1. **What is SQL Server?**

**Ans: SQL** - Structured query language is the standard command set used to communicate with the relational database management system.

**Sql server** - is commonly used as the backend system for websites and corporate CRMs and can support thousands of concurrent users. SQL Server is much more robust and scalable than a desktop database management system such as Microsoft Access.

1. **What is PL/SQL?**

**Ans: SQL** is a query language to operate on sets. It is more or less standardized, and used by almost all relational database management systems: **SQL Server**, **Oracle**, MySQL, PostgreSQL, DB2, Informix, etc. **PL**/**SQL** is a proprietary procedural language used by **Oracle**. **PL**/pgSQL is a procedural language used by PostgreSQL

1. **What is the difference between SQL and PL/SQL?**

**Ans:**

* SQL is a **Structured Query Language** used to issue a single query or execute a single insert/update/delete.
* PL-SQL is a programming **language SQL**, used to write full programs using variables, loops, and operators etc. to carry out multiple selects/inserts/updates/deletes.
* SQL may be considered as the source of data for our reports, web pages and screens.
* PL/SQL can be considered as the application language similar to Java or PHP. It might be the language used to build, format and display those reports, web pages and screens.
* SQL is a data oriented language used to select and manipulate sets of data.
* PL/SQL is a procedural language used to create applications.

1. **What is database engine in SQL Server?**

**Ans:** The **Database Engine component** of SQL Server is the core service for storing, processing, and securing data. The Database Engine provides controlled **access** and rapid transaction processing to meet the requirements of the most demanding data consuming applications in your enterprise.

1. **What are the Analysis Services in SQL Server?**

**Ans:** Microsoft **SQL Server Analysis Services**, **SSAS**, is an online analytical processing (OLAP) and data mining tool in Microsoft **SQL Server**. **SSAS** is **used as** a tool by organizations to analyze and make sense of information possibly spread out across multiple databases, or in disparate tables or files.

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1. **What are the integration services in SQL Server?**

**Ans: SQL Server Integration Services** (SSIS) is a component of the **Microsoft SQL Server** database software that can be used to perform a broad range of data migration tasks. First released with **Microsoft SQL Server** 2005, SSIS replaced Data Transformation **Services**, which had been a feature of **SQL Server** since Version 7.0.

1. **What are the data quality services in SQL Server?**

**Ans:**

1. **What are the reporting services in SQL Server?**

**Ans: SQL Server Reporting Services** (**SSRS**) is a **server**-based **report** generating software system from **Microsoft**. It is part of a suite of **Microsoft SQL Server services**, including SSAS (**SQL Server** Analysis **Services**) and SSIS (**SQL Server** Integration **Services**).

1. **What are the master data services in SQL Server?**

**Ans: Microsoft SQL Server Master Data Services** is a **Master Data Management** (MDM) product from **Microsoft** that ships as a part of the **Microsoft SQL Server** relational database **management** system. **Master Data Services** (MDS) is the **SQL Server** solution for **master data management**.

1. **What is RDBMS?**

**Ans:** RDBMS stands for **R**elational **D**atabase **M**anagement **S**ystem. RDBMS is the basis for SQL, and for all modern database systems like MS SQL Server, IBM DB2, Oracle, MySQL, and Microsoft Access.

A Relational database management system (RDBMS) is a database management system (DBMS) that is based on the relational model as introduced by E. F. Codd.

1. **What is a database table?**

**Ans:** The data in an RDBMS is stored in database objects which are called as **tables**. This table is basically a collection of related data entries and it consists of numerous columns and rows.

Remember, a table is the most common and simplest form of data storage in a relational database.

1. **How to create a table in SQL?**

**Ans:** CREATE TABLE table name (  
    column1 datatype*,*    column2 datatype*,*    column3 datatype*,  
   ....  
);*

1. **How to delete a table in SQL Server?**

**Ans:** DROP TABLE table name;

1. **How to update a database table using SQL?**

**Ans:** ALTER TABLE table name  
ADD column name datatype;

1. **What are the two authentication modes in SQL Server?**

**Ans:** There are **two** possible **modes**: Windows **Authentication mode** and mixed **mode**. Windows **Authentication mode** enables Windows **Authentication** and disables **SQL Server Authentication**. Mixed **mode** enables both Windows **Authentication** and **SQL Server Authentication**.

1. **What are the System Database in Sql server?**

**Ans: Master** - Stores system level information such as user accounts, configuration settings, and info on all other databases.

**Model** - database is used as a template for all other databases that are created

**Msdb** - Used by the SQL Server Agent for configuring alerts and scheduled jobs etc

**Tempdb** - Holds all temporary tables, temporary stored procedures, and any other temporary storage requirements generated by SQL Server

1. **What are some of the objects held in a database?**

**Ans:** A **database object** is any defined **object in a database** that is used to store or reference data. Some examples of **database objects** include tables, views, clusters, sequences, indexes, and synonyms. The table is this hour's focus because it is the primary and simplest form of data storage in a relational **database**.

1. **What is the difference between char, varchar and varchar?**

**Ans: Varchar** stores UNICODE data. If you have requirements to store UNICODE or multilingual data, **varchar** is the choice. **Varchar** stores ASCII data and should be your data type of choice for normal use. Regarding memory usage, **varchar** uses 2 bytes per character, whereas **varchar** uses 1

1. **What are Data files?**

**Ans:** A **Data file** is a computer **file** which stores **data** to be used by a computer application or system. ... Compilers read source **files** and generate executable **files**. A **file** itself is an ordered collection of bytes stored on a storage device like tape, magnetic disk, optical disc etc.

1. **Define Primary Key?**

**Ans:** A **primary key** is a field in a table which uniquely identifies each row/record in a database table. **Primary keys** must contain unique values. A **primary key** column cannot have NULL values. A table can have only one **primary key**, which may consist of single or multiple fields.

1. **Define Unique Key?**

**Ans:** SQL **UNIQUE** Constraint. The **UNIQUE** constraint ensures that all values in a column are different. Both the **UNIQUE** and PRIMARY **KEY** constraints provide a guarantee for uniqueness for a column or set of columns. A PRIMARY **KEY** constraint automatically has a **UNIQUE** constraint.

1. **What are the difference between primary keys and foreign keys?**

**Ans:**

1. Behavior: **Primary Key** is used to identify a row (record) **in a** table, whereas **Unique**-**key** is to prevent duplicate values **in a** column (with the exception of a null entry).

2. Indexing: By default, SQL-engine creates Clustered Index on **primary**-**key** if not exists and Non-Clustered Index on **Unique**-**key**.

1. **What is SQL Profiler?**

**Ans:** Microsoft **SQL** Server **Profiler** is a graphical user interface to **SQL** Trace for monitoring an instance of the Database Engine or Analysis Services. You can capture and save data about each event to a file or table to analyze later.

1. **What is an identity column?**

**Ans:** Identity column. An identity column is a column (also known as a field) in a database table that is made up of **values** generated by the database. This is much like an AutoNumber field in Microsoft Access or a sequence in Oracle.

1. **What is NOT NULL Constraint?**

**Ans: SQL NOT NULL Constraint**. By default, a column can hold **NULL** values. The **NOT NULL constraint** enforces a column to **NOT** accept **NULL** values. This enforces a field to always contain a value, which means that you cannot insert a new record, or update a record without adding a value to this field.

1. **What is the meaning of Not Null in SQL?**

**Ans:** The **SQL NULL** is the term used to represent a missing value. A **NULL** value in a table is a value in a field that appears to be blank. A field with a **NULL** value is a field with no value. It is very important to understand that a **NULL** value is different than a zero value or a field that contains spaces.

1. **What does NULL mean?**

**Ans: Null** (or **NULL**) is a special marker used in Structured Query Language to indicate that a data value **does** not exist in the database.

1. **What is the difference between a check constraint and a rule?**

**Ans:** The major difference between rule and Check is re usability. Check constraint is associated with columns in a Table. So these can't be re-used. Rules are defined with in a database and can be applied to any number of columns.

1. **What is a default constraint?**

**Ans:** The **DEFAULT constraint** is used to provide a **default** value for a column. The **default** value will be added to all new records IF no other value is specified.

1. **What is a constraint in SQL?**

**Ans: Constraints** are rules and restrictions applied on a column or a table such that unwanted data can't be inserted into tables. This ensures the accuracy and reliability of the data in the database. We can create **constraints** on single or multiple columns of any table.

1. **How do I define constraints in SQL?**

**Ans:** SQL constraints are used to specify rules for data in a table.

Constraints can be specified when the table is created with the CREATE TABLE statement, or after the table is created with the ALTER TABLE statement.

1. **What is a join in SQL Server?**

**Ans: Join** (**SQL**) An **SQL join** clause combines columns from one or more tables in a relational database. It creates a set that can be saved as a table or used as it is. A **JOIN** is a means for combining columns from one (self-**join**) or more tables by using values common to each.

1. **What are different types of joins in SQL Server?**

**Ans:** A JOIN clause is used to combine rows from two or more tables, based on a related column between them.

* **(INNER) JOIN**: Returns records that have matching values in both tables
* **LEFT (OUTER) JOIN**: Return all records from the left table, and the matched records from the right table
* **RIGHT (OUTER) JOIN**: Return all records from the right table, and the matched records from the left table
* **FULL (OUTER) JOIN**: Return all records when there is a match in either left or right table



1. **Define Joins?**

**Ans:** Description. **SQL Server** (Transact-**SQL**) **JOINS** are used to retrieve data from multiple tables. A **SQL Server JOIN** is performed whenever two or more tables are joined in a **SQL** statement. There are 4 different types of **SQL Server joins**: **SQL Server** INNER **JOIN** (or sometimes called simple **join**)

1. **What is Cross Join?**

**Ans:** The **SQL CROSS JOIN** produces a result set which is the number of rows in the first table multiplied by the number of rows in the second table if no WHERE clause is used along with **CROSS JOIN**. This kind of result is called as Cartesian product. If WHERE clause is used with **CROSS JOIN**, it functions like an INNER**JOIN**.

1. **What is Self-Join?**

**Ans:** A **self-join** is a **join** in which a table is joined with itself (which is also called Unary relationships), especially when the table has a FOREIGN KEY which references its own PRIMARY KEY. To **join** a table itself means that each row of the table is combined with itself and with every other row of the table.

1. **Define Inner Joins?**

**Ans: SQL** - **INNER JOINS**. Advertisements. The most important and frequently used of the **joins** is the **INNER JOIN**. They are also referred to as an EQUIJOIN. The **INNER JOIN** creates a new result table by combining column values of two tables (table1 and table2) based upon the **join**-predicate.

1. **What is Left Outer Join?**

**Ans:** A **LEFT OUTER JOIN** is one of the **JOIN** operations that allow you to specify a **join** clause. It preserves the unmatched rows from the first (**left**) table, joining them with a NULL row in the shape of the second (right) table.

1. **What is Right Outer Join?**

**Ans:** A **RIGHT OUTER JOIN** is one of the **JOIN** operations that allow you to specify a **JOIN** clause. It preserves the unmatched rows from the second (**right**) table, **joining** them with a NULL in the shape of the first (left) table. A LEFT **OUTER JOIN** B is equivalent to B **RIGHT OUTER JOIN** A, with the columns in a different order.