Teradata-Frequently asked questions

1. **How do you define Teradata? Give some of the primary characteristics of the same.**

   Teradata is basically an RDMS which is used to drive the DataMart, Data warehouse, OLAP, OLTP, as well as DSS Appliances of the company. Some of the primary characteristics of Teradata are given below.
   - Is capable of running on Single-nodes, as well as multi-nodes.
   - Parallelism is built into the system.
   - Very much compatible with the standards of ANSI.
   - Tends to act in the same way as a server.
   - It is an Open System that basically executes for UNIX MR-RAS, Suse Linux ETC, WIN2K, etc.

2. **Highlight a few of the important components of Teradata**
   Some of the important components of Teradata are: –
   - Bynet
   - Access Module Processor (AMP)
   - Parsing Engine (PE)
   - Virtual Disk (vDisk)
   - Virtual Storage System (VSS)

3. **In Teradata, how do we Generate Sequence?**
   In Teradata, we Generate Sequence by making use of Identity Column

4. **If Fast Load Script fails and only the error tables are made available to you, then how will you restart?**
   There are basically two ways of restarting in this case.
   - **Making the old file to run** – Make sure that you do not completely drop the error tables. Instead, try to rectify the errors that are present in the script or the file and then execute again.
   - **Running a new file** – In this process, the script is executed simply using end loading and beginning statements. This will help in removing the lock that has been put up on the target table and might also remove the given record from the fast-log table. Once this is done, you are free to run the whole script once again.

5. **What is the meaning of Caching in Teradata?**
   Caching is considered as an added advantage of using Teradata as it primarily works with the source which stays in the same order i.e. does not change on a frequent basis. At times, Cache is usually shared amongst applications.

6. **How can we check the version of Teradata that we are using currently?**
   Just give the command .SHOW VERSION

7. **Give a justifiable reason why Multi-load supports NUSI instead of USI.**
   The index sub-table row happens to be on the same Amp in the same way as the data row in NUSI. Thus, each Amp is operated separately and in a parallel manner.

8. **Let us say there is a file that consists of 100 records out of which we need to skip the first and the last 20 records. What will the code snippet?**
   We need to use BTEQ Utility in order to do this task. Skip 20, as well as Repeat 60 will be used in the script.

9. **Explain PDE.**
   PDE basically stands for Parallel Data Extension. PDE basically happens to be an interface layer of software present above the operation system and gives the database a chance to operate in a parallel milieu.

10. **What is TPD?**
    TPD basically stands for Trusted Parallel Database, and it basically works under PDE. Teradata happens to be a database that primarily works under PDE. This is the reason why Teradata is usually referred to as Trusted Parallel or Pure Parallel database

11. **What is meant by Teradata Gateway?**
    Just like channel driver, Teradata Gateway acts as a medium of communication between the Parse Engine and applications that are attached to network clients. Only one Gateway is assigned per node.

12. **What is meant by a Virtual Disk?**
    Virtual Disk is basically a compilation of a whole array of cylinders which are physical disks. It is sometimes referred to as disk Array.

13. **Explain the meaning of Amp?**
    Amp basically stands for Access Module Processor and happens to be a processor working virtually and is basically used for managing a single portion of the database. This particular portion of database cannot be shared by any other Amp. Thus, this form of architecture is commonly referred to as shared-nothing architecture

14. **What does Amp contain and what are all the operations that it performs?**
    Amp basically consists of a Database Manager Subsystem and is capable of performing the operations mentioned below.
    •Performing DML

- Performing DDL
- Implementing Aggregations and Joins.
- Releasing and applying locks, etc.

15. **What is meant by a Parsing Engine?**
    PE happens to be a kind Vproc. Its primary function is to take SQL requests and deliver responses in SQL. It consists of a wide array of software components that are used to break SQL into various steps and then send those steps to AMPs.

16. **What do you mean by parsing?**
    Parsing is a process concerned with analysis of symbols of string that are either in computer language or in natural language. A Parser: –
    - Checks semantics errors
    - Checks syntactical errors
    - Checks object existence

17. **What is meant by a dispatcher?**
    Dispatcher takes a whole collection of requests and then keeps them stored in a queue. The same queue is being kept throughout the process in order to deliver multiple sets of responses.

18. **How many sessions of MAX is PE capable of handling at a particular time?**
    PE can handle a total of 120 sessions at a particular point of time.

19. **Explain BYNET**
    BYNET basically serves as a medium of communication between the components. It is primarily responsible for sending messages and also responsible for performing merging, as well as sorting operations.

20. **What is meant by a Clique?**
    A Clique is basically known to be an assortment of nodes that is being shared amongst common disk drives. Presence of Clique is immensely important since it helps in avoiding node failures.

21. **What happens when a node suffers a downfall?**
    Whenever there is a downfall in the performance level of a node, all the corresponding Vprocs immediately migrate to a new node from the fail node in order to get all the data back from common drives.

22. **List out all forms of LOCKS that are available in Teradata.**
    There are basically four types of LOCKS that fall under Teradata. These are: –

- Read Lock
- Access Lock
- Exclusive Lock
- Write Lock

23. **What is the particular designated level at which a LOCK is liable to be applied in Teradata?**
    - Table Level – All the rows that are present inside a table will certainly be locked.
    - Database Level Lock – All the objects that are present inside the database will be locked.
    - Row Hash Level Lock – Only those rows will be locked which are corresponding to the particular row.

24. **In the Primary Index, what is the score of AMPs that are actively involved?**
    Only one AMP is actively involved in a Primary Index.

25. **In Teradata, what is the significance of UPSERT command?**
    UPSERT basically stands for Update Else Insert. This option is available only in Teradata.

26. Highlight the differences between Primary Key and Primary Index.
    Primary index is quite mandatory, whereas Primary Key is optional.
    Primary Index has a limit of 64 tables/columns, whereas Primary Key does not have any limit. Primary Index allows duplicates and nulls, whereas Primary Key doesn't.
    Primary Index is a physical mechanism, whereas Primary Key is purely logical mechanism.

27. **Name the five phases that come under MultiLoad Utility.**
    Preliminary Phase, DML Phase, Data Acquisition Phase, Application Phase and End Phase.

28. **Highlight the limitations of TPUMP Utility.**
    Following are the limitations of TPUMP utility: –
    - We cannot use SELECT statement.
    - Data Files cannot be concatenated.
    - Aggregate and Exponential operators are not supported.
    - Arithmetic functions cannot be supported.

29. **In BTEQ, how are the session-mode parameters being set?**
    .set session transaction BTET -> Teradata transaction mode
    .set session transaction ANSI -> ANSI mode
    These commands will work only when they are entered before logging into the session.

30. While exporting data using BTEQ Export, you are getting junk characters in the exported file. How will you remove these junk characters?
    Add a BTEQ setting before your SELECT clause in BTEQ Export: .SET RECORDMODE OFF;

31. How many populated tables are supported by MultiLoad?

Teradata can support upto 5 populated tables

32. How to save a string with single quote (‘) as part of the value?

INSERT INTO CUSTOMER(COMMENTS) VALUES(‘I”m Good’);