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SWITCH SAN

MDS-SERIES (CISCO) COMMANDS

MDS-SERIES Switch Commands

```
ip address 191.168.123.234 255.255.255.0
View = show running-config
show environment shows status of all installed hardware components
show flogi database shows database list of all FLOGI events
show fcns database shows database list of all N-ports logged in
show vsan membership shows list of VSAN members
show interface brief lists the interfaces and status
```

MDS-SERIES Zoning Commands

```
config terminal Enters configuration terminal
zone name TestZone1 vsan 4 creates a zone
member pwn 10:01:10:01:10:ab:cd:ef adds node to the zone above
no member pwn <colon separated wwn> deletes member from zone
zoneset name Zoneset1 vsan 4 creates a zoneset
member <zone name> adds zone to the ZoneSet above
no zone name <zone name> vsan <vsan Id> Deletes a zone
zoneset activate name Zoneset1 vsan 4
zone copy active-zoneset full-Zoneset1 vsan 4
copy running-config start-up config copy from source to startup configuration
vsan database go into vsan configuration mode
vsan 4 interface fc3/21 move port 21 on module 3 to vsan 4
show zoneset shows all zonesets that are active
show zone vsan <#> shows all zones active in vsan
show zoneset active displays the active zoneset
show vsan shows the vsans on the switch
show zoneset active vsan <vsan Id> Shows active zoneset
```

B-SERIES (BROCADE) COMMANDS

B-SERIES Switch Commands

```
switchDisable offline
ipAddrSet set the IP address of a Brocade switch
switchShow display switch info
supportShow full detailed switch info
portShow # display port info
nsShow Name server contents
nsAllShow NS for full fabric
fabricShow fabric information
ad --create create a new Admin Domain.
ad --apply enforce the new Admin Domain configuration.
```

B-SERIES Zoning Commands

```
aliCreate "Alias", "20:00:00:e0:69:40:07:08"
zoneCreate "Zone1", "20:00:00:e0:69:40:07:08; 50:06:04:82:b8:90:c1:8d"
cfgCreate "Test_cfg", "Zone1; Zone2"
cfgSave saves zoning information across reboots
cfgEnable "Test_cfg"
zoneShow or cfgShow shows defined and effective zones and configurations
zoneAdd adds a member to a zone
zoneRemove removes a member from a zone
zoneDelete deletes a zone
cfgAdd adds a zone to a zone configuration
cfgRemove removes a zone from a zone configuration
cfgDelete deletes a zone from a zone configuration
cfgClear clears all zoning information/ must disable the effective configuration
```

M-SERIES (McDATA) COMMANDS

M-SERIES Switch Commands

```
View=          config ip show
Config> ip      (new IP and Subnet mask)
Show> switch
Show> switch
Show > system
Show> nameserver
Show> loginServer
Show> nameServer
Show.Fabric> nodes
Maint > system > setOnlineState
```

M-SERIES Zoning Commands

```
Config.Zoning> addWwnMem: <zoneName> <wn>
Config.Zoning> addZone      add a new zone to the working area
Config.Zoning> activateZoneset  activation of changes
Config.Zoning> showactive     shows actively connected running zoneset
Config.Zoning> clearZone     clear WWNs in a zone
Config.Zoning> deletezone    remove zone from the running config
Config.Zoning> showPending   show pending zones
Config.Zoning> renameZone:<oldzonename><newzonename>
Config.Zoning> deleteWwnMem  <zonename><wn>
Config.Zoning> renameZoneSet <zoneSetName>
```

Veritas VM HOST COMMANDS

- <http://www.symantec.com/business/support/documentation.jsp?language=english&view=manuals&pid=15273>

Veritas VM Device Commands

```
vxdisk list      List all disks under volume manager control and give there status.
vxdiskadd c1t2d3 add or bring a disk under volume manager control
vxdiskadmin      Interactive front end to the vxdisk program
```

Veritas VM Filesystem commands

```
vxdisk init      Initialize Physical Volume
vxdg init mydg mydg-01=c1t11d0 Create Disk Group
vxassist -g mydg make myvol <size> Create Logical Volume
mkfs -F vxfs /dev/vx/rdisk/mydg/myvol create file system
vxvol -g mydg stopall stop a volume
vxdg deport mydg deport disk group
vxdg import mydg import disk group
vxvol -g mydg startall starting a imported volume
```

VMware ESX HOST COMMANDS

- <http://www.b2v.co.uk/b2vguide2vmware.htm>
- <http://b2v.co.uk/b2vguide2vmware3.htm>

VMware ESX Device Commands

```
esxcfg-rescan <vmkernel adpater> scan for new disks
esxcfg-swiscsi -e enable iSCSI initiator
more /proc/scsi/lpfc/X wwn of HBA
esxcfg-vswitch
```

VMware ESX Filesystem Commands

```
vmkfstools ~
```

AIX/IBM HOST COMMANDS

- <http://publib.boulder.ibm.com/infocenter/pseries/v5r3/index.jsp?topic>

AIX Software Installation

```
/usr/lpp          Software Directory
lsllpp -L all     List installed software
lsllpp -f fileset List all files
instfix -i       List installed patches
cp *.lpp /usr/sys/inst.images copy lpp software to the install directory
smit installp    Install a software package
rmdev           Remove a device
```

AIX Device Commands

```
lscfg            lists all configured components
smit or smitty   system management utility
lscfg -v l <interface> lists all attributes (WMN's) for a device
emc_cfgmgr       configures symmetrix devices
mkbcv            makes BCV visable to AIX to avoid locking during boot
(1) chdev -l fcsX -a init_link=pt2pt -P "To change INIT Link flags parameter"
(2) chdev -l fcsX -a fc_err_recov=fast_fail -P "Fabric Event Error RECOVERY Policy"
(3) cfgmgr -v    configures devices and optionally installs device software
```

AIX iSCSI Commands

```
smit iscsi
```

HP/UX HOST COMMANDS

- <http://www.docs.hp.com/en/B2355-90681/index.html>

HP/UX Software Installation

```
sysdef          analyzes current running system
swlist -l bundle displays version and type of HP-UX
swlist -l patch  List installed patches
swreg -l depot /full/path/to/your/depot_file Register a depot package for install
swinstall       Install the Software depot
```

HP/UX Device Commands

```
insf -e         install special device files
ioscan -fnC disk scans system hardware
sam            System administration tool
dd if=/dev/rdisk/c34t15d0 of=/dev/zero count=1 makes HP register with a Clariion thru LUNZ device
navicli -h <SP IP> register registers host with Clariion and tests agent install
lsdev -C disk   list device drivers in the system
mknod         makes a directory, special, or ordinary file
/stand/system  system configuration file
```

HP SAN Commands

```
fcmsutil /dev/fcd0 List HBA wwn
tdutil /dev/td0 List HBA wwn
```

HP iSCSI Commands

- <http://docs.hp.com/en/T1452-90011/T1452-90011.pdf>

PROCEDURES

zone hp server to symm

```
symmask list hba -v to list your servers paths to the symm
symmask -wwn -dir -p add dev (use wwn, dir, p values from above command) run command for each hba to FA zone
symmask -wwn -dir -p set heterogeneous on HP_UX use wwn from the (symmask list hba -v )
symmask refresh
ioscan -fnC disk
insf -e
symcfg dis
sympd list
```

- To get HPUX to register with Clariion if using NaviAgent

```
Install NaviAgent
Edit agent.config file
ioscan -fnC disk
insf -e
/sbin/init.d/agent stop
rm /etc/log/HostIdFile.txt
/sbin/init.d/agent start
dd if=/dev/rdsck/c34t15d0 of=/dev/zero count=1 makes HP register with a Clariion thru LUNZ device
navicli -h <SP IP> register registers host with Clariion and tests agent install
```

```
# rmsf path ( The paths are showing NO_HW or not sensing).
# ioscan -fnC disk (check)
# insf -e
# symcfg discover
# powermt display ( check for any dead path)
# powermt check (checks and corrects dead path).
# powermt config
# powermt save
```

Linux HOST COMMANDS

- <http://www.redhat.com/docs/manuals/enterprise/RHEL-5-manual/en-US/>

Linux Device Commands

```
modprobe -l *lpfc* List Emulex modules
modprobe -r discover new disk
/sys/class/scsi_host/host1/issue_lip discover new disk
/sys/class/scsi_host/host1/scan discover new disk
/usr/sbin/lpfc lun_scan all
```

Linux FC SAN Commands

```
more /proc/scsi/lpfc/X wwn on RHEL3
more /sys/class/scsi_host/hostX/port_name wwn on RHEL4
more /sys/class/fc_host/hostX/port_name wwn on RHEL5
(X is the instance number of the HBA)
```

Linux iSCSI Commands

```

yum install iscsi-initiator-utils      install iSCSI soft initiator
rpm -q srvasadmin-deng iscsi-initiator-utils  install iSCSI soft initiator
rpm -ql iscsi-initiator-utils         confiure iSCSI soft initiator
iscsiadm -m discovery -t -p 192.168.1.100  discover iSCSI target
iscsiadm --mode node --targetname iqn

```

SUN/SOLARIS HOST COMMANDS

- http://developers.sun.com/openstorage/articles/opensolaris_storage_server.html

SOLARIS Software Installation

```

ptree -a      Shows all running processes in a tree format
showrev -p   Displays currently installed Solaris patches
prtconf      prints system configurations
pkginfo      lists installed software packages
pkgadd       install software packages
pkgrm        removes installed software packages

```

Solaris Device Commands

```

cfgadm -a      list all
cfgadm -c      configure c4  configure StorEdge Leadville driver.(Search for new devices)
devfsadm -vc   searches for devices and also cleans up old
update_drv -f sd -d -I  searches for devices
devinfo        print device specific information about disk devices
drvconfig      generates special device files
reboot -- -r   reboots system to discover configuration changes, and rebuild special files
/etc/system    system files
/kernel/drv/sd.conf lists of available target ids and luns
/kernel/drv/lpfc.conf used for persistent binding on Emulex (qla22xx.conf for Qlogic)
/var/adm/messages system messages

```

Solaris iSCSI Commands

```

iscsiadm add static-config iqn.1999-08.com.array:sn.01234567,192.168.1.3:3260  map target
iscsiadm add discovery-address 192.168.1.13:3260
iscsiadm modify discovery --isns enable
iscsiadm list target -v5 Target: iqn.1986-03.com
devfsadm -Cv -i iscsi

```

Solaris FC SAN Commands

```

fcinfo hba-port      Lists information and WWNs
fcinfo remote-port -p 10000000c937694f -ls Lists the remote-port information

```

SOLUTIONS ENABLER COMMANDS

Commands to see devices

```

syminq          ~ list all devides seen by host OS
syminq -cids    ~ list Clariion devices
syminq hba -fibre ~ list HBA
syminq -pdevfile ~List the location of devices
symmpd list     ~ lists the Symmetrix devices that the host OS can see
symmpd list -vcm ~ lists all the physical device name in the device masking database
symdev list pd  ~ lists the Symmetrix devices that the host OS can see
symdisk

```

Symdev Commands

```

symdev list          ~ list all devices on symm
symdev -sa -p list  ~ list devices mapped to that one FA
symdev list -bcv or -rdf1 ~ list all bcv or rdf1 volumes
symdev list -noport ~ list devices not mapped to any FE ports
symdev list -clariion ~ verbose listing of one device
symdev show 0123 -v ~ verbose listing of a range of devices
symdev list -RANGE 0001:0123 -v ~ verbose listing of a range of devices
symdev list pd      ~ list devices this host can see

```

Symcfg Commands

```

symcfg discover      ~ discover the storage environment
symcfg list          ~ list local and remote symmetrixes
symcfg list -clariion ~ list clariions
symcfg list -v       ~ lists whether the Symmetrix director has device masking turned on
symcfg list -FA all list ~ lists all fibre directors in a Symmetrix system
symcfg list -dir all -address -sid 6196 ~ identify the address information for devices
symcfg list -dir all -address -available ~ sid 6196 ~ returns the next available LUN address
symcfg list -lockn all ~ list of visible Symm exclusive locks
symcfg -sid 098712341357 -lockn 15 release ~ release a lock on a Symmetrix array.

```

Symconfigure Commands

```

symconfigure -sid <sid> -f <filename> preview ~ checks file to make sure it is ok to exe
symconfigure -sid <sid> -f <filename> commit ~ makes the changes from file
symconfigure -sid <sid> -f <filename> prepare

```

Symmashdb Commands

```

symmaskdb list devs ~ lists all devices accessible to an HBA on a specified Symmetrix system
symmaskdb remove ~ removes the meta member devices
symmaskdb restore ~ restores a database from a specified file
symmaskdb backup ~ backs up a database to a specified file
symmaskdb init ~ deletes and creates a new VCMDB
symmaskdb list assignment ~lists deives already assigned
symmaskdb list no_assignment ~lists deives not yet assigned

```

Symmask Commands

```

symmask add devs ~ adds a device to the list of devices that a WWN can access in the database
symmask remove devs ~ removes a device from the list of devices that a WWN can access in the database
symmask delete ~ deletes all access rights for a WWN in the database
symmask replace ~ allows one HBA to replace another
symmask refresh ~ refresh vcmdb to all FA ports
symmask login ~ lists for each Fibre director which hosts and HBA's are logged in to a Symmetrix system
symmask list HBA's ~ lists the WWN of the Fibre HBAs on this host
symmask -sid 381 -wn 50060B000024F9F6 -dir 16C -p 1 set heterogeneous on HP_UX
symmask -sid SymmID set lunoffset on offset base \ -awwn awwn -dir # -p # ~ offset high lun numbers

```

Other SYMCLI Commands

```

symsan ~list ports and LUN WWNs seen from a specific Symmetrix director and port
symdg ~ creates/deletes/renames device groups
symld ~ adds & removes devices to a device group
symbcv ~ associates/disassociate BCV with device groups
symmir ~ performs (split/establish/restore) BCV mirror commands against device groups
symclone ~ performs (split/establish/restore/activate/terminate/recreate)
symsnap ~ performs (restore/activate/terminate/recreate)
symrdf ~ performs (split/establish/restore/failover/update/failback/suspend/resume) against RDF device groups
symcg ~ Performs operations on a Symmetrix RDF composite group
symrslv ~ Displays logical-to-physical mapping information about a logical object that is stored on a disk.
symstat ~ Displays statistics information about a Symmetrix, any or all directors, a device group, a disk, or a device.

```

```
symioctl ~ sends I/O control commands to application
```

NAVICLI COMMANDS

```
navicli -h <host> getall --> Lots of useful and not so useful information
navicli -h <SP IP> getsp ~ verify connectivity
navicli -h <SP IP> register ~ registers host with Clariion and tests agent install
navicli -h <SP IP> storagegroup ~ list all info about existing groups
navicli -h <SP IP> getrg -lunlist ~ list all existing raid groups and LUNS
navicli -h <SP IP> getdisk ~ shows numbers of disks in storage array
navicli -h <SP IP> getrg <rg id> ~ shows the number of raid groups
navicli -h <SP IP> getlun <lun id> ~ lists all the disks
navicli -h <SP IP> storagegroup -list ~ displays storage groups
navicli -h <SP IP> getcache ~ shows the cache
navicli -h <SP IP> storagegroup -create -gname <name> ~ creates a new storage group
navicli -h <SP IP> storagegroup -addhlu -gname <name> -hlu <#> -alu <#> ~ assigns LUNs to storage group
navicli -h <SP IP> storagegroup -connecthost -host <hname> -gname <gname> ~ assigns host to storage group
```

POWERPATH COMMANDS

```
powermt ~ manage powerpath environment
powercf ~ configure powerpath devices
emcpregr ~ manage powerpath license registration
emcupgrade ~ convert powerpath configuration files
```

INQ COMMANDS

```
inq -h ~ list options and syntax
inq -hba ~ list hba wwn
inq -btl ~ display Bus Target and Lun
inq -show_vol ~ display Symmetrix Volume Number.
inq -winvol ~ show Windows filesystems
inq -dev ## -page0 ~ Raw unformatted data on a single device
inq -clariion ~ display CLARiION device information
```

From:
<https://unix.ndlp.info/> - Where there is a shell, there is a way

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