Real Estate Listing Management App

In the real estate domain, an application is developed to streamline the management of property listings. The app allows real estate agents to record and manage details of various properties, enabling clients and agents to access and interact with relevant information.

On the server side, at least the following details are maintained:

- Id: Integer value greater than zero.
- Name: A string representing the name of the property.
- Date: A string representing the date the property was listed, in the "yyyy-mm-dd" format.
- Details: A string containing information about the property.
- Status: A string representing the listing status (e.g., "available," "pending," "sold").
- Viewers: An integer value representing the number of viewers of this property.
- Type: A string representing the property type (e.g., "apartment," "house," "commercial").

The application should provide the following features (available without restarting the app):

● Property Organizer Section (Separate Activity/Screen):

A. (1p) Add New Property Listing: Using the **POST /property** endpoint, agents can add a new property listing, both online and offline.

B. (2p) View All Property Listings: Using **GET /listings** call, agents can retrieve and display a list of all property listings. The list should include id, name, listing date, and type. In offline mode, an offline message and retry option should be provided. The data should persist on the device after retrieval, regardless of online, offline, or restart conditions. Upon successful retrieval, since the data is now available on the device, additional server calls are unnecessary.

C. (1p) View Property Details: By selecting a property from the list, agents can view all details. Using **GET /property** call with the property id, the data should be retrieved from the server each time and made available on the device.

● Client Section (Separate Activity/Screen) - Available Online Only:

A. (1p) View Property Types: Using **GET /types** call, clients can retrieve a list of property types. The server will return all the types in the system.

B. (1p) Express Interest in Properties: Clients can express interest in a specific property type by selecting a type from the list above and using **PUT /register** with the property type.

● Admin Section (Separate Activity/Screen) - Available Online Only:

(1p) View Property Interest by Date: Using **GET /interest** call, admins can retrieve a list of property interest details. The application should group the retrieved entries by month and display the sum of viewers of all the properties per month in a list.

● (1p) On the server side, once a new property is added to the system, the server will send, using a WebSocket channel, a message to all the connected clients/applications with the new object. Each application that is connected will display the received object fields, in a human form (not JSON text or toString) using an in-app “notification” (e.g., using a snack bar, toast, or an on-screen dialog).

(0.5p) During all server or database operations, a progress indicator will be displayed.

(0.5p) On all server or DB interactions, if an error message is received, the app should display the error message using a toast or snackbar. A log message should be recorded for all interactions (server or DB calls).