MySQL queries - II

sebinbenjamin

Data Definition Language

Provides syntax for creating and modifying database objects such as tables, indexes, and users. Examples of DDL statements include CREATE, ALTER, and DROP.

CREATE

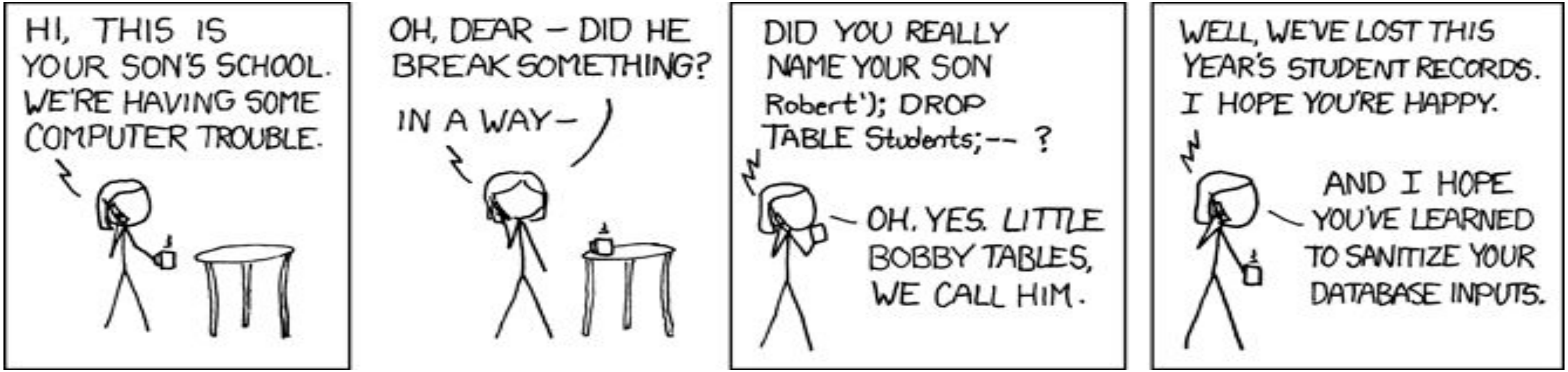
Create command is used to establish a new database, table, index, or stored procedure. Eg, CREATE TABLE

DROP

The DROP statement destroys an existing database, table, index, or view.

ALTER

The ALTER statement modifies an existing database object


HI, THIS IS YOUR SON'S SCHOOL. WE'RE HAVING SOME COMPUTER TROUBLE.
OH, DEAR – DID HE BREAK SOMETHING?
IN A WAY–
DID YOU REALLY NAME YOUR SON Robert'); DROP TABLE Students;-- ?
OH. YES. LITTLE BOBBY TABLES, WE CALL HIM.
WELL, WE'VE LOST THIS YEAR'S STUDENT RECORDS. I HOPE YOU'RE HAPPY.
AND I HOPE YOU'VE LEARNED TO SANITIZE YOUR DATABASE INPUTS.

https://xkcd.com/327/

CREATE TABLE

The CREATE TABLE statement allows you to **create a new table** in a database.

```
CREATE TABLE [IF NOT EXISTS] table_name(
   column_1_definition,
   column_2_definition,
   ...,
   table_constraints
)ENGINE=storage_engine;
```

```
CREATE TABLE employees (
    id            INTEGER       PRIMARY KEY,
    first_name    VARCHAR(50)   NOT NULL,
    last_name     VARCHAR(75)   NOT NULL,
    fname         VARCHAR(50)   NOT NULL,
    dateofbirth   DATE          NOT NULL
);
```

Column Definition

```
column_name data_type(length)
[NOT NULL] [DEFAULT value] [AUTO_INCREMENT]
other_column_constraint;
```

Column Constrains

- NOT NULL
- UNIQUE
- PRIMARY KEY
- FOREIGN KEY
- CHECK
- DEFAULT

Data Types

A Data Type specifies a **particular type of data**, like integer, floating points, Boolean, etc.

It identifies the

1. Possible **values** for that type
2. **Operations** that can be performed on that type
3. Way the values of that type are **stored**.

https://dev.mysql.com/doc/refman/8.0/en/data-types.html

More on data types

- Numeric data types
  - Exact numeric data types - INTEGER, SMALLINT, DECIMAL, and NUMERIC
  - Approximate numeric data types - FLOAT, REAL, and DOUBLE PRECISION
- Boolean data type
- String data types - Plain text and binary data
- Date and time - Temporal values like date, time, datetime, timestamp, and year
- Spatial data types - hold various geometrical and geographical values
- JSON data type - allows us to store and access the JSON document quickly and efficiently

Data Manipulation Language and Data Query Language

- **SELECT** : Retrieve rows of data.
- **INSERT** : Place new rows of data in the database.
- **UPDATE** : Replace existing values in the database with new values.
- **DELETE** : Delete rows of data in the database.

INSERT

INSERT statement allows you to insert one or more rows into a table.

```
INSERT INTO table_name (column1, column2, column3, ...)
VALUES (value1, value2, value3, ...);
```

OR

```
INSERT INTO table_name
VALUES (value1, value2, value3, ...);
```

Inserting multiple rows

```
INSERT INTO table_name
VALUES
    (value1, value2, value3, ...),
    (value1, value2, value3, ...),
    (value1, value2, value3, ...);
```

INSERT INTO SELECT

The result of a SELECT statement is used as the data source for the INSERT statement.

```
INSERT INTO table_name(column_list)
SELECT
   select_list
FROM
   another_table
WHERE
   condition;
```

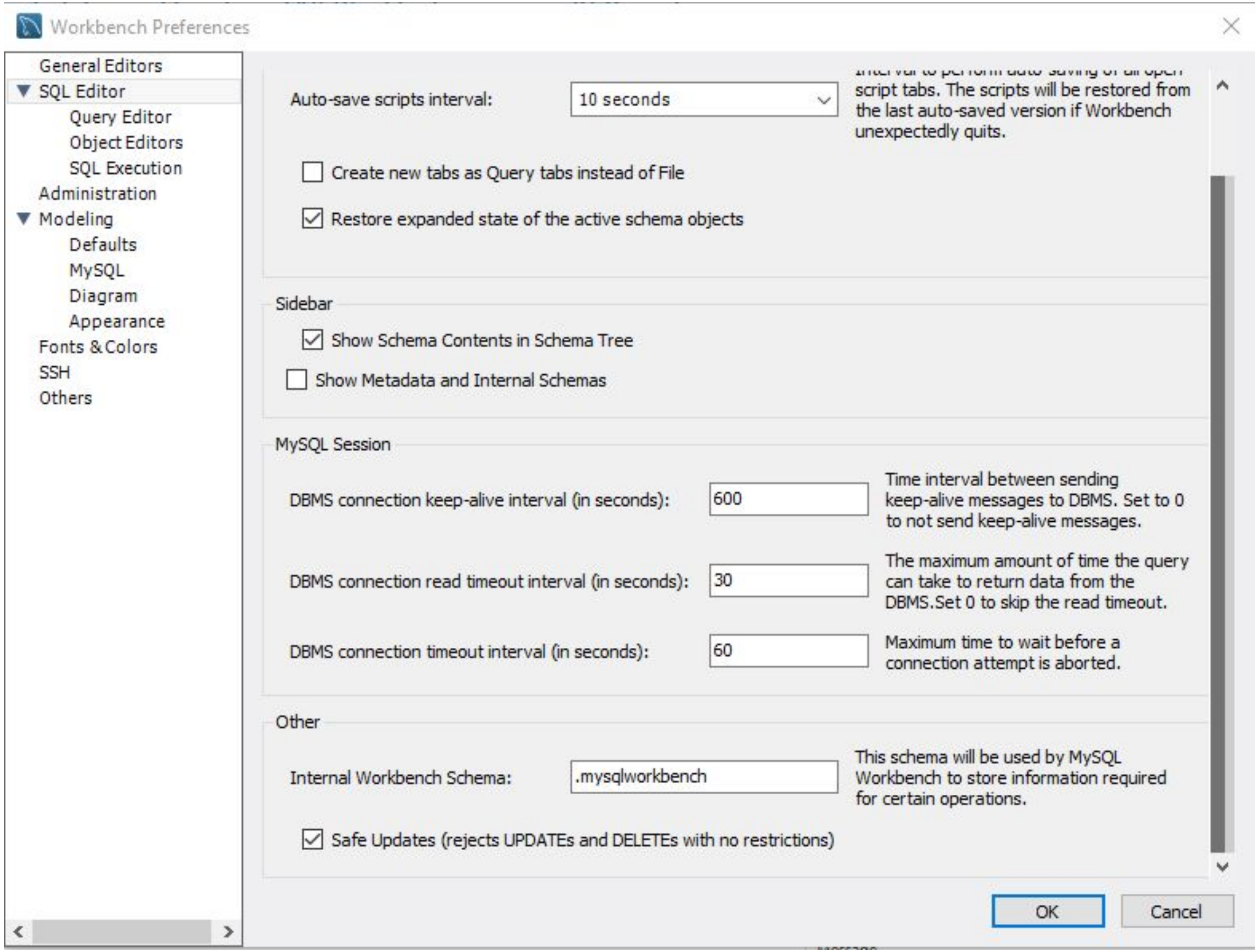
Data Manipulation Language and Data Query Language

- **SELECT** : Retrieve rows of data.
- **INSERT** : Place new rows of data in the database.
- **UPDATE** : Replace existing values in the database with new values.
- **DELETE** : Delete rows of data in the database.

UPDATE

The UPDATE statement updates data in a table. It allows you to change the values in one or more columns of a single row or multiple rows.

```
UPDATE [LOW_PRIORITY] [IGNORE] table_name
SET
    column_name1 = expr1,
    column_name2 = expr2,
    ...
[WHERE
    condition];
```



Auto-save scripts interval: 10 seconds — Interval to perform auto saving of all open script tabs. The scripts will be restored from the last auto-saved version if Workbench unexpectedly quits.

□ Create new tabs as Query tabs instead of File

☑ Restore expanded state of the active schema objects

Sidebar

☑ Show Schema Contents in Schema Tree

□ Show Metadata and Internal Schemas

MySQL Session

DBMS connection keep-alive interval (in seconds): 600 — Time interval between sending keep-alive messages to DBMS. Set to 0 to not send keep-alive messages.

DBMS connection read timeout interval (in seconds): 30 — The maximum amount of time the query can take to return data from the DBMS.Set 0 to skip the read timeout.

DBMS connection timeout interval (in seconds): 60 — Maximum time to wait before a connection attempt is aborted.

Other

Internal Workbench Schema: .mysqlworkbench — This schema will be used by MySQL Workbench to store information required for certain operations.

☑ Safe Updates (rejects UPDATEs and DELETEs with no restrictions)

Data Manipulation Language and Data Query Language

- **SELECT** : Retrieve rows of data.
- **INSERT** : Place new rows of data in the database.
- **UPDATE** : Replace existing values in the database with new values.
- **DELETE** : Delete rows of data in the database.

DELETE

The DELETE statement will delete rows that match the condition in the WHERE clause.

```
DELETE FROM table_name
[WHERE condition]
[LIMIT offset,row_count];
```

The WHERE clause is optional and if omitted will delete all rows in the table.

Returns the number of deleted rows.

Thank you