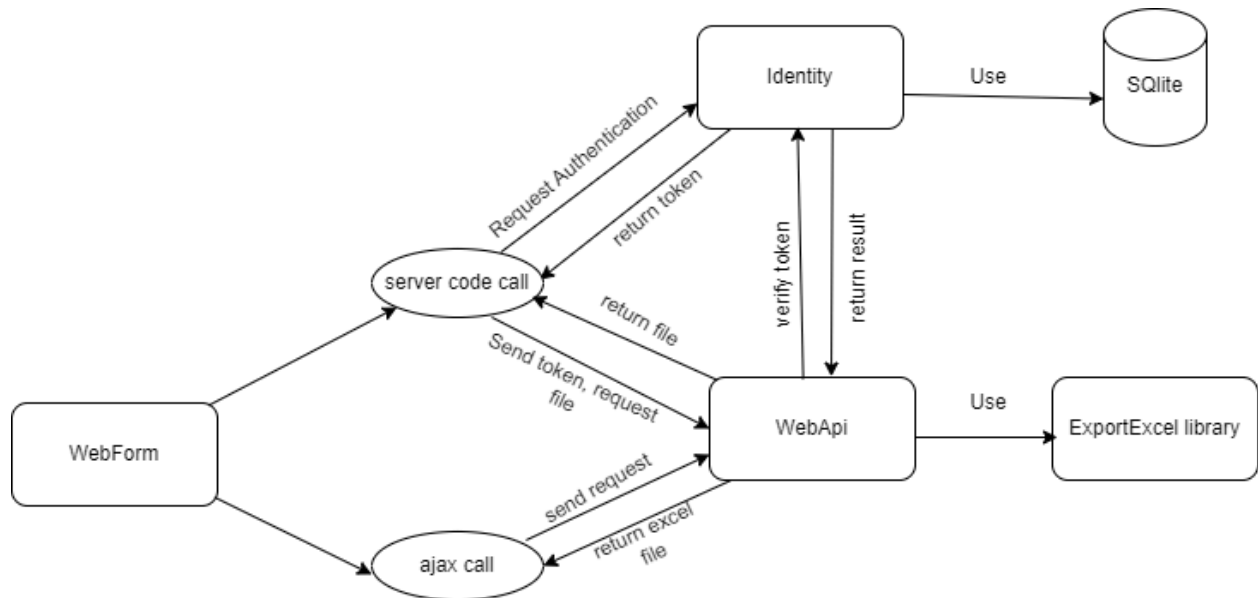


CODE SUMMARY

1. Overview Architechture.

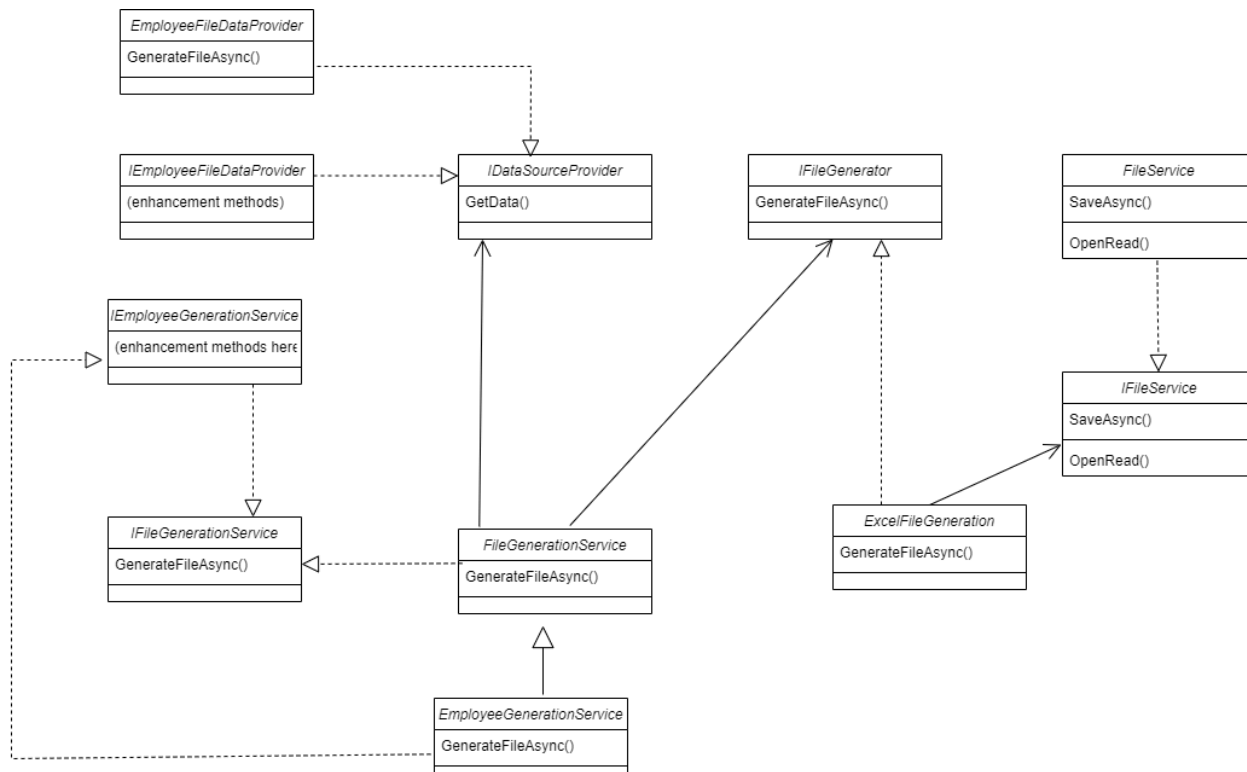


- Webform : Net Framework 4.7
- Excel Library: Net Framework 7.0
- Web Api : Web Api, Net Framework 8.0
- Identity : Identity Server.
- Database : Sqlite

In this assignment , I perform 2 two ways making call to Web Api to download the file.

1. From Server code with authentication,
2. From ajax call, this is a trendy way, reduce workload for servers.

2. Class Diagram.



- The **FileGenerationService** uses an **IDataSourceProvider** to fetch the data source, making the design flexible for multiple data source types. The client using the library can decide which data source type to use via Dependency Injection.
- The **FileGenerationService** also uses an **IFileGenerator** to handle various file types. With **IFileGenerator**, the design can generate files in different formats such as CSV, text, etc., depending on the instance of **IFileGenerator**, in this assignment **ExcelFileGenerator** is injected as the instance of **IFileGenerator** to specify excel file format.
- **IEmployeeFileDataProvider, EmployeeFileDataProvider** is the wrapper of **FileGenerationService**, to isolate the Excel library from the usage of API controller

3. Limitation:

- The hard code of Login User in WebForm, it should be placed in a secure place and encrypted.
- Identity server the same project with web api, it should be a separating server
- The password of users is not encrypted, it should be encrypted for security.
- Authentication from Ajax call is not implemented.

4. Integration between Net 4.7 and 7.0

There are two main ways for integration, NET standard library and Web API. Web API is the best solution , because

- Web API is easier to implement and integrate with your existing WebForms application.
- Good performance for most typical use cases.
- Simpler debugging and maintenance.
- A clear path for future enhancements or migrations.