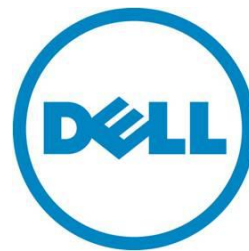

DR4000 Setup Guide for Symantec Backup Exec 2010 R3

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



This document is for informational purposes only and may contain typographical errors and technical inaccuracies. The content is provided as is, without express or implied warranties of any kind.

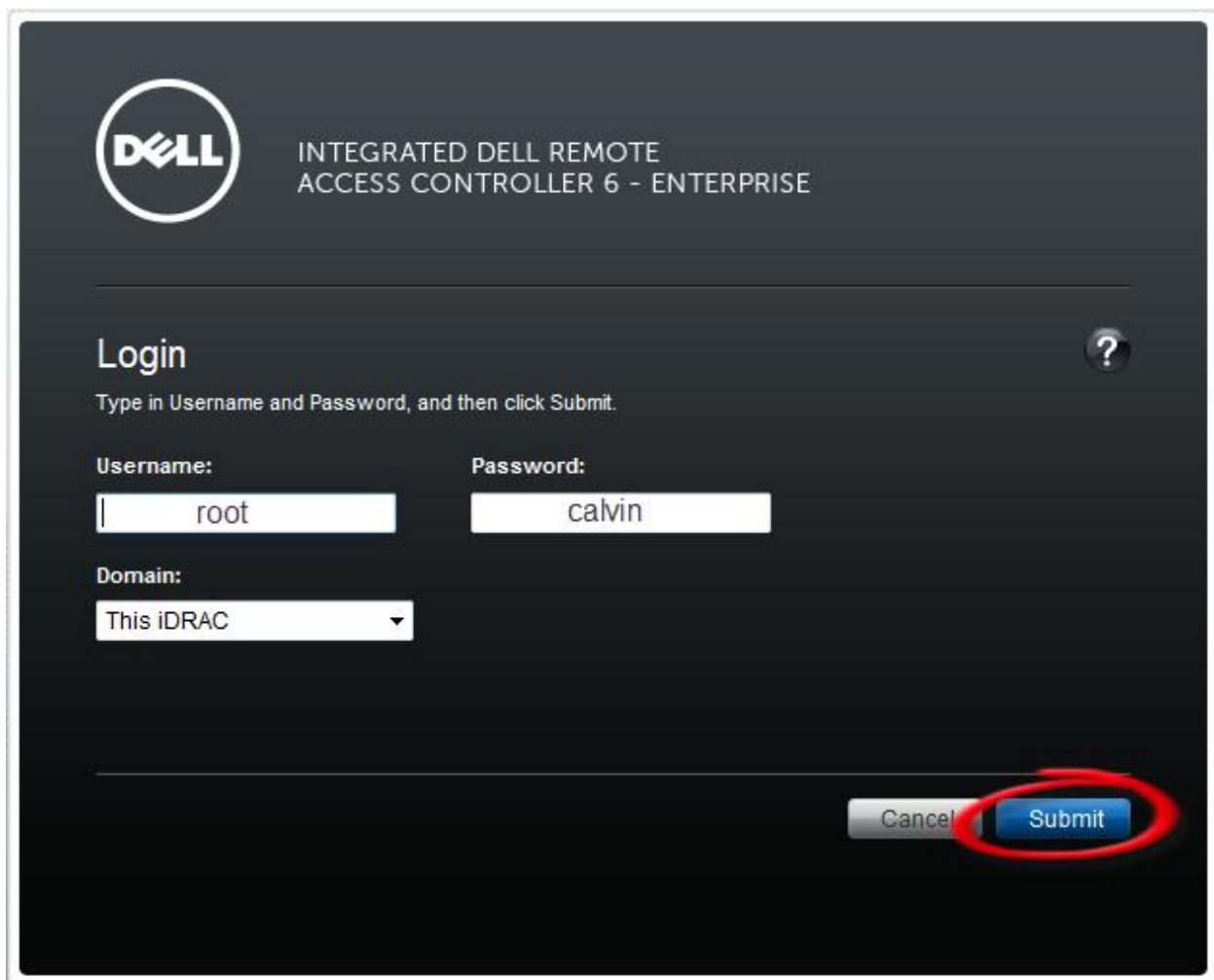
© 2012 Dell Inc. All rights reserved. Dell and its affiliates cannot be responsible for errors or omissions in typography or photography. Dell, the Dell logo, and PowerEdge are trademarks of Dell Inc. Intel and Xeon are registered trademarks of Intel Corporation in the U.S. and other countries. Microsoft, Windows and Windows Server are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Dell disclaims proprietary interest in the marks and names of others.

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."



The screenshot shows the login page for the Dell iDRAC. At the top left is the Dell logo. To its right, the text reads "INTEGRATED DELL REMOTE ACCESS CONTROLLER 6 - ENTERPRISE". Below this is a "Login" section with a help icon (question mark) on the right. Underneath the "Login" heading is the instruction: "Type in Username and Password, and then click Submit." There are three input fields: "Username:" with the value "root", "Password:" with the value "calvin", and "Domain:" with a dropdown menu showing "This iDRAC". At the bottom right, there are two buttons: "Cancel" and "Submit". The "Submit" button is circled in red.

Next, launch the Virtual console.

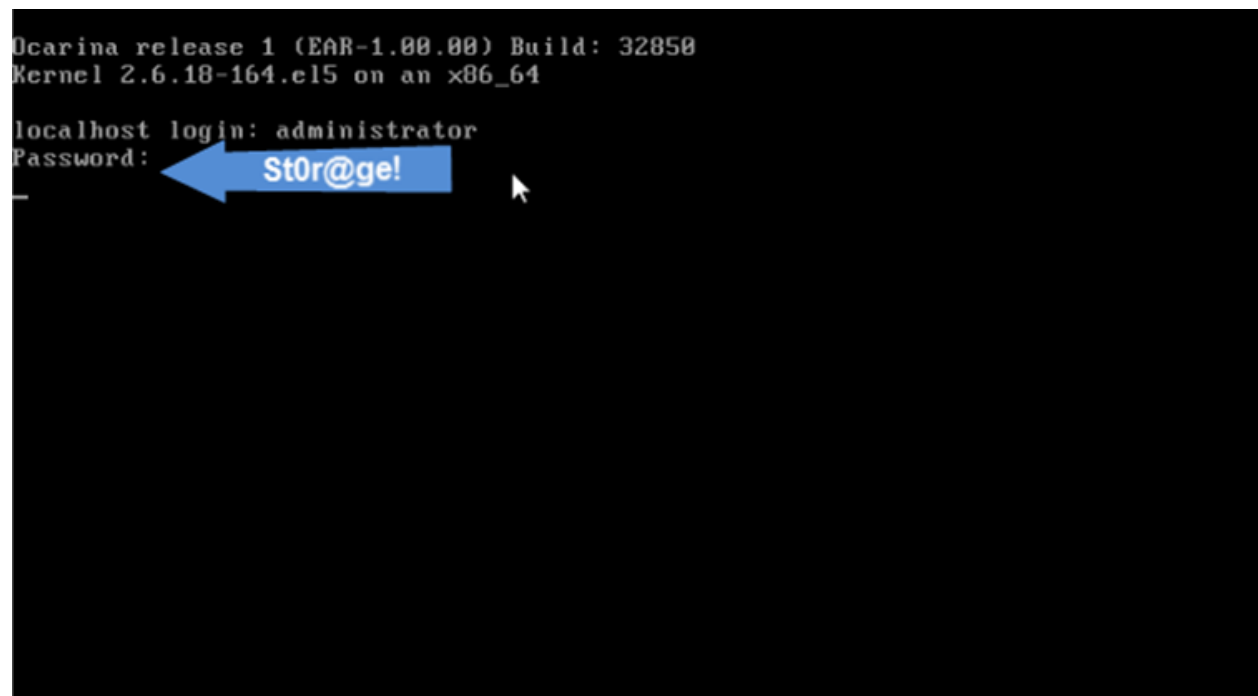
The screenshot displays the Dell iDRAC 6 Enterprise web interface. The top navigation bar includes the Dell logo, the product name 'INTEGRATED DELL REMOTE ACCESS CONTROLLER 6 - ENTERPRISE', and links for 'Support | About | Logout'. The left sidebar shows the 'System' menu with options like 'IDRAC Settings', 'Batteries', 'Fans', 'Intrusion', 'Power Supplies', 'Removable Flash Media', 'Temperatures', 'Voltages', and 'Power Monitoring'. The main content area is titled 'System Summary' and contains several panels: 'Server Health' (listing components like Batteries, Fans, Intrusion, Power Supplies, Removable Flash Media, Temperatures, and Voltages, all with green checkmarks), 'Server Information' (a table with details like Power State: ON, System Model: Dell DR4000, Operating System: CentOS), 'Virtual Console Preview' (showing a black console window with 'Refresh' and 'Launch' buttons, where 'Launch' is circled in red), and 'Quick Launch Tasks' (listing actions like Power ON / OFF, Power Cycle System, Launch Virtual Console, View System Event Log, View iDRAC Log, Update Firmware, and Reset iDRAC).

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: 32850
Kernel 2.6.18-164.el5 on an x86_64

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

A screenshot of a terminal window with a black background and white text. The text shows the system booting up with 'Ocarina release 1 (EAR-1.00.00) Build: 32850' and 'Kernel 2.6.18-164.el5 on an x86_64'. It then prompts for a login: 'localhost login: administrator'. The password prompt 'Password:' is followed by a blue arrow pointing to the text 'St0r@ge!' which is also highlighted in blue. A mouse cursor is visible near the end of the password.

Set user defined networking preferences

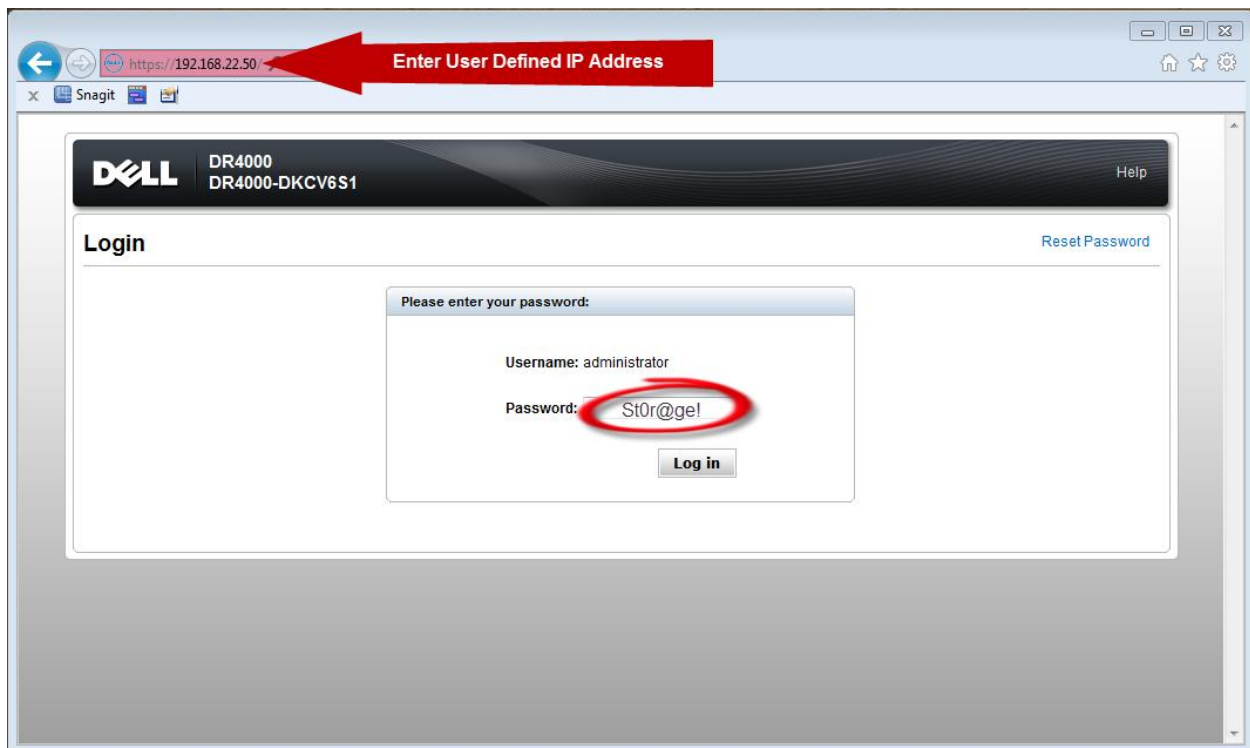
```
Would you like to use DHCP (yes/no) ?  
  
Please enter an IP address:  
  
Please enter a subnet mask:  
  
Please enter a default gateway address:  
  
Please enter a DNS Suffix (example: abc.com):  
  
Please enter primary DNS server IP address:  
  
Would you like to define a secondary DNS server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

- Dashboard
- Alerts
- Events
- Health
- Usage
- Statistics: Container
- Statistics: Replication
- Storage
 - Containers
 - Replication
 - Compression
- Schedule
 - Replication
 - Cleaner
- System Configuration
 - Networking
 - Active Directory**
 - Email Alerts
 - Date & Time
- Support
 - Diagnostics
 - Software Upgrade

Dashboard

System State: optimal HW State: optimal Number of Alerts: 0 Number of Events: 323

Capacity

Physical

98%

Used (131.0 GB) Free (7.68 TB)

Storage Savings

Savings (%)

Time (minutes)

De-duplication Compression

Throughput

MB/s

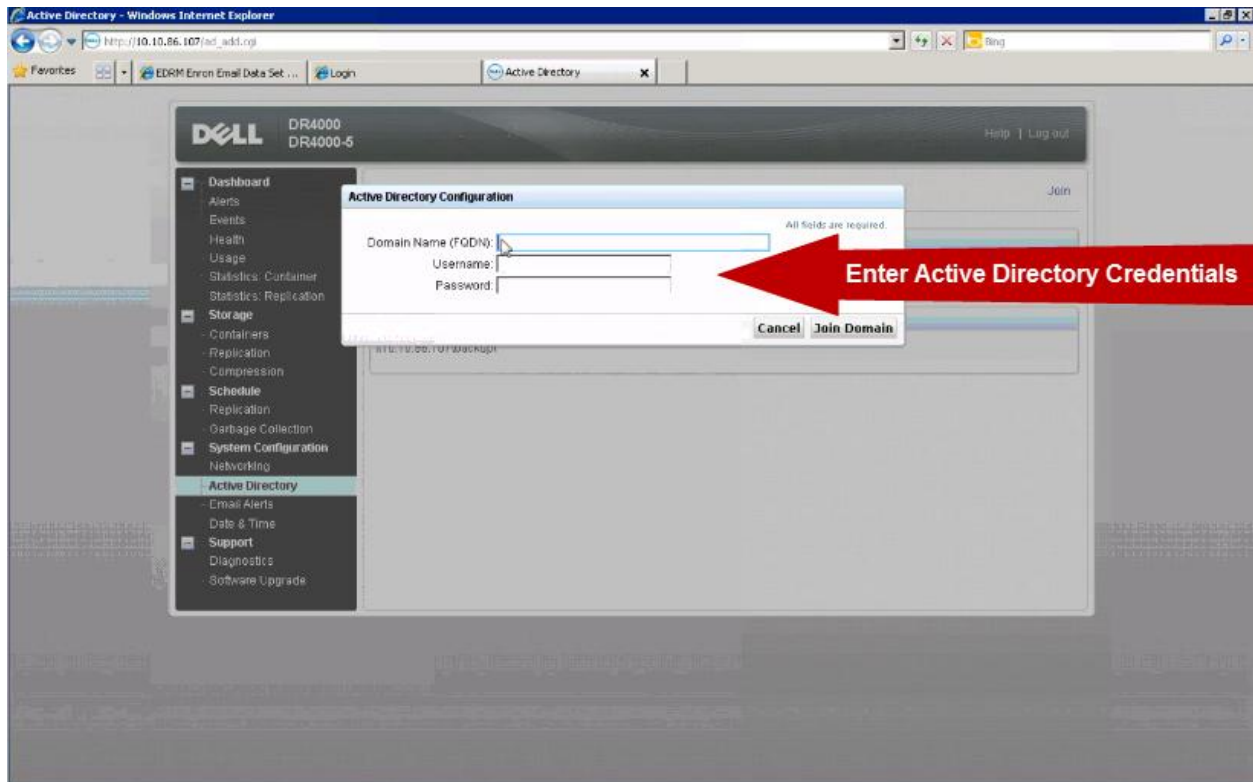
Time (minutes)

Read Write

System Information

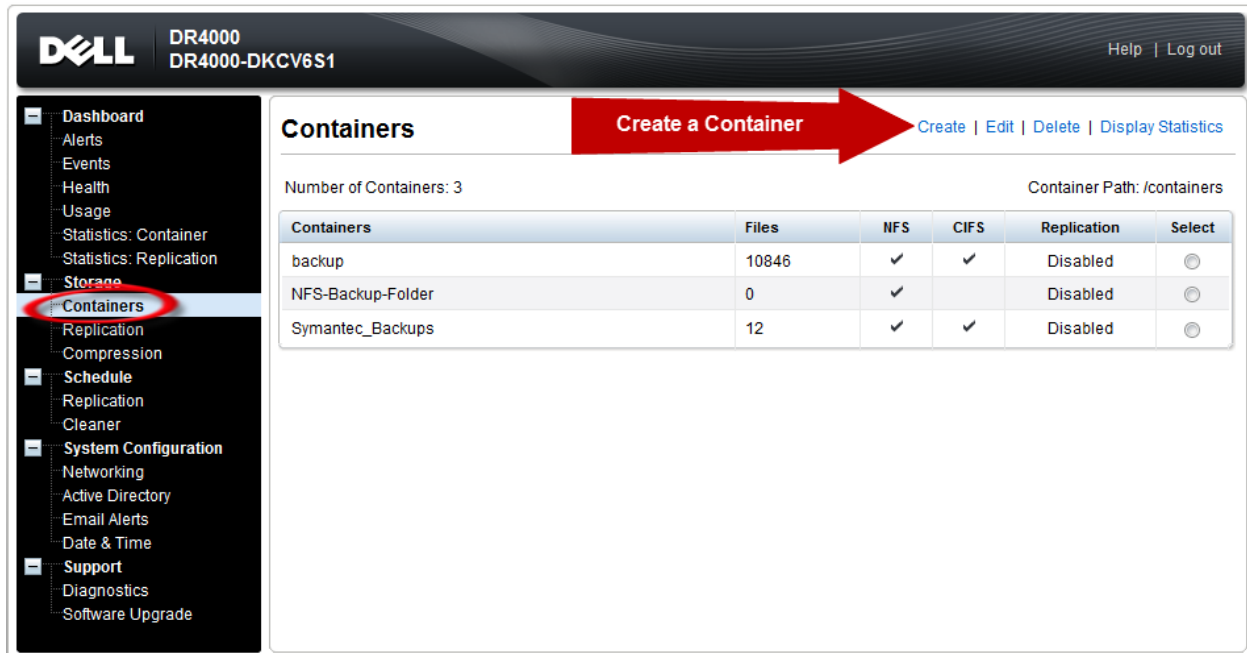
| | | | |
|--------------------|--------------------------|--|---------|
| System Name: | DR4000-DKCV6S1 | Total Savings: | 76.04 % |
| Software Version: | 0.98.0.33970 | Number of Files across all Containers: | 9192 |
| Current Date/Time: | Mon Jan 23 14:50:33 2012 | Number of Containers: | 2 |
| Cleaner 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.



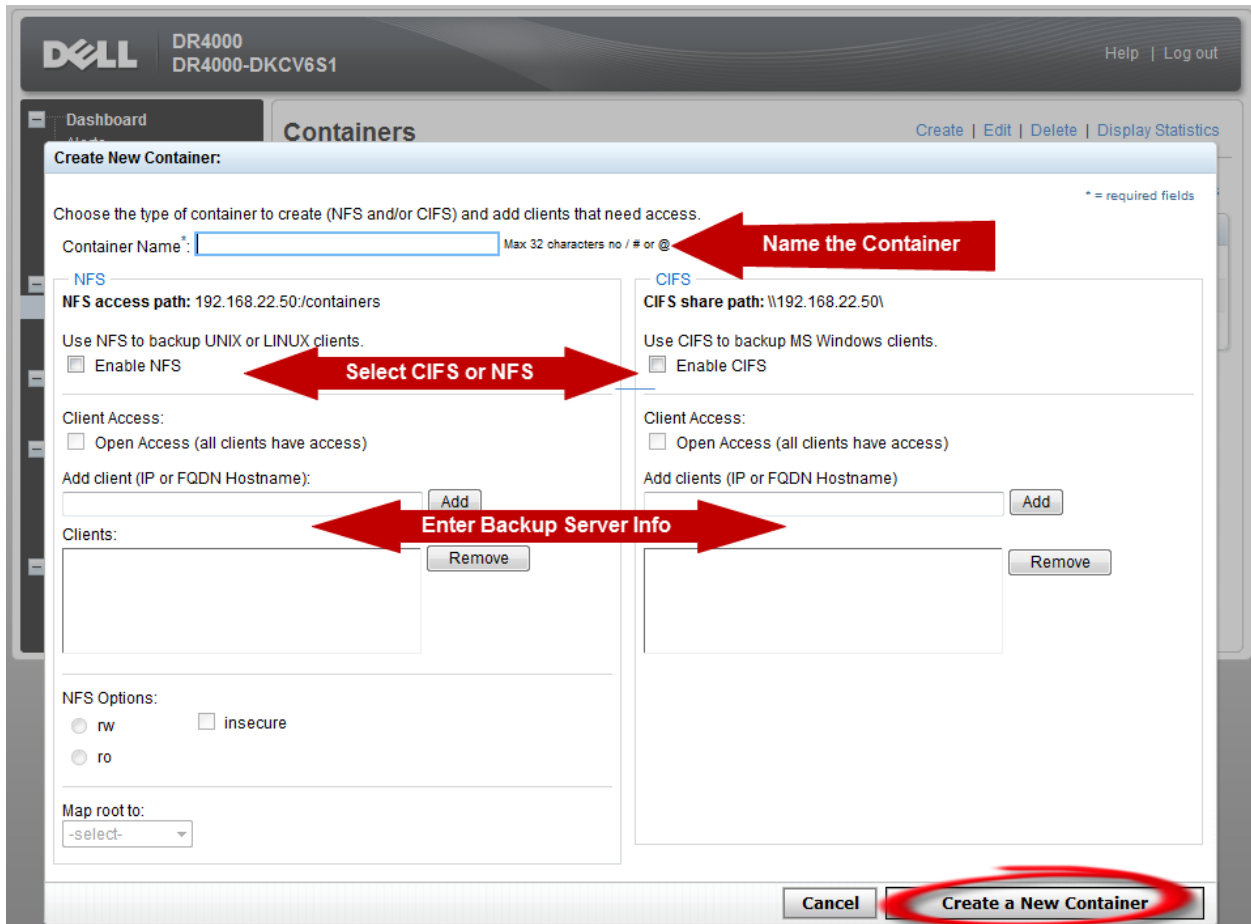
The screenshot shows the Dell DR4000 backup software interface. The top header displays the Dell logo, the model number DR4000, and the device ID DR4000-DKCV6S1. The right side of the header has links for Help and Log out. The left sidebar contains a navigation tree with categories: Dashboard, Alerts, 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 red arrow pointing to a "Create a Container" button. Below the button are links for "Create", "Edit", "Delete", and "Display Statistics". The main content area also displays the "Number of Containers: 3" and the "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.”



Confirm the container was added

The screenshot shows the Dell DR4000 backup software interface. The top header includes the Dell logo, the model number DR4000 DR4000-DKCV6S1, and links for Help and Log out. A left-hand navigation menu lists various system settings. The main content area is titled 'Containers' and features a green message bar with a checkmark icon and the text 'Successfully added container 'Symantec''. A red arrow points from this message to a table below. The table lists four containers: 'backup', 'NFS-Backup-Folder', 'Symantec', and 'Symantec_Backups'. Each row includes columns for 'Files', 'NFS', 'CIFS', 'Replication', and 'Select'.

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

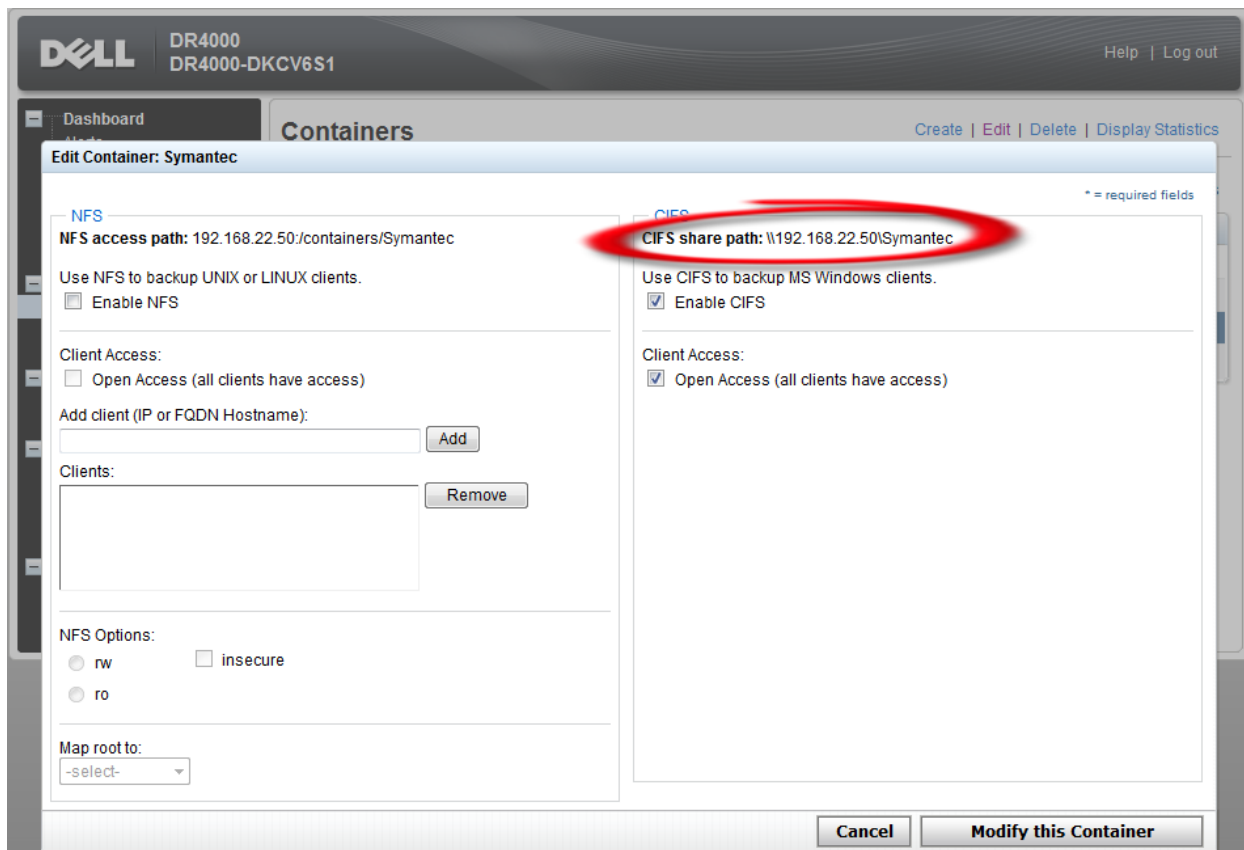
Message

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

Number of Containers: 4 Container Path: /containers

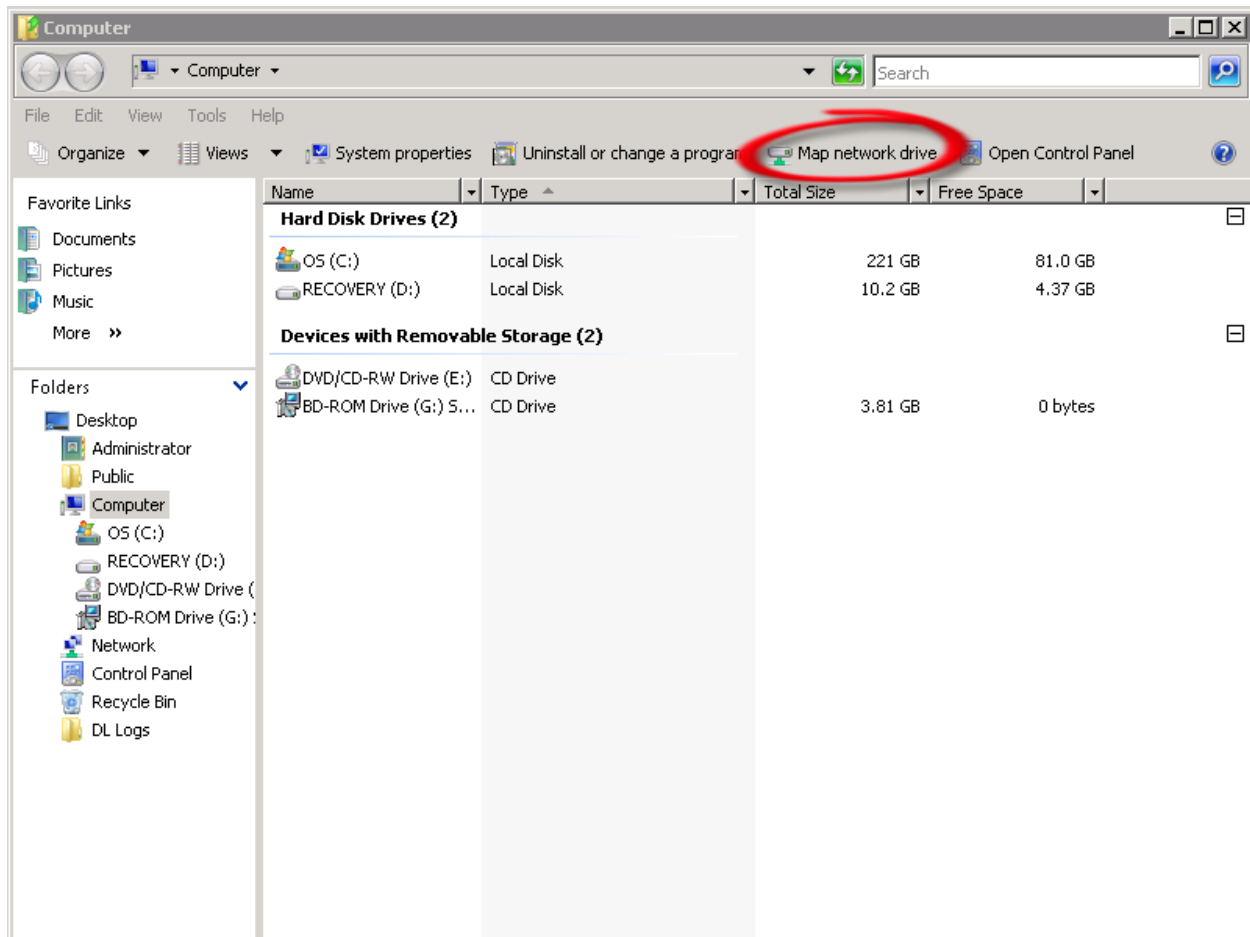
| Containers | Files | NFS | CIFS | Replication | Select |
|-------------------|-------|-----|------|-------------|--------|
| backup | 10846 | ✓ | ✓ | Disabled | ⊙ |
| NFS-Backup-Folder | 0 | ✓ | | Disabled | ⊙ |
| Symantec | 0 | | ✓ | Disabled | ⊙ |
| Symantec_Backups | 12 | ✓ | ✓ | Disabled | ⊙ |

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

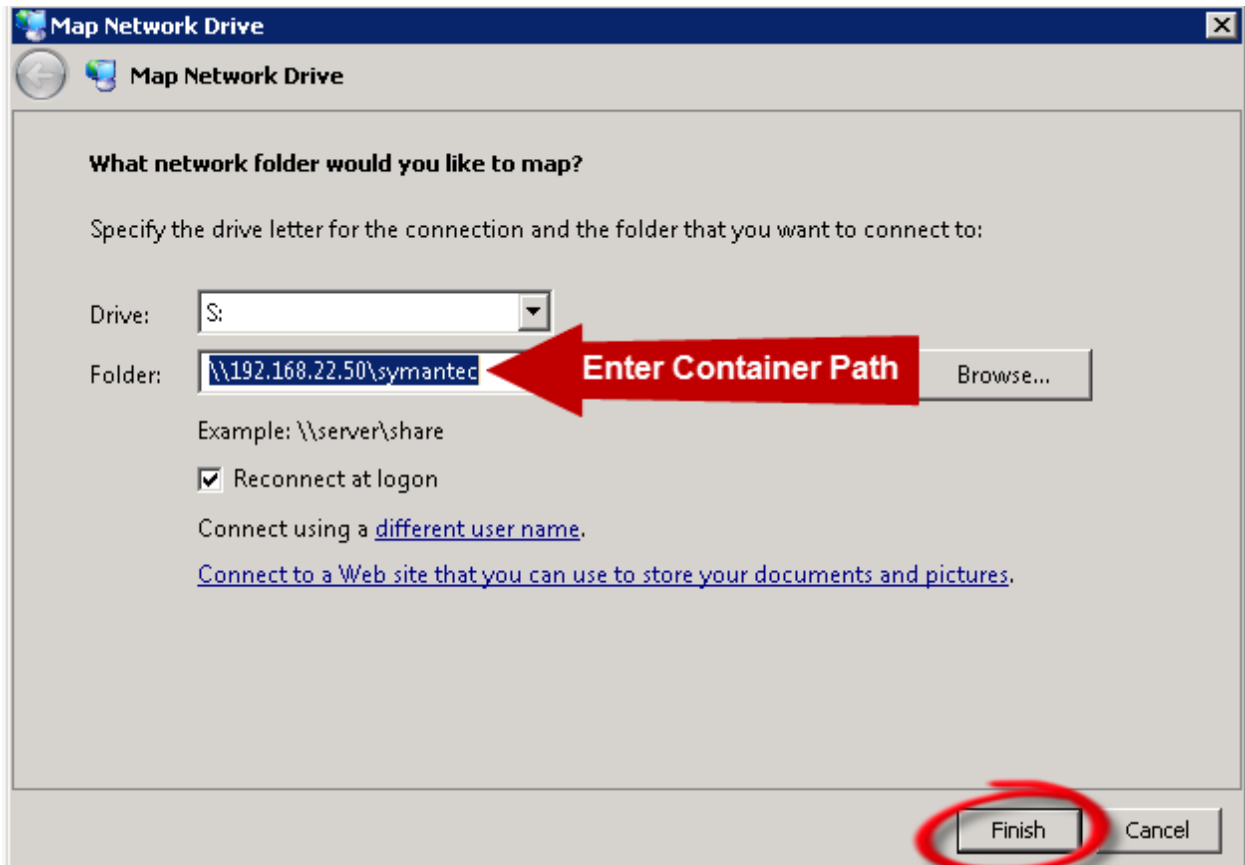


Log into your media server and click on “Start” -> “My Computer”

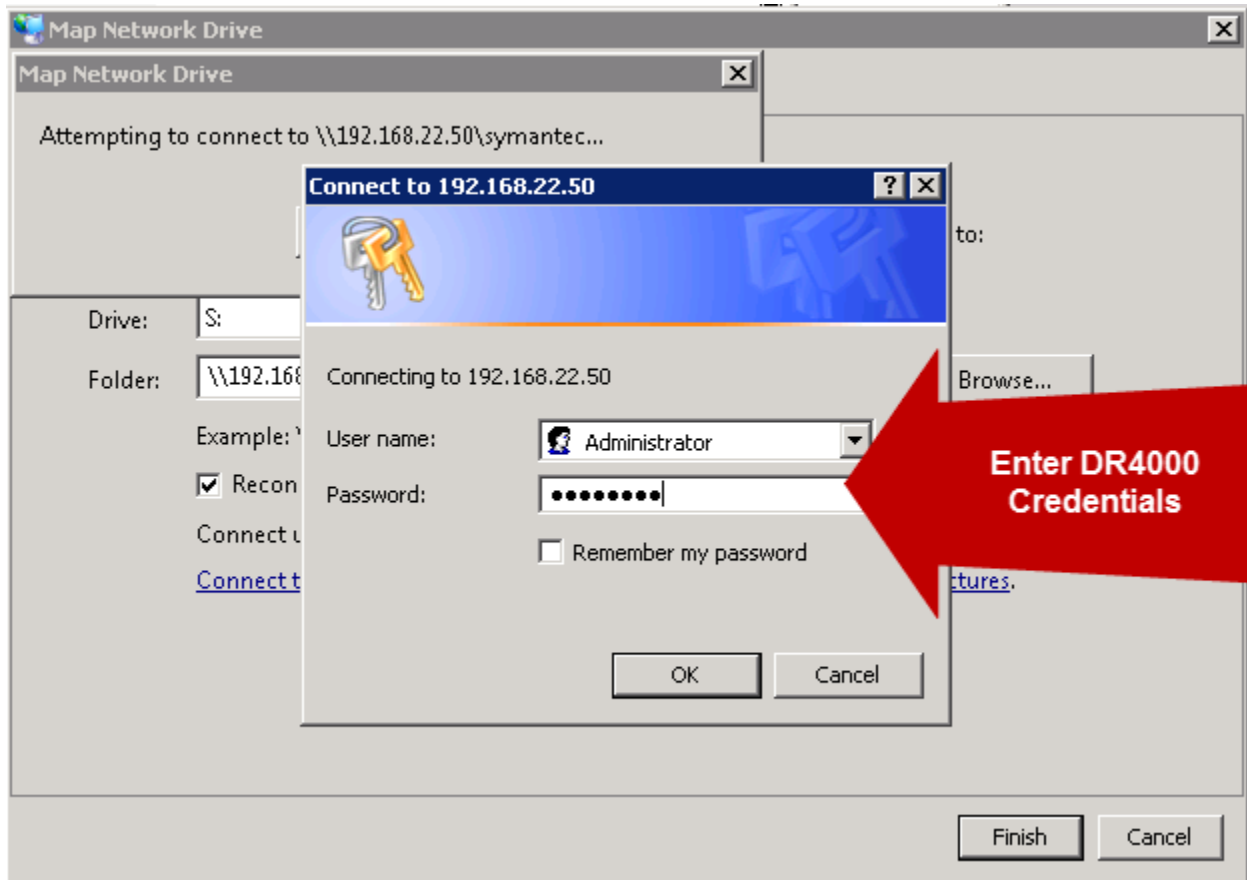
Click on the “Map network drive” icon



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

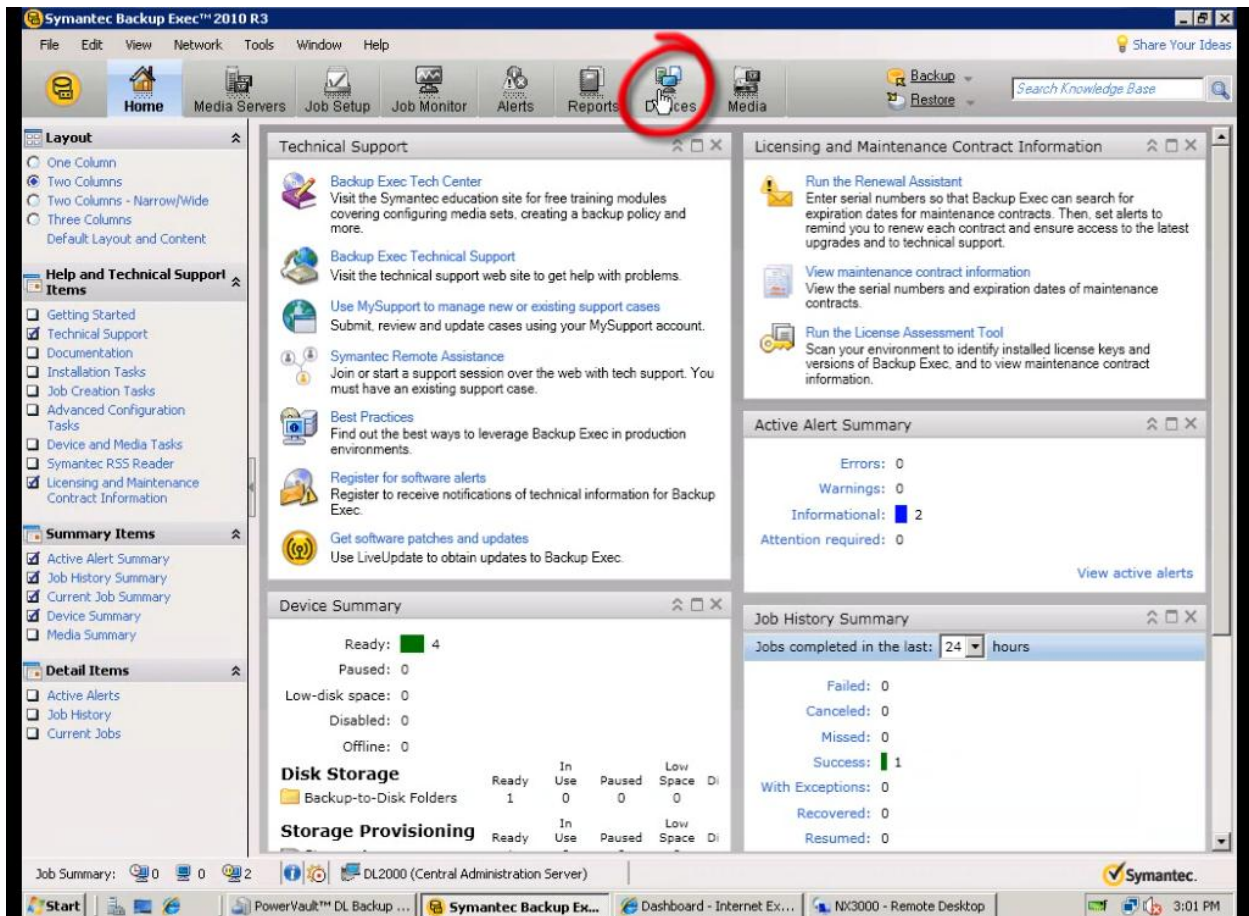


Enter the DR4000 login credentials. The DR4000 container is now mounted to your backup server.

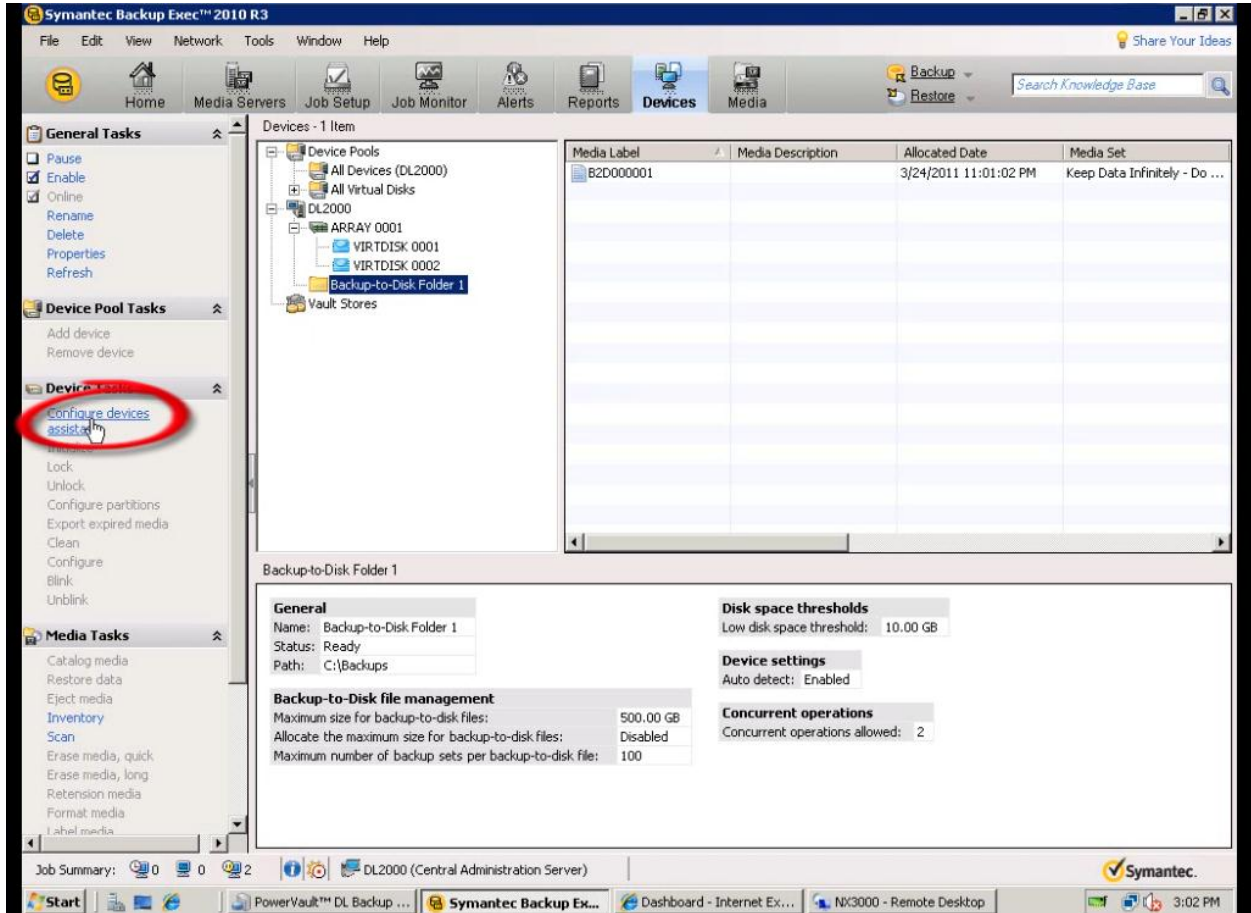


Backup Exec setup

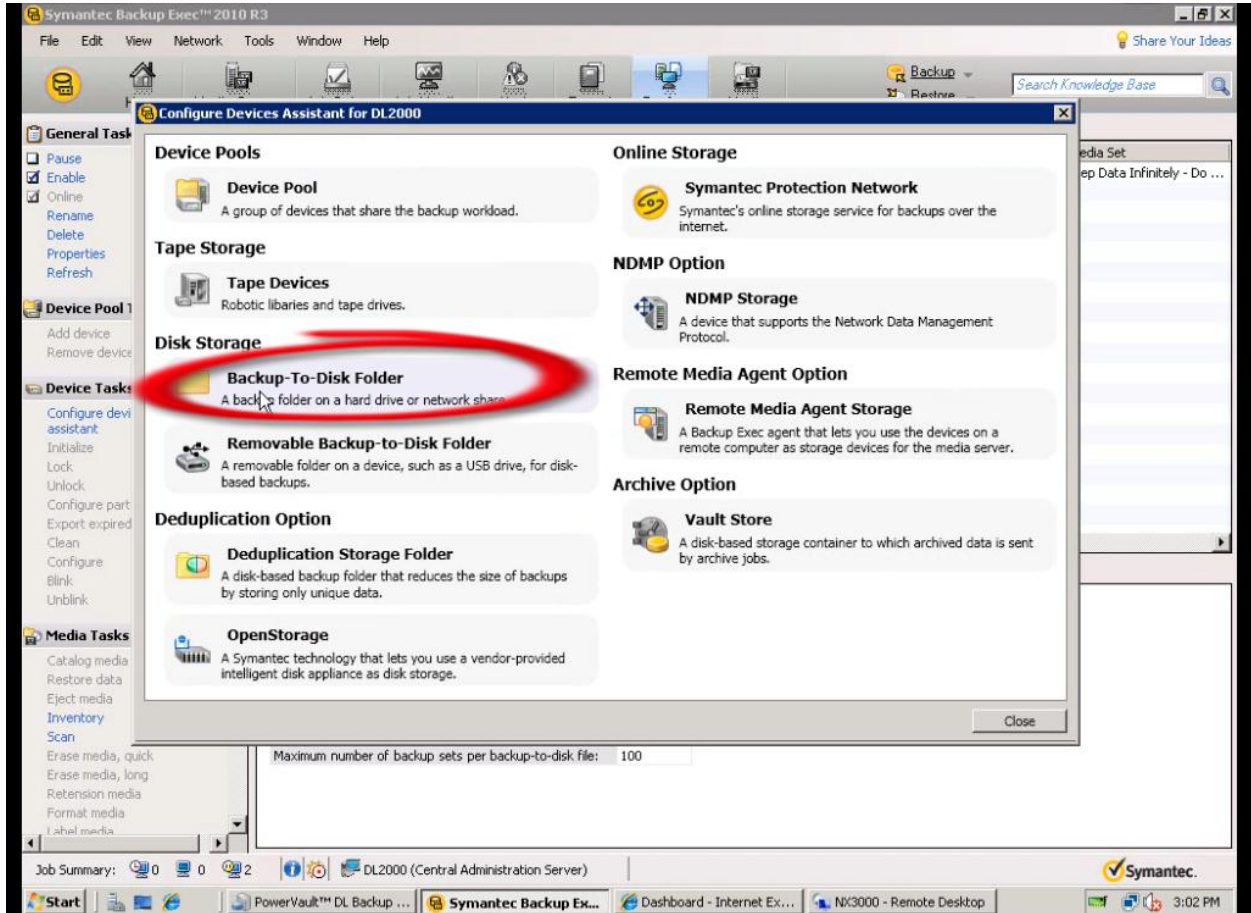
Open your Backup Exec console and click on the “Devices” tab



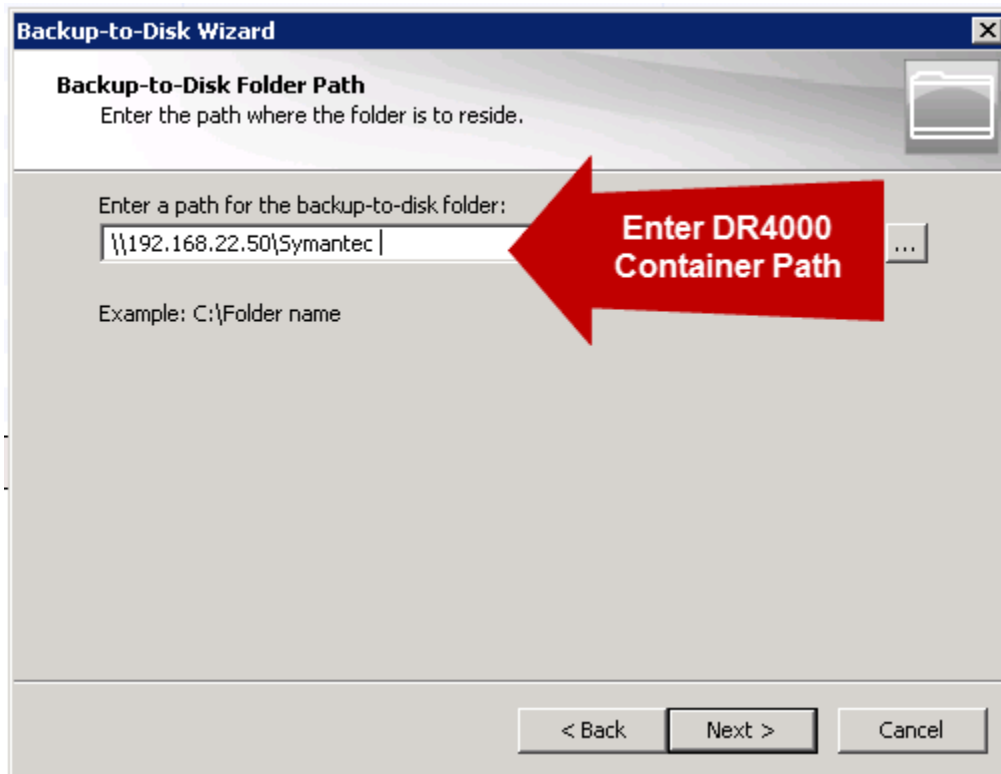
Next, click on “Configure device assistant”



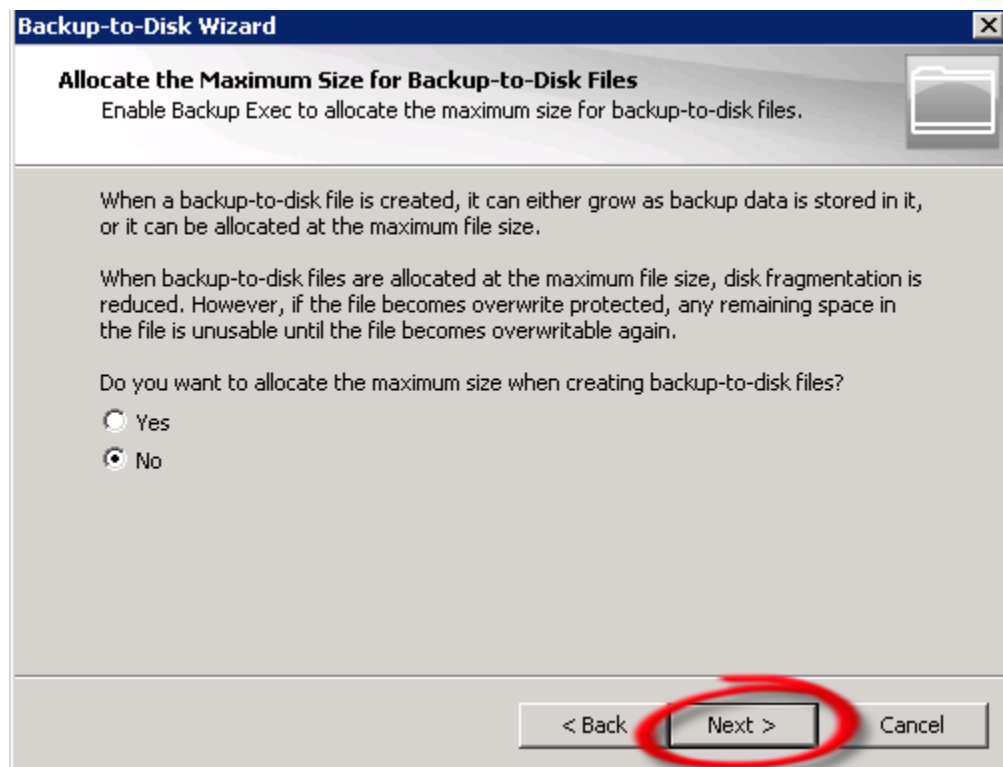
Add DR4000 as "Backup-to-disk" folder



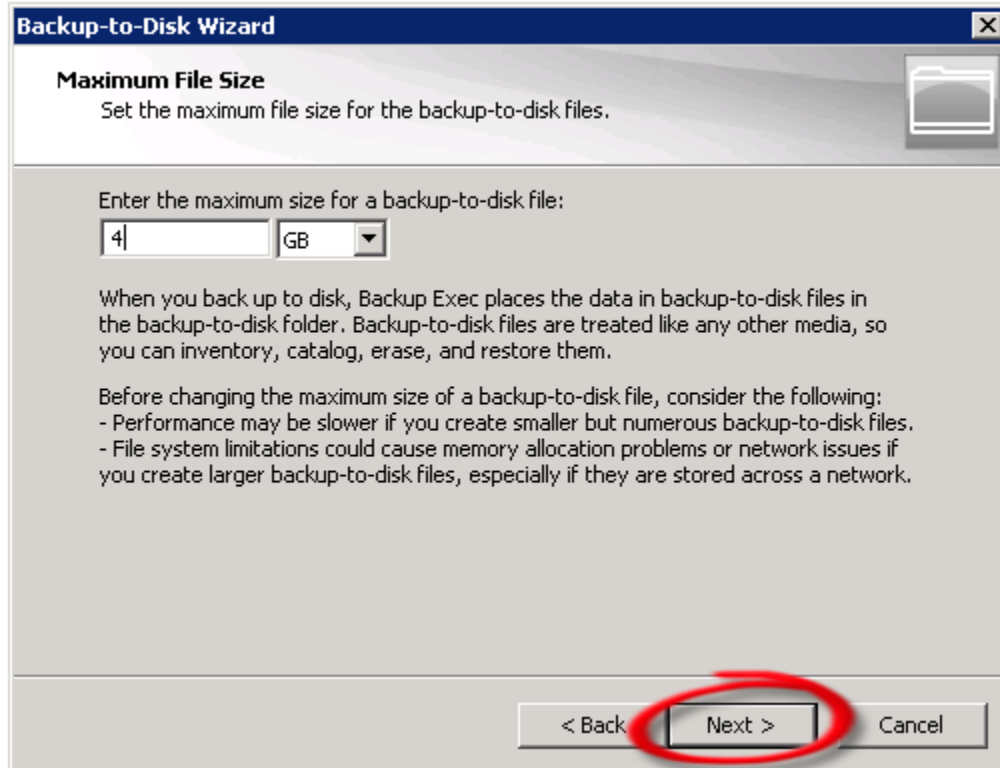
Enter the DR4000 container address



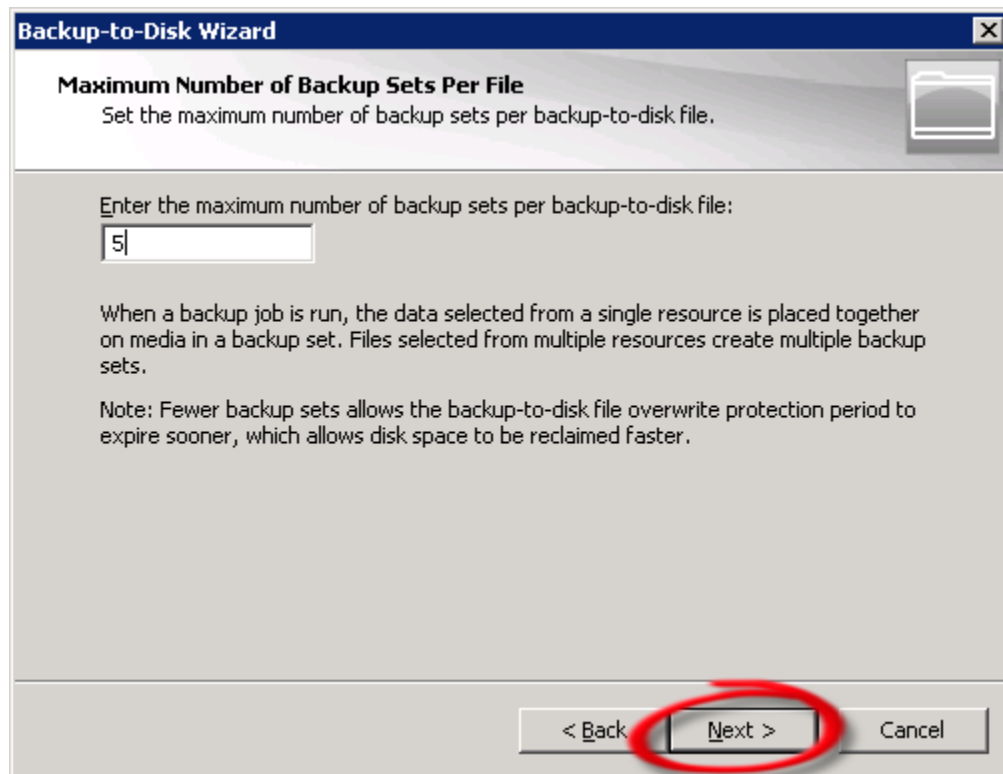
Select "No" when asked "Do you want to allocate the maximum backup size when creating backup-to-disk files?"



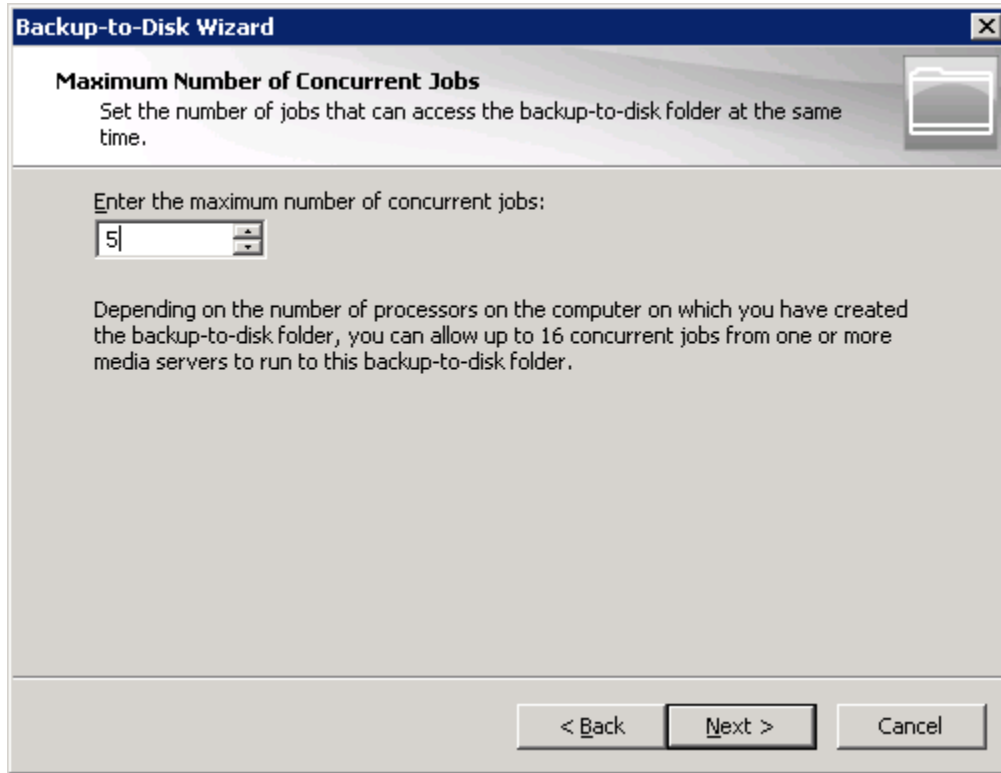
The backup-to-disk file size recommended is 4GB to 1TB depending on how big the average backup is. Consult the Symantec Backup Exec Users Guide for more details if necessary.



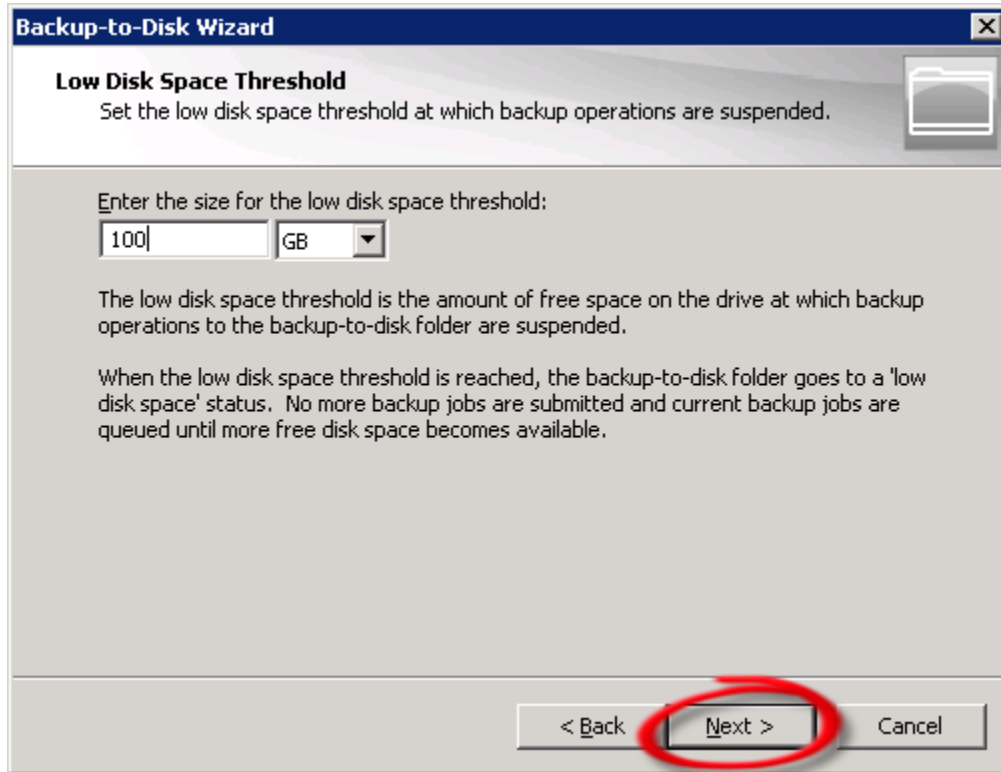
Enter "5" as the number of backup sets per backup-to-disk file.



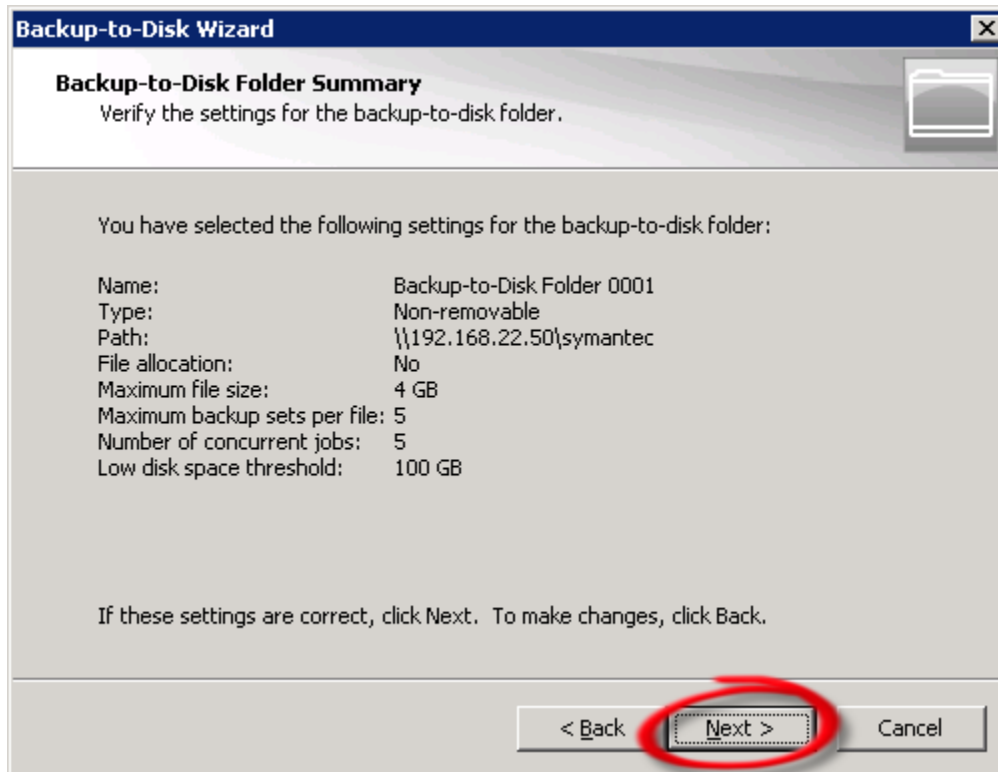
The maximum number of concurrent jobs depends if the DR4000 was deployed with CIFS or NFS protocol. In the example, we used CIFS so 5 concurrent jobs are recommended. If deployed with NFS then 8 concurrent jobs is recommended.



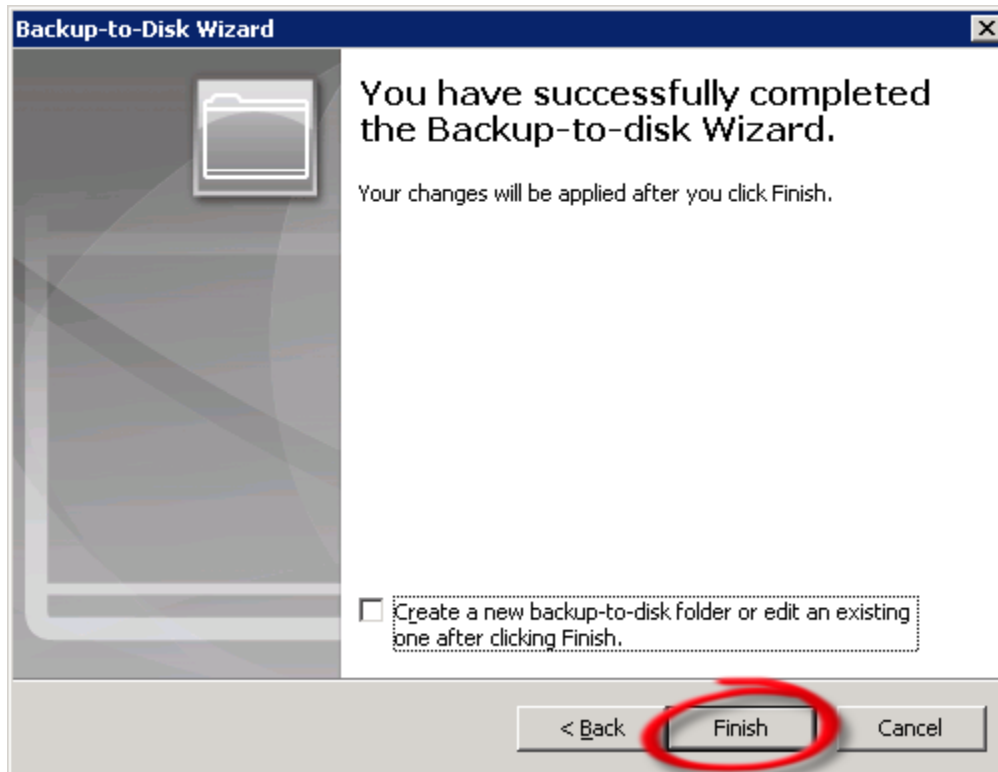
The Low Disk Space Threshold should be set at 100GB.



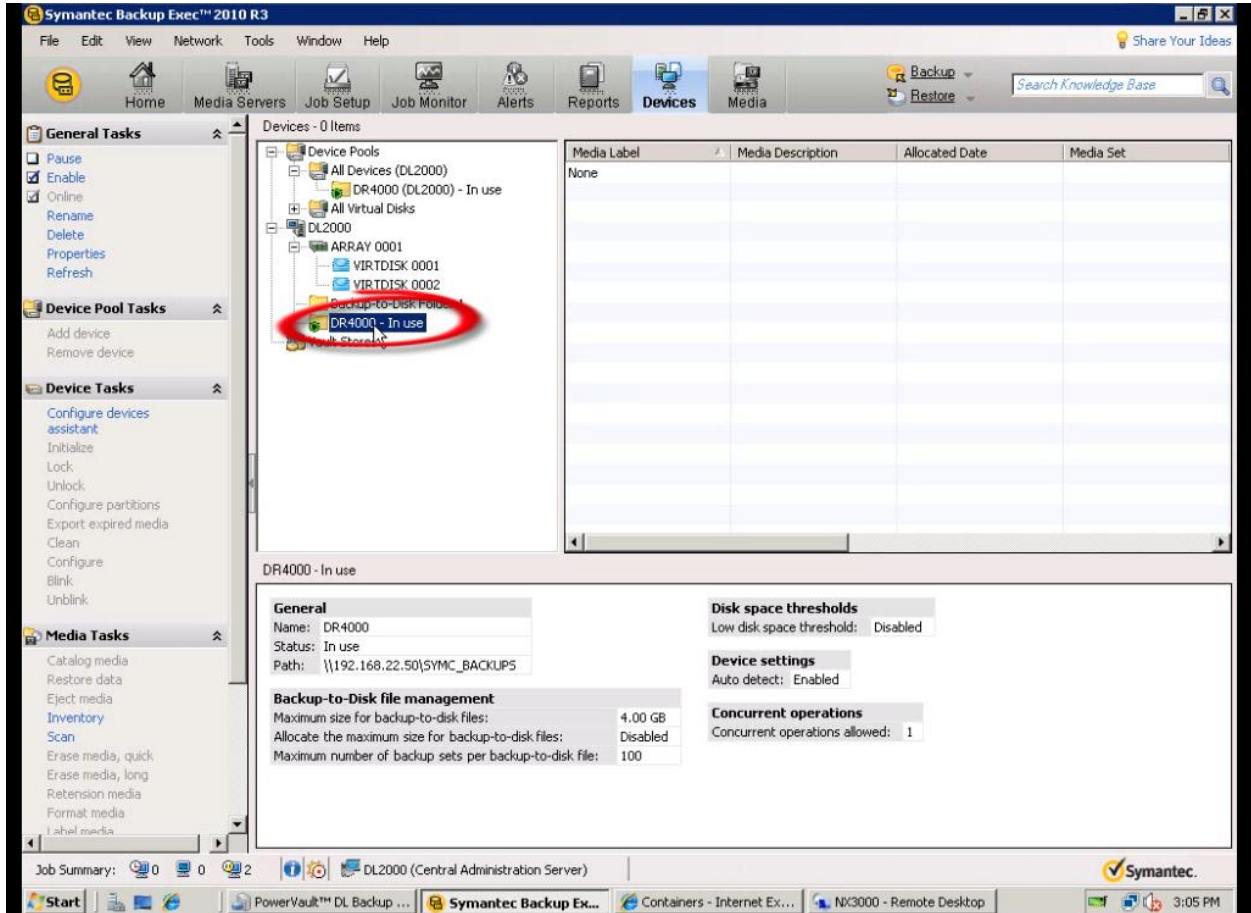
Confirm Settings are correct.



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 window. The interface includes a menu bar (File, Edit, View, Network, Tools, Window, Help), a toolbar with icons for Home, Media Servers, Job Setup, Job Monitor, Alerts, Reports, Devices, and Media, and a search bar for the Knowledge Base. The left sidebar contains sections for General Tasks, Active Job Tasks, Scheduled Job Tasks, and Custom Filter Tasks. The main area is divided into 'Job List' and 'Job History' sections, both with filters set to 'All jobs'.

Job List - 6 Items

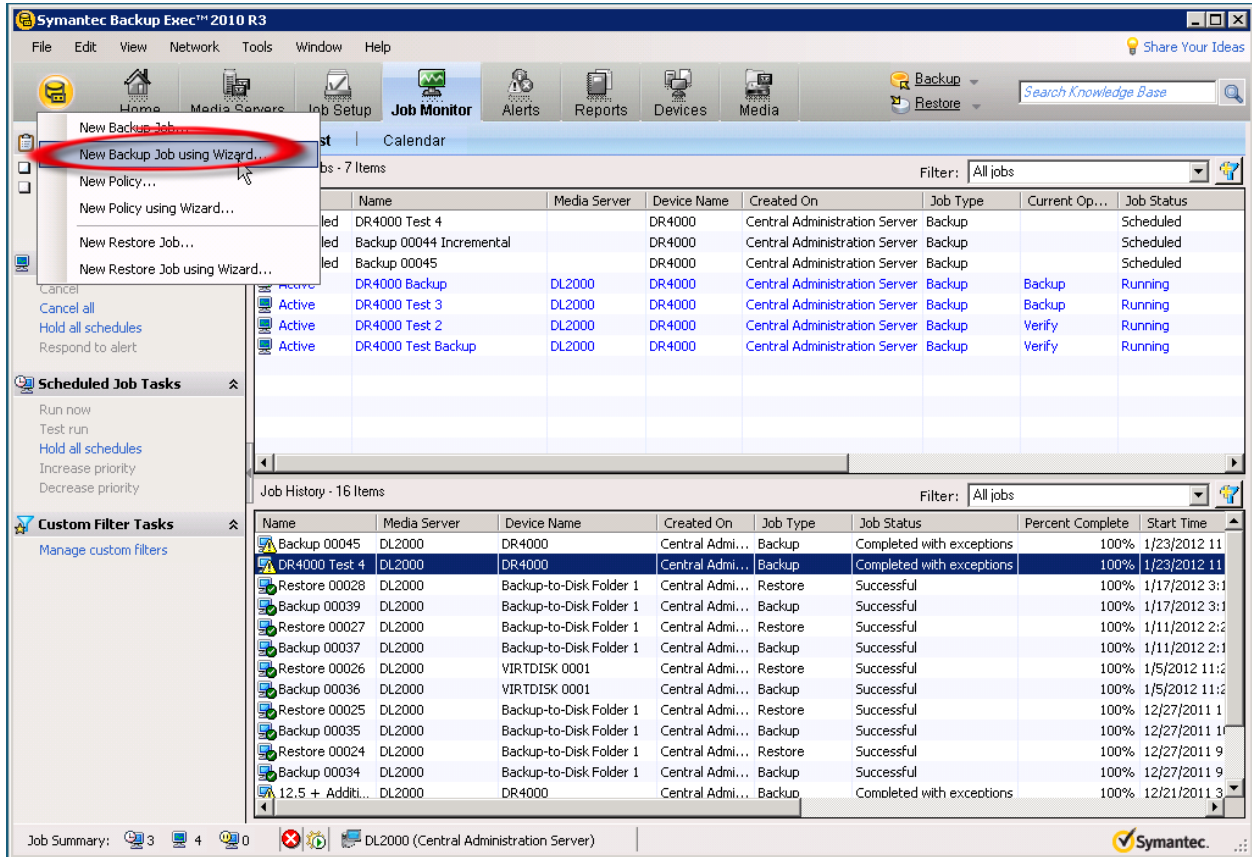
| State | Name | Media Server | Device Name | Created On | Job Type | Current Op... | Job Status |
|-----------|--------------------------|--------------|-------------|-------------------------------|----------|---------------|------------|
| Scheduled | DR4000 Test 4 | | DR4000 | Central Administration 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 |

Job History - 16 Items

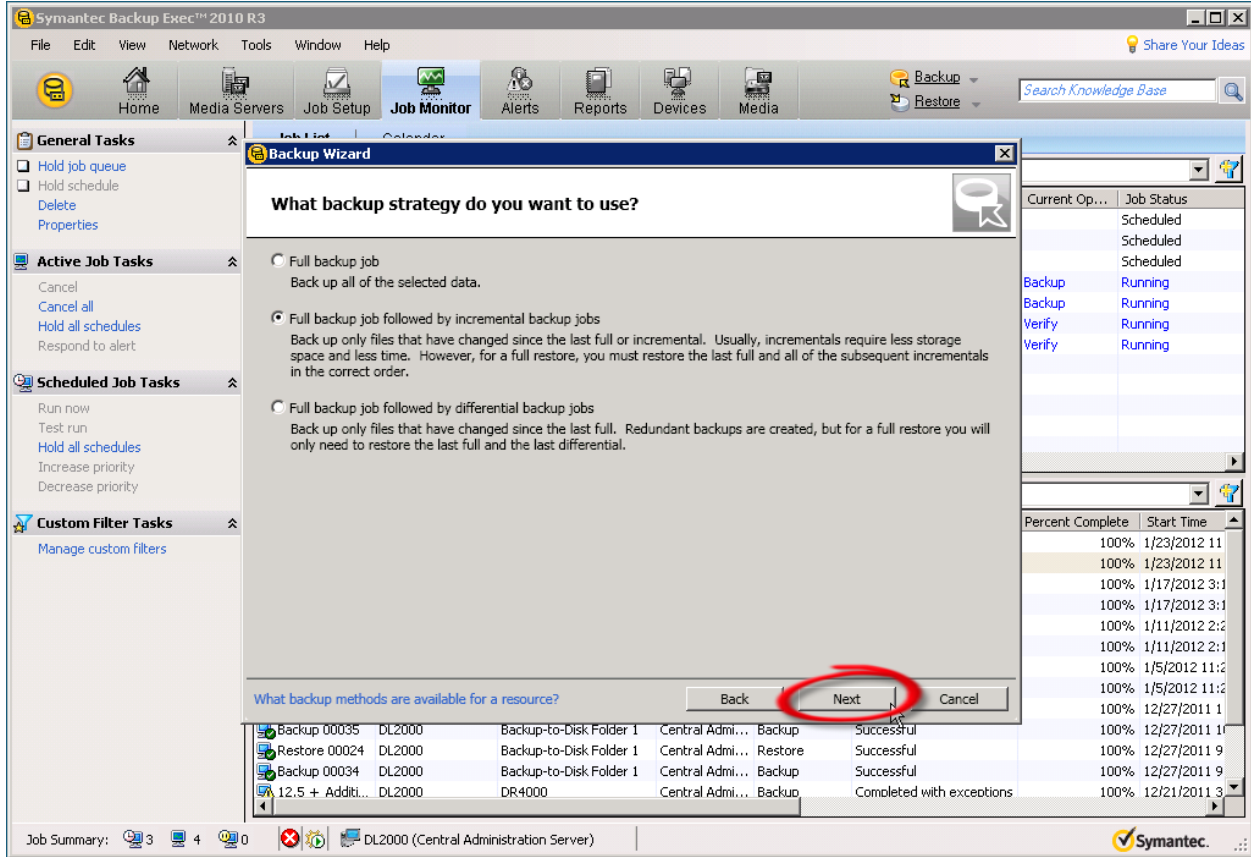
| Name | Media Server | Device Name | Created On | Job Type | Job Status | Percent Complete | Start Time |
|------------------|--------------|-------------------------|-----------------|----------|---------------------------|------------------|---------------|
| Backup 00045 | DL2000 | DR4000 | Central 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 |

Job Summary: 3 3 0 DL2000 (Central Administration Server)

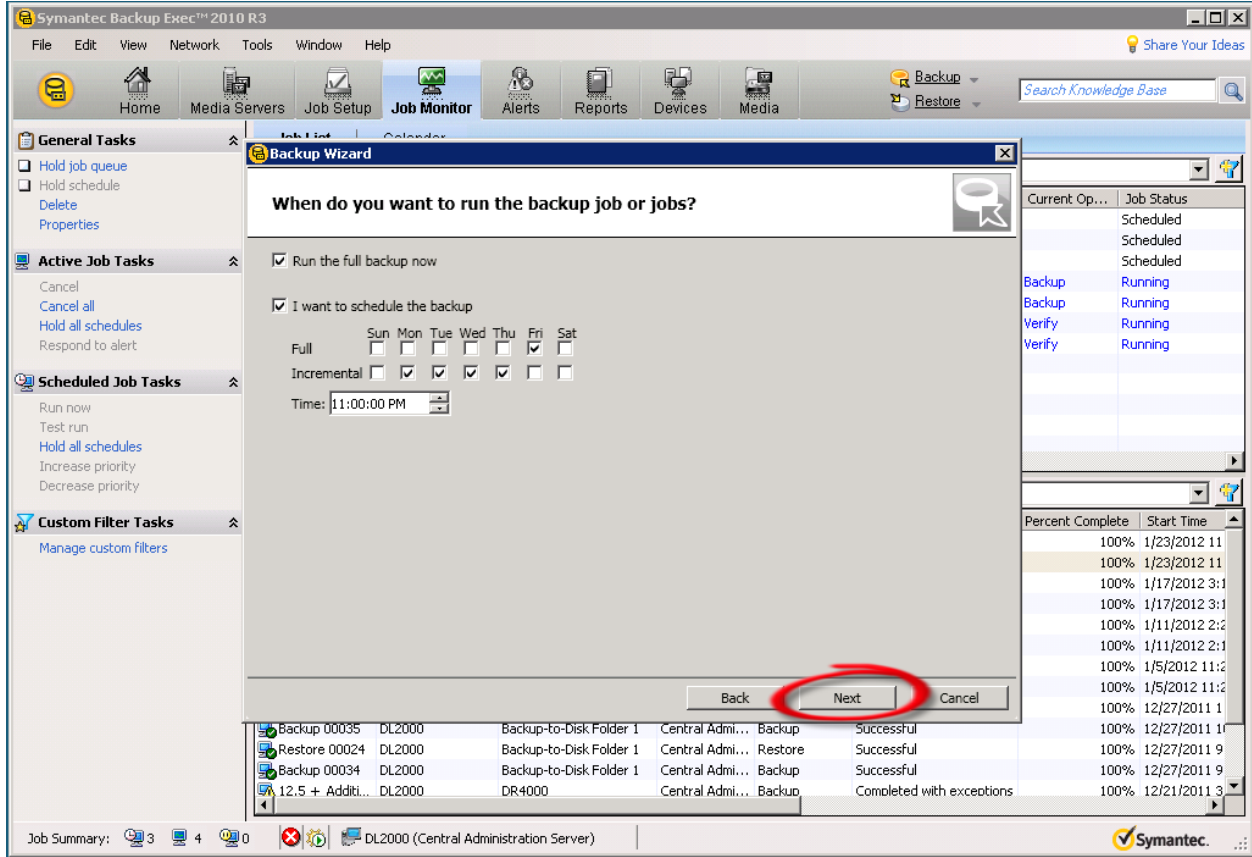
Create a new backup job using the Job Wizard



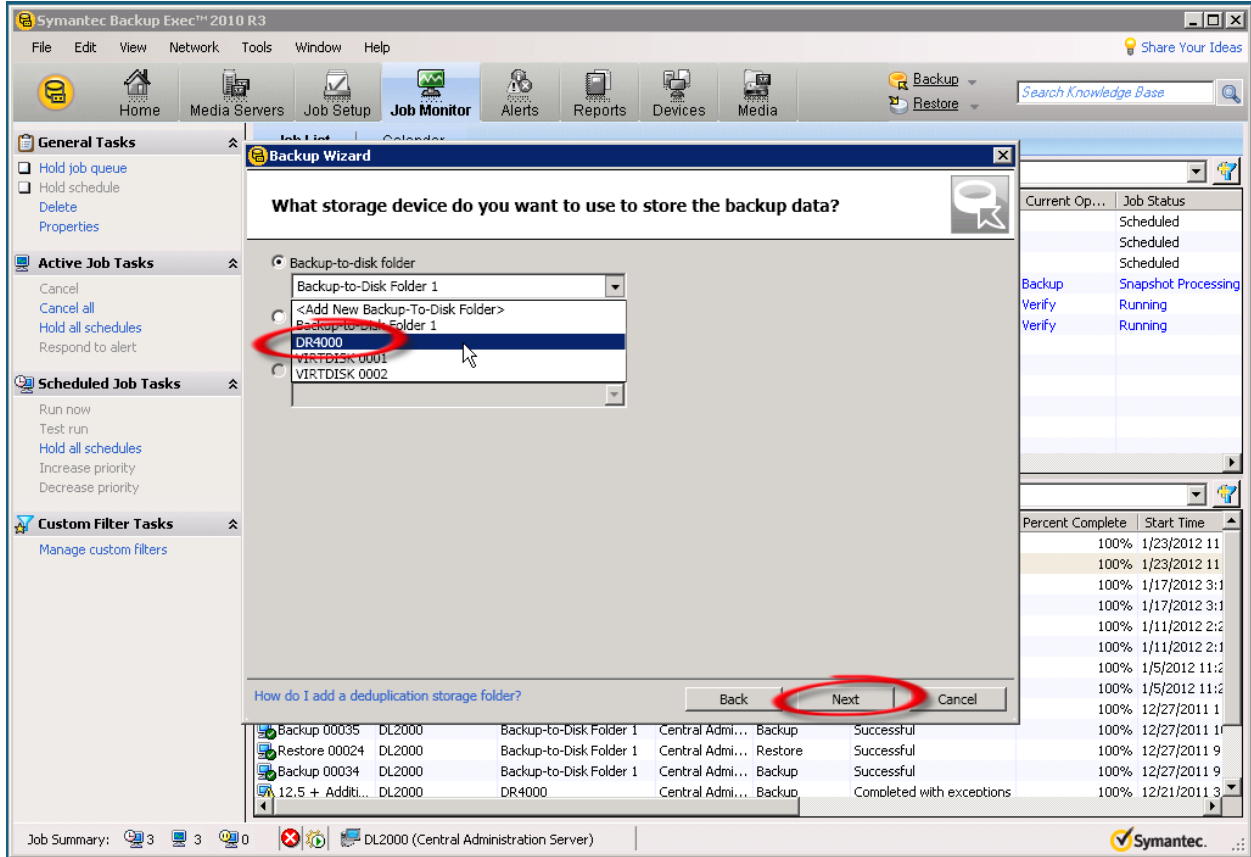
Define your backup strategy.



Define backup schedule.

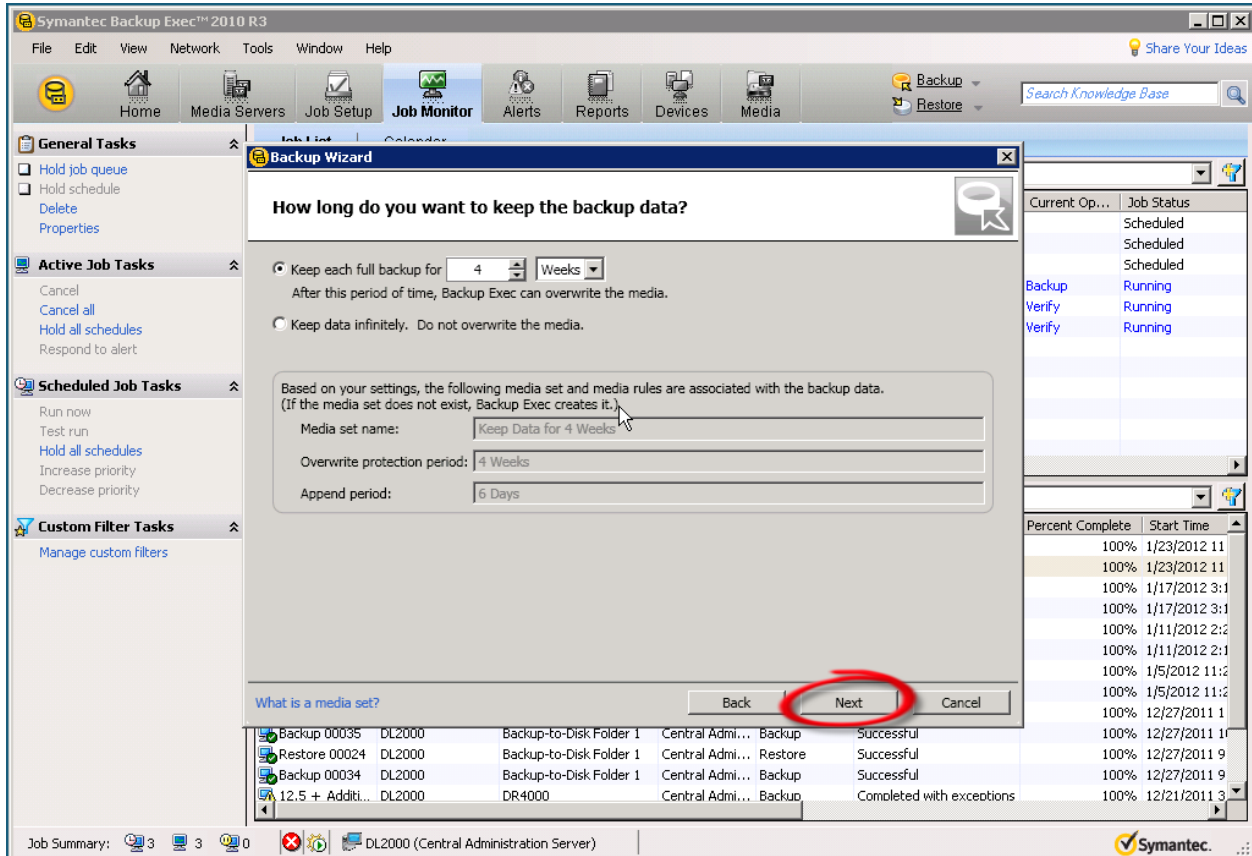


Select the DR4000 as your backup-to-disk folder.

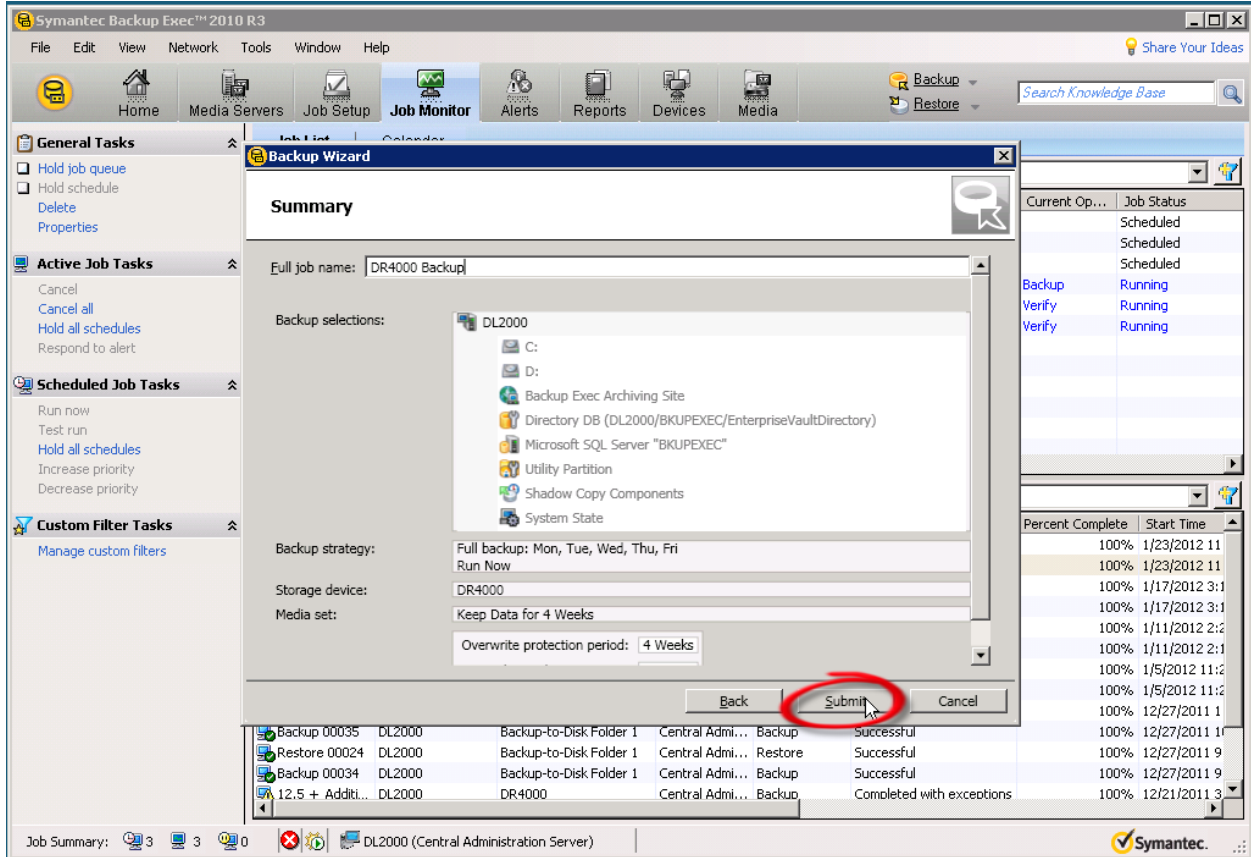


Define the retention period for the backup job.

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.



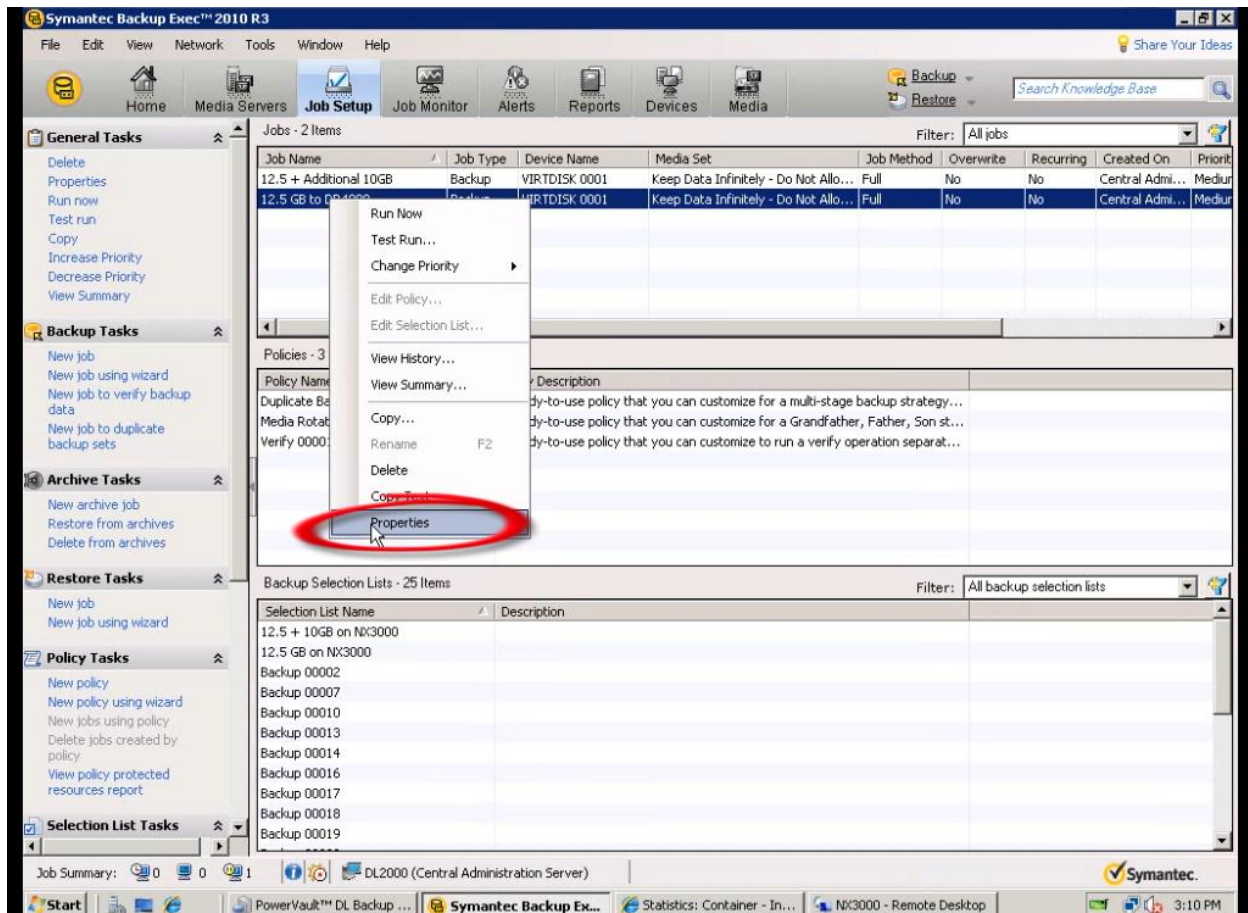
Confirm backup settings are correct and click "Submit".



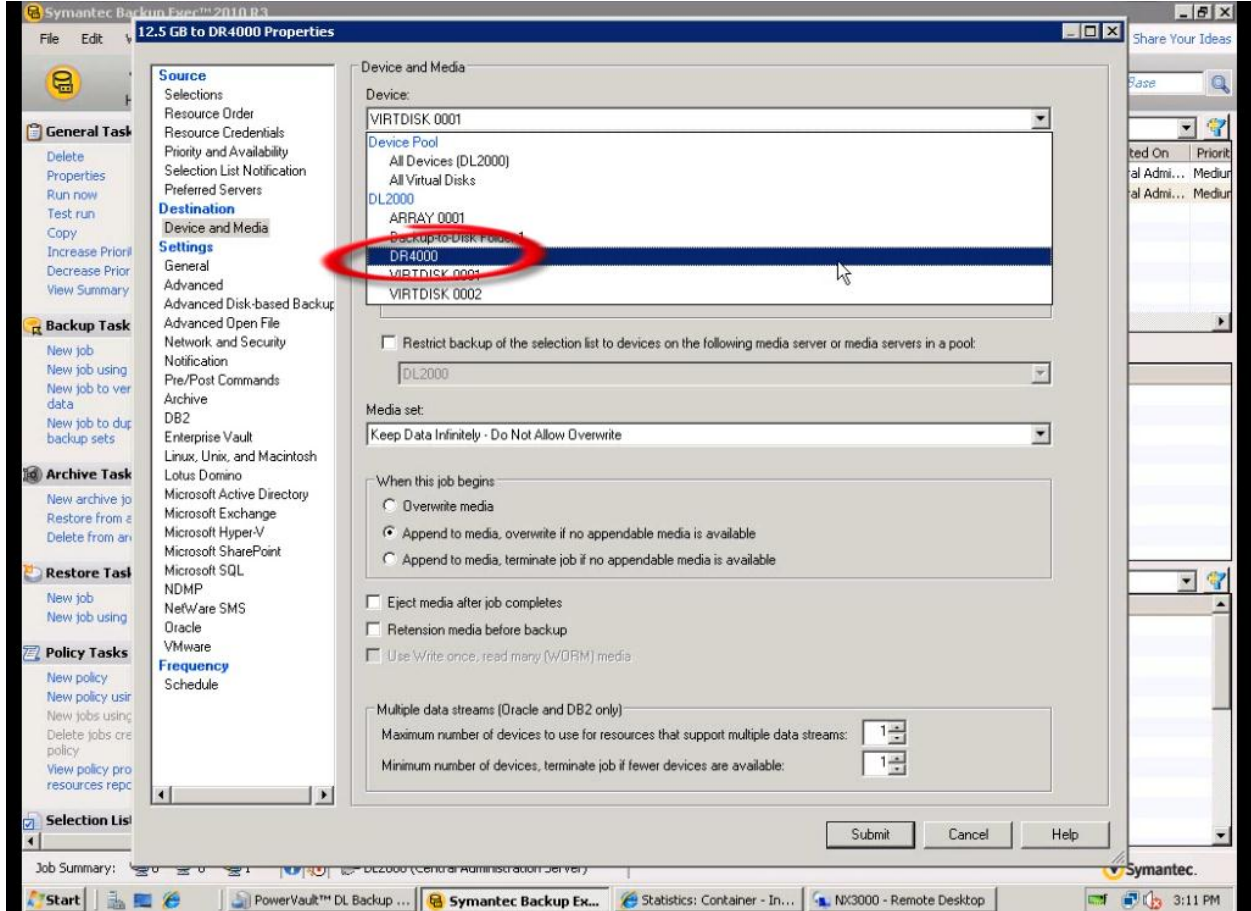
Edit a backup Job to DR4000 as the target

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

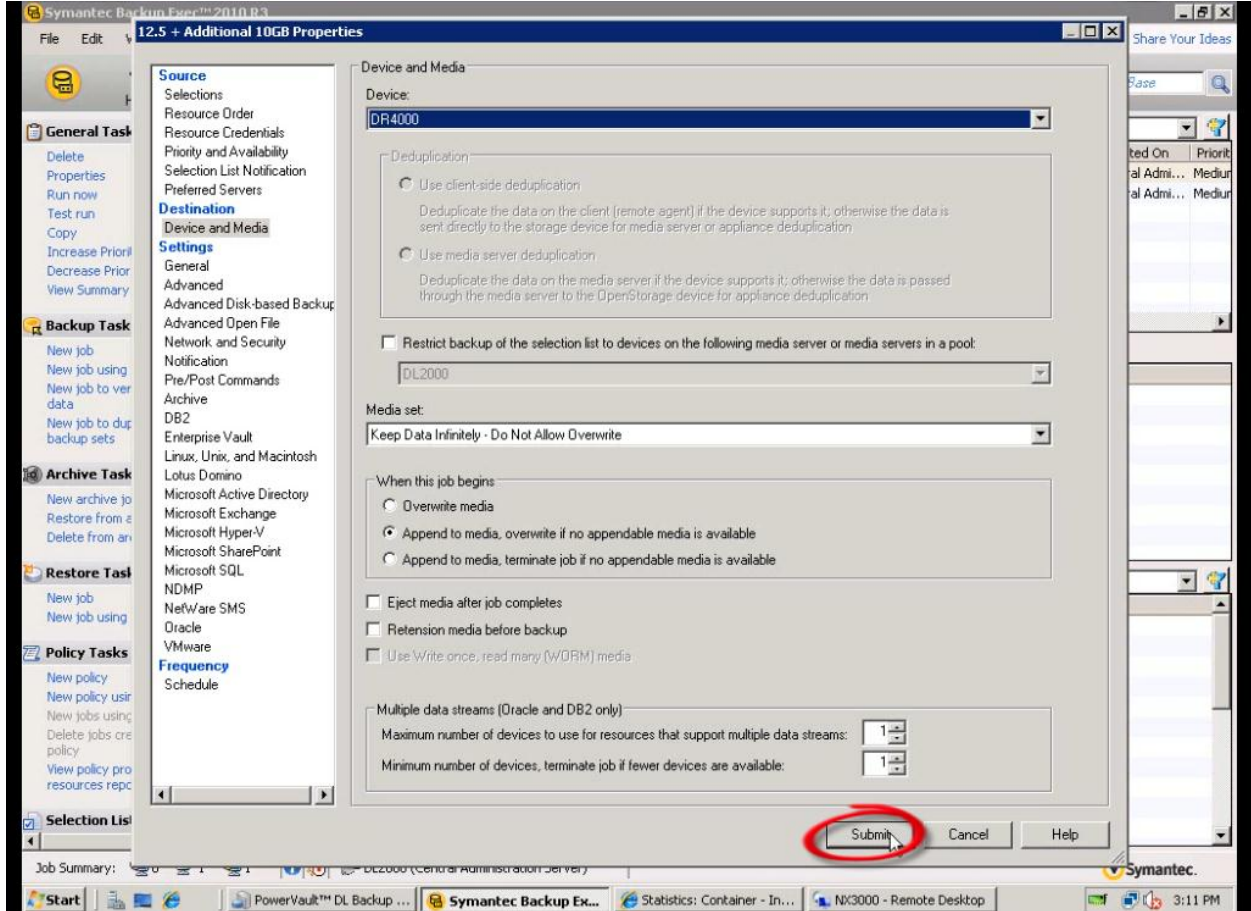
Next, right click on job and select “Properties”



Select the DR4000 as the Device



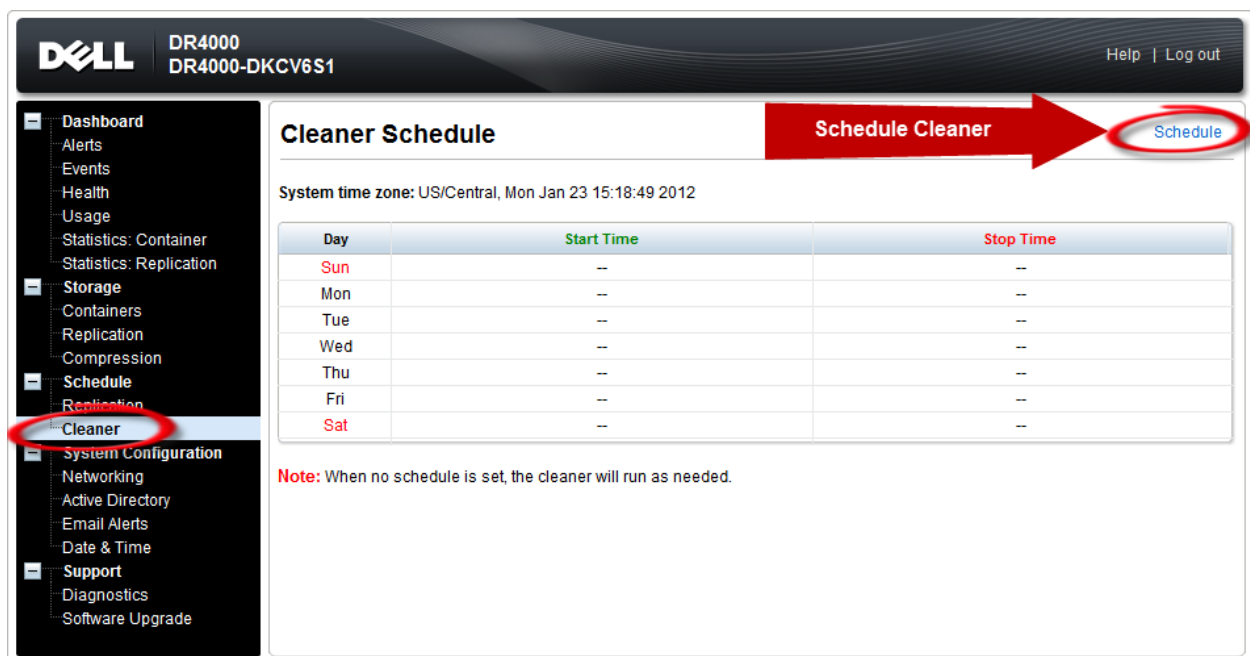
Click "Submit"



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.

