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IMPLEMENTATION OF SUBNETTING IN CISCO

PACKET TRACER SIMULATOR

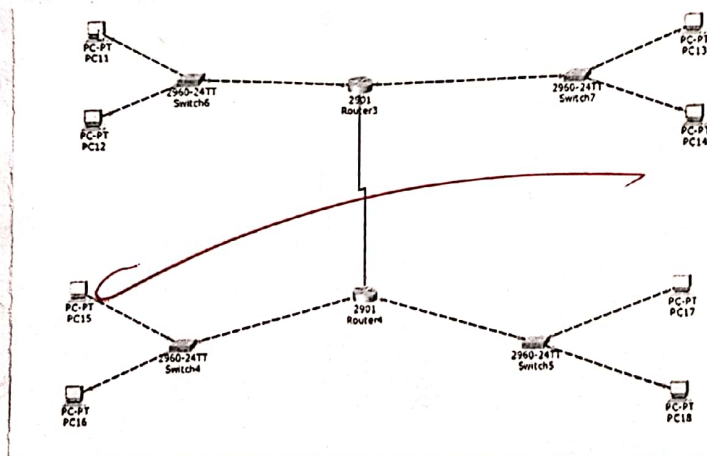
Classless IP subnetting is a technique that allows for more efficient use of IP addresses by allowing for subnet masks that are not just the default masks for each IP class.

Creating a Network Topology:

The first step in implementing classless IP subnetting is to create a network topology in Packet Tracer. To create a network topology in Packet Tracer, select the "New" button in the top left corner and then select "Network" and "Generic":

Subnetting:

To subnet the network address of 192.168.1.0/24 to provide enough space for atleast 5 addresses for end devices, the switch and the router, we can use a /27 subnet mask. This will give us 8 subnets with 30 host addresses each.



Configuring the devices:

After adding the devices and connected them. Right.
click on the router and select "cli".

```
#enable  
#config t  
#interface fastEthernet 0/0  
#ip address {IP address} {subnet mask}  
#no shutdown  
#exit
```

Replace "{IP address}" and "{subnet mask}" with
desired ip address and subnet mask.

Next, configure the switch. Select "cli" and
execute the following commands:

```
#enable  
#config t  
#interface fastEthernet 0/1  
#switchport mode access  
#exit
```

Now we will configure the PC's and select "config".
In the window, enter the ip, subnet mask etc.

To config the GigabitEthernet, follow the steps:

1. Right-click on the router, then "cli"
2. Enter the following commands

```
enable  
config t  
interface GigabitEthernet 0/0  
ip address {IP address} {subnet mask}  
no shutdown  
exit
```

Result:

Thus the implementation of ~~subnetting~~ is done
successfully.