



# Inventory Management System Project



Kishan Kunvardia



# Introduction

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- Studied Computer Science at University of Westminster
- Have basic knowledge of HTML, CSS, JavaScript, PHP, Python, C++, Java, C\*, C.
- Experience as first line support
- Worked as Web Designer/Developer for 6 months
- Now a trainee in Software Development

# Approach & Technologies

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First started off with Jira for my Project Management Board. This is where I have my user stories with story points.

Then I decided how the different parts of the application tie together with my entity relationship diagrams

These tables are then created on a MySQL Server.

I can now start coding Java with my IDE, Eclipse.

To make sure I keep versions of my work, I use Git. This ties in with GitHub where my source code can be kept.

Once the application is complete, JUnit and Mockito are used for user testing.

Finally when the application is ready for deployment, Maven is used to build my JAR file.


# Version Control

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## Your branches

dev  Updated 11 hours ago by kishankunvardia

order  Updated 11 hours ago by kishankunvardia

item  Updated 2 days ago by kishankunvardia

customer  Updated 2 days ago by kishankunvardia

connectingtodb  Updated 2 days ago by kishankunvardia

## Active branches

order  Updated 11 hours ago by kishankunvardia

dev  Updated 11 hours ago by kishankunvardia

item  Updated 2 days ago by kishankunvardia

customer  Updated 2 days ago by kishankunvardia

connectingtodb  Updated 2 days ago by kishankunvardia

# Project Management - Jira

|   |   |                     |        |                 |     |
|---|---|---------------------|--------|-----------------|-----|
| ▼ IMS Project Sprint 1 22 Aug – 26 Aug (15 issues)                                |   |                     | 8 6 26 | Complete sprint | ... |
| To build an application to allow a user to manage inventory, orders and customers |   |                     |        |                 |     |
| IP-2  | As a user I want to be able to add a customer to the system so they can make an order with us                       | CUSTOMER MANAGEMENT | 3      | DONE ▼          |     |
| IP-3  | As a user I want to be able to view all customers in the system so that I can see what customers already exist      | CUSTOMER MANAGEMENT | 2      | DONE ▼          |     |
| IP-4  | As a user I want to be able to update a customer so that records stay remain accurate                               | CUSTOMER MANAGEMENT | 3      | DONE ▼          |     |
| IP-5  | As a user I want to be able to delete a customer so that a customer can be removed from the system on request       | CUSTOMER MANAGEMENT | 1      | DONE ▼          |     |
| IP-6  | As a user I want to be able to add an item to the system so that we can store stock of an item in the system        | ITEM MANAGEMENT     | 3      | DONE ▼          |     |
| IP-7  | As a user I want to be able to view all items in the system so we know what products we sell                        | ITEM MANAGEMENT     | 2      | DONE ▼          |     |
| IP-8  | As a user I want to be able to update an item in the system so that the details are up to date                      | ITEM MANAGEMENT     | 3      | DONE ▼          |     |
| IP-9  | As a user I want to be able to delete an item from the system in case it is no longer sold                          | ITEM MANAGEMENT     | 1      | DONE ▼          |     |
| IP-10   | As a customer I want to be able to create an order in the system so that I can buy products                         | ORDER MANAGEMENT    | 5      | DONE ▼          |     |
| IP-11   | As a user I want to be able to view all orders in the system so we know what items have been bought                 | ORDER MANAGEMENT    | 3      | DONE ▼          |     |
| IP-12   | As a user I want to be able to delete an order in the system so I can cancel an order                               | ORDER MANAGEMENT    | 1      | IN PROGRESS ▼   |     |
| IP-15   | As a user I want to be able to delete an item from an order so that I can modify an order to one less item          | ORDER MANAGEMENT    | 5      | IN PROGRESS ▼   |     |
| IP-13   | As a user I want to be able to add an item to an order so that I can modify an order                                | ORDER MANAGEMENT    | 5      | TO DO ▼         |     |
| IP-14   | As a customer I want to be able to calculate the cost of an order so I know how much I will be charged for my order | ORDER MANAGEMENT    | 3      | TO DO ▼         |     |
| IP-18   | As a developer I want to be able to set up my project so that it uses smart commits                                 |                     |        | DONE ▼          |     |

# My Sprint

Projects / IMS Project

## IMS Project Sprint 1

To build an application to allow a user to manage inventory, orders and customers



Epic ▾

### TO DO 2 ISSUES

As a user I want to be able to add an item to an order so that I can modify an order

ORDER MANAGEMENT

IP-13

5

As a customer I want to be able to calculate the cost of an order so I know how much I will be charged for my order

ORDER MANAGEMENT

IP-14

3

### IN PROGRESS 2 ISSUES

As a user I want to be able to delete an order in the system so I can cancel an order

ORDER MANAGEMENT

IP-12

1

As a user I want to be able to delete an item from an order so that I can modify an order to one less item

ORDER MANAGEMENT

IP-15

5

### DONE 11 ISSUES ✓

As a user I want to be able to add a customer to the system so they can make an order with us

CUSTOMER MANAGEMENT

IP-2

✓

3



As a user I want to be able to view all customers in the system so that I can see what customers already exist

CUSTOMER MANAGEMENT

IP-3

✓

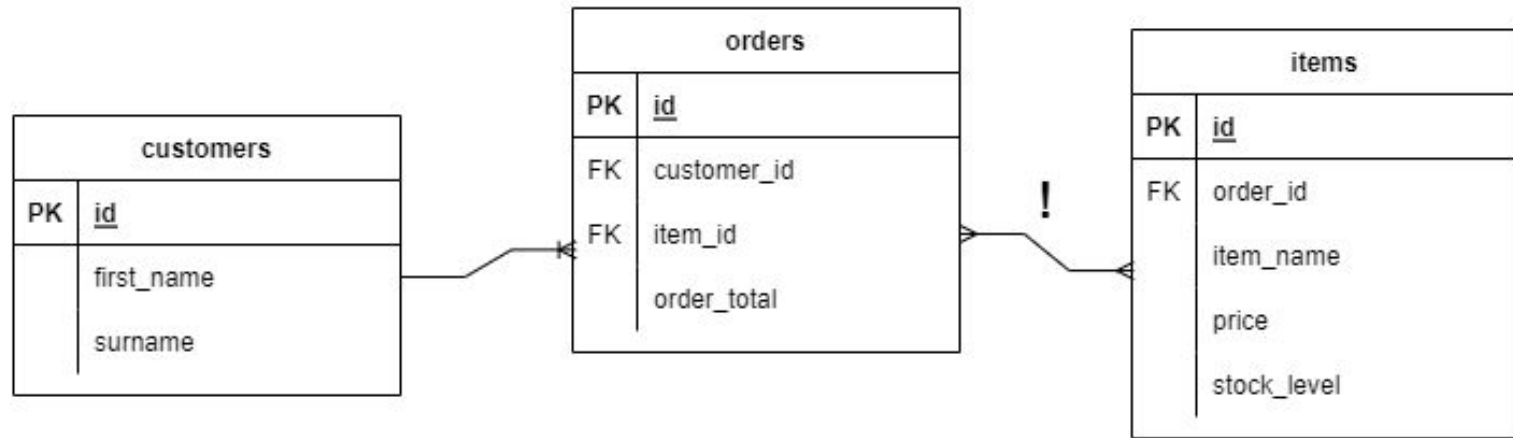
2



# Designing table structure

## Theoretical ER Diagram

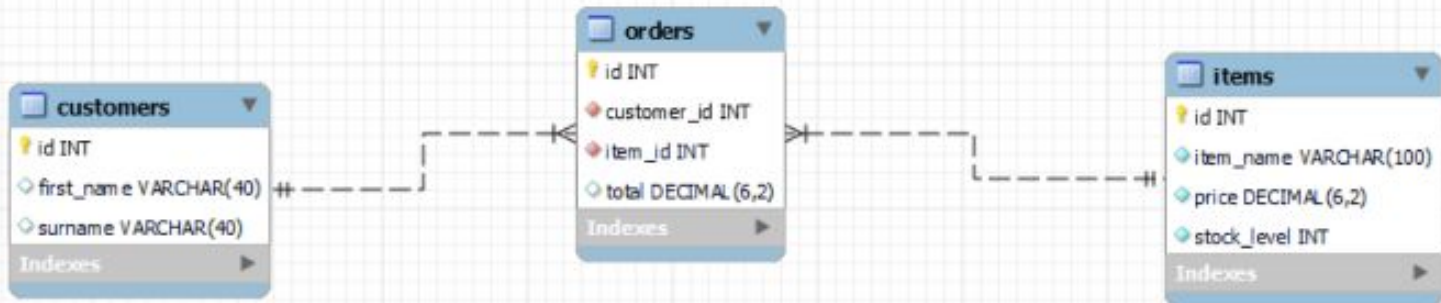
A customer can make multiple orders and each order links back to one customer. Technically each order should be able to have multiple items and each item should be able to be part of multiple orders. This creates a many to many relationship which cannot be represented using SQL.



# Creating ERD's

## ER Diagram version 1

This ER diagram solves the many to many relationship but it means that each order can only have one item which means the customer would have to make multiple orders to buy multiple items

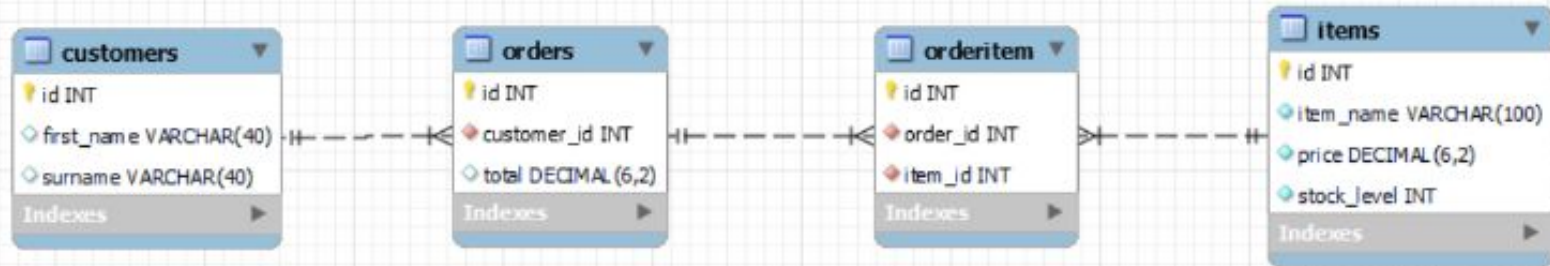




# Creating ERD's

## ER Diagram version 2

The problem with the first version is that each order can only have one item in it. So to fix the model, I have added an **orderitem** table and moved **order\_id** and **item\_id** to the new table



# Demonstration of my application

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```
Runner (25) [Java Application] C:\Program Files\Java\jdk-18.0.2\bin\jav
```

```
Welcome to the Inventory Management System!
```

```
Which entity would you like to use?
```

```
CUSTOMER: Information about customers
```

```
ITEM: Individual Items
```

```
ORDER: Purchases of items
```

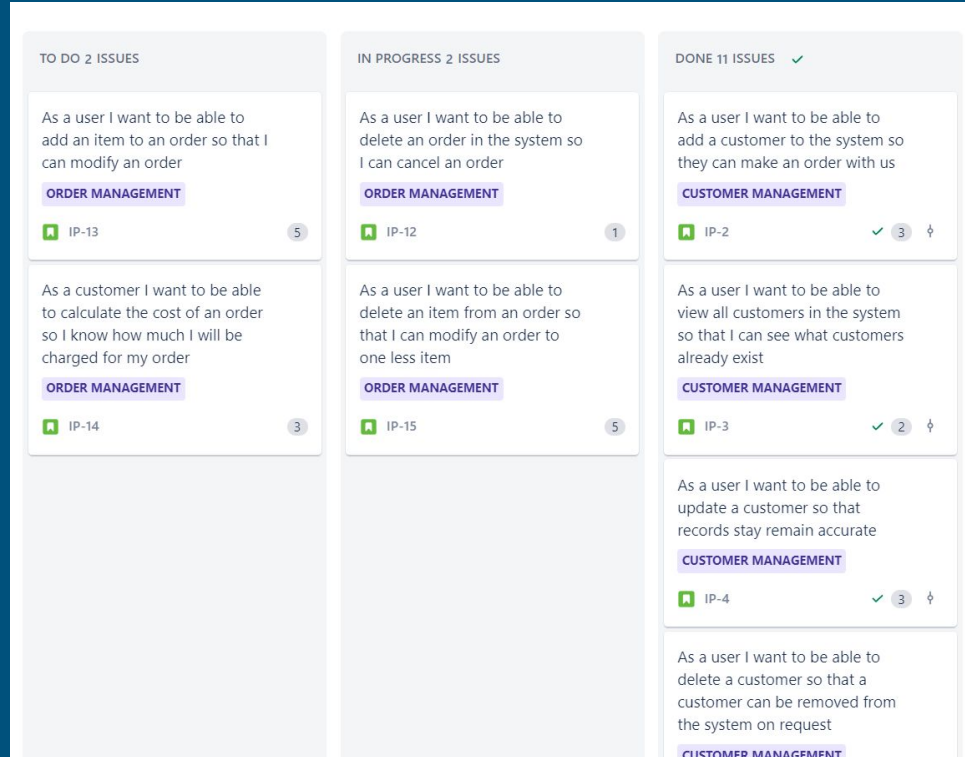
```
STOP: To close the application
```

# Testing - Coverage

| Coverage                             |  |          |                 |                 |                  |
|--------------------------------------|--|----------|-----------------|-----------------|------------------|
| OrderItemTest (26 Aug 2022 15:53:39) |  |          |                 |                 |                  |
| Element                              |  | Coverage | ed Instructions | ed Instructions | tal Instructions |
| ▼ IMS-22JulyEnable3                  |  | 62.2 %   | 1,892           | 1,149           | 3,041            |
| > src/test/java                      |  | 99.7 %   | 884             | 3               | 887              |
| > src/main/java                      |  | 46.8 %   | 1,008           | 1,146           | 2,154            |

# Sprint Review

- Need to complete Update functionality e.g Add an item, delete and item.
- Calculate the cost of the order.



# Sprint Retrospective

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## What went well?

- Planning of the project was well organised.
- There was good version control as each new feature was made on a separate branch

## What could be improved?

- Time management
- Higher coverage for unit testing
- Code could be made more efficient.
- Add more complexity and attributes to my table structure.

# Overall Conclusion

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Project required the use of a variety of skills.

## Future functionality

- Add a GUI
- Generate reports