

## Task 5: API Integration and Front-End Interaction.

Objective: Introduce server-client communication through a RESTful API.

### Backend (Node.js + Express)

```
const express = require("express");
const cors = require("cors");

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

let users = [
  { id: 1, name: "John Doe", email: "john@example.com" },
  { id: 2, name: "Jane Smith", email: "jane@example.com" }
];

// Get all users
app.get("/users", (req, res) => {
  res.json(users);
});

// Add a new user
app.post("/users", (req, res) => {
  const { name, email } = req.body;
  const newUser = { id: users.length + 1, name, email };

```

```
    users.push(newUser);
    res.status(201).json(newUser);
  });

// Delete a user
app.delete("/users/:id", (req, res) => {
  users = users.filter(user => user.id !== parseInt(req.params.id));
  res.json({ message: "User deleted" });
});

// Start the server
app.listen(5000, () => {
  console.log("Server running on port 5000");
});
```

## Frontend (HTML + Javascript)

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

```

    body { font-family: Arial, sans-serif; text-align: center; }
    input { margin: 5px; padding: 8px; }
    button { padding: 8px 12px; margin: 5px; cursor: pointer; }
    ul { list-style: none; padding: 0; }
    li { margin: 10px 0; background: #f4f4f4; padding: 10px; }
  </style>
</head>
<body>

  <h2>User Management</h2>

  <input type="text" id="name" placeholder="Name">
  <input type="email" id="email" placeholder="Email">
  <button onclick="addUser()">Add User</button>

  <h3>User List</h3>
  <ul id="userList"></ul>

  <script>
    const API_URL = "http://localhost:5000/users";

    async function fetchUsers() {
      const res = await fetch(API_URL);
      const users = await res.json();
      const userList = document.getElementById("userList");
      userList.innerHTML = "";

```

```

users.forEach(user => {
  userList.innerHTML += `
    <li>${user.name} - ${user.email}
      <button onclick="deleteUser(${user.id})">Delete</button>
    </li>`;
});
}

```

```

async function addUser() {
  const name = document.getElementById("name").value;
  const email = document.getElementById("email").value;

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

  fetchUsers(); // Refresh user list
}

```

```

async function deleteUser(id) {
  await fetch(`${API_URL}/${id}`, { method: "DELETE" });
  fetchUsers();
}

```

```
// Load users on page load  
fetchUsers();  
</script>
```

```
</body>
```

```
</html>
```

### Output :

## User Management

Add User