Keys

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Notes

2nd Hard day challenge :

1. Assignment (MCQs)
2. Do a quick revision

Introduction to SQL

- SQL stands for Structured Query Language

- It is a language used to interact with relational databases.

- It allows you to create tables, fetch data from them, update data, manage user permissions.

- It helps us to do the following :

  Create

  Read

  Update

  Delete

Database	MySQL	SQL
Coal Mine	Mine Management	Workers

Note : SQL is case insensitive.

$Rahul == RAhuL$

Let's write some code now ! 🤩

Create

Students

name	psp	attendance	b_id
Himanshu	80	85	2
Rahul	92	85	2
Krish	95	95	1
Rohit	80	88	1

| Rahul | 92 | 85 | 2 | ⟶ |

- Used to create new DB.

- Used to create new table

< / > Syntax

Create database   database_name;

Create table   table_name   (column_name datatype constraint)

Note : We have added content on datatype in your typed notes. Please go through

them before next session.

Create   database   school ;

create   Table   Students (

    Student_id   INT   auto_increment   Primary key ,

    name   varchar (50)   Not Null);

5. Foreign Keys

Students

s_id	name	psp
1	Himanshu	85
2	Rahul	85
3	Rohit	88

Batch

b_id	name
1	A
2	B
3	C

Question :   Is there any link in these tables ?

Relationship

Students

s_id	name	psp	b_id
1	Himanshu	85	1
2	Rahul	85	2
3	Rohit	88	1

Batch

b_id	name
1	A
2	B
3	C

Definition : A foreign key is a column in a table that references a column in another table.

- It has nothing to do with primary, super and candidate keys.

- It can be any column in one table that refers to any column in another table.

- In our case, batch_id is a foreign key in students table that references the id column in the batches table

- This ensures that the batch id we're storing in the students table is a valid id.

- If we try to insert any value in the batch id column of students table that isn't present in id column of batches table, it will fail.

- In general we keep them as PK.

- If not a PK it should be column with unique constraints.

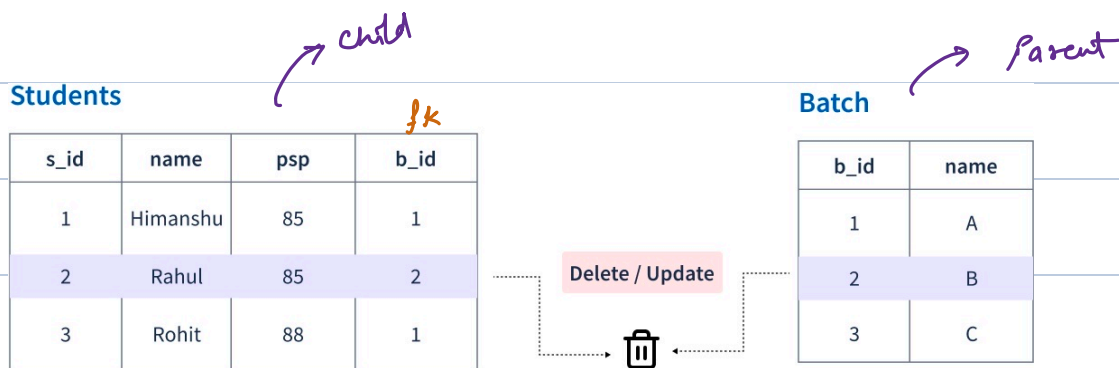- If not a PK it should be column with unique constraints else there will be a ambiguity.

- In case of Deletion or Updation data we might need to take care of them.

How?

1. Cascade

If the referenced data is deleted or updated all rows containing that foreign key are

also deleted or updated.

2. Set Null

If the referenced data is deleted or updated, all rows containing

that foreign key is set to null. This assumes that the foreign key column

is not set to NOT NULL.

Students

s_id	name	psp	b_id
1	Himanshu	85	1
2	Rahul	85	NULL
3	Rohit	88	1

Batch

b_id	name
1	A
2	B
3	C

← 🗑 Delete / Update —

3. No Action

If the referenced data is deleted or updated, MySQL will not execute the update or

delete operation on present table. This is the default action.

Students

s_id	name	psp	b_id
1	Himanshu	85	1
2	Rahul	85	2
3	Rohit	88	1

Batch

b_id	name
1	A
2	B
3	C

← 🗑 Delete / Update —

4. Set Default

If the referenced data is deleted or updated, the foreign key in all the referencing rows

is set to its default values. This is only functional with tables that use the InnoDB

engine and where the foreign key column(s) have not been defined to have a NOT

NULL attribute

Students

s_id	name	psp	b_id
1	Himanshu	85	1
2	Rahul	85	2
3	Rohit	88	1

Batch

b_id	name
1	A
2	B
3	C

🗑 Delete / Update

🎤 Announcement

- **What *NEXT?***

1. Assignment / Homework

   MCQ's again ! 🤩

2. Read Notes

3. Download MySQL workbench if not done so far.