Ryerson University

Faculty of Engineering, Architecture and Science
Department of Electrical and Computer Engineering
Laboratory Report Cover Page

Course Number	COE692
Course Title	Software Design Architecture
Semester/Year	Winter 2022
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Lab/Tutorial Report No.	3

Section No.	8
Group No.	N/A
Submission Date	Tuesday, March 7th, 2022
Due Date	Tuesday, March 7th, 2022

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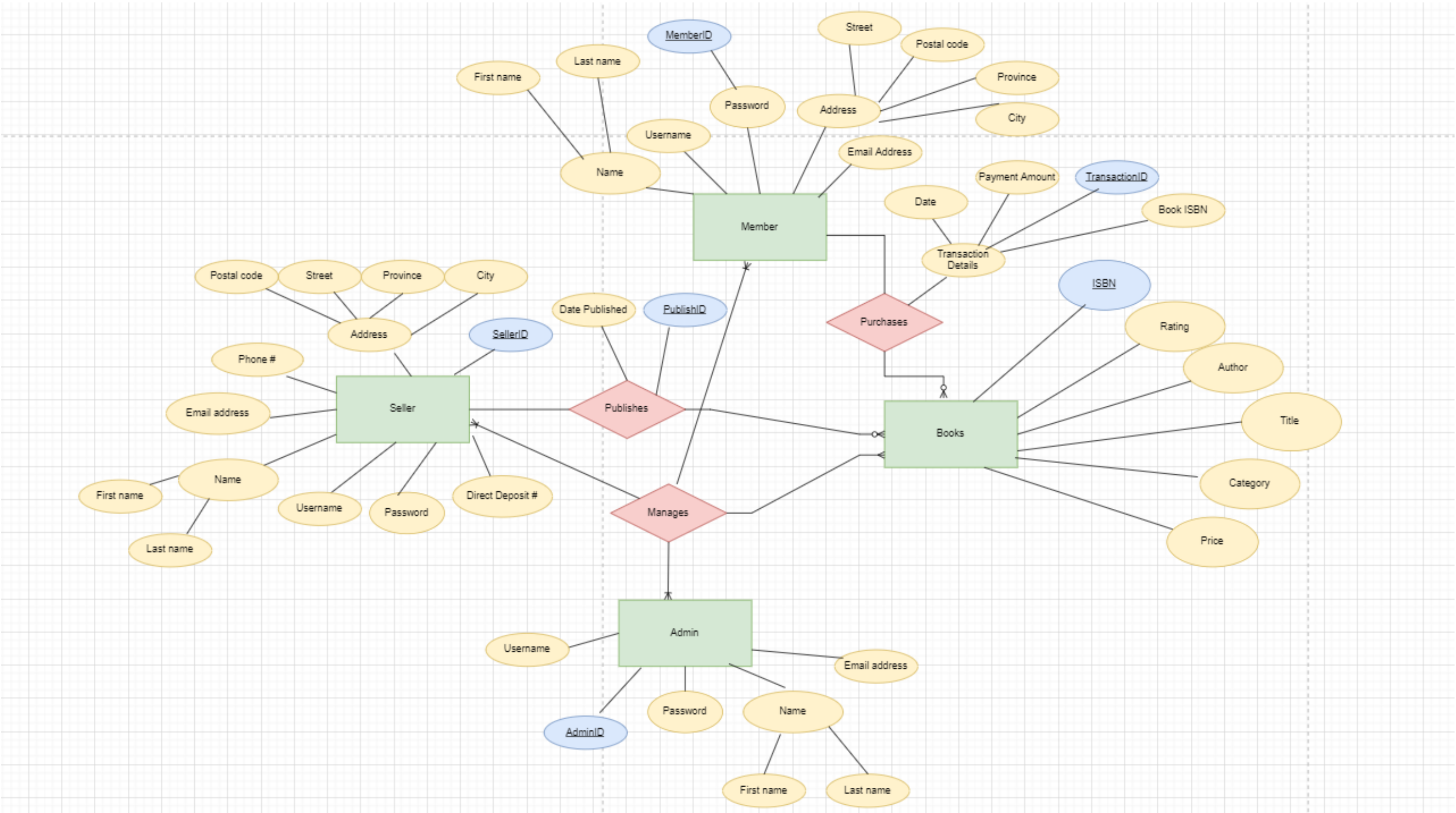


Figure 1: ER Diagram of Online Bookstore

Description:

Our ER Diagram has 4 entities: Seller, Member, Books, and Admin.

The Seller entity contains all various information regarding the seller, such as the name & an address attribute which are both composite attributes,email address, phone number, username (which will be the chosen primary key), password, & direct deposit info. The Seller has a zero-to-many, optional, ‘publishes’ relationship with the books entity, since a seller may or may not choose to upload or publish any amount of books. Additionally, the seller has a many-to-many mandatory ‘manages’ relationship with admin, since any Admin must be able to manage many Sellers, or, many Sellers can be managed by many Admins.

The Member entity attributes contain: Name (first name and last name), Username (chosen primary key), Password, Address (Street, Postal Code, City, and Province), and an email address. The member has a zero-to-many optional Purchases relationship with Books as the Member can decide to not buy books at all (just browse) or buy as many as he desires (no limit). The relationship Purchases contains specific attributes: Date, Payment amount, and the Book ISBN which relate to it. Furthermore, the Member has a many-to-many mandatory Manages relationship with the administrator (admin) as any admin must be able to manage many Members, or, many Members can be managed by many Admin.

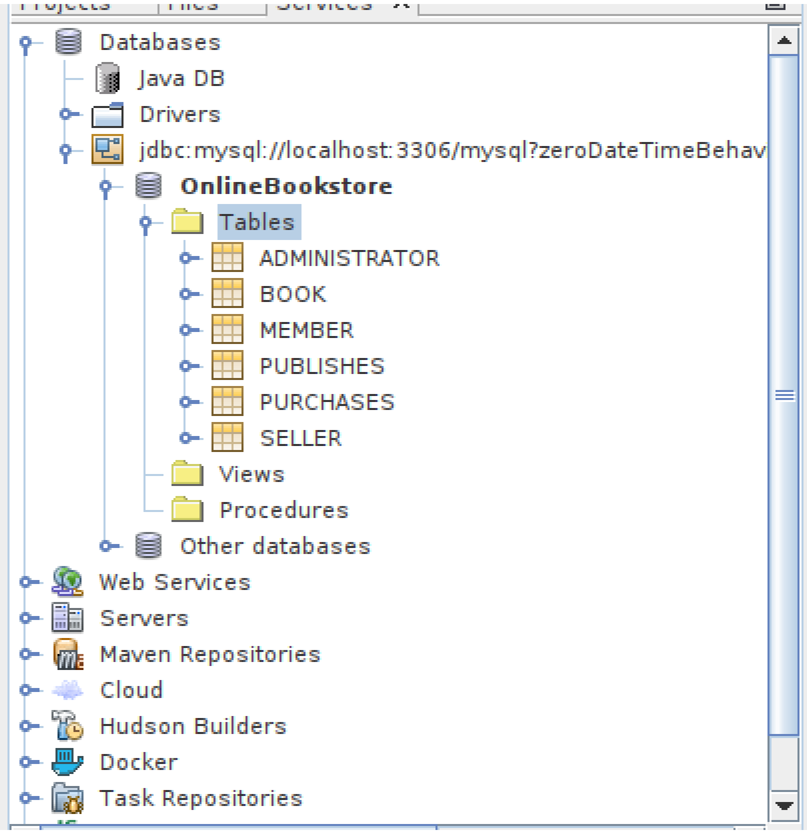
The Admin entity attributes contain: Username (chosen primary key), Password, Name (first name and last name), and Email address. The admin has a many-to-many mandatory Manages relationship with the Seller, Member, and Books as any Admin must be able to manage many Sellers, Members, and Books, or, many Sellers, Members, and Books can be managed by many Admin.

Books is another entity within the ER diagram, which contains various attributes used to hold various information about the books, such as the ISBN (primary key), rating, author, title, category, and price. The member has a zero-to-many optional Purchases relationship with Books as the Member can decide to not buy books at all (just browse) or buy as many as he desires (no limit). The admin has a many-to-many mandatory Manages relationship with the Books since many Books can be managed by many Admin. The Seller has a zero-to-many, optional, ‘publishes’ relationship with the books entity, since a seller may or may not choose to upload or publish any amount of books.

Sql Code:

```
CREATE TABLE BOOK(

ISBN INT NOT NULL AUTO_INCREMENT,
PRIMARY KEY (ISBN),
Rating INT,
Price INT NOT NULL,
Author VARCHAR (25),
Title  VARCHAR (50),
Category VARCHAR (25)
);

CREATE TABLE MEMBER(

memberID INT NOT NULL AUTO_INCREMENT,
PRIMARY KEY (memberID),
ISBN INT,
FOREIGN KEY (ISBN) references BOOK (ISBN),
username VARCHAR(100) NOT NULL,
password VARCHAR(100) NOT NULL,
firstname VARCHAR(100),
lastname VARCHAR(100),
email VARCHAR(100),
street VARCHAR(100),
postalcode VARCHAR(100),
province VARCHAR(100),
city VARCHAR(100)

);

CREATE TABLE ADMINISTRATOR(

adminID INT NOT NULL AUTO_INCREMENT,
PRIMARY KEY (adminID),
ISBN INT,
memberID INT,
sellerID INT,
FOREIGN KEY (ISBN) references BOOK (ISBN),
FOREIGN KEY (memberID) references MEMBER (memberID),
FOREIGN KEY (sellerID) references SELLER (sellerID),
username VARCHAR(100) NOT NULL,
password VARCHAR(100) NOT NULL,
firstname VARCHAR(100),
lastname VARCHAR(100),
email VARCHAR(100)
);

CREATE TABLE SELLER(

sellerID INT NOT NULL Auto_INCREMENT,
PRIMARY KEY (sellerID),
ISBN INT,
FOREIGN KEY (ISBN) references BOOK (ISBN),
username VARCHAR(100) NOT NULL,
password VARCHAR(100) NOT NULL,
firstname VARCHAR(100),
lastname VARCHAR(100),
email VARCHAR(100),
phoneNO INT,
directdeposit INT NOT NULL,
street VARCHAR(100),
postalcode VARCHAR(100),
province VARCHAR(100),
city VARCHAR(100)

);

CREATE TABLE PURCHASES(

transactionID INT NOT NULL AUTO_INCREMENT,
PRIMARY KEY (transactionID),
ISBN INT,
memberID INT,
FOREIGN KEY (ISBN) references BOOK (ISBN),
FOREIGN KEY (memberID) references MEMBER (memberID),
datePurchased DATE,
paymentAmt INT NOT NULL

);

CREATE TABLE PUBLISHES(
publishID INT NOT NULL AUTO_INCREMENT,
PRIMARY KEY (publishID),
sellerID INT,
ISBN INT,
FOREIGN KEY (ISBN) references BOOK (ISBN),
FOREIGN KEY (sellerID) references SELLER (sellerID),
datePublished DATE

);
```

Snapshot of Project with created tables:



Databases
Java DB
Drivers
jdbc:mysql://localhost:3306/mysql?zeroDateTimeBehav
OnlineBookstore
Tables
ADMINISTRATOR
BOOK
MEMBER
PUBLISHES
PURCHASES
SELLER
Views
Procedures
Other databases
Web Services
Servers
Maven Repositories
Cloud
Hudson Builders
Docker
Task Repositories