IDB-BISEW IT Scholarship Project

**Round -39**MySQL Descriptive Question and Answer

**Chapter 25-29: MySQL**

* **What is query caching?**

Query caching is one of the MySQL’s greatest speed enhancements. Simple and highly effective when enabled, allows MySQL to store SELECT queries, along with their corresponding results in memory.

* **What is storage engine?**

The storage engines manage data storage and index management for MySQL. The MySQL server communicates with the storage engines through a defined API. Example of some storage engines are: InnoDB, MyISAM, MEMORY etc.

* **What are the advantages of Innodb table?**

The advantages are:

* It can update-intensive tables
* Support transactional databases
* Manage sensitive data
* Capable of automatically recovering from a crash.
* **Briefly describe the following Engines MyISAM and InnoDB.**

MyISAM:

* MyISAM become MYSQL's default storage engine as of version 3.23.
* MyISAM tables are operating system independent.
* Capable of sorting more data, but at a cost of less storage space than counterpart.
* Three MyISAM formats: static, dynamic, and compress are available.

InnoDB:

* Robust transactional storage engine
* Working with large data stores.
* It has been available to MySQL users since version 3.23 and effective solution for transactional applications.
* **What are the differences between primary key and unique?**
* Each record of the table is identified by Primary key whereas unique key can’t.
* Primary key doesn’t support null value but unique key support repeatable null value.
* **How does the session data store in computer?**

Answer: Session data can be stored in four ways:

* Within flat failes (files),
* Within volatile memory (mm),
* Using the SQLite database (sqlite), or
* Through user-defined functions (user).
* **Classify the MySQL datatypes.**

Answer: MySQL broken down datatypes in three broad categories:

a) Date and time b) Numeric data types c) String data types

a) Data types in Date and time category:

* DATE
* DATETIME
* TIME
* TIMESTAMP
* YEAR

b) Data types in Numeric category:

* BOOL, BOOLEAN
* BIGINT
* INT
* MEDIUMINT
* SMALLINT
* TINYINT
* DECIMAL
* DOUBLE
* FLOAT ([M,D])
* FLOAT (precision)

c) Data types in String category:

* CHAR
* VARCHAR
* LONGBLOB
* LONGTEXT
* MEDIUMBLOB
* MEDIUMTEXT
* BLOB
* TEXT
* TINYBLOB
* TINYTEXT
* ENUM
* SET
* **Name all the MySQL data type attributes.**

**Answer:** MySQL supported data type attributes are:

1. AUTO\_INCREMENT

2. BINARY

3. DEFAULT

4. INDEX

5. NATIONAL

6. NOT NULL

7. NULL

8. PRIMARY KEY

9. UNIQUE

10. ZEROFIL

* **Write the examples for the following mysql commands on the table.**

a) SHOW b) CREATE c) INSERT d) UPDATE e) SELECT f) ALTER g) DESC h) DESCRIBE i) DROP

j) DELETE

**Answer:**

a) example:

mysql> show tables;

b) example:

mysql>create table book(

id int(10) not null auto\_increment primary key,

title varchar(50) not null,

author varchar(50)

);

c) example:

mysql>insert into book(title,author)values('MySQL','Mikel Jone');

d) example:

mysql>update book set title='Advanced MySQL' where id=1;

e) example:

mysql>select id, title, author from book;

f) example:

mysql>alter table book add column isbn varchar(20);

g) example:

mysql>desc book;

h) example:

mysql>describe book;

i) example:

mysql>drop table book;

j) mysql>delete from book where id=3;

* **What are the purposes of GRANT and REVOKE commands?**

**Answer:** The GRANT and REVOKE commands are used to manage access privileges. GRANT command needs to assign new privileges to a user or group of users whereas the REVOKE command is responsible for deleting previously granted privileges from user or group of users.

**Example:**

mysql> GRANT select, insert ON library.book TO jone@localhost IDENTIFIED BY 'open123';

mysql> REVOKE insert ON library.book TO jone@localhost;

* **What is the benefit of using prepared statement?**
* To help resolve the issues incurred by repeatedly executed queries, prepared statement is used.
* To accomplish the repetitive tasks at a significantly lower cost of overhead, and with fewer lines of code.
* **What are the advantages of using indexes?**
* Query optimization: database searches can be most efficiently executed when the target data is sorted.
* Uniqueness: guaranteeing uniqueness for each row.
* Text searching: it’s possible to optimize searching against even large amounts of text located in any field indexed as such.
* **How can you export data in mysql?**

We can export data in two ways:

* mysqldump client is used to export existing table data, table structures, or both from the MySQL server.
* SELECT \* INTO OUTFILE "data.txt"

FIELDS TERMINATED BY '\t' LINES TERMINATED BY '\r\n'

FROM company.sales;

* **What is the difference between fetch\_row() and fetch\_array()?**
* fetch\_row() method is actually capable of retrieving each row of the result set as numerical array but
* fetch\_array() method is capable to retrieving associative array, a numerical array, or both.
* **What is the difference between MYISAM and InnoDB engine?**

The main difference is InnoDB supports transactions. You can do commit and rollback in InnoDB table. Whereas MyISAM doesn't support the transaction, once you issue command, can't rollback.

* **What are the purposes of INFORMATION\_SCHEMA database?**

The INFORMATION\_SCHEMA offers a solution for using typical SELECT queries to learn more about databases and various server settings.

**Chapter 30: Using PHP with MySQL**

* **Write down mysqli connection string.**
* **What is MYSQLI\_ASSOC and MYSQLI\_NUM?**
* **What is num\_rows() and affected\_rows?**
* **Difference between before trigger and after?**

Ans: Before triggers can be used to update or validate record values before they are saved to the database.  
  
After triggers can be used to access field values that are set by the database (such as a record's Id or lastUpdated field) and to affect changes in other records, such as logging into an audit table or firing asynchronous events with a queue.

* **What is transaction?**

**Ans:** A transaction is an ordered group of database operations that are treated as a single unit.

* **What are the advantages of using indexes?**

**Ans:**

* Query optimization: database searches can be most efficiently executed when the target data is sorted.
* Uniqueness: guaranteeing uniqueness for each row.
* Text searching: it’s possible to optimize searching against even large amounts of text located in any field indexed as such.
* **What are the advantages of using view?**

**Ans:**

* Simplicity- prevents repeatedly querying multiple tables to retrieve information.
* Security- provides security for secure data.
* Maintainability- it is easier to maintain.
* **What are the benefits of using triggers?**

**Ans:**

* Audit trails – able to create an additional special logging table.
* Validation – minimum-order threshold can be ensured.
* Referential integrity Enforcement- table relationship can remain stable throughout the lifetime of the project using trigger.
* **What are the differences between primary key and unique?**

**Ans:**

i. Each record of the table is identified by Primary key whereas unique key can’t.

ii. Primary key doesn’t support null value but unique key support repeatable null value.