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**LAPORAN PRAKTIKUM MAHASISWA  
PEMROGRAMAN WEB FRAMEWORK**

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**CRUD dengan NodeJS, Bootstrap, MySQL**



**Oleh:**

**NAMA** : Haldian  
**NPM** : 20753050  
**KELAS** : Manajemen Informatika 4B

**Dosen:**

**Tri Sandhika Jaya, S.Kom., M.Kom.**

**D3 - MANAJEMEN INFORMATIKA  
JURUSAN EKONOMI DAN BISNIS  
POLITEKNIK NEGERI LAMPUNG  
MARET 2022**

## A. Tujuan (Capaian Pembelajaran)

Setelah praktikum ini, praktikan diharapkan dapat:

Membuat CRUD dengan NodeJS, Bootstrap, MySQL

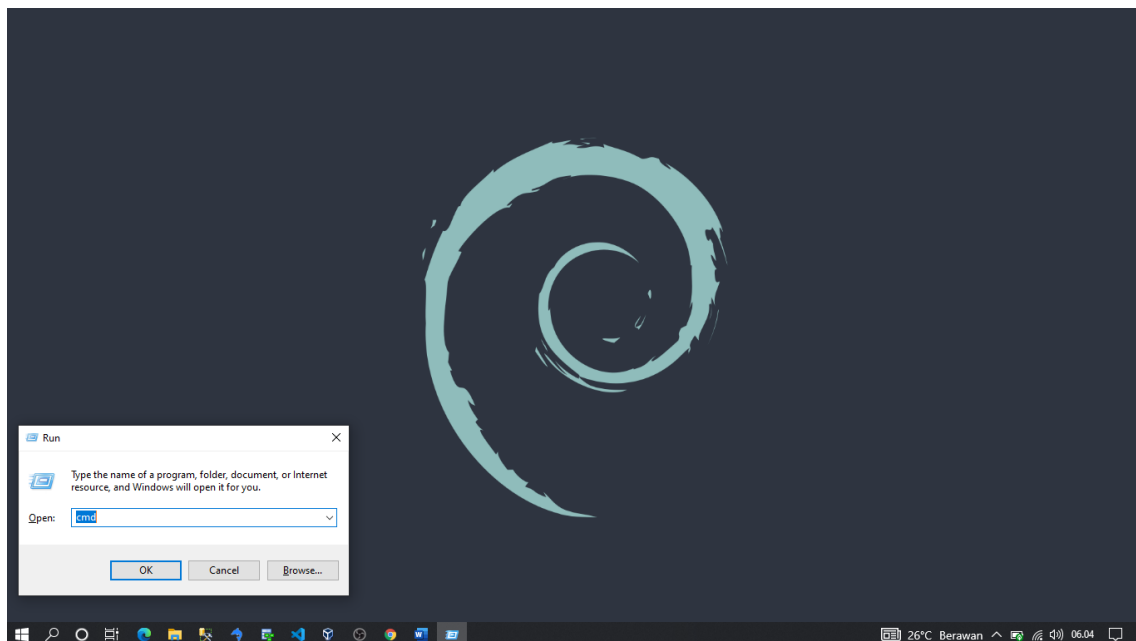
## B. Peralatan yang digunakan

1. Web Editor : Visual Studio Code
2. Web Browser : Google Chrome
3. OS PC : Windows 10
4. XAMPP : versi 7.2
5. NodeJs : 16.14.0 LTS

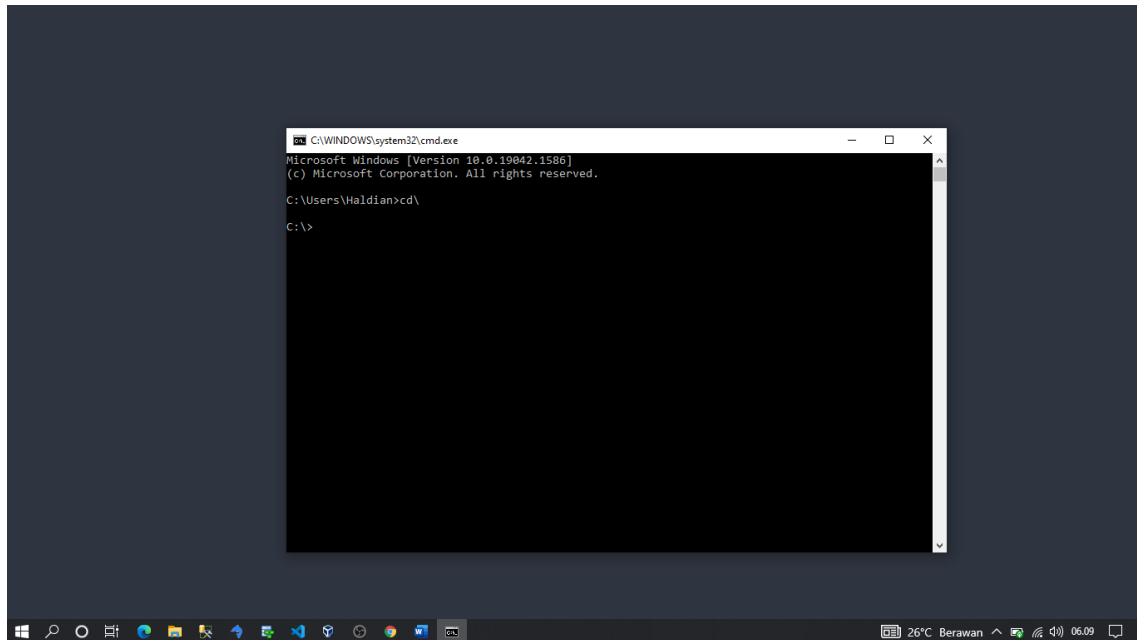
## C. Hasil Praktikum

### Tahapan Pembuatan Database

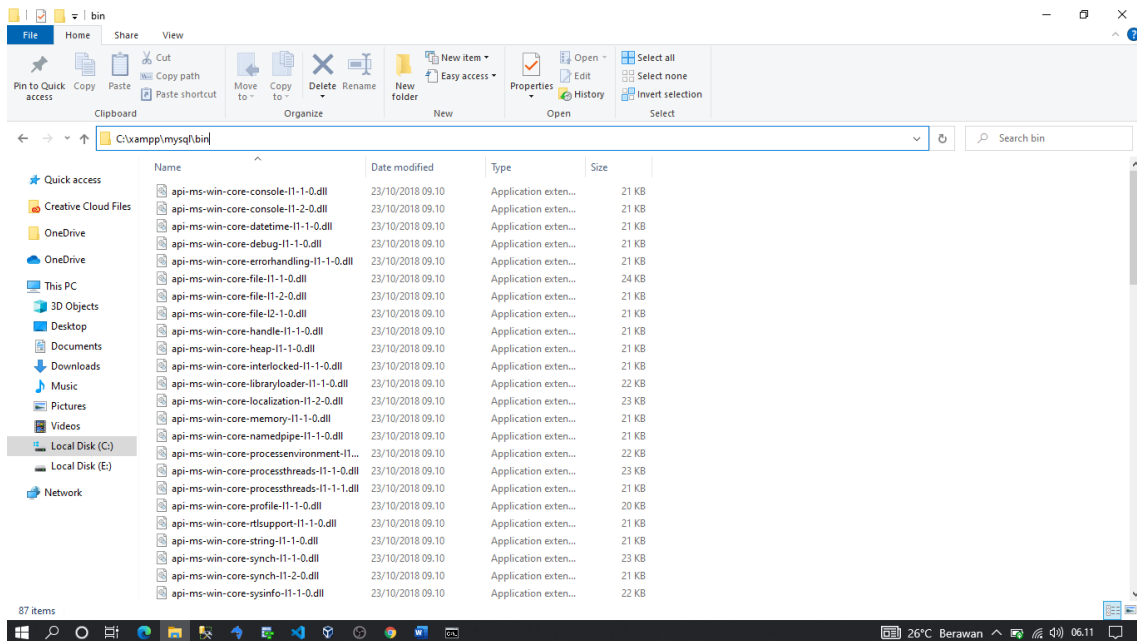
1. Pertama kita buka console cmd dengan menekan windows+R kemudian enter maka akan seperti gambar di bawah ini



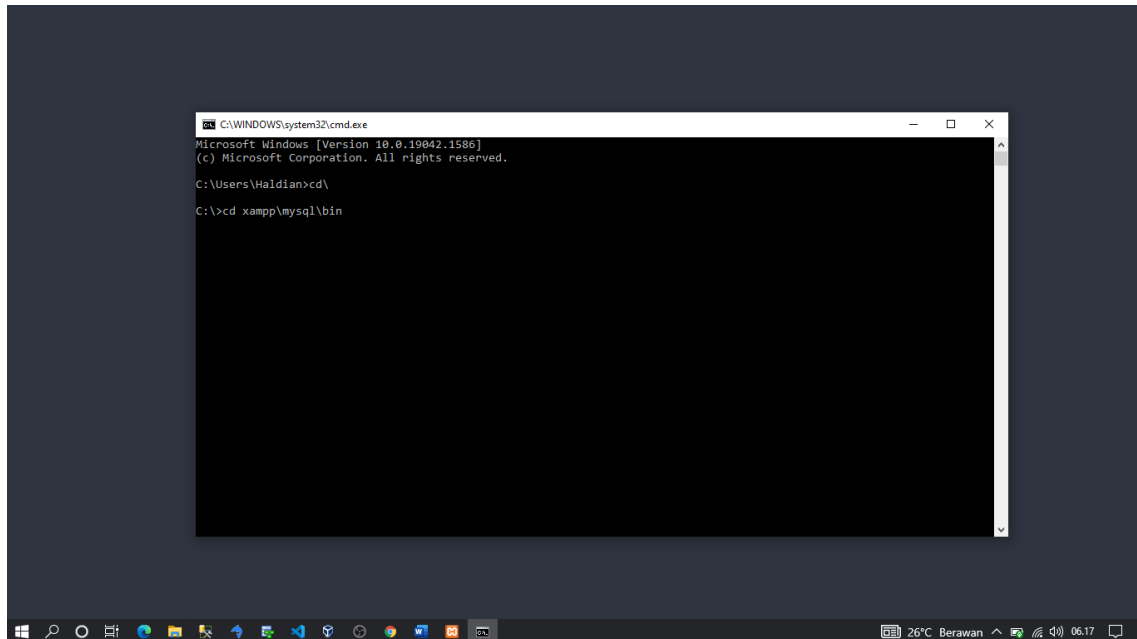
2. Kemudian kita ketikkan `cd\` untuk kembali ke dalam drive seperti gambar di bawah ini



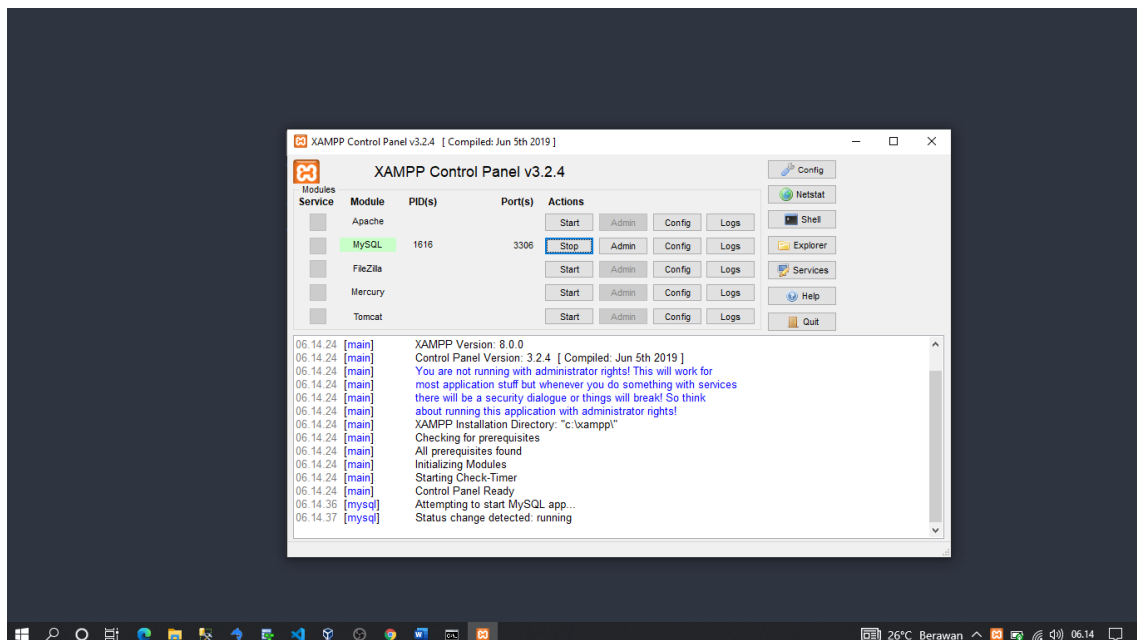
3. Selanjutnya kita coba cari `mysql/bin` dengan masuk ke drive c kemudian `xampp\mysql\bin` seperti gambar di bawah ini



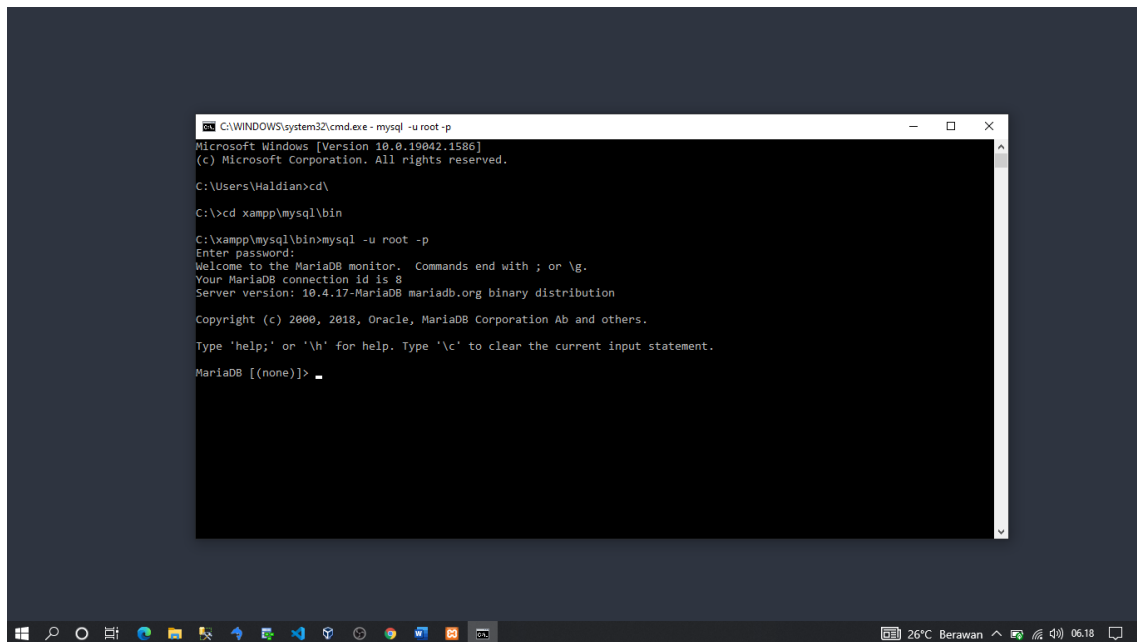
4. Kemudian kita masuk kembali ke dalam console pada drive seperti C:\ kemudian kita ketikkan cd xampp\mysql\bin seperti gambar di bawah ini



5. Selanjutnya kita buka xampp kita dan kita hidupkan mysql servernya seperti gambar di bawah ini



6. Untuk mengakses mysql server kita ketikkan `mysql -u root -p` kemudian enter pada console kita seperti gambar di bawah ini



```
C:\WINDOWS\system32\cmd.exe - mysql -u root -p
Microsoft Windows [Version 10.0.19042.1586]
(c) Microsoft Corporation. All rights reserved.

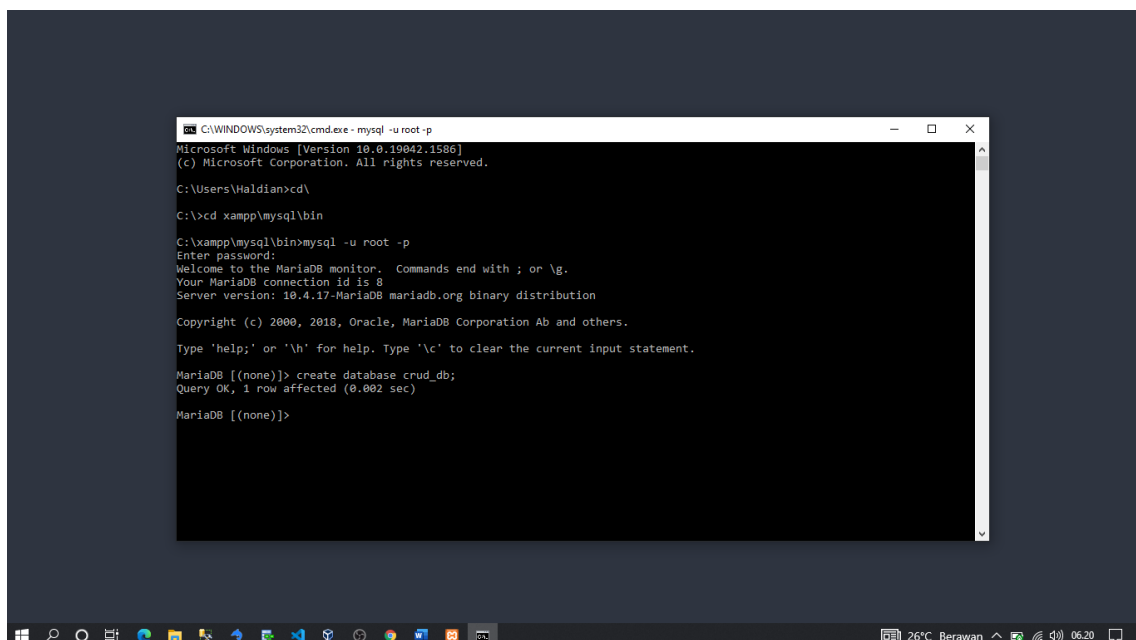
C:\Users\Haldian>cd\
C:\>cd xampp\mysql\bin
C:\xampp\mysql\bin>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.17-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]>
```

7. kemudian membuat database dengan cara `create database crud_db;` seperti gambar di bawah ini



```
C:\WINDOWS\system32\cmd.exe - mysql -u root -p
Microsoft Windows [Version 10.0.19042.1586]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Haldian>cd\
C:\>cd xampp\mysql\bin
C:\xampp\mysql\bin>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.17-MariaDB mariadb.org binary distribution

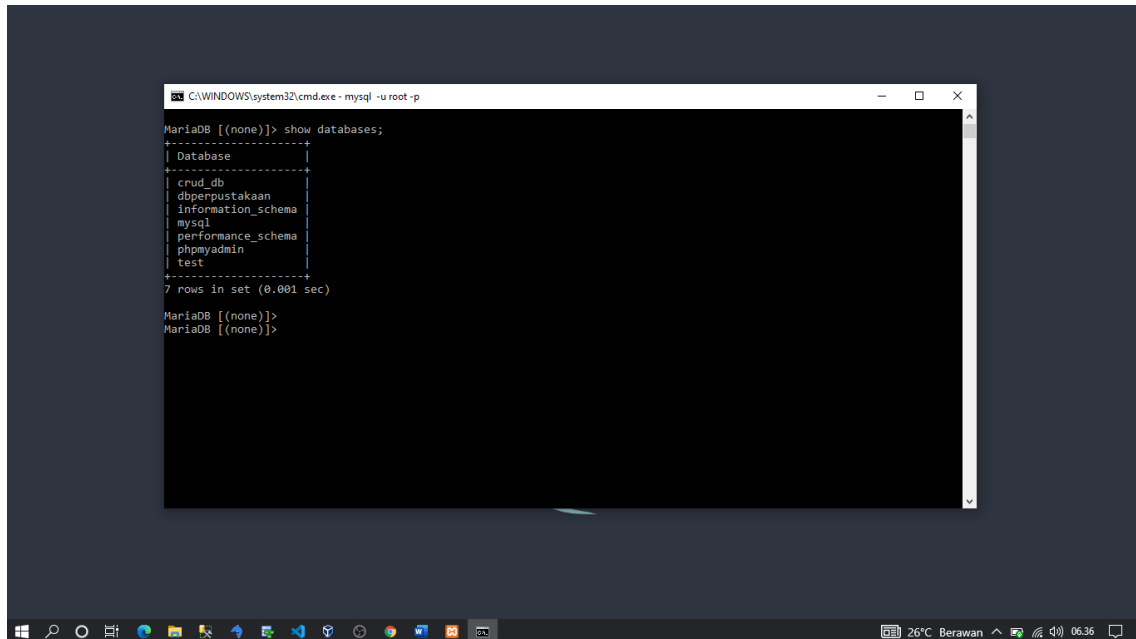
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> create database crud_db;
Query OK, 1 row affected (0.002 sec)

MariaDB [(none)]>
```

8. kemudian kita show databases seperti gambar dibawah ini di mana kita akan mengecek database yang di miliki kita seperti gambar di bawah ini.

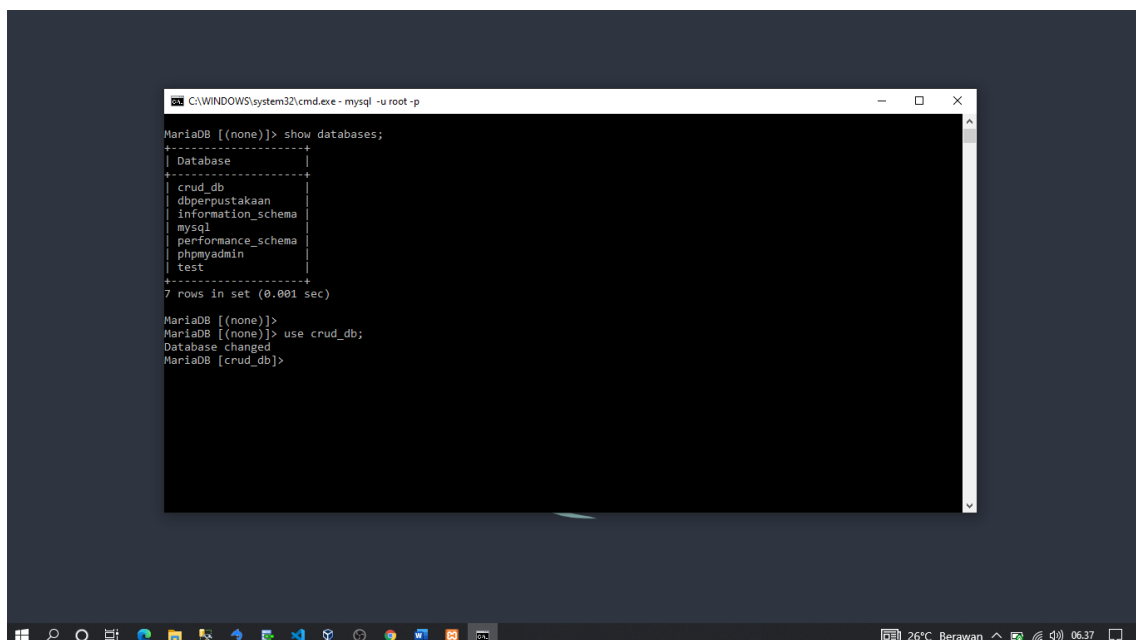


```
C:\WINDOWS\system32\cmd.exe - mysql -u root -p

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| crud_db  |
| dbperpustakaan |
| information_schema |
| mysql    |
| performance_schema |
| phpmyadmin |
| test     |
+-----+
7 rows in set (0.001 sec)

MariaDB [(none)]>
MariaDB [(none)]>
```

9. kemudian kita masuk ke dalam database crud\_db dengan use nama database seperti gambar di bawah ini di mana nama database nya yaitu crud\_db maka kita lakukan use crud\_db.

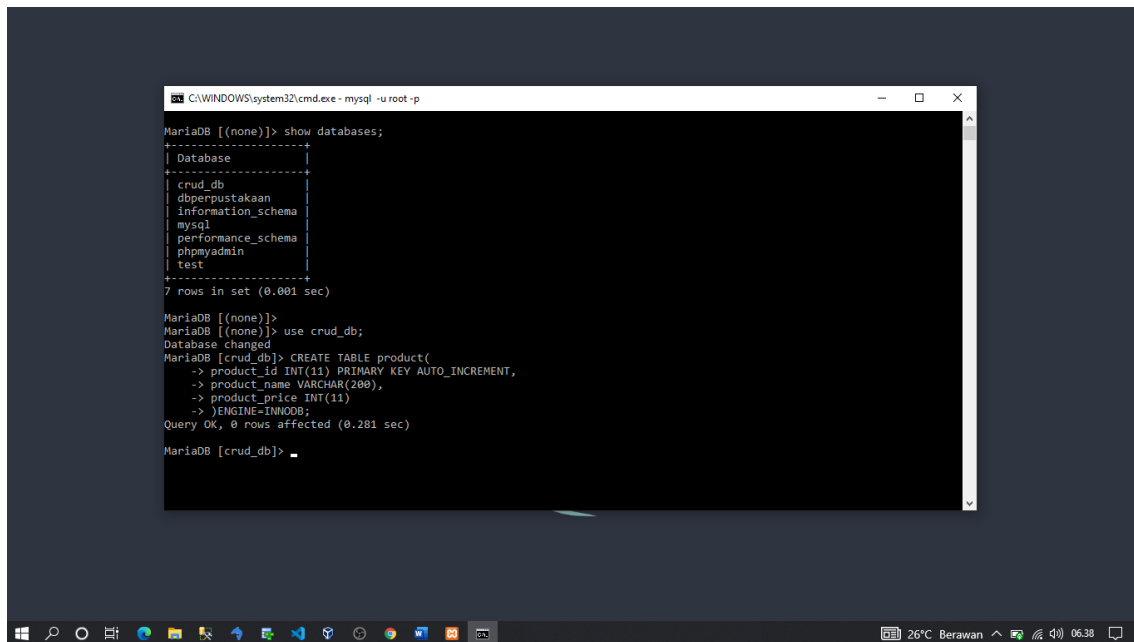


```
C:\WINDOWS\system32\cmd.exe - mysql -u root -p

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| crud_db  |
| dbperpustakaan |
| information_schema |
| mysql    |
| performance_schema |
| phpmyadmin |
| test     |
+-----+
7 rows in set (0.001 sec)

MariaDB [(none)]>
MariaDB [(none)]> use crud_db;
Database changed
MariaDB [crud_db]>
```

10. kemudian kita lakukan pembuatan table di sini nama table nya yaitu product seperti gambar di bawah ini



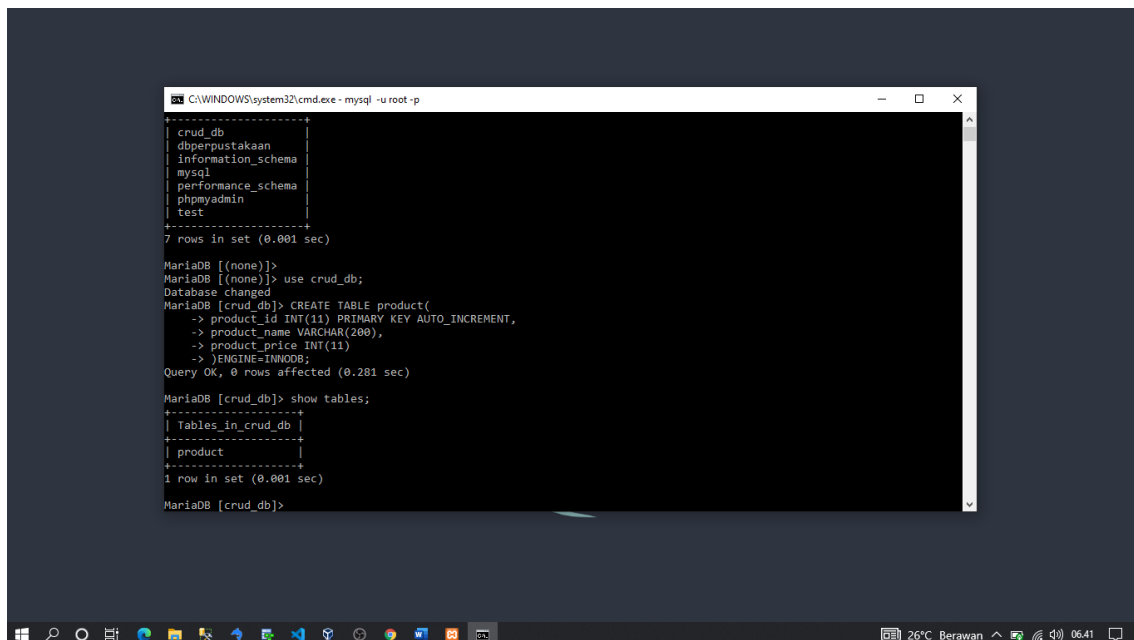
```
C:\WINDOWS\system32\cmd.exe - mysql -u root -p

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| crud_db  |
| dbperpustakaan |
| information_schema |
| mysql    |
| performance_schema |
| phpmyadmin |
| test     |
+-----+
7 rows in set (0.001 sec)

MariaDB [(none)]> use crud_db;
Database changed
MariaDB [crud_db]> CREATE TABLE product(
  -> product_id INT(11) PRIMARY KEY AUTO_INCREMENT,
  -> product_name VARCHAR(200),
  -> product_price INT(11)
  -> )ENGINE=INNODB;
Query OK, 0 rows affected (0.281 sec)

MariaDB [crud_db]>
```

11. kemudian selanjutnya kita lakukan pengecekan table pada database crud\_db dengan cara show tables seperti gambar di bawah ini



```
C:\WINDOWS\system32\cmd.exe - mysql -u root -p

+-----+
| crud_db  |
| dbperpustakaan |
| information_schema |
| mysql    |
| performance_schema |
| phpmyadmin |
| test     |
+-----+
7 rows in set (0.001 sec)

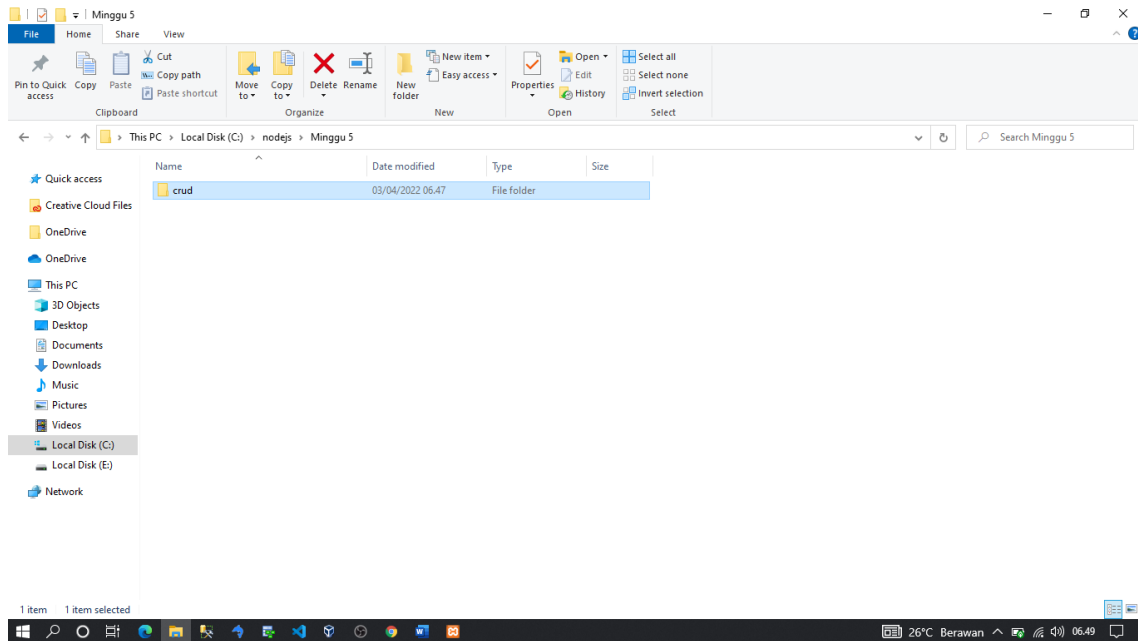
MariaDB [(none)]> use crud_db;
Database changed
MariaDB [crud_db]> CREATE TABLE product(
  -> product_id INT(11) PRIMARY KEY AUTO_INCREMENT,
  -> product_name VARCHAR(200),
  -> product_price INT(11)
  -> )ENGINE=INNODB;
Query OK, 0 rows affected (0.281 sec)

MariaDB [crud_db]> show tables;
+-----+
| Tables_in_crud_db |
+-----+
| product            |
+-----+
1 row in set (0.001 sec)

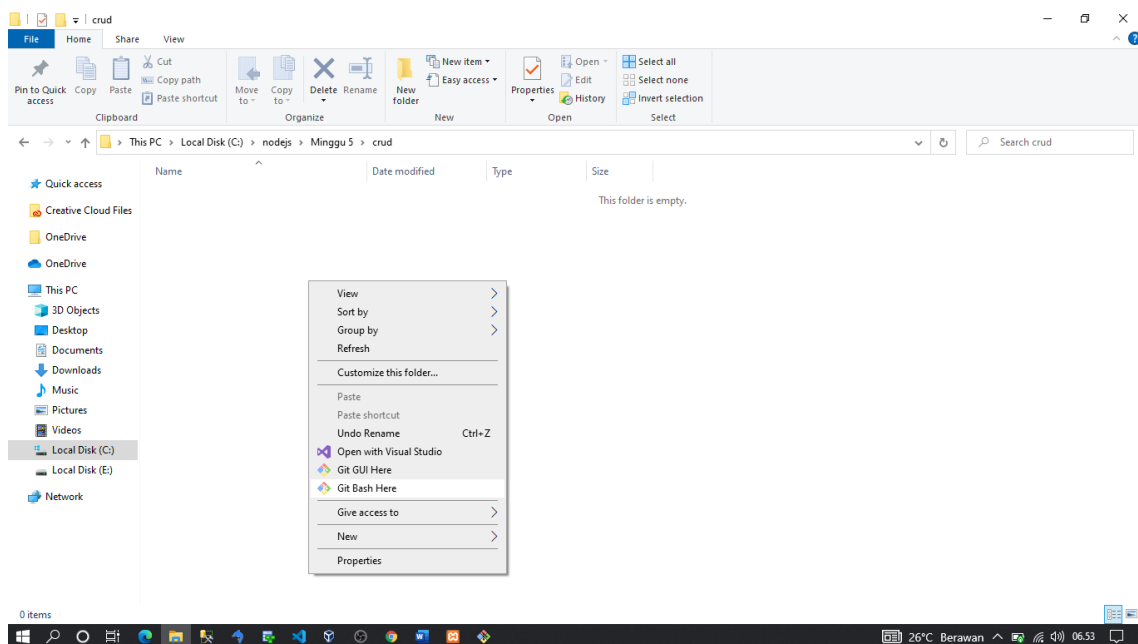
MariaDB [crud_db]>
```

## Tahapan Install Dependencies

1. Sebelum melakukan install dependencies yang pertama harus kita lakukan yaitu kita membuat folder terlebih dahulu di sini saya membuat dengan nama crud seperti gambar di bawah ini.

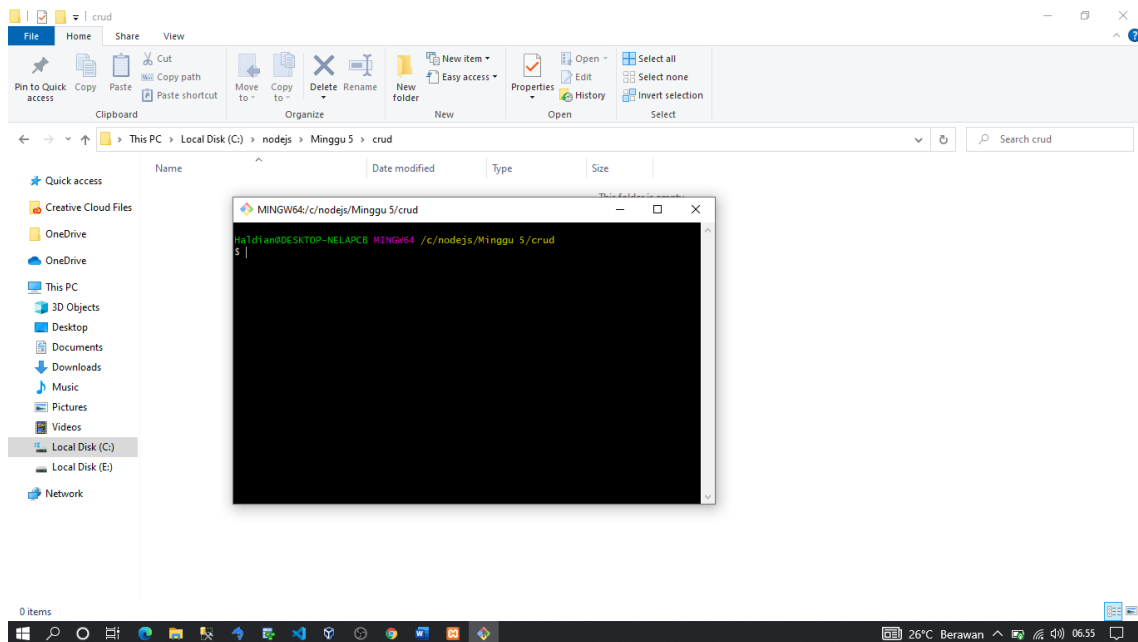


2. kemudian kita klik kanan pada folder yang telah kita buat tadi yaitu crud setelah itu kita pilih git nbash here seperti gambar di bawah ini.

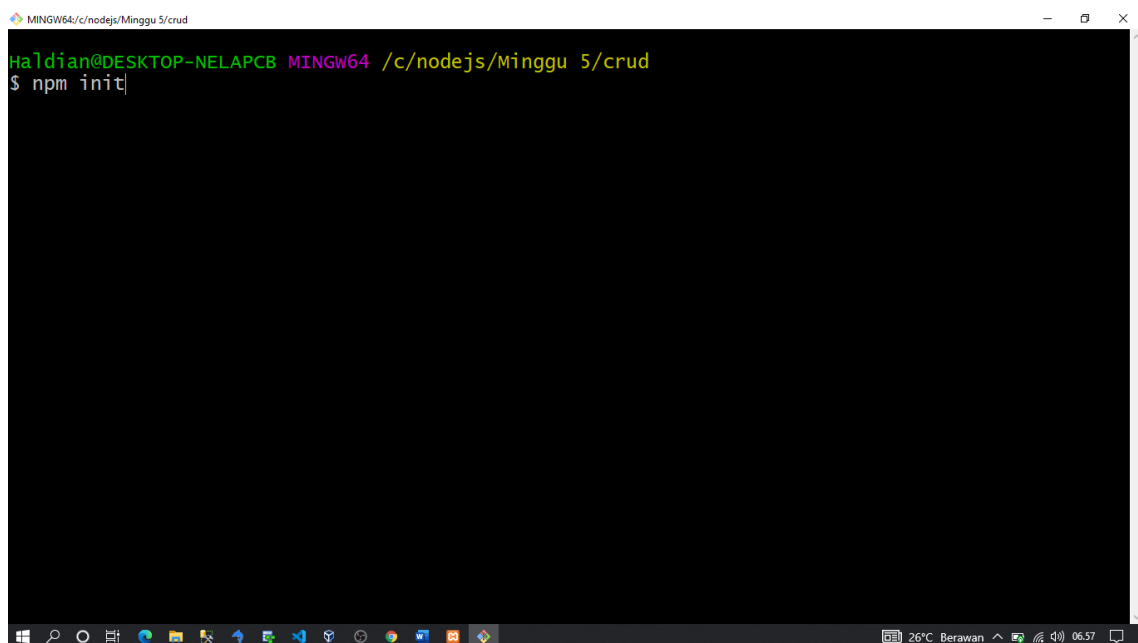


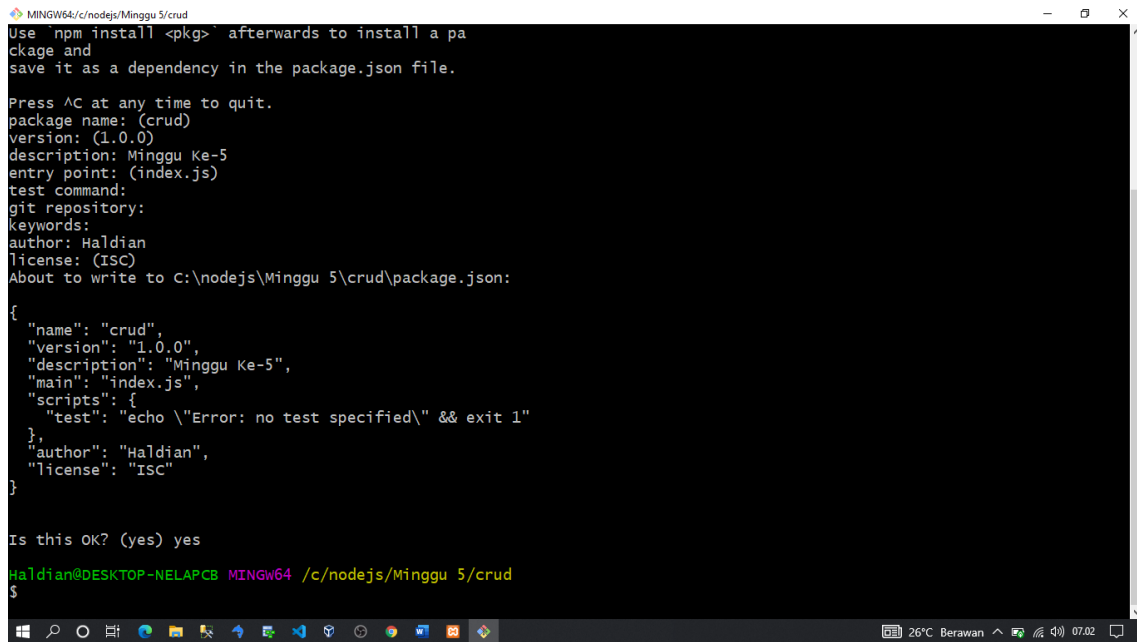


Kemudian akan muncul seperti gambar di bawah ini



3. Selanjutnya pada terminal git kita akan membuat package.json secara otomatis seperti gambar di bawah ini.



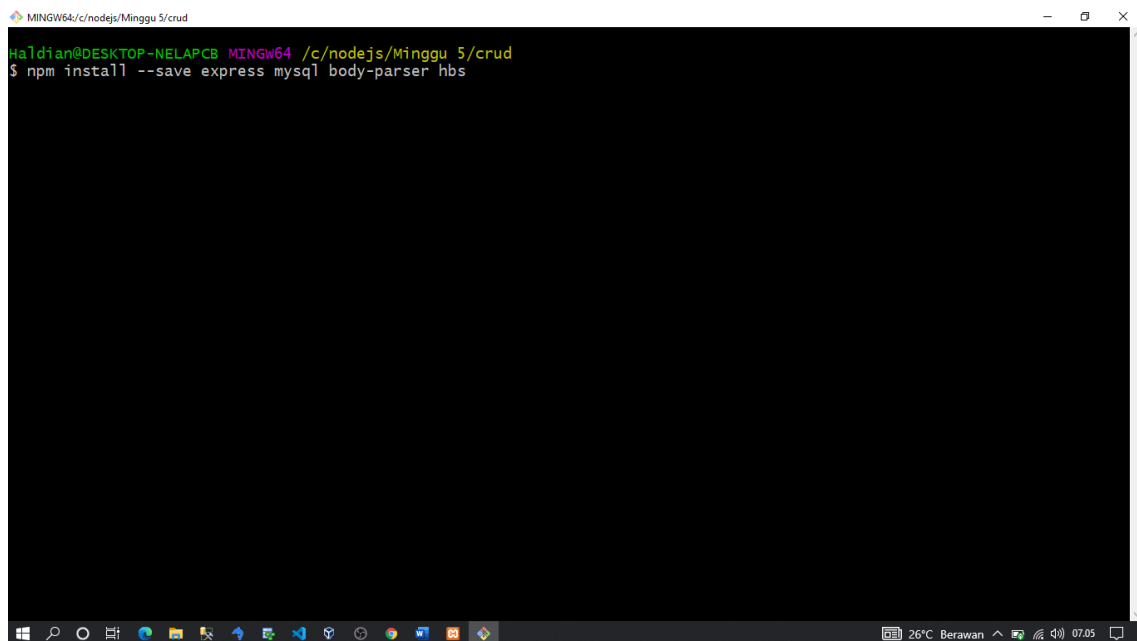


```
MINGW64/c/nodejs/Minggu 5/crud
Use 'npm install <pkg>' afterwards to install a package and save it as a dependency in the package.json file.

Press ^C at any time to quit.
package name: (crud)
version: (1.0.0)
description: Minggu Ke-5
entry point: (index.js)
test command:
git repository:
keywords:
author: Haldian
license: (ISC)
About to write to C:\nodejs\Minggu 5\crud\package.json:
{
  "name": "crud",
  "version": "1.0.0",
  "description": "Minggu Ke-5",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "author": "Haldian",
  "license": "ISC"
}

Is this OK? (yes) yes
Haldian@DESKTOP-NELAPCB MINGW64 /c/nodejs/Minggu 5/crud
$
```

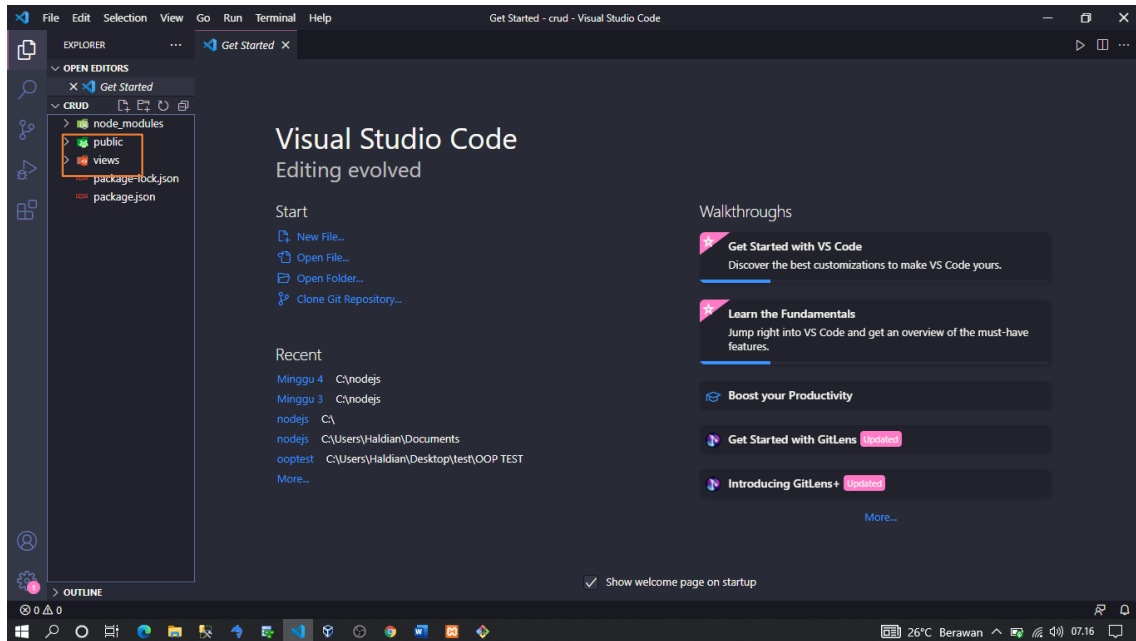
4. Selanjutnya kita, Install semua dependencies yang dibutuhkan dengan mengetikkan perintah berikut pada terminal seperti gambar di bawah ini.



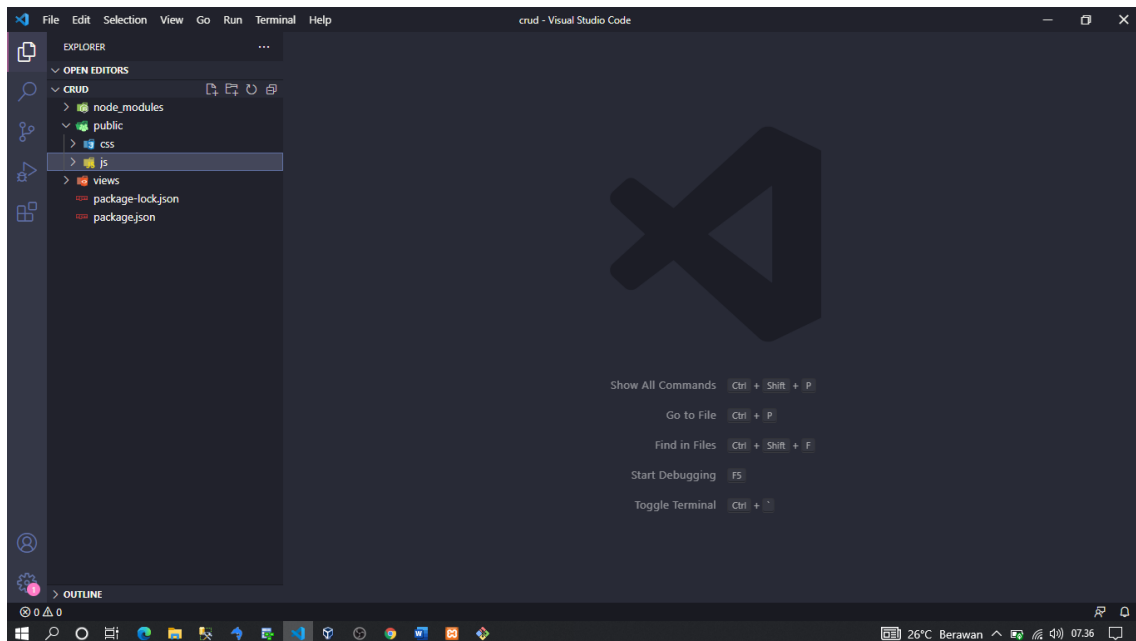
```
MINGW64/c/nodejs/Minggu 5/crud
Haldian@DESKTOP-NELAPCB MINGW64 /c/nodejs/Minggu 5/crud
$ npm install --save express mysql body-parser hbs
```

## Struktur Project

1. Pertama kita buka text editor favorit kita di sini saya menggunakan vscode, setelah itu kita buka folder crud kita dan kita tambah folder baru public dan views, seperti gambar di bawah ini.

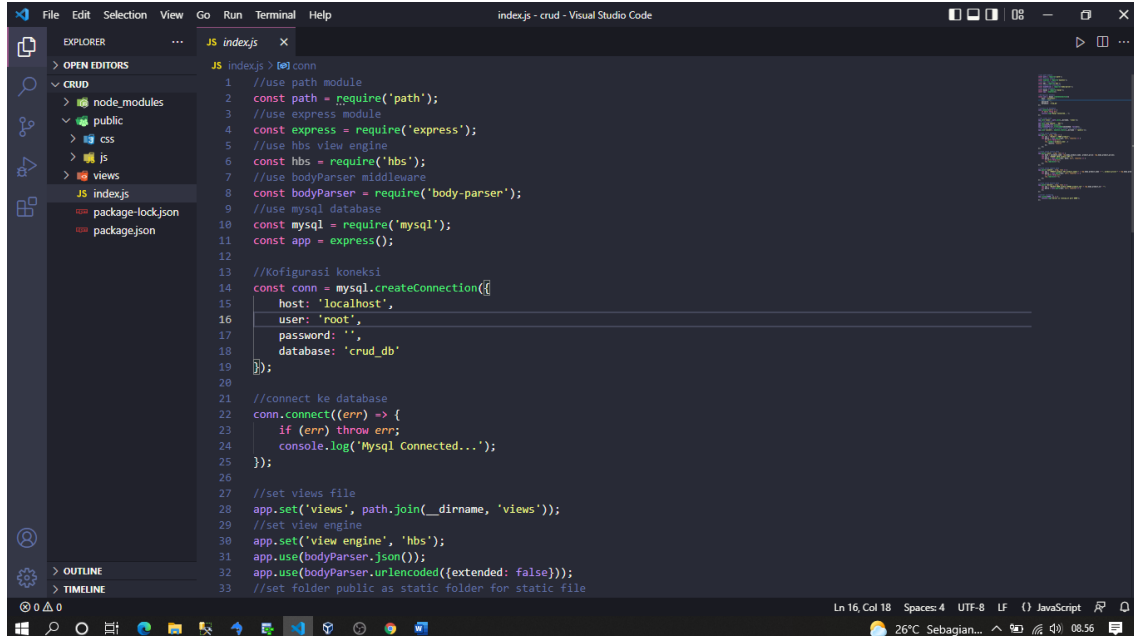


2. Kemudian kita buat folder css dan js pada folder public serta kita masukan file bootstrap.css dalam public/css dan bootstrap.js dan jquery ke dalam public/js seperti gambar di bawah ini

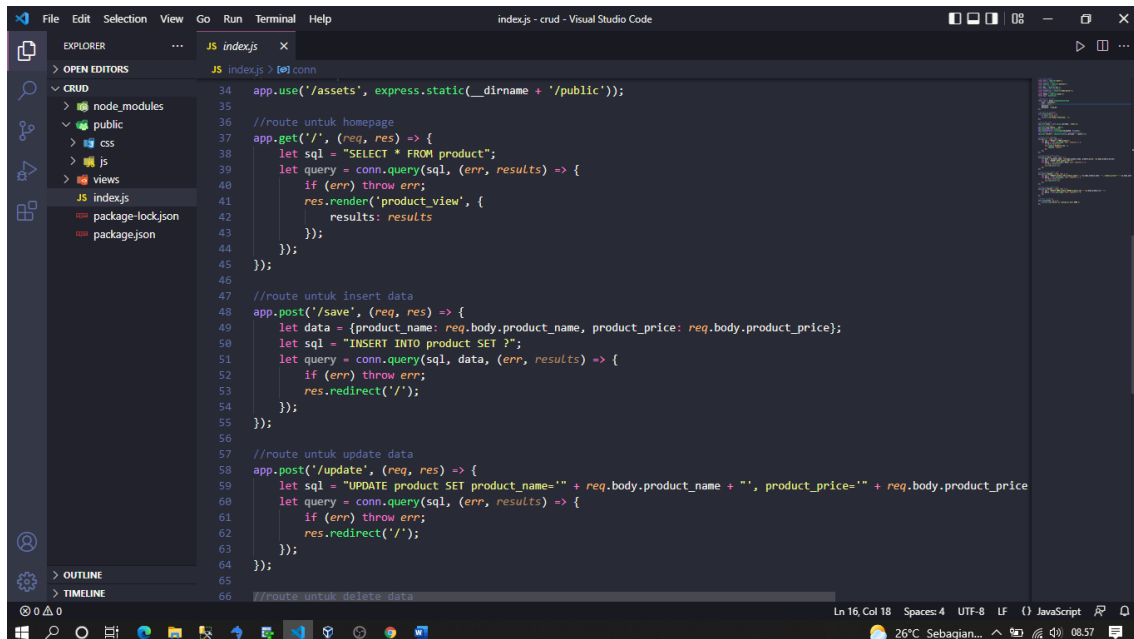


# Indeks.js

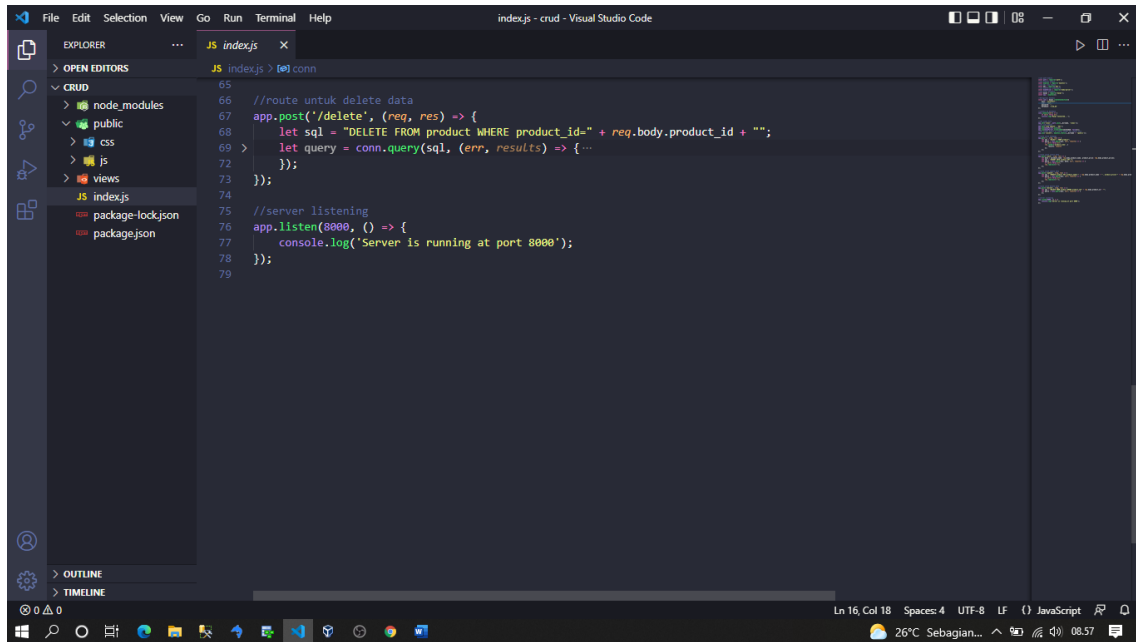
1. Buat file dengan nama indeks.js kemudian tuliskan script seperti gambar di bawah ini



```
1 //use path module
2 const path = require('path');
3 //use express module
4 const express = require('express');
5 //use hbs view engine
6 const hbs = require('hbs');
7 //use bodyParser middleware
8 const bodyParser = require('body-parser');
9 //use mysql database
10 const mysql = require('mysql');
11 const app = express();
12
13 //Kofigurasi koneksi
14 const conn = mysql.createConnection({
15   host: 'localhost',
16   user: 'root',
17   password: '',
18   database: 'crud_db'
19 });
20
21 //connect ke database
22 conn.connect((err) => {
23   if (err) throw err;
24   console.log('Mysql Connected...');
25 });
26
27 //set views file
28 app.set('views', path.join(__dirname, 'views'));
29 //set view engine
30 app.set('view engine', 'hbs');
31 app.use(bodyParser.json());
32 app.use(bodyParser.urlencoded({extended: false}));
33 //set folder public as static folder for static file
```

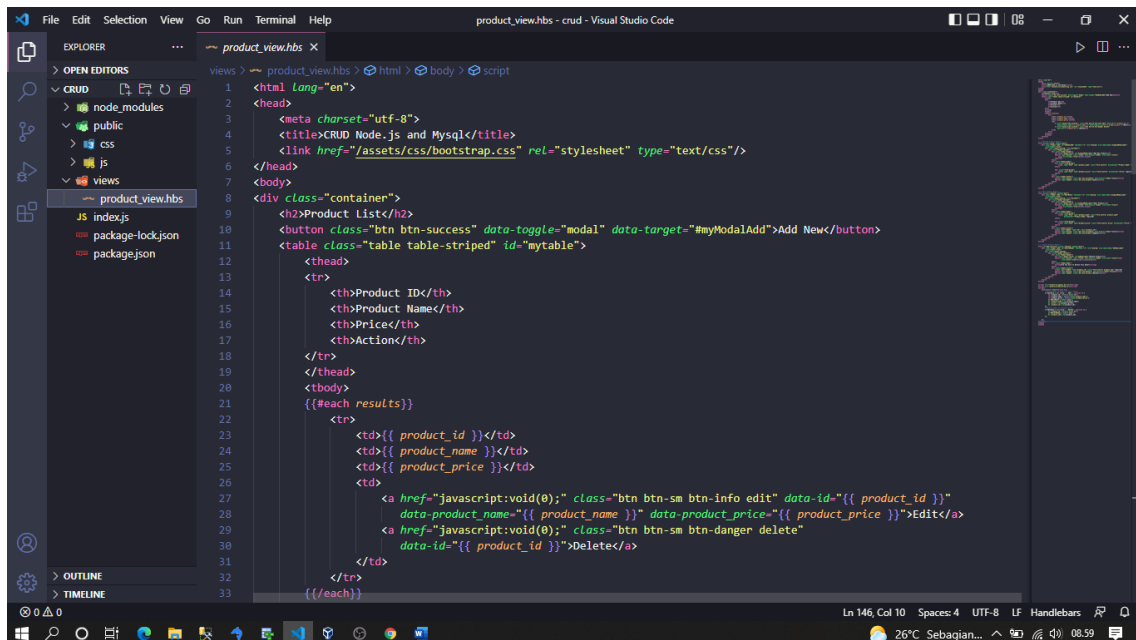


```
34 app.use('/assets', express.static(__dirname + '/public'));
35
36 //route untuk homepage
37 app.get('/', (req, res) => {
38   let sql = "SELECT * FROM product";
39   let query = conn.query(sql, (err, results) => {
40     if (err) throw err;
41     res.render('product_view', {
42       results: results
43     });
44   });
45 });
46
47 //route untuk insert data
48 app.post('/save', (req, res) => {
49   let data = {product_name: req.body.product_name, product_price: req.body.product_price};
50   let sql = "INSERT INTO product SET ?";
51   let query = conn.query(sql, data, (err, results) => {
52     if (err) throw err;
53     res.redirect('/');
54   });
55 });
56
57 //route untuk update data
58 app.post('/update', (req, res) => {
59   let sql = "UPDATE product SET product_name='" + req.body.product_name + "', product_price='" + req.body.product_price;
60   let query = conn.query(sql, (err, results) => {
61     if (err) throw err;
62     res.redirect('/');
63   });
64 });
65
66 //route untuk delete data
```



## View

1. Buatlah file dengan nama product\_view.hbs didalam folder views. kemudian tuliskan script seperti gambar di bawah ini.



```
File Edit Selection View Go Run Terminal Help product_view.hbs - crud - Visual Studio Code

EXPLORER
> OPEN EDITORS
  > CRUD
    > node_modules
    > public
    > css
    > js
    > views
      > product_view.hbs
      > index.js
      > package-lock.json
      > package.json
  > OUTLINE
  > TIMELINE

views > product_view.hbs > html > body > script
34 </tbody>
35 </table>
36 </div>
37
38 <!-- Add New Product Modal-->
39 <form action="/save" method="post">
40   <div class="modal fade" id="myModalAdd" tabindex="-1" role="dialog" aria-labelledby="exampleModalLabel"
41     aria-hidden="true">
42     <div class="modal-dialog" role="document">
43       <div class="modal-content">
44         <div class="modal-header">
45           <h5 class="modal-title" id="exampleModalLabel">Add New Product</h5>
46           <button type="button" class="close" data-dismiss="modal" aria-label="Close">
47             <span aria-hidden="true">&times;</span>
48           </button>
49         </div>
50         <div class="modal-body">
51           <div class="form-group">
52             <input type="text" name="product_name" class="form-control" placeholder="Product Name" required>
53           </div>
54
55           <div class="form-group">
56             <input type="text" name="product_price" class="form-control" placeholder="Price" required>
57           </div>
58         </div>
59         <div class="modal-footer">
60           <button type="button" class="btn btn-secondary" data-dismiss="modal">Close</button>
61           <button type="submit" class="btn btn-primary">Save</button>
62         </div>
63       </div>
64     </div>
65   </div>
66 </form>
```

```
File Edit Selection View Go Run Terminal Help product_view.hbs - crud - Visual Studio Code

EXPLORER
> OPEN EDITORS
  > CRUD
    > node_modules
    > public
    > css
    > js
    > views
      > product_view.hbs
      > index.js
      > package-lock.json
      > package.json
  > OUTLINE
  > TIMELINE

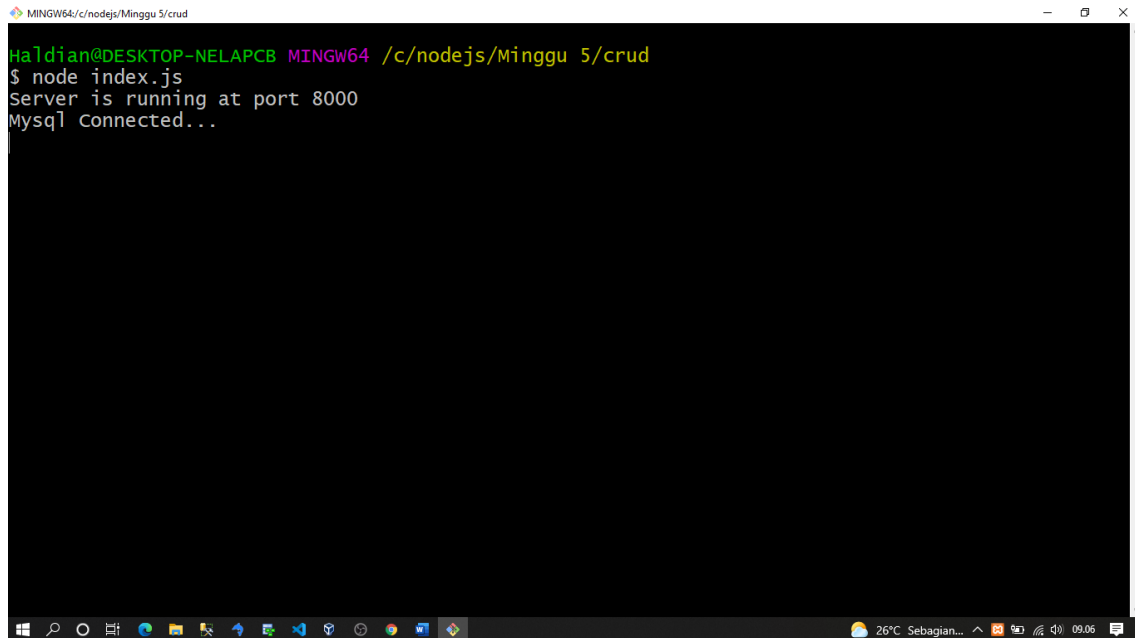
views > product_view.hbs > html > body > script
68 <!-- Edit Product Modal-->
69 <form action="/update" method="post">
70   <div class="modal fade" id="EditModal" tabindex="-1" role="dialog" aria-labelledby="exampleModalLabel"
71     aria-hidden="true">
72     <div class="modal-dialog" role="document">
73       <div class="modal-content">
74         <div class="modal-header">
75           <h5 class="modal-title" id="exampleModalLabel">Edit Product</h5>
76           <button type="button" class="close" data-dismiss="modal" aria-label="Close">
77             <span aria-hidden="true">&times;</span>
78           </button>
79         </div>
80         <div class="modal-body">
81           <div class="form-group">
82             <input type="text" name="product_name" class="form-control" product_name"
83               placeholder="Product Name" required>
84           </div>
85
86           <div class="form-group">
87             <input type="text" name="product_price" class="form-control" price" placeholder="Price" required>
88           </div>
89         </div>
90         <div class="modal-footer">
91           <input type="hidden" name="id" class="product_id">
92           <button type="button" class="btn btn-secondary" data-dismiss="modal">Close</button>
93           <button type="submit" class="btn btn-primary">Update</button>
94         </div>
95       </div>
96     </div>
97   </div>
98 </form>
99
100 <!-- Delete Product Modal-->
```

```
100 <!-- Delete Product Modal-->
101 <form id="add-row-form" action="/delete" method="post">
102   <div class="modal fade" id="DeleteModal" tabindex="-1" role="dialog" aria-labelledby="myModallabel"
103     aria-hidden="true">
104     <div class="modal-dialog">
105       <div class="modal-content">
106         <div class="modal-header">
107           <h5 class="modal-title" id="myModallabel">Delete Product</h5>
108           <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span
109             aria-hidden="true">&times;</span></button>
110         </div>
111         <div class="modal-body">
112           <strong>Are You Sure To Delete This Data?</strong>
113         </div>
114         <div class="modal-footer">
115           <input type="hidden" name="product_id" class="form-control product_id2" required>
116           <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
117           <button type="submit" class="btn btn-success">Delete</button>
118         </div>
119       </div>
120     </div>
121   </div>
122 </form>
123
124 <script src="/assets/js/jquery.min.js"></script>
125 <script src="/assets/js/bootstrap.js"></script>
126 <script>
127   $(document).ready(function () {
128     //showing data to modal for edit record
129     $('#mytable').on('click', '.edit', function () {
130       var product_id = $(this).data('id');
131       var product_name = $(this).data('product_name');
132       var product_price = $(this).data('product_price');
```

```
133     var product_price = $(this).data('product_price');
134     $('#EditModal').modal('show');
135     $('.product_name').val(product_name);
136     $('.price').val(product_price);
137     $('.product_id').val(product_id);
138   });
139   //showing modal for delete record
140   $('#mytable').on('click', '.delete', function () {
141     var product_id = $(this).data('id');
142     $('#DeleteModal').modal('show');
143     $('.product_id2').val(product_id);
144   });
145 });
146 </script>
147 </body>
148 </html>
149
```

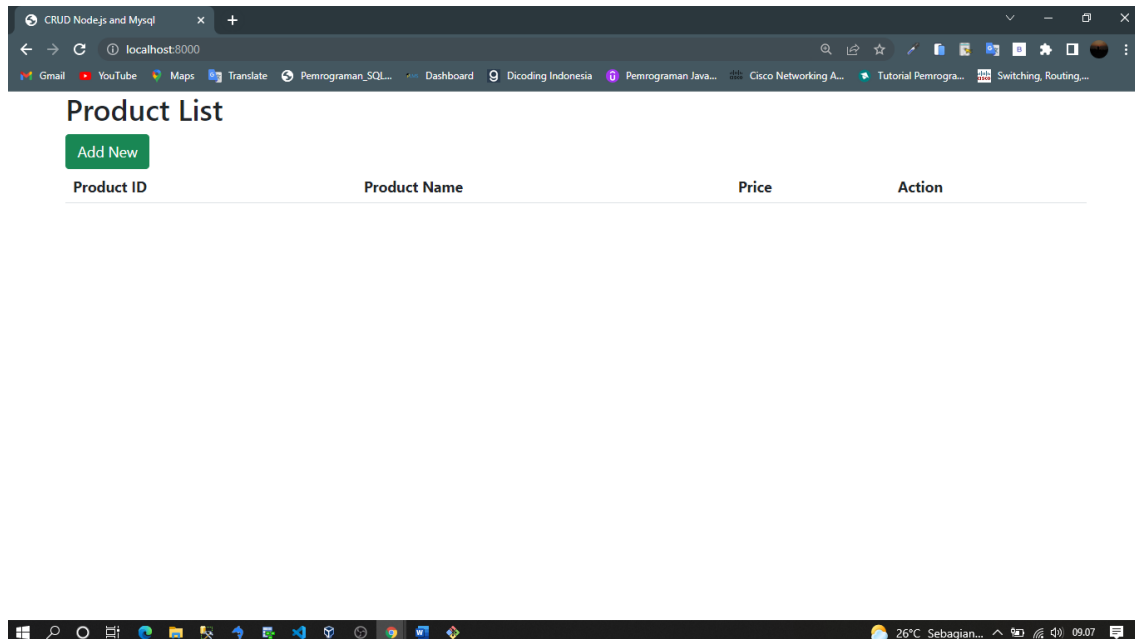
## Testing

1. Kemudian kita aktifkan server kita dengan masuk ke gitbash kita dengan mengetikan node indeks.js maka akan runing seperti gambar di bawah ini



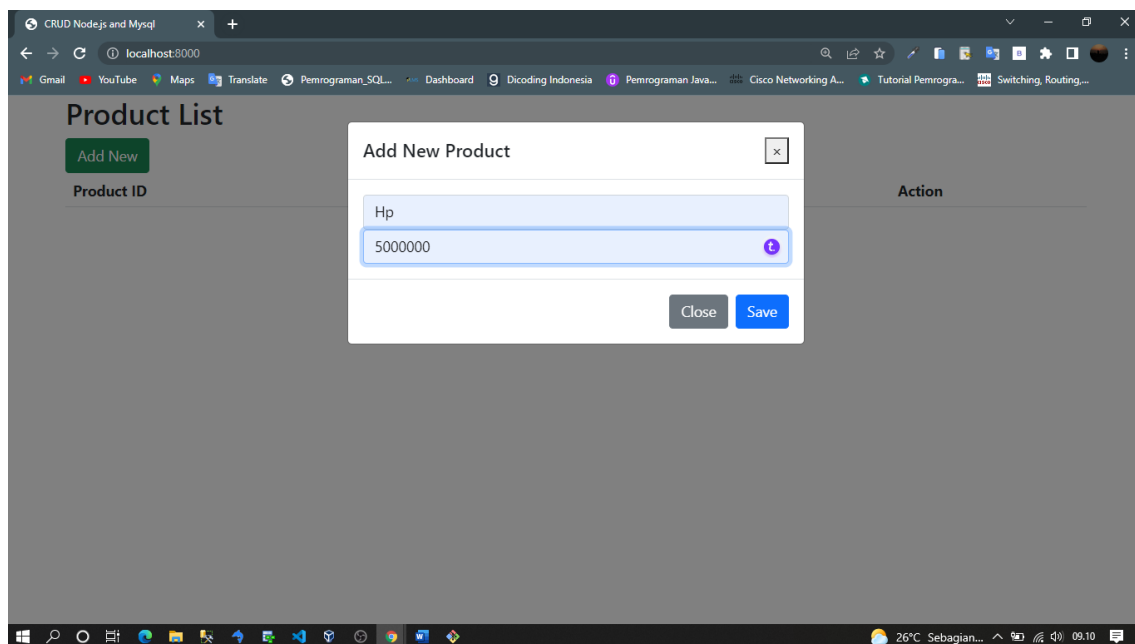
```
MINGW64/c/nodejs/Minggu 5/crud
Haldian@DESKTOP-NELAPCB MINGW64 /c/nodejs/Minggu 5/crud
$ node index.js
Server is running at port 8000
Mysql Connected...
```

2. Kemudian kita buka browser kita dan kita ketikan localhost:8000 maka akan seperti gambar di bawah ini

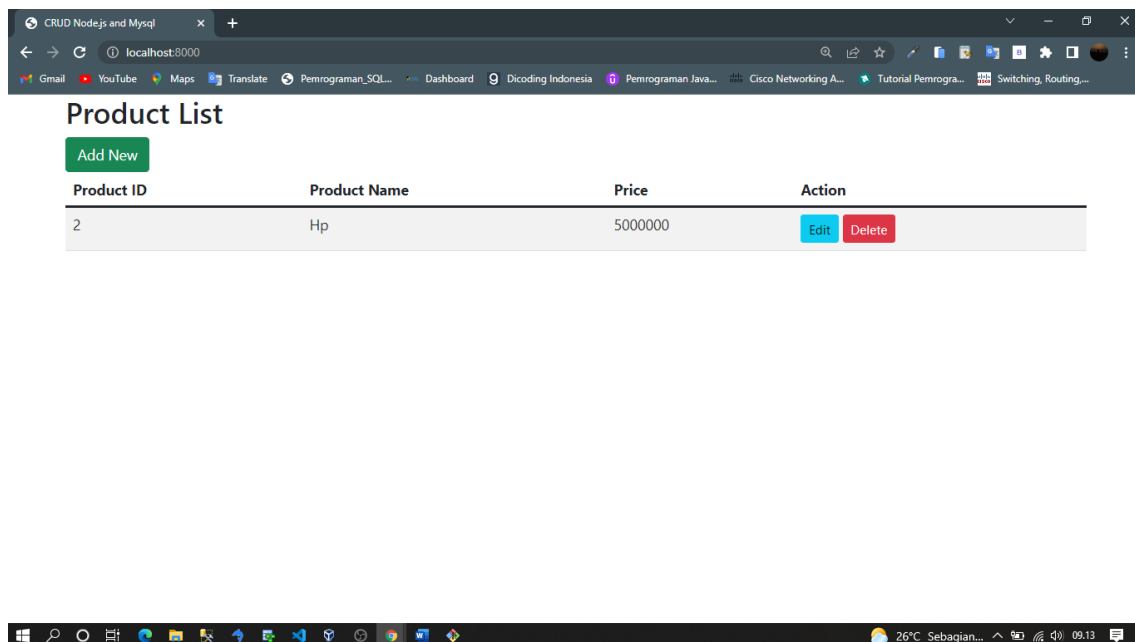




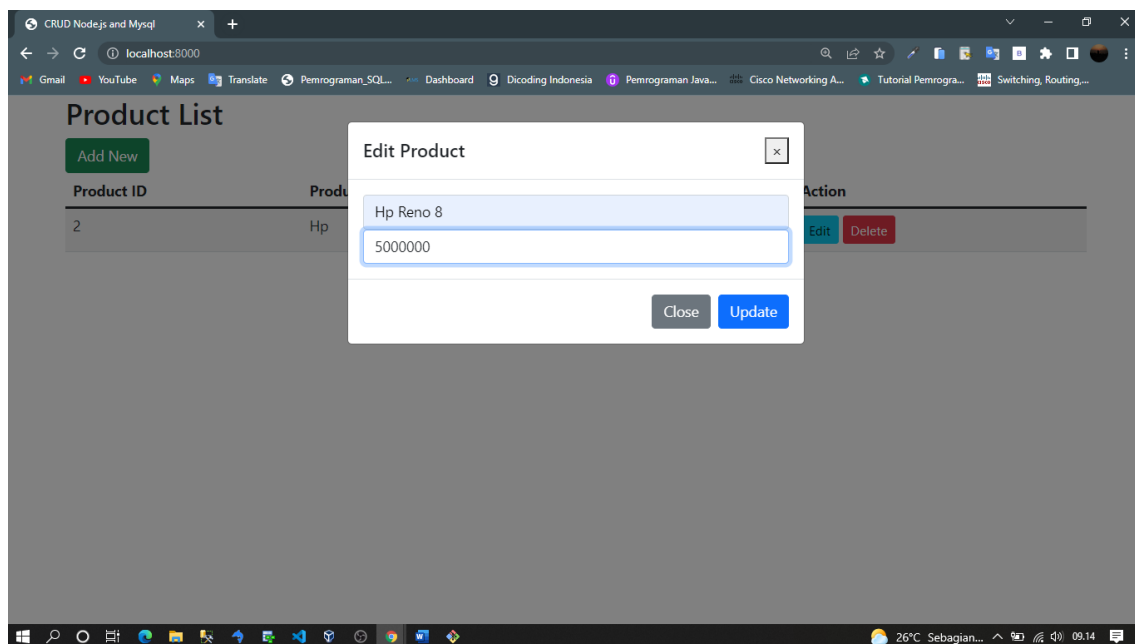
3. kemudian kita coba add new maka akan seperti gambar di bawah ini



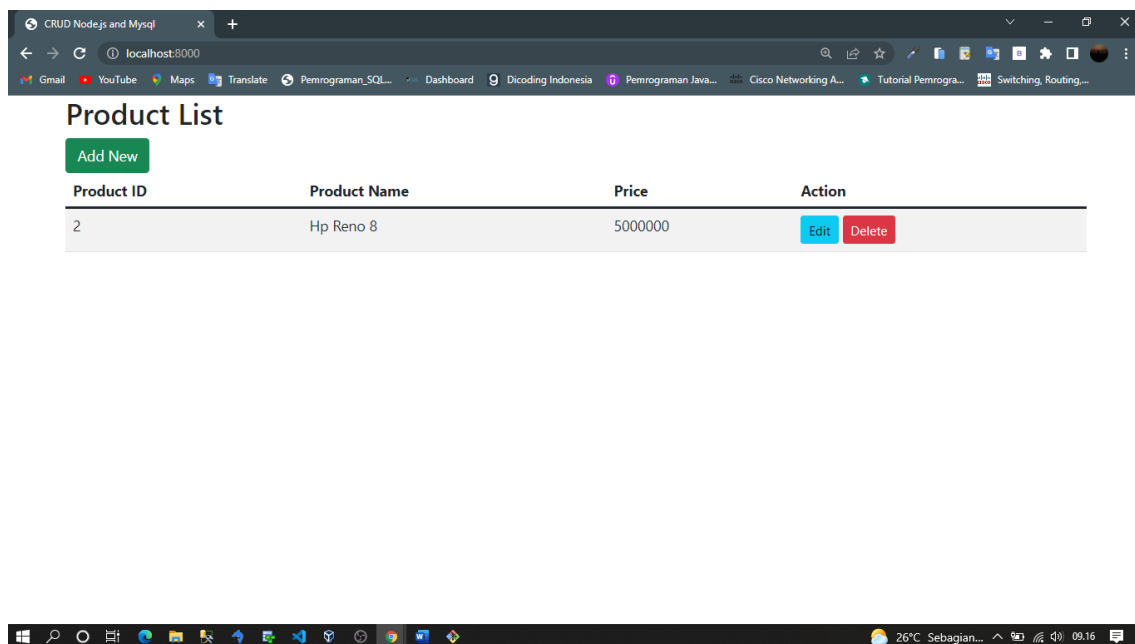
4. kemudian setelah kita save akan seperti gambar di bawah ini



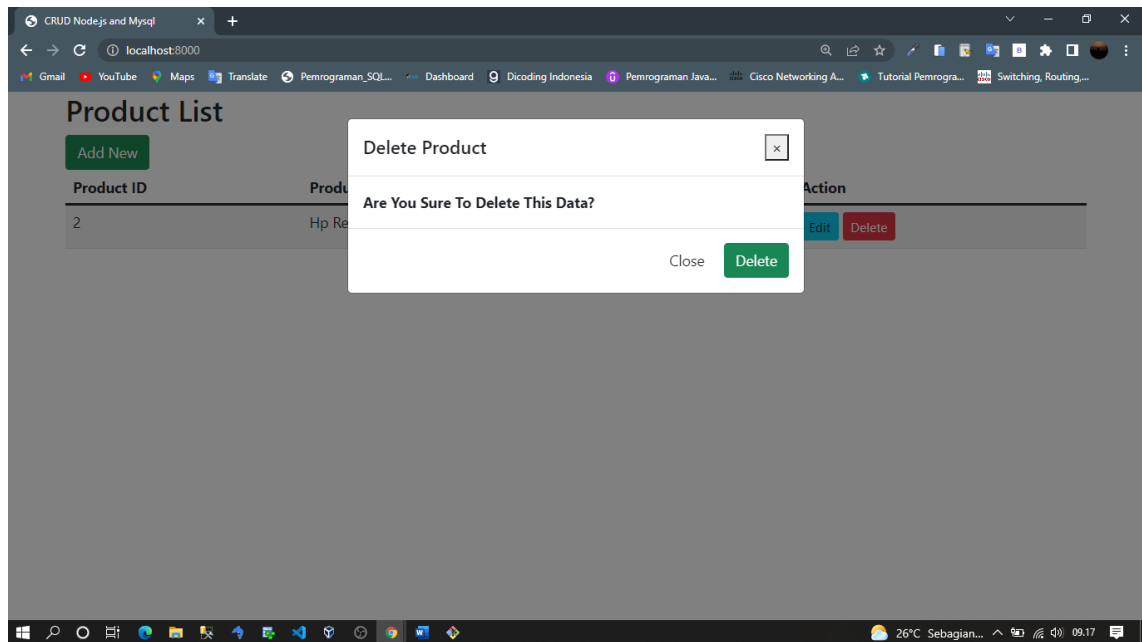
5. Kemudian kita lakukan update dengan cara klik edit kemudian di sinin saya akan mengupdate produknya menjadi seperti gambar di bawah ini



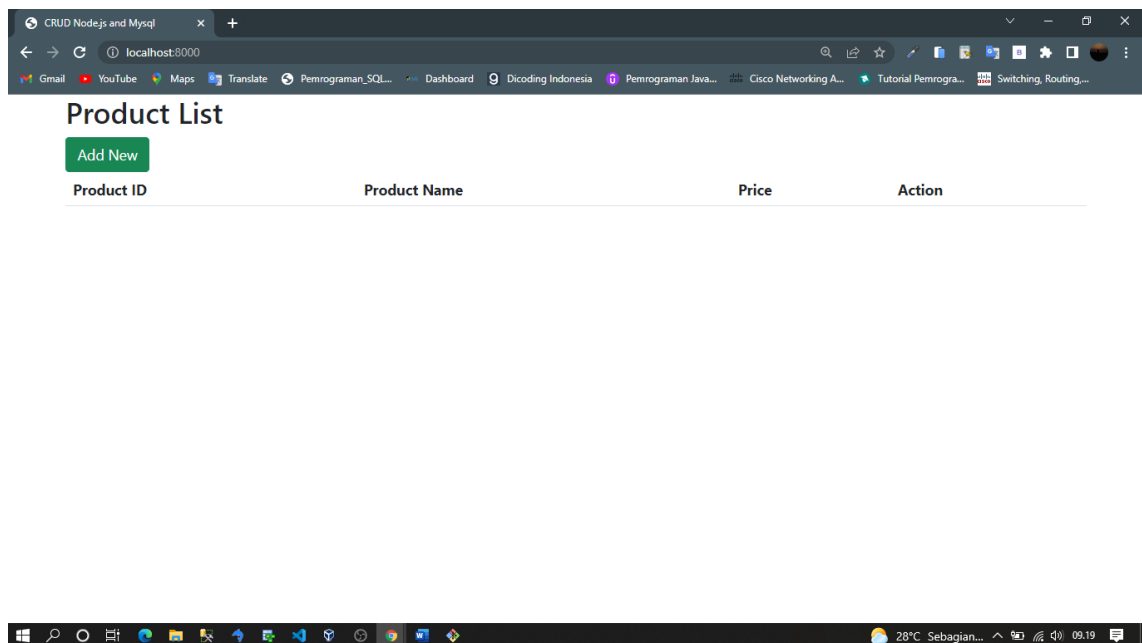
6. Setelah kita edit maka akan seperti gambar di bawah ini



7. Kemudian untuk menghapus Record, klik tombol Delete, maka akan muncul modal konfirmasi seperti gambar di bawah ini



8. Kemudian klik tombol Delete untuk menghapus record setelah itu selsai



## E. Daftar Pustaka

1. TSJ TV  
[www.youtube.com/c/TSJTvPro](http://www.youtube.com/c/TSJTvPro)