**15. What is TAF?**

TAF provides run time failover of connection. There are different options we can mention while creating taf policy.

Let’s say we created TAF with select option. Now Suppose a user connecting to using the taf and running a select statement. While select statement is running, the node on which the select statement  running crashed. So the select statement will be transparently failed over to other node and select statement will be completed and results will be fetched.

**41. What is TAF in oracle RAC?**

1. BASIC
2. PRECONNECT
3. SELECT  FAILOVER
4. SESSION FAILOVER

**TAF Configuration**

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To create a **Transparent Application Failover (TAF)** configuration with **select option** in **Oracle RAC** (Real Application Clusters), you configure the TAF settings either through the tnsnames.ora file, server-side service configuration, or within your application using the correct connection settings. Here is a step-by-step guide:

**1. TAF Overview**

TAF allows a session to fail over to another node in a RAC environment if the original node fails. The select option enables queries to continue from the last fetched row when failover occurs.

**2. TAF Configuration in tnsnames.ora**

Modify the tnsnames.ora entry for the database service to enable TAF with the select option.

**Example Configuration**

MYRACDB =

(DESCRIPTION =

(ADDRESS\_LIST =

(ADDRESS = (PROTOCOL = TCP)(HOST = racnode1)(PORT = 1521))

(ADDRESS = (PROTOCOL = TCP)(HOST = racnode2)(PORT = 1521))

)

(CONNECT\_DATA =

(SERVICE\_NAME = myracdb\_service)

(FAILOVER\_MODE =

(TYPE = SELECT) -- Failover type for queries

(METHOD = BASIC) -- Failover method

(RETRIES = 5) -- Number of retries

(DELAY = 10) -- Delay between retries

)

)

)

**Explanation:**

* TYPE = SELECT: Enables select failover for read operations.
* METHOD = BASIC: Basic failover method, which reconnects to the secondary node.
* RETRIES = 5: Number of failover attempts.
* DELAY = 10: Time between retry attempts (in seconds).

**3. TAF Configuration on Server Side (Optional)**

You can also set TAF options for a service on the server side using srvctl or DBMS\_SERVICE:

**Using srvctl**

srvctl modify service -db myracdb -service myracdb\_service -failovermethod BASIC -failoverretry 5 -failoverdelay 10 -failovertype SELECT

**4. Verify TAF Settings**

To confirm TAF is working:

* Query the dynamic performance view V$SESSION:

SELECT FAILOVER\_TYPE, FAILOVER\_METHOD, FAILED\_OVER, INSTANCE\_NUMBER

FROM V$SESSION WHERE SID = SYS\_CONTEXT('USERENV', 'SID');

This will show if failover settings are correctly applied for the session.

**5. Additional Considerations**

* TAF does not fail over **DML operations** (inserts, updates, deletes) — only queries with the SELECT type.
* Use connection pools and load balancing for enhanced reliability and performance in conjunction with TAF.

By configuring TAF properly, your Oracle RAC environment will provide higher availability for critical applications using select queries.