

PV239 - 05 STORAGE

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QUESTIONS

- What does DI mean and what is it's use?
- What does IoC mean and what is it's use?
- What can we use library Scrutor for?

GOALS

- Storing values
- Storing secure values
- Storing data locally
- Data type conversions

PREFERENCES

- For storing small amount of values
- Limit for size of individual records
- Synchronous API
- Supported types:
 - bool
 - double
 - int
 - float
 - long
 - string
 - DateTime

PREFERENCES

- Android
 - Stored in Shared Preferences
 - Enables automatic backup to Google Drive – from Android 6.0 (API level 23)
- iOS
 - Stored in UserDefaults
 - Backup in iCloud

PREFERENCES

Demo

SECURE STORAGE

- Useful for storing small amount of secured data (i.e. authentication token)
- Supports only strings
- Asynchronous API

SECURE STORAGE

- Android
 - Stored in Shared Preferences
 - Encrypted using key from Android KeyStore
- iOS
 - Stored in KeyChain
 - Backup is on/off based on user's settings

SECURE STORAGE

Demo

SQLITE

- Nuget package **sqlite-net-pcl** from author „**Frank A. Krueger**“
- We need to set path to the database file
- Basic ORM
- Basic operations

Table<T>

Insert

Update

Delete

Query<T>

Execute

ExecuteScalar

CreateTable

MAPPING

- Nuget package **Automapper**
- Mapping object from 1 type to another type
- Automatic mapping of properties with the same names
- Enables custom mapping configuration for more advanced cases
- Example: mapping between entities and models
- Configuration using class that inherits from class **Profile**
 - For better code organization – use 1 profile class for each entity
- Registration – package **AutoMapper.Extensions.Microsoft.DependencyInjection**
 - Extension method **serviceCollection.AddAutoMapper()**

DATABASE

Demo

CONVERTER

- Changing of value – usually from 1 type to another
- Interface `IValueConverter`
 - `Convert()`
 - `ConvertBack()`
- Helper classes available – enable strongly typed parameters
 - `BaseConverter<, >`
 - `BaseConverterOneWay<, >`
- Naming – specify intent explicitly in naming – to be able to know what the input and output should be

CONVERTER

Demo

WHICH STORAGE OPTION WOULD YOU USE?

- Options: **Preferences, Secure Storage, Database**
- Examples:
 - Authentication
 - Selecting color schema
 - Saving a recipe
 - Saving settings about how items are ordered in a list (alphabetically, by date created...)

SUGGESTIONS FOR ADDITIONAL EXERCISE

- Creating custom controls
- Loading animations
- Application configuration for different environments (dev, test, production)
- Tips for useful tools and libraries