

What is Test Driven Development (TDD)? -> Cycle of writing code for developers

- TDD is a **software development process** that relies on the repetition of a very short development cycle. First the developer writes unit testing that defines a desired improvement or new function, then produces the minimum amount of code to pass that test, and finally refactors the new code to acceptable standards.

What is Behavior Driven Testing (BDD)? -> Testing code writing process for testers

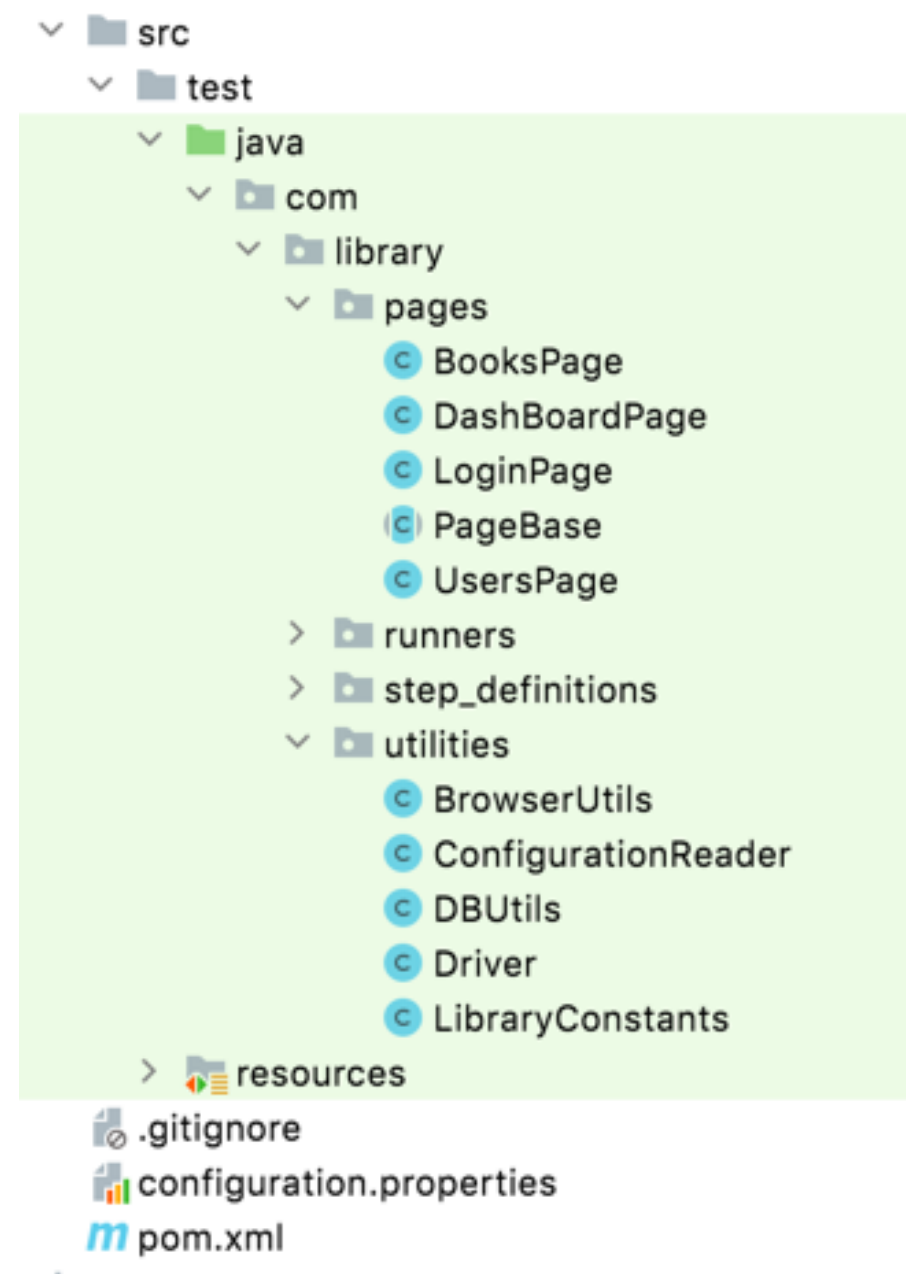
- BDD is a software engineering (Testing) process **that allows the tester/business analyst to create test cases in simple text language (English) by using Gherkin language.** The simple language used in the scenarios helps even non-technical team members to understand what is going on in the software project.

What is Data Driven Testing (DDT)? -> for testers

- Running the same tests against different data set.
 - Data is in excel sheet
 - scenario outline

Library DataBase Assignment

- Practice DB testing manually and automatically.
- Assignment due date is till next project class.
- Previously each group created framework for the library project.
 - You can automate the scenarios in your existing framework
 - Or you can create a new BDD cucumber framework to work on assignment



*DB testing requirements / user stories are not really detailed written like UI user stories.
A PO may or mayn't create a separate user story for a functionality.*

For the DB testing, testers need to verify tables, columns, schema, and datas.

Tables and Column testing:

- **Name of all the tables** in database
- Column **names** for each table
- Column **types** for each table
- **NULL** value checked or not
- Whether a default is bound to correct table columns
- Rule definitions to correct table names and access privileges

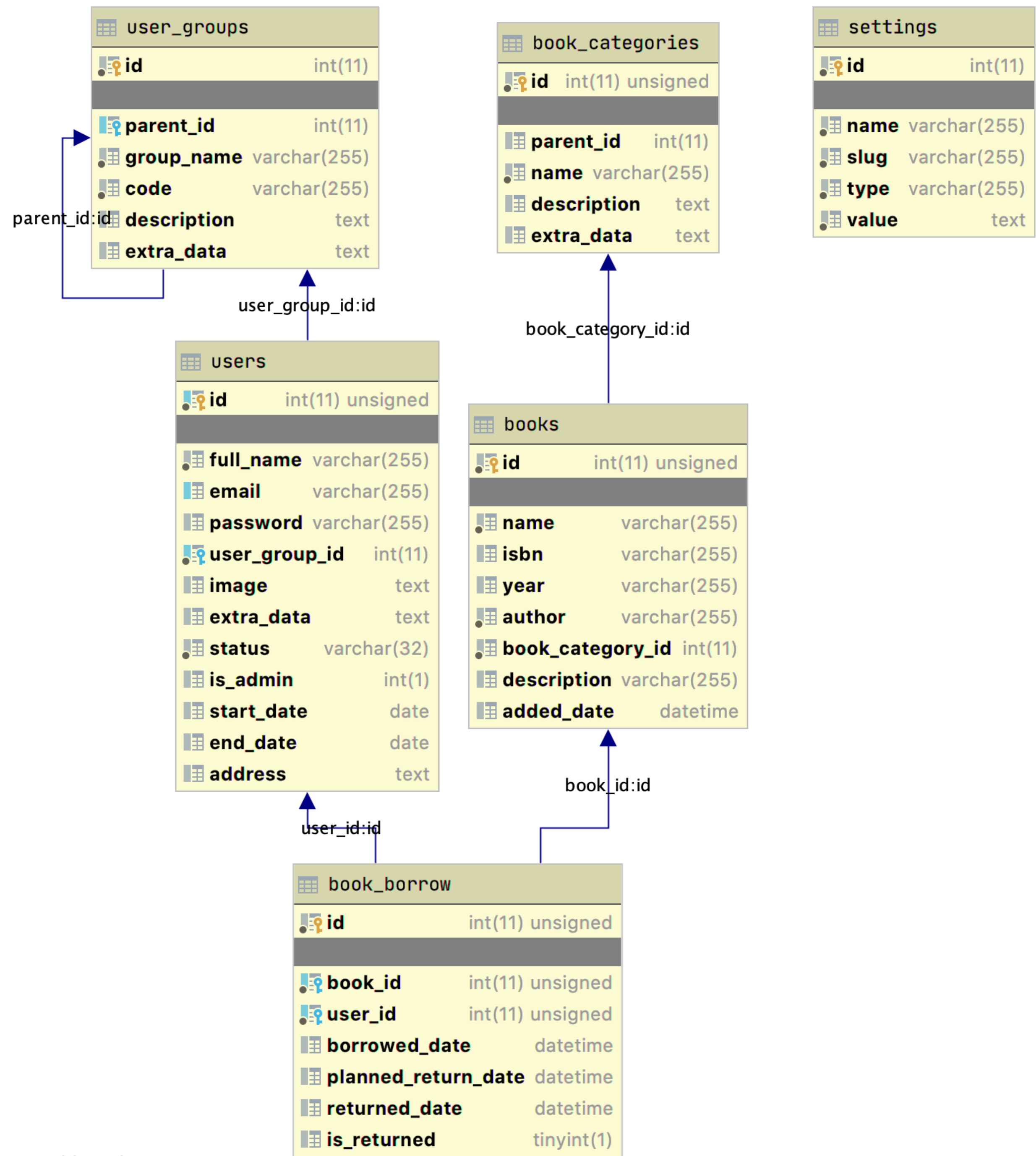
Database Schema Testing

- Verifying Databases and devices
- Verifying the **name of database**
- Verifying the data device, log device and dump device
- Verifying if enough space allocated for each database
- Verifying database option setting

Key and Indexes

Verify the Key and indexes in each table –

- Primary key for each table
 - Foreign keys for each table
 - Data types between a foreign key column and a column in other table
- Indices, clustered or non-clustered unique or not unique



Feature1 : As a data consumer, I want the user informations are stored in mySql DB correctly in users table.

Background:

Given Establish the database connection

Scenario: verify users has unique IDs

When Execute query to get all IDs from users

Then verify the result set

Scenario: verify users table columns

When Execute query to get all columns

Then verify the blow columns are listed in result:

Id, full_name, email, password, user_group_id, image, extra_data, status, is_admin, start_date, end_date, address

users	
id	int(11) unsigned
full_name	varchar(255)
email	varchar(255)
password	varchar(255)
user_group_id	int(11)
image	text
extra_data	text
status	varchar(32)
is_admin	int(1)
start_date	date
end_date	date
address	text

Feature 2: As a librarian, I want to know who browed books.

Scenario: verify the amount of people who borrowed books

Given Establish the database connection

When I execute query to inner join users and book_borrow on Id

Then verify amount of people who had borrowed books

users	
id	int(11) unsigned
full_name	varchar(255)
email	varchar(255)
password	varchar(255)
user_group_id	int(11)
image	text
extra_data	text
status	varchar(32)
is_admin	int(1)
start_date	date
end_date	date
address	text

book_borrow	
id	int(11) unsigned
book_id	int(11) unsigned
user_id	int(11) unsigned
borrowed_date	datetime
planned_return_date	datetime
returned_date	datetime
is_returned	tinyint(1)

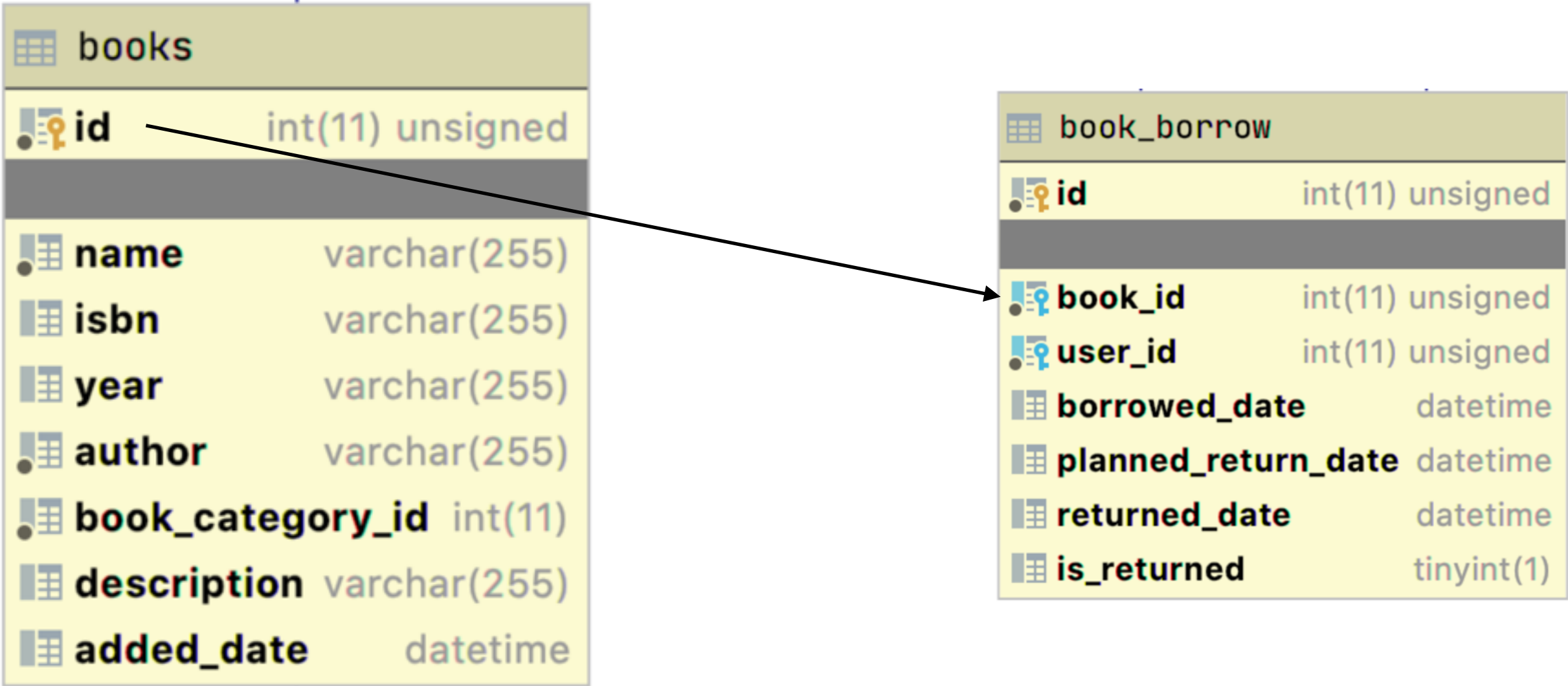
Feature 3: As a librarian, I want to know genre of books are being borrowed the most .

Scenario: verify the the common book genre that's being borrowed

Given Establish the database connection

When I execute query to left outer inner join books and book_borrow on Book_Id

Then verify what is the most popular book genre.



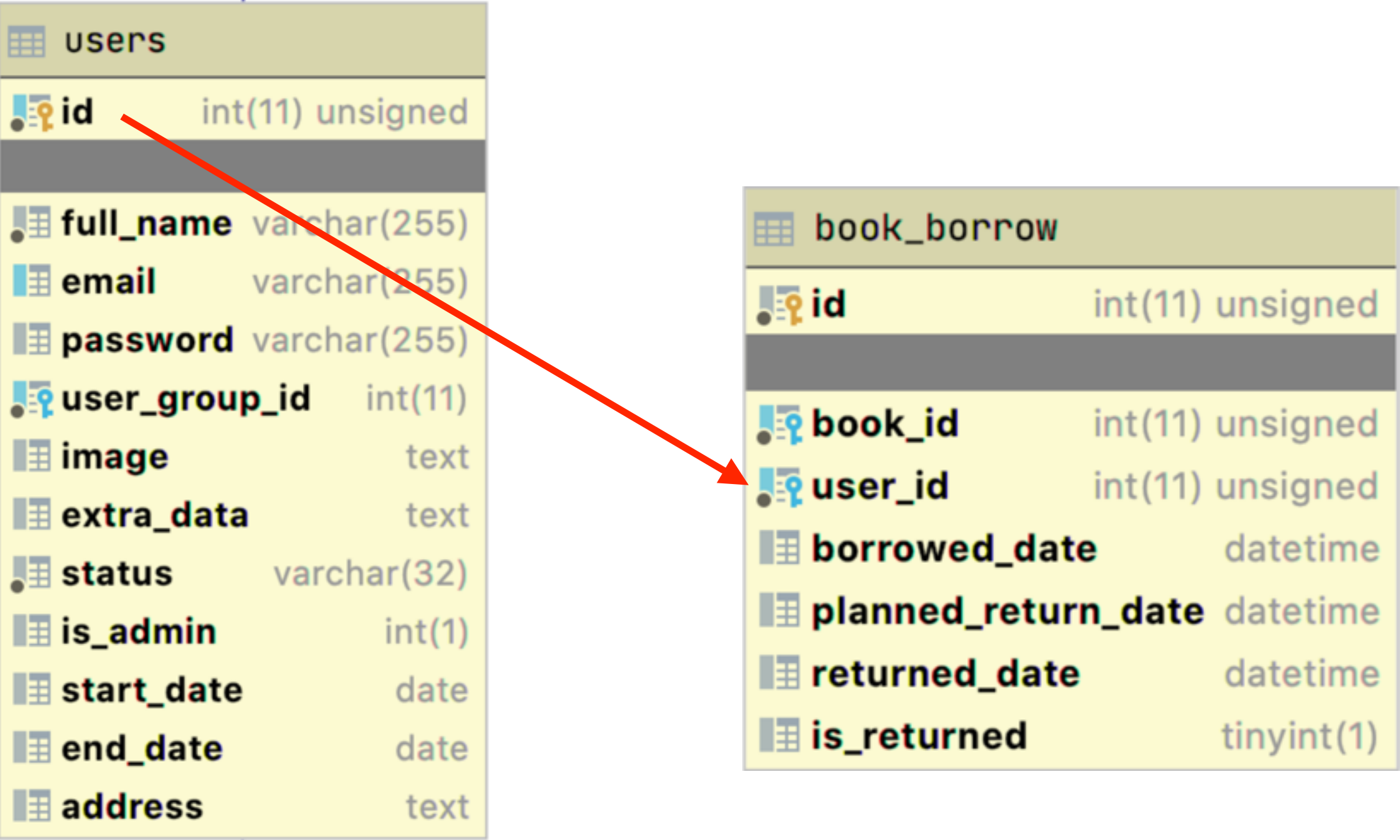
Feature 4: As a librarian, I want to know all the students who brewed books.

Scenario: verify who borrowed which books

Given Establish the database connection

When I execute query to full join books and book_categories on user_id

Then verify the data result set



Feature 5: As a data consumer, I want UI and DB book information are match.

Scenario: verify book information with DB

Given I am in the homepage of library app

When I navigate to "Books" page

And I open a book called “Harry Potter”

When I established DB connection

And I execute query to get the book information from books table

Then verify book DB and UI information must match

name	author	year	
Harry Potter	Djoan Rowling	2000	

books	
id	int(11) unsigned
name	varchar(255)
isbn	varchar(255)
year	varchar(255)
author	varchar(255)
book_category_id	int(11)
description	varchar(255)
added_date	datetime

String query = "select name, isbn, year, author, description from books\n" +
"where name = '"+bookName+"'";

Edit Book Information

Book Name

Harry Potter

ISBN

zara

Year

2000

Author

Djoan Rowling

Book Category

Action and Adventure

Description

About a boy with special talent

Close

Save changes

Feature 5: As a data consumer, I want UI and DB book information are match.

Scenario: verify book categories with DB

Given I am in the homepage of library app






When I navigate to "Books" page

And I open a book called "Harry Potter"

When I established DB connection

And I execute query to get book categories

Then verify book categories must match book_categories table from db

book_categories	
 id	int(11) unsigned
 parent_id	int(11)
 name	varchar(255)
 description	text
 extra_data	text