

### Code Implementation:

```
// App.js
import React, { useState, useEffect } from 'react';

function App() {
  const [books, setBooks] = useState([]);
  const [formData, setFormData] = useState({ title: '', author: '' });
  const [searchTerm, setSearchTerm] = useState('');
  const [editingBookId, setEditingBookId] = useState(null);

  useEffect(() => {
    fetch('http://localhost:3001/books')
      .then(res => res.json())
      .then(data => setBooks(data));
  }, []);

  const handleChange = e => {
    setFormData({ ...formData, [e.target.name]: e.target.value });
  };

  const handleSubmit = e => {
    e.preventDefault();
    if (editingBookId) {
      fetch(`http://localhost:3001/books/${editingBookId}`, {
        method: 'PUT',
        headers: { 'Content-Type': 'application/json' },
        body: JSON.stringify(formData),
      })
        .then(res => res.json())
        .then(updatedBook => {
          setBooks(books.map(book => (book.id === editingBookId ? updatedBook :
book)));
          setEditingBookId(null);
          setFormData({ title: '', author: '' });
        });
    } else {
      fetch('http://localhost:3001/books', {
        method: 'POST',
        headers: { 'Content-Type': 'application/json' },
        body: JSON.stringify(formData),
      })
        .then(res => res.json())
        .then(newBook => {
          setBooks([...books, newBook]);
          setFormData({ title: '', author: '' });
        });
    }
  };
};
```

```

const handleEdit = book => {
  setEditingBookId(book.id);
  setFormData({ title: book.title, author: book.author });
};

const handleDelete = id => {
  fetch(`http://localhost:3001/books/${id}`, {
    method: 'DELETE',
  }).then(() => {
    setBooks(books.filter(book => book.id !== id));
  });
};

const filteredBooks = books.filter(book =>
  book.title.toLowerCase().includes(searchTerm.toLowerCase())
);

return (
  <div style={{ padding: '20px' }}>
    <h2>Library Management</h2>
    <form onSubmit={handleSubmit}>
      <input
        name="title"
        placeholder="Title"
        value={formData.title}
        onChange={handleChange}
        required
      />
      <input
        name="author"
        placeholder="Author"
        value={formData.author}
        onChange={handleChange}
        required
      />
      <button type="submit">{editingBookId ? 'Update' : 'Add'} Book</button>
    </form>
    <input
      placeholder="Search by title..."
      value={searchTerm}
      onChange={e => setSearchTerm(e.target.value)}
      style={{ marginTop: '10px' }}
    />
    <ul>
      {filteredBooks.map(book => (
        <li key={book.id}>
          <strong>{book.title}</strong> by {book.author}
          <button onClick={() => handleEdit(book)}>Edit</button>
          <button onClick={() => handleDelete(book.id)}>Delete</button>
        </li>
      )

```

```
        ))}
      </ul>
    </div>
  );
}

export default App;
```