Airline Management System – DBA Scripting

Database Administration scripts are used to manage and monitor the database, and also for status checks and privilege handling. We have listed some of the useful DBA scripts which we found as interesting as well as useful.

- **Display all tables in the database:**

This is a basic script which displays all tables present in the database, along with its owner and Table space Name. The below query removes all Oracle Admin owned system tables so as to filter out the Manually created tables by different users in the DB. The scripts could be modified to search for particular tables or owners.

Query:

```
SELECT OWNER,
       TABLE_NAME,
       TABLESPACE_NAME
FROM DBA_ALL_TABLES
WHERE OWNER <> 'DBSNMP'
  AND OWNER <> 'ORDSYS'
  AND OWNER <> 'OUTLN'
  AND OWNER <> 'SYS'
  AND OWNER <> 'SYSTEM'
ORDER BY OWNER,
         TABLE_NAME,
         TABLESPACE_NAME;
```

Result:

	OWNER	TABLE_NAME	TABLESPACE_NAME
1	APEX_040200	APEX$ARCHIVE_CONTENTS	SYSAUX
2	APEX_040200	APEX$ARCHIVE_HEADER	SYSAUX
3	APEX_040200	APEX$ARCHIVE_HISTORY	SYSAUX
4	APEX_040200	APEX$ARCHIVE_LOG	SYSAUX
5	APEX_040200	APEX$ARCHIVE_PREF	SYSAUX
6	APEX_040200	APEX$_ACL	SYSAUX
7	APEX_040200	APEX$_WS_FILES	SYSAUX
8	APEX_040200	APEX$_WS_HISTORY	SYSAUX
9	APEX_040200	APEX$_WS_LINKS	SYSAUX
10	APEX_040200	APEX$_WS_NOTES	SYSAUX
11	APEX_040200	APEX$_WS_ROWS	SYSAUX
12	APEX_040200	APEX$_WS_TAGS	SYSAUX
13	APEX_040200	APEX$_WS_WEBPG_SECTIONS	SYSAUX

- **Details for active users and sessions:**

  This below query lists out all Users and Sessions in the Database by accessing Session and Process system tables in the server. This helps the DBA to keep track of the Active users in the DB and monitor the same in a security/reporting perspective.

  Query:

```
SELECT NVL(SESS.USERNAME, '(ORACLE)') AS USERNAME,
       SESS.OSUSER,
       SESS.SID,
       SESS.SERIAL#,
       PRO.SPID,
       SESS.STATUS,
       SESS.SERVICE_NAME,
       SESS.MACHINE,
       SESS.PROGRAM,
       TO_CHAR(SESS.LOGON_TIME,'DD-MON-YYYY HH24:MI:SS') AS LOGIN_TIME
FROM V$SESSION SESS,
               V$PROCESS PRO
WHERE SESS.PADDR = PRO.ADDR
ORDER BY SESS.USERNAME,
         SESS.OSUSER;
```

  Result (As on 11/13, 5:00 AM EST):

	USERNAME	OSUSER	SID	SERIAL#	SPID	STATUS	SERVICE_NAME	MACHINE	PROGRAM	LOGIN_TIME
1	DB101	Kushagra	65	17566	2272	INACTIVE	SYS$USERS	Kushagra-PC	SQL Developer	12-NOV-2015 23:54:43
2	DB101	Kushagra	87	61057	2088	ACTIVE	SYS$USERS	Kushagra-PC	SQL Developer	13-NOV-2015 04:12:24
3	DB101	Pulkit	11	36591	2632	INACTIVE	SYS$USERS	Personal-pc	SQL Developer	12-NOV-2015 23:06:17
4	DB101	Pulkit	56	45532	2212	INACTIVE	SYS$USERS	Personal-pc	SQL Developer	12-NOV-2015 23:06:25
5	DB104	Shilpa	77	60882	3712	INACTIVE	SYS$USERS	Shilpa	SQL Developer	13-NOV-2015 00:49:21
6	DB104	Shilpa	48	15935	2940	INACTIVE	SYS$USERS	Shilpa	ORACLE.EXE (P002)	13-NOV-2015 03:06:19
7	DB104	Shilpa	67	1946	2892	INACTIVE	SYS$USERS	Shilpa	ORACLE.EXE (P000)	13-NOV-2015 03:06:19
8	DB104	Shilpa	76	51661	2904	INACTIVE	SYS$USERS	Shilpa	ORACLE.EXE (P001)	13-NOV-2015 03:06:19
9	DB104	Shilpa	78	26511	2948	INACTIVE	SYS$USERS	Shilpa	ORACLE.EXE (P003)	13-NOV-2015 03:06:19
10	DB106	Arpan	45	33602	3752	INACTIVE	SYS$USERS	WINDOWS-M0S3VE2	SQL Developer	13-NOV-2015 01:34:18
11	DB106	Chintan	57	3943	3932	INACTIVE	SYS$USERS	Chintan	SQL Developer	13-NOV-2015 02:22:29
12	DB106	user1	49	58475	1228	INACTIVE	SYS$USERS	user	SQL Developer	13-NOV-2015 03:08:44
13	DB107	Bhavyank	72	9099	3532	INACTIVE	SYS$USERS	Bhavyank	SQL Developer	13-NOV-2015 00:35:19
14	DB107	Dhilip	1	56333	3132	INACTIVE	SYS$USERS	Bobba	SQL Developer	13-NOV-2015 00:08:28

- **Program CPU Performance:**

  This script can be used by the DBA to monitor CPU performance. The query lists out top 10 programs which uses maximum CPU, aiding the DBA to monitor program performance.

  Query:

```
SELECT se.username,
       ss.sid,
       ROUND (value/100) "CPU Usage"
FROM v$session se,
               v$sesstatss,
                v$statnamest
WHERE ss.statistic# = st.statistic#

  AND name LIKE '%CPU used by this session%'
  AND se.sid = ss.SID
  AND se.username IS NOT NULL
ORDER BY value DESC;
```

  Result:

	USERNAME	SID	CPU Usage
1	DB113	73	232
2	DB111	71	181
3	DB113	68	95
4	MED141	41	48
5	DB107	72	22
6	DB107	55	17
7	DB101	65	17
8	DB101	87	11
9	DB106	57	9
10	DB106	45	4

- **Table Space Usage - 1:**

The below query displays the Table space Name, Owner, Table details, Type of Segment (Table/Index), Extents, Number of DB Blocks in the segment and Number of bytes in the segment in the DB. This query can be used to track the size and blocks of data for each table. Below query has been filtered for only DB owners.

Query:

```
SELECT TABLESPACE_NAME,
       OWNER,
       SEGMENT_NAME,
       SEGMENT_TYPE,
       EXTENTS,
       BLOCKS,
       BYTES
FROM DBA_SEGMENTS
WHERE OWNER LIKE'%DB%'
ORDER BY OWNER,
         SEGMENT_NAME;
```

Result:

	TABLESPACE_N...	OWNER	SEGMENT_NAME	SEGMENT_TYPE	EXTENTS	BLOCKS	BYTES
1	USERS	DBERNDT	SYS_IL0000126782C00004$$	INDEX SUBP...	1	8	65536
2	USERS	DBERNDT	SYS_IL0000126782C00004$$	INDEX SUBP...	1	8	65536
3	USERS	DBERNDT	SYS_IL0000126782C00004$$	INDEX SUBP...	1	8	65536
4	USERS	DBERNDT	SYS_IL0000126782C00004$$	INDEX SUBP...	1	8	65536
5	USERS	DBERNDT	SYS_IL0000126782C00004$$	INDEX SUBP...	1	8	65536
6	USERS	DBERNDT	SYS_IL0000126782C00004$$	INDEX SUBP...	1	8	65536
7	USERS	DBERNDT	SYS_IL0000126782C00004$$	INDEX SUBP...	1	8	65536
8	USERS	RELMDB	CITIES	TABLE	4	32	262144
9	USERS	DBERNDT	FANS_LFNAME_BTREE	INDEX	5	40	327680
10	USERS	DBERNDT	SP500_DAILY_FACTS	TABLE	14	112	917504
11	USERS	DBERNDT	SP500_EOD_STOCKS	TABLE	23	1024	8388608
12	USERS	DBERNDT	SP500_STOCKS	TABLE	1	8	65536
13	USERS	DBERNDT	STUDENTS	TABLE	8	64	524288

- **Table Space Usage - 2:**

  This script produces the total number of indices created by a User / Owner. Here, it is ordered in descending order for DB* Owners alone. The script will give an idea of Index usage and performance to the DBA.

  Query:

```
SELECT COUNT (INDEX_NAME) AS "NUMBER_OF_INDICES",
             TABLE_OWNER
FROM DBA_INDEXES
GROUP BY TABLE_OWNER
HAVING TABLE_OWNER LIKE '%DB1%'
ORDER BY COUNT (INDEX_NAME) DESC;
```

  Result:

	NUMBER_OF_INDICES	TABLE_OWNER
1	26	DB109
2	24	DB107
3	23	DB113
4	19	DB154
5	18	DB104
6	15	DB167
7	12	DB101
8	11	DB106
9	10	DB108
10	9	DB112
11	9	DB100
12	8	DB103
13	7	DB168