



How to Configure Windows iSCSI with AccelStor NeoSapphire

Version History

Version	Changed	Date
V1.0	First release	20170307

Introduction

This document describes how to configure the iSCSI connection in Windows 2012 with AccelStor NeoSapphire. If Multipath I/O (MPIO) is required in your Windows 2012 environment, please refer to the document entitled “How to Configure Windows iSCSI MPIO with AccelStor NeoSapphire.”

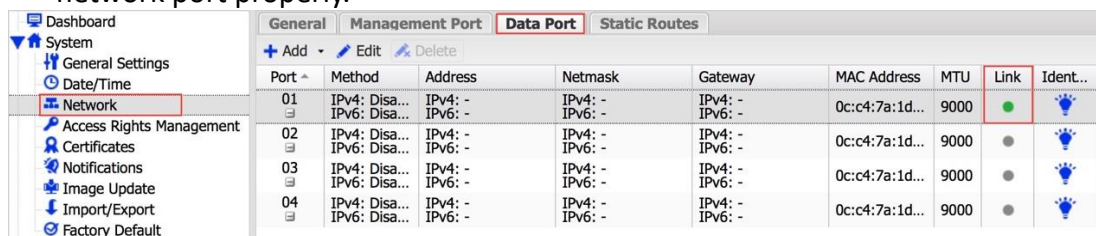
NeoSapphire

There are three items that require configuration: Network, Volume and iSCSI. How to configure each section is addressed below.

First, log in to the Management interface.

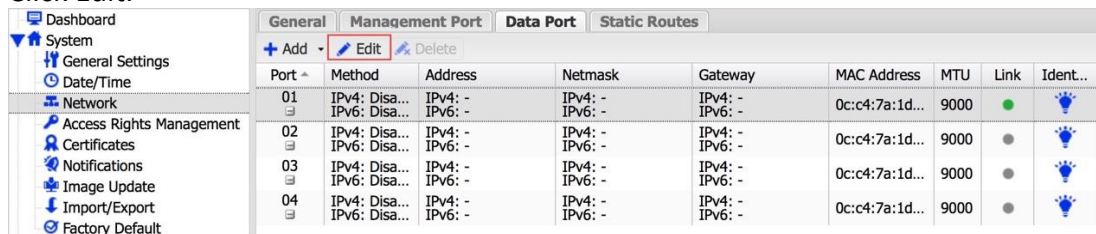
- Network configuration**
- Volume configuration
- iSCSI configuration

1. Select System -> Network -> Data Port. Check the status of the link. Green means the cable connection is OK. If it's not, ensure that the cable is connected to the network port properly.



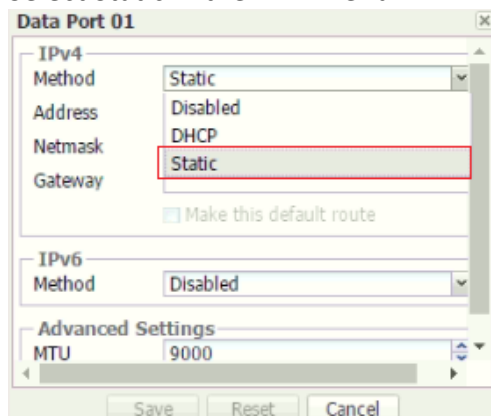
Port	Method	Address	Netmask	Gateway	MAC Address	MTU	Link	Ident...
01	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡
02	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡
03	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡
04	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡

Click Edit.



Port	Method	Address	Netmask	Gateway	MAC Address	MTU	Link	Ident...
01	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡
02	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡
03	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡
04	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡

Select Static in the IPv4 menu.



Data Port 01

IPv4
 Method: **Static**
 Address: Disabled
 Netmask: DHCP
 Gateway: Static
 Make this default route

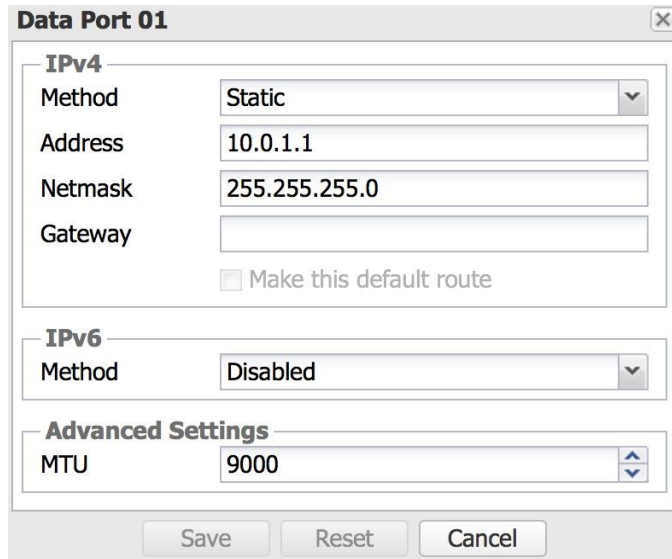
IPv6
 Method: Disabled

Advanced Settings
 MTU: 9000

Save Reset Cancel

Enter the IP address and netmask. Note: MTU 9000 (enable Jumbo Frame). Click Save.

Note: Set the Jumbo Frame on the Server iSCSI HBA ports and switch data ports.



Data Port 01

IPv4

Method: Static

Address: 10.0.1.1

Netmask: 255.255.255.0

Gateway: [Empty]

Make this default route

IPv6

Method: Disabled

Advanced Settings

MTU: 9000

Buttons: Save, Reset, Cancel

A confirmation message will appear. Click Apply, then Yes.

The configuration has been changed. You must apply the changes in order for them to take effect. Apply

Confirmation

Do you really want to apply the configuration?

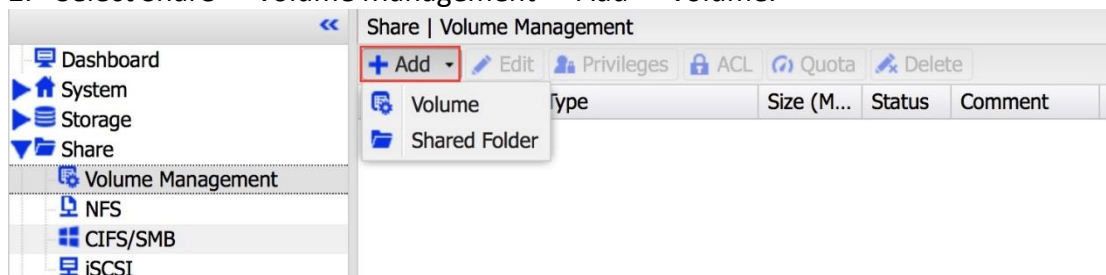
Buttons: Yes, No

Port 1 configuration is completed. Repeat the above steps to configure the other ports if there are other ports available.

Port	Method	Address	Netmask	Gateway	MAC Address	MTU	Link	Ident..
01	IPv4: Static IPv6: Disa...	IPv4: 10.0.1.1 IPv6: -	IPv4: 255.255.255.0 IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡
02	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡
03	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡
04	IPv4: Disa... IPv6: Disa...	IPv4: - IPv6: -	IPv4: - IPv6: -	IPv4: - IPv6: -	0c:c4:7a:1d...	9000	●	💡

- Network configuration
- Volume configuration**
- iSCSI configuration

2. Select Share -> Volume Management -> Add -> Volume.



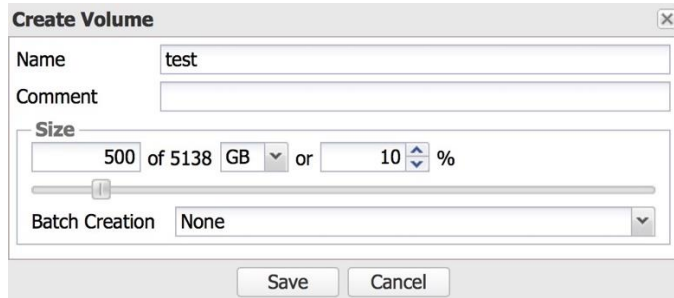
Share | Volume Management

Buttons: Add, Edit, Privileges, ACL, Quota, Delete

Volume	Type	Size (M...	Status	Comment

Navigation: Dashboard, System, Storage, Share, Volume Management, NFS, CIFS/SMB, iSCSI

Enter the volume name and size.

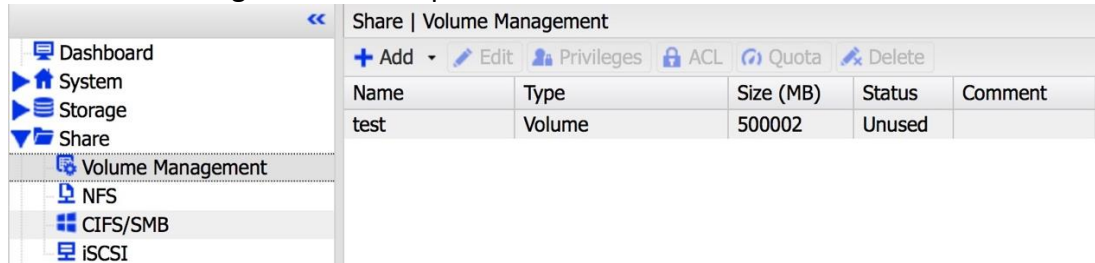


The 'Create Volume' dialog box contains the following fields:

- Name:** test
- Comment:** (empty)
- Size:** 500 of 5138 GB or 10 %
- Batch Creation:** None

Buttons: Save, Cancel

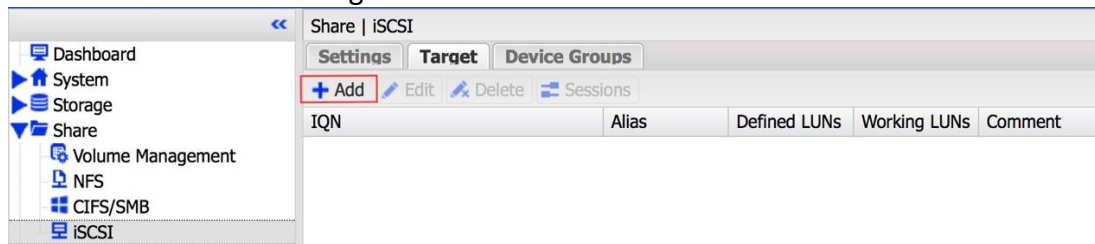
The volume configuration is completed.



Name	Type	Size (MB)	Status	Comment
test	Volume	500002	Unused	

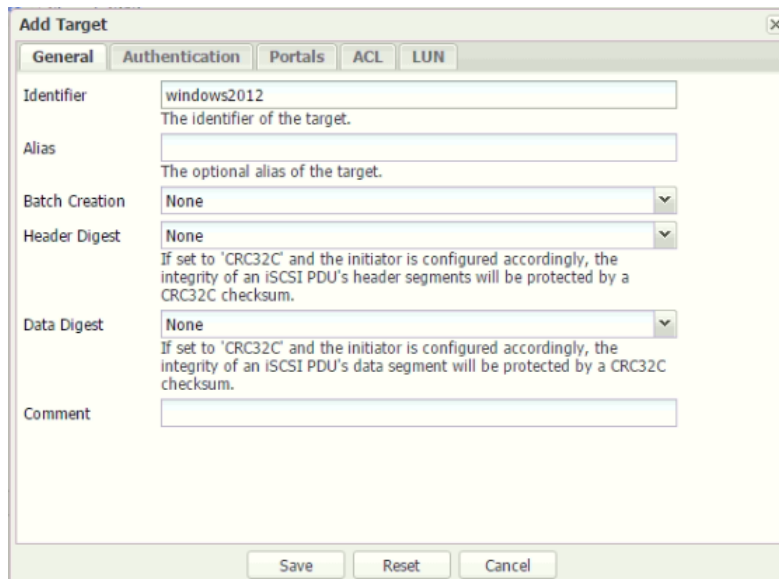
- Network configuration
- Volume configuration
- iSCSI configuration**

Select Share -> iSCSI -> Target -> Add.



IQN	Alias	Defined LUNs	Working LUNs	Comment

Enter the identifier name.

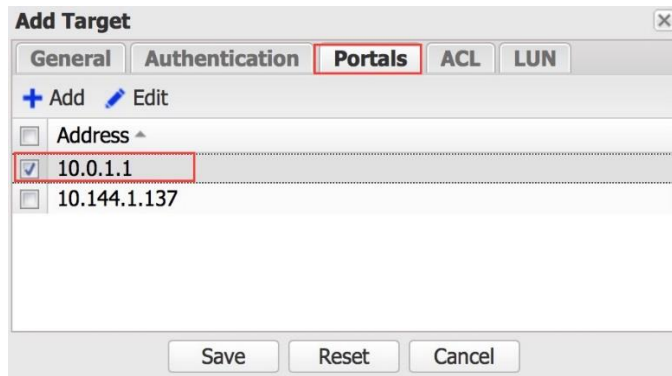


The 'Add Target' dialog box has the following fields:

- Identifier:** windows2012
- Alias:** (empty)
- Batch Creation:** None
- Header Digest:** None
- Data Digest:** None
- Comment:** (empty)

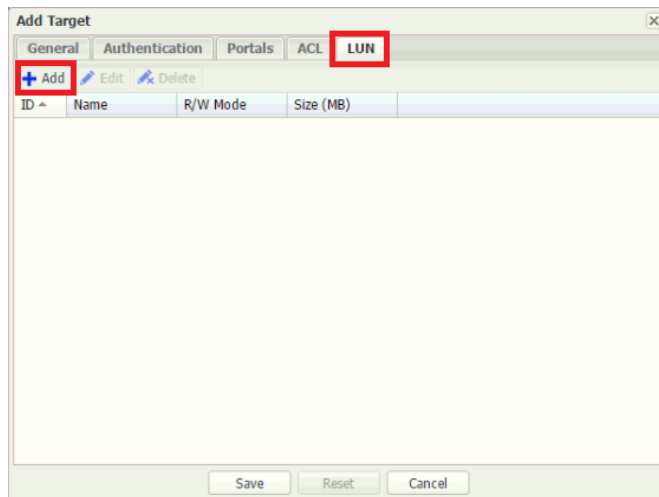
Buttons: Save, Reset, Cancel

Switch to the Portals tab.
Check the iSCSI IP address.



The screenshot shows the 'Add Target' dialog box with the 'Portals' tab selected. Under the 'Address' section, the checkbox for '10.0.1.1' is checked, while '10.144.1.137' is unchecked. The 'Save', 'Reset', and 'Cancel' buttons are visible at the bottom.

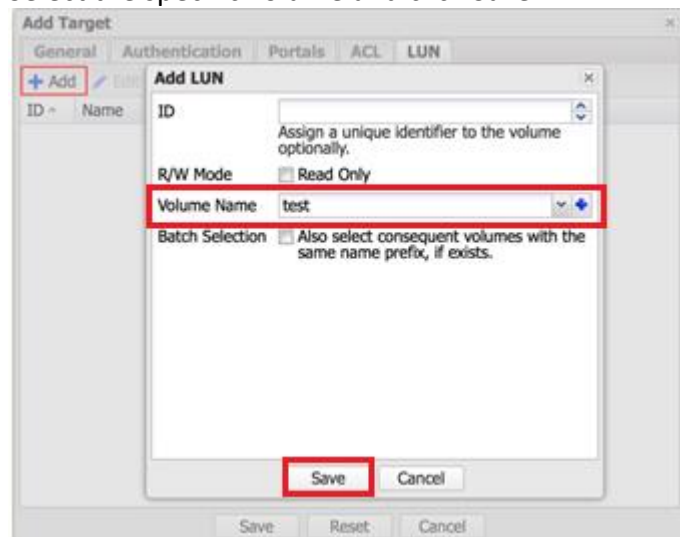
Switch to the LUN tab and click Add.



The screenshot shows the 'Add Target' dialog box with the 'LUN' tab selected. The '+ Add' button is highlighted with a red box. The table below is empty.

ID	Name	R/W Mode	Size (MB)
----	------	----------	-----------

Select the specific volume and click Save.



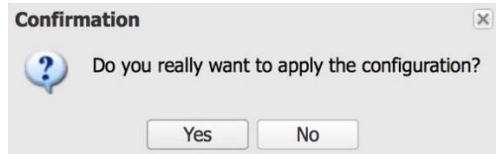
The screenshot shows the 'Add LUN' dialog box. The 'Volume Name' dropdown menu is set to 'test'. The 'Save' button is highlighted with a red box.

Click Apply.

▲ The configuration has been changed. You must apply the changes in order for them to take effect.

● Apply

Click Yes.



A volume has been successfully assigned to the iSCSI target.

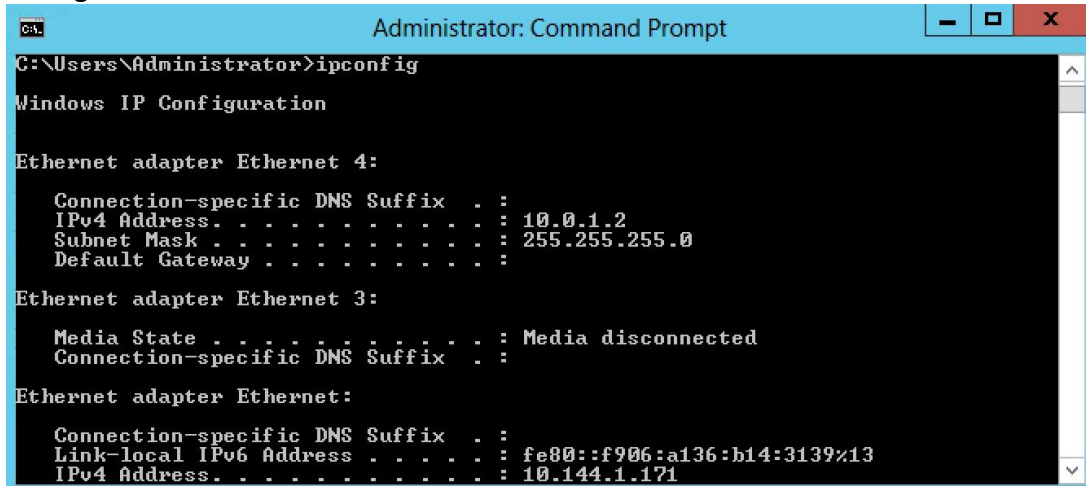
+ Add Edit Delete Sessions				
IQN	Alias	Defined LUNs	Working LUNs	Comment
iqn.2017-03.com.accelstor.ns3405:windows2012		1	1	

Windows

The version of Windows is 2012.

- Configure the IP address and enable Jumbo Frame on the iSCSI HBA data ports if supported. (If you are going to deploy an iSCSI switch, enable Jumbo Frame on the iSCSI switch too.)

Configure the IP address.



```
Administrator: Command Prompt
C:\Users\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet 4:

    Connection-specific DNS Suffix  . : 
    IPv4 Address. . . . .             : 10.0.1.2
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 

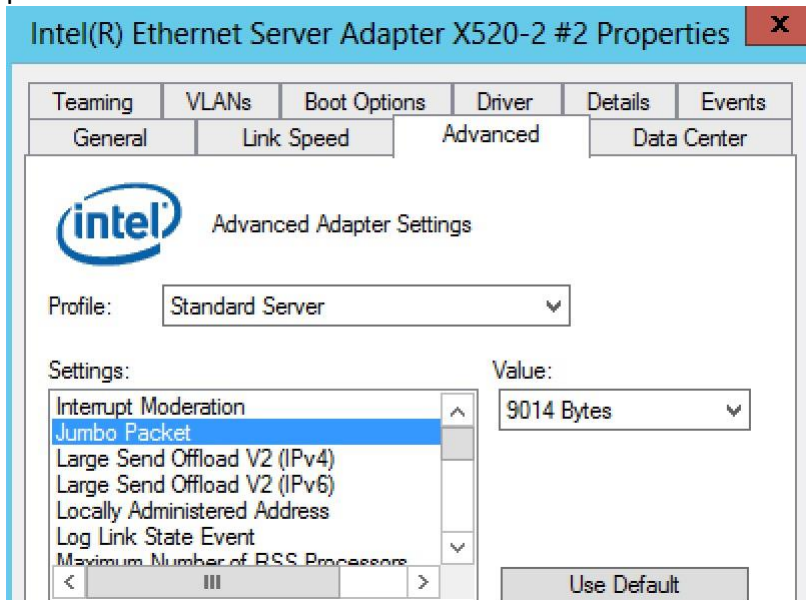
Ethernet adapter Ethernet 3:

    Media State . . . . .             : Media disconnected
    Connection-specific DNS Suffix  . : 

Ethernet adapter Ethernet:

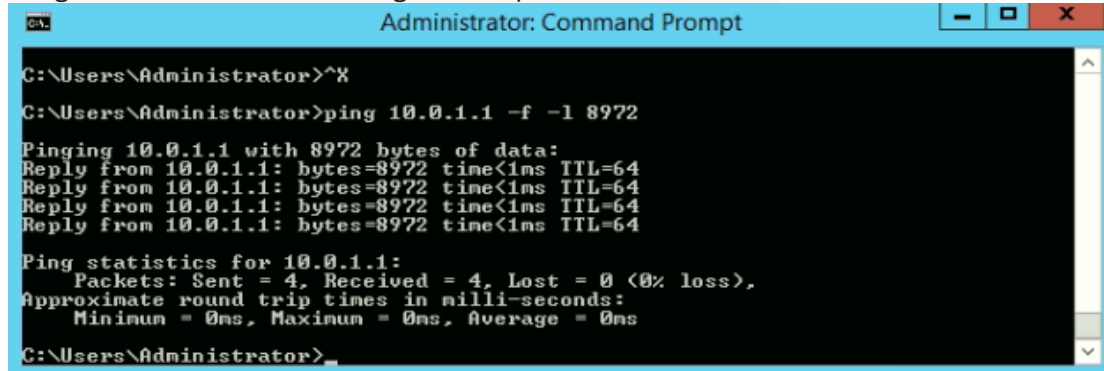
    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::f906:a136:b14:3139%13
    IPv4 Address. . . . .             : 10.144.1.171
```

Enable the Jumbo Frame (shown as Jumbo Packet in this case) on the iSCSI HBA data ports.



Ping to check that the Jumbo Frame settings have been set successfully.

Ping "IP address of storage data ports" -f -l 8972

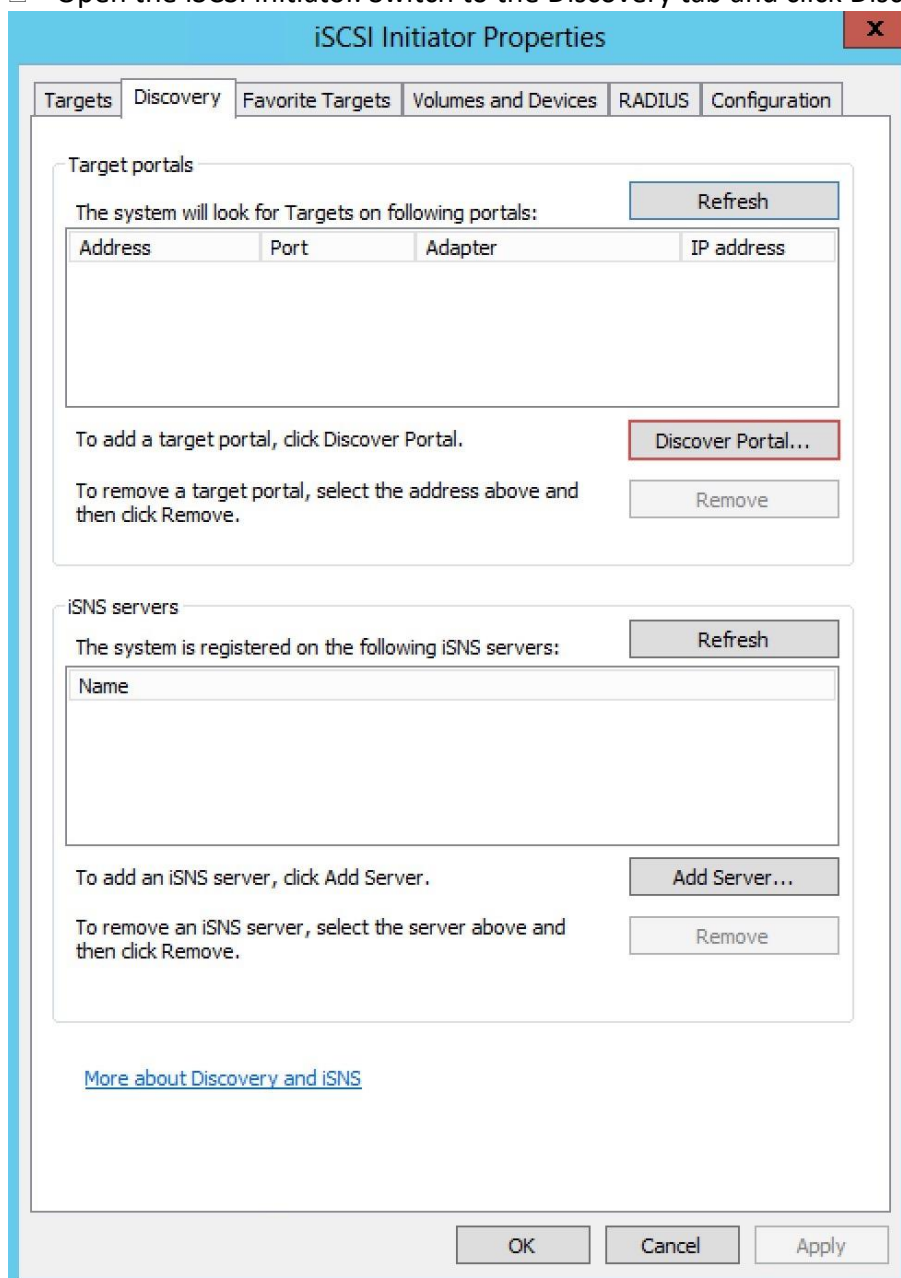


```

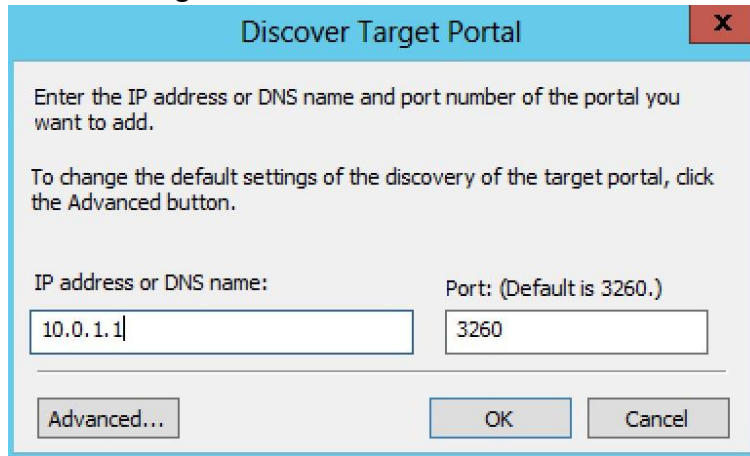
Administrator: Command Prompt
C:\Users\Administrator>^K
C:\Users\Administrator>ping 10.0.1.1 -f -l 8972
Pinging 10.0.1.1 with 8972 bytes of data:
Reply from 10.0.1.1: bytes=8972 time<1ms TTL=64
Reply from 10.0.1.1: bytes=8972 time<1ms TTL=64
Reply from 10.0.1.1: bytes=8972 time<1ms TTL=64
Reply from 10.0.1.1: bytes=8972 time<1ms TTL=64

Ping statistics for 10.0.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\Users\Administrator>
  
```

- Open the iSCSI initiator. Switch to the Discovery tab and click Discover Portal.



Enter the Target IP address and click OK.



Discover Target Portal

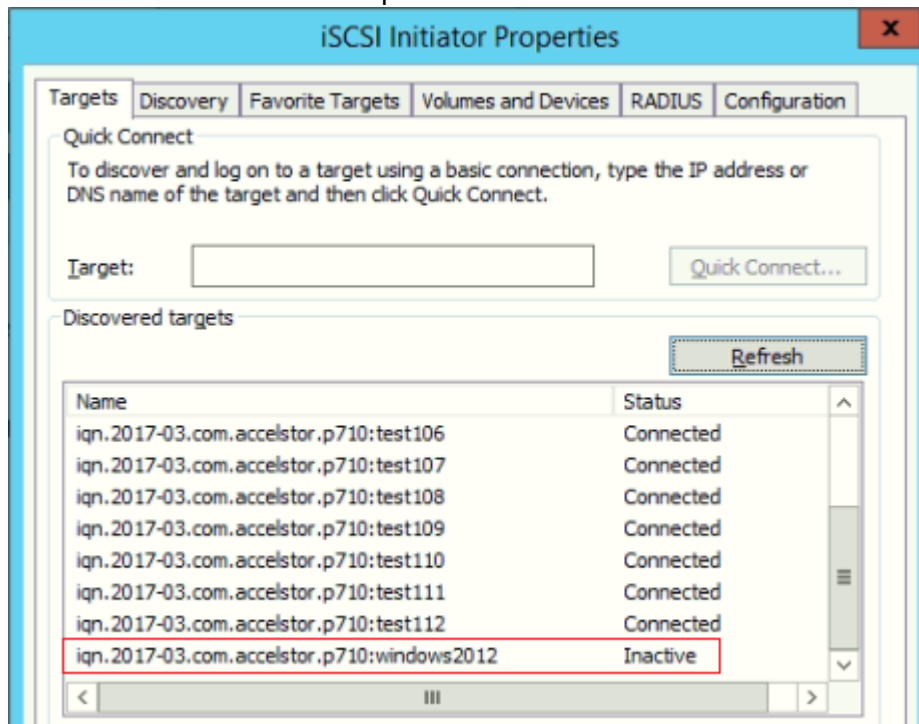
Enter the IP address or DNS name and port number of the portal you want to add.

To change the default settings of the discovery of the target portal, click the Advanced button.

IP address or DNS name: Port: (Default is 3260.)

Advanced... OK Cancel

Switch to the Targets tab. Windows detects the iSCSI target name with an inactive status. Click Connect to set up the iSCSI connection.



iSCSI Initiator Properties

Targets Discovery Favorite Targets Volumes and Devices RADIUS Configuration

Quick Connect

To discover and log on to a target using a basic connection, type the IP address or DNS name of the target and then click Quick Connect.

Target: Quick Connect...

Discovered targets

Refresh

Name	Status
iqn.2017-03.com.accelstor.p710:test106	Connected
iqn.2017-03.com.accelstor.p710:test107	Connected
iqn.2017-03.com.accelstor.p710:test108	Connected
iqn.2017-03.com.accelstor.p710:test109	Connected
iqn.2017-03.com.accelstor.p710:test110	Connected
iqn.2017-03.com.accelstor.p710:test111	Connected
iqn.2017-03.com.accelstor.p710:test112	Connected
iqn.2017-03.com.accelstor.p710:windows2012	Inactive

Click Advanced.



Connect To Target

Target name:

Add this connection to the list of Favorite Targets.
This will make the system automatically attempt to restore the connection every time this computer restarts.

Enable multi-path

Advanced... OK Cancel

Manually adjust the parameters as appropriate.

Advanced Settings?X

GeneralIPsec

Connect using

Local adapter:

Initiator IP:

Target portal IP:

CRC / Checksum

Data digest Header digest

Enable CHAP log on

CHAP Log on information

CHAP helps ensure connection security by providing authentication between a target and an initiator.

To use, specify the same name and CHAP secret that was configured on the target for this initiator. The name will default to the Initiator Name of the system unless another name is specified.

Name:

Target secret:

Perform mutual authentication

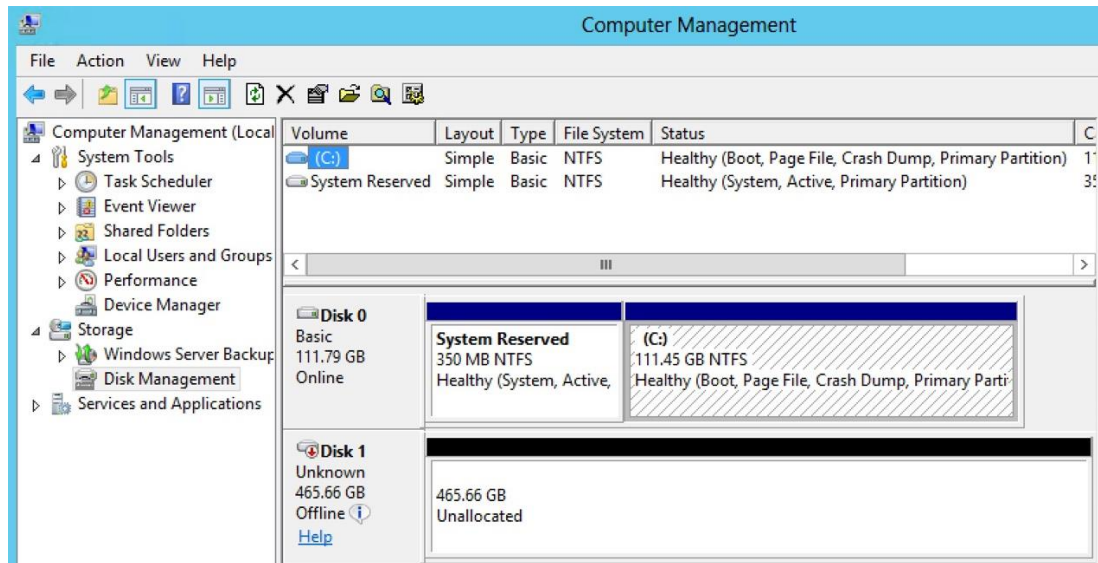
To use mutual CHAP, either specify an initiator secret on the Configuration page or use RADIUS.

Use RADIUS to generate user authentication credentials

Use RADIUS to authenticate target credentials

OKCancelApply

Open Computer Management. A new disk will be displayed. Bring it online and format it.



Note: When formatting the partition, remember to set the "Allocation unit size" to 4096.

