

# Create – Modify – Delete



# Content

- Databases
- Tables
- Records



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# Database



Create – Modify – Delete

## Syntax

**CREATE DATABASE** *databasename*;

## Example

```
-- Create new database  
CREATE DATABASE MyFirstDB;
```

# Database



Create – **Modify** – Delete

*We don't really modify databases.*

Create – **Show** – Delete

Syntax

**SHOW DATABASES;**

*Example*

```
-- List all databases  
SHOW DATABASES;
```

# Database



Create – Modify – Delete

## Syntax

**DROP DATABASE** *databasename*;

## Example

```
-- Delete whole database (WARNING: DATA WILL BE GONE)
DROP DATABASE MyFirstDB;
```

# Content

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# Table



Create – Modify – Delete

## Syntax

**CREATE TABLE** *tablename* (*attribute01* datatype, *attribute02* datatype, ... );

## Example

```
-- Create table for clients
CREATE TABLE Clients
(
  ID int,
  FirstName varchar(25), LastName varchar(25), Age int,
  Address varchar(255), City varchar(25)
);
```



# Table



Create – Modify – Delete

## Syntax

**CREATE TABLE** *tablename* (*attribute01* datatype, *attribute02* datatype, ... );

## Example

**IF NOT  
EXISTS**

```
-- Create table for clients
CREATE TABLE IF NOT EXISTS Clients
(
  ID int,
  FirstName varchar(25), LastName varchar(25), Age int,
  Address varchar(255), City varchar(25)
);
```

# Table



Create – Modify – Delete

## Syntax

**CREATE TABLE** *tablename* (*attribute01* datatype, *attribute02* datatype, ... );

## Example

```
-- Create table for clients
CREATE TABLE IF NOT EXISTS Clients
(
  ID int NOT NULL AUTO_INCREMENT,
  FirstName varchar(25), LastName varchar(25), Age int,
  Address varchar(255), City varchar(25),
  PRIMARY KEY (ID)
);
```

**Primary  
Key**

# Table



Create – Modify – Delete

## Syntax

**CREATE TABLE** *tablename* (*attribute01* datatype, *attribute02* datatype, ... );

## Example

```
-- Create table for clients
CREATE TABLE IF NOT EXISTS Clients
(
  ID int NOT NULL AUTO_INCREMENT,
  FirstName varchar(25), LastName varchar(25), Age int,
  Address varchar(255), City varchar(25),
  AboTypeID int,
  PRIMARY KEY (ID),
  FOREIGN KEY (AboTypeID) REFERENCES Abos (ID)
);
```

Foreign  
Key

# Table

Create – Modify – Delete



## Syntax

**CREATE TABLE** *tablename* (*attribute01* datatype, *attribute02* datatype, ... );

## Datatypes

Common MySQL Column Types		
Purpose	Data Type	Example
Integers	<code>int(<i>M</i>)</code>	<code>int(5)</code>
Floating-point (real) numbers	<code>float(<i>M,D</i>)</code>	<code>float(12,3)</code>
Double-precision floating-point	<code>double(<i>M,D</i>)</code>	<code>double(20,3)</code>
Dates and times	<code>timestamp(<i>M</i>)</code>	<code>timestamp(8)</code> (for YYYYMMDD) <code>timestamp(12)</code> (for YYYYMMDDHHMMSS)
Fixed-length strings	<code>char(<i>M</i>)</code>	<code>char(10)</code>
Variable-length strings	<code>varchar(<i>M</i>)</code>	<code>varchar(20)</code>
A large amount of text	<code>blob</code>	<code>blob</code>
Values chosen from a list	<code>enum('value1','value2',...)</code>	<code>enum('apples','oranges','bananas')</code>

*M* is maximum to display, and *D* is precision to the right of the decimal.



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# Table



Create – Modify – Delete

## Syntax

**SHOW TABLES;**  
**DESC** *tablename*;

## Example

```
-- List all tables in the database
SHOW TABLES;

-- Show description of table Clients
DESC Clients;
```

# Table



Create – **Modify** – Delete

## Syntax

**ALTER TABLE** *tablename* **ADD** *attributename* *datatype*;

**ALTER TABLE** *tablename* **DROP COLUMN** *attributename*;

**ALTER TABLE** *tablename* **MODIFY COLUMN** *attributename* *datatype*;

## Example

```
-- Add a new attribute to the table
```

```
ALTER TABLE Clients ADD Sex int;
```

```
-- Delete the Age attribute
```

```
ALTER TABLE Clients DROP Age;
```

```
-- Modify the datatype of the City attribute
```

```
ALTER TABLE Clients MODIFY City varchar(255);
```

# Table



Create – **Modify** – Delete

## Syntax

**ALTER TABLE** *tablename* **ADD FOREIGN KEY**(*attributename*) **REFERENCES** *tablename*(*attributename*);

## Example

```
-- Add a new foreign key
ALTER TABLE Clients ADD Country int;
ALTER TABLE Clients ADD FOREIGN KEY (Country) REFERENCES Countries (ID);
```

# Table



Create – Modify – Delete

## Syntax

**DROP TABLE** *tablename*;

## Example

```
-- Delete table for clients (WARNING: Data will be lost)
DROP TABLE Clients;
```



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# Record



Create – Modify – Delete

## Syntax

**INSERT INTO** *tablename* (*attribute01*, *attribute02*, ...) **VALUES** (*value01*, *value02*, ... );

## Example

```
-- Insert new record
INSERT INTO Clients (FirstName, LastName, Age, Address, City)
VALUES ('John', 'Smith', 39, 'Mainstreet 9', '11111 Springfield');
```

# Record



Create – Modify – Delete

## Syntax

**INSERT INTO** *tablename* (*attribute01*, *attribute02*, ...)

**VALUES** (*value01*, *value02*, ... ), (*value01*, *value02*, ... ), (*value01*, *value02*, ... ), ...;

## Example

```
-- Insert multiple new records
INSERT INTO Clients (FirstName, LastName, Age, Address, City)
VALUES
    ('John'    , 'Smith'   , 39, 'Mainstreet 9'    , '11111 Springfield'),
    ('Peter'   , 'Jones'   , 24, 'Churchstreet 12' , '11111 Springfield'),
    ('Samuel'  , 'Miller'  , 57, 'Hill Avenue 24'  , '11111 Springfield');
```

# Record



Create – **Modify** – Delete

## Syntax

**UPDATE** *tablename* **SET** *attribute01=value01, attribute02=value02, ...* **WHERE** *condition*;

## Example

```
-- Update the age of Tim Johnson  
UPDATE Clients SET Age=42  
WHERE FirstName='Tim' AND LastName='Johnson';
```

# Record



Create – Modify – Delete

## Syntax

**DELETE FROM** *tablename* **WHERE** *condition*;

## Example

```
-- Delete record with id=52 (WARNING: DATA WILL BE DELETED)
DELETE FROM Clients
WHERE ID=52;
```