

SUBNETTING CISCO PACKET TRACER

AIM:

Implementation of SUBNETTING in CISCO PACKET TRACER simulator

CREATING A NETWORK TOPOLOGY:

The first step is to create a network topology in Packet Tracer. This will create a blank network topology that we can use to add devices.

ADDING THE DEVICES:

We will be adding routers, switches, and PCs. To add a device, select the device from the bottom left corner & drag it onto the network topology.

Connect the devices by dragging a cable from one device's port to another device's port.

SUBNETTING:

To subnet the network address of 192.168.1/24 to provide enough space for at least 5 addresses for end devices, the switch & the router, we can use a /27 subnet mask.

The IP addressing of network in a topology can be:

→ Router R1

• GigabitEthernet : 192.168.1.1

→ Switch

• FastEthernet : 192.168.1.0/27

• PC1 : 192.168.1.11

• PC2 : 192.168.1.12

• PC3 : 192.168.1.13

CONFIGURING THE DEVICES:

Enter the Following commands:

enable

configure terminal

ip address {IP address} {Subnet mask}

exit

Replace {ip address} & {Subnet mask} with your desired IP address & subnet mask.

enable

configure terminal

interface FastEthernet0/1

SwitchPort mode access

exit

These configure the switch to operate in access mode on its two ports, which connect to the PC.

To configure GigabitEthernet interface on the router:

1) Right-click on router & select "CLI".

2) Enter the following commands:

enable

Configure terminal

GigabitEthernet 0/0

ip address {IP address} {Subnet mask}

no shutdown

exit

TESTING THE NETWORK:

Open command prompt on each PC & try to ping. If successful, the network is functioning properly.

RESULT:

Implementation of subnetting is successful