CSCI 5408 DATA MANAGEMENT AND WAREHOUSING

Group:

DBMS_Builder- 6

Sprint 3 Report

Group Members:

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Group Project Git Lab Link for code:
https://git.cs.dal.ca/jems/csci_5408_s24_group06

Contents

Pseudocodes

Pseudocode for Data Modelling – Reverse Engineering:

1. Generating ERD for the Database:

- Define a function `generateERD` that takes `databaseName` as a parameter.
- Create a `File` object for the specified database directory.
- Check if the database directory exists and is a valid directory:
    - If it does not exist, print an error message and return it.

2. Retrieving Table Information:

- Call `getAllTables` function to retrieve a list of all table names in the database.
- Initialize two maps: `tableDetails` for storing column details and `foreignKeys` for storing foreign key relationships.

3. Processing Each Table:

- For each table in the list of table names:
    - Call `getColumnDetails` function to get the details of the columns in the table and store it in `tableDetails`.
    - Call `getForeignKeys` function to get the foreign keys for the table and store it in `foreignKeys`.

4. Creating ERD Output Directory:

- Call `createErdFolder` function to create the ERD folder for the specified database.
    - If the folder creation fails, return.

5. Writing ERD to File:

- Define the output path for the ERD file.
- Call `writeErdToFile` function to write the ERD details to the file.

Functional Testing:

Data Modelling- Reverse Engineering (Module 6):

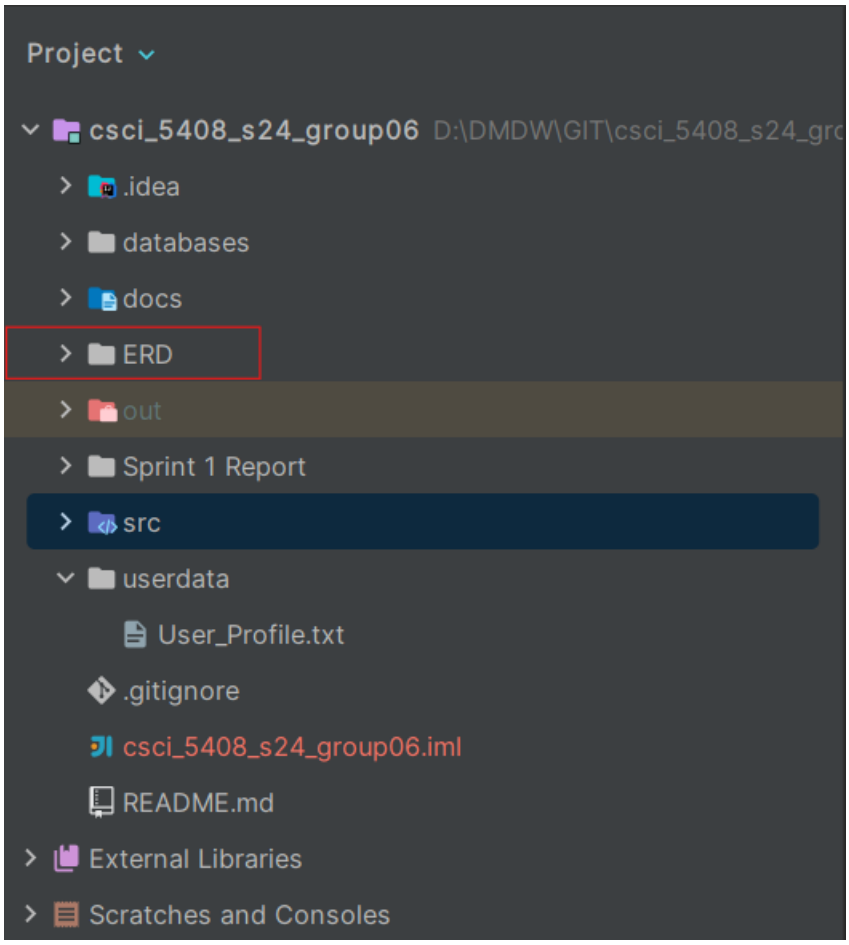

Figure: ERD Folder in which all the ERD files will create.

```
Choose an action:
1. Write Queries
2. Export Data and Structure
3. ERD
4. Exit
Enter your choice: 3
Enter the database name to generate ERD (or type 'exit' to return to the main menu): dalhousie
Database dalhousie does not exist. Please try again.
Enter the database name to generate ERD (or type 'exit' to return to the main menu):
```

Figure: Generating ERD for the database which is not present

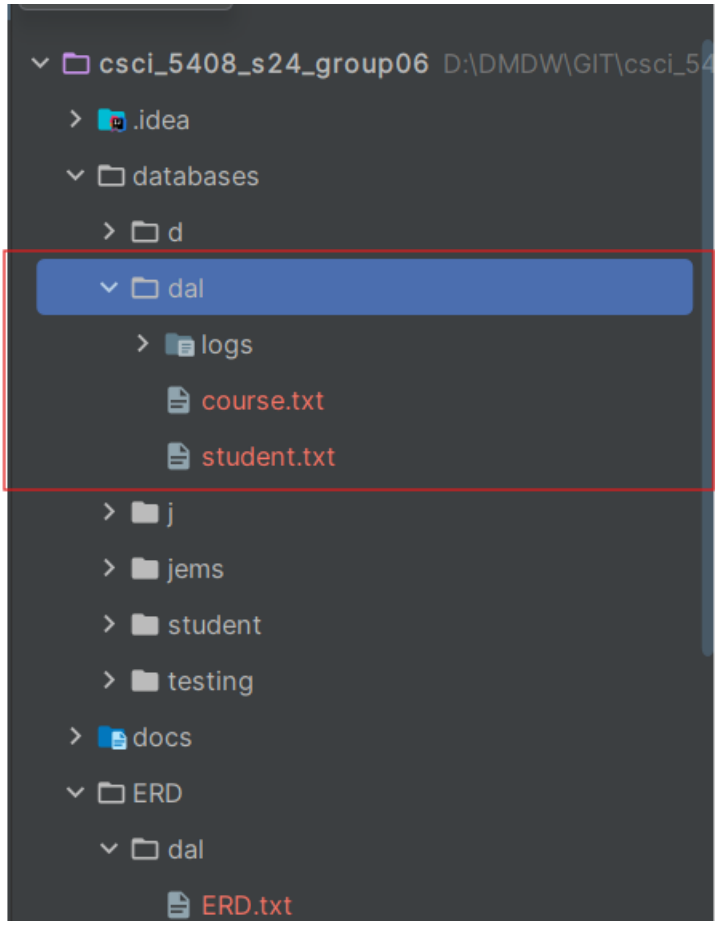

Figure: dal database for which we will create an ERD.

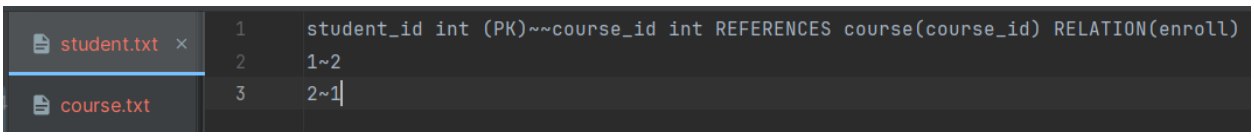

Figure: Student Table in the dal

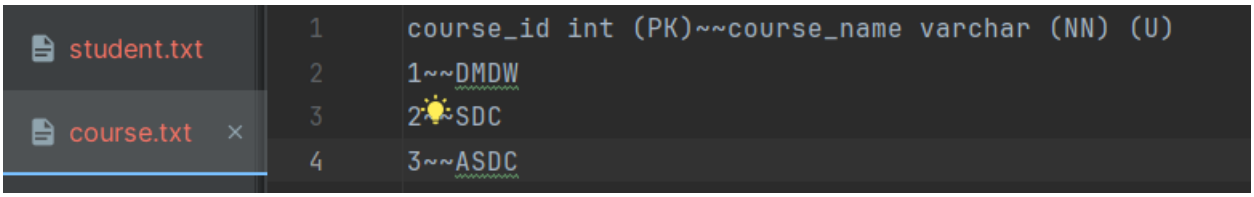

Figure: Course Table in the dal

```
Choose an action:
1. Write Queries
2. Export Data and Structure
3. ERD
4. Exit
Enter your choice: 3
Enter the database name to generate ERD (or type 'exit' to return to the main menu): dal
Generating the ERD...
Created directory: D:\DMDW\GIT\csci_5408_s24_group06\.\ERD\dal
Your ERD for the database 'dal' has been created under the folder 'ERD'.
```

Figure: Generating ERD for the database which is present

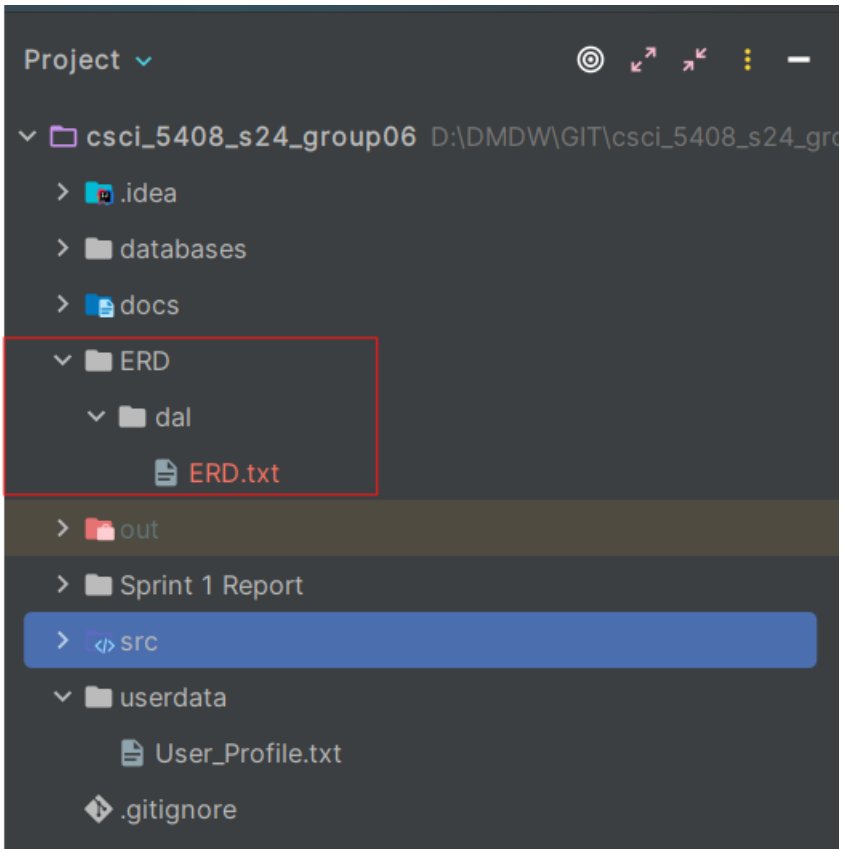

Figure: ERD generate in the dal database folder

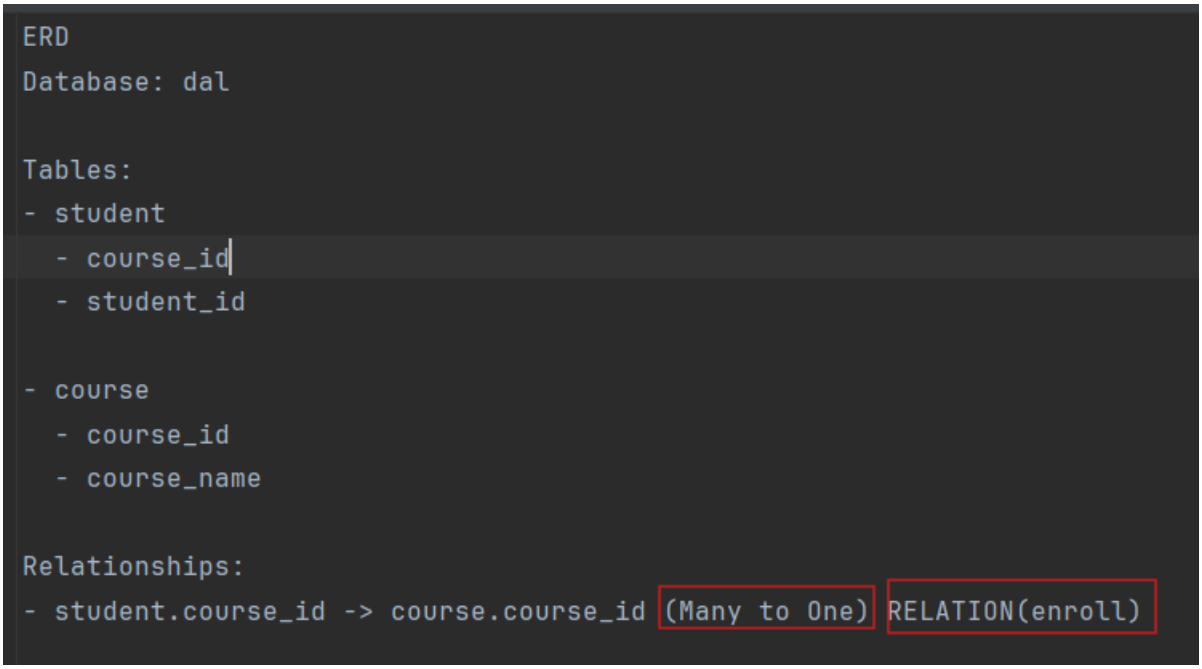

Figure: ERD for dal

References

[1] "How to Draw Entity Relationship Diagrams - GeeksforGeeks." Accessed July 20, 2024. [Online]. Available: https://www.geeksforgeeks.org/how-to-draw-entity-relationship-diagrams/

[2] "Reading a Plain Text File in Java." Stack Overflow. Accessed July 20, 2024. [Online]. Available: https://stackoverflow.com/questions/4716503/reading-a-plain-text-file-in-java

[3] "How to Create a Directory in Java." Stack Overflow. Accessed July 20, 2024. [Online]. Available: https://stackoverflow.com/questions/3634853/how-to-create-a-directory-in-java