Using ASMCMD Commands for Oracle ASM Management

Commands and Scripts with Examples

Asfaw Gedamu

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A. Introduction:

This Standard Operating Procedure (SOP) outlines the usage of asmcmd, a command-line interface for managing Oracle Automatic Storage Management (ASM). It covers common commands, their purpose, prerequisites, and best practices.

B. Purpose:

- Manage ASM instances, disks, and disk groups.
- Perform routine maintenance tasks like adding/removing disks, resizing disk groups, and monitoring performance.
- Troubleshoot ASM-related issues and identify potential problems.

C. Prerequisites:

- Access to an Oracle ASM instance with asmcmd installed.
- Basic understanding of ASM concepts and terminology.
- Privileged user account with appropriate permissions.

D. Best Practices:

- Always backup your ASM configuration before making significant changes.
- Test commands in a non-production environment before applying them to a production system.
- Use asmcmd help for detailed information and syntax of specific commands.
- Consult the Oracle documentation for advanced usage and troubleshooting.

E. Common ASMCMD Commands:

- **asmcmd start/stop instance:** Starts or stops the ASM instance.
- **asmcmd list diskgroups:** Lists all ASM disk groups.
- **asmcmd list disks:** Shows information about all ASM disks.

- **asmcmd add/remove disk:** Adds or removes a disk from an ASM instance.
- **asmcmd resize diskgroup:** Resizes the size of a disk group.
- **asmcmd show alert history:** Displays historical ASM alerts.
- **asmcmd monitor statistics:** Monitors performance metrics for ASM components.

Now, to the list of useful asmcmd commands which will come handy in your day to day operations.

1. List all diskgroups:

ASMCMD> **lsdg**

-- Include dismounted diskgroups:

ASMCMD> **lsdg --discovery**

-- List diskgroups across all nodes of cluster:

ASMCMD> **lsdg -g --discovery**

2. List asm disks:

-- List all asm disks

ASMCMD> **lsdsk -k**

-- List disks of a diskgroup(CDATA) with free and total MB
ASMCMD> **lsdsk -k -G CDATA**

-- List disks of a diskgroup(CDATA) with group and disk number
ASMCMD> **lsdsk -p -G CDATA**

-- List disks with disk creation date
ASMCMD> **lsdsk -t -G CDATA**

-- List candidiate disks only

ASMCMD> **lsdsk --candidate -k**

-- List member disks only
ASMCMD> **lsdsk --candidate -p**

3. Get attributes of ASM diskgroups:

-- List attribute of all diskgroups:

ASMCMD> **lsattr -lm**

-- List attribute of specific diskgroup(DMARCH)

ASMCMD> **lsattr -lm -G DMARCH**

```
Group_Name  Name                  Value      RO  Sys
DMARCH      access_control.enabled  FALSE      N   Y
DMARCH      access_control.umask    066        N   Y
DMARCH      au_size                 1048576    Y   Y
DMARCH      cell.smart_scan_capable  FALSE      N   N
```

-- List attributes with specific pattern

ASMCMD> **lsattr -lm %au_size%**

```
Group_Name  Name     Value    RO  Sys
CDATA       au_size  1048576  Y   Y
BDM         au_size  1048576  Y   Y
CRMG        au_size  1048576  Y   Y
PMARCH      au_size  1048576  Y   Y
BCMS        au_size  1048576  Y   Y
```

4. unmount diskgroup:

unmount command works only on the local node. So if you want to unmount the diskgroup from all nodes of cluster, then run this command from all the nodes

-- unmount all diskgroups
ASMCMD> **umount -a**

--- unmount specific diskgroup(ARCH)
ASMCMD> **umount ARCH**

4. Mount diskgroup:

Mount command works only on the local node. So if you want to Mount the diskgroup from all nodes of cluster, then run this command from all the nodes.

-- mount all diskgroups on local node
ASMCMD> **mount -a**

--- mount a specific diskgroup on local node
ASMCMD> **mount ARCH**

5. Rebalance a diskgroup:

-- here asm_power_limit is 8 and diskgroup is ARCH

ASMCMD> **rebal --power 8 ARCH**
Rebal on progress.

-- Monitor progress

ASMCMD> **lsop**

Group_Name	Pass	State	Power	EST_WORK	EST_RATE	EST_TIME
ARCH	COMPACT	RUN	8	0	16831	0
ARCH	REBALANCE	DONE	8	0	0	0

6. Get password file of database

ASMCMD> **pwget --dbuniquename DBACLASS**
+CDATA/DBACLASS/PASSWORD/pwddbaclass.256.899912377

8 .Get password file of asm :

ASMCMD> **pwget --asm**
+MGMT/orapwASM

9. Get asm template info of a diskgroup:

ASMCMD> **lstmpl -l -G ARCH**

```
Group_Name  Group_Num  Name                  Stripe  Sys  Redund  PriReg  MirrReg
ARCH        1          ARCHIVELOG            COARSE  Y    UNPROT  COLD    COLD
ARCH        1          ASMPARAMETERFILE      COARSE  Y    UNPROT  COLD    COLD
ARCH        1          AUDIT_SPILLFILES      COARSE  Y    UNPROT  COLD    COLD
ARCH        1          AUTOBACKUP            COARSE  Y    UNPROT  COLD    COLD
ARCH        1          AUTOLOGIN_KEY_STORE   COARSE  Y    UNPROT  COLD
COLD
ARCH        1          BACKUPSET             COARSE  Y    UNPROT  COLD    COLD
```

10. Check whether flex asm is enabled or not

ASMCMD> **showclustermode**
ASM cluster : Flex mode disabled

11.Check cluster state:

ASMCMD> **showclusterstate**
Normal

12. View asm version:

ASMCMD> **showversion**
ASM version : 12.1.0.2.0

13. Get asm spfile location:

ASMCMD> **spget**
+MGMT/DBACLASS-cluster/ASMPARAMETERFILE/registry.253.899644763

14. Take backup of asm spfile:

-- copy backup of spfile to a specific location

ASMCMD> **spbackup +MGMT/DBACLASS-cluster/ASMPARAMETERFILE/registry.253.899644763 /home/oracle/asmspfile.ora**

15. Find clients connected to a diskgroup:

ASMCMD> **lsct DMARCH**
DB_Name Status Software_Version Compatible_version Instance_Name Disk_Group
DBACLASS CONNECTED 12.1.0.2.0 12.1.0.2.0 DBACLASS1 DMARCH

16. Get asm diskstring

ASMCMD> **dsget**
parameter:ORCL:*
profile:ORCL:*

17. List asm users with password:

ASMCMD> **lspwusr**
Username sysdba sysoper sysasm
SYS TRUE TRUE TRUE
ASMSNMP TRUE FALSE FALSE

18. List open files of a diskgroup:

— Open files of a diskgroup (ARCH)

ASMCMD>**lsof -G ARCH**

19 . List open files related to a database

-- Open files of a database(DBACLASS)
ASMCMD>**lsof --dbname DBACLASS**

20. Check filter driver is enabled or not:

ASMCMD> **afd_state**
ASMCMD-9526: The AFD state is 'NOT INSTALLED' and filtering is 'DEFAULT' on host 'b20e4bay01'

filter driver disks:

21. List filter driver disks(if enabled)

ASMCMD> **afd_lsdsk**

22. Get filter driver asm diskstring

ASMCMD> **afd_dsget**
AFD discovery string:

F. Conclusion:

By utilizing asmcmd effectively, you can efficiently manage your Oracle ASM environment, ensuring optimal performance and data integrity. Remember to approach changes cautiously, leverage available resources, and prioritize data protection. **Additional Notes:**

- This SOP provides a basic overview. For comprehensive information, refer to the official Oracle ASM documentation.
- Consider including specific examples and use cases relevant to your environment for a more practical guide.
- Regularly update the SOP to reflect changes in asmcmd functionality and best practices.