PROGRAM:

Exercise 1.html

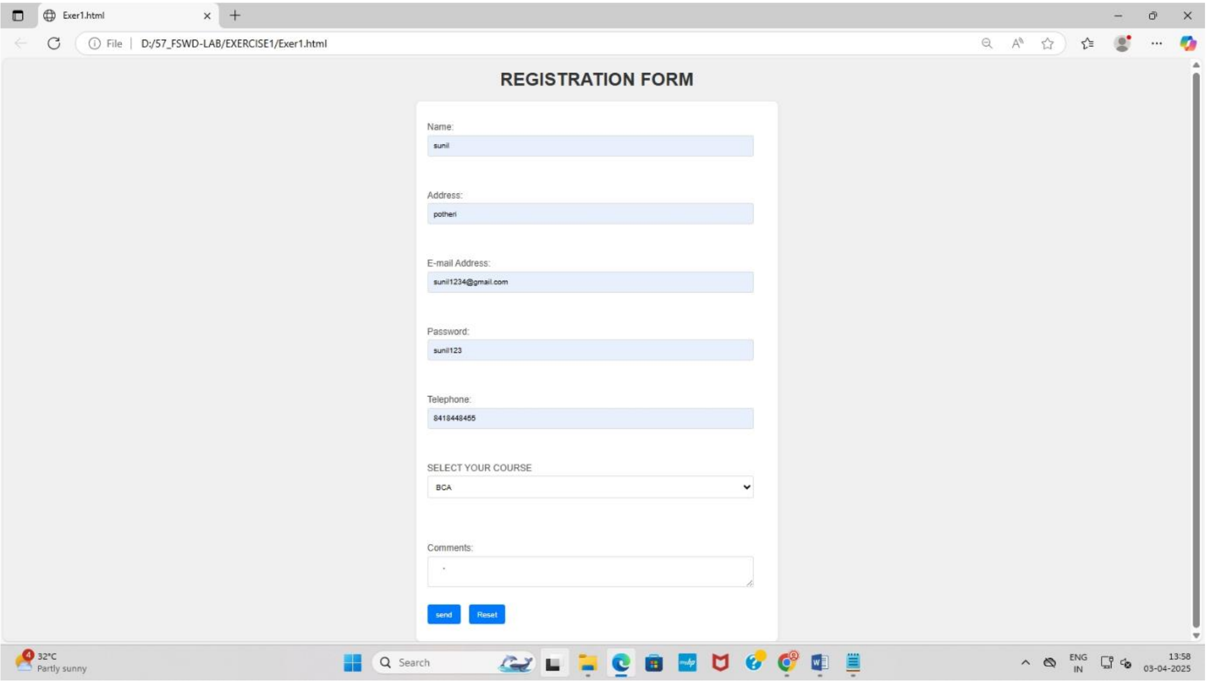
```
<html>
<head>
<script>
function VALIDATEDETAIL()
{
var name = document.forms["RegForm"]["Name"];
var email = document.forms["RegForm"]["EMail"];
var phone = document.forms["RegForm"]["Telephone"];
var what =  document.forms["RegForm"]["Subject"];
var password = document.forms["RegForm"]["Password"];
var address = document.forms["RegForm"]["Address"];

   if (name.value == "")
   {
      window.alert("Please enter your name.");
      name.focus();
      return false;
   }

   if (address.value == "")
   {
      window.alert("Please enter your address.");
      name.focus();
      return false;
   }

   if (email.value == "")
   {
        window.alert("Please enter a valid e-mail address.");
        email.focus();
        return false;
    }

    if (email.value.indexOf("@", 0) < 0)
{
        window.alert("Please enter a valid e-mail address.");
        email.focus();
        return false;
    }
    if (email.value.indexOf(".", 0) < 0)
    {
        window.alert("Please enter a valid e-mail address.");
        email.focus();
        return false;
    }
    if (phone.value == "")
    {
        window.alert("Please enter your telephone number.");
        phone.focus();
        return false;
    }
    if (password.value == "")
    {
        window.alert("Please enter your password");
        password.focus();
        return flase;
    }
    if (what.selectedIndex < 1)
    {
        alert("Please enter your course.");
        what.focus();
        return false;
    }
    return true;
}</script>

  <style>
VALIDATEDETAIL {
    font-weight: bold ;
    float: left;
    width: 100px;
    text-align: left;
    margin-right: 10px;
    font-size:14px;
}
 div {
box-sizing: border-box;
    width: 100%;
    border: 100px solid black;
    float: left;
    align-content: center;
    align-items: center;
}

form {
    margin: 0 auto;
    width: 600px;
```

```
}</style></head>

<body>
<h1 style="text-align: center"> REGISTRATION FORM </h1>
<form name="RegForm" action="submit.php" onsubmit="return VALIDATEDETAIL()"
method="post">

  <p>Name: <input type="text" size=65 name="Name"> </p><br>
  <p> Address: <input type="text" size=65 name="Address">  </p><br>
  <p>E-mail Address: <input type="text" size=65 name="EMail">  </p><br>
   <p>Password: <input type="text" size=65 name="Password"> </p><br>
  <p>Telephone: <input type="text" size=65 name="Telephone"> </p><br>

  <p>SELECT YOUR COURSE
    <select type="text" value="" name="Subject">
      <option>BTECH</option>
      <option>BBA</option>
      <option>BCA</option>
      <option>B.COM</option>
      <option>VALIDATEDETAIL</option>
    </select></p><br><br>
  <p>Comments:  <textarea cols="55" name="Comment">  </textarea></p>
  <p><input type="submit" value="send" name="Submit">
    <input type="reset" value="Reset" name="Reset">



</p>
</form>
</body>
</html>
```

Style.css

```
body {
  font-family: sans-serif;
  background-color: #f0f0f0; /* Light gray background */
  margin: 0;
  padding: 0;
  display: flex;
  flex-direction: column; /* Stack elements vertically */
  align-items: center;
  min-height: 100vh;
}

h1 {
  text-align: center;
  color: #333; /* Dark gray title */
  margin-top: 20px;
  margin-bottom: 20px;
}

form {
  background-color: #fff; /* White form background */
  padding: 20px;
  border-radius: 8px;
  box-shadow: 0 2px 5px rgba(0, 0, 0, 0.1);
  width: 500px;
  max-width: 90%;
  margin-bottom: 20px; /* Space between form and buttons */
}

p {
  margin-bottom: 10px;
  color: #555;
}

input[type="text"],
select,
textarea {
  width: calc(100% - 22px);
  padding: 10px;
  margin-top: 5px;
  margin-bottom: 15px;
  border: 1px solid #ddd;
  border-radius: 4px;
  box-sizing: border-box;
}

select {
  height: 40px;
}

textarea {
  resize: vertical;
}

input[type="submit"],
input[type="reset"] {
  background-color: #007bff; /* Blue button */
  color: white;
  padding: 10px 15px;
  border: none;
  border-radius: 4px;
  cursor: pointer;
  margin-right: 10px;
}

input[type="submit"]:hover,
input[type="reset"]:hover {
  background-color: #0056b3; /* Darker blue on hover */
}

/* Optional: Style the button container for better alignment */
.button-container {
    display: flex;
    justify-content: center;
    width: 100%;
}
```

Output:



REGISTRATION FORM

Name:
sunil

Address:
potheri

E-mail Address:
sunil1234@gmail.com

Password:
sunil123

Telephone:
8418448455

SELECT YOUR COURSE
BCA

Comments:

PROGRAM :

Exercise 2.html

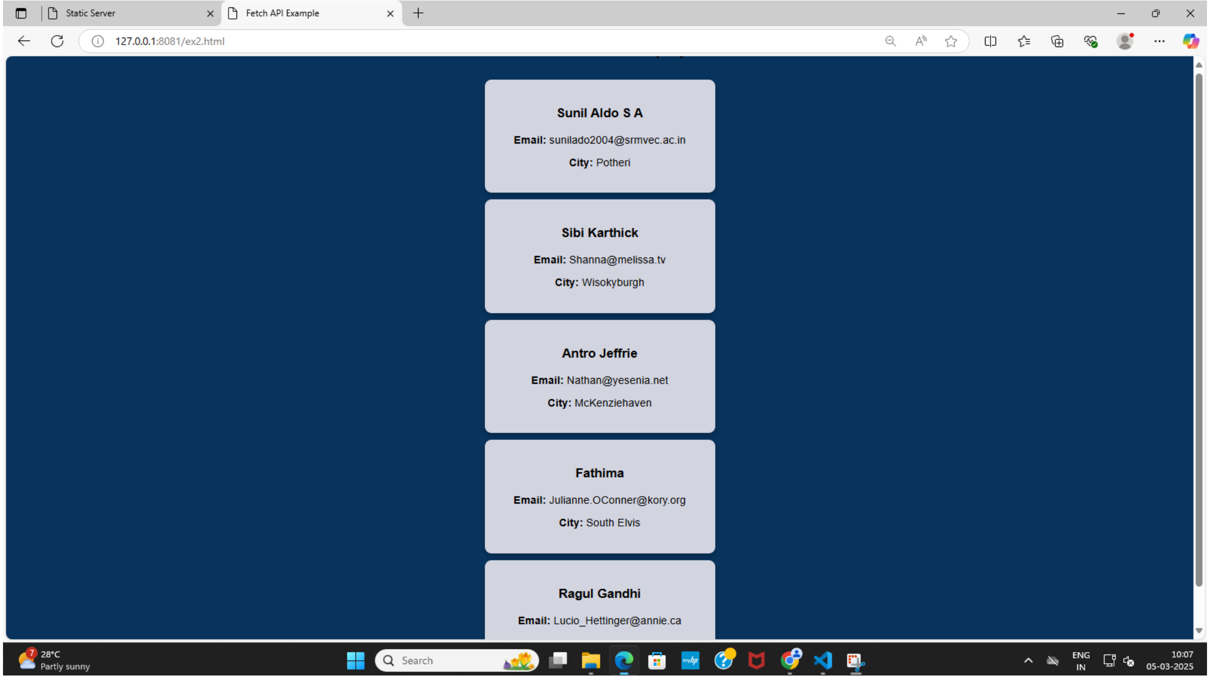
```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Fetch API Example</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            background-color: #08335c;
            display: flex;
            justify-content: center;
            align-items: center;
            height: 100vh;
            flex-direction: column;
        }
        .card {
            background: rgb(210, 212, 223);
            padding: 20px;
            border-radius: 10px;
            box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);
            margin: 10px;
            width: 300px;
            text-align: center;
        }
    </style>
</head>
<body>
```

```
    <h2>Fetch API Data Display</h2>
    <div id="card-container"></div>
    <script>
        async function fetchData() {
            try {
                //const response = await fetch('https://jsonplaceholder.typicode.com/users');
                const response = await fetch('http://127.0.0.1:8081/users.json');
                const data = await response.json();

                const container = document.getElementById('card-container');
                container.innerHTML = "; // Clear previous content
                data.slice(0, 5).forEach(user => {
                    const card = document.createElement('div');
                    card.classList.add('card');
                    card.innerHTML = `
                        <h3>${user.name}</h3>
                        <p><strong>Email:</strong> ${user.email}</p>
                        <p><strong>City:</strong> ${user.address.city}</p>
                    `;
                    container.appendChild(card);
                });
            } catch (error) {
                console.error('Error fetching data:', error);
            }
        }
        fetchData(); // Call function to fetch and display data
</script>
</body>
</html>
```

Users.json:

```
[
  {
    "id": 1,
    "name": "Sunil Aldo S A",
    "username": "sunil007",
    "email": "sunilado2004@srmvec.ac.in",
    "address": {
      "street": "Kulas Light",
      "suite": "Apt. 556",
      "city": "Potheri",
      "zipcode": "627005",
      "geo": {
        "lat": "-37.3159",
        "lng": "81.1496"
      }
    },
    "phone": "91-80729 22340",
    "website": "cits.org",
    "company": {
      "name": "Creative-Crona",
      "catchPhrase": "Multi-layered client-server neural-net",
      "bs": "harness real-time e-markets"
    }
  },
  {
    "id": 2,
    "name": "Sibi Karthick",
    "username": "Antonette",
    "email": "Shanna@melissa.tv",
    "address": {
      "street": "Victor Plains",
      "suite": "Suite 879",
      "city": "Wisokyburgh",
      "zipcode": "90566-7771",
      "geo": {
        "lat": "-43.9509",
        "lng": "-34.4618"
      }
    },
    "phone": "010-692-6593 x09125",
    "website": "anastasia.net",
    "company": {
      "name": "Deckow-Crist",
      "catchPhrase": "Proactive didactic contingency",
      "bs": "synergize scalable supply-chains"
    }
  },
  {
    "id": 3,
    "name": "Antro Jeffrie",
    "username": "Samantha",
    "email": "Nathan@yesenia.net",
    "address": {
      "street": "Douglas Extension",
      "suite": "Suite 847",
      "city": "McKenziehaven",
      "zipcode": "59590-4157",
      "geo": {
        "lat": "-68.6102",
        "lng": "-47.0653"
      }
    },
    "phone": "2-653-123-3337",
    "website": "ramiro.info",
    "company": {
      "name": "Romaguera-Jacobson",
      "catchPhrase": "Face to face bifurcated interface",
      "bs": "e-enable strategic applications"
    }
  },
  {
    "id": 4,
    "name": "Fathima",
    "username": "Karianne",
    "email": "Julianne.OConner@kory.org",
    "address": {
      "street": "Hoeger Mall",
      "suite": "Apt. 692",
      "city": "South Elvis",
      "zipcode": "53919-4257",
      "geo": {
        "lat": "29.4572",
        "lng": "-164.2990"
      }
    },
    "phone": "493-170-9623 x156",
    "website": "kale.biz",
    "company": {
      "name": "Robel-Corkery",
      "catchPhrase": "Multi-tiered zero tolerance productivity",
      "bs": "transition cutting-edge web services"
    }
  },
  {
    "id": 5,
    "name": "Ragul Gandhi",
    "username": "Kamren",
    "email": "Lucio_Hettinger@annie.ca",
    "address": {
      "street": "Skiles Walks",
      "suite": "Suite 351",
      "city": "Roscoeview",
      "zipcode": "33263",
      "geo": {
        "lat": "-31.8129",
        "lng": "62.5342"
      }
    },
    "phone": "(254)954-1289",
    "website": "demarco.info",
    "company": {
      "name": "Keebler LLC",
      "catchPhrase": "User-centric fault-tolerant solution",
      "bs": "revolutionize end-to-end systems"
    }
},
  {
    "id": 6,
    "name": "Mrs. Dennis Schulist",
      "username": "Leopoldo_Corkery",
      "email": "Karley_Dach@jasper.info",
      "address": {
        "street": "Norberto Crossing",
        "suite": "Apt. 950",
        "city": "South Christy",
        "zipcode": "23505-1337",
        "geo": {
          "lat": "-71.4197",
          "lng": "71.7478"
        }
      },
      "phone": "1-477-935-8478 x6430",
      "website": "ola.org",
      "company": {
        "name": "Considine-Lockman",
        "catchPhrase": "Synchronised bottom-line interface",
        "bs": "e-enable innovative applications"
      }
    },
    {
      "id": 7,
      "name": "Kurtis Weissnat",
      "username": "Elwyn.Skiles",
      "email": "Telly.Hoeger@billy.biz",
      "address": {
        "street": "Rex Trail",
        "suite": "Suite 280",
        "city": "Howemouth",
        "zipcode": "58804-1099",
      "geo": {
        "lat": "24.8918",
        "lng": "21.8984"
      }
    },
    "phone": "210.067.6132",
    "website": "elvis.io",
    "company": {
      "name": "Johns Group",
      "catchPhrase": "Configurable multimedia task-force",
      "bs": "generate enterprise e-tailers"
    }
  },
  {
    "id": 8,
    "name": "Nicholas Runolfsdottir V",
    "username": "Maxime_Nienow",
    "email": "Sherwood@rosamond.me",
    "address": {
      "street": "Ellsworth Summit",
      "suite": "Suite 729",
      "city": "Aliyaview",
      "zipcode": "45169",
      "geo": {
        "lat": "-14.3990",
        "lng": "-120.7677"
      }
    },
    "phone": "586.493.6943 x140",
    "website": "jacynthe.com",
    "company": {
      "name": "Abernathy Group",
      "catchPhrase": "Implemented secondary concept",
      "bs": "e-enable extensible e-tailers"
    }
  },
  {
    "id": 9,
    "name": "Glenna Reichert",
    "username": "Delphine",
    "email": "Chaim_McDermott@dana.io",
    "address": {
      "street": "Dayna Park",
      "suite": "Suite 449",
      "city": "Bartholomebury",
      "zipcode": "76495-3109",
      "geo": {
        "lat": "24.6463",
        "lng": "-168.8889"
      }
    },
    "phone": "(775)976-6794 x41206",
    "website": "conrad.com",
    "company": {
      "name": "Yost and Sons",
      "catchPhrase": "Switchable contextually-based project",
      "bs": "aggregate real-time technologies"
    }
  },
  {
    "id": 10,
    "name": "Clementina DuBuque",
    "username": "Moriah.Stanton",
    "email": "Rey.Padberg@karina.biz",
    "address": {
      "street": "Kattie Turnpike",
      "suite": "Suite 198",
      "city": "Lebsackbury",
      "zipcode": "31428-2261",
      "geo": {
        "lat": "-38.2386",
        "lng": "57.2232"
      }

    },
    "phone": "024-648-3804",
    "website": "ambrose.net",
    "company": {
      "name": "Hoeger LLC",
      "catchPhrase": "Centralized empowering task-force",
      "bs": "target end-to-end models"
    }
  }
]
```

Output:



Sunil Aldo S A

Email: suniIado2004@srmvec.ac.in

City: Potheri

Sibi Karthick

Email: Shanna@melissa.tv

City: Wisokyburgh

Antro Jeffrie

Email: Nathan@yesenia.net

City: McKenziehaven

Fathima

Email: Julianne.OConner@kory.org

City: South Elvis

Ragul Gandhi

Email: Lucio_Hettinger@annie.ca

PROGRAM:

Exercise 3.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Static Server</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <h1>Welcome to My Node.js Server</h1>
    <p>This is a static HTML page served without Express.</p>
</body>
</html>
```

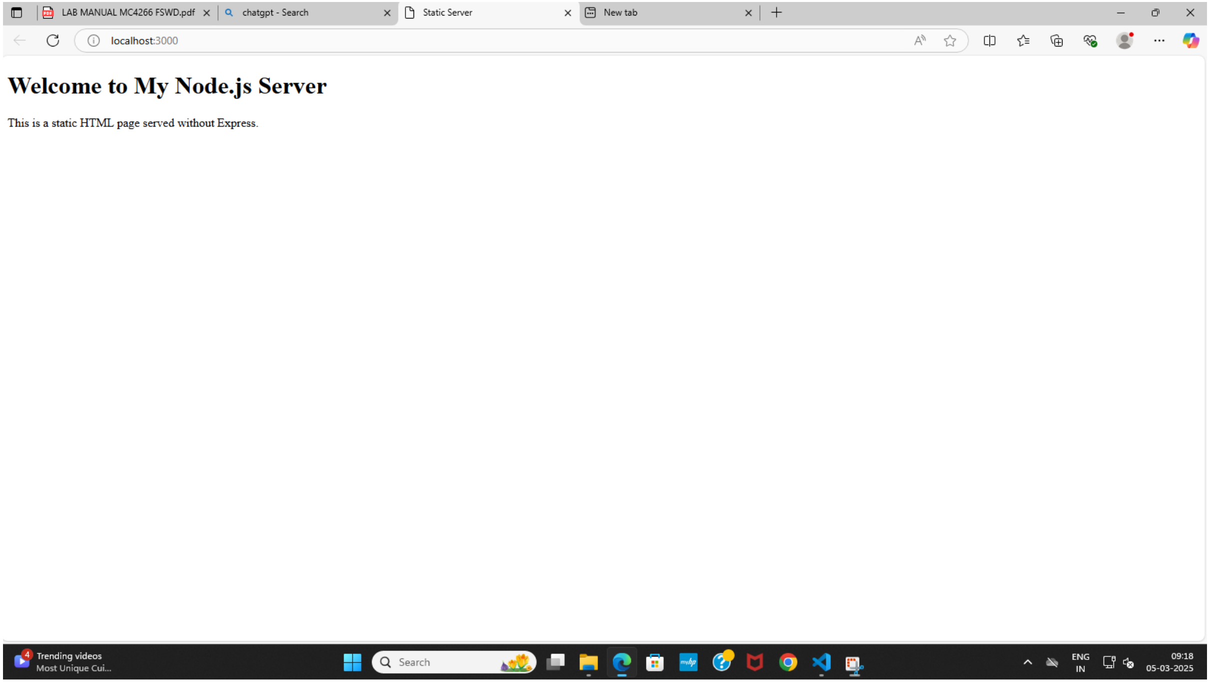
Ex_3_server.js

```
const http = require('http');
const fs = require('fs');
const path = require('path');

const PORT = 3000;
const PUBLIC_DIR = path.join(__dirname, 'public');

// MIME types for various file extensions
const mimeTypes = {
    '.html': 'text/html',
    '.css': 'text/css',
    '.js': 'text/javascript',
    '.json': 'application/json',
    '.jpg': 'image/jpeg',
    '.jpeg': 'image/jpeg',
    '.png': 'image/png',
    '.gif': 'image/gif',
    '.svg': 'image/svg+xml',
    '.ico': 'image/x-icon',
    '.woff': 'font/woff',
    '.woff2': 'font/woff2',
    '.ttf': 'font/ttf',
    '.eot': 'application/vnd.ms-fontobject',
};

const server = http.createServer((req, res) => {
    let filePath = path.join(PUBLIC_DIR, req.url === '/' ? 'ex_3.html' : req.url);

    // Get file extension
    let extname = path.extname(filePath).toLowerCase();

    // Default to text/html if file extension not found
    let contentType = mimeTypes[extname] || 'text/html';

    // Read and serve the file
    fs.readFile(filePath, (err, content) => {
        if (err) {
            if (err.code === 'ENOENT') {
                res.writeHead(404, { 'Content-Type': 'text/html' });
                res.end('<h1>404 - Not Found</h1>');
            } else {
                res.writeHead(500);
                res.end(`<h1>500 - Server Error</h1><p>${err.code}</p>`);
            }
        } else {
            res.writeHead(200, { 'Content-Type': contentType });
            res.end(content, 'utf-8');
        }
    });
});

server.listen(PORT, () => {
    console.log(`Server running at http://localhost:${PORT}`);
});
```

Server.js

```
const http = require('http');
const fs = require('fs');
const path = require('path');

const PORT = 3000;
const PUBLIC_DIR = path.join(__dirname, 'public');

const server = http.createServer((req, res) => {
    let filePath = path.join(PUBLIC_DIR, req.url === '/' ? 'ex_3.html' : req.url);

    // Get file extension
    let extname = path.extname(filePath);

    // Set content type
    let contentType = 'text/html';
    if (extname === '.css') contentType = 'text/css';
    if (extname === '.js') contentType = 'text/javascript';
    // Read and serve the file
    fs.readFile(filePath, (err, content) => {
        if (err) {
            if (err.code === 'ENOENT') {
                res.writeHead(404, { 'Content-Type': 'text/html' });
                res.end('<h1>404 - Not Found</h1>');
            } else {
                res.writeHead(500);
                res.end(`Server Error: ${err.code}`);
            }
        } else {
            res.writeHead(200, { 'Content-Type': contentType });
            res.end(content, 'utf-8');
        }
    });
});

server.listen(PORT, () => {
    console.log(`Server running at http://localhost:${PORT}`);
});
```

Output:



Welcome to My Node.js Server

This is a static HTML page served without Express.

PROGRAM:

Exercise4.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Form Submission</title>
</head>
<body>
    <h2>Submit Your Details</h2>
    <form action="/submit" method="post">
        <label for="name">Name:</label>
        <input type="text" id="name" name="name" required><br><br>

        <label for="email">Email:</label>
        <input type="email" id="email" name="email" required><br><br>

        <input type="submit" value="Submit">
    </form>
</body>
</html>
```

Ex_4_Server.js

```
const express = require('express');
const bodyParser = require('body-parser');
const fs = require('fs');

const app = express();
const PORT = 3000;
```

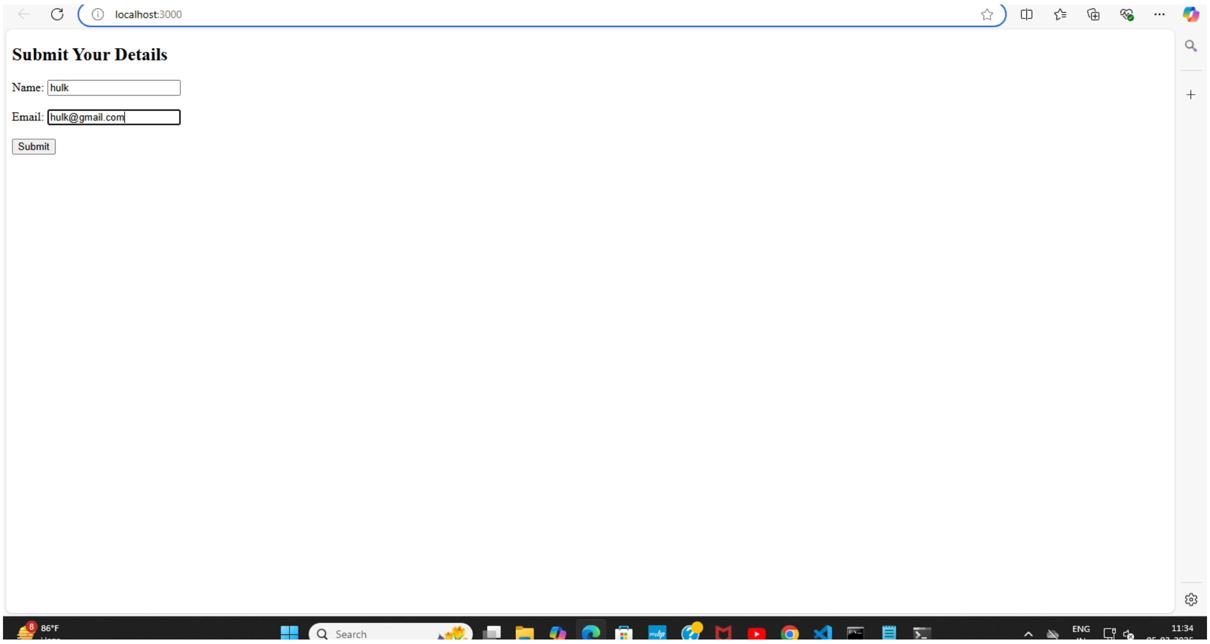
```
// Middleware to parse form data
app.use(bodyParser.urlencoded({ extended: true }));
app.use(bodyParser.json());

// Serve the HTML form (optional)
app.get('/', (req, res) => {
  res.sendFile(__dirname + '/index.html');
});

// Handle form submission
app.post('/submit', (req, res) => {
  const formData = req.body;

  // Read existing data
  let existingData = [];
  if (fs.existsSync('data.json')) {
    const fileContent = fs.readFileSync('data.json');
    existingData = JSON.parse(fileContent);
  }

  // Add new data
  existingData.push(formData);

  // Save to JSON file
  fs.writeFileSync('data.json', JSON.stringify(existingData, null, 2));

  res.send('Form data saved successfully!');
});
```

```
// Start the server
app.listen(PORT, () => {
    console.log(`Server running at http://localhost:${PORT}`);
});
```

Data.json

```
[
  {
    "name": "Hulk",
    "email": "Hulk@gmail.com"
  },
  {
    "name": "Hulk",
    "email": "Hulk@gmail.com"
  }
]
```

Output:



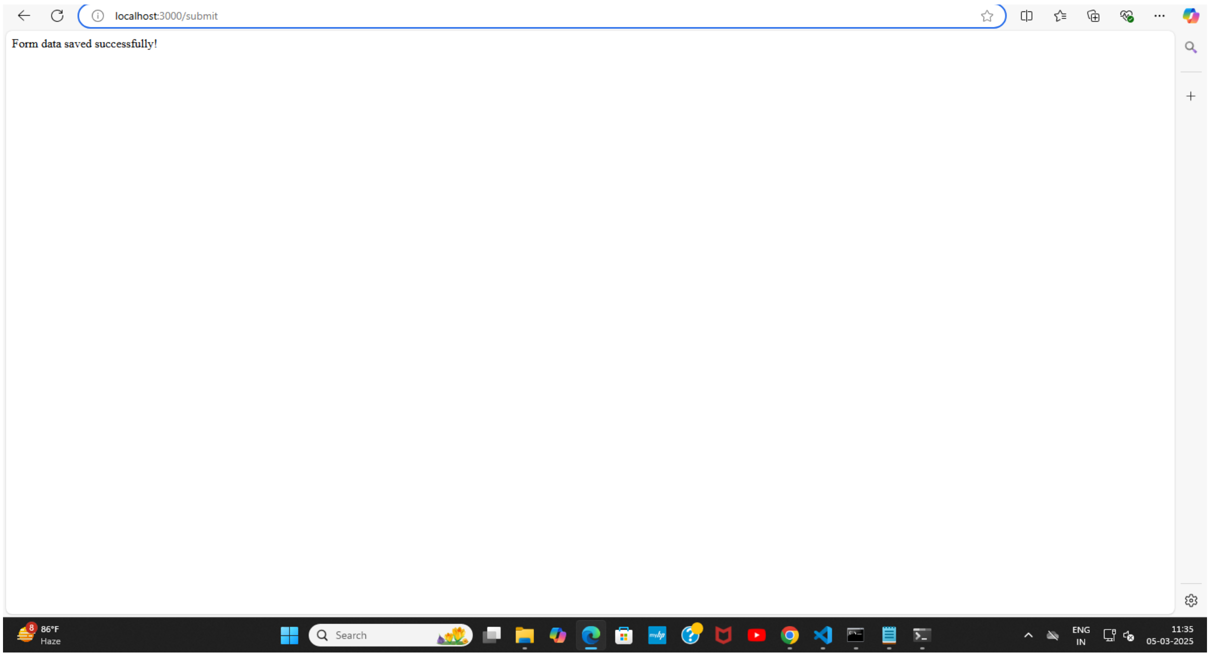
localhost:3000

Submit Your Details

Name: hulk

Email: hulk@gmail.com

Submit



localhost:3000/submit

Form data saved successfully!

PROGRAM:

Exercise 5.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Customer CRUD App</title>

      <link rel="stylesheet" href="ex_5_style.css"> <!-- Link the CSS file -->
</head>
<body>

  <h2>Customer Management System</h2>

  <form id="customerForm">
    <input type="text" id="name" placeholder="Enter Name" required>
    <input type="text" id="city" placeholder="Enter City" required>
    <input type="text" id="mobile" placeholder="Enter Mobile No" required>
    <button type="submit">Add Customer</button>
  </form>

  <table>
    <thead>
      <tr>
        <th>Name</th>
        <th>City</th>
        <th>Mobile No</th>
        <th>Actions</th>
      </tr>
```

```
        </thead>
        <tbody id="customersList"></tbody>
    </table>

    <script>
        const API_URL = 'http://localhost:5000/customers';

        async function fetchCustomers() {
            const res = await fetch(API_URL);
            const customers = await res.json();
            document.getElementById('customersList').innerHTML = customers.map(customer => `
                <tr>
                    <td><input type="text" value="${customer.name}" id="name-${customer._id}"></td>
                    <td><input type="text" value="${customer.city}" id="city-${customer._id}"></td>
                    <td><input type="text" value="${customer.mobile}" id="mobile-${customer._id}"></td>
                    <td>
                        <button onclick="updateCustomer('${customer._id}')">Update</button>
                        <button onclick="deleteCustomer('${customer._id}')">Delete</button>
                    </td>
                </tr>
            `).join('');
        }

        async function addCustomer(event) {
            event.preventDefault();
            const name = document.getElementById('name').value;
            const city = document.getElementById('city').value;
            const mobile = document.getElementById('mobile').value;
```

```
  await fetch(API_URL, {
    method: 'POST',
    headers: { 'Content-Type': 'application/json' },
    body: JSON.stringify({ name, city, mobile })
  });

  document.getElementById('customerForm').reset();
  fetchCustomers();
}

async function updateCustomer(id) {
  const name = document.getElementById(`name-${id}`).value;
  const city = document.getElementById(`city-${id}`).value;
  const mobile = document.getElementById(`mobile-${id}`).value;

  await fetch(`${API_URL}/${id}`, {
    method: 'PUT',
    headers: { 'Content-Type': 'application/json' },
    body: JSON.stringify({ name, city, mobile })
  });

  fetchCustomers();
}

async function deleteCustomer(id) {
  await fetch(`${API_URL}/${id}`, { method: 'DELETE' });
  fetchCustomers();
}
```

```
        document.getElementById('customerForm').addEventListener('submit', addCustomer);
        fetchCustomers();
    </script>

</body>
</html>
```

Exercise5 style.css

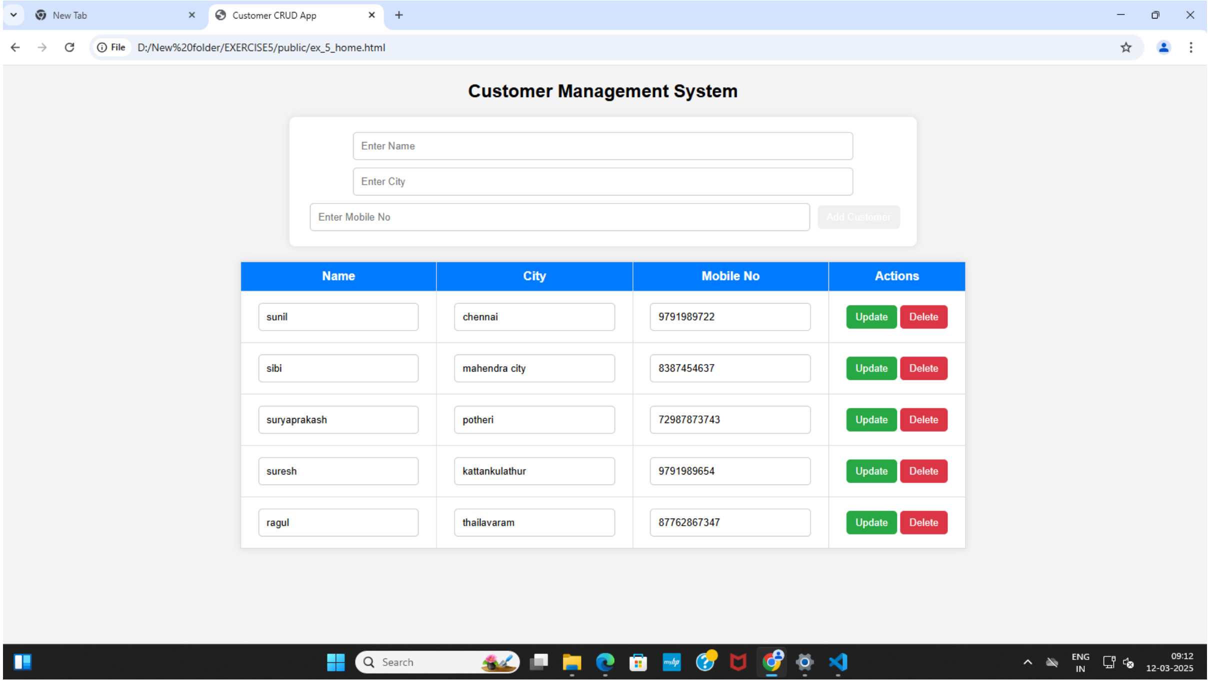
```
/* General Page Styling */
body {
    font-family: Arial, sans-serif;
    text-align: center;
    background-color: #f4f4f4;
    margin: 0;
    padding: 0;
}

/* Form Styling */
form {
    margin: 20px auto;
    width: 50%;
    padding: 15px;
    background: white;
    border-radius: 8px;
    box-shadow: 0px 0px 10px rgba(0, 0, 0, 0.1);
}

input {
    padding: 10px;
    margin: 5px;
    width: 80%;
    border: 1px solid #ccc;
    border-radius: 5px;
}

/* Table Styling */
table {
    width: 60%;
    margin: 20px auto;
    border-collapse: collapse;
    background: white;
    box-shadow: 0px 0px 10px rgba(0, 0, 0, 0.1);
}

th, td {
    padding: 10px;
    border: 1px solid #ddd;
    text-align: center;
}

th {
    background-color: #007bff;
    color: white;
}

/* Button Styling */
button {
    padding: 8px 12px;
    border: none;
    cursor: pointer;
    color: white;
    border-radius: 5px;
}

button:hover {
    opacity: 0.8;
}

button:nth-child(1) { background-color: #28a745; } /* Update button - Green */
button:nth-child(2) { background-color: #dc3545; } /* Delete button - Red */
```

Ex_5_server.js

```
require('dotenv').config();
const express = require('express');
const mongoose = require('mongoose');
const cors = require('cors');

const app = express();
app.use(express.json());
app.use(cors());

const MONGO_URI = process.env.MONGO_URI;
if (!MONGO_URI) {
    console.error("❌ MONGO_URI is not set in .env file");
    process.exit(1);
}

mongoose.connect(MONGO_URI, { useNewUrlParser: true, useUnifiedTopology: true })
    .then(() => console.log('✅ MongoDB Connected'))
    .catch(err => console.error(err));
```

```
// Customer Schema
const CustomerSchema = new mongoose.Schema({
    name: { type: String, required: true },
    city: { type: String, required: true },
    mobile: { type: String, required: true }
});
const Customer = mongoose.model('Customer', CustomerSchema);

// Create
app.post('/customers', async (req, res) => {
    try {
        const newCustomer = new Customer(req.body);
        await newCustomer.save();
        res.json(newCustomer);
    } catch (err) {
        res.status(500).json({ error: err.message });
    }
});

// Read
app.get('/customers', async (req, res) => {
    const customers = await Customer.find();
    res.json(customers);
});

// Update
app.put('/customers/:id', async (req, res) => {
    try {
        const updatedCustomer = await Customer.findByIdAndUpdate(req.params.id, req.body, { new: true });
    res.json(updatedCustomer);
  } catch (err) {
    res.status(500).json({ error: err.message });
  }
});

// Delete
app.delete('/customers/:id', async (req, res) => {
  try {
    await Customer.findByIdAndDelete(req.params.id);
    res.json({ message: 'Customer deleted' });
  } catch (err) {
    res.status(500).json({ error: err.message });
  }
});

app.listen(5000, () => console.log('🚀 Server running on port 5000'));
```

Output:



Customer Management System

Name	City	Mobile No	Actions
sunil	chennai	9791989722	Update Delete
sibi	mahendra city	8387454637	Update Delete
suryaprakash	potheri	72987873743	Update Delete
suresh	kattankulathur	9791989654	Update Delete
ragul	thailavaram	87762867347	Update Delete

PROGRAM:

Exercise 6.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Customer CRUD App</title>
  <link rel="stylesheet" href="ex_6_style.css">
</head>
<body>

  <h2>Customer Management System</h2>

  <form id="customerForm">
    <input type="text" id="name" placeholder="Enter Name" required>
    <input type="text" id="city" placeholder="Enter City" required>
    <input type="text" id="mobile" placeholder="Enter Mobile No" required>
    <button type="submit">Add Customer</button>
  </form>

  <table>
    <thead>
      <tr>
        <th>Name</th>
        <th>City</th>
        <th>Mobile No</th>
        <th>Actions</th>
      </tr>
    </thead>
```

```
        <tbody id="customersList"></tbody>
    </table>

    <script>
        const API_URL = 'http://localhost:5000/customers';

        async function fetchCustomers() {
            const res = await fetch(API_URL);
            const customers = await res.json();
            document.getElementById('customersList').innerHTML = customers.map(customer => `
                <tr>
                    <td><input type="text" value="${customer.name}" id="name-${customer.id}"></td>
                    <td><input type="text" value="${customer.city}" id="city-${customer.id}"></td>
                    <td><input type="text" value="${customer.mobile}" id="mobile-${customer.id}"></td>
                    <td>
                        <button onclick="updateCustomer('${customer.id}')">Update</button>
                        <button onclick="deleteCustomer('${customer.id}')">Delete</button>
                    </td>
                </tr>
            `).join('');
        }

        async function addCustomer(event) {
            event.preventDefault();
            const name = document.getElementById('name').value;
            const city = document.getElementById('city').value;
            const mobile = document.getElementById('mobile').value;
            await fetch(API_URL, {
                method: 'POST',
                headers: { 'Content-Type': 'application/json' },
                body: JSON.stringify({ name, city, mobile })
            });

            document.getElementById('customerForm').reset();
            fetchCustomers();
        }

        async function updateCustomer(id) {
            const name = document.getElementById(`name-${id}`).value;
            const city = document.getElementById(`city-${id}`).value;
            const mobile = document.getElementById(`mobile-${id}`).value;

            await fetch(`${API_URL}/${id}`, {
                method: 'PUT',
                headers: { 'Content-Type': 'application/json' },
                body: JSON.stringify({ name, city, mobile })
            });

            fetchCustomers();
        }

        async function deleteCustomer(id) {
            await fetch(`${API_URL}/${id}`, { method: 'DELETE' });
            fetchCustomers();
        }

        document.getElementById('customerForm').addEventListener('submit', addCustomer);
```

```
        fetchCustomers();
    </script>

</body>
</html>
```

Exercise 6 style.css

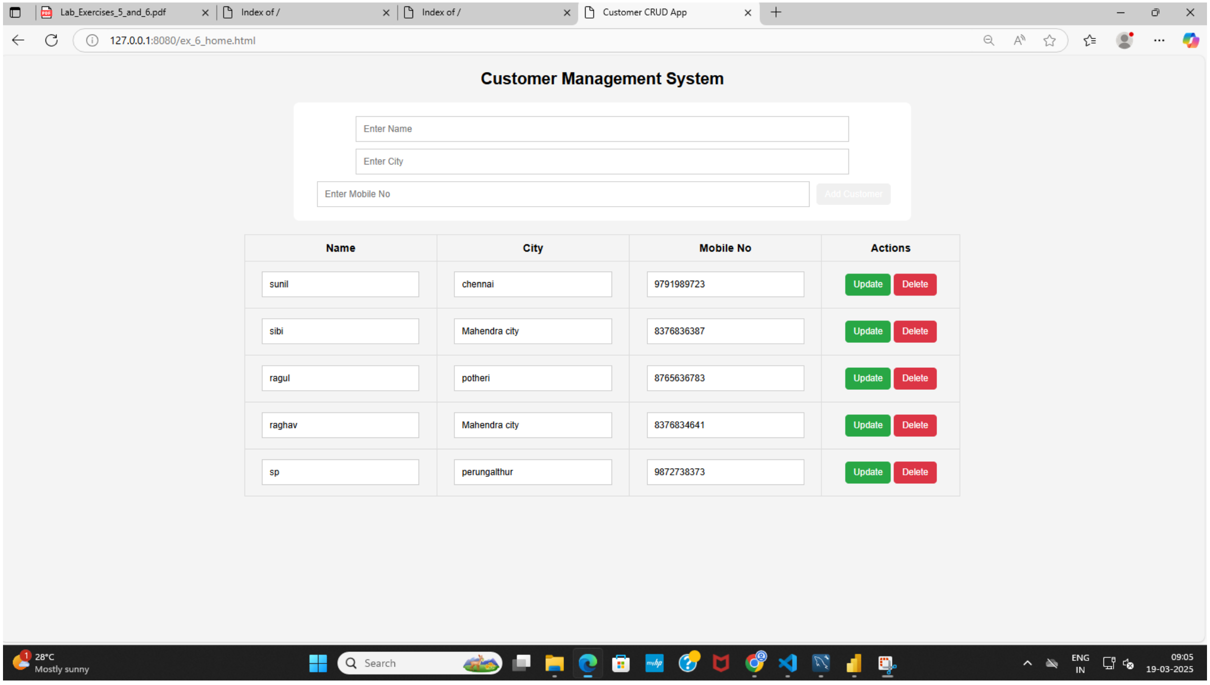
```
body {
    font-family: Arial, sans-serif;
    text-align: center;
    background-color: #f4f4f4;
}

form {
    margin: 20px auto;
    width: 50%;
    padding: 15px;
    background: white;
    border-radius: 8px;
}

input {
    padding: 10px;
    margin: 5px;
    width: 80%;
    border: 1px solid #ccc;
}

table {
    width: 60%;
    margin: 20px auto;
    border-collapse: collapse;
}

th, td {
    padding: 10px;
    border: 1px solid #ddd;
    text-align: center;
}

button {
    padding: 8px 12px;
    border: none;
    color: white;
    border-radius: 5px;
}

button:nth-child(1) { background-color: #28a745; }
button:nth-child(2) { background-color: #dc3545; }
```

Ex_6_server.js

```
require('dotenv').config();
const express = require('express');
const mysql = require('mysql2');
const cors = require('cors');

const app = express();
app.use(express.json());
app.use(cors());
```

```
// MySQL Database Connection
const db = mysql.createConnection({
   host: process.env.DB_HOST,
   user: process.env.DB_USER,
   password: process.env.DB_PASS,
   database: process.env.DB_NAME
});

db.connect(err => {
   if (err) {
      console.error("❌ MySQL Connection Error:", err.message);
      process.exit(1);
   }
   console.log('✅ MySQL Connected');
});

// Create a Customer
app.post('/customers', (req, res) => {
   const { name, city, mobile } = req.body;
   const sql = 'INSERT INTO customers (name, city, mobile) VALUES (?, ?, ?)';
   db.query(sql, [name, city, mobile], (err, result) => {
      if (err) return res.status(500).json({ error: err.message });
      res.json({ id: result.insertId, name, city, mobile });
   });
});

// Get All Customers
app.get('/customers', (req, res) => {
   const sql = 'SELECT * FROM customers';
   db.query(sql, (err, results) => {
        if (err) return res.status(500).json({ error: err.message });
        res.json(results);
    });
});

// Update Customer
app.put('/customers/:id', (req, res) => {
    const { name, city, mobile } = req.body;
    const sql = 'UPDATE customers SET name = ?, city = ?, mobile = ? WHERE id = ?';
    db.query(sql, [name, city, mobile, req.params.id], (err) => {
        if (err) return res.status(500).json({ error: err.message });
        res.json({ message: 'Customer updated successfully' });
    });
});

// Delete Customer
app.delete('/customers/:id', (req, res) => {
    const sql = 'DELETE FROM customers WHERE id = ?';
    db.query(sql, [req.params.id], (err) => {
        if (err) return res.status(500).json({ error: err.message });
        res.json({ message: 'Customer deleted successfully' });
    });
});

app.listen(5000, () => console.log('🚀 Server running on port 5000'));
```

Output:



Customer Management System

Enter Name

Enter City

Enter Mobile No

Add Customer

Name	City	Mobile No	Actions
sunil	chennai	9791989723	Update Delete
sibi	Mahendra city	8376836387	Update Delete
ragul	potheri	8765636783	Update Delete
raghav	Mahendra city	8376834641	Update Delete
sp	perungalthur	9872738373	Update Delete

PROGRAM:

Exercise 7.html

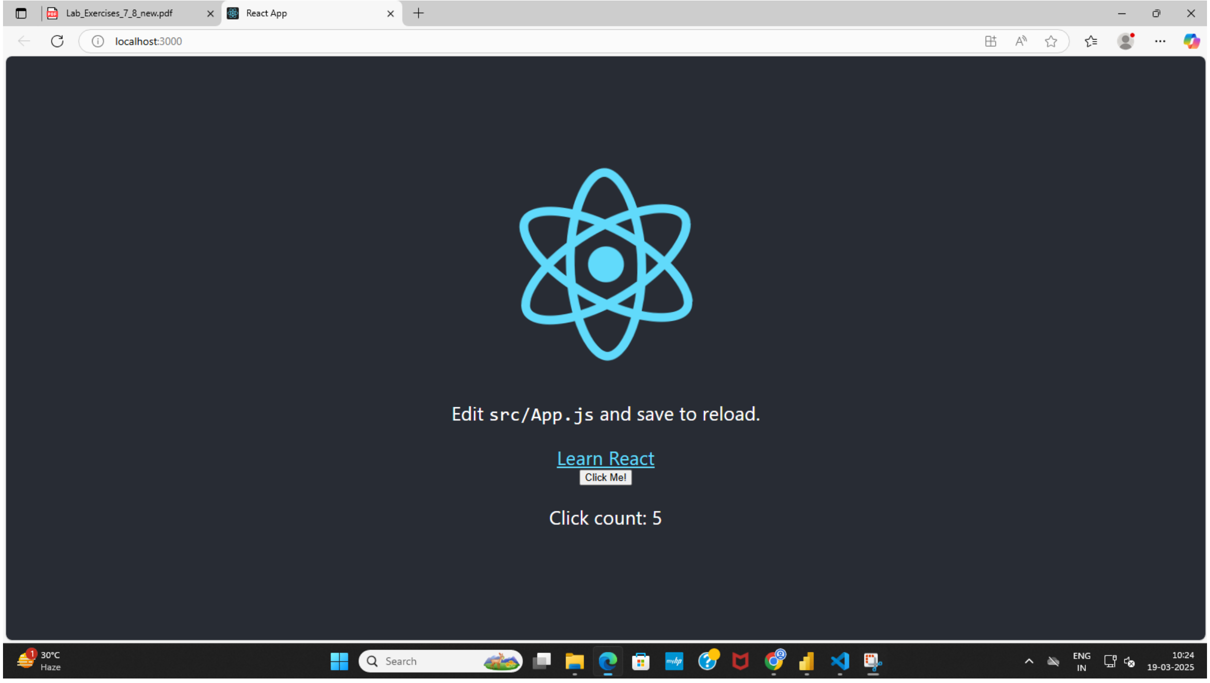
```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8" />
    <link rel="icon" href="%PUBLIC_URL%/favicon.ico" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <meta name="theme-color" content="#000000" />
    <meta
      name="description"
      content="Web site created using create-react-app"
    />
    <link rel="apple-touch-icon" href="%PUBLIC_URL%/logo192.png" />
    <link rel="manifest" href="%PUBLIC_URL%/manifest.json" />
    <title>React App</title>
  </head>
  <body>
    <noscript>You need to enable JavaScript to run this app.</noscript>
    <div id="root"></div>
  </body>
</html>
```

App.js

```
import logo from './logo.svg';
import './App.css';

function App() {
  return (
    <div className="App">
```

```
      <header className="App-header">
        <img src={logo} className="App-logo" alt="logo" />
        <p>
          Edit <code>src/App.js</code> and save to reload.
        </p>
        <a
          className="App-link"
          href="https://reactjs.org"
          target="_blank"
          rel="noopener noreferrer"
        >
          Learn React
        </a>
      </header>
    </div>
  );
}

export default App;
```

Output:



Edit `src/App.js` and save to reload.

Learn React

Click Me!

Click count: 5