Title :

Home Automation With AWS IOT core

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HOME AUTOMATION WITH AWS IOT CORE

1. ABSTRACT

The AWS IoT Core is a managed cloud service that lets connected devices easily and securely interact with cloud applications and other devices. The AWS IoT Core MQTT messaging service lets you send and receive MQTT messages to and from AWS IoT Core. Using the Publish/Subscribe feature we can basically receive or send any data to & the AWS IoT Core dashboard.

This is a simple Home Automation Project using Amazon AWS IoT Core & ESP32 WiFi Module. Controlling Peripherals like AC Appliances like bulbs via Relay from AWS IoT Dashboard using ESP8266 WiFi Module. We would basically call it a Home Automation Project. Home automation is the automatic control of electronic devices in your home. These devices are connected to the Internet, which allows them to be controlled remotely. Amazon Web Services, i.e AWS IoT Core with ESP32. The AWS IoT Core is a managed cloud service that lets connected devices easily and securely interact with cloud applications and other devices.

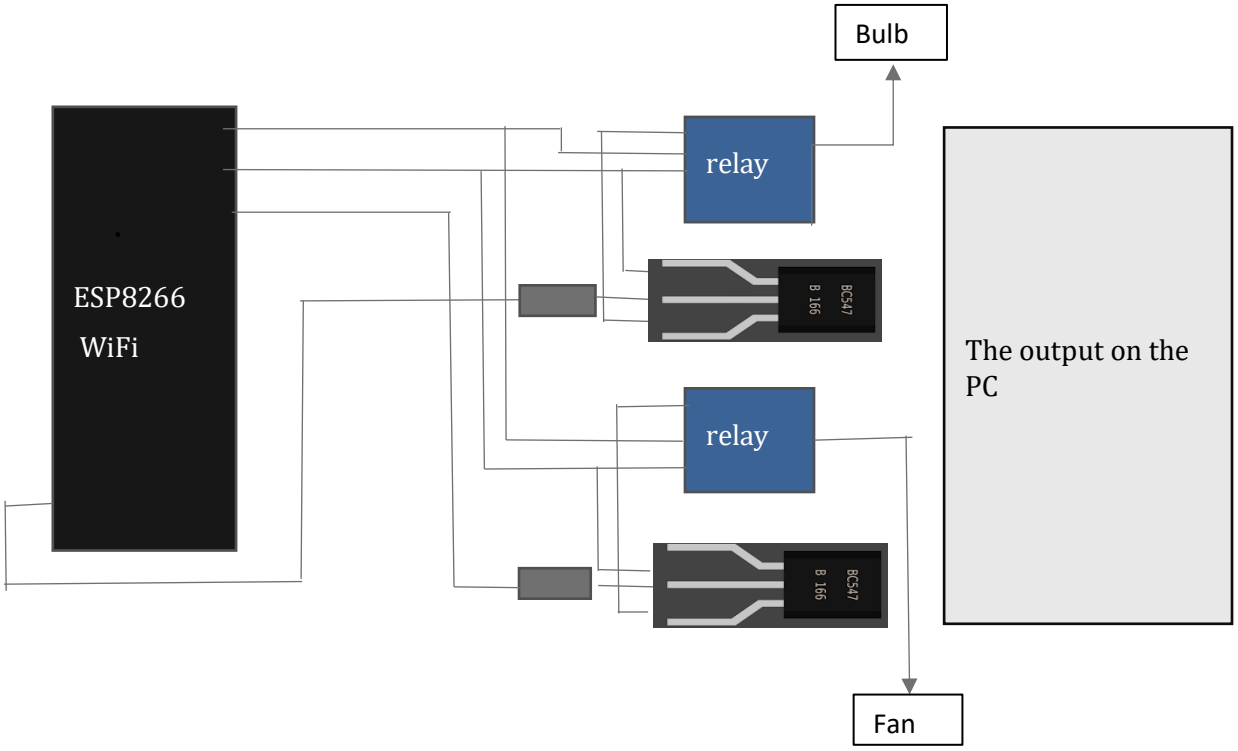
2. INTRODUCTION

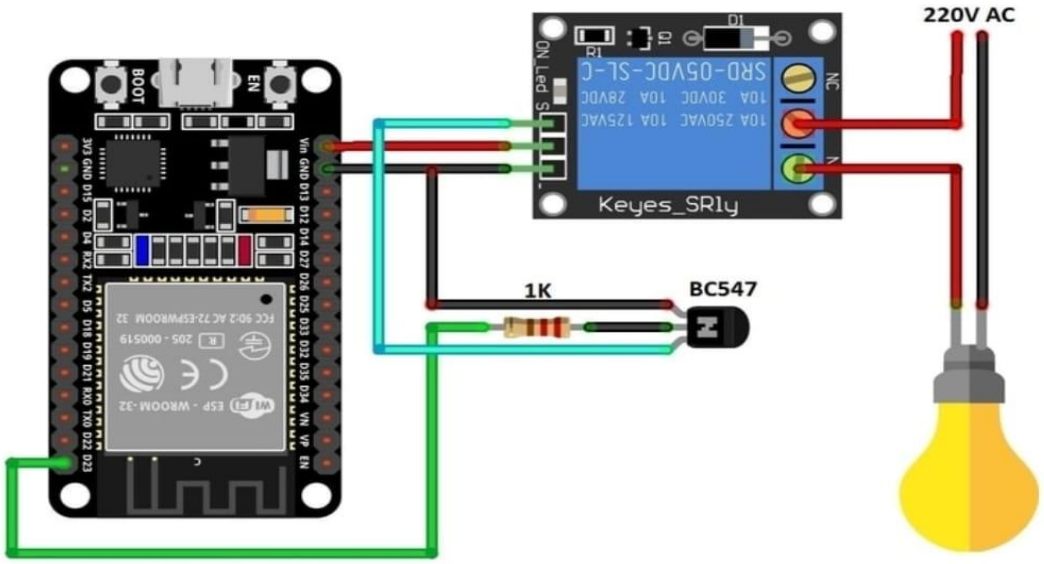
In this project the Amazon Web Services to remotely control the relay and home appliances through the internet and cloud services. By connecting the microcontroller WiFi Module i.e Node Mcu ESP8266 to the Amazon Web Services i.e AWS cloud we can upload and receive data.

For connecting the wifi Module to the AWS Iot core we must create thing then generate certificate and download certificate as well as private key and public key then the Arduino code for connecting to cloud and upload as well as get the data.

Next comes the hardware part of connecting pins to the microcontroller ESP8266 the connections of really and other appliances can be made by the circuit diagram.

3. CIRCUIT DIAGRAM





4. WORKING

Once all the modification is done, connect the ESP8266 to your computer. Then go to the tools & select ESP8266 Board that you are using for this project. Also, select the COM port. Then click on the upload option to upload the code to the ESP8266 board.

Once the code uploading is done, open the Serial Monitor. The ESP8266 will try connecting to the WiFi Network. Once it gets connected to the WiFi Network, it will try connecting to the AWS IoT Server. The Serial Monitor will show this message.

Now we need to check whether we can publish the topic to control an LED or not.

To do that, you need to publish a topic. For that type “esp8266/sub“ under the topic filter section. Under Message Payload type the following command.

Under additional configuration do nothing. Then click on publish. Immediately you can see the message sent to the Serial Monitor.

Now to turn OFF the LED send 0 instead of 1 from the publish window of AWS Dashboard. The LED should turn off immediately

This is how you can control Relay/LED/Lamp with Amazon AWS IoT Core using ESP8266 WiFi Module.