Database Documentation for Online Book Publishing Platform

Overview

The following document describes the schema, relationships, and sample data insertion for a database designed to manage an online book publishing platform. The database is built in MySQL and contains tables for authors, customers, books, publishers, orders, and more. The ER diagram illustrates the relationships among the entities.

Database Schema

```
CREATE DATABASE onlineBookPublishing;

USE onlineBookPublishing;

-- AUTHOR
CREATE TABLE Author (
    author_id INT PRIMARY KEY,
    name VARCHAR(255),
    biography TEXT
);

-- CUSTOMER
CREATE TABLE Customer (
    customer_id INT PRIMARY KEY,
    name VARCHAR(255)
);

-- SHIPPING ADDRESS
CREATE TABLE ShippingAddress (
    address_id INT PRIMARY KEY,
    customer_id INT,
    address TEXT,
    FOREIGN KEY (customer_id) REFERENCES Customer(customer_id)
);

-- PUBLISHER
CREATE TABLE Publisher (
    publisher_id INT PRIMARY KEY,
```

```
    name VARCHAR(255),
    contact_details TEXT
);

-- BOOK
CREATE TABLE Book (
    book_id INT PRIMARY KEY,
    title VARCHAR(255),
    ISBN VARCHAR(20)
);

-- EDITION
CREATE TABLE Edition (
    edition_id INT PRIMARY KEY,
    book_id INT,
    edition_number INT,
    publication_year YEAR,
    price DECIMAL(10,2),
    publisher_id INT,
    FOREIGN KEY (book_id) REFERENCES Book(book_id),
    FOREIGN KEY (publisher_id) REFERENCES Publisher(publisher_id)
);

-- GENRE
CREATE TABLE Genre (
    genre_id INT PRIMARY KEY,
    genre_name VARCHAR(100)
);

-- BOOK_AUTHOR (many-to-many)
CREATE TABLE BookAuthor (
    book_id INT,
    author_id INT,
    PRIMARY KEY (book_id, author_id),
    FOREIGN KEY (book_id) REFERENCES Book(book_id),
    FOREIGN KEY (author_id) REFERENCES Author(author_id)
);

-- BOOK_GENRE (many-to-many)
CREATE TABLE BookGenre (
    book_id INT,
    genre_id INT,
    PRIMARY KEY (book_id, genre_id),
    FOREIGN KEY (book_id) REFERENCES Book(book_id),
```

```
    FOREIGN KEY (genre_id) REFERENCES Genre(genre_id)
);

-- ORDER
CREATE TABLE `Order` (
    order_id INT PRIMARY KEY,
    customer_id INT,
    order_date DATE,
    shipment_status VARCHAR(50),
    FOREIGN KEY (customer_id) REFERENCES Customer(customer_id)
);

-- ORDER_ITEM (edition in orders)
CREATE TABLE OrderItem (
    order_id INT,
    edition_id INT,
    quantity INT,
    discount DECIMAL(5,2),
    PRIMARY KEY (order_id, edition_id),
    FOREIGN KEY (order_id) REFERENCES `Order`(order_id),
    FOREIGN KEY (edition_id) REFERENCES Edition(edition_id)
);

-- PAYMENT
CREATE TABLE Payment (
    payment_id INT PRIMARY KEY,
    order_id INT,
    amount DECIMAL(10,2),
    payment_method VARCHAR(50),
    payment_date DATE,
    FOREIGN KEY (order_id) REFERENCES `Order`(order_id)
);

-- WISHLIST (customer - edition)
CREATE TABLE Wishlist (
    customer_id INT,
    edition_id INT,
    PRIMARY KEY (customer_id, edition_id),
    FOREIGN KEY (customer_id) REFERENCES Customer(customer_id),
    FOREIGN KEY (edition_id) REFERENCES Edition(edition_id)
);
```

Sample Data Insertion

```
-- Insert into Author
INSERT INTO Author (author_id, name, biography)
VALUES (1, 'J.K. Rowling', 'Author of the Harry Potter series');

-- Insert into Customer
INSERT INTO Customer (customer_id, name)
VALUES (1, 'John Doe');

-- Insert into ShippingAddress
INSERT INTO ShippingAddress (address_id, customer_id, address)
VALUES (1, 1, '123 Fictional Street, London, UK');

-- Insert into Publisher
INSERT INTO Publisher (publisher_id, name, contact_details)
VALUES (1, 'Penguin Books', 'Contact: +44 123 456 7890');

-- Insert into Book
INSERT INTO Book (book_id, title, ISBN)
VALUES (1, 'Harry Potter and the Sorcerer\'s Stone', '9780439554930');

-- Insert into Edition
INSERT INTO Edition (edition_id, book_id, edition_number, publication_year, price,
publisher_id)
VALUES (1, 1, 1, 1997, 19.99, 1);

-- Insert into Genre
INSERT INTO Genre (genre_id, genre_name)
VALUES (1, 'Fantasy');

-- Insert into BookAuthor
INSERT INTO BookAuthor (book_id, author_id)
VALUES (1, 1);

-- Insert into BookGenre
INSERT INTO BookGenre (book_id, genre_id)
VALUES (1, 1);

-- Insert into Order
INSERT INTO `Order` (order_id, customer_id, order_date, shipment_status)
VALUES (1, 1, '2025-06-01', 'Shipped');

-- Insert into OrderItem
```

```
INSERT INTO OrderItem (order_id, edition_id, quantity, discount)
VALUES (1, 1, 2, 10.00);

-- Insert into Payment
INSERT INTO Payment (payment_id, order_id, amount, payment_method, payment_date)
VALUES (1, 1, 35.98, 'Credit Card', '2025-06-01');

-- Insert into Wishlist
INSERT INTO Wishlist (customer_id, edition_id)
VALUES (1, 1);
```

Entity-Relationship Diagram

The following diagram visualizes the relationships among the tables in the database: