ADVANCED CONNECTION FEATURES

With connection time failover, at least two listeners are listed. Transparent Application Failover (TAF) is a client-side feature that allows clients to reconnect to surviving databases in the event of a reconnect to surviving databases in the event of a database instance failure Notifications are instance failure. Load balancing enables balancing of jobs among active despatchers. Source routing is used with Oracle Connection Manager, which serves as a proxy server for Oracle Net traffic, enabling Oracle Net traffic to be routed securely through a firewall. Oracle Net treats the addresses as a list of relays, connecting to the first address and then requesting to be passed from the first to the second until the destination is reached. It differs from failover or load balancing in that all addresses are used each time a connection is made.

DATAFILE RENAMING

It can be altered online or offline. It must not be in read only.

To reclaim an unused column space, you can drop the column.

**FREELIST**: List of blocks for which inserts can be done.

**PCTFREE**

Amount of space to be reserved in a block for future updates for the rows in a block.

**PCTUSED**

Determines when can a block that is removed from the free list be brought back to the free list

**ROW MIGRATION**

Moving one row from one block to another. This happens during an update.

Can be prevented by setting PCTFTREE appropriately.

**ROW CHAINING.**

This is where the row to be inserted is bigger than the block making the row to be inserted on two blocks. Set block size appropriately. Set block to have small rows.

In Oracle Database, the `PCTFREE` parameter is used to control the amount of free space left in a data block after inserts and updates. In Oracle 19c, the `PCTFREE` parameter and related space management features have the following benefits and features:

1. \*\*Space Reservation\*\*: `PCTFREE` stands for "Percentage Free Space," and it specifies the minimum percentage of a data block that should be reserved for free space. This reserved space allows for future updates and insertions without causing data blocks to become quickly full.

2. \*\*Preventing Row Migration\*\*: By reserving free space with `PCTFREE`, you can help prevent row migration. When a row is updated and there's not enough space in the existing block, Oracle may need to migrate the row to a new block, which can impact performance. Reserving free space can reduce the need for row migration.

3. \*\*Avoiding Frequent Block Splitting\*\*: When data blocks become full, they may need to be split into multiple blocks to accommodate new data. This is known as block splitting and can be resource-intensive. With a proper `PCTFREE` setting, you can reduce the frequency of block splitting.

4. \*\*Minimizing Fragmentation\*\*: Using `PCTFREE` helps to minimize internal fragmentation within data blocks. Internal fragmentation occurs when there is wasted space within a block due to small updates or deletes. Reserving free space can help reduce such wasted space.

5. \*\*Tuning for Workload\*\*: The optimal `PCTFREE` setting depends on the specific workload of your database. If you have frequent updates or if your data has variable-length columns, setting an appropriate `PCTFREE` value can improve performance and reduce space-related issues.

6. \*\*Balancing Space Usage\*\*: `PCTFREE` can be used in combination with other space management parameters like `PCTUSED` to control how space is allocated within a table. `PCTUSED` determines when a block is considered as full, and `PCTFREE` determines how much space is reserved for future updates and inserts.

7. \*\*Customization\*\*: You can set `PCTFREE` at the table level when creating or altering a table, allowing you to customize space management for different tables within your database.

Here's an example of how to set `PCTFREE` when creating a table in Oracle:

```sql

CREATE TABLE your\_table (

column1 datatype,

column2 datatype,

-- Other columns

)

PCTFREE 10; -- Setting PCTFREE to 10%

```

The specific value for `PCTFREE` depends on your workload and usage patterns. You should monitor and adjust this value as needed to optimize the performance of your database.

**ORACLE RAC**

Oracle Database with the Oracle Real Application Clusters (RAC) option allows multiple instances running on different servers to access the same physical database stored on shared storage.

Revoking privilege is the function of DBA

V$TABLESPACE is a dynamic performance view in Oracle Database 19c that provides information about tablespaces. It contains information about the tablespace's name, status, type, size, and other attributes.

V$TABLESPACE can be used to monitor the performance of tablespaces and to identify potential problems. For example, you can use V$TABLESPACE to view the amount of free space in a tablespace or to identify tablespaces that are frequently fragmented.

The generation of undo generates redo

Current timestamp is based on session whie sysdate is based on system is based on

**COMPRESSION**

**BASIC COMPRESSION**

Compresses the oltp bulk data.

Not suitable for OLAP

**ADVANCED ROW COMPRESSION**

Compresses each row by removing duplicates

The performance is fast

Additional overheads on DML operations

More cached data in memory

Reduced IO

**ADVANCED INDEX COMPRESSION**

**ADVANCED LOB COMPRESSION**

**RMAN BACKUP COMPRESSION**

**DATA GUARD COMPRESSION**

**EXADATA COMPRESSION**

**COMPRESSION METHODS.**

**For OLTP (Online Transaction Processing) workloads where the emphasis is on frequent data modifications (inserts, updates, deletes), it's generally more suitable to use row-level compression rather than columnar compression. This is because row-level compression is typically less resource-intensive and performs better during DML (Data Manipulation Language) operations.**

**Given the options provided:**

**A. COLUMN STORE COMPRESS FOR QUERY LOW: This is a columnar compression option optimized for low-level compression suitable for query performance. It may not be the best choice for OLTP workloads with frequent data modifications.**

**B. ROW STORE COMPRESS BASIC: This is a row-level compression option for basic compression. It is a suitable choice for OLTP workloads as it minimizes the overhead associated with compression during DML operations.**

**C. COLUMN STORE COMPRESS FOR ARCHIVE LOW: This is a columnar compression option optimized for low-level compression suitable for archive scenarios. It may not be the best choice for OLTP workloads.**

**D. COLUMN STORE COMPRESS FOR ARCHIVE HIGH: This is a columnar compression option optimized for high-level compression suitable for archive scenarios. Like option C, it may not be the best choice for OLTP workloads with frequent data modifications.**

**E. ROW STORE COMPRESS ADVANCED: This is a row-level compression option with advanced compression techniques. While it may provide higher compression ratios, it might also have higher overhead during DML operations compared to basic row-level compression**