1. Aim

To design and simulate a room automation system using Cisco Packet Tracer that enables remote monitoring and automatic control of appliances (fan and lamp) for energy efficiency and comfort.

2. Problem Statement

In modern smart homes, efficient energy management and automation of electrical appliances are essential. Manual control often leads to energy wastage and inconvenience. This project aims to develop a room automation system using Cisco Packet Tracer to remotely monitor and automatically control a fan and lamp, improving energy utilization and user comfort.

3. Scope of the Solution

- Enables IoT-based remote monitoring and control of room appliances.
- Demonstrates integration of IoT devices with a home gateway using Cisco Packet Tracer.
- Automates fan and lamp based on predefined conditions (e.g., temperature, light intensity, or user input).
- Provides scalability for integrating more smart appliances.
- Can be extended to real-world applications using microcontrollers and IoT platforms.

4. Required Components

Software / IDEs:

Cisco Packet Tracer (for IoT simulation)

Devices in Simulation:

IoT Fan

IoT Lamp

Smart Gateway / Home Gateway