

Code Explanation

Complete code with a working video for this IoT controlled Home Automation is given at the end of this tutorial, here we are explaining the complete program to understand the working of the project.

Replace SSID and password with your Wi-Fi credentials. String token stores the unique token number you got after creating your bot. D0 is the digital output pin for changing the state of the relay.

```
String ssid = "*****";    // Replace with your ssid
String pass = "*****"; // Replace with your password

String token = "66****885:A*G-X**dTYdSct*****aCQPck***SL**b4"; // token number
of your bot

int led = D0;    // digital pin on NodeMCU
```

myBot.wifiConnect() function takes the SSID and password to connect ESP8266 with the Wi-Fi and function *myBot.setTelegramToken()* takes the unique token number which further establishes the connection between telegram bot and NodeMCU. On successful connection you get “*testConnection OK*” on the serial monitor.

```
myBot.wifiConnect(ssid, pass);
myBot.setTelegramToken(token);
if (myBot.testConnection())

    Serial.println("\ntestConnection OK");
Else
    Serial.println("\ntestConnection NOK");
```

TBMessage stores the message received from the telegram bot. *msg.text.equalsIgnoreCase()* checks if the text received matches with string “light on” or “light off”. If the message received is “Light on” it changes the relay state to turn on the lamp and if the message received is “Light off” then it changes the relay state to turn off the lamp.

If the text received is different from “light on” and “light off” then it sends welcome message back to the telegram.

```
TBMessage msg;
if (myBot.getNewMessage(msg)) {
    if (msg.text.equalsIgnoreCase("LIGHT ON")) {
        digitalWrite(led, HIGH);
        myBot.sendMessage(msg.sender.id, "Light is now ON");
    }
    else if (msg.text.equalsIgnoreCase("LIGHT OFF")) {
        digitalWrite(led, LOW);
        myBot.sendMessage(msg.sender.id, "Light is now OFF");
    }
    else {
        String reply;
        reply = (String)"Welcome " + msg.sender.username + (String)". Try LIGHT ON or LIGHT OFF.";
        myBot.sendMessage(msg.sender.id, reply);
    }
}
```

Now after completing the code its time to test the system.

Source Code:

```
#include "CTBot.h"

CTBot myBot;

String ssid = "VARSHA"; // REPLACE mySSID WITH YOUR WIFI SSID
String pass = "9866028800";

// REPLACE myPassword YOUR WIFI PASSWORD, IF ANY
String token = "5482254733:AAFeAVFLEtt5c83Sc6rE9oyiP2sD5E1By5Y"; // REPLACE
myToken WITH YOUR TELEGRAM BOT TOKEN

uint8_t led = D0; // the onboard ESP8266 LED.

// If you have a NodeMCU you can use the BUILTIN_LED pin
// (replace 2 with BUILTIN_LED)

void setup() {
    // initialize the Serial
    Serial.begin(115200);
    Serial.println("Starting TelegramBot...");

    // connect the ESP8266 to the desired access point
    myBot.wifiConnect(ssid, pass);

    // set the telegram bot token
    myBot.setTelegramToken(token);

    // check if all things are ok
    if (myBot.testConnection())
        Serial.println("\ntestConnection OK");
    else
        Serial.println("\ntestConnection NOK");
```

```

// set the pin connected to the LED to act as output pin
pinMode(led, OUTPUT);
digitalWrite(led, HIGH); // turn off the led (inverted logic!)

}

void loop() {
    // a variable to store telegram message data
    TBMMessage msg;

    // if there is an incoming message...
    if (myBot.getNewMessage(msg)) {

        if (msg.text.equalsIgnoreCase("/LIGHT_ON")) {           // if the received message is
"LIGHT ON"...
            digitalWrite(led, LOW);                             // turn on the LED (inverted logic!)
            myBot.sendMessage(msg.sender.id, "Light is now ON 🟡 "); // notify the sender
        }

        else if (msg.text.equalsIgnoreCase("/LIGHT_OFF")) {     // if the received message is
"LIGHT OFF"...
            digitalWrite(led, HIGH);                             // turn off the led (inverted logic!)
            myBot.sendMessage(msg.sender.id, "Light is now OFF"); // notify the sender
        }

        else if (msg.text.equals("/helpme")) {
            digitalWrite(led, HIGH);
            myBot.sendMessage(msg.sender.id, "Try sending following commands\n");
            myBot.sendMessage(msg.sender.id, "/LIGHT_ON\n");
            myBot.sendMessage(msg.sender.id, "/LIGHT_OFF\n");
            myBot.sendMessage(msg.sender.id, "/helpme\n");
            myBot.sendMessage(msg.sender.id, "/Byee\n");
        }
    }
}

```

```
else if (msg.text.equals("/Byee")){
    String r;
    r = (String)"Byeeee " + msg.sender.username + (String)" .See you soon 🖐️ !!! ";
    myBot.sendMessage(msg.sender.id, r);
}
else {                                     // otherwise...
    // generate the message for the sender
    String reply;
    reply = (String)"Welcome 😊 " + msg.sender.username + (String)".Try /helpme";
    myBot.sendMessage(msg.sender.id, reply);    // and send it
}
}
// wait 500 milliseconds
delay(500);
}
```