

# Exam Preparation: SQL Language

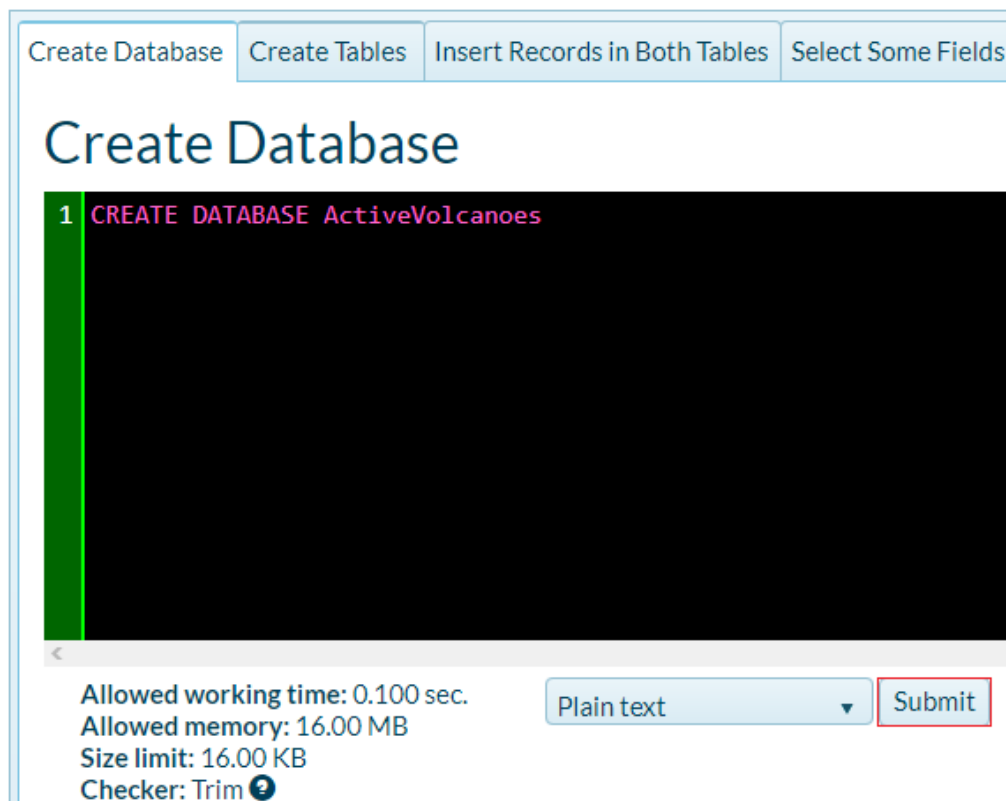
Sample **exam problems** for the "Software Technologies Back End" course from the official "Applied Programmer" curriculum for the "SQL Language" topic.

You can check your solutions here: <https://judge.softuni.bg/Contests/2823/Exam-Preparation-SQL-Language>

## 1. Create Database

Using SQL queries, create new database named **ActiveVolcanoes**.

Submit the SQL **"CREATE DATABASE"** command in the judge system.



## 2. Create Tables

In the newly created database **ActiveVolcanoes** add table **Location** (**Id**, **Country**, **Volcanoes**). Then add new table **Volcanoes** (**Id**, **Name**, **LocationId**, **Height**). Set **Id** columns of both tables to be **primary key** as constraint. Add a **foreign key** relationship between **Volcanoes.LocationId** and **Location.Id**.

Submit the SQL **"CREATE TABLE"** commands in the judge system.

Hints:

- You can create the tables with relationships visually in SQL Server Management Studio, then **script the database** as SQL commands.
- Alternatively, you can write the SQL **"CREATE TABLE"** commands by hand.

Create Database
Create Tables
Insert Records in Both Tables
Select Some Fields

## Create Tables

```

1 CREATE TABLE Location
2 (
3   Id INT NOT NULL IDENTITY(1,1) PRIMARY KEY ,
4   Country varchar(50),
5   Volcanoes INT
6 )
7 CREATE TABLE Volcanoes
8 (
9   Id INT NOT NULL IDENTITY(1,1) PRIMARY KEY,
10  Name varchar(50),
11  LocationId INT FOREIGN KEY REFERENCES Location(Id),
12  Height INT
13 )

```

Allowed working time: 0.300 sec.  
Allowed memory: 16.00 MB  
Size limit: 16.00 KB  
Checker: Trim

SQL Server run queri... Submit

### 3. Insert Records in Both Tables

Populate both tables with sample records given in the table below.

Location		
Id	Country	Volcanoes
1	Argentina	57
2	Ecuador	47
3	Russia	192

Volcanoes			
Id	Name	LocationId	Height
1	Antofalla	1	6450
2	Cotopaxi	2	5897
3	Guallatiri	1	6060
4	Sangay	2	5320
5	Kluchevskaya	3	4850

Submit the SQL **"INSERT"** sequence of commands in the judge system.

### 4. Select Some Fields

Modify queries from previous problem to show only **Names** of **Argentinian volcanoes** from table **Volcanoes**.

	Name
1	Antofalla
2	Guallatiri

Submit the SQL **"SELECT"** command in the judge system.

### 5. Select with JOIN + WHERE

Join table **Location** with table **Volcanoes**, using the **Volcanoes.LocationId** column. Select only queries for countries with **height less than 6000**.

Id	Country	Volcanoes	Id	Name	LocationId	Height
2	Ecuador	47	2	Cotopaxi	2	5897
2	Ecuador	47	4	Sangay	2	5320
3	Russia	192	5	Kluchevskaya	3	4850

Submit the SQL **"SELECT"** command in the judge system.