

1. What is MySQL?

MySQL is a relational database management system based on SQL (Structured Query Language). It is an open source software owned by Oracle and can run on various platforms. Most websites or web applications are developed using MySQL.

2. In which language has MySQL been written?

MySQL is written in [C](#) and [C++](#). Its SQL parser is written in yacc.

3. What are the advantages of using MySQL?

MySQL is a fast, stable, and reliable solution that provides advantages like:

- Data Security – most secure and reliable [database management](#) system
- Flexibility – runs on all operating systems; features 24X7 support and enterprise indemnification
- High Performance – powerful, designed to meet highly demanding applications while maintaining optimum speed and high performance
- On-demand Scalability – offers on-demand scalability and complete customization
- Enterprise-level SQL Features – the enterprise edition includes advanced features and management tools, and technical support for enterprise
- Full-text Indexing and Searching – has support for full-text indexing and searching
- Query Caching – unique memory caches help enhance the speed of MySQL greatly
- Replication – one MySQL server can be duplicated on another, resulting in numerous benefits

4. What is a database?

A database is a structured repository of data stored electronically in a computer system and organized in a way that data can be quickly searched and information rapidly retrieved. A database is generally controlled by a database management system.

5. What does 'MySQL' stand for?

'My' in MySQL represents the first name of its co-founder, Michael Widenius' daughter, My Widenius. SQL is an abbreviation for the term "Structured Query Language". SQL is also used in databases like Oracle and Microsoft SQL Server.

6. How to check MySQL version?

The command 'MySQL-v' can be used to check MySQL version on Linux

7. What does a MySQL database contain?

A MySQL database contains one or many tables, with each table containing several records or rows. Within these rows, data is contained in various columns or fields.

8. List the ways to interact with MySQL.

There are 3 main ways users can interact with MySQL:

- Using a command line
- Through a web interface
- Using a [programming language](#)

9. What are the different tables in MySQL?

They are:

- MyISAM
- HeapMerge
- INNO DB
- ISAM

10. What are MySQL Database Queries?

A query is a request for data or information from a database. Users can query a database for specific information, and the resultant record/records are returned by MySQL.

11. What are some common MySQL commands?

Some common MySQL commands are:

- CREATE – To create Table
- INSERT – To insert data
- JOIN – To join tables
- DELETE – To delete a row from a table
- ALTER – To alter database or table
- BACKUP – to back up a table
- DROP – To delete a database or table
- CREATE INDEX – to add indexing to a column in a table
- GRANT – To change user privileges
- TRUNCATE – Empty a table
- EXIT – to exit

12. How to create a database in MySQL?

The CREATE DATABASE command can be used to create a new database.

13. How to create table using MySQL?

The following query can be used to create a table:

```
CREATE TABLE 'history' (
    'author' VARCHAR(128),
    'title' VARCHAR(128),
    'type' VARCHAR(16),
    'year' CHAR(4))
ENGINE = InnoDB;
```

A table "history" gets created in the selected database.

14. How to insert data in MySQL?

The INSERT INTO statement is used to insert new records in a table in MySQL.

The two main syntaxes are:

```
INSERT INTO table_name (column 1, column 2, column 3,...columnN)
```

```
VALUES (value 1, value 2, value 3,...valueN)
```

15. How do you remove a column form a database?

The DROP command is used to remove a column from a database.

```
ALTER table 'history' drop column title;
```

16. How to create an index?

There are different types of indexes in MySQL, like a regular INDEX, a [PRIMARY KEY](#), or a FULLTEXT index. Indexes are created on a column basis. Indexing helps to quickly search for results, either by ordering the data on disk or by telling the SQL engine which location to find your data in.

Syntax:

```
ALTER TABLE history ADD INDEX(author(10));
```

17. How do you delete data from MySQL table?

We use the DELETE statement to remove records from a table.

The syntax is as follows:

```
DELETE FROM table_name WHERE column_name
```

18. How can you view a database in MySQL?

The SHOW DATABASES command allows the user to view all databases on the MySQL server host.

```
mysql> SHOW DATABASES;
```

19. How to import database in MySQL?

There are two ways to import database or move data from one place to another:

- Command Line Tool
- MySQL Workbench

20. What are numeric data types in MySQL?

There are numeric data types for integer, fixed-point, floating-point, and bit values in MySQL. Except for BIT, the other numeric data types can be signed or unsigned.

Examples:

INT - Standard Integer

TINYINT - Very Small Integer

SMALLINT - Small Integer

MEDIUMINT - Medium-sized Integer

BIGINT - Large Integer

DECIMAL - Fixed-point number

FLOAT - Single-precision floating-point number

DOUBLE - Double-precision floating-point number

BIT - Bit-field

21. What are string data types in MySQL?

The string [data types in MySQL](#) are:

- CHAR
- VARCHAR
- BINARY
- VARBINARY
- TINYBLOB
- BLOB
- MEDIUMBLOB
- LONGBLOB
- TINYTEXT
- TEXT

- MEDIUMTEXT
- LONGTEXT
- ENUM
- SET
- NULL

22. What are temporal data types in MySQL?

MySQL provides temporal data types for date and time, as well as a combination of date and time. These are:

DATE - A date value in CCYY-MM-DD Format

TIME - A Time value in hh : mm :ss format

DATETIME - 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

23. What is BLOB?

BLOB is an acronym for a binary large object. It is a string data type used to hold a variable amount of data.

24. How do you add users in MySQL?

The CREATE command, along with necessary credentials, can be used to add users.

```
CREATE USER 'testuser' IDENTIFIED BY 'sample password';
```

Intermediate MySQL Interview Questions

25. What are views in MySQL?

A view is a set of rows returned when a particular query is executed in MySQL. It is also known as a virtual table, which does not store any data of its own but displays data stored in other tables.

26. How to create and execute views?

The CREATE VIEW command is used to create a view in MySQL.

The syntax is:

```
CREATE VIEW [databasename.] view_name [(column_list)] AS select-statement;
```

27. What are MySQL triggers?

A task that is executed automatically in response to a predefined database event is known as a trigger. Each trigger is associated with a table and is activated by commands like INSERT, DELETE, or UPDATE.

28. How many triggers are possible in MySQL?

There are 6 different types of triggers in MySQL:

- Before Insert
- After Insert
- Before Update
- After Update
- Before Delete
- After Delete

29. What is MySQL server?

The server 'mysqld' is the MySQL server, which performs all manipulation of databases and tables.

30. What are the clients and utilities in MySQL?

There are several MySQL programs available to help users communicate with the server. Some important ones for administrative tasks are:

.mysql – this interactive program helps to send [SQL statements](#) to the server and view the results. One can even use MySQL to use batch scripts.

.mysqladmin – this administrative program helps perform tasks like shutting down the server, checking configuration, monitoring status if it is not functioning properly.

.mysqldump – for backing up databases or copying them to another server

.mysqlcheck and myisamchk – these programs help perform table checking, analysis, and optimization, plus repairs for damaged tables.

31. What types of relationships are used in MySQL?

Three types of relationships are used in MySQL:

- One-to-one – items with one-to-one relation can be included as columns in the same table
- One-to-many – or many-to-one relationships are seen when one row in a table is related to multiple rows in another table
- Many-to-many – many rows in a table are linked to many rows in another table

32. Explain the logical architecture of MySQL

The top layer comprises the services required by most network-based client/server tools like connection handling, security, authentication, etc.

The 2nd layer comprises code for query parsing, optimization, analysis, caching, and all built-in functions.

The 3rd layer comprises storage engines where storage and retrieval of data stored in MySQL is performed.

33. What is Scaling?

Scaling capacity in MySQL is the ability to handle the load in terms of:

- Data quantity
- Number of users
- User activity
- Size of related datasets

34. What is Sharding?

The process of breaking up large tables into smaller chunks or shards spread across many servers is called sharding. It makes querying, maintenance, and other tasks faster.

35. What are Transaction Storage Engines?

The InnoDB storage engine enables users to use the transaction facility of MySQL.

We hope this list of MySQL interview questions will be helpful for you. Register with Simplilearn today to get access to top-rated courses on [database training](#) and [full stack web development](#).

36. How does MySQL differ from PostgreSQL?

MySQL and PostgreSQL are both popular relational database management systems (RDBMS) but have differences in features, performance, and syntax. MySQL is known for its speed and ease of use, while PostgreSQL is praised for its advanced features, including support for complex data types, transactions, and advanced indexing.

37. Can you explain the difference between MyISAM and InnoDB storage engines?

MyISAM is a storage engine in MySQL known for its simplicity and speed, but lacks support for transactions and foreign keys. InnoDB, on the other hand, is a more robust storage engine that supports transactions, foreign keys, and row-level locking, making it suitable for mission-critical applications.

38. What is a primary key in MySQL?

A primary key in MySQL is a unique identifier for each row in a table. It ensures that each record can be uniquely identified and provides a way to enforce entity integrity. A primary key can consist of one or more columns, and its values cannot be null.

39. Explain the concept of a foreign key.

A foreign key in MySQL establishes a relationship between two tables by linking a column or group of columns in one table to the primary key column(s) in another table. It enforces referential integrity, ensuring that values in the foreign key column(s) match values in the referenced primary key column(s) of the related table.

40. Describe the difference between DELETE and TRUNCATE commands.

The DELETE command is used to remove rows from a table based on specified criteria, allowing for selective deletion. TRUNCATE, on the other hand, removes all rows from a table, resetting auto-increment values, and is faster than DELETE as it does not generate transaction logs.

41. What does the JOIN statement do in MySQL? Explain the different types of joins.

The JOIN statement in MySQL is used to retrieve data from multiple tables based on a related column between them. Different types of joins include INNER JOIN (returns rows when there is a match in both tables), LEFT JOIN (returns all rows from the left table and matching rows from the right table), RIGHT JOIN (returns all rows from the right table and matching rows from the left table), and FULL JOIN (returns all rows when there is a match in either table).

42. How can you optimize a MySQL query?

MySQL query optimization involves various techniques such as indexing, using appropriate data types, minimizing the number of queries, optimizing table structure, avoiding unnecessary calculations, and utilizing query caching.

43. Explain the concept of normalization in database design.

Normalization is the process of organizing data in a database to reduce redundancy and dependency. It involves breaking down tables into smaller, related tables and defining relationships between them to ensure data integrity and minimize anomalies.

44. Describe denormalization and when you might use it.

Denormalization is the process of intentionally introducing redundancy into a database design to improve performance by reducing the number of joins required to retrieve data. It is often used in read-heavy applications where query performance is critical, at the expense of some data redundancy and update complexity.

45. What are transactions in MySQL and how do you manage them?

Transactions in MySQL are sequences of SQL operations that are executed as a single unit of work, either all succeed or all fail. They are managed using the BEGIN, COMMIT, and ROLLBACK statements to start, commit, and roll back transactions, respectively.

46. How would you implement ACID properties in MySQL?

ACID (Atomicity, Consistency, Isolation, Durability) properties can be implemented in MySQL by using transactions to ensure that database operations are atomic, consistent, isolated, and durable.

47. What is the significance of HAVING clause in MySQL?

The HAVING clause in MySQL is used to filter rows returned by a GROUP BY clause based on specified conditions. It is similar to the WHERE clause but is applied after grouping and aggregation functions.

48. Explain the difference between CHAR and VARCHAR data types.

CHAR and VARCHAR are both string data types in MySQL. CHAR stores fixed-length strings, while VARCHAR stores variable-length strings. CHAR is padded with spaces to its defined length, while VARCHAR only stores the actual length of the string.

49. How do you perform a full-text search in MySQL?

Full-text search in MySQL is performed using the MATCH() AGAINST() syntax, where MATCH() specifies the columns to search and AGAINST() specifies the search query. It is applicable only on columns indexed as FULLTEXT.

50. Explain the LIKE clause in MySQL.

The LIKE clause in MySQL is used to search for patterns in strings. It allows the use of wildcard characters such as '%' (matches zero or more characters) and '_' (matches any single character) to perform flexible pattern matching.

51. Describe the use of GROUP BY and ORDER BY in MySQL.

GROUP BY in MySQL is used to group rows that have the same values into summary rows, typically in conjunction with aggregate functions like SUM or COUNT. ORDER BY is used to sort

52. How do you update a value in a MySQL table?

To update a value in a MySQL table, you can use the UPDATE statement followed by the SET clause to specify the column(s) to be updated and their new values, along with optional WHERE clause to filter which rows to update.

53. Explain the use of LIMIT in MySQL.

The LIMIT clause in MySQL is used to constrain the number of rows returned by a query. It is often used in conjunction with the SELECT statement to retrieve a limited number of rows, such as the first 10 rows, or to implement pagination.

54. Explain the difference between INNER JOIN and OUTER JOIN.

INNER JOIN returns only the rows that have matching values in both tables based on the join condition specified, while OUTER JOIN returns all rows from one or both tables, with unmatched rows filled with NULL values where the join condition is not met.

55. Explain the BETWEEN operator in MySQL.

The BETWEEN operator in MySQL is used to select values within a specified range. It includes both the start and end values in the range. For example, column BETWEEN value1 AND value2 selects rows where the column value is between value1 and value2.

56. What is the significance of the AUTO_INCREMENT attribute?

The AUTO_INCREMENT attribute in MySQL is used with numeric primary key columns to automatically generate a unique value for each new row inserted into the table. It simplifies the process of creating primary key values, ensuring uniqueness and sequentiality.

57. Describe how MySQL uses locking to manage concurrency.

MySQL uses locking mechanisms to manage concurrency and ensure data consistency in multi-user environments. It employs various types of locks, including table locks, row locks, and explicit locks, to control access to data and prevent conflicts between concurrent transactions.

58. How would you change a column's data type in an existing MySQL table?

To change a column's data type in an existing MySQL table, you can use the ALTER TABLE statement followed by the MODIFY COLUMN clause, specifying the column name and the new data type.

1. What is MySQL and How does it differ from other relational databases?

MySQL is an **open-source** relational database management system (**RDBMS**) that is widely used for **managing structured data**. It utilizes SQL (Structured Query Language) for **querying and managing data**. MySQL is known for its reliability, scalability, and performance, making it a popular choice for various applications

2. How to create a database in MySQL?

To create a database in MySQL, we can use the **CREATE DATABASE** statement followed by the name we want to give to our database. For example:

```
CREATE DATABASE mydatabase;
```

3. Difference between CHAR and VARCHAR data types.

- **CHAR:** Fixed-length character data type where the storage size is predefined. Trailing spaces are padded to reach the defined length.
- **VARCHAR:** Variable-length character data type where the storage size depends on the actual data length. No padding of spaces is done.

4. Explain the differences between SQL and MySQL?

SQL	MySQL
It is a structured query language that manages the relational database management system.	It is a relational database management system that uses SQL.
It is not an open-source language.	MySQL is an open-source platform. It allows access to anyone.
SQL supports XML and user defined functions.	It doesn't support XML and any user defined functions

SQL	MySQL
SQL can be implemented in various RDBMS such as PostgreSQL, SQLite, Microsoft SQL Server, and others.	MySQL is a specific implementation of an RDBMS that uses SQL for querying and managing databases.
SQL itself is not a product and doesn't have a license. It's a standard language.	MySQL is open-source and available under the GNU General Public License (GPL).

5. What is the MySQL server's default port?

3306 is [MySQL server's](#) default port.

6. How can we learn batch mode in MySQL?

Below is the syntax used to run [batch](#) mode.

mysql <batch-file>;

mysq <batch-file> mysql.out

7. How many different tables are present in MySQL?

There are **5 types of tables** present in MySQL.

- [Heap](#) table
- [merge](#) table
- MyISAM table
- INNO DB table
- ISAM table

8. What are the differences between CHAR and VARCHAR data types in MySQL?

- Storage and retrieval have been different for CHAR and VARCHAR.
- Column length is fixed in CHAR but VARCHAR length is variable.
- CHAR is faster than VARCHAR.
- CHAR datatype can hold a maximum of 255 characters while VARCHAR can store up to 4000 characters.

9. What is Difference between CHAR_LENGTH and LENGTH?

[LENGTH](#) is byte count whereas [CHAR_LENGTH](#) is character count. The numbers are the same for Latin characters but different for Unicode and other encodings.

Syntax of CHAR_LENGTH:

SELECT CHAR_LENGTH(column_name) FROM table_name;

Syntax of LENGTH:

SELECT LENGTH(column_name) FROM table_name;

10. What do you understand by % and _ in the like statement?

'_' corresponds to only one character but '%' corresponds to zero or more characters in the [LIKE](#) statement.

11. How many index columns can be created in a table?

There are **16** indexed columns can be created in a table.

12. What are string types available for columns?

There are six string types available for the column.

- [SET](#)
- [BLOB](#)
- TEXT
- [ENUM](#)
- CHAR
- VARCHAR

13. Explain the main difference between FLOAT and DOUBLE?

- [FLOAT](#) stored floating point number with 8 place accuracy. The size of FLOAT is 4 bytes.
- [DOUBLE](#) also stored floating point numbers with 18 place accuracy. The size of DOUBLE is 8 bytes.

14. Explain the differences between BLOB and TEXT.

BLOB:

A [BLOB](#) is a large object in binary form that can hold a variable amount of data. Sorting and comparing in BLOB values are case-sensitive.

There are four types of BLOB.

- TINYBLOB
- BLOB
- MEDIUMBLOB
- LONGBLOB

TEXT:

[Sorting](#) and comparison are performed in case-insensitive for TEXT values. we can also say a TEXT is case-insensitive BLOB.

There are four types of TEXT.

- TINYTEXT
- TEXT
- MEDIUMTEXT
- LONGTEXT

15. Explain the difference between having and where clause in MySQL.

- [WHERE](#) statement is used to filter rows but [HAVING](#) statement is used to filter groups.
- [GROUP BY](#) is not used with WHERE. HAVING clause is used with GROUP BY.

16. Explain REGEXP?

[REGEXP](#) is a pattern match where the pattern is matched anywhere in the search value.

For more detail you refer to our [MySQL | Regular expressions](#) Article.

17. How can we add a column in MySQL?

A **column** is a series of table cells that store a value for table's each row. we can add column by using [ALTER TABLE](#) statement.

ALTER TABLE tab_name

ADD COLUMN col_name col_definition [FIRST|AFTER exist_col];

18. How to delete columns in MySQL?

We can remove columns in MySQL by using [ALTER TABLE](#) statement.

Syntax:

ALTER TABLE table_name DROP COLUMN column1, column2....;

19. How to delete a table in MySQL?

We can delete a table by using [DROP TABLE](#) statement. This statement deletes complete data of table.

DROP TABLE table-name;

20. How are mysql_fetch_array() and mysql_fetch_object() different from each another?

`mysql_fetch_array()` Gets a result row as a related array or a regular [array](#) from database.
`mysql_fetch_object` gets a result row as an [object](#) from the database.

21. How to get the top 10 rows?

The following query will be used to get top 10 rows.

```
SELECT * FROM table_name LIMIT 0,10;
```

22. How does NOW() differ from CURRENT_DATE()?

current year, month, and date with hours, minutes, and seconds is shown by using [NOW\(\)](#) command while [CURRENT_DATE](#) shows current year current month, and current date.

Syntax:

```
SELECT NOW();
```

```
SELECT CURRENT_DATE();
```

23. What is the use of the ‘DISTINCT’ keyword in MySQL?

the [DISTINCT](#) keyword allows for the removal of all duplicate records and the retrieval of unique records. The DISTINCT keyword is used with the SELECT statement.

Syntax:

```
SELECT DISTINCT colu1, colum2..
```

```
FROM table_name;
```

24. Which storage engines are used in MySQL?

[Storage engines](#) are also called table types. Data is stored in a file using multiple techniques.

Below are some techniques.

- Locking Level
- [Indexing](#)
- Storage mechanism
- Capabilities and functions

25. How to create a table in MySQL?

The [CREATE TABLE](#) command will be used to create a table in MySQL.

Syntax:

```
CREATE TABLE 'Employee' ('Employee_Name' VARCHAR(128), 'Employee_ID' VARCHAR(128),  
'Employee_Salary' VARCHAR(16), 'Designation' CHAR(4)) ;
```

26. How to insert data in MySQL table?

We can add data to a table using the [INSERT INTO](#) statement .

Syntax:

```
INSERT INTO table_name ( field1, field2, field3 )
```

VALUES (value1, value2, value3);

27. Write a statement to find duplicate rows In the MySQL table?

The below statement is used to find duplicate rows.

SELECT Table_Name, Category

FROM Product

GROUP BY Name, Category

HAVING COUNT(id) > 1;

28. What types of relationships are used in MySQL?

There are three types of [relationships](#) used in MySQL.

One-to-one: Elements with a [one to one](#) relationship can be included as columns in the table.

One-to-many: One to many or many to one relationships both are same. It will occur when one row in a table is related to multiple rows in different table.

Many-to-many: Many rows in a table are related to many rows in different table is called many to many relationship.

29. How to insert Date in MySQL?

We can use INSERT statement to insert date in MySQL table. MySQL default date format is YYYY-MM-DD. Automatic MySQL consist many data types to store dates.

- DATE
- DATETIME
- TIMESTAMP
- YEAR

Syntax:

INSERT INTO table_name (column_name, column_date) VALUES ('DATE: Manual Date', '2023-5-20');

30. What is join? Tell different join in MySQL.

[Joins](#) are used to connect two or more tables. It returns only same values in all tables.

There are four different ways to join MySQL tables.

- Inner Join
- left Join
- Right Join
- Full Join

31. What is a primary key? How to drop the primary key in MySQL?

A primary key in MySQL is a single field or a group of fields that are used to uniquely identify each record in a table. A primary key cannot be null or empty. [ALTER TABLE](#) statement is used to delete a primary key from a table.

Syntax:

ALTER TABLE table_name DROP PRIMARY KEY;

32. What is a heap table in MySQL?

A [heap](#) table is usually used for temporary and fast temporary storage.

- BLOB or TEXT fields are not permitted in the heap table.
- [comparison operator](#) like =, <,>, = >,=< can be used only.
- Heap table didn't support the AUTO_INCREMENT command.
- Indexes should be NOT NULL in the heap table.

33. What is the main difference between the primary key and the candidate key?

The primary key uniquely identified each row of a table. only one primary key is available for a table.

- A primary is also a [candidate key](#).
- Candidate key that can be used for all [foreign key](#) references.

For mor detail you can see: [Difference between Primary and Candidate Key](#)

34. What is the difference between DELETE and TRUNCATE commands in MySQL?

[DELETE](#) Command is used to delete rows from the table depending on given the condition. [TRUNCATE](#) command is used to DELETE all rows from the table. DELETE command is a Data Manipulation Language command. TRUNCATE command is a Data Definition Language command.

For More detail you can see : [Difference between DELETE and TRUNCATE](#)

35. What is InnoDB?

A SQL storage database is called InnoDB database. The InnoDB offers [ACID transactions](#), row-level locking, and foreign key support. InnoDB is owned by Oracle Corporation.

36. What is the difference between UNION and UNION ALL in MySQL?

During combining the results of more than one SELECT statement, the [UNION](#) operator deletes duplicate rows between the various SELECT statements. The [UNION ALL](#) also combines the result set of more than one SELECT statement, but it does not delete duplicate rows.

37. What is a ‘timestamp’ in MySQL?

In MySQL, When a row is added to or updated in a table, a data type “[timestamp](#)” automatically records the time.

38. What is the use of ENUMs in MySQL?

ENUM is a string [object](#) that can be used when creating tables to specify a set of predefined values.

CREATE table size(name ENUM('Small', 'Medium', 'Large');

For more detail refer to those article on [Enumerator \(Enum\) in MySQL](#)

39. How can you control max size of heap in MySQL?

MySQL config variable *max_heap_table_size* can be used to control the max size of [heap](#).

Syntax:

SET max_heap_table_size = M

40. What is a view? How to create a view?

A database object that has no value is called view. Rows and columns exist in a view. A view is virtual table. it is created by combining one or more tables. The difference of a view and a table is that views are definition that build on other tables. If the underlying table changes, the View will also reflect those same changes.

The below syntax is used to create a view.

Syntax:

CREATE VIEW view_name AS

SELECT columns

FROM tables

[WHERE conditions];

41. Where MyISAM table will be stored and also give MyISAM formats of storage?

Every MyISAM table is stored on [disk](#).

There are three storage formats can be used .

- The .frm file can be used to store table definition.
- The .MYD(MYData) extension can be used for data files.
- The .MYI(MYIndex) extension can be used to Index files.

42. How can we save images in MySQL?

In MySQL, Blobs can be used to store images. All [database images](#) are first converted into blobs then saved and then they will be added to the database, and finally, it will later be stored on the disk.

43. What are trigger and how many TRIGGERS are available in MySQL table?

A [trigger](#) is a procedural code in a database. Triggers are automatically triggered when specific events occur on a particular table. During column updating triggers are invoked automatically.

SIX triggers are available in MySQL table.

- BEFORE INSERT
- AFTER INSERT
- BEFORE UPDATE
- AFTER UPDATE
- BEFORE DELETE
- AFTER DELETE

For more detail you can see: [Different types of MySQL Triggers \(with examples\) – GeeksforGeeks](#)

44. What are the different characteristics of MySQL MyISAM Static and MyISAM Dynamic?

- Width of all fields is fixed in MyISAM [Static](#) table whereas width of all fields is not fixed in MyISAM [Dynamic](#). In MyISAM Dynamic table width will be like TEXT, BOLD, etc.
- In case of corruption MyISAM static table is easy to store.

MySQL Interview Questions For Experienced

45. What are Access Control Lists?

A list of permissions known as an [Access Control List](#) is connected to an object. It is MySQL server security model helps in troubleshooting issues like users being unable to connect. MySQL holds the ACL's cached in memory. ACL's also called grant tables. MySQL verifies the authentication data and permissions against the ACLs. It predetermined order whenever a user tries to log in or execute a command.

46. What is Normalization and list the different types of normalization?

[Normalization](#) is used to avoid duplication and redundancy. it is a process of organizing data. There are many normal forms of normalization. which are also called successive levels. The first three regular forms are sufficient.

- **First Normal Form (1NF):** There are no repeating groups within rows.
- **Second Normal form(2NF):** Value of every supporting column depending on the whole primary key.
- **Third Normal Form(3NF):** It depends only on the *primary key* and no other value of non-key column.

47. What are various ways to create an index?

There are many options to create an index as below:

- [T-SQL](#) statements can be used to create an index.
- The SQL Server Management Studio is available for use. we can use this to browse to the table where the index will be created, and then right-click on the Indexes node. We must select the New Index option over here.
- We can identify the index indirectly by specifying the [PRIMARY KEY](#) and the [UNIQUE](#) constraint in the [CREATE TABLE](#) or [ALTER TABLE](#) statement.

48. What are a clustered index and a non clustered index?

Cluster Index: An index type used to arrange data in a table is called a [clustered index](#). The table's data are stored in a specific order based on the clustered index.

Non Cluster Index: A [non-clustered index](#) is also a type of index used to organize data in a table. The table's data are not stored in a specific order based on the non clustered index.

For more details, Check our latest article on [Difference between Clustered and Non-clustered index](#).

49. How to validate emails using a single query?

We can use the [regular expressions function](#) (REGEXP_LIKE) to validate emails. Below is the example of validate emails using a single query.

SELECT

Email

FROM

Vehicle

where NOT REGEXP_LIKE(*Email*, '[A-Z0-9._%+-]+@[A-Z0-9.-]+.[A-Z]{2,4}', 'i');

For detail you can check our latest article on [Regular expressions \(Regexp\)](#).

50. How can you handle the –secure-file-priv in MySQL?

The MySQL Server is restricted from loading directories using the [LOAD DATA INFILE](#) command by the - secure-file-priv option. Use the SHOW VARIABLES LIKE “secure_file_priv” command to view the directory that has been configured.

There are two options to handle as below.

- Either transfer your file to the directory that secure-file-priv specifies.
- Or you can turn off secure-file-priv. This must be removed at the beginning and cannot be disabled later.