Agenda

- Requirements
- Database Structure
- Table Relationships

Requirements

- Designing an e-commerce database and must think from a business owner's perspective.
- After a thorough discussion about the different needs of a business, the team has concluded that the information can be divided into three main categories:
  - HR – deals with employees
  - Sales – deals with customers and orders, and finally
  - Production – deals with products

Database Structure

- Major entities translate into tables – Employees, Customers, Orders, and Products, which contains related data.
- Although there are many columns that can be added in each table, for the scope of this paper, it is kept simple and stick with the necessary attributes.

Database Structure

- Primary Keys should be unique, unchanging, and not null.
- As for the naming convention, each primary key name is prefixed with a table name to eliminate confusion.
- For example, the Orders table will have orderID and Products table will have productID

Database Structure

HR Schema	Sales Schema			Production Schema
Employees	**Customers**	**OrderDetails**	**Orders**	**Products**
empID (INT, NOT NULL, PK)	custID (INT, NOT NULL, PK)	orderID (INT, NOT NULL, FK)	orderID (INT, NOT NULL, PK)	productID (INT, NOT NULL, PK)
lastname (NVARCHAR(20))	lastname (NVARCHAR(30))	productID (INT, NOT NULL, FK)	custID (INT, NOT NULL, FK)	productname (NVARCHAR(40))
firstname (NVARCHAR(10))	firstname (NVARCHAR(30))	unitprice (money)	empID (INT, NOT NULL, FK)	unitprice (money)
address (NVARCHAR(60))	address (NVARCHAR(60))	qty (SMALLINT)	orderdate (date)	
city (NVARCHAR(15))	city (NVARCHAR(15))		shippeddate (date)	
state (NVARCHAR(2))	state (NVARCHAR(2))		shipname (NVARCHAR(40))	
zipcode (NVARCHAR(10))	zipcode (NVARCHAR(10))		shipaddress (NVARCHAR(60))	
phone (NVARCHAR(24))	email (NVARCHAR(50))		shipcity (NVARCHAR(15))	
	phone (NVARCHAR(24))		shipstate (NVARCHAR(2))	
			shipzipcode (NVARCHAR(10))	

Table showing Schemas and Tables with Attributes

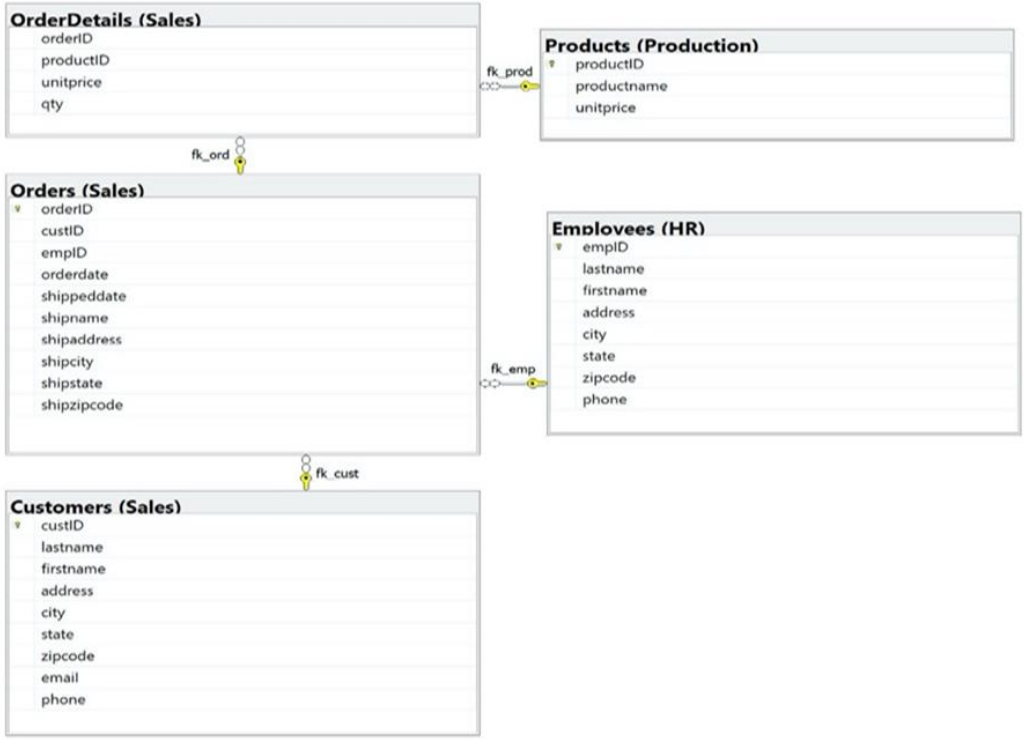
Table Relationships

- One to Many and Many to One Relationships type was used for this database.
- These relationships occur when a record in one table is associated with multiple entries in another.
- A customer from the Customers Table can make multiple orders in the Orders Table.
- To implement this relationship, the Primary Key from the Customers Table, which is the Parent Table was added to the Orders table, which is the Child Table, as the Foreign Key.
- This is called applying the Foreign Key Constraints.

Table Relationships

- Foreign Key Constraint is used to establish and enforce a link between the data in two tables to control the data that can be stored in the foreign key table.
- By creating a foreign key relationship, a value of the primary key cannot be inserted into the Child table if it does not already exist in the Parent table.
- It also prevents from deleting the Parent table.

Table Relationships



Entity-Relationship Diagram

Table Relationships

Employees Table

	empID	lastname	firstname	address	city	state	zipcode	phone
1	1	Limbu	Kiran	1234 Juno St	Lacey	WA	98516	2537776109
2	2	Ata	Catherine	5678 Bruno Ave	Tacoma	WA	98433	2537776109
3	3	Oh	Mary	9123 Pacific Blvd	Olympia	WA	98516	2537776109

Customers Table

	custID	lastname	firstname	address	city	state	zipcode	email	phone
1	1	Ell	Caron	1043 Huston St	Seattle	WA	98101	caronell@gmail.com	2531904532
2	2	Selma	Beckman	23 Dimond Rd	Dallas	TX	75019	selmabackman@yahoo.com	4698192034
3	3	Thom	Martin	567 Martinway Blvd	Lacey	WA	98516	martin.thom1@gmail.com	4156667100

OrderDetails Table

	orderID	productID	unitprice	qty
1	1	1	38.9900	1
2	2	3	19.9900	2
3	3	1	38.9900	2
4	1	1	38.9900	1
5	2	3	19.9900	2
6	3	1	38.9900	2
7	1	1	38.9900	1
8	2	3	19.9900	2
9	3	1	38.9900	2

Order Table

	orderID	custID	empID	orderdate	shippeddate	shipname	shipaddress	shipcity	shipstate	shipzipcode
1	1	1	3	2020-11-02	2020-11-03	Ell, Caron	1043 Huston St	Seattle	WA	98101
2	2	2	1	2020-11-04	2020-11-05	Musk, Elon	789 Hollywood St	Puyallup	WA	98371
3	3	3	2	2020-11-08	2020-11-09	Thom, Martin	567 Martinway Blvd	Lacey	WA	98516

Products Table

	productID	productname	unitprice
1	1	Rose bouquet	38.9900
2	2	Lily bouquet	29.9900
3	3	7 Blue Orchids bouquet	19.9900

Above tables shows how data are store inside each table