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; }
```

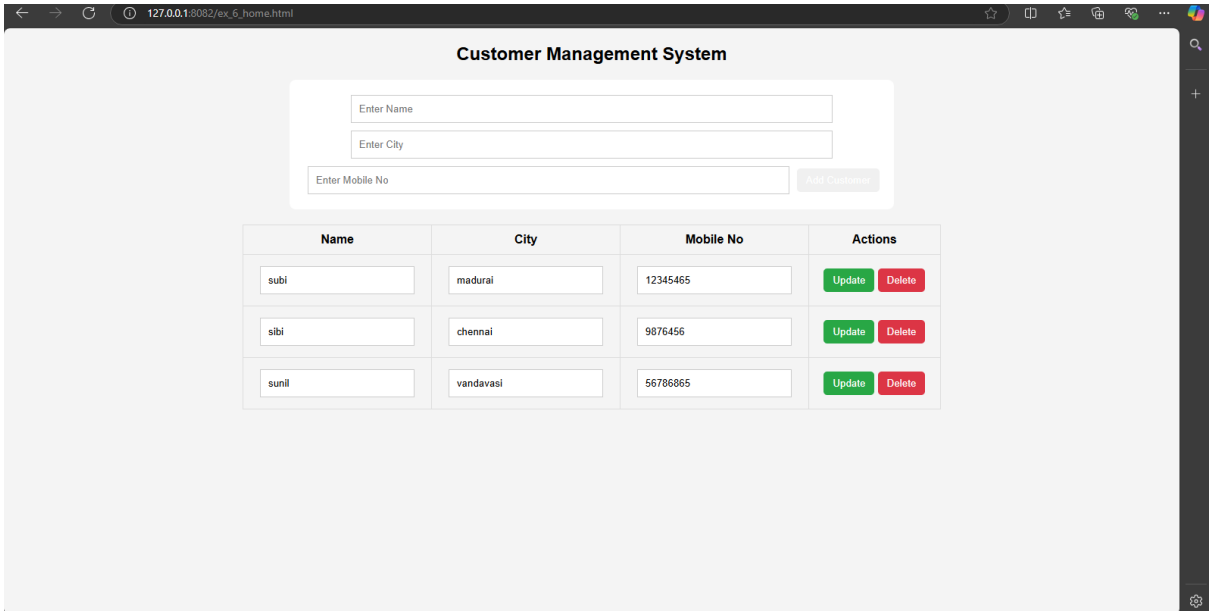
Ex_6_server.js

```
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());
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');
});
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 });
    });
});
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);
    });
});
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' });
    });
});
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:


127.0.0.1:8082/ex_6_home.html
Customer Management System
Enter Name
Enter City
Enter Mobile No
Add Customer
Name
City
Mobile No
Actions
subi
madurai
12345465
Update
Delete
sibi
chennai
9876456
Update
Delete
sunil
vandavasi
56786865
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.css

```
.App {
  text-align: center;
}
.App-logo {
  height: 40vmin;
  pointer-events: none;
}
```

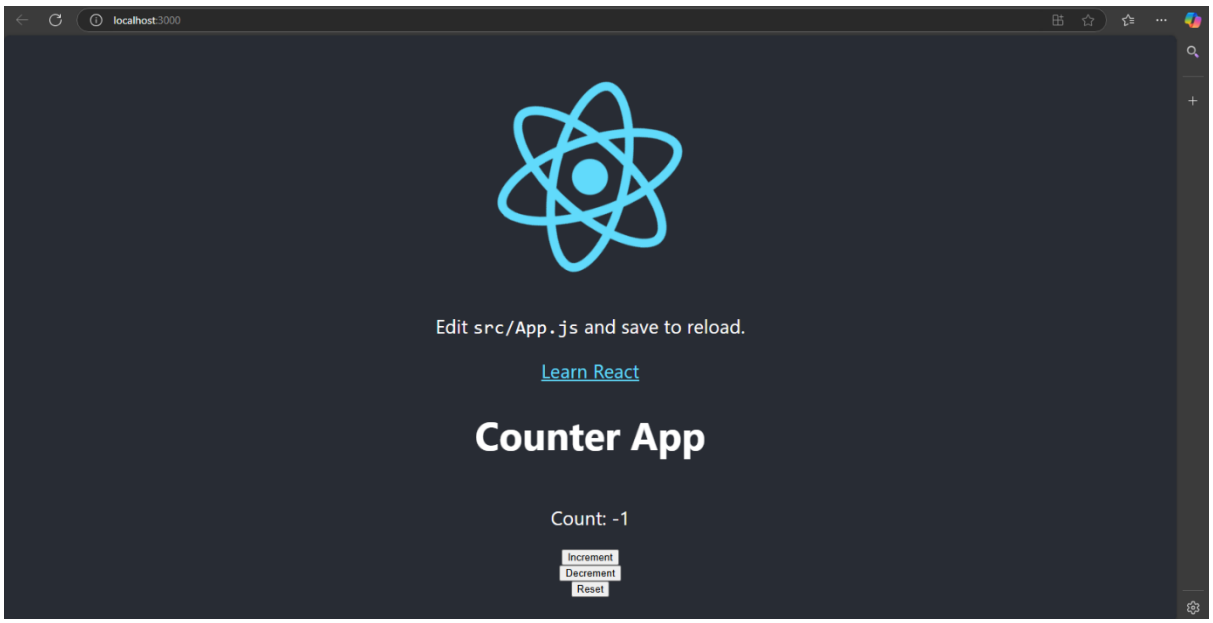
```
@media (prefers-reduced-motion: no-preference) {
  .App-logo {
    animation: App-logo-spin infinite 20s linear;
  }
}
.App-header {
  background-color: #282c34;
  min-height: 100vh;
  display: flex;
  flex-direction: column;
  align-items: center;
  justify-content: center;
  font-size: calc(10px + 2vmin);
  color: white;
}
.App-link {
  color: #61dafb;
}
@keyframes App-logo-spin {
  from {
    transform: rotate(0deg);
  }
  to {
    transform: rotate(360deg);
  }
}
```

App.js

```
import React, { useState } from 'react';  // Import useState from React
import logo from './logo.svg';
```

```
import './App.css';
function App() {
  const [count, setCount] = useState(0);
  const handleClick = () => {
    setCount(count + 1);  // Increase the count by 1 each time the button is clicked
  };
  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>
        {/* Button to trigger count update */}
        <button onClick={handleClick}>Click Me!</button>
        {/* Display the click count */}
        <p>Click count: {count}</p>
      </header>
    </div>
  );
}
export default App;
```

Output:


localhost:3000
Edit src/App.js and save to reload.
Learn React
Counter App
Count: -1
Increment
Decrement
Reset

PROGRAM:

Exercise 8:

App.js

```
import React, { useState } from 'react';
import './App.css';
function App() {
  const [todos, setTodos] = useState([]);
  const [input, setInput] = useState('');
  const [editIndex, setEditIndex] = useState(null);
  const [editText, setEditText] = useState('');
  const handleInputChange = (e) => {
    setInput(e.target.value);
  };
  const addTodo = () => {
    if (input.trim() !== '') {
      setTodos([...todos, { text: input, completed: false }]);
      setInput('');
    }
  };
  const toggleComplete = (index) => {
    const updatedTodos = todos.map((todo, i) =>
      i === index ? { ...todo, completed: !todo.completed } : todo
    );
    setTodos(updatedTodos);
  };
  const deleteTodo = (index) => {
    const updatedTodos = todos.filter((_, i) => i !== index);
    setTodos(updatedTodos);
  };
  const editTodo = (index) => {
```

```
setEditIndex(index);
  setEditText(todos[index].text);
};
const saveEdit = () => {
  if (editText.trim() !== '') {
    const updatedTodos = todos.map((todo, i) =>
      i === editIndex ? { ...todo, text: editText } : todo
    );
    setTodos(updatedTodos);
    setEditIndex(null);
    setEditText('');
  }
};
return (
  <div className="App">
    <h1>To-Do App</h1>
    <div className="todo-input">
      <input
        type="text"
        value={input}
        onChange={handleInputChange}
        placeholder="Enter a new task"
      />
      <button className="add-btn" onClick={addTodo}>Add</button>
    </div>
    {/* Edit todo */}
    {editIndex !== null && (
      <div className="edit-todo">
        <input
          type="text"
```

```
          value={editText}
          onChange={(e) => setEditText(e.target.value)}
          placeholder="Edit your task"
        />
        <button className="save-btn" onClick={saveEdit}>Save</button>
      </div>
    )}
    <table className="todo-table">
      <thead>
        <tr>
          <th>Task</th>
          <th>Actions</th>
        </tr>
      </thead>
      <tbody>
        {todos.map((todo, index) => (
          <tr key={index}>
            <td className={todo.completed ? 'completed' : ''}>
              <span onClick={() => toggleComplete(index)}>{todo.text}</span>
            </td>
            <td>
              <button className="edit-btn" onClick={() => editTodo(index)}>Edit</button>
              <button className="delete-btn" onClick={() =>
deleteTodo(index)}>Delete</button>
            </td>
          </tr>
        ))}
      </tbody>
    </table>
  </div>
);
```

```
}
export default App;
```

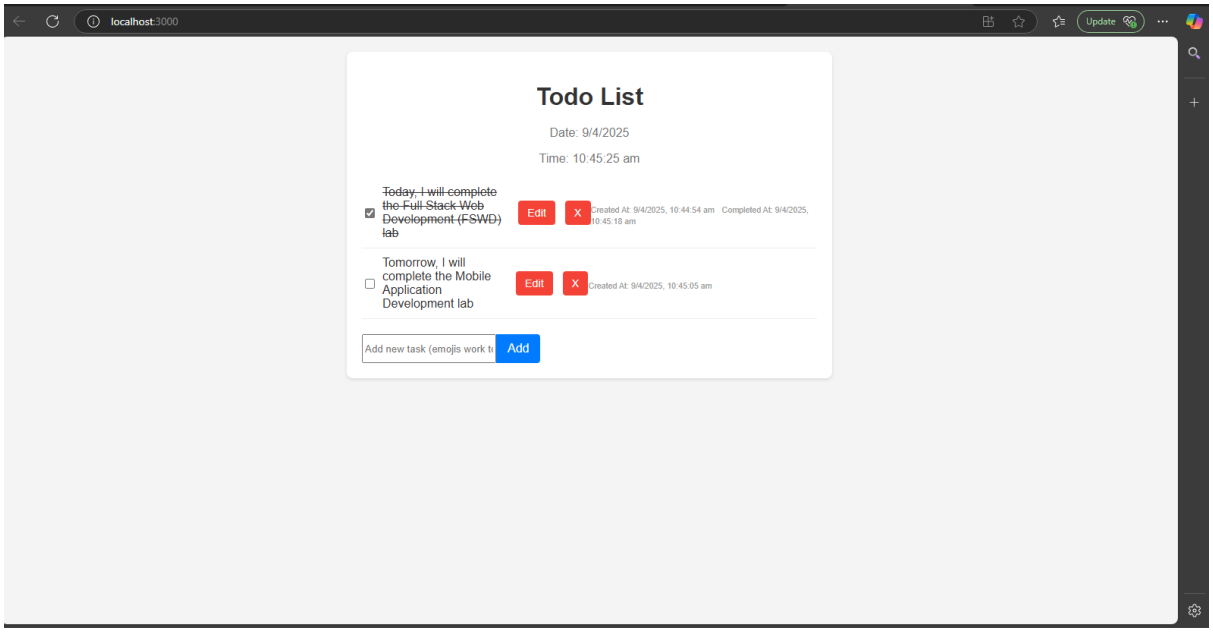
App.css

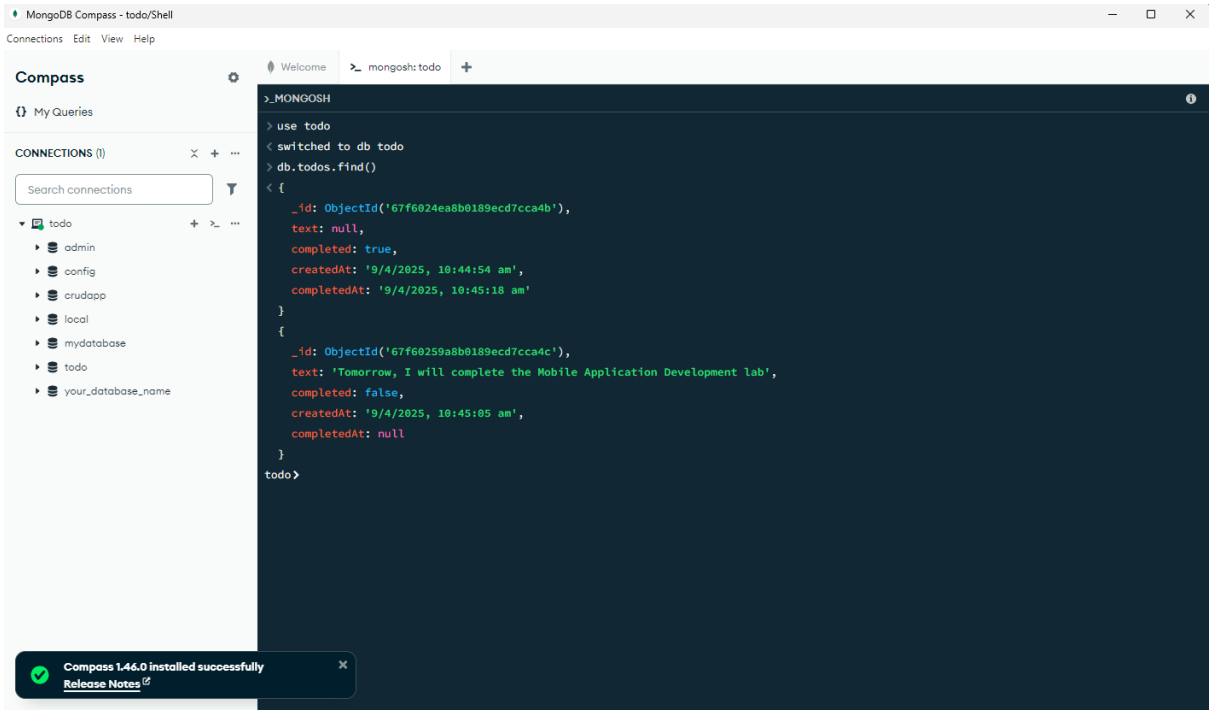
```
.App {
  text-align: center;
  margin-top: 20px;
  font-family: Arial, sans-serif;
}
.todo-input {
  margin-bottom: 20px;
}
input {
  padding: 10px;
  font-size: 16px;
  width: 250px;
}
button {
  padding: 10px;
  font-size: 16px;
  cursor: pointer;
  margin-left: 10px;
  border: none;
  border-radius: 4px;
}
.add-btn {
  background-color: green;
  color: white;
}
.add-btn:hover {
```

```
  background-color: darkgreen;
}
.delete-btn {
  background-color: red;
  color: white;
}
.delete-btn:hover {
  background-color: darkred;
}
.edit-btn {
  background-color: orange;
  color: white;
}
.edit-btn:hover {
  background-color: darkorange;
}
.todo-table {
  width: 80%;
  margin: 0 auto;
  border-collapse: collapse;
}
th, td {
  padding: 10px;
  text-align: left;
  border: 1px solid #ddd;
}
th {
  background-color: #f2f2f2;
}
.completed {
```

```
  text-decoration: line-through;
  color: gray;
}
.edit-todo {
  margin-top: 20px;
}
.edit-todo input {
  padding: 10px;
  font-size: 16px;
  width: 250px;
}
.save-btn {
  background-color: blue;
  color: white;
  cursor: pointer;
  padding: 10px;
  margin-left: 10px;
}
.save-btn:hover {
  background-color: darkblue;
}
```

Output:


localhost:3000
Update
Todo List
Date: 9/4/2025
Time: 10:45:25 am
Today, I will complete the Full Stack Web Development (FSWD) lab
Edit
X
Created At: 9/4/2025, 10:44:54 am Completed At: 9/4/2025, 10:45:18 am
Tomorrow, I will complete the Mobile Application Development lab
Edit
X
Created At: 9/4/2025, 10:45:05 am
Add new task (emojis work t
Add


MongoDB Compass - todo/Shell
Connections Edit View Help
Compass
My Queries
CONNECTIONS (1)
Search connections
todo
admin
config
crudapp
local
mydatabase
todo
your_database_name
Welcome
mongosh: todo
>_MONGOSH
> use todo
< switched to db todo
> db.todos.find()
< {
_id: ObjectId('67f6024ea8b0189ecd7cca4b'),
text: null,
completed: true,
createdAt: '9/4/2025, 10:44:54 am',
completedAt: '9/4/2025, 10:45:18 am'
}
{
_id: ObjectId('67f60259a8b0189ecd7cca4c'),
text: 'Tomorrow, I will complete the Mobile Application Development lab',
completed: false,
createdAt: '9/4/2025, 10:45:05 am',
completedAt: null
}
todo>
Compass 1.46.0 installed successfully
Release Notes

PROGRAM

Exercise 9

models/user.js

```
const mongoose = require('mongoose');

const UserSchema = new mongoose.Schema({
   username: { type: String, required: true, unique: true },
   password: { type: String, required: true }
});

module.exports = mongoose.model('User', UserSchema);
```

routes/user.js

```
import express from 'express';
import { getAllUsers, login, logout, signUp } from "../controllers/user.js";
import { checkRole, checkToken } from '../middlewares/middlewares.js';
const router = express.Router();

router.post("/signUp", signUp);
router.post("/login", login);
router.post("/logout", checkToken, logout);
router.get('/getAllUsers', checkToken, checkRole(['admin', 'manager']), getAllUsers);

export default router;
```

Server.js

```
const express = require('express');
const connectDB = require('./config/db');
const cookieParser = require('cookie-parser');
const authRoutes = require('./routes/auth');
require('dotenv').config();

const app = express();
const PORT = process.env.PORT || 2222;

app.use(express.json());
app.use(cookieParser());

app.use('/api/auth', authRoutes);

connectDB();
app.listen(PORT, () => console.log(`Server running on port ${PORT}`));
```

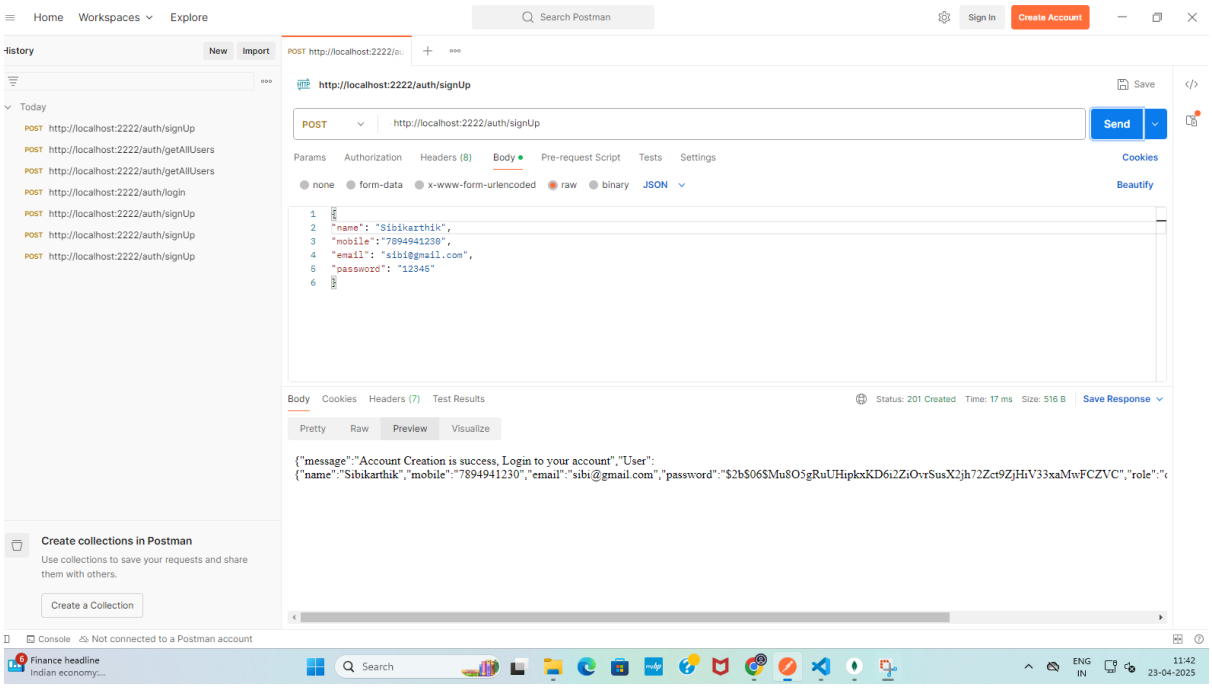
controller/user.js

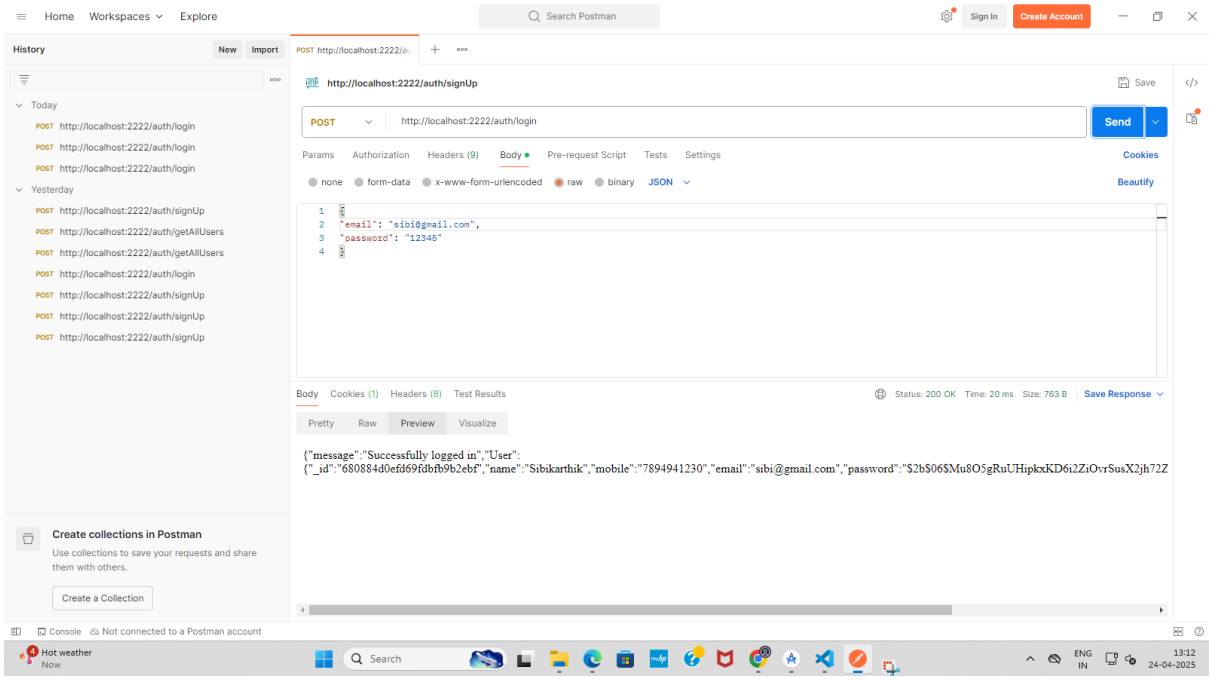
```
import bcrypt from 'bcrypt';
import User from "../models/user.js";
import { CreateToken } from '../middlewares/middlewares.js';
import jsonwebtoken from 'jsonwebtoken';

export const signUp = async (req, res) => {

  const { name, mobile, email, password, role } = req.body;
  if (!name || !mobile || !email || !password) {
    return res.status(422).json({ message: "All feilds should be filled" })
  }
  try {
    let existingUser;
    try {
      existingUser = await User.findOne({ $or: [{ email: email }, { mobile:
mobile }] });
    } catch (err) {
      console.error(err);
    }

    if (existingUser) {
      if (existingUser.email == email) {
        return res.status(409).json({ message: "A User is already signUp with
this email" })
      }
      else if (existingUser.mobile == mobile) {
        return res.status(409).json({ message: "A User is already signUp with
this mobile" })
      }
    }

    const salt = await bcrypt.genSalt(6)
    const hashedpassword = await bcrypt.hash(password, salt);

    const user = new User({
      name,
      mobile,
      email,
      password: hashedpassword,
      role: role,
    });

    await user.save();
    return res.status(201).json({ message: "Account Creation is success, Login
to your account", User: user })
```

```
  } catch (err) {
    console.error(err)
    return res.status(400).json({ message: "Error in saving user in DB" });
  }

}

export const login = async (req, res) => {

  const { email, password } = req.body;

  if (!email || !password) {
    return res.status(422).json({ message: "All feilds should be filled" })
  }

  let loggedUser;

  try {
    loggedUser = await User.findOne({ email: email });

    if (!loggedUser) {
      return res.status(404).json({ message: "Email is not found, Check it and
try again" })
    }
    const isPasswordCorrect = bcrypt.compareSync(password,
loggedUser.password);
    if (!isPasswordCorrect) {
      return res.status(400).json({ message: "Invalid password, Check it and
try again" })
    }
    const token = CreateToken(loggedUser._id);
      res.cookie(String(loggedUser._id), token, {
      path: "/",
      expires: new Date(Date.now() + 1000 * 59),
      httpOnly: true      sameSite: "lax"
    })

    return res.status(200).json({ message: "Successfully logged in", User:
loggedUser })
  } catch (err) {
    console.log(err)
  }
}

export const logout = (req, res) => {
  const cookies = req.headers.cookie
  const previousToken = cookies.split("=")[1];
```

```
   if (!previousToken) {
    return res.status(400).json({ message: "Couldn't find token" });
  }
  jsonwebtoken.verify(String(previousToken), process.env.JWTAUTHSECRET, (err,
user) => {
    if (err) {
      console.log(err);
      return res.status(403).json({ message: "Authentication failed" });    }
    res.clearCookie(`${user.id}`);
    req.cookies[`${user.id}`] = "";
    return res.status(200).json({ message: "Successfully Logged Out" });
  });
};

export const getAllUsers = async (req, res) => {
  try {
    const allusers = await User.find();
    if (!allusers) {
      return res.status(404).json({ message: "There are not any users" });
    }
    else {
      res.status(200).json({ allusers })
    }
  } catch (error) {
    console.log(error);
    return res.status(500).json({ message: "Error in getting the Users" })
  }
}
```

Output


Home
Workspaces
Explore
Search Postman
Sign In
Create Account
History
New
Import
Today
POST http://localhost:2222/auth/signUp
POST http://localhost:2222/auth/getAllUsers
POST http://localhost:2222/auth/getAllUsers
POST http://localhost:2222/auth/login
POST http://localhost:2222/auth/signUp
POST http://localhost:2222/auth/signUp
POST http://localhost:2222/auth/signUp
http://localhost:2222/auth/signUp
Save
POST
http://localhost:2222/auth/signUp
Send
Params
Authorization
Headers (8)
Body
Pre-request Script
Tests
Settings
Cookies
none
form-data
x-www-form-urlencoded
raw
binary
JSON
Beautify
{
"name": "Sibikarthik",
"mobile":"7894941230",
"email": "sibi@gmail.com",
"password": "12345"
}
Body
Cookies
Headers (7)
Test Results
Status: 201 Created
Time: 17 ms
Size: 516 B
Save Response
Pretty
Raw
Preview
Visualize
{"message":"Account Creation is success, Login to your account","User":
{"name":"Sibikarthik","mobile":"7894941230","email":"sibi@gmail.com","password":"$2b$06$Mu8O5gRuUHipkxKD6i2ZiOvrSusX2jh72Zct9ZjHiV33xaMwFCZVC","role":"
Create collections in Postman
Use collections to save your requests and share them with others.
Create a Collection
Console
Not connected to a Postman account
Finance headline
Indian economy:...
Search
ENG
IN
11:42
23-04-2025


Home
Workspaces
Explore
Search Postman
Sign In
Create Account
History
New
Import
Today
POST http://localhost:2222/auth/login
POST http://localhost:2222/auth/login
POST http://localhost:2222/auth/login
Yesterday
POST http://localhost:2222/auth/signUp
POST http://localhost:2222/auth/getAllUsers
POST http://localhost:2222/auth/getAllUsers
POST http://localhost:2222/auth/login
POST http://localhost:2222/auth/signUp
POST http://localhost:2222/auth/signUp
POST http://localhost:2222/auth/signUp
http://localhost:2222/auth/signUp
Save
POST
http://localhost:2222/auth/login
Send
Params
Authorization
Headers (9)
Body
Pre-request Script
Tests
Settings
Cookies
none
form-data
x-www-form-urlencoded
raw
binary
JSON
Beautify
{
"email": "sibi@gmail.com",
"password": "12345"
}
Body
Cookies (1)
Headers (8)
Test Results
Status: 200 OK
Time: 20 ms
Size: 763 B
Save Response
Pretty
Raw
Preview
Visualize
{"message":"Successfully logged in","User":
{"_id":"680884d0efd69fdbfb9b2ebf","name":"Sibikarthik","mobile":"7894941230","email":"sibi@gmail.com","password":"$2b$06$Mu8O5gRuUHipkxKD6i2ZiOvrSusX2jh72Z
Create collections in Postman
Use collections to save your requests and share them with others.
Create a Collection
Console
Not connected to a Postman account
Hot weather
Now
Search
ENG
IN
13:12
24-04-2025

PROGRAM

Exercise 10

Step 1: Prepare your computer for Virtualization:

• Enable Processor Virtualization: Ensure Virtualization is enabled on your computer. See the Virtualization Error (VT-d/VT-x or AMD-V) for troubleshooting support.

• Review File Sync Services for tools like OneDrive, Nextcloud, DropBox Sync, iCloud, etc. If you are using a data synchronization service, make sure it DOES NOT (or at least not frequently) synchronize the folder in which your hypervisor imports and installs the Virtual Machines.

• File sync services can cause a dramatic fall-off in performance for your entire system as these services try to synchronize these massive files that are getting updated constantly while you are using the Virtual Machines.

• Sufficient Disk Space: Virtual Machines require a significant amount of Disk space (10 GB or more each is typical). Ensure you have sufficient space on your computer.

• Admin Privileges: Installing a hypervisor on a host in most cases requires admin privileges.

Step 2: Install Hypervisor (Virtualization Tool): Installing a hypervisor on your host is usually quite simple. In most cases, the install program will ask only a couple of questions, such as where to install the hypervisor software.

Step 3: Import a Virtual Machine:

• The first step is to download the Virtual Machine for your course from our Course Virtual Machines page. This will download an .ova file. The .ova file is actually a compressed (zipped) tarball of a Virtual Machine exported from Virtual Box.

• Once the Virtual Machine has been imported, it will normally show up in the guest list within your hypervisor tool.

Step 4: Start the Virtual Machine: To start up a Virtual Machine guest in most hypervisors, you simply click on the desired guest and click the Start button (often double-clicking the guest icon will work as well).

Step 5: Using the Virtual Machine: MC4266-FSWD LAB 34

• Sharing files between the guest and host: To learn about different ways of sharing files, check out this guide.

• Run a command with sudo (root) privileges: Open a terminal and type any command with sudo in front to run that command as root.

• Example: sudo apt-get install vim – will install the vim text editor package on an Ubuntu Linux Virtual Machine. • Find the IP address of your guest: Open a terminal and type ifconfig | more – The | more (pronounced “pipe more”) will “pipe” the output of the ifconfig command to the more command, which will show the results one page at a time, so it doesn’t scroll by before you see it all.

• If you have a Host-Only Network IP address, you will see an IP of 192.168.56.101 (or something similar). Check the Trouble-Shooting section below for more information about the Host-Only Network.

Step 6: Shut down the Virtual Machine: When you are done using a guest Virtual Machine, regardless of hypervisor, you need to shut it down properly. This can be done in three ways:

1. Press the shutdown button found on the desktop, taskbar, or task menu of the guest operating system.

2. Open a terminal and type the command: sudo shutdown -h now

3. In the guest window, click Machine (menu) -> ACPI Shut down – This will simulate the power button being pressed

PROGRAM

Exercise 11

Server.js

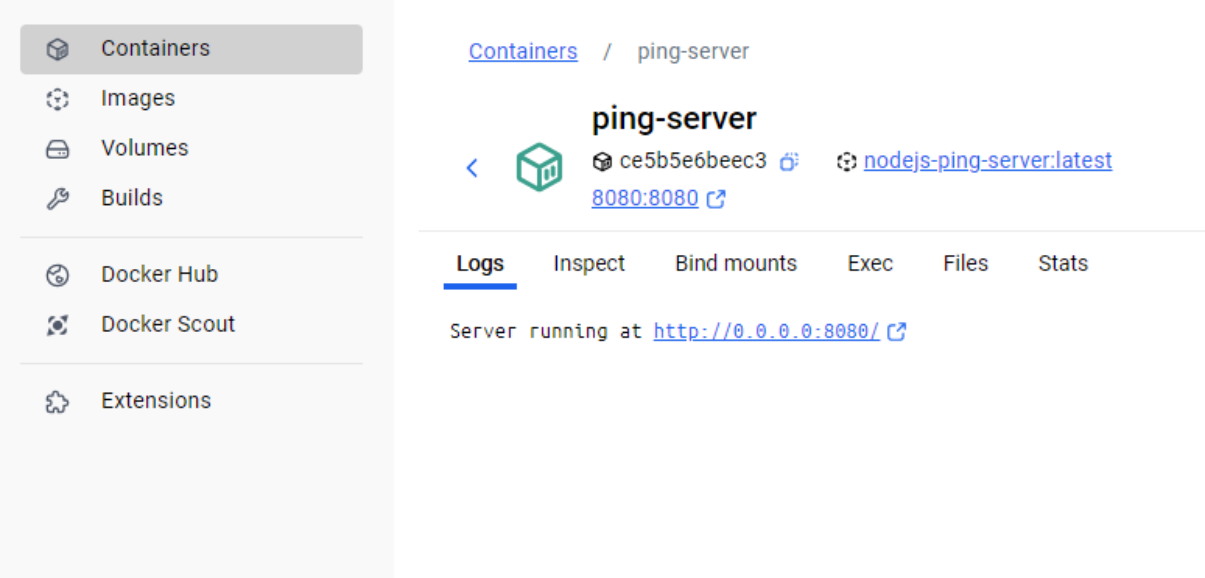
```
const http = require('http');  // Import the 'http' module for creating a server.

const hostname = '0.0.0.0';    // Set the hostname to listen on all IP addresses.

const port = 8080;             // Define the port for the server to listen on.


const server = http.createServer((req, res) => {

  if (req.method === 'GET' && req.url === '/ping') {  // Check if the request method is GET
and the URL is '/ping'

    res.statusCode = 200;                          // Set status code to 200 (OK)

    res.setHeader('Content-Type', 'application/json'); // Set response type as JSON

    res.end(JSON.stringify({ message: 'pong' }));    // Send a 'pong' response

  } else {

    res.statusCode = 404;   // For all other routes or methods, return a 404

    res.end('Not Found');

  }

});


server.listen(port, hostname, () => {  // Start the server on the specified hostname and port.

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

});
```

Dockerfile

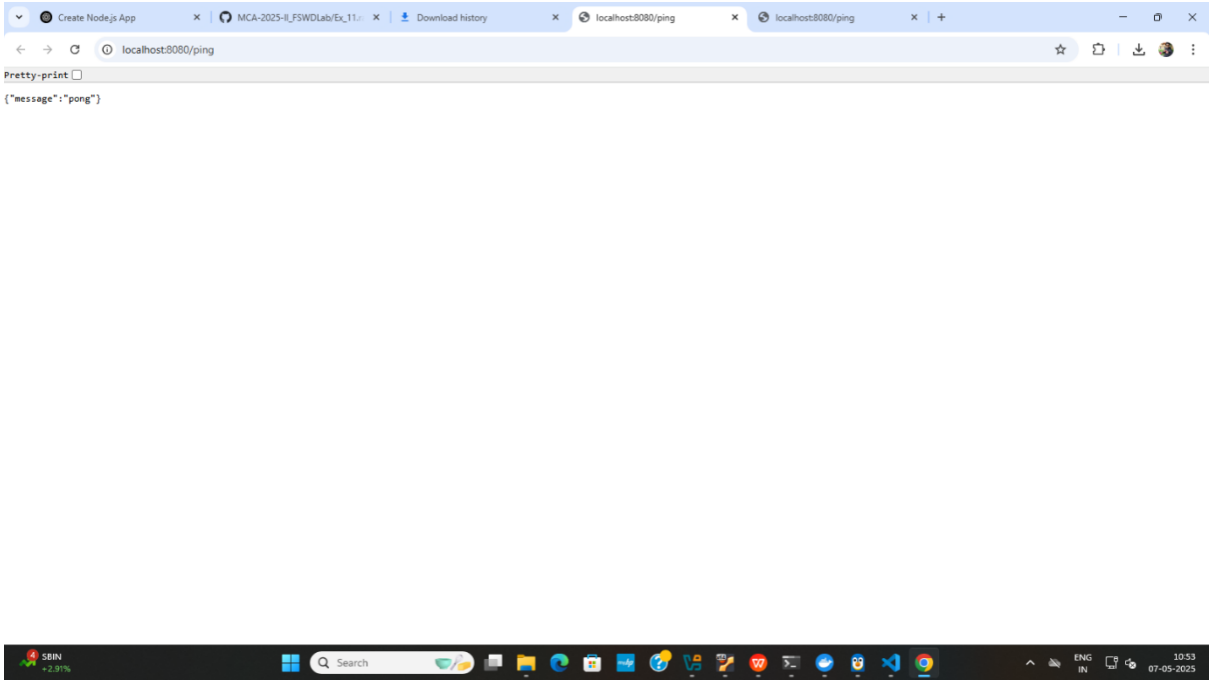
```
# Use official Node.js image from Docker Hub

FROM node:16


# Set the working directory inside the container

WORKDIR /usr/src/app


# (Optional) Copy package.json and package-lock.json if dependencies are needed

# COPY package*.json ./
```

```
# RUN npm install

# Copy the server.js file to the working directory inside the container
COPY server.js .

# Expose port 8080 for the app to be accessible outside the container
EXPOSE 8080

# Run the Node.js server when the container starts
CMD ["node", "server.js"]
```

Output




```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

[+] Building 17.5s (8/8) FINISHED                                          docker:desktop-linux
 => [internal] load build definition from Dockerfile                                        0.1s
 => => transferring dockerfile: 294B                                                        0.0s
 => [internal] load metadata for docker.io/library/node:16                                  2.8s
 => [internal] load .dockerignore                                                           0.1s
 => => transferring context: 2B                                                             0.0s
 => [1/3] FROM docker.io/library/node:16@sha256:f77a1aef2da8d83e45ec990f45df50f1a286c5fe8bbfb8c6e424  13.0s
 => => resolve docker.io/library/node:16@sha256:f77a1aef2da8d83e45ec990f45df50f1a286c5fe8bbfb8c6e4246  0.1s
 => => sha256:ee7d78be1eb92caf6ae84fc3af736b23eca018d5dedc967ae5bdee6d7082403b 450B / 450B          0.3s
 => => sha256:ca266fd6192108b67fb57b74753a8c4ca5d8bd458baae3d4df7ce9f42dedcc1d 2.27MB / 2.27MB      0.9s
 => => sha256:0e421f66aff42bb069dffc26af6d132194b22a1082b08c5ef7cd69c627783c04 34.79MB / 34.79MB    3.2s
 => => sha256:ae3b95bbaa61ce24cefdd89e7c74d6fbd7713b2bcae93af47063d06bd7e02172 4.20kB / 4.20kB      0.7s
 => => sha256:513d779256048c961239af5f50058933054 6b072775217272e19ffae1635e98e 191.90MB / 191.90MB  7.4s
 => => sha256:ffd9397e94b74abcb54e514f1430e00f604328d1f895eadbd482f08cc02444e5 51.89MB / 51.89MB    3.6s
 => => sha256:7e9bf114588c05b2df612b083b96582f3b8dbf51647aa6138a50d09d42df2454 17.58MB / 17.58MB    1.5s
 => => sha256:311da6c465ea1576925360eba391bcd32dece9be95960a0bc9ffcb25fe712017 50.50MB / 50.50MB    2.8s
 => => extracting sha256:311da6c465ea1576925360eba391bcd32dece9be95960a0bc9ffcb25fe712017           0.9s
 => => extracting sha256:7e9bf114588c05b2df612b083b96582f3b8dbf51647aa6138a50d09d42df2454           0.3s
 => => extracting sha256:ffd9397e94b74abcb54e514f1430e00f604328d1f895eadbd482f08cc02444e5           1.0s
 => => extracting sha256:513d779256048c961239af5f50058933054 6b072775217272e19ffae1635e98e           2.3s
 => => extracting sha256:ae3b95bbaa61ce24cefdd89e7c74d6fbd7713b2bcae93af47063d06bd7e02172           0.0s
 => => extracting sha256:0e421f66aff42bb069dffc26af6d132194b22a1082b08c5ef7cd69c627783c04           2.0s
 => => extracting sha256:ca266fd6192108b67fb57b74753a8c4ca5d8bd458baae3d4df7ce9f42dedcc1d           0.3s
 => => extracting sha256:ee7d78be1eb92caf6ae84fc3af736b23eca018d5dedc967ae5bdee6d7082403b           0.2s
 => [internal] load build context                                                           0.1s
 => => transferring context: 545B                                                           0.0s
 => [2/3] WORKDIR /usr/src/app                                                              0.7s
 => [3/3] COPY server.js .                                                                  0.1s
 => exporting to image                                                                      0.5s
 => => exporting layers                                                                     0.2s
 => => exporting manifest sha256:f5023de4a6907d23a1c272a6fa1124ca36b01c52f8c6b10820d162d382f2829c  0.0s
 => => exporting config sha256:3140a400f6464cf9d4308d8734a1bda0f7d1a0080c7e5f9a8feb371cc321f0ae    0.0s  => => exporting attestation manifest sha256:24ea65fcb1540
2bad73924c9bbc3ca0bbf637a72e075042017a93972  0.0s  => => exporting manifest list sha256:eba9071afeb0da23471e0a6f1f04cde32dfb4e10c54fd684c736add50dfac41  0.0s  => => n
aming to docker.io/library/nodejs-ping-server:latest                                       0.0s
 => => unpacking to docker.io/library/nodejs-ping-server:latest                             0.1s
PS D:\65_FSWD_LAB\nodejs-ping-server> docker run -d -p 8080:8080 --name ping-server nodejs-ping-server
 >>
ce5b5e6beec340226e04ca9ebf1f2cb48f8c9485ac927596e86de1f2020b9698
PS D:\65_FSWD_LAB\nodejs-ping-server> curl http://localhost:8080/ping
 >>
```


Create Node.js App
MCA-2025-II_FSWDLab/Ex_11.r
Download history
localhost:8080/ping
localhost:8080/ping
localhost:8080/ping
Pretty-print
{"message":"pong"}
SBIN
+2.91%
Search
ENG
IN
10:53
07-05-2025