ORM Project Documentation

Project Overview

This project involves the development of a basic ORM (Object-Relational Mapping) system in PHP to facilitate interactions between PHP objects and a MySQL database. The ORM allows for the creation, reading, updating, and deletion of database records using PHP objects. It includes table management functionalities such as creating, updating, and dropping tables based on PHP class definitions.

Files and Structure

1. **Configuration**

   Config.php: Contains database connection details.

2. **Database Connection**

   Database.php: Manages the connection to the MySQL database using PDO.

3. **ORM Interface**
   ORMInterface.php: Defines the interface for ORM operations.

4. **ORM Implementation**
   ORM.php: Implements the ORMInterface and provides methods for CRUD operations and table management.

5. **Data Model**
   Product.php: Defines the Product class representing a product entity.

6. **Test Scripts**
   test-create.php: Creates the products table in the database.

7. **test-read.php**

   Reads and displays a product by ID.

8. test-update.php: Updates a product with new data.

9. Usage Instructions

   Setup Database

   Ensure MySQL is running and a database named orm is created.

   Configure the database connection in config.php.

10. Run Test Scripts

    To create the products table: php test-create.php
    - To read a product: php test-read.php
    - To update a product: php test-update.php
    - To delete a product: php test-delete.php

11. Conclusion:

    This ORM project provides a basic framework for managing database interactions through PHP objects, offering a simple and intuitive approach to CRUD operations and table management. Future enhancements can include more robust validation, error handling, and additional features such as relationships between entities and advanced querying capabilities.