

HAreplicator : Creating local storage replication (mirror)

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Creating Harddisk Mirror (RAID-1) Replication

Disk mirror replication is an useful features that you want to backup one hard disk to another hard disk, it has almost the same function as the hardware RAID-1, but it supports hard disk hot plug, which means, the second RAID disk can be removed and don't effect source disk working, after target disk plug in, HAReplicator will synchronize data automatically.

Before to do so, you should prepare a server with at least two disks except system disk.

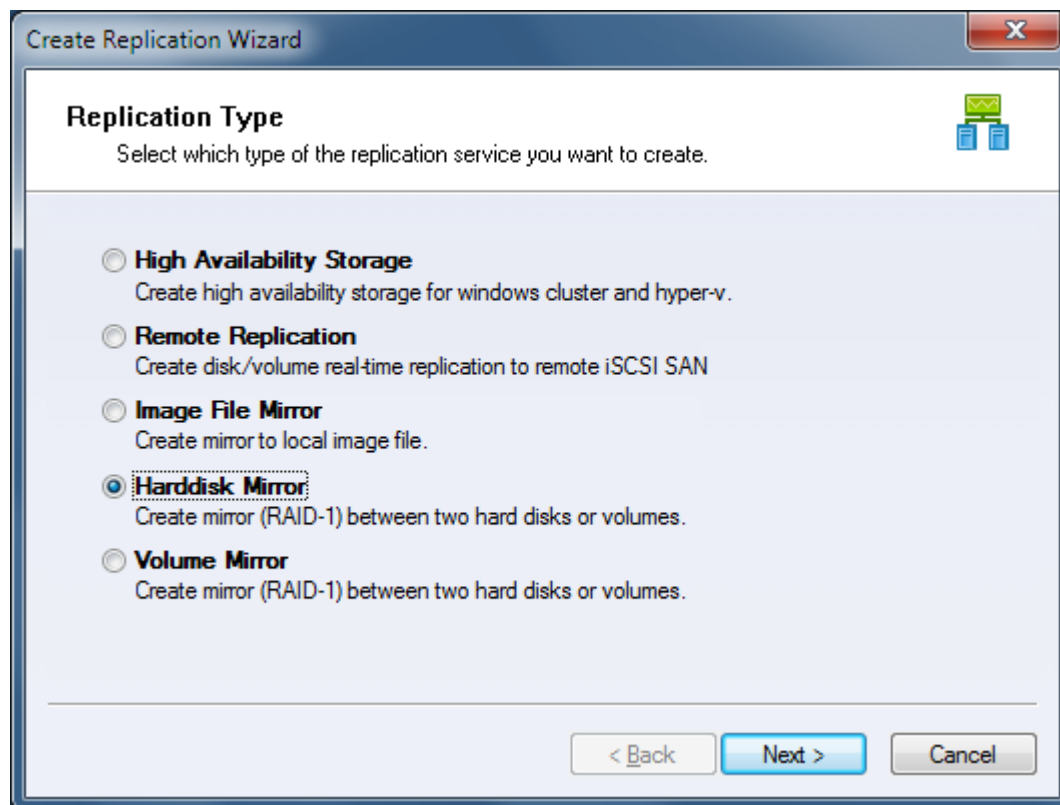
Launch the **HAReplicator Management console** and add the Server to the management console.

A screenshot of a Windows-style dialog box titled "Add Server". The dialog has a blue header bar with a close button (X) in the top right corner. The main area contains the following fields and controls:

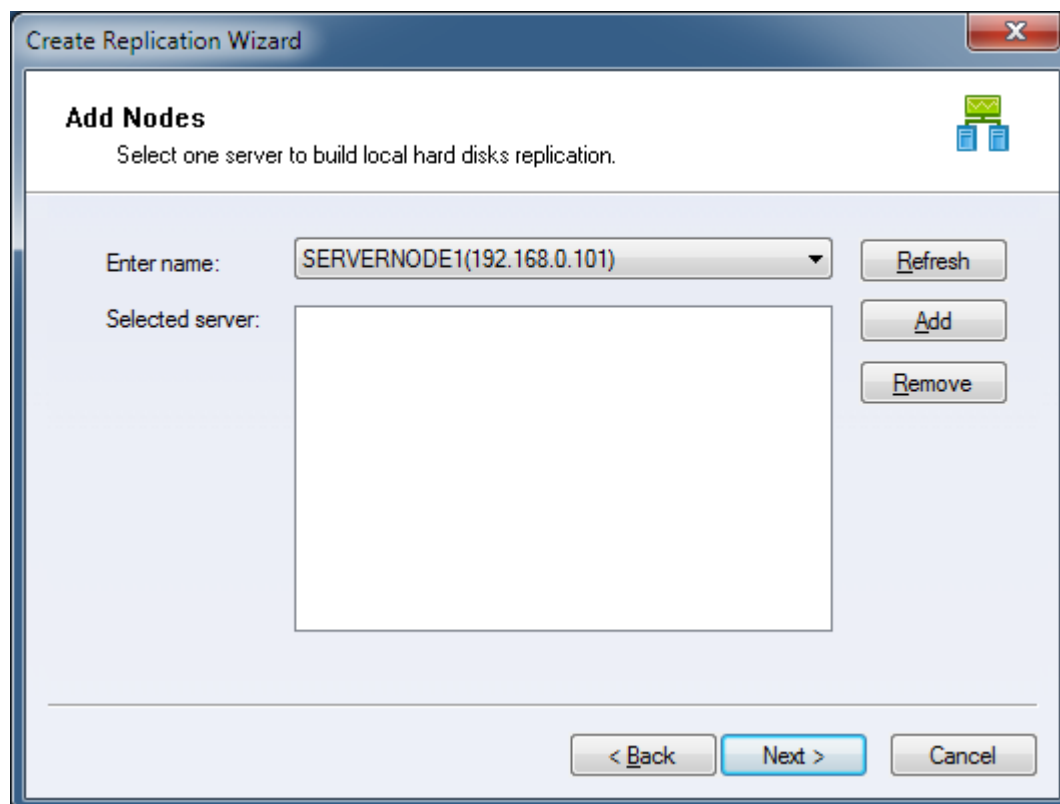
- Instruction text: "Enter the host name or IP address and port of the server you want to add and your user login credentials for that server."
- "Server:" label followed by a text box containing "192.168.0.101" and a dropdown arrow.
- "Port:" label followed by a text box containing "63261" and a "Browse" button to its right.
- A section titled "User login credentials" with a blue header line.
 - "User name:" label followed by a text box containing "root".
 - "Password:" label followed by a text box filled with 10 black dots.
- At the bottom, there are two buttons: "OK" (highlighted in blue) and "Cancel".

Press the **OK** button to add.

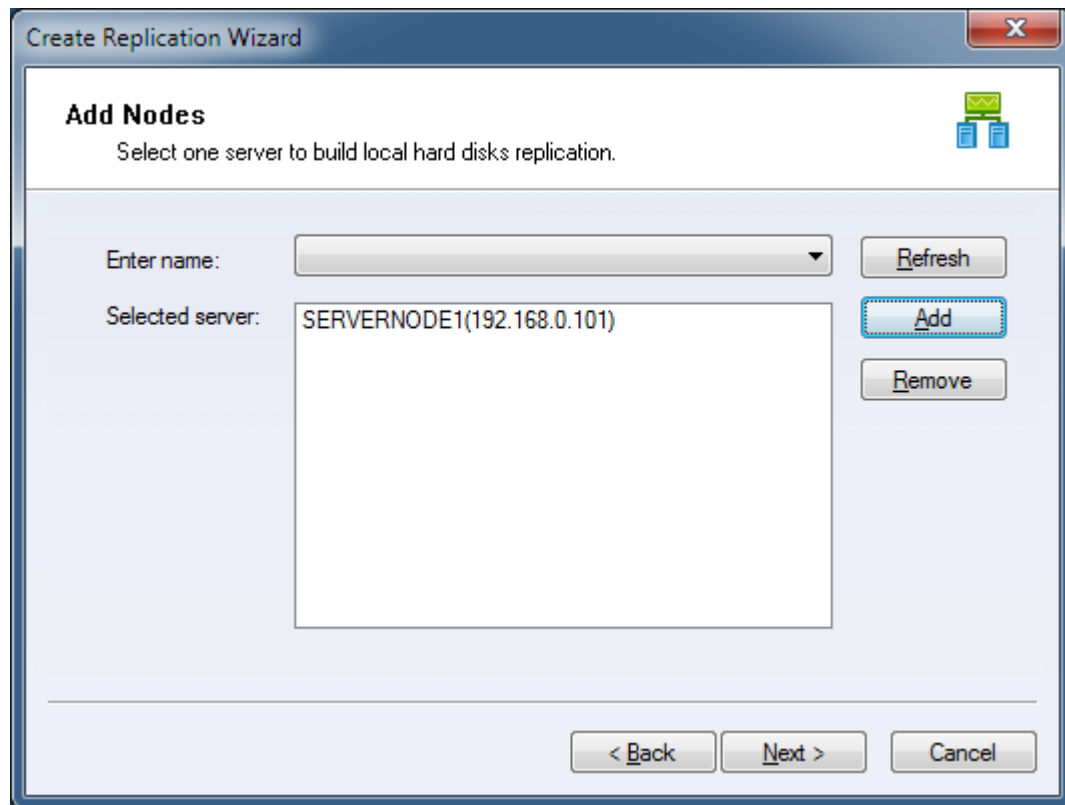
Click the **Create** button on the toolbar of the management console, the **Create Application Wizard** shows.



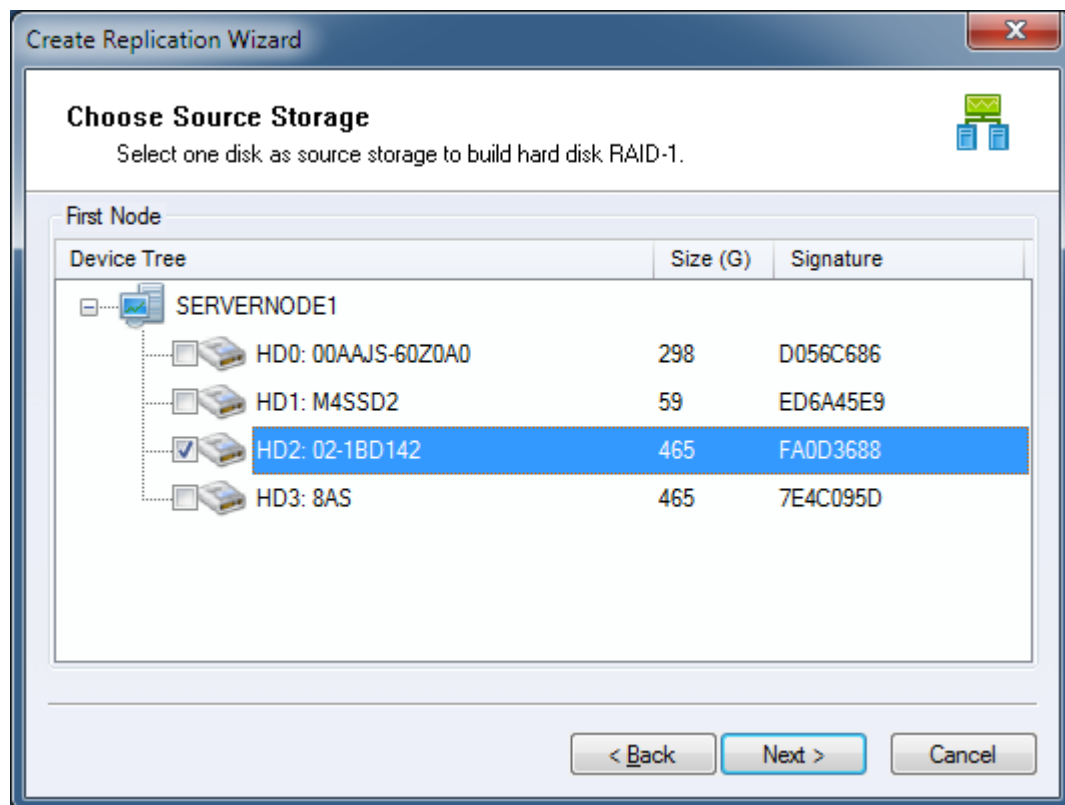
Select the **Harddisk Mirror** type, and press the **Next** button to continue.



Choose a server from the **Enter name** combo box and press **Add** to add it to the **Selected server** list.

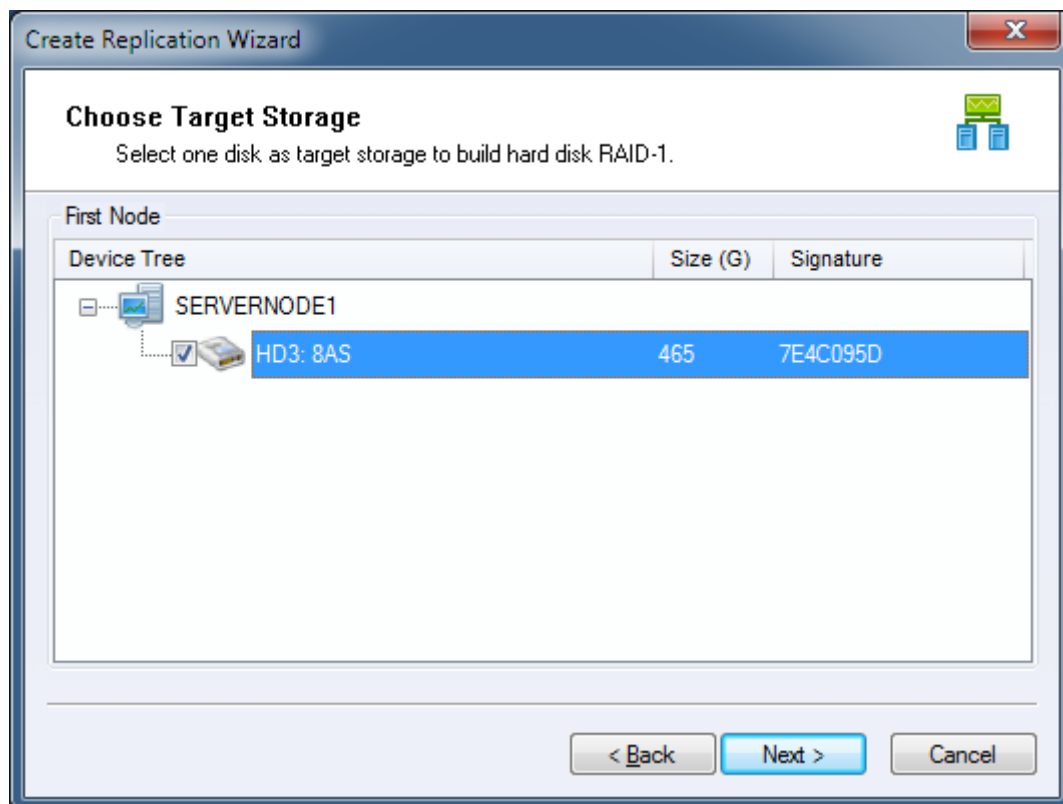


Then press the **Next** button to continue.



Choose the first disk which will be mirrored to another one, then press the **Next**

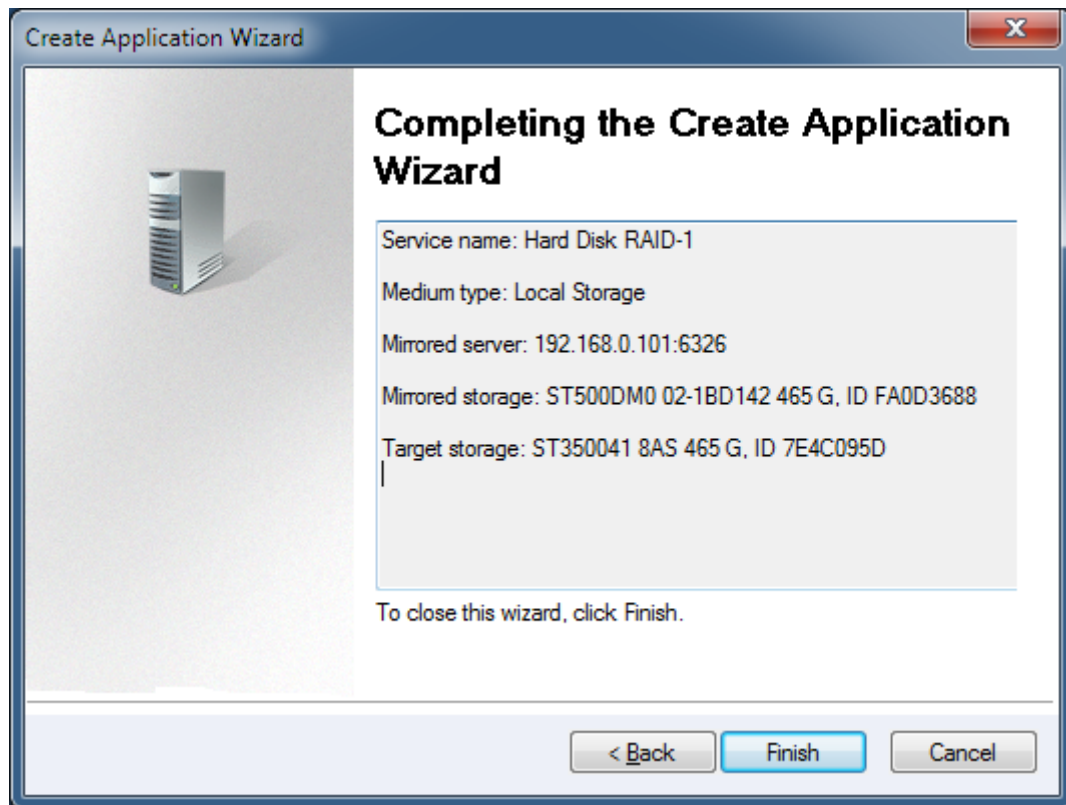
button to continue.



Select the second one as mirror target.

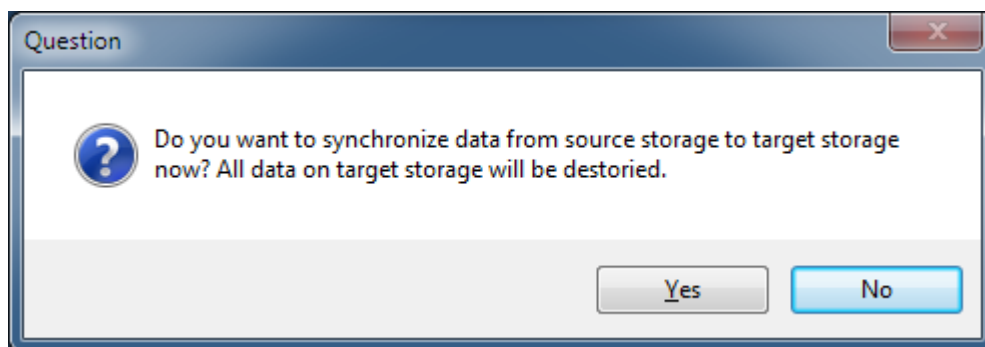
Note, the management console shows only the disks which are more than or equal to the first disk in capacity and all data will be replaced by the first disk.

Press the **Next** button to continue.



Check if all settings are correct, click **<Back** if you need to modify something or click **Cancel** to cancel application creation.

Press the **Finish** button to continue.

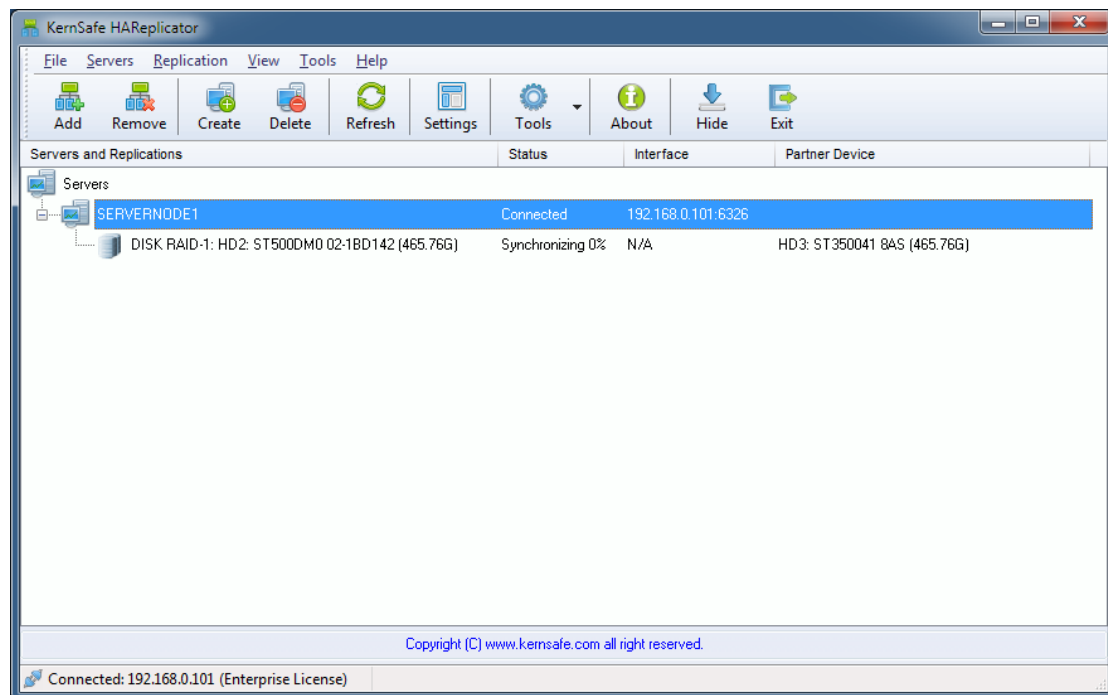


Synchronize the two disks, click the **Yes** button to do full synchronize data from the first disk to the second disk, otherwise click the **No** button if they are already consistent.

Note, for the following two conditions, we will treat it as consistent, otherwise, you must do full synchronize to the two volumes:

1. Source storage is a completely empty hard disk (even not initialized in windows disk management console).
2. The source storage and target storage was synchronized before, they are consistent already.

After Hard Disk Replication created, the main interface will be shown as this:



If you want to use the backup in the second disk, launch the disk manager, operate the second disk from offline to online.

Creating Image File Replication

Disk / volume to image file replication is an ideal choice while user want to save hard disk space to avoid hardware RAID, this type of replication can create a real-time replication between disk or volume to an image file, the image file is an raw mapping to the disk or volume, it can be easily used by other KernSafe software and it is easily to be moved.

Launch the **HAREplicator Management Console** and add the server to the management console.

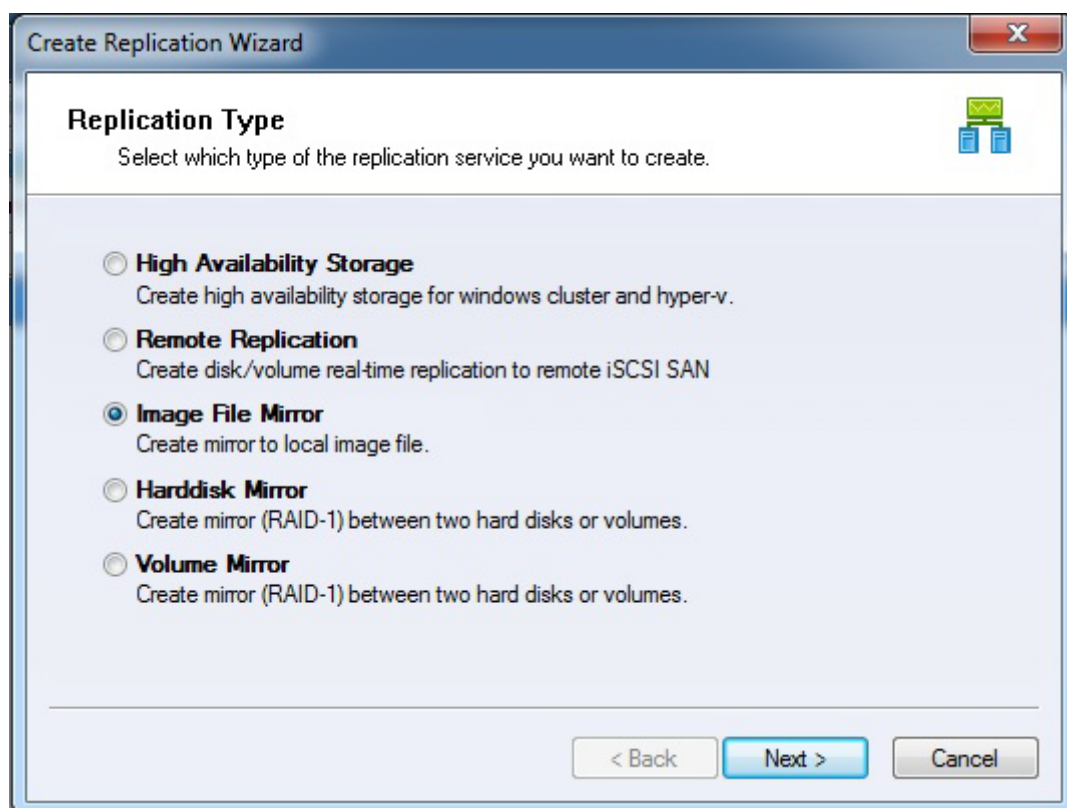


The 'Add Server' dialog box contains the following fields and controls:

- Server:** A text field containing '192.168.0.101' with a dropdown arrow on the right.
- Port:** A text field containing '63261'.
- Browse:** A button located to the right of the Port field.
- User login credentials:** A section header above two fields:
 - User name:** A text field containing 'root'.
 - Password:** A text field with masked characters (dots).
- OK:** A blue button at the bottom right.
- Cancel:** A grey button at the bottom right.

Press the **OK** button to add.

Click the **Create** button on the toolbar of the management console, the **Create Application Wizard** shows.



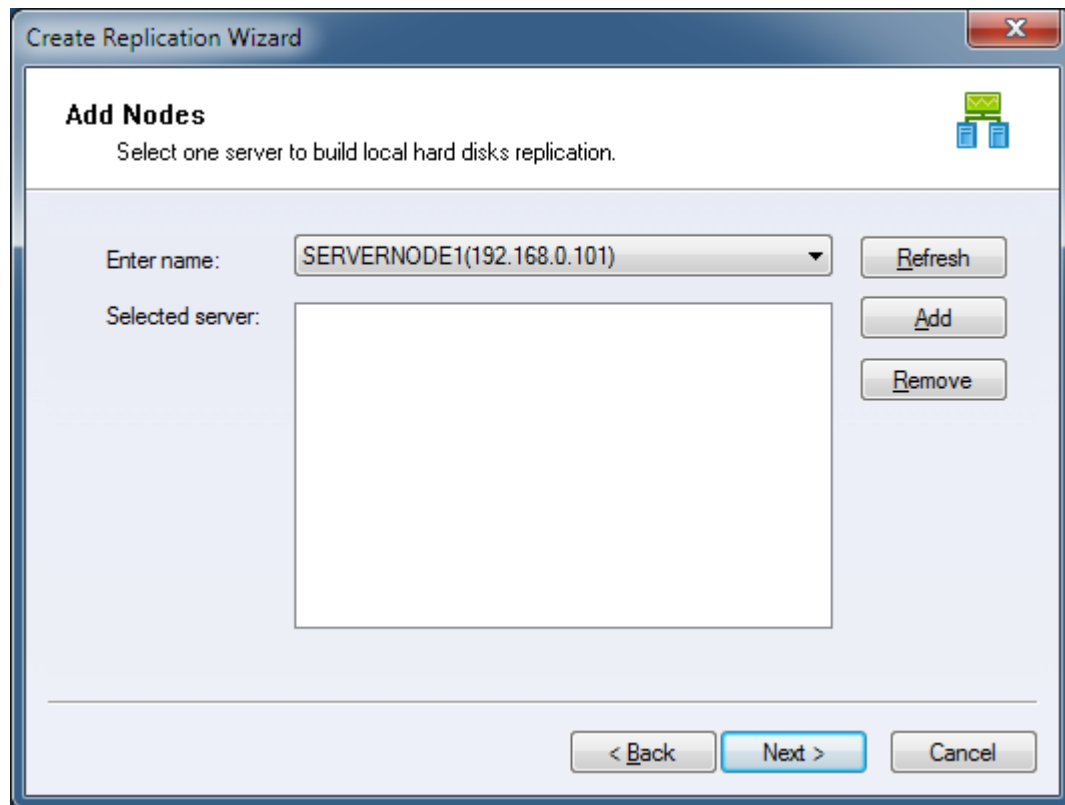
The 'Create Replication Wizard' dialog box shows the 'Replication Type' step with the following options:

- High Availability Storage**
Create high availability storage for windows cluster and hyper-v.
- Remote Replication**
Create disk/volume real-time replication to remote iSCSI SAN
- Image File Mirror** (Selected)
Create mirror to local image file.
- Harddisk Mirror**
Create mirror (RAID-1) between two hard disks or volumes.
- Volume Mirror**
Create mirror (RAID-1) between two hard disks or volumes.

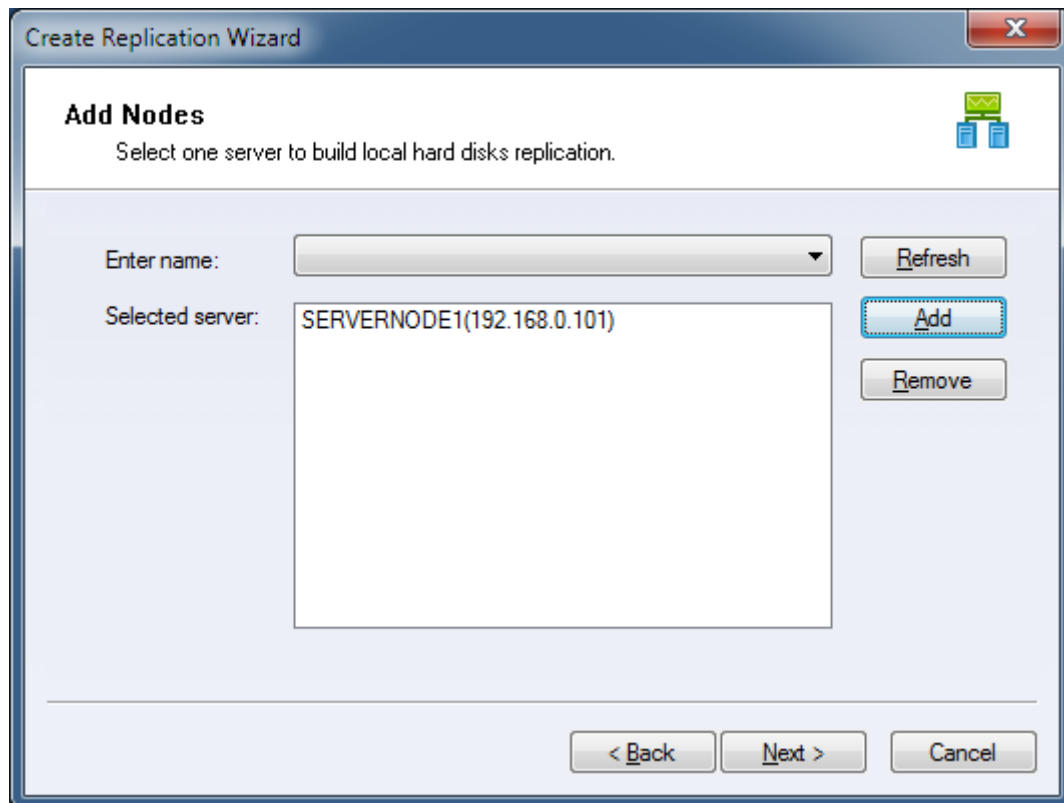
At the bottom, there are three buttons: '< Back' (disabled), 'Next >' (active), and 'Cancel' (disabled).

Select **Image File Mirror** type.

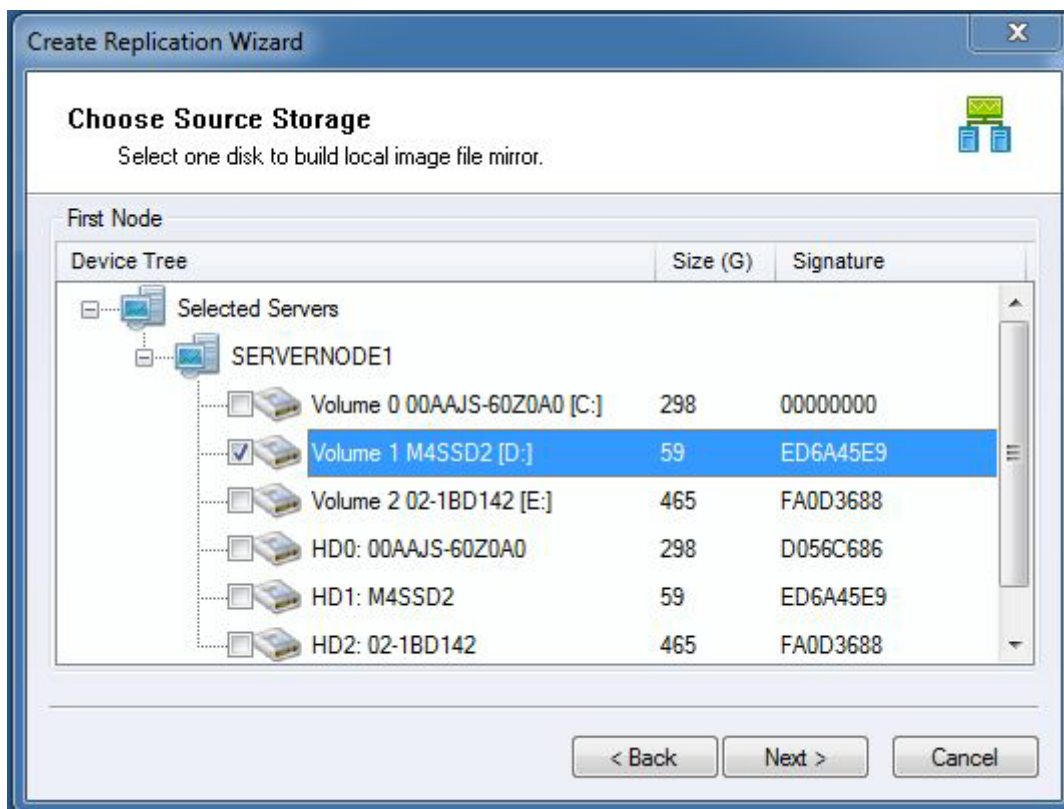
Then press the **Next** button to continue.



Choose a server from **Enter name** combo box then press Add to add it to the **Selected server** list.

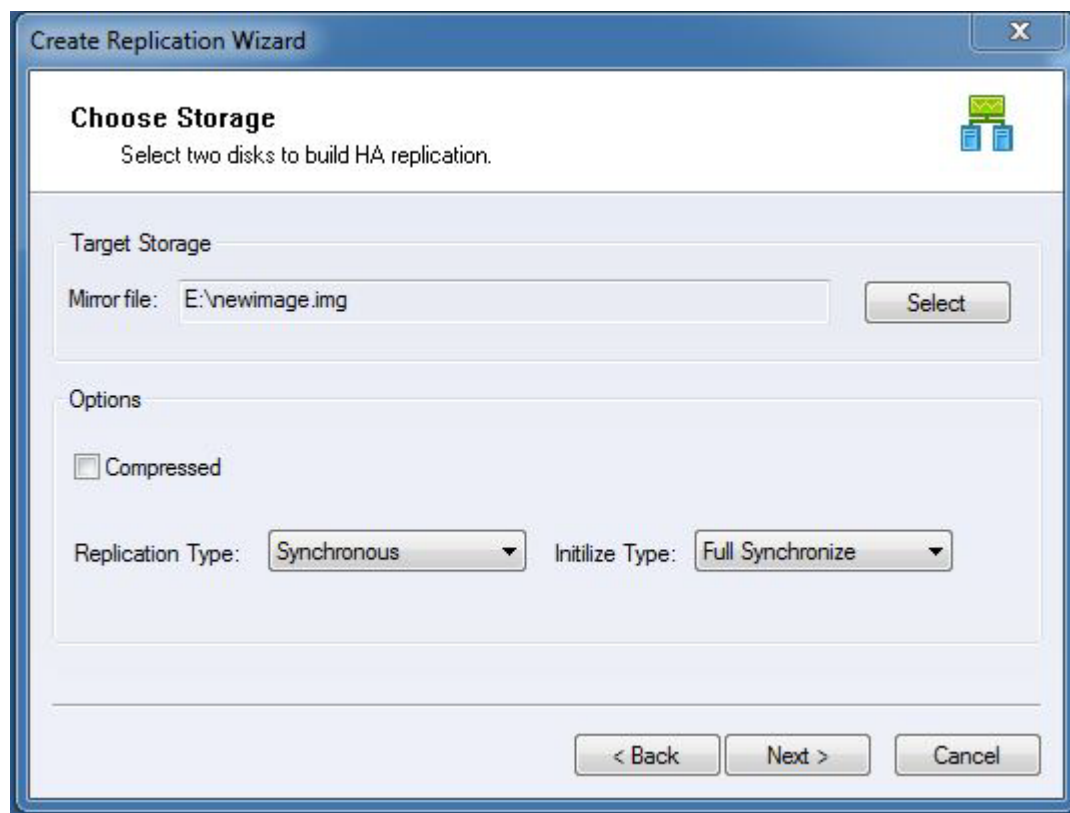


Press the **Next** button to continue.



Select a hard disk or volume to be mirrored to an image file.

Press the **Next** button to continue.



Select a image file to the Mirror file field. **Note**, the image files must be located in another disks whose free space is more than or equal to the disk which will be mirrored.

Choose **Compressed** if you want the file is compressed.

Choose **Synchronous** or **Asynchronous**, for learn difference between synchronous and asynchronous replication, please read the topic: synchronous and asynchronous.

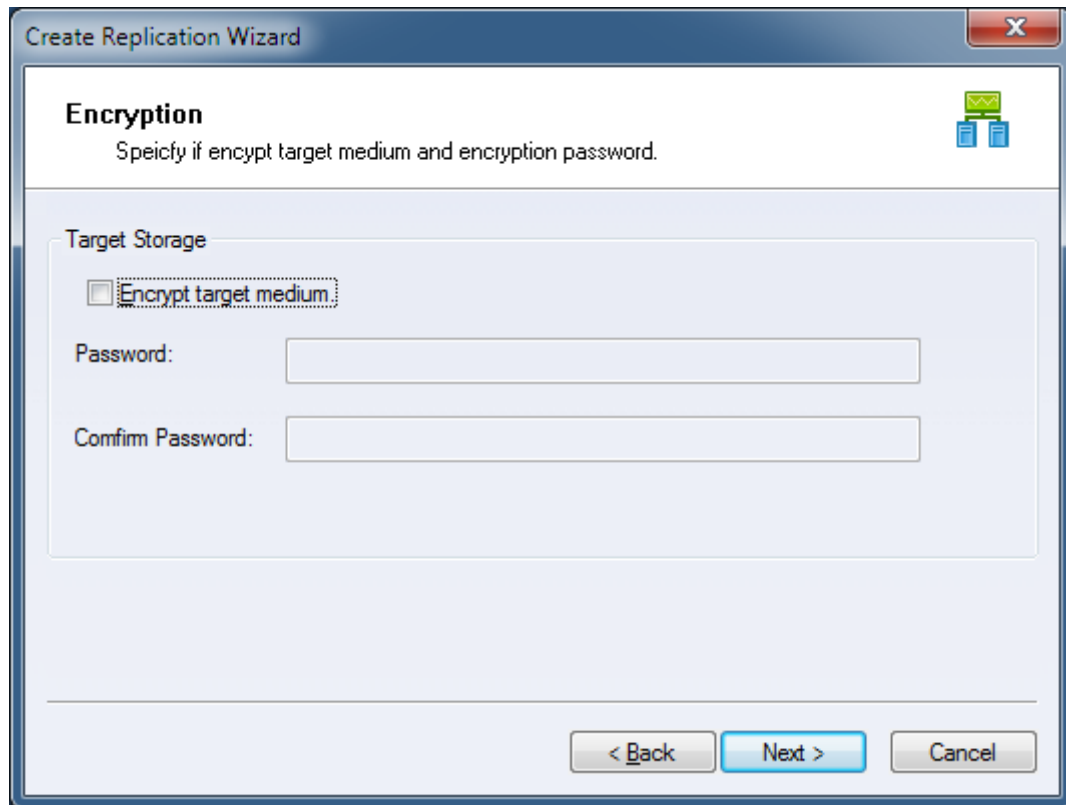
Choose **Full Synchronize** as Initialize Type, if you reach to the following conditions,

You can select **Don't Synchronize** to save your time:

1. Source storage is a completely empty hard disk (even not initialized in windows disk management console).
2. The source storage and target storage was synchronized before, they are consistent already.

Except the above two conditions, you much select **Full Synchronize**.

Click the **Next** button to continue.



The image shows a Windows-style dialog box titled "Create Replication Wizard". The window has a blue title bar with a close button (X) in the top right corner. The main content area is white and features a section titled "Encryption" in bold black text. Below the title, there is a subtitle: "Specify if encrypt target medium and encryption password." To the right of the subtitle is a small icon of a green envelope with a checkmark. Below this, there is a section titled "Target Storage" in a light blue box. Inside this box, there is a checkbox labeled "Encrypt target medium". Below the checkbox, there are two text input fields: "Password:" and "Confirm Password:". At the bottom of the dialog box, there are three buttons: "< Back", "Next >", and "Cancel".

Create Replication Wizard

Encryption
Specify if encrypt target medium and encryption password.

Target Storage

☐ Encrypt target medium

Password:

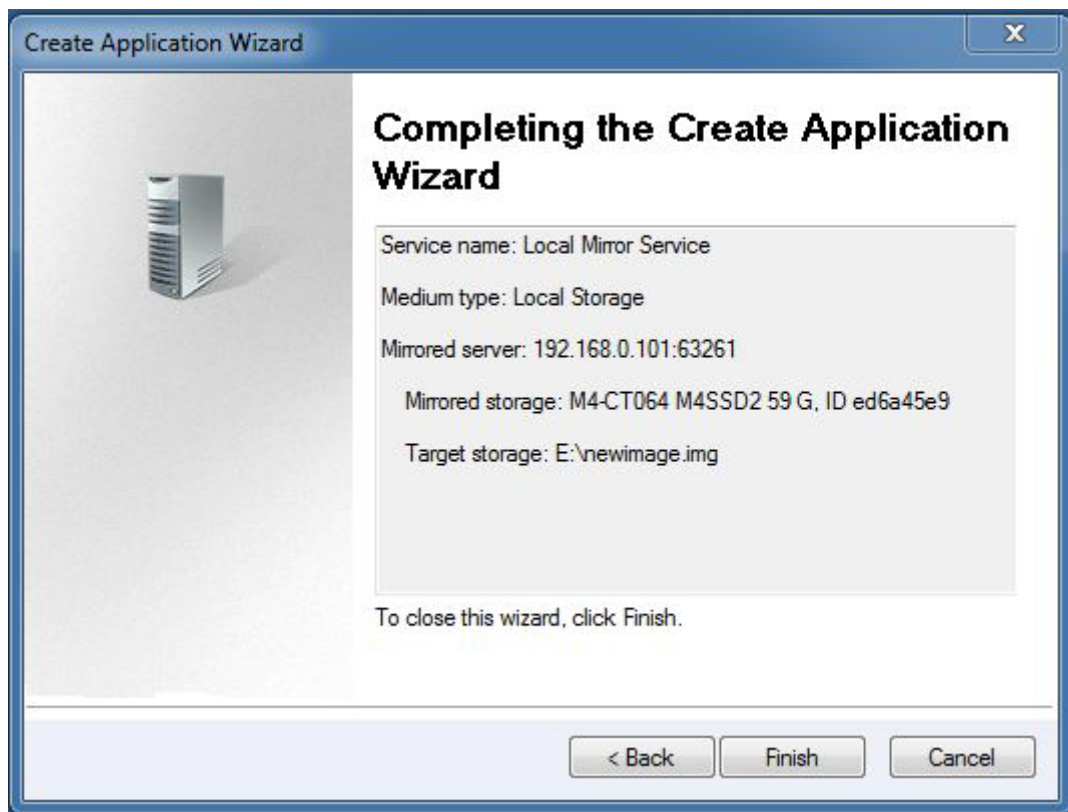
Confirm Password:

< Back Next > Cancel

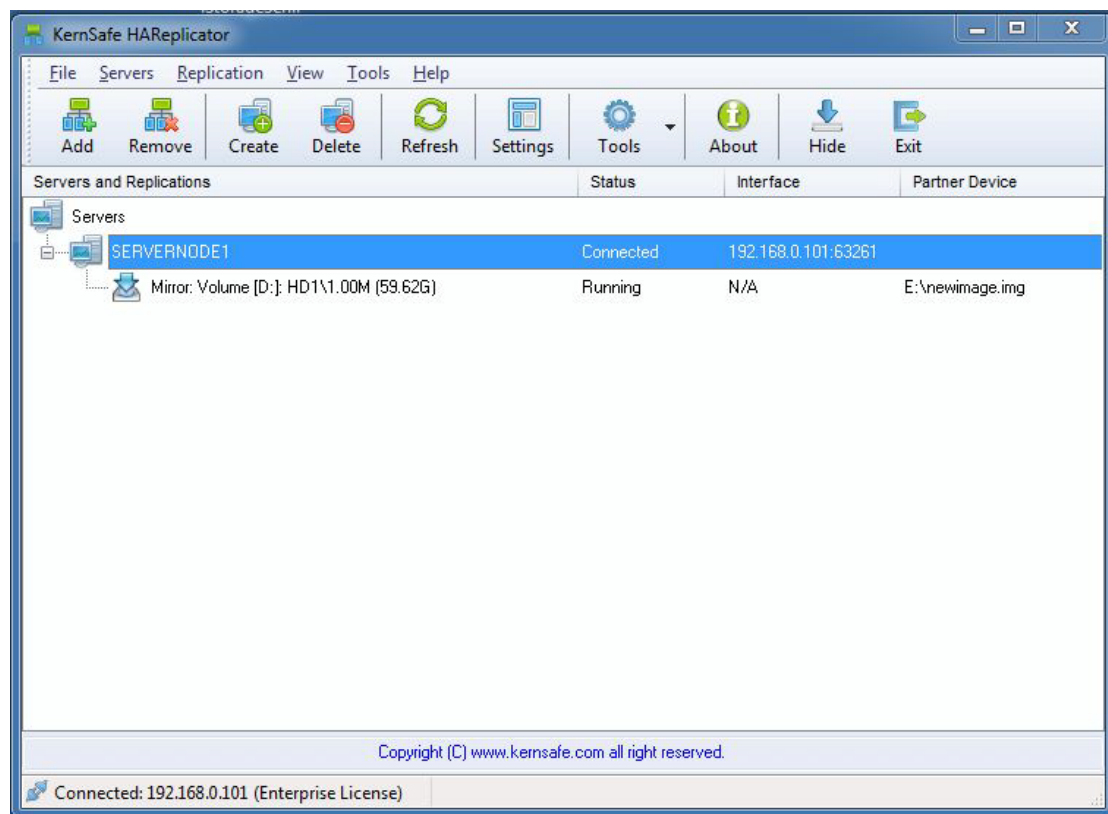
Choose if target medium will be encrypted.

If you want to encrypt target medium, select the **Encrypt target medium** option, and then input Password and Confirm Password.

Keep it default and press **Next** to continue.



Press the **Finish** button to complete the creating.

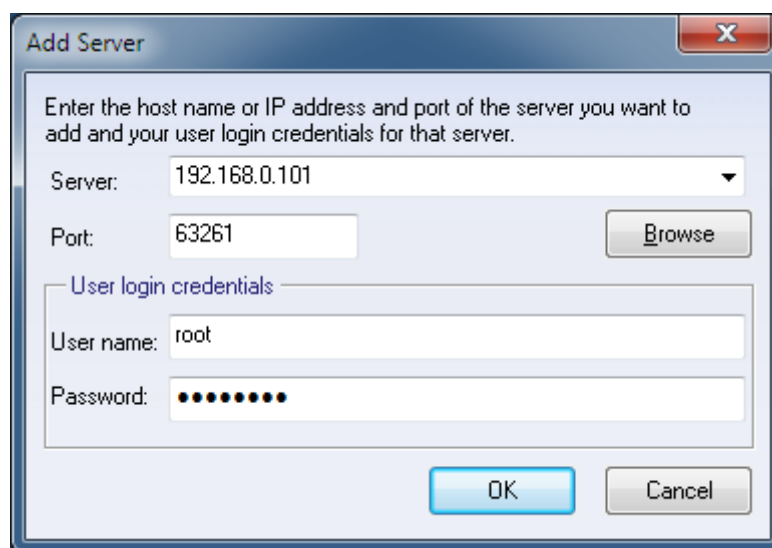


If you want to use the backups in the image file, use KernSafe iStorage Server or other software.

Creating volume mirror (RAID-1) Replication

Volume mirror replication is a useful feature that you want to save hard disk space or build mirror into an existing production environment. Volume mirror replication can be one volume mirror to another volume with separated hard disk or storage controller.

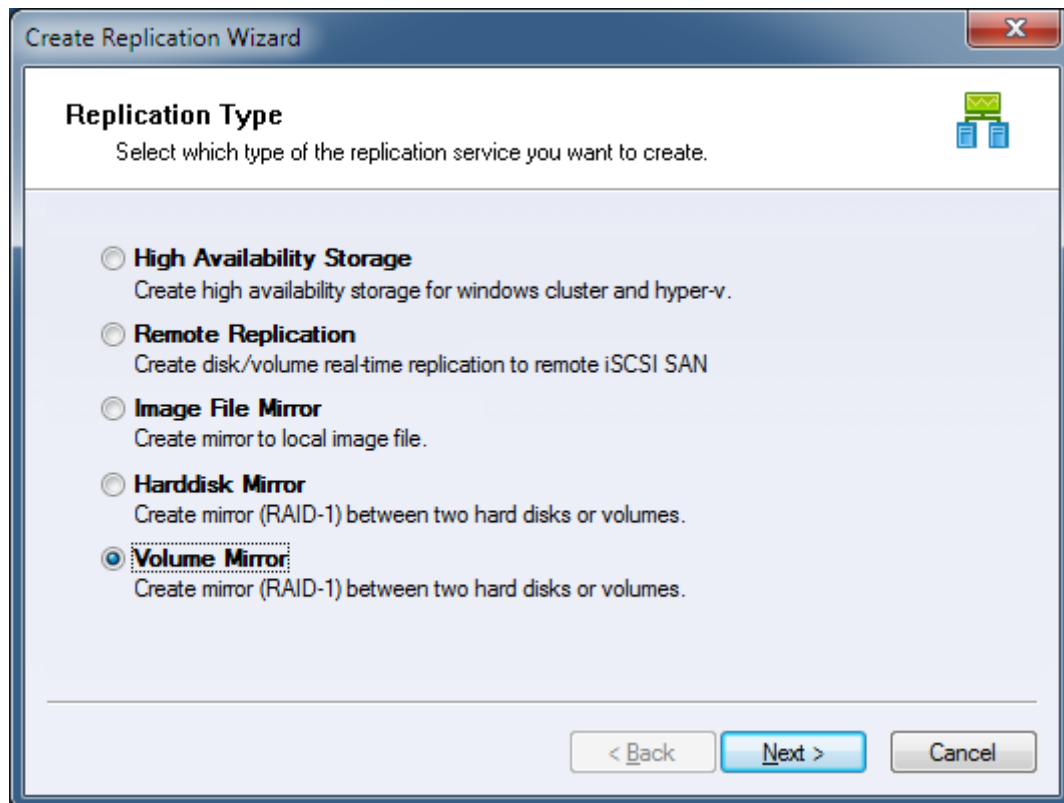
Launch the **HAREplicator Management console** and add the Server to the management console.

A screenshot of a Windows-style dialog box titled "Add Server". The dialog has a blue header bar with a close button (X) in the top right corner. The main area contains the following fields and controls:

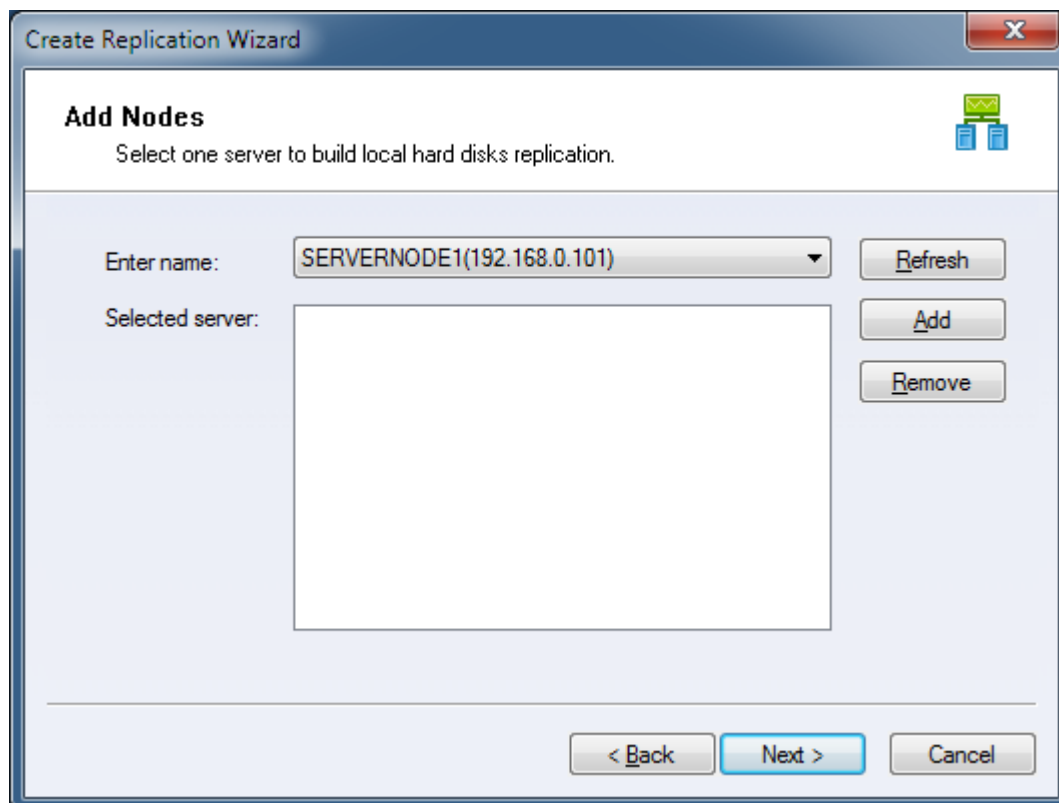
- Instruction text: "Enter the host name or IP address and port of the server you want to add and your user login credentials for that server."
- "Server:" label followed by a text box containing "192.168.0.101" and a dropdown arrow.
- "Port:" label followed by a text box containing "63261" and a "Browse" button.
- A section titled "User login credentials" with a blue line separator.
- "User name:" label followed by a text box containing "root".
- "Password:" label followed by a text box filled with black dots.
- At the bottom, there are two buttons: "OK" (highlighted in blue) and "Cancel".

Press the **OK** button to add.

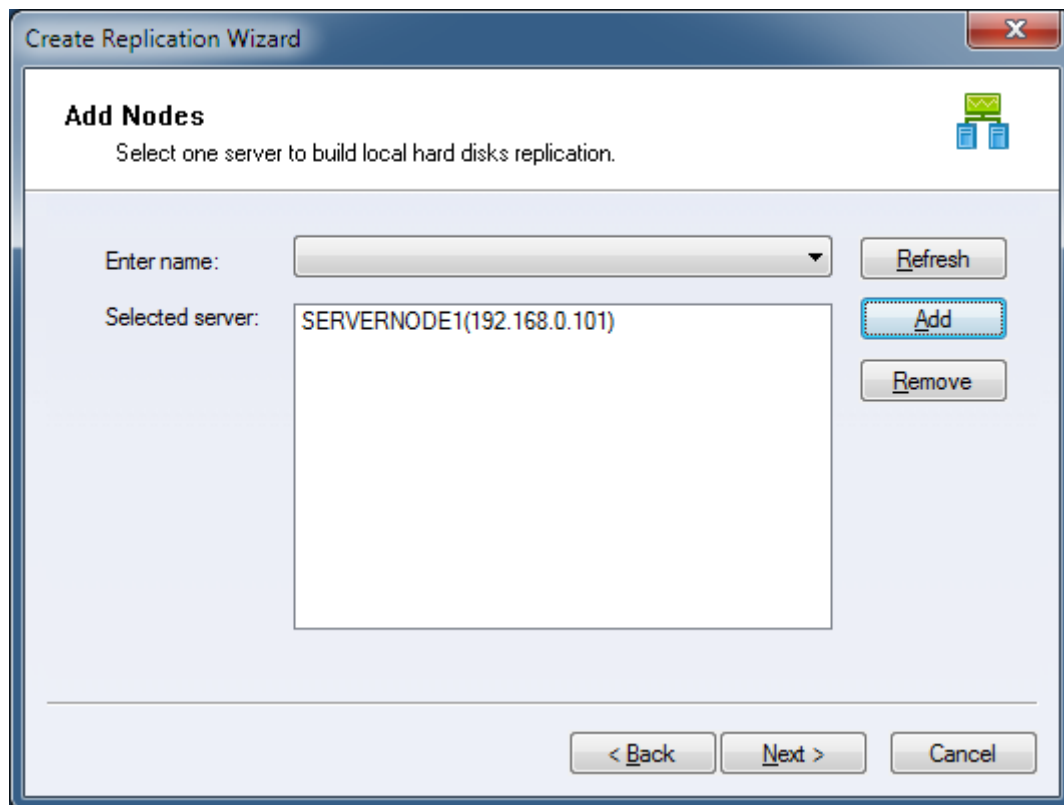
Click the **Create** button on the toolbar of the management console ,the **Create Application Wizard** shows.



Select **Volume Mirror** and press the **Next** button to continue.

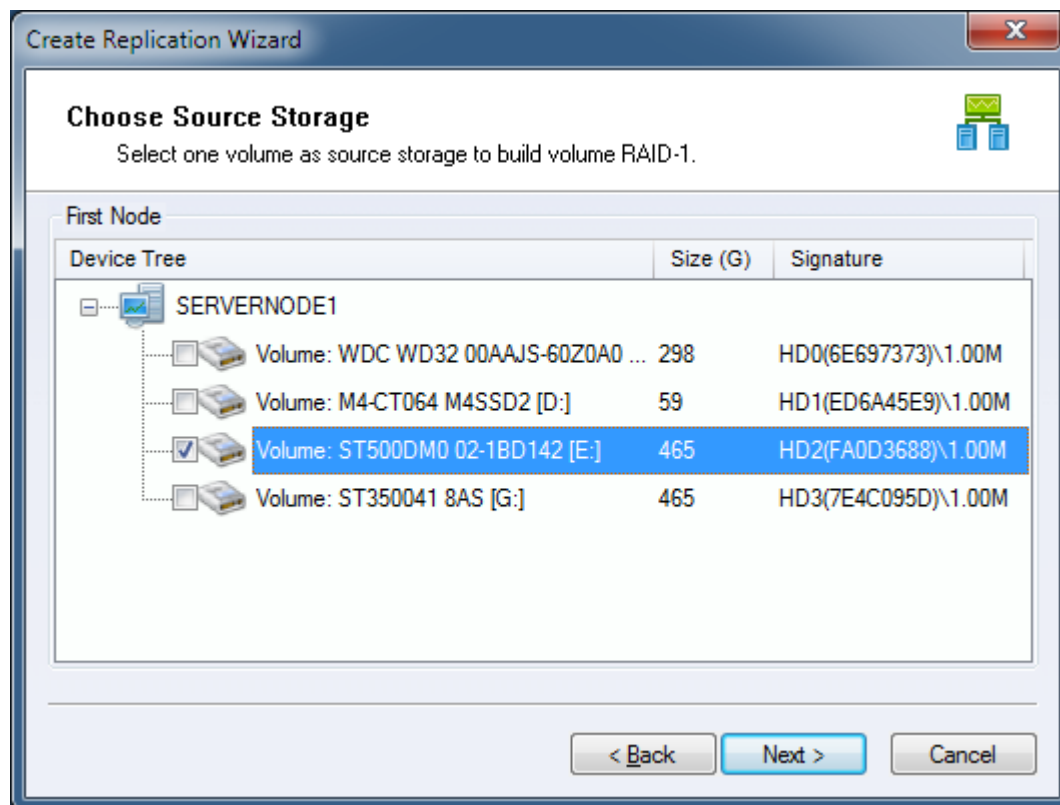


Choose a server from **Enter name** combo box then press Add to add it to the **Selected server** list.



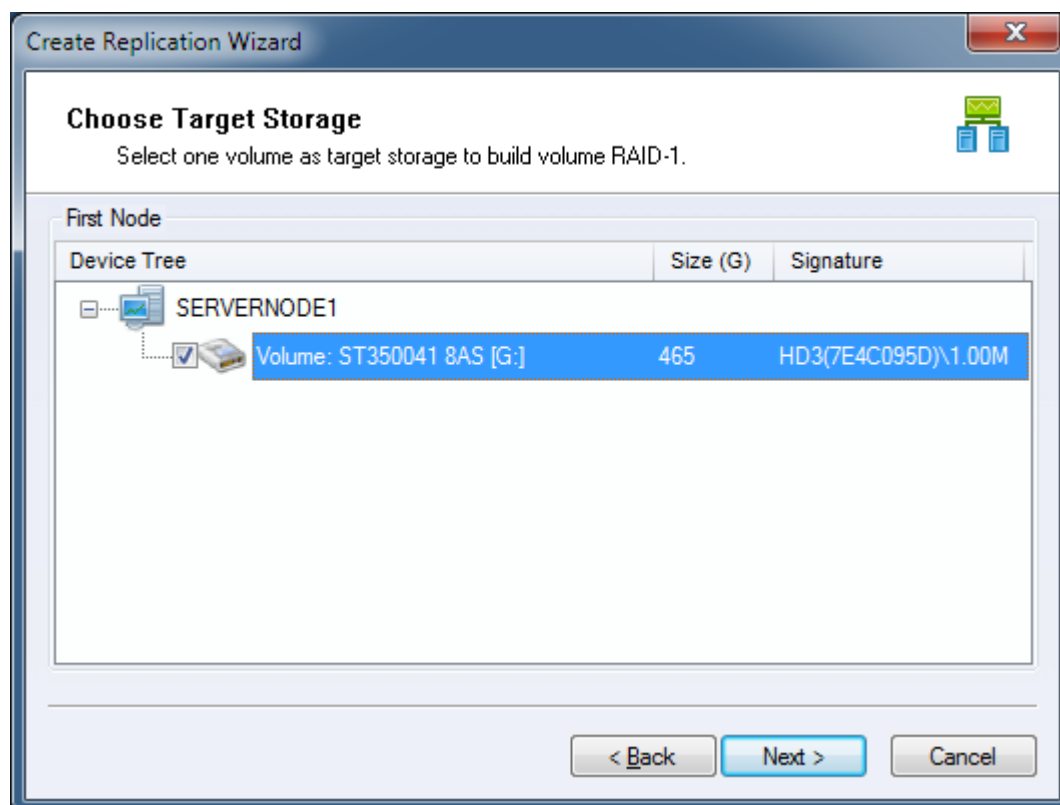
The screenshot shows a Windows-style dialog box titled "Create Replication Wizard" with a close button (X) in the top right corner. The main heading is "Add Nodes" with a sub-instruction: "Select one server to build local hard disks replication." In the top right corner of the main area, there is a small icon of two server racks with a green checkmark. The interface includes a label "Enter name:" next to a dropdown menu. Below it, a label "Selected server:" is next to a list box containing the text "SERVERNODE1(192.168.0.101)". To the right of the dropdown is a "Refresh" button. To the right of the list box are "Add" and "Remove" buttons. At the bottom of the dialog are three buttons: "< Back", "Next >", and "Cancel".

Press the **Next** button to continue.



Select a volume will be mirrored to another volume.

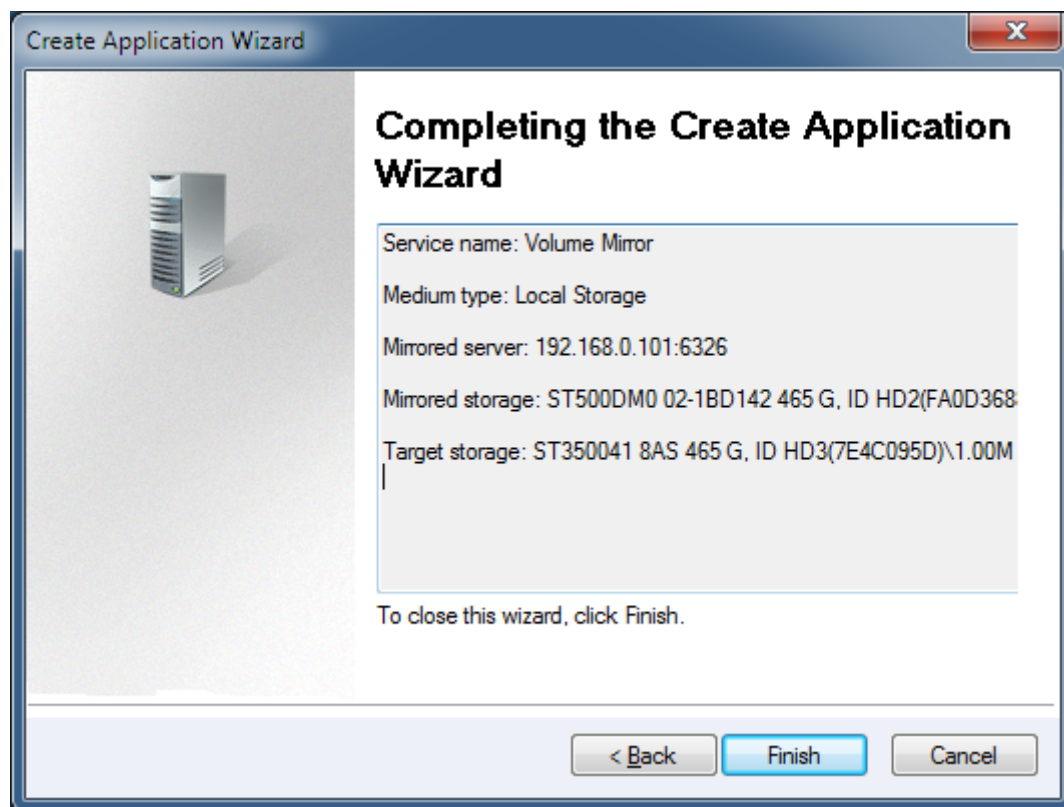
Press the **Next** button to continue.



Select the second volume as target mirror.

Note, the management console shows only the volumes which are more than or equal to the first volume in capacity and all data will be replaced by the first volume. The two volumes must be located in separated disks.

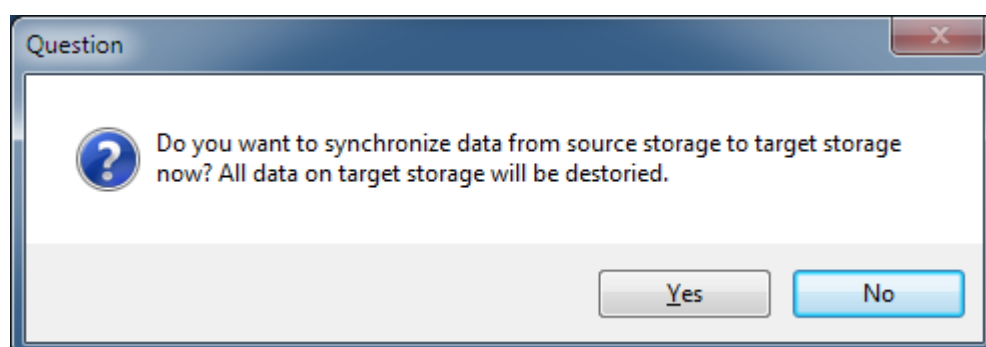
Press the **Next** button to continue.



Please check if all settings are correct, click **Back** if you need to modify something or click Cancel to cancel application creation.

Click the **Finish** button to continue.

Then a **Question** dialog shows:

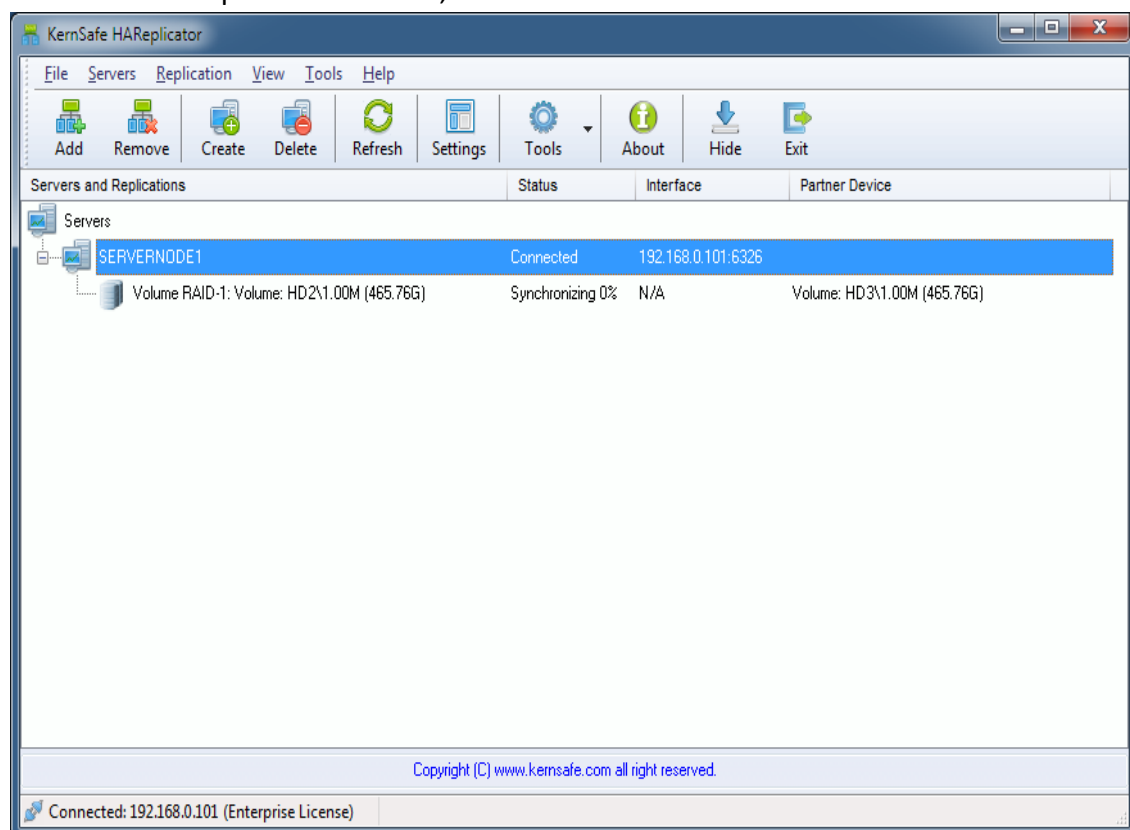


Synchronize the two volumes, click the **Yes** button to do full synchronize data from first volume to second volume, otherwise click **No** button if they are already consistent.

Note, for the following two conditions, we will treat it as consistent , otherwise, you must do full synchronize to the two volumes:

1. Source storage is a completely empty hard disk (even not initialized in windows disk management console).
2. The source storage and target storage was synchronized before, they are consistent already.

After Volume Replication created, the main interface will be shown as this:



If you want to use the backups in the second volume, launch the disk manager, operate the disk in which the volume is located from offline to online.

Contact

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Marketing: marketing@kernsafe.com

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Product Page: <http://www.kernsafe.com/product/hareplicator.aspx>

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