30/09/24

AIM:

Implementation of SUBNETTINGS in CISCO

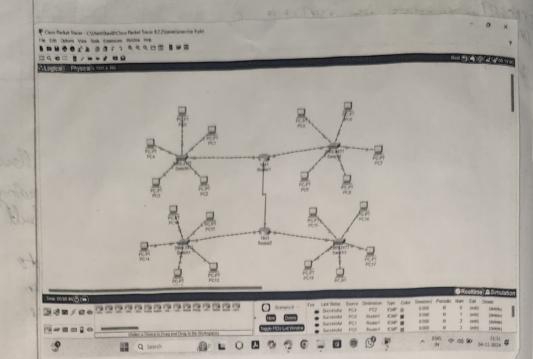
PACKET TRACER SIMULATOR.

Massless IP Subnetting is a technique that allows for more efficient use of IP address ley allowing for subnet masks that are not just the default masks for each IP class. This mean that Not can avoide over IP adders sporte vito smaller subnets, which can be useful when nel have a limited number of Ip oddress but need to count multiple networks.

CREATING ANETWORK TOPOLOGY:-The first step is implementing classes IP subnetting is to create a network topology in Parket Teracer: To cereate a network taydayy in Packet Triquer, select the New leutton in Top left corner then select "Network" and "ouneou". This neill ceceate a blank network Appology that we can wel to add durices.

ADDING THE DEVICES: once we have remarked over notwork topology wel can add devices to of Here, were will be adding Monters, neither, PC's. To add a duice, select the device from the leaston left country and duag it anto network Topology. Then connect the device lay devaging a cable from one device's pout to another device's pout of the service to the house

o Re 16-20: 192 168-4-11- 192-168-4-15



The IP addressings for network shown

- · Router RI
- · bugabit ethunet 0/0: 192.168.1.1
 - · brigabit ethernet 0/1:192.168.2.1

 - · Bustin S1: · Faster Ethornet 0/1: 192.168.1.0/27
 - · PC 1-5 = 192.168.1.1 192.168.1.5
 - Fast tethernet 012: 192-168.2.0127
 - · PC 6-10:192.168.2.1-192-168.2.5
- · Fast Ethernet 010: 192-166-3.
 - Fast Exheret 011:192-168-4:1
 - · Sugitch 32:
 - . Fact Esherned 611:192.168.3.0127
 - PC 11-15: 192.168.3.11-192.168.3.15.
 - past Ethourit 0/2:192.168.4.0/27
 - · PC 16-20: 192. 168.4.11- 192.168.4.15

CONFIGURING THE DEVICES: configure the device using CII. This will open the rommand line interface ((11) for exouter. In the CLI, enter the following commands. # enable # Konfiguel Terminal # interface Fast Eshernet 0/0 # ip address & IP address & & subout mass & # no shutdown # exit interface FastEthornet 011 Ip addouss & 10 addouss & & subnet mask } no shutdown Next wel weill configure the switch. Right alok on switch and beleet "CLI" in the CLI, enter the following commands: I would seem your wheetherding enable configure teaminal interface Fast Ethernet 0/1

Interface Fast Ethernet 0/1 surrichport mode accus Enhance securety norther mi+ interface Fast Ethornet 0/2 enit

To configure the brigabit Ethernet interface on the nouter, you can fallow these steps. 1. Eight which on the Monder and Select "CLI; 2. Enter the following commands. Inable configure turniral interfale largabit Exthernet 010 Ep address & 1P address & & Sulenet made no shut down enit

If the ping is successful. Ales the network he LESTING THE NETWORKS functioning perspectly. Wel can also use the "ping" command Ap test connects pity lecturees the nouter and the PC's. # crabb

Fire	Last Status Successful	PC4 PC0 PC1	Destination PC2 Router1 Router1 Router1	Type Color ICMP III ICMP III ICMP III	Time(sec) 0.000 0.000	N	Num 0 1	Edit (edit) (edit) (edit)	Delete (delete) (delete) (delete)
	Successful Successful Successful				111	0.000	N	3	(edit)

as salvey to predeferment alo

A delan ne shutdown

News next neith danfayore the secontch. Eleptot Med on Eurited and belot "011" & the 011, when Student observations.

a wente down your understanding of Bulenetting. subnetting divordes a large network into Smaller subnetwoodke Coulonets to efficiently allocate IP adobuses, manage teraffic, and enhance security methin lack beginnent.

B) what is securely key in wheeler exortion?

JEfficient IP: Perevents IP waste by assign lange per subnet.

2 Enhanced security: Teolates segments to control.

3] Reduced Noreyeston: Limit bewadent tenffic

4 Easier Trouble shooting: simplifies identifying and ferling sissues by moverousing down metwork segments.

ne churt down

Pratical - 10a PACKET TRACER Kindledon. of perign and configures in sample salow suing a sauter. to the network o network 200 me used using copper whereoff therough calele tho found its motiver to that we were remacefreity a simple pao from PCO to PC Thus Emplomentation of subnetting in CISCO Packet Lesacer is insecuted.