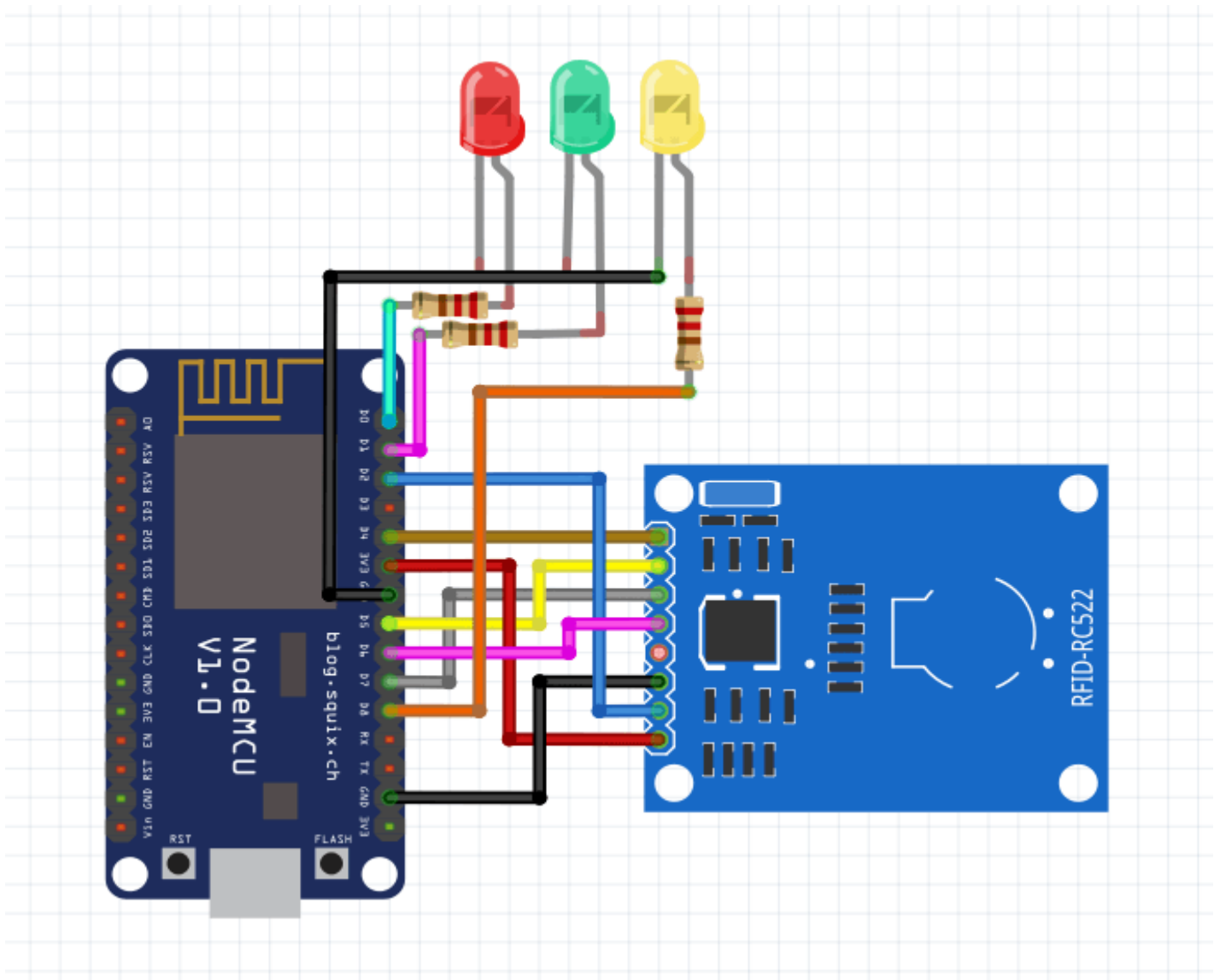


## CONNECTING RFID SCANNER TO PHP USING NODEMCU WIFI MODULE



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## Requirements

- NodeMcu Wifi Module or cellphone hotspot
- RFID-RC522
- Arduino RFID Library for MFRC522 (SPI)
- Arduino IDE
- Arduino Core for NodeMCU ESP-12E Using Arduino Boards Manager
- Led Lights
- 220 Ohm to 1000 ohm resistor
- Jumper Wires
- XAMPP

After preparing the requirements, connect your RFID RC522 to your NodeMcu. Follow the diagram below:

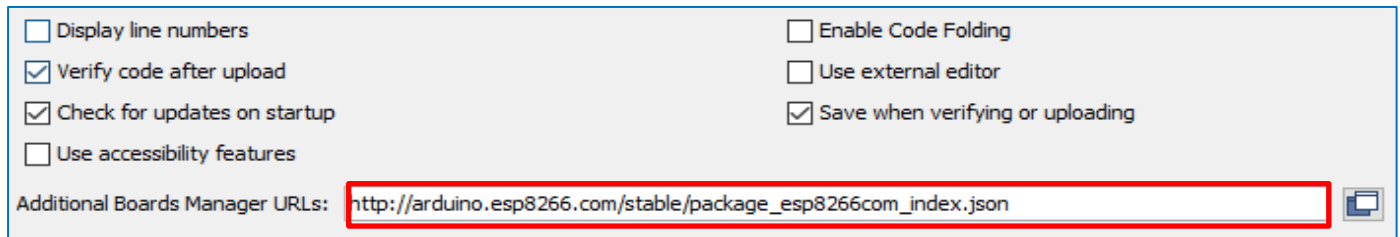
RFID	NodeMcu
3.3V	3.3V
RST	D2
GND	GND
MISO (Master-in, Slave out.)	D6
MOSI (Master Out Slave In)	D7
SCK (Serial Clock)	D5
SDA (Serial Data)	D4

- **Yellow** light will serve as an indicator that we have successfully connected to wifi or HotSpot.
- **Green** indicates that the request to the server has been sent successfully.
- **Red** light indicates that our HTTP request failed / our server did not return “success”.

Led Pin	NodeMcu
Led w/ 220ohm Resistor (Red)	D0
Led w/ 220ohm Resistor (Green)	D1
Led w/ 220ohm Resistor (Yellow)	D8

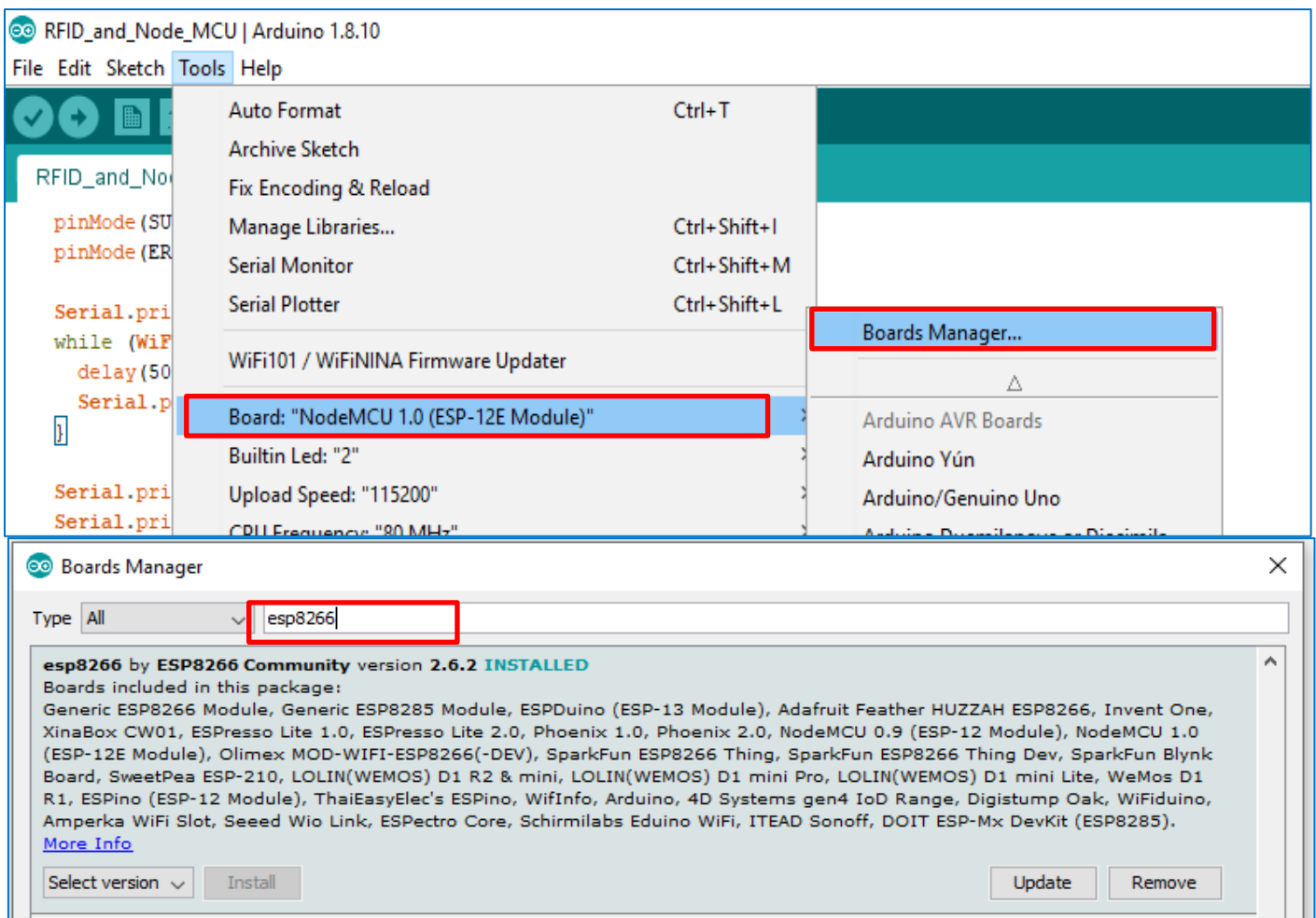
## 1. Setting up Arduino and adding RFID Library

- We need to add **esp8266** to our Arduino IDE. Open up your IDE then go to “**File -> Preferences**” or simply hit “Ctrl + comma”



Paste [http://arduino.esp8266.com/stable/package\\_esp8266com\\_index.json](http://arduino.esp8266.com/stable/package_esp8266com_index.json) in additional board manager URLs.

## 2. Go to “Tools -> Board -> Boards Manager” search and install **esp8266**

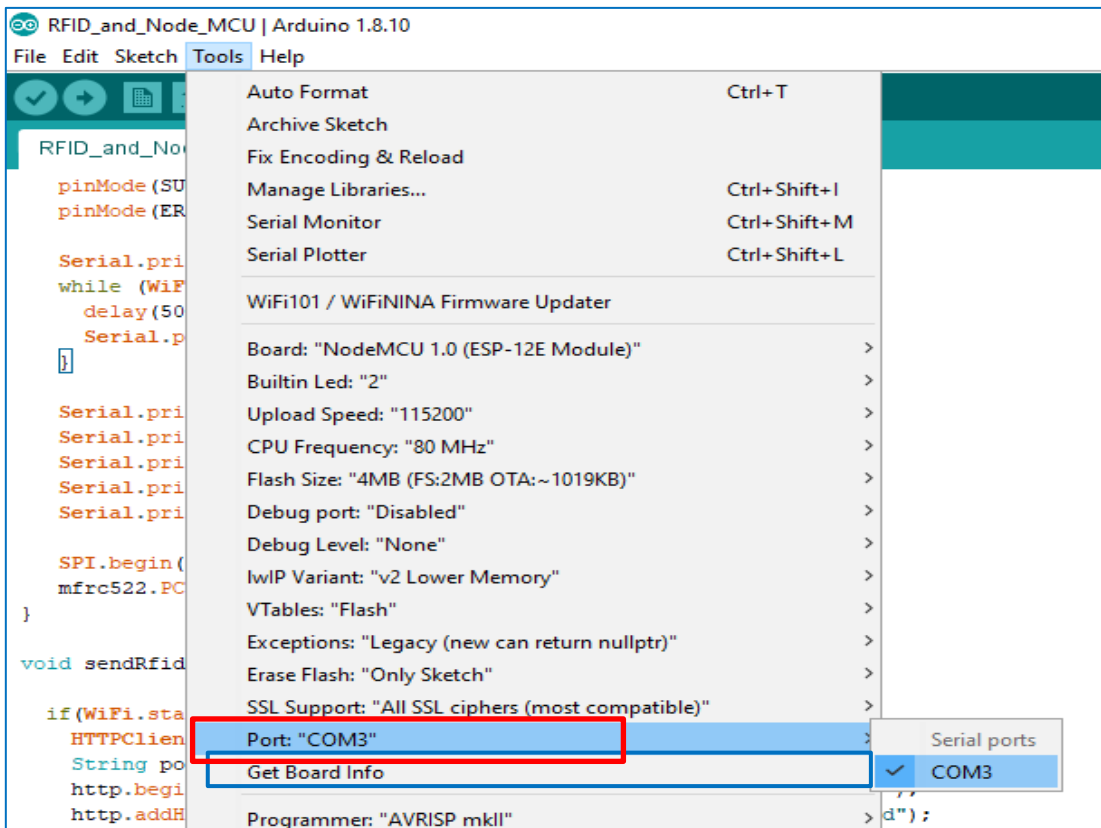


Close and restart your Arduino IDE

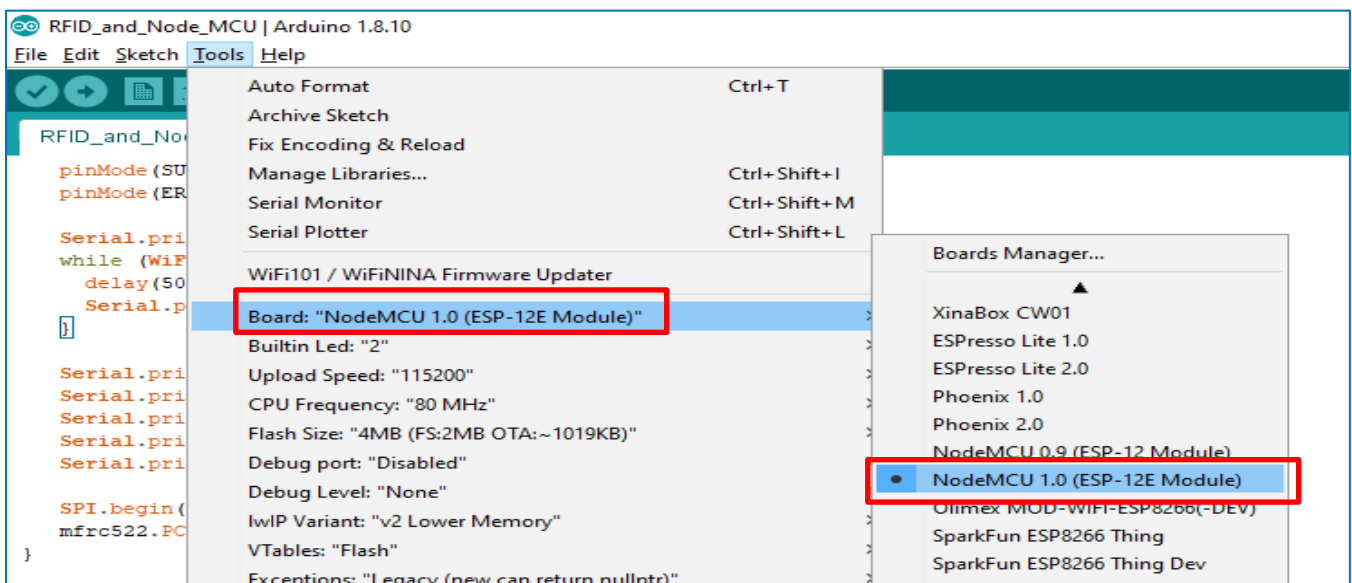
Plug in your NodeMcu to your computer. You will notice that your RFID scanner will light up and wait until connected!

### 3. Selecting Port and Board

Go to Tools -> Port and select the COM Port of your NodeMCU. If you are not sure what port your of your NodeMcu is plugged in, go to Device Manager -> **Ports (COM & LPT)**




4. Now select NodeMcu 1.0 (ESP-12E Module) by clicking Tools -> Board. Scroll down.



## Restart your Arduino IDE

## Modifying the Codes

Open up the codes attached in Arduino IDE. Change the following lines of code. Since our RFID Scanner will be wireless, we need a way to transmit the data to our web server. Our NodeMcu will automatically connect to your wifi or mobile hotspot.

 RFID\_and\_Node\_MCU

19/09/2020 11:10 PM

Arduino file

```
const char *ssid = "HINDI-KO-ALAM"; //WIFI NAME OR HOTSPOT
const char *password = "Rnl+UTBl"; //WIFI PASSWORD POR MOBILE HOTSPOT PASSWORD
```

The URL must be changed to where you deployed our PHP codes. I run XAMPP on my computer. I inputted my LAN IP address.

Wireless LAN adapter Wi-Fi:

```
Connection-specific DNS Suffix  . : WIFI_ROUTER
Link-local IPv6 Address . . . . . : fe80::2424:5eb0:6700:bcf3%16
IPv4 Address. . . . . : 192.168.1.2
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.1.1
```

```
if(WiFi.status() == WL_CONNECTED) {
  HTTPClient http;
  String postData = "cardid=" + String(cardid) + "&action=insertRecord";
  http.begin("http://192.168.1.2/RFIDandPHP/process.php");
  http.addHeader("Content-Type", "application/x-www-form-urlencoded"); |
```

After modifying the codes, plugin your NodeMCU, and on Arduino ID, click the upload button.

SourceCodePH: Please use this user manual as your reference. This is not for sale.

## XAMPP setup:

1. Download and Extract the zip file: **RFIDandPHP.zip**
2. Put the folder name inside to this path: C:\xampp\htdocs

EmployeeAttendance	18/09/2020 5:46 PM
img	18/09/2020 5:45 PM
POS-Inventory	17/09/2020 10:56 AM
<b>RFIDandPHP</b>	20/09/2020 1:00 AM
SalesInventorySystem	14/09/2020 10:49 AM
SalesInventorySystem BACK UP 14092020	14/09/2020 7:50 PM

3. Open <http://localhost/phpmyadmin/> and create database name: “**rfidandphp**”

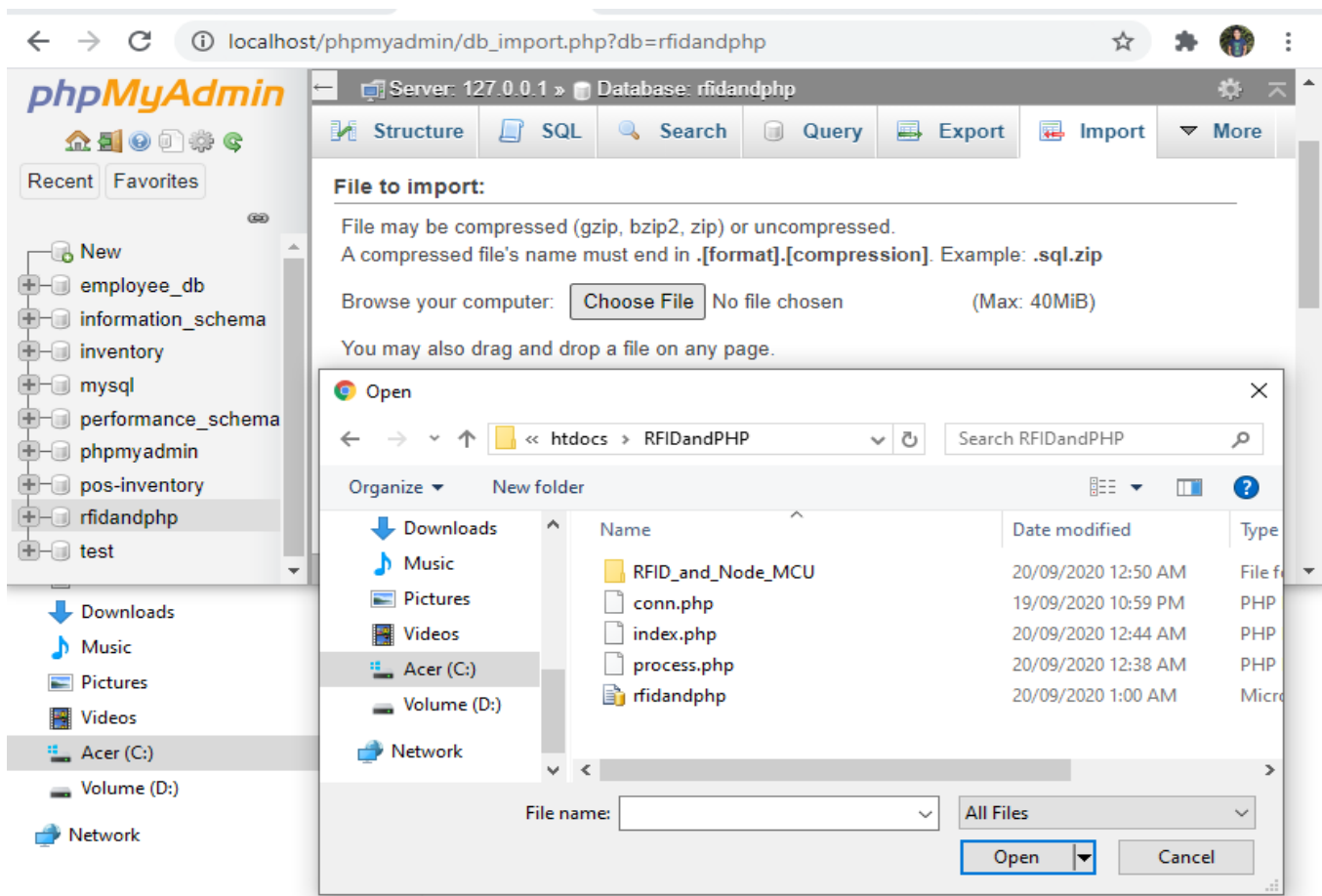
The screenshot shows the phpMyAdmin interface in a web browser. The address bar displays 'localhost/phpmyadmin/server\_databases.php'. The interface includes a sidebar with a tree view of databases, where 'rfidandphp' is highlighted. The main panel shows the 'Create database' form with 'Database name' and 'utf8mb4\_general\_ci' selected. Below the form is a table listing existing databases.

Database	Collation	Action
<input type="checkbox"/> employee_db	utf8mb4_general_ci	<a href="#">Check privileges</a>
<input type="checkbox"/> information_schema	utf8_general_ci	<a href="#">Check privileges</a>
<input type="checkbox"/> inventory	utf8mb4_general_ci	<a href="#">Check privileges</a>
<input type="checkbox"/> mysql	utf8mb4_general_ci	<a href="#">Check privileges</a>
<input type="checkbox"/> performance_schema	utf8_general_ci	<a href="#">Check privileges</a>
<input type="checkbox"/> phpmyadmin	utf8_bin	<a href="#">Check privileges</a>
<input type="checkbox"/> pos-inventory	utf8mb4_general_ci	<a href="#">Check privileges</a>
<input type="checkbox"/> <b>rfidandphp</b>	utf8mb4_general_ci	<a href="#">Check privileges</a>
<input type="checkbox"/> test	latin1_swedish_ci	<a href="#">Check privileges</a>

Total: 9

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#### 4. Open C:\xampp\htdocs\RFIDandPHP and import the database rfidandphp.sql



#### 5. and last, open the folder in browser type: <http://localhost/RFIDandPHP/>

#### Output:

All Records		
ID	CARD ID	DATE AND TIME
1	232790	September 20, 2020, 12:29 am
2	232790	September 20, 2020, 12:55 am

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