IOT all in one light with Arduino

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[7 Related posts:](https://www.circuits-diy.com/buzzer-alarm-system-with-arduino/)

Introduction

In our day life technology is developing day to day so no need of go to switch ON the light you have to do it automatically. my system also can detect the presence of person using PIR sensor in this way nac light lamp automatically

we learned how to set up the ESP8266 ESP-01 and establish communication with other devices.

ESP 8266 WIFI module\_01 definition

The ESP8266 Wi-Fi Module is a self contained SOC with integrated TCP/IP protocol stack that can give any microcontroller access to your Wi-Fi network.

This post shows a quick guide to program ESP8266 WiFi module with Arduino UNO board and how to use Arduino IDE software in order to write codes for this module.

The ESP8266 module comes with AT firmware which allows us to control it with AT commands through serial interface (RX and TX pins).

The most popular ESP8266 module is the ESP-01, it has only 8 pins as shown in the picture below (with pinout):

Hardware Components

You will require the following hardware for IOT security System all in one light

|  |  |  |
| --- | --- | --- |
| **Components** | **Value** | **Qty** |
| [Arduino UNO](https://amzn.to/3T4xsEl) | – | 1 |
| [PIR Motion Sensor](https://amzn.to/3s1mTXb) | HC-SR501 | 1 |
| Lamp | \_ | 1 |
| [Resistor](https://amzn.to/3VdpCug) | 1KΩ, 330Ω | 1, 1 |
| [Breadboard](https://amzn.to/3CHxtsw) | – | 1 |
| [Jumper Wires](https://amzn.to/3CI1YP5) | – | 1 |
| ESP 8266 | \_ | 1 |
| RELAY MODULE | \_ | 1 |

SchematicS

Here I Make connections according to the circuit diagram given below.





Installing Arduino IDE

First, you need to install Arduino IDE Software from its official website. Here is a simple step-by-step guide on.

sketch

Now copy the following code and upload it to Arduino IDE Software.

#define REMOTEXY\_MODE\_\_ESP8266\_HARDSERIAL\_POINT

#include <RemoteXY.h>

#define REMOTEXY\_SERIAL Serial

#define REMOTEXY\_SERIAL\_SPEED 115200

#define REMOTEXY\_WIFI\_SSID "all in one lighter"

#define REMOTEXY\_WIFI\_PASSWORD "12345678"

#define REMOTEXY\_SERVER\_PORT 6377

#pragma pack(push, 1)

uint8\_t RemoteXY\_CONF[] =

{ 255,3,0,0,0,54,0,16,16,0,2,1,69,19,22,11,243,24,17,202,

79,78,0,79,70,70,0,2,0,7,18,22,11,162,26,31,31,79,78,0,

79,70,70,0,2,0,38,44,22,11,12,36,31,31,79,78,0,79,70,70,

0 };

struct {

uint8\_t security;

uint8\_t LIGHING;

uint8\_t automatic;

uint8\_t connect\_flag;

} RemoteXY;

#pragma pack(pop)

#define PIN\_SECURITY 7

#define PIN\_LIGHING 8

#define PIN\_AUTOMATIC 10

void setup()

{

RemoteXY\_Init ();

pinMode(5,INPUT);

pinMode(4,OUTPUT);

pinMode (PIN\_SECURITY, OUTPUT);

pinMode (PIN\_LIGHING, OUTPUT);

pinMode (PIN\_AUTOMATIC, OUTPUT);

}

void loop()

{

if(digitalRead(5)==LOW)

{

digitalWrite(4,HIGH);

}

if(digitalRead(5)==HIGH)

{

digitalWrite(4,LOW);

delay(5000);

}

RemoteXY\_Handler ();

digitalWrite(PIN\_SECURITY, (RemoteXY.security==0)?LOW:HIGH);

digitalWrite(PIN\_LIGHING, (RemoteXY.LIGHING==0)?LOW:HIGH);

digitalWrite(PIN\_AUTOMATIC, (RemoteXY.automatic==0)?LOW:HIGH)

}

Let’s Test It

The circuit has now become complete. After you Upload the code into Arduino is now time to test the circuit. Power up the system

**Step1.**first you have to make the connection between system and our smart phone

Go to the section of the site ["Download mobile application"](http://remotexy.com/en/download/) and download to your smartphone or tablet the application. Of XY remote and open it

After that make connection by open WIFI on your phone \_choose name of your system connect, remember to use password you have settled in program then make connection in XY remote with the system

***Step2****.* At this step you will see the appearance of buttons on your phone and testing all **MODE**

**Step3.**let us start in mode 1. swishing light **ON/OFF** via smart phone

**Step4.** Mode3.AUTOMATIC LIGHTING ON**/OFF** via smart phone. In this mode your system will light ON once there is someone around

Applications

* Home and office security
* Intruder protect at home

Conclusion.

I hope you have found this IOT all in one light with Arduino

with the Help of Arduino ESP 8266 and Circuit very useful. If you feel any difficulty in making it feel free to ask anything in the comment section.

<https://youtu.be/e7PmOxllyMo>