LU07b - SQL-DDL: Table Management

Source:

- W3Schools | CREATE TABLE
- W3Schools | ALTER TABLE
- W3Schools | DROP TABLE

Learning Objectives

In this learning unit, we will learn how to manage database tables, i.e.

1. how to create
2. how to modify and
3. how to delete database tables

CREATE TABLE

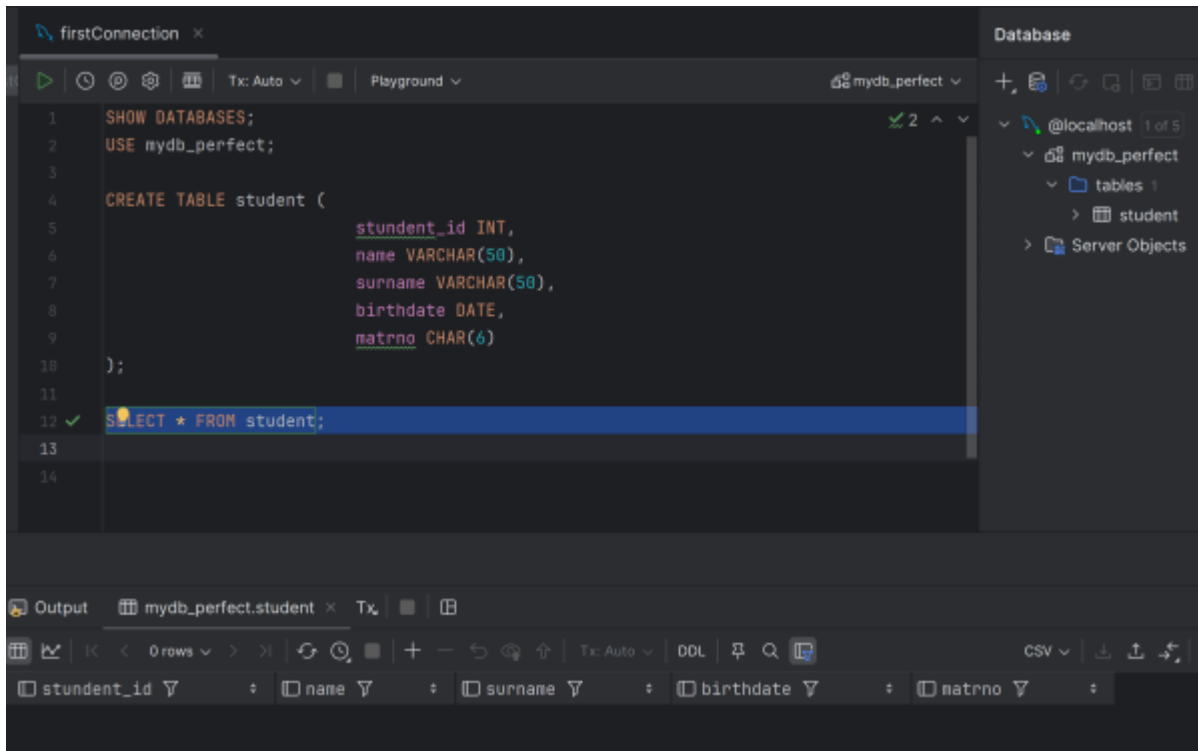Let's start by creating a table based on the ERD of the student management tool, as shown below:

Our goal is to create the table „stundent" in our database. For that we need to know how the basic syntax for creating of table is.

```
CREATE TABLE table_name (
    column1 datatype,
    column2 datatype,
    column3 datatype,
   ....
);
```

In our example the our concrete CREATE statement would look like: ''

```
CREATE TABLE student (
  stundent_id INT,
  name VARCHAR(50),
  surname VARCHAR(50),
  birthdate DATE,
  matrno CHAR(6)
);
```

After executing the DDL create command, the result would look like the following illustration.

Hints:

- On the right upper side you can see, that the table „student" has actually been created.
- After a select on this table, we can see that the table does not yet contain any data.

- It's not a big deal so far, is it? 😎 .

ALTER TABLE

It may happen that we need to change something, e.g. the change the attribute name or add a new attribute. In this case, the ALTER TABLE commands will do the work.

The basic syntax of the DDL „ALTER TABLE" syntax is:

```
ALTER TABLE table_name
ADD column_name datatype;
```

ADD COLUMN

In practical use, if we want to add an email to the student's data our SQL command would look like:

```
ALTER TABLE student
ADD Email varchar(255);
```

DROP COLUMN

If we can add a column, it should come as no surprise that we also can delete a column. The syntax for deleting an entire column from a table is:

```
ALTER TABLE table_name
DROP COLUMN column_name;
```

The following DDL statement removes the currently added column email from the table student.

```
ALTER TABLE Customers
DROP COLUMN Email;
```

RENAME COLUMN

Naturally, we also can just rename a wrongly spelled column name. The syntax in that case is:

```
ALTER TABLE table_name
RENAME COLUMN old_name to new_name;
```

Or more practical, if we want to change the name of the column matrno in studentno, we need the following DDL command:

```
ALTER TABLE student
RENAME COLUMN matrno to studentno;
```

MODIFY DATATYPE

We also can change the datatype of colums. The basic syntax would be:

```
ALTER TABLE table_name
ALTER COLUMN column_name datatype;
```

And of course, as a concrete practical example, in which we change the length of the column „name" from 50 characters to 100:

ALTER TABLE student

```
MODIFY COLUMN name VARCHAR(100);
```

DROP TABLE

If, for whatever reason, we have created a table incorrectly or want to get rid of an obsolete table, we need the command DROP TABLE:

```
DROP TABLE table_name;
```

Hint: Be careful with this command, as it also deletes the entire contents of this table.

Vocabulary

English	Deutsch
column	Spalte

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