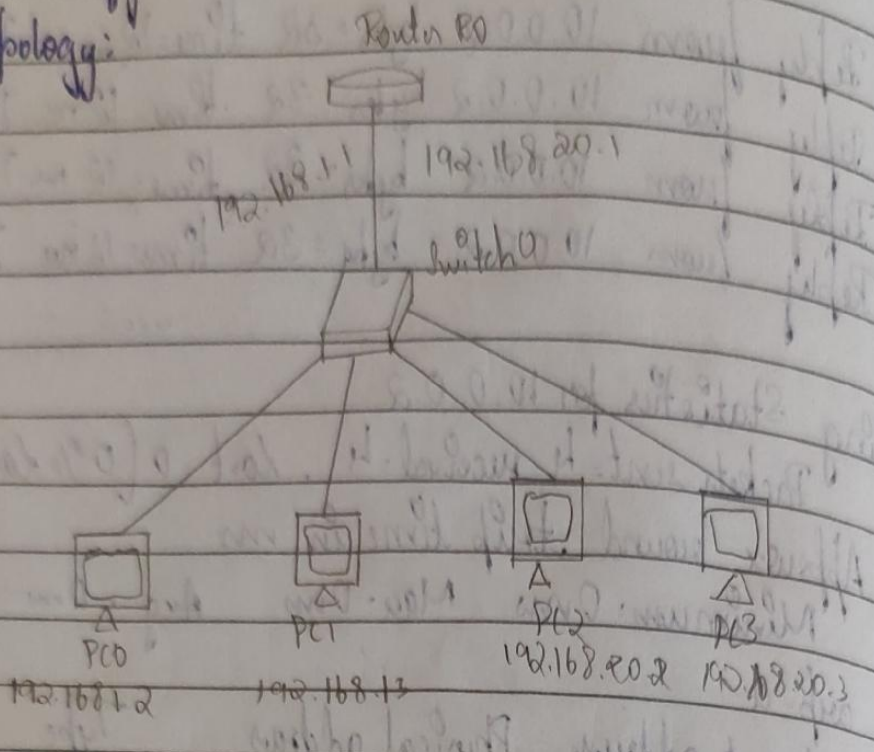
Lab-8

1) To configure VLAN database

Topology:



Procedure: 1) Connect 4 PC's with a switch and also connect a router (1841) (2960)

2) Ensure PC0 & PC1 are set as 192.168.1.2 and 192.168.1.3 and are placed towards the left side end of the switch and the router IP is set as 192.168.1.1

3) The PC2 & PC3 IP's are set as 192.168.20.2 and 192.168.20.3 and are placed at the right-most end of switch.

4) Sled switch and go to Config tab and select a VLAN database

5) Enter the new VLAN number as 303 and name as LRVLAN and add it to the database

6) Sled the interface nearer to the fastEthernet i.e 4/0 and select trunk.

7) Now add the new VLAN database to the trunk option

8) Go to router and select the VLAN database and enter the same VLAN No and the VLAN name.

9) Now go to CLI of router.
and enter the following
-> Router (VLAN) # exit
-> Router # config t
-> Router (config) # interface fa 0/0.1
-> Router (config-subif) #
-> Router (config-subif) # encapsulation dot1q 30
-> Router (config-subif) # ip address 192.168.20.1 255.255.255.0
-> Router (config-subif) # no shut
-> Router (config-subif) # exit

10) Ensure all the databases are selected. Then Ping from PC0 to PC3.

Output:

PC>ping 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

Request timed out

Reply from 192.168.20.2 bytes=32 time=0 TTL=127

Reply from 192.168.20.2 bytes=32 time=3 TTL=127

Reply from 192.168.20.2 bytes=32 time=0 TTL=127

10/10

1/9/23

Ping statistics for 192.168.20.2

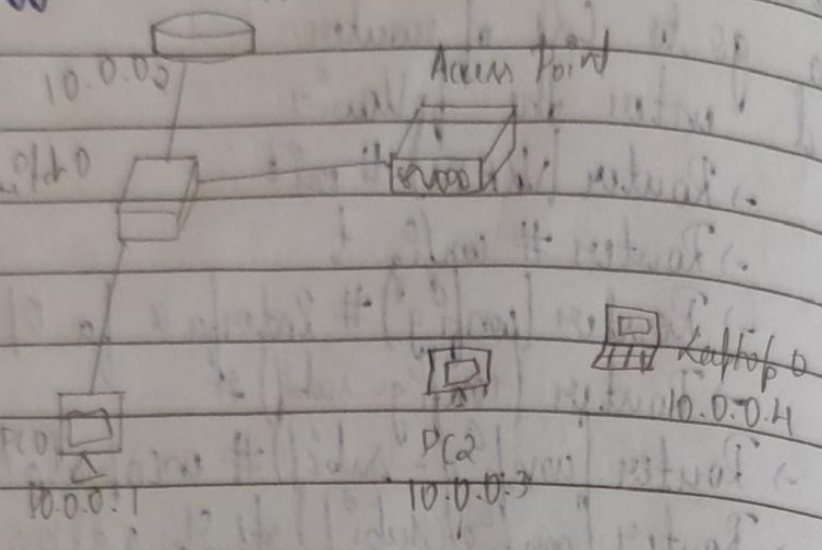
Packets sent: 4, received = 3 Lost = 1 (25% loss)

Approx. round trip in ms

Minimum = 0ms Max = 3ms Avg = 1ms

2) To construct a WLAN through wireless communication

1) Topology:



Procedure: 1) Select a PC0 an set the IP address as 10.0.0.2 and connect it to a switch.

2) Select the router and connect to the switch by setting an IP address of 10.0.0.1

3) Select a Access Point and connect to the switch

4) Go to Port1 in access point and change the SSID name to NEWLAN and the 10 digit hex key to 9074130303

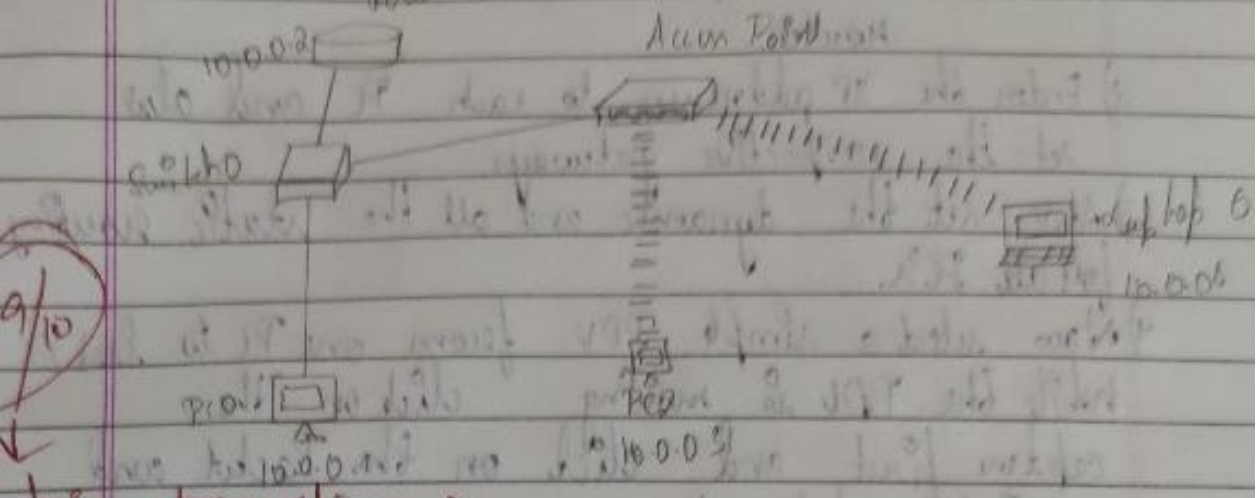
5) Now select a PC1 and a Laptop for wireless communication

6) Click on Laptop and switch off the device. Drag the existing existing Port host to the component list and add the wireless interface.

7) Now in config, we can find a wireless interface select SSID name and select WEP & enter the same hex key.

8) Repeat the same for PC also and we can check that it is communicating.

Final topology.



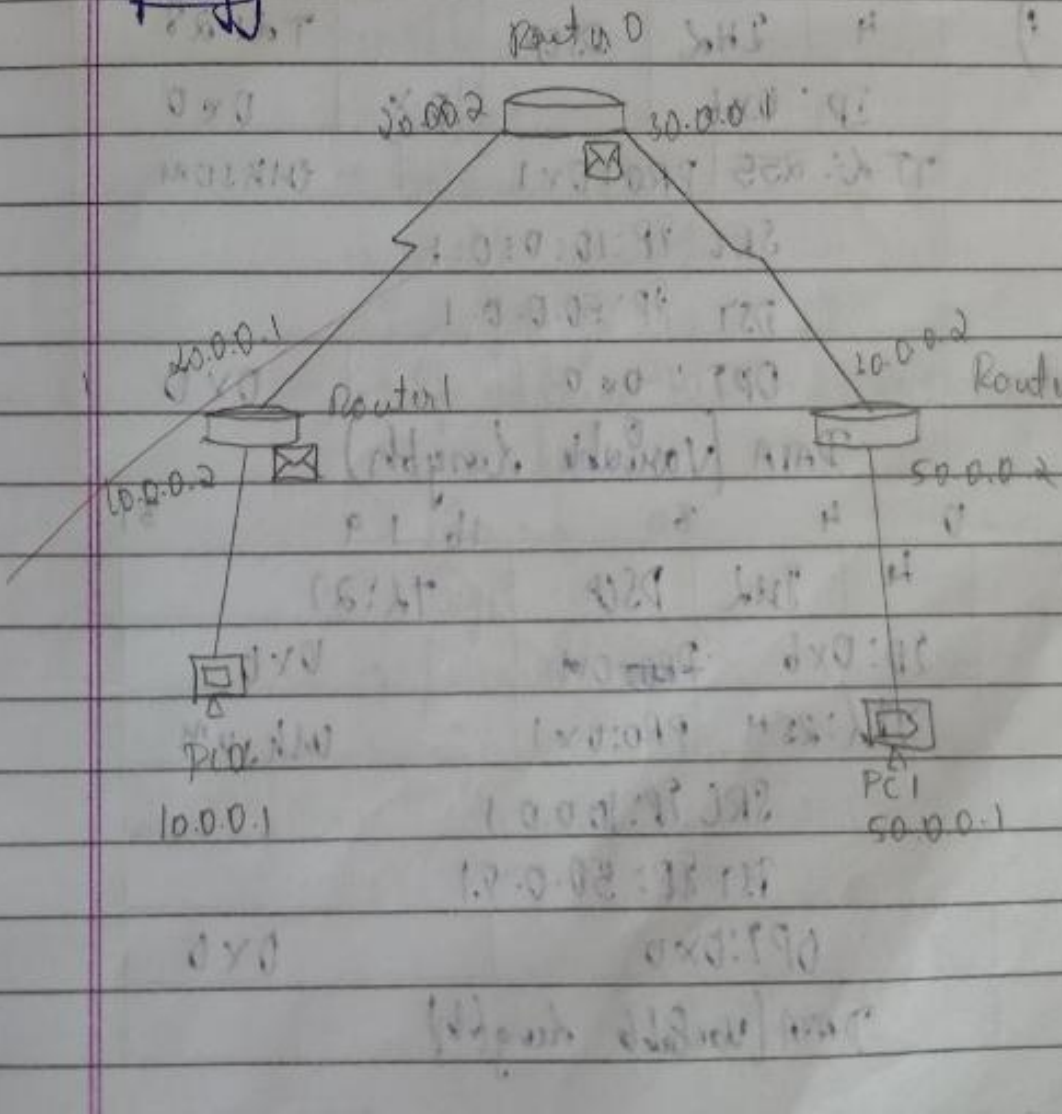
9/10

N

1/9/23 observation :

3) Demonstration of TTL

Topology :



Procedure: Select 2 PC's and connect them to different routers. Connect the two routers to another router.

2) Enter the IP addresses to each PC and also set the respective gateways.

3) Also set the dynamic and all the static routing for all PC's.

4) Now select a simple PDU from one PC to last PC while the PDU is moving click on the capture first and click on the Packet and a window pops up.

5) Between every router there will be a time difference of 1 in TTL

Output: IP:

1)

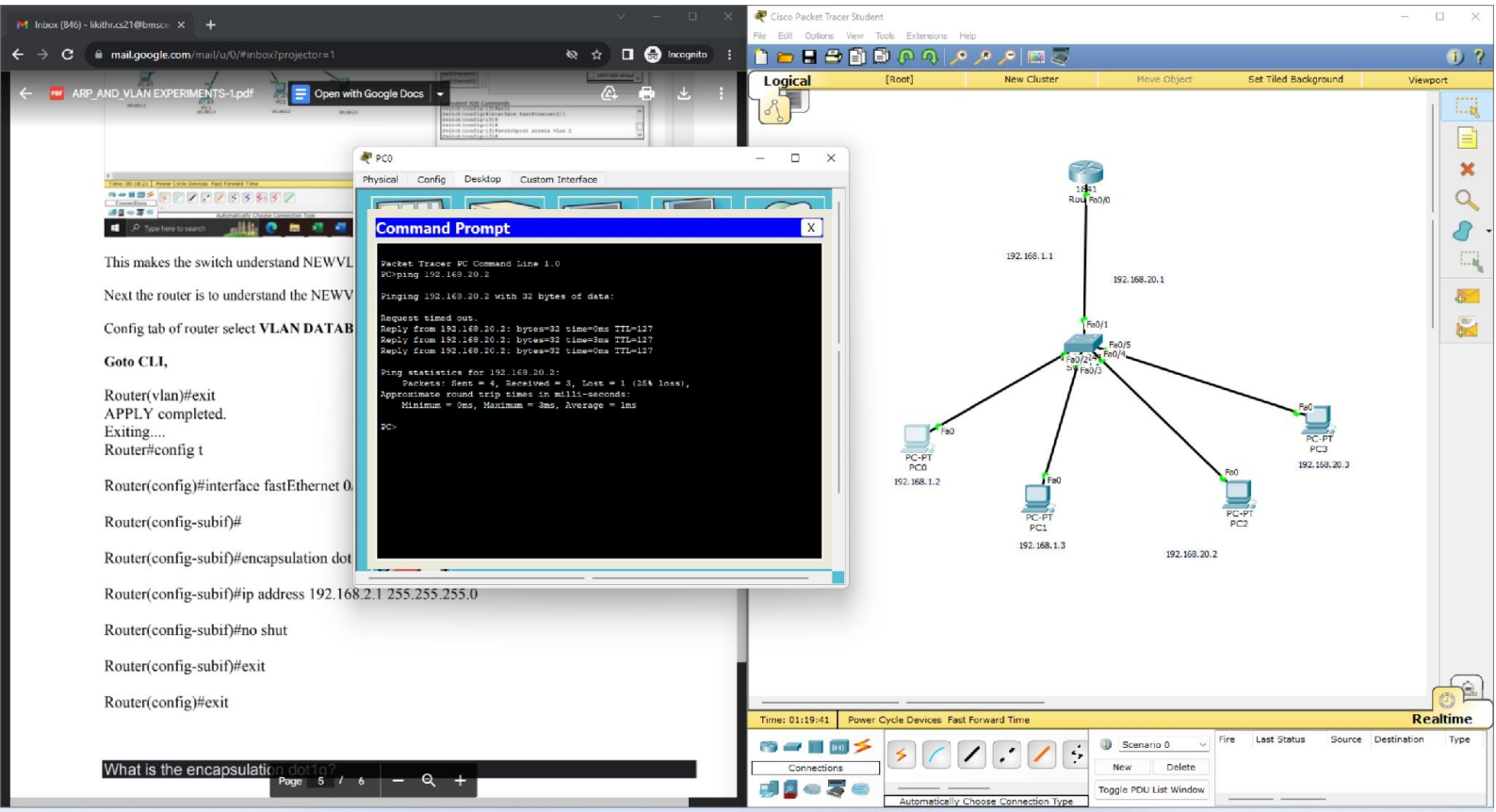
0	4	8	16	19	31
4	IHL	DSCP		TL: 28	
IP: 0x6			0x	0x0	
TTL: 255	PRO: 0x1		CHKSUM		
SRC IP: 10.0.0.1					
DST IP: 50.0.0.1					
OPT: 0x0				0x0	
DATA (Variable length)					

10/10

19/23

2)

0	4	8	16	19	31
4	IHL	DSCP	TL: 28		
IP: 0x6	PRO: 0x1		0x0		
TTL: 254	PRO: 0x1		CHKSUM		
SRC IP: 10.0.0.1					
DST IP: 50.0.0.1					
OPT: 0x0				0x0	
DATA (Variable length)					


Inbox (846) - likithr.cs21@bmsce
mail.google.com/mail/u/0/#inbox?projector=1
Incognito
ARP_AND_VLAN EXPERIMENTS-1.pdf
Open with Google Docs
This makes the switch understand NEWVL
Next the router is to understand the NEWV
Config tab of router select VLAN DATAB
Goto CLI,
Router(vlan)#exit
APPLY completed.
Exiting....
Router#config t
Router(config)#interface fastEthernet 0.
Router(config-subif)#
Router(config-subif)#encapsulation dot
Router(config-subif)#ip address 192.168.2.1 255.255.255.0
Router(config-subif)#no shut
Router(config-subif)#exit
Router(config)#exit
What is the encapsulation dot1q?
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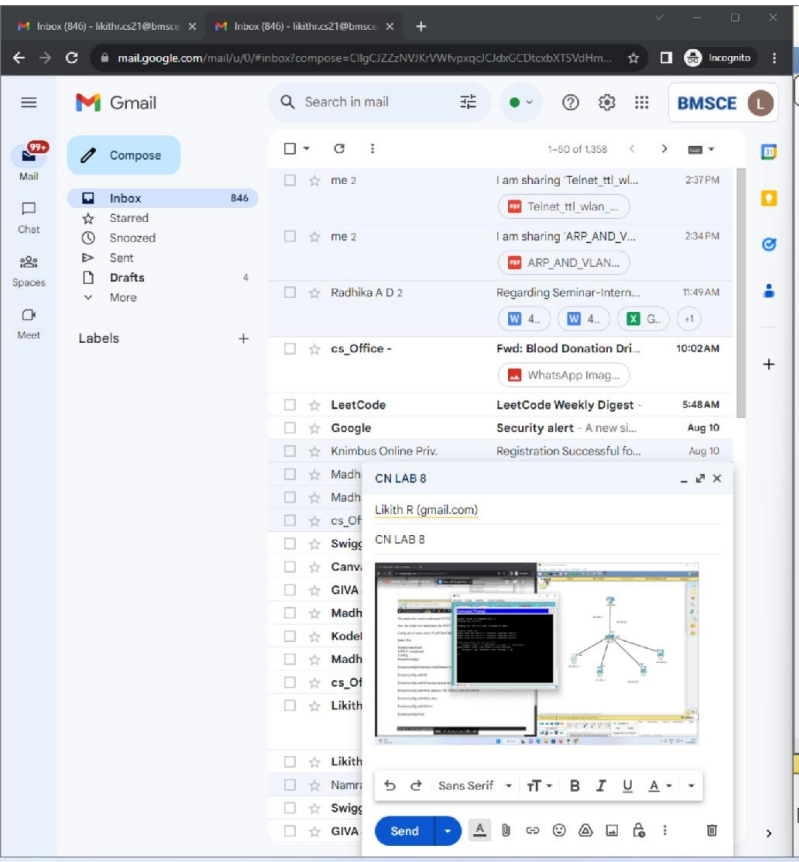
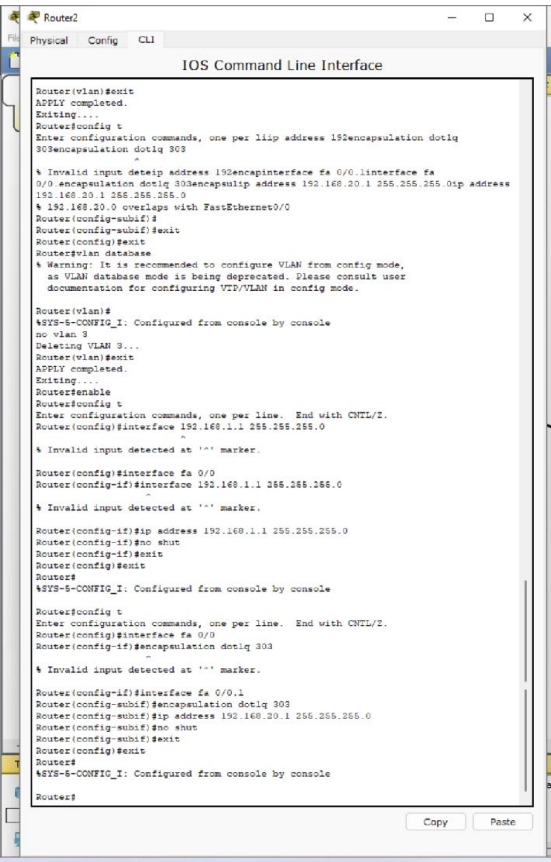
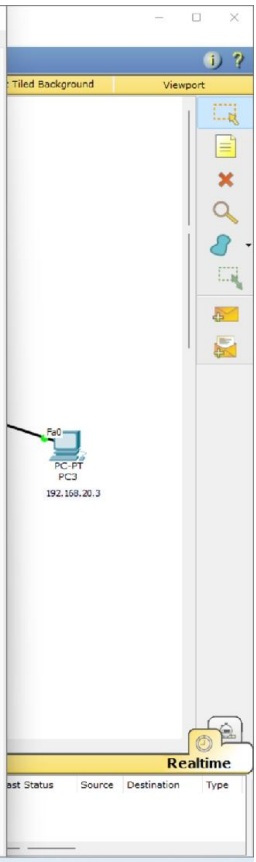
PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 192.168.20.2
Pinging 192.168.20.2 with 32 bytes of data:
Request timed out.
Reply from 192.168.20.2: bytes=32 time=0ms TTL=127
Reply from 192.168.20.2: bytes=32 time=3ms TTL=127
Reply from 192.168.20.2: bytes=32 time=0ms TTL=127
Ping statistics for 192.168.20.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 3ms, Average = 1ms
PC>
Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
192.168.1.1
192.168.20.1
Fa0/1
Fa0/5
Fa0/4
Fa0/2
Fa0/3
Fa0
PC-PT PC0
192.168.1.2
PC-PT PC1
192.168.1.3
PC-PT PC2
192.168.20.2
PC-PT PC3
192.168.20.3
Time: 01:19:41
Power Cycle Devices Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
30°C
Light rain
Search
ENG
IN
15:22
11-08-2023


Inbox (846) - likithr.cs21@bmsce
mail.google.com/mail/u/0/#inbox?compose=CllgCJZZzNVJKrVWfvpxqcJCJdxGCDtcxbXT5VdHm...
Incognito
Gmail
Search in mail
BMSCE
Compose
Inbox 846
Starred
Snoozed
Sent
Drafts 4
More
Labels
1–50 of 1,358
me 2
I am sharing 'Telnet_ttl_wl... 2:37 PM
Telnet_ttl_wlan_...
me 2
I am sharing 'ARP_AND_V... 2:34 PM
ARP_AND_VLAN...
Radhika A D 2
Regarding Seminar-Intern... 11:49 AM
cs_Office -
Fwd: Blood Donation Dri... 10:02 AM
WhatsApp Imag...
LeetCode
LeetCode Weekly Digest 5:48 AM
Google
Security alert - A new si... Aug 10
Knimbus Online Priv.
Registration Successful fo... Aug 10
CN LAB 8
Likith R (gmail.com)
CN LAB 8
Sans Serif
Send


Router2
Physical
Config
CLI
IOS Command Line Interface
Router(vlan)#exit
APPLY completed.
Exiting....
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface 192.168.1.1 255.255.255.0
% Invalid input detected at '^' marker.
Router(config)#interface fa 0/0
Router(config-if)#interface 192.168.1.1 255.255.255.0
% Invalid input detected at '^' marker.
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fa 0/0
Router(config-if)#encapsulation dotlq 303
% Invalid input detected at '^' marker.
Router(config-if)#interface fa 0/0.1
Router(config-subif)#encapsulation dotlq 303
Router(config-subif)#ip address 192.168.20.1 255.255.255.0
Router(config-subif)#no shut
Router(config-subif)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#
Copy
Paste


Tiled Background
Viewport
Fa0
PC-PT
PC3
192.168.20.3
Realtime
Source
Destination
Type


30°C
Light rain
Search
ENG
IN
15:27
11-08-2023