




SMART RAILWAY NETWORK

Instructors:

L.Ashwag Alotyyan - Mrs. Maha Alghamdi - Mrs. Sarah Alqarni.

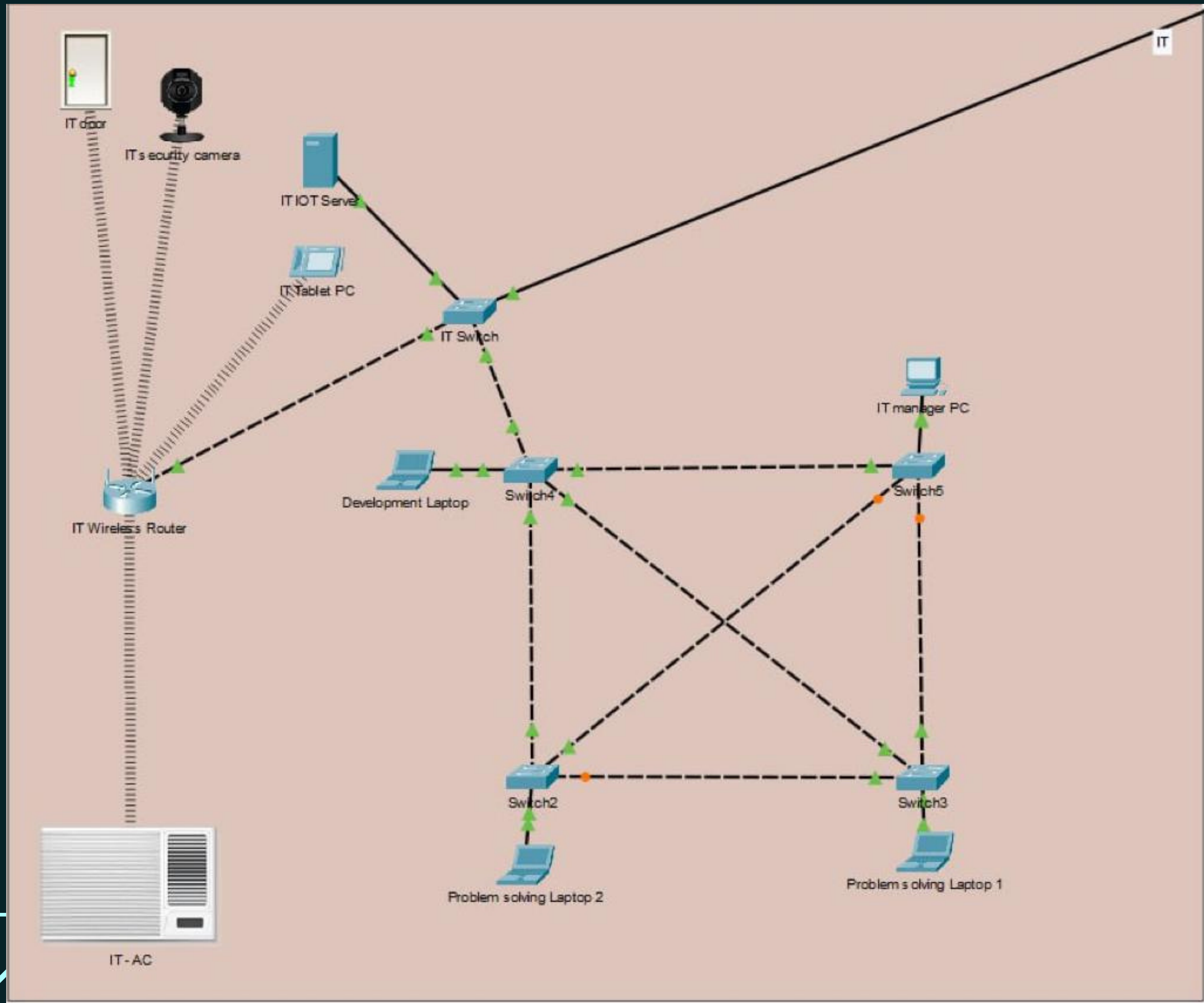
Academic year 1445 – 2023/2024

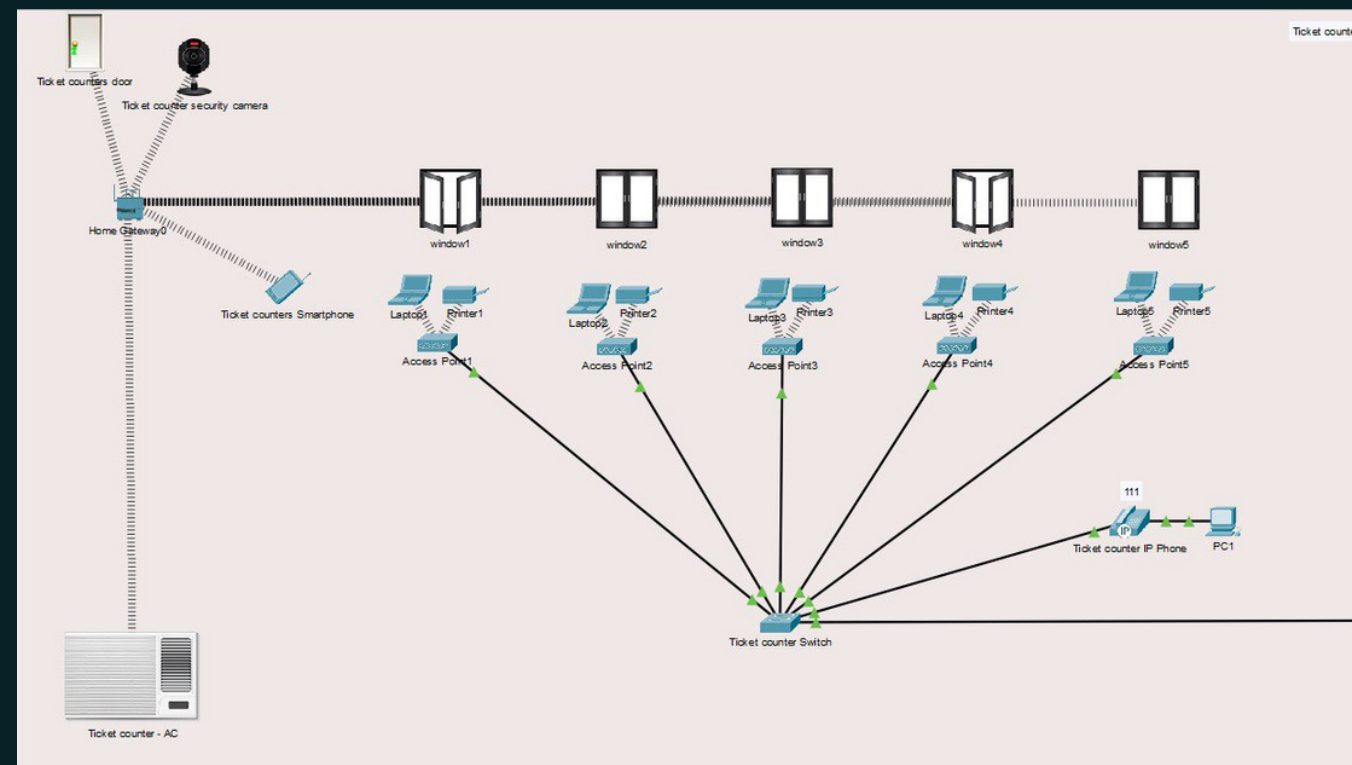
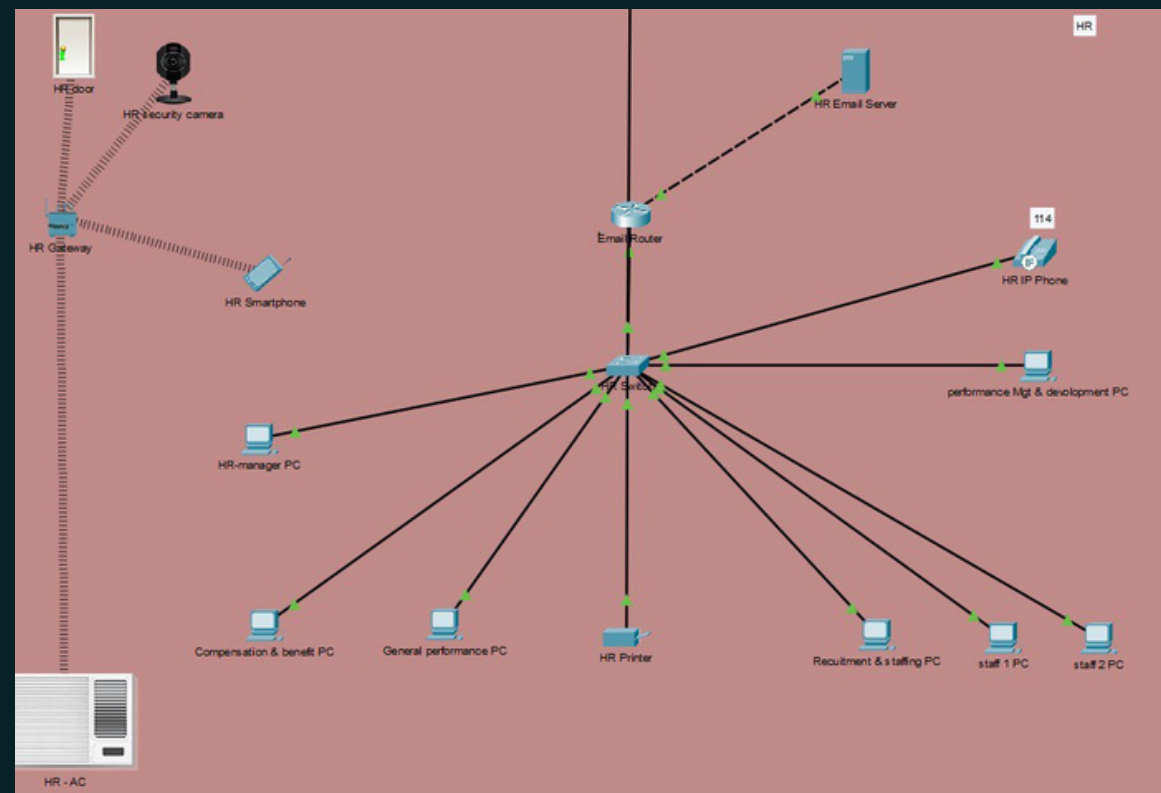
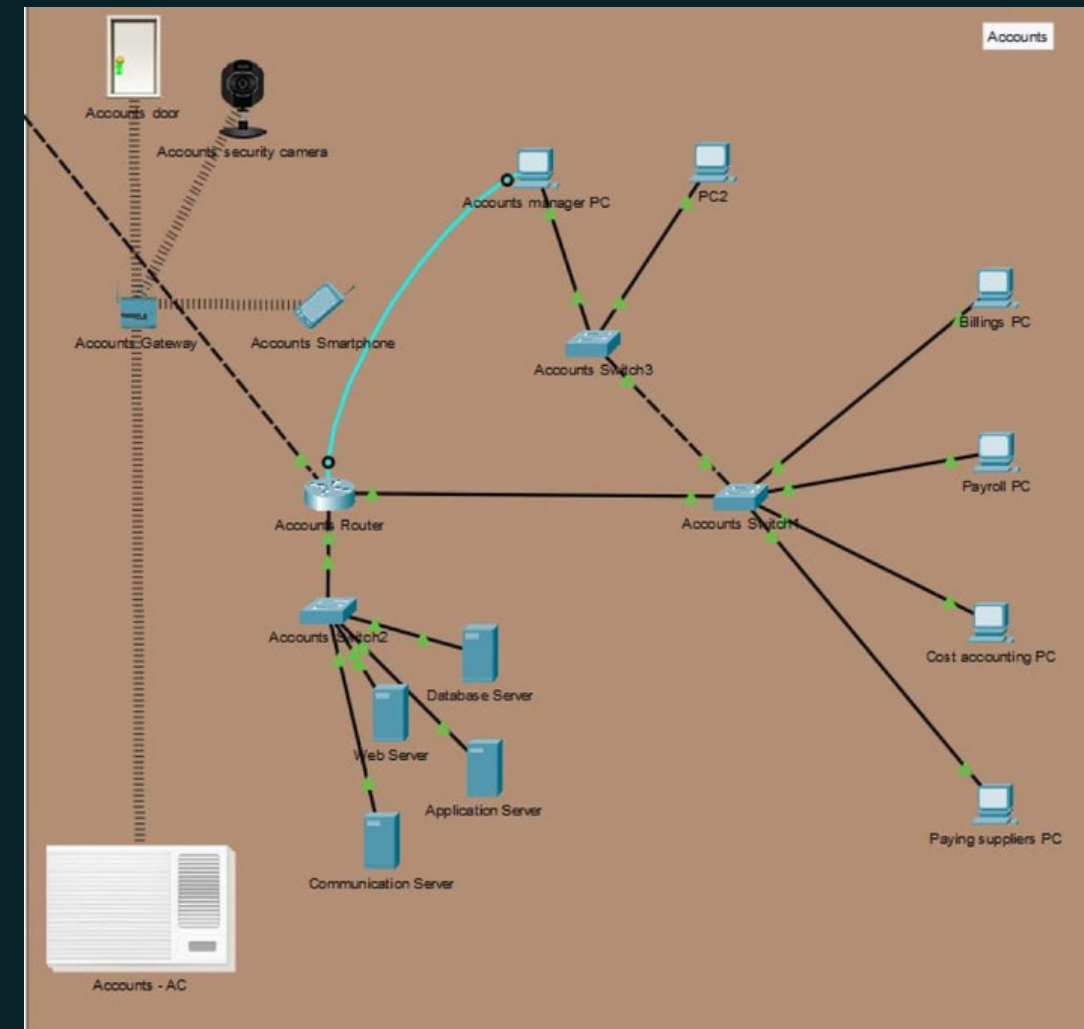
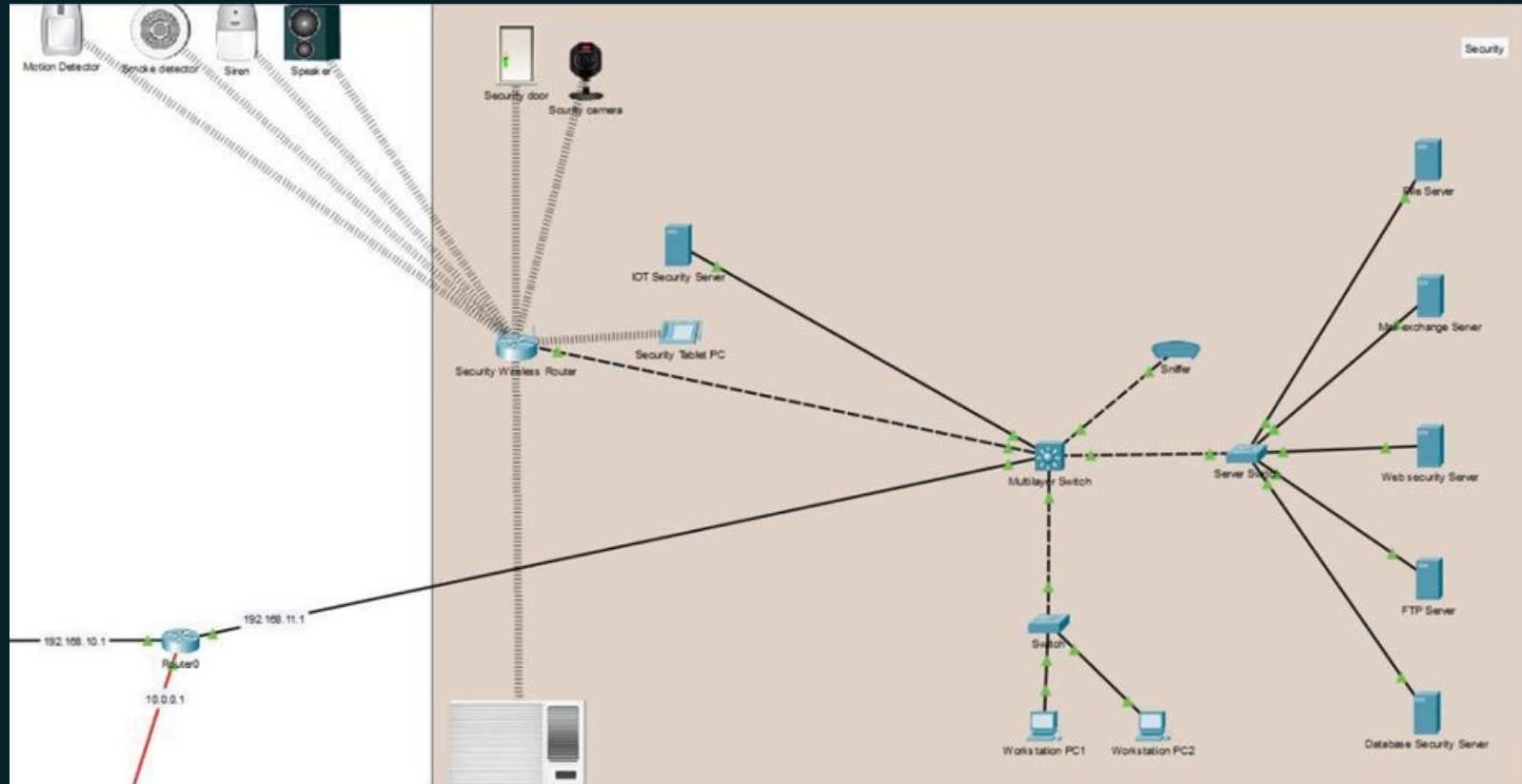


Introduction:

A network is a group of connected devices exchanging data. Networks vary in type, size, and geographic coverage. They serve specific purposes, such as connecting devices to the Internet. Poorly managed networks can be costly. Rail is considered an economical and efficient transportation mode. A secure and high-performance network is crucial. Our approach involves monitoring traffic, using routing protocols, and implementing security measures. In a Railway Office, departments like Ticket, Security, IT, HR, and Accounts are connected. Access Control and Network Address Translation enhance security. A gateway provides wireless Internet access. The Security Department employs a multilayer switch for rapid switch and router functions. Authentication, authorization, and accounting ensure resource access control.

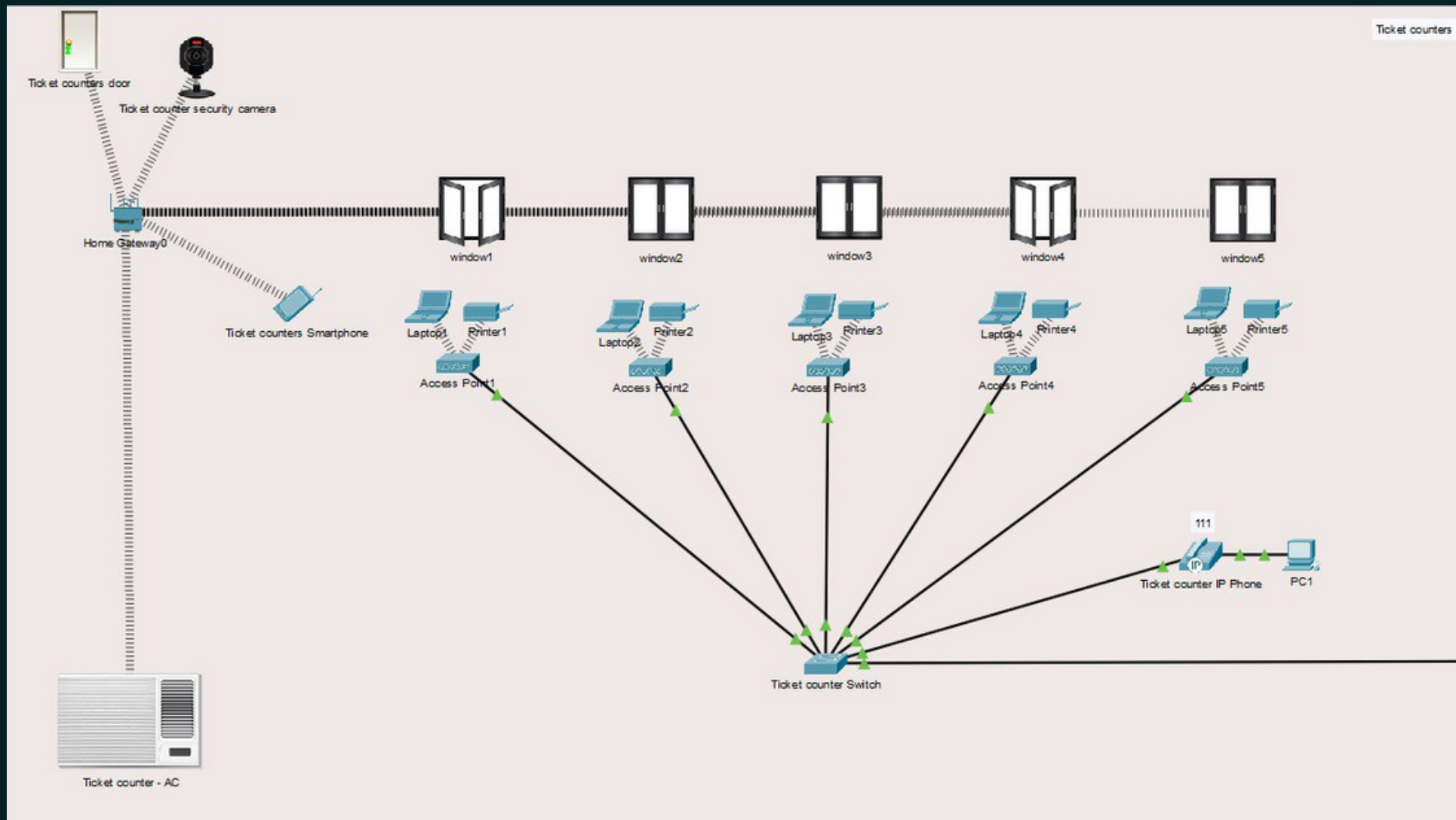
Mesh Topology:



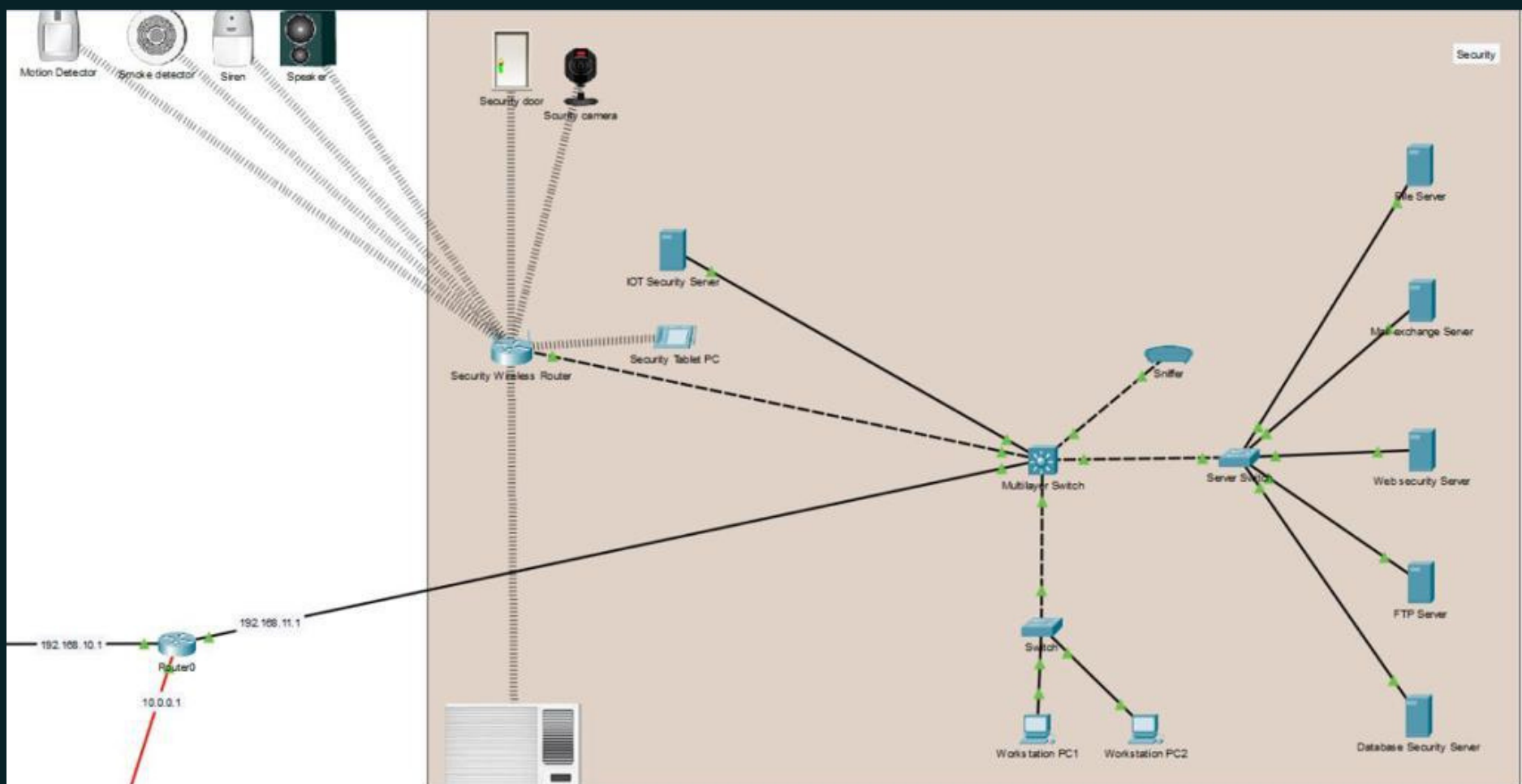


Star Topology:

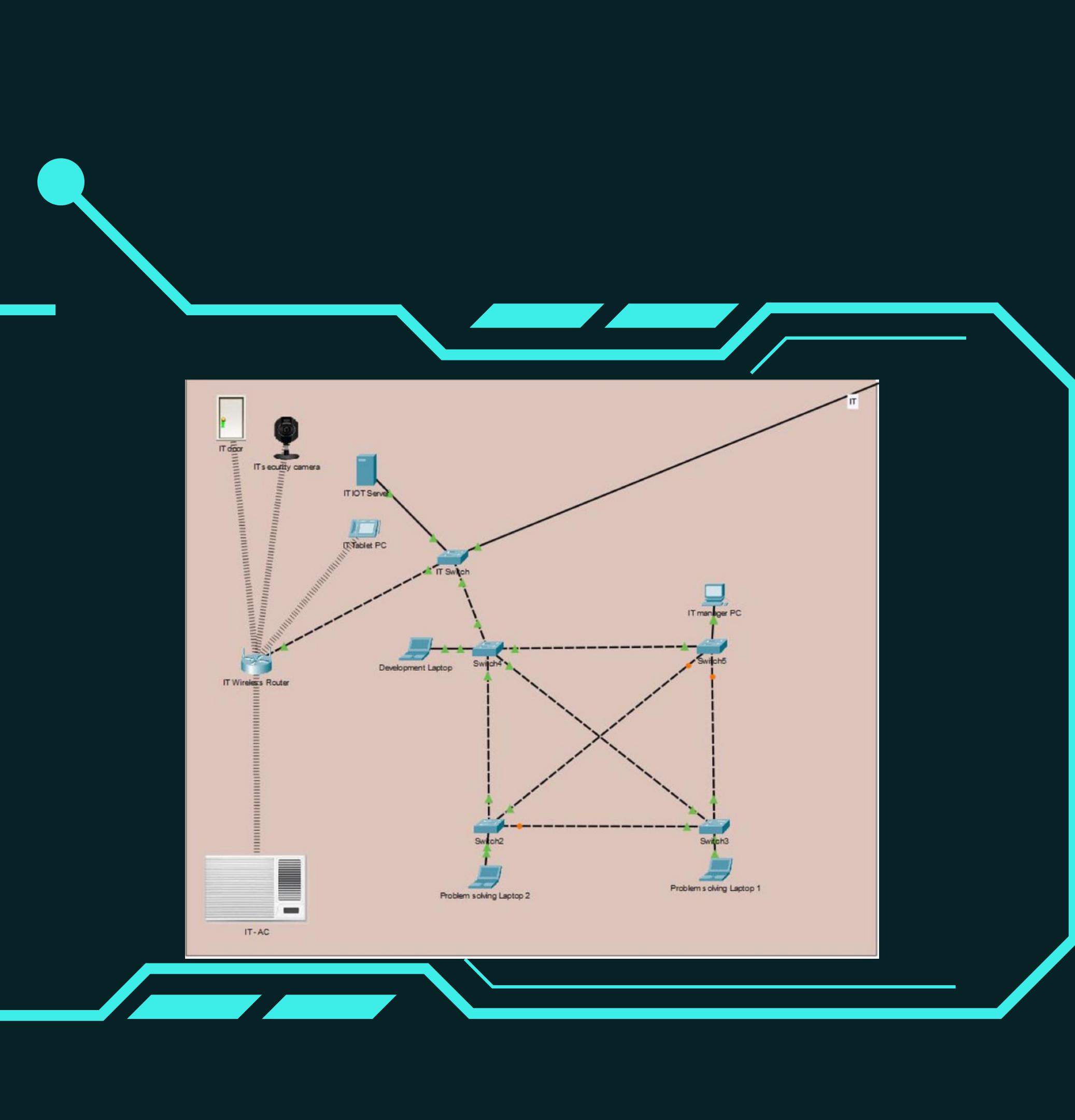
Ticket Counter



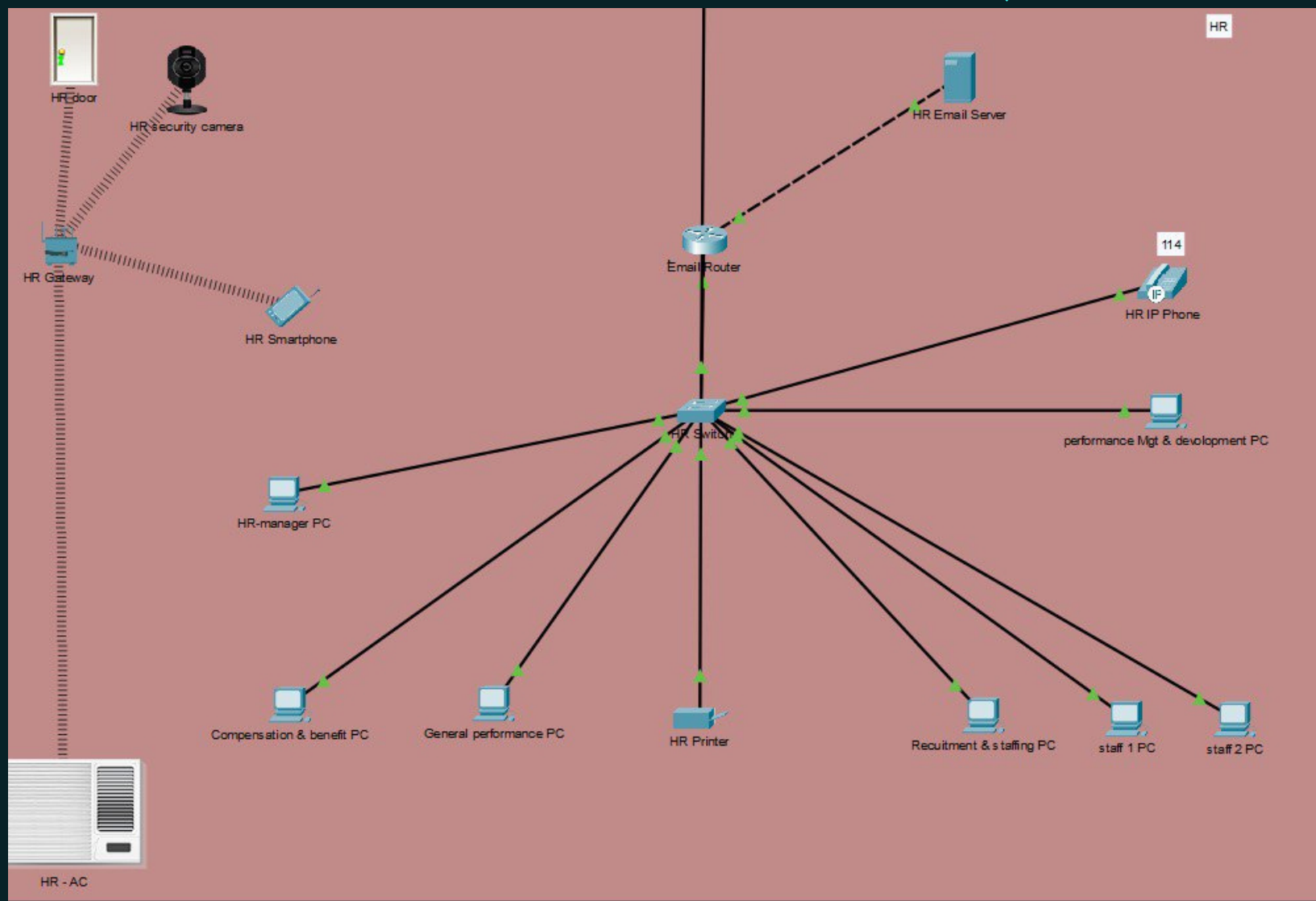
Security Department



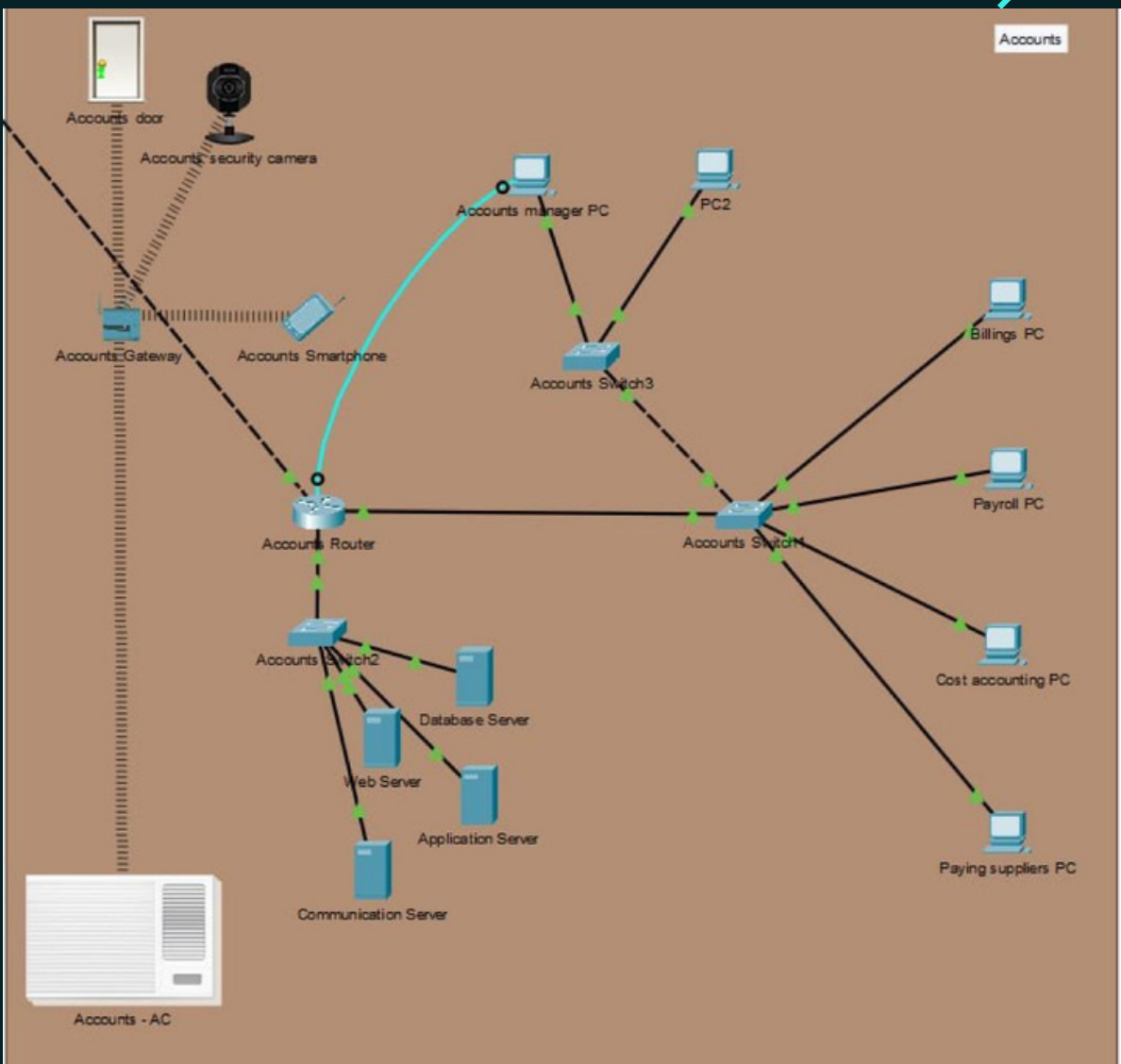
IT Department



HR Department



Accounts Department



Future Work:

Our project aspires to development in the future, and one of the most important developments that we seek to achieve is increasing the efficiency of the devices within the railway network. As well as facilitating communication to become more flexible between railway sections, with diversity in the use of topology So that each topology carries modern and distinctive technologies that help in the success of the network and make it easy to use and serve the railway

Conclusion:

The project ensures the development of one of the most important developments on the railway networks. prepare a secure and effective network for the railway due to multiple attacks or terminating it for specific purposes by using routing protocols commonly used in today's networks: RIP. The Inside Railway server has been implemented to manage the work of the network and the internal network database in a better and accurate way, and this is the most important thing that will preserve the data. Firewall administration is an important topic in network security courses providing protection against outside cyber attackers by shielding your computer or network from malicious or unnecessary network traffic.

Meet Our Team

Hajer Al - Saadan
2210003576

Lojain Alibrahim
2220001991

Elaf Aljamez
2220000917

Raghad alzhani
2220002910



THANK YOU !

