

Subnetting In Cisco Packet Tracker Simulator

AIM:

Implementation of Subnetting in Cisco Packet Tracker Simulator.

One could divide IP address space into small subnets, which can be useful when we have a limited no. of IP addresses but need to create multiple networks.

Creating a network Topology

Select 'New' button in the top left corner, Select 'Network' & 'Generic'. This will create a blank network topology that we can use to add devices.

Subnetting

To subnet the network address of 192.168.1.0 to provide enough space for atleast 5

addresses for end devices, the switch & the router.

Configuring the devices

Right click on router & select "CLI". This will open the command line interface for router. In the CLI,

```
#enable
#configure terminal
```

```
# interface fast ethernet 0/0
# no shutdown
# exit
interface fast Ethernet 0/1
# no shutdown
ip address {IP address} {Subnet mask}
exit
Replace "{IP address}" and "{Subnet mask}" with your desired IP address & subnet mask.
These commands configure the router's interfaces with IP addresses & Subnet masks.
In the CLI a good practice should enable configure terminal
interface Gigabit Ethernet 0/0
ip address {IP address} {Subnet mask}
no shutdown
exit.
Replace "{IP address}" and "{Subnet mask}" with your desired IP address & subnet mask.
```

Testing the network

Open a browser on each PC & try to ping other PC. If the ping is successful, then the network is functioning properly.

we use connectivity

Student

1. write down

Subnetting

IP network

each 8m

but 8f

network

2. Advanta

• efficien

• enhan

• bette

• Segm

Result :

we use "ping" command to test the connectivity between the nodes 2 PCs.

Student observation

1. Write down your understanding of subnetting. Subnetting is the technique of dividing a single IP network into multiple smaller networks. Each smaller network can function independently but still be part of the larger main network.
2. Advantages of implementing within a network?
 - efficient IP address utilization
 - enhanced security
 - better performance
 - Segmentation

Result: The subnetting was implemented successfully.

2/2
8/10