

SQL

What are DDL commands in SQL?

↳ DDL: (Data definition language), which is used to define the structure of the (SQL-tables)

DDL commands:

↳ CREATE

↳ ALTER

↳ DROP

↳ TRUNCATE

↳ RENAME

2) lets see the Query for DDL Commands ?

(i) CREATE

↳ CREATE is used for creating database.

↳ Also used to create table.

→ lets see how to create Database ?

#create database

create database bondings;

The **CREATE DATABASE** command is used in SQL to create a new database. In this case, it creates a database **named** "bondings."

→ how to use a Database?

#select the database

use bondings;

↳ so, now you're inside bondings database.

↳ now you can create tables inside this database.

Note: without (selecting database) you can't create tables.

→ how to create table?

#TABLE CREATION:

```
create table student(  
    stu_id int primary key,  
    stu_name varchar(20),  
    stu_age int,  
    grade varchar(10)  
);
```

The `CREATE TABLE` command is used in SQL to define a new table within a database. Here, it creates a table named "student" with four columns: `stu_id` (an integer and the primary key), `stu_name` (a string up to 20 characters), `stu_age` (an integer), and `grade` (a string up to 10 characters).



2 22:45:28 create table student(stu_id int primary key, stu_name varchar(20), stu_age int, grade varchar(10))

0 row(s) affected

→ How to see the table description?

17 #How to see table description

18 desc student;

Field	Type	Null	Key	Default	Extra
stu_id	int	NO	PRI		
stu_name	varchar(20)	YES			
stu_age	int	YES			
grade	varchar(10)	YES			

The **DESC** (or **DESCRIBE**) command is used in SQL to display the structure of a table. It shows details like column names, data types, and constraints for the "student" table.

(II) ALTER:

↳ Alter command is used to change the structure of the existing table.

↳ say for example you're created a table with 3-columns and you want to add another column after creating that table, in these types of scenario Alter command is used. so after Altering the structure of the Table is with 4-columns insted of 3-columns.

→ what are all the operations performed with ALTER.

The `ALTER TABLE student ADD COLUMN marks varchar(20);` command adds a new column named "marks" to the "student" table with a data type of `varchar(20)`.

1. Add a New Column: (Syntax)

sql

```
ALTER TABLE table_name  
ADD column_name column_type;  
                            ↓ data type
```

Query

```
20. alter table student add column marks varchar(20);  
21. desc student;
```

Field	Type	Null	Key	Default	Extra
stu_id	int	NO	PRI		
stu_name	varchar(20)	YES			
stu_age	int	YES			
grade	varchar(10)	YES			
marks	varchar(20)	YES			

→ How to change datatype of a column using ALTER?

Query

sql Syntax:

```
ALTER TABLE table_name  
MODIFY column_name new_column_type;
```

```
23. alter table student modify column marks char(20);  
24. desc student;
```

Field	Type	Null	Key	Default	Extra
stu_id	int	NO	PRI		
stu_name	varchar(20)	YES			
stu_age	int	YES			
grade	varchar(10)	YES			
marks	char(20)	YES			

The `ALTER TABLE student MODIFY COLUMN marks CHAR(20);` command changes the data type of the "marks" column to `CHAR(20)`.

The `DESC student;` command will then show the updated table structure with "marks" now defined as `CHAR(20)`.

→ how to change the name of a column using ALTER?

3. Change a Column Name:

26. `alter table student rename column marks to stu_marks;`
27. `desc student;`

```
sql Syntax  
  
ALTER TABLE table_name  
RENAME COLUMN old_column_name TO new_column_name;
```

Field	Type	Null	Key	Default	Extra
stu_id	int	NO	PRI		
stu_name	varchar(20)	YES			
stu_age	int	YES			
grade	varchar(10)	YES			
stu_marks	char(20)	YES			

The `ALTER TABLE student RENAME COLUMN marks TO stu_marks;` command changes the name of the "marks" column to "stu_marks" in the "student" table.

The `DESC student;` command will then display the table structure with the column now named "stu_marks."

→ how to add constrain to a column in existing table:

5. Add a Constraint:

sql

```
ALTER TABLE table_name  
ADD CONSTRAINT constraint_name constraint_type (column_name);
```

```
36. alter table student  
37 add constraint primary key(stu_id);  
38. desc student;
```

Field	Type	Null	Key	Default	Extra
stu_id	int	NO	PRI		
stu_name	varchar(20)	YES			
stu_age	int	YES			
grade	varchar(10)	YES			
stu_marks	char(20)	YES			

→ PRI → primary key

The command `ALTER TABLE student ADD CONSTRAINT PRIMARY KEY (stu_id);` is used to enforce that the `stu_id` column must be `unique` and `not null` for each record in the "student" table.

If `stu_id` was already defined as a primary key, this command would have no effect. If it was not, it will set `stu_id` as the primary key of the table.

→ how to drop primary key which is Already Setted for a column?

```
40. alter table student
41 drop primary key;
42. desc student;
```

Field	Type	Null	Key	Default	Extra
stu_id	int	NO			
stu_name	varchar(20)	YES			
stu_age	int	YES			
grade	varchar(10)	YES			
stu_marks	char(20)	YES			

The command `ALTER TABLE student DROP PRIMARY KEY;` removes the primary key constraint from the "student" table. This action will no longer enforce uniqueness or the not-null requirement on the previously designated primary key column.

(III) RENAME

↳ used to Rename Table

↳ used to Rename columns inside the table

→ How to Rename Table:

```
rename table student to school;
```

here, the table (student) is renamed to (school)

→ how to rename column;

Change a Column Name:

sql Syntax

```
ALTER TABLE table_name  
RENAME COLUMN old_column_name TO new_column_name;
```

26. alter table student rename column marks to stu_marks;

27. desc student;

Field	Type	Null	Key	Default	Extra
stu_id	int	NO	PRI		
stu_name	varchar(20)	YES			
stu_age	int	YES			
grade	varchar(10)	YES			
stu_marks	char(20)	YES			

The `ALTER TABLE student RENAME COLUMN marks TO stu_marks;` command changes the name of the "marks" column to "stu_marks" in the "student" table.

The `DESC student;` command will then display the table structure with the column now named "stu_marks."

note

→ in order to
Rename column
we rename
Along with
ALTER

(IV) DROP:- (Delete the data along with its structure)

↳ used to drop a column from the table.

↳ used to drop a table.

↳ used to drop the database.

→ How To Drop A column from a table:

Field	Type	Null	Key	Default	Extra
stu_id	int	NO	PRI		
stu_name	varchar(20)	YES			
stu_age	int	YES			
grade	varchar(10)	YES			
stu_marks	char(20)	YES			

↳ the column stu_marks is dropped from table School.

```
131. alter table school
```

```
132 drop column grade;
```

```
133. desc school;
```

Field	Type	Null	Key	Default	Extra
stu_id	int	NO	PRI		
stu_name	varchar(20)	YES			
stu_age	int	YES			

→ How to drop a table from the database:

```
drop table school;
```



26 23:54:41 drop table school

this query drop the table school from the bondings database

→ how to drop the database itself:

```
drop database bondings;
```

this query drops the bondings database itself from the MySQL server

(V) TRUNCATE :- (Delete only the data without deleting the structure)

```
150. select * from school;
```

stu_id	stu_name	stu_age	grade	stu_marks
3	lakshit	10	B	80
4	darshith	7	B	82

```
152. truncate school;
```

```
153. select * from school;
```

stu_id	stu_name	stu_age	grade	stu_marks
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↳ here truncate is used to delete only the data of the table school by keeping its structure.