

# SQL part 9. DDL – part 1.

## Creating tables

1. Create a new table called *Projects*. Its columns are described below.

Column name	Data type	Size	Properties
<i>project_id</i>	integer		generated automatically, user can't provide value
<i>project_name</i>	variable-length string	max. 200	
<i>description</i>	variable-length string	max. 1000	
<i>start_date</i>	date		default: current date
<i>end_date</i>	date		
<i>budget</i>	numeric	10,2	

2. Define two following projects in a table *Projects*. Display all information about new projects.

Column name	Column value (1 <sup>st</sup> row)	Column value (2 <sup>nd</sup> row)
<i>project_name</i>	New Technologies Survey	Advanced Data Analysis
<i>description</i>	A project aimed at reviewing the area of advanced database technologies.	Analyzing data obtained from various organizations.
<i>start_date</i>	January 1 <sup>st</sup> , 2018	September 20 <sup>th</sup> , 2017
<i>end_date</i>		October 1 <sup>st</sup> , 2018
<i>budget</i>	1 500 000	2 750 000

3. Try to define third project. Have you succeed?

Column name	Column value (3 <sup>rd</sup> row)
<i>project_id</i>	55
<i>project_name</i>	Creating backbone network
<i>description</i>	Expanding the organization's network infrastructure.
<i>start_date</i>	June 1 <sup>st</sup> , 2019
<i>end_date</i>	May 31 <sup>st</sup> , 2020
<i>budget</i>	5 000 000

4. Define a project from 3<sup>rd</sup> point by skipping value for column *project\_id*. Display names and identifiers of all projects.

```
project_id | project_name
-----+-----
1 | New Technologies Survey
2 | Advanced Data Analysis
3 | Creating backbone network
```

5. Try to change id of project “Creating backbone network” to value 100 (user an UPDATE command). Have you succeed?

6. Create a new table *Projects\_Copy*. Its structure and data should be equal to table *Projects*. Use CREATE ... AS SELECT command. Display new table's data.

```

project_id |      project_name      |      description      | start_date | end_date | budget
-----+-----+-----+-----+-----+-----
1 | New Technologies Survey | A project aimed ... | 2018-01-01 |         | 1500000.00
2 | Advanced Data Analysis | Analyzing data... | 2017-09-20 | 2018-10-01 | 2750000.00
3 | Creating backbone network | Expanding the... | 2019-06-01 | 2020-05-31 | 5000000.00

```

7. Define new projects in *Projects\_Copy* table. Why does the command work now (confront with point 3.)?

Column name	Column value (4 <sup>th</sup> row)
<i>project_id</i>	100
<i>project_name</i>	Creating mobile network
<i>description</i>	Expanding the organization's network infrastructure – part 2.
<i>start_date</i>	June 1 <sup>st</sup> , 2020
<i>end_date</i>	May 31 <sup>st</sup> , 2021
<i>budget</i>	4 000 000

8. Delete row from the *Projects\_Copy* table describing project “Creating backbone network” (use DELETE FROM command). Check if the project still exists in *Projects* table.

## Modifying table structure

9. Modify structure of table *Projects*. in following way:

- add a new column *number\_of\_emp* with data type equal to numeric(3),
- increase maximum length of string in column *description* to 1 500 characters.

You can use two commands, however this task can also be accomplished by a single command. Then check if table's data has changed.

```
SQL> ALTER...
```

10. Execute query to find the length of the longest project name. Then try to change data type of column *project\_name* of table *Projects* to string with shorter length. Did you succeed?

```
SQL> SELECT...
```

```
SQL> ALTER...
```

11. Rename column *budget* of table *Projects* to *project\_budget*.

```
SQL> ALTER...
```

12. Drop table *Projects\_Copy*.