Apache MySQL

*Functional Area:* Database:SQL

*Overview:* MySQL is an open source relational database management system, meaning that the data is stored in separate tables rather than keeping all the data in one place. The tables are linked by defined relations making it possible to combine data from several tables upon request. SQL (Structured Query Language) is the language that is used to access the databases. SQL is the most popular language for adding, accessing and managing content in a database. MySQL database server is scalable, flexible, robust, fast and easy to use. It runs on many operating systems It works well in both client/server and embedded systems.

*Basic Data Types:* Numerical, String, Date and Spatial data types

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| **Data Types** | **Description** |
| SMALLINT | A small integer |
| INT | A standard integer |
| DECIMAL | A fixed-point number |
| FLOAT | A single-precision floating-point number |
| DOUBLE | A double-precision floating-point number |
| BIT | A bit field |
| CHAR | A fixed-length non-binary (character) string |
| VARCHAR | A variable-length non-binary string |
| BINARY | A fixed-length binary string |
| VARBINARY | A variable-length binary string |
| TINYBLOB | A very small BLOB (binary large object) |
| BLOB | A small BLOB |
| MEDIUMBLOB | A medium-sized BLOB |
| LONGBLOB | A large BLOB |
| TINYTEXT | A very small non-binary string |
| TEXT | A small non-binary string |
| MEDIUMTEXT | A medium-sized non-binary string |
| LONGTEXT | A large non-binary string |
| ENUM | An enumeration; each column value may be assigned one enumeration member |
| SET | A set; each column value may be assigned zero or more set members |
| GEOMETRY | A spatial value of any type |
| POINT | A point (a pair of X Y coordinates) |
| LINESTRING | A curve (one or more POINT values) |
| POLYGON | A polygon |
| GEOMETRYCOLLECTION | A collection of GEOMETRY values |
| MULTILINESTRING | A collection of LINESTRING values |
| MULTIPOINT | A collection of POINT values |
| MULTIPOLYGON | A collection of POLYGON values |
| DATE | A date value in ‘CCYY-MM-DD’ format |
| TIME | A time value in ‘hh:mm:ss’ format |
| DATETIME | A date and time value in ‘CCYY-MM-DD hh:mm:ss’ format |
| TIMESTAMP | A timestamp value in ‘CCYY-MM-DD hh:mm:ss’ format |
| YEAR | A year value in CCYY or YY format |

*Installation on ubuntu:*1. To install MYSQL, run the following command from a terminal prompt:  
*$ sudo apt-get install mysql-server*During the installation process you will be prompted to enter a password for the MySQL root user.  
Once the installation the server starts automatically. To check whether MySQL server is running: *$ sudo netstat –tap | grep mysql*

*Tutorial:*1.Login as root on your mysql server using the following command if password is needed:  
*$ mysql –u root –p*  *Enter password:*If password is not required just login using the following command:  
*$mysql –u root*

2. Once you are logged in, we can create a database: *mysql> create database NameOfDatabase;*

Output: Query OK, 1 row affected  
3. To access the database:  
*mysql> use NameOfDatabase;*

4. To see the overview of the tables that the database contains: *mysql>SHOW tables;*

5. Create a MySQL table in database:

*mysql> create table NameOfTable(varname1 datatype1, varname2 datatype2(size)) ;*

Example: *mysql> create table newTable(id INT PRIMARY KEY, username varchar(20)) ;*

6. Inserting values into the database:  
*mysql> INSERT INTO NewOfTable (id,username) VALUES ('1’,’fred);*

7. To see the information in the table:

*mysql> Select ColumnName1, Columnname2 from NameOfTable;*

Or, *mysql> Select \* from NameOfTable;*where ‘*\*’*  is wild character that matches everything

8. Drop table in database:

*mysql> drop table NameOfTable;*

9. To drop a database execute the following command

*mysql> drop database NameOfDatabase;*

*A few useful links:*

<https://www.digitalocean.com/community/tutorials/how-to-create-a-table-in-mysql-and-mariadb-on-an-ubuntu-cloud-server>

<https://help.ubuntu.com/lts/serverguide/mysql.html>

http://dev.mysql.com/doc/refman/5.1/en/insert-select.html

http://www.youtube.com/watch?v=3vz4FltGo0A