

1.1 MySQL Features



1	Type of DB	Relational Database
2	Open Source ?	Yes , Freely available
3	Latest Version	9
4	Port No	3306
5	Owned by	Oracle
6	Built In	C/C++
7	Cross-platform ?	Yes compatible to run on many operating system like Windows* Linux*, Mac
8	Ideal for ?	Small and large applications

website : www.mysql.com

Open Source

- Source code freely available
- Endless flexibility to customize
- Frequent updates and releases
- Free of cost

Proprietary

- Vendor controls source code
- Not freely customizable
- Dependent on vendor for updates
- Licensing and maintenance fees

Open Source Software



vs



Proprietary Software



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1.2 MySQL DB Components

No	Components	Description
1	Database	Collection of tables to store data
2	Table	Defining the data structure and attributes of the stored entities.
3	View	Virtual Table
4	Stored Procedure	Set of SQL statements used multiple times
5	Schema	Defines the logical structure the data base It specifies the tables, their relationships, data types, keys and the constraints that govern the data.
6	Index	Data structures that improve the speed of data retrieval operations.
7	Trigger	Set of SQL statements, that is executed automatically in response to a specified event including INSERT, UPDATE, or DELETE on a particular table.
8	Query	Queries retrieve and manipulate data stored in the data base.

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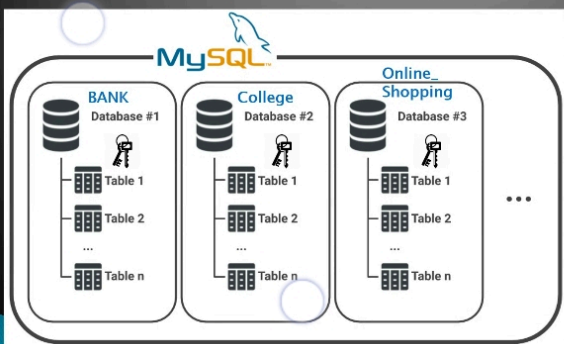




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1.3 DATABASE STRUCTURE



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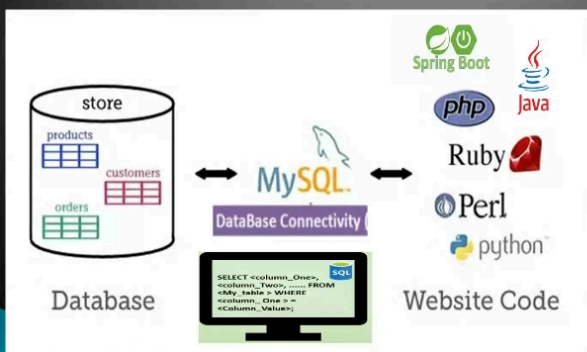




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1.4 DB Interaction :



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Summary : MySQL Features



1. We started with MySQL Features . We learnt main features of MySQL like its version, port no .
It is open source , cross-platform RDBMS.
It is owned by Oracle.
It is built in C/ C++ programming
2. Then we understood the terms like open source and proprietary . We saw difference between them.
3. We learnt different components of MySQL DB like DB, Tables, Views, Procedures, Triggers, Index, Schema.
4. With the help of diagram we understood how MySQL database structure looks like and how front end interacts with DB .

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2.1 SQL



What is Structured Query Language ?

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**Database language used to query and manipulate the data in the database**

- 1 Standard relational database query language used to access the data from the database .
- 2 It is not programming language.
- 3 SQL commands are used to interact with database.
2.1 SQL
- 4 SQL commands are interpreted by DBMS engine.
- 5 SQL commands can perform various tasks like :
 - Creating a database ,table, views
 - Adding data to tables,
 - Dropping the table,
 - Modifying the table,
 - Set permission for users.

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2.2 SQL Commands



1. **DDL** - Data Definition language
2. **DML** - Data Manipulation Language
3. **DCL** - Data Control Language
4. **TCL** - Transaction Query Language

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SQL Commands

**DDL**

Create

Drop

Alter

Truncate

Rename

DML

Insert

Update

Delete

DCL

Grant

Revoke

TCL

Commit

Rollback

Save point

DQL

Select

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DDL Commands	Description
CREATE	Create a new Database / Table / View
ALTER	Modify existing Table / View
DROP	Delete Database / Table / view and its structure
TRUNCATE	Remove data from table
DML Commands	Description
INSERT	Insert new records into table
UPDATE	Modify existing records from table
DELETE	Delete records from the table
SELECT	Retrieve records from table / views
TCL Commands	Description
COMMIT	Saves all changes made during the transaction
ROLLBACK	Undoes all changes made during the transaction
DCL Commands	Description
GRANT	Assigns new privileges to a user account
REVOKE	Removes previously granted privileges from a user account

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3. MySQL Data Types



1

Data Type specifies
the type of value of a variable like integer,
character, floating, double,
Space

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Several participants joined the meeting





3.MySQL Basic Data Types

String Data Type	Description
CHAR	Fixed length string
VARCHAR	Variable length string

Numeric	Description
INT	Numeric value without a decimal
FLOAT	A single-precision floating point number
DOUBLE	A double-precision floating point number

Date & Time	Description
DATE	YY-MM-DD
TIME	hh:mm:ss
DATETIME	YY-MM-DD hh:mm:ss
TIMESTAMP	Timestamp value in date & time
YEAR	YY



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MySQL Storage Engines

Handle SQL operations like
create, read, update data from a
database.



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4 MySQL STORAGE ENGINE



1.MyISAM

2.ISAM

3.InnoDB



4.Merge

5.HEAP



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MySQL Products Overview

MySQL Server

- Community Server
- Enterprise Server
- Embedded Server
- Cluster (Standard and Carrier-Grade)

MySQL GUI Tools

- Query Browser
- Administrator
- Migration Toolkit
- Visual Studio Plug-in
- MySQL Workbench (New!)

MySQL Drivers

- JDBC
- ODBC
- .NET
- PHP

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```
Command Prompt - mysql -u root -p
Microsoft Windows [Version 10.0.18363.628]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\admin>mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.7.36 MySQL Community Server (GPL)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

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Difference between SQL & MySQL

SQL	MySQL
SQL is a language to manage databases.	MySQL is a database software.
SQL is used to query databases.	MySQL stores the data.
SQL is structured query language.	MySQL is RDBMS (Relational Database Management System)
SQL does not provide connectors.	MySQL provide an integrated tool called "MySQL workbench"
SQL codes or commands are used in Oracle, SQL server, PostgreSQL, DB2, MariaDB, MySQL etc.	MySQL uses SQL.

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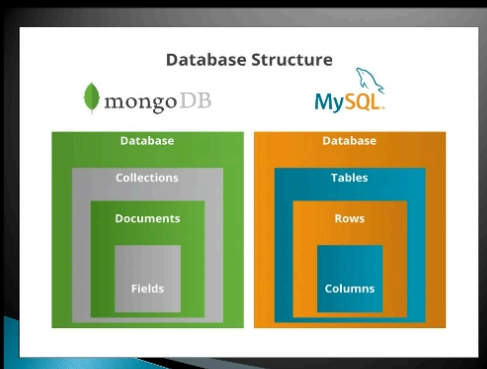
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