

**LAPORAN PRAKTIKUM**  
**PEMROGRAMAN BERORIENTASI OBJEK**



**RIYADI TRI WALUYA BUDI**

**2308065**

**SIK A3**

## **I.PENDAHULUAN**

Saya akan membuat aplikasi web yang memungkinkan calon mahasiswa mendaftar di kampus.

Formulir pendaftaran ini akan menanyakan informasi seperti NIK, nama, jenis kelamin yang diinginkan, tanggal lahir, nomor telepon, email, alamat, informasi (mengapa Anda ingin berkuliah di sini).

Data yang dimasukkan akan disimpan selama sesi berlangsung, sehingga memudahkan pengguna untuk melanjutkan proses pendaftaran tanpa kehilangan informasi apapun.

Langkah:

- Siapkan lingkungan: Instal kerangka kerja Node.js dan Express.
- Buat Server: Buat server dasar menggunakan Express.
- Konfigurasi session: Gunakan middleware seperti sesi Ekspres untuk mengelola session.
- Desain formulir pendaftaran: Membuat antarmuka formulir menggunakan HTML dan CSS.
- Penanganan Data: Menangani pengiriman data formulir dan menyimpannya dalam sesi.
- Validasi Input: Memberikan umpan balik kepada pengguna mengenai validasi data yang dimasukkan.
- Buka halaman berikutnya: Arahkan pengguna ke halaman konfirmasi setelah registrasi berhasil.

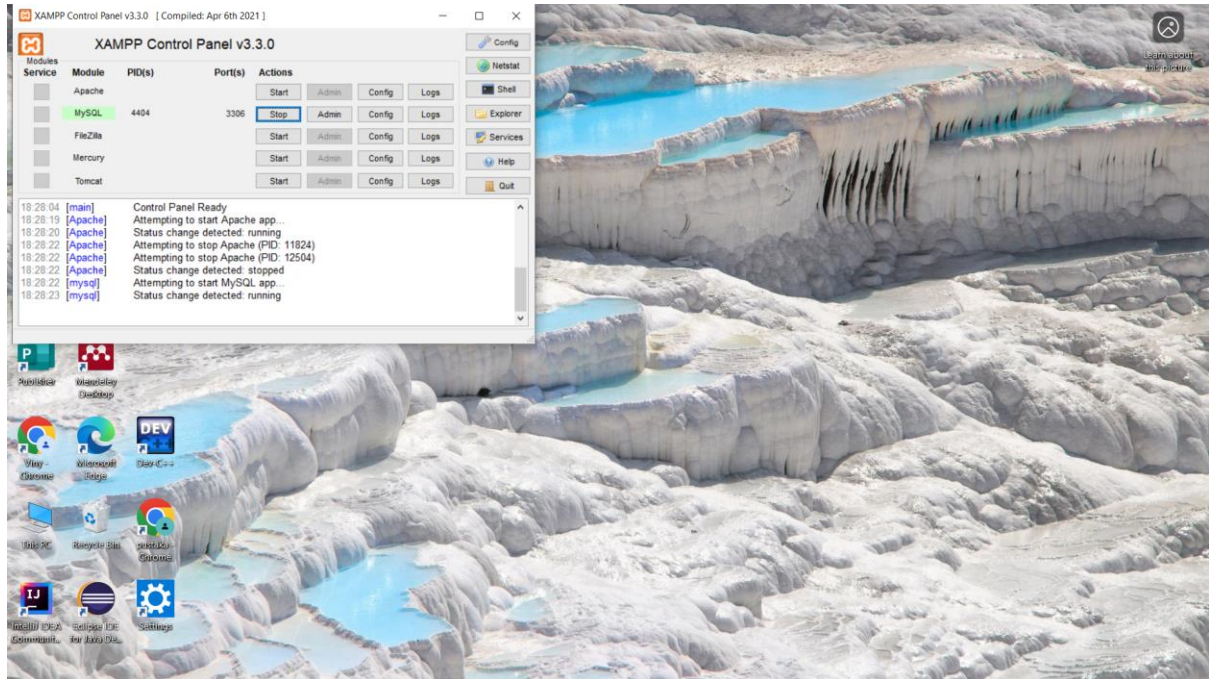
Harapan Setelah menyelesaikan praktik ini, peserta akan dapat memahami cara kerja sesi di Node.js dan dapat mengimplementasikan fungsi tersebut pada aplikasi web, khususnya untuk sistem registrasi yang lebih terstruktur dan kompleks.

## **II.ALAT DAN BAHAN**

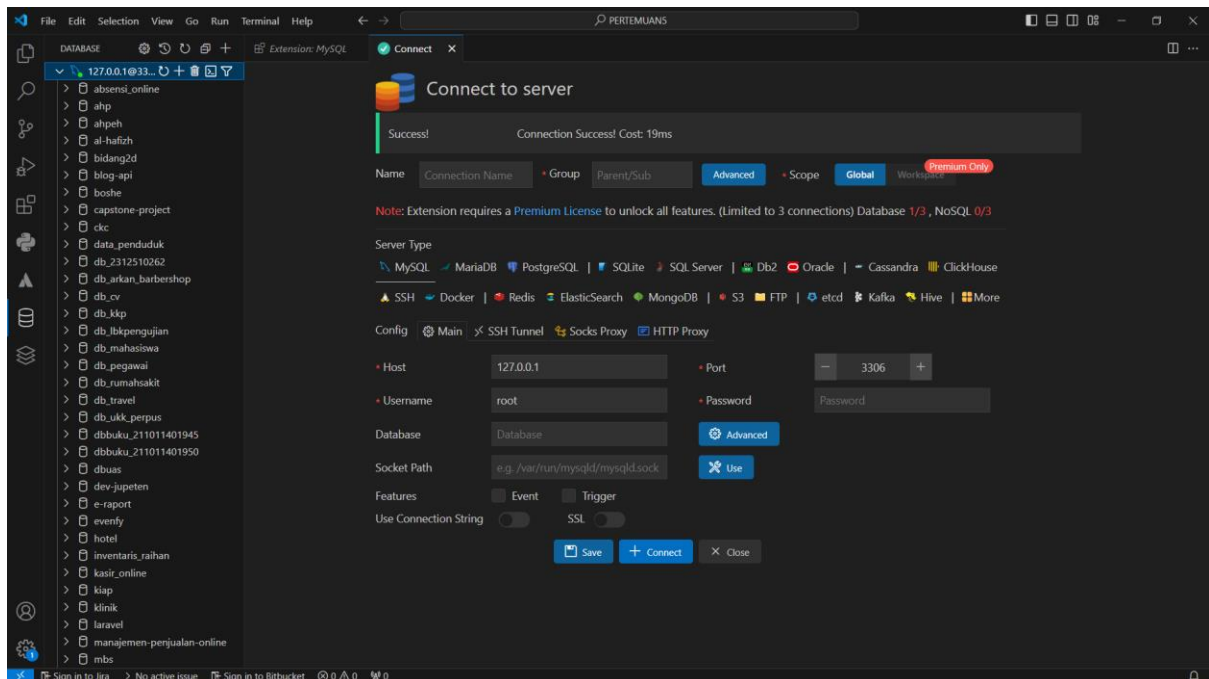
- VScode
- Node.js
- MySQL

### III. LANGKAH – LANGKAH

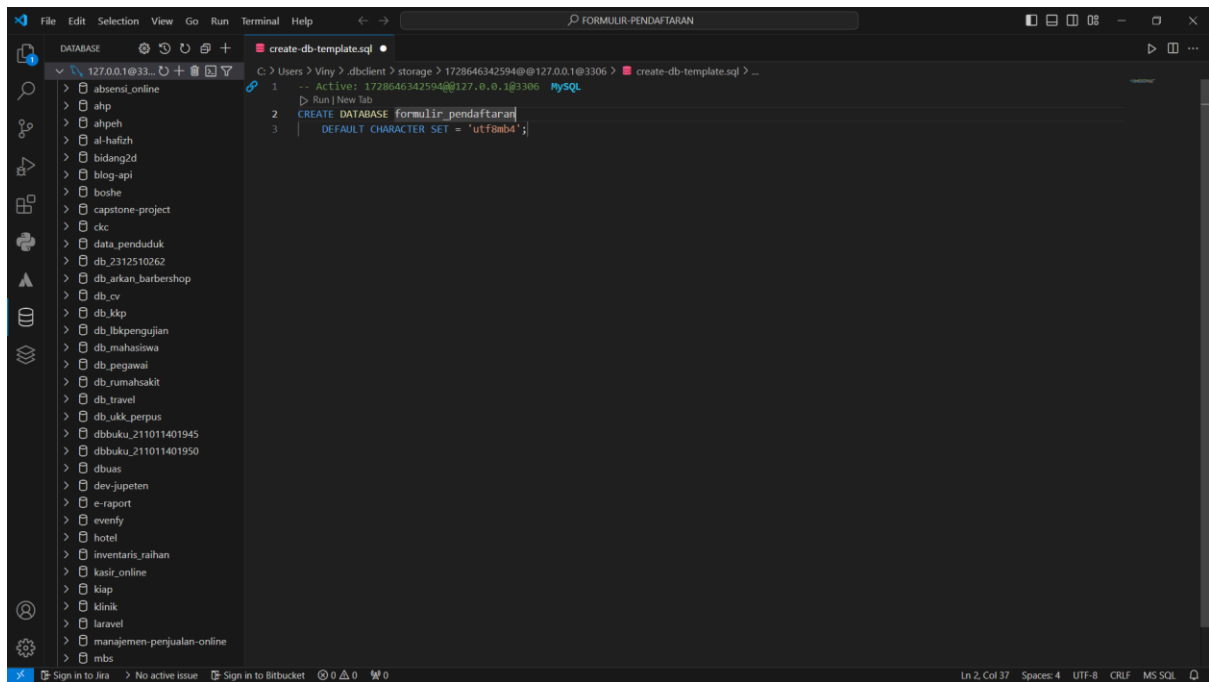
1. Pertama, Buka Aplikasi XAMPP Kemudian Aktifkan MySQL nya



2. Kemudian buka ekstensi MySQL pada VSCode, kemudian connect pada database.



### 3. Kemudian tambahkan database dengan nama formulir pendaftaran

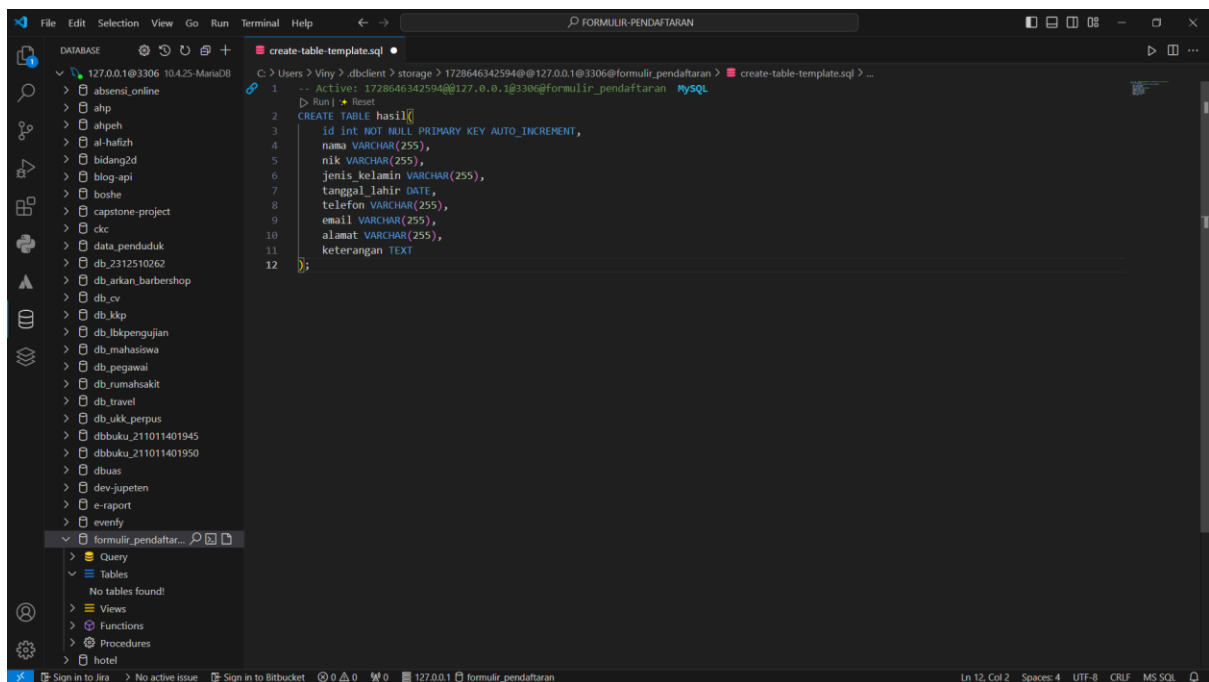


The screenshot shows the MySQL Workbench interface. On the left, the 'DATABASES' pane lists various databases. The main editor window is titled 'create-db-template.sql' and contains the following SQL code:

```
1 -- Active: 1728646342594@127.0.0.1@3306 MySQL
2 CREATE DATABASE formulir_pendaftaran;
3 | DEFAULT CHARACTER SET = 'utf8mb4';
```

The status bar at the bottom indicates 'Ln 2, Col 37 Spaces: 4 UTF-8 CRLF MS SQL'.

### 4. Tambahkan tabel hasil untuk menyimpan datanya

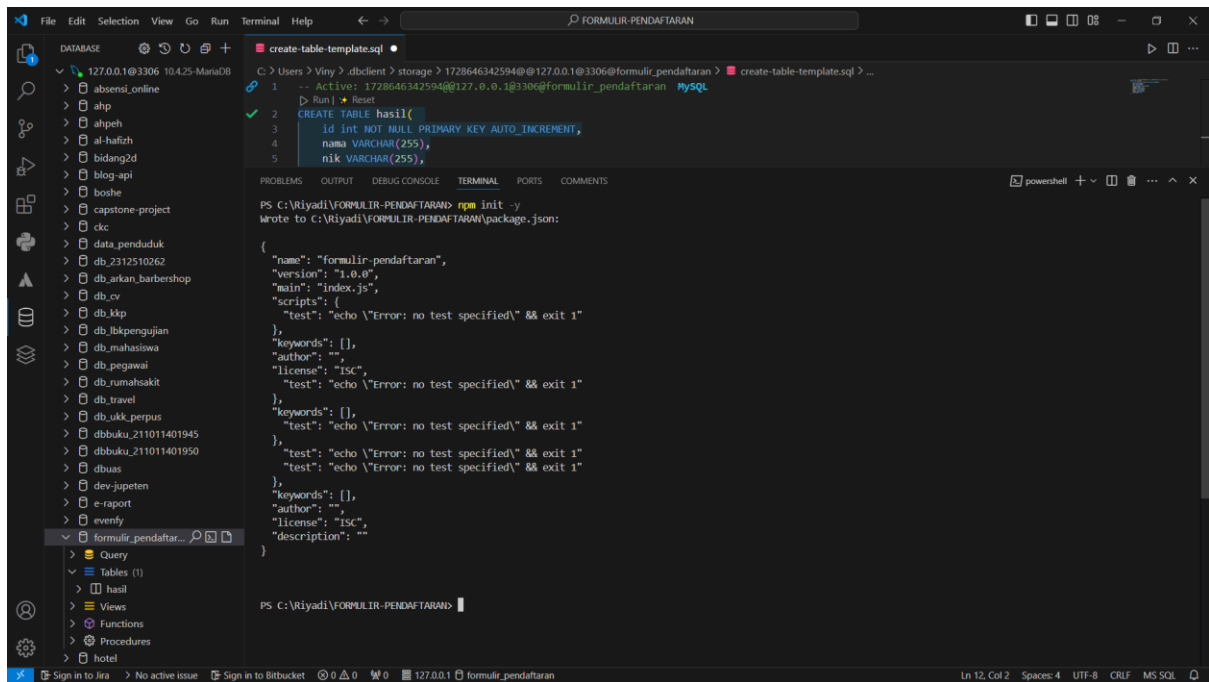


The screenshot shows the MySQL Workbench interface. The 'DATABASES' pane on the left now includes 'formulir\_pendaftaran'. The main editor window is titled 'create-table-template.sql' and contains the following SQL code:

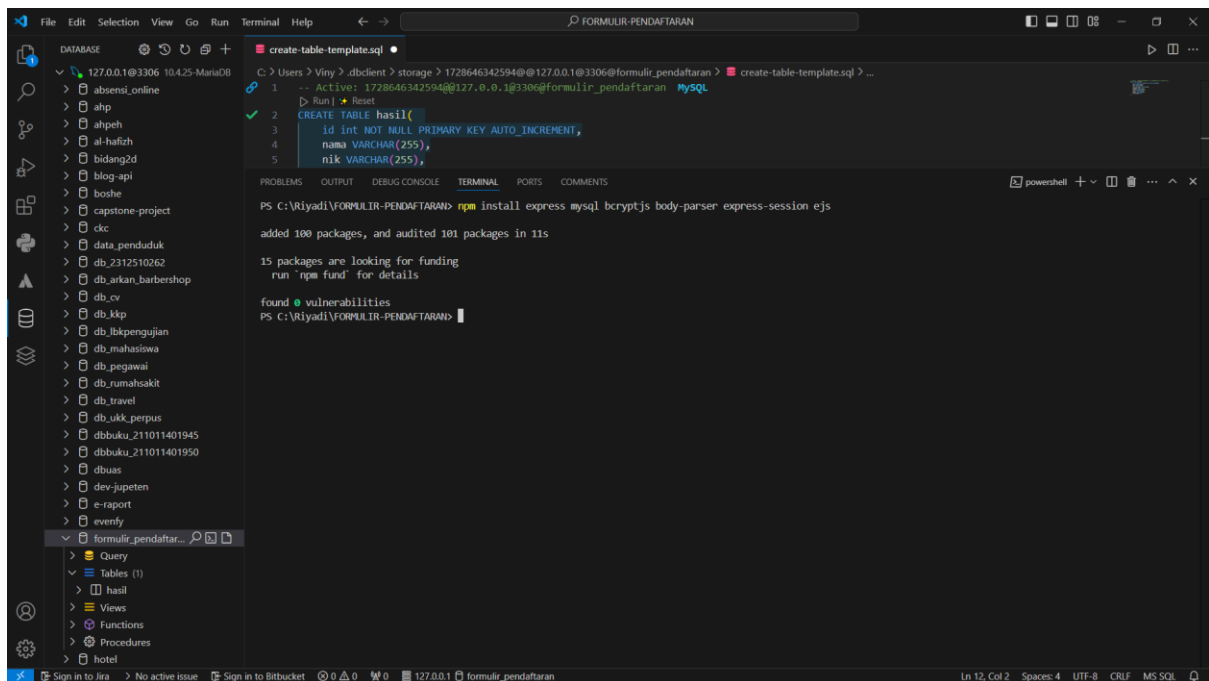
```
1 -- Active: 1728646342594@127.0.0.1@3306@formulir_pendaftaran MySQL
2 CREATE TABLE hasil(
3     id int NOT NULL PRIMARY KEY AUTO_INCREMENT,
4     nama VARCHAR(255),
5     nik VARCHAR(255),
6     jenis_kelamin VARCHAR(255),
7     tanggal_lahir DATE,
8     telepon VARCHAR(255),
9     email VARCHAR(255),
10    alamat VARCHAR(255),
11    keterangan TEXT
12 );
```

The status bar at the bottom indicates 'Ln 12, Col 2 Spaces: 4 UTF-8 CRLF MS SQL'.

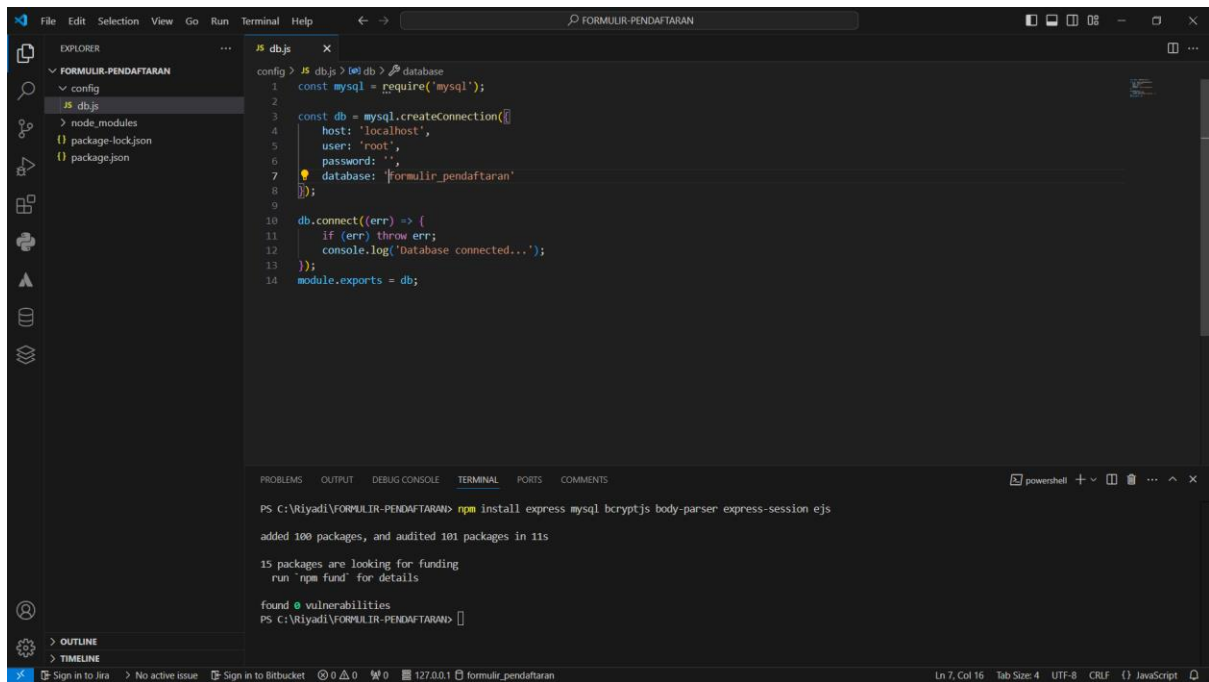
## 5. Buka terminal, dan inisiasi npm untuk node.js



## 6. Install express.js, mysql, body-parser, express-session, dan ejs



## 7. Konfigurasi koneksi database

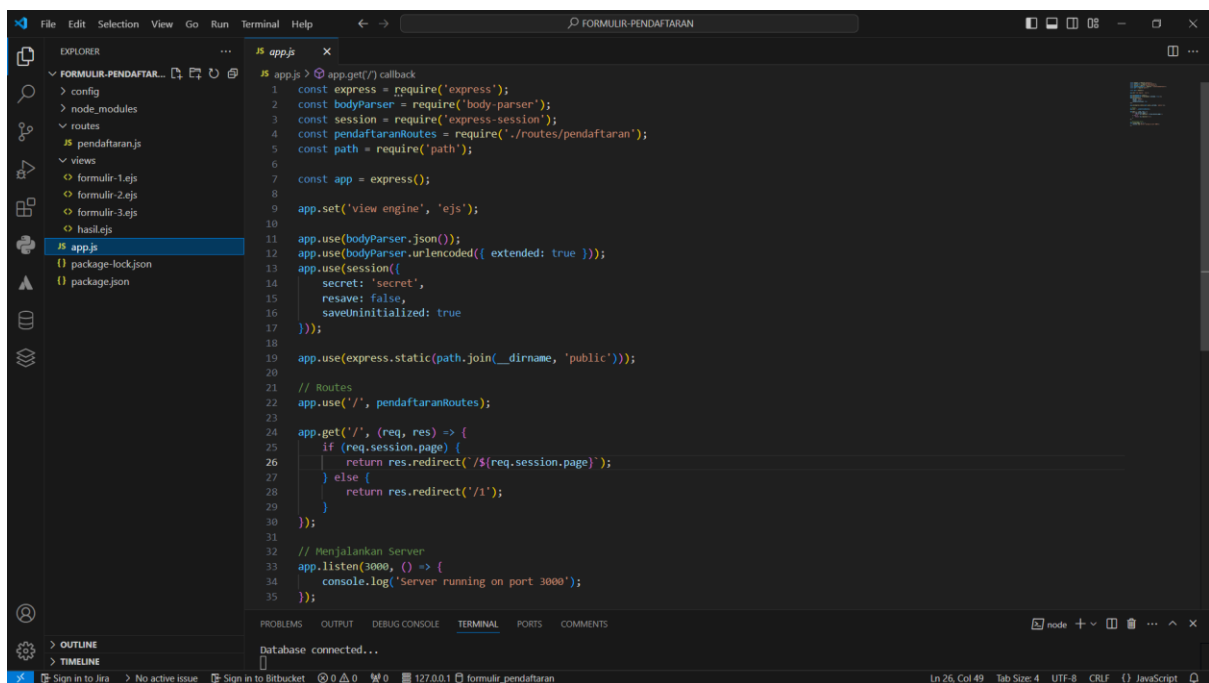


The screenshot shows the Visual Studio Code interface with a project named 'FORMULIR-PENDAFARAN'. The Explorer panel on the left shows the file structure with 'db.js' selected. The main editor displays the content of 'db.js', which configures a MySQL database connection. The terminal at the bottom shows the output of running 'npm install express mysql bcryptjs body-parser express-session ejs'.

```
config > . db.js > db > database
1 const mysql = require('mysql');
2
3 const db = mysql.createConnection({
4   host: 'localhost',
5   user: 'root',
6   password: '',
7   database: 'formulir_pendaftaran'
8 });
9
10 db.connect((err) => {
11   if (err) throw err;
12   console.log('Database connected...');
13 });
14 module.exports = db;
```

```
PS C:\Vriyadi\FORMULIR-PENDAFARAN> npm install express mysql bcryptjs body-parser express-session ejs
added 100 packages, and audited 101 packages in 11s
15 packages are looking for funding
  run 'npm fund' for details
found 0 vulnerabilities
PS C:\Vriyadi\FORMULIR-PENDAFARAN>
```

## 8. Server setup pada app.js

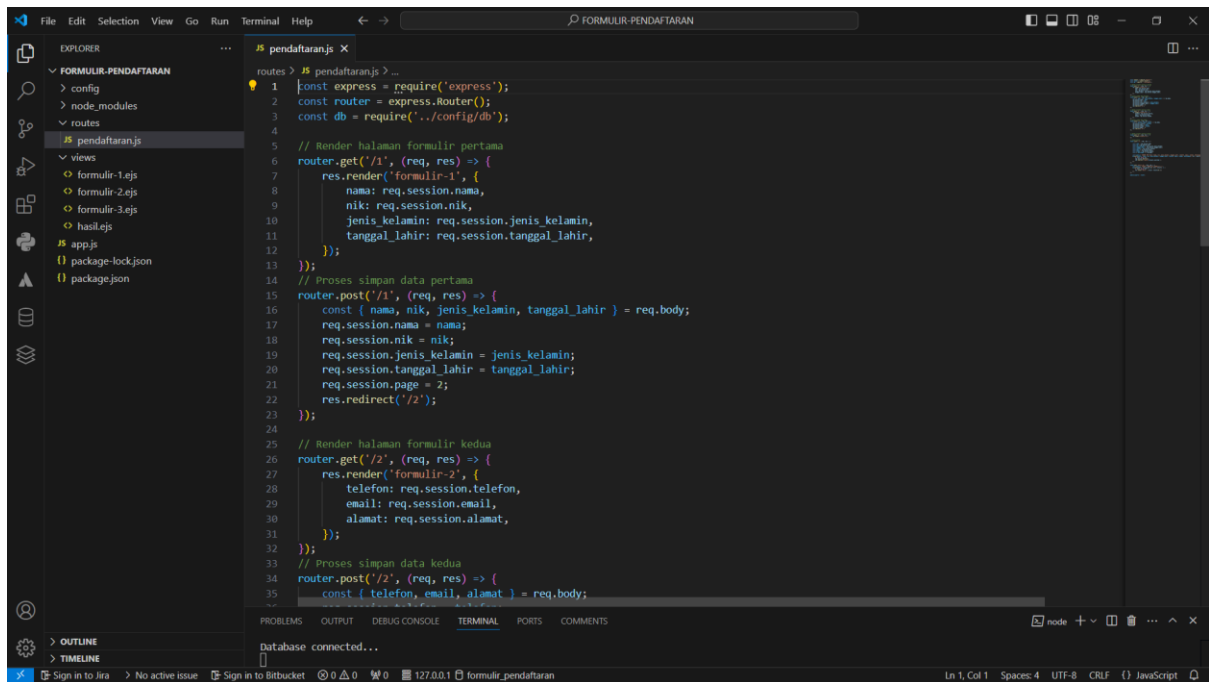


The screenshot shows the Visual Studio Code interface with the same project. The Explorer panel shows 'app.js' selected. The main editor displays the content of 'app.js', which sets up an Express.js server with various middleware and routes. The terminal at the bottom shows the output of running 'node app.js', indicating the database is connected and the server is running on port 3000.

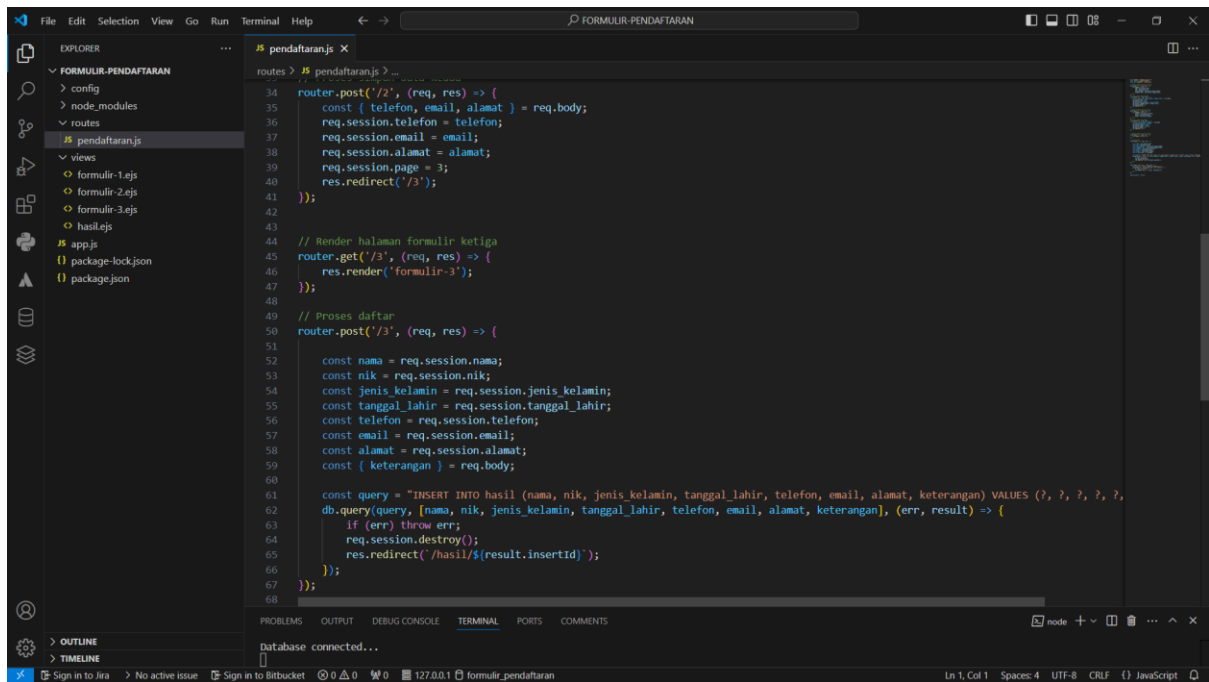
```
config > . app.js > app.get('/') callback
1 const express = require('express');
2 const bodyParser = require('body-parser');
3 const session = require('express-session');
4 const pendaftaranRoutes = require('./routes/pendaftaran');
5 const path = require('path');
6
7 const app = express();
8
9 app.set('view engine', 'ejs');
10
11 app.use(bodyParser.json());
12 app.use(bodyParser.urlencoded({ extended: true }));
13 app.use(session({
14   secret: 'secret',
15   resave: false,
16   saveUninitialized: true
17 }));
18
19 app.use(express.static(path.join(__dirname, 'public')));
20
21 // Routes
22 app.use('/', pendaftaranRoutes);
23
24 app.get('/', (req, res) => {
25   if (req.session.page) {
26     return res.redirect('/5(req.session.page)');
27   } else {
28     return res.redirect('/1');
29   }
30 });
31
32 // Menjalankan Server
33 app.listen(3000, () => {
34   console.log('Server running on port 3000');
35 });
```

```
Database connected...
[]
```

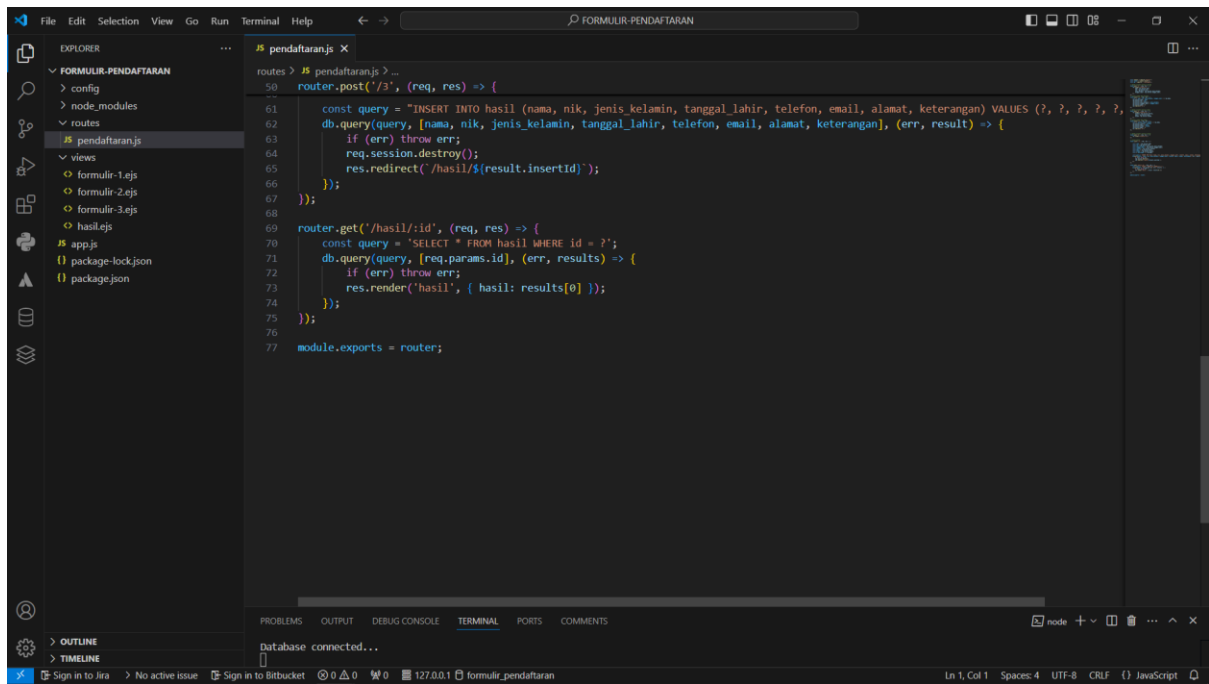
## 9. Buat routesnya untuk mendaftar dan melihat



```
1 const express = require('express');
2 const router = express.Router();
3 const db = require('../config/db');
4
5 // Render halaman formulir pertama
6 router.get('/1', (req, res) => {
7   res.render('formulir-1', {
8     nama: req.session.nama,
9     nik: req.session.nik,
10    jenis_kelamin: req.session.jenis_kelamin,
11    tanggal_lahir: req.session.tanggal_lahir,
12  });
13 });
14
15 // Proses simpan data pertama
16 router.post('/1', (req, res) => {
17   const { nama, nik, jenis_kelamin, tanggal_lahir } = req.body;
18   req.session.nama = nama;
19   req.session.nik = nik;
20   req.session.jenis_kelamin = jenis_kelamin;
21   req.session.tanggal_lahir = tanggal_lahir;
22   req.session.page = 2;
23   res.redirect('/2');
24 });
25
26 // Render halaman formulir kedua
27 router.get('/2', (req, res) => {
28   res.render('formulir-2', {
29     telepon: req.session.telepon,
30     email: req.session.email,
31     alamat: req.session.alamat,
32   });
33 });
34
35 // Proses simpan data kedua
36 router.post('/2', (req, res) => {
37   const { telepon, email, alamat } = req.body;
```



```
34 router.post('/2', (req, res) => {
35   const { telepon, email, alamat } = req.body;
36   req.session.telepon = telepon;
37   req.session.email = email;
38   req.session.alamat = alamat;
39   req.session.page = 3;
40   res.redirect('/3');
41 });
42
43 // Render halaman formulir ketiga
44 router.get('/3', (req, res) => {
45   res.render('formulir-3');
46 });
47
48 // Proses daftar
49 router.post('/3', (req, res) => {
50
51   const nama = req.session.nama;
52   const nik = req.session.nik;
53   const jenis_kelamin = req.session.jenis_kelamin;
54   const tanggal_lahir = req.session.tanggal_lahir;
55   const telepon = req.session.telepon;
56   const email = req.session.email;
57   const alamat = req.session.alamat;
58   const { keterangan } = req.body;
59
60   const query = "INSERT INTO hasil (nama, nik, jenis_kelamin, tanggal_lahir, telepon, email, alamat, keterangan) VALUES (?, ?, ?, ?, ?, ?, ?, ?)";
61   db.query(query, [nama, nik, jenis_kelamin, tanggal_lahir, telepon, email, alamat, keterangan], (err, result) => {
62     if (err) throw err;
63     req.session.destroy();
64     res.redirect('/hasil/${result.insertid}');
65   });
66 });
67
68 // Render halaman formulir keempat
```





## 11. Membuat tampilan untuk formulir pertama

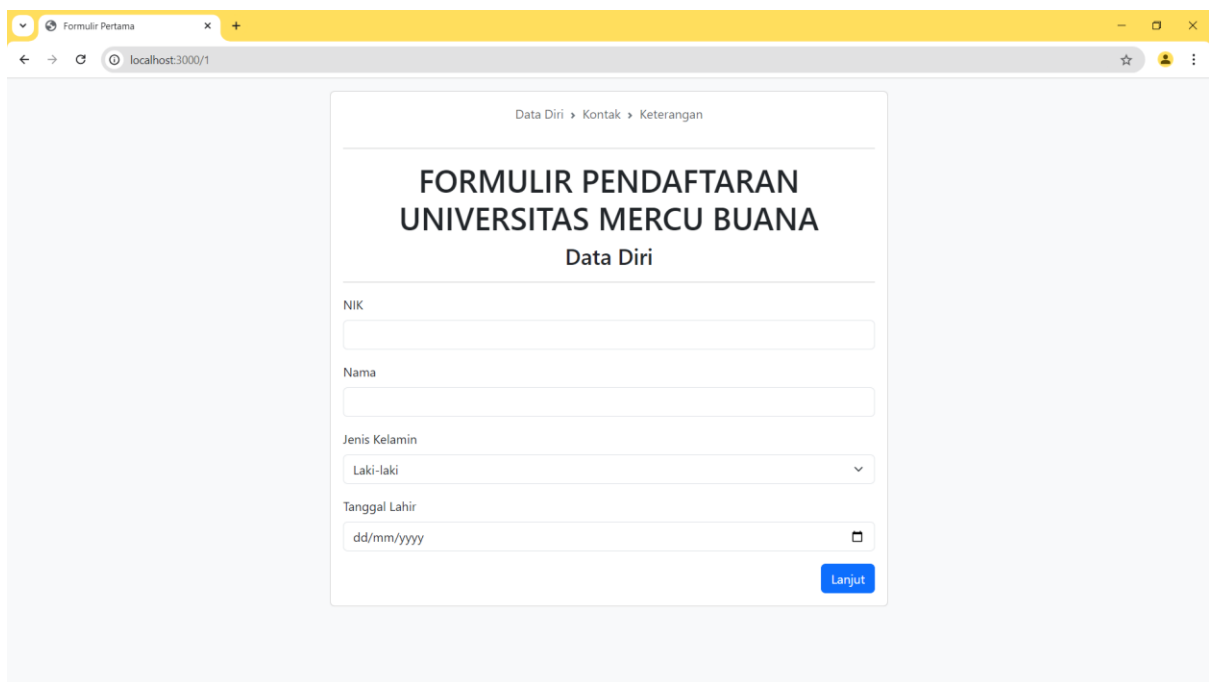
The screenshot shows a VS Code editor with the following components:

- Explorer Sidebar:** Displays the project structure. The file `formulir-1.ejs` is selected under the `views` directory.
- Main Editor:** Shows the HTML code for `formulir-1.ejs`. The code is as follows:

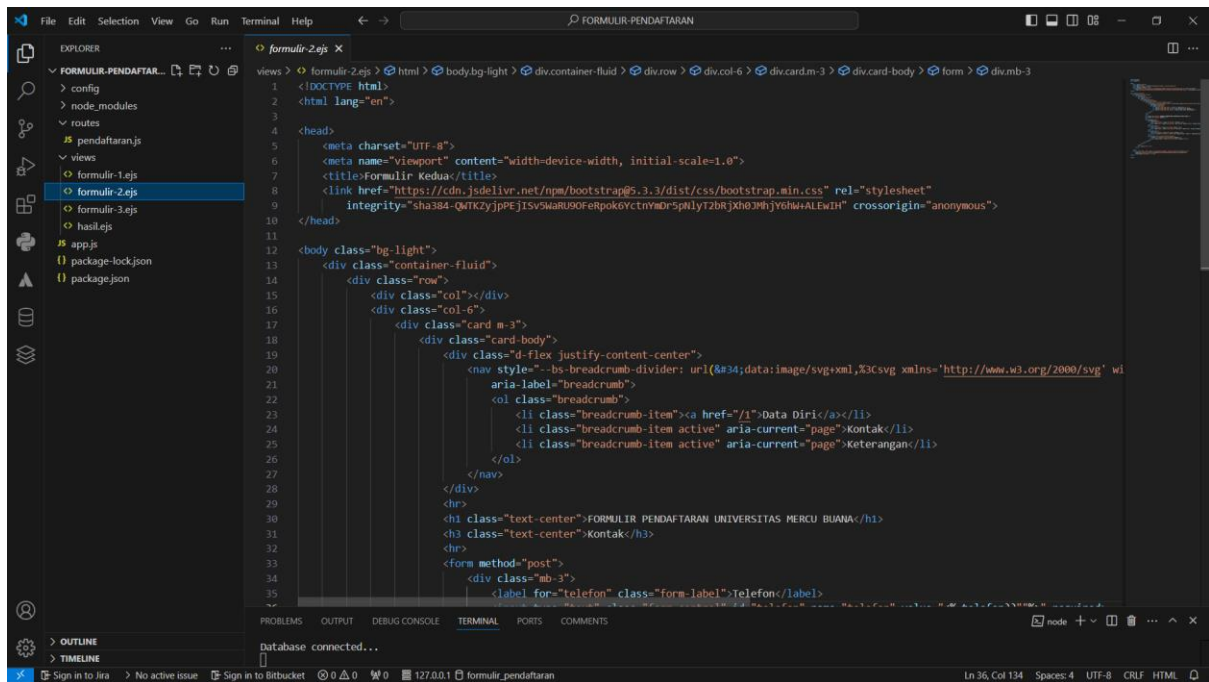
```
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <title>Formulir Portamata</title>
8   <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet"
9     integrity="sha384-QmTKc/SmH0pQ6Han2qI6oh3rjIv5r3QxM9VIUbpVo8/CbkibWLbz2BdR2e60Px" crossorigin="anonymous">
10 </head>
11
12 <body class="bg-light">
13   <div class="container-fluid">
14     <div class="row">
15       <div class="col"></div>
16       <div class="col-6">
17         <div class="card m-3">
18           <div class="card-body">
19             <div class="d-flex justify-content-center">
20               <nav style="--bs-breadcrumb-divider: url(&#34;data:image/svg+xml,&#34;http://www.w3.org/2000/svg" w
21                 aria-label="breadcrumb">
22                 <ol class="breadcrumb">
23                   <li class="breadcrumb-item active" aria-current="page">Data Diri</li>
24                   <li class="breadcrumb-item active" aria-current="page">Kontak</li>
25                   <li class="breadcrumb-item active" aria-current="page">Keterangan</li>
26                 </ol>
27               </nav>
28             </div>
29             <div class="text-center">FORMULIR PENDAFTARAN UNIVERSITAS MERCU BUANA</div>
30             <div class="text-center">Data Diri</div>
31             <hr>
32             <form method="post">
33               <div class="mb-3">
34                 <label for="nik" class="form-label">NIK</label>
35               </div>
36             </form>
37           </div>
38         </div>
39       </div>
40     </div>
41   </div>
42 </body>
43 </html>
```
- Terminal:** Shows the message "Database connected...".
- Bottom Bar:** Displays the status bar with information about the current file and project.

```
views > formulir-1.ejs > html > body.bg-light > div.container-fluid > div.row > div.col-6 > div.card-m-3 > div.card-body > form > div.mb-3 > input#tanggal_lahir.form-control
2 <html lang="en">
12 <body class="bg-light">
13 <div class="container-fluid">
14 <div class="row">
16 <div class="col-6">
24 <input type="date" class="form-control" id="tanggal_lahir" name="tanggal_lahir" value="">
52 </div>
53 <div class="d-flex justify-content-end">
54 <button type="submit" class="btn btn-primary">Lanjut</button>
55 </div>
56 </form>
57 </div>
58 </div>
59 <div class="col"></div>
60 </div>
61 </div>
62 </div>
63 <script>
64 <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"
65 integrity="sha384-YpccrVf0tY3lHB60NkMx3s9FODVZLE5aAA55NDz0xhy9GkC1dS1K1eH7N6J1eH2"
66 crossorigin="anonymous"></script>
67 </body>
68 </html>
```

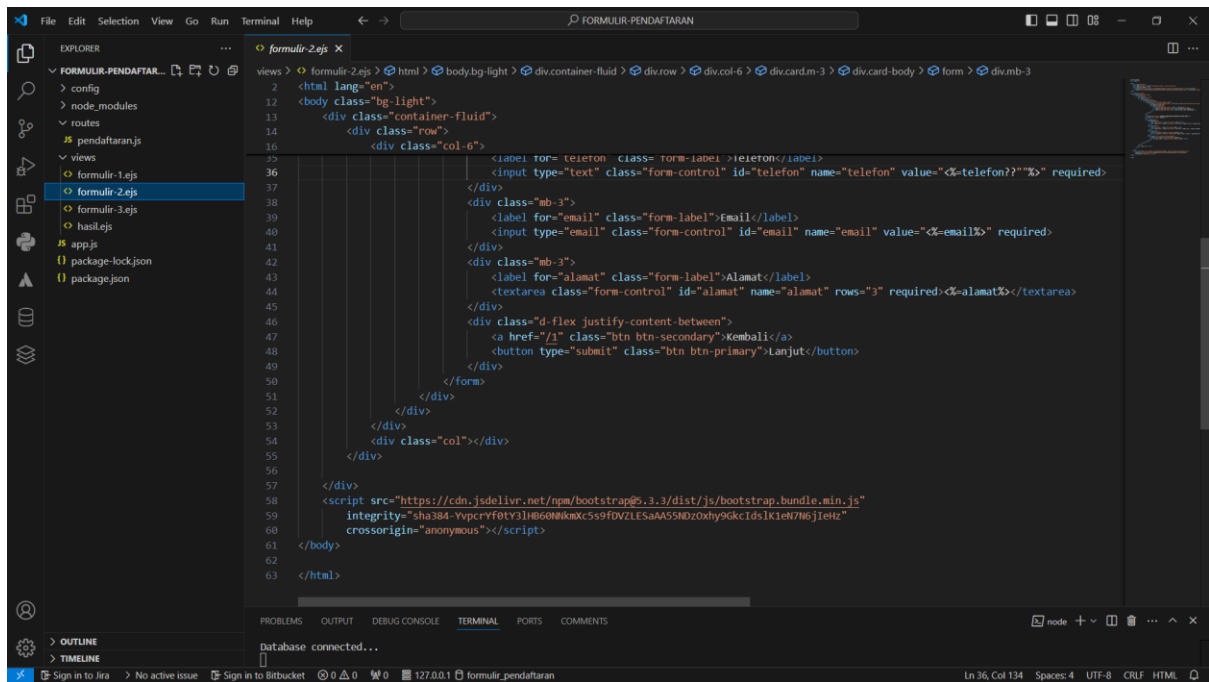
12. Tampilan akan seperti berikut



## 13. Membuat tampilan untuk formulir kedua



```
views > formulir-2.ejs > html > body.bg-light > div.container-fluid > div.row > div.col-6 > div.card.m-3 > div.card-body > form > div.mb-3
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <title>Formulir Kedua</title>
8   <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet"
9     integrity="sha384-QmTKzyjJPE32HjJPE9crYdl318p1Y0ne60R8b5U1Q6v2560R7A2VI0y1IxKEfHH" crossorigin="anonymous">
10 </head>
11
12 <body class="bg-light">
13   <div class="container-fluid">
14     <div class="row">
15       <div class="col"></div>
16       <div class="col-6">
17         <div class="card m-3">
18           <div class="card-body">
19             <div class="d-flex justify-content-center">
20               <nav style="--bs-breadcrumb-divider: url(<img34data:image/svg+xml,%3Csvg xmlns='http://www.w3.org/2000/svg' w
21                 aria-label="breadcrumb">
22                 <ol class="breadcrumb">
23                   <li class="breadcrumb-item"><a href="/1">Data Diri</a></li>
24                   <li class="breadcrumb-item active" aria-current="page">Kontak</li>
25                   <li class="breadcrumb-item active" aria-current="page">Keterangan</li>
26                 </ol>
27               </nav>
28             </div>
29             <hr>
30             <h1 class="text-center">FORMULIR PENDAFTARAN UNIVERSITAS MERCU BUANA</h1>
31             <h3 class="text-center">Kontak</h3>
32             <hr>
33             <form method="post">
34               <div class="mb-3">
35                 <label for="telepon" class="form-label">Telepon</label>
```



```
36 <input type="text" class="form-control" id="telepon" name="telepon" value="<%=telepon?%>" required>
37 </div>
38 <div class="mb-3">
39   <label for="email" class="form-label">Email</label>
40   <input type="email" class="form-control" id="email" name="email" value="<%=email%>" required>
41 </div>
42 <div class="mb-3">
43   <label for="alamat" class="form-label">Alamat</label>
44   <textarea class="form-control" id="alamat" name="alamat" rows="3" required><%=alamat%></textarea>
45 </div>
46 <div class="d-flex justify-content-between">
47   <a href="/1" class="btn btn-secondary">Kembali</a>
48   <button type="submit" class="btn btn-primary">Lanjut</button>
49 </div>
50 </form>
51 </div>
52 </div>
53 </div>
54 <div class="col"></div>
55 </div>
56
57 </div>
58 <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"
59   integrity="sha384-Ypccr6G1egPpOVCf3S0PvDZLE5aaASNDz0thdy9Gk1ds1K1eh799j"
60   crossorigin="anonymous"></script>
61
62 </body>
63 </html>
```

### 13. Tampilan akan seperti berikut

The screenshot shows a web browser window with a yellow header bar. The address bar displays 'localhost:3000/2'. The main content area features a registration form for Universitas Mercu Buana. The form has a title 'FORMULIR PENDAFTARAN UNIVERSITAS MERCU BUANA' and a subtitle 'Kontak'. It includes three input fields: 'Telefon', 'Email', and 'Alamat'. At the bottom of the form, there are two buttons: 'Kembali' (Back) and 'Lanjut' (Next). The form is styled with a light gray background and a white border.

[Data Diri](#) > [Kontak](#) > [Keterangan](#)

## FORMULIR PENDAFTARAN UNIVERSITAS MERCU BUANA

### Kontak

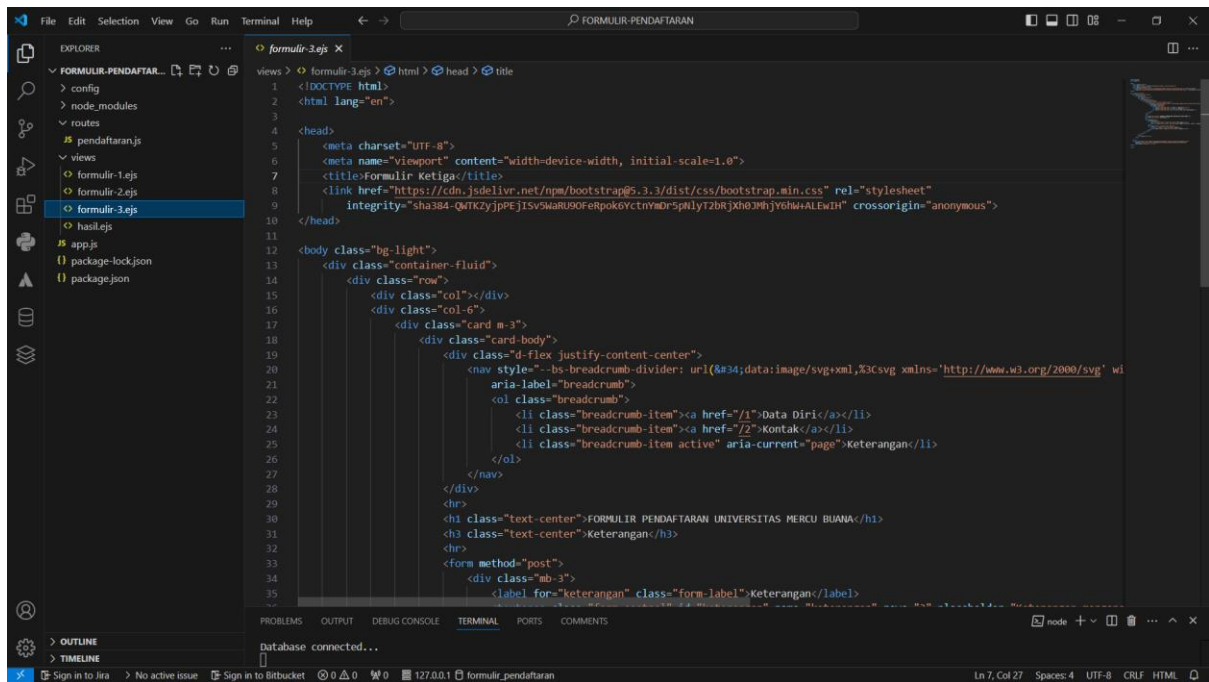
Telefon

Email

Alamat

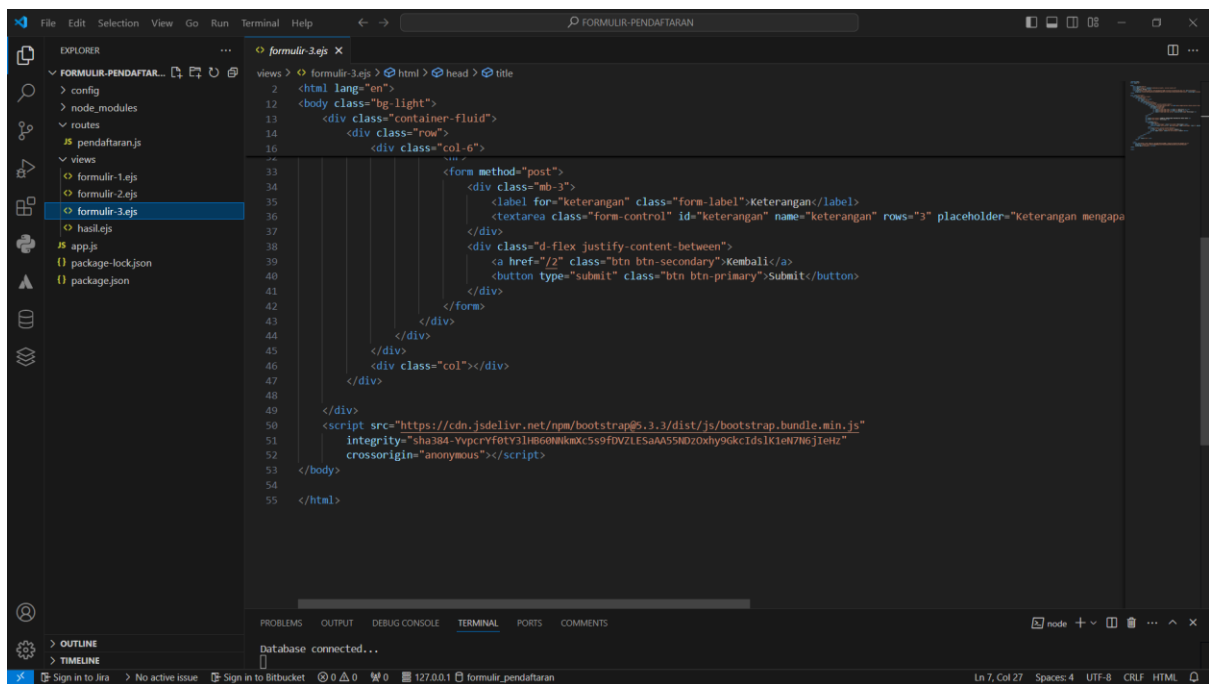
[Kembali](#) [Lanjut](#)

## 14. Membuat tampilan untuk formulir ketiga



The screenshot shows the VS Code editor with the file 'formulir-3.ejs' open. The code is an HTML template for a registration form. It includes a DOCTYPE declaration, a meta charset of 'UTF-8', and a viewport meta tag. The title is 'Formulir Ketiga'. It links to Bootstrap CSS from a CDN. The body has a light gray background and a container-fluid. Inside the container, there's a row with a single column. Within this column, there's a card with a white background and a shadow. The card has a flex container for a breadcrumb and a heading. The breadcrumb has three items: 'Data Diri', 'Kontak', and 'Keterangan' (which is active). Below the heading, there's a form with a text area for 'Keterangan'.

```
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <title>Formulir Ketiga</title>
8   <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet"
9     integrity="sha384-QktzjyPPEjISv9MAR90FerpokvctnYADRSpklyT2BRjXh03PHjY6H4ALEWtH" crossorigin="anonymous">
10 </head>
11
12 <body class="bg-light">
13   <div class="container-fluid">
14     <div class="row">
15       <div class="col-6">
16         <div class="card m-3">
17           <div class="card-body">
18             <div class="d-flex justify-content-center">
19               <nav style="--bs-breadcrumb-divider: url(&#34;data:image/svg+xml,&#34;url('http://www.w3.org/2000/svg' wi
20                 aria-label="breadcrumb">
21                 <ol class="breadcrumb">
22                   <li class="breadcrumb-item"><a href="/1">Data Diri</a></li>
23                   <li class="breadcrumb-item"><a href="/2">Kontak</a></li>
24                   <li class="breadcrumb-item active" aria-current="page">Keterangan</li>
25                 </ol>
26               </nav>
27             </div>
28             <hr>
29             <h1 class="text-center">FORMULIR PENDAFTARAN UNIVERSITAS MERCU BUANA</h1>
30             <h3 class="text-center">Keterangan</h3>
31             <hr>
32             <form method="post">
33               <div class="mb-3">
34                 <label for="keterangan" class="form-label">Keterangan</label>
35                 <textarea class="form-control" id="keterangan" name="keterangan" rows="3" placeholder="Keterangan mengapa
36               </div>
37             </form>
38           </div>
39         </div>
40       </div>
41     </div>
42   </div>
43 </body>
44 <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"
45   integrity="sha384-YpccrF0tyy3lH6GNkMc5s9FDVZLEsAA55NDz0xhy9Gkc1dsIK1eH7N6JieHz"
46   crossorigin="anonymous"></script>
47 </html>
```



The screenshot shows the VS Code editor with the file 'formulir-3.ejs' open. The code is an HTML template for a registration form. It includes a DOCTYPE declaration, a meta charset of 'UTF-8', and a viewport meta tag. The title is 'Formulir Ketiga'. It links to Bootstrap CSS from a CDN. The body has a light gray background and a container-fluid. Inside the container, there's a row with a single column. Within this column, there's a card with a white background and a shadow. The card has a flex container for a breadcrumb and a heading. The breadcrumb has three items: 'Data Diri', 'Kontak', and 'Keterangan' (which is active). Below the heading, there's a form with a text area for 'Keterangan'.

```
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <title>Formulir Ketiga</title>
8   <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet"
9     integrity="sha384-QktzjyPPEjISv9MAR90FerpokvctnYADRSpklyT2BRjXh03PHjY6H4ALEWtH" crossorigin="anonymous">
10 </head>
11
12 <body class="bg-light">
13   <div class="container-fluid">
14     <div class="row">
15       <div class="col-6">
16         <div class="card m-3">
17           <div class="card-body">
18             <div class="d-flex justify-content-center">
19               <nav style="--bs-breadcrumb-divider: url(&#34;data:image/svg+xml,&#34;url('http://www.w3.org/2000/svg' wi
20                 aria-label="breadcrumb">
21                 <ol class="breadcrumb">
22                   <li class="breadcrumb-item"><a href="/1">Data Diri</a></li>
23                   <li class="breadcrumb-item"><a href="/2">Kontak</a></li>
24                   <li class="breadcrumb-item active" aria-current="page">Keterangan</li>
25                 </ol>
26               </nav>
27             </div>
28             <hr>
29             <h1 class="text-center">FORMULIR PENDAFTARAN UNIVERSITAS MERCU BUANA</h1>
30             <h3 class="text-center">Keterangan</h3>
31             <hr>
32             <form method="post">
33               <div class="mb-3">
34                 <label for="keterangan" class="form-label">Keterangan</label>
35                 <textarea class="form-control" id="keterangan" name="keterangan" rows="3" placeholder="Keterangan mengapa
36               </div>
37             </form>
38           </div>
39         </div>
40       </div>
41     </div>
42   </div>
43 </body>
44 <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"
45   integrity="sha384-YpccrF0tyy3lH6GNkMc5s9FDVZLEsAA55NDz0xhy9Gkc1dsIK1eH7N6JieHz"
46   crossorigin="anonymous"></script>
47 </html>
```

15. Tampilan akan seperti berikut

Formulir Ketiga

localhost:3000/3

[Data Diri](#) > [Kontak](#) > Keterangan

## FORMULIR PENDAFTARAN UNIVERSITAS MERCU BUANA

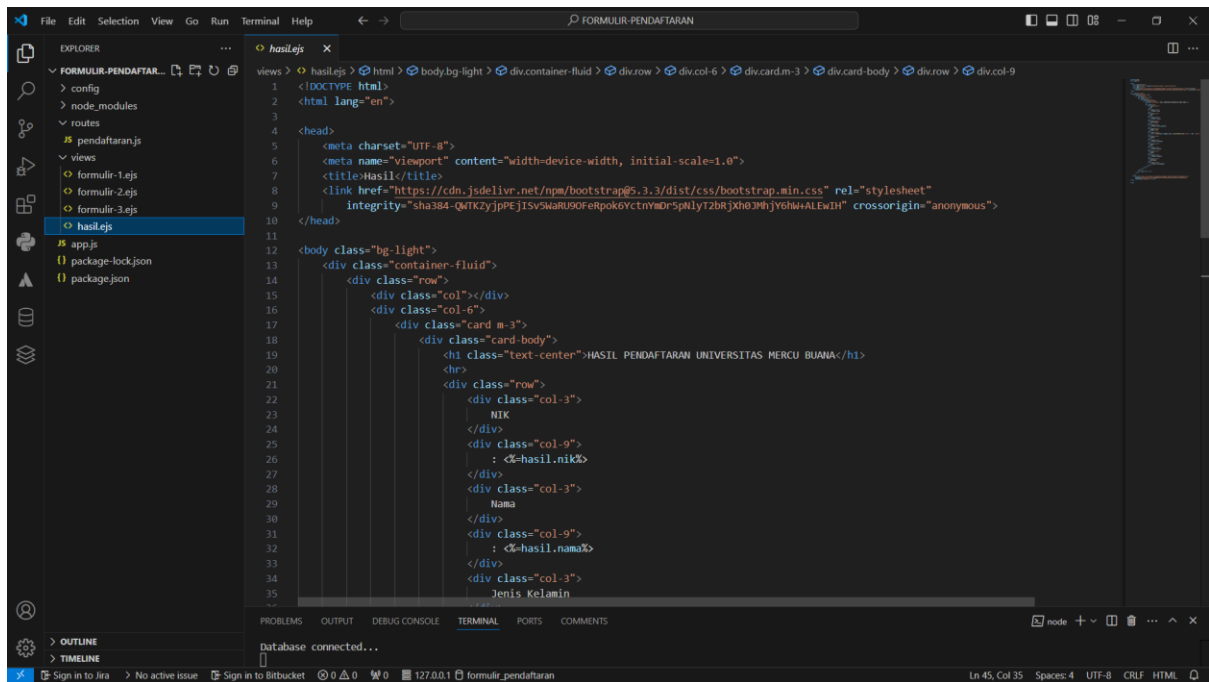
### Keterangan

Keterangan

Keterangan mengapa anda ingin berkuliah disini

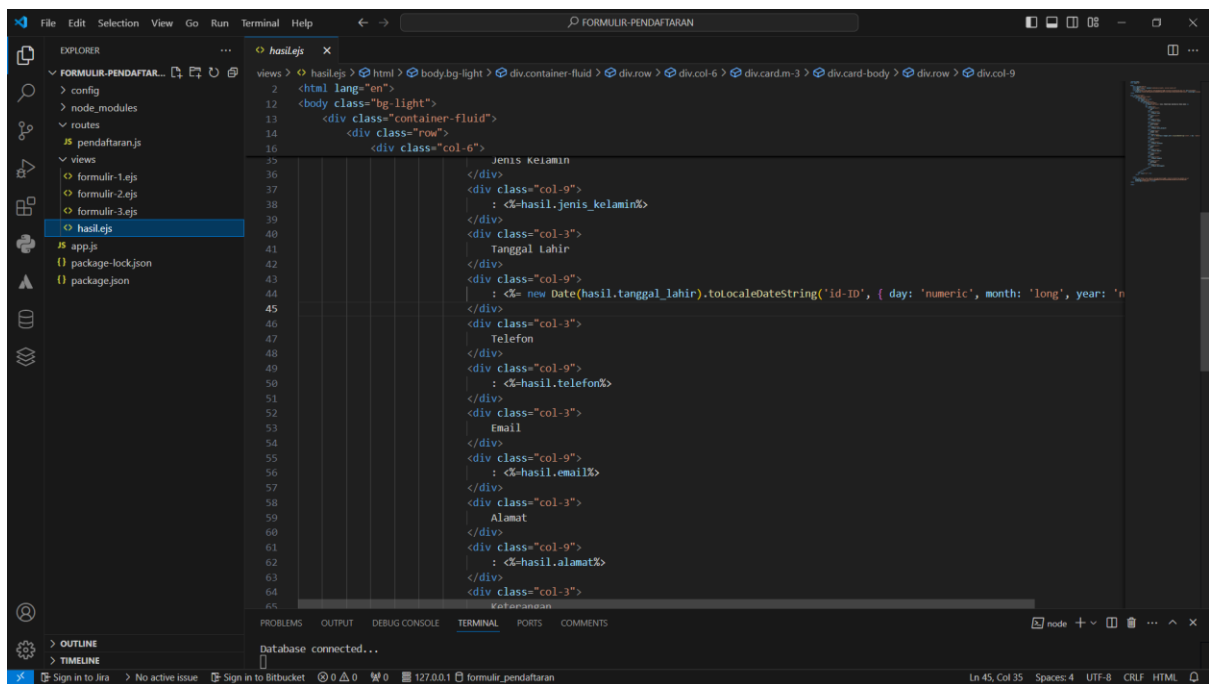
Kembali Submit

## 16. Buat tampilan untuk menampilkan hasilnya



The screenshot shows the VS Code editor with the file `hasil.ejs` open. The code defines the HTML structure for displaying registration results. It includes a Bootstrap 5.3.3 CDN link for the CSS. The main content is a card with a centered heading "HASIL PENDAFTARAN UNIVERSITAS MERCU BUANA". Below the heading is a form with fields for NIK, Nama, and Jenis Kelamin, each with a corresponding label and a placeholder for the result value.

```
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <title>Hasil</title>
8   <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet"
9     integrity="sha384-QmTKZyypPEj15v5W8AR90fERPokvctnYADRSpklyT2BRjXh0JPHjy6H4HALEWtH" crossorigin="anonymous">
10 </head>
11
12 <body class="bg-light">
13   <div class="container-fluid">
14     <div class="row">
15       <div class="col"></div>
16       <div class="col-6">
17         <div class="card m-3">
18           <div class="card-body">
19             <h1 class="text-center">HASIL PENDAFTARAN UNIVERSITAS MERCU BUANA</h1>
20             <hr>
21             <div class="row">
22               <div class="col-3">
23                 NIK
24               </div>
25               <div class="col-9">
26                 : <%= hasil.nik %>
27               </div>
28               <div class="col-3">
29                 Nama
30               </div>
31               <div class="col-9">
32                 : <%= hasil.nama %>
33               </div>
34               <div class="col-3">
35                 Jenis Kelamin
```

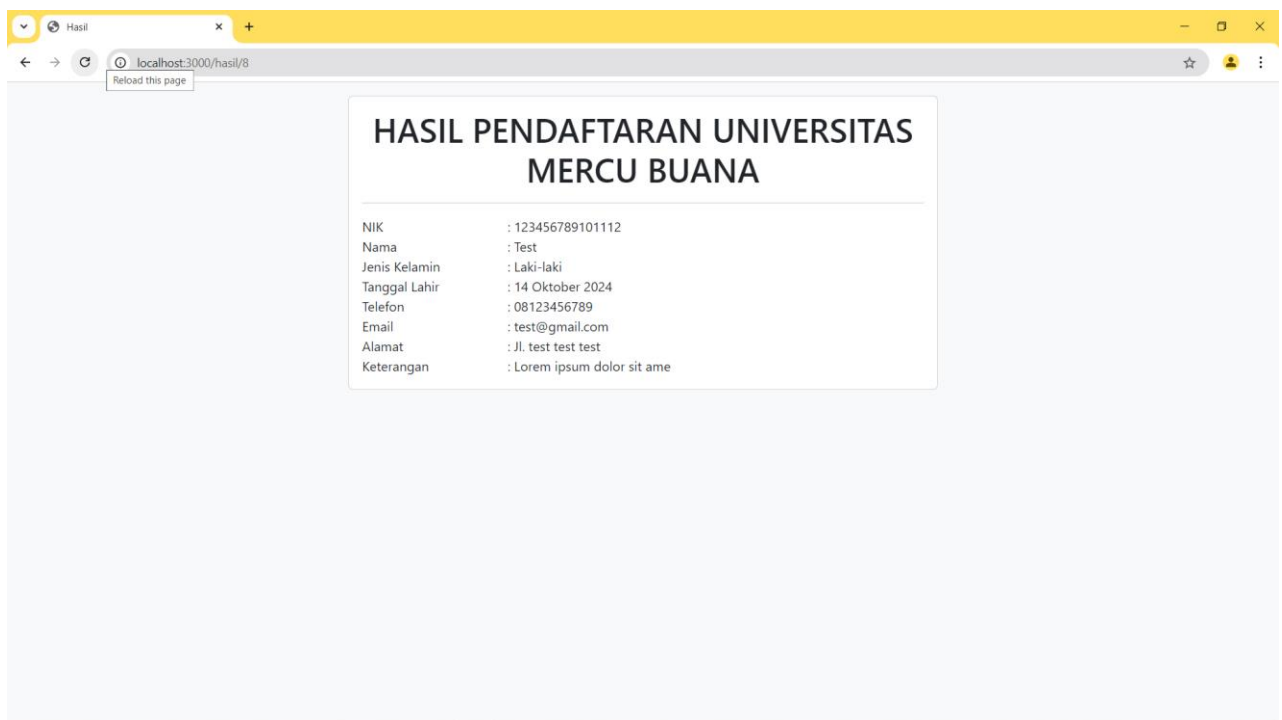


The screenshot shows the continuation of the `hasil.ejs` file. It adds more form fields: Tanggal Lahir, which is dynamically generated using a JavaScript date function; Telefon; Email; and Alamat. Each field is followed by a placeholder for the result value from the database.

```
36               <div class="col-6">
37                 Jenis Kelamin
38               </div>
39               <div class="col-9">
40                 : <%= hasil.jenis_kelamin %>
41               </div>
42               <div class="col-3">
43                 Tanggal Lahir
44               </div>
45               <div class="col-9">
46                 : <%= new Date(hasil.tanggal_lahir).toLocaleDateString('id-ID', { day: 'numeric', month: 'long', year: 'n
47               </div>
48               <div class="col-3">
49                 Telefon
50               </div>
51               <div class="col-9">
52                 : <%= hasil.telefon %>
53               </div>
54               <div class="col-3">
55                 Email
56               </div>
57               <div class="col-9">
58                 : <%= hasil.email %>
59               </div>
60               <div class="col-3">
61                 Alamat
62               </div>
63               <div class="col-9">
64                 : <%= hasil.alamat %>
65               </div>
66               <div class="col-3">
67                 Kolaborasi
```

```
2 <html lang="en">
12 <body class="bg-light">
13   <div class="container-fluid">
14     <div class="row">
15       <div class="col-6">
60       </div>
61       <div class="col-9">
62         : <%=hasil.alamat%>
63       </div>
64       <div class="col-3">
65         Keterangan
66       </div>
67       <div class="col-9">
68         : <%=hasil.keterangan%>
69       </div>
70     </div>
71   </div>
72 </div>
73 </div>
74 <div class="col"></div>
75 </div>
76
77 </div>
78 <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"
79   integrity="sha384-YpccrVf0tY3lHB60NkMx3S9fDvZLE5aAA55NDzOxhy9Gkc1dsIK1eH7N6J1eHz"
80   crossorigin="anonymous"></script>
81 </body>
82
83 </html>
```

17. Tampilan akan seperti berikut





#### PENJELASAN :

Sesssion dapat menyimpan data yang diperlukan dan akan disimpan di server untuk jangka waktu tertentu, sehingga informasi yang dibutuhkan tetap dapat diakses selama periode tersebut. Ini sangat berguna untuk formulir pendaftaran bertahap agar pengguna tidak perlu mengisi ulang formulir sebelumnya, terutama saat ingin melakukan refresh atau kembali ke tahap sebelumnya. Data akan tetap tersimpan selama formulir belum disubmit dalam waktu yang ditentukan.