

SQL & Data Modeling Project – Error Log Report

Error 1: Foreign Key Constraint Failed

Context: While creating the Schedule table.

Error Message: ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails

Reason: Tried to insert into the Schedule table before creating the referenced Course and Trainer tables.

Solution: Re-ordered the creation of tables to ensure Course and Trainer are created before Schedule.

Lesson Learned: I learned the importance of the order of SQL table creation when foreign key constraints are involved.

Error 2: Column Not Found

Context: While querying data from the Trainee table.

Error Message: ERROR: column 'trainee_email' does not exist

Reason: Used a non-existing column name. The correct column is named 'email'.

Solution: Checked the schema and corrected the column name in the SELECT statement.

Lesson Learned: Always verify column names against the schema before writing SQL queries.

Error 3: Incorrect Data Type

Context: When inserting data into the duration_hours column in the Course table.

Error Message: ERROR: invalid input syntax for integer: 'twenty'

Reason: Inserted a string instead of a number in an INT column.

Solution: Changed the value from 'twenty' to 20.

Lesson Learned: Ensure that the data type matches the column definition before inserting.

Error 4: Ambiguous Column Name

Context: While joining multiple tables without using aliases.

Error Message: ERROR: column reference is ambiguous

Reason: Used a common column name in multiple tables without specifying the table.

Solution: Used table aliases and qualified column names like e.trainee_id.

Lesson Learned: Using aliases and qualifying columns avoids confusion and errors in multi-table joins.

Error 5: No Rows Returned

Context: Querying beginner-level courses in Data Science.

Error Message: Query runs but returns 0 rows.

Reason: Used wrong filter logic or typo in WHERE clause (e.g., wrong case in category).

Solution: Fixed the WHERE clause to match exact values: level = 'Beginner' AND category = 'Data Science'.

Lesson Learned: Double-check string values and case sensitivity when filtering in SQL queries.

Error 6: LIMIT Not Supported in SQL Server

Context: While trying to fetch the course with the highest number of enrollments.

Error Message: Msg 102, Level 15, State 1 - Incorrect syntax near 'LIMIT'.

Reason: Used the 'LIMIT' keyword which is not supported in Microsoft SQL Server (only in MySQL).

Solution: Replaced 'LIMIT 1' with 'TOP 1' and placed it after SELECT.

Lesson Learned: SQL syntax differs between systems; it's important to use the correct syntax for the database you're working with.