

# SE 3XA3: User Instruction Manual GoDBMS

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# 1 Installation and Setup

This section outlines installation and setup instructions to be able to run GoDBMS on your personal machine.

All installation scripts require Go to be installed on your system. Go can be installed from the following [link](#)

## 1.1 Installation for Windows

Run the Windows GoDBMS installer script.

## 1.2 Installation for Linux or MacOS

Run the Linux/MacOS GoDBMS installer script.

# 2 Supported Datatypes

Integer, denoted `int` String, denoted `string`

# 3 Creating a Table

To create a table, use the *CREATE TABLE* command.

Syntax: *CREATE TABLE table\_name ( column1 datatype, column2 datatype, column3 datatype, .... );*

Parameters:

1. *table\_name*: name of the new table, must not include space character
2. *column1*: name of the first column, for arbitrary number of columns, must not include space characters
3. *datatype*: the datatype that the records in the column will be, must be string or int
4. OPTIONAL *not null*: use the not null key word after the column name to indicate that a column may never have an empty value for a record
5. OPTIONAL *primary key*: use the primary key key word after the column name to indicate that a column holds the primary key and each entry needs to be unique

Example: *CREATE TABLE person (name STRING primary key, gender STRING, age INT not null)*

## 4 Listing Tables

To view all tables that exist in the database, use the *LIST ALL TABLES* command.

Syntax: *LIST ALL TABLES*

Parameters: None

Example: *LIST ALL TABLES*

## 5 Inserting Data Into Tables

To insert data into a table, use the *INSERT INTO* command.

Syntax: *INSERT INTO table\_name ( column1 column2 column3 .... ) values (value1, value2, value3...);*

Parameters:

1. *table\_name*: name of the table to insert into, must not include space character
2. *column1*: name of the first column, for arbitrary number of columns, must not include space characters
3. *value1*: first value being inserted into the columns, for an arbitrary number of columns; value must match datatype defined for column in table schema

Example: *INSERT INTO person (name, gender, age) values ("eesha", "female", 22);*

## 6 Modify Existing Table Schema

To modify an existing table's schema, use the *ALTER TABLE* command.

## 6.1 Add a New Column

To add a new column to the schema, use the *ADD* command. Syntax: *ALTER TABLE table\_name ADD column\_name datatype;*

Parameters:

1. *table\_name*: name of the table to add column to, must not include space character
2. *column\_name*: name of the new column to add
3. *value1*: the datatype that the values in the new column will be

Example: *ALTER TABLE person ADD eyes STRING*

## 6.2 Delete an Existing Column

To delete an existing column from the schema, use the *DROP* command. Syntax: *ALTER TABLE table\_name DROP COLUMN column\_name;*

Parameters:

1. *table\_name*: name of the table to delete column from, must not include space character
2. *column\_name*: name of the column to delete

Example: *ALTER TABLE person DROP eyes*

## 7 Deleting a Record

To delete a record from a table, use the *DELETE FROM TABLE* command.

Syntax: *DELETE FROM TABLE table\_name WHERE col comparator val;*

Parameters:

1. *table\_name*: name of the table to delete record from, must not include space character
2. *col*: the column of the table that needs to be compared for all the tuples.

3. *comparator*: The following comparators are valid: =, <, >, <=, >=.
4. *val*: the value that the column is being compared against

**The WHERE clause is optional**

Example: *DELETE FROM TABLE person WHERE name = "eesha"*

## 8 Modify a Record

To modify the values in a record, use the *UPDATE* command.

Syntax: *UPDATE table\_name SET column1 = value1, column2 = value2, ... WHERE col comparator val;*

Parameters:

1. *table\_name*: name of the table that the records should be updated in, must not include space character
2. *column1*: the name of the column for which the value should be updated, for an arbitrary number of column-value pairs
3. *value1*: the value that the column should be updated to, for an arbitrary number of column-value pairs
4. *col*: the column of the table that needs to be compared for all the tuples.
5. *comparator*: The following comparators are valid: =, <, >, <=, >=.
6. *val*: the value that the column is being compared against

**The WHERE clause is optional**

Example: *UPDATE person SET gender = "female" WHERE name = "olivia"*

## 9 Searching for Records

To search from a table in the database, use the *SELECT* command.

Syntax: *SELECT column1, column2 FROM table\_name WHERE col comparator val;*

Parameters:

1. *column1, column2*: Can have as many columns as you want to display or alternatively the \* operator if you want to display all columns in the table.
2. *table\_name*: The name of the table where you want to search from.
3. *col*: the column of the table that needs to be compared for all the tuples.
4. *comparator*: The following comparators are valid: =, <, >, <=, >=.
5. *val*: the value that the column is being compared against

**The WHERE clause is optional**

Example: *SELECT \* FROM person WHERE name = joe*

## 10 Deleting a Table

To delete a table from the database, use the *DROP TABLE* command.

Syntax: *DROP TABLE table\_name;*

Parameters:

1. *table\_name*: name of the table to delete, must not include space character

Example: *DROP TABLE person*