

Agenda

1) SQL

- Intro
- Creating Tables
- Primary Keys
- Foreign Keys

2) CRUD

Create → Insert Rows

Read

Update

Delete

Introduction to SQL

S → Structured

Q → Query

L → Language.

⇒ Allows you to Query on Structured data

⇒ Queries will help you
in Create / Read / Update
and Delete data.

Organized
⇓
Relational
Databases =

How to Create Tables in SQL

Syntax :

```
CREATE TABLE {TableName} (  
    id INT AUTO_INCREMENT  
    name VARCHAR(50) NOT NULL  
    email VARCHAR(50) NOT NULL UNIQUE  
    psp INT DEFAULT 0  
    PRIMARY KEY (id)  
)
```

Foreign Keys

Students					FK
id	name	email	phoneNo	psp	batch_id
1	Saharsh	abc	123	80	1
2	Shubham	efg	456	70	1
3	Dilip	hij	289	85	2
4	Vareun	lmop	147	90	2
⇒ 5	Rohit	abg	184	100	7

PK →

Batches	
id	name
1	Nov 22 Intern
2	Dec 22 Intern

Foreign Key : Allow me to have a constraint that 1 column of a table should always map to an entry of another table

Students

id	name	email	phoneNo	PSP	batch_name
1	Saharsh	abc	123	80	Nov 22 Adv
2	Shubham	efg	456	70	Nov 22 Adv
3	Dilip	hij	289	85	Dec 22
4	Vaibhav	lmnop	147	90	

FK

PK

Batches

id	name	start_date	end_date
1	Nov 22 Adv	1/11/22	1/11/23
2	Dec 22 Adv	1/12/22	1/12/23

3 Nov 22 Adv 1/3/22 1/3/23

As long as the name is unique
I can have batch_name as a

FK

==

Foreign Keys is not necessarily a
PK of other Table.

It should only have uniqueness in the other table.

This is Nullable

Students

id	name	email	phoneNo	psp	batch_name
1	Saharsh	abc	123	80	NULL
2	Shubham	efg	456	70	Nov 22 Adv
3	Dilip	hij	289	85	Dec 22
4	Vareun	lmop	147	90	NULL

FK

PK

Batches

id	name	start_date	end_date
1	Nov 22 Adv	1/11/22	1/11/23
2	Dec 22 Adv	1/12/22	1/12/23
3	Apr 22 Adv	3/3/23	—
4	May 22 Adv	4/4/23	5/5/22

Not Nullable

→ Add a UNIQUE
Constraint

→ Both can be NULLABLE

Insert into Batches (

name, start-date, end-date

) values

('xyz', '3-3-23', '5-5-23')

Update / Delete

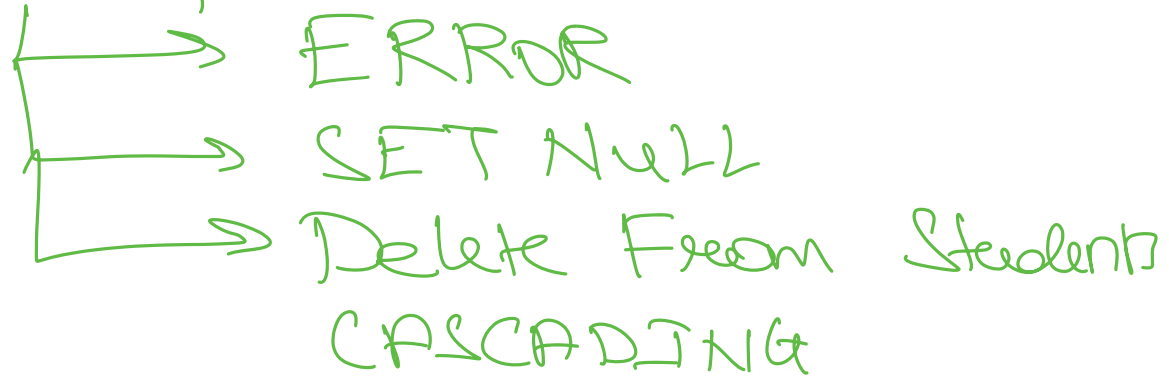
Students		
id	name	batch_id
1	John	1 → 0
2	Jack	1 → 0
3	Peter	2 & 8
4	Jim	3
5	Jenny	2 & 8

Batches	
id	name
1	A
2 & 8	B
3	C

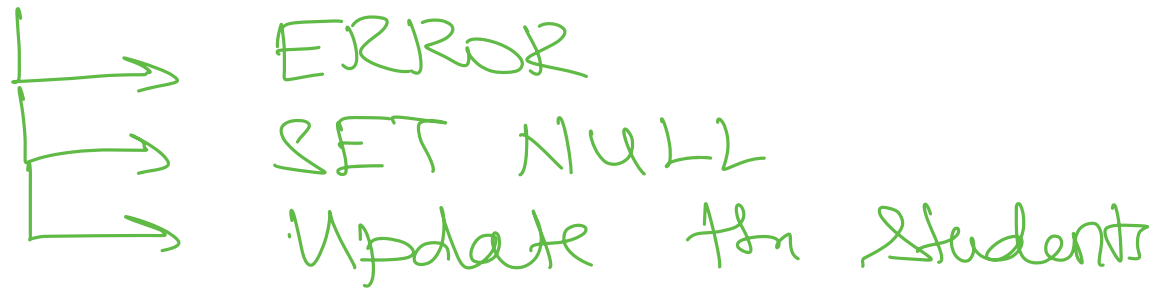
↑
CRUD

Delete a row from Batch =

Possibilities of



Update a row in Batches



Constraints in Delete :

ON DELETE

→ CASCADE

→ SET NULL

error → NO ACTION == RESTRICT

→ SET DEFAULT

ON UPDATE

→ CASCADE

→ SET NULL

error → NO ACTION == RESTRICT

→ SET DEFAULT

Break till 10:30 PM

Example of CASCADE

Bookmarks			FK
id	name	timestamp	class-id
123	CK	9:20	1
124	PK	10:00	1
125	Real	9:30	2

PK Classes	
id	name
1	Keys X
2	crud

CRUD

Student		
id	name	batch_id
1	John	1
2	Jack	1
3	Peter	2
4	Jim	3
5	Jenny	2

Insert entries → Create
Read entries → Read
Update entries → Update
Delete entries → Delete.

Sakila Database Overview.

Digital video rental store.

Analogous to a library Management System

→ Official MySQL Database.

Create

→ put new data into the table.

Statement → Insert

Syntax of Insert

INSERT INTO { Table Name } (
[Column Names]

VALUES

{

},
,

Students

id	name	email	phoneNo	psp	batch_name
1	Saharsh	abc	123	80	Nov 22 Adv
2	Shubham	efg	456	70	Nov 22 Adv
3	Dilip	hij	289	85	Dec 22
4	Vareun	lmop	147	90	

FK

PK

Batch

id	name	start_date	end_date
1	Nov 22 Adv	1/11/22	1/11/23
2	Dec 22 Adv	1/12/22	1/12/23

3 Nov 22 Adv 1/3/22 1/3/23