Experiment No:- 9

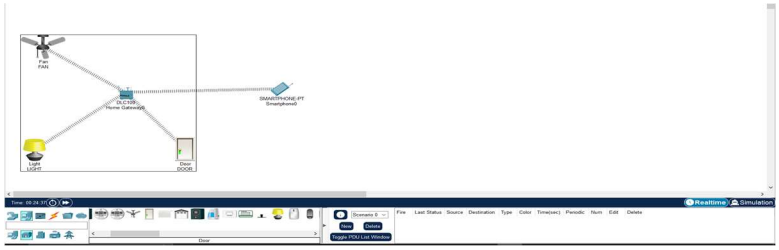
Name: - Priyanshu Mathur
Branch:- ECE
Semester: - 6th
Subject Name: Computer Networks Lab
UID: -20BEC1073
Section/Group:- 1-A
Date of performance: - 08/05/23
Subject Code: 20ECP-374

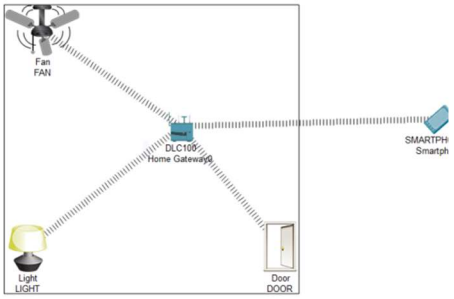
1. **Aim/Overview of the practical:** To design and implementation of home automation system using Cisco Packet Tracer.

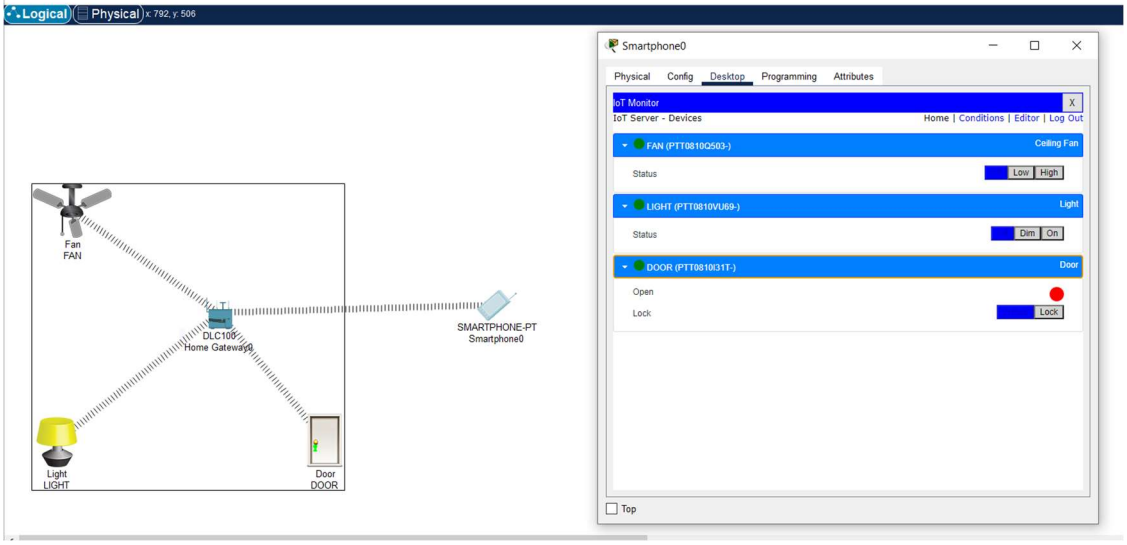
2. **Apparatus/Tool Used:** Cisco Packet Tracer

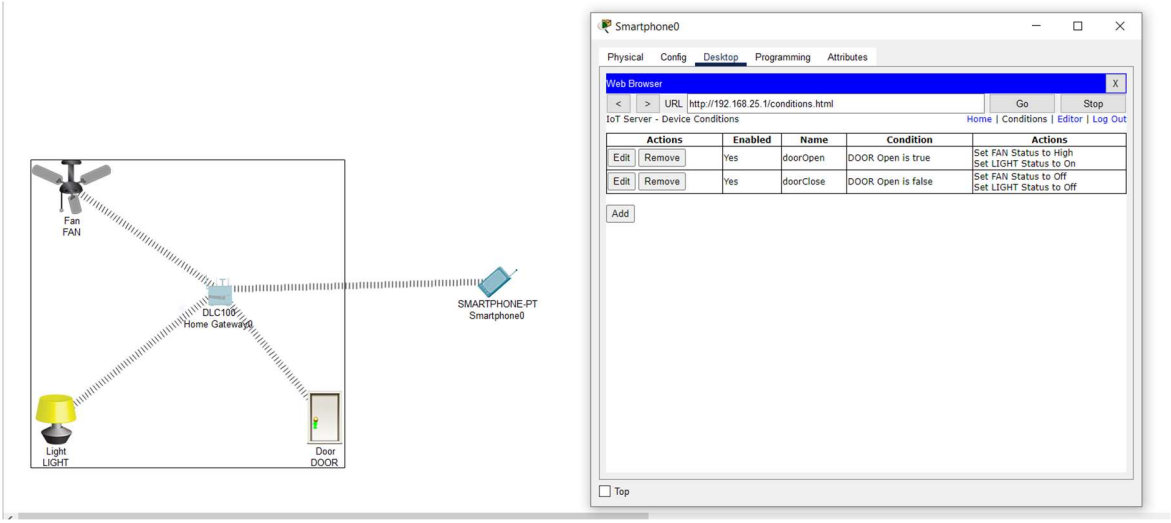
3. **Theory:** A smart home is a type of house that utilizes the latest Internet of Things (IoT) technologies to automate various home operations. By utilizing an internet-connected computer, it is possible to remotely monitor and control appliances such as lighting, heating, cooling, and alarms. In this article, I have introduced the concept of a smart home using the newly released Cisco Packet Tracer simulation program, which includes a wide range of IoT devices that can be used for home automation. Unlike the previous version of the app, this updated simulator includes sensors, boards, IOE devices, programming languages, and classic networking devices. I have used various technologies designed for home protection, safety, and convenience to create a smart home.

4. **Screenshots:**









5. Steps for experiment/practical:

1. **Step 1:** Create a network topology

2. **Step 2:** Connect the devices
3. **Step 3:** Configure the devices
4. **Step 4:** Add devices to the home automation system
5. **Step 5:** Configure the home automation system
6. **Step 6:** Final Test

6. Result and Summary:

By utilizing Cisco Packet Tracer, it is possible to create a home automation system that allows for remote control of a light, fan, and door via a smartphone connected to the same network. This system is made up of a router, switch, and end devices, each with their own unique IP address and subnet mask. The devices are interconnected through Ethernet connections, and the system is configured using the Command Line Interface (CLI) within the configuration window for each device. This serves as a basic example of how network infrastructure and configuration tools such as Cisco Packet Tracer can be used to create a home automation system.

7. Additional Creative Inputs (If Any):

NA

8. Learning outcomes (What I have learnt):

- Learnt working of various networking components and operating systems.
- Learnt to put conditions in the home gateway.

Evaluation Grid (To be filled by Faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks

1.	Worksheet completion including writing learning objectives/Outcomes. (To submit at the end of the day)		
2.	Viva		
3.	Student Engagement in Simulation/Demonstration/Performance and Controls/Pre-Lab Questions.		
	Signature of Faculty (with Date):	**Total Marks Obtained:**	