

# **iStorage Server: HA SAN for Windows Server 2003**

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# Overview

KernSafe iStorage Server is an advanced and powerful, full-featured software-only iSCSI Target that fully conforms to the latest iSCSI Standard 1.0 (former Draft 20). It is an IP SAN solution allowing you to quickly export existing storages such as disk images, VHD files, physical disks, partitions, CD/DVD-ROMs, tapes or any other type of SCSI based devices and even a variety of popular CD/DVD images to the client machines. The software thus delivers immediate benefits, as it allows storage to be consolidated, virtualized and centrally managed. iStorage Server also provides RAID-1 (mirror) feature enabling you to create two iSCSI devices for mirror backup. Furthermore, iStorage Server also supports a lot of features such as: VHD (Virtual Hard Disk) target, snapshots, STPI, RAID-1 and failover, these features are very important and popular in storage industry world and make iStorage Server is suitable for any size of business.

High availability is the implementation of technology so that if a component fails, another can take over for it. By using highly available platforms, the downtime for a system can be reduced, and, in many cases, it can be reduced to a short enough time that the users of the system do not see the failure.

This document gives you detailed step-by-step instructions on KernSafe iStorage Server configuring for Windows Server 2003. We need at least two servers and one client, in this document we prepare the three computers as follows:

Detail	IP Address	OS
iStorage Server1	192.168.0.199	Windows 2000 SP4 +
iStorage Server2	192.168.0.177	Windows 2000 SP4 +
Client	192.168.0.191	Windows Server 2003

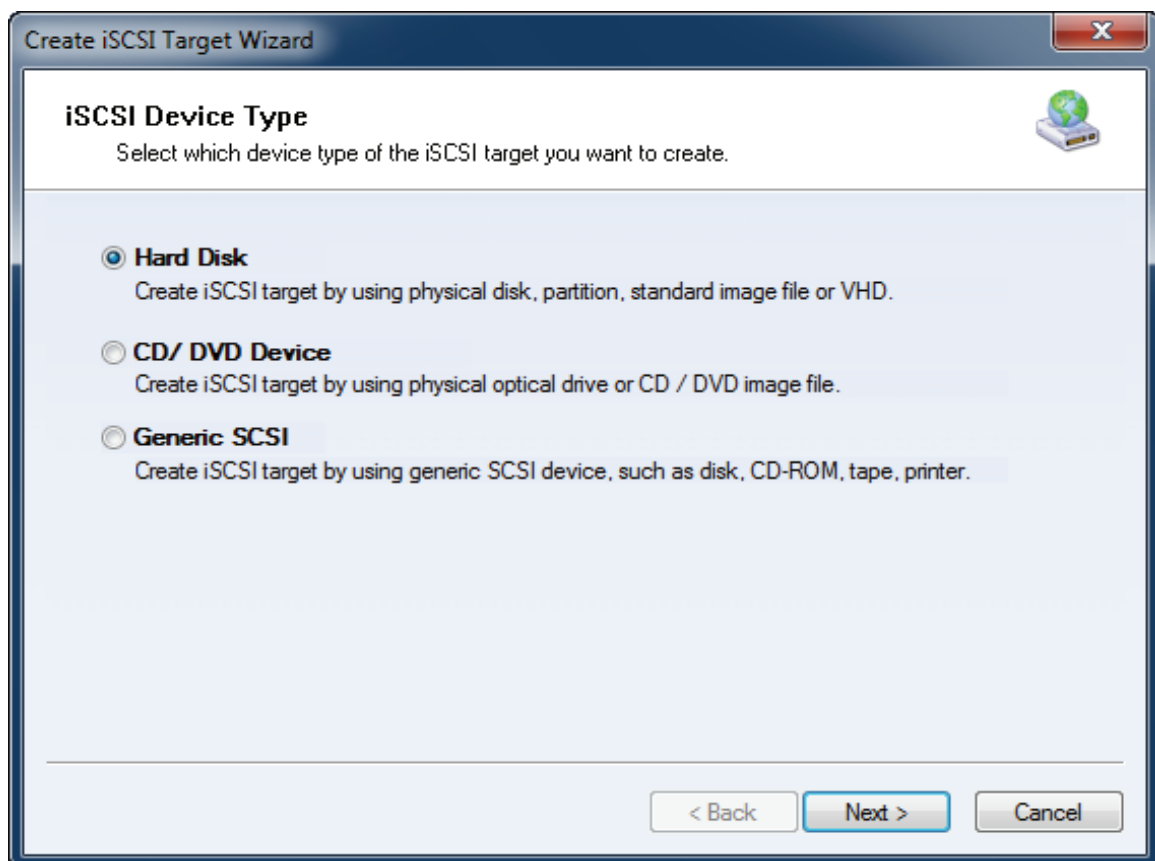
# Configuring on iStorage Server

## Preparing HA Storage

We create HA Storage on Server1.

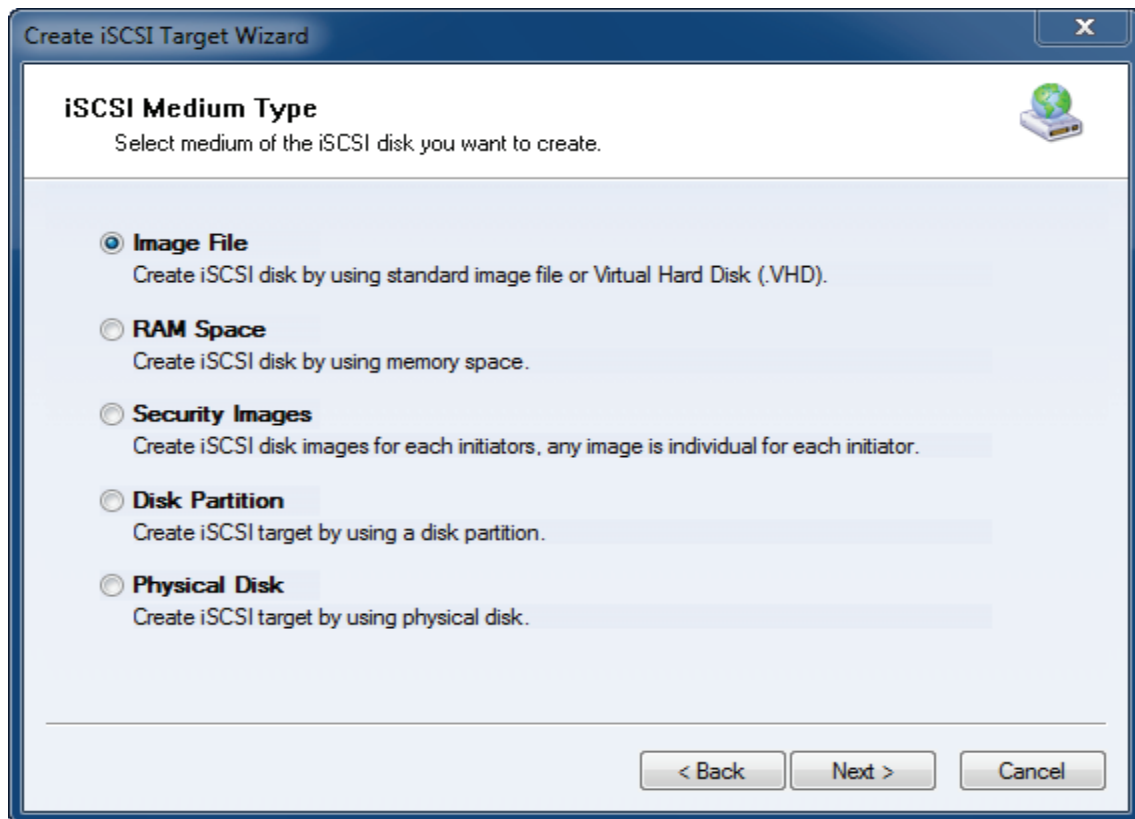
Launch the **iStorage Server management console**, press the **Create** button on the toolbar of iStorage Server management console, the **Create Device Wizard** is shown.

Select a device type



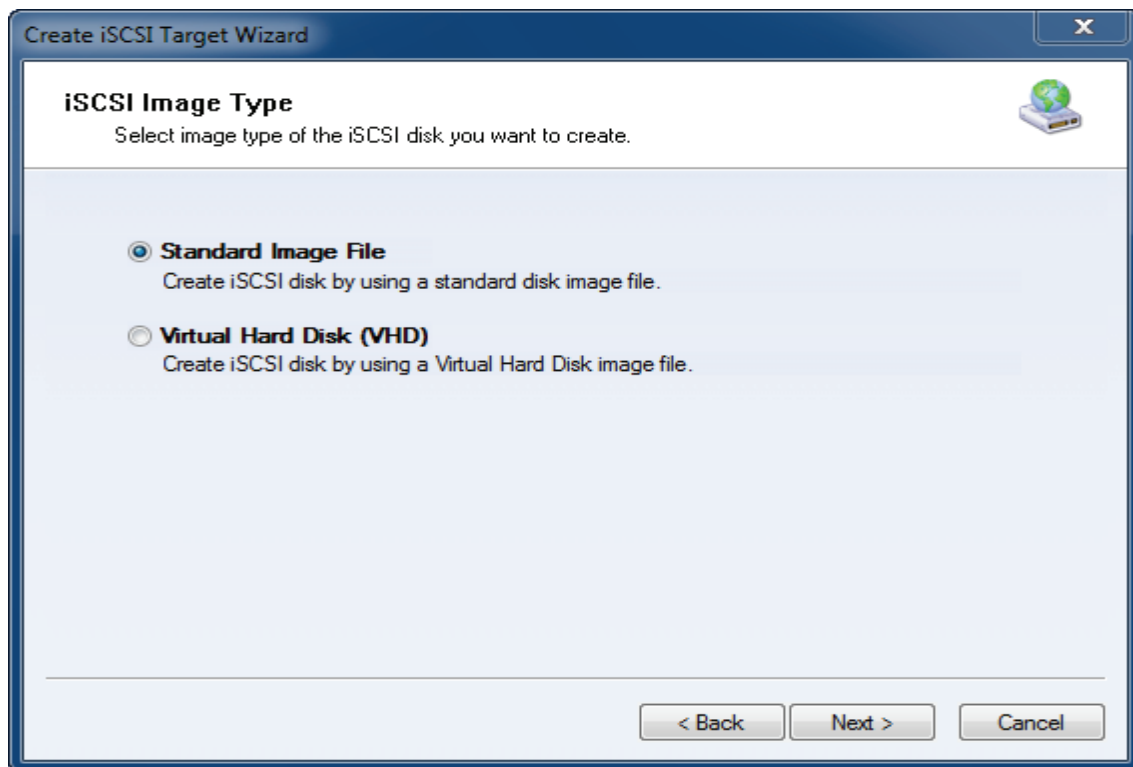
Choose **Hard Disk**.

Press the **Next** button to continue.



Choose **Image File** in **iSCSI Medium Type** page.

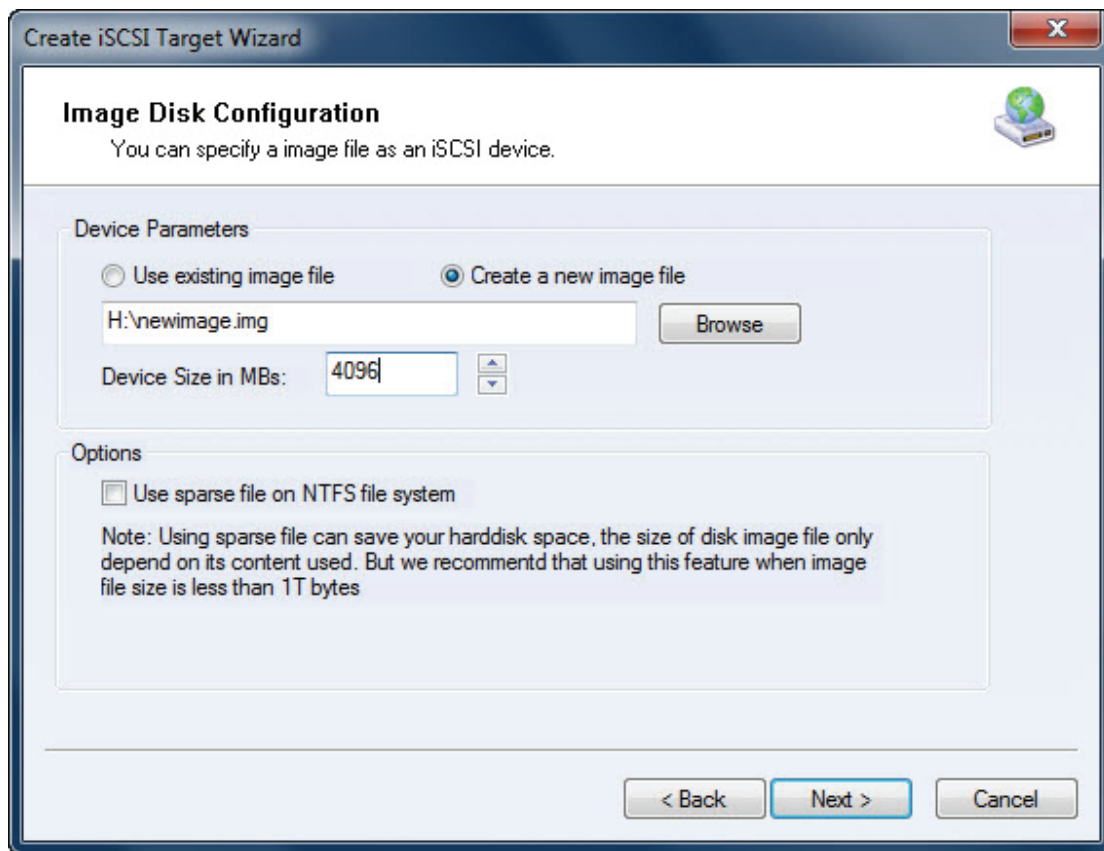
Then press **Next** button to continue.



Choose **Standard Image File**.

Press the **Next** button to continue.

Specify image file path and size.

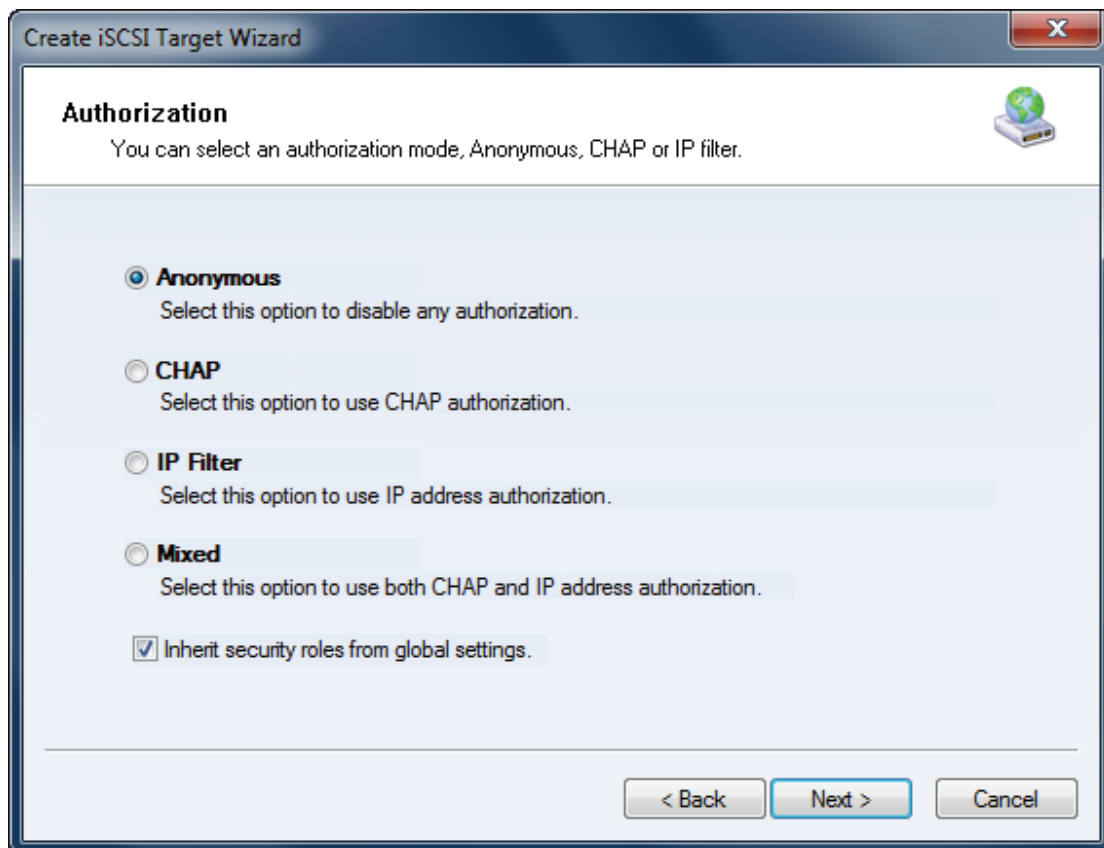


Select **Create a new image file** or **Use existing image file** if you already have a one.

Specify the device size.

Press the **Next** button to continue.

Set authorization mode.

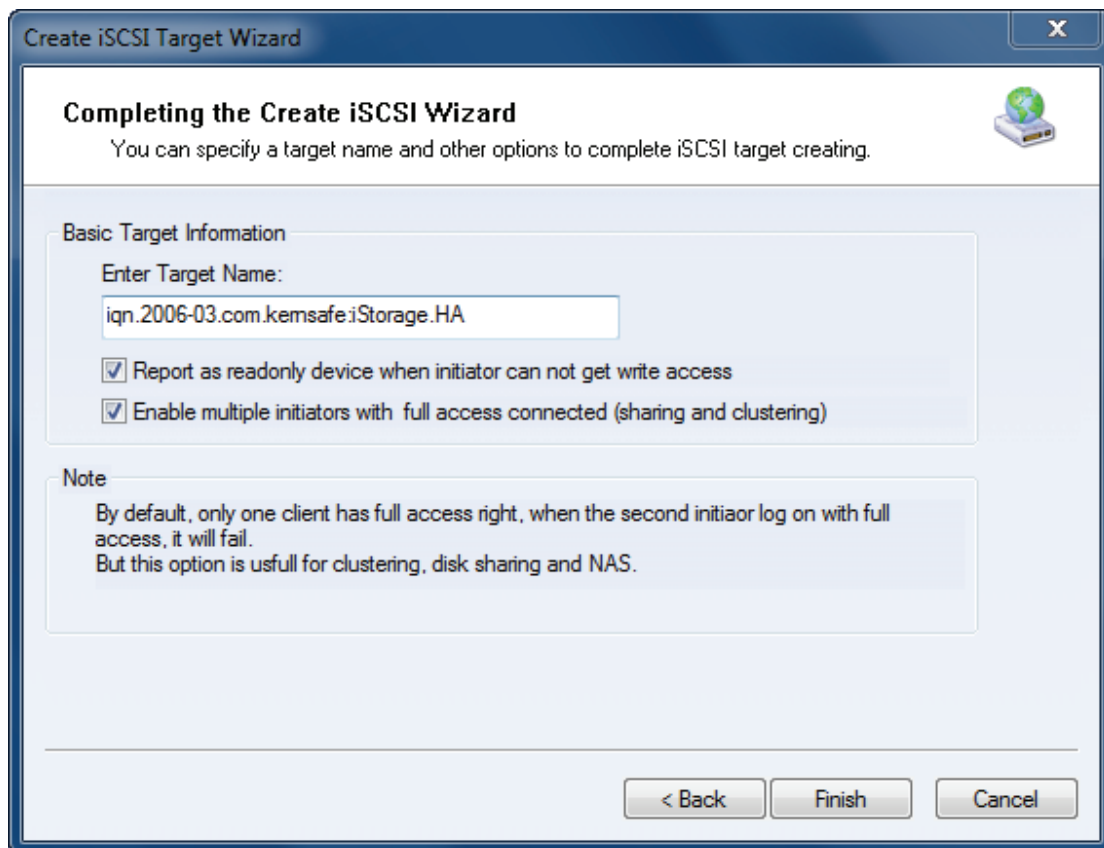


Specify authorization mode as you required, we take **Anonymous** as an example.

Press the **Next** button to continue.

Finish creating iSCSI Target



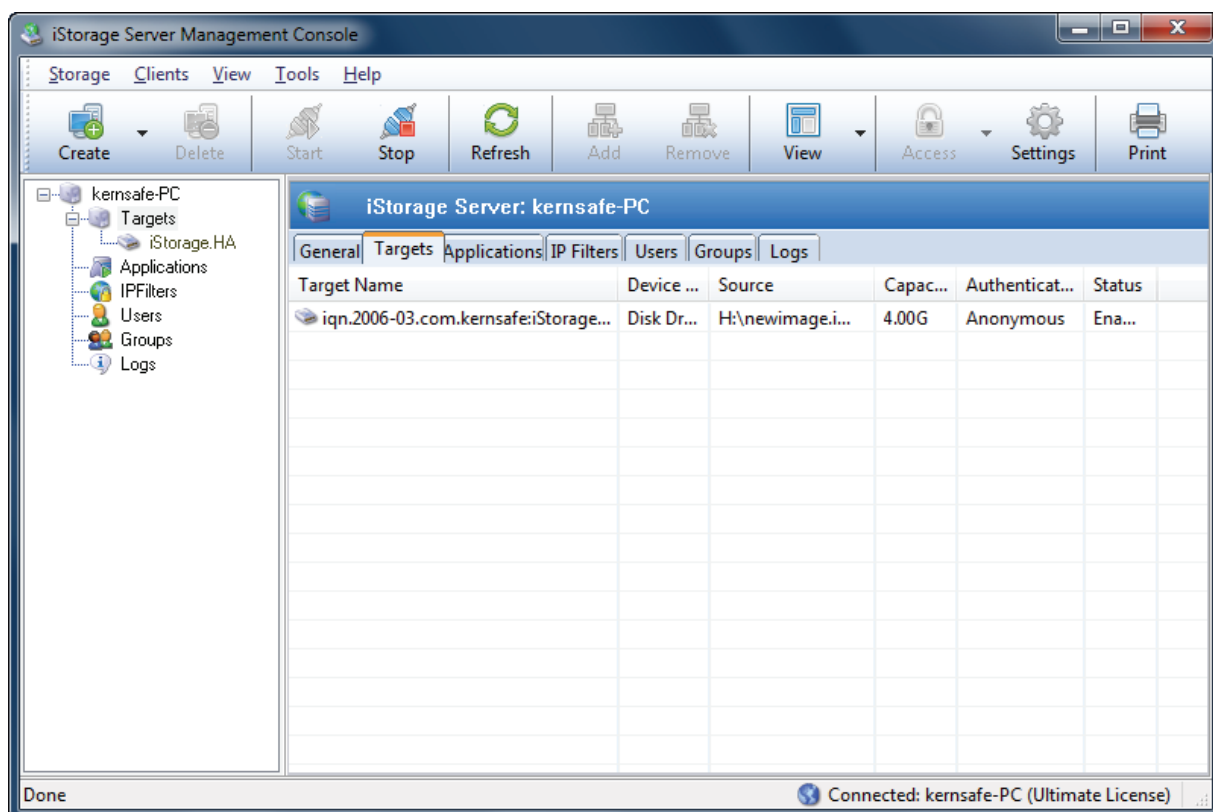


Type a target name in the Target Name field, or use the default.

Check the **Enable multiple initiators with full access connected (sharing and clustering)** check box.

Press the **Finish** button to continue.

Now the target is shown in the iStorage Server management console if successful.

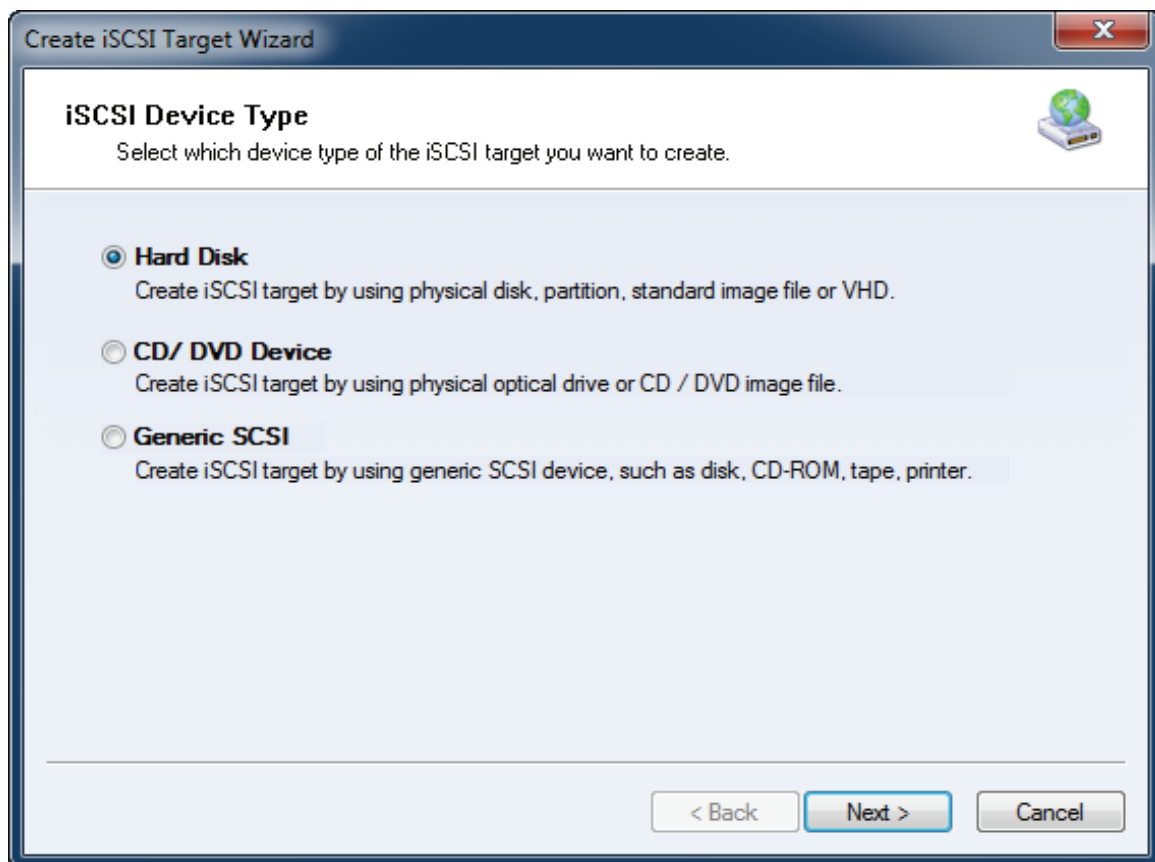


## Preparing HApartner Storage

Create HApartner storage on Server2.

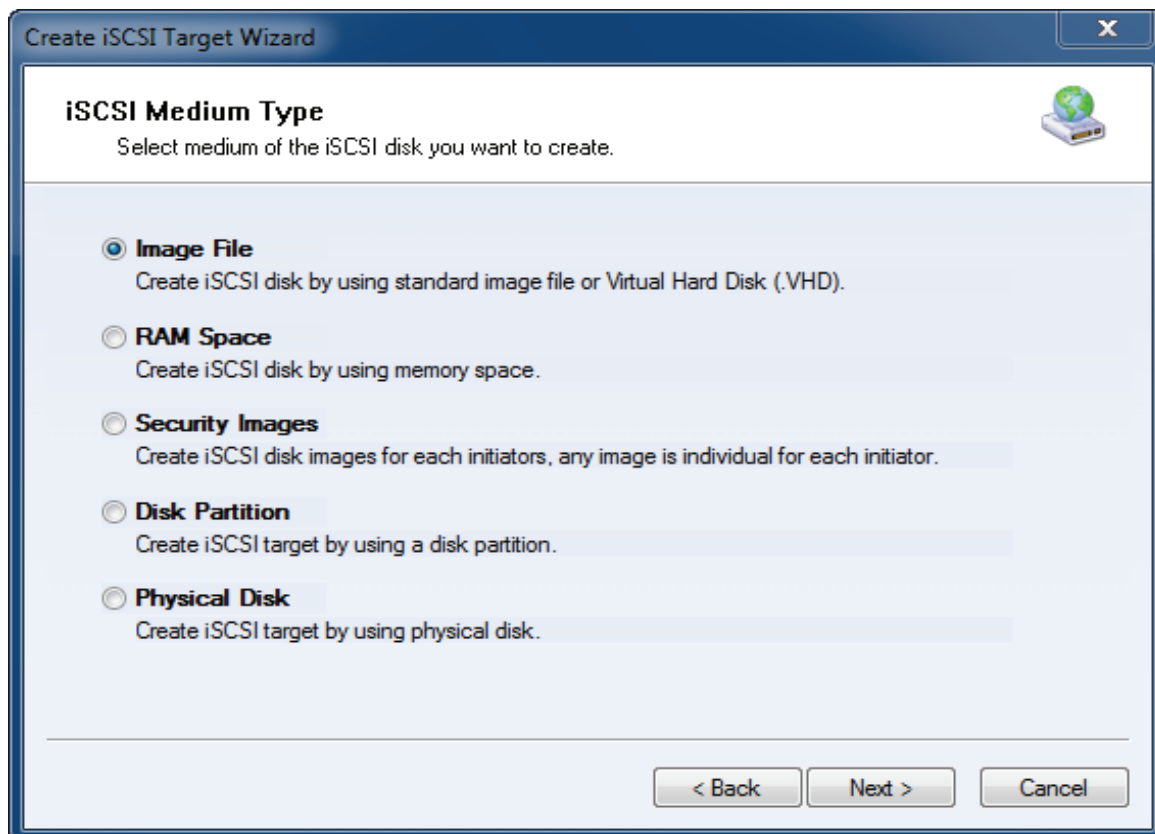
Launch the **iStorage Server management console**, press the **Create** button on the toolbar of iStorage Server management console, the **Create Device Wizard** is shown.

Select a device type



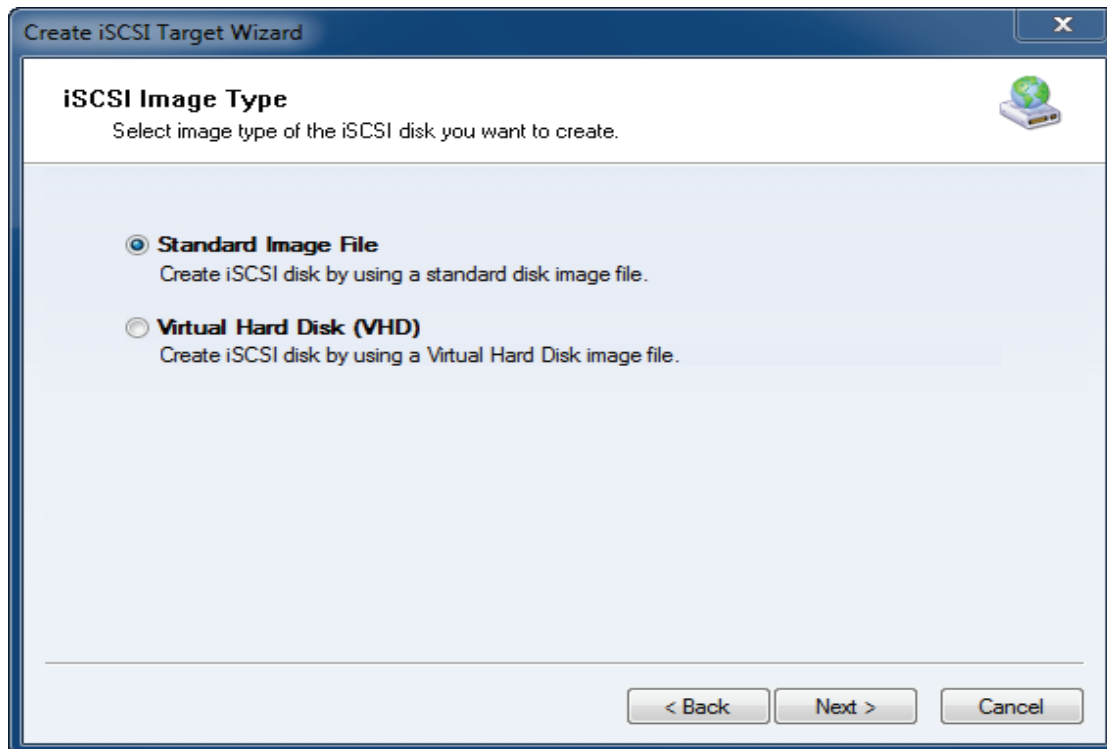
Choose **Hard Disk**.

Press the **Next** button to continue.



Choose **Image File** in **iSCSI Medium Type** window.

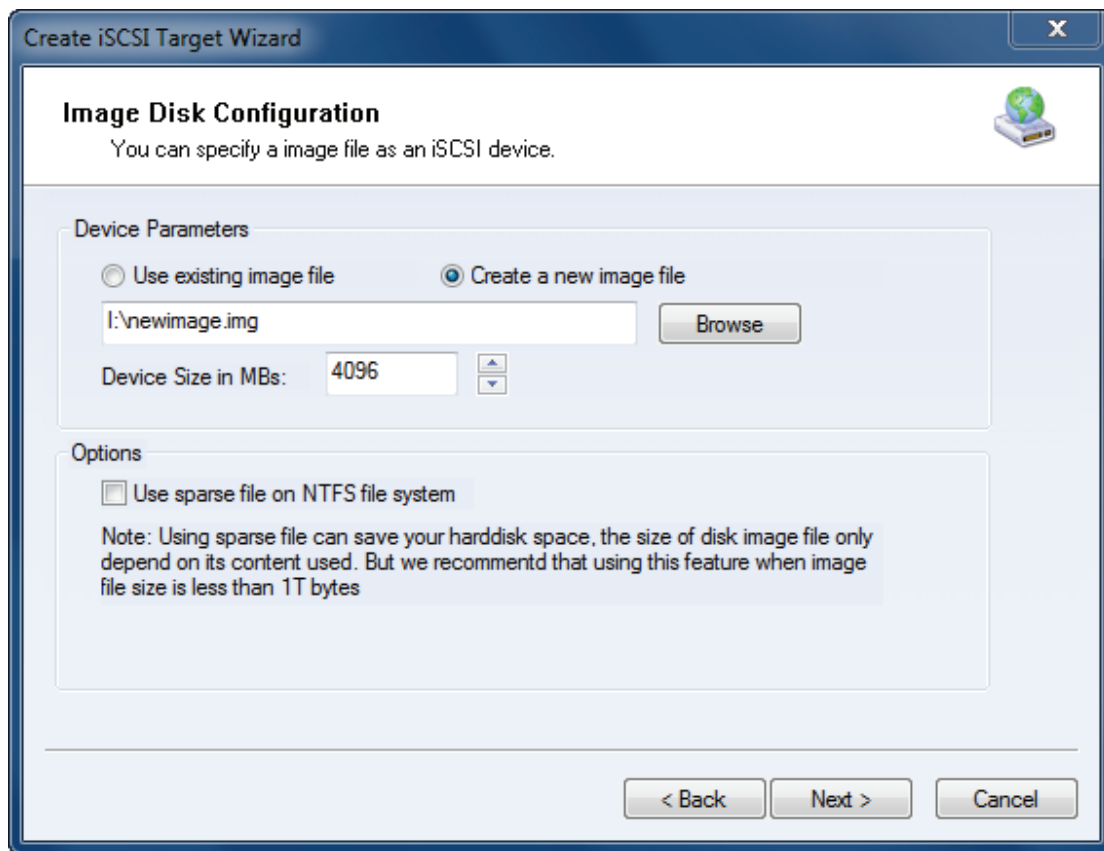
Then press **Next** button to continue.



Choose **Standard Image File**.

Press the **Next** button to continue.

Specify image file path and size.

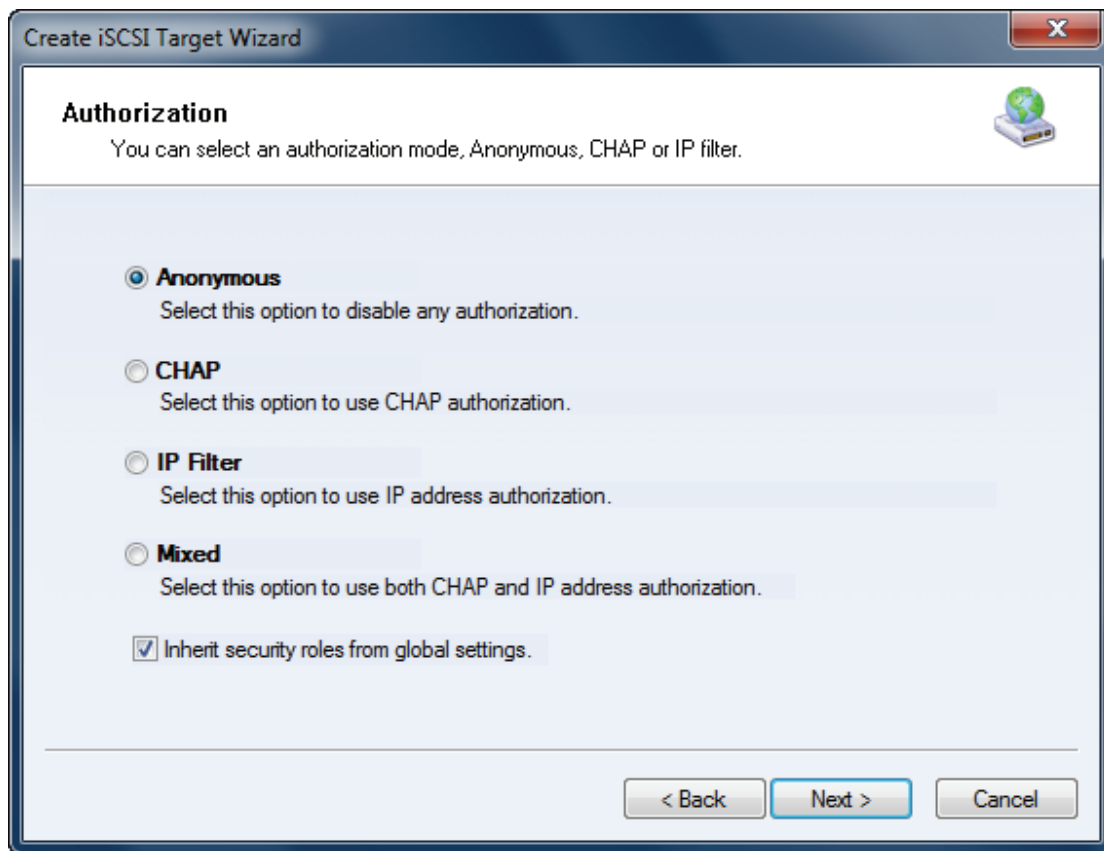


Select **Create a new image file** or **Use existing image file** if you already have a one.

Specify the device size.

Press the **Next** button to continue.

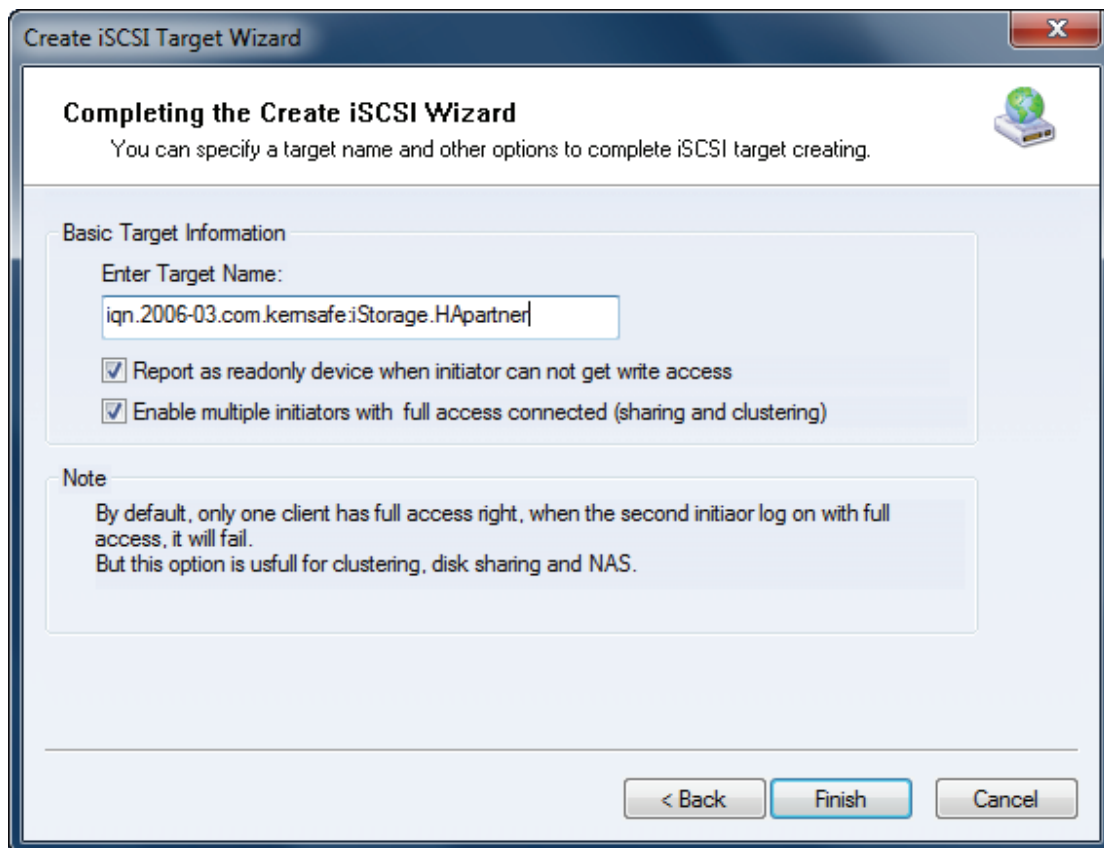
Set authorization mode.



Specify authorization mode as you required, here we use **Anonymous** type.

Press the **Next** button to continue.

Finish creating iSCSI Target



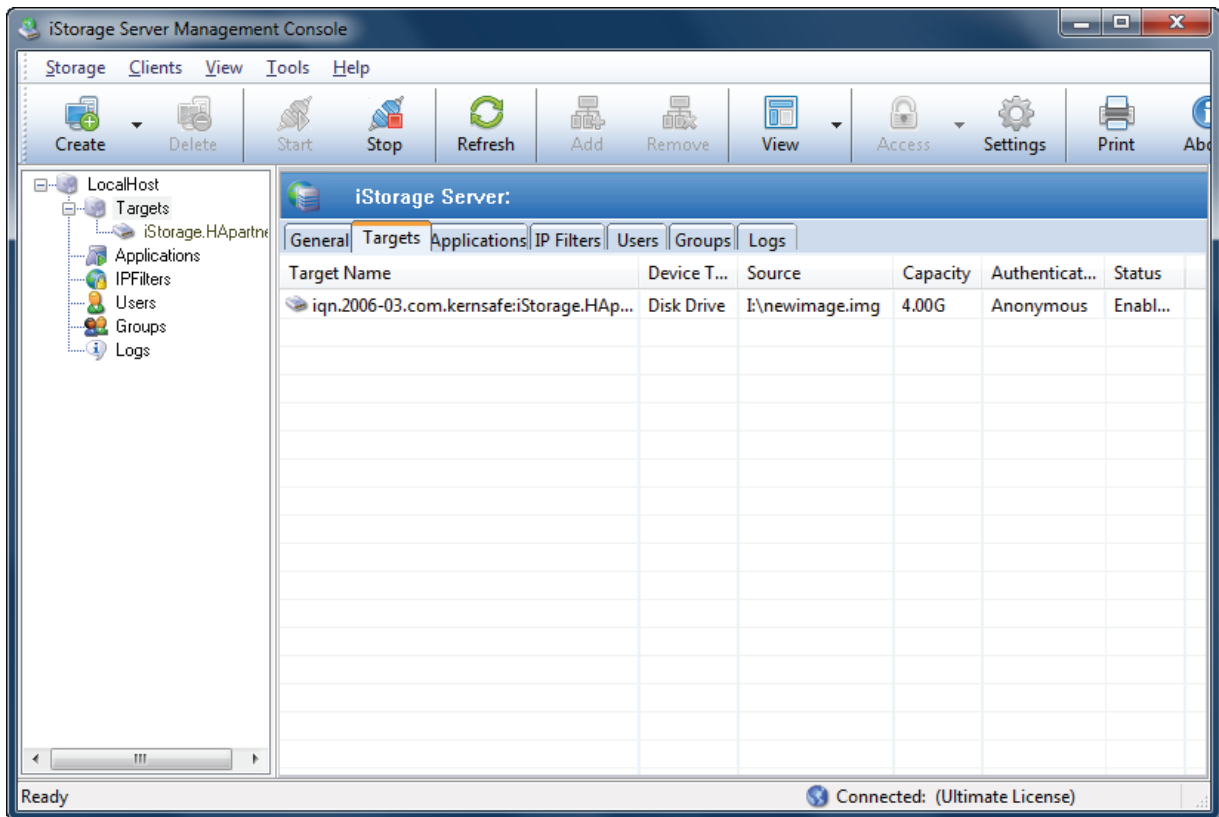
Type a target name in the Target Name field, or use the default.

Check the **Enable multiple initiators with full access connected (sharing and clustering)** check box.

Press the **Finish** button.

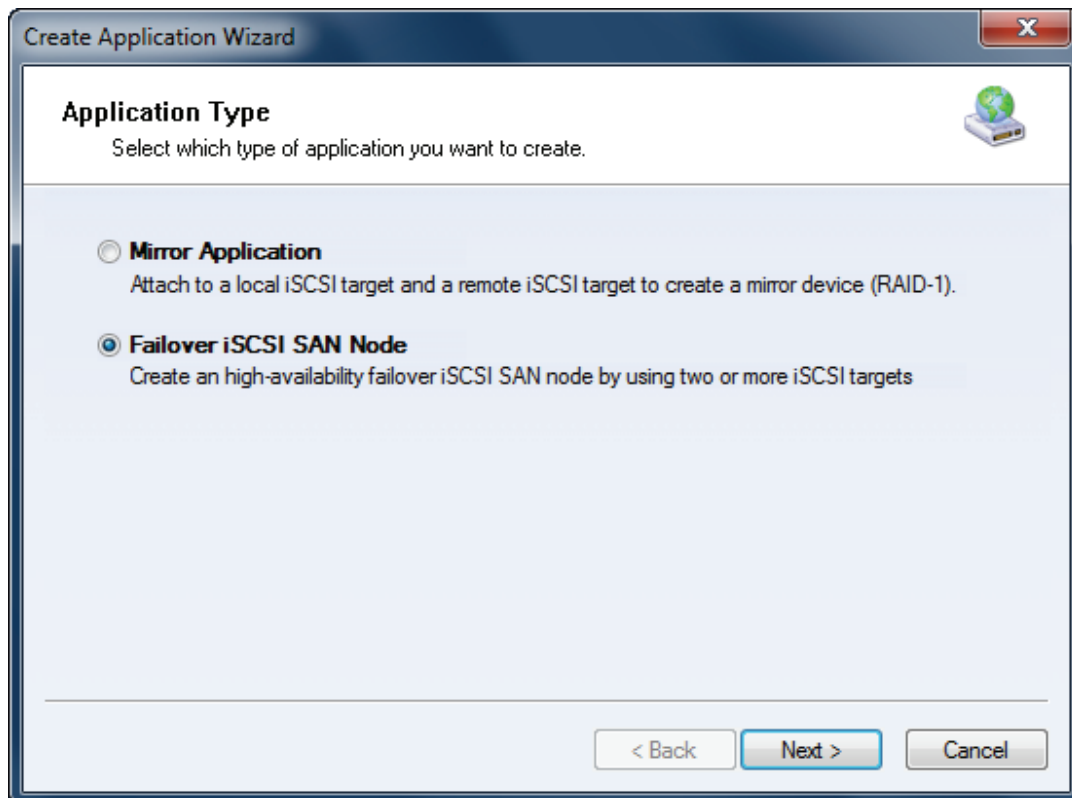
Now the sample images is shown in the iStorage Server management console if successful.





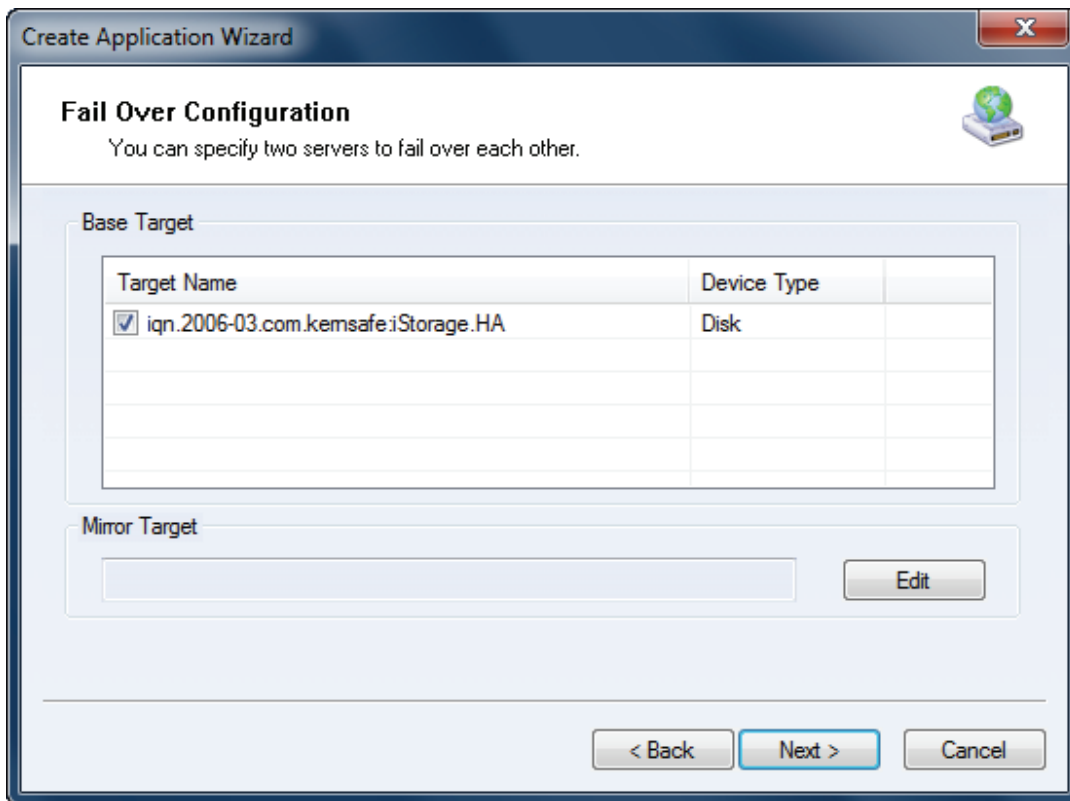
## Creating Application

On Server1, right click **Applications** on the left tree of the main interface, choose **Create Application** on the pop-up menu, the **Create Application Wizard** window is shown.

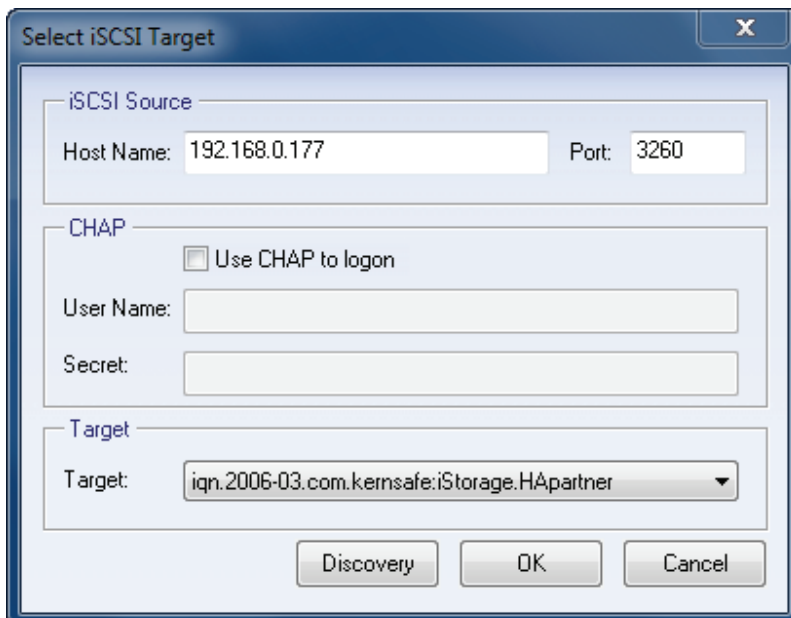


Choose **Failover iSCSI SAN Node**.

Then press the **Next** button to continue.



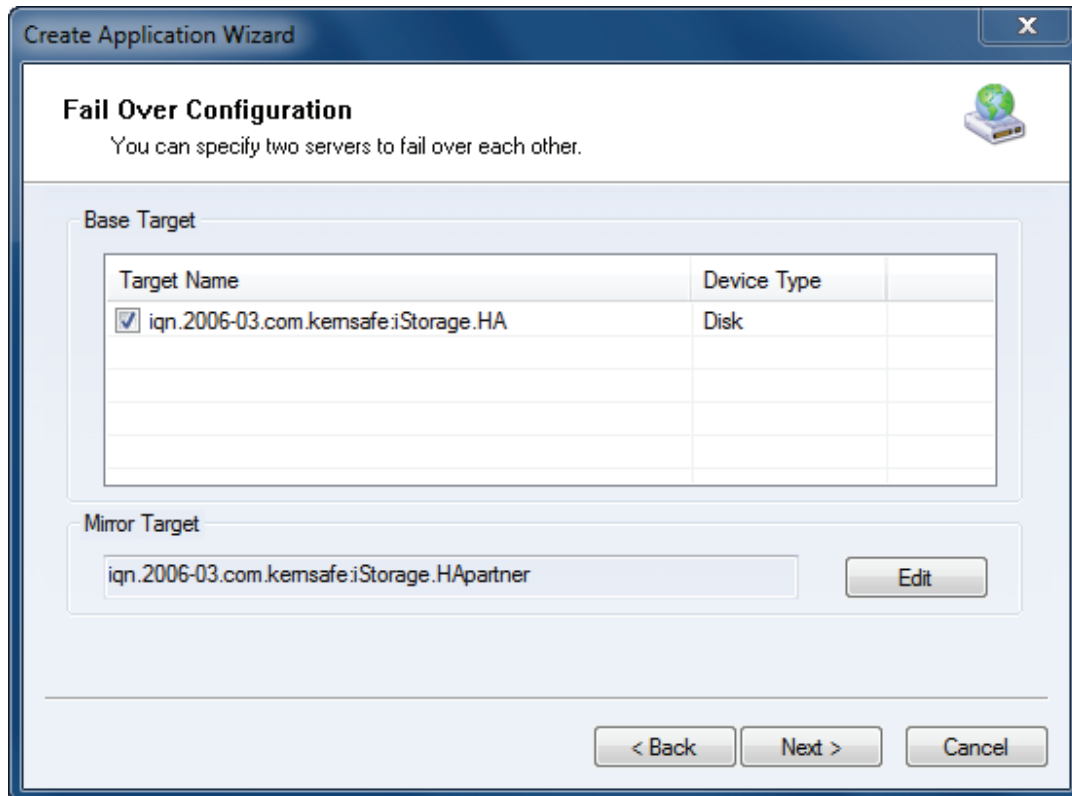
Check the HA storage and click **Edit** to find the mirror target.



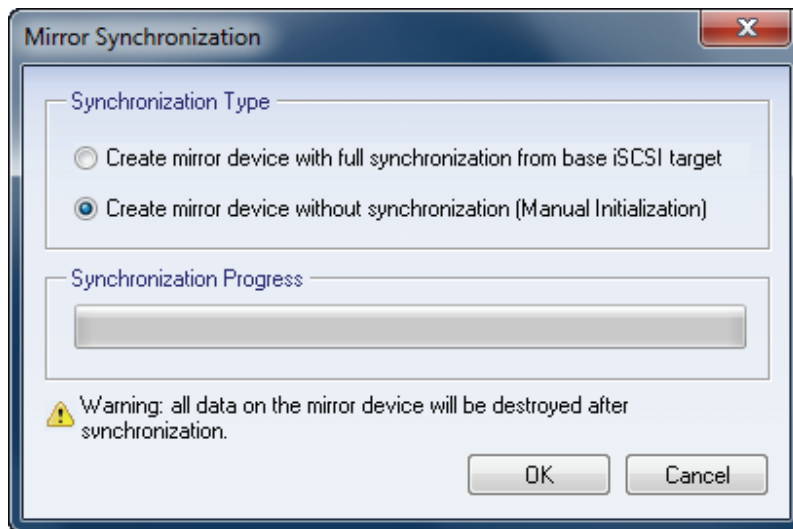
Input the IP and port of server2 in **iSCSI Source** tab, then click **Discovery** on the bottom of the window to find the mirror target, choose the **HApartner** in the down-list.

Press **OK** button to continue.

**Note:** If the target needs CHAP authorization, you should provide User name and secret to logon.

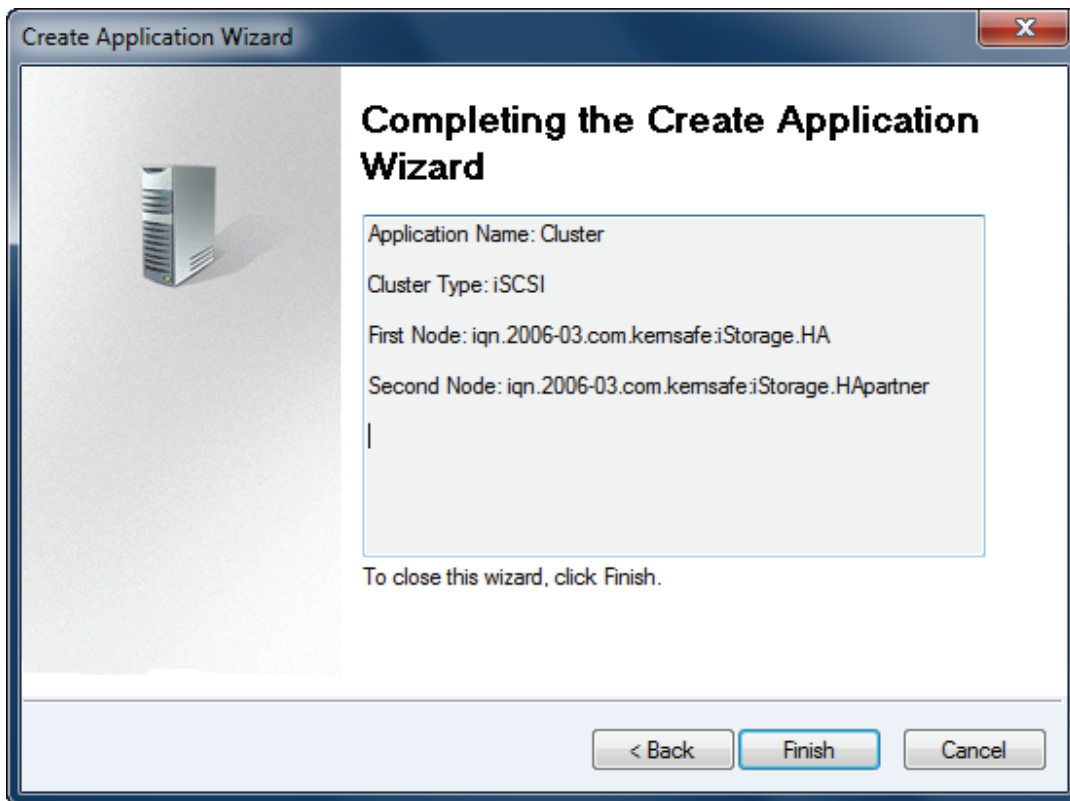


The mirror target will be added to the window, then click **Next** button to continue.

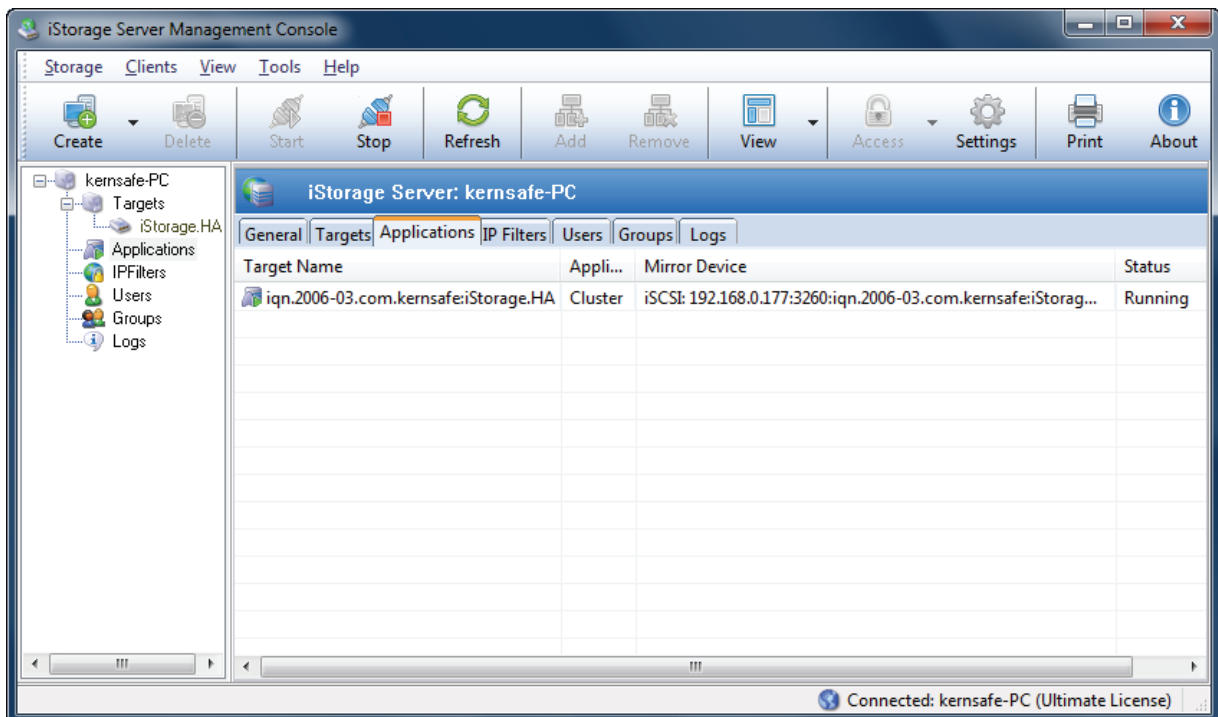


Now, the mirror target should be synchronization to the base target, if the two targets are both the new one and do not be initialized, we can choose **Create mirror device without synchronization (Manual Initialization)**, otherwise, we must choose **Create mirror device with full synchronization from base iSCSI target**.

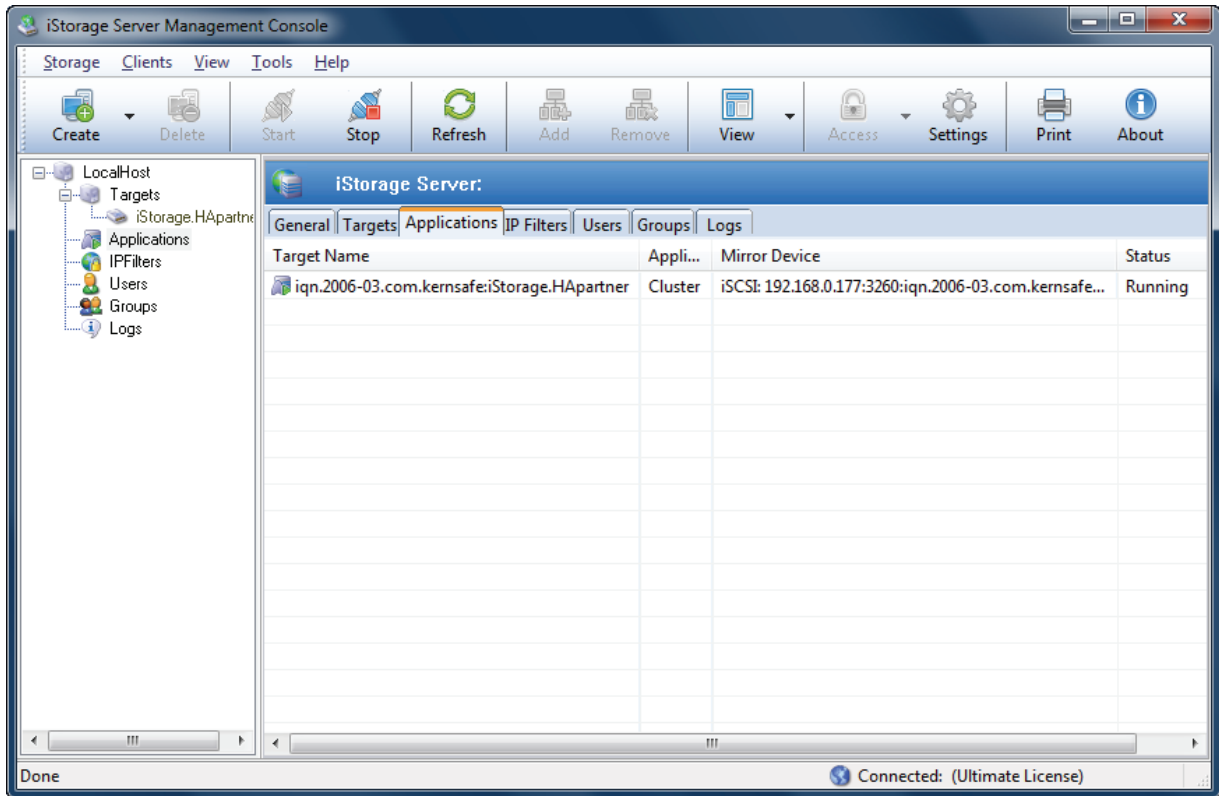
Press the **OK** button to continue.



Click **Finish** button to complete the application creation.



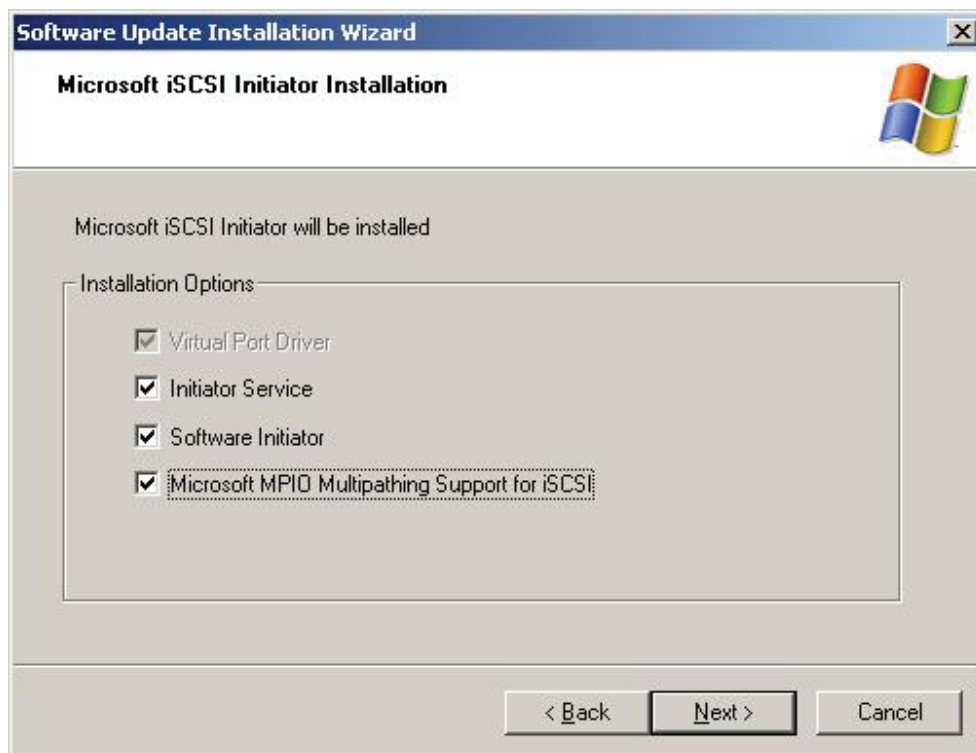
Now the application will be shown in the main interface if successful and the configuration on the iStorage Server1 is completed. We do the same operations on iStorage Server2 to create application, choose HA as the mirror target, after the creation, the main interface will be shown as follows:



## Configuring on Client

### Enable Multipath Support

Download Microsoft iSCSI Initiator and install it with the **Microsoft MPIO Multipathing Support for iSCSI** option enabled.



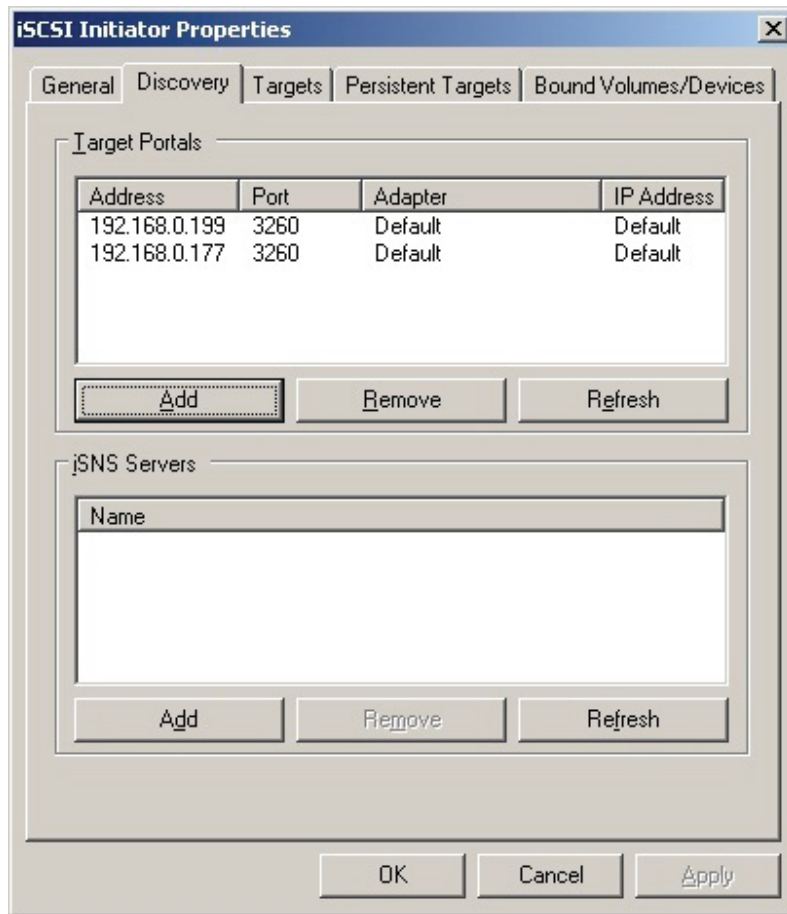
You will need to restart computer before continuing.

### Connect to target

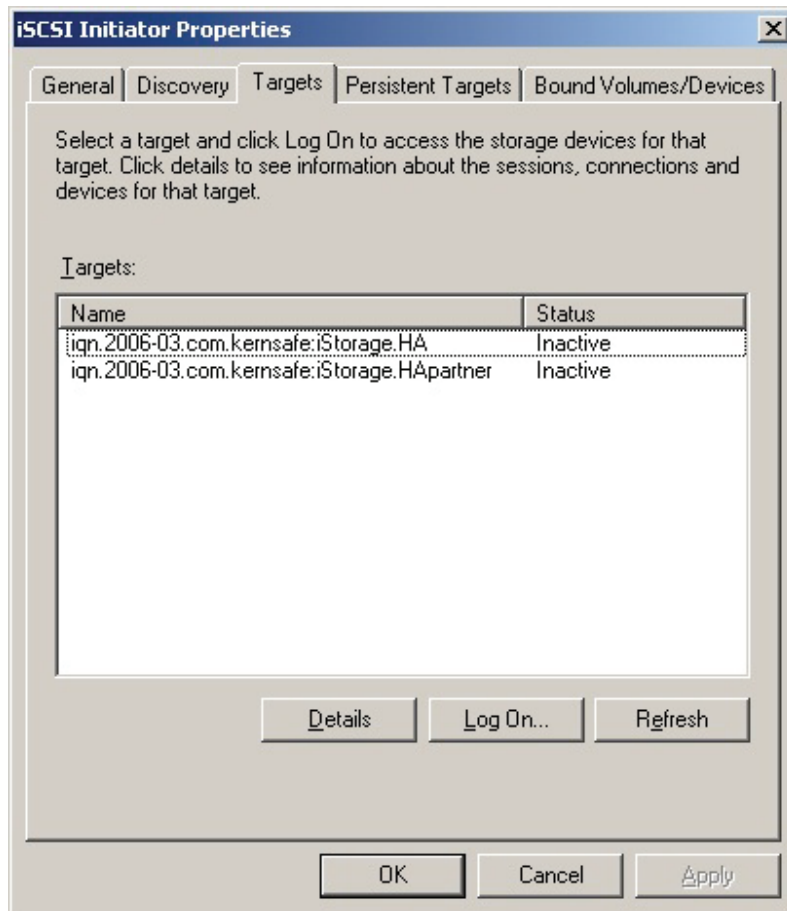
Launch the MS iSCSI Initiator by selecting **Start->All Programs->Microsoft iSCSI Initiator**.

Switch to the **Discovery** tab. Add each of the iStorage servers by clicking the **Add** button and specifying server IP address.





Switch to the **Targets** tab.

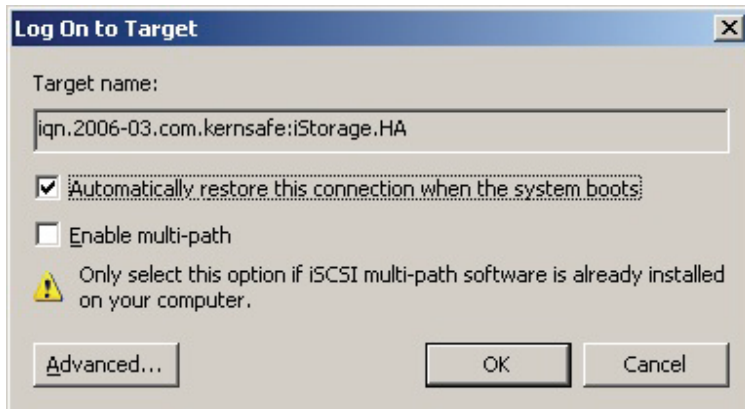


Connect the targets by clicking the **Log On...** button.

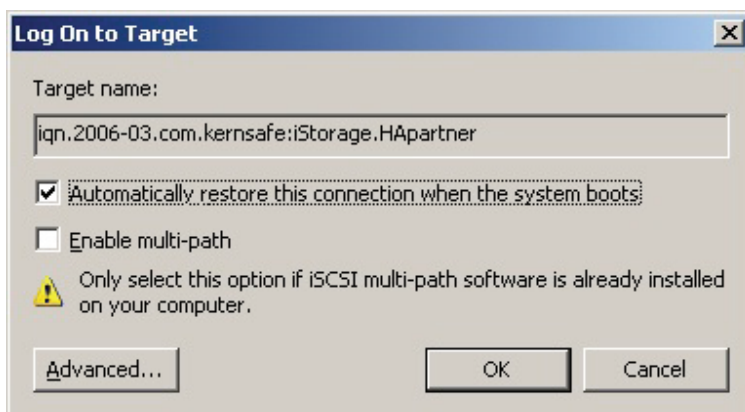
A **Log On to Target** dialog is shown.

Check **Automatically restore this connection when the system boots**.

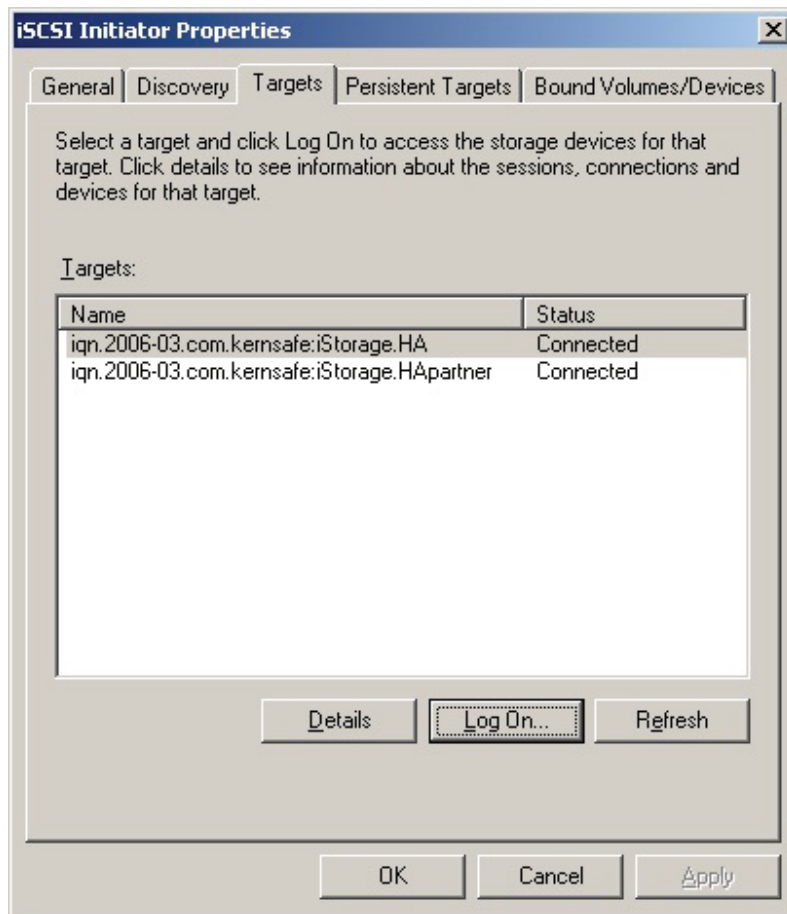
Target 1



Target 2



Click the **OK** button to connect the two targets.

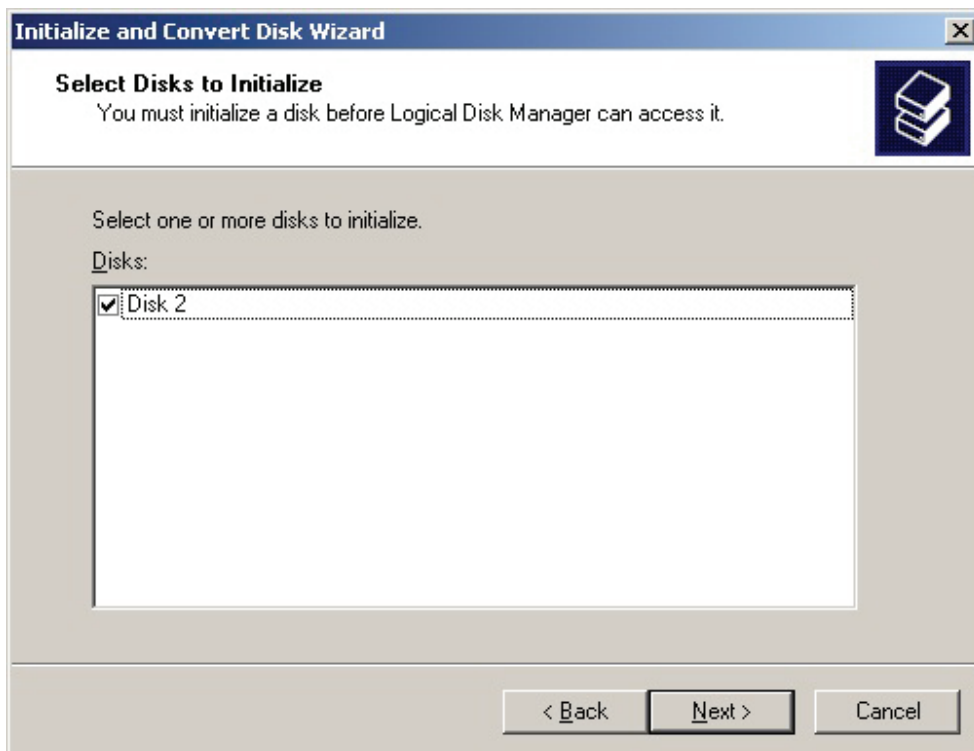


Now, the client is connected to the two targets, we have to initialize the disk before we use it.

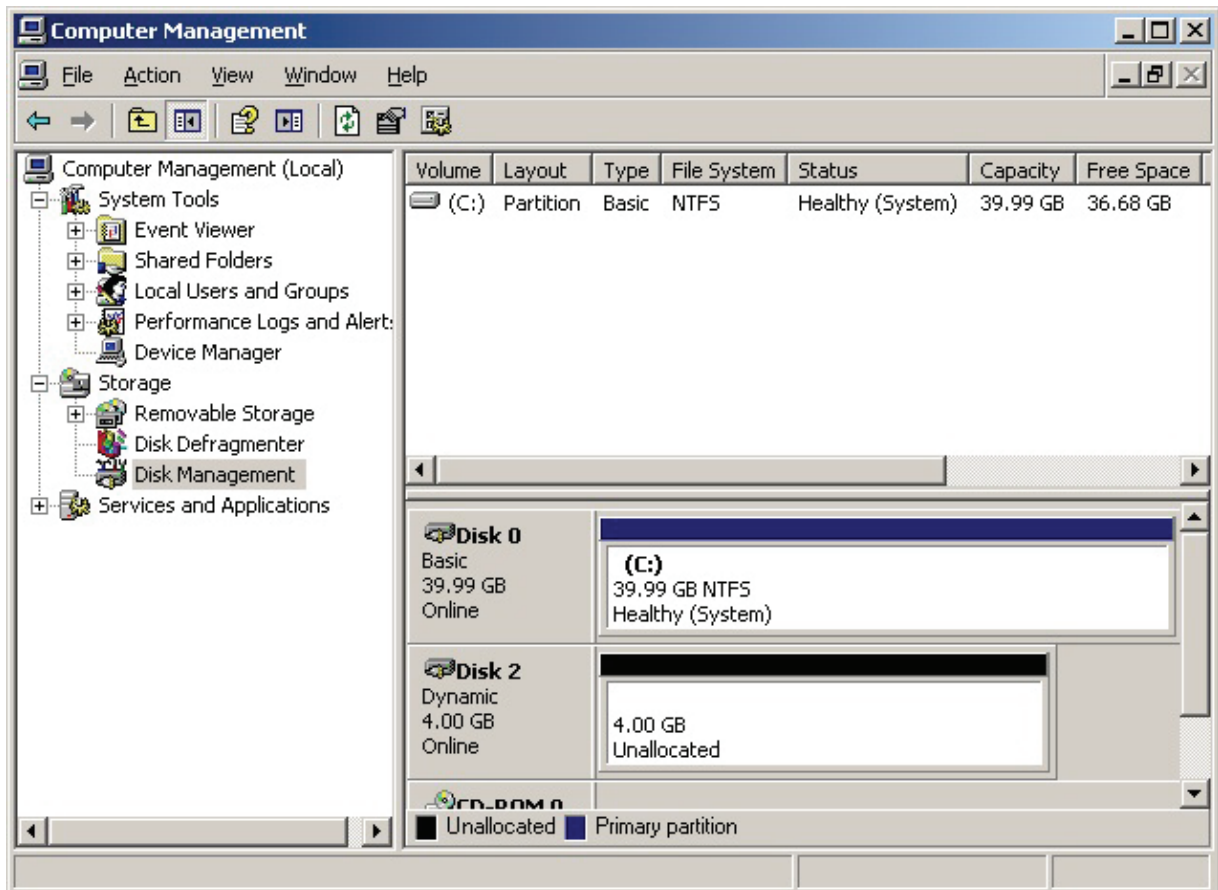
Click **Start->Computer->Manage->Disk Management**, the **Initialize and Convert Disk Wizard** window is shown.



Press **Next** to continue.

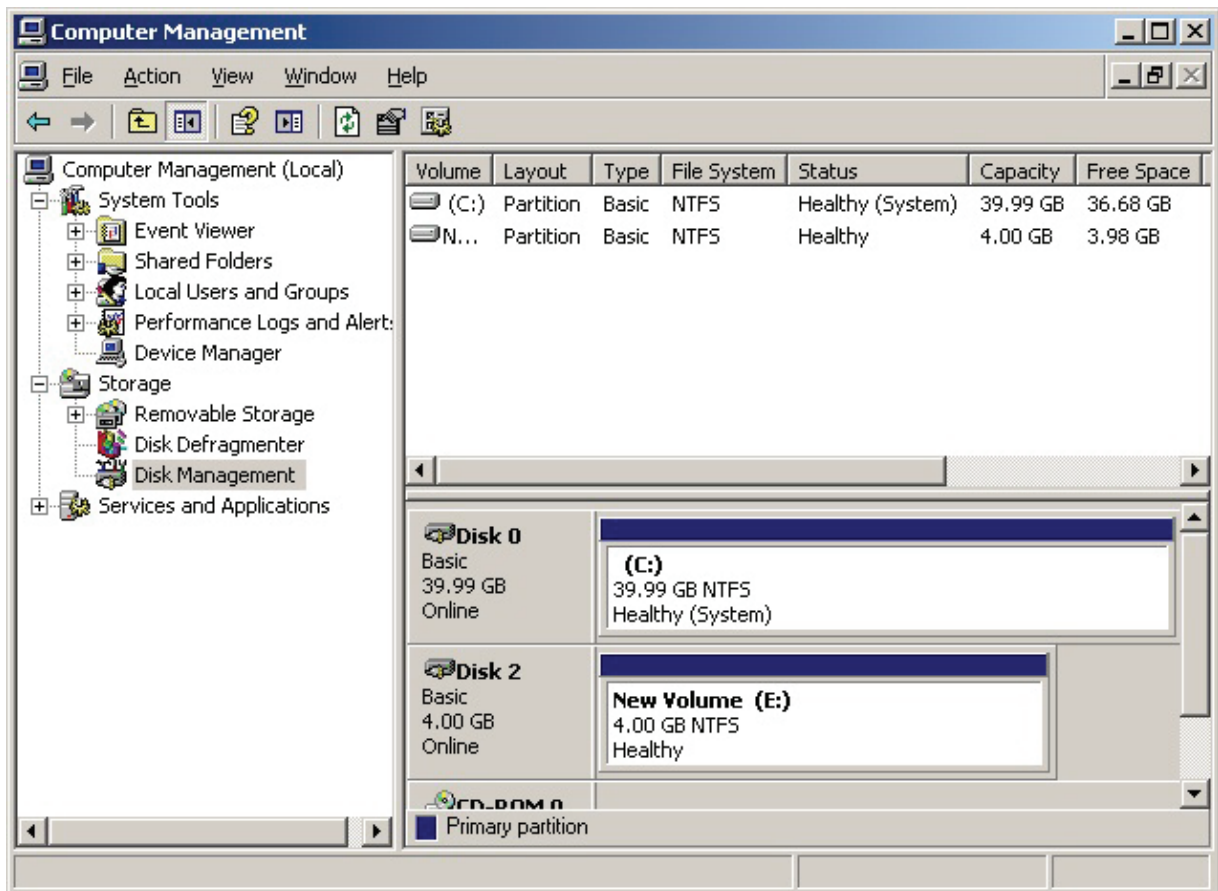


Check **Disk 2** and press **Next** to finish the initialization.



Right click on the Disks and then select New Simple Volume, partition and format the two disks followed by wizard.

If successful, the new volumes created are shown in the figure below.



**Note:** Although we connect two targets, there will be only one disk on the client it working on both two active connections..

## Contact

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