```
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Sub:701(Full Stack)
Here GitHub link:
                               Assignment-2
Que-1:
App.js
const express = require('express');
const mongoose = require('mongoose');
const multer = require('multer');
const path = require('path');
const app = express();
const PORT = process.env.PORT || 3000;
const mongoURI = 'mongodb://localhost:27017/upload';
mongoose.connect(mongoURI, { useNewUrlParser: true, useUnifiedTopology:
true })
  .then(() => console.log('MongoDB connected!'))
  .catch(err => console.error('MongoDB connection error:', err));
```

```
// Middleware
app.use(express.urlencoded({ extended: true }));
app.use('/uploads', express.static('uploads')); // Serve uploaded files
app.set('view engine', 'ejs');
app.listen(PORT, () => {
  console.log(`Server is running on http://localhost:${PORT}`);
});
const storage = multer.diskStorage({
  destination: (req, file, cb) => {
    cb(null, 'uploads/');
  },
  filename: (req, file, cb) => {
    cb(null, Date.now() + path.extname(file.originalname)); // Appending
extension
  }
});
const upload = multer({
  storage: storage,
  limits: { fileSize: 1 * 1024 * 1024 }, // Limit file size to 1MB
  fileFilter: (req, file, cb) => {
    const filetypes = /jpeg|jpg|png|gif|pdf/;
    const mimetype = filetypes.test(file.mimetype);
    const extname =
filetypes.test(path.extname(file.originalname).toLowerCase());
```

```
if (mimetype && extname) {
       return cb(null, true);
    }
    cb("Error: File type not supported");
  }
});
const User = require('./User');
// Render registration form
app.get('/register', (req, res) => {
  res.render('register');
});
// Handle user registration
app.post('/register', upload.array('files'), async (req, res) => {
  const { username, email } = req.body;
  const files = req.files.map(file => file.filename);
  const user = new User({ username, email, files });
  await user.save();
  res.redirect('/files');
});
// List uploaded files
app.get('/files', async (req, res) => {
  const users = await User.find();
```

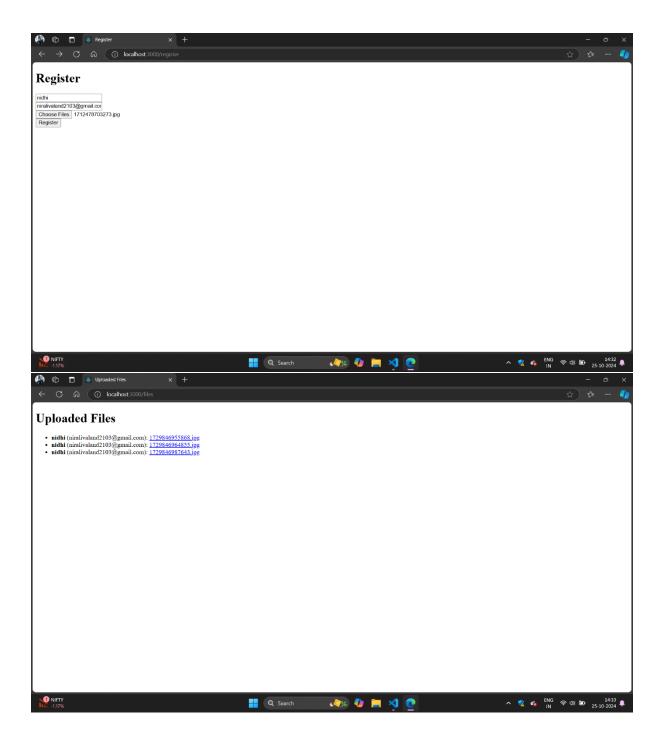
```
res.render('files', { users });
});
// Download file
app.get('/files/download/:filename', (req, res) => {
  const file = path.join(__dirname, 'uploads', req.params.filename);
  res.download(file);
});
User.js
const mongoose = require('mongoose');
const userSchema = new mongoose.Schema({
  username: { type: String, required: true },
  email: { type: String, required: true },
  files: [{ type: String }]
});
module.exports = mongoose.model('User', userSchema);
views folder => 2 files =>files.js and register.js
files.ejs
<!DOCTYPE html>
```

```
<html lang="en">
<head>
  <meta charset="UTF-8">
 <title>Uploaded Files</title>
</head>
<body>
 <h1>Uploaded Files</h1>
  ul>
    <% users.forEach(user => { %>
      <strong><%= user.username %></strong> (<%= user.email %>):
        <% user.files.forEach(file => { %>
          <a href="/files/download/<%= file %>"><%= file %></a>
        <% }) %>
      <% }) %>
  </body>
</html>
Register.ejs
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
 <title>Register</title>
```

```
</head>
<body>
<h1>Register</h1>
<form action="/register" method="POST" enctype="multipart/form-data">
<input type="text" name="username" placeholder="Username"
required><br>
<input type="email" name="email" placeholder="Email" required><br>
<input type="file" name="files" multiple required><br>
<button type="submit">Register</button>
</form>
</body>
</html>

Uploads folder which contains uploaded files
```

Output:



```
App.js

const express = require('express');

const session = require('express-session');

const flash = require('connect-flash');

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

Que-2:

```
const path = require('path');
const app = express();
const PORT = process.env.PORT | | 3000;
// Simple in-memory user store for demonstration purposes
const users = [{ username: 'Nidhi', password: 'Nidhi@123' }];
// Setup session
app.use(session({
  secret: 'secret_key', // Replace with a strong secret in production
  resave: false,
  saveUninitialized: true,
  cookie: { maxAge: 60000 } // 1 minute
}));
// Flash messages middleware
app.use(flash());
// Middleware
app.use(bodyParser.urlencoded({ extended: true }));
app.set('view engine', 'ejs');
app.use(express.static(path.join( dirname, 'public'))); // Serve static files
// Render login form
app.get('/login', (req, res) => {
```

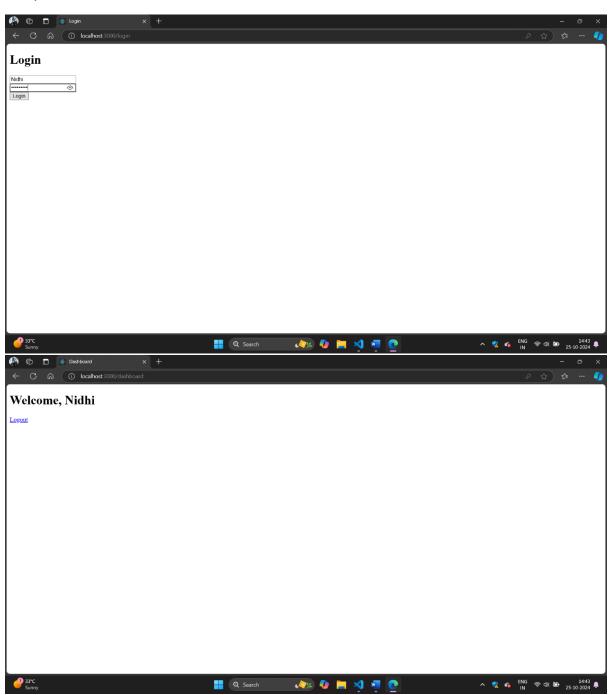
```
res.render('login', { messages: req.flash('error') });
});
// Handle login
app.post('/login', (req, res) => {
  const { username, password } = req.body;
  // Check user credentials
  const user = users.find(u => u.username === username && u.password ===
password);
  if (user) {
    req.session.user = user;
    req.flash('success', 'Logged in successfully!');
    return res.redirect('/dashboard');
  }
  req.flash('error', 'Invalid username or password');
  res.redirect('/login');
});
// Render dashboard
app.get('/dashboard', (req, res) => {
  if (!req.session.user) {
    req.flash('error', 'Please log in first');
    return res.redirect('/login');
  }
  res.render('dashboard', { user: req.session.user });
```

```
});
// Logout
// Logout
app.get('/logout', (req, res) => {
  req.flash('success', 'Logged out successfully'); // Set flash message before
destroying session
  req.session.destroy(err => {
    if (err) {
      return res.redirect('/dashboard'); // Handle session destruction error
    }
    res.redirect('/login'); // Redirect to login after session is destroyed
  });
});
app.listen(PORT, () => {
  console.log(`Server is running on http://localhost:${PORT}`);
});
Views folder=>
Dashboard.ejs
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Dashboard</title>
</head>
```

```
<body>
  <h1>Welcome, <%= user.username %></h1>
 <a href="/logout">Logout</a>
</body>
</html>
Login.ejs
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <title>Login</title>
</head>
<body>
 <h1>Login</h1>
  <% if (messages.length) { %>
    <% messages.forEach(msg => { %>
       </=> msg %>
     <% }) %>
    <% } %>
 <form action="/login" method="POST">
   <input type="text" name="username" placeholder="Username"
required><br>
   <input type="password" name="password" placeholder="Password"
required><br>
```

```
<br/>
```

Output:



```
Que-3:
App.js
const express = require('express');
const session = require('express-session');
const RedisStore = require('connect-redis').default; // Import Redis store
const flash = require('connect-flash');
const bodyParser = require('body-parser');
const redis = require('redis');
const path = require('path');
const app = express();
const PORT = process.env.PORT | | 8000;
// Configure Redis client
// const redisClient = redis.createClient();
const redisClient = redis.createClient({
  host: '127.0.0.1', // Change if necessary
  port: 6379 // Change if necessary
});
redisClient.on('error', (err) => console.log('Redis Client Error', err));
// Simple in-memory user store for demonstration purposes
const users = [{ username: 'testuser', password: 'password123' }];
// Setup session with Redis store
```

```
app.use(session({
  store: new RedisStore({ client: redisClient }),
  secret: 'secret_key', // Replace with a strong secret in production
  resave: false,
  saveUninitialized: false,
  cookie: { maxAge: 60000 } // 1 minute
}));
// Flash messages middleware
app.use(flash());
// Middleware
app.use(bodyParser.urlencoded({ extended: true }));
app.set('view engine', 'ejs');
app.use(express.static(path.join(__dirname, 'public'))); // Serve static files
// Render login form
app.get('/login', (req, res) => {
  res.render('login', { messages: req.flash('error') });
});
// Handle login
app.post('/login', (req, res) => {
  const { username, password } = req.body;
  // Check user credentials
```

```
const user = users.find(u => u.username === username && u.password ===
password);
  if (user) {
    req.session.user = user;
    req.flash('success', 'Logged in successfully!');
    return res.redirect('/dashboard');
  }
  req.flash('error', 'Invalid username or password');
  res.redirect('/login');
});
// Render dashboard
app.get('/dashboard', (req, res) => {
  if (!req.session.user) {
    req.flash('error', 'Please log in first');
    return res.redirect('/login');
  }
  res.render('dashboard', { user: req.session.user });
});
// Logout
app.get('/logout', (req, res) => {
  req.flash('success', 'Logged out successfully');
  req.session.destroy(err => {
    if (err) {
       return res.redirect('/dashboard');
```

```
}
    res.redirect('/login');
  });
});
// Start the server
app.listen(PORT, () => {
  console.log(`Server is running on http://localhost:${PORT}`);
});
// Connect to Redis
(async () => {
  try {
    await redisClient.connect();
    console.log('Connected to Redis');
  } catch (err) {
    console.error('Redis Client Error', err);
  }
})();
Que-4:
Server.js
const express = require('express');
const mongoose = require('mongoose');
```

```
const jwt = require('jsonwebtoken');
const bcrypt = require('bcryptjs');
const path = require('path');
const session = require('express-session');
const methodOverride = require('method-override');
const app = express();
const PORT = process.env.PORT || 3001;
// Middleware
app.use(express.json());
app.use(express.urlencoded({ extended: true }));
app.use(methodOverride('_method')); // For PUT and DELETE methods
app.set('view engine', 'ejs');
// Set views directory
app.set('view engine', 'ejs');
// Session setup
app.use(session({
 secret: 'your_secret_key',
  resave: false,
  saveUninitialized: true,
}));
// Connect to MongoDB
```

```
mongoose.connect('mongodb://localhost:27017/studentDB', {
useNewUrlParser: true, useUnifiedTopology: true })
  .then(() => console.log('MongoDB connected'))
  .catch(err => console.error(err));
// Student Schema
const studentSchema = new mongoose.Schema({
  name: String,
  email: { type: String, unique: true },
  password: String
});
const Student = mongoose.model('Student', studentSchema);
// Middleware for JWT verification
const authenticateJWT = (req, res, next) => {
  const token = req.session.token;
  if (!token) return res.redirect('/'); // Redirect if not logged in
  jwt.verify(token, 'your_jwt_secret', (err, user) => {
    if (err) return res.redirect('/'); // Redirect if token is invalid
    req.user = user;
    next();
  });
};
// Routes
```

```
app.get('/', (req, res) => {
  res.render('index');
});
// Register
app.post('/register', async (req, res) => {
  const hashedPassword = await bcrypt.hash(req.body.password, 10);
  const newStudent = new Student({
    name: req.body.name,
    email: req.body.email,
    password: hashedPassword
  });
  try {
    await newStudent.save();
    res.status(201).send('Student registered');
  } catch (error) {
    res.status(400).send('Error registering student');
  }
});
// Login
app.post('/login', async (req, res) => {
  const student = await Student.findOne({ email: req.body.email });
  if (student && (await bcrypt.compare(req.body.password,
student.password))) {
```

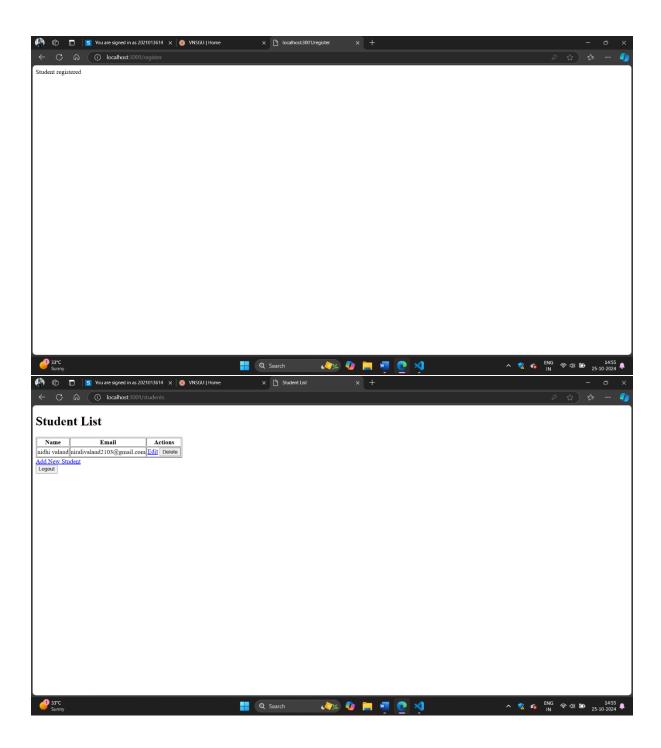
```
const token = jwt.sign({ email: student.email }, 'your jwt secret', {
expiresIn: '1h' });
    req.session.token = token;
    res.redirect('/students'); // Redirect to the students page
  } else {
    res.status(403).send('Invalid credentials');
  }
});
// Logout
app.post('/logout', (req, res) => {
  req.session.destroy(err => {
    if (err) return res.status(500).send('Could not log out');
    res.redirect('/');
  });
});
// View students
app.get('/students', authenticateJWT, async (req, res) => {
  try {
    const students = await Student.find();
    res.render('student', { students }); // Renders the student.ejs view
  } catch (error) {
    res.status(500).send('Error retrieving students');
  }
});
// Add student form
```

```
app.get('/students/new', authenticateJWT, (req, res) => {
  res.render('insert');
});
// Handle adding a new student
app.post('/students', authenticateJWT, async (req, res) => {
  const hashedPassword = await bcrypt.hash(req.body.password, 10);
  const newStudent = new Student({
    name: req.body.name,
    email: req.body.email,
    password: hashedPassword
  });
  try {
    await newStudent.save();
    res.redirect('/students');
  } catch (error) {
    res.status(400).send('Error creating student');
  }
});
// Update student form
app.get('/students/:id/edit', authenticateJWT, async (req, res) => {
  try {
    const student = await Student.findById(req.params.id);
    res.render('update', { student });
```

```
} catch (error) {
    res.status(400).send('Error retrieving student');
  }
});
// Handle updating a student
app.put('/students/:id', authenticateJWT, async (req, res) => {
  const updateData = {
    name: req.body.name,
    email: req.body.email,
  };
  if (req.body.password) {
    updateData.password = await bcrypt.hash(req.body.password, 10);
  }
  try {
    await Student.findByIdAndUpdate(reg.params.id, updateData);
    res.redirect('/students');
  } catch (error) {
    res.status(400).send('Error updating student');
  }
});
// Handle deleting a student
app.delete('/students/:id', authenticateJWT, async (req, res) => {
```

```
try {
    await Student.findByIdAndDelete(req.params.id);
    res.redirect('/students');
  } catch (error) {
    res.status(400).send('Error deleting student');
  }
});
// Start server
app.listen(PORT, () => {
  console.log(`Server running on http://localhost:${PORT}`);
});
 ← C ⋒ ① localhost:3001
Welcome to the Student Management System
Register
           Email: Password: Register
```

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Server.js const express = require('express'); const mongoose = require('mongoose'); const jwt = require('jsonwebtoken');

const bcrypt = require('bcryptjs');

Que-5:

```
const cors = require('cors');
const path = require('path');
const session = require('express-session');
const methodOverride = require('method-override');
const app = express();
const PORT = process.env.PORT || 8001;
// Middleware
app.use(express.json());
app.use(express.urlencoded({ extended: true }));
app.use(methodOverride('_method')); // For PUT and DELETE methods
app.use(cors());
app.set('view engine', 'ejs');
// Set views directory
app.use(express.static(path.join(__dirname, 'public')));
// Session setup
app.use(session({
  secret: 'your_secret_key',
  resave: false,
  saveUninitialized: true,
}));
// Connect to MongoDB
```

```
mongoose.connect('mongodb://localhost:27017/employeeDB', {
useNewUrlParser: true, useUnifiedTopology: true })
  .then(() => console.log('MongoDB connected'))
  .catch(err => console.error(err));
// Employee Schema
const employeeSchema = new mongoose.Schema({
  name: String,
  email: { type: String, unique: true },
  password: String
});
const Employee = mongoose.model('Employee', employeeSchema);
// Middleware for JWT verification
const authenticateJWT = (req, res, next) => {
  const token = req.session.token;
  if (!token) return res.redirect('/login'); // Redirect to login if not logged in
  jwt.verify(token, 'your_jwt_secret', (err, user) => {
    if (err) return res.redirect('/login'); // Redirect if token is invalid
    req.user = user;
    next();
  });
};
// Routes
```

```
// Registration Page
app.get('/register', (req, res) => {
  res.render('register');
});
// Register new employee
app.post('/register', async (req, res) => {
  const hashedPassword = await bcrypt.hash(req.body.password, 10);
  const newEmployee = new Employee({
    name: req.body.name,
    email: req.body.email,
    password: hashedPassword
  });
  try {
    await newEmployee.save();
    res.redirect('/login'); // Redirect to login page after registration
  } catch (error) {
    res.status(400).send('Error registering employee');
  }
});
// Login Page
app.get('/login', (req, res) => {
  res.render('login');
```

```
});
// Login employee
app.post('/login', async (req, res) => {
  const employee = await Employee.findOne({ email: req.body.email });
  if (employee && (await bcrypt.compare(reg.body.password,
employee.password))) {
    const token = jwt.sign({ email: employee.email }, 'your_jwt_secret', {
expiresIn: '1h' });
    req.session.token = token;
    res.redirect('/employees'); // Redirect to the employee list page after login
  } else {
    res.status(403).send('Invalid credentials');
  }
});
// Logout
app.post('/logout', (req, res) => {
  req.session.destroy(err => {
    if (err) return res.status(500).send('Could not log out');
    res.redirect('/login');
  });
});
// View all employees (Protected route)
app.get('/employees', authenticateJWT, async (req, res) => {
  try {
```

```
const employees = await Employee.find();
    res.render('employeeList', { employees });
  } catch (error) {
    res.status(500).send('Error retrieving employees');
  }
});
// Add employee form (Protected route)
app.get('/employees/new', authenticateJWT, (req, res) => {
  res.render('addEmployee');
});
// Handle adding a new employee
app.post('/employees', authenticateJWT, async (req, res) => {
  const hashedPassword = await bcrypt.hash(req.body.password, 10);
  const newEmployee = new Employee({
    name: req.body.name,
    email: req.body.email,
    password: hashedPassword
  });
  try {
    await newEmployee.save();
    res.redirect('/employees');
  } catch (error) {
    res.status(400).send('Error creating employee');
```

```
}
});
// Update employee form (Protected route)
app.get('/employees/:id/edit', authenticateJWT, async (req, res) => {
  try {
    const employee = await Employee.findById(req.params.id);
    res.render('editEmployee', { employee });
  } catch (error) {
    res.status(400).send('Error retrieving employee');
  }
});
// Handle updating an employee
app.put('/employees/:id', authenticateJWT, async (req, res) => {
  const updateData = {
    name: req.body.name,
    email: req.body.email,
  };
  if (req.body.password) {
    updateData.password = await bcrypt.hash(req.body.password, 10);
  }
  try {
    await Employee.findByIdAndUpdate(req.params.id, updateData);
```

```
res.redirect('/employees');
  } catch (error) {
    res.status(400).send('Error updating employee');
  }
});
// Handle deleting an employee
app.delete('/employees/:id', authenticateJWT, async (req, res) => {
  try {
    await Employee.findByIdAndDelete(req.params.id);
    res.redirect('/employees');
  } catch (error) {
    res.status(400).send('Error deleting employee');
  }
});
// Start server
app.listen(PORT, () => {
  console.log(`Server running on http://localhost:${PORT}`);
});
Addemplyee.ejs
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
```

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Add Employee</title>
 <link rel="stylesheet" href="/styles.css">
</head>
<body>
  <div class="container">
    <h1>Add New Employee</h1>
    <form action="/employees" method="POST">
      <div>
        <label for="name">Name:</label>
        <input type="text" id="name" name="name" required>
      </div>
      <div>
        <label for="email">Email:</label>
        <input type="email" id="email" name="email" required>
      </div>
      <div>
        <label for="password">Password:</label>
        <input type="password" id="password" name="password" required>
      </div>
      <button type="submit">Add Employee</button>
    </form>
    <a href="/employees" class="btn">Back to Employee List</a>
  </div>
  <script src="/script.js"></script>
</body>
```

```
</html>
Editemployee.ejs
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Edit Employee</title>
 <link rel="stylesheet" href="/styles.css">
</head>
<body>
  <div class="container">
    <h1>Edit Employee</h1>
    <form action="/employees/<%= employee._id %>?_method=PUT"
method="POST">
      <div>
        <label for="name">Name:</label>
        <input type="text" id="name" name="name" value="<%=
employee.name %>" required>
      </div>
      <div>
        <label for="email">Email:</label>
        <input type="email" id="email" name="email" value="<%=
employee.email %>" required>
      </div>
      <div>
```

```
<a href="label-for="password">New Password (leave blank to keep
current):</label>
        <input type="password" id="password" name="password">
      </div>
      <button type="submit">Update Employee</button>
    </form>
    <a href="/employees" class="btn">Back to Employee List</a>
  </div>
  <script src="/script.js"></script>
</body>
</html>
Emplyeelist.ejs
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Employee List</title>
  <link rel="stylesheet" href="/styles.css"> <!-- Link to your CSS file -->
  <script src="https://code.jquery.com/jquery-3.6.0.min.js"></script> <!--</pre>
Optional jQuery -->
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 20px;
    }
```

```
h1 {
  text-align: center;
}
table {
  width: 100%;
  border-collapse: collapse;
  margin-top: 20px;
}
table, th, td {
  border: 1px solid #ddd;
}
th, td {
  padding: 8px;
  text-align: left;
}
th {
  background-color: #f2f2f2;
}
tr:hover {
  background-color: #f1f1f1;
}
.action-buttons {
  display: flex;
  justify-content: space-between;
  margin: 10px 0;
}
```

```
a {
    text-decoration: none;
    color: white;
    padding: 10px 15px;
    border-radius: 5px;
  }
  .add-button {
    background-color: #4CAF50; /* Green */
  }
  .logout-button {
    background-color: #f44336; /* Red */
  }
  .edit-button {
    color: #007BFF; /* Blue color for the Edit link */
    text-decoration: underline; /* Underline for better visibility */
  }
  .edit-button:hover {
    color: #0056b3; /* Darker blue on hover */
  }
  .delete-button {
    color: red; /* Red for delete button */
    border: none;
    background: none;
    cursor: pointer;
  }
</style>
```

```
</head>
<body>
 <h1>Employee List</h1>
 <div class="action-buttons">
   <a href="/employees/new" class="add-button">Add Employee</a>
   <form action="/logout" method="POST">
     <button type="submit" class="logout-button">Logout</button>
   </form>
 </div>
 <thead>
     Name
      Email
      Actions
     </thead>
   <% employees.forEach(employee => { %>
       <%= employee.name %>
        <%= employee.email %>
        <a href="/employees/<%= employee. id %>/edit" class="edit-
button">Edit</a>
```

```
<form action="/employees/<%= employee. id
%>?_method=DELETE" method="POST" style="display:inline;">
              <button type="submit" class="delete-button">Delete</button>
            </form>
          <% }); %>
    </body>
</html>
Login.ejs
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Login</title>
  <link rel="stylesheet" href="/styles.css">
</head>
<body>
  <div class="container">
    <h1>Login</h1>
    <form action="/login" method="POST">
      <div>
        <label for="email">Email:</label>
```

```
<input type="email" id="email" name="email" required>
      </div>
      <div>
        <label for="password">Password:</label>
        <input type="password" id="password" name="password" required>
      </div>
      <button type="submit">Login</button>
    </form>
    Don't have an account? <a href="/register">Register here</a>
  </div>
 <script src="/script.js"></script>
</body>
</html>
Register.ejs
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Register</title>
  <link rel="stylesheet" href="/styles.css">
</head>
<body>
  <div class="container">
    <h1>Register</h1>
```

```
<form action="/register" method="POST">
      <div>
        <label for="name">Name:</label>
        <input type="text" id="name" name="name" required>
      </div>
      <div>
        <label for="email">Email:</label>
        <input type="email" id="email" name="email" required>
      </div>
      <div>
        <label for="password">Password:</label>
        <input type="password" id="password" name="password" required>
      </div>
      <button type="submit">Register</button>
    </form>
    Already have an account? <a href="/login">Login here</a>
  </div>
 <script src="/script.js"></script>
</body>
</html>
```

Output:

