- **Monitor Tablespaces**

  We can setup a Cronjob for Tablespace alerts which can run in every 5-10 minutes, if Tablespace utilization reached 70-80% then it can send an email alerts.

  Below query can be used to check the Tablespace utilization(Used_percent).

```
SQL> select tablespace_name,used_space*8192/1024/1024 used_mb, tablespace_size*8192/1024/1024
size_mb,used_percent from dba_tablespace_usage_metrics;

TABLESPACE_NAME                 USED_MB    SIZE_MB USED_PERCENT
------------------------------ ---------- ---------- ------------
AAALHTI1                         8.4375        500       1.6875
AAALHTT1                       5304.625      10240   51.8029785
AFVLHTI1                       104.3125        500      20.8625
AFVLHTT1                           68.5        500         13.7
AMGLHTI1                         1.1875        500        .2375
AMGLHTT1                           1.25        500          .25
APTLHTI1                              1        500           .2
APTLHTT1                              1        500           .2
APTONCALLI1                           1        500           .2
APTONCALLT1                           1        500           .2
APTQA_INDEXES                         1       6144   .016276042
APTQA_TABLES                          1       6144   .016276042
CORLHTI1                          6.125        500        1.225
CORLHTT1                          20.25       2048   .988769531
FDSLHTI1                            1.5        500          .3
FDSLHTT1                          3.125        500         .625
FIDLHTI1                          8.625      10240   .084228516
FIDLHTT1                       139.8125      10120   1.38154644
FOMLHTI1                       4970.0625      31744   15.6566989
```

- **Delete old trace file from Diagnostic directory**

  Old trace files which is older than 20-30 days can be deleted/removed by setting a Cronjob which can trigger in Every 10 mins.

  Below queries can be used to remove more than 20 days older trace and audit files.

```
find /u01/app/oracle/diag/rdbms/${LOW_SID}/${ORACLE_SID}/trace/*.trc* -type f -mtime +20 -exec rm {}
\;

find /u01/app/oracle/diag/rdbms/${LOW_SID}/${ORACLE_SID}/trace/*.trm*  -type f -mtime +20 -exec rm
{} \;

find /u01/app/oracle/admin/${ORACLE_SID}/adump/*.aud* -type f -mtime +20 -exec rm {} \;
```

- **File system Monitoring**

  OS mount points need to be checked manually or by setting a Cronjob and the threshold value can be set to 80%.

  We can use below command to check the mount point utilization.
  `df-h`

```
[oracle@nceaptoradb15]~% df -h
Filesystem                                                      Size  Used Avail Use%
Mounted on
/dev/mapper/datavg-u02lv                                        590G  325G  235G  59%
/u02
/dev/mapper/vg01-var                                            5.9G  2.7G  2.9G  49%
/var
/dev/mapper/vg01-home                                           4.0G   62M  4.0G   2%
/home
/dev/mapper/vg01-tmp                                            2.0G  4.5M  1.8G   1%
/tmp
/dev/mapper/vg01-vartmp                                         2.0G   60K  1.8G   1%
/var/tmp
/dev/mapper/datavg-u01lv                                         40G   30G  7.6G  80%
/u01
/dev/mapper/datavg-u03lv                                        590G  406G  155G  73%
/u03
```

- **ASM Disk group monitoring**

  We can check the Diskgroup utilization using below command and set the threshold of 80% for creating alerts.

```
select name, total_mb/1024 Total_size(GB), free_mb/1024 Free_size(GB), ((total_mb-free_mb)/total_mb)
*100 Used_pct from v$asm_diskgroup;
```

  Output:

Name	Total_size(GB)	Free_size(GB)	Used_Pct
DATA1	399.9990234	75.84863281	81.0377955
DATA2	399.9990234	399.8349609	0.041015725
DATA3	399.9990234	399.8583984	0.035156336
DATA4	399.9990234	399.8964844	0.025634828
DATA5	399.9990234	399.8896484	0.027343817
FRA	599.9990234	189.2392578	68.46007236
OCR	49.98046875	48.88671875	2.188354826
REDO1	9.999023438	7.389648438	26.09629847

- **Gather stats of Schema**

  We must gather stats periodically to get good SQL performance. Statistic of objects should be up to date in Oracle database for Oracle optimizer. Because Oracle optimizer uses database statistics to generate lots of execution plans in same time and If statistics are up to date ,then Optimizer decide correct execution plans.

```
exec dbms_stats.gather_schema_stats( ownname => 'schema_name', options => 'GATHER AUTO',
estimate_percent => dbms_stats.auto_sample_size, method_opt =>'for all columns size repeat',
degree  => 20 );
```

- **Data guard env are in SYNC**

  If Data guard is configured then we must check Primary and Standby are in sync. Below query can be used to check if both Primary and Standby DB in sync.

```
SELECT ARCH.THREAD# "Thread", ARCH.SEQUENCE# "Last Sequence Received", APPL.SEQUENCE# "Last Sequence
Applied", (ARCH.SEQUENCE# - APPL.SEQUENCE#) "Difference"
FROM
(SELECT THREAD# ,SEQUENCE# FROM V$ARCHIVED_LOG WHERE (THREAD#,FIRST_TIME ) IN (SELECT THREAD#,MAX
(FIRST_TIME) FROM V$ARCHIVED_LOG GROUP BY THREAD#)) ARCH,
(SELECT THREAD# ,SEQUENCE# FROM V$LOG_HISTORY WHERE (THREAD#,FIRST_TIME ) IN (SELECT THREAD#,MAX
(FIRST_TIME) FROM V$LOG_HISTORY GROUP BY THREAD#)) APPL
WHERE ARCH.THREAD# = APPL.THREAD# ORDER BY 1;

Output:

    Thread Last Sequence Received Last Sequence Applied Difference
---------- ---------------------- -------------------- ----------
         1                    264                  264          0
```

  Difference is 0 means both are in sync.

- **Archive Backup setup**

  We must set Archive log backup every 4hr/8hr depending on Archive log frequency.

- **Monitor Archive log directory**

  We can set a cronjob which can continuously monitor in every 5-10 mins Archive log directory where archives are stored and once the directory reaches 70-80% then it can send an email alerts.

```
SQL> archive log list;
Database log mode              Archive Mode
Automatic archival             Enabled
Archive destination            USE_DB_RECOVERY_FILE_DEST
Oldest online log sequence     19035
Next log sequence to archive   19042
Current log sequence           19042

SQL> show parameter DB_RECOVERY_FILE_DEST

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
db_recovery_file_dest                string      /PHY/ORA/apt04arch
db_recovery_file_dest_size           big integer 1T
```

So under /PHY/ORA/apt04arch directory archives are stored. We can check the mount point utilization using df -h command.

- **Full Backup setup**

  Full backup should be scheduled everyday so that restore can be quick.

- **Database and its services monitoring to validate the running status**

  Database and its respective services are always up and running fine. Check whether Oracle process runs or not from OS.

```
ps -ef | grep pmon

[oracle@nceaptoradb15]~%  ps -ef | grep pmon
oracle      3506       1  0 Jun20 ?        00:10:36 ora_pmon_APTQA2
oracle   3141134 3141113  0 05:53 pts/1    00:00:00 grep --color=auto pmon

Check whether the database can be read or write using below query

select name, open_mode from v$database;

For Rac database
srvctl status database -d <db_name>

srvctl status service -d <db_name>
```

  Check Listener services are running fine.

```
[oracle@nceaptoradb15]~% ps -ef | grep tns
root         125       2  0 Jun20 ?        00:00:00 [netns]
oracle      1836       1  0 Jun20 ?        00:02:48 /u01/app/oracle/product/19.3.0/db_1/bin/tnslsnr
LISTENER -inherit
oracle   3169653 3145751  0 10:27 pts/2    00:00:00 grep --color=auto tns

[oracle@nceaptoradb15]~% lsnrctl status LISTENER

LSNRCTL for Linux: Version 19.0.0.0.0 - Production on 18-JUL-2023 10:27:50

Copyright (c) 1991, 2022, Oracle.  All rights reserved.

Connecting to (ADDRESS=(PROTOCOL=tcp)(HOST=)(PORT=1521))
STATUS of the LISTENER
------------------------
Alias                     LISTENER
Version                   TNSLSNR for Linux: Version 19.0.0.0.0 - Production
Start Date                20-JUN-2023 09:16:36
Uptime                    28 days 1 hr. 11 min. 14 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Parameter File   /u01/app/oracle/product/19.3.0/db_1/network/admin/listener.ora
Listener Log File         /u01/app/oracle/diag/tnslsnr/nceaptoradb15/listener/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=nceaptoradb15.iis.amadeus.net)(PORT=1521)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcps)(HOST=nceaptoradb15.iis.amadeus.net)(PORT=5501))(Security=
(my_wallet_directory=/u01/app/oracle/product/19.3.0/db_1/admin/APTQA2/xdb_wallet))(Presentation=HTTP)
(Session=RAW))
Services Summary...
Service "APTQA2" has 1 instance(s).
  Instance "APTQA2", status READY, has 1 handler(s) for this service...
Service "APTQA2XDB" has 1 instance(s).
  Instance "APTQA2", status READY, has 1 handler(s) for this service...
The command completed successfully
```

- For Schema password expiry issue we can set **password_life_time** parameter unlimited for profile belongs to the respective schema.

  We can see GODAPT schema is associated with DEFAULT profile.

```
SQL> select username,profile from dba_users where username='GODAPT';

USERNAME                       PROFILE
------------------------------ ------------------------------
GODAPT                         DEFAULT
```

  Further we can check the password_life_time parameter set for the profile.

```
SQL> select PROFILE,RESOURCE_NAME,LIMIT from dba_profiles where profile='DEFAULT' and
RESOURCE_NAME='PASSWORD_LIFE_TIME';

PROFILE                        RESOURCE_NAME                  LIMIT
------------------------------ ------------------------------ ------------------------------
DEFAULT                        PASSWORD_LIFE_TIME             UNLIMITED
```