

Data persistence Android

Rachelle Boyette

About Me

- Senior Consultant I at Neudesic
- Mobile developer

Agenda

- What are the types of data persistence offered?
- How do I choose which one to use?
- Demo couple examples

What's offered?

- Android offers us a wide variety of data persistence, dependent on needs, such as:
 - App-specific storage
 - Shared storage
 - Preferences
 - Databases

App-Specific Storage

- Storage which is specific to the app, other apps cannot access it
- Good for minimal storage, not complex objects
- Permissions are not needed in order to use, as long as internal storage is used.
- Examples:
 - Cacheable data related to the app
 - Files related to the app
- Removed after the app is uninstalled

Shared Storage

- Used for media objects
- Good for shareable objects
- Permissions required are: `READ_EXTERNAL_STORAGE/`
`WRITE_EXTERNAL_STORAGE` (when needed — for apps targeting API 29/
Android 10)
- Examples:
 - Audio files, photos, documents, etc.

Preferences

- Regular Preferences and Introduced in JetPack
- Can be used for simple preferences for the app, like app-specific storage, these are hidden from other apps
- Simple key, value pairs
- No permissions needed
- Examples
 - Allowing users to change theme from light to dark, switch environments, and other user-centric preferences
- Is removed after the app is uninstalled

Databases

- Wide variety of databases designed for the android ecosystem
- Room (new)
 - Part of JetPack integration, has tons of features to offer
 - Works seamlessly with architecture components.
- SQLite, Realm, etc
- No permissions required
- Removed after the app is uninstalled

What do I choose?

- Scenario
 - API is used for user data however, we don't want to fetch it often.
 - User hits the “Remember Me” option when logging in so they don't have to enter their credentials each time
- Items that would be good to use:
 - Database to hold user related information
 - Shared preferences to hold onto the “Remember Me” choice, as well as the encrypted credentials

- Scenario
 - User wants to update the settings of an app such that it persists across each session.
- Items to use:
 - Preferences library from Google, or Shared Preferences

- Scenario:
 - User wants to be able to open up a word document and edit it
- Item to use:
 - Shared storage

Demo

Thank You!

- rachelle.boyette@neudesic.com
- <https://www.linkedin.com/in/rachelleboyette/>
- For more information:
 - <https://developer.android.com/training/data-storage>