**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>

**Output:**

**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"

}

}

]

**Data.json:**

[

{

"id": 1,

"name": {

"firstname": "john",

"lastname": "doe"

},

"email": "john@gmail.com",

"username": "johnd",

"password": "m38rmF$",

"phone": "1-570-236-7033",

"address": {

"number": 7682,

"street": "new road",

"city": "kilcoole",

"zipcode": "12926-3874",

"geolocation": {

"lat": "-37.3159",

"long": "81.1496"

}

},

"\_\_v": 0

},

{

"id": 2,

"name": {

"firstname": "david",

"lastname": "morrison"

},

"email": "morrison@gmail.com",

"username": "mor\_2314",

"password": "83r5^\_",

"phone": "1-570-236-7033",

"address": {

"number": 7267,

"street": "Lovers Ln",

"city": "kilcoole",

"zipcode": "12926-3874",

"geolocation": {

"lat": "-37.3159",

"long": "81.1496"

}

},

"\_\_v": 0

},

{

"id": 3,

"name": {

"firstname": "kevin",

"lastname": "ryan"

},

"email": "kevin@gmail.com",

"username": "kevinryan",

"password": "kev02937@",

"phone": "1-567-094-1345",

"address": {

"number": 86,

"street": "Frances Ct",

"city": "Cullman",

"zipcode": "29567-1452",

"geolocation": {

"lat": "40.3467",

"long": "-30.1310"

}

},

"\_\_v": 0

},

{

"id": 4,

"name": {

"firstname": "don",

"lastname": "romer"

},

"email": "don@gmail.com",

"username": "donero",

"password": "ewedon",

"phone": "1-765-789-6734",

"address": {

"number": 6454,

"street": "Hunters Creek Dr",

"city": "San Antonio",

"zipcode": "98234-1734",

"geolocation": {

"lat": "50.3467",

"long": "-20.1310"

}

},

"\_\_v": 0

},

{

"id": 5,

"name": {

"firstname": "derek",

"lastname": "powell"

},

"email": "derek@gmail.com",

"username": "derek",

"password": "jklg\*\_56",

"phone": "1-956-001-1945",

"address": {

"number": 245,

"street": "adams St",

"city": "san Antonio",

"zipcode": "80796-1234",

"geolocation": {

"lat": "40.3467",

"long": "-40.1310"

}

},

"\_\_v": 0

},

{

"id": 6,

"name": {

"firstname": "david",

"lastname": "russell"

},

"email": "david\_r@gmail.com",

"username": "david\_r",

"password": "3478\*#54",

"phone": "1-678-345-9856",

"address": {

"number": 124,

"street": "prospect st",

"city": "el paso",

"zipcode": "12346-0456",

"geolocation": {

"lat": "20.1677",

"long": "-10.6789"

}

},

"\_\_v": 0

},

{

"id": 7,

"name": {

"firstname": "miriam",

"lastname": "snyder"

},

"email": "miriam@gmail.com",

"username": "snyder",

"password": "f238&@\*$",

"phone": "1-123-943-0563",

"address": {

"number": 1342,

"street": "saddle st",

"city": "fresno",

"zipcode": "96378-0245",

"geolocation": {

"lat": "10.3456",

"long": "20.6419"

}

},

"\_\_v": 0

},

{

"id": 8,

"name": {

"firstname": "william",

"lastname": "hopkins"

},

"email": "william@gmail.com",

"username": "hopkins",

"password": "William56$hj",

"phone": "1-478-001-0890",

"address": {

"number": 1342,

"street": "vally view ln",

"city": "mesa",

"zipcode": "96378-0245",

"geolocation": {

"lat": "50.3456",

"long": "10.6419"

}

},

"\_\_v": 0

},

{

"id": 9,

"name": {

"firstname": "kate",

"lastname": "hale"

},

"email": "kate@gmail.com",

"username": "kate\_h",

"password": "kfejk@\*\_",

"phone": "1-678-456-1934",

"address": {

"number": 345,

"street": "avondale ave",

"city": "miami",

"zipcode": "96378-0245",

"geolocation": {

"lat": "40.12456",

"long": "20.5419"

}

},

"\_\_v": 0

},

{

"id": 10,

"name": {

"firstname": "jimmie",

"lastname": "klein"

},

"email": "jimmie@gmail.com",

"username": "jimmie\_k",

"password": "klein\*#%\*",

"phone": "1-104-001-4567",

"address": {

"number": 526,

"street": "oak lawn ave",

"city": "fort wayne",

"zipcode": "10256-4532",

"geolocation": {

"lat": "30.24788",

"long": "-20.545419"

}

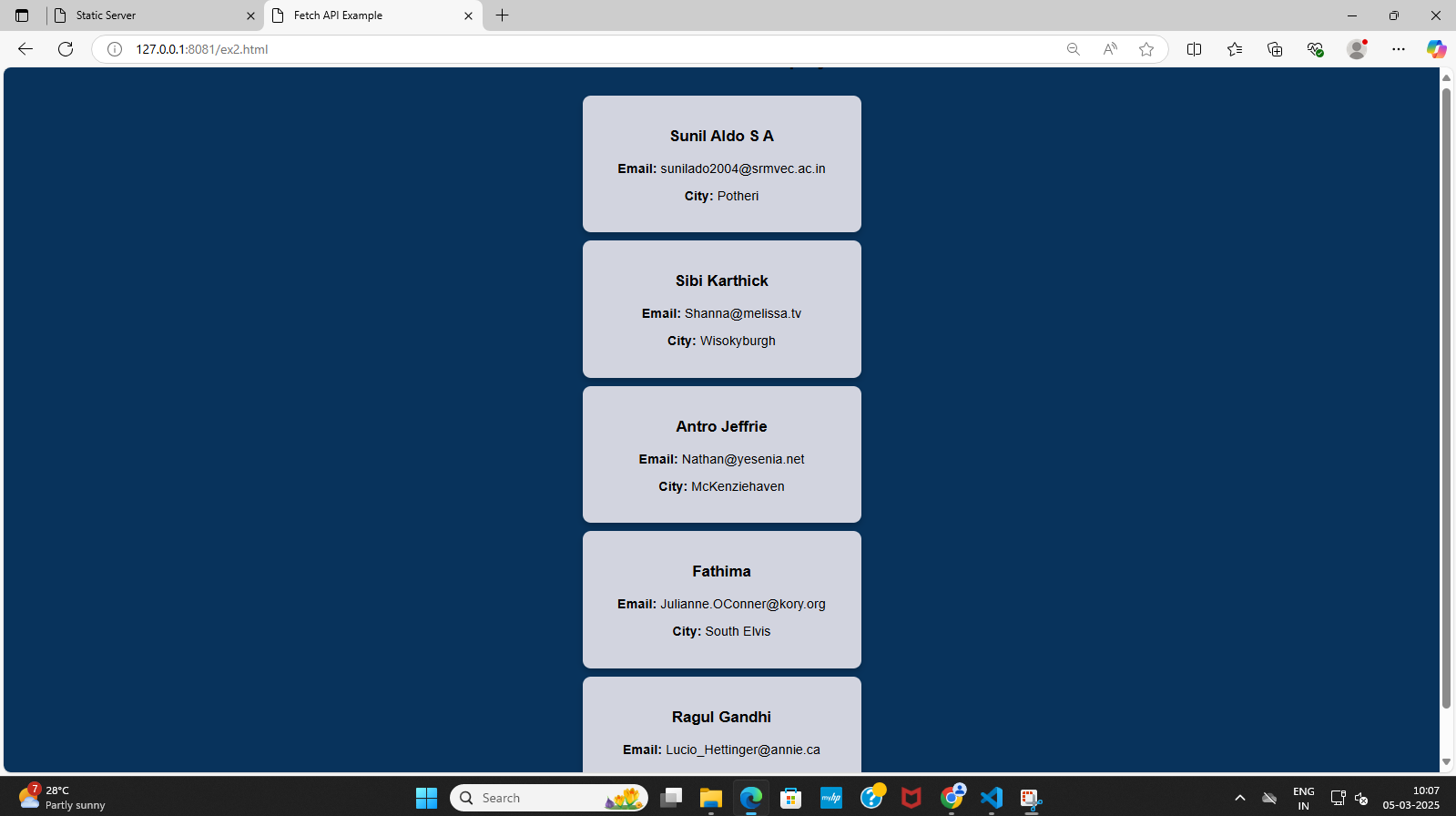
},

"\_\_v": 0

}

]

**Output:**

****

**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');

}

});

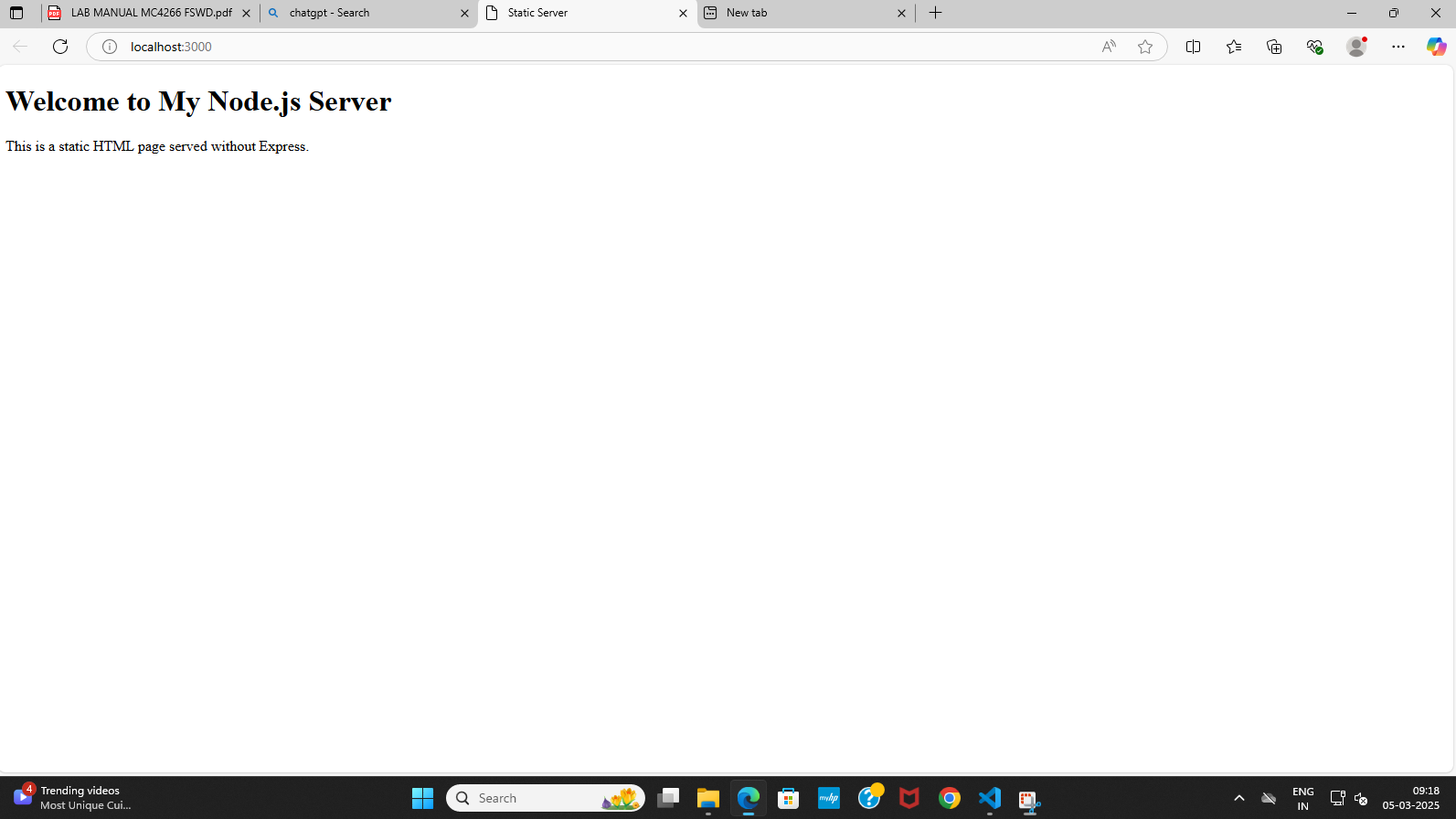
});

server.listen(PORT, () => {

console.log(`Server running at http://localhost:${PORT}`);

});

**Output:**



**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": "John Doe",

"email": "john@example.com"

},

{

"name": "John Doe",

"email": "john@example.com"

}

]

**Output:**

**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) {

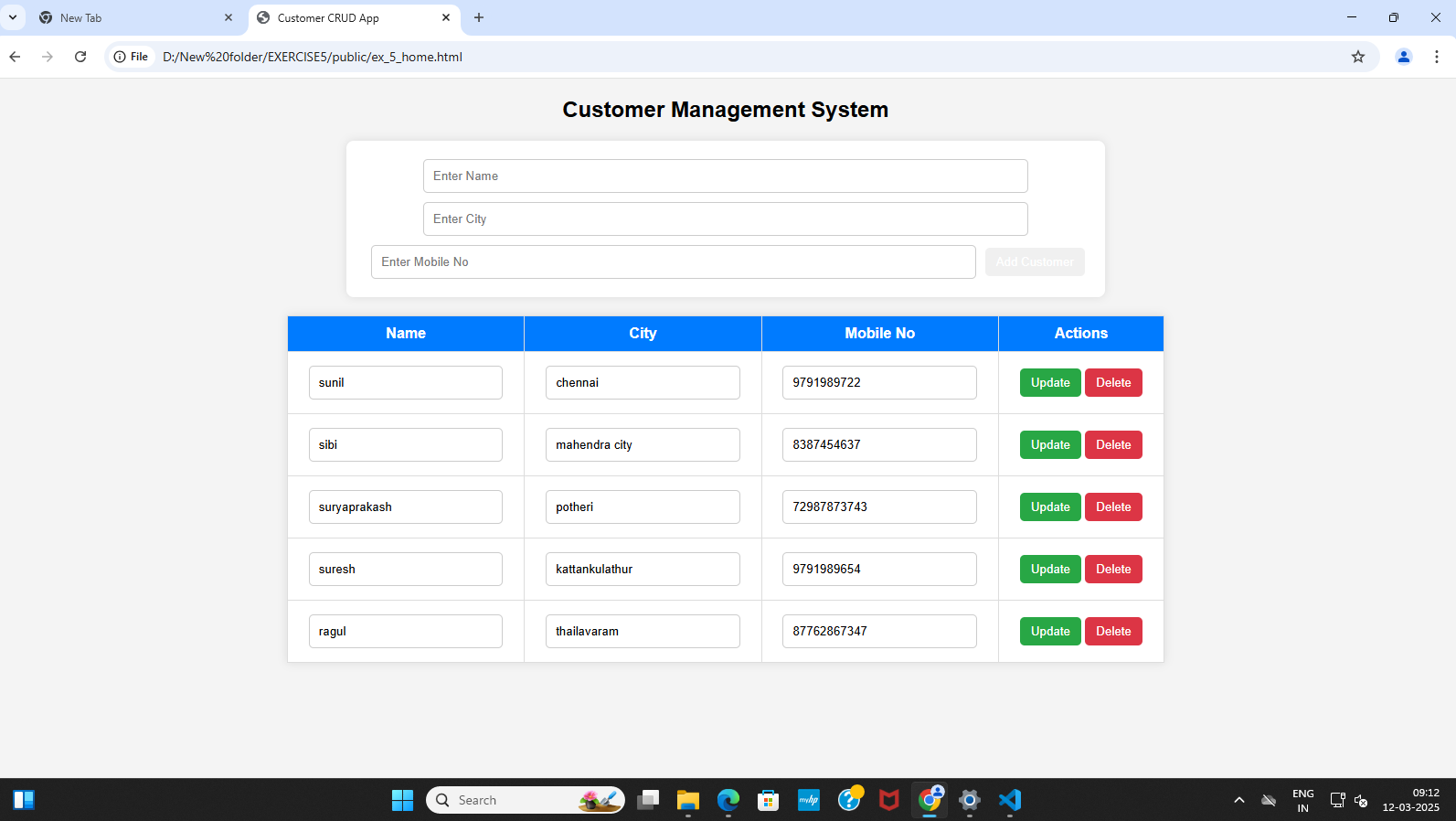
res.status(500).json({ error: err.message });

}

});

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

**Output:**

****

**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:**

**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:**