

# Company Business Network System

**Submitted By**

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## **MINI LAB PROJECT REPORT**

This Report Presented in Partial Fulfillment of the course **CSE322:  
Computer Network Lab in the Computer Science and Engineering  
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**DAFFODIL INTERNATIONAL UNIVERSITY**

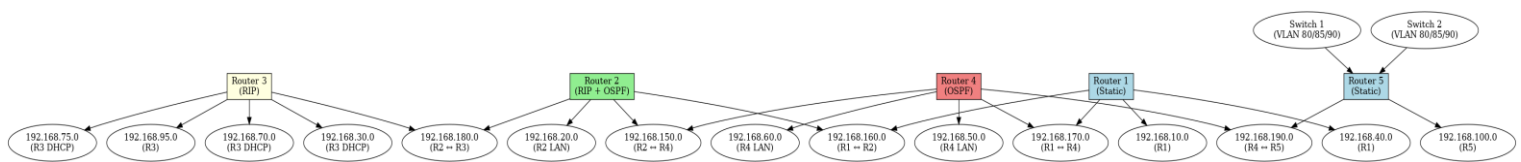
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## ➤ Introduction

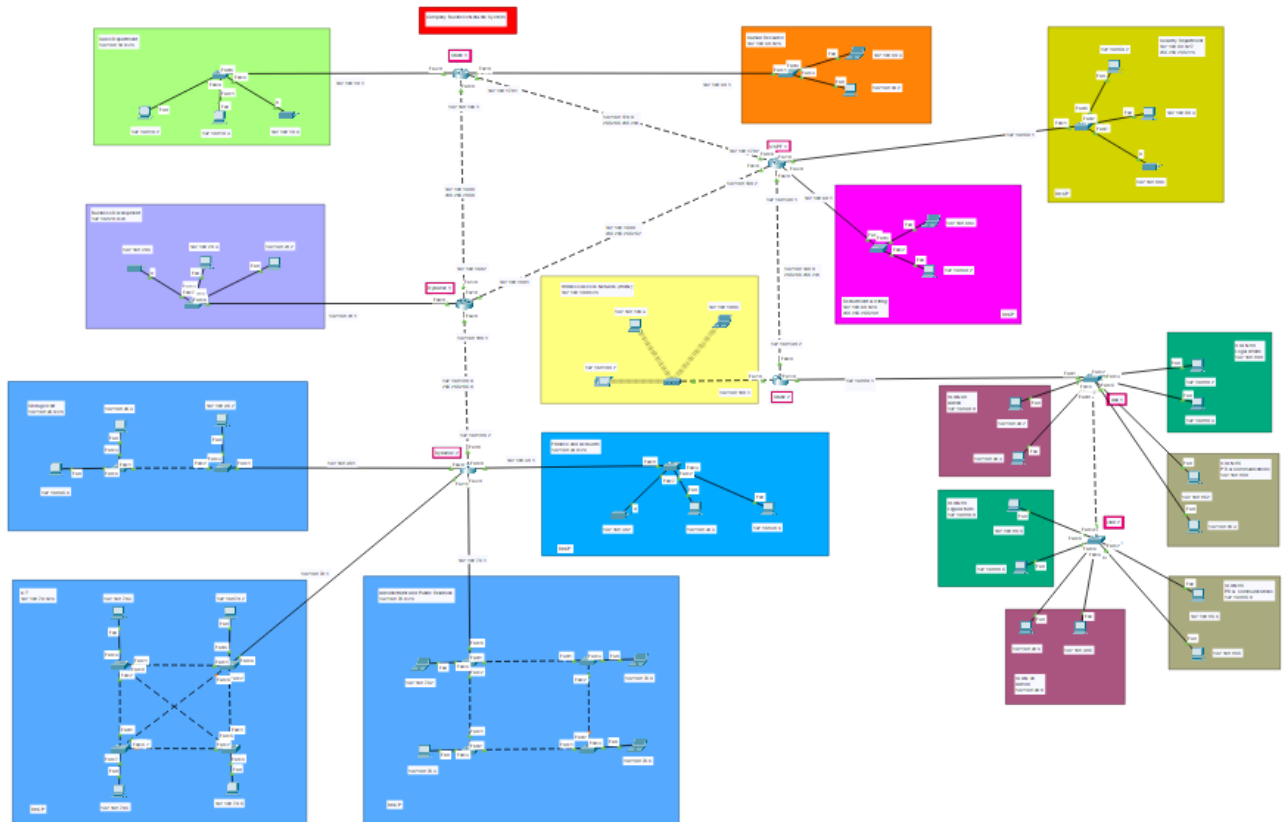
The Company Business Network System is a network project made for a company to connect different departments and help them share data easily. We used VLANs to keep each department safe and separate. The network uses static routing, RIP v2, and OSPF for sending data in the best way. A DHCP server is used to give IP addresses automatically. Some departments also have DNS servers to help find websites. The whole network is made using Cisco Packet Tracer with generic routers and 2950-24 switches to show how it works in real life.

## ➤ Flowchart



## ➤ Snapshot of our project:

1.





The diagram illustrates a multi-network environment with a central core and several peripheral networks. The central core consists of two dynamic IP addresses (192.168.100.1 and 192.168.100.2) and a static IP address (192.168.100.0). The peripheral networks include:

- Wireless Access Network (WAN):** A yellow network with a static IP address (192.168.100.0) and a dynamic IP address (192.168.100.1). It contains two laptops (192.168.100.3 and 192.168.100.4) and a server (192.168.100.2).
- Dynamic 1:** A network with a dynamic IP address (192.168.100.1) and a static IP address (192.168.100.0).
- Dynamic 2:** A network with a dynamic IP address (192.168.100.2) and a static IP address (192.168.100.0).
- Static 2:** A network with a static IP address (192.168.100.0).
- Corporate LAN:** A blue network with a static IP address (192.168.95.0) and a dynamic IP address (192.168.95.1). It contains two laptops (192.168.95.3 and 192.168.95.2) and a server (192.168.95.4).
- CT:** A blue network with a static IP address (192.168.70.0) and a dynamic IP address (192.168.70.1). It contains two laptops (192.168.70.3 and 192.168.70.2) and a server (192.168.70.4).
- Administrator and Public Relations:** A blue network with a static IP address (192.168.75.0) and a dynamic IP address (192.168.75.1). It contains two laptops (192.168.75.2 and 192.168.75.5) and a server (192.168.75.4).
- CHOP:** A blue network with a static IP address (192.168.30.0) and a dynamic IP address (192.168.30.1). It contains two laptops (192.168.30.2 and 192.168.30.3) and a server (192.168.30.4).

The diagram illustrates a network topology with two switches and a central router. The router is connected to the switches via its Fa0/1 and Fa0/2 interfaces. The switches are connected to various VLANs, each with its own set of IP addresses and interfaces.

**Router Configuration:**

- Interface Fa0/1: 192.168.80.1
- Interface Fa0/2: 192.168.80.2
- Interface Fa0/3: 192.168.80.3
- Interface Fa0/4: 192.168.80.4
- Interface Fa0/5: 192.168.80.5
- Interface Fa0/6: 192.168.80.6
- Interface Fa0/7: 192.168.80.7
- Interface Fa0/8: 192.168.80.8
- Interface Fa0/9: 192.168.80.9
- Interface Fa0/10: 192.168.80.10

**Switch 1 Configuration:**

- VLAN 80: Laps Affairs, 192.168.80.0/24
- VLAN 90: Admin, 192.168.90.0/24
- VLAN 85: PR & Communications, 192.168.85.0/24

**Switch 2 Configuration:**

- VLAN 80: Laps Affairs, 192.168.80.0/24
- VLAN 90: Admin, 192.168.90.0/24
- VLAN 85: PR & Communications, 192.168.85.0/24

**IP Address Allocation:**

- VLAN 80: 192.168.80.0 - 192.168.80.255
- VLAN 90: 192.168.90.0 - 192.168.90.255
- VLAN 85: 192.168.85.0 - 192.168.85.255

**Connections:**

- Router Fa0/1 to Switch 1 Fa0/1
- Router Fa0/2 to Switch 2 Fa0/1
- Router Fa0/3 to Switch 1 Fa0/2
- Router Fa0/4 to Switch 2 Fa0/2
- Router Fa0/5 to Switch 1 Fa0/3
- Router Fa0/6 to Switch 2 Fa0/3
- Router Fa0/7 to Switch 1 Fa0/4
- Router Fa0/8 to Switch 2 Fa0/4
- Router Fa0/9 to Switch 1 Fa0/5
- Router Fa0/10 to Switch 2 Fa0/5

## ➤ Conclusion

In this project, we designed a company network using Cisco Packet Tracer. Only some departments (with VLAN IDs 80, 85, and 90) are placed in VLANs to keep their data separate and secure. Other departments are connected through normal network segments. Routing methods like static routing, RIP v2, and OSPF are used to send data between departments. A DHCP server gives out IP addresses automatically, and DNS servers help with finding website address. This setup shows how a company network can be built step by step, keeping it both safe and efficient. We learned how different network tools work together to create a real-life network.