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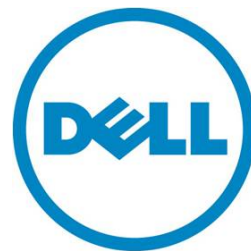
# DR4000 Setup Guide for Symantec Backup Exec 2010 R3

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*This Dell Whitepaper shows how to provision DR4000 v1.0 with Microsoft Windows Server 2008 R2 & Symantec Backup Exec 2010 R3*

**John Bassett**

**SMB Marketing**



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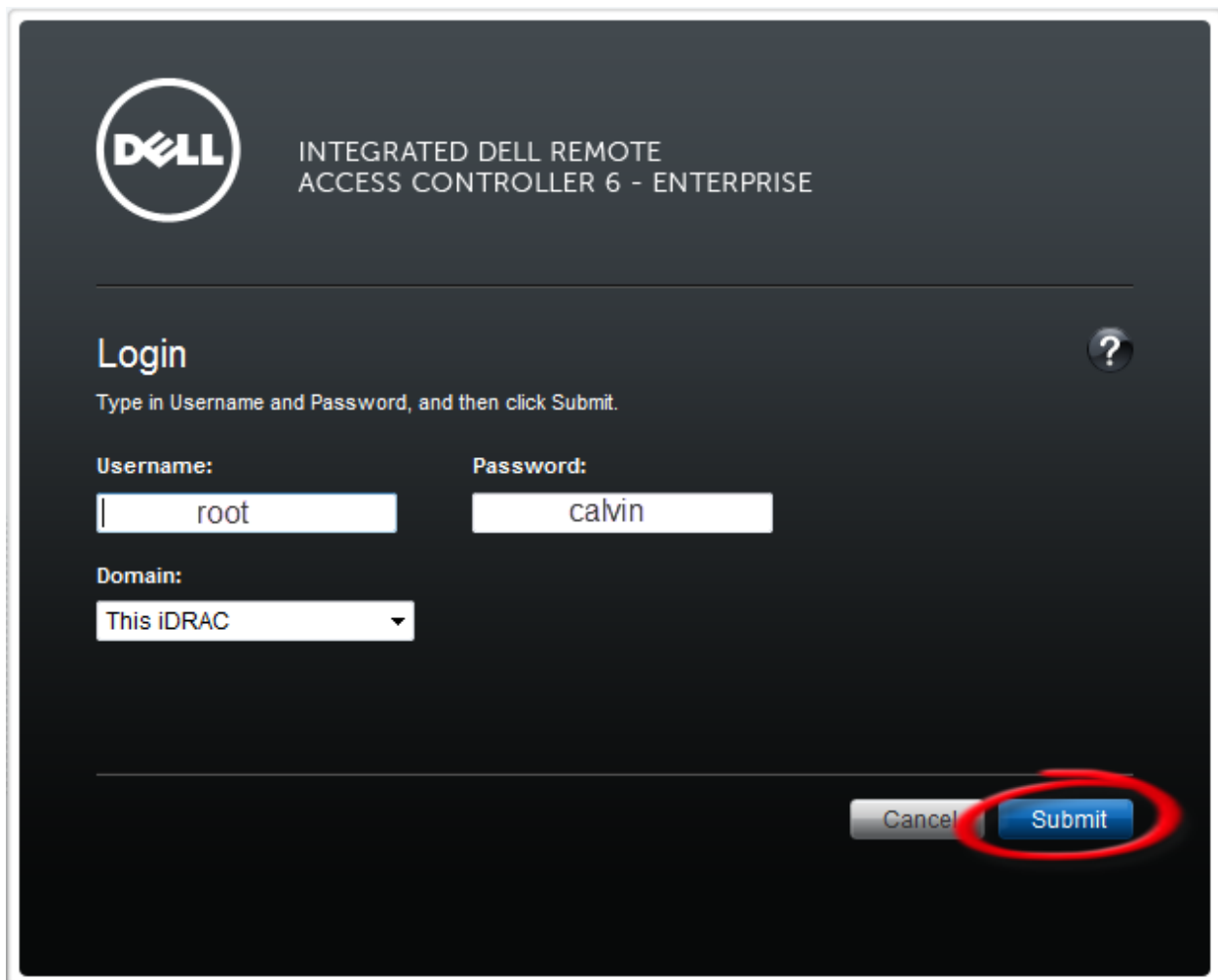
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## Executive summary

In this paper, we demonstrate how to setup a DR4000 with Backup Exec 2010 R3 provisioned as a backup to disk target. This paper is a quick reference guide and does not include all DR4000 deployment best practices. Reference the DR4000 owner's manual other DMA best practices whitepapers for additional information. Note that your DR4000 build version and other screen shots may vary slightly depending on the version of the DR4000 OS.

## Getting Started

Once your DR4000 is cabled, racked & powered on log into the iDRAC address. The default address is 192.168.0.1. Once the console is open log in using user name: "root" and password: "calvin."



**DELL** INTEGRATED DELL REMOTE  
ACCESS CONTROLLER 6 - ENTERPRISE

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### Login

Type in Username and Password, and then click Submit.

**Username:**  **Password:**

**Domain:**

Next, launch the Virtual console.

The screenshot displays the Dell iDRAC 6 Enterprise web interface. The top navigation bar includes the Dell logo, the product name 'INTEGRATED DELL REMOTE ACCESS CONTROLLER 6 - ENTERPRISE', and links for 'Support | About | Logout'. The left sidebar shows the 'System' menu with options like 'IDRAC Settings', 'Batteries', 'Fans', 'Intrusion', 'Power Supplies', 'Removable Flash Media', 'Temperatures', 'Voltages', and 'Power Monitoring'. The main content area is titled 'System Summary' and contains several sections:

- Server Health:** A table showing the status of various components, all of which are checked as 'OK'.
- Virtual Console Preview:** A section with a 'Settings' option and a 'Launch' button circled in red.
- Server Information:** A table providing details about the server's power state, model, revision, host name, operating system, and firmware.
- Quick Launch Tasks:** A list of actions such as 'Power ON / OFF', 'Power Cycle System (cold boot)', 'Launch Virtual Console', 'View System Event Log', 'View iDRAC Log', 'Update Firmware', and 'Reset iDRAC'.

Status	Component
✓	Batteries
✓	Fans
✓	Intrusion
✓	Power Supplies
✓	Removable Flash Media
✓	Temperatures
✓	Voltages

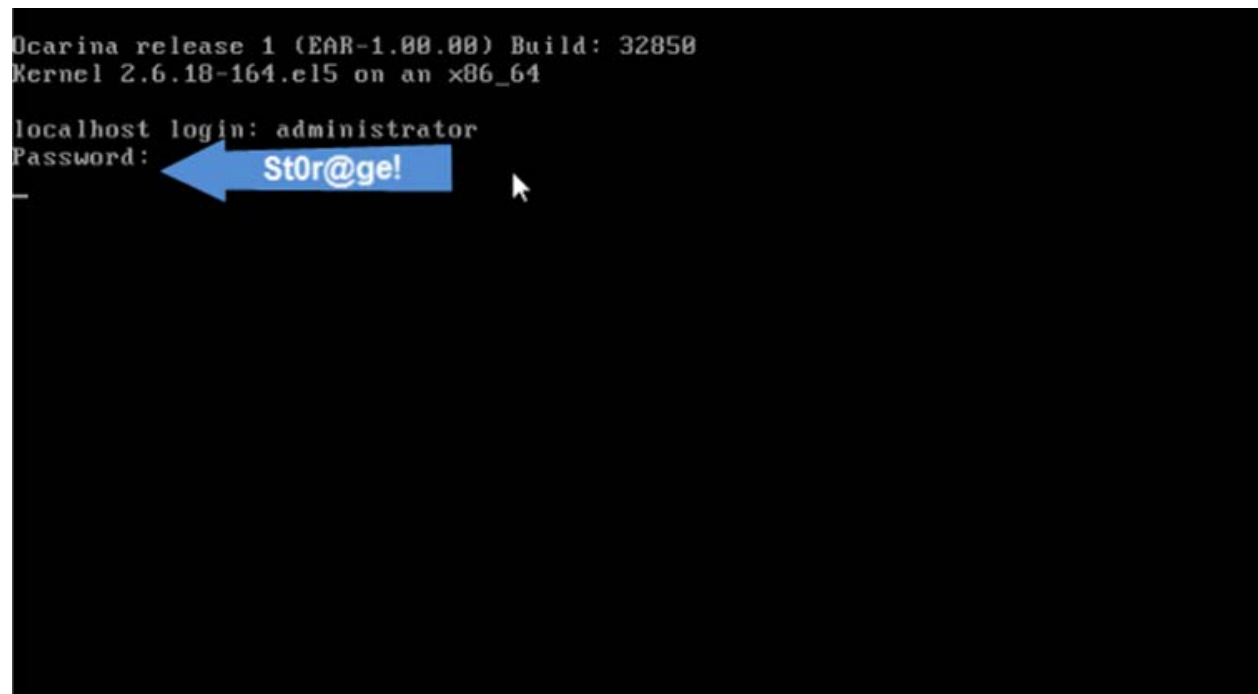
Property	Value
Power State	ON
System Model	Dell DR4000
System Revision	II
System Host Name	DR4000-DKCV6S1.asglab.roundrock
Operating System	CentOS
Operating System Version	release 5.4 (Final) Kernel 2.6.18-164.e...
Service Tag	DKCV6S1
Express Service Code	29529104401
BIOS Version	1.9.0
Firmware Version	1.80 (Build 17)

## Initializing the DR4000

Once the virtual console is open login to the system as user: "administrator" and password "St0r@ge!"

```
Ocarina release 1 (EAR-1.00.00) Build: 32858
Kernel 2.6.18-164.el5 on an x86_64

localhost login: administrator
Password: ← St0r@ge!
```



Set user defined networking preferences

```
Would you like to use DHCP (yes/no) ?  
  
Please enter an IP address:  
  
Please enter a subnet mask:  
  
Please enter a default gateway address:  
  
Please enter a DNS Suffix (example: abc.com):  
  
Please enter primary DNS server IP address:  
  
Would you like to define a secondary DNS server (yes/no) ?  
  
Please enter secondary DNS server IP address:
```

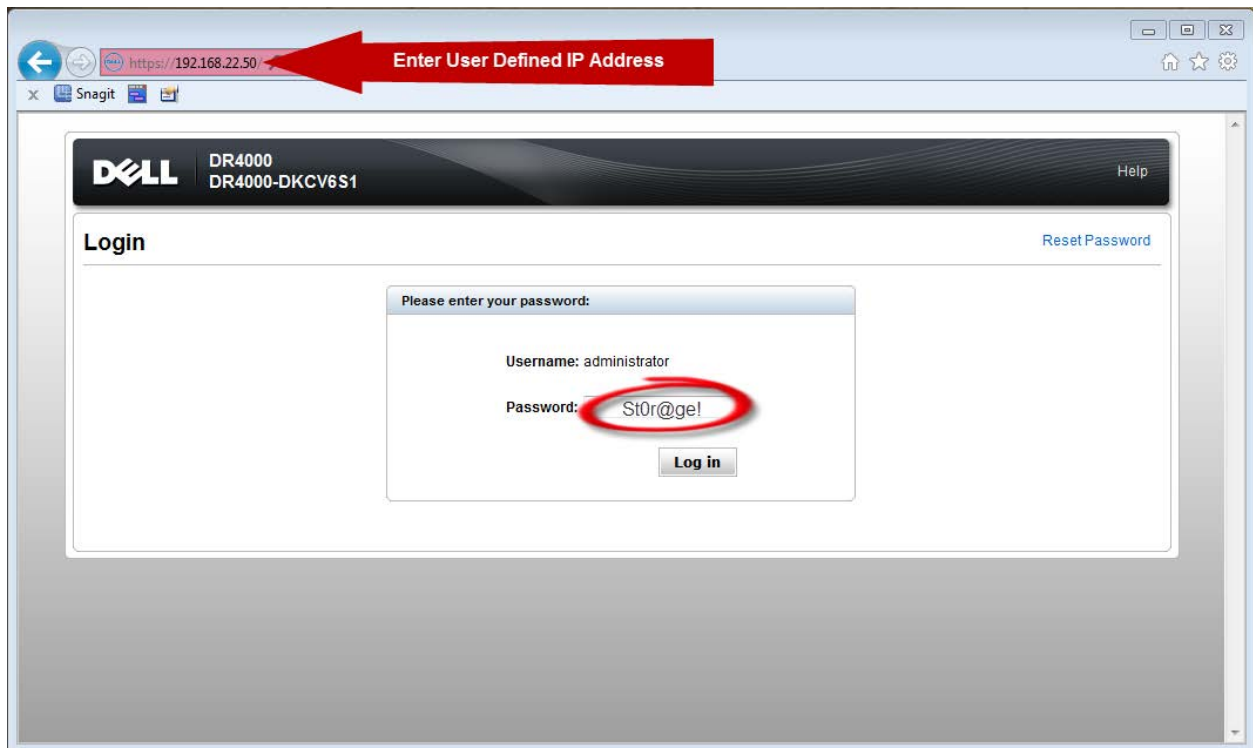
View Summary of preferences and confirm that it is correct.

```
=====
                          Set Static IP Address
IP Address                 : 10.10.86.108
Network Mask               : 255.255.255.128
Default Gateway           : 10.10.86.126
DNS Suffix                 : idmdemo.local
Primary DNS Server        : 10.10.86.101
Secondary DNS Server      : 143.166.216.237
Host Name                  : DR4000-5

Are the above settings correct (yes/no) ? _
```

## Log into the DR4000 GUI

Enter the user defined IP address into your browser. Login as “administrator” and use password “St0r@ge!”



## Join DR4000 to Active Directory

Select the “Active Directory” in the Dashboard tree of the left hand side.

*Note: if you do not want to add DR4000 to Active Directory reference the Owner’s manual for quest login instructions.*

**DELL** DR4000 DR4000-DKCV6S1 Help | Log out

**Dashboard**

System State: optimal     HW State: [optimal](#)     Number of Alerts: 0    Number of Events: [323](#)

### Capacity

Physical

Used (131.0 GB)    Free (7.68 TB)

### Storage Savings

Zoom: 1h 1d 5d 1m 1y

Savings (%)

Time (minutes)

De-duplication    Compression

### Throughput

Zoom: 1h 1d 5d 1m 1y

MB/s

Time (minutes)

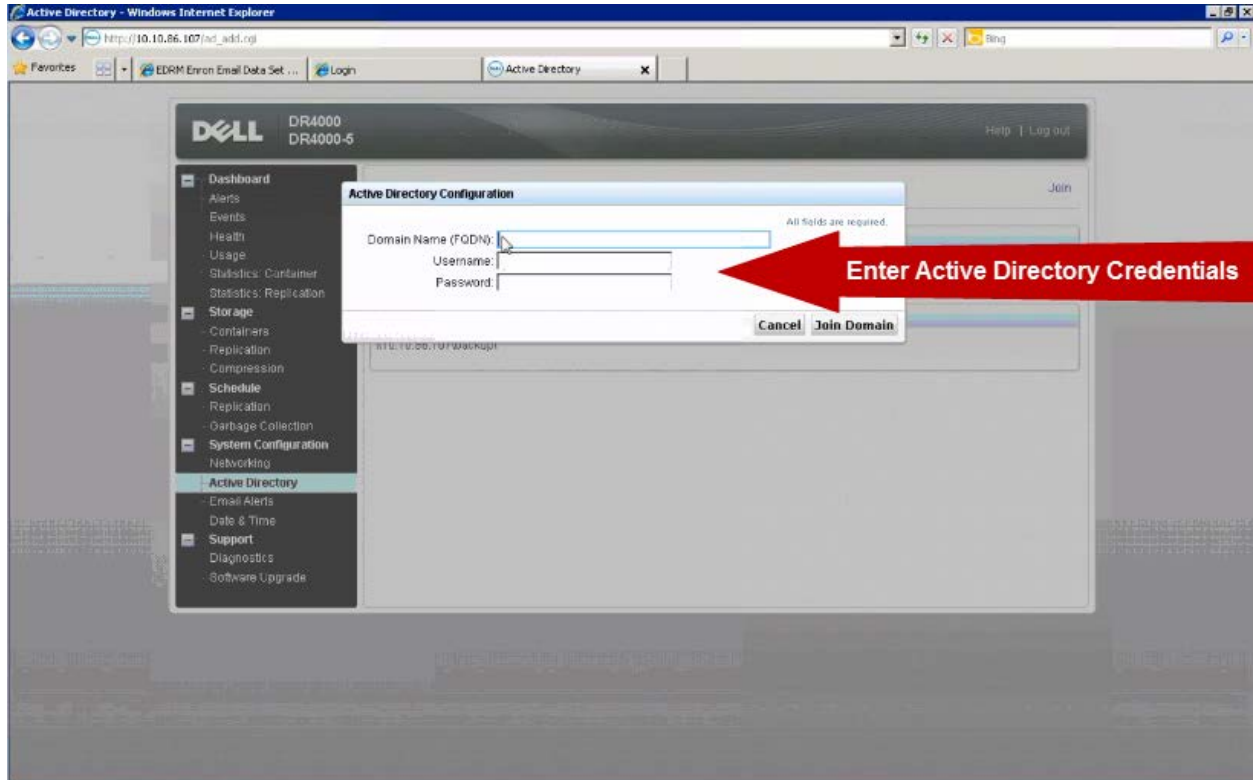
Read    Write

### System Information

System Name:	DR4000-DKCV6S1	Total Savings:	76.04 %
Software Version:	0.98.0.33970	Number of Files across all Containers:	9192
Current Date/Time:	Mon Jan 23 14:50:33 2012	Number of Containers:	2
Cleaner Status:	Pending	Number of Containers Replicated:	0
		Capacity Before Optimization:	538GB

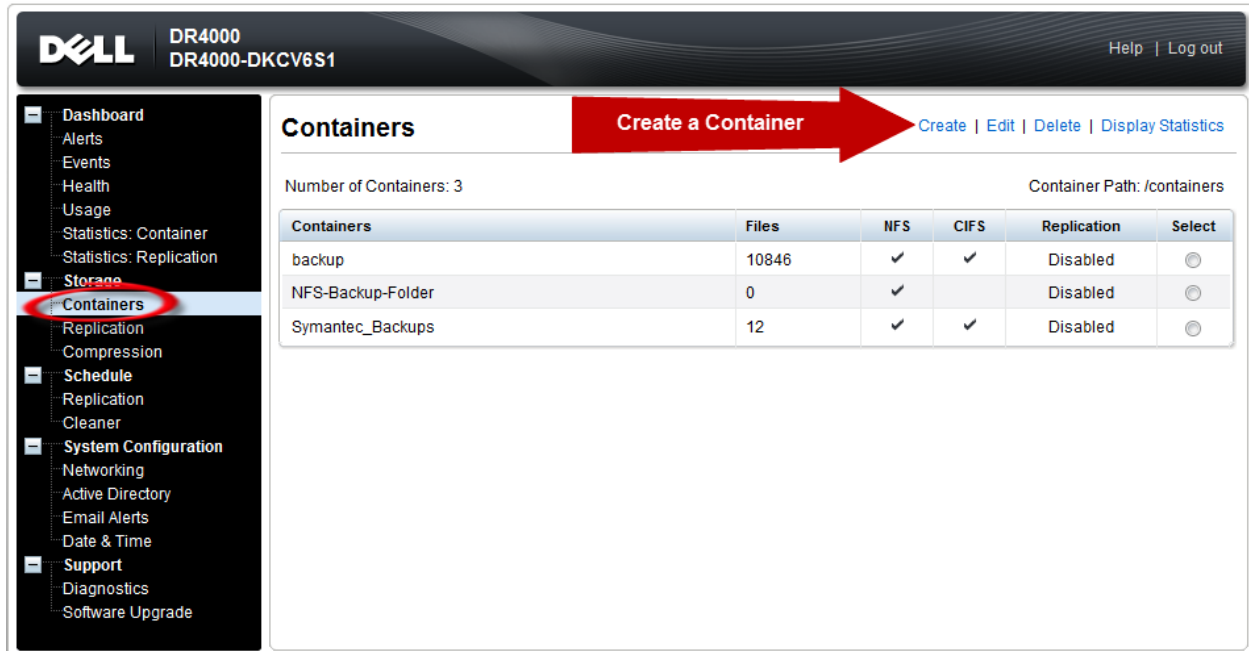


Enter your Active Directory Credentials



## Create & Mount the Container

Select "Containers" in the Dashboard tree and click on "Create" container.



The screenshot shows the Dell DR4000 backup software interface. The top header displays the Dell logo, the model number DR4000, and the device ID DR4000-DKCV6S1. The left sidebar contains a navigation menu with categories: Dashboard, Alerts, Events, Health, Usage, Statistics: Container, Statistics: Replication, Storage, Containers (highlighted with a red circle), Replication, Compression, Schedule, System Configuration, and Support. The main content area is titled "Containers" and features a "Create a Container" button with a red arrow pointing to it. Below the button, there are links for "Create", "Edit", "Delete", and "Display Statistics". The interface shows "Number of Containers: 3" and "Container Path: /containers". A table lists the existing containers:

Containers	Files	NFS	CIFS	Replication	Select
backup	10846	✓	✓	Disabled	<input type="radio"/>
NFS-Backup-Folder	0	✓		Disabled	<input type="radio"/>
Symantec_Backups	12	✓	✓	Disabled	<input type="radio"/>

Next, name the container and click the “Enable CIFS” check box. Select the client access credentials preferred. Dell recommends adding your backup server’s IP address for improved security.

In our instance we named the container “Symantec”

Finally click on “Create a New Container.”

The screenshot shows the 'Create New Container' dialog box in the Dell DR4000 backup software. The dialog is titled 'Create New Container:' and has a subtitle 'Choose the type of container to create (NFS and/or CIFS) and add clients that need access.' Below the subtitle, there is a 'Container Name' field with a red arrow pointing to it labeled 'Name the Container'. The dialog is split into two columns: 'NFS' and 'CIFS'. In the 'NFS' column, there is an 'Enable NFS' checkbox with a red arrow pointing to it labeled 'Select CIFS or NFS'. In the 'CIFS' column, there is an 'Enable CIFS' checkbox with a red arrow pointing to it labeled 'Select CIFS or NFS'. Below the 'Enable' checkboxes, there are 'Client Access' sections for both NFS and CIFS, each with an 'Open Access (all clients have access)' checkbox. Below the 'Client Access' sections, there are 'Add client (IP or FQDN Hostname)' input fields with 'Add' buttons. Below the 'Add client' input fields, there are 'Clients' lists with 'Remove' buttons. At the bottom of the dialog, there is a 'Map root to:' dropdown menu. At the bottom right of the dialog, there are two buttons: 'Cancel' and 'Create a New Container', with the latter button circled in red.

Confirm the container was added

**DELL** DR4000 DR4000-DKCV6S1 Help | Log out

**Containers** [Create](#) | [Edit](#) | [Delete](#) | [Display Statistics](#)

**Message**

- ✓ Successfully added container 'Symantec'. **Confirm Container was added**

Number of Containers: 4 Container Path: /containers

Containers	Files	NFS	CIFS	Replication	Select
backup	10846	✓	✓	Disabled	<input type="radio"/>
NFS-Backup-Folder	0	✓		Disabled	<input type="radio"/>
Symantec	0		✓	Disabled	<input type="radio"/>
Symantec_Backups	12	✓	✓	Disabled	<input type="radio"/>

Document your Container path. Select “Edit” in the container screen to show the path to the container.

The screenshot shows the Dell DR4000 backup software interface. At the top, the Dell logo and model number 'DR4000 DR4000-DKCV6S1' are visible on the left, and 'Help | Log out' is on the right. The main navigation bar includes 'Dashboard' and 'Containers'. The 'Containers' section has links for 'Create | Edit | Delete | Display Statistics'. A modal window titled 'Edit Container: Symantec' is open, showing configuration options for NFS and CIFS. The 'CIFS share path' field, containing '\\192.168.22.50\Symantec', is circled in red. Below the dialog, 'Cancel' and 'Modify this Container' buttons are visible.

**DELL** DR4000 DR4000-DKCV6S1 Help | Log out

Dashboard Containers Create | Edit | Delete | Display Statistics

**Edit Container: Symantec** \* = required fields

**NFS**  
NFS access path: 192.168.22.50/containers/Symantec  
Use NFS to backup UNIX or LINUX clients.  
 Enable NFS

Client Access:  
 Open Access (all clients have access)  
Add client (IP or FQDN Hostname):  Add  
Clients:  Remove

NFS Options:  
 rw  insecure  
 ro

Map root to:  
-select-

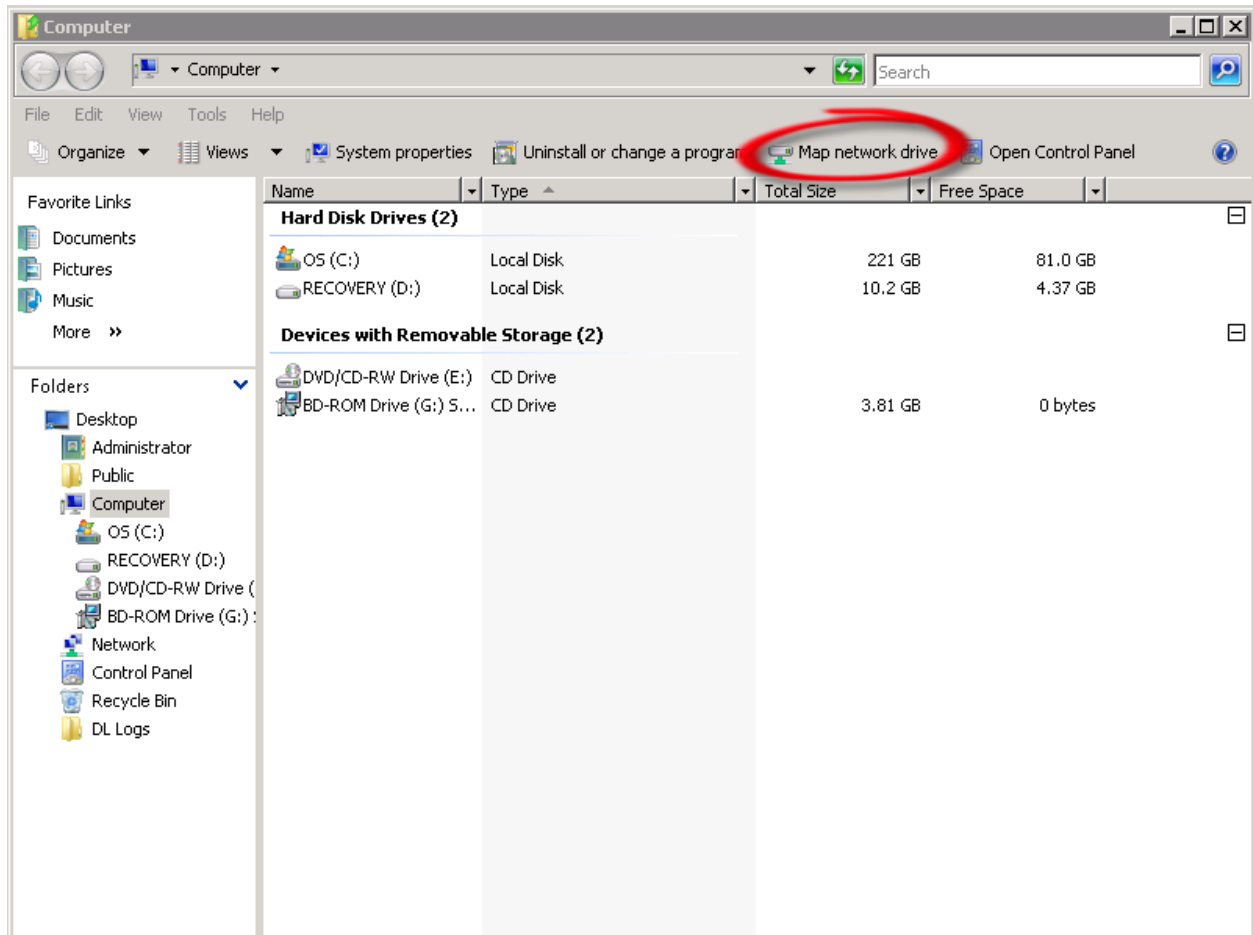
**CIFS**  
CIFS share path: \\192.168.22.50\Symantec  
Use CIFS to backup MS Windows clients.  
 Enable CIFS

Client Access:  
 Open Access (all clients have access)

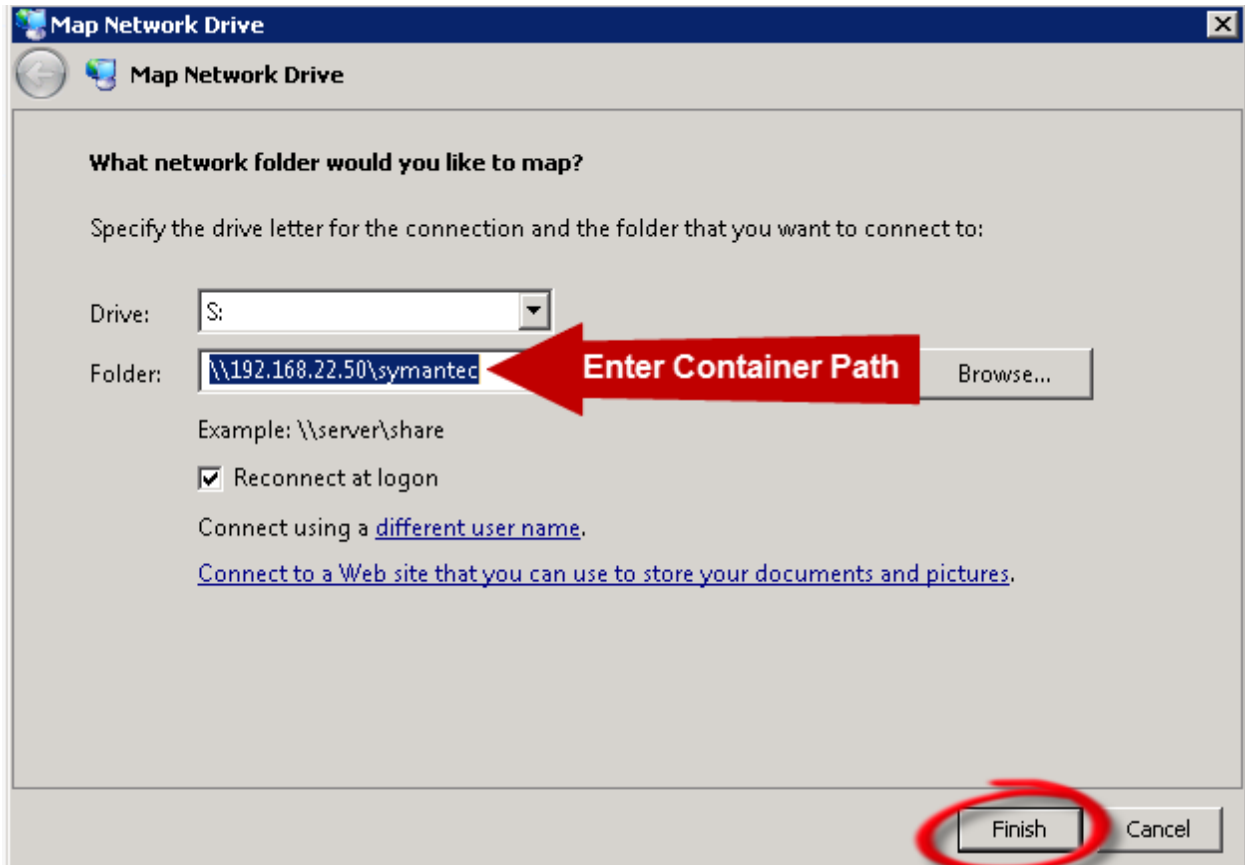
Cancel Modify this Container

Log into your media server and click on “Start” -> “My Computer”

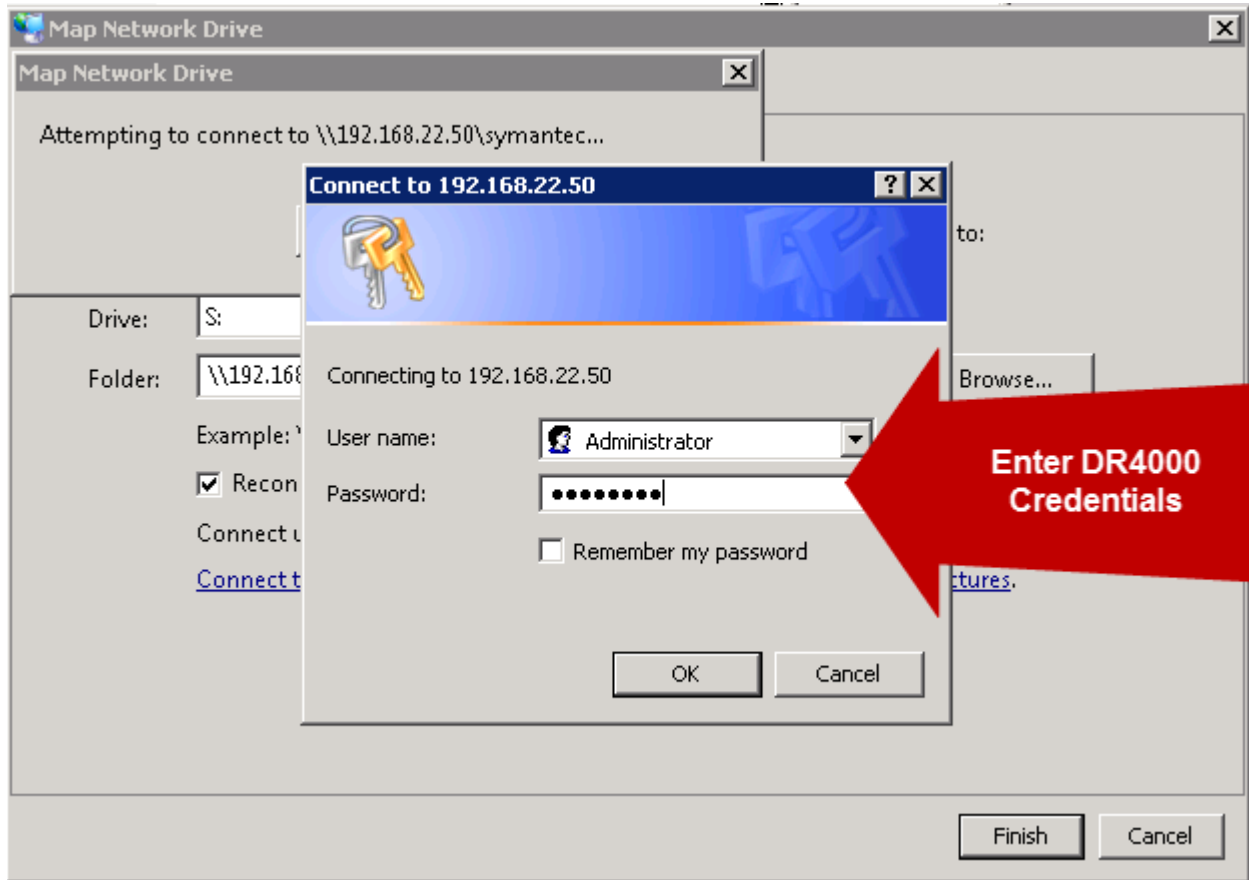
Click on the “Map network drive” icon



Enter the container path to the DR4000. Make sure to check the “Reconnect at logon” box.



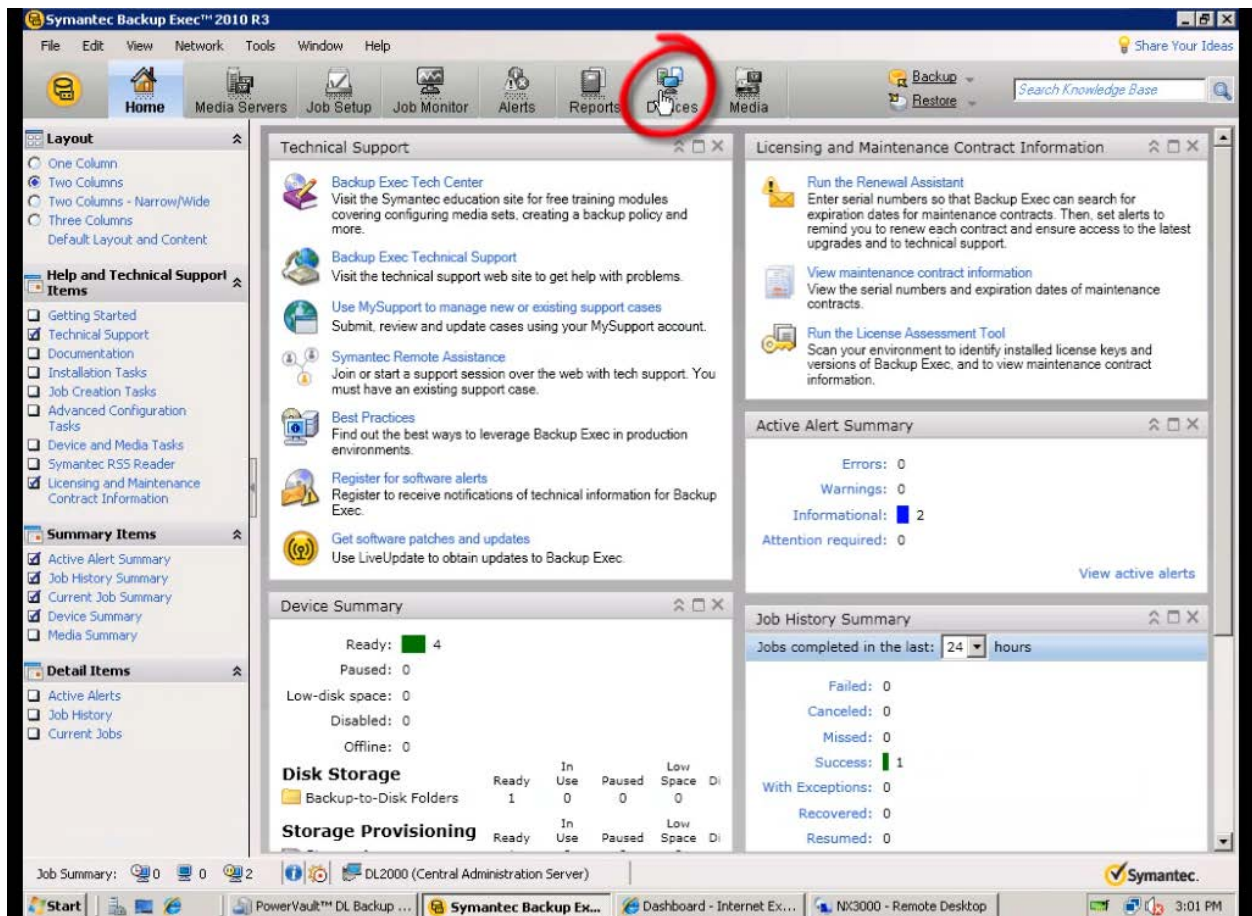
Enter the DR4000 login credentials. The DR4000 container is now mounted to your backup server.



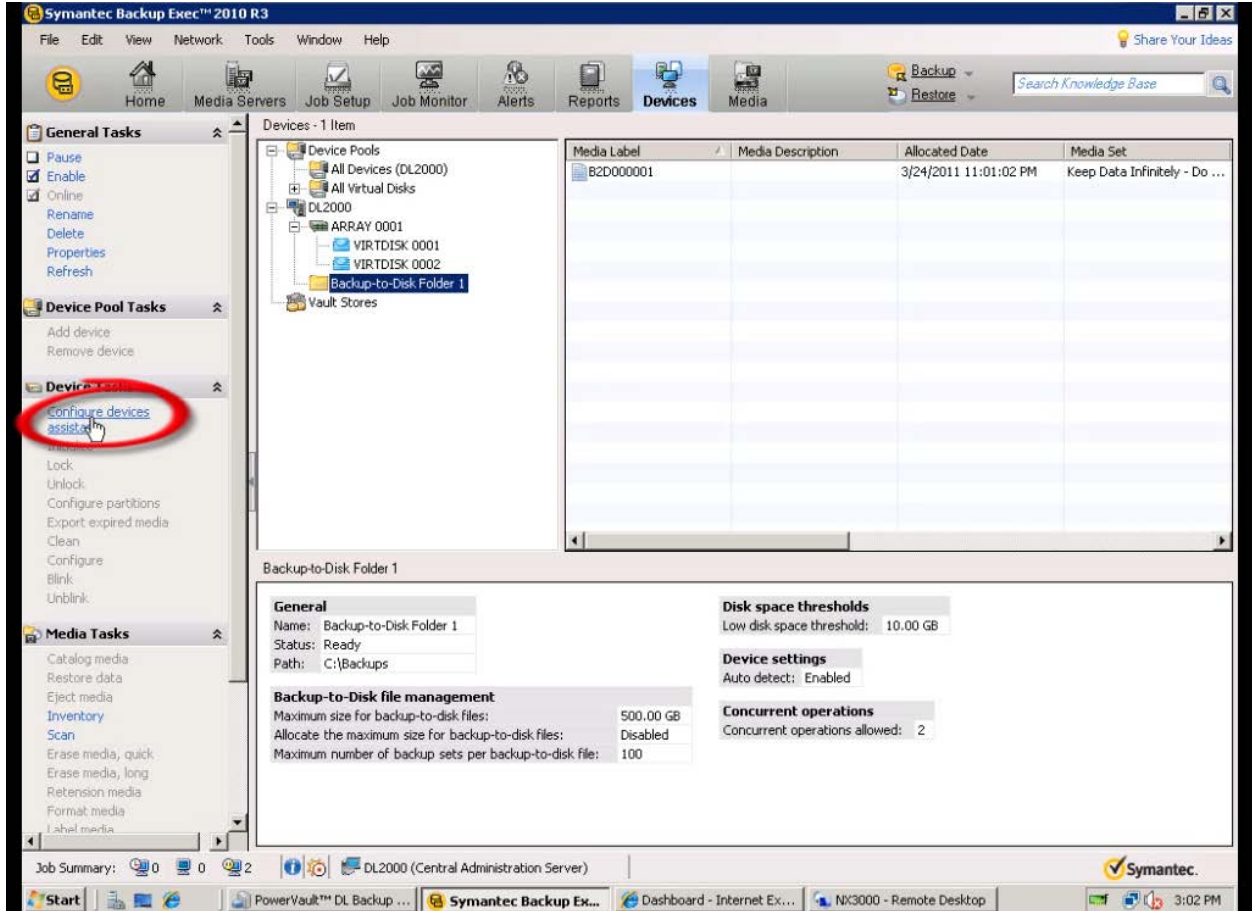


# Backup Exec setup

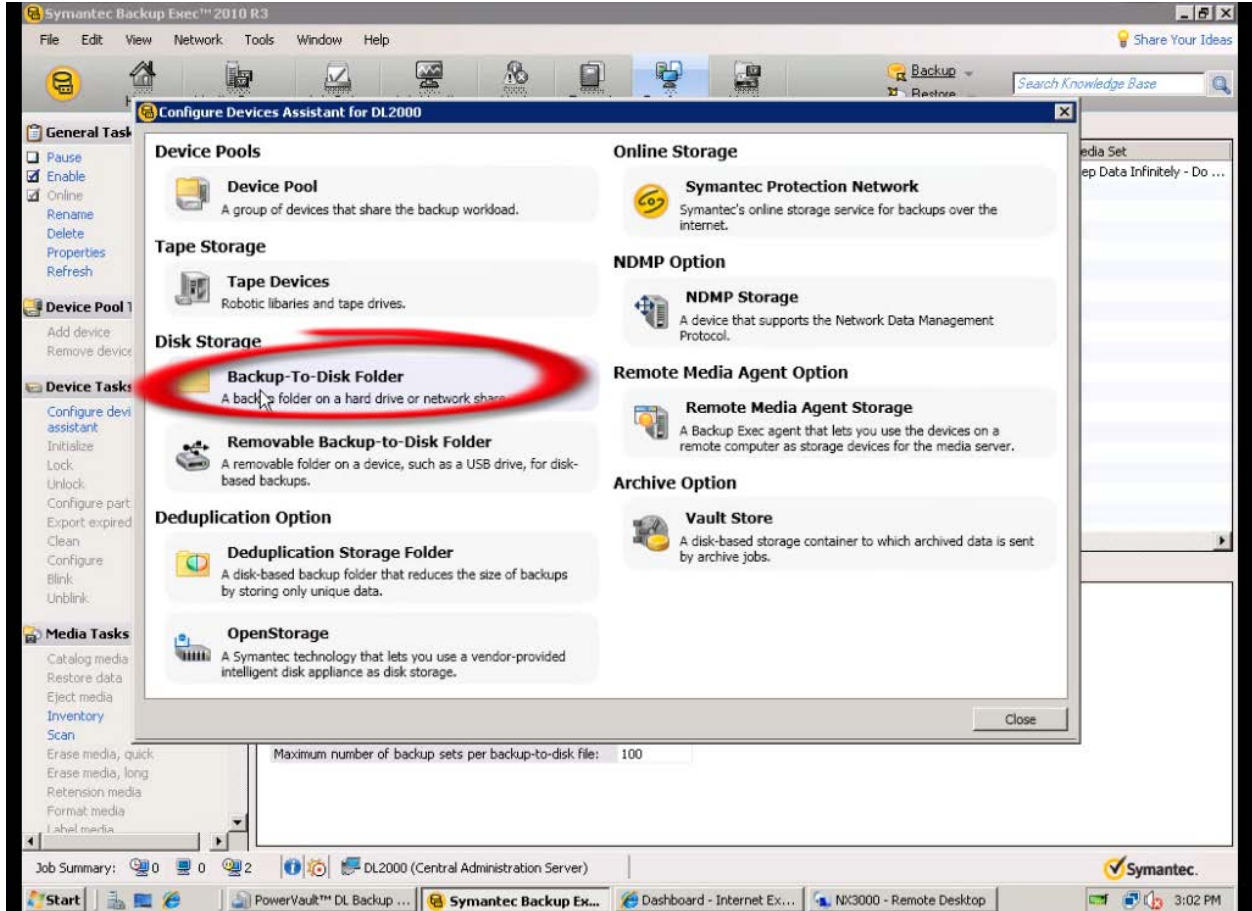
Open your Backup Exec console and click on the “Devices” tab



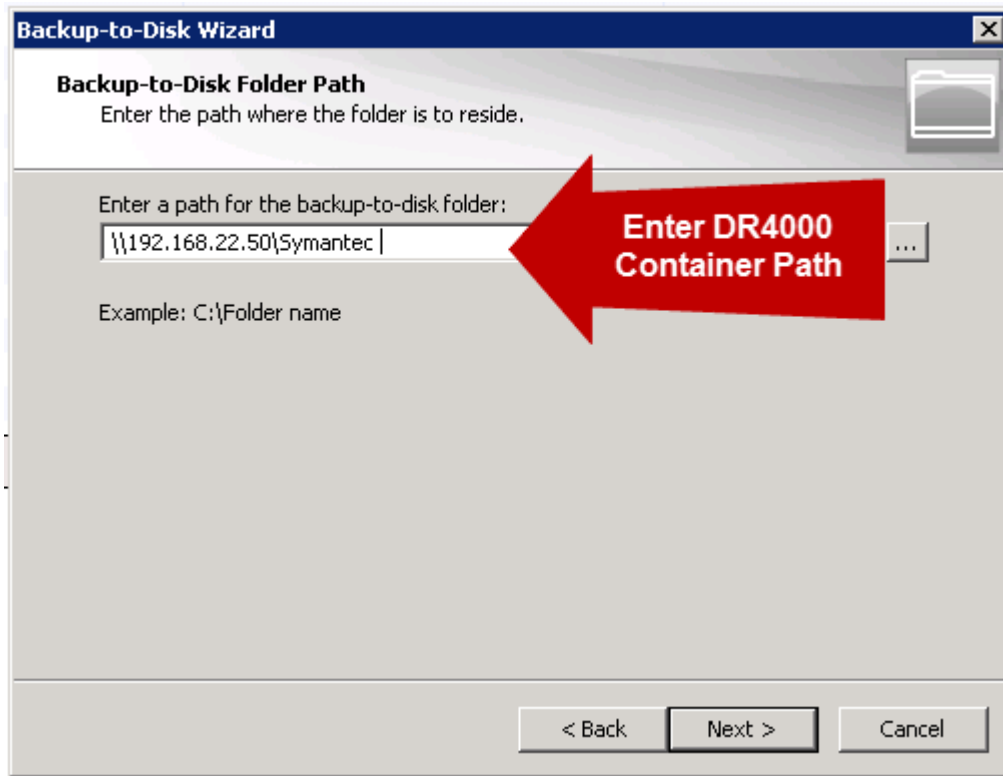
Next, click on “Configure device assistant”



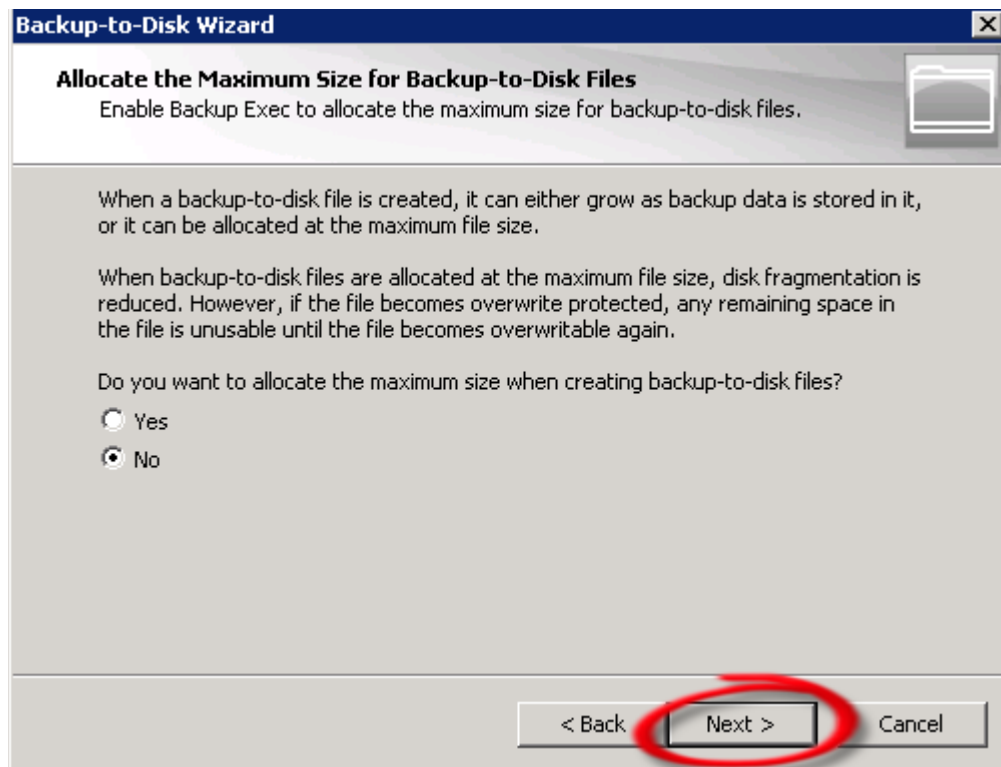
Add DR4000 as "Backup-to-disk" folder



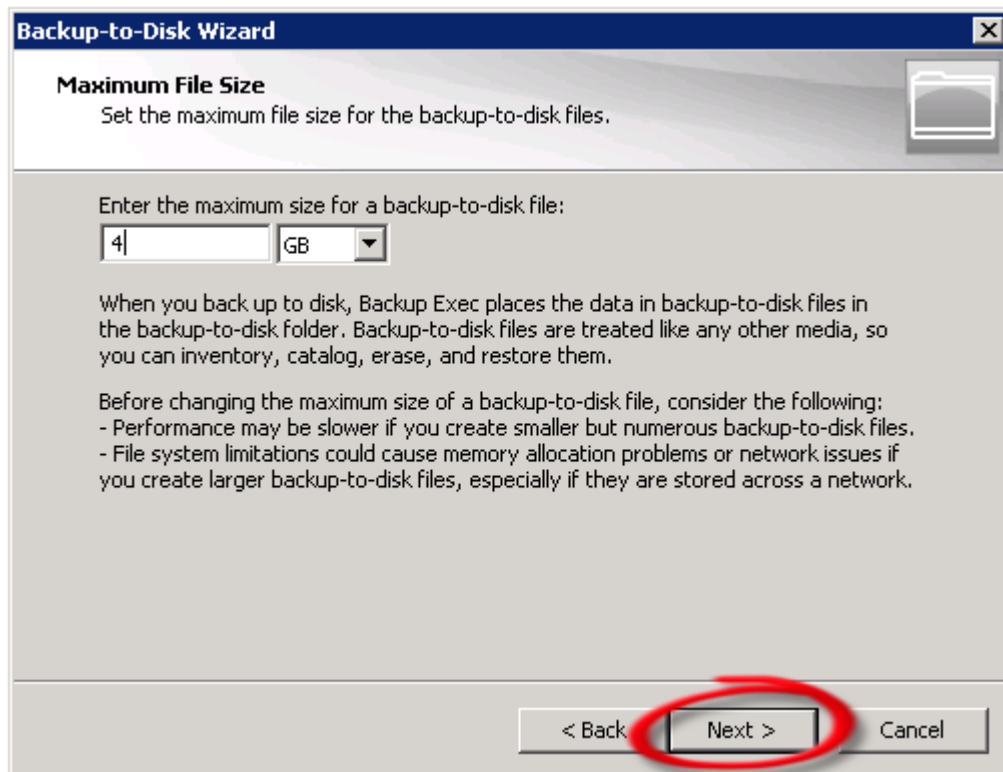
Enter the DR4000 container address



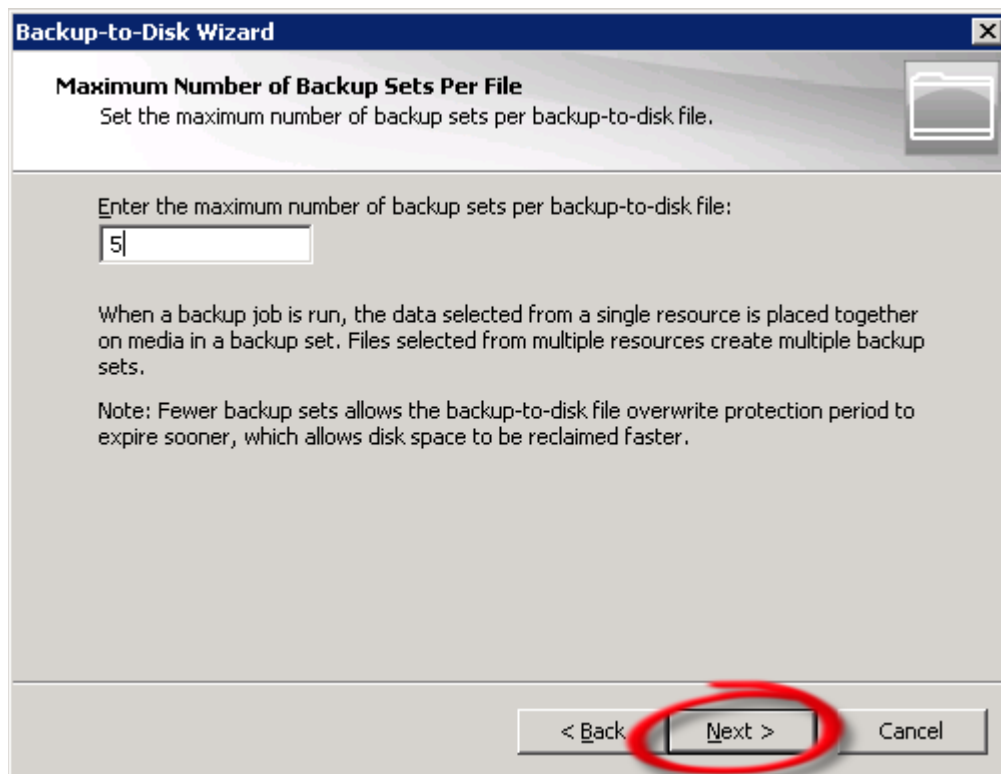
Select "No" when asked "Do you want to allocate the maximum backup size when creating backup-to-disk files?"



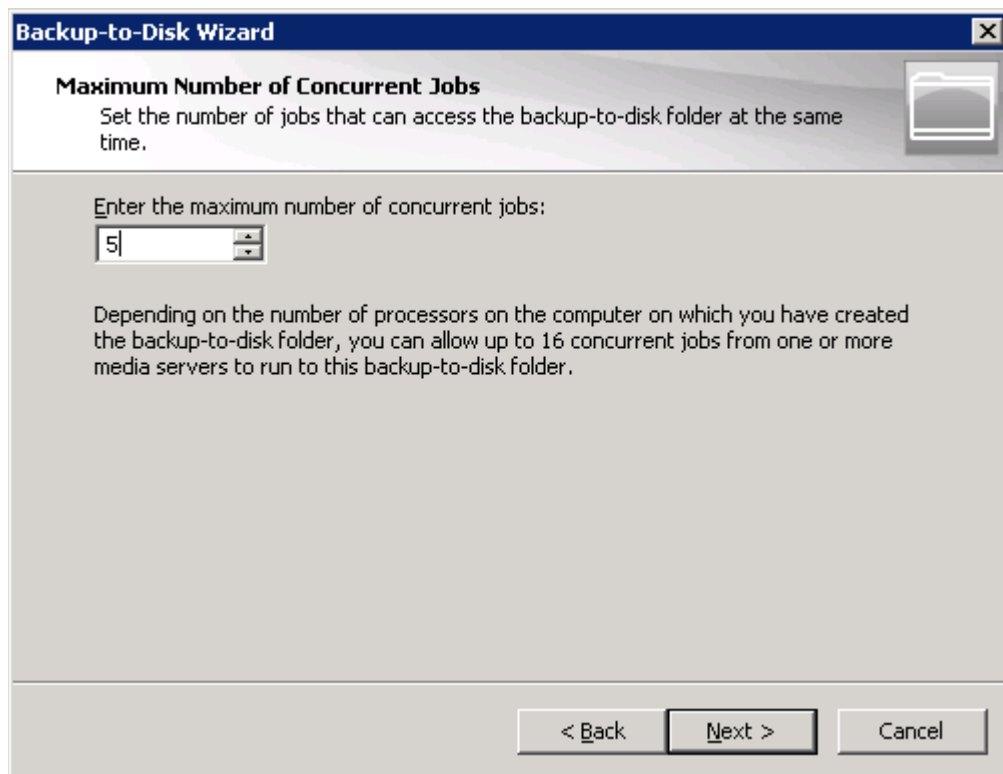
The backup-to-disk file size recommended is 4GB to 1TB depending on how big the average backup is. Consult the Symantec Backup Exec Users Guide for more details if necessary.



Enter "5" as the number of backup sets per backup-to-disk file.

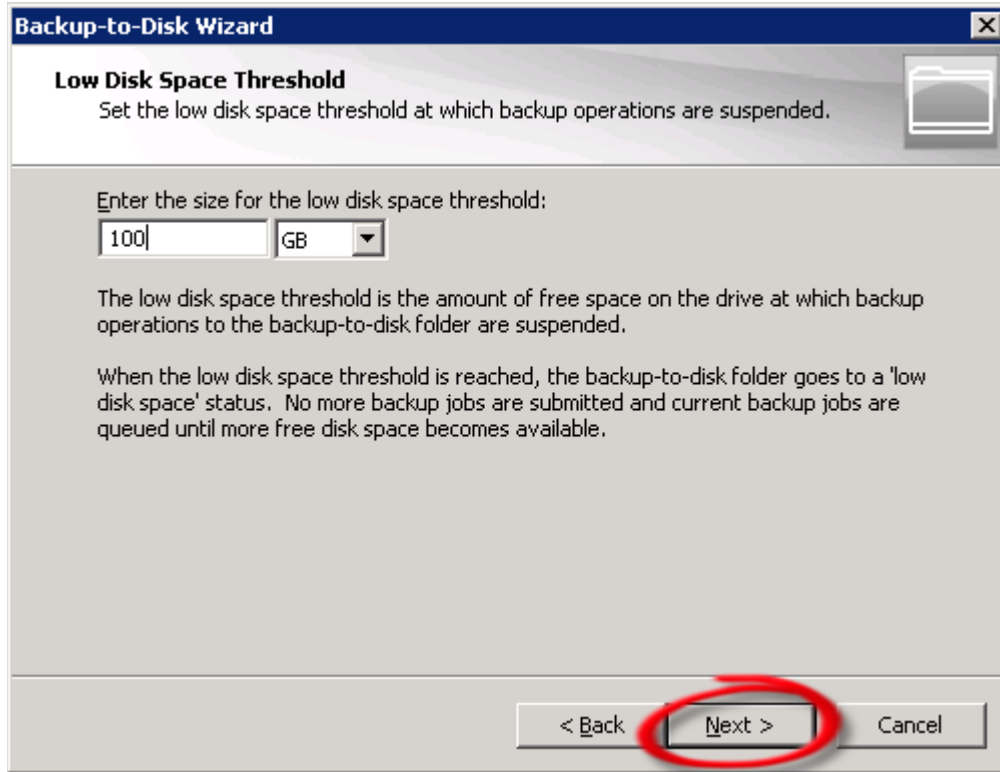


The maximum number of concurrent jobs depends if the DR4000 was deployed with CIFS or NFS protocol. In the example, we used CIFS so 5 concurrent jobs are recommended. If deployed with NFS then 8 concurrent jobs is recommended.

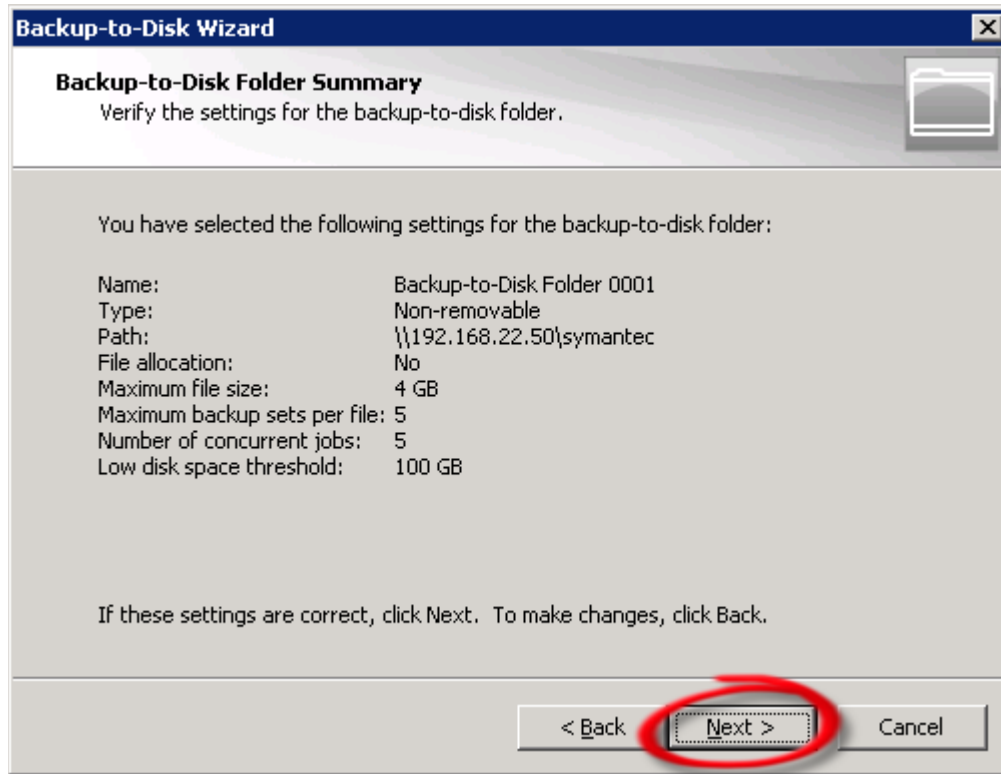




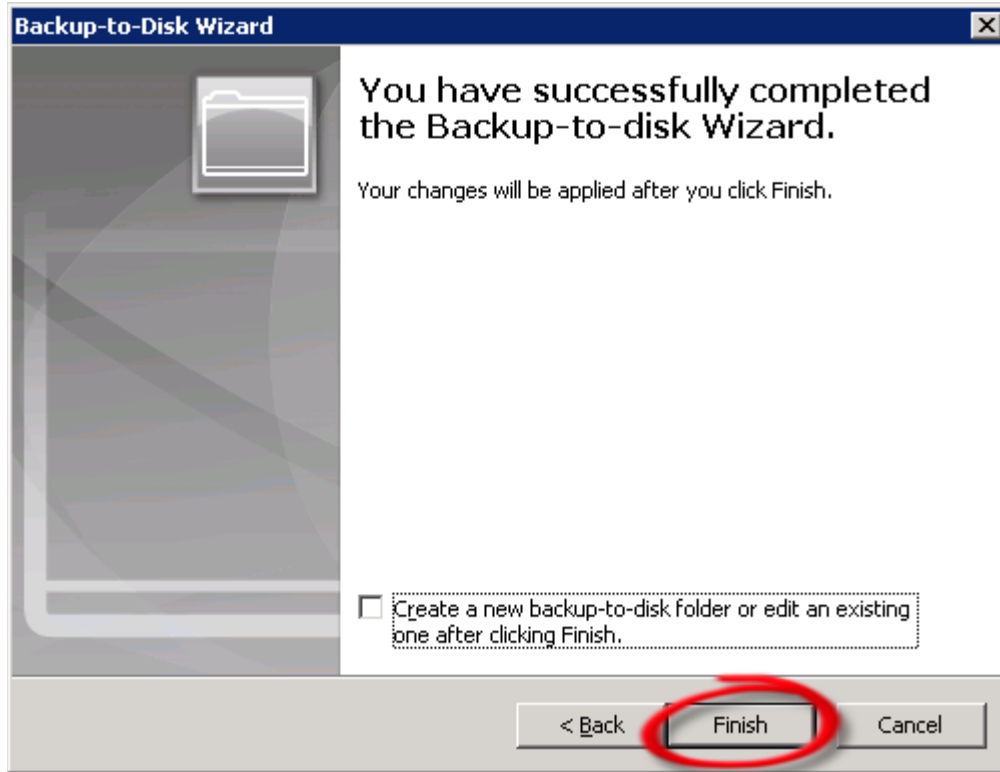
The Low Disk Space Threshold should be set at 100GB.



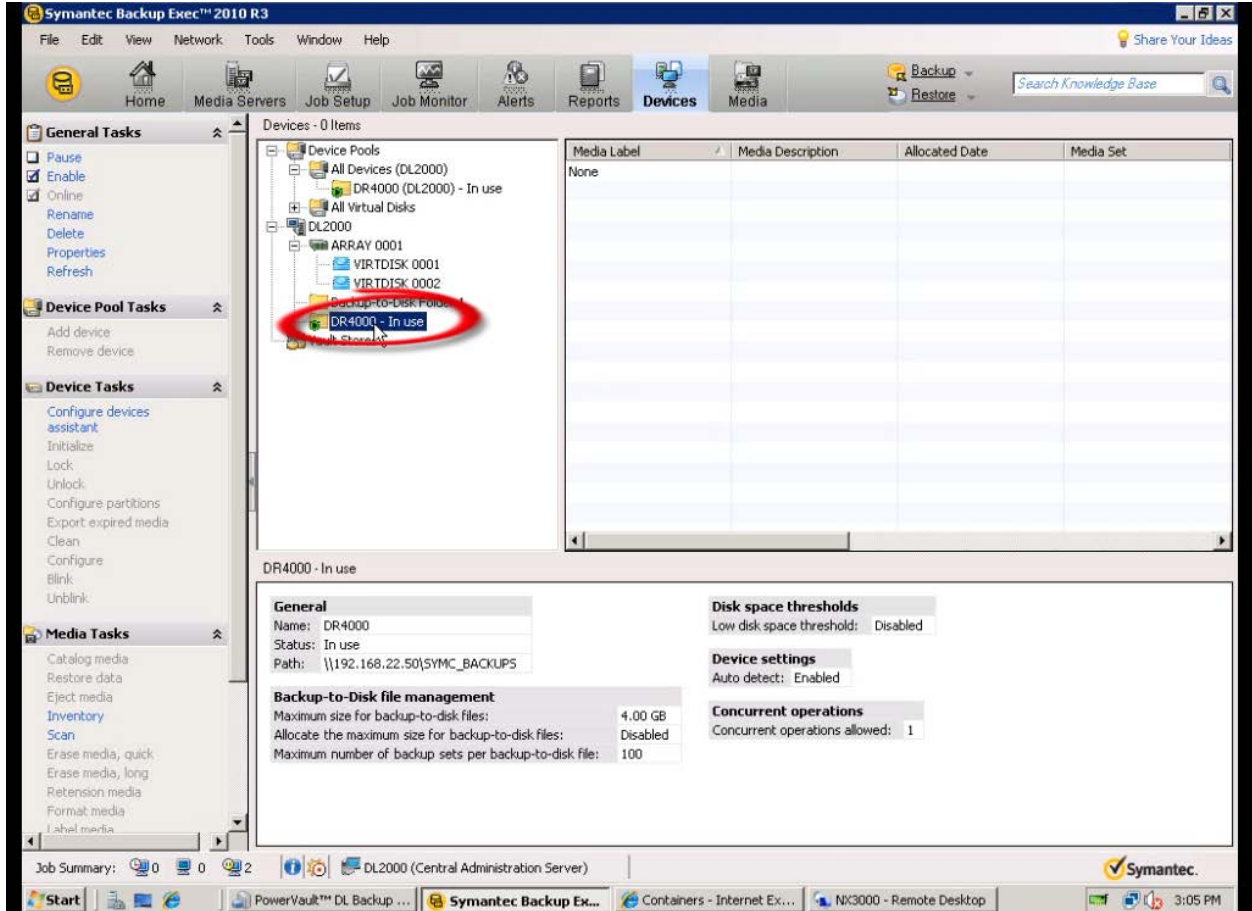
Confirm Settings are correct.



Click Finish.



Verify that DR4000 has shown up as a folder attached to your backup server.



## Create a new backup job with DR4000 as the target

Select the yellow icon at the top left hand corner of the Backup Exec menu

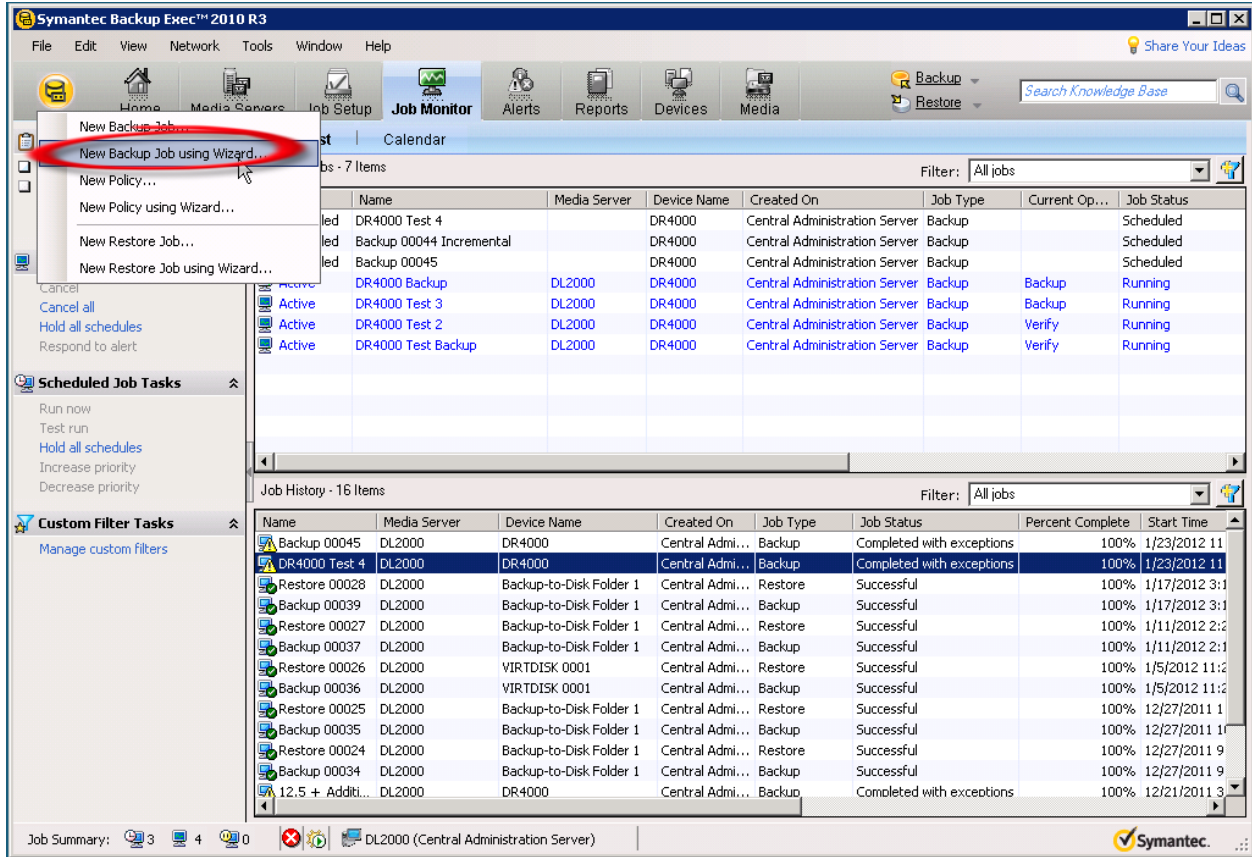
The screenshot displays the Symantec Backup Exec 2010 R3 Job Monitor interface. The main window shows a list of current jobs and a history of jobs. The 'Job List' section is active, showing a table of jobs with columns for State, Name, Media Server, Device Name, Created On, Job Type, Current Op..., and Job Status. A yellow icon is highlighted in the top left corner of the Backup Exec menu.

State	Name	Media Server	Device Name	Created On	Job Type	Current Op...	Job Status
Scheduled	DR4000 Test 4		DR4000	Central Administration Server	Backup		Scheduled
Scheduled	Backup 00044 Incremental		DR4000	Central Administration Server	Backup		Scheduled
Scheduled	Backup 00045		DR4000	Central Administration Server	Backup		Scheduled
Active	DR4000 Test 3	DL2000	DR4000	Central Administration Server	Backup	Backup	Running
Active	DR4000 Test 2	DL2000	DR4000	Central Administration Server	Backup	Verify	Running
Active	DR4000 Test Backup	DL2000	DR4000	Central Administration Server	Backup	Verify	Running

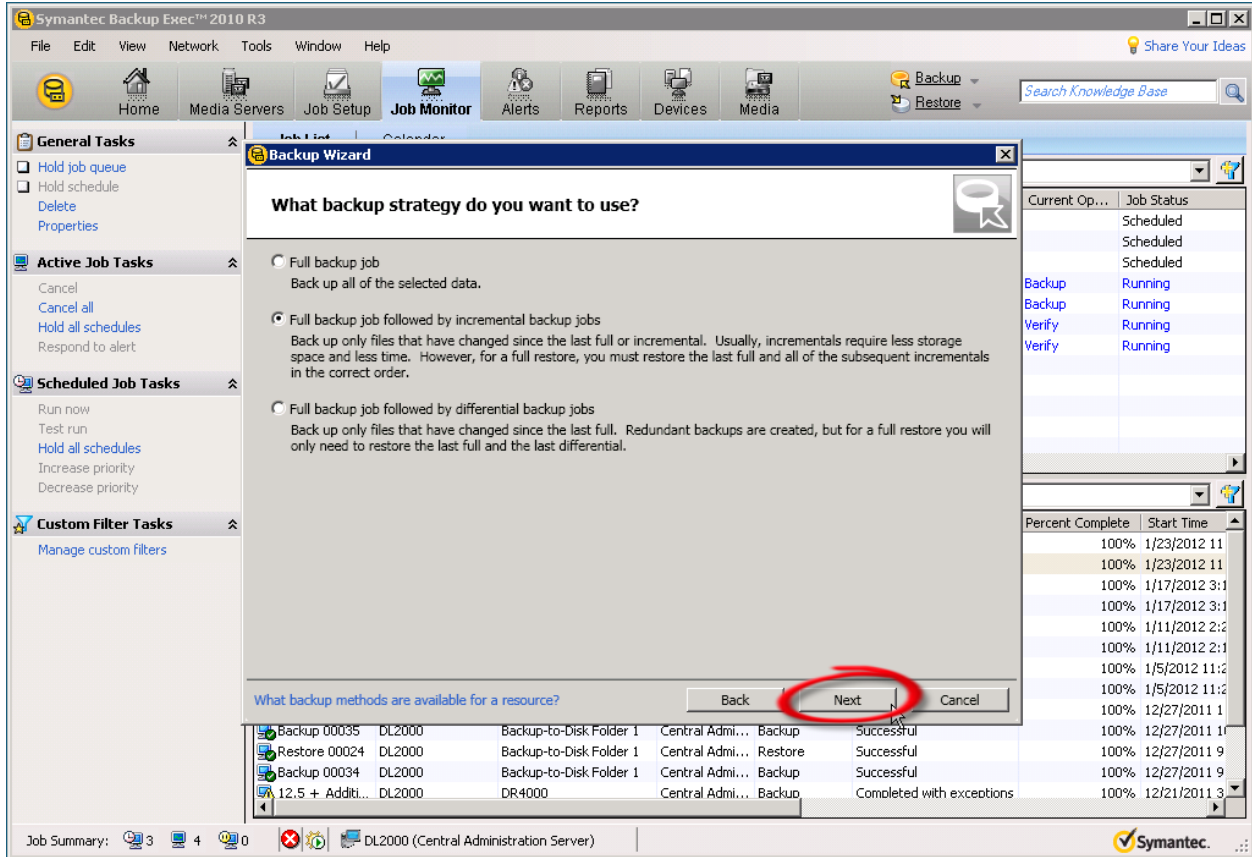
  

Name	Media Server	Device Name	Created On	Job Type	Job Status	Percent Complete	Start Time
Backup 00045	DL2000	DR4000	Central Admi...	Backup	Completed with exceptions	100%	1/23/2012 11
DR4000 Test 4	DL2000	DR4000	Central Admi...	Backup	Completed with exceptions	100%	1/23/2012 11
Restore 00028	DL2000	Backup-to-Disk Folder 1	Central Admi...	Restore	Successful	100%	1/17/2012 3:1
Backup 00039	DL2000	Backup-to-Disk Folder 1	Central Admi...	Backup	Successful	100%	1/17/2012 3:1
Restore 00027	DL2000	Backup-to-Disk Folder 1	Central Admi...	Restore	Successful	100%	1/11/2012 2:2
Backup 00037	DL2000	Backup-to-Disk Folder 1	Central Admi...	Backup	Successful	100%	1/11/2012 2:1
Restore 00026	DL2000	VIRTDISK 0001	Central Admi...	Restore	Successful	100%	1/5/2012 11:2
Backup 00036	DL2000	VIRTDISK 0001	Central Admi...	Backup	Successful	100%	1/5/2012 11:2
Restore 00025	DL2000	Backup-to-Disk Folder 1	Central Admi...	Restore	Successful	100%	12/27/2011 1
Backup 00035	DL2000	Backup-to-Disk Folder 1	Central Admi...	Backup	Successful	100%	12/27/2011 1
Restore 00024	DL2000	Backup-to-Disk Folder 1	Central Admi...	Restore	Successful	100%	12/27/2011 9
Backup 00034	DL2000	Backup-to-Disk Folder 1	Central Admi...	Backup	Successful	100%	12/27/2011 9
12.5 + Additi...	DL2000	DR4000	Central Admi...	Backup	Completed with exceptions	100%	12/21/2011 3

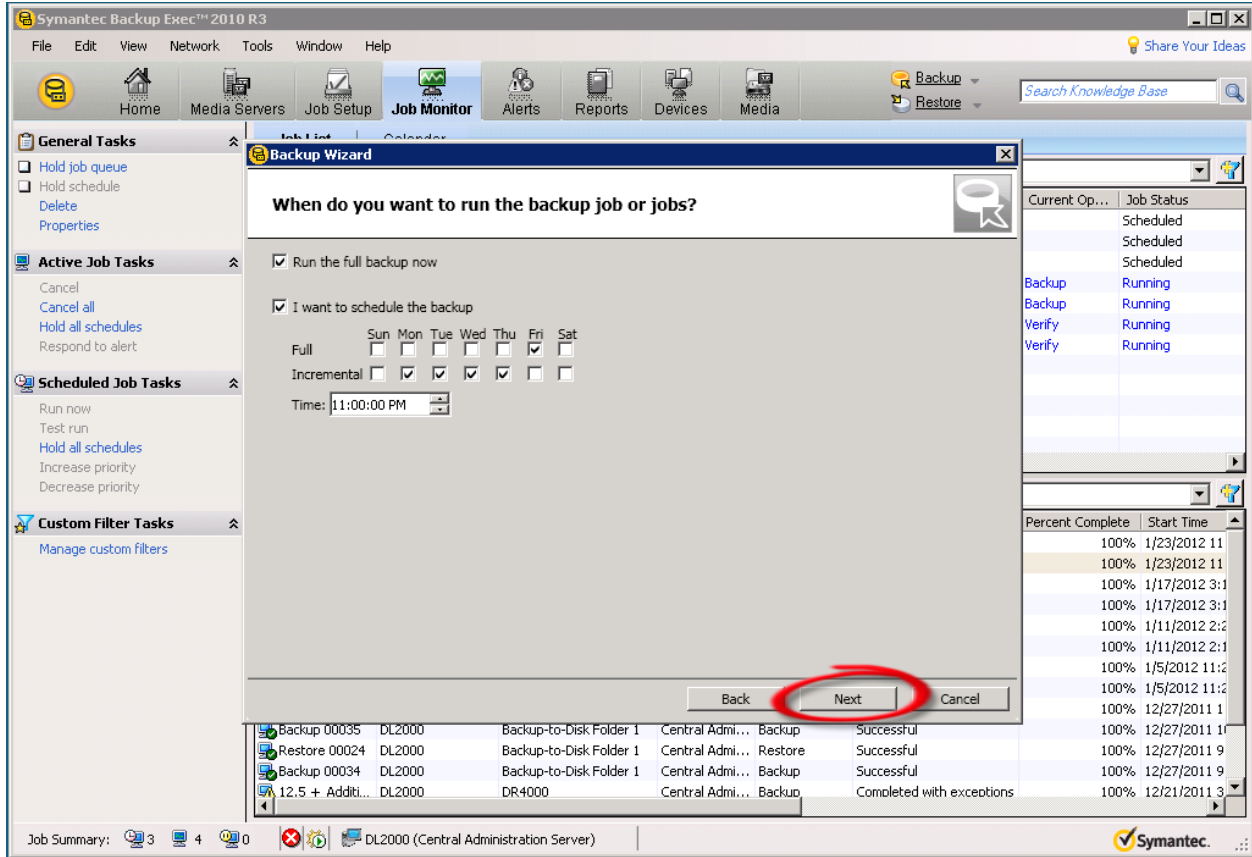
## Create a new backup job using the Job Wizard



Define your backup strategy.

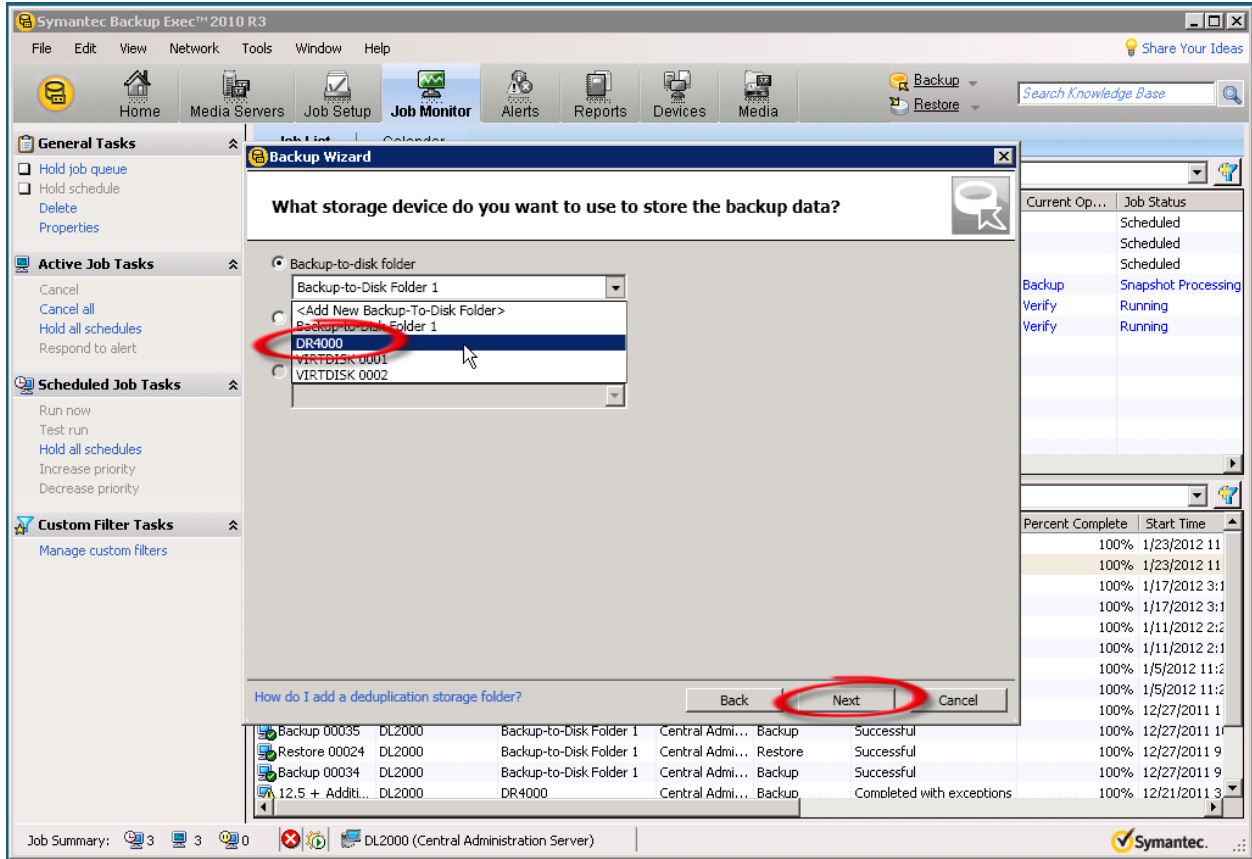


Define backup schedule.



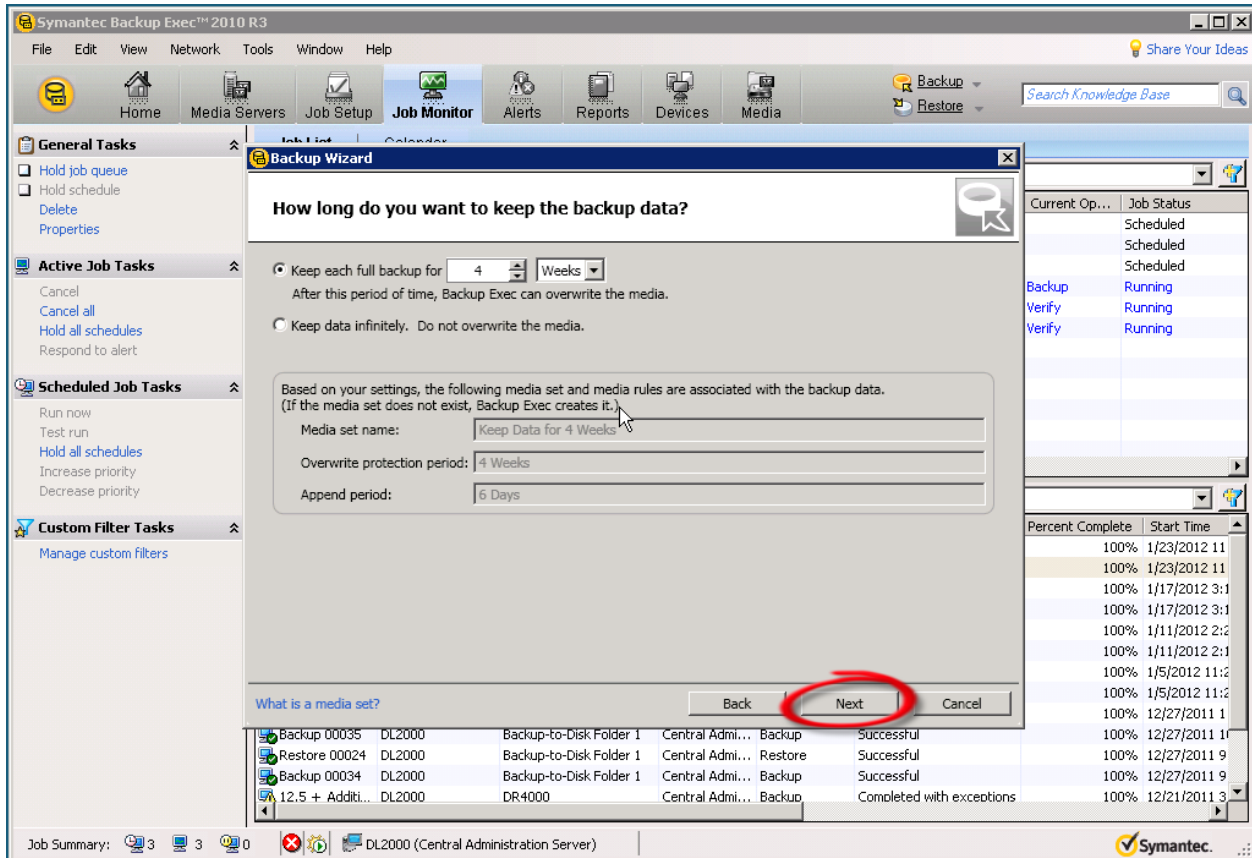


Select the DR4000 as your backup-to-disk folder.

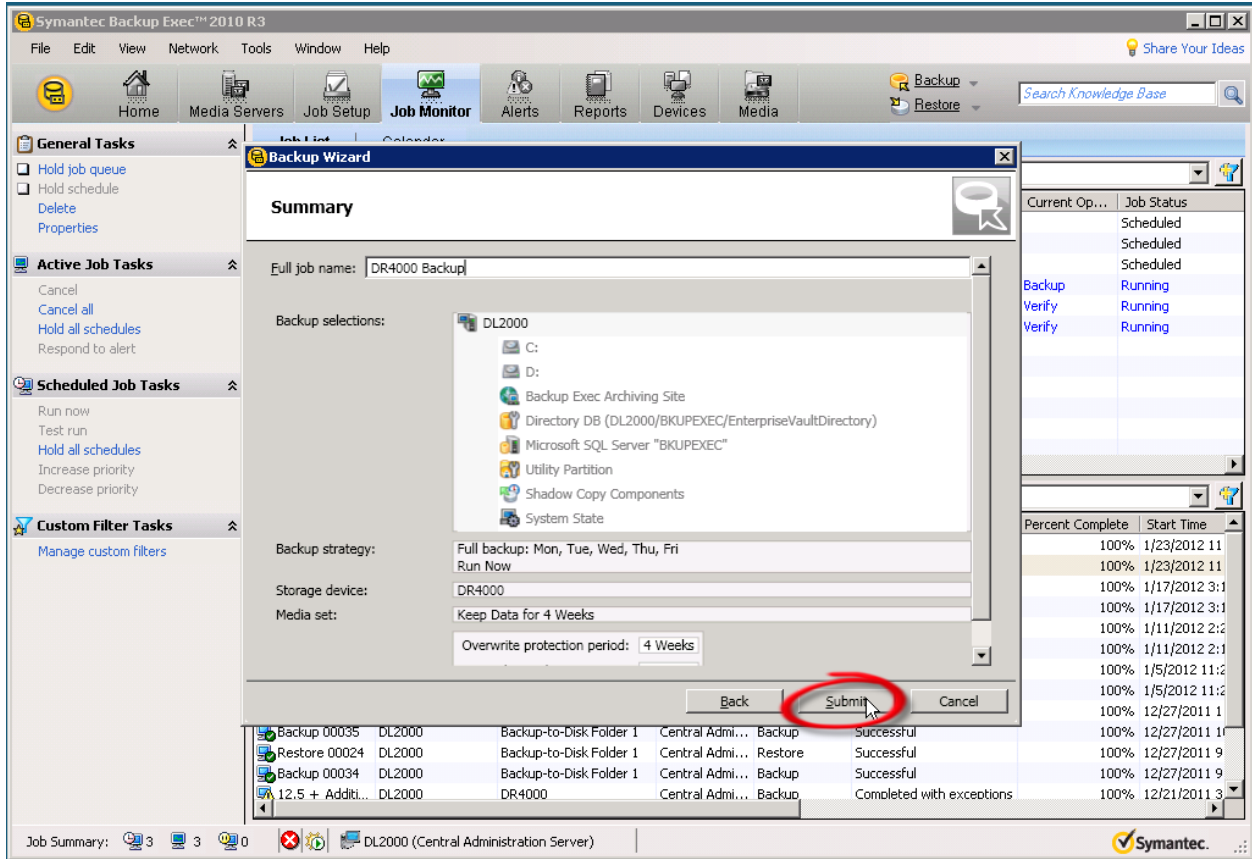


Define the retention period for the backup job.

*Note: Dell's "15x" deduplication claim is for average 12 week retention with multiple data types. Ratios will vary depending on data type, frequency of backup and retention. Dedupe ratios will grow with longer retention periods.*



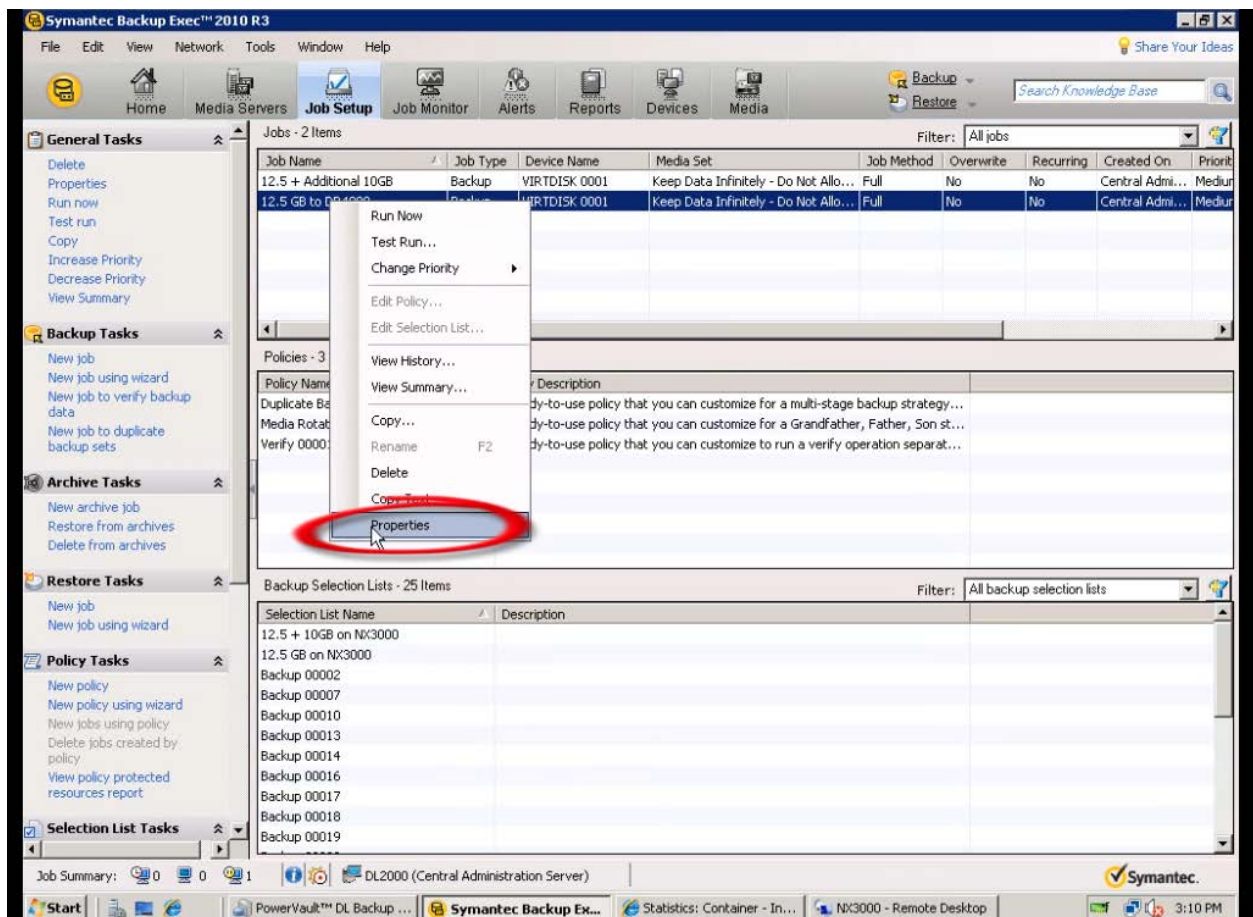
Confirm backup settings are correct and click “Submit”.



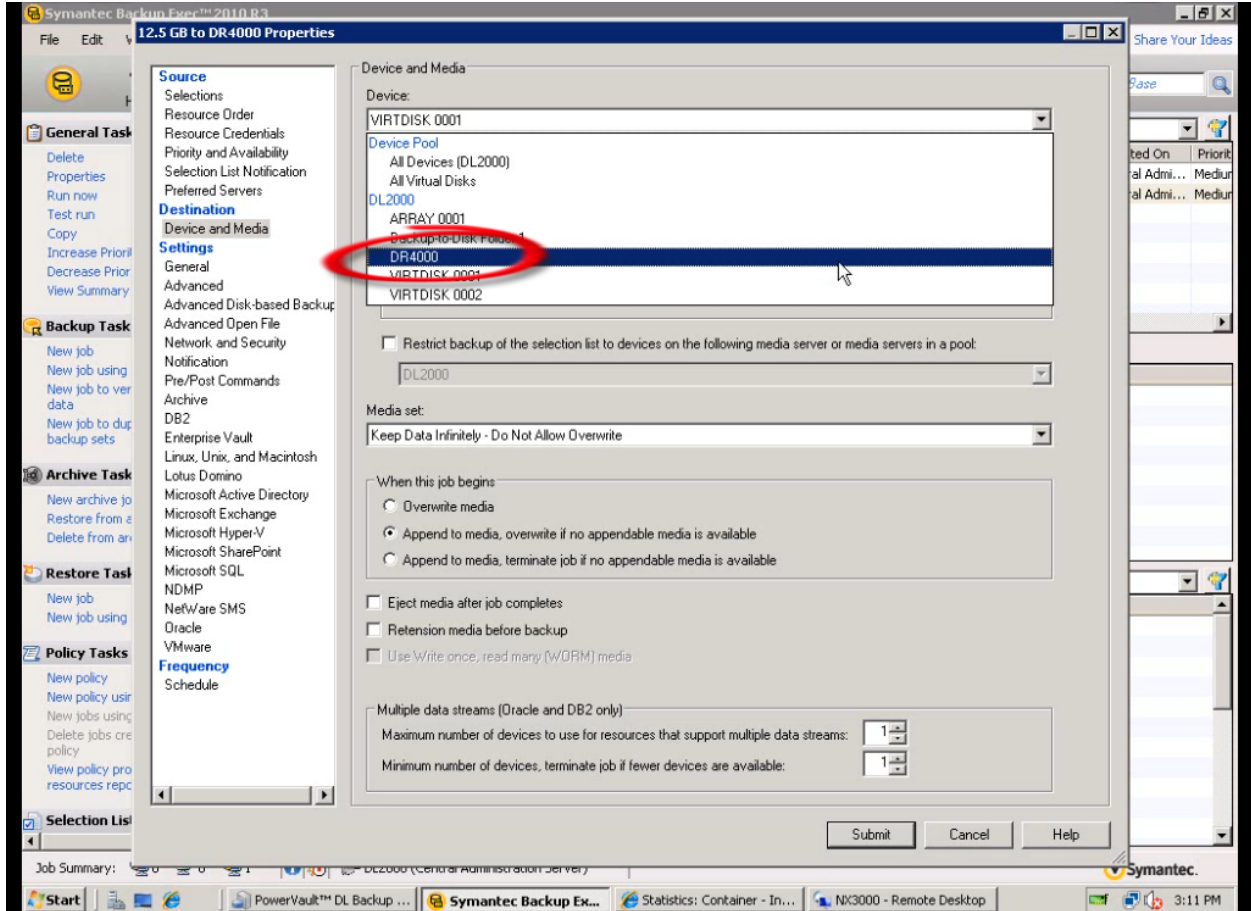
## Edit a backup Job to DR4000 as the target

Click the “Job Setup” icon on the top toolbar.

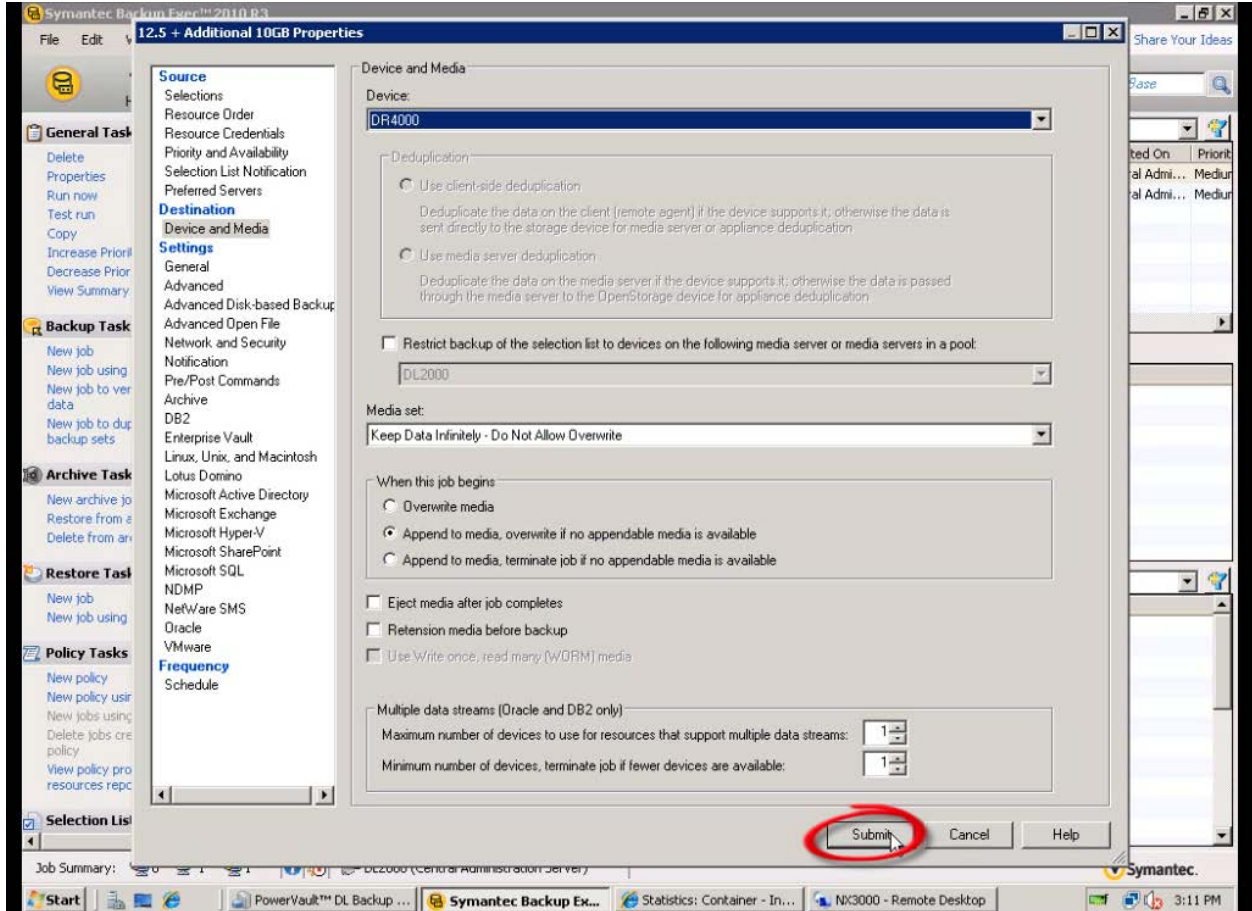
Next, right click on job and select “Properties”



Select the DR4000 as the Device



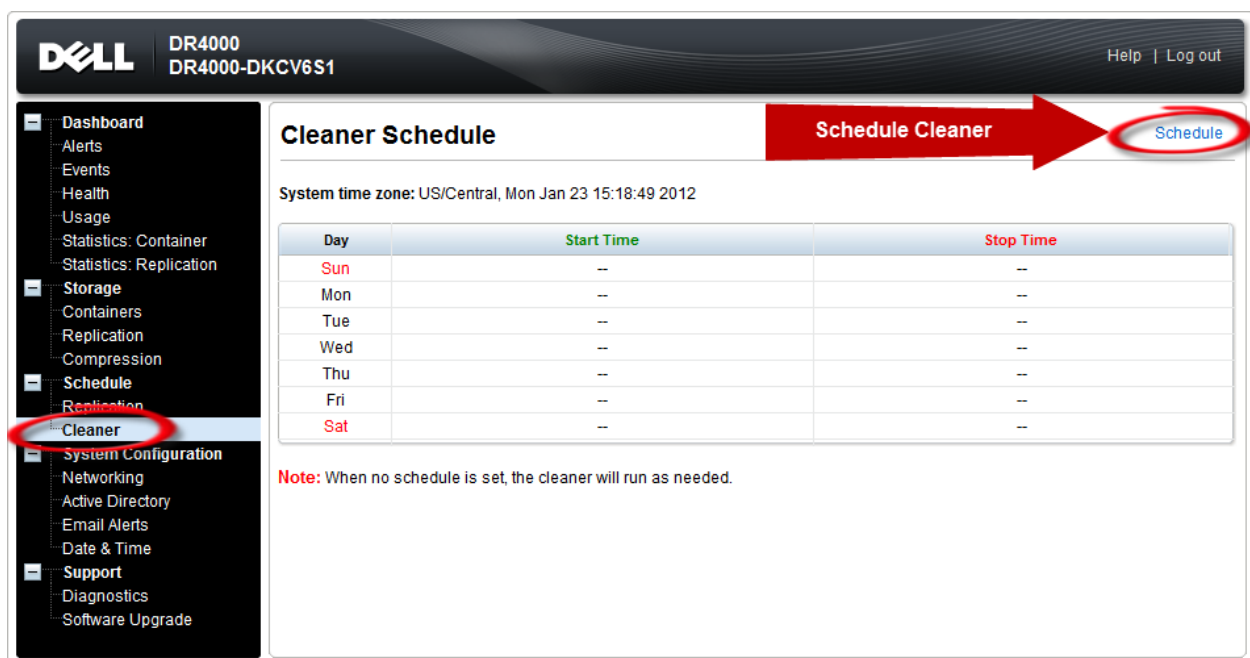
Click "Submit"



## Setup DR4000 Cleaner

Once all the backup jobs are setup the DR4000 cleaner must be scheduled. The DR4000 cleaner should run at least 6 hours per week when backups are not taking place, generally after a backup job has completed.

Performing scheduled disk space reclamation operations are recommended as a method for recovering disk space from system containers in which files were deleted as a result of deduplication.



**DELL** DR4000 DR4000-DKCV6S1 Help | Log out

**Cleaner Schedule** **Schedule Cleaner** [Schedule](#)

System time zone: US/Central, Mon Jan 23 15:18:49 2012

Day	Start Time	Stop Time
Sun	--	--
Mon	--	--
Tue	--	--
Wed	--	--
Thu	--	--
Fri	--	--
Sat	--	--

**Note:** When no schedule is set, the cleaner will run as needed.



## Monitoring Dedupe, Compression & Performance

After backup jobs have run the DR4000 will track Capacity, Storage Savings and Throughput on the DR4000 dashboard. This information is valuable in understanding the benefits the DR4000.

*Note: Deduplication ratios increase over time, it is not uncommon to see a 2-4x reduction (25-50% total savings) on the initial backup. As additional full backup jobs complete the ratios will increase. As mentioned before backup jobs with 12 week retention will average a 15x ratio in most cases.*

