

iStorage Server: Remote Tape Backup

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KernSafe Technologies, Inc.

www.kernsafe.com

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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 suitable for any size of business.

This article will demonstrate how to remotely backup, restore and view data on a tape device using KernSafe iStorage Server. Main reason for using tape device for backup is when you will have for example 3 servers and you would like to backup data from them, before you would need to buy special hardware for each server to perform a backup. That would be very expensive and inconvenient to use. But thanks to the iStorage Server you can use any machine that is able to run a Windows operating system and create a backup on to tape device. Except for that, iStorage Server is also very easy to use.

In this case we will need at two computers - server with installed iStorage Server software and connected tape device as well as client.

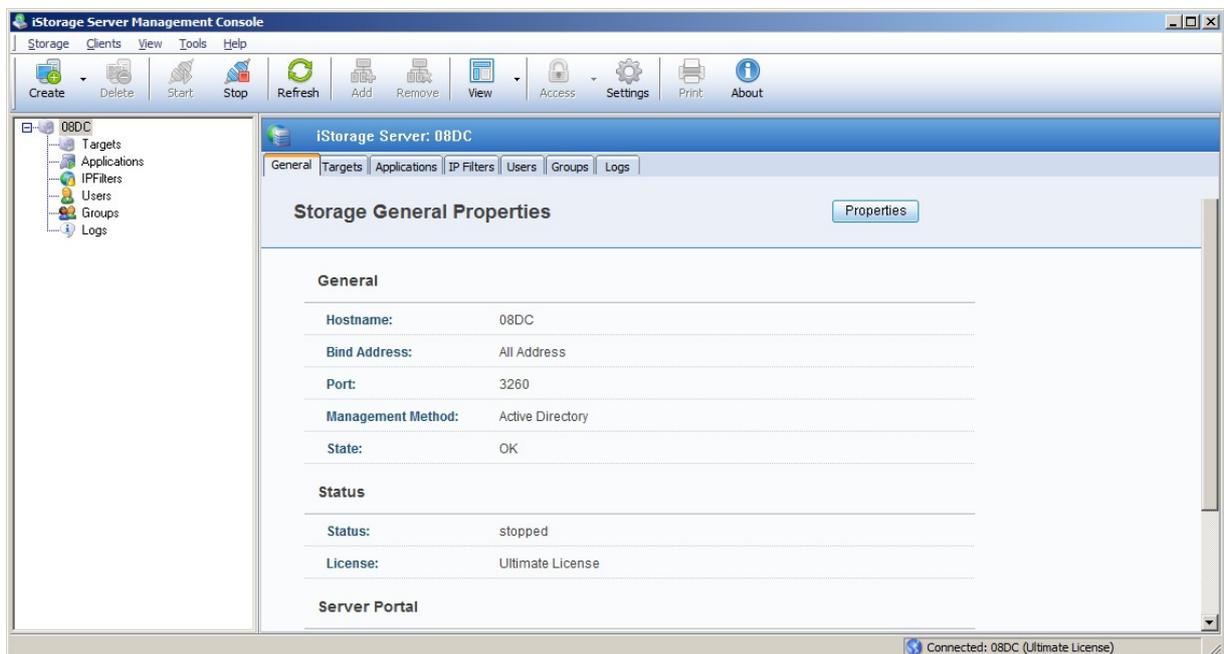
Configuring on iStorage Server

Preparing server for remote tape backup

We will connect to the Generic SCSI Device which in this case will be a tape device on the server machine running iStorage Server software.

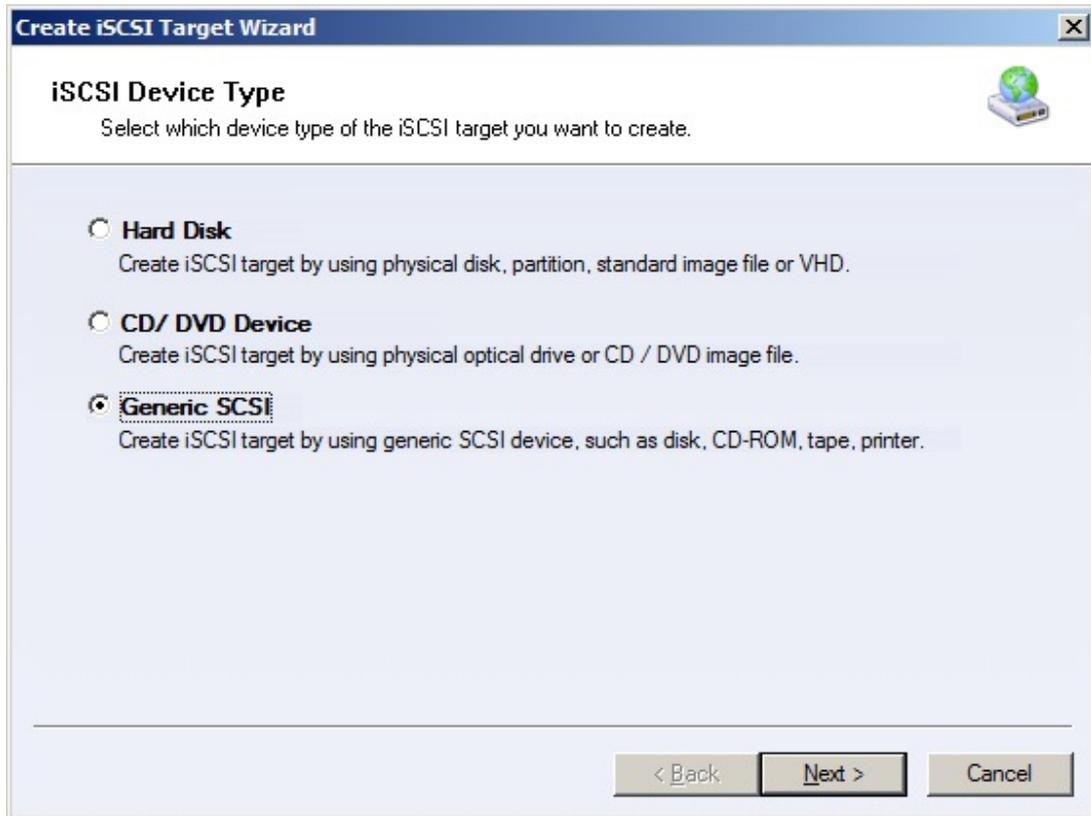
Creating Target

Open **iStorage Server Management Console**.



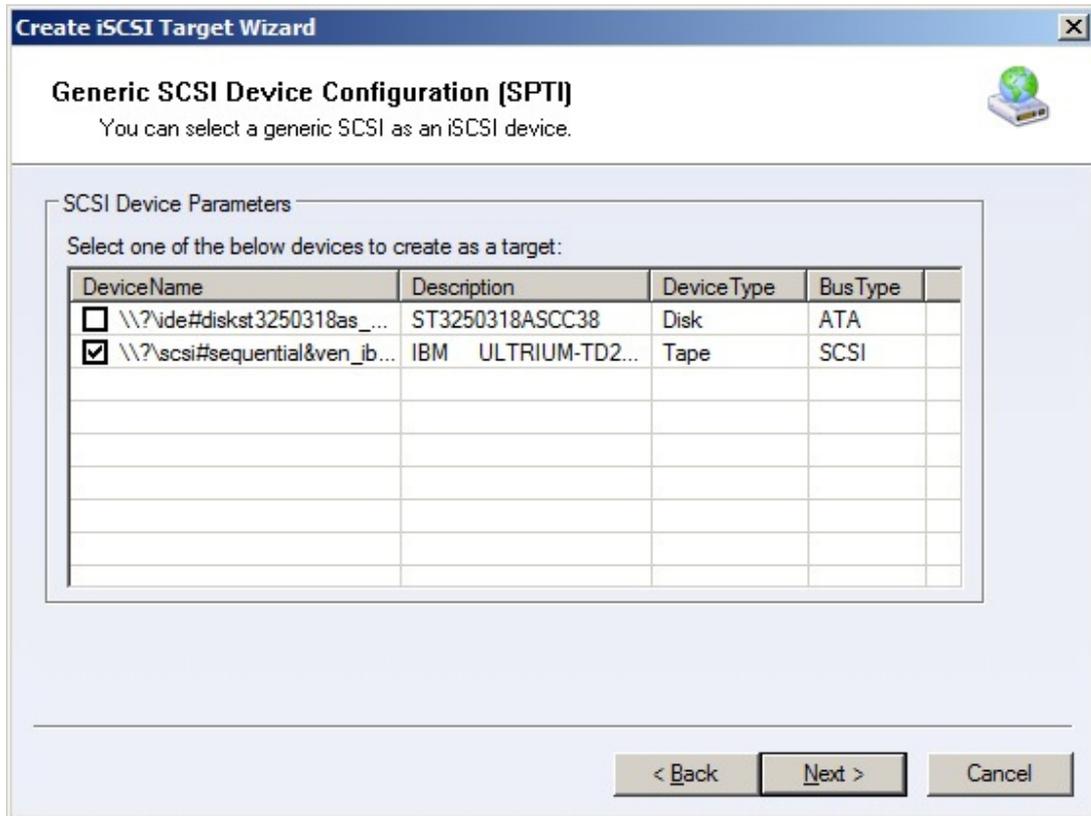
Launch the **iStorage Server management console**, press the **Create** button on the toolbar, the **Create iSCSI Target Wizard** will appear.

Select device type.



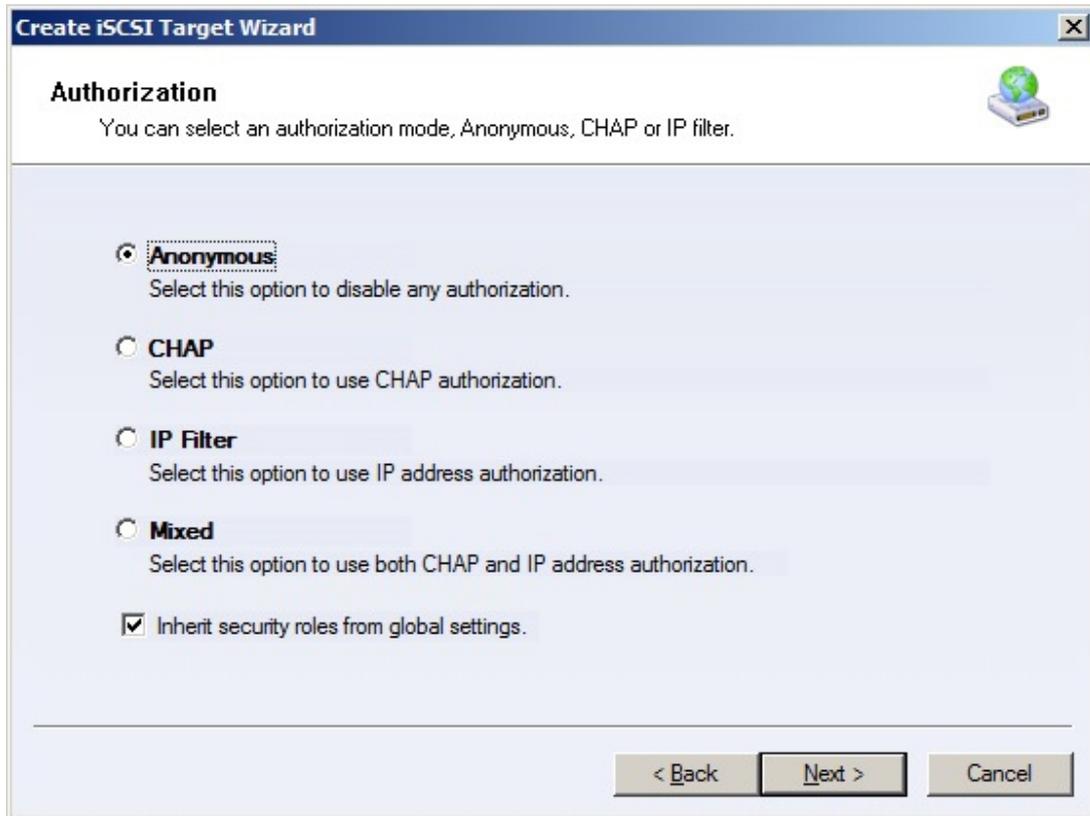
Chose **Generic SCSI**.

Press the **Next** button to continue.



From the list of available devices choose your tape drive.

Press the **Next** button to continue.



Choose the Authentication Mechanism. Decide which authentication mechanisms you would want to use: **Anonymous**, **CHAP**, **IP Filter** or **Mixed** authentication.

1) **Anonymous**

All initiators will get full access permission without any authorization required.

2) **CHAP (Challenge-handshake authentication protocol)**

All initiators need to specify a CHAP user and secret to connect to the target. iStorage Server has a built-in user called "Guest", which is used for initiators without CHAP secret specified.

3) **IP Filters**

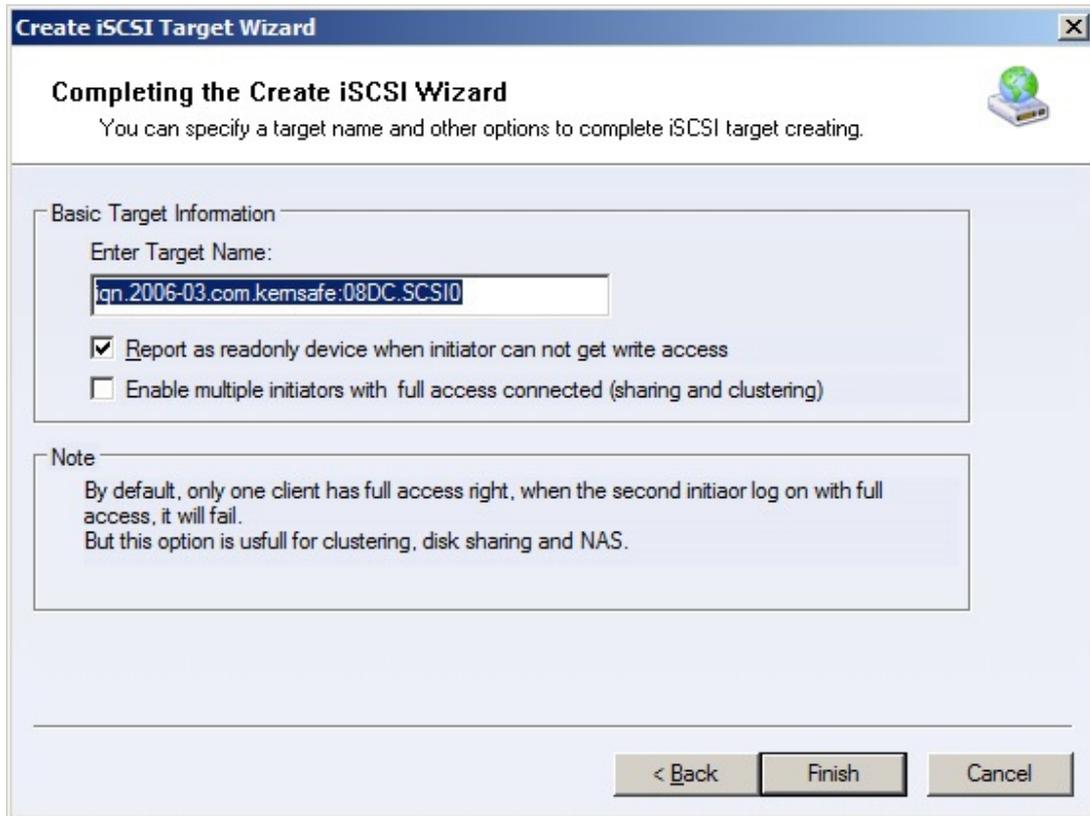
All initiators will be authorized by the incoming IP address defined by IP Filter roles.

4) **Mixed**

Security policy is determined by both CHAP and IP Filters.

If you check **Inherit security roles from global settings**, all client security roles are from global settings, otherwise, each client will have its own permission.

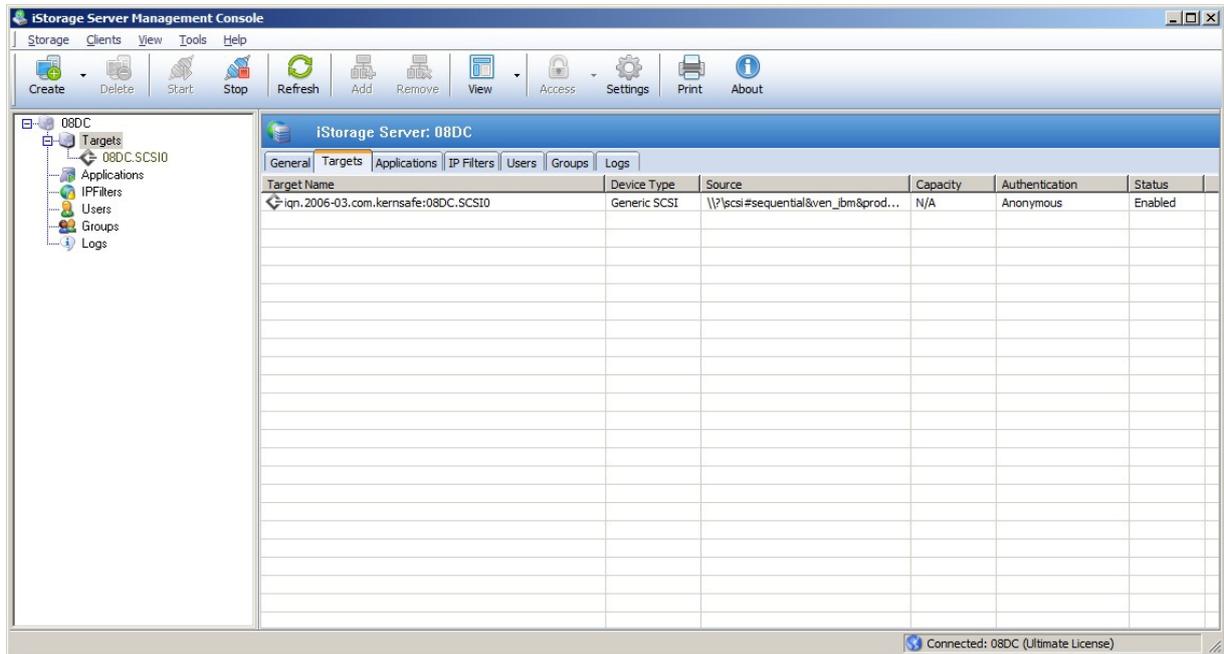
Press the **Next** button to continue.



Enter the name for your target device.

If you check **Report as readonly device when initiator cannot get write access**, the system will give you a report when you load the target without write access.

Press the **Finish** button to continue.



After successfully creating an iSCSI Target, you should be able to see it in your **Targets** tab in **iStorage Server Management Console**.

Logging on to the target

NOTE: Before logging on to the target remote tape, please set up your registry accordingly:

You will need to limit the packet size to 65536 at the initiator side, please follow these steps:

Open registry editor, open the key:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Class\{4D36E97B-E325-11CE-BFC1-08002BE10318}\0000\Parameters
```

please note that the 0000 key may be 0001, 0002... it depends on your system's SCSI adapters.

Find a key (0000 or 0001...) associated with Microsoft iSCSI initiator (you can view the DriverDesc key value should be Microsoft iSCSI Initiator).

Modify the following key values:

FirstBurstLength: 65536 (Decimal)

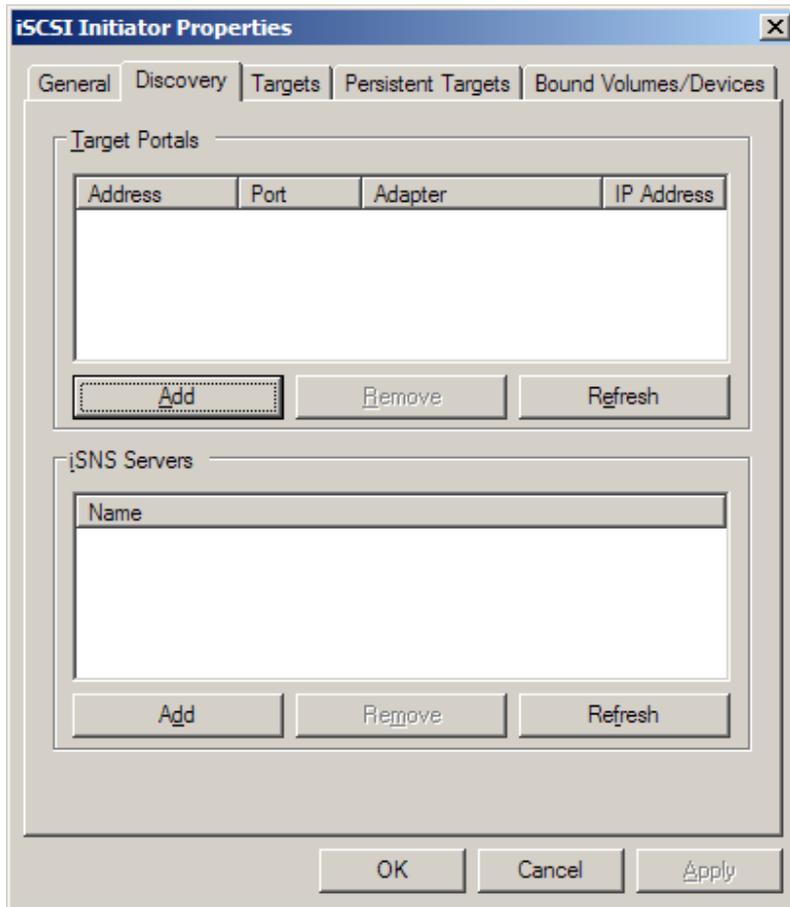
MaxBurstLength: 65536 (Decimal)

MaxRecvDataSegmentLength: 65536 (Decimal)

MaxTransferLength: 65536 (Decimal)

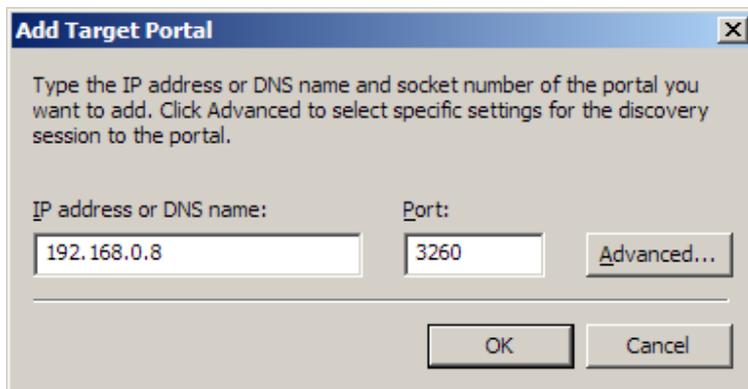
After doing the above, please close the registry editor and restart computer.

Open initiator, in this case I will use **Microsoft Initiator**.



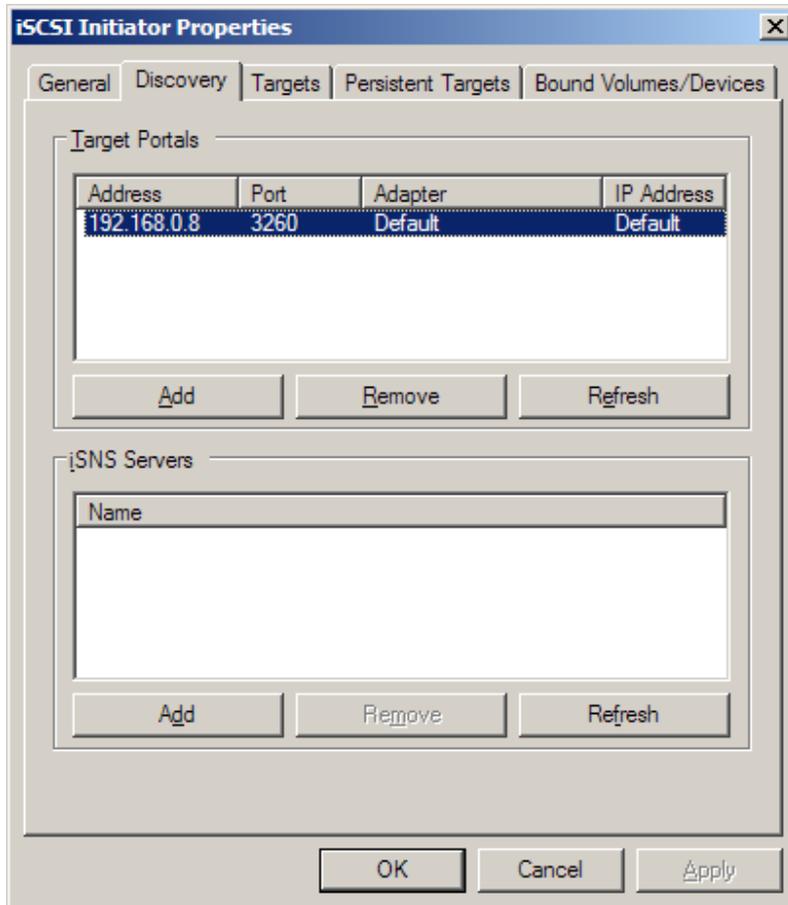
Select the **Discovery** tab page.

Press the **Add** button, the **Add Target Portal** dialog will appear.

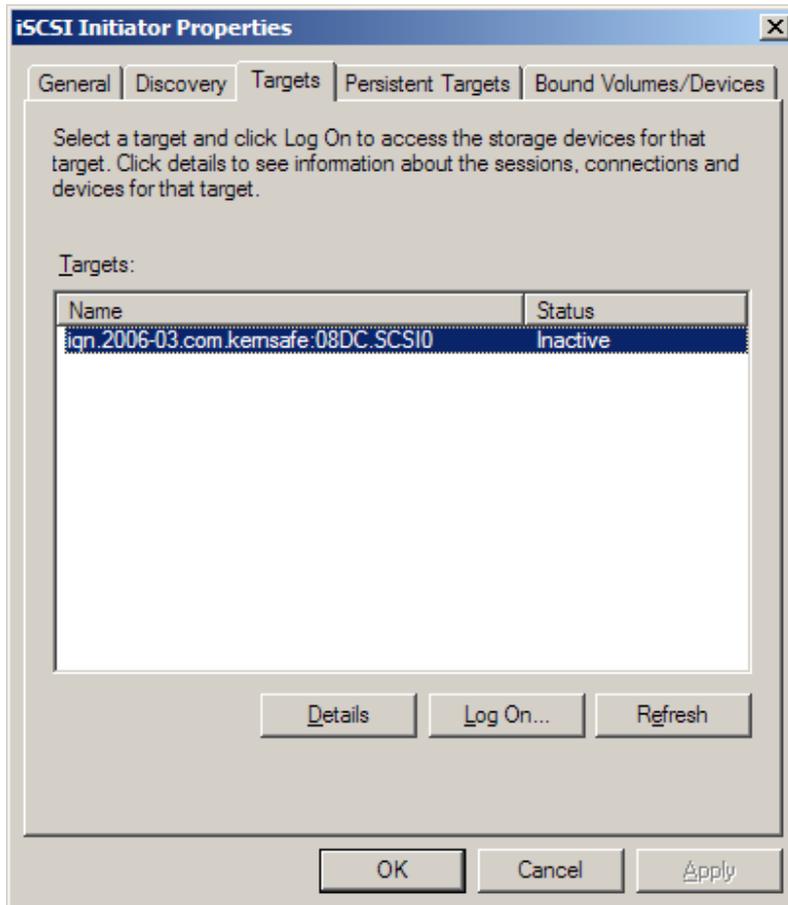


Type the **IP address** and **Port** of your server. Default port is 3260.

Press the **OK** button to continue.

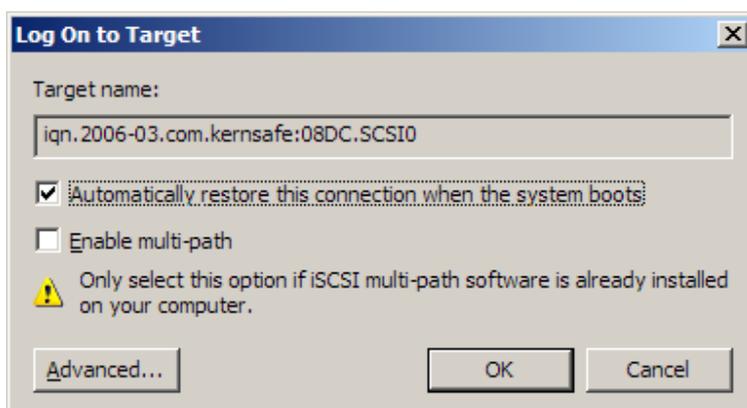


Change to **Targets** tab.



Select the target in the **Targets** list, and then press the **Log On...** button.

Then the **Log On to Target** dialog will appear.

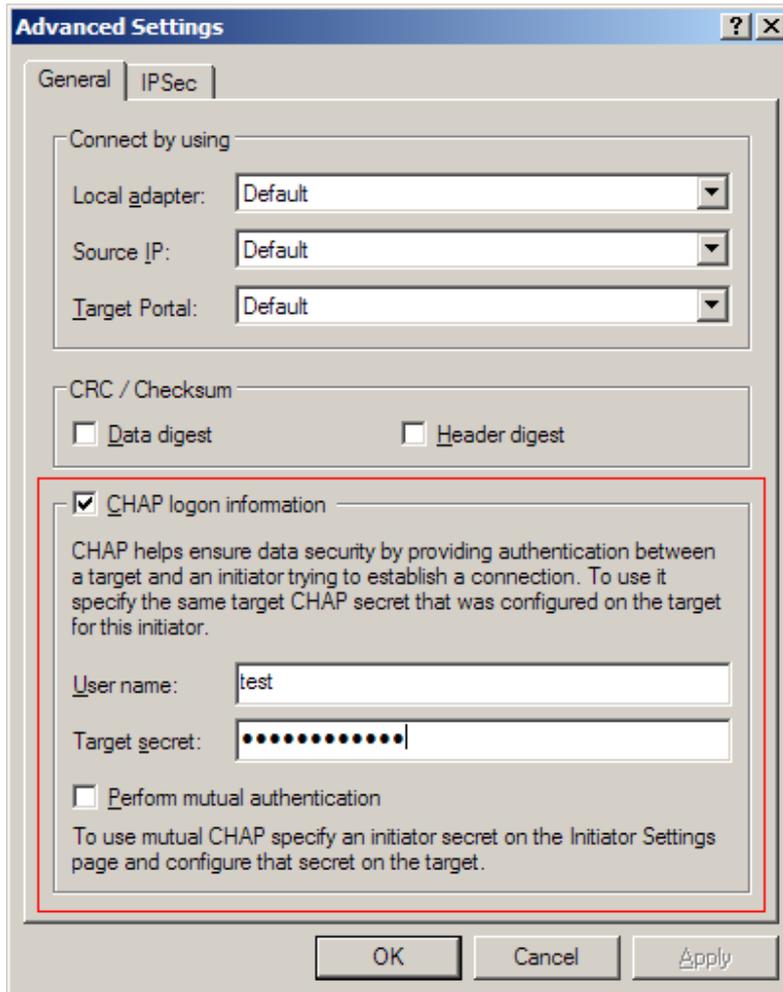


If your iSCSI target is using **IP filter** or **Anonymous** authorization, just press the **OK** button to continue.

Check **Automatically restore this connection when the system boots**, to log-on this target automatically after system boots.

Press the **OK** button to continue.

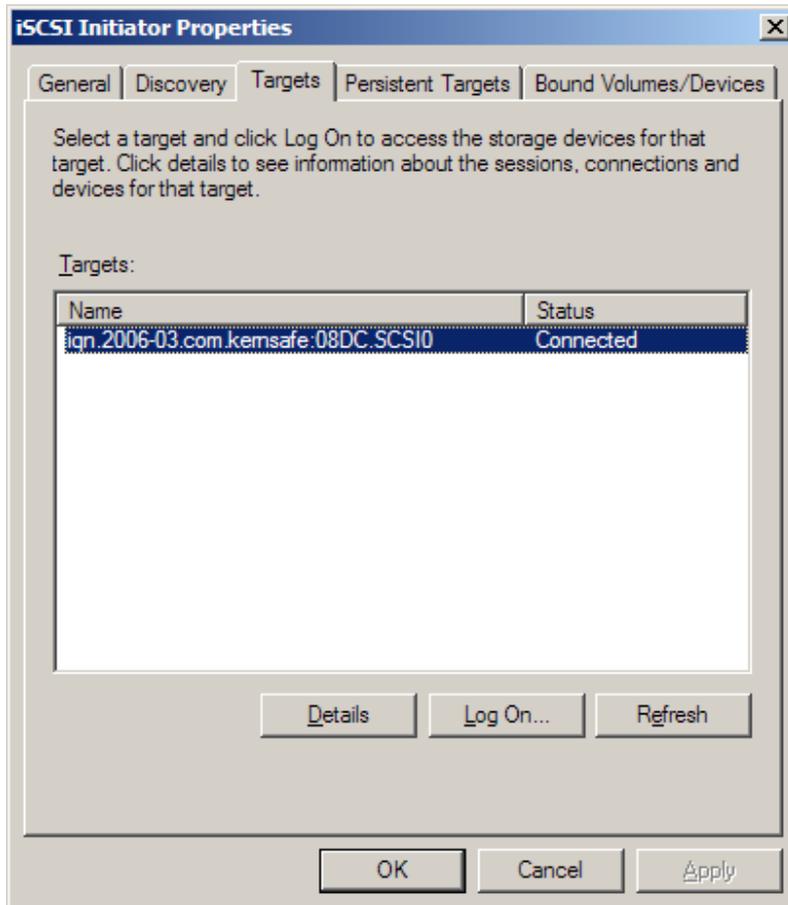
If your iSCSI target is using **CHAP user authorization**, press the **Advanced...** button, the **Advanced Settings** dialog will appear.



The image shows a screenshot of the 'Advanced Settings' dialog box. The 'IPSec' tab is selected. Under the 'Connect by using' section, 'Local adapter', 'Source IP', and 'Target Portal' are all set to 'Default'. In the 'CRC / Checksum' section, both 'Data digest' and 'Header digest' are unchecked. The 'CHAP logon information' section is highlighted with a red border and contains a checked checkbox. Below this, there is explanatory text: 'CHAP helps ensure data security by providing authentication between a target and an initiator trying to establish a connection. To use it specify the same target CHAP secret that was configured on the target for this initiator.' The 'User name' field contains 'test' and the 'Target secret' field contains ten dots. At the bottom, there are 'OK', 'Cancel', and 'Apply' buttons.

Select **CHAP logon information** and type **User name** and **Target secret**.

Press the **OK** button to continue.



When the connection is successfully created, you will see the connection in the **Status** column.

Now, you may now use the iSCSI Tape Device.

Remote Tape Backup

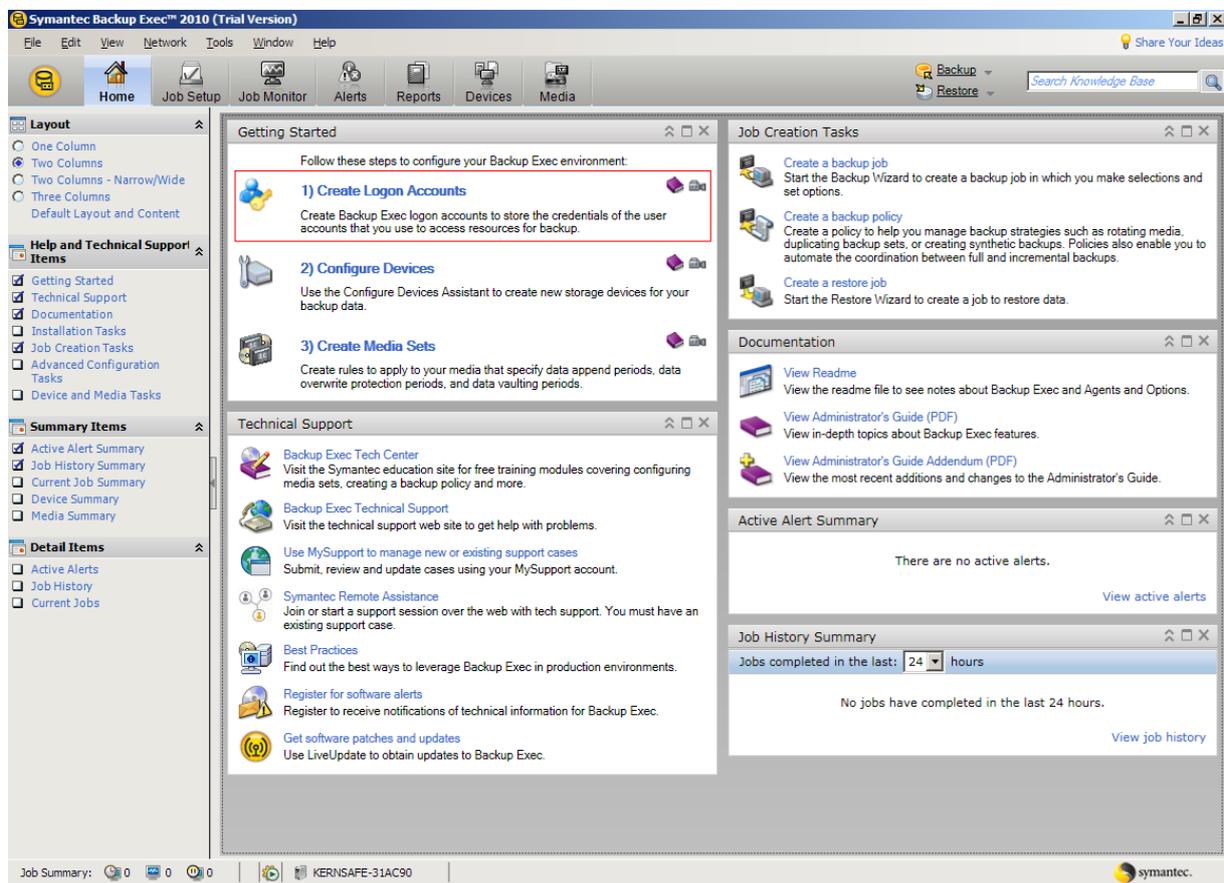
Using Symantec Backup Exec

If you want to backup data on to a tape backup device on the remote server using Symantec Backup Exec, please do as follows. You can download trial version of software by following this link

<http://www.symantec.com/business/products/family.jsp?familyid=backupexec>

Creating Logon Accounts

Open **Backup Exec 2010**.

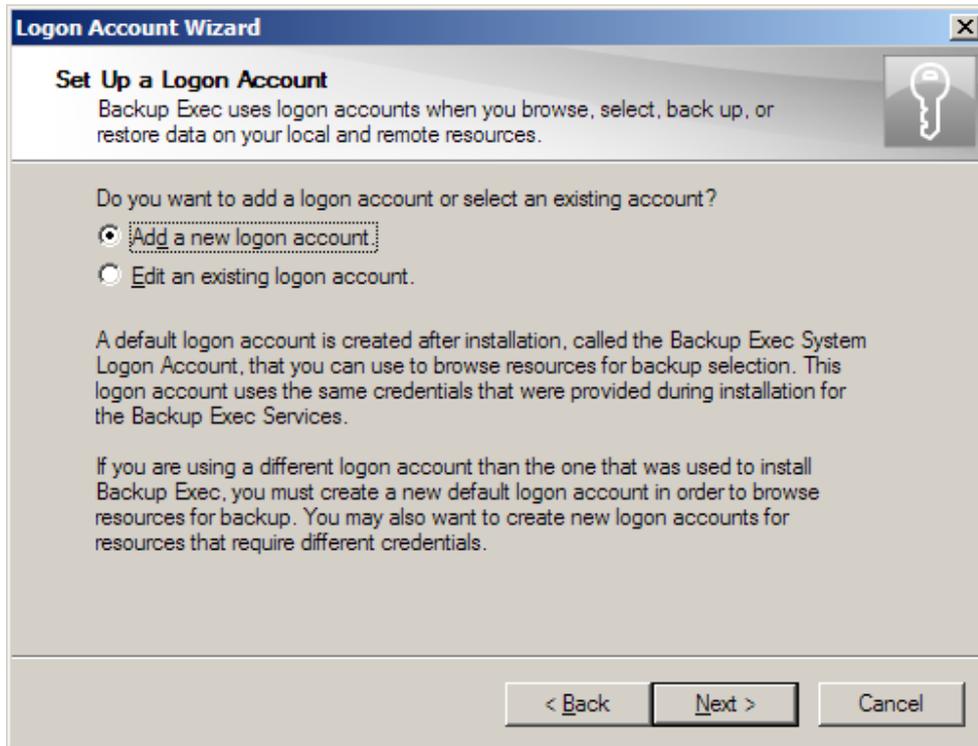


Click on the **Create Logon Accounts**.

A **Logon Account Wizard** will appear.



Press the **Next** button to continue.



Choose the **Add a new logon account** option.

Press the **Next** button to continue.

Logon Account Wizard [X]

Enter Logon Account Credentials
Enter your credentials for the logon account.

Enter the fully qualified user name that allows you to access the resources that will require this logon account, for example, DOMAIN\Administrator.

User name:

Change password:

Password:

Confirm password:

< Back Next > Cancel

Enter **User name** and **Password**.

Press the **Next** button to continue.

Logon Account Wizard

Logon Account Name
The account name should help you identify the account if the credentials change.

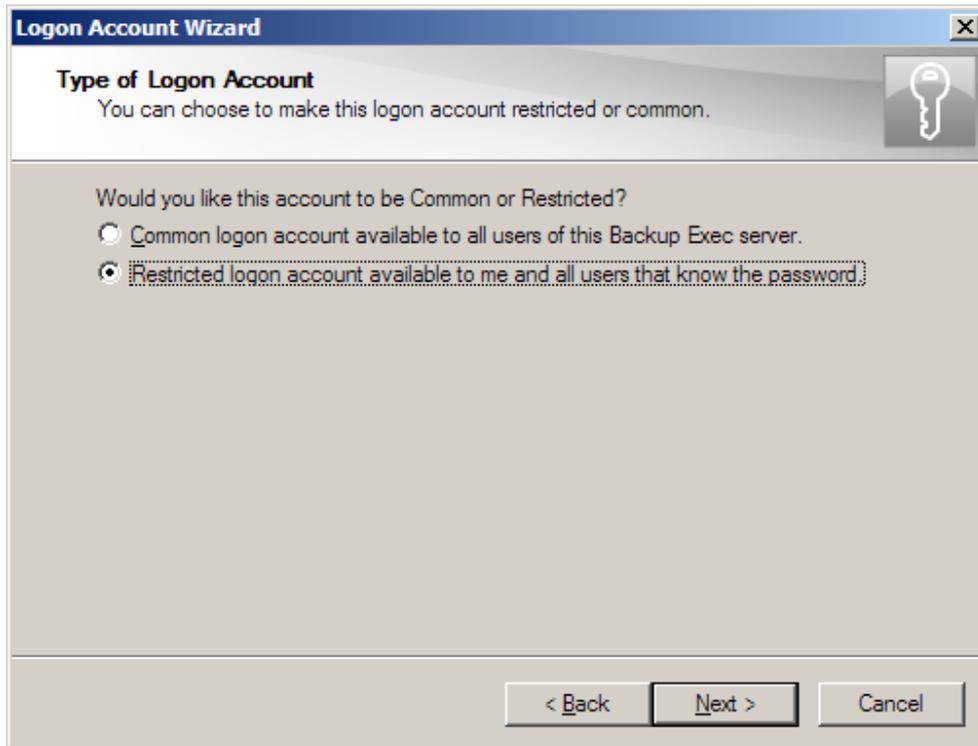
Enter a meaningful account name for this logon account.

Administrator Account

< Back Next > Cancel

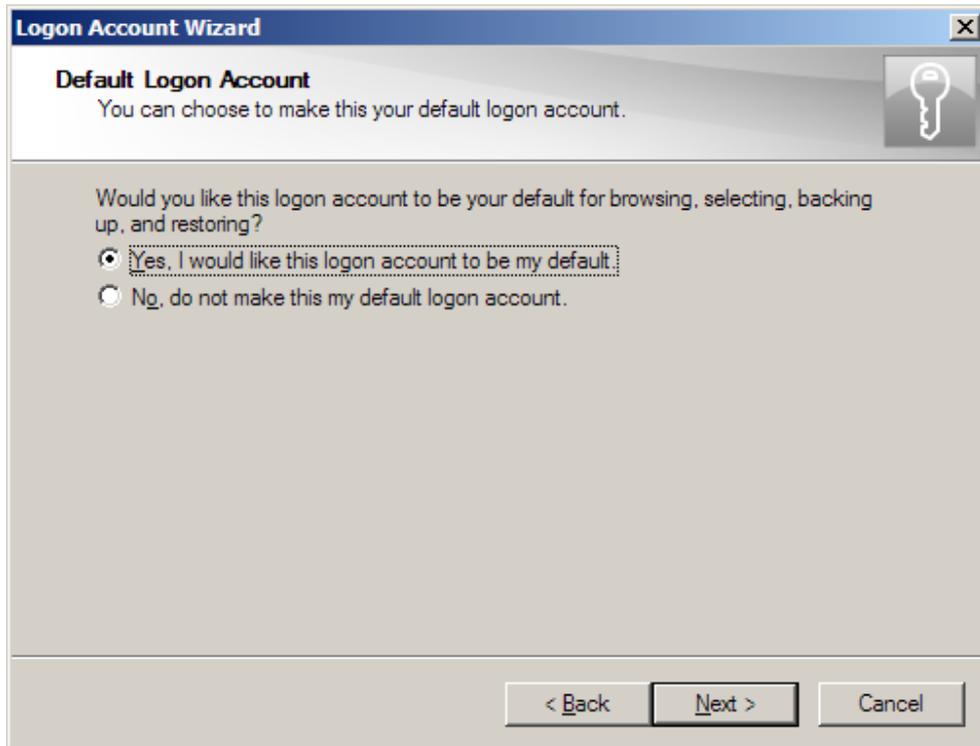
Type an accurate account name for this logon account.

Press the **Next** button to continue.



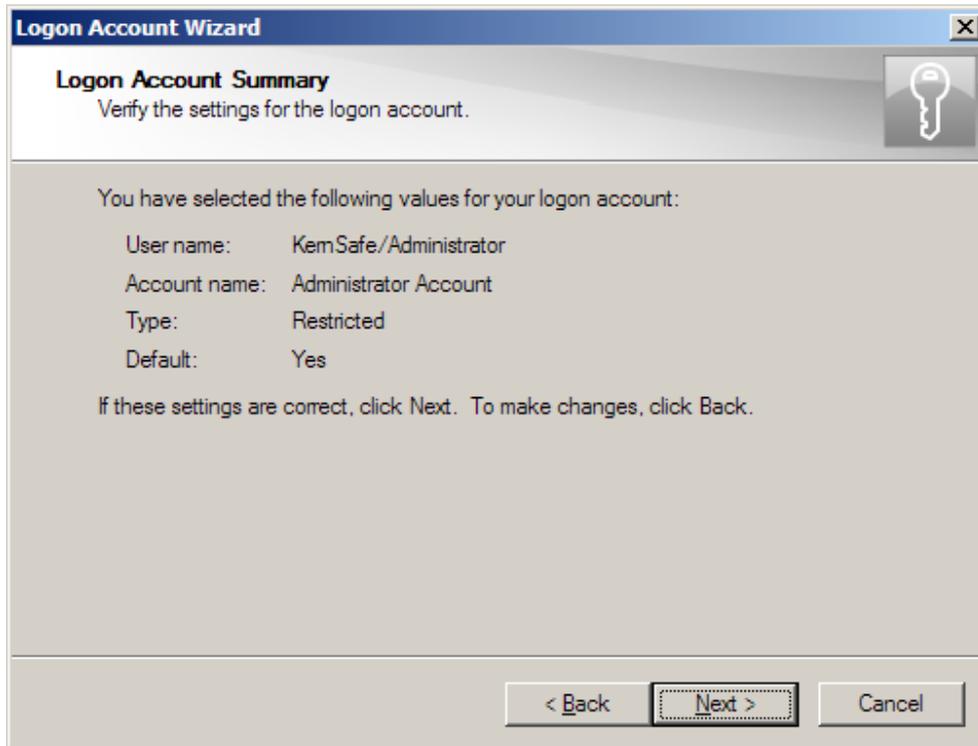
Choose either your account will be **Common** or **Restricted**.

Press the **Next** button to continue.



Choose either your account will be default or not.

Press the **Next** button to continue.



Check if all of the settings are correct, press the **Back** button if any change is required.

Press the **Next** button to continue.

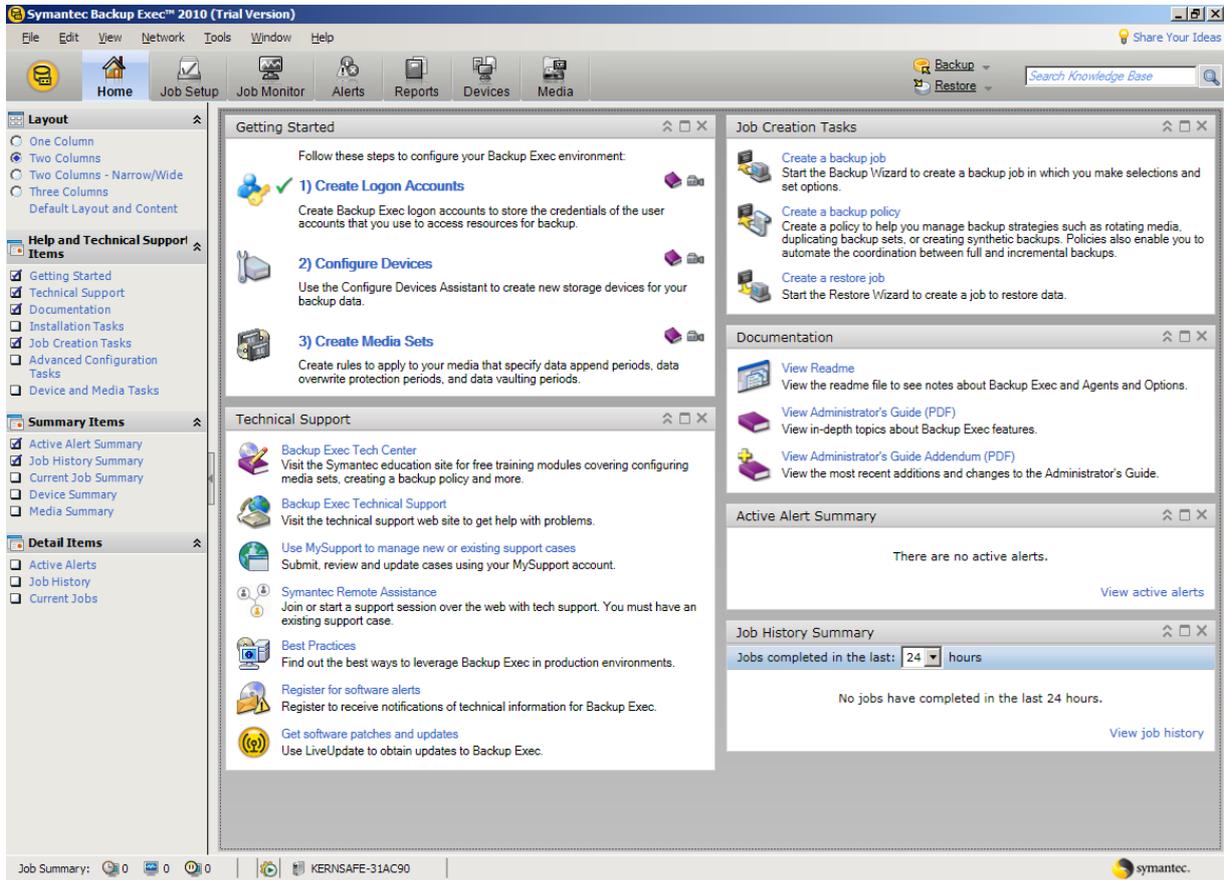


If you will check **Add or edit another logon account after clicking Finish** you will be able to add another account after completing wizard.

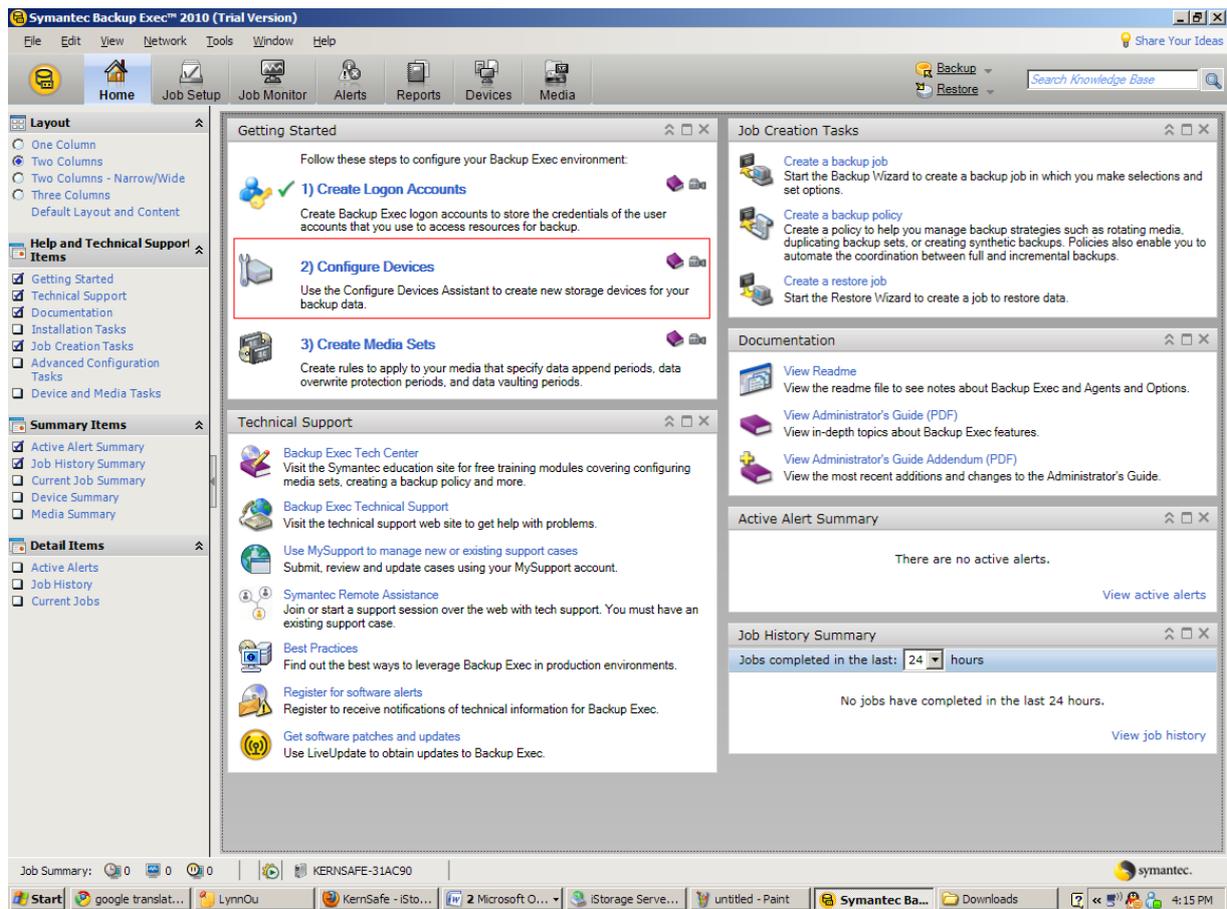
Press the **Finish** button to continue.

Configure Devices

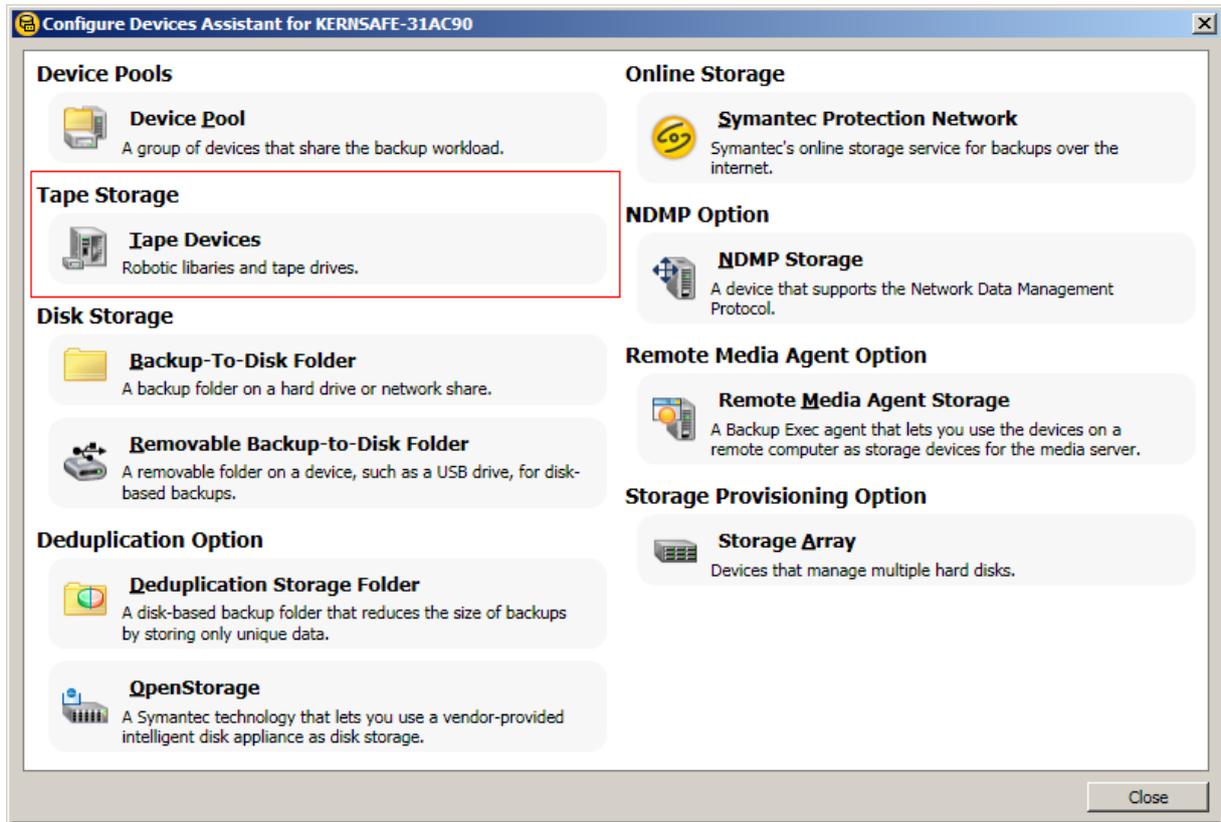
After wizard will be completed, you will return to the main view of Backup Exec 2010.



Click on the **Configure Devices**.

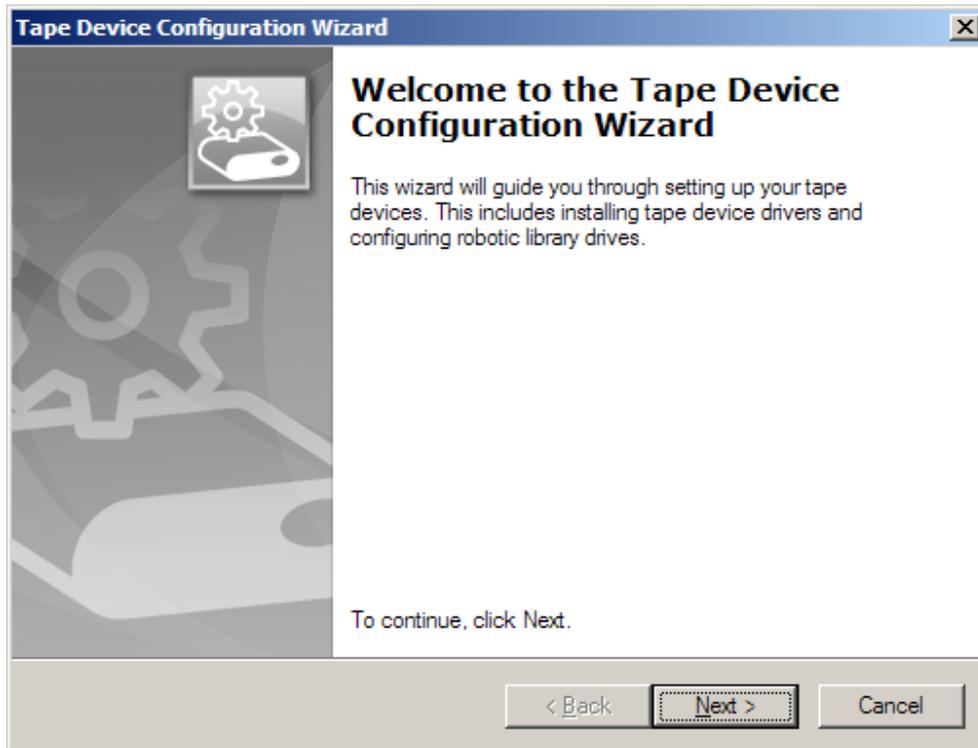


A Configure Devices Assistant will appear.

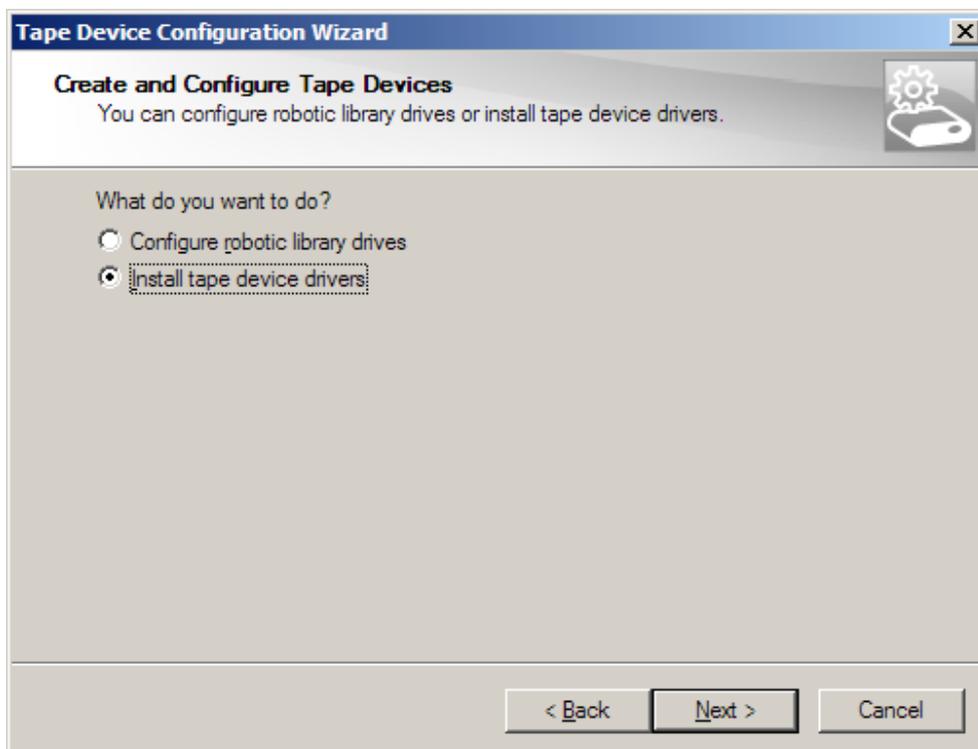


Chose **Tape Devices**.

A **Tape Device Configuration Wizard** will appear.

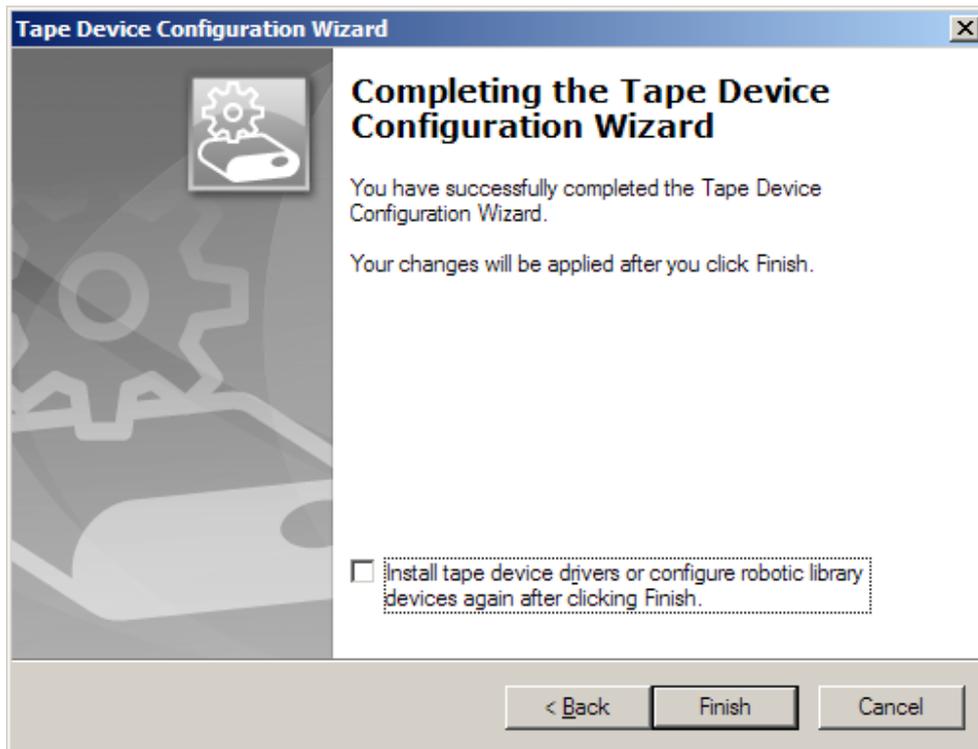


Press the **Next** button to continue.



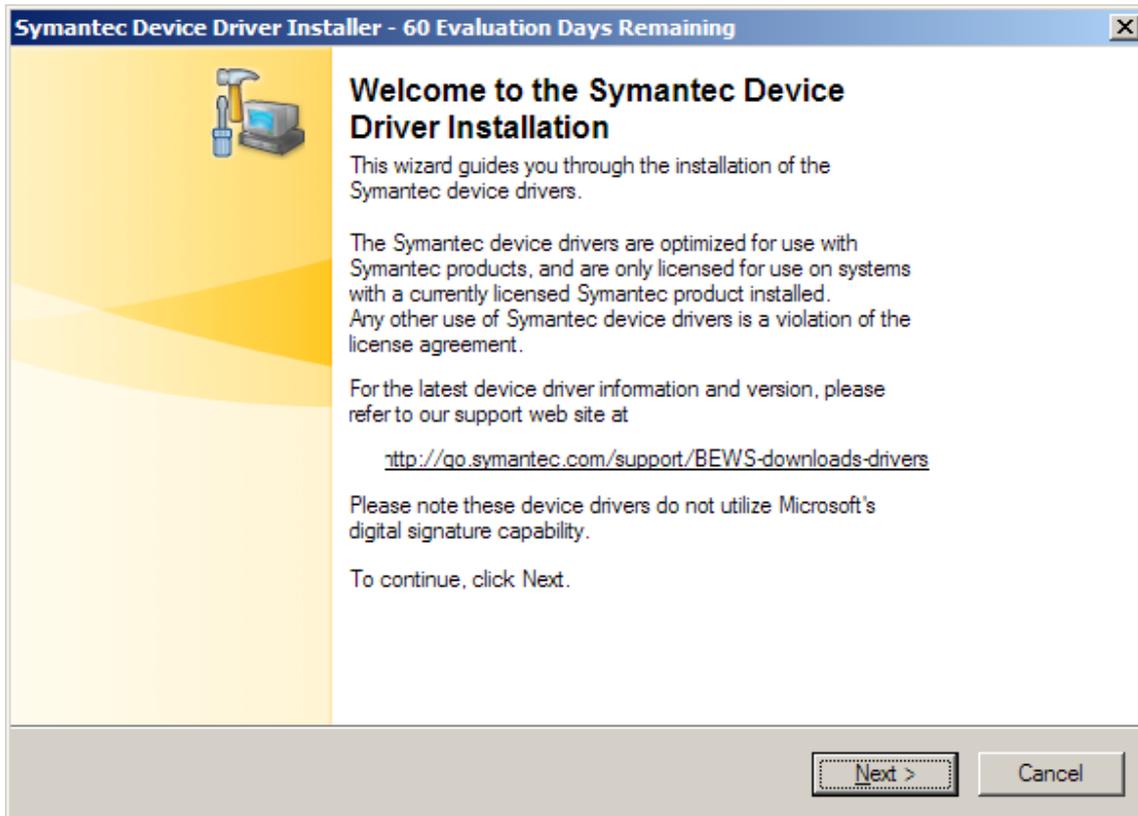
Chose **Install tape device drivers**.

Press the **Next** button to continue.

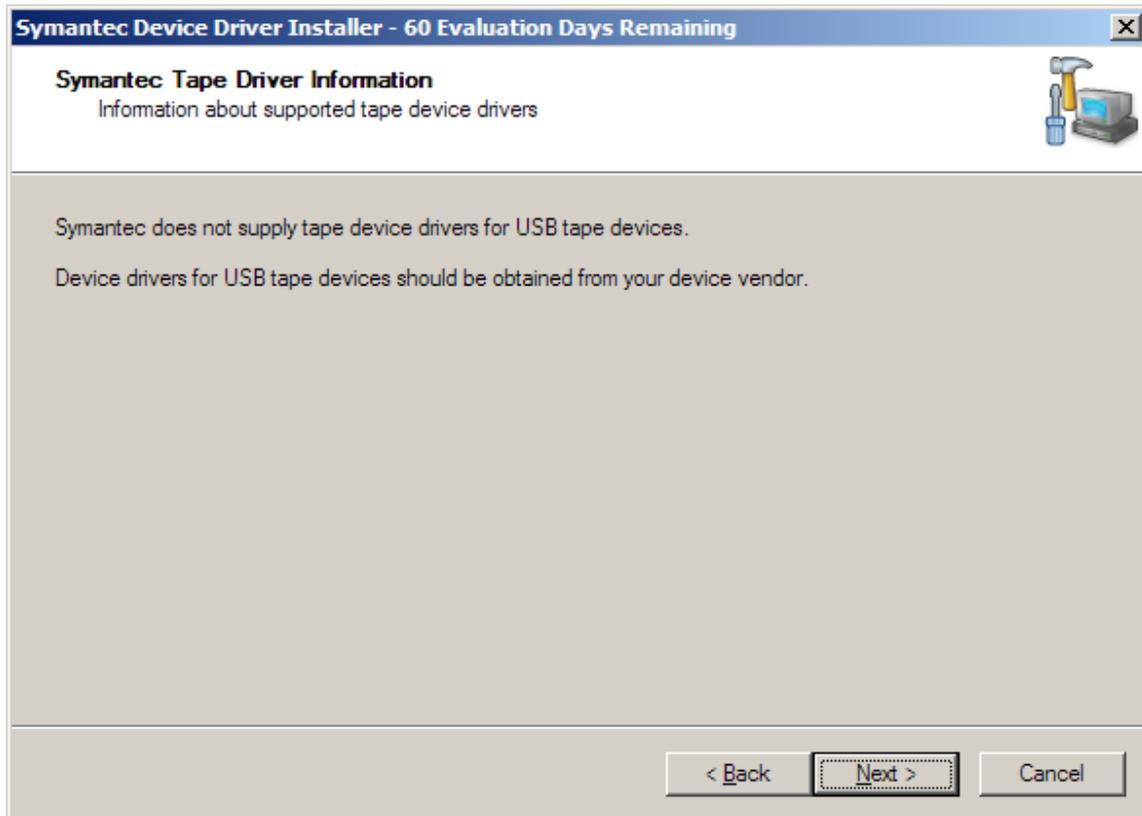


Press the **Finish** button to continue.

In meantime a **Symantec Device Driver Installer** window will appear.

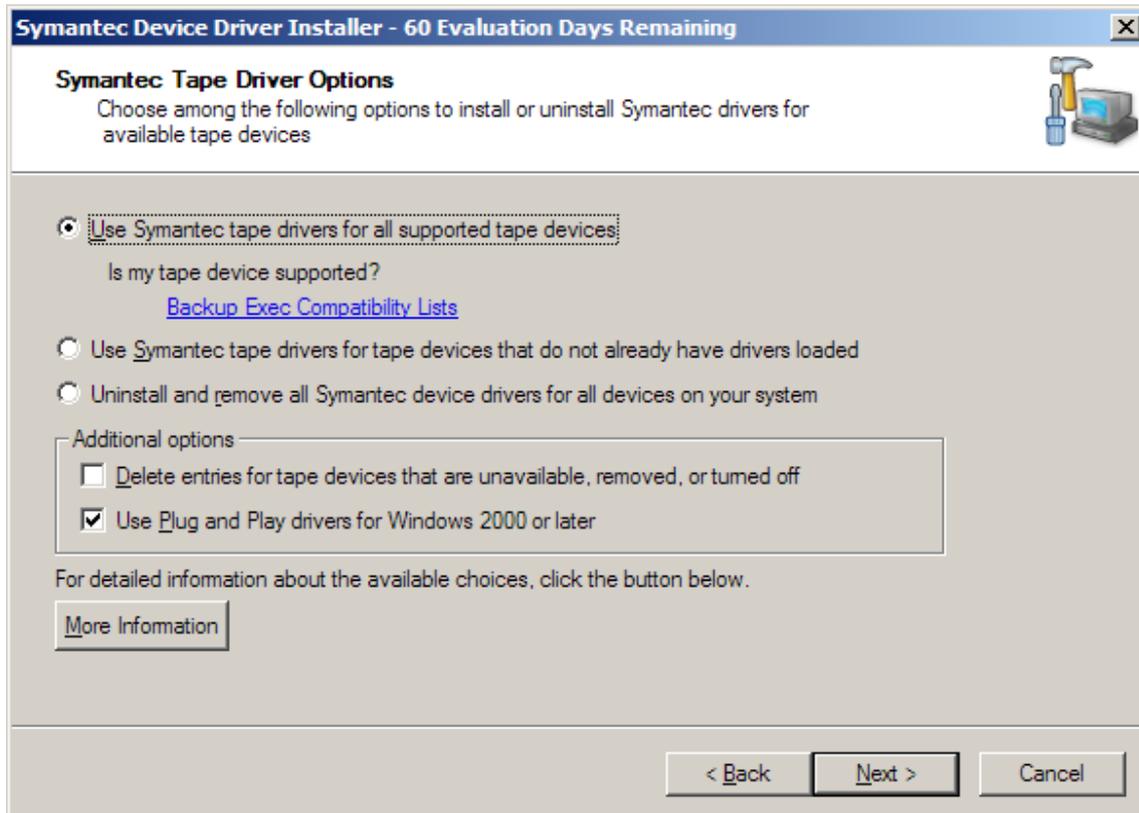


Press the **Next** button to continue.



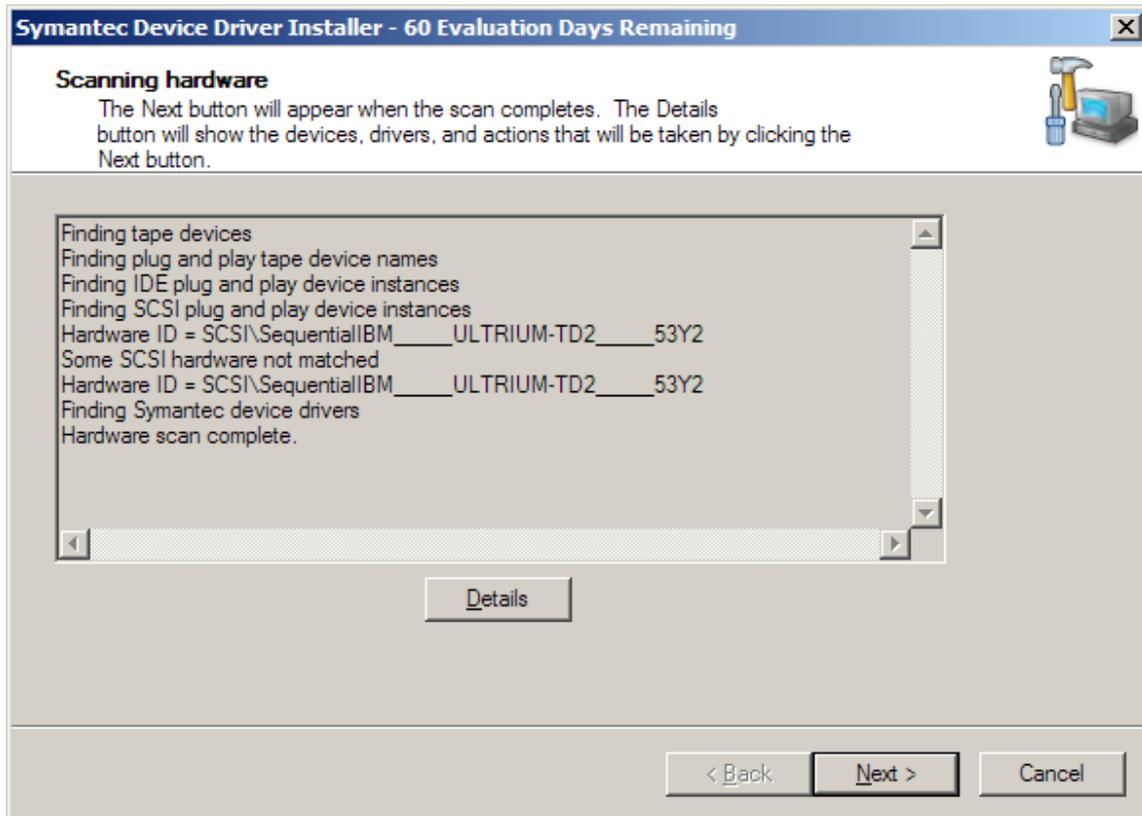
NOTE: Driver doesn't support USB tape devices. If you have one, please refer to your vendor site for support.

Press the **Next** button to continue.



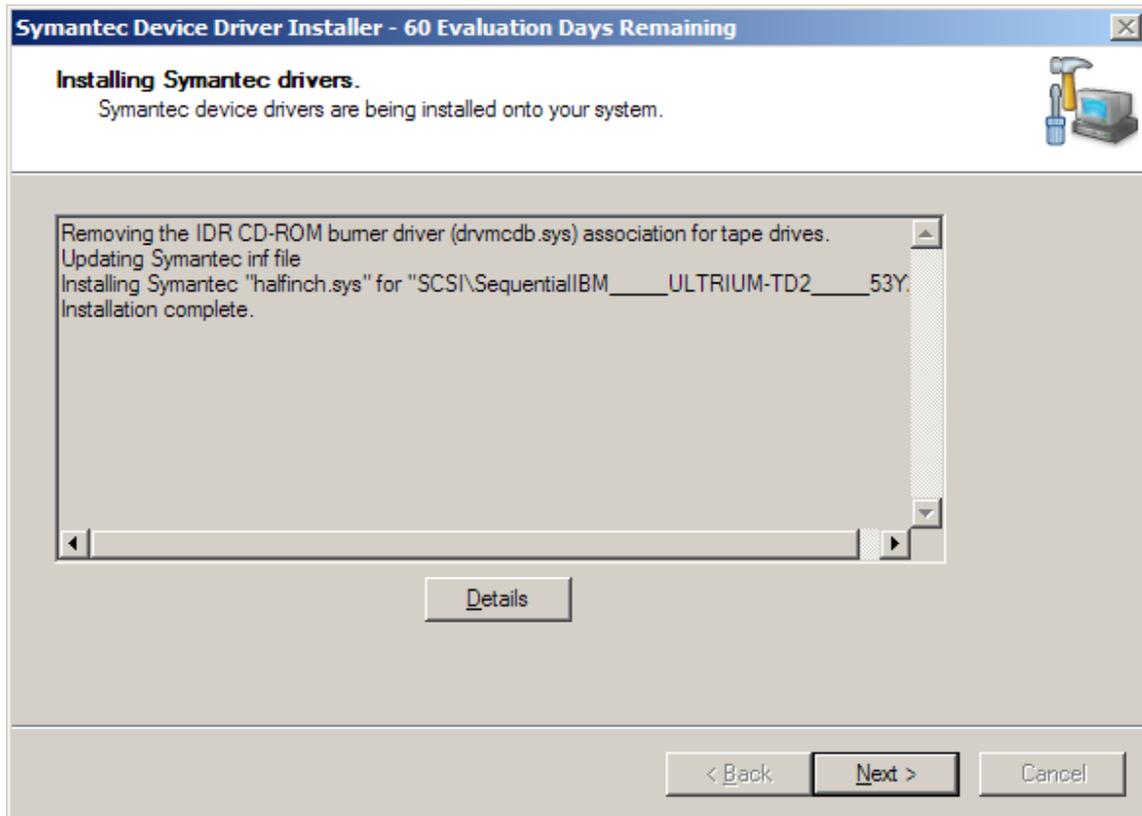
Chose **Use Symantec tape drivers for all supported tape devices**.

Press the **Next** button to continue.



Installer will scan your system for supported tape devices.

Press the **Next** button to continue.



Installer will indicate when installation of the driver is completed.

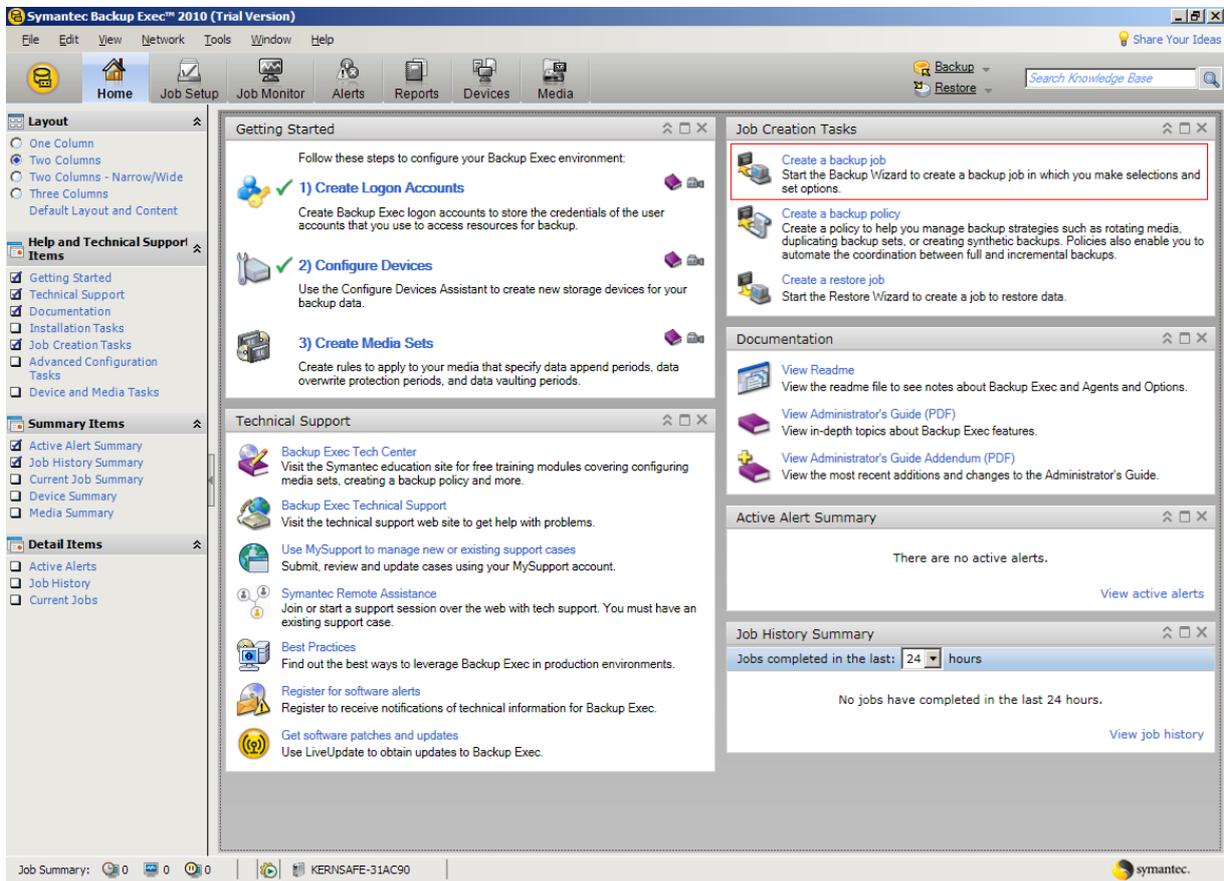
Press the **Next** button to continue.



Installation of the driver for tape device is now completed.

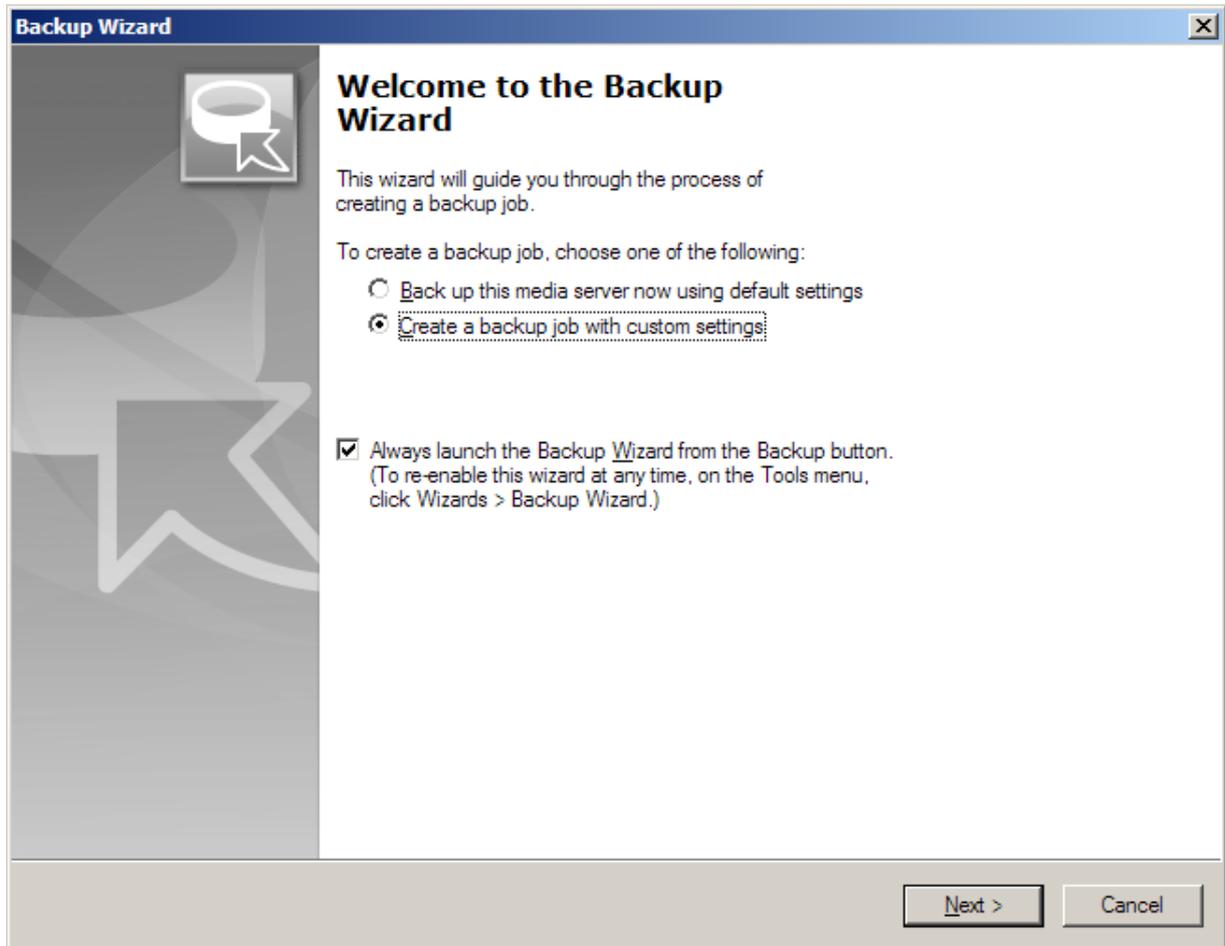
Press the **Finish** button to continue.

Performing Tape Backup

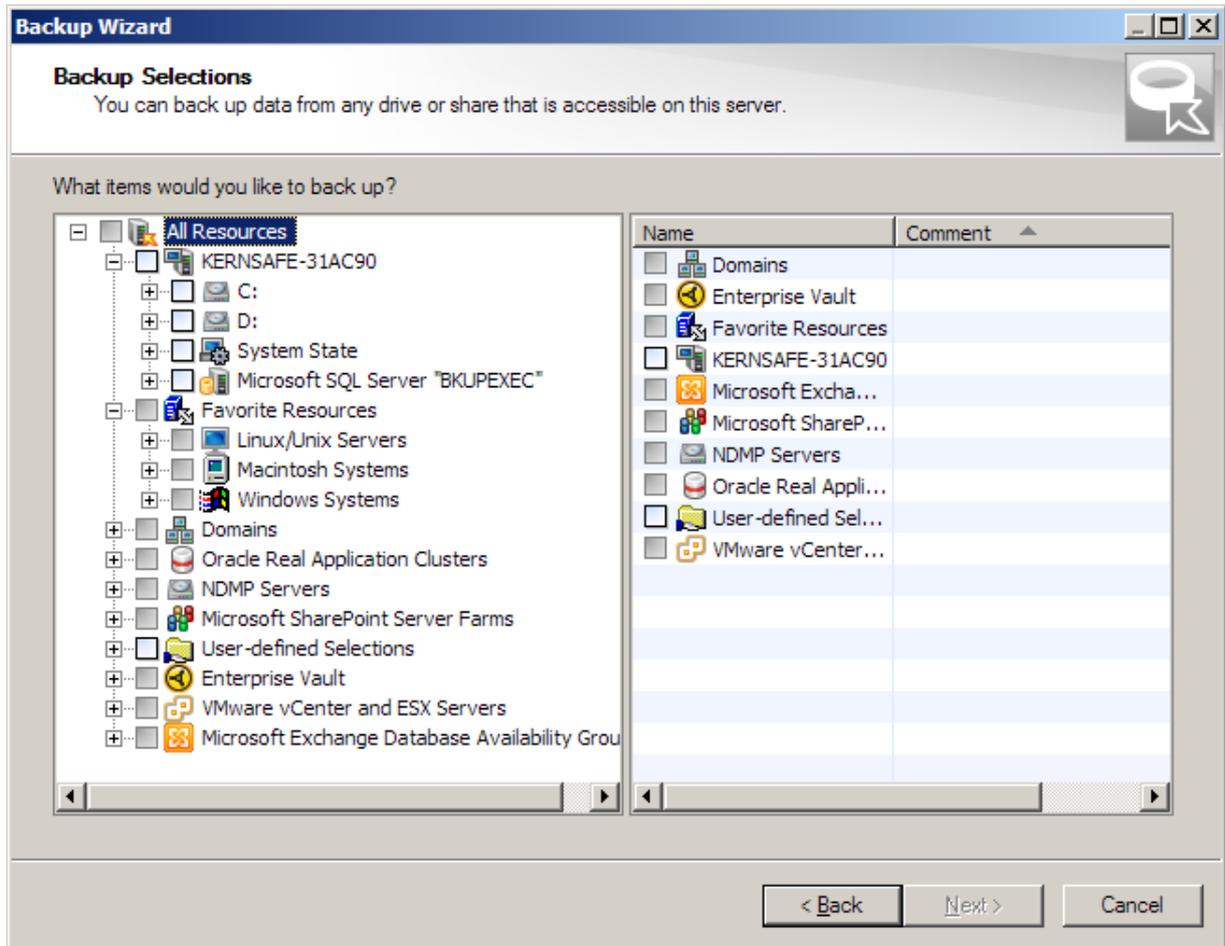


In the main window of Symantec Backup Exec, choose **Create a backup job** option.

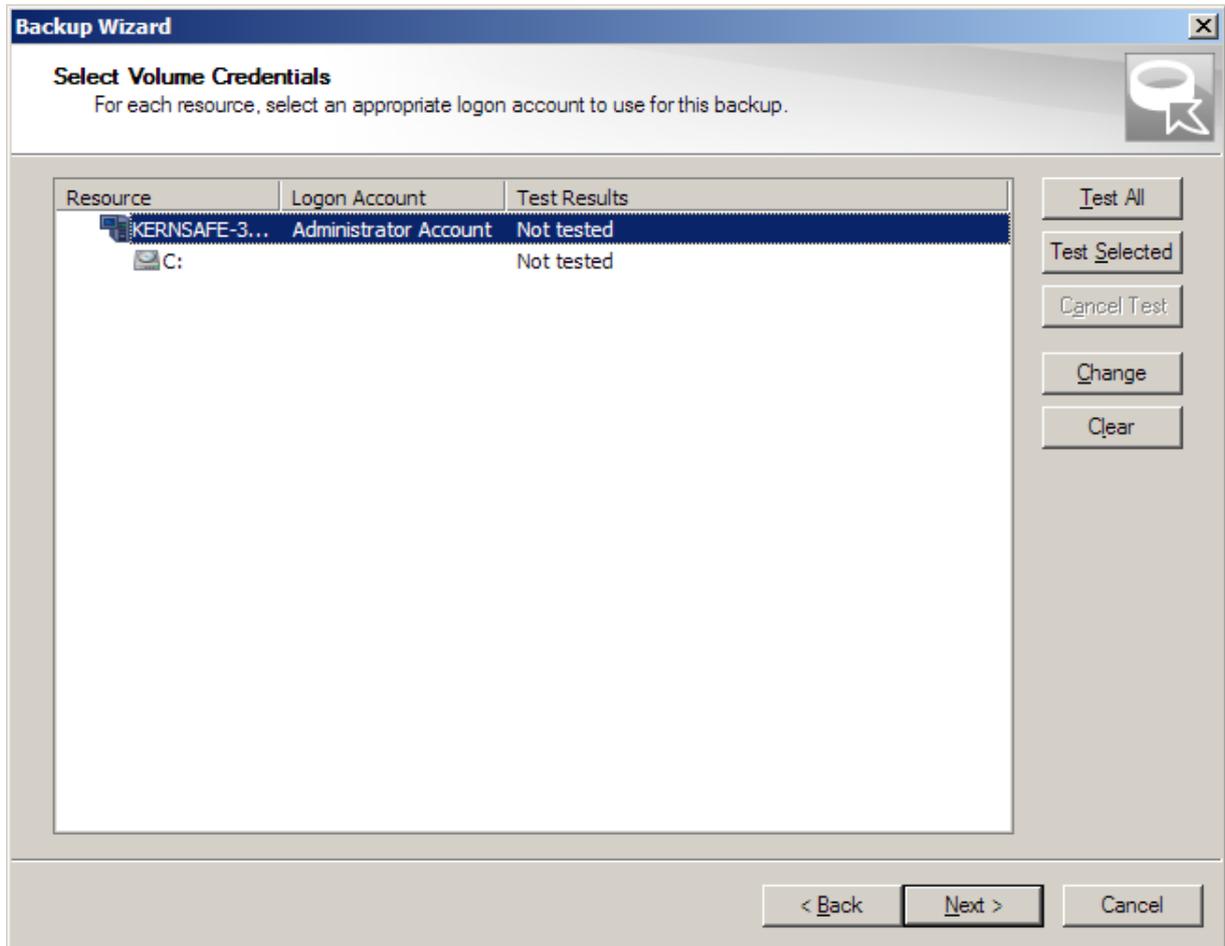
A **Backup Wizard** will appear.



Press the **Next** button to continue.

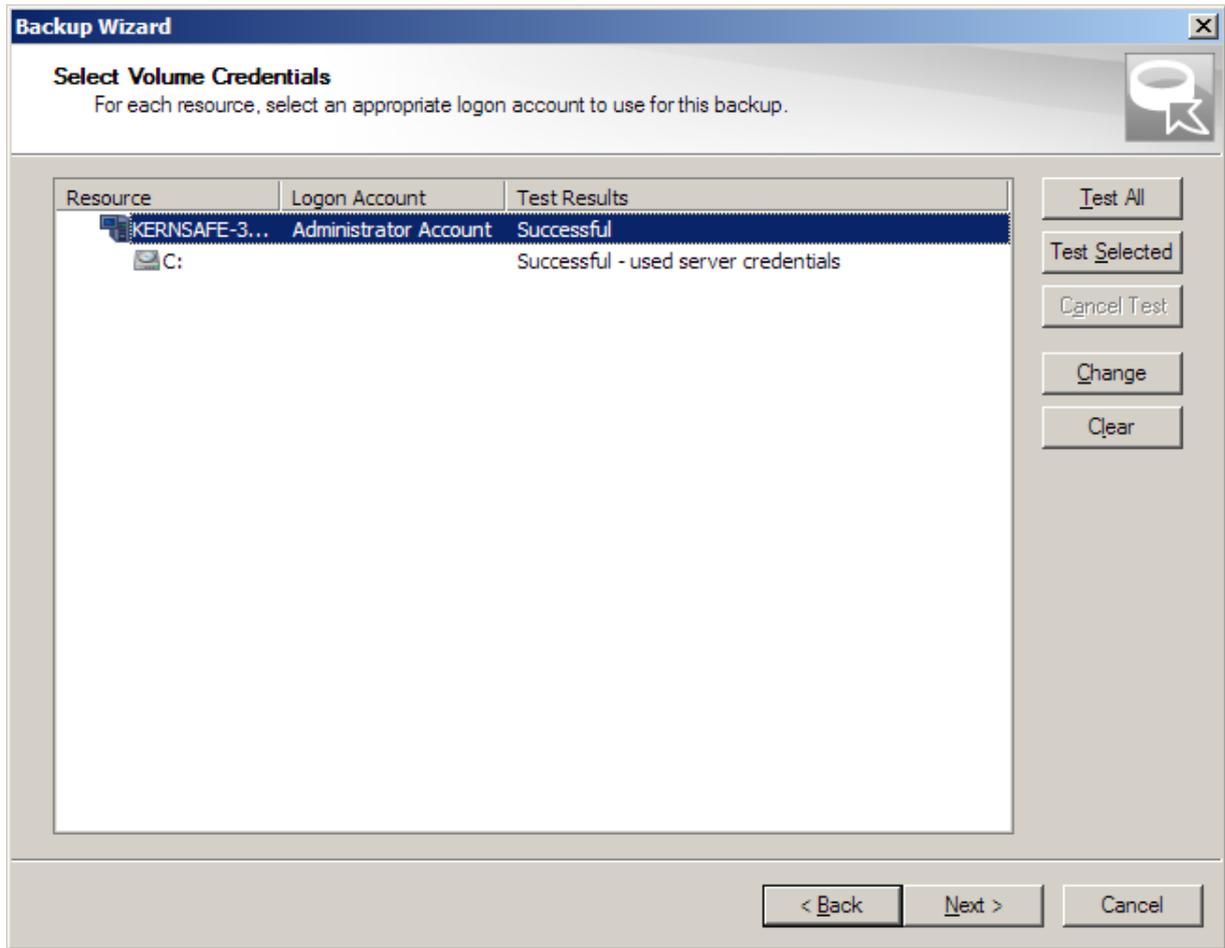


Browse and select data you want to back up on the remote tape device.

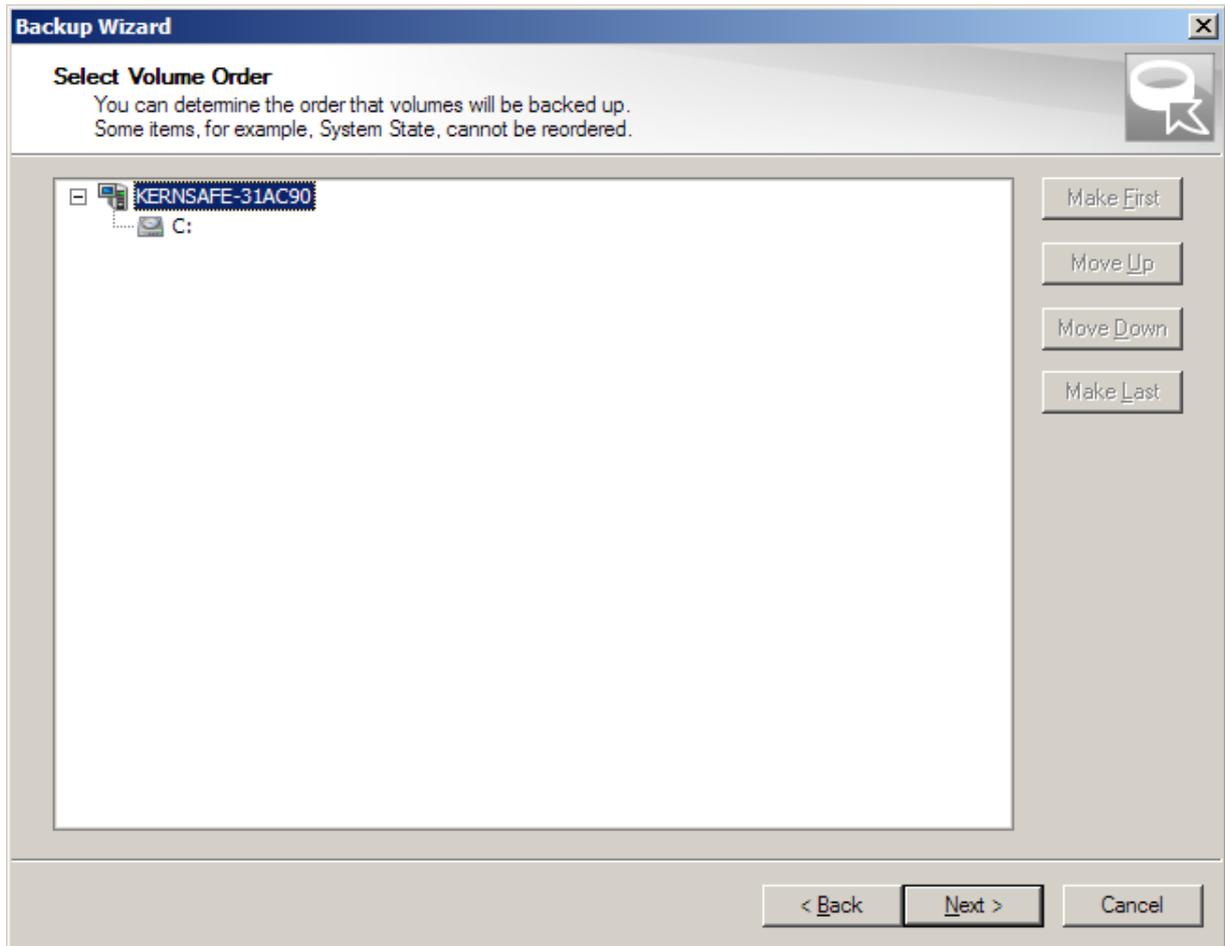


Choose the **Logon Account**.

Press the **Test All** button to test all of the resources.



Press the **Next** button to continue.



Choose the order in which the volumes will be backed up.

Press the **Next** button to continue.

Backup Wizard [X]

Backup Names
You should change the job and set names to meaningfully describe this backup.

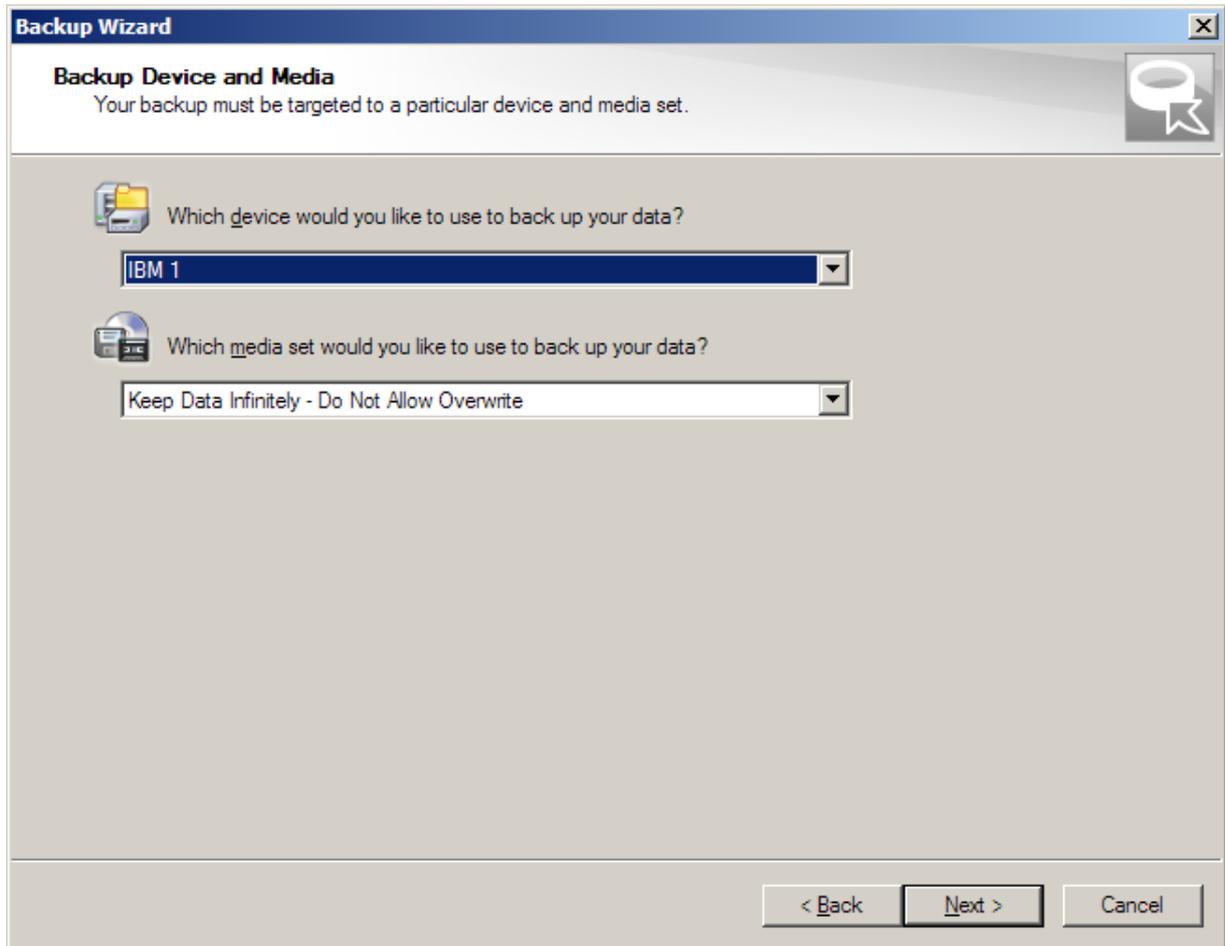
What would you like to call this backup job?

What would you like to call this backup set?

< Back Next > Cancel

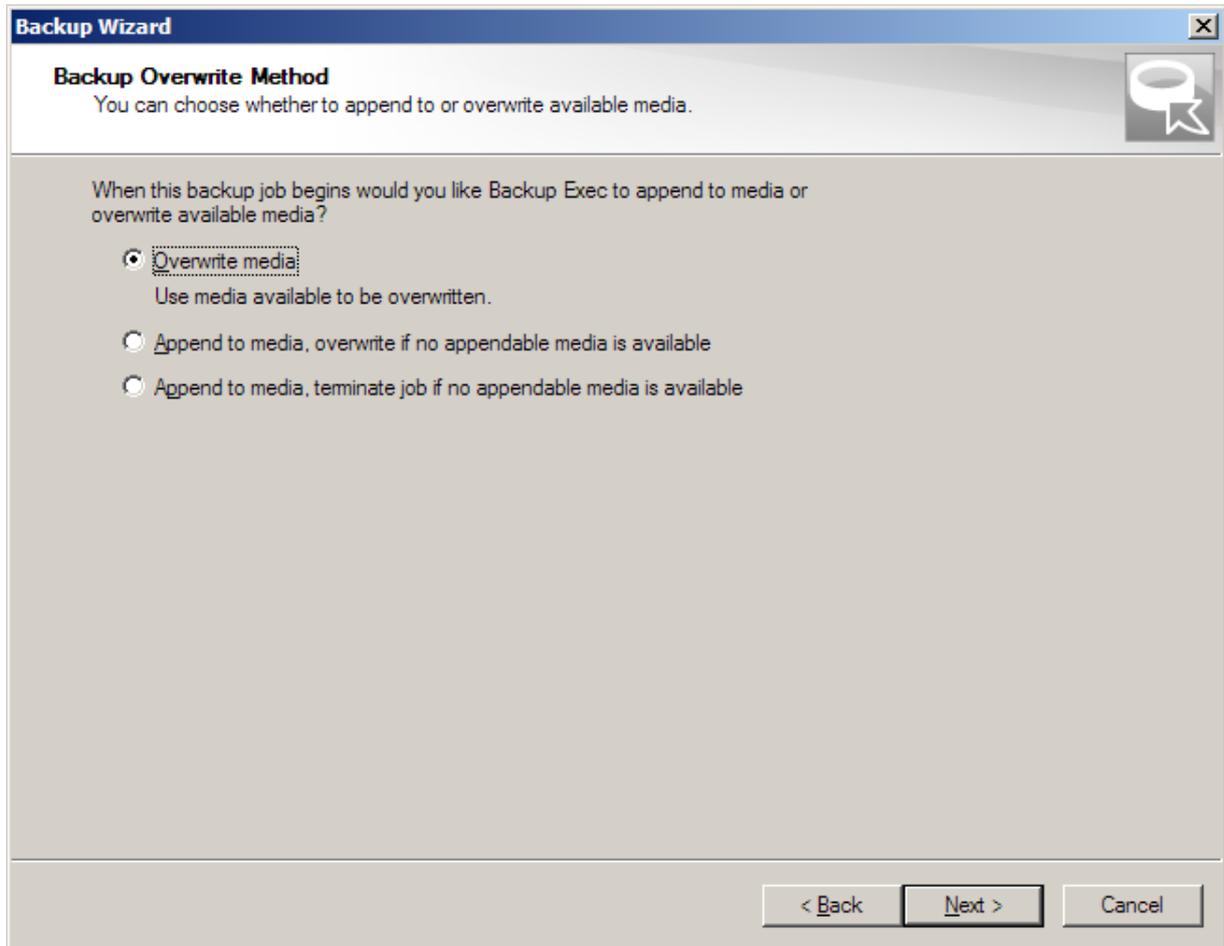
Enter name for your backup.

Press the **Next** button to continue.



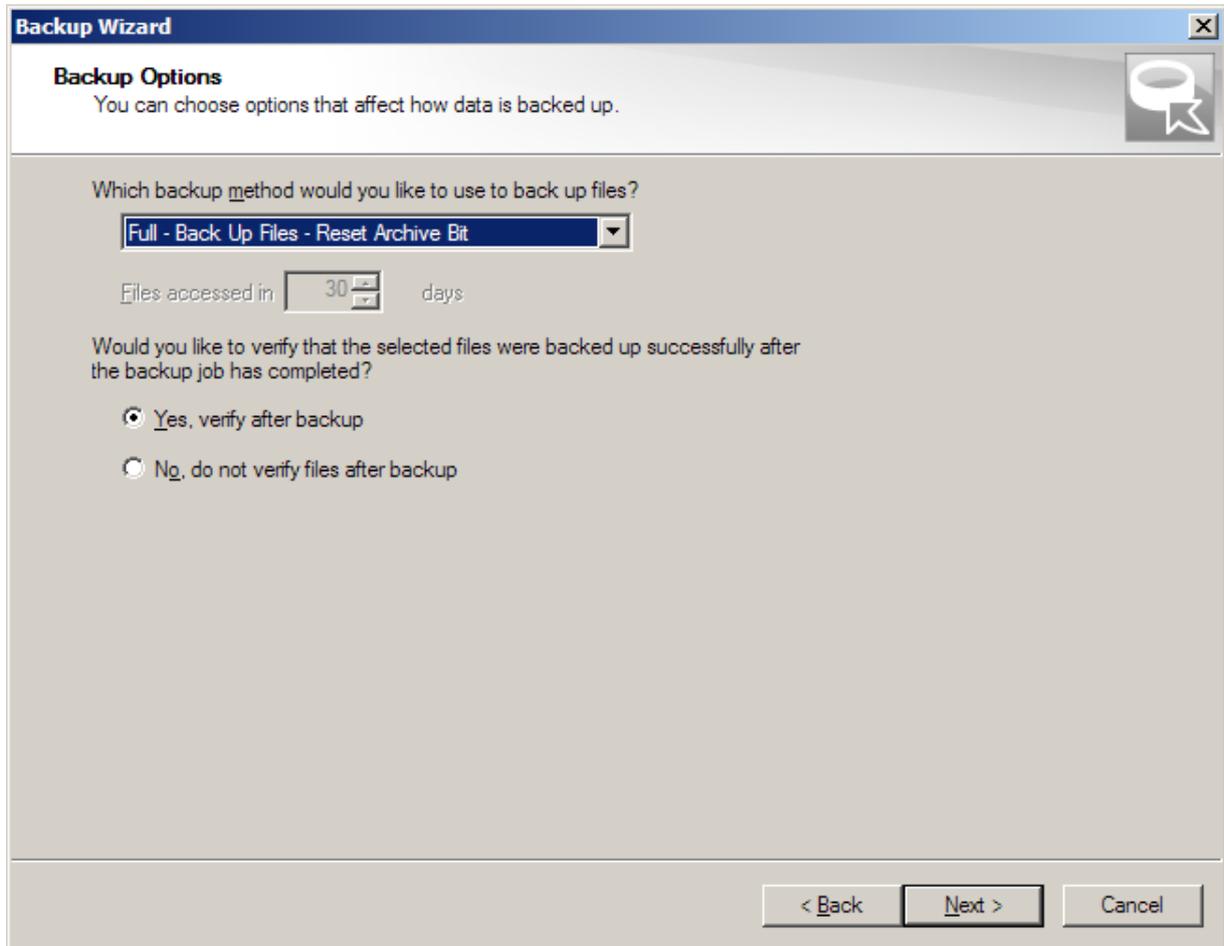
Choose the backup device and media.

Press the **Next** button to continue.



Chose the overwrite methods.

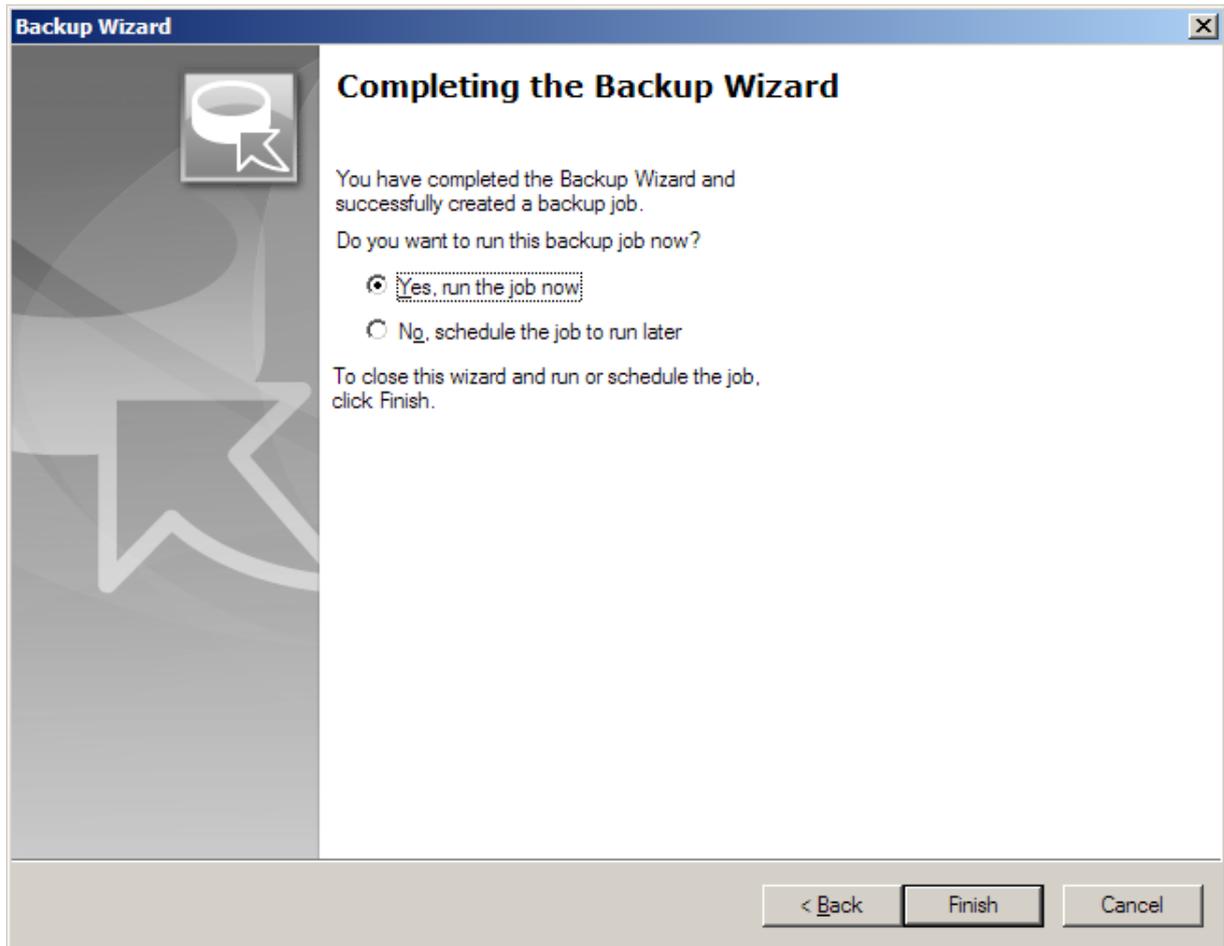
Press the **Next** button to continue.



Chose the backup options.

If you will choose the **Yes, verify after backup**, checksum of your backed up data will be compared to the original one to ensure that they are identical. This option is recommended.

Press the **Next** button to continue.

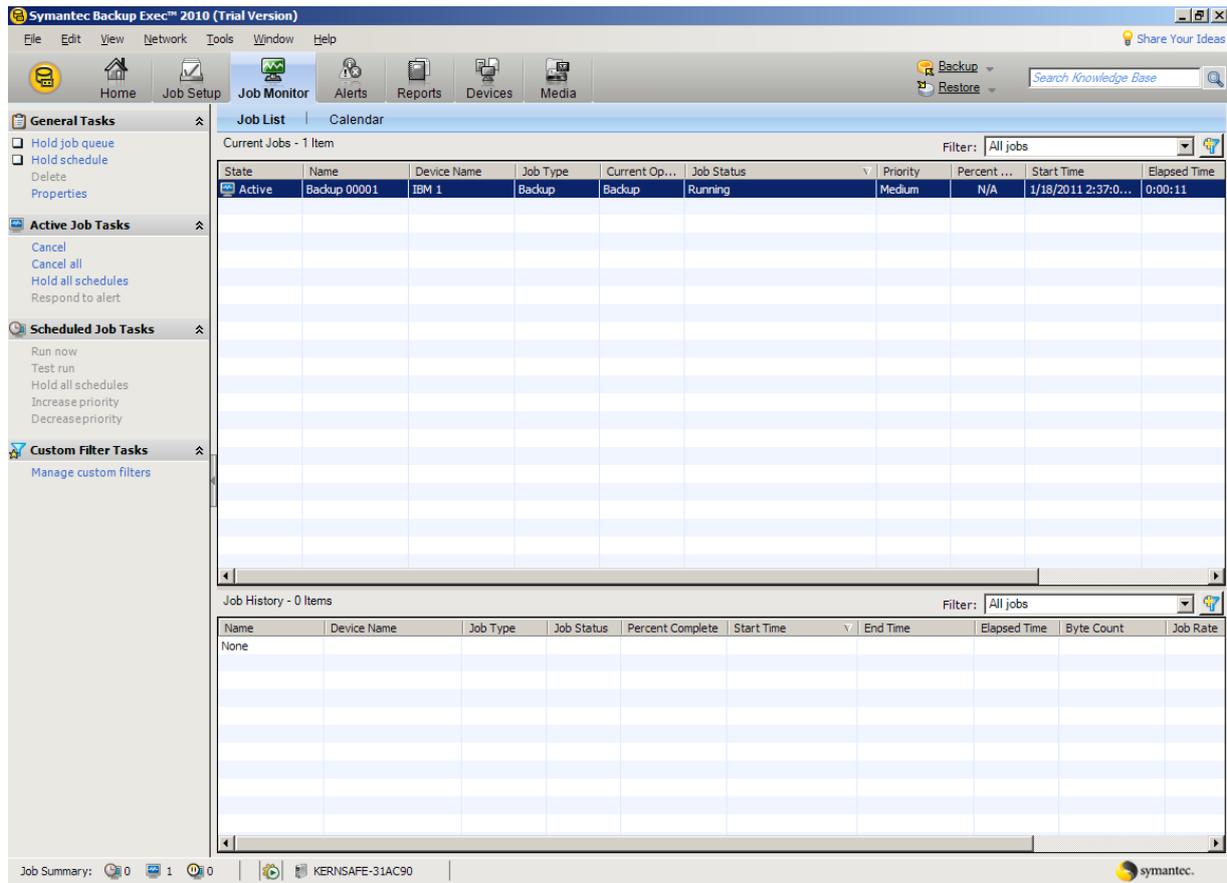


Chose if you want to run this backup job after finishing wizard or do you want to run it later.

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



Press the **OK** button, to continue.



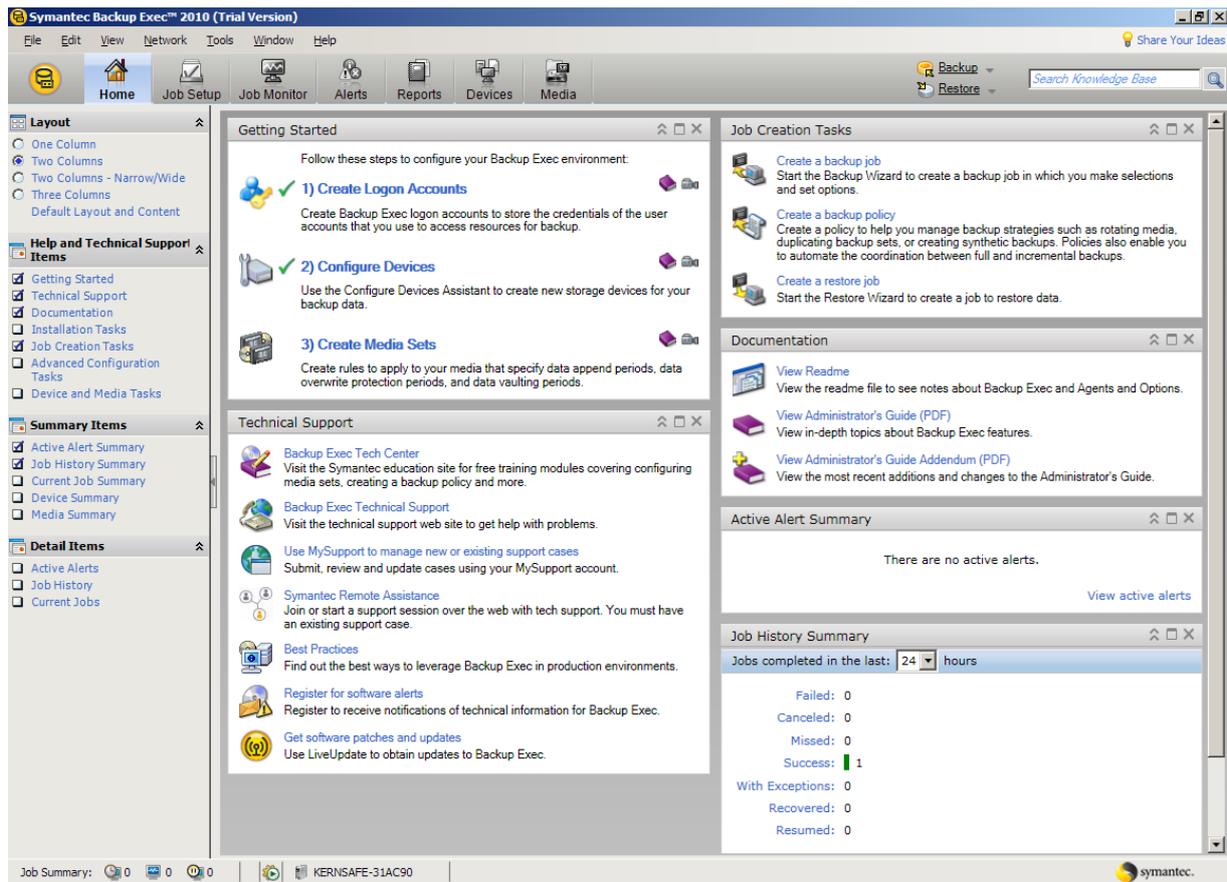
Click on the **Job Monitor** button to see the backup progress.

Backup process on the remote tape device is now completed.

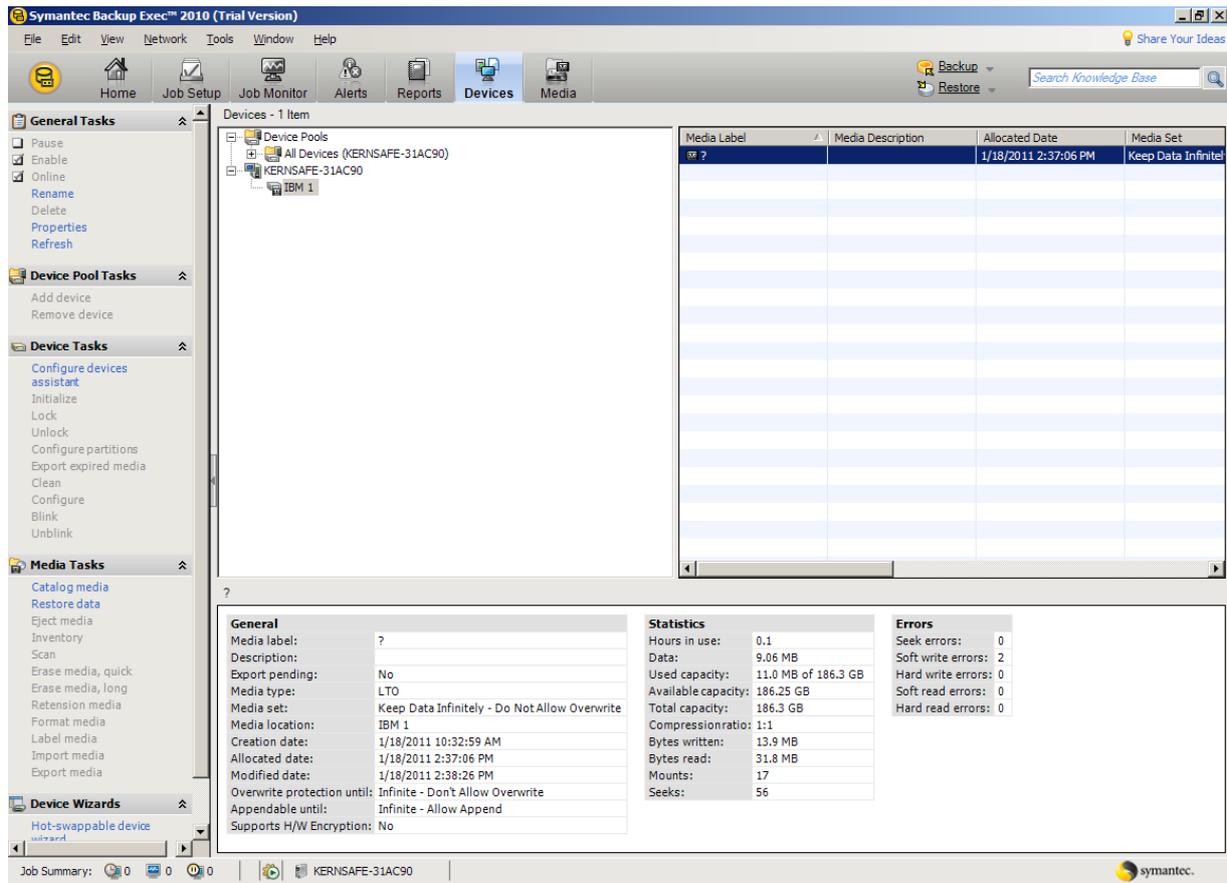
Viewing data on the Remote Tape Device

Using Symantec Backup Exec 2010

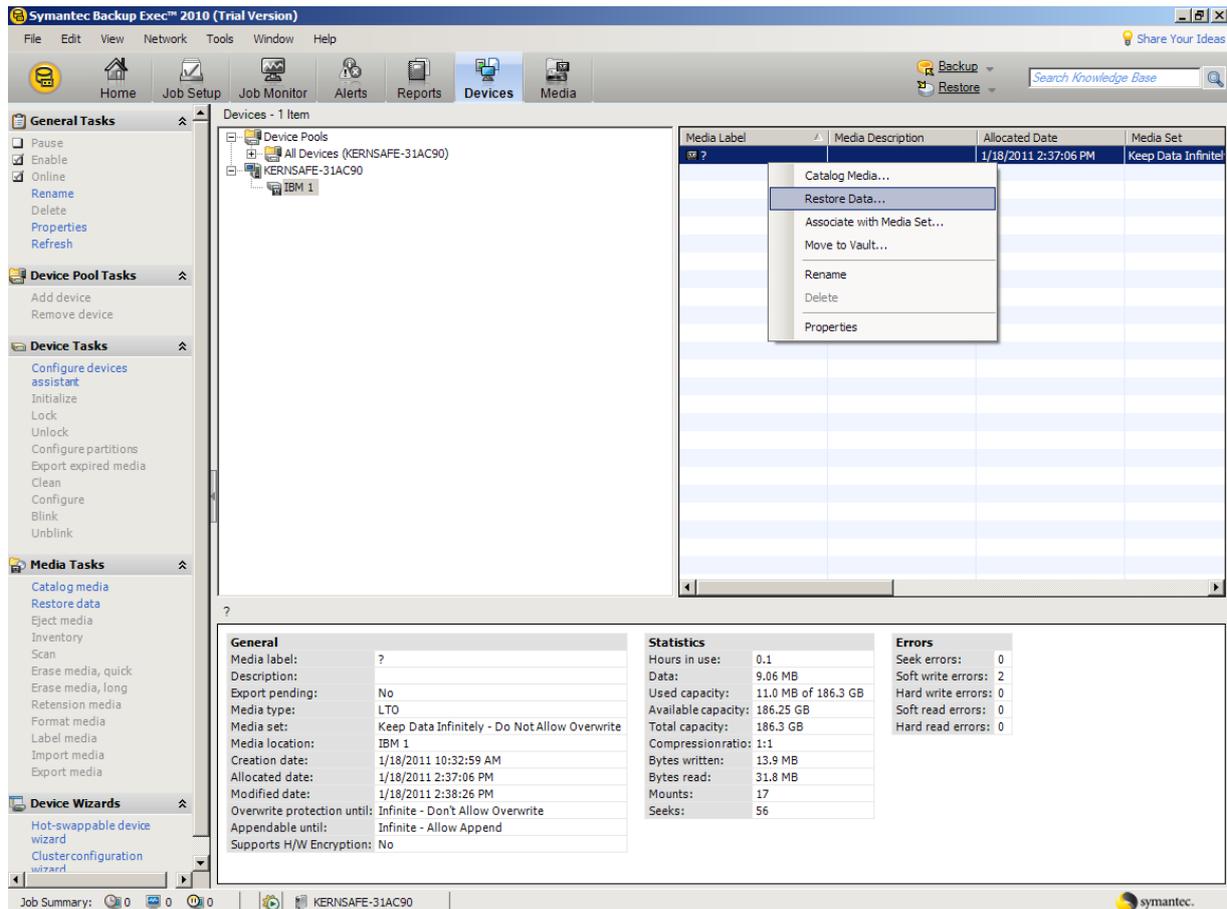
Open **Symantec Backup Exec 2010**.



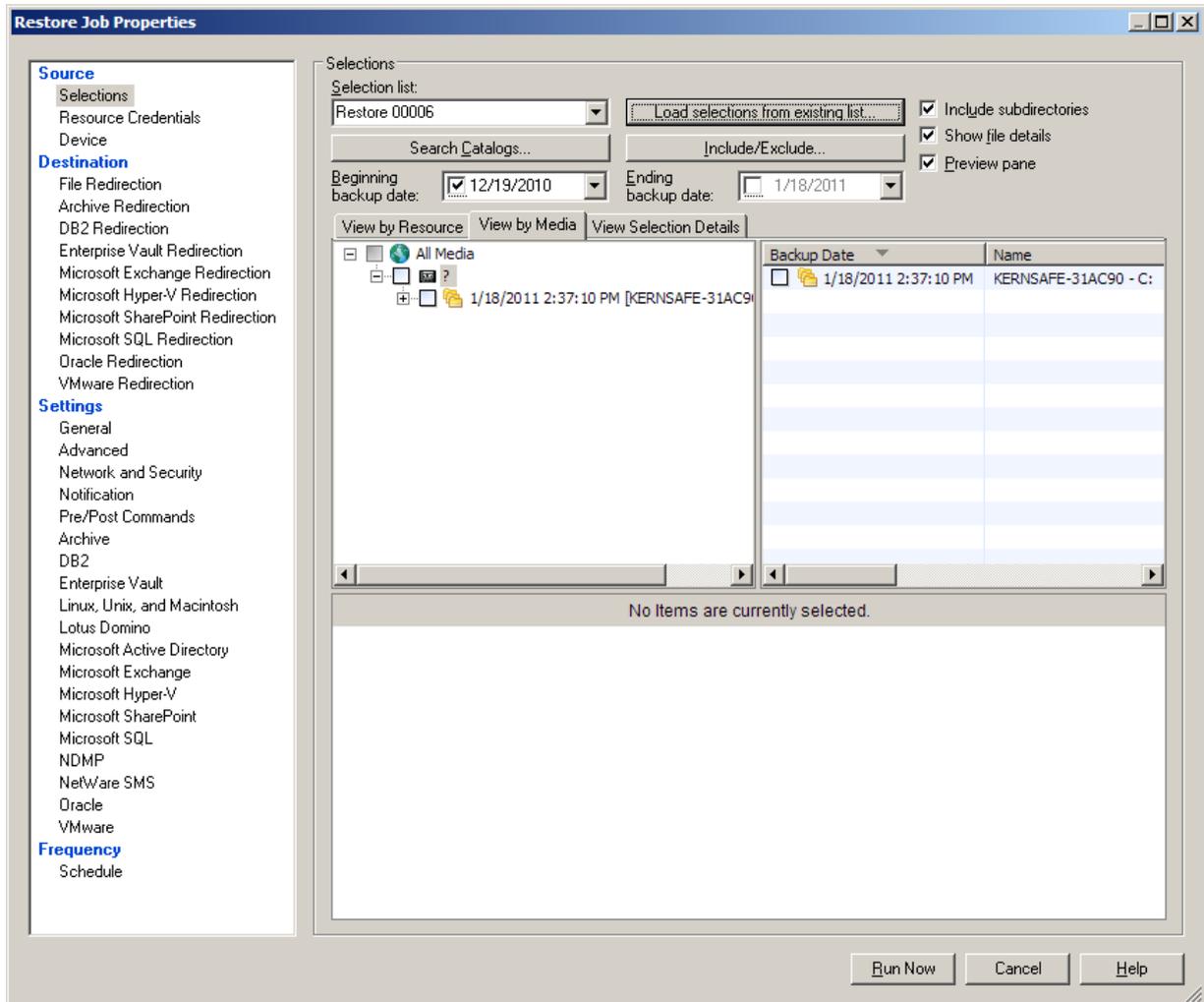
Click on the **Devices** button.



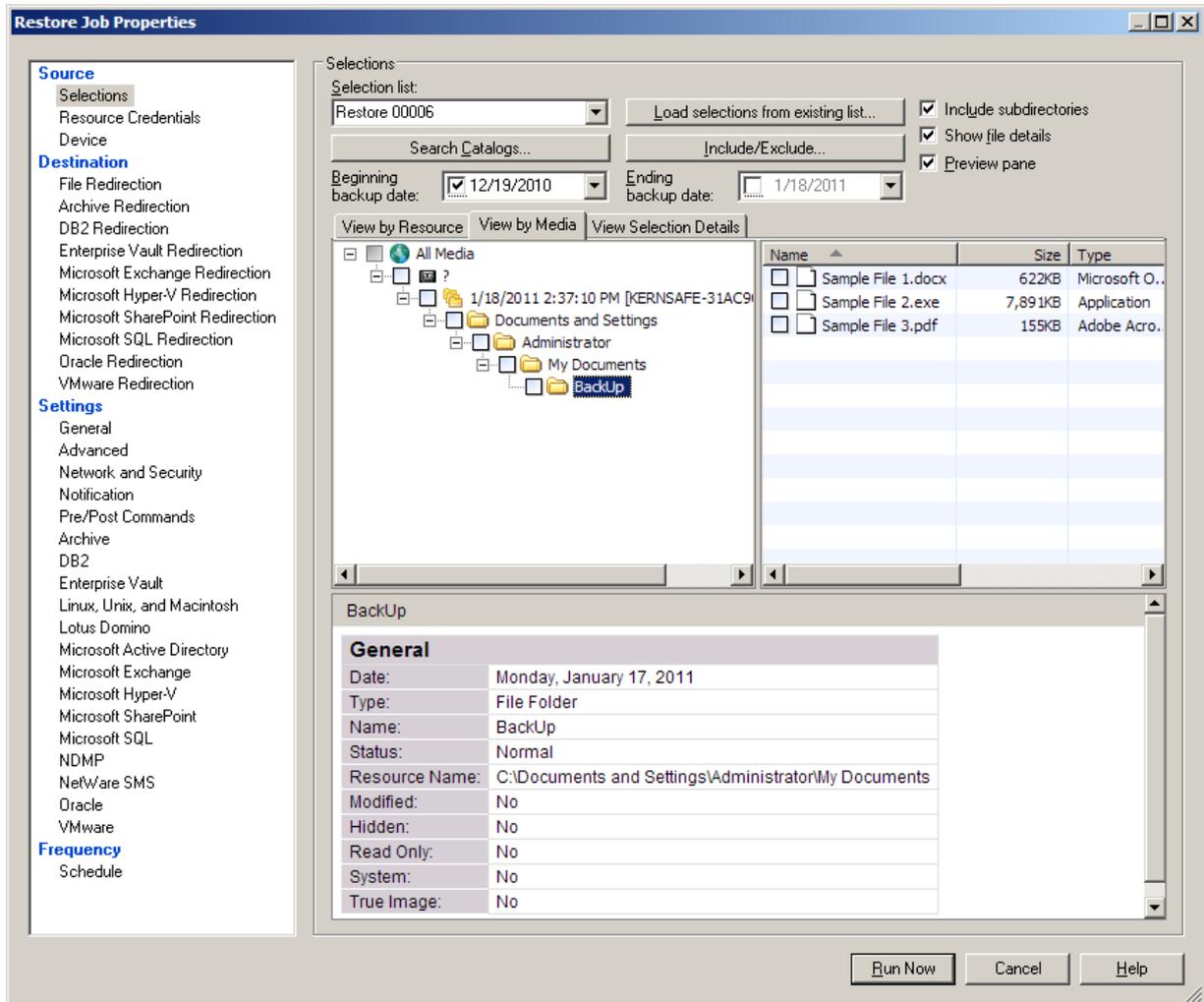
Chose the tape device you want to access.



Right click on the device and from the content menu choose, **Restore Data...** option.



Click on the selected media to browse its content.

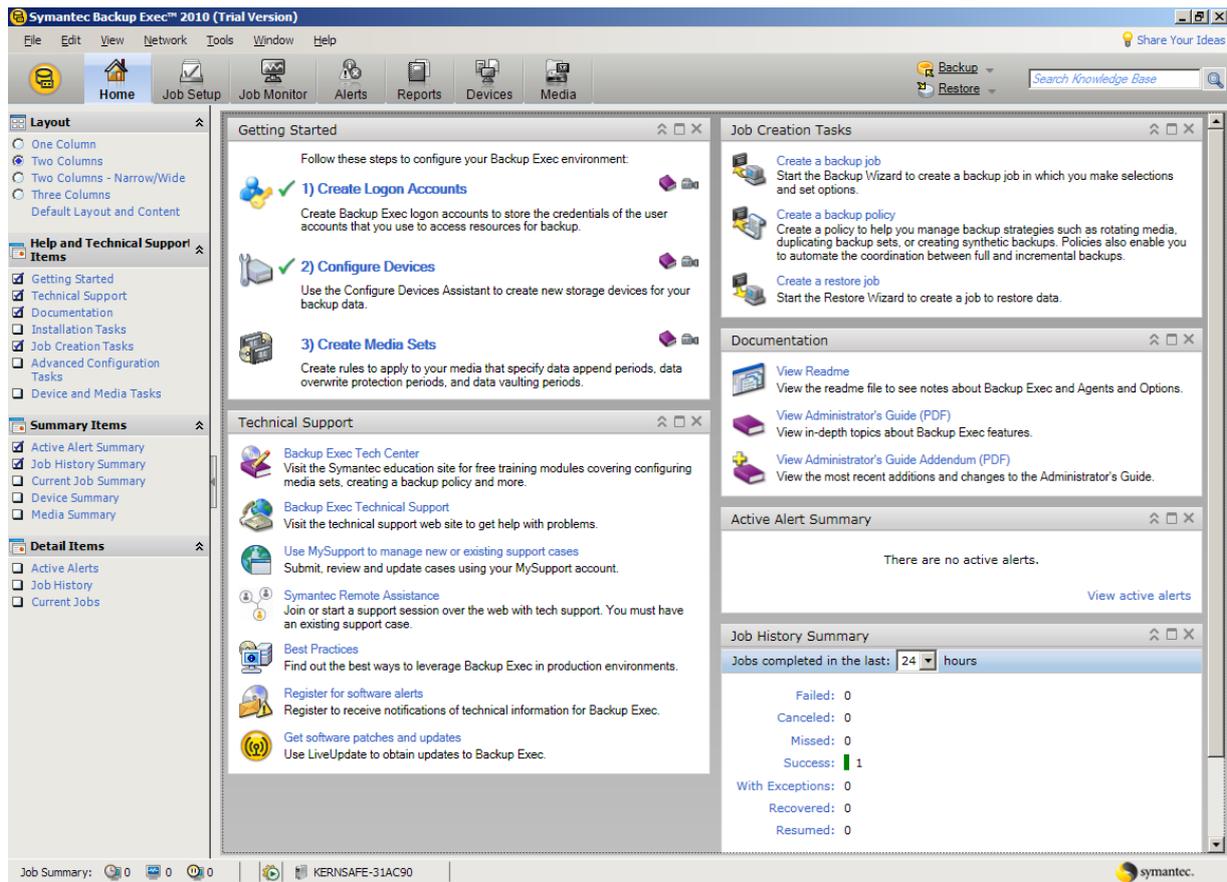


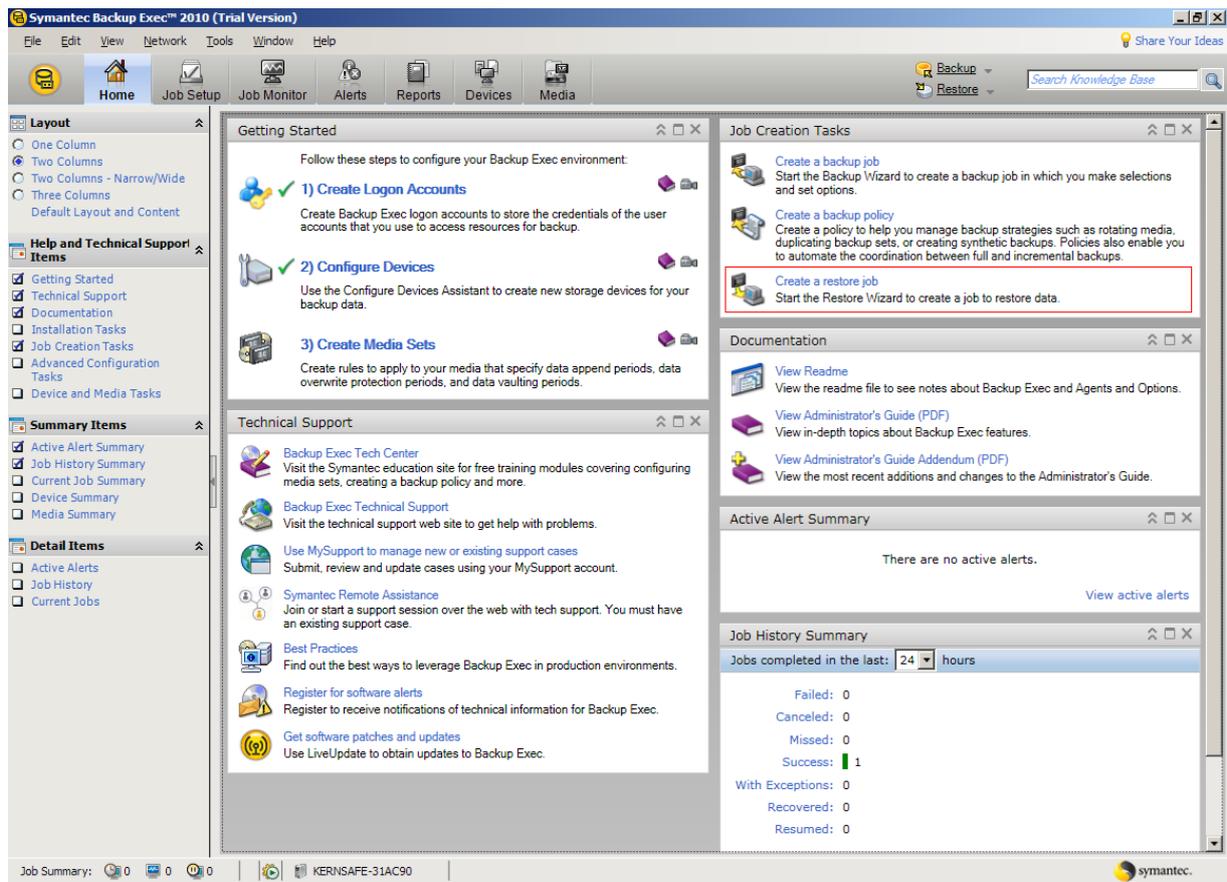
Browse freely to see all the data stored on the remote tape device.

Restoring data from the remote tape device

Using Symantec Backup Exec 2010

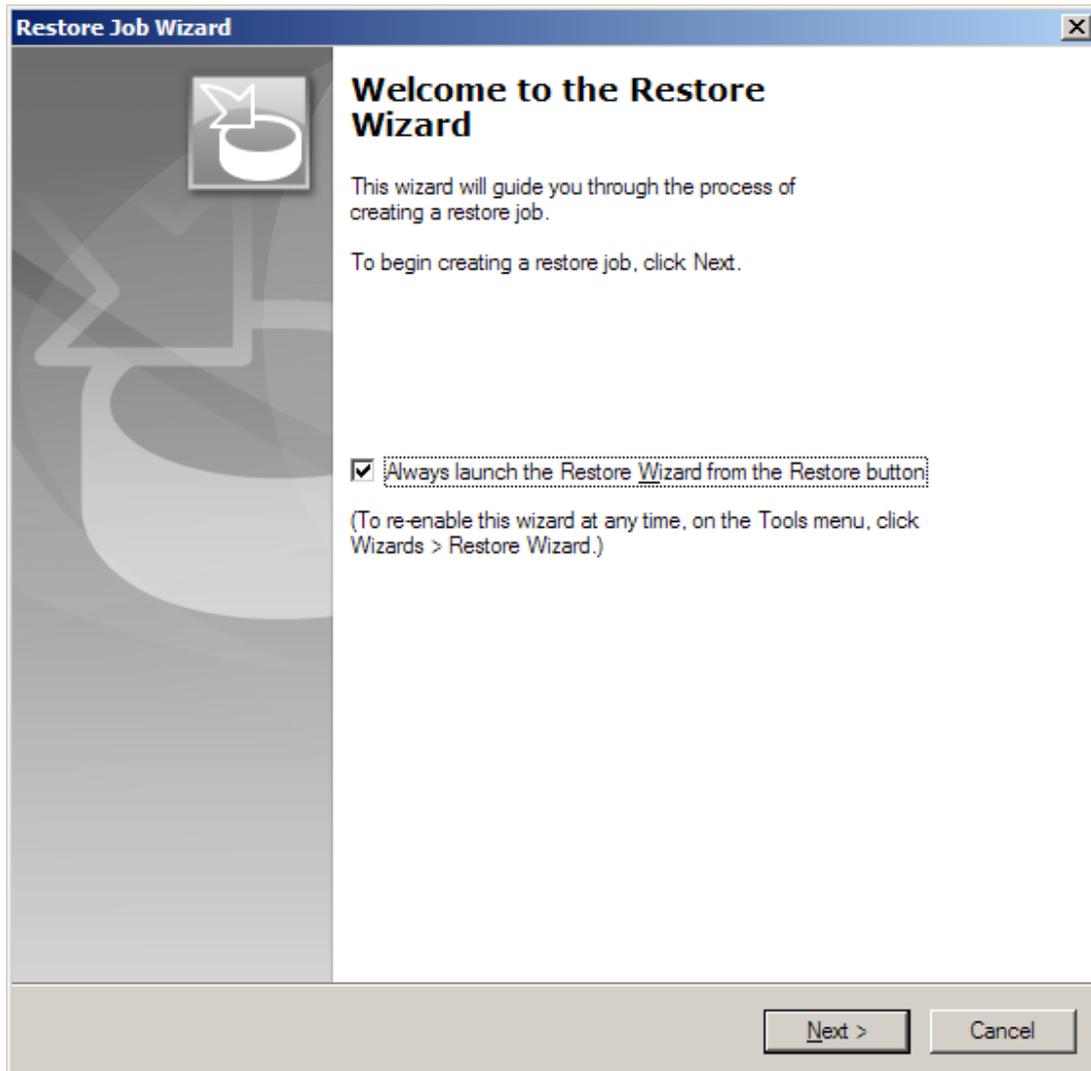
Open the Symantec Backup Exec 2010 main window.



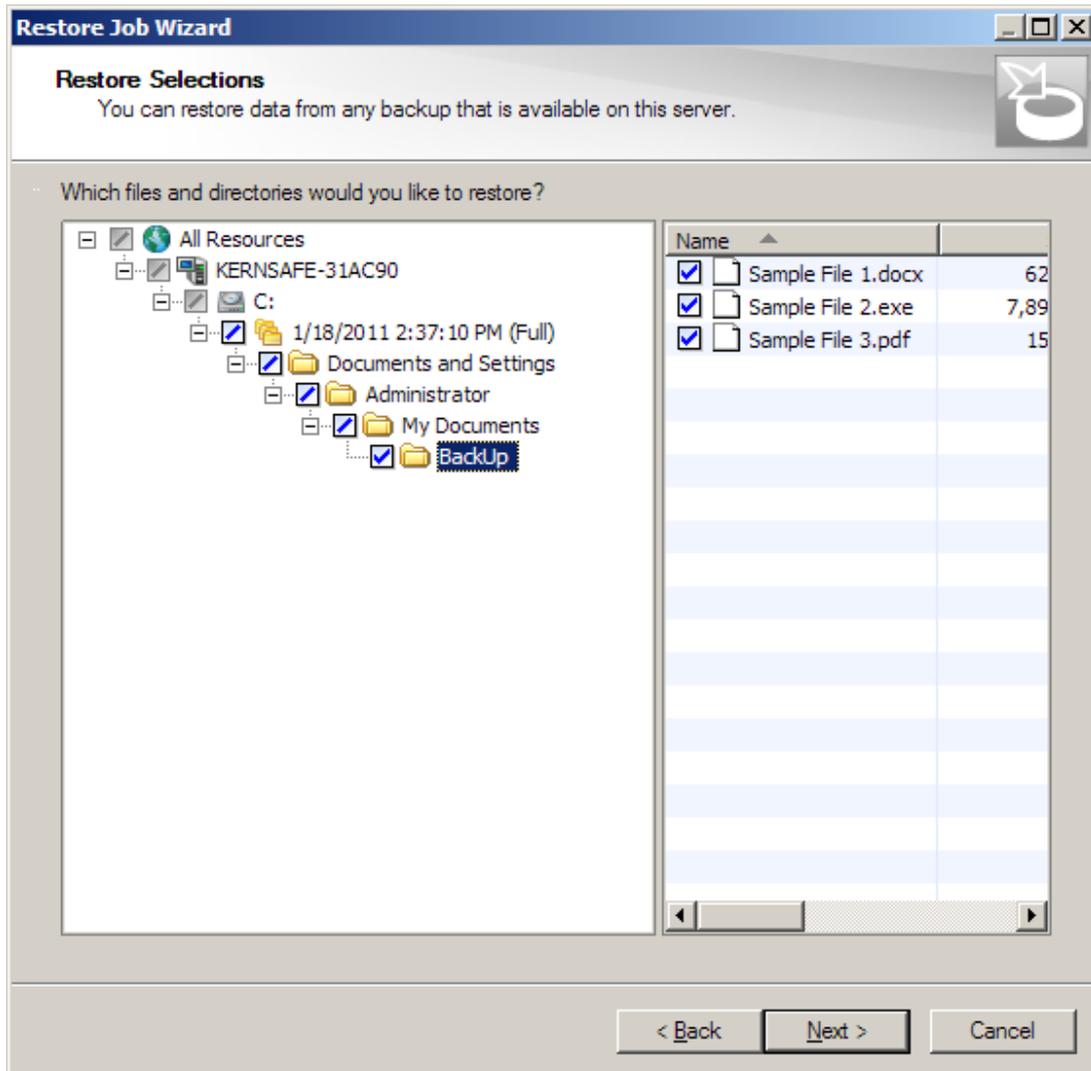


Choose the **Create a restore job**.

A **Restore Job Wizard** will appear.

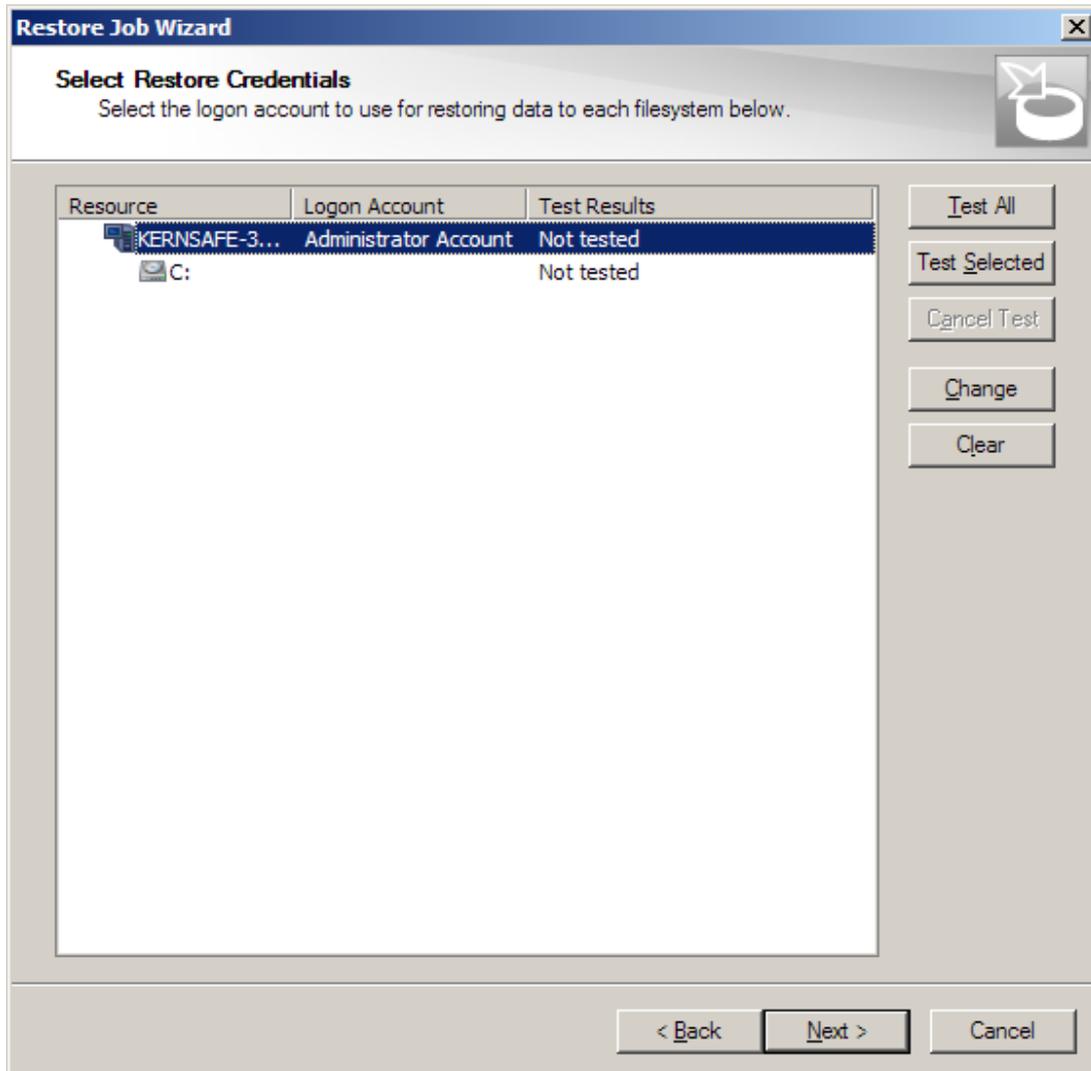


Press the **Next** button to continue.



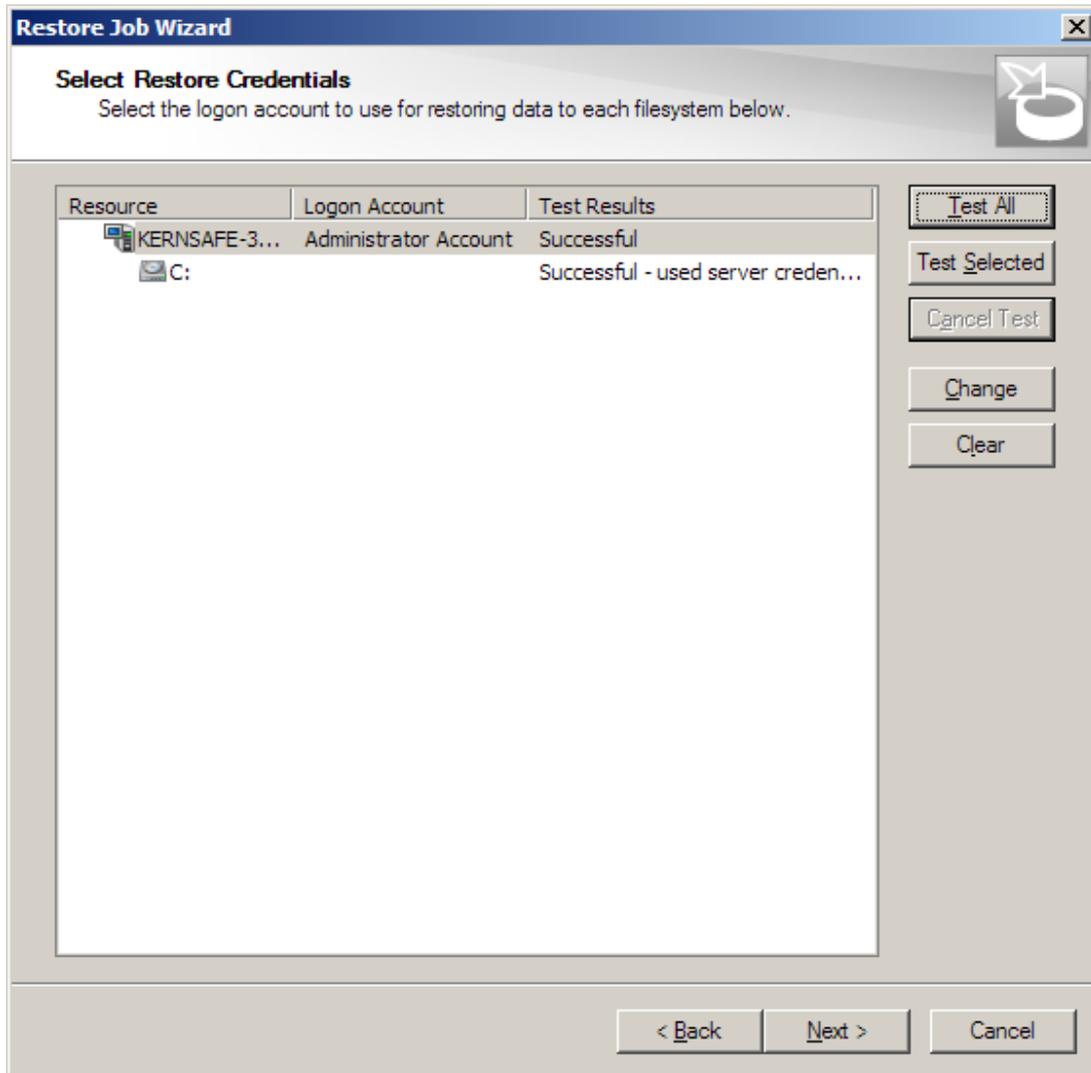
Chose which files you want to restore.

Press the **Next** button to continue.



Choose the **Logon Account**.

Press the **Test All** button to test all of the resources.



Press the **Next** button to continue.

Restore Job Wizard [X]

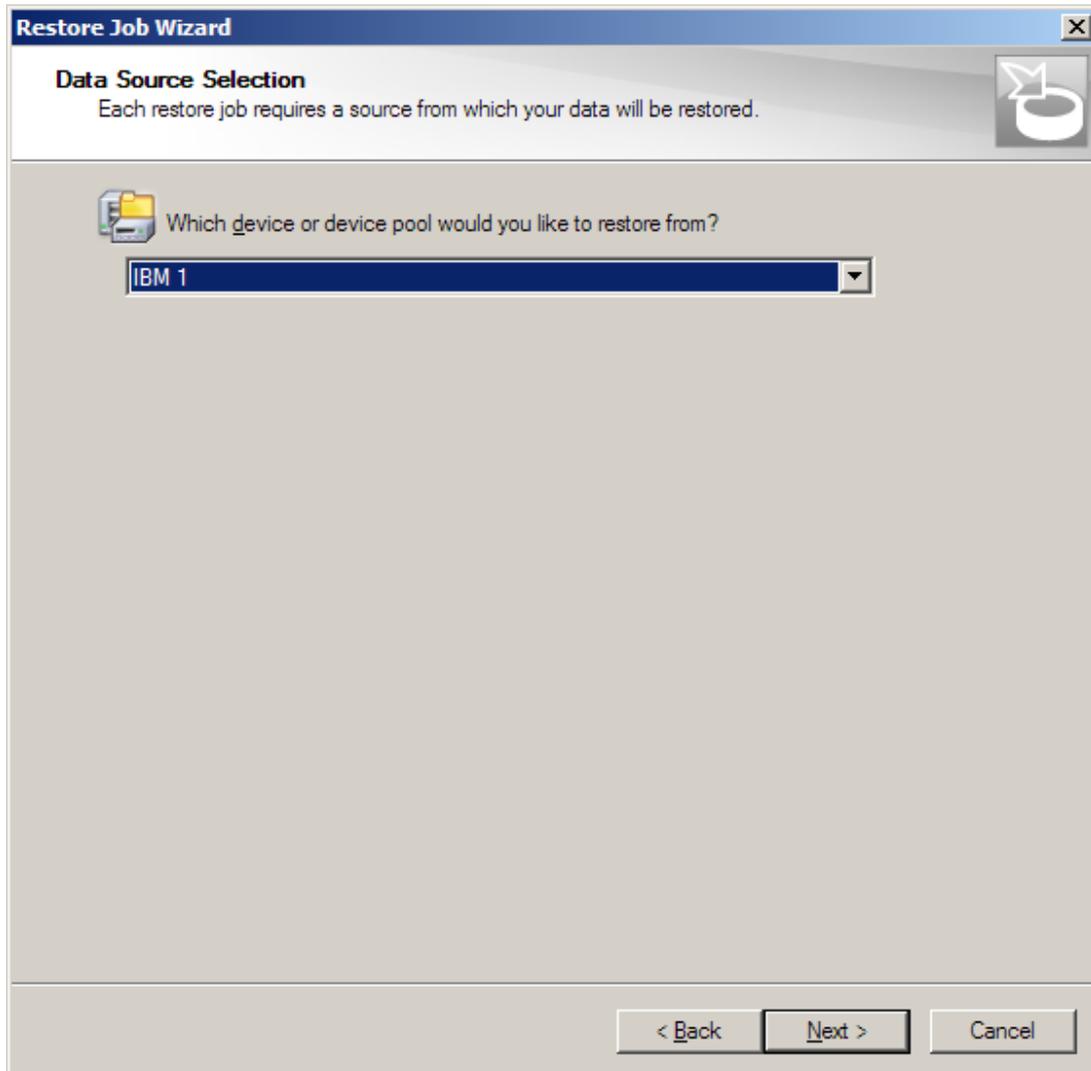
Restore Job Name
You should change the name to meaningfully describe this restore job.

What would you like to call this restore job?

< Back Next > Cancel

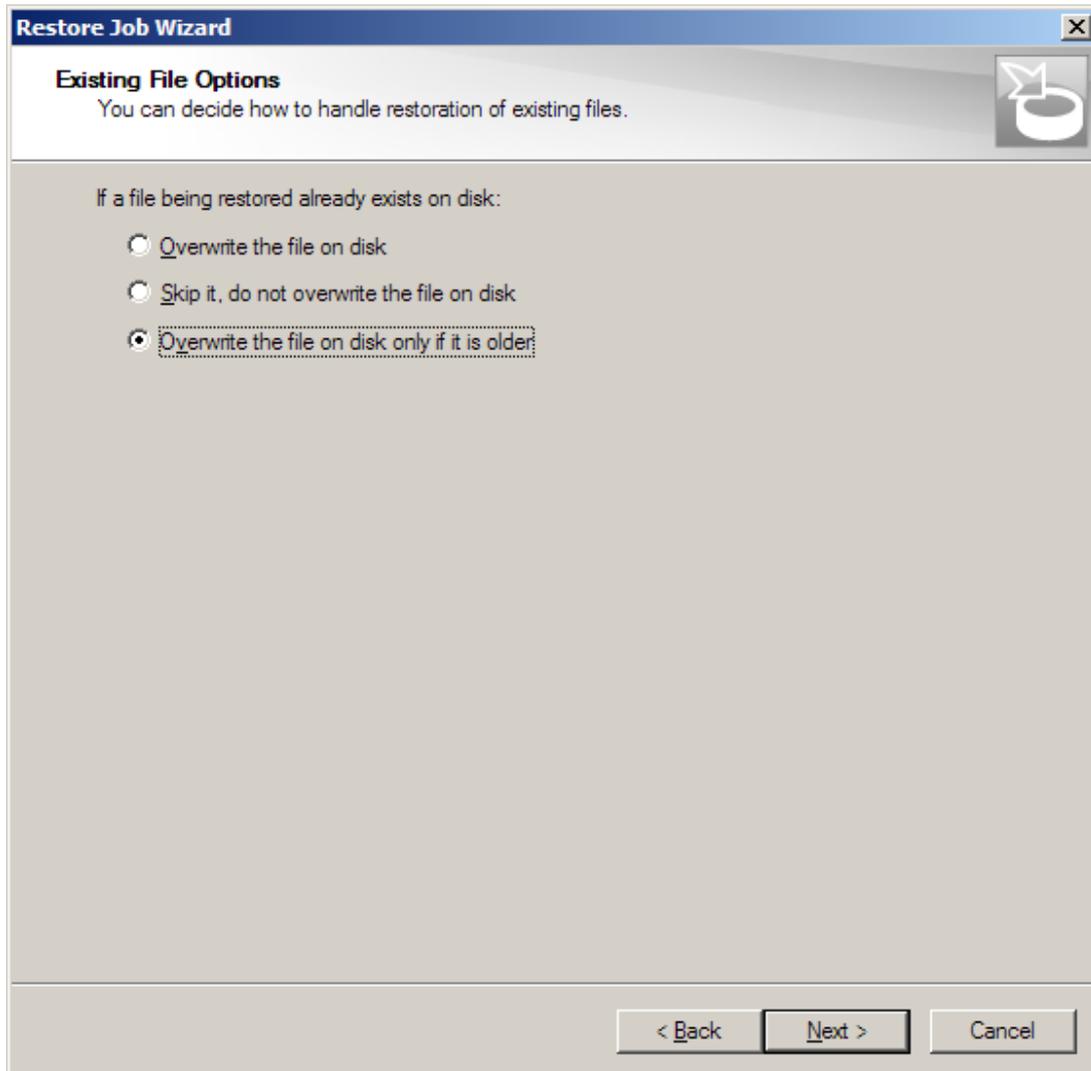
Enter name for your restore job.

Press the **Next** button to continue.



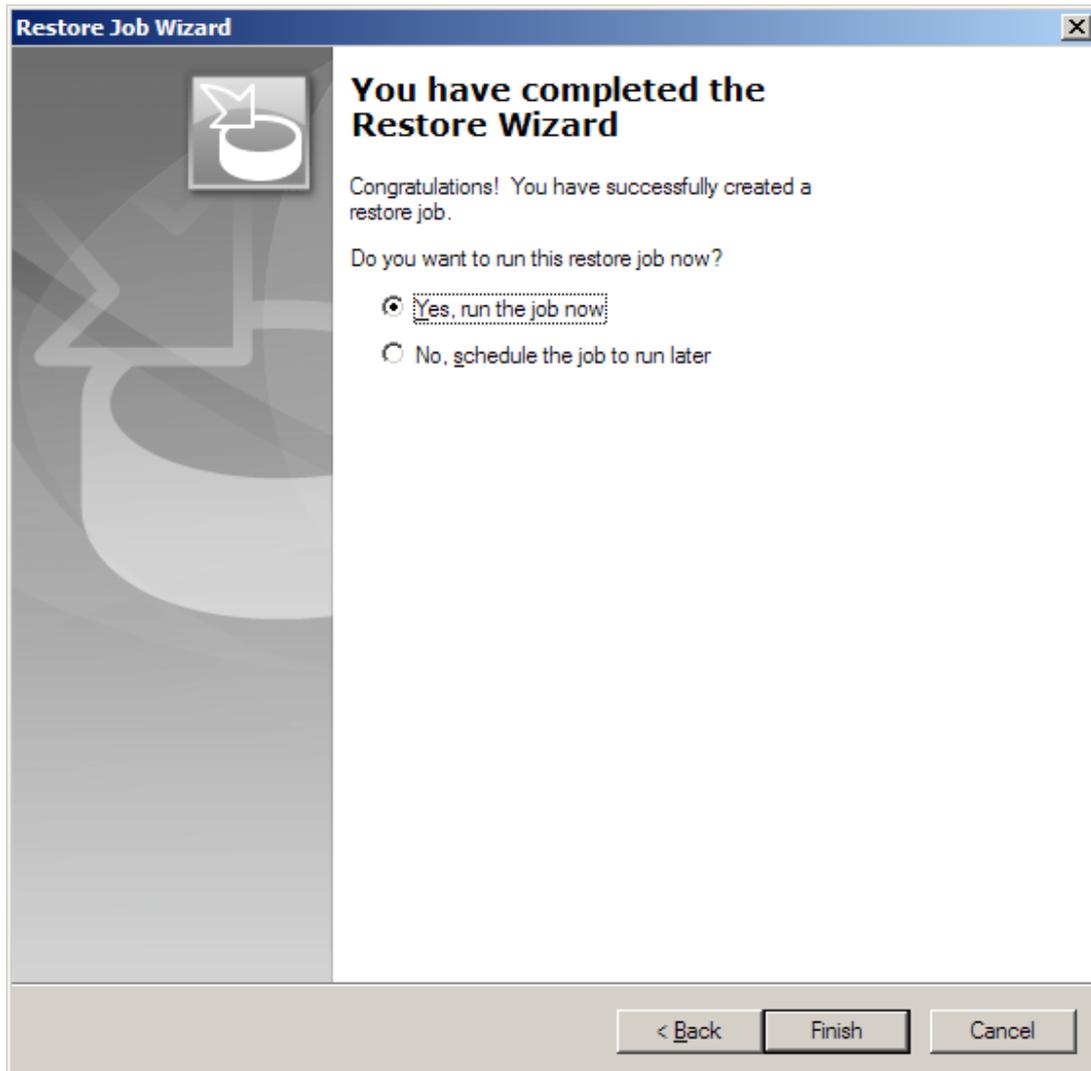
Select the source device for restoring the data.

Press the **Next** button to continue.



Chose the overwrite options.

Press the **Next** button to continue.

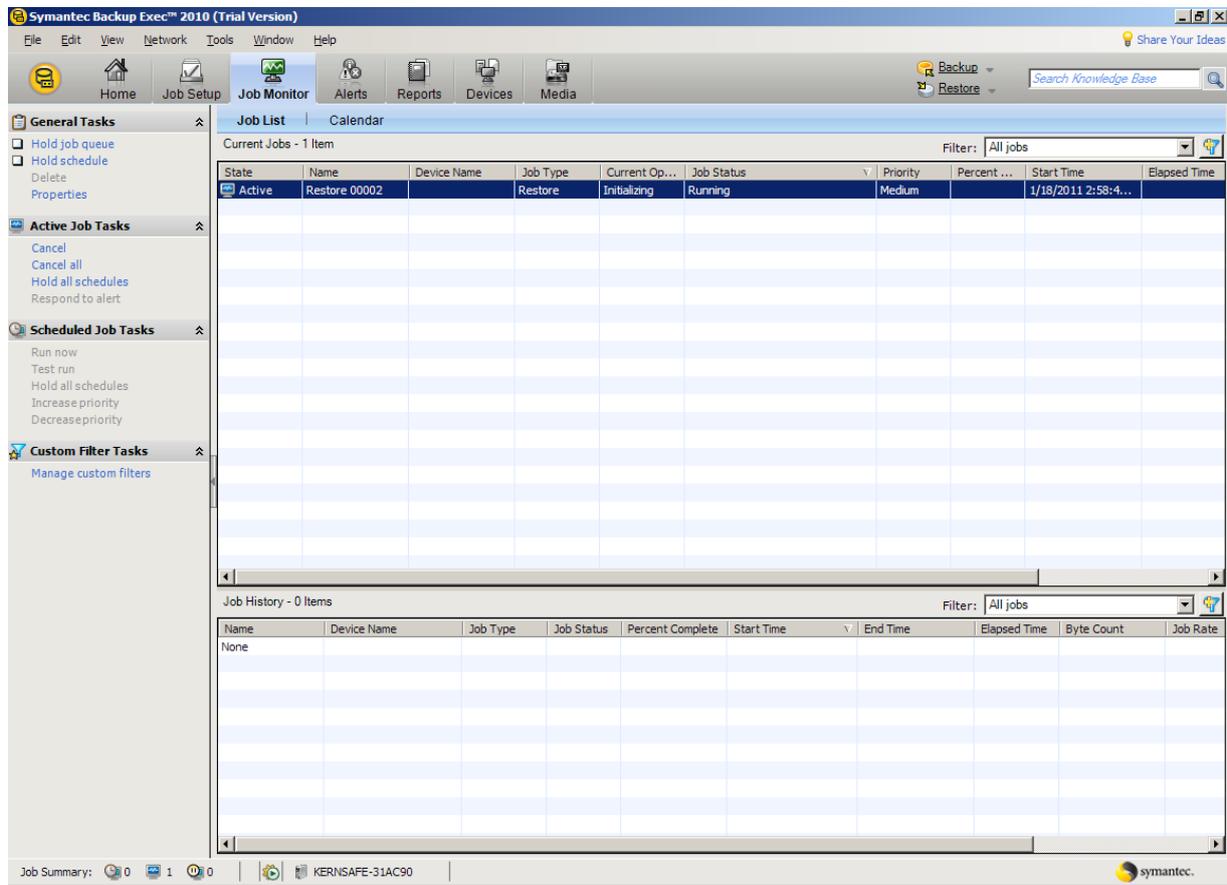


Chose if you want to run this backup job after finishing wizard or do you want to run it later.

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



Press the **OK** button, to continue.



Click on the **Job Monitor** button to see the restore progress.

Restore process from the remote tape device is now completed.

Contact

Support: support@kernsafe.com

Sales: sales@kernsafe.com

Home Page: <http://www.kernsafe.com/>

Product Page: <http://www.kernsafe.com/product/istorage-server.aspx>

Licenses <http://www.kernsafe.com/istorage-server/license-compares.aspx>

Forum: <http://www.kernsafe.com/forum/>



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