

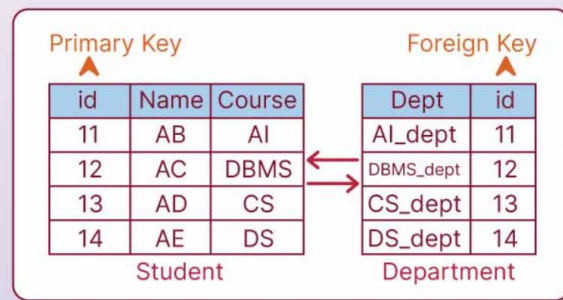
Data Engineering Day 05

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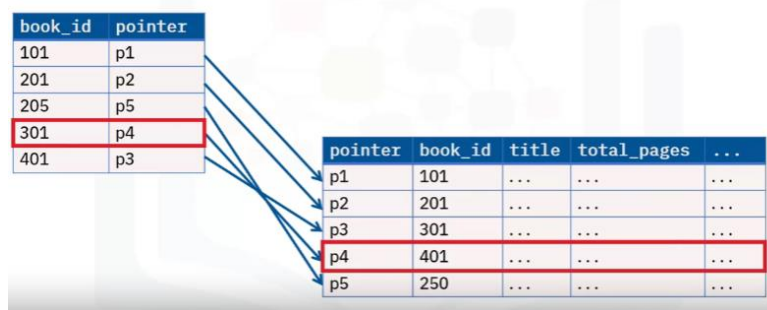
Designing keys, Index and Constraints in MySQL

Difference Between Primary Key & Foreign Key



- **Primary Key:** A primary key is a column or a set of columns that uniquely identifies each row in a table. It must be unique for each record and cannot have NULL values. It ensures the integrity of the table's data and helps in establishing relationships with other tables.
- **Foreign Key:** A foreign key is a column or a set of columns in a table that establishes a link between data in two tables. It refers to the primary key of another table and helps maintain referential integrity. This means that the value in the foreign key column must exist in the referenced table's primary key column or be NULL.

What is an index?



- Indexing is a unique way of identifying row that we are interested in.

Normalization

- Reduces the duplications of Data.

Getting Started with MySQL

- the skills mentioned below are necessary to practice while learning MySQL.



Create a database
and table at the
command line



Create a database
using
phpMyAdmin



Create a table



Define columns



Edit the table
definition

```
mysql> create database employees;
mysql> use employees;
Database changed
mysql> create table employee_details (firsstname VARCHAR(20),
-> lastname VARCHAR(20), started DATE, Salary DECIMAL);
Query OK, 0 rows affected (0.14 sec)
mysql> describe employee_details;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| firsstname | varchar(20) | YES | | NULL | |
| lastname | varchar(20) | YES | | NULL | |
| started | date | YES | | NULL | |
| Salary | decimal(10,0) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)
```

mysql>

```
mysql> create database employees;
Query OK, 1 row affected (0.08 sec)

mysql> use employees;
Database changed
mysql> create table employee_details (firsstname VARCHAR(20),
-> lastname VARCHAR(20), started DATE, Salary DECIMAL);
Query OK, 0 rows affected (0.14 sec)

mysql> describe employees detail;
ERROR 1146 (42502): Table 'employees.employees' doesn't exist
mysql> describe employee_detail;
ERROR 1146 (42502): Table 'employees.employee_detail' doesn't exist
mysql> show table
-> clear
->
-> clear
-> quit
-> ^C
mysql> describe employee_details;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| firsstname | varchar(20) | YES | | NULL | |
| lastname | varchar(20) | YES | | NULL | |
| started | date | YES | | NULL | |
| Salary | decimal(10,0) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql> |
```

commands for backup database:

- Backup using mysqldump utility

```
mysqldump -u root employees > employeesbackup.sql
```

- Restore using mysql

```
mysql -u root restored_employees < employeesbackup.sql
```

- Restore using source command

```
mysql> source employeesbackup.sql
```

