Challenge

Build Reusable Application Logic Using Angular Services

Challenge

- Challenge: Implement persistence in the `Keep-Note` application

Points to Remember

- The code to make server requests should not be written inside the Angular components.
    - Separate services should be created to make the fetch and post requests.
- The URL for making server requests should be stored in a variable and should not be hardcoded while making server requests.
- The `OnInit` interface and its `ngOnInit()` lifecycle method should be implemented for fetching data from the server.

Instructions for Challenge

- Click here for the boilerplate.
- Read the README.md file in the boilerplate for further instructions about the challenge.
- Fork the boilerplate into your own workspace.
- Clone the boilerplate into your local system.
- Open command terminal and set the path to the folder containing the cloned boilerplate code.
- Run the command `npm install` to install the dependencies.
- Open the folder containing the boilerplate code in VS Code.
- Copy the files from the `app` folder of the keep-note solution developed for the challenge of the previous sprint - `Sprint 4 - Implement Interactions Between Angular Components`.
    - Paste these files in the `app` folder of the boilerplate code.

Notes:

1. The solution of this challenge will undergo an automated evaluation on `hobbes`. (Local testing is recommended prior to `hobbes` testing).
2. The test cases are available in the boilerplate.

Context

As you are aware, `Keep-Note` is a web application that allows users to maintain notes. It is developed as a single-page application using multiple components.

Note: The stages through which the development process will be carried out are shown below:

Stage 1: Create basic `Keep-Note` application to add and view notes.

Stage 2: Implement unit testing for the `Keep-Note` application.

Stage 3: Create Keep-Note application with multiple interacting components to add, view and search notes.

Stage 4: Implement persistence in the `Keep-Note` application.

Stage 5: Style the `Keep-Note` application using Material design.

Stage 6: Create simple form with validation in the `Keep-Note` application.

Stage 7: Create complex form with validation in the `Keep-Note` application.

Stage 8: Enable navigation in the `Keep-Note` application.

Stage 9: Secure routes in the `Keep-Note` application.

Context (Cont'd)

In this sprint, we are at Stage 4.

In this stage, persistence needs to be implemented in the Keep-Note application.

The notes should be fetched from and saved in the **`notes.json`** file located in the **`keep-note-data`** folder. This will be done by making HTTP requests to the `json-server.`

Implement Persistence in the `Keep-Note` Application

Implement persistence in the `Keep-Note` application to make HTTP requests to fetch and post notes data using Angular Services.

The components of the application should consume this service to add, fetch and search notes.

If any error is returned with the response, then the components should handle it and raise an alert with appropriate error message.

Note: Tasks to complete the challenge are given in the upcoming slide.

CHALLENGE

Menu

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Tasks

- To develop the solution for the `Keep-Note` application, following tasks need to be completed:
  - Task 1: Create Note service.
  - Task 2: Add a new note.
  - Task 3: Fetch and display notes.
  - Task 4: Search notes.

Note: The partial instructions to complete the tasks are given in the upcoming slides.

Task 1: Create Note Service

- Copy the files from the **app** folder of the `keep-note` solution developed for the challenge of the previous sprint - `Sprint 4 - Implement Interactions Between Angular Components` .
  - Paste these files in the **app** folder of the boilerplate code.
- Create `NoteService` using Angular CLI command inside the **`services`** folder.
- Inject `HttpClient` dependency in the service class.
- Define `getNotes()` method to make HTTP GET request to fetch the notes from the server.
- Define `addNote()` method to make HTTP POST request post note data to the server.

Task 2: Add a New Note

- Modify the `addNote()` method of the `NoteAddComponent` class.
- The method should call the `addNote()` method of the `NoteService` to add a note to the server.
- The application should raise an alert with the message `Note Added` if the note gets successfully added.
- The application should raise an alert with the error message `Failed to Add Note Due to Server Error !!` if the server responds with an error.

Task 3: Fetch and Display Notes

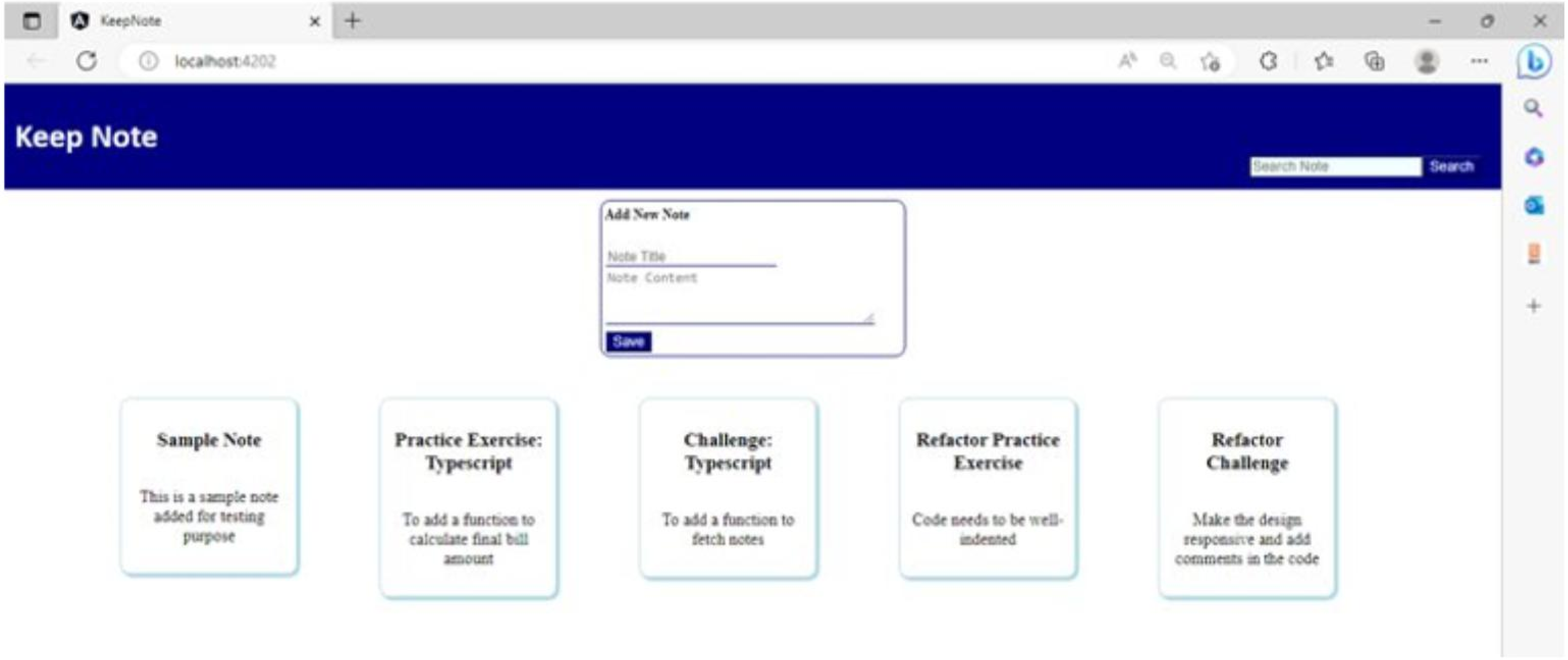
- The `NoteViewComponent` should call the `getNotes()` method of the `NoteService` to fetch all the notes from the server when the component gets initialized.
- The code should also handle error by raising an alert with the message `Failed to Fetch Notes Due to Server Error !!`, if the request returns with an error response.
- The component should refresh the notes on view whenever a new note gets added.

Task 4: Search Notes

- Modify the `onSearchTextChanged()` method which gets invoked when the `searchTextChanged` event is emitted by the `Search` component.
- The method should call the `getNotes()` method of the `NoteService` and update the `notes` property with the filtered data if the `searchText` is not empty.
  - If the search text is empty the method should update the `notes` property with all the notes data fetched from the server.

Expected Sample Output

- Style the components by defining CSS classes in their respective `.css` files for a better look and feel.
- The sample layout suggested for the `Keep-Note` application is provided in the image below:



Sample Note
This is a sample note added for testing purpose

Practice Exercise: Typescript
To add a function to calculate final bill amount

Challenge: Typescript
To add a function to fetch notes

Refactor Practice Exercise
Code needs to be well-indented

Refactor Challenge
Make the design responsive and add comments in the code

Test the Solution Locally

Test the solution first locally and then on `hobbes`. Steps to test the code locally are:

- From the command line terminal, set the path to the folder containing cloned boilerplate code.
- Run the command `ng test` or `npm run test` to test the solution locally and ensure all the test cases pass.
- Refactor the solution code if the test cases are failing and do a re-run.
- Finally, push the solution to git for automated testing on `hobbes`.