Oracle DBA scripts - All in one pdf

More than 30 real-time scripts used by DBAs everyday

Must have pdf guide to perform your daily DBA tasks

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How to check users, roles and privileges in Oracle

Query to check the granted roles to a user

```
SELECT *
 FROM DBA_ROLE_PRIVS
 WHERE GRANTEE = '&USER';
```

Query to check privileges granted to a user

```
SELECT *
 FROM DBA_TAB_PRIVS
 WHERE GRANTEE = 'USER';
```

Privileges granted to a role which is granted to a user

```
SELECT * FROM DBA_TAB_PRIVS WHERE GRANTEE IN
(SELECT granted_role FROM DBA_ROLE_PRIVS WHERE GRANTEE = '&USER') order by 3;
```

Query to check if user is having system privileges

```
SELECT *
 FROM DBA_SYS_PRIVS
 WHERE GRANTEE = '&USER';
```

Query to check permissions granted to a role

```
select * from ROLE_ROLE_PRIVS where ROLE = '&ROLE_NAME';
select * from ROLE_TAB_PRIVS where ROLE = '&ROLE_NAME';
select * from ROLE_SYS_PRIVS where ROLE = '&ROLE_NAME';
```

How to check high resource intensive SQL in Oracle

Database performance is a major concern for a DBA. SQLs are the ones which needs proper DB management in order to execute well. At times the application team might tell you that the database is running slow. You can run below query to get the top 5 resource intensive SQL with SQL ID and then give it to application team to optimize them.

```
col Rank for a4
SELECT *
FROM (SELECT RANK () OVER
(PARTITION BY "Snap Day" ORDER BY "Buffer Gets" + "Disk Reads" DESC) AS "Rank", i1.*
FROM (SELECT TO_CHAR (hs.begin_interval_time, 'MM/DD/YY' ) "Snap Day",
SUM (shs.executions_delta) "Execs",
SUM (shs.buffer_gets_delta) "Buffer Gets",
SUM (shs.disk_reads_delta) "Disk Reads",
ROUND ( (SUM (shs.buffer_gets_delta)) / SUM (shs.executions_delta), 1 ) "Gets/Exec",
ROUND ( (SUM (shs.cpu_time_delta) / 1000000) / SUM (shs.executions_delta), 1 ) "CPU/Exec(S)",
ROUND ( (SUM (shs.iowait_delta) / 1000000) / SUM (shs.executions_delta), 1 ) "IO/Exec(S)",
shs.sql_id "Sql id",
REPLACE (CAST (DBMS_LOB.SUBSTR (sht.sql_text, 50) AS VARCHAR (50) ), CHR (10), '' ) "Sql"
FROM dba_hist_sqlstat shs INNER JOIN dba_hist_sqltext sht
ON (sht.sql_id = shs.sql_id)
INNER JOIN dba_hist_snapshot hs
ON (shs.snap_id = hs.snap_id)
HAVING SUM (shs.executions_delta) > 0
GROUP BY shs.sql_id, TO_CHAR (hs.begin_interval_time, 'MM/DD/YY'),
CAST (DBMS_LOB.SUBSTR (sht.sql_text, 50) AS VARCHAR (50) )
ORDER BY "Snap Day" DESC) i1
ORDER BY "Snap Day" DESC)
WHERE "Rank" <= 5 AND "Snap Day" = TO_CHAR (SYSDATE, 'MM/DD/YY');
```

How to check execution plan of a query

First get the sql ID and then you can use below command to generate execution plan of a query in oracle

```
SELECT * FROM table(DBMS_XPLAN.DISPLAY_CURSOR('2t3nwk8h97vph',0));
```

In case you have more IDs, use below command to supply sql id every time you run the query

```
SELECT * FROM table(DBMS_XPLAN.DISPLAY_CURSOR('&sql_id',0));
```

How to backup archivelog for specific sequence RMAN

When you issue archive backup commands via RAMN, it will backup all the archive logs. Sometimes, you might need to backup only a particular archive log sequence. Below command will help you backup archive logs between specific sequence

```
RMAN> BACKUP ARCHIVELOG FROM SEQUENCE 288 UNTIL SEQUENCE 388 DELETE INPUT;
```

The above command will backup archive logs from 288 to 388 sequence number.

How to check last CPU applied in Oracle

Generally if you have one single database install then checking the database inventory will give you the latest patch details. But! if we have multiple database in single oracle home then it might not give correct results. There might be a chance that one DB is applied with latest patches and others are not. In such cases, we need to check last CPU applied by logging into the database using below query:

Query to Check Last CPU Applied on a Database:

```
col VERSION for a15;
col COMMENTS for a50;
col ACTION for a10;
set lines 500;
select ACTION,VERSION,COMMENTS,BUNDLE_SERIES from registry$history;
```

What are Critical Patch Updates (CPUs)?

Critical Patch Updates are sets of patches containing fixes for security flaws in Oracle products. The Critical Patch Update program (CPU) was introduced in January 2005 to provide security fixes on a fixed, publicly available schedule to help customers lower their security management costs.

How to check biggest table in Oracle

As a DBA, you must keep an eye on the largest tables in the database. There are many things that get impacted with the largest objects like DB performance, growth, index rebuild etc. The below query gives you the top 10 largest tables in oracle database.

Query to check top 10 largest tables in Oracle

```
SELECT * FROM
(select
 SEGMENT_NAME,
 SEGMENT_TYPE,
 BYTES/1024/1024/1024 GB,
 TABLESPACE_NAME
from
 dba_segments
order by 3 desc ) WHERE
ROWNUM <= 10
```

How to check database backups via sqlplus

Checking Database backups are one of the main focus areas of a DBA. Time to time, DBA needs to check database backup status and see if its completed, failed, running etc. Also, DBA must be able to get the backup start time, end time and even the backup size for reference purpose. The below query gives answers to all the backup details in oracle

Query to check database backup status

```
set linesize 500
col BACKUP_SIZE for a20
SELECT
INPUT_TYPE "BACKUP_TYPE",
--NVL(INPUT_BYTES/(1024*1024),0)"INPUT_BYTES(MB)",
--NVL(OUTPUT_BYTES/(1024*1024),0) "OUTPUT_BYTES(MB)",
STATUS,
TO_CHAR(START_TIME,'MM/DD/YYYY:hh24:mi:ss') as START_TIME,
TO_CHAR(END_TIME,'MM/DD/YYYY:hh24:mi:ss') as END_TIME,
TRUNC((ELAPSED_SECONDS/60),2) "ELAPSED_TIME(Min)",
--ROUND(COMPRESSION_RATIO,3)"COMPRESSION_RATIO",
--ROUND(INPUT_BYTES_PER_SEC/(1024*1024),2) "INPUT_BYTES_PER_SEC(MB)",
--ROUND(OUTPUT_BYTES_PER_SEC/(1024*1024),2) "OUTPUT_BYTES_PER_SEC(MB)",
--INPUT_BYTES_DISPLAY "INPUT_BYTES_DISPLAY",
OUTPUT_BYTES_DISPLAY "BACKUP_SIZE",
OUTPUT_DEVICE_TYPE "OUTPUT_DEVICE"
--INPUT_BYTES_PER_SEC_DISPLAY "INPUT_BYTES_PER_SEC_DIS",
--OUTPUT_BYTES_PER_SEC_DISPLAY "OUTPUT_BYTES_PER_SEC_DIS"
FROM V$RMAN_BACKUP_JOB_DETAILS
where start_time > SYSDATE -10
and INPUT_TYPE != 'ARCHIVELOG'
ORDER BY END_TIME DESC
/
```

Query to check archive Backup status

In the 3rd last line **and INPUT_TYPE != 'ARCHIVELOG'**, just remove '!' to get archivelog backup details

How to display date and time in query output

By default, when you query a date column, oracle will only display dates and not time. Below query enables Oracle to display both date and time for a particular session

```
alter session set nls_date_format='dd-Mon-yyyy hh:mi:sspm';
```

Note – this is only session level query.

How to check scheduler jobs in Oracle

Below command will help you check Scheduler jobs which are configured inside database

```
SELECT JOB_NAME, STATE FROM DBA_SCHEDULER_JOBS where job_name='RMAN_BACKUP';
```

Query to check currently running scheduler jobs

```
SELECT * FROM ALL_SCHEDULER_RUNNING_JOBS;
```

All the DBA Scheduler jobs create logs. You can query below and check the details of job logs

```
select log_id, log_date, owner, job_name
from ALL_SCHEDULER_JOB_LOG
where job_name like 'RMAN_B%' and log_date > sysdate-2;
select log_id,log_date, owner, job_name, status, ADDITIONAL_INFO
from ALL_SCHEDULER_JOB_LOG
where log_id=113708;
```

How to check datapump export progress

Sometimes when you run datapump export, it might take a lot of time. Meanwhile client might ask you for the % of export completed. Use below query to get the details of how much % export is done.

```
SELECT SID, SERIAL#, USERNAME, CONTEXT, SOFAR, TOTALWORK,
ROUND(SOFAR/TOTALWORK*100,2) "%_COMPLETE"
FROM V$SESSION_LONGOPS WHERE TOTALWORK != 0 AND SOFAR <> TOTALWORK;
```

How to drop all schema objects in Oracle

The below script will drop all the objects owned by a schema. This will not delete the user but only deletes the objects

```
SET SERVEROUTPUT ON SIZE 1000000
set verify off
BEGIN
FOR c1 IN (SELECT OWNER,table_name, constraint_name FROM dba_constraints
WHERE constraint_type = 'R' and owner=upper('&shema_name')) LOOP
EXECUTE IMMEDIATE
'ALTER TABLE '||' "'||c1.owner||'"."'||c1.table_name||'" DROP CONSTRAINT ' || c1.constraint_name;
END LOOP;
FOR c1 IN (SELECT owner,object_name,object_type FROM dba_objects
where owner=upper('&shema_name')) LOOP
BEGIN
IF c1.object_type = 'TYPE' THEN
EXECUTE IMMEDIATE 'DROP '||c1.object_type||' "'||c1.owner||'"."'||c1.object_name||'" FORCE';
END IF;
IF c1.object_type != 'DATABASE LINK' THEN
EXECUTE IMMEDIATE 'DROP '||c1.object_type||' "'||c1.owner||'"."'||c1.object_name||'"';
END IF;
EXCEPTION
WHEN OTHERS THEN
NULL;
END;
END LOOP;
EXECUTE IMMEDIATE('purge dba_recyclebin');
END;
/
```

How to find memory used by Oracle

```
select decode( grouping(nm), 1, 'total', nm ) nm, round(sum(val/1024/1024)) mb
from
(
select 'sga' nm, sum(value) val
from v$sga
union all
select 'pga', sum(a.value)
from v$sesstat a, v$statname b
where b.name = 'session pga memory'
and a.statistic# = b.statistic#
)
group by rollup(nm);
```

How to check last user login Oracle

While performing database audits, you might need to check who logged in last into the database. The query will help you find out last user who logged in to database

```
select username, timestamp, action_name from dba_audit_session
where action_name='LOGON' and
rownum<10 and username not in ('SYS','DBSNMP','DUMMY','SYSTEM','RMAN');
```

How to check CPU cores in Linux

Command to check CPU info on **Linux**

```
cat /proc/cpuinfo|grep processor|wc -l
OR
nproc --all
OR
getconf _NPROCESSORS_ONLN
```

Command to check CPU info on **Solaris**

```
psrinfo -v|grep "Status of processor"|wc -l
```

Command to check CPU info on **AIX**

```
lsdev -C|grep Process|wc -l
```

Command to check CPU info on **HP/UX**

```
ioscan -C processor | grep processor | wc -l
```

How to delete files older than X days in Linux

Find files older than X days and save ouput into a file

The below Linux command will help you to find files older than 35 days in a specific directory path and save the ouput in backupfiles.log

Here the directory we are searching is **/backup/logs** and **-mtime** specifies the modified time of a file. We are saving the list of all the files which are older than 35 days in **backupfiles.log**

```
find /backup/logs -type f -mtime +35 -print > backupfiles.log &
```

Find files older than 7 days and print output on screen

If you want to print files older than 7 days on screen and do not want to save it into a file, use below command

```
find /backup/logs -type f -mtime +7 -print
```

Find files in current directory older than 28 days and remove them

Below linux command will find all the files under current location (as we have specified `.` dot), search file name starting with `arch` and ending with `log`. check file create time with **-ctime** older than **28** days and then remove those files using `rm -f`

```
find . -name arch\*log -ctime +28 -exec rm -f {} \;
```

How to analyze wait events in Oracle

User below query to get the top wait classes in Oracle database

```
Select wait_class, sum(time_waited), sum(time_waited)/sum(total_waits)
Sum_Waits
From v$system_wait_class
Group by wait_class
Order by 3 desc;
```

From the above query, supply each wait class into below query to get the top wait events in database with respect to particular wait class

```
Select a.event, a.total_waits, a.time_waited, a.average_wait
From v$system_event a, v$event_name b, v$system_wait_class c
Where a.event_id=b.event_id
And b.wait_class#=c.wait_class#
And c.wait_class = '&Enter_Wait_Class'
order by average_wait desc;
```

How to set DISPLAY variable in Linux

Whenever you want to invoke graphical interface in Linux, You must know how to set DISPLAY variable in order to open the GUI. Linux by default does not allow you to open any GUI (Linux Oracle Installer) until you enable the GUI display.

Use below command to enable Linux GUI interface at command prompt as root user:

```
# xhost +
```

Sometimes, even after issuing above command, you wont be able to invoke GUI because of "DISPLAY not set" error. In such case, you must export the display environmental variable:

```
# echo $DISPLAY
# export DISPLAY=:0.0;
```

Now you can invoke any Linux GUI interface by directly running the installer!

Crontab error - Permission Denied

When you try to schedule backups under corntab as Oracle user, you might encounter crontab permission error

```
[oracle@plcdbprod ~]$ crontab -l
cron/oracle: Permission denied
```

The error is because of permission issues on /usr/bin/crontab file. Login as root user and find the crontab permissions on /usr/bin/crontab

```
[root@plcdbprod ~]# ls -l /usr/bin/crontab
-rwxr-xr-x 1 root root 315432 Jul 15 2008 /usr/bin/crontab
```

Give the below permissions to /usr/bin/crontab file

```
[root@plcdbprod ~]# chmod 4755 /usr/bin/crontab
[root@plcdbprod ~]# ls -l /usr/bin/crontab
-rwsr-xr-x 1 root root 315432 Jul 15 2008 /usr/bin/crontab
```

Login as oracle user and check your crontab -e.
Happy Learning!!!

How to check FRA location utilization in Oracle

Flash Recovery Area must be monitored regularly. Sometimes FRA runs our of space and a DBA must be able to gather FRA space utilization. It is very important to monitor space usage in the fast recovery area to ensure that it is large enough to contain backups and other recovery-related files.

Below script gives you Flash Recovery Area utilization details:

```
set linesize 500
col NAME for a50
select name, ROUND(SPACE_LIMIT/1024/1024/1024,2) "Allocated Space(GB)",
round(SPACE_USED/1024/1024/1024,2) "Used Space(GB)",
round(SPACE_RECLAIMABLE/1024/1024/1024,2) "SPACE_RECLAIMABLE (GB)" ,
(select round(ESTIMATED_FLASHBACK_SIZE/1024/1024/1024,2)
from V$FLASHBACK_DATABASE_LOG) "Estimated Space (GB)"
from V$RECOVERY_FILE_DEST;
```

How to check last modified table in Oracle

As a DBA, application team sometimes might ask you to provide details of last modified table in oracle. The table modification can be insert, update or delete. Below queries get details of last or latest modified table in oracle database. Run the queries depending upon the database version.

Last modified table in oracle 10g and Above

```
set linesize 500;
select TABLE_OWNER, TABLE_NAME, INSERTS, UPDATES, DELETES,
to_char(TIMESTAMP,'YYYY-MON-DD HH24:MI:SS')
from all_tab_modifications
where table_owner<>'SYS' and
EXTRACT(YEAR FROM TO_DATE(TIMESTAMP, 'DD-MON-RR')) > 2010
order by 6;
```

In 9i, table monitoring has to be enabled manually or else the all_tab_modifcations wont keep record of changes. 10g onwards, oracle by default records the modifications

Last modified table in oracle for 9i db

```
col object for a20;
col object_name for a20;
SELECT OWNER, OBJECT_NAME, OBJECT_TYPE,
to_char(LAST_DDL_TIME,'YYYY-MON-DD HH24:MI:SS')
from dba_objects where LAST_DDL_TIME=(select max(LAST_DDL_TIME)
from dba_objects WHERE object_type='TABLE');
```

How to check single table size in oracle

Once you run the query, it will ask your table name. Enter the table name in the format of owner.tablename. Eg - scott.emp

```
select segment_name,segment_type, sum(bytes/1024/1024/1024) GB
 from dba_segments
 where segment_name='&Your_Table_Name'
group by segment_name,segment_type;
```

Database refresh is common task for a DBA. But after every database refresh, you must check the PITR date and time. This should be checked before you issue OPEN RESETLOGS command.

Query to Check PITR – Issue it before OPEN RESETLOGS

```
select distinct to_char(checkpoint_time,'dd/mm/yyyy hh24:mi:ss') checkpoint_time
from v$datafile_header ;
```

How to check archive generation in Oracle

The below query gives results of archive generation in oracle database. Use below query to find the archive space requirements and you can use it to estimate the archive destination size perfectly well.

```
SELECT A.*,
Round(A.Count#*B.AVG#/1024/1024/1024) Daily_Avg_gb
FROM
(SELECT
To_Char(First_Time,'YYYY-MM-DD') DAY,
Count(1) Count#,
Min(RECID) Min#,
Max(RECID) Max#
FROM v$log_history
GROUP
BY To_Char(First_Time,'YYYY-MM-DD')
ORDER
BY 1 DESC
) A,
(SELECT
Avg(BYTES) AVG#,
Count(1) Count#,
Max(BYTES) Max_Bytes,
Min(BYTES) Min_Bytes
FROM
v$log ) B;
```

How to disable firewall in Linux 7

Disabling firewall in Linux 5/7 versions is little bit different than Linux 7. Sometimes you need to disable firewall in Linux 7 version as part of Database installation pre-requisites. This article will help you to find the status of firewall and then enable / disable it.

Firewall Status

The below command will show you the current status "Active" in case firewall is running:

```
# systemctl status firewalld
```

Firewall stop / start

You can start/stop Linux firewall with below commands:

```
# service firewalld stop
```

```
# service firewalld start
```

Firewall Disable / Enable

You can enable/disable firewall completely on Linux with below commands:

```
# systemctl disable firewalld
```

```
# systemctl enable firewalld
```

How to check database lock conflict in Oracle

Database lock conflicts are one of the issues which DBA needs to deal with. The database locks can keep users waiting for very long and we much know how to check database locks. Users reporting that their query is taking too long to execute, then you must also check if there are any locks on the objects being accessed (unless its a select query). Use below queries to check the database locks:

Checking Lock Conflicts in 10g and Above:

```
select a.SID "Blocking Session", b.SID "Blocked Session"
from v$lock a, v$lock b
where a.SID != b.SID and a.ID1 = b.ID1  and a.ID2 = b.ID2 and
b.request > 0 and a.block = 1;
```

Checking Lock Conflicts in 9i Systems:

```
select s1.username || '@' || s1.machine
 || ' ( SID=' || s1.sid || ' ) is blocking '
 || s2.username || '@' || s2.machine
 || ' ( SID=' || s2.sid || ' ) ' AS blocking_status
 from v$lock l1, v$session s1, v$lock l2, v$session s2
 where s1.sid=l1.sid and s2.sid=l2.sid
 and l1.BLOCK=1 and l2.request > 0
 and l1.id1 = l2.id1
 and l2.id2 = l2.id2 ;
```

Query to Check Lock is Table Level or Row Level

```
col session_id head 'Sid' form 9999
col object_name head "Table|Locked" form a30
col oracle_username head "Oracle|Username" form a10 truncate
col os_user_name head "OS|Username" form a10 truncate
col process head "Client|Process|ID" form 99999999
col owner head "Table|Owner" form a10
col mode_held form a15
select lo.session_id,lo.oracle_username,lo.os_user_name,
lo.process,do.object_name,do.owner,
decode(lo.locked_mode,0, 'None',1, 'Null',2, 'Row Share (SS)',
3, 'Row Excl (SX)',4, 'Share',5, 'Share Row Excl (SSX)',6, 'Exclusive',
to_char(lo.locked_mode)) mode_held
from gv$locked_object lo, dba_objects do
where lo.object_id = do.object_id
order by 5
/
```

How to check database size in Oracle

A DBA works on many aspects of database like cloning, backup, performance tuning etc. In every aspect of database administration, most of the times resolution depends upon the size of database. For example, DBA can implement DB FULL backup strategy on a very small database when compared to DB INCREMENTAL strategy on a very large database.

Use below script to check db size along with Used space and free space in database:

```
col "Database Size" format a20
col "Free space" format a20
col "Used space" format a20
select round(sum(used.bytes) / 1024 / 1024 / 1024 ) || ' GB' "Database Size"
, round(sum(used.bytes) / 1024 / 1024 / 1024 ) -
round(free.p / 1024 / 1024 / 1024) || ' GB' "Used space"
, round(free.p / 1024 / 1024 / 1024) || ' GB' "Free space"
from (select bytes
from v$datafile
union all
select bytes
from v$tempfile
union all
select bytes
from v$log) used
, (select sum(bytes) as p
from dba_free_space) free
group by free.p
/
```

How to configure yum server in linux

In this article, we will learn how to configure yum server in different Oracle Linux versions. YUM repository is a software package manager which allows you to easily install, update or delete RPMs. Most of the required RPM packages come along with the Linux installer CD. But! if you have internet connection, you can configure YUM repository on Linux and this will remove installer CD or iso file dependency.

Most of the times when you want to install packages (RPMs) for Oracle products, it really becomes tough to identify and install each package. Good news is! you can connect to Yum server and get the packages at one shot!

Download and configure yum server

Download and copy the appropriate yum configuration file in place, by running the following commands as root:

```
cd /etc/yum.repos.d
For Oracle Linux 7
# wget http://public-yum.oracle.com/public-yum-ol7.repo
For Oracle Linux 6
# wget http://public-yum.oracle.com/public-yum-ol6.repo
For Oracle Linux 5
# wget http://public-yum.oracle.com/public-yum-el5.repo
```

Download and install Oracle Linux

Download and install Oracle Linux and make sure your are able to connect to internet. Start using yum server with below commands:

```
# yum list        --> to list all the contents of yum repository
# yum install oracle-validated          --> to install oracle-valudated package
# yum install libaio-devel*          --> to install libaio-devel rpm
```

The oracle-validated package will install all the packages required to install Oracle Database and RAC on OEL 5.

How to check query plan change in oracle

If you would like to find out change in SQL plan of a query, below script will help you find the SQL plan ID for previous executions and check if there is any change in SQL plan ID.

```
set pagesize 1000
set linesize 200
column begin_interval_time format a20
column milliseconds_per_execution format 999999990.999
column rows_per_execution format 999999990.9
column buffer_gets_per_execution format 999999990.9
column disk_reads_per_execution format 999999990.9
break on begin_interval_time skip 1
SELECT
 to_char(s.begin_interval_time,'mm/dd hh24:mi')
 AS begin_interval_time,
 ss.plan_hash_value,
 ss.executions_delta,
 CASE
 WHEN ss.executions_delta > 0
 THEN ss.elapsed_time_delta/ss.executions_delta/1000
 ELSE ss.elapsed_time_delta
 END AS milliseconds_per_execution,
 CASE
 WHEN ss.executions_delta > 0
 THEN ss.rows_processed_delta/ss.executions_delta
 ELSE ss.rows_processed_delta
 END AS rows_per_execution,
 CASE
 WHEN ss.executions_delta > 0
 THEN ss.buffer_gets_delta/ss.executions_delta
 ELSE ss.buffer_gets_delta
 END AS buffer_gets_per_execution,
 CASE
 WHEN ss.executions_delta > 0
 THEN ss.disk_reads_delta/ss.executions_delta
 ELSE ss.disk_reads_delta
 END AS disk_reads_per_execution
FROM wrh$_sqlstat ss
INNER JOIN wrm$_snapshot s ON s.snap_id = ss.snap_id
WHERE ss.sql_id = '&sql_id'
AND ss.buffer_gets_delta > 0
ORDER BY s.snap_id, ss.plan_hash_value;
```

How to force users change password on first login Linux

How to force users change their passwords upon first login in Linux? How to make sure user changes password at next login time in Linux?

You can force a user to change their password upon first time login to Linux server. You can even force existing users to change their passwords on next login. This is done using `chage` command in Linux. The `chage` command will change the user password expiry information.

The below `chage` command will make user password expired. Hence, this will force user to provide a new password. Here we are forcing oracle user to change password on next login

```
# chage -d 0 oracle
```

The option **-d 0** will mark the password expired and hence, user will be forced to change password.

How to check datafile utilization in Oracle

When you want to shrink a datafile, you must always check the single datafile utilization. In case if you shrink datafile more than the used size, it will fail. Below query gives the datafile utilization and depending upon the datafile free space, you can shrink it

```
col file_name for a60;
set pagesize 500;
set linesize 500;
SELECT SUBSTR (df.NAME, 1, 40) file_name, df.bytes / 1024 / 1024 allocated_mb,
((df.bytes / 1024 / 1024) - NVL (SUM (dfs.bytes) / 1024 / 1024, 0))
used_mb,
NVL (SUM (dfs.bytes) / 1024 / 1024, 0) free_space_mb
FROM v$datafile df, dba_free_space dfs
WHERE df.file# = dfs.file_id(+)
GROUP BY dfs.file_id, df.NAME, df.file#, df.bytes
ORDER BY file_name;
```

How to estimate flashback destination space

Sometimes application team will ask DBA to enable flashback for x number of days. In such case, a DBA needs to estimate the flashback space required for x number of days in order to store the flashback logs. The flashback log size is same as archive log size generated in a database.

- Check the archive generation size via below query
- Take the average per day size of archives generated
- Multiply the average archive size with x number of days
- Ask storage team to add the required space for flashback file system

Check archive generation size via below query:

```
select to_char(COMPLETION_TIME,'DD-MON-YYYY') Arch_Date,count(*) No#_Logs,
sum((BLOCKS*512)/1024/1024/1024) Arch_LogSize_GB
from v$archived_log
where to_char(COMPLETION_TIME,'DD-MON-YYYY')>=trunc(sysdate-7) and DEST_ID=1
group by to_char(COMPLETION_TIME,'DD-MON-YYYY')
order by to_char(COMPLETION_TIME,'DD-MON-YYYY');
```

Note: Take average size * 30 days to get 1 month flashback space size.

```
set lines 200
select TABLESPACE_NAME, sum(BYTES_USED/1024/1024),sum(BYTES_FREE/1024/1024)
from V$TEMP_SPACE_HEADER group by TABLESPACE_NAME;
```

```
SELECT A.tablespace_name tablespace, D.GB_total,
 SUM (A.used_blocks * D.block_size) / 1024 / 1024 /1024 GB_used,
 D.mb_total - SUM (A.used_blocks * D.block_size) / 1024 / 1024 / 1024 GB_free
FROM v$sort_segment A,
 (
 SELECT B.name, C.block_size, SUM (C.bytes) / 1024 / 1024 /1024 GB_total
 FROM v$tablespace B, v$tempfile C
 WHERE B.ts#= C.ts#
 GROUP BY B.name, C.block_size
 ) D
WHERE A.tablespace_name = D.name
GROUP by A.tablespace_name, D.GB_total;
```

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