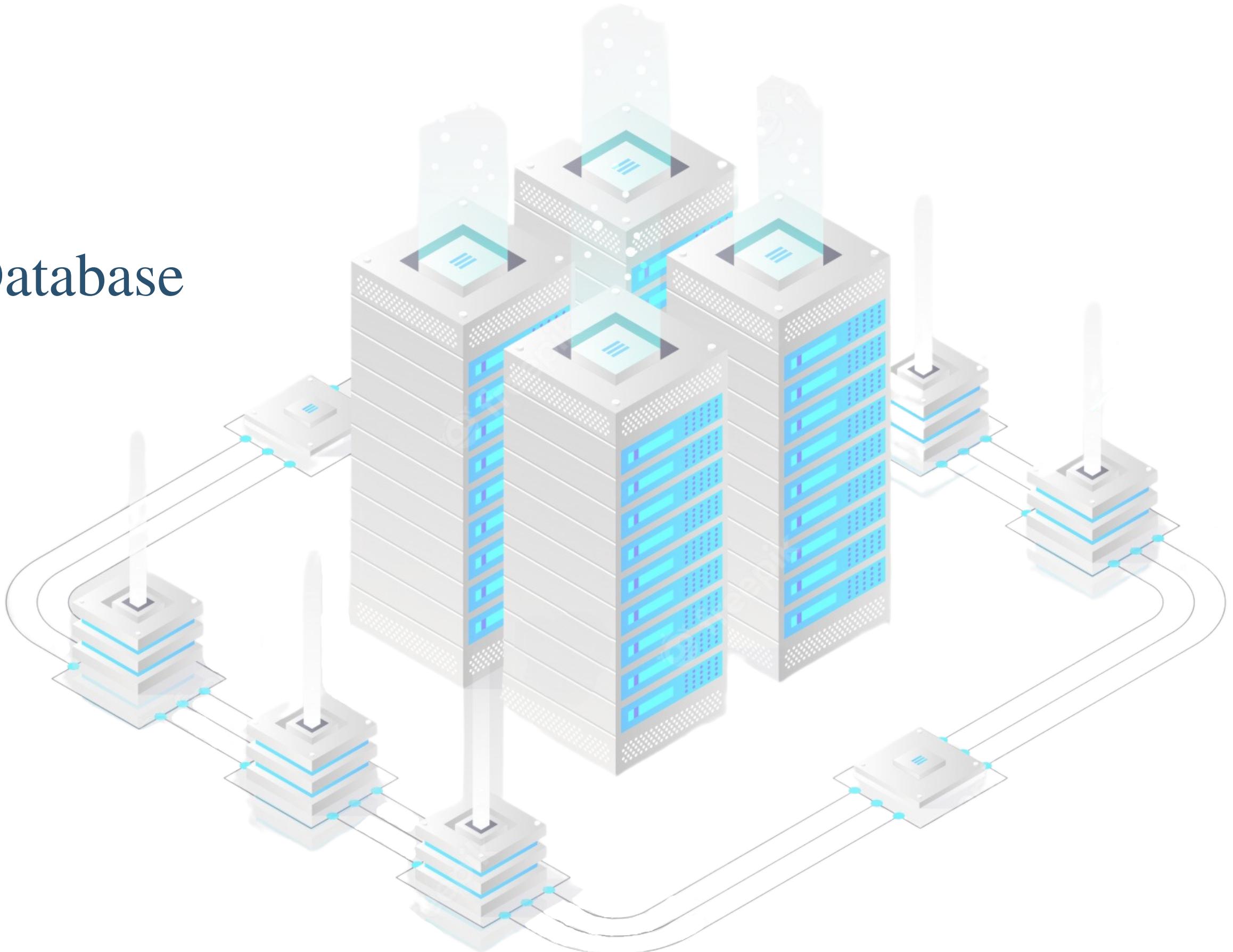


IT project

Online Retail Application Database



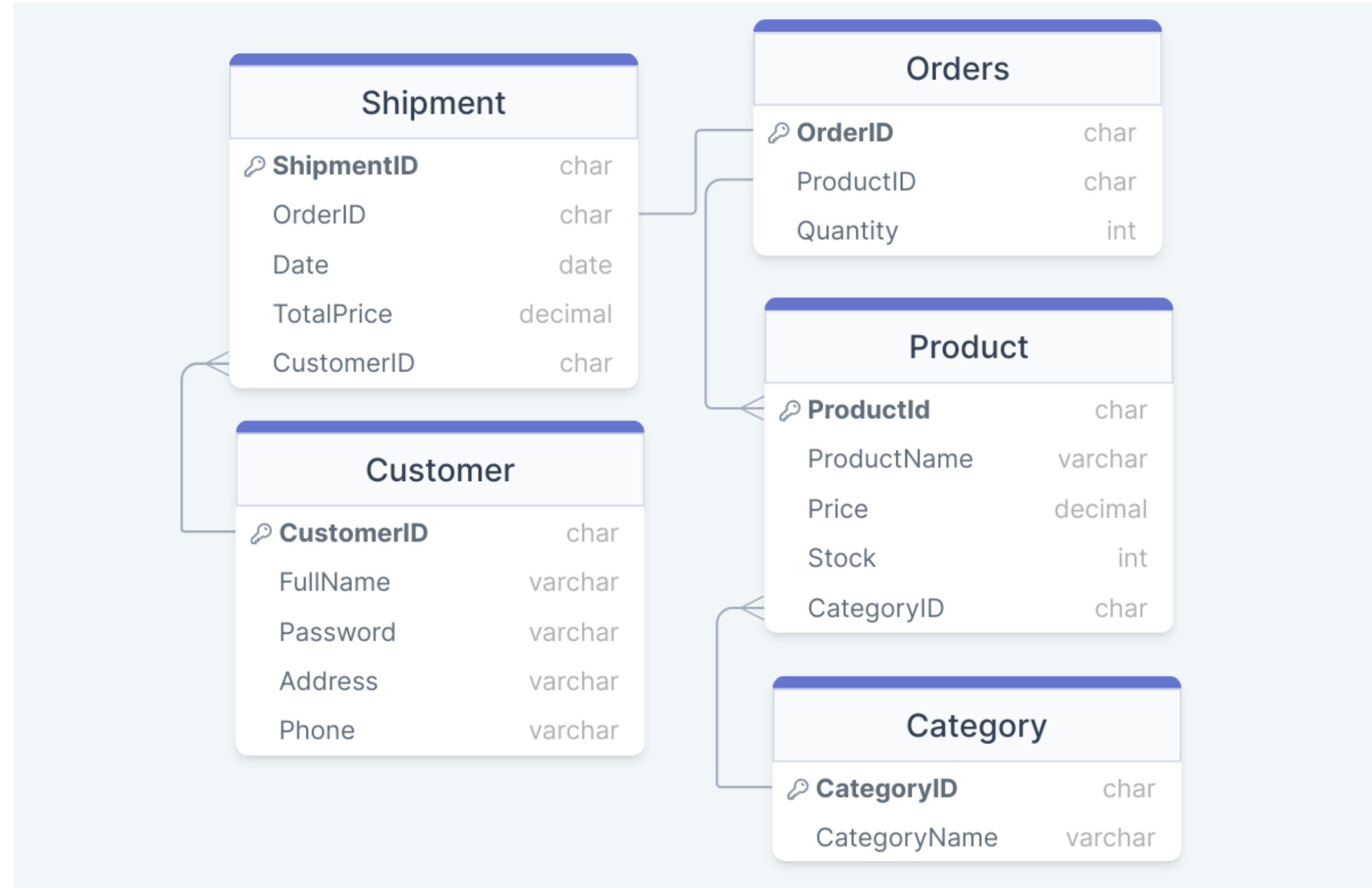


Requirements specification

- The database is organised into categories, each category has a unique number, and a name.
- The database uses the categories to organise the product. Each product has a unique number, name, category' ID, price, and how much is in the stock.
- The database is designed to sell product to customers. Each customer has a unique number, name, password, address, and a phone number.
- The customers can make orders. Each order has a unique number, the product's number, and the quantity.
- After ordering the shipping information is required, which contains the shipment unique number, the customer's ID, the order's number, date, and the total price.
- The order contains multiple products at a time, but the product can't be in multiple orders.
- Each order would have just one shipment, and the shipment contains just one order.
- Each customer can have multiple shipments attached to his name, while the shipment is attached to one customer's name at a time.
- Each category contains many products, while the product can fall into only one category.



Requirements specification





Data Definition Language

```
1 CREATE TABLE Shipment (
2   shipmentID CHAR(5) PRIMARY KEY ,
3   orderID CHAR(5) REFERENCES orders (orderID) ,
4   date Date ,
5   totalprice DECIMAL (10,2) ,
6   customerID CHAR (5) REFERENCES customer (customerID));
7
8 CREATE TABLE customer (
9   customerID CHAR (5) PRIMARY KEY,
10  fullname varchar(20) NOT null ,
11  password varchar (10) ,
12  address varchar (10) ,
13  phone varchar (10) );
14
15 CREATE TABLE Orders (
16  OrderID CHAR(5) PRIMARY KEY ,
17  productID CHAR(5) REFERENCES Product(productID) ,
18  Quantity INT
19 );
20
21 CREATE TABLE Product (
22  ProductID CHAR(5) PRIMARY KEY ,
23  productName VARCHAR(30) ,
24  Price DECIMAL(10,2) ,
25  Stock INT ,
26  CategoryID char(5) REFERENCES Category ( CategoryID)
27 );
28
29 CREATE TABLE Category (
30  CategoryID CHAR(5) PRIMARY KEY ,
31  CategoryName VARCHAR(30)
32 );
```

```
1 -- first view
2 CREATE VIEW [orders OF 2022] AS ← order 2022
3 SELECT *
4 FROM shipment
5 WHERE date BETWEEN '2022-01-01' AND '2022-12-31' ;
6
7 SELECT * FROM [orders OF 2022];
8
9
10 -- second view
11 CREATE VIEW [Local shipping] AS ← ملحوظات الـ Local باسعودية
12 SELECT *
13 FROM customer
14 WHERE address LIKE 'Saudi%';
15
16 SELECT * FROM [Local shipping];
17
18
19 -- third view
20 CREATE VIEW [low ON Stock] AS ← اتجاهات الـ مخزون قليل
21 SELECT *
22 FROM Product
23 ORDER BY Stock
24 LIMIT 2 ; ← حيث دا
25
26 SELECT * FROM [low ON Stock];
27
```



Data Manipulation Language

```
34 INSERT INTO shipment VALUES ('SH001','01111' , '2022-03-02' , 12001.35 , 'C0001');
35 INSERT INTO shipment VALUES ('SH002','01112' , '2022-07-26' , 5000.90 , 'C0002' );
36 INSERT INTO shipment VALUES ('SH003' , '01113' , '2023-01-11' , 10001.80 , 'C0001' );
37 INSERT INTO shipment VALUES ('SH004' , '01114' , '2023-01-23' , 254 , 'C0003' );
38
39 INSERT INTO customer VALUES ('C0001' , 'WAAD ALANZY' , ' AD1239' , 'SAUDI 45678' , '05342902' );
40 INSERT INTO customer VALUES ('C0002' , 'MARIAH ALBARAKAH' , 'SD57934' , 'OMAN 4572' , '0567190' );
41 INSERT INTO customer VALUES ('C0003' , 'GHDEER ALMUZAINI' , 'HG90347' , 'SAUDI 67903' , '05054219' );
42 INSERT INTO customer VALUES ('C0004' , 'RANA ALTURKI' , 'Y753280' , 'QATAR 7539' , '05621591' );
43
44 INSERT INTO Product (ProductID , ProductName , price , Stock , CategoryID )
45 VALUES ('P2001' , 'lphon' , 40000.45, 30 , 'CATE1' );
46 INSERT INTO Product (ProductID , ProductName , price , Stock , CategoryID )
47 VALUES ('P2002' , 'TV' , 50000.90, 20 , 'CATE1' );
48 INSERT INTO Product (ProductID , ProductName , price , Stock , CategoryID )
49 VALUES ('P2003' , 'Cup' , 30.5, 60 , 'CATE2' );
50 INSERT INTO Product (ProductID , ProductName , price , Stock , CategoryID )
51 VALUES ('P2004' , 'Toy' , 50.80, 80 , 'CATE3' );
52
53 INSERT INTO Category(CategoryID ,Categoryname)
54 VALUES ('CATE1' , 'Electronics' );
55 INSERT INTO Category(CategoryID ,Categoryname)
56 VALUES ('CATE2' , 'Toys' );
57 INSERT INTO Category (CategoryID ,Categoryname)
58 VALUES ('CATE3' , 'Kitchen' );
59
60 INSERT INTO Orders (OrderID , ProductID , Quantity )
61 VALUES ('01111' , 'P2001' , 3 );
62 INSERT INTO Orders (OrderID , ProductID , Quantity )
63 VALUES ('01112' , 'P2002' , 1 );
64 INSERT INTO Orders (OrderID , ProductID , Quantity )
65 VALUES ('01113' , 'P2002' , 2 );
66 INSERT INTO Orders (OrderID , ProductID , Quantity )
67 VALUES ('01114' , 'P2004' , 5 );
```

shipmentID	orderID	date	totalprice	customerID
SH001	01111	2022-03-02	12001.35	C0001
SH002	01112	2022-07-26	5000.9	C0002
SH003	01113	2023-01-11	10001.8	C0001
SH004	01114	2023-01-23	254	C0003

customerID	fullname	password	address	phone
C0001	WAAD ALANZY	AD1239	SAUDI 45678	05342902
C0002	MARIAH ALBARAKAH	SD57934	OMAN 4572	0567190
C0003	GHDEER ALMUZAINI	HG90347	SAUDI 67903	05054219
C0004	RANA ALTURKI	Y753280	QATAR 7539	05621591

ProductID	productName	Price	Stock	CategoryID
P2001	Iphon	40000.45	30	CATE1
P2002	TV	50000.9	20	CATE1
P2003	Cup	30.5	60	CATE2
P2004	Toy	50.8	80	CATE3

CategoryID	CategoryName
CATE1	Electronics
CATE2	Toys
CATE3	Kitchen

OrderID	productID	Quantity
01111	P2001	3
01112	P2002	1
01113	P2002	2
01114	P2004	5



Data Manipulation Language

```
1 -- query 1
2 SELECT fullname
3 FROM Customer
4 WHERE fullname LIKE 'RA%';
5
6 -- query 2
7 SELECT DISTINCT OrderID
8 FROM Orders
9 ORDER BY OrderID DESC;
10
11 -- query 3
12 SELECT Quantity, stock
13 FROM Orders,Product
14 WHERE Orders.ProductID=Product.ProductID ;
15
16 -- query 4
17 SELECT Quantity
18 FROM Orders
19 GROUP BY Quantity;
20
21 -- query 5
22 SELECT *
23 FROM shipment
24 WHERE totalprice > 5000 ;
25
26 -- query 6
27 SELECT COUNT(shipmentID) AS mycount, sum(totalprice) AS mysum
28 FROM shipment;
29
```

fullname

RANA ALTURKI

OrderID

01114
01113
01112
01111

Quantity

Quantity	Stock
3	30
1	20
2	20
5	80

Quantity

1
2
3
5

shipmentID

shipmentID	orderID	date	totalprice	customerID
SH001	01111	2022-03-02	12001.35	C0001
SH002	01112	2022-07-26	5000.9	C0002
SH003	01113	2023-01-11	10001.8	C0001

mycount

mysum

4 27258.05



Data Manipulation Language

```
1 -- query 7
2 SELECT COUNT(DISTINCT CustomerID)
3 FROM shipment ;
4
5 -- query 8
6 SELECT fullname AS customerName , sum(totalprice)
7 FROM customer AS C , shipment AS S
8 WHERE C.customerID = S.customerID
9 GROUP BY customerName
10 HAVING sum(totalprice) > 20000;
11
12 -- query 9
13 SELECT fullname, phone
14 FROM customer
15 WHERE address = 'OMAN 4572';
16
17
18 -- query 10
19 SELECT fullname AS customerName, date, totalprice
20 FROM shipment AS S, customer AS C
21 WHERE S.customerID = C.customerID
22 AND date BETWEEN '2023-01-01' AND '2023-01-25';
23
24 -- query 11
25 SELECT customerID, fullname, phone
26 FROM customer
27 WHERE address NOT IN ('SAUDI 45678','SAUDI 67903');
28
29 -- query 12
30 SELECT DISTINCT S.customerID, fullname, avg(totalprice)
31 FROM shipment AS S, customer AS C
32 WHERE S.customerID = C.customerID
33 GROUP BY fullname
34 HAVING avg(totalprice) > 500
35 ORDER BY fullname DESC ;
```

: count(distinct CustomerID)

3

: customerName

sum(totalprice)

WAAD ALANZY

22003.15

: fullname

phone

MARIAH ALBARAKAH

0567190

: customerName

date

totalprice

WAAD ALANZY

2023-01-11

10001.8

GHDEER ALMUZAINI

2023-01-23

254

: customerID

fullname

phone

C0002

MARIAH ALBARAKAH

0567190

C0004

RANA ALTURKI

05621591

: customerID

fullname

avg(totalprice)

C0001

WAAD ALANZY

11001.575

C0002

MARIAH ALBARAKAH

5000.9



Data Manipulation Language

```
1 -- query 13
2 SELECT S.orderID, totalprice, date
3 FROM shipment AS S, Orders AS O
4 WHERE S.orderID= O.orderID
5 AND date = '2022-03-02';
6
7
8 -- query 14
9 SELECT *
10 FROM Customer
11 WHERE address NOT LIKE 'OMAN%';
12
13
14 -- query 15
15 SELECT phone
16 FROM customer
17 WHERE phone NOT LIKE '053%';
18
19
20 -- query 16
21 SELECT price
22 FROM product
23 WHERE price > 40000.45 ;
24
25
26 -- query 17
27 SELECT price
28 FROM product
29 WHERE price BETWEEN 40000.45 AND 50000.90 ;
30
31
32 -- query 18
33 SELECT *
34 FROM shipment
35 WHERE totalprice <12001.35;
```

orderID	totalprice	date		
01111	12001.35	2022-03-02		
customerID	fullname	password	address	phone
C0001	WAAD ALANZY	AD1239	SAUDI 45678	05342902
C0003	GHDEER ALMUZAINI	HG90347	SAUDI 67903	05054219
C0004	RANA ALTURKI	Y753280	QATAR 7539	05621591
phone				
0567190				
05054219				
05621591				
Price				
50000.9				
Price				
40000.45				
50000.9				
shipmentID	orderID	date	totalprice	customerID
SH002	01112	2022-07-26	5000.9	C0002
SH003	01113	2023-01-11	10001.8	C0001
SH004	01114	2023-01-23	254	C0003



Data Manipulation Language

```
1 -- query 19
2 SELECT *
3 FROM Customer
4 WHERE phone LIKE '05%';
5
6
7 -- query 20
8 SELECT *
9 FROM Customer
10 WHERE password LIKE 'SD57%';
11
12
13 -- query 21
14 SELECT *
15 FROM Customer
16 WHERE address IN ('QATAR 7539');
17
18
19 -- query 22
20 DELETE
21 FROM customer
22 WHERE fullName LIKE 'GHDEER %';
23 SELECT * FROM customer;
24
25 -- query 23
26 UPDATE customer
27 SET phone = '05532141'
28 WHERE fullname = 'MARIAH ALBARAKAH';
29 SELECT * FROM customer;
30
31
32 -- query 24
33 UPDATE Category
34 SET CategoryName = 'Boys Toys'
35 WHERE categoryID = 'CATE2';
36 SELECT * FROM Category;
```

customerID	fullname	password	address	phone
C0001	WAAD ALANZY	AD1239	SAUDI 45678	05342902
C0002	MARIAH ALBARAKAH	SD57934	OMAN 4572	0567190
C0003	GHDEER ALMUZAINI	HG90347	SAUDI 67903	05054219
C0004	RANA ALTURKI	Y753280	QATAR 7539	05621591

customerID	fullname	password	address	phone
C0002	MARIAH ALBARAKAH	SD57934	OMAN 4572	0567190

customerID	fullname	password	address	phone
C0004	RANA ALTURKI	Y753280	QATAR 7539	05621591

customerID	fullname	password	address	phone
C0001	WAAD ALANZY	AD1239	SAUDI 45678	05342902
C0002	MARIAH ALBARAKAH	SD57934	OMAN 4572	0567190
C0004	RANA ALTURKI	Y753280	QATAR 7539	05621591

customerID	fullname	password	address	phone
C0001	WAAD ALANZY	AD1239	SAUDI 45678	05342902
C0002	MARIAH ALBARAKAH	SD57934	OMAN 4572	05532141
C0004	RANA ALTURKI	Y753280	QATAR 7539	05621591

CategoryID	CategoryName
CATE1	Electronics
CATE2	Boys Toys
CATE3	Kitchen



Data Manipulation Language

```
1 -- query 25
2 DELETE FROM Orders
3 WHERE orderID = '01113';
4 SELECT * FROM Orders;
5
6
7 -- query 26
8 DELETE FROM Product
9 WHERE price < 40;
10 SELECT * FROM Product;
11
12
13 -- query 27
14 UPDATE Customer
15 SET address ='SAUDI 3321'
16 WHERE address IN ('QATAR 7539');
17 SELECT * FROM customer;
18
19
20 -- query 28
21 DELETE
22 FROM Customer
23 WHERE Fullname LIKE '%MAR%';
24 SELECT * FROM customer;
25
26
27 -- query 29
28 UPDATE Orders
29 SET quantity = 4
30 WHERE productid = 'P2001';
31 SELECT * FROM orders;
32
33
34 -- query 30
35 DELETE
36 FROM Product
37 WHERE productid IN ( 'P2002' );
38 SELECT * FROM Product;
```

OrderID	productID	Quantity
01111	P2001	3
01112	P2002	1
01114	P2004	5

ProductID	productName	Price	Stock	CategoryID
P2001	Iphon	40000.45	30	CATE1
P2002	TV	50000.9	20	CATE1
P2004	Toy	50.8	80	CATE3

customerID	fullname	password	address	phone
C0001	WAAD ALANZY	AD1239	SAUDI 45678	05342902
C0002	MARIAH ALBARAKAH	SD57934	OMAN 4572	05532141
C0004	RANA ALTURKI	Y753280	SAUDI 3321	05621591

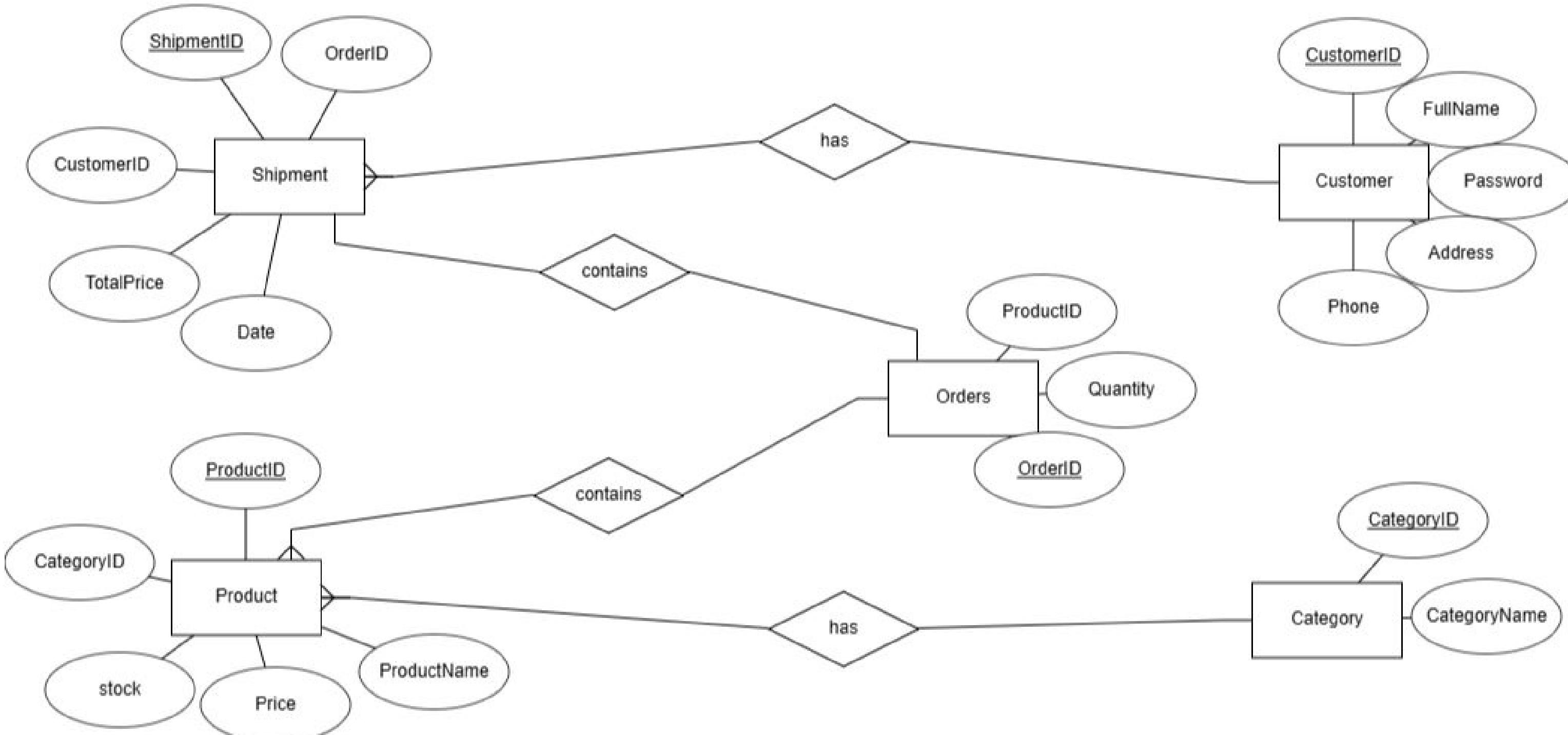
customerID	fullname	password	address	phone
C0001	WAAD ALANZY	AD1239	SAUDI 45678	05342902
C0004	RANA ALTURKI	Y753280	SAUDI 3321	05621591

OrderID	productID	Quantity
01111	P2001	4
01112	P2002	1
01114	P2004	5

ProductID	productName	Price	Stock	CategoryID
P2001	Iphon	40000.45	30	CATE1
P2004	Toy	50.8	80	CATE3



Entity Relationship Model



This project is done by:

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