NetApp® iSCSI Solaris® Host Utilities 5.1 Quick Command Reference

iSCSI service management commands	
iscsi start|stop	Starts or stops the iSCSI service.
iscsi nodename [*new_nodename*]	Displays or sets the iSCSI target node name.
iscsi alias [**-c** | *new_alias*]	Displays, sets, or clears an alias for the iSCSI target node name.
iscsi initiator show	Displays information about initiators connected to target. (**Data ONTAP® 7.1 & later**)
ifconfig [**-a** | *interface*]	Displays or configures network parameters for the specified interface. Use **–a** to display all network interfaces.
Commands specific to Data ONTAP 7.0.x	
iscsi config [*adapter* [**up**|**down**]]	Configures the iSCSI target adapter up or down. Leave off **up** or **down** to display configurable information. Omit *adapter* to display all.
iscsi show adapter [*adapter…*]	Displays target adapter information for specified logical adapters.
iscsi show initiator [*adapter…*]	Displays information about initiators connected to specified adapters.
iswt interface show [**-a**|*interface …*]	Shows Show ISWT driver use of network interface.
iswt session show [**-v**] [*session_num*]	Show status of one session, or for all connections associated with a specified logical adapter if no session number is specified.
iswt interface enable {**-a**|*interface…*}	Enables use of specified network interfaces by iswt. Use **–a** to enable all. NetApp recommends against enabling e0 for iSCSI traffic.
iswt interface disable [**-f**] {**-a**|*interface…*}	Disables use of specified network interfaces by **iswt**. Use **–a** to disable all. Use **–f** to force termination of current sessions.
iSCSI software target and session management commands	
iscsi interface enable {**-a**|*interface…*}	Enables use of specified network interfaces for iSCSI traffic. Use **–a** to enable all. Only gigabit Ethernet interfaces are recommended for iSCSI.
iscsi interface disable [**-f**] {**-a**|*interface…*}	Disables use of specified network interfaces for iSCSI traffic. Use **–a** to disable all. Use **–f** to force termination of current sessions.
Commands specific to Data ONTAP 7.1 and later	
iscsi interface show [**-a**|*interface …*]	Shows which network interfaces are enabled for iSCSI traffic.
iscsi session show [**-v**] [*session_num*] **iscsi connection show** [**-v**] [*sess conn*]	Shows status of one session or connection, or for all if no session number (and connection number for **connection show**) is specified.
iscsi tpgroup create [**-f**] [**-t** *tpgtag*] *tpgroup_name* [*interface …*]	Creates user-defined target portal group for multi-connection sessions. All session connections must use interfaces in the same target portal group.
iSCSI authentication (CHAP) management commands	
iscsi security add -i *initiator* **-s CHAP -p** *inpassword* **-n** *inname* [**-o** *outpassword* **-m** *outname*]	Defines authentication method for specified initiator. For *initiator*, use node name in iqn format. Note that *inname* on storage system is set to outgoing user name on host. Use **-o** and **-m** for bidirectional CHAP.
iscsi security default -s CHAP -p *inpassword* **-n** *inname* [**-o** *outpassword* **-m** *outname*]	Sets the default authentication method, user names, and passwords for all initiators not specifically configured.
iSCSI target status, performance, and troubleshooting commands	
iscsi status	Displays current status of the iSCSI service.
iscsi stats [**-z**]	Displays numbers of iSCSI PDUs and CDBs, and error statistics.
ifstat [**-z**] **-a** | *interface*	Displays device-level statistics for the specified network interface. Use **-z** to clear statistics. Use **-a** to display statistics for all interfaces.
sysstat -i [*interval*]	Displays iSCSI performance statistics. *interval* is integer reporting interval in seconds; default is 15 seconds.
lun stats [**-z**] [**-o**] [**-a**|*lun_path*]	Displays block access statistics for the specified LUN. Use **-z** to clear statistics. Use **-o** for extended stats, **-a** to display stats for all LUNs.
LUN and igroup management commands	
vol options *vol_name* **nosnap on**	Turns off scheduled snapshots for a volume containing LUNs.
lun setup	Interactive LUN creation. Combines the `lun create`, `igroup create`, `igroup add`, and `lun map` command functions.
lun create -s *size* [**-t aix|hpux|image|netware|linux|solaris|vld|vmware|windows**] *lun_path*	Manual LUN creation. Enter *size* as integer bytes with one of the following suffixes: **m** (megabytes), **g** (gigabytes), or **t** (terabytes).
igroup create -i [**-t aix|hpux|default|linux|netware|solaris|vmware|windows**] *initiator_group* [*node…*]	Creates a new iSCSI initiator group. (Optional) specify the initiator node names (*node…*), or add them using the `igroup add` command.
igroup show [*initiator_group*]	Displays the initiator nodes in the specified initiator group. Omit *initiator_group* to see all igroups.
igroup add *initiator_group node…*	Adds initiator nodes to the specified igroup.
lun map *lun_path initiator_group* [*lun_id*]	Makes the specified LUN accessible to initiators in the specified igroup. Specify optional LUN ID, or take default of lowest available value.

lun show [**-v**|**-m**|**-c**] **[all|mapped|offline|online|unmapped|***lun_path***|-g** *initiator_group***]**	Displays general (**-v**), mapping (**-m**), or clone (**-c**) information about the specified set of LUNs.
lun online | offline *lun_path…*	Enables or disables block-protocol access to the specified LUNs.
lun destroy [**-f**] *lun_path…*	Destroys the specified LUNs and all their data. Use **-f** if LUN is in use.
General iSCSI notes	
The FilerView™ GUI can also be used for the above commands (**http://***stor_sys_ip_address***/na_admin**).	The iSCSI service on the storage system uses IP port 3260.
The format of an iSCSI node name is **iqn.***yyyy***-***mm***.***reverse_domain_name***:***anything* and is automatically set on the storage system (target) and each host (initiator). It is recommended that you do not change the initiator node name.	
iSCSI host configuration commands – all commands require you to become superuser	
iscsiadm list initiator-node	Displays the iSCSI node name and settings of the initiator. It is recommended that you do *not* change the default name.
iscsiadm add discovery-address *ip_address***:3260**	Configures the address of an iSCSI-enabled interface on the storage system. Configure any one iSCSI-enabled interface on each storage system. **Note**: Do not use iSNS discovery.
iscsiadm modify discovery --sendtargets enable	Enables dynamic target discovery. Issue after configuring the discovery address.
iscsiadm list discovery	Displays the target discovery status.
iscsiadm list target -v	Displays a list of iSCSI targets and the configured login parameters.
iscsiadm list target-param -v	Displays a list of iSCSI targets and the negotiated login parameters currently in use.
CHAP commands – all commands require you to become superuser	
iscsiadm modify initiator-node --CHAP-secret	Runs dialog to set secret for unidirectional CHAP. The value of the secret must be a string of 12 to 16 characters. The default CHAP username is the host iSCSI initiator node name.
iscsiadm modify target-param -B enable *target* **iscsiadm modify target-param --authentication CHAP** *target* **iscsiadm modify target-param --CHAP-secret** *target*	Enables bidirectional CHAP. Configure unidirectional CHAP first. Run each command in order shown. The *target* value is the target's iSCSI node name.
Accessing LUNs as disk devices – all commands require you to become superuser	
devfsadm -i iscsi	Discovers new LUNs and creates the iSCSI device links.
/opt/NTAP/SANToolkit/bin/sanlun lun show all	Lists available LUNs as seen by the sanlun utility.
iscsiadm list target -S	Lists LUNs discovered on each target during enumeration.
format	Partitions and formats LUNs.
Troubleshooting	
ping *storage_system_IP_address* (from host console) **ping** *host_IP_address* (from storage system console)	Verifies basic network connectivity between storage system and host.
license (from storage system console)	Verifies that iSCSI is licensed on the storage system.
ifconfig -a (from storage system console and host console)	Verifies that network parameters are compatible on host and storage system. Check duplex and jumbo frame (mtu) settings.
If using jumbo frames, verify that jumbo frames are configured on all switches between the host and storage system.	
If using CHAP, verify correct user names and passwords. The incoming values on the host are the outgoing values on the storage system. The outgoing values on the storage system are the incoming values on the host. For bidirectional, incoming and outgoing passwords must be different.	
Check the log file on the storage system (/etc/messages) for error messages.	
Check the log file on the host (/var/adm/messages) for error messages.	
Follow the Solaris iSCSI troubleshooting procedures in chapter 15 of the Solaris *System Administration Guide: Devices and File Systems*. Also check the troubleshooting section in the *Solaris Host Utilities 5.1 Installation and Setup Guide*	
Search the NetApp Service and Support Knowledgebase at **https://now.netapp.com/eservice/SupportHome.jsp** for information about the problem.	
NetApp Global Services with a problem, run the **/opt/NTAP/SANToolkit/bin/solaris_info** and **/opt/NTAP/SANToolkit/bin/controller_info** on the host to collect information that may be needed to help diagnose the problem.	
Resources	
http://now.netapp.com	All NetApp documentation and software downloads.
http://now.netapp.com/matrix/mtx/login.do OR http://now.netapp.com/NOW/knowledge/docs/san/fcp_iscsi_config/is csi_support_matrix.shtml	NetApp Interoperability Matrix Tool or iSCSI support matrix.

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