

Exercises: Introduction to Databases

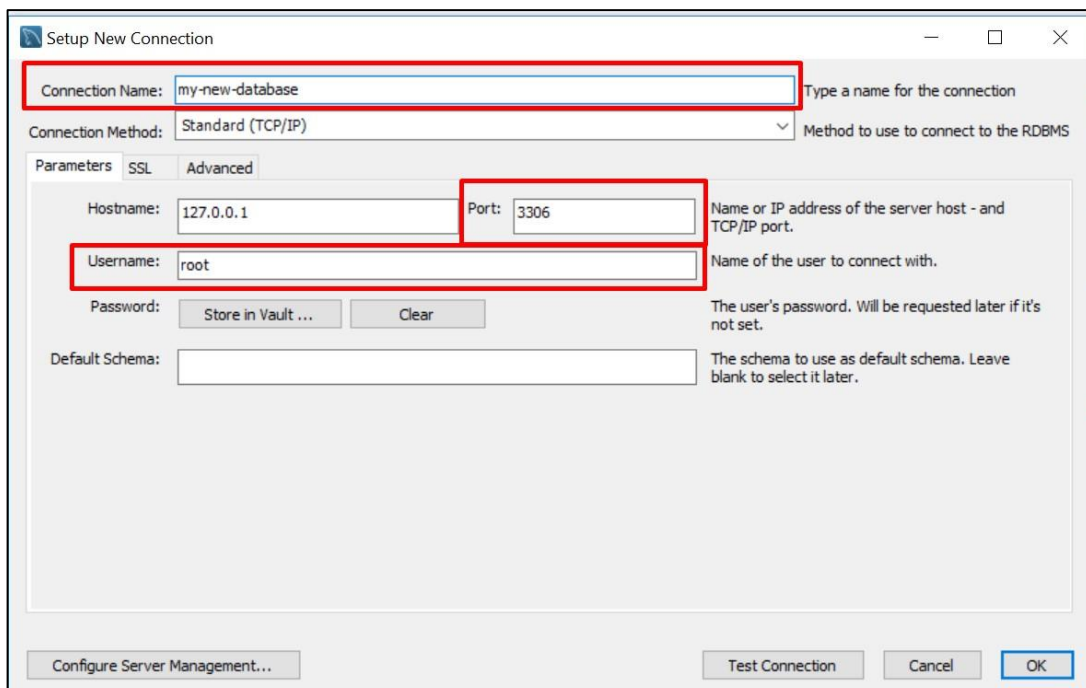
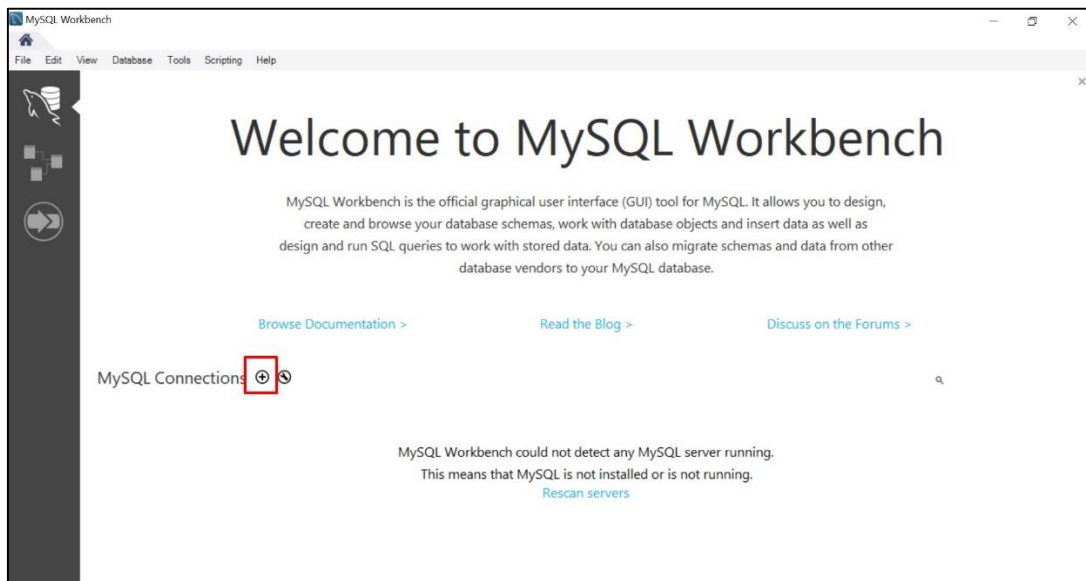
This document defines the **exercise assignments** for the ["Databases Basics - MySQL" course @ Software University](#). Install MySQL Community Server. Do not install unneeded features of MySQL Community Server.

Download and Install MySQL Workbench

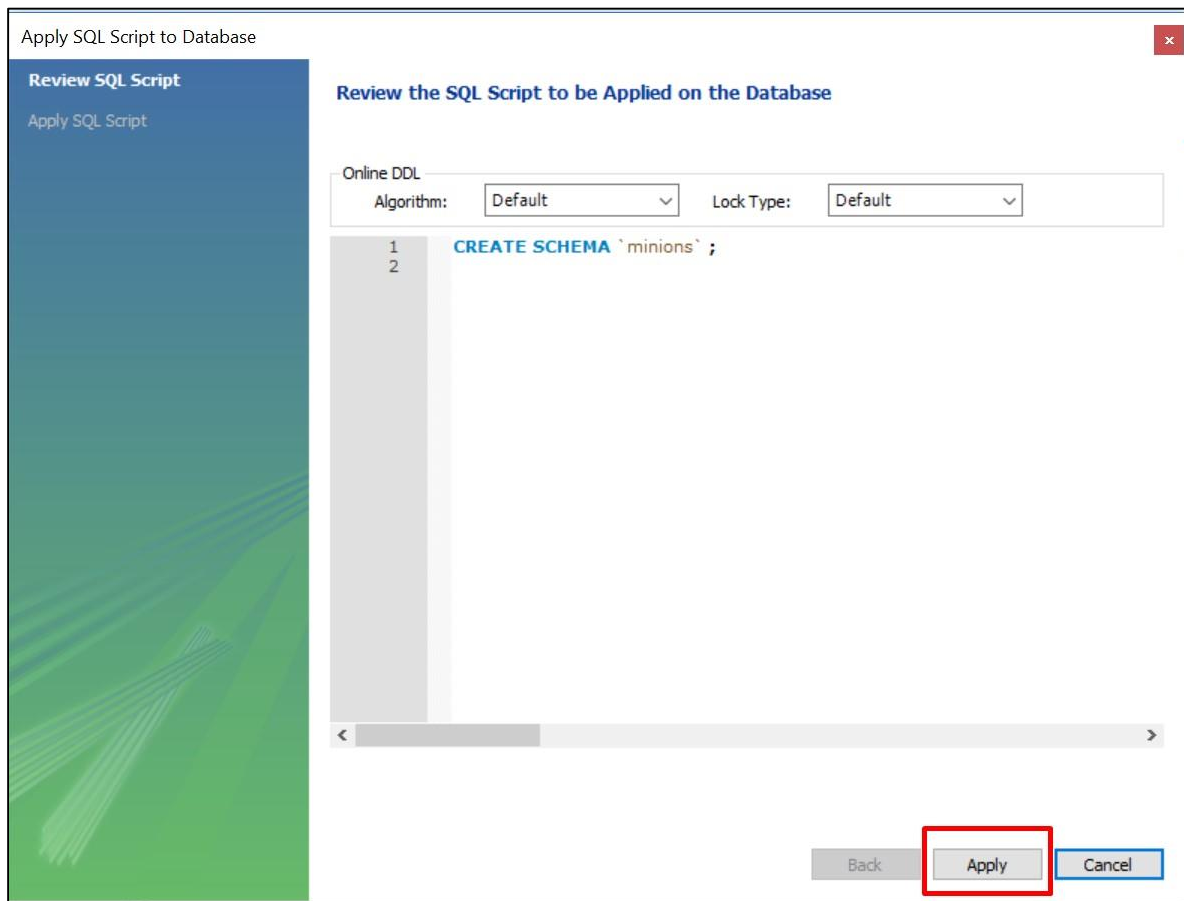
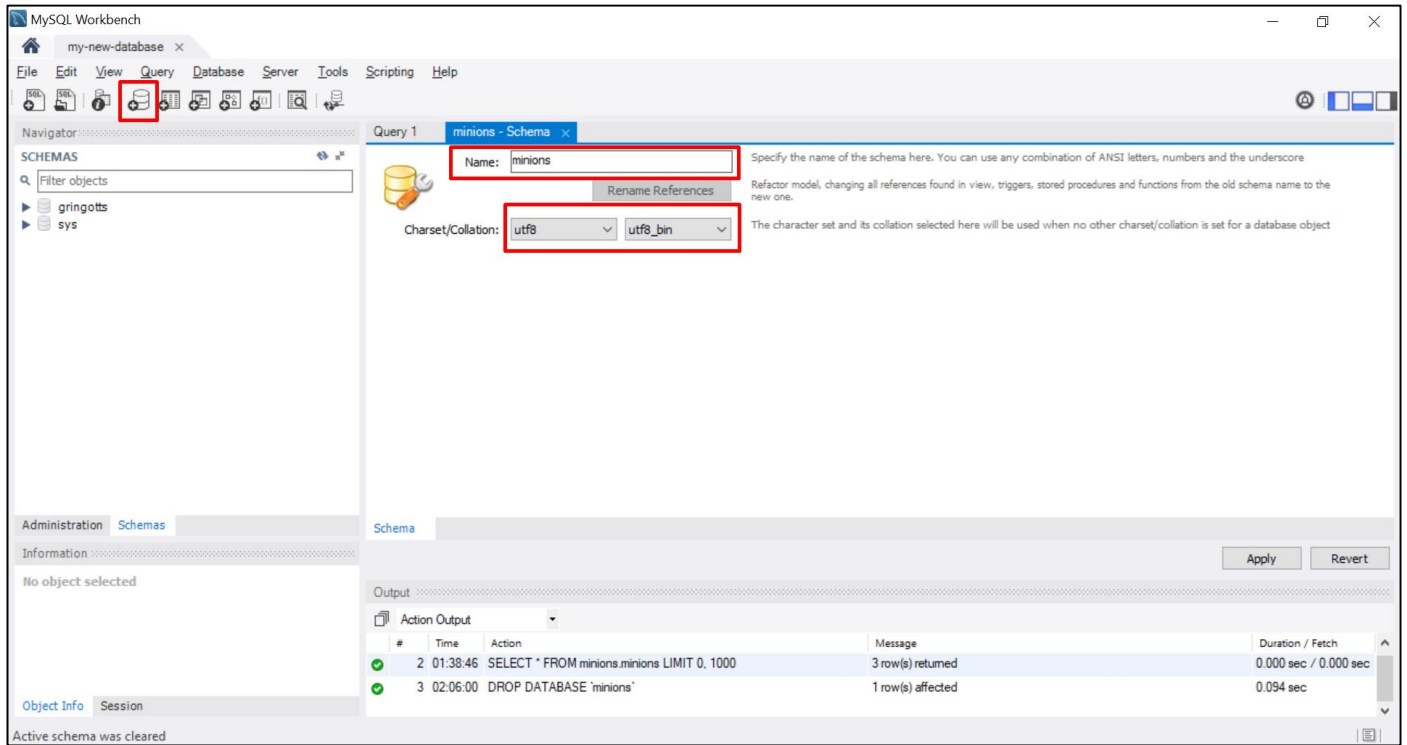
Download **MySQL Workbench** from [the official page](#) and **install** it.

1. Create New Database

Connect to MySQL Server with user **root** and the password you set up earlier.

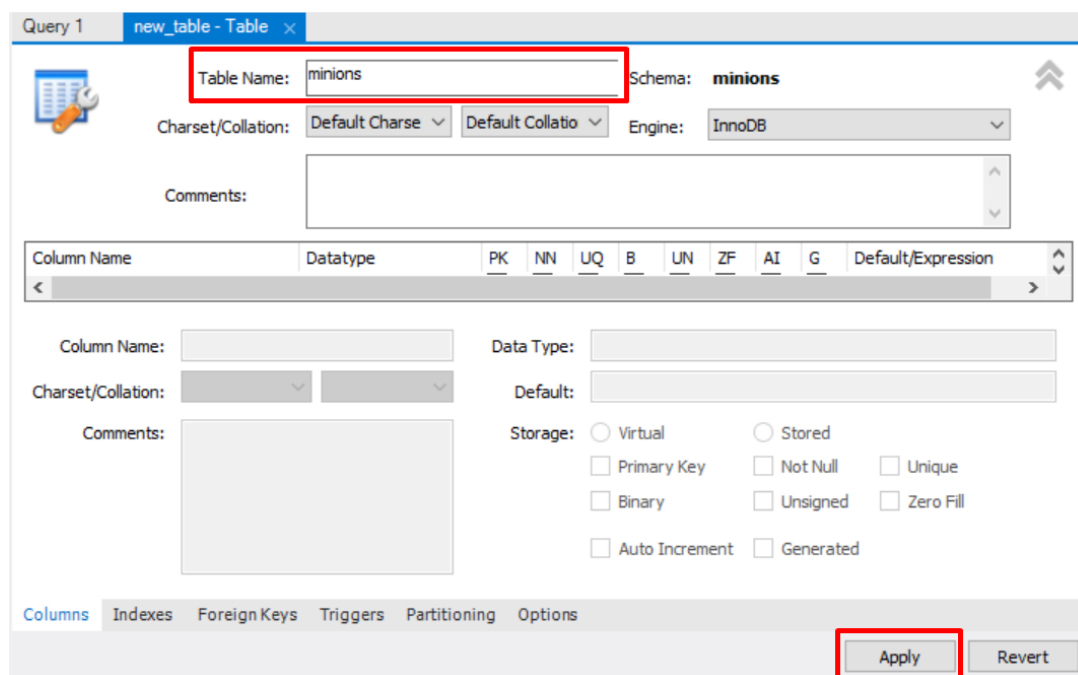
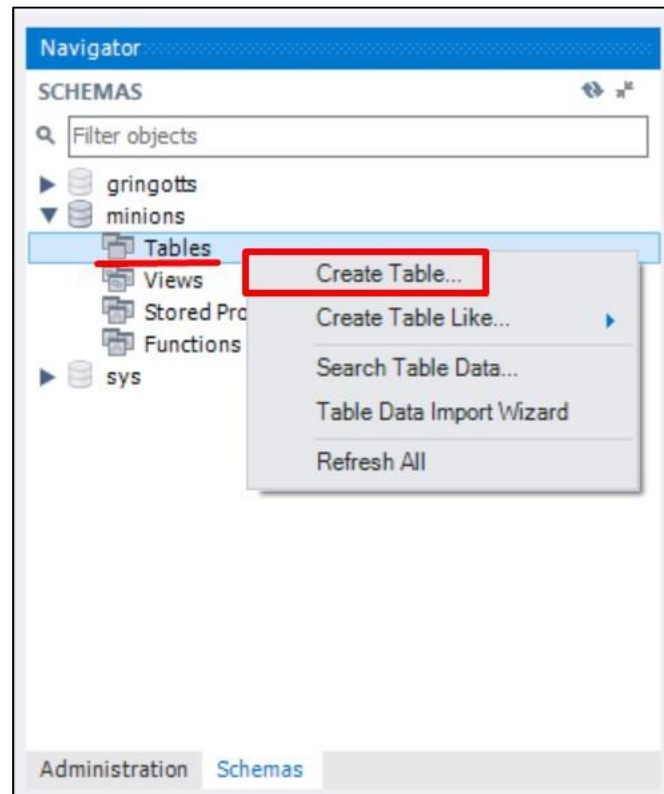


Create new database. Type the name of the database and click OK. This will create your database.



2. Create Table

Create table Minions



Create columns **id**, **name**, **age**. Id and name are **required**; Age should **allow null values**.

Set the **id** as **Primary Key** and **Auto Increment**.

Query 1 | minions - Table

Table Name: minions Schema: minions

Column Name	Datatype	PK	NN	UO	R	LIN	ZF	AT	G	Default/Expression
id	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Column Name: id Data Type: INT

Charset/Collation: Default Char: Default Collat: Default:

Comments:

Storage: ☒ Primary Key ☒ Not Null ☐ Unique ☐ Binary ☐ Unsigned ☐ Zero Fill ☒ Auto Increment ☐ Generated

Columns | Indexes | Foreign Keys | Triggers | Partitioning | Options

Apply Revert

3. Insert Data in the Table

Insert data in the table as it's shown on the picture

MySQL Workbench

my-new-database

File Edit View Query Database Server Tools Scripting Help

Navigator

Filter objects

SCHEMAS

- gringotts
- minions
 - Tables
 - minions
- Views
- Stored Procedures
- Functions
- sys

Query 1 | minions

1 • SELECT * FROM minions.minions;

Limit to 1000 rows

Result Grid

id	name	age
1	Kevin	15
2	Bob	22
3	Steward	NULL

minions 1 x

Apply Revert

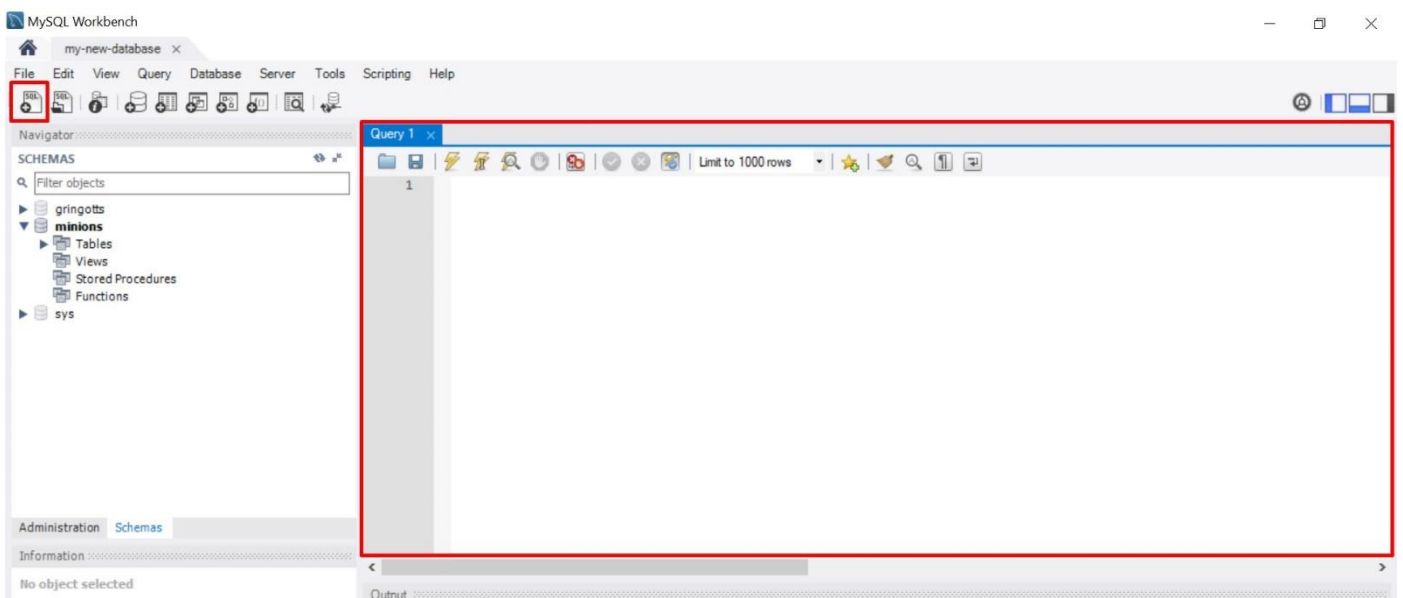
4. Select Data from Table

Select **all columns** from the Minions table.

Result Grid			
	id	name	age
▶	1	Kevin	15
	2	Bob	22
	3	Steward	NULL
✱	NULL	NULL	NULL

minions 1 x

- Open Query tab and write the SQL.
 - Select **only names** from Minions table.
 - **Order** them **ascending by name**



5. Update One Record

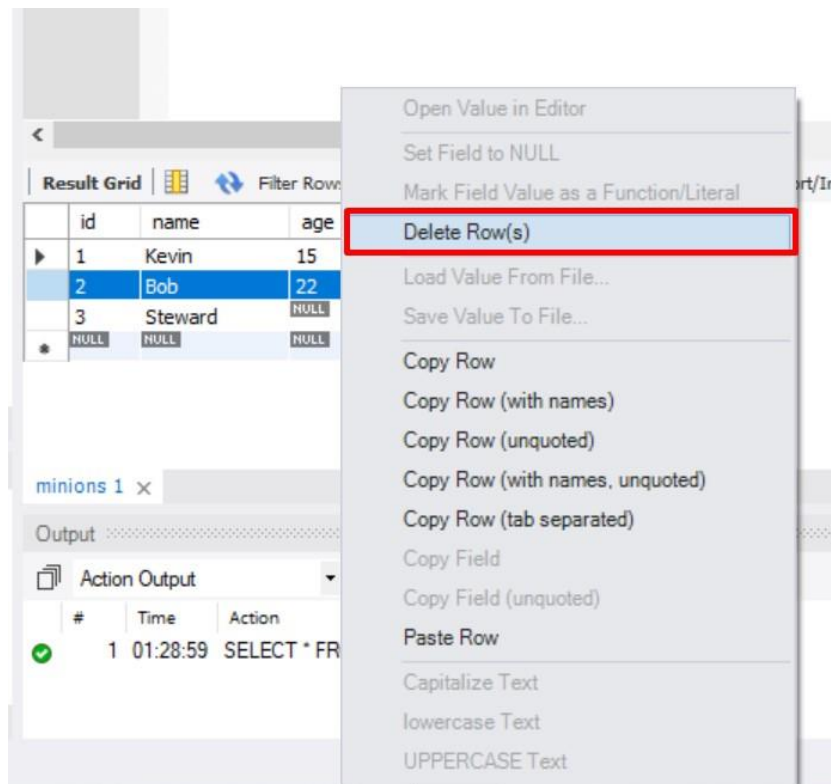
Change **Stuart's** age from **NULL** to **10**

6. Update All Records

Change all the Minions age to be + 1 years.

7. Delete Record

Open Data tab for the table, **right click** on the row where **Bob** is situated and delete it.



8. Create New Table

Create new table **towns**. Every town has **id (int)** and **name (text)**. Make the **id** column **primary key**.

9. **Connect Tables

Now let's make a connection (or relationship) between our two tables. First we need modify our minions table. Add column **town_id** in it (**IMPORTANT: The type of the column must be the same as the type of the column id of the towns table**).

10. Create New Database

Now on your own create a new database **school**. Add a few tables to the database: **students (id, name, age, phone_number)**, **classes (id, name, max_students)**, **teachers(id, name, class)**. Add columns for the tables. Populate the tables with random content. Then delete and make changes in some records.

11. *Generate SQL Script

Generate SQL script from the **school** database. View the script file and try to understand different commands. Execute the script.