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import paho.mqtt.client as mqtt

# MQTT broker configuration
broker_address = "mqtt.example.com" # Replace with your MQTT broker address
broker_port = 1883 # Replace with your MQTT broker port
client_id = "SmartHomeClient" # Replace with a unique client ID

# Topics
light_topic = "smart-home/light"
fan_topic = "smart-home/fan"

# Callback function for MQTT connection
def on_connect(client, userdata, flags, rc):
    print("Connected to MQTT broker")
    client.subscribe(light_topic)
    client.subscribe(fan_topic)

# Callback function for receiving MQTT messages
def on_message(client, userdata, msg):
    if msg.topic == light_topic:
        if msg.payload == b"on":
            # Code to turn on the light
            print("Light turned on")
        elif msg.payload == b"off":
            # Code to turn off the light
            print("Light turned off")
    elif msg.topic == fan_topic:
        if msg.payload == b"on":
            # Code to turn on the fan
            print("Fan turned on")
        elif msg.payload == b"off":
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# Code to turn off the fan

print("Fan turned off")


# Initialize MQTT client
client = mqtt.Client(client_id=client_id)


# Set MQTT callback functions
client.on_connect = on_connect
client.on_message = on_message


# Connect to MQTT broker
client.connect(broker_address, broker_port, 60)


# Start MQTT network loop
client.loop_start()


# Main program loop
while True:

    command = input("Enter command (e.g., 'light on', 'fan off'): ")
    device, action = command.split()

    # Publish MQTT message based on user input
    if device == "light":
        client.publish(light_topic, action)
    elif device == "fan":
        client.publish(fan_topic, action)


# Stop MQTT network loop
client.loop_stop()
client.disconnect()
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