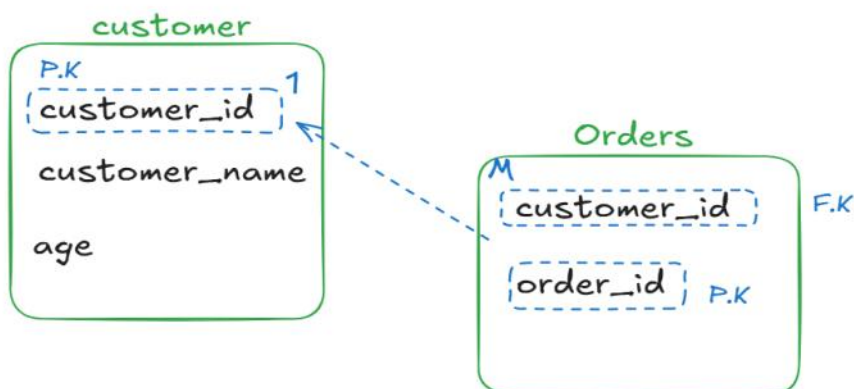
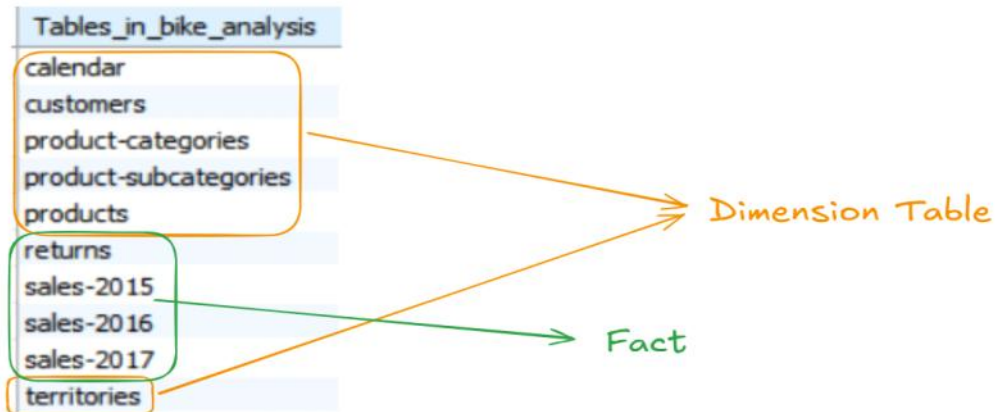


Introduction to Joins

Session Goals

- ✓ Understand various SQL constraints.
- 👉 Understand table relationships (ERDs).
- 🔗 Master different types of JOINS in SQL.



Field	Type	Null	Key	Default	Extra
Customer_id	int	NO		NULL	
customer_name	varchar(100)	NO		NULL	
age	int	YES		NULL	

```
CREATE TABLE Customer(
  Customer_id INT NOT NULL,
  customer_name VARCHAR(100) NOT NULL,
  age INT
);
```

```
INSERT INTO Customer(Customer_id,age)
VALUE(123,29);
```

Error Code: 1364. Field 'customer_name' doesn't have a default value

Constraints

Default - NA

Field	Type	Null	Key	Default	Extra
Customer_id	int	NO		NULL	
customer_name	varchar(100)	YES		NA	
age	int	YES		NULL	

```
ALTER TABLE Customer
MODIFY COLUMN customer_name VARCHAR(100) DEFAULT 'NA';
```

```
INSERT INTO Customer(Customer_id,age)
VALUE(123,29);
```

796 • **SELECT * FROM Customer;**

Result Grid	Filter Rows:	Export:
Customer_id	customer_name	age
123	NA	29

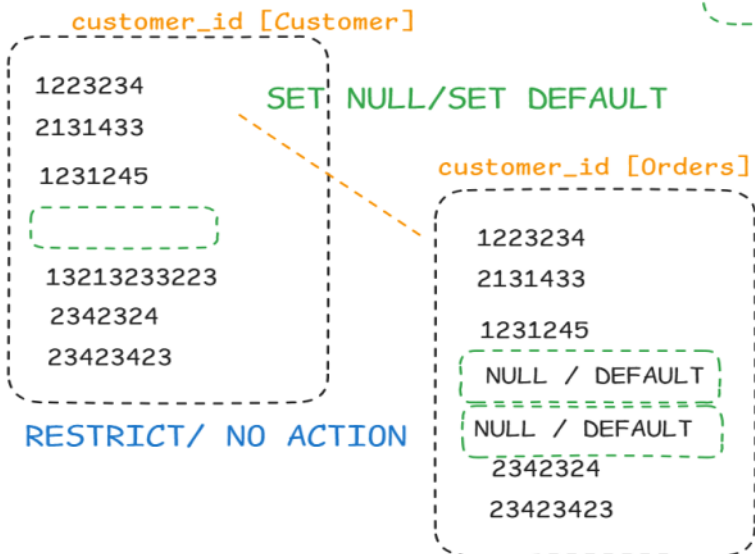
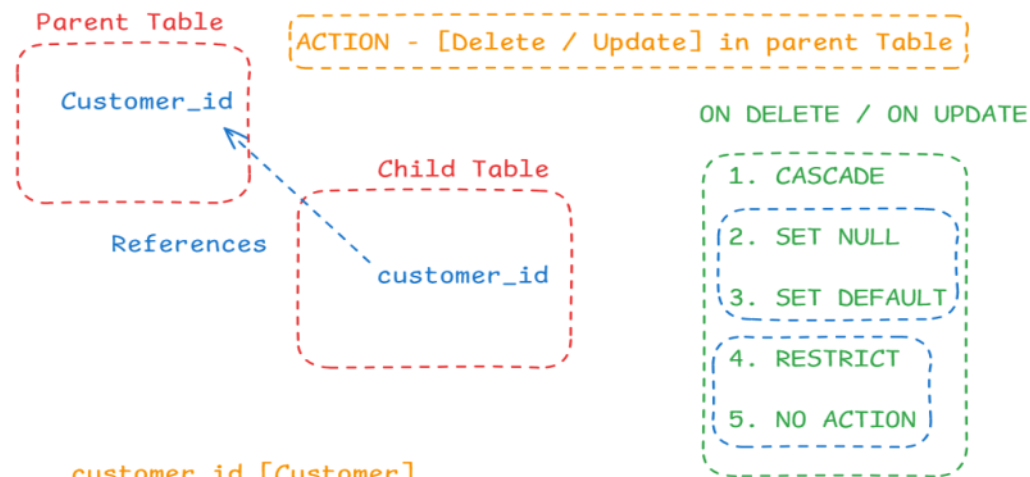
Let's add a constraint to make customer_id as P.K

Field	Type	Null	Key	Default	Extra
Customer_id	int	NO	PRI	NULL	
customer_name	varchar(100)	YES		NA	
age	int	YES		NULL	

```
ALTER TABLE Customer
ADD PRIMARY KEY(Customer_id);
```

Field	Type	Null	Key	Default	Extra
order_id	int	NO	PRI	NULL	
Customer_id	int	YES	MUL	NULL	

```
CREATE TABLE Orders(
    order_id INT PRIMARY KEY,
    Customer_id INT,
    FOREIGN KEY(Customer_id) REFERENCES Customer(Customer_id)
);
DESC Orders;
```



```

> CREATE TABLE Orders(
    order_id INT PRIMARY KEY,
    Customer_id INT,
    FOREIGN KEY(Customer_id) REFERENCES Customer(Customer_id)
    ON DELETE CASCADE
    ON UPDATE CASCADE
);

```



⇒ UNIQUE(Phone_number, EmailAddress) -> Composite Index.

```

CREATE TABLE Customer(
    Customer_id INT NOT NULL,
    customer_name VARCHAR(100) NOT NULL,
    age INT
);

```

ADD EmailAddress,
ADD Phone_number,
Make both unique.

```
ALTER TABLE Customer
ADD COLUMN EmailAddress VARCHAR(50) AFTER Customer_name,
ADD COLUMN Phone_number BIGINT;
```

Field	Type	Null	Key	Default	Extra
Customer_id	int	NO	PRI	NULL	
customer_name	varchar(100)	YES		NA	
EmailAddress	varchar(50)	YES		NULL	
age	int	YES		NULL	
Phone_number	bigint	YES		NULL	

```
ALTER TABLE Customer
ADD CONSTRAINT UNIQUE(EmailAddress);
```

```
ALTER TABLE Customer
DROP CONSTRAINT EmailAddress;
```

```
ALTER TABLE Customer
ADD CONSTRAINT UNIQUE(Phone_number);
```

Field	Type	Null	Key	Default	Extra
Customer_id	int	NO	PRI	NULL	
customer_name	varchar(100)	YES		NA	
EmailAddress	varchar(50)	YES	UNI	NULL	
age	int	YES		NULL	
Phone_number	bigint	YES	UNI	NULL	

Adding a constraint or building a F.K using Alter Command

```
ALTER TABLE Orders
DROP COLUMN Customer_id;
```

Error Code: 1828. Cannot drop column 'Customer_id': needed in a foreign key constraint 'orders_ibfk_1'

```
ALTER TABLE Orders
DROP CONSTRAINT orders_ibfk_1;
```

Field	Type	Null	Key	Default	Extra
order_id	int	NO	PRI	NULL	

```
ALTER TABLE Orders
ADD Column Customer_id INT;
```

Field	Type	Null	Key	Default	Extra
order_id	int	NO	PRI	NULL	
Customer_id	int	YES		NULL	

constraint name
[user defined]

```
335 -- ADD [CONSTRAINT [symbol]] FOREIGN KEY
336 --     [index_name] (col_name,...)
337 --     reference_definition
338
339 • ALTER TABLE Orders
340   ADD Constraint fk_customer_id
341   FOREIGN KEY (customer_id) REFERENCES Customer(customer_id);
342
343 • DESC Orders;
```

Result Grid | Filter Rows: | Exports: | Wrap Cell Content:

	Field	Type	Null	Key	Default	Extra
▶	order_id	int	NO	PRI	NULL	
	Customer_id	int	YES	MUL	NULL	

If, you are dropping
F.K first remove
the constraint then
remove the column.

```
7  DESC Customer;
1,6 ALTER TABLE Customer
    DROP COLUMN customer_id;

2  -- Error Code: 1829. Cannot drop column 'Customer_id': needed in a foreign key constraint
    -- 'fk_customer_id' of table 'orders'

3  ALTER TABLE Orders
    DROP Constraint fk_customer_id;

4  ALTER TABLE Orders
    DROP Column customer_id;

5  DESC Orders;
```