



Viscosity Technologies

Leaders in Oracle VISION and Knowledge

Automated Storage Management (ASM) Pocket Reference Guide

ViSkosity professionals are experts in the areas of:

- Real Application Clusters (RAC) - 9i, 10g, 10gR2 and 11g
- EBusiness Suite Administration (11i and 12i)
- Data Warehousing
- Business Intelligence
- Database Security
- Enterprise Systems Management (ITIL and ITSM)

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ASM Diskgroups

Create diskgroup

```
CREATE DISKGROUP disk_group_1 NORMAL
REDUNDANCY
FAILGROUP failure_group_1 DISK
'/devices/diska1' NAME diska1,
'/devices/diska2' NAME diska2,
FAILGROUP failure_group_2 DISK
'/devices/diskb1' NAME diskb1,
'/devices/diskb2' NAME diskb2;
```

Drop disk groups

```
DROP DISKGROUP DATA INCLUDING CONTENTS;
```

Add disks

```
ALTER DISKGROUP DATA ADD DISK '/dev/sda3';
```

Drop a disk

```
ALTER DISKGROUP DATA DROP DISK DATA_0001;
```

Resize all disks in a disk group

```
ALTER DISKGROUP DATA RESIZE ALL SIZE 100G;
```

UNDROP DISKS clause of the ALTER DISKGROUP

```
ALTER DISKGROUP DATA UNDROP DISKS;
```

Rebalance diskgroup

```
ALTER DISKGROUP DATA REBALANCE POWER 5;
```

Check Diskgroup

```
alter diskgroup data check;
alter diskgroup data check norepair;
```

Diskgroup Metadata Backup

```
md_backup -b asm_backup.mdb.txt
-g data, fra
```

ASM Specific Init.ora Parameters

```
*.cluster_database= true
*.asm_diskstring =
'/dev/sd*1'
*.instance_type=asm
*.shared_pool_size=100M
*.large_pool_size = 80M
*.db_cache_size=60M
*.asm_diskgroups =
'DATA','FRA'
```



Initialize ASM for non-RAC

```
./localconfig add
```

Manually start CSSD (non-RAC)

```
/etc/init.d/init.cssd start
```

Manually stop CSSD (non-RAC)

```
/etc/init.d/init.cssd stop
```

Resetting CSS to new Oracle Home

```
localconfig reset /apps/oracle/product/11.1.0/ASM
```

ASM Dictionary Views

v\$asm_alias	Lists all aliases in all currently mounted diskgroups
v\$asm_client	Lists all the databases currently accessing the diskgroups
v\$asm_disk	Lists all the disks discovered by the ASM instance
v\$asm_diskgroup	Lists all the diskgroups discovered by the ASM instance
v\$asm_file	Lists all files that belong to diskgroups mounted by the ASM instance
v\$asm_operation	Reports information about current active operations. Rebalance activity is reported in this view
v\$asm_template	Lists all the templates currently mounted by the ASM instance
v\$asm_diskgroup_stat	same as v\$asm_diskgroup but does discover new diskgroups. Use this view instead of v\$asm_diskgroup
v\$asm_disk_stat	same as v\$asm_disk but does not discover new disks. Use this view instead of v\$asm_disk

srvctl commands

ADD

```
srvctl add asm -n rac3 -i +ASM3 -o
/opt/oracle/app/product/10.2/asm
```

ENABLE

```
srvctl enable asm -n rac3 -i +ASM3
```

DISABLE

```
srvctl disable asm -n rac3 -i +ASM3
```

START

```
srvctl start asm -n rac3
```

STOP

```
srvctl stop asm -n rac3
```

CONFIG

```
srvctl config asm -n rac1
```

REMOVE

```
srvctl remove asm -n rac1
```

STATUS

```
srvctl status asm
```

```
srvctl status asm -n rac1
```

MODIFY

```
srvctl modify asm -o -n rac1
```

ASMLIB commands (as root)

```
/etc/init.d/oracleasm start  
/etc/init.d/oracleasm stop  
/etc/init.d/oracleasm restart  
/etc/init.d/oracleasm configure  
/etc/init.d/oracleasm status  
/etc/init.d/oracleasm enable  
/etc/init.d/oracleasm disable  
/etc/init.d/oracleasm listdisks  
/etc/init.d/oracleasm deletedisk  
/etc/init.d/oracleasm scandisks  
/etc/init.d/oracleasm querydisk  
/dev/sdd1  
/etc/init.d/oracleasm createdisk  
VOL1 /dev/sdb1  
/etc/init.d/oracleasm renamedisk  
/dev/sdb1 VOL1
```



asmcmd Commands

cd	Changes the current directory to the specified directory
du	Displays the total disk space occupied by ASM files in the specified ASM directory and all its subdirectories, recursively
find	Lists the paths of all occurrences of the specified name (with wildcards) under the specified directory

ls +data/testdb	Lists the contents of an ASM directory, the attributes of the specified file, or the names and attributes of all disk groups
lsct	Lists information about current ASM clients
lsdg	Lists all disk groups and their attributes
mkalias	Creates an alias for a system-generated filename
mkdir	Creates ASM directories
pwd	Displays the path of the current ASM directory
rm rm -f	Deletes the specified ASM files or directories
rmalias	Deletes the specified alias, retaining the file that the alias points to
lsdsk	Lists disks visible to ASM
md_backup	Creates a backup of all of the mounted disk groups
md_restore	Restores disk groups from a backup
mkalias	Creates an alias for system-generated filenames
remap	Repairs a range of physical blocks on a disk
cp	Copies files into and out of ASM: <ul style="list-style-type: none">• ASM diskgroup to OS file system• OS file system to ASM diskgroup• ASM diskgroup to another ASM diskgroup on the same server• ASM disk group to ASM diskgroup on a remote server

SYSASM Role (Starting in Oracle Database 11g)

```
SQL> Grant sysasm to sys; -- sysdba deprecated  
sqlplus / as sysasm
```

ASM Rolling Upgrades

START

```
alter system start rolling migration to 11.2.0.2;
```

DISABLE

```
alter system stop rolling migration;
```

Database INIT parameters for ASM

```
*.control_files='+DATA/visk/controlfile/control1.ctl','+FRA/visk/  
controlfile/control2.ctl'  
*.db_create_file_dest='+DATA'  
*.db_create_online_log_dest_1='+DATA'  
*.db_recovery_file_dest='+DATA'  
*.log_archive_dest_1='LOCATION='+DATA'  
*.log_file_name_convert='+DATA/VISKDR','+DATA/VISK' ##  
added for DG
```

Migrate to ASM using RMAN

```
run  
{  
  backup as copy database format '+DATA';  
  switch database to copy;  
  # For each logfile  
  sql "alter database rename '/data/oracle/VISK/redo1a.rdo' to  
  '+DATA'";  
  alter database open resetlogs;  
  # For each tempfile  
  sql "alter tablespace TEMP add tempfile";  
}
```

Restore Database to ASM using SET NEWNAME

```
run  
{  
  allocate channel d1 type disk;  
  # For each datafile  
  set newname for datafile 1 to '+DATA';  
  restore database;  
  switch datafile all;  
  release channel d1;  
}
```

