NATIONAL UNIVERSITY OF COMPUTER AND EMERGING SCIENCES- FAST
KARACHI CAMPUS

NETWORK DESIGN OF HOTEL MANAGEMENT SYSTEM & CERTIFICATE AUTOMATION CODE(for SMTP Protocol Demo)

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COMPUTER NETWORKS

PROJECT

SECTION: C

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ABSTRACT:

This report describes the network design of a hotel management system. The network design has been made and simulated on Cisco Packet Tracer. The network topology is consisting of different departments. The devices used in this network design are:

- Routers
- Switches
- Servers
    - DNS.
    - HTTP, FTP, SMTP.

There are following departments in the design:

- Food Quality
- Security
- Operations department
- Accounts
- Main Lobby (The reception which have access to all departments)

NETWORK REQUIREMENTS:

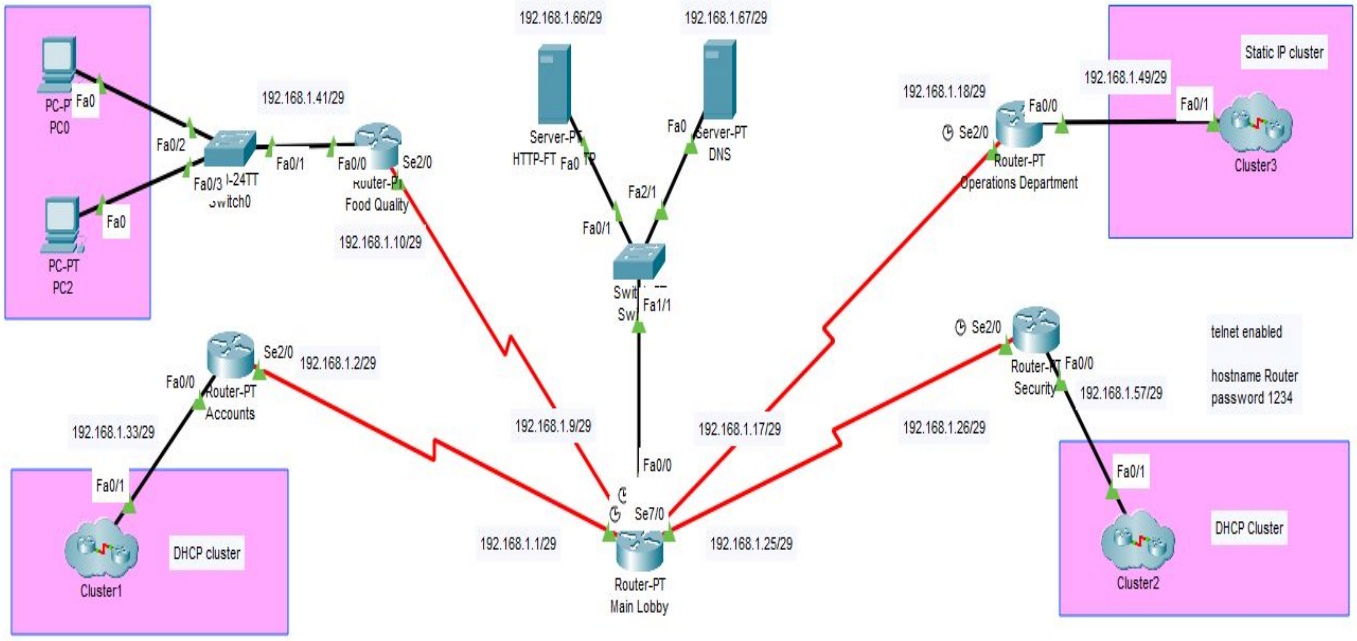
In the hotel, we are working on different departments and those departments have different end devices such as desktops, laptops, and phones. There will be a data flow between the devices within the system. A DNS and HTTP server is needed to access the website of our hotel from all departments. The file server is needed so that every department has a shared server that can be used to get and put files on that server.

FEATURES AND SERVICES:

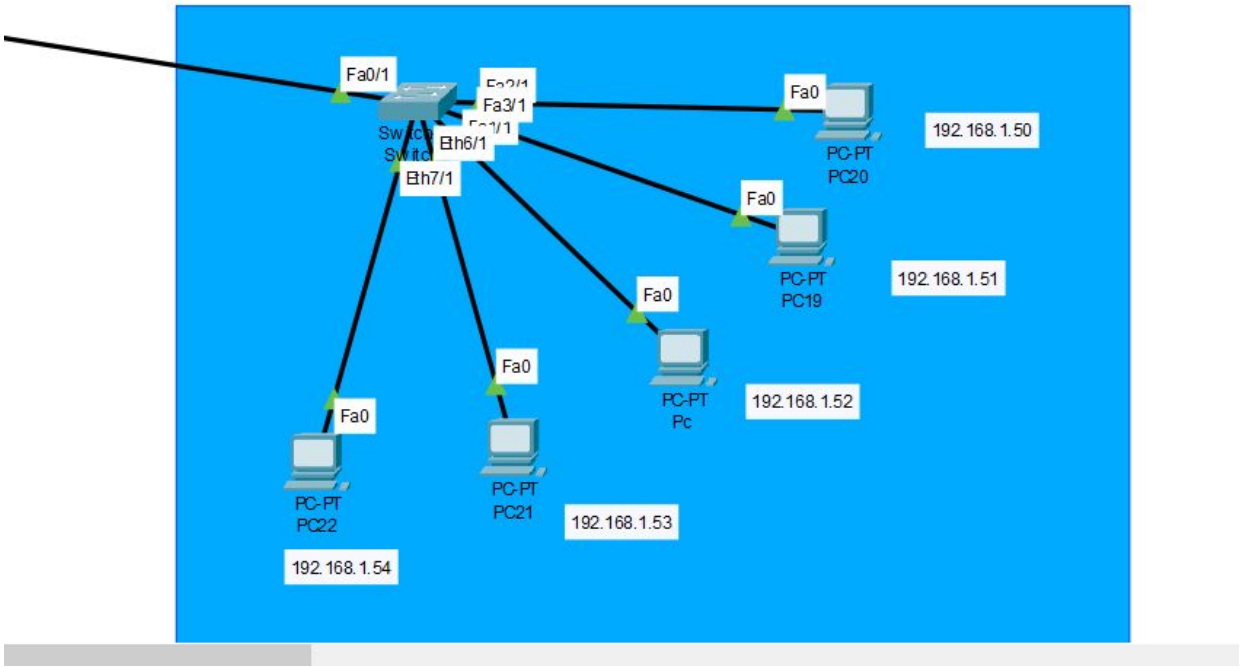
- **FTP**
    - Configured on server address: 192.168.1.66
- **DNS**
    - Configured on server address: 192.168.1.67
- **Telnet**
    - Configured in Security department to access router
        - Username: router
        - Password: 1234
- **Static and DHCP assignment**
    - Static IPs assigned in:
        - Operations Department
        - Food Quality
        - Total PCs: 7.
    - DHCP in:
        - Accounts Department (Cluster 1)

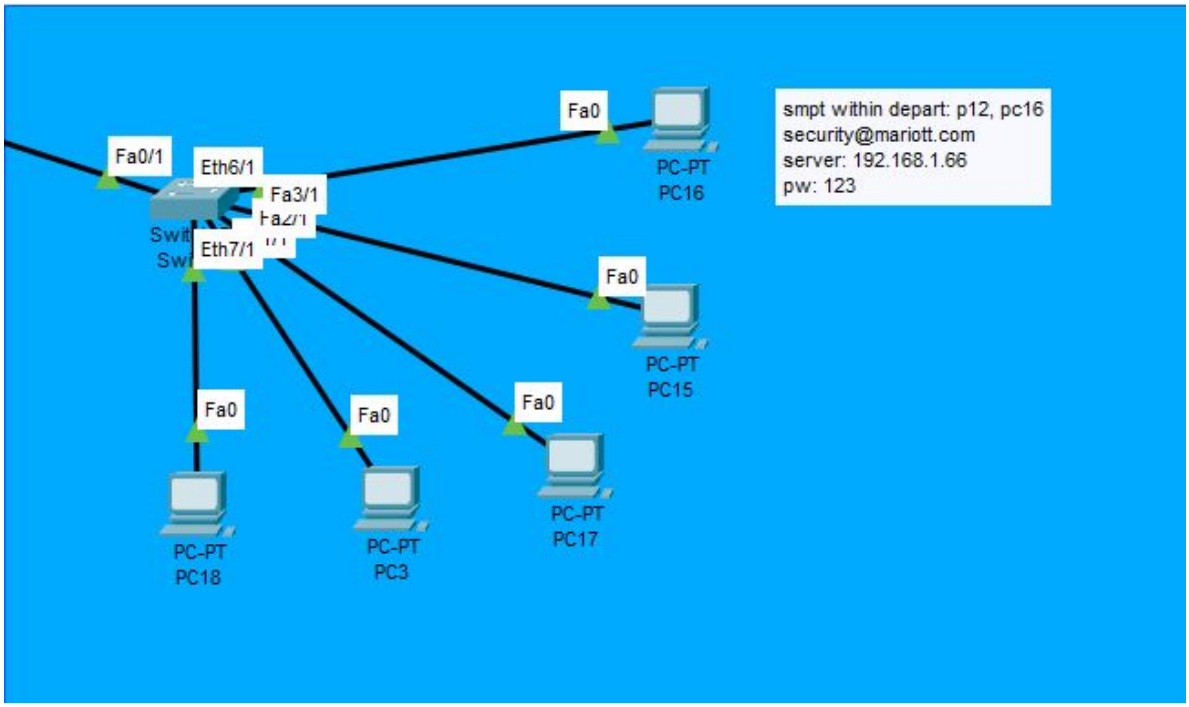
    - Security Department (Cluster 2)
    - Total PCs: 10PCs.
- **HTTP**
    - Configured on server address: 192.168.1.66
- **SMTP**
    - Configured on server address: 192.168.1.66
    - Configured inter-departments.
    - Configured intra-departments.
- **Routing by RIP V2**

TOPOLOGY:



CLUSTER TOPOLOGY:





IMPORTANT IP ADDRESSES:

- **DNS SERVER:** 192.168.1.67
- **HTTP, SMPT, FTP SERVER:** 192.168.1.66
- **OPERATIONS DEPARTMENT CLUSTER GATEWAY:** 192.168.1.49 /29
- **ACCOUNTS DEPARTMENT CLUSTER GATEWAY:** 192.168.1.32 /29
- **SECURITY DEPARTMENT CLUSTER GATEWAY:** 192.168.1.57 /29
- **FOOD QUALITY DEPARTMENT CLUSTER GATEWAY:** 192.168.1.41 /29

CERTIFICATE AUTOMATION CODE WITH ATTACHMENTS:

We will also give demo of an email(with attachment) automation code to give demo of SMPT protocol (this would be an independent code, and kind of a mini project).