REDISTRIBUTING ROUTING PROTOCOLS

Final Evaluation

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MY LEARNINGS:-

- Computer Network
  - LAN
  - MAN
  - WAN
  - PAN
- Transmission Modes
  - Simplex
  - Duplex
    - Half Duplex
    - Full Duplex
- MAC Address

- OSI models/layers
  - Physical Layer
  - Data Link Layer
  - Network Layer
  - Transport Layer
  - Session Layer
  - Presentation Layer
  - Application Layer
- IP Address (Internet protocol address)
- IP classes (IPv4)
  - Class A (1-126)
  - Class B (128-191)
  - Class C (192-223)
  - Class D (224-239)
  - Class E (240-255)

- Protocols
- Networking Devices
  - LAN Card
  - Repeater
  - HUB
  - Switch
  - Bridge
  - Gateway
  - Firewall
  - Router
- Cables
  - Coaxial Cable
  - Twisted Pair Cable
    - Straight through cable
    - Cross over cable
    - Roll over cable
  - Optic Fibre Cable

- Topology
  - Bus topology
  - Ring topology
  - Star topology
  - Mesh topology
  - Tree topology
  - Hybrid topology
- Routing Protocols
  - RIP (Routing information protocol)
  - OSPF (Open Shortest Path Protocol)
  - EIGRP (Enhance Interior Gateway Routing Protocol)
- Email Server
- WIFI (Wireless Fidelity)

- VoIP (Voice Over Internet Protocol)
- NAT (Network Address Translation)
- VPN (Virtual Private Network)
- Redistribution (Redistributing Routing Protocols)

INTRODUCTION:-

What is Redistribution?

- Route Redistribution is the transfer of routes learned from one routing protocol to another.
- Used on routers with multiple routing protocols.

Use

- Redistribution is used to allow different networks belonging to the same company to communicate with each other.
- Redistribution is used when two companies merge and their networks use different routing protocols.

Example

- Assume that RIP being used in a growing network. Beyond a hop count of 15, it will become impossible to use RIP.
- In this situation, we will need to switch to another routing protocol.
- While switching, two protocols would need to co-exist in the network while maintaining complete reachability.
- Redistribution of routes from RIP to the new protocol and vice versa can achieve this.

Problem Statement and their Solution

- Often, using a single routing protocol in an Organization is preferred but there are some conditions in which we have to use multi protocol routing. These conditions include multiple administrator running multiple protocols, company mergers or usage of multi-vendors devices.
- Therefore, we have to advertise a route learned through a routing protocol or by any other means (like static route or directly connected route) in different routing protocol. This process is called redistribution.

Technologies Used

- **CISCO Packet Tracer**

  A Network simulation tool where you practice networking, IoT and cybersecurity skills in a virtual lab with no need of hardware.

Topics used in Project

- LAN
- WAN
- IP Address
- IP Classes
- Networking Devices
- Protocols
- Cables
- Topology
- Routing Protocol
- Redistribution

Command used

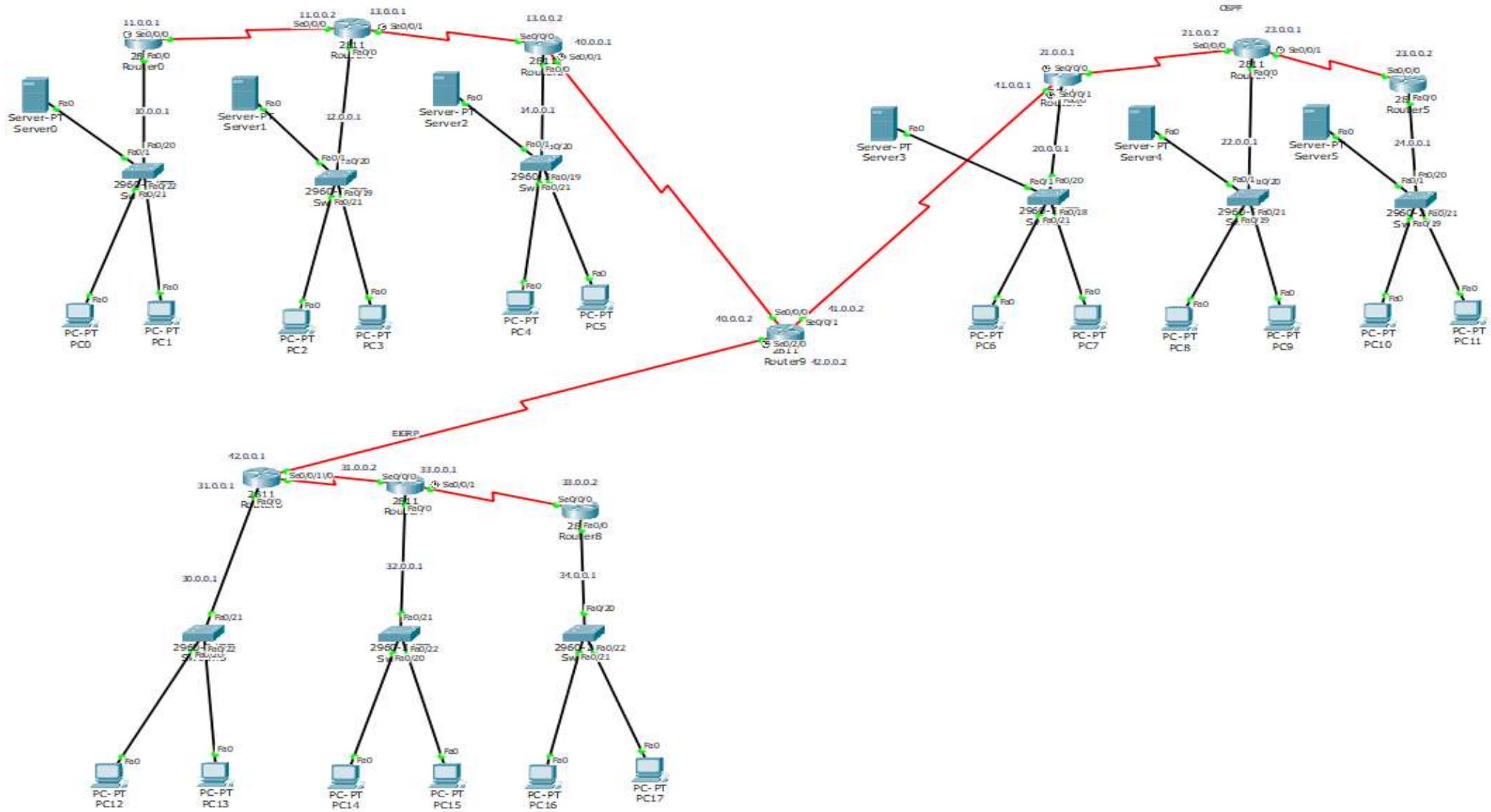
```
# router rip
# redistribute ospf process Id metric 1
# redistribute eigrp process Id metric 1

# router ospf process id
# redistribute rip subnets
# redistribute eigrp process id subnets

# router eigrp process id
# redistribute rip metric 1 100 100 100 100
# redistribute ospf process id metric 1 100 100 100 100
```

DEMONSTRATION

Basic interface




Thank You!