

Date:

EXPERIMENT-19

IOT BASED SMART HOME APPLICATIONS

Aim: To implement IoT based smart home applications in Cisco Packet Tracer.

Software/Apparatus required: Packet Tracer/End devices, Hubs, connectors.

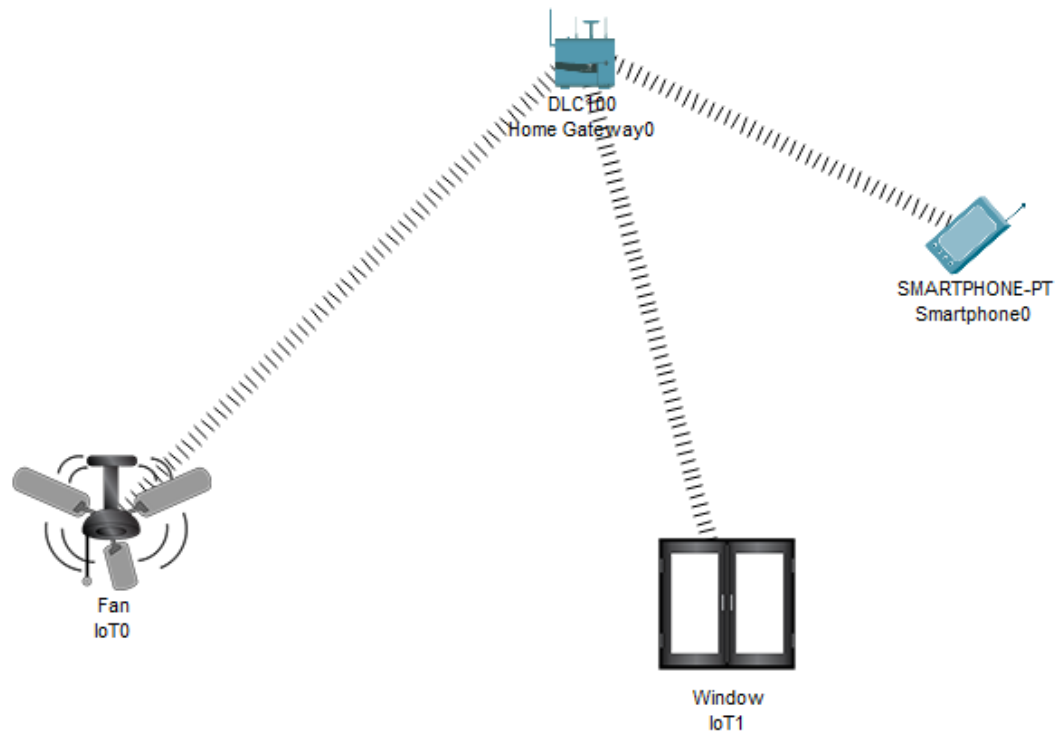
Procedure:

Steps:

1. Create a network topology in Cisco Packet Tracer that includes IoT devices such as sensors, actuators, and gateways.
2. Configure the IoT devices with appropriate IP addresses, subnet masks, and gateway addresses.
3. Set up a communication protocol between the IoT devices using MQTT, CoAP, or any other protocol of your choice.
4. Write a code to collect data from the sensors and send it to the gateway.
5. Use the gateway to process the data and send commands to the actuators.
6. Finally, use a web interface or mobile application to monitor and control the IoT devices.

By following these steps an IoT-based smart application in Cisco Packet Tracer , can be created. This can be used for various applications such as home automation, smart cities, and industrial automation.

Diagram



Output:

Result: Thus IoT based smart home applications in Cisco Packet Tracer is implemented successfully.

Date:

EXPERIMENT: 20

IMPLEMENTATION OF IOT BASED SMART GARDENING

Aim: To implement IOT based smart gardening using Cisco packet tracer.

Software/Apparatus required: Packet Tracer/End devices, Hubs, Connectors.

Procedure:

Step 1: Create a new project in Cisco Packet Tracer and drag a generic IoT device from the IoT devices section onto the workspace.

Step 2: Right-click on the IoT device and select Config/Attributes.

Step 3: In the Configuration tab, select the device's IoT server from the drop-down list. You can choose Cisco IoT Cloud or another cloud service of your choice.

Step 4: In the Attributes tab, add the following attributes:

- Temperature
- Humidity
- Soil Moisture
- Light Intensity

Step 5: Create a soil moisture sensor and a light sensor from the Sensors section of the devices panel. Drag and drop these sensors onto the workspace.

Step 6: Connect the sensors to the IoT device using the wiring tool.

Step 7: Configure the sensors by right-clicking on them and selecting Config/Attributes. Set the sensor type, unit of measurement, and other necessary parameters.

Step 8: Create a water pump and a light bulb from the Actuators section of the devices panel. Drag and drop these actuators onto the workspace.

Step 9: Connect the actuators to the IoT device using the wiring tool.

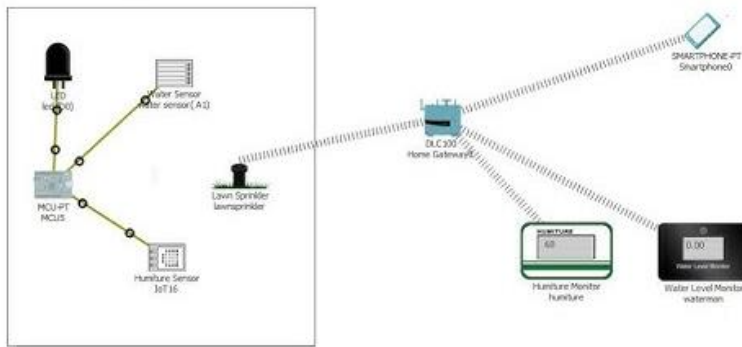
Step 10: Configure the actuators by right-clicking on them and selecting Config/Attributes. Set the actuator type, command, and other necessary parameters.

Step 11: Save the configuration and run the simulation to test your IoT Smart Garden.

Step 12: Monitor the temperature, humidity, soil moisture, and light intensity readings on the IoT device dashboard.

Step 13: Use the dashboard to control the water pump and light bulb based on the sensor readings.

Diagram:



Result: Implementation of smart gardening is carried out using IOT successfully.