Design and Implementation of a Simple Networking Project #1

Project #1 Case Study and Requirements

Design a network in Cisco Packet Tracer to connects ACCOUNTS and DELIVERY departments through the following:

- Each department should contain at least two PCs.
- Appropriate number of switches and routers should be used in the network.
- Using the given network 192.168.40.0, all interfaces should be configured with correct IP addresses, subnet mask and gateways.
- All devices in the network should be connected using appropriate cables.
- Test communication between devices in both ACCOUNTS and DELIVERY departments.

Technologies Implemented

1. Creating a Simple Network using a Router and Access Layer Switch.
2. Connecting Networking devices with Correct cabling.
3. Connecting two Networks using a Router.
4. Subnetting and IP Addressing.
5. Assigning IP Addresses to Router's interfaces.
6. Static IP Address allocation to Host Devices.
7. Test and Verifying Network Communication.

Network Topology Created

The network topology below satisfies the user requirements above and everything is verified, tested and working fine. You can get the source file (Packet Tracer File) or watch on YouTube below.

SOLUTION

NETWORK= 192.168.40.0
No. of subnets = 2^n
2^n=2
n=1
1 bit is borrowed
11111111.11111111.111111111.10000000
255.255.255.128 -SUBNET MASK

1ST SUBNET MASK

192.168.40.1-192.168.40.126

NETWORK ID =**192.168.40.0**

Broadcast ID = 192.168.40.127

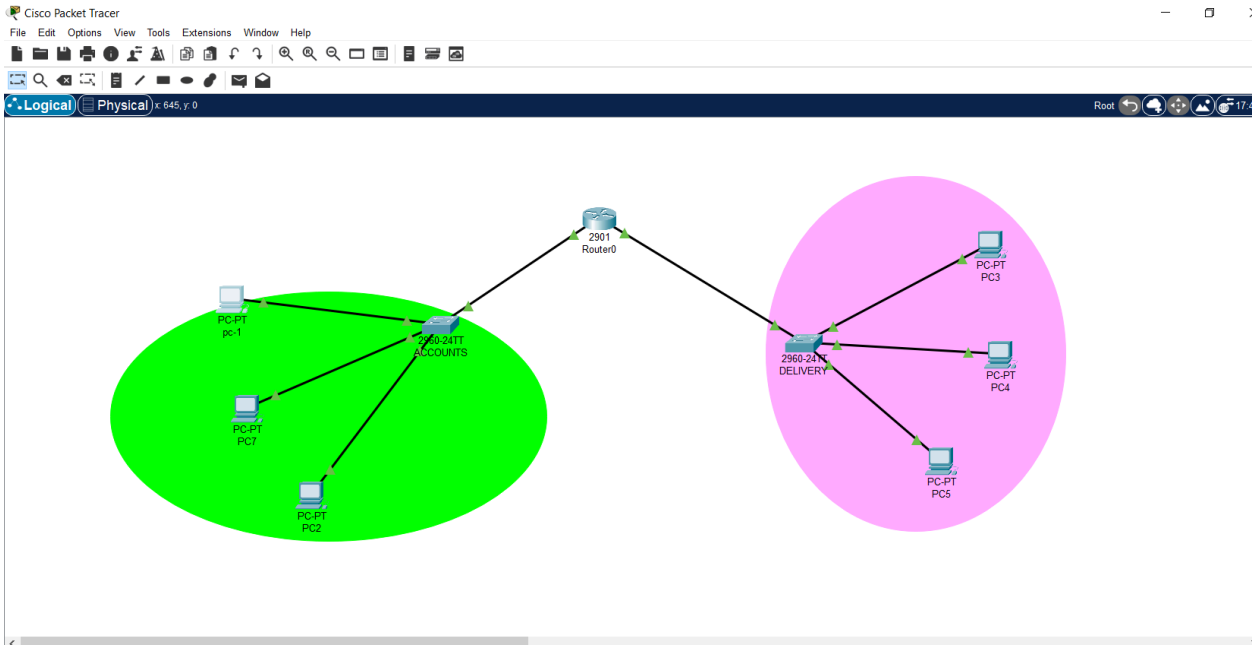
2ND SUBNET MASK

192.168.40.129–192.168.40.254

NETWORK ID =**192.168.40.128**

BROADCAST ID =192.168.40.255

192.168.40.256



The connection was successful