

Introduction to MySQL Language

What is MySQL?

MySQL is a fast and easy to use RDBMS which can be used in small to large scale organizations. It is robust and flexible, thereby making its usage easier.

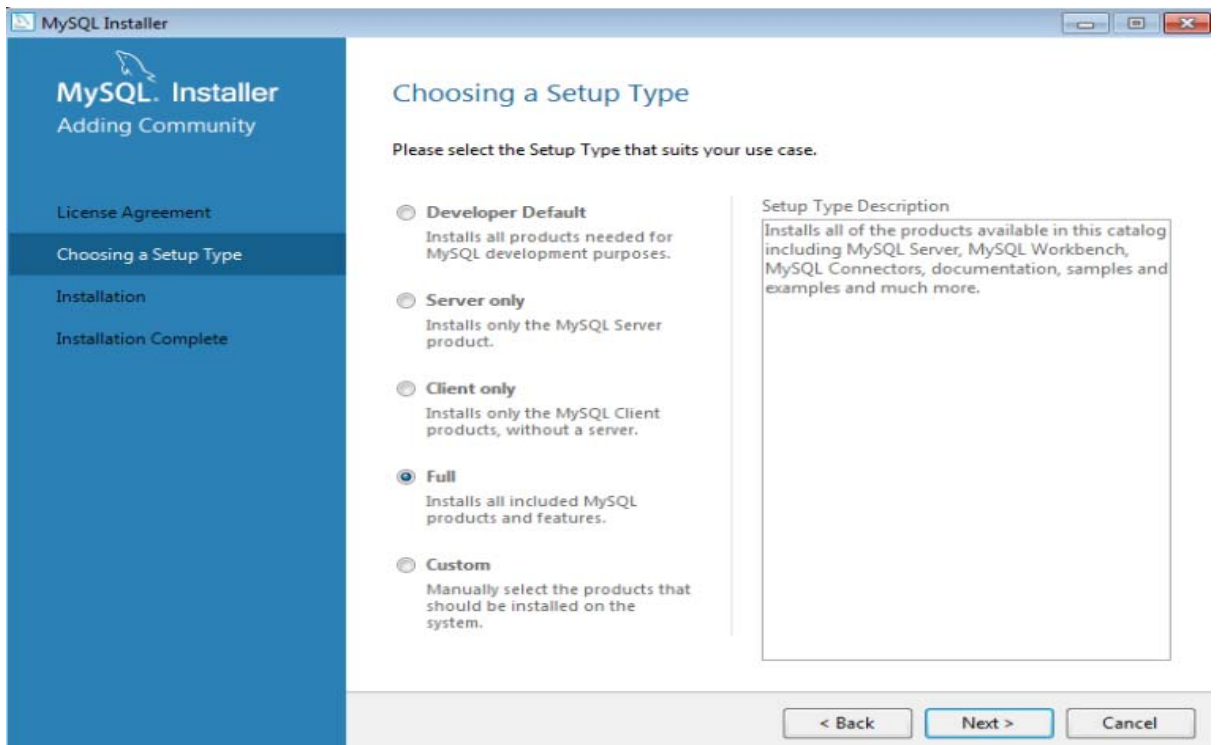
Some of the advantages of using MySQL is:

- ✓ MySQL is open source and is free to use
- ✓ It provides different in-built functions and packages. Provides flexibility to database queries.
- ✓ MySQL works on multiple Operating Systems and can be used with many languages such as Java, C, C ++, PHP, PERL
- ✓ MySQL uses standard form of popularly known SQL language
- ✓ Can easily support large data sets without bringing down the performance
- ✓ MySQL is customizable. By using open-source GPL license, one can modify the MySQL software to fit their environment requirements
- ✓ Is extremely light weight software and comes with easy to install feature
- ✓ MySQL is closely integrated with PHP, thus making it ideal for Web Application development

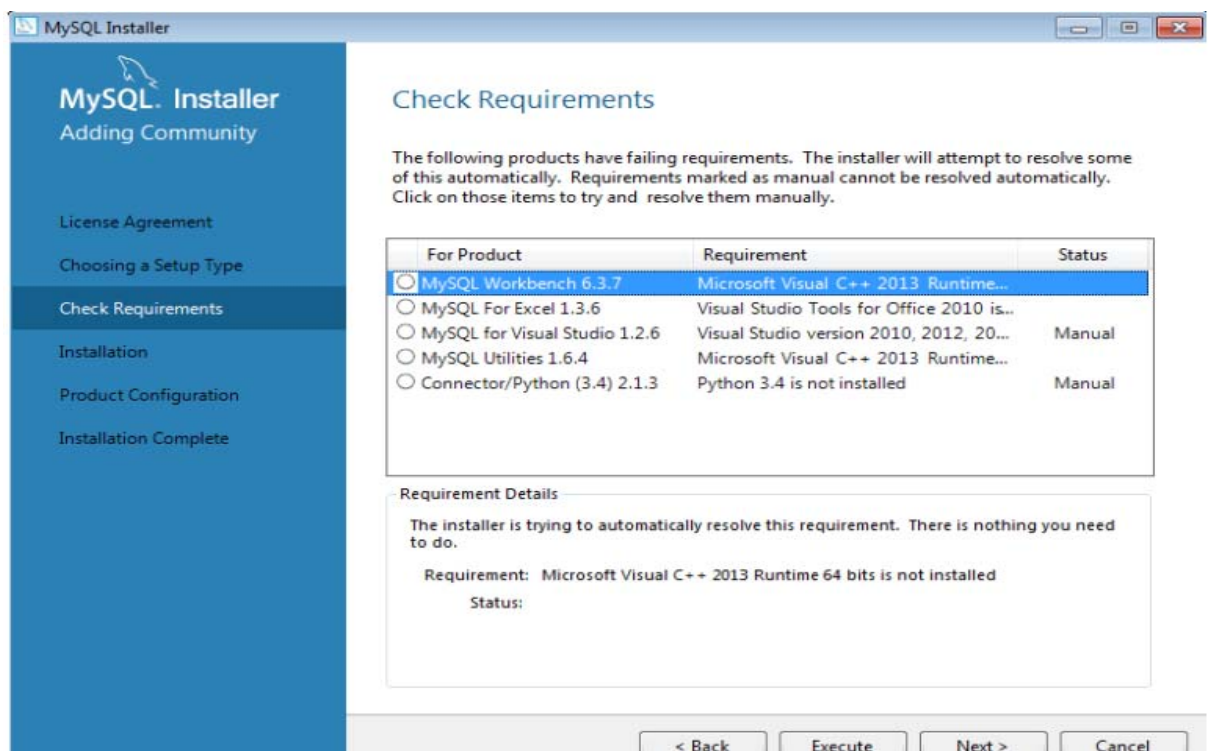
MySQL Installation:

To install MYSQL, download MySQL from dev.mysql.com/downloads/. Once downloaded, extract the zip. This can be in any location within your machine. In case you need a lightweight installation, then you can remove all sub folders except data, bin, scripts and share. Launch the installer as shown below for Windows Installation for MySQL 5.7.16-

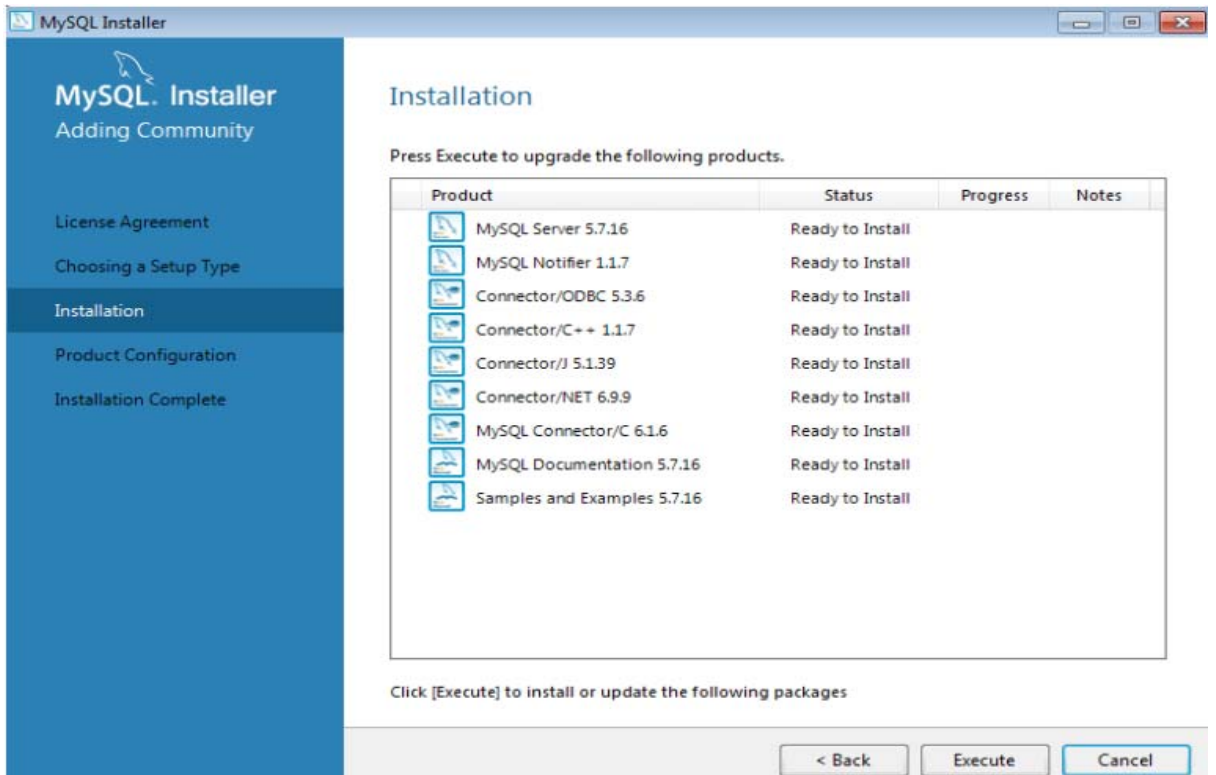
1. Choose setup type-



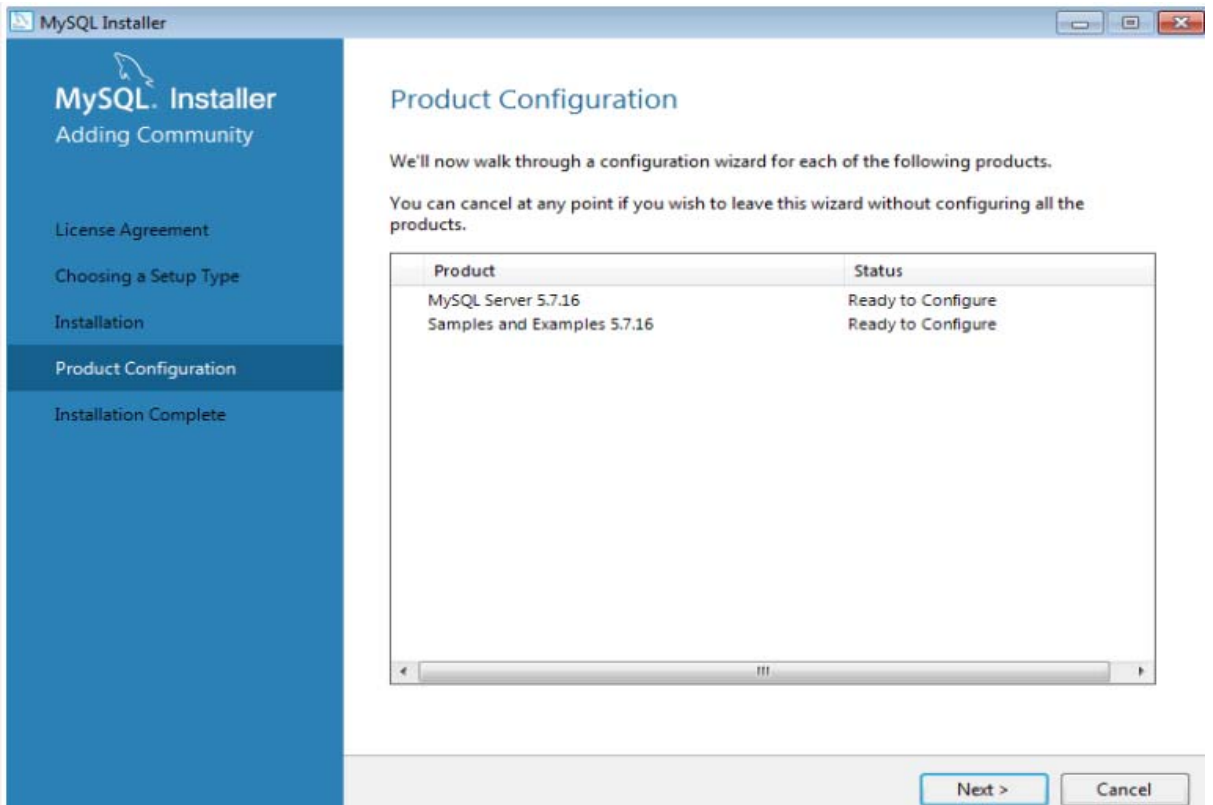
2. Check Requirements



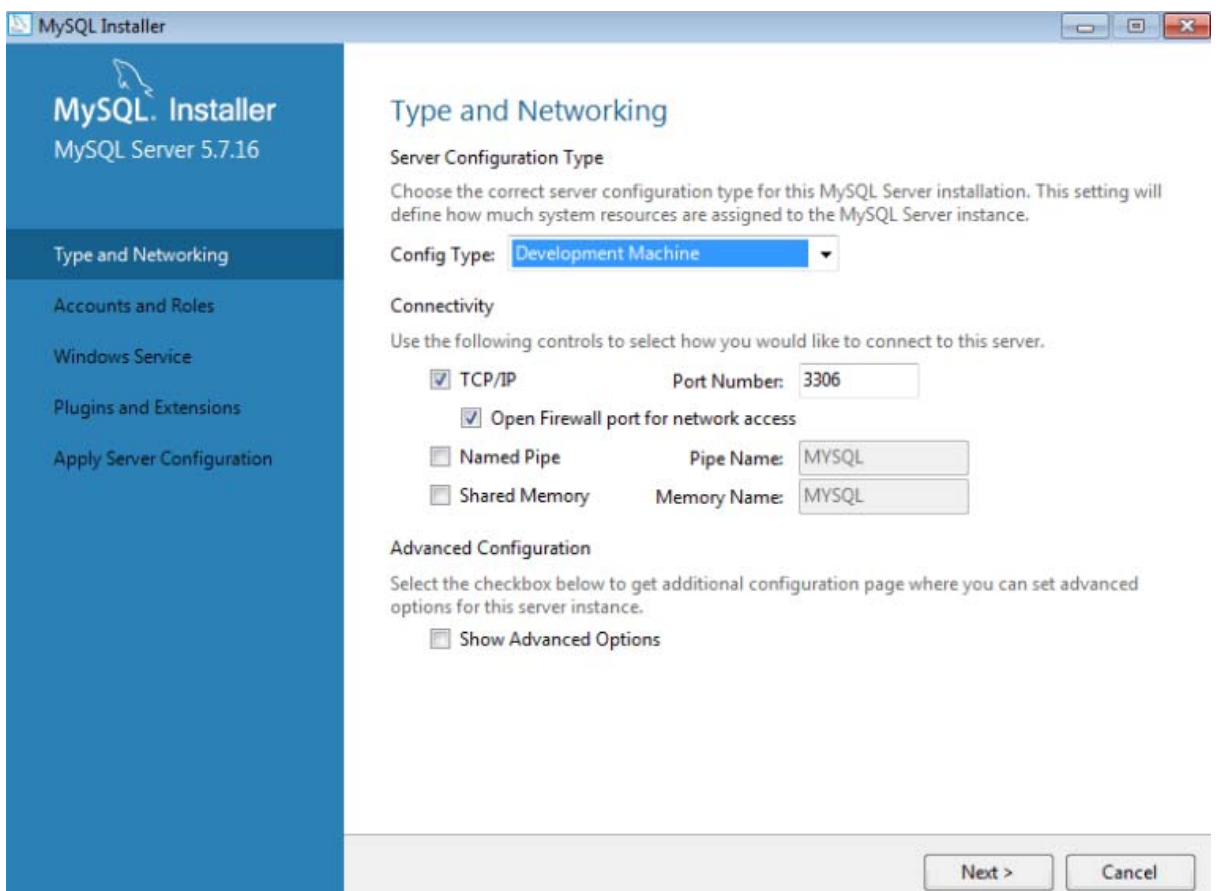
3. Select Installation



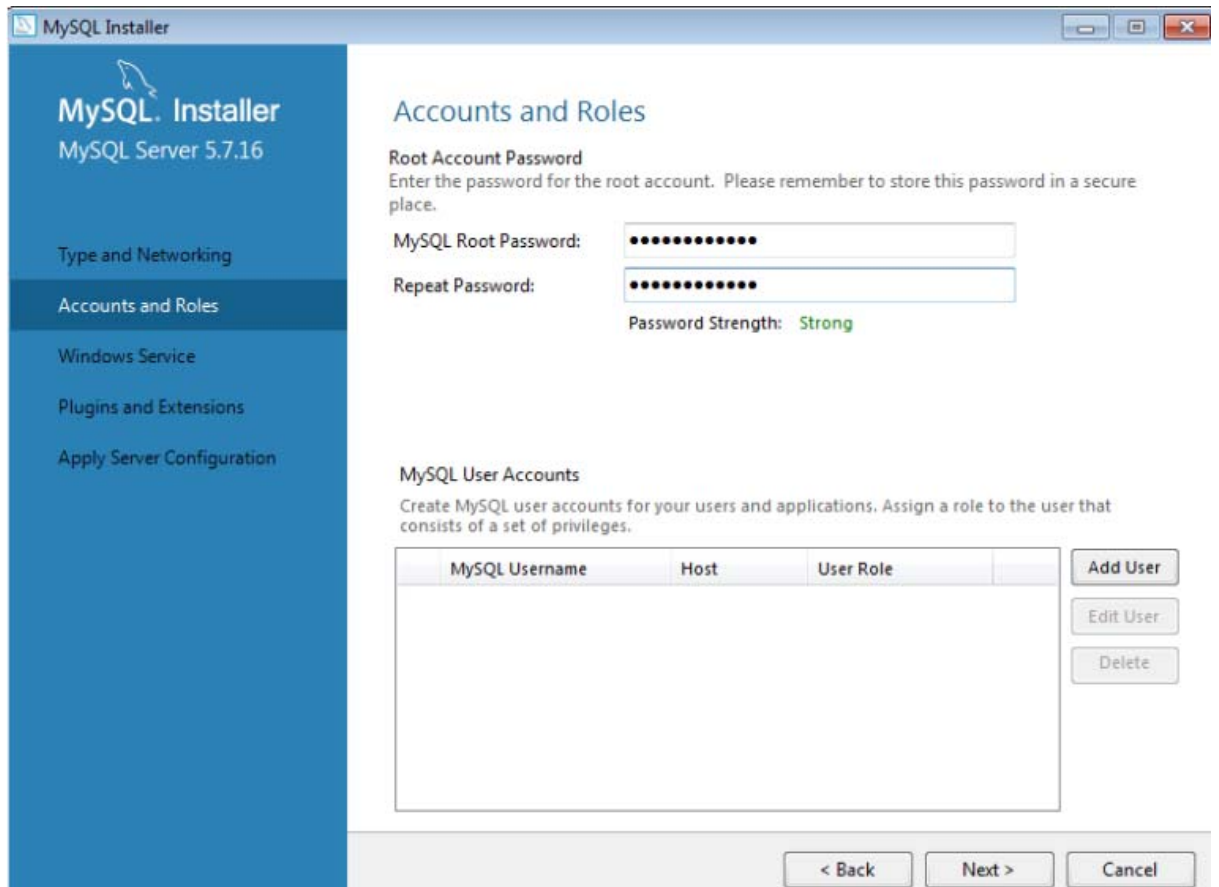
4. Product Configuration



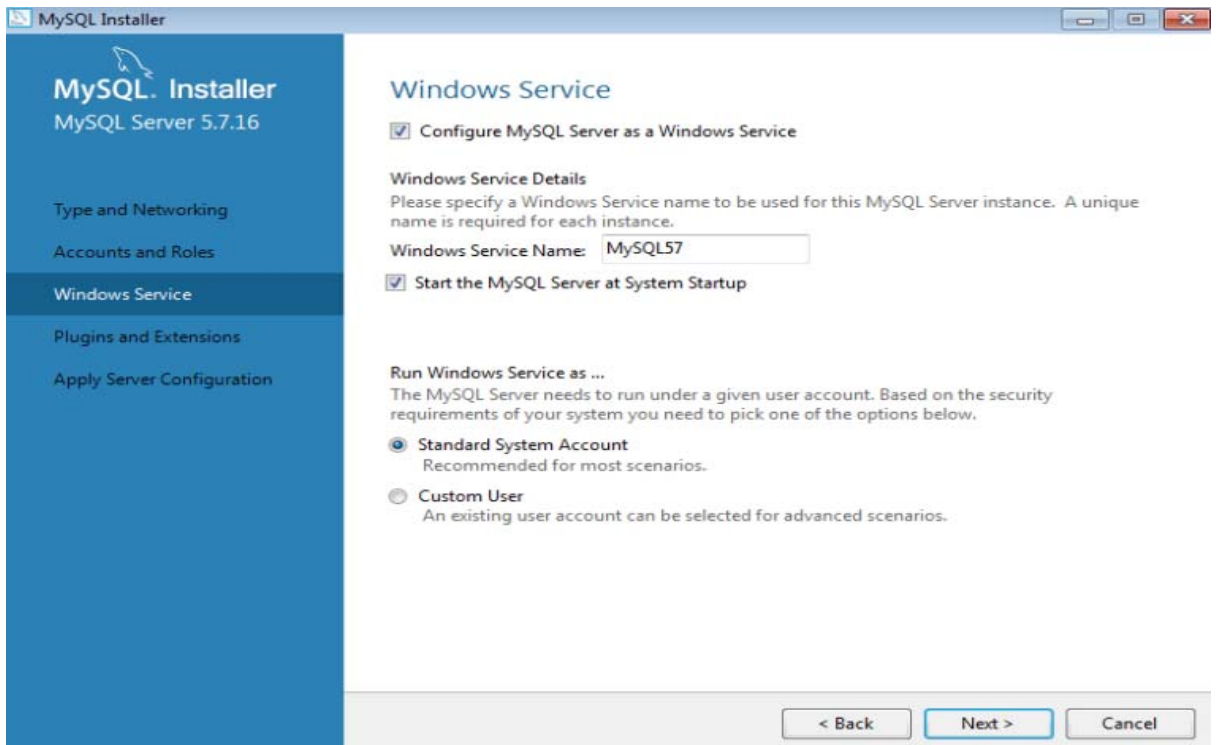
5. Select Network Details and Port number



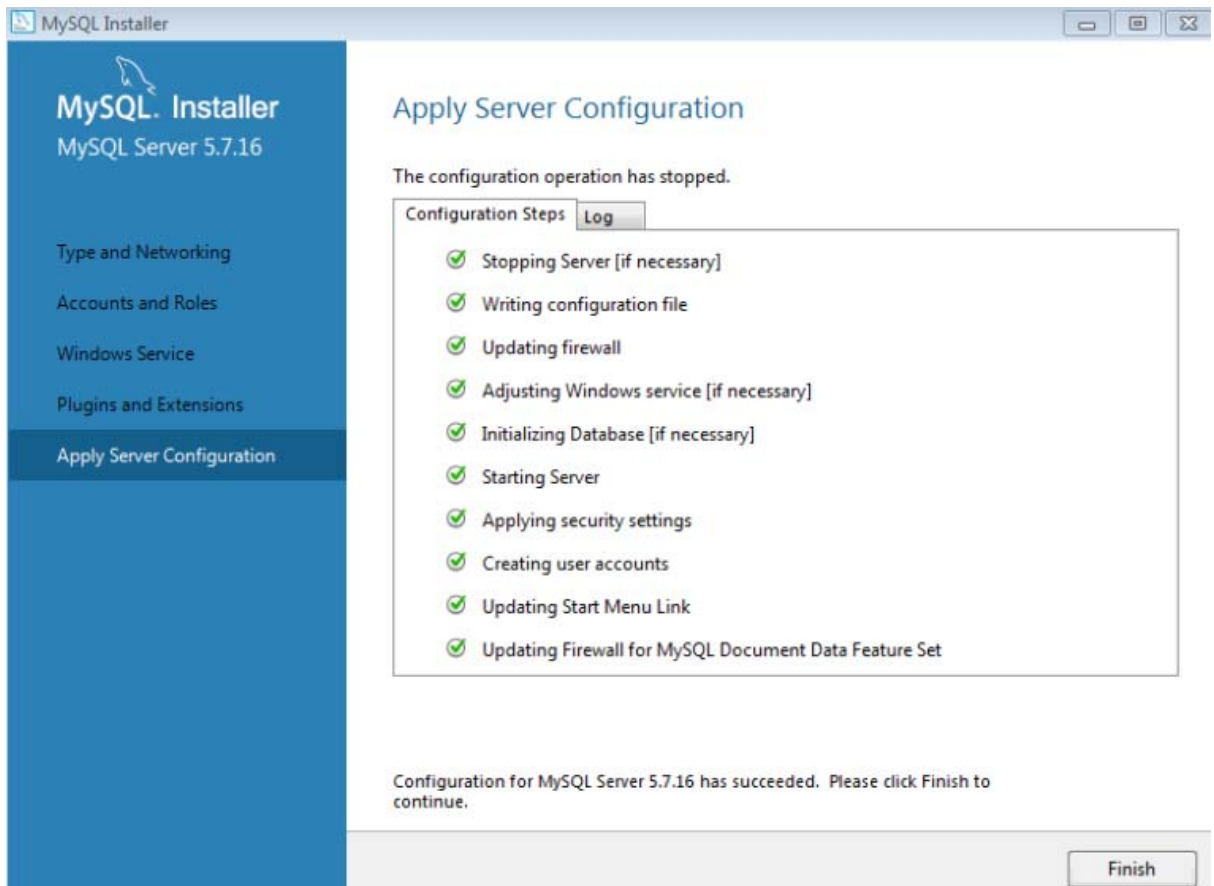
6. Provide Account Root Password



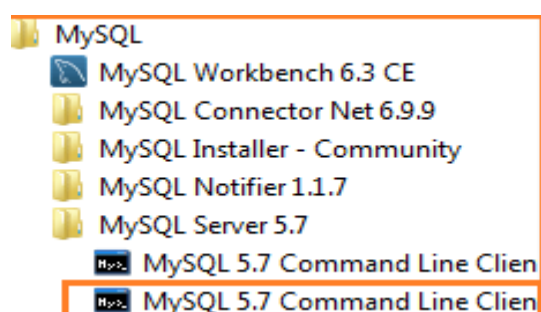
7. Choose Windows Service options



8. Complete Installation

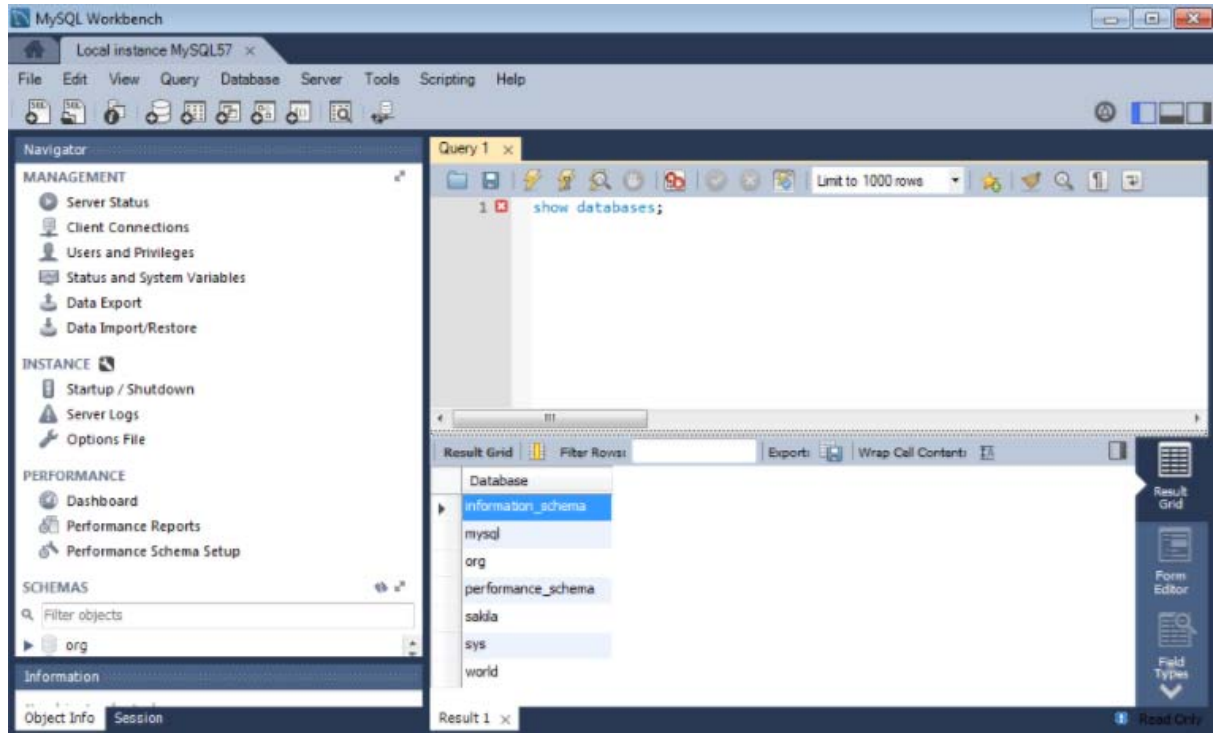


Once installation is complete, you can access MySQL through Command line interface or MySQL Workbench. Command line interface can be selected from “All Programs” in Windows as shown below-



On opening the CLI, it will prompt for password and on entering the correct password, you will be able to access MySQL command prompt to fire queries.

From All Programs, you can select MySQL Workbench. On launching the Workbench, you can select the specific database and password. On successful authentication, you will be able to see the Workbench interface as shown below-



QUERIES IN MySQL:

On completion of MySQL installation as shown above, you can start using MySQL Workbench or CLI to query the database.

1. **Create User** – Below query creates a user mySQLUser in localhost with password Test123

```
CREATE USER 'mySQLUser'@'localhost' IDENTIFIED BY 'Test123';
```

2. **Grant Privileges** – The syntax for grant privilege is

```
GRANT [type of permission] ON [database name].[table name] TO '[username]'@'localhost';  
E.g.: GRANT ALL PRIVILEGES ON * . * TO 'mySQLUser'@'localhost';
```


The above command is to provide read, edit, execute to all tables and databases.

After finalizing the permissions for a new user, reload all the privilege to reflect the new user using-

```
FLUSH PRIVILEGES;
```

The different permissions possible are

- ✓ ALL PRIVILEGES – gives all access to a database
 - ✓ CREATE – gives access to create table or database
 - ✓ DROP – gives access to drop table or database
 - ✓ DELETE – gives access to delete rows from table
 - ✓ INSERT – gives access to insert rows into tables
 - ✓ SELECT – allows to use select command
 - ✓ UPDATE – allows to update rows
 - ✓ GRANT OPTION – allows to grant or remove other user's privileges
3. **Drop User** – Below query can be used to drop user mySQLUser

```
DROP USER 'mySQLUser'@'localhost';
```
 4. **Revoke User** -The syntax to revoke privileges is-

```
REVOKE [type of permission] ON [database name].[table name] FROM  
'[username]'@'localhost';
```
 5. **Show Database** – Command to list all databases is-

```
SHOW DATABASES;
```
 6. **Create Database** – Command to create a new database is-

```
CREATE DATABASE [database name];
```
 7. **Use Database** – Use command is used to tell MySQL to use the database_name as the default/ current database for all subsequent statements

```
USE [database_name];
```

8. **Show Tables** – Show command is used to list all tables in the database

```
SHOW TABLES;
```

9. **Describe Table** – Describe command is used to show the structure of the table

```
DESCRIBE [table_name];
```

10. **Show Columns** – Allows to show all the columns in a table

```
SHOW COLUMNS FROM [table_name];
```

11. **Drop Database** – Allows to drop the specified database

```
DROP DATABASE [database_name];
```

12. **Create table** – Create Table syntax is-

```
CREATE TABLE [table_name](  
    Column1 Type1,  
    Column2 Type2,  
    ...  
);
```

The different datatype available are int, float, double, timestamp, char, varchar, blob, enum

13. **Insert** – Insert syntax is-

```
INSERT INTO [table_name] VALUES(list_of_values);
```

OR

```
INSERT INTO [table_name] SET
```

```
Column1 = Value1,
```

```
Column2 = Value2.
```

...

14. **Update** – Update syntax is-

```
UPDATE [table_name] SET
```

```
Column1 = Value1,
```

Column2 = Value2,

...

WHERE [conditions];

15. **MySQL Mathematical Functions** – The different types of mathematical functions available are- COUNT, AVG, MIN, MAX, SUB, ABS, ROUND, FLOOR, CEILING, SQRT, POW, RAND, SIN, COS.

16. **MySQL String Functions** – The different types of String functions available are – STRCMP, LOWER, UPPER, LTRIM, SUBSTRING, PASSWORD, ENCODE, DECODE, CURDATE, CURTIME, DAYNAME, DAYOFWEEK, MONTHNAME.

CONCLUSION:

MySQL has many other features such as distinct, joins, grouping, alias, grouping filter. A lot of in-built functions makes SQL queries in MySQL easier.

More informations about MySQL language on www.mysqltutorial.co .