

Angular Assignment: Detailed Requirements for Books Library Application

1. Setup & Configuration:

- Environment Setup:
 - Install the latest version of Node.js and Angular CLI.
 - Initialize a new Angular project named "books-library" using the Angular CLI.
 - Library & Module Integration:
 - Incorporate HttpClientModule to facilitate API communication.
 - Integrate ReactiveFormsModule for reactive form management.
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2. Components Creation:

a) BooksListComponent:

- Display an organized list of books, showing a short description (utilize the ShortenPipe), title, and author.
- Each book should have a clickable link or button leading to its detailed view.

b) BookDetailsComponent:

- Detailed view should present the complete book information, including its ISBN and the full description.
- Add a "Back" button or link to navigate back to the books list.

c) AddBookComponent:

- Implement a reactive form with fields:
 - Title (Text input)
 - Author (Text input)
 - Description (Textarea)
 - Published Year (Number input)
 - ISBN (Text input)
 - Each field should have appropriate validators. For instance:
 - All fields should be mandatory.
 - The year should be a four-digit number.
 - ISBN could be validated against a general pattern.
 - A "Submit" button should be present to submit the form, which remains disabled until the form is valid.
 - On form submission, invoke the service to save the book's details and navigate back to the book's listing page with an appropriate success message.
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3. Services & Data Handling:

a) BookService:

- Methods to include:
 - getAllBooks(): Retrieve a list of all books.
 - getBookById(id: number): Fetch a specific book by its ID.
 - addBook(book: Book): Save a new book to the collection.
 - Utilize HttpClient to communicate with the backend or mock backend.
 - Implement error handling, possibly returning user-friendly error messages.
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4. Routing:

- Properly set up and configure Angular Routers.
 - Routes to set:
 - /books: Displays BooksListComponent.
 - /book/:id: Displays BookDetailsComponent – the ID parameter indicates which book's details to show.
 - /add-book: Displays AddBookComponent for adding a new book.
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5. Custom Pipes:

a) ShortenPipe:

- It should truncate text based on a defined character limit, appending an ellipsis ("...") to the end.
- Use this pipe in the BooksListComponent for shortening long book descriptions.

b) YearHighlightPipe:

- A pipe that conditionally styles or flags books published in the current year.
 - Integrate this pipe in both list and detail views.
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6. Styling & UI/UX:

- Ensure a user-friendly interface and experience.
 - Utilize a CSS framework or library (like Angular Material, Bootstrap, or Tailwind CSS) to enhance the presentation.
 - The design should be responsive, adjusting seamlessly to different screen sizes.
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7. Bonus Features (Optional):

a) Search & Filter:

- Integrate a real-time search functionality in the BooksListComponent.
 - As users type in a search box, filter the books list based on their input.
 - Leverage the reactive form's valueChanges observable for this real-time search.

b) Edit Book:

- Add functionality to edit existing books.
 - Add an "Edit" button in the BookDetailsComponent.
 - This should navigate to a form similar to the AddBookComponent, but pre-filled with the book's current details.
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Evaluation Criteria:

1. Functionality: Does the application function as intended without errors?
2. Code Organization: Is the code well-structured, modular, and organized?
3. Reactive Forms Implementation: Proper creation, validation, and handling of reactive forms.
4. API Communication: Proper implementation of CRUD operations, handling of asynchronous operations, and error management.
5. UI/UX: User-friendly design, responsiveness, and proper use of styles and layouts.
6. Bonus: Implementation of any additional features beyond the main requirements.

Code submission

- Upload application into git hub, and share with me the url of your repository

Sample Data for Books

```
[
  {
    "id": 1,
    "title": "To Kill a Mockingbird",
    "author": "Harper Lee",
    "description": "The unforgettable novel of a childhood in a sleepy Southern town and the crisis of conscience that rocked it.",
    "publishedYear": 1960,
    "isbn": "978-0061120084"
  },
  {
    "id": 2,
    "title": "1984",
    "author": "George Orwell",
    "description": "A startling and haunting vision of the world, 1984 is powerful, terrifying, and unforgettable.",
    "publishedYear": 1949,
    "isbn": "978-0451524935"
  },
  {
    "id": 3,
    "title": "Pride and Prejudice",
    "author": "Jane Austen",
    "description": "A story about the manners and matrimonial machinations among the British middle class at the end of the 18th century.",
    "publishedYear": 1813,
    "isbn": "978-1503290563"
  },
  {
    "id": 4,
    "title": "The Catcher in the Rye",
    "author": "J.D. Salinger",
    "description": "A story about a teenage boy who is confused, angry, and rebellious. He wants to protect the innocent and children from the phoniness and hypocrisy of the adult world.",
    "publishedYear": 1951,
    "isbn": "978-0316769174"
  },
]
```

```
{
  "id": 5,
  "title": "Brave New World",
  "author": "Aldous Huxley",
  "description": "A vision of a future where life is pain-free but meaningless. It explores the
dehumanizing effects of technology and uncontrolled desire.",
  "publishedYear": 1932,
  "isbn": "978-0060850524"
}
]
```