ESP8266 Internal EEPROM ogramming

cember 16, 2016 IoT Tutorials ESP8266, Internet of Things, iot

tutorial we will see writing data to EEPOM and reading from **EEPROM**. **ESP8266** have 512 bytes ernal EEPROM, it is useful when you want to store some settings, such as IP address of server, ey, SSID of WiFi. **We also discuss on writing string into EEPROM and reading it.**

To write byte to EEPROM we need two commands

```
EEPROM.write(addr, data);
EEPROM.commit();
```

To read single byte from EEPROM

```
Char Data;
Data = EEPROM.read(addr);
```

We have only read and write bytes commands, for writing String, Integer and other data types we have to split data into bytes first and rejoin it while reading.

Write data to EEPROM

We write some characters and String to EEPROM, This program only writes data to EEPROM we read it using another program. Bytes ABC are stored at address 0x00,0x01,0x02 respectively and string is stored from 0x0F.

Remember that ESP requires **EEPROM.commit();** command. Without this data will not be saved to **EEPROM**.

```
/*
 * EEPROM Write
 *
 * Stores values and string to EEPROM.
 * These values and string will stay in the EEPROM when the board is
 * turned off and may be retrieved later by another sketch.
 */

#include <EEPROM.h>

// the current address in the EEPROM (i.e. which byte
// we're going to write to next)
int addr = 0;

void setup()
{
  EEPROM.begin(512);  //Initialize EEPROM
```

```
18
19    // write appropriate byte of the EEPROM.
20    // these values will remain there when the board is
21    // turned off.
22
23    EEPROM.write(addr, 'A');    //Write character A
24    addr++;                      //Increment address
25    EEPROM.write(addr, 'B');    //Write character A
26    addr++;                      //Increment address
27    EEPROM.write(addr, 'C');    //Write character A
28
29    //Write string to eeprom
30    String www = "www.circuits4you.com";
31    for(int i=0;i<www.length();i++) //loop upto string lenght www.lengt
32    {
33      EEPROM.write(0x0F+i,www[i]); //Write one by one with starting add
34    }
35    EEPROM.commit();    //Store data to EEPROM
36  }
37
38  void loop()
39  {
40    //We dont have anything in loop as EEPROM writing is done only once
41    delay(10);
42  }
```

Read data from EEPROM

Now let's **read data from EEPROM** and show it on serial monitor. You can combine these two programs as per your need.

String is array of characters.

```
1   /*
2    * EEPROM Read
3    * Circuits4you.com
4    */
5
6   #include <EEPROM.h>
7
8   // the current address in the EEPROM (i.e. which byte
9   // we're going to read from)
10  int addr = 0;
11
12  void setup()
13  {
14    EEPROM.begin(512);  //Initialize EEPROM
15    Serial.begin(9600); //Serial communication to display data
16    // read appropriate byte of the EEPROM.
17    Serial.println(""); //Goto next line, as ESP sends some garbage whe
18    Serial.print(char(EEPROM.read(addr)));    //Read from address 0x00
19    addr++;                       //Increment address
20    Serial.print(char(EEPROM.read(addr)));    //Read from address 0x01
21    addr++;                       //Increment address
22    Serial.println(char(EEPROM.read(addr)));    //Read from address 0x0
23
24    //Read string from eeprom
25    String www;
26    //Here we dont know how many bytes to read it is better practice to
27    //Lets do it manually www.circuits4you.com  total length is 20 char
28    for(int i=0;i<20;i++)
29    {
30      www = www + char(EEPROM.read(0x0F+i)); //Read one by one with sta
31    }
32
33    Serial.print(www);  //Print the text on serial monitor
34  }
35
36  void loop()
```

```
{
  //We dont have anything in loop as EEPROM reading is done only once
  delay(10);
}
```

Results

You will see what we have written to the EEPROM will appear on Serial terminal. ESP always sends some garbage to serial monitor when you reset it, skip first line.

s example we have taken how to write String and read String from EEPROM, we need to use ; type data many times in ESP8266.

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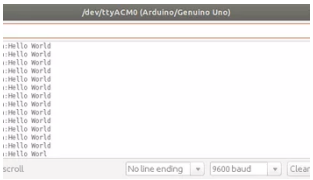

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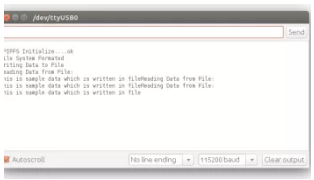

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