



Setting Up the Dell™ DR Series System as a Backup to Disk Target on Symantec Backup Exec 2012 and 2014

Dell Engineering
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Revisions

Date	Description
January 2014	Initial release
August 2014	Added screenshots where new functionality is introduced in 2014

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Table of contents

Revisions	2
Executive summary	4
1 Installing and configuring the DR Series system	5
2 Adding a DR container share as a disk storage device on Backup Exec 2012 or 2014	11
3 Creating a new backup job with the DR Series system as the target	17
4 Setting up DR Series system replication and restore from the replication target	25
4.1 Create a replication session	25
4.2 Restoring from a replication target	28
5 Setting up the DR Series system cleaner	31
6 Monitoring deduplication, compression, and performance	32
A Appendix: Setting data expiration for Backup Exec 2012	33



Executive summary

This paper provides information about how to set up the Dell DR Series system as a backup to disk target for Symantec Backup Exec 2012 and 2014. This paper is a quick reference guide and does not include all DR Series system deployment best practices.

For additional information, see the DR Series system documentation and other data management application best practices whitepapers for your specific DR Series system at:

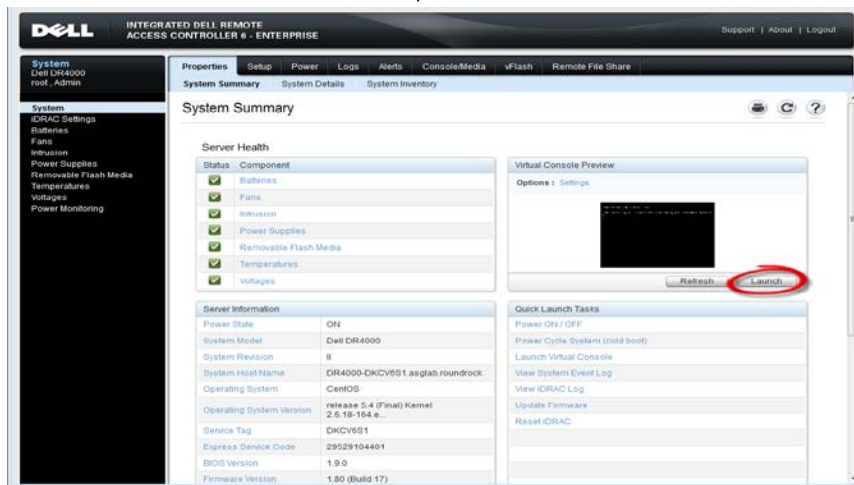
<http://www.dell.com/powervaultmanuals>

Note: The DR Series system and Symantec Backup Exec build version and screenshots used for this paper may vary slightly, depending on the version of the DR Series system or Symantec Backup Exec software used.

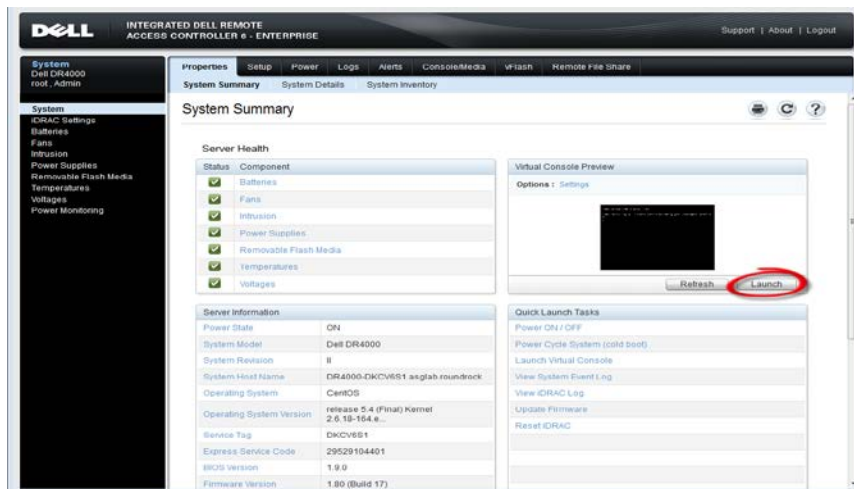


1 Installing and configuring the DR Series system

1. Rack and cable the DR Series system, and power it on.
2. Refer to the *Dell DR Series System Administrator Guide* sections “**iDRAC Connection**”, “**Logging in and Initializing the DR Series System**”, and “**Accessing iDRAC6/Idrac7 Using RACADM**” for information about using the iDRAC connection and initializing the system.
3. Log on to iDRAC using the default address **192.168.0.120**, or the IP that is assigned to the iDRAC interface. Use the user name and password: **root/calvin**



4. Launch the virtual console.



5. After the virtual console is open, log on to the system as the user administrator with the password **St0r@ge!** (The "0" in the password is the numeral zero.)

```
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!
```

6. Set the 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:
```

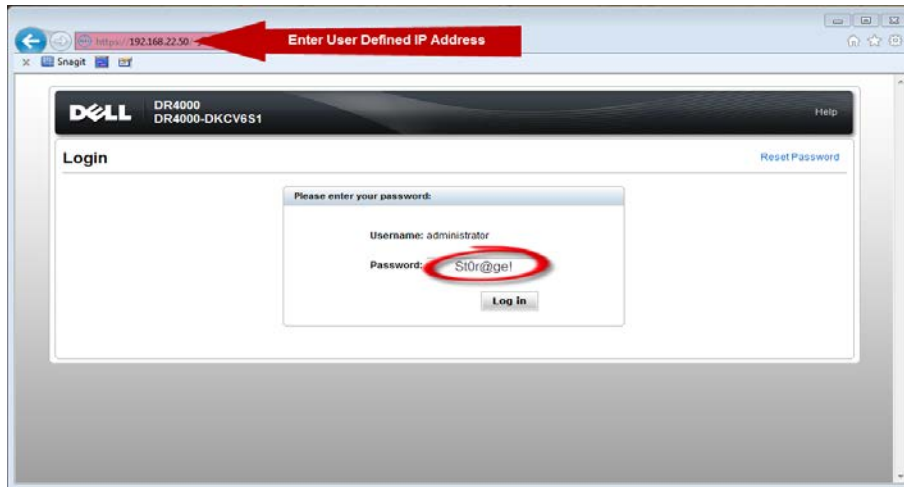
7. View the summary of preferences and confirm that all settings are correct.

```
=====
                          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) ? _
```



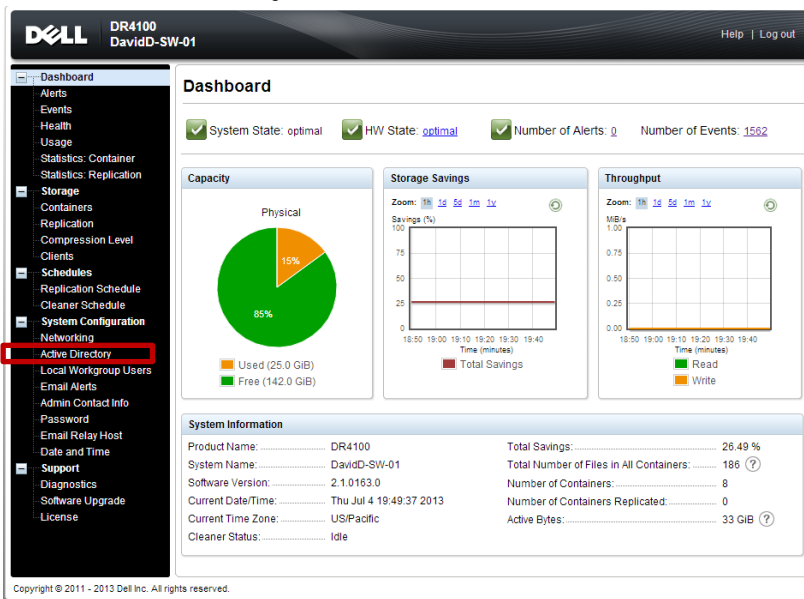
- Log on to DR Series system administrator console, using the IP address you just provided for the DR Series system with the username **administrator** and password **St0r@ge!** (The "0" in the password is the **numeral zero**).



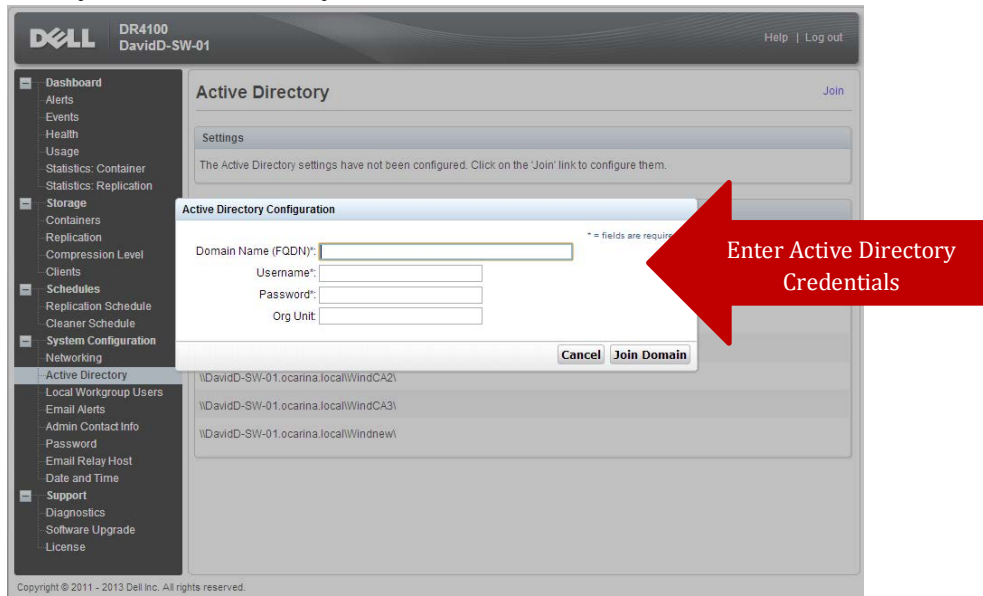
- Join the DR Series system to Active Directory.

Note: if you do not want to add the DR Series system to Active Directory, see the *DR Series System Owner's Manual* for guest login instructions.

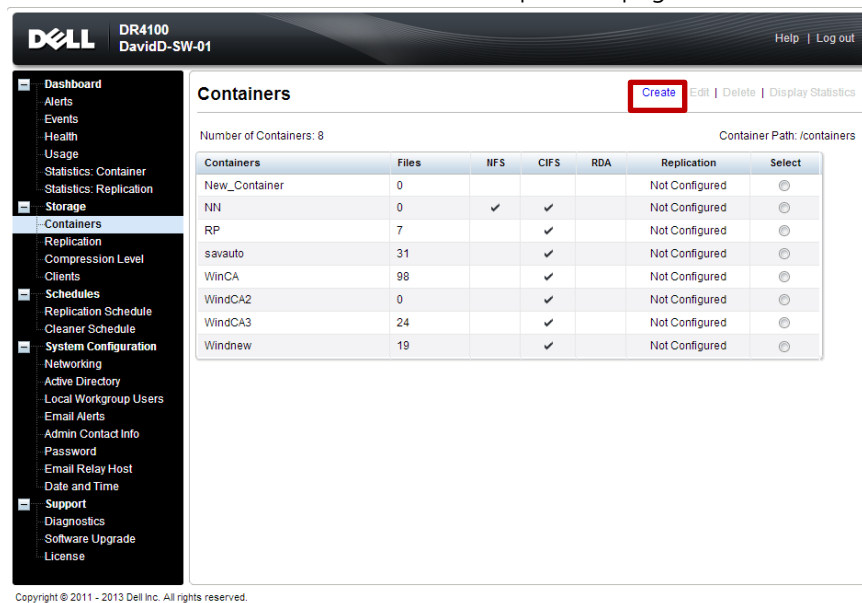
- Select **Active Directory** from the menu on the left side of the management interface.



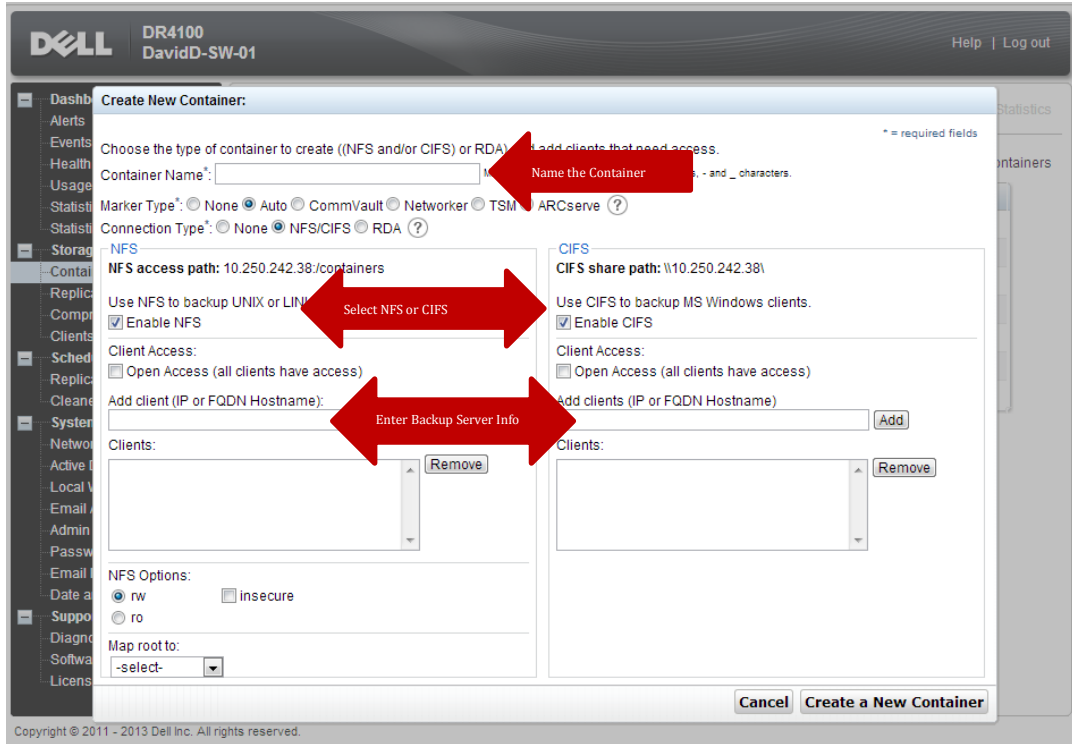
- Enter your Active Directory credentials.



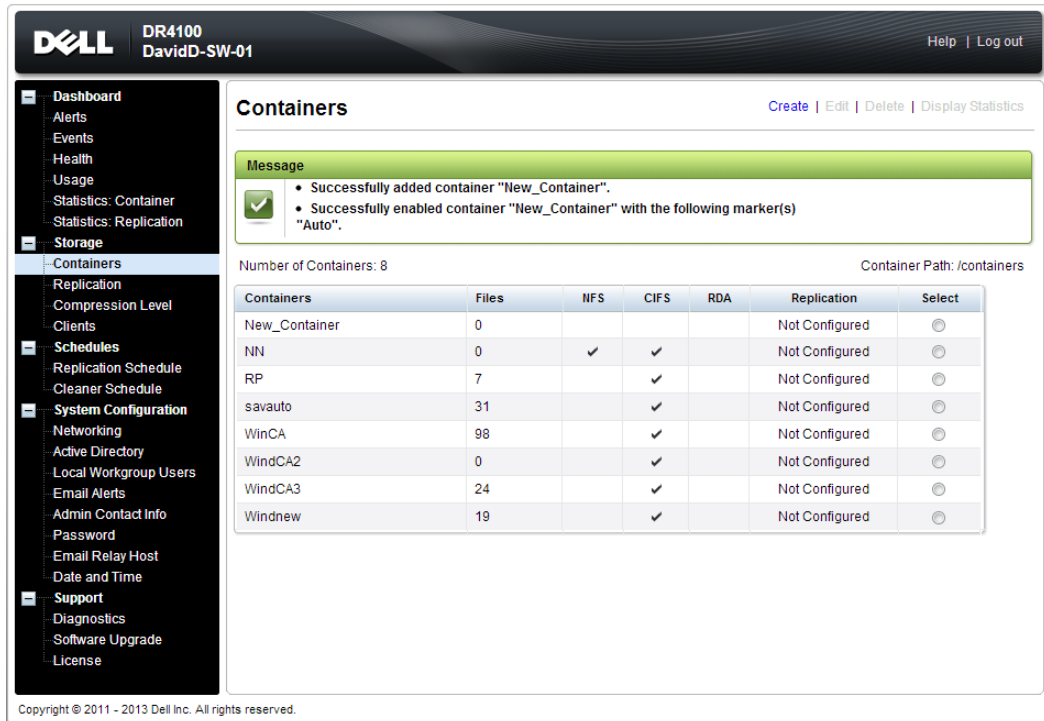
11. Create and mount the container by doing the following: Select **Containers** in the left menu of the dashboard, and then click **Create** at the top of the page.



- Enter a Container Name, select the **Enable CIFS/NFS** check box, and then click **Create a New Container**.



- Confirm that the container is added.

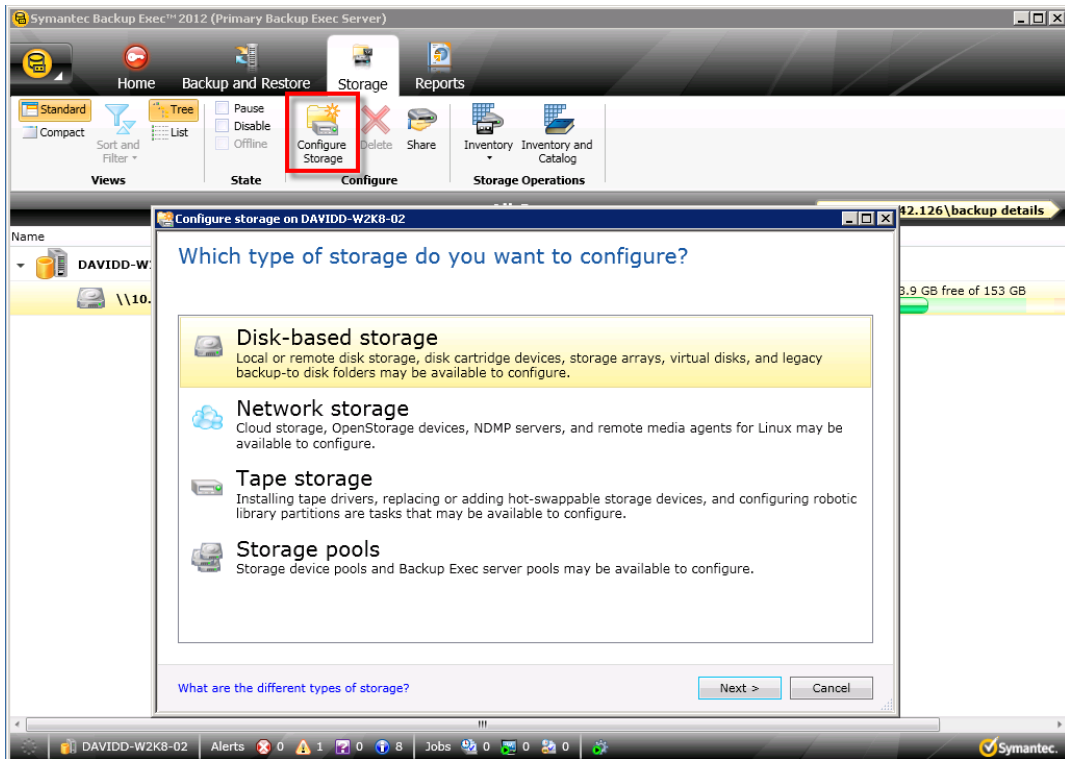


15. Select the container, and click **Display Statistics**. Note down the container share/export path, which you will use later to target the DR Series system.

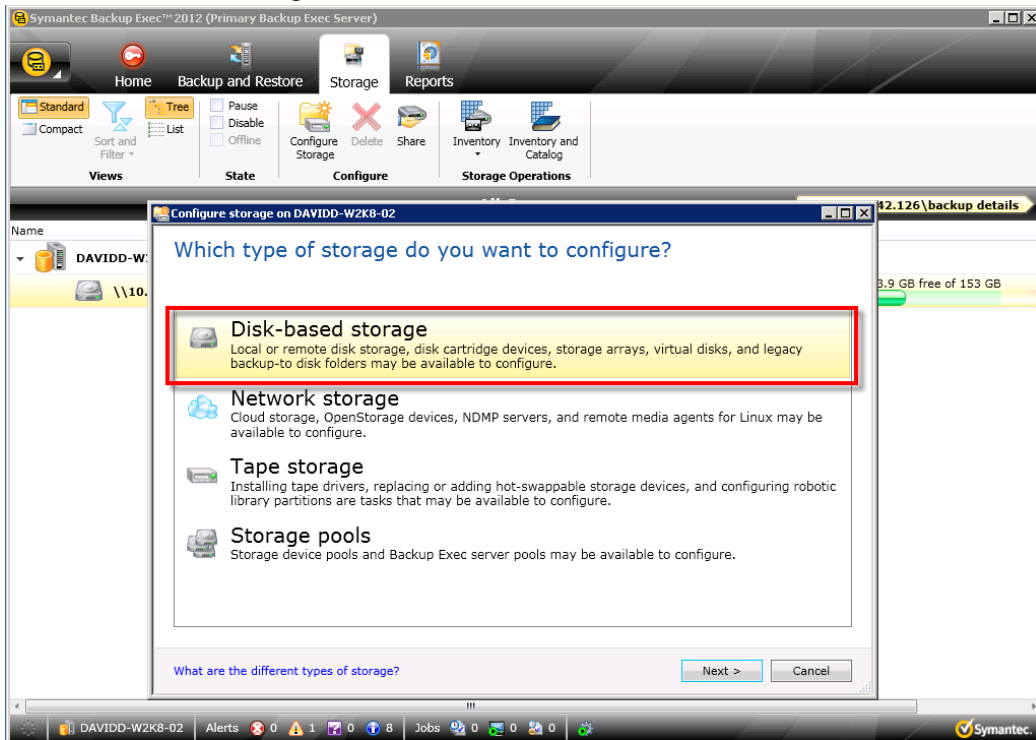
The screenshot displays the Dell DR4100 web interface. The top header shows the Dell logo, 'DR4100', and 'administrator (Log out) | Help'. The left navigation menu includes 'Global View', 'Dashboard', 'Alerts', 'Events', 'Health', 'Usage', 'Container Statistics', 'Replication Statistics', 'Storage', 'Containers', 'Replication', 'Clients', 'Schedules', 'System Configuration', and 'Support'. The main content area is titled 'Container Statistics' and shows the 'Container Name' as 'test1'. Below this are three charts: 'Backup Data' (Active Files), 'Backup Data' (Active Bytes), and 'Throughput' (Read/Write). A red box highlights the 'CIFS Connection Configuration' section, which shows the CIFS share path as '\\swsys-238.systemst.ocarina.local\test1' and Client Access as 'Open Access (all clients have access)'. The system time zone is noted as 'US/Pacific'.

2 Adding a DR container share as a disk storage device on Backup Exec 2012 or 2014

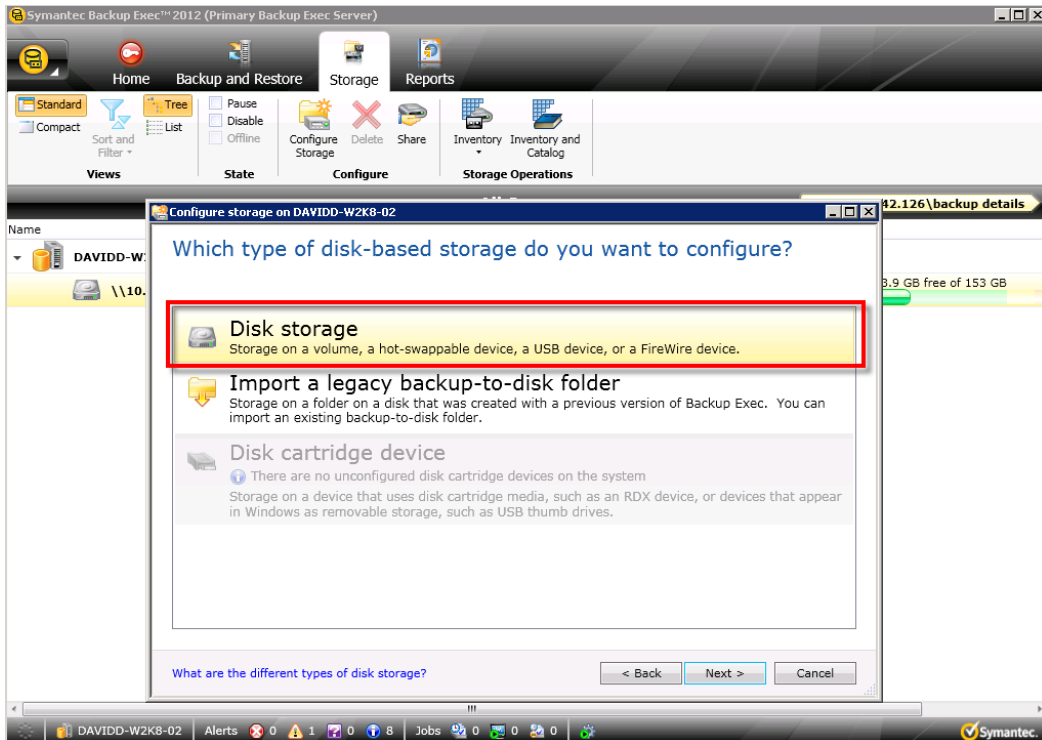
1. Open the Backup Exec console, and, in the **Storage** pane, click **Configure Storage Device**.



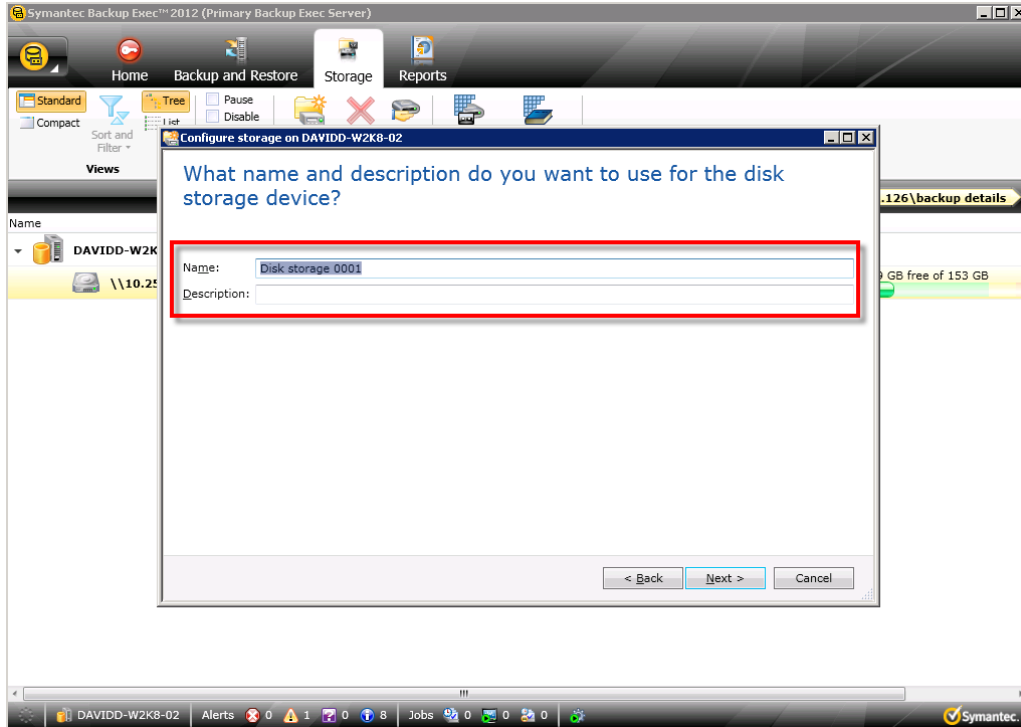
2. Select **Disk-based storage**, and click **Next**.



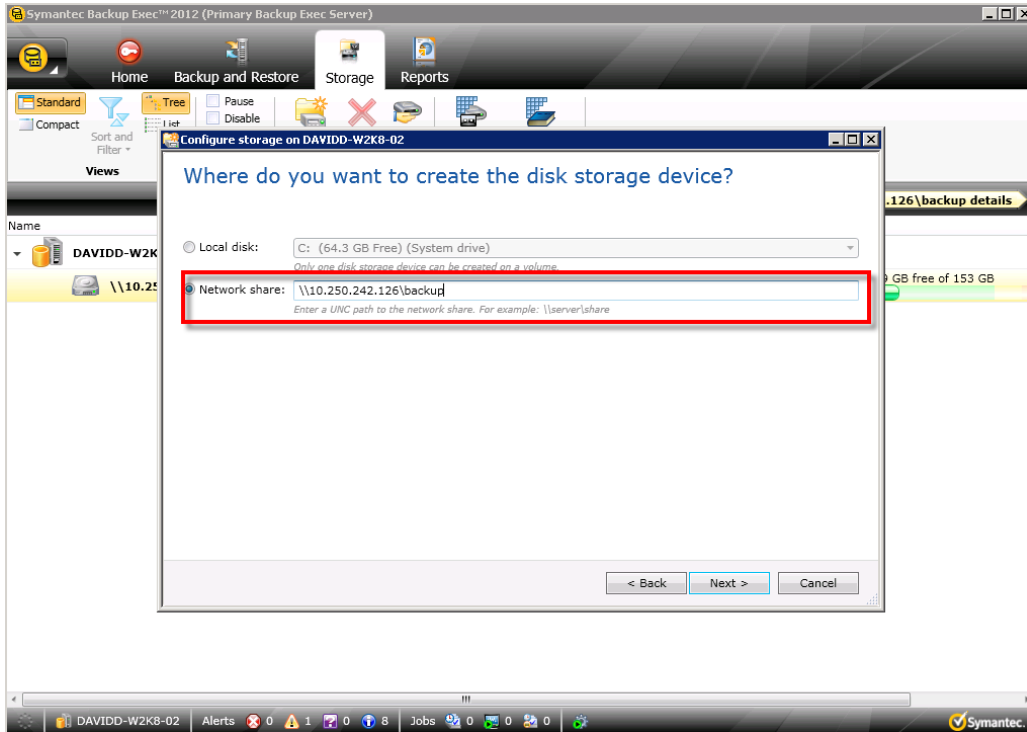
3. Select **Disk Storage**, and click **Next**.



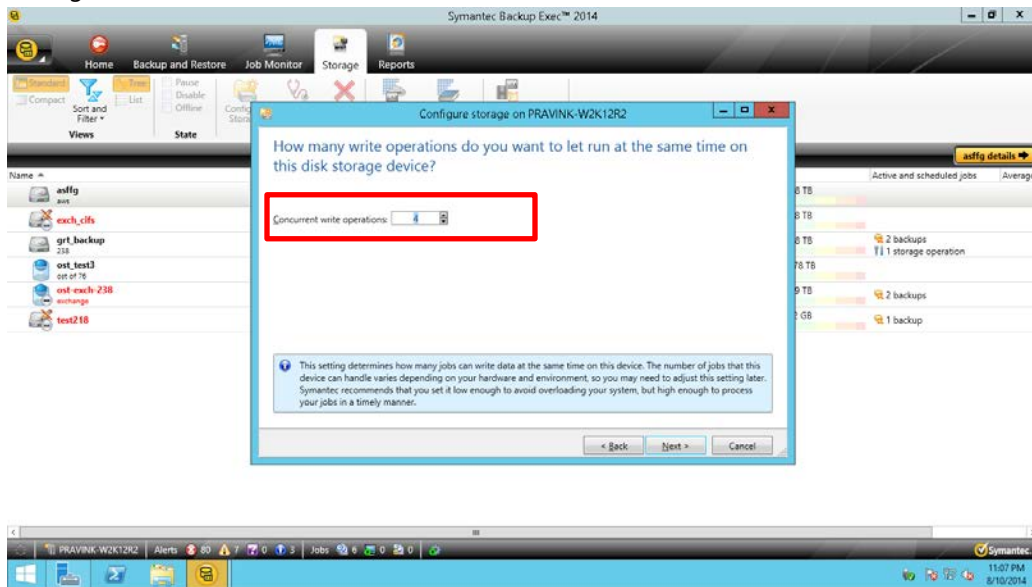
4. Enter a name for the DR Series system disk device, enter a description, and then click **Next**.



5. Enter the DR container's CIFS share path, and click **Next**.



6. For Backup Exec 2014, specify how many concurrent write operations are allowed for this disk storage device, and then click **Next**.



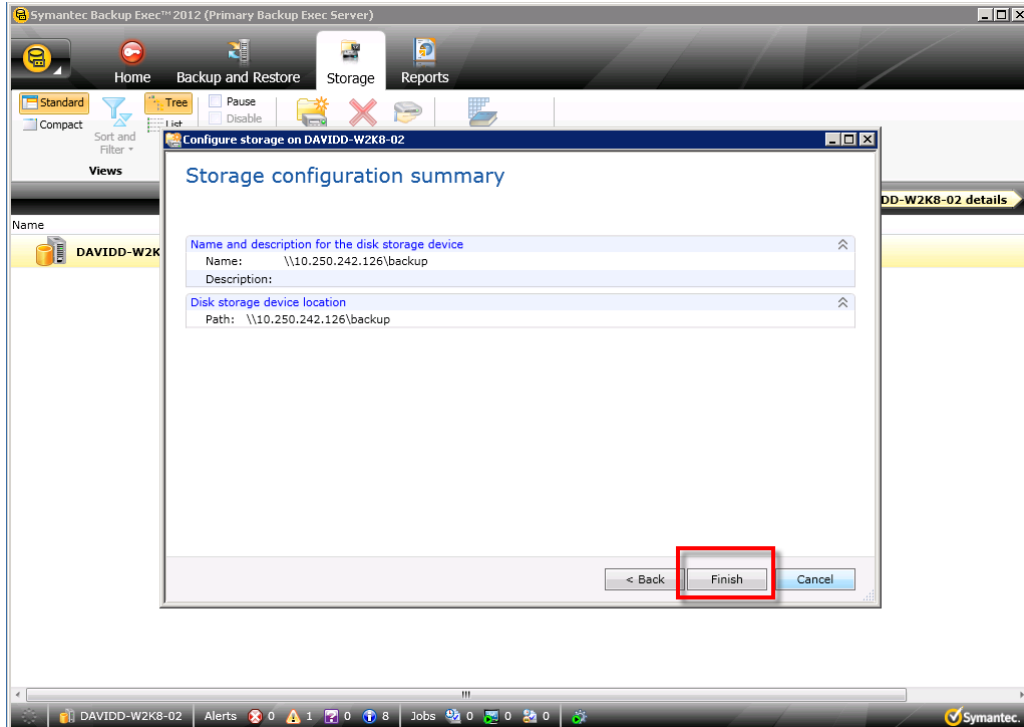
NOTE: The Dell DR Series systems support the following number of concurrent writes to CIFS Storage:

- DR4000 – 32
- DR4100 – 32
- DR6000 – 64
- DR2000v – 8

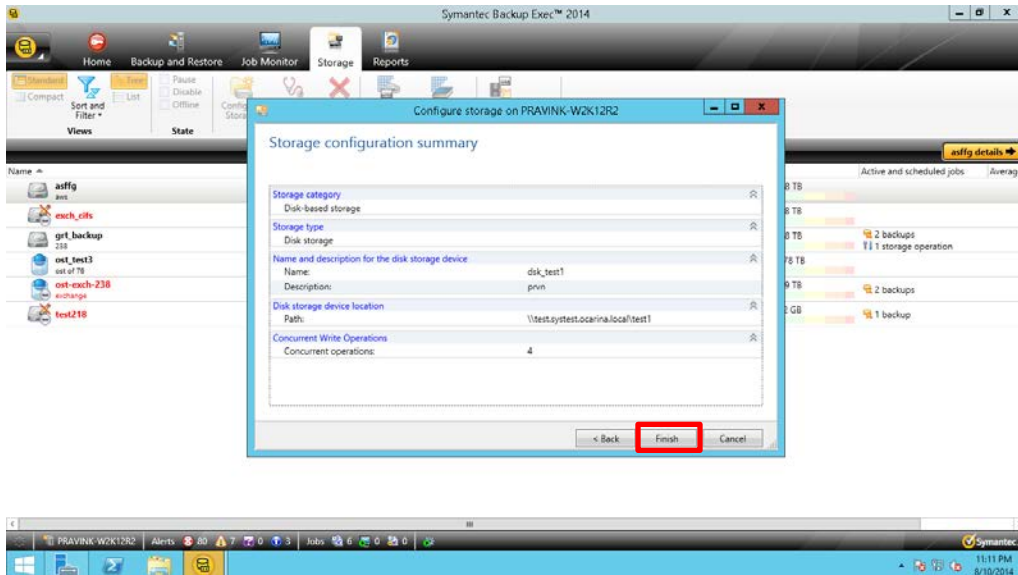
To change this number later, go to the **Storage** tab, select the required Storage device, and see the details. In the **Properties** page, select the option to update the concurrent operations.



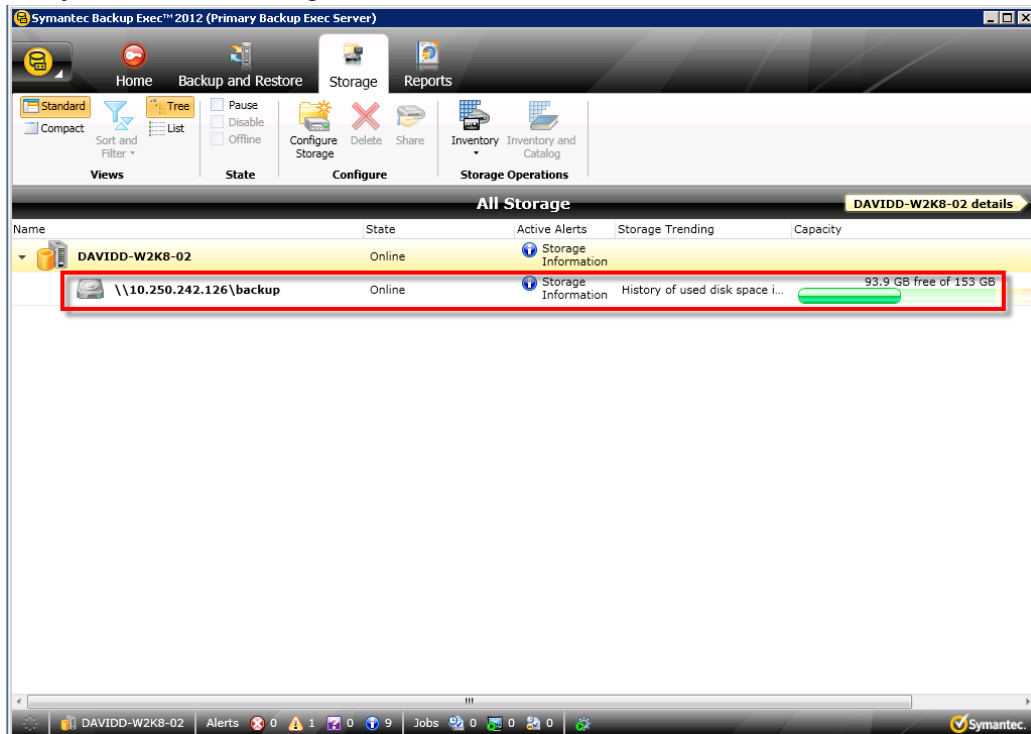
6. In the Storage Configuration Summary window, click **Finish**.



For Backup Exec 2014, the summary page will have additional details as shown in the following example.

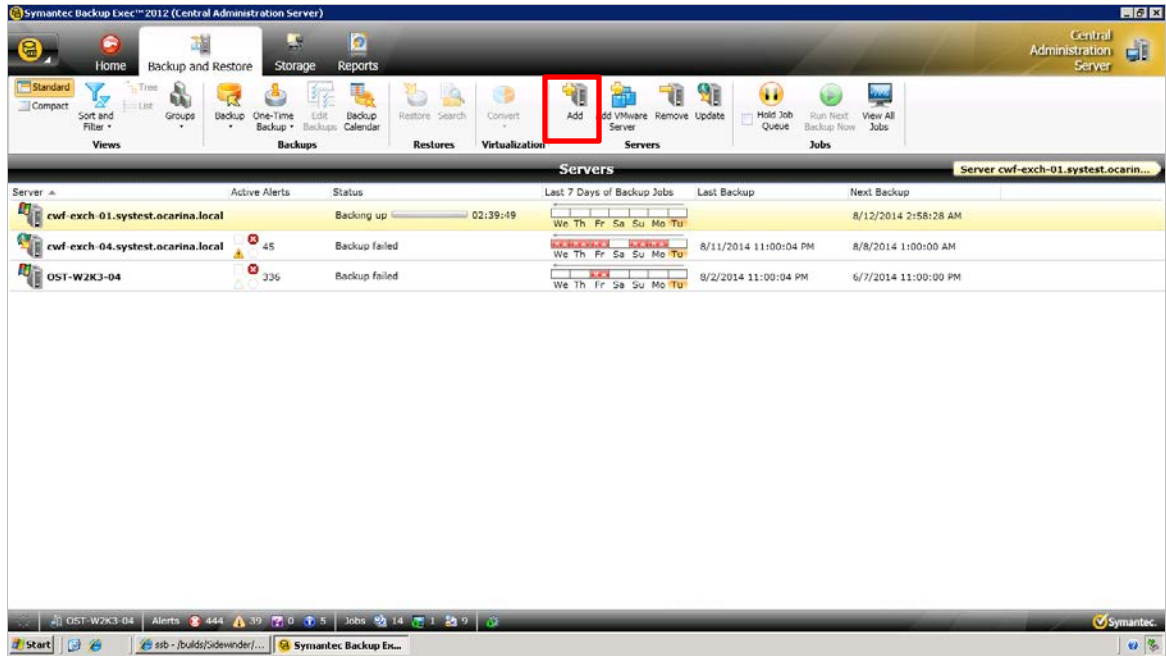


7. Verify that the Disk Storage Device is attached to the server.



3 Creating a new backup job with the DR Series system as the target

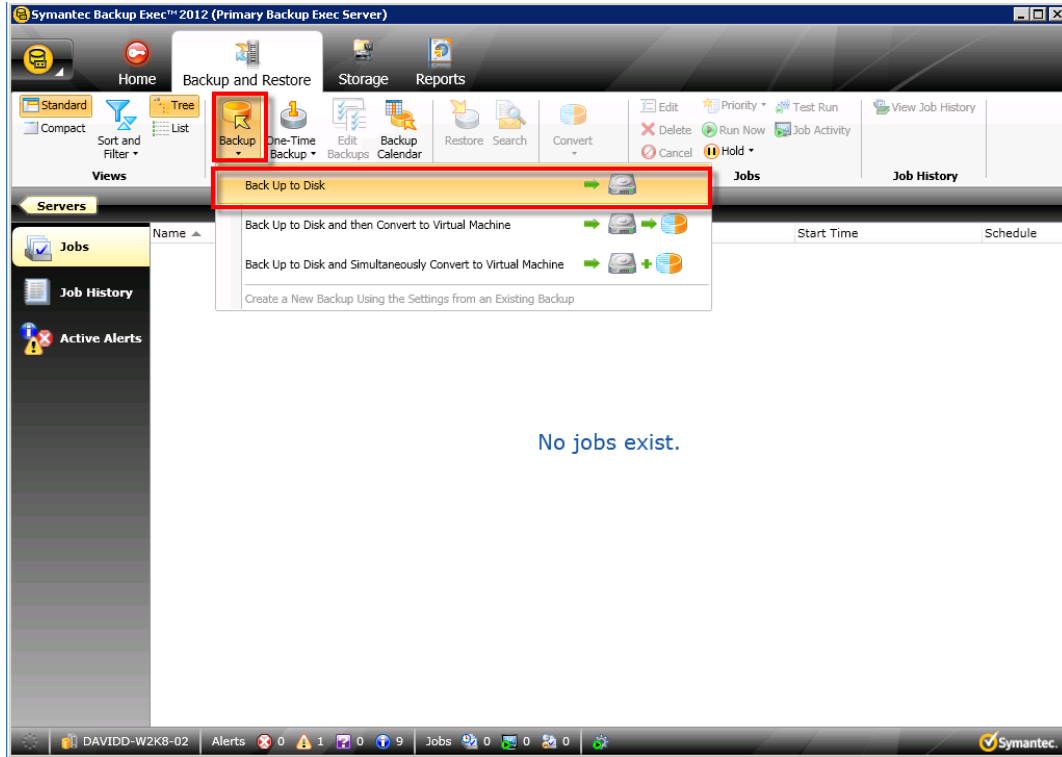
1. If the required source client server is not added in Backup Exec, it can be added by selecting the **Backup and Restore** pane and then clicking the **Add** button.



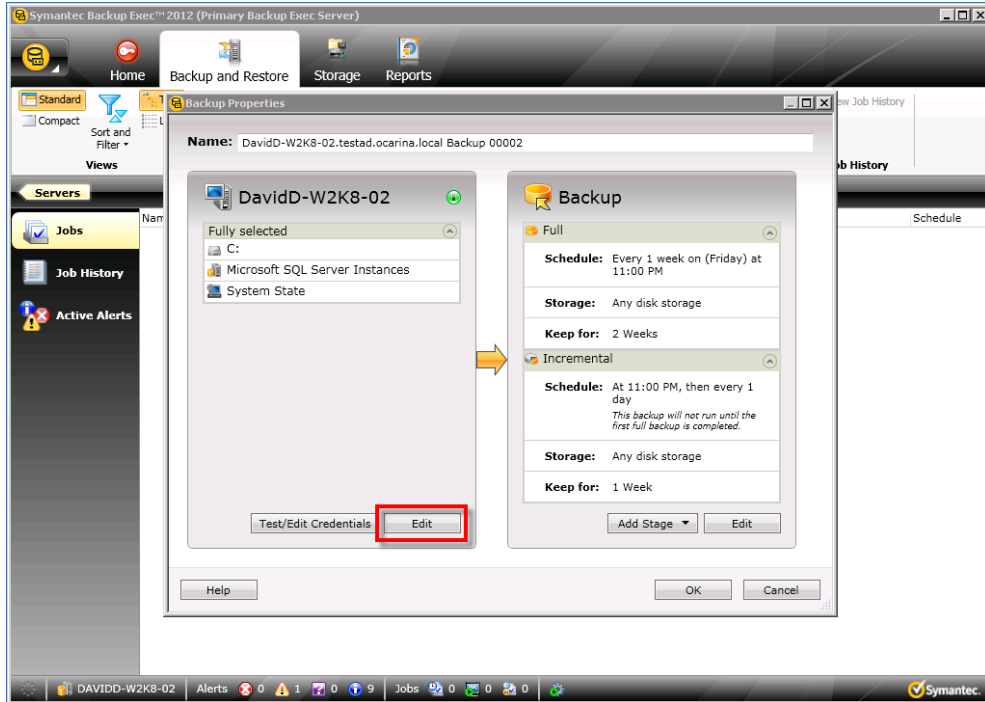
2. Follow the wizard by selecting the required type of server and clicking **Continue**.



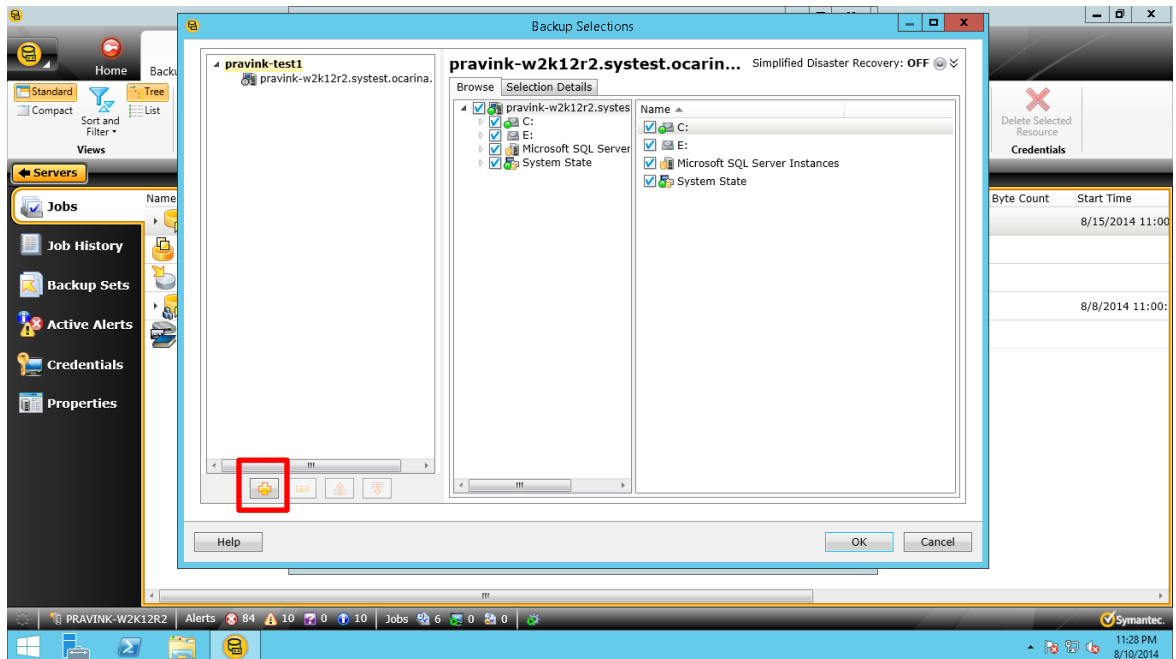
3. In the **Backup and Restore** pane, click **Backup > Back Up to Disk**.



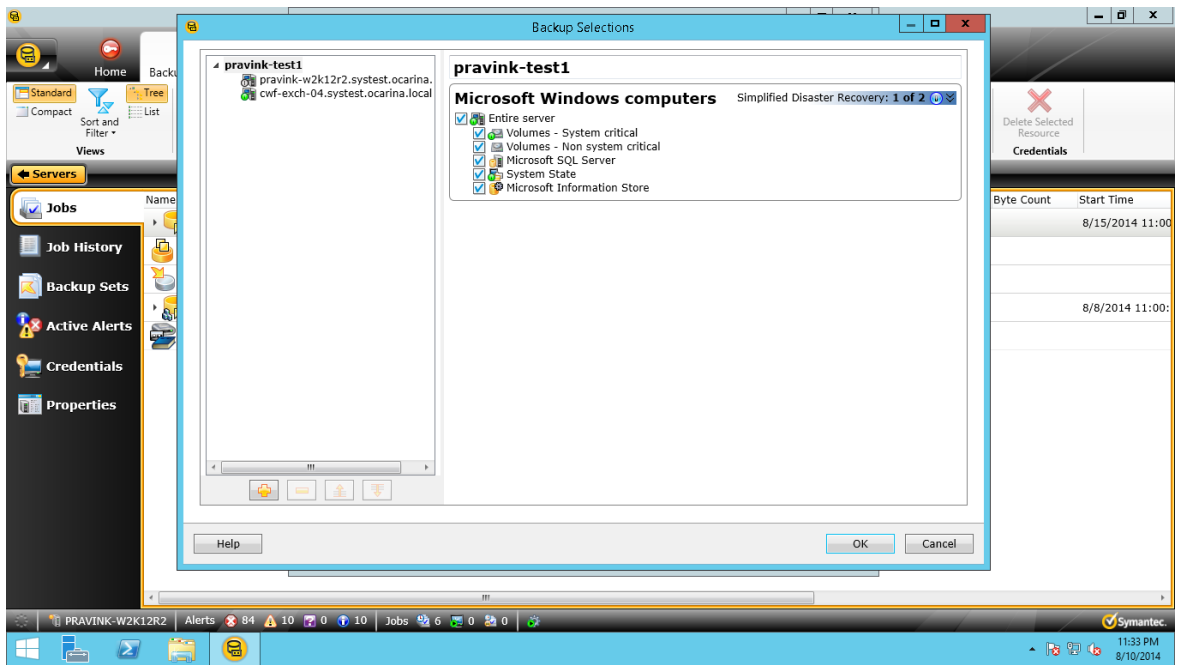
- In the left pane of the Backup Properties dialog box where you select a backup source, click **Edit**, and then select the backup data set.



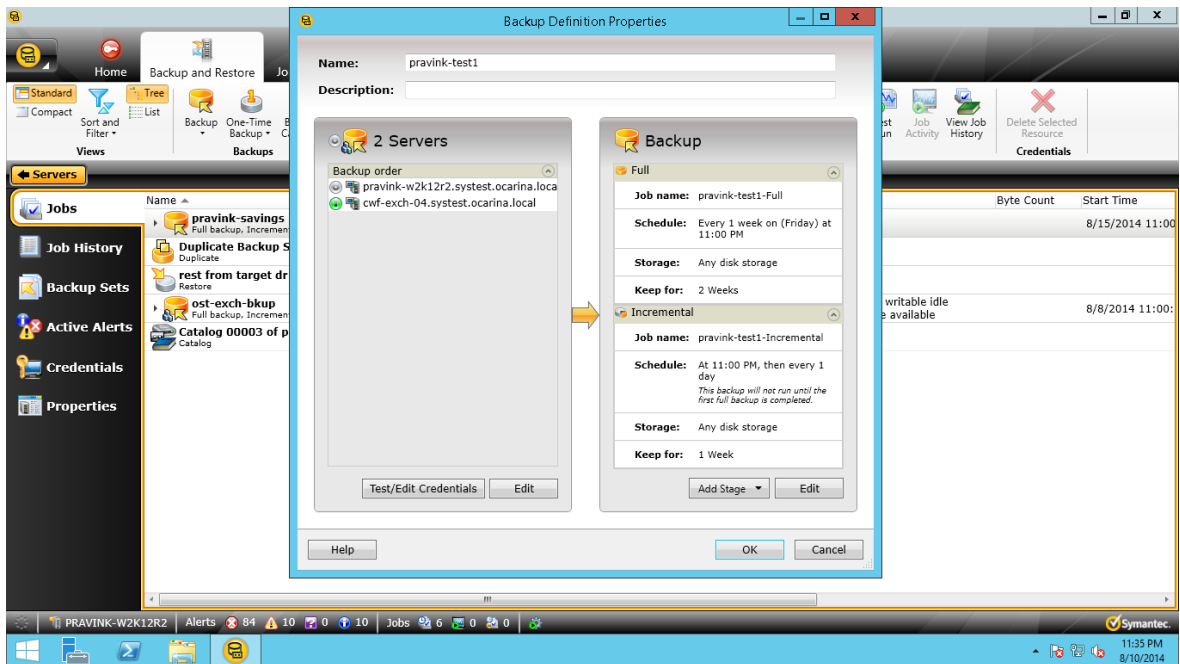
For Backup Exec 2014, backup data sets can be selected from multiple servers within the same job. To add an additional server, click the “+” button as shown in the following example.



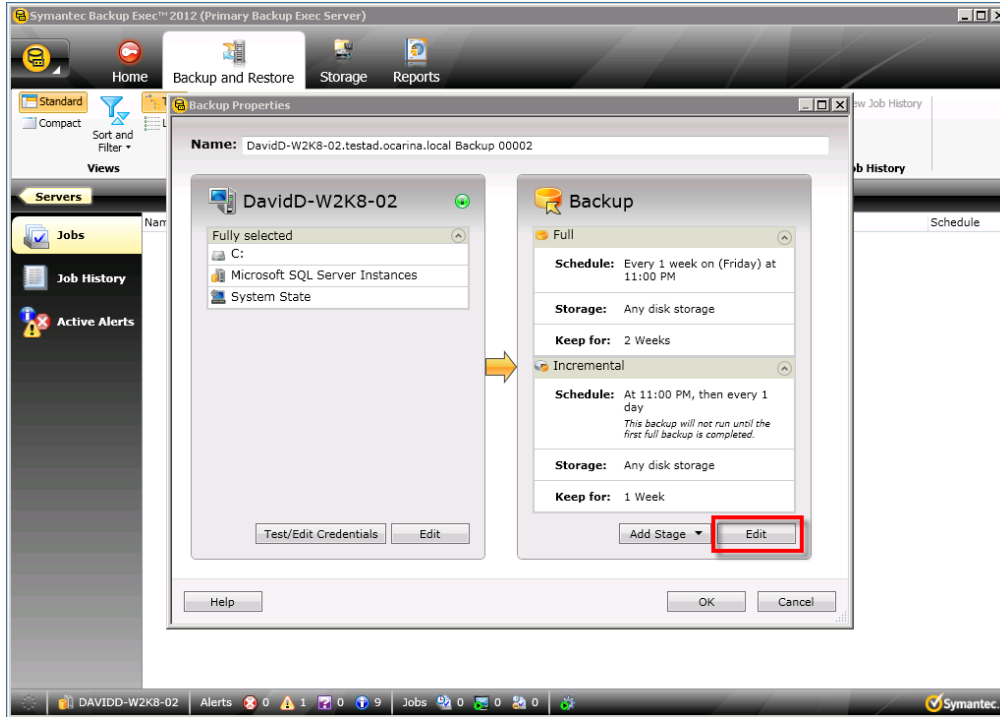
Follow the Backup Exec 2014 Backup Selection wizard and add the server with the selected backup data. The Source Dataset will appear as displayed in the following example. Click **OK** to continue.



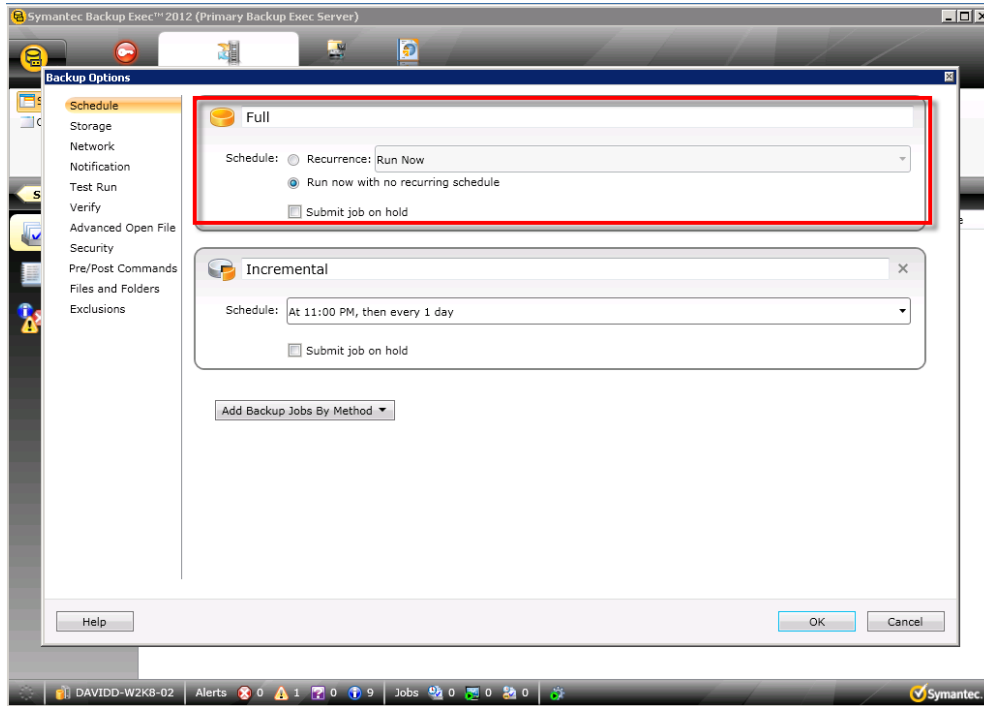
The final Backup Exec 2014 backup selection with multiple servers appears as displayed in the following example.



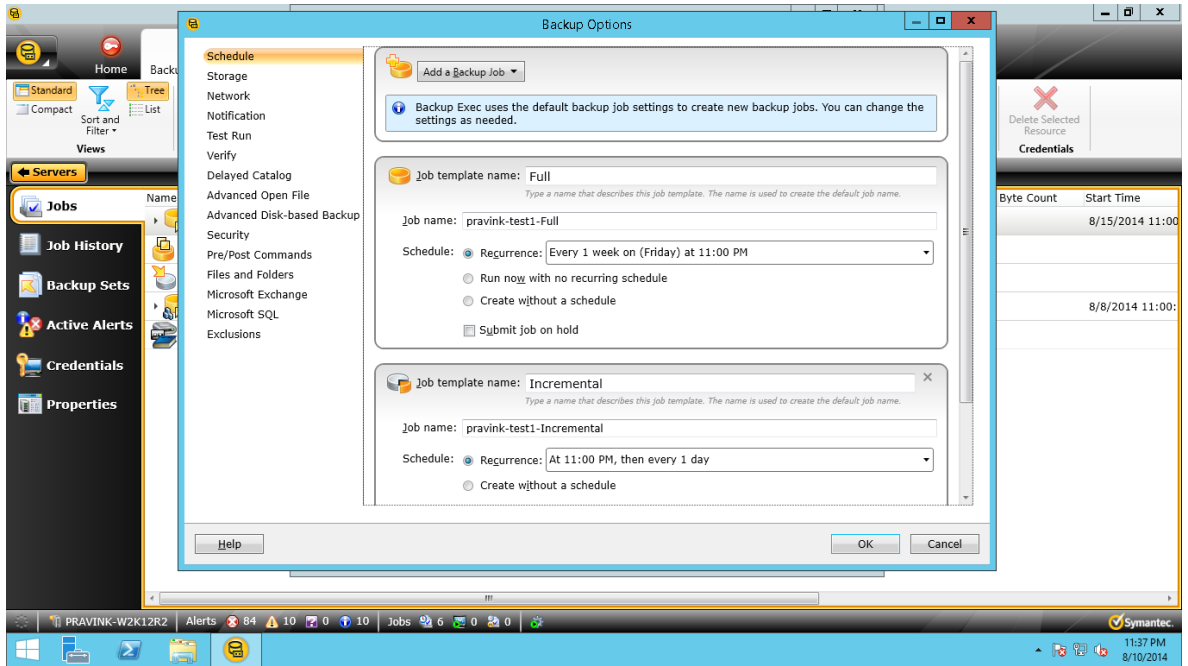
5. In the right pane of the Backup Properties dialog box, click **Edit** to define your backup strategy.



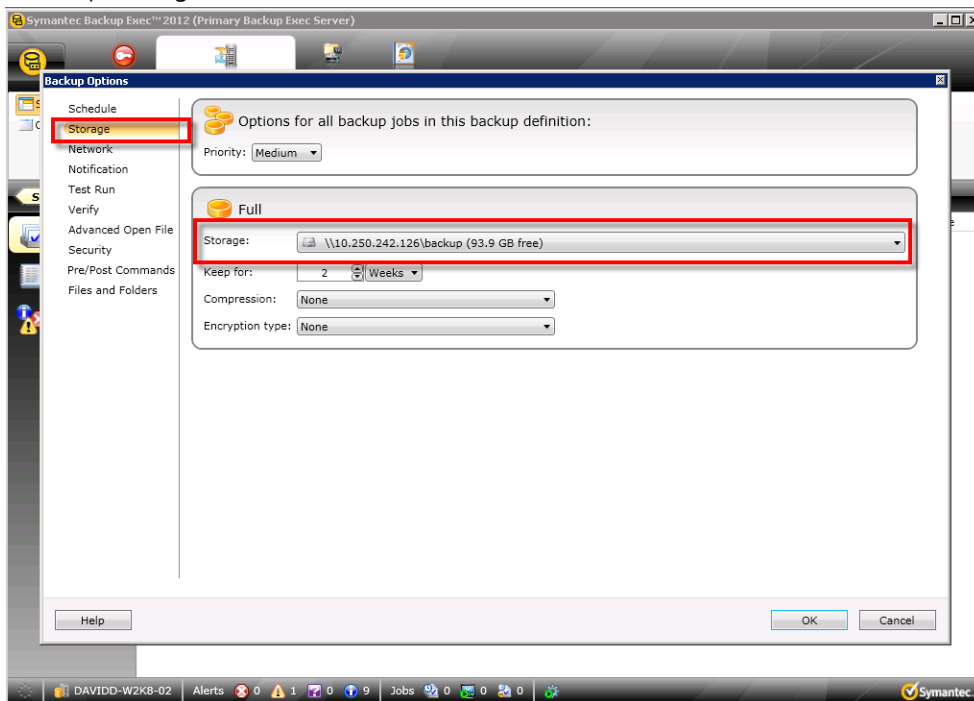
6. Click **Schedule** and define the backup mode by selecting schedule options.



For Backup Exec 2014, you can select backup options as shown in the following example.



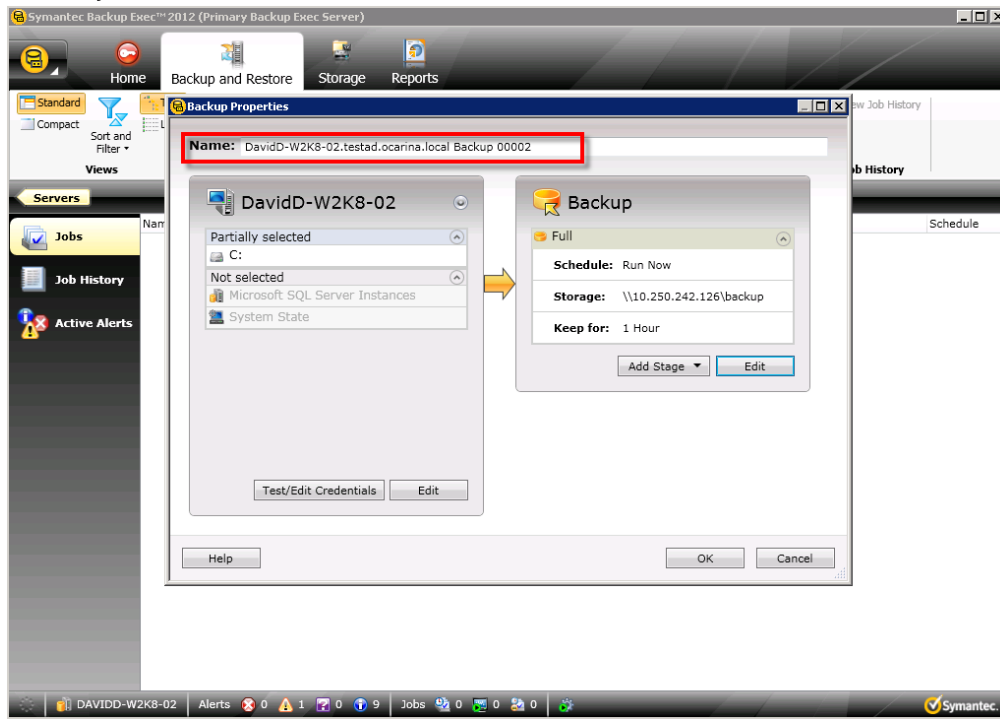
7. In the left menu in the Backup Options dialog box, click **Storage** and then select the Disk Storage Device pointing to the DR container share.



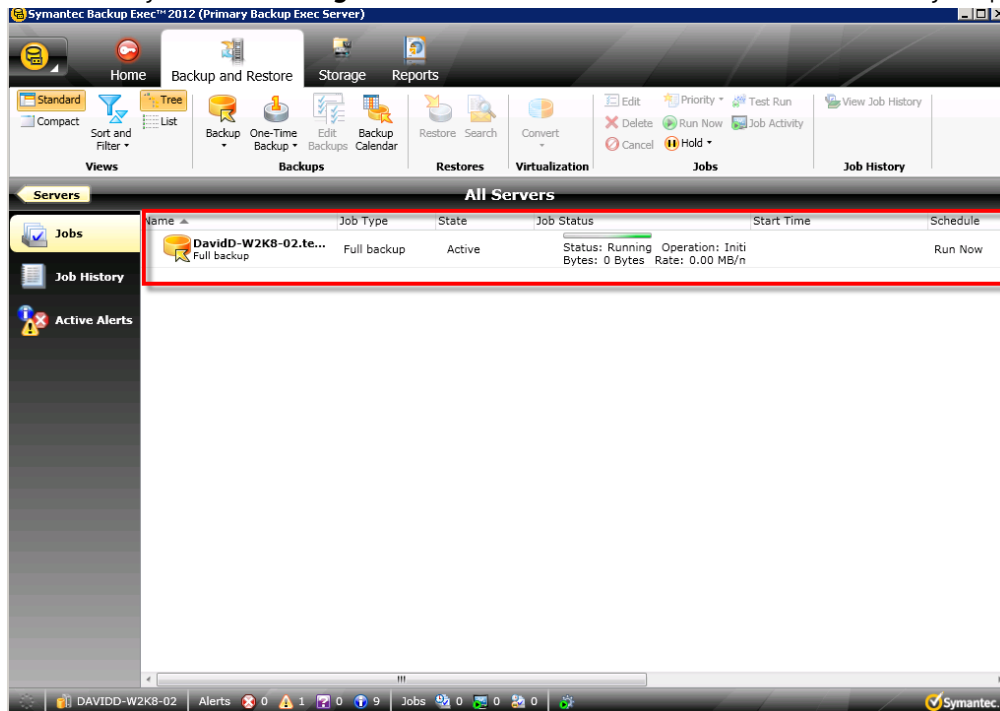
8. When you have completed definition of backup options, click **OK**.



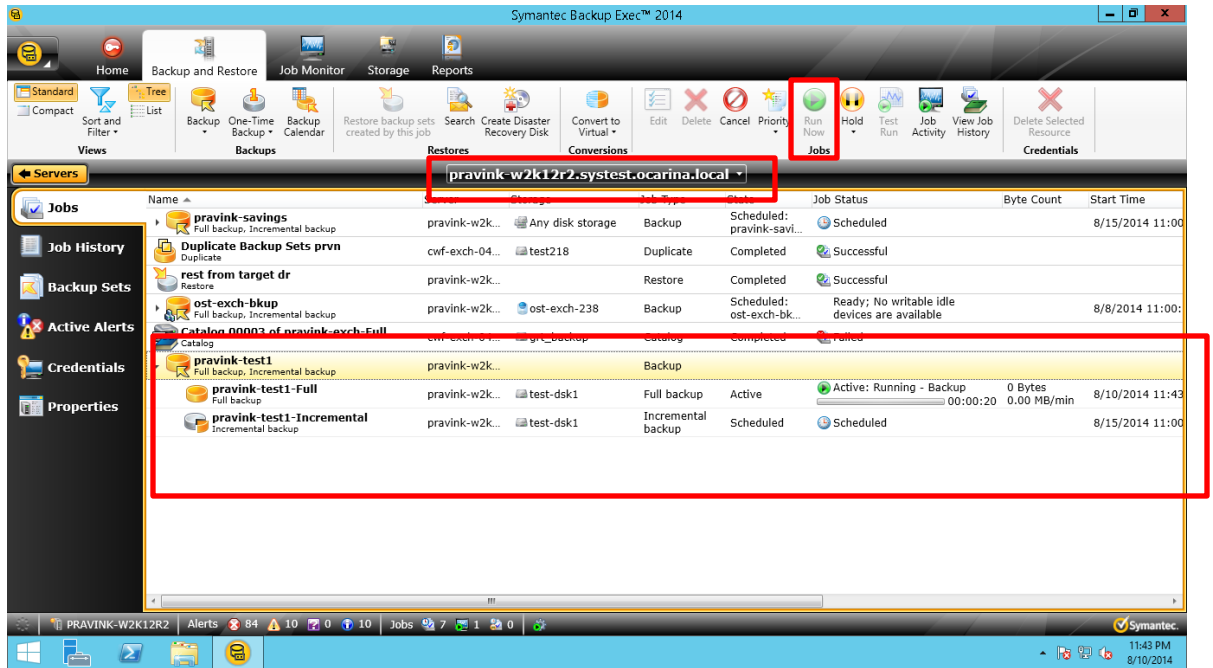
9. Enter a job **Name**, and click **OK**.



10. To run the job, select an **Agent**, and click **OK**. The **Jobs** window shows the job queue status.



For Backup Exec 2014, select the required server from the drop down menu, select the job recently created, and then click **Run Now**.

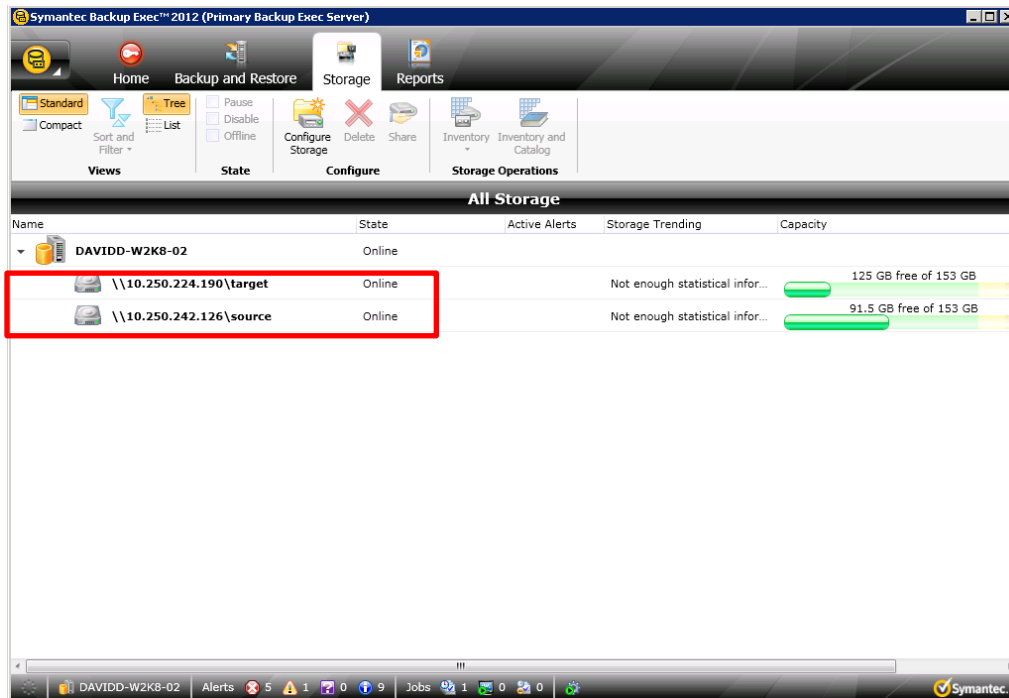


4 Setting up DR Series system replication and restore from the replication target

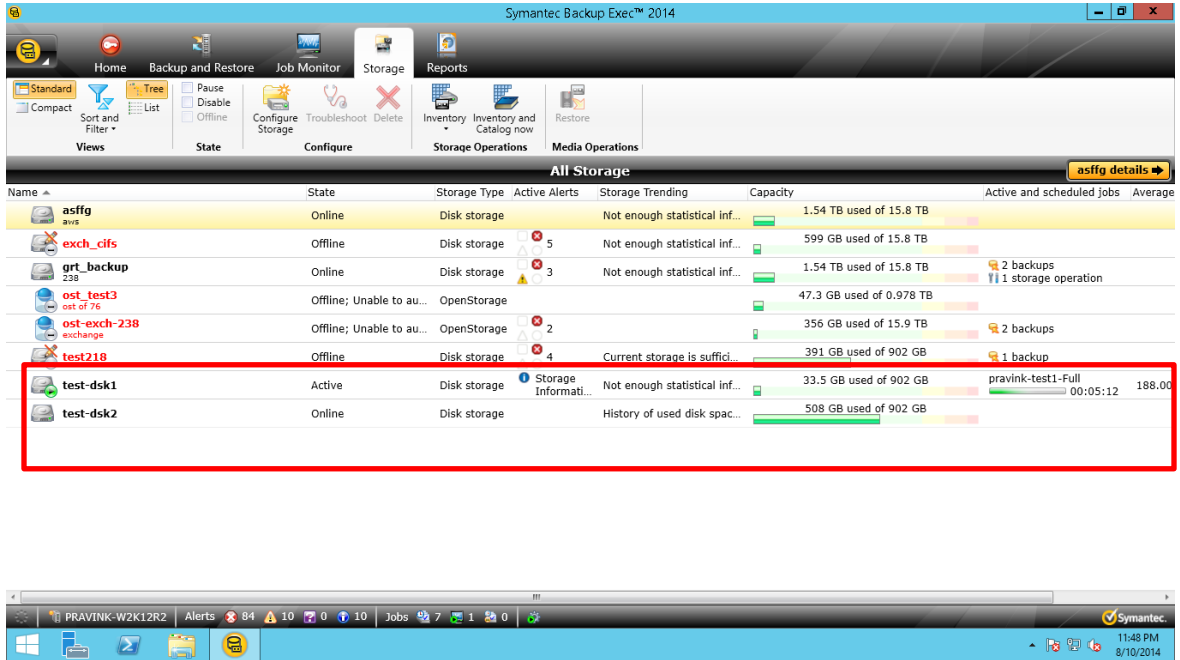
NOTE: In the instructions and examples in this section, assume DR1 is the replication source DR Series system, and DR2 is the replication target DR Series system; 'source' is the replication source container, and 'target' is the replication target container.

4.1 Create a replication session

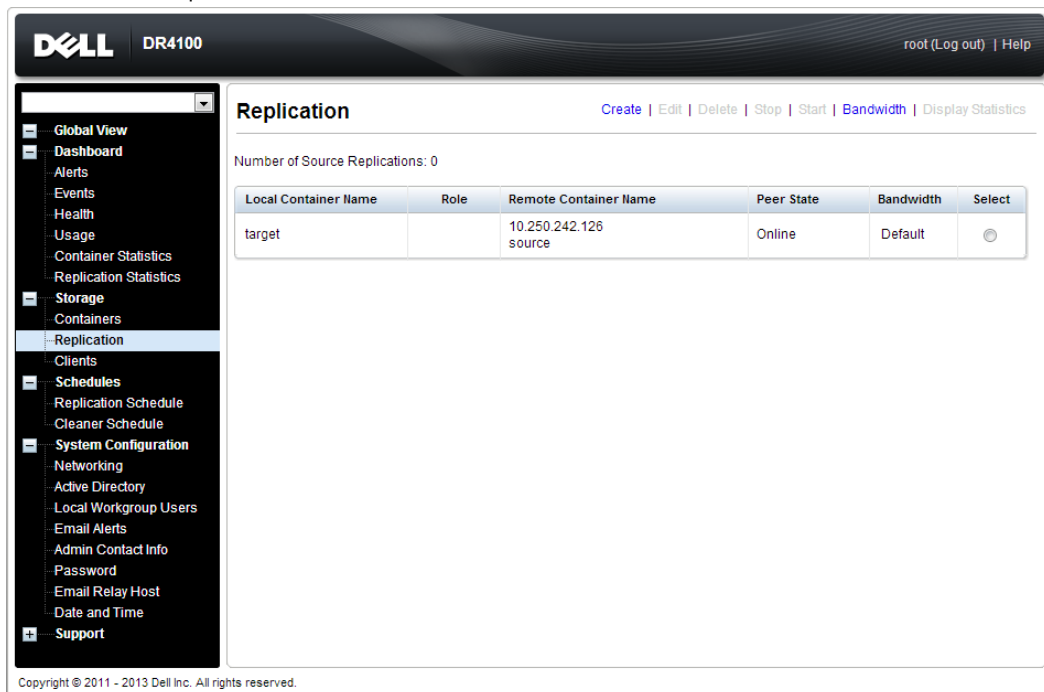
1. Do the following:
 - a. Create a CIFS container 'source' on DR1.
 - b. Create a second CIFS container 'target' on DR2.
 - c. On the Backup Exec media server, configure a corresponding Disk Storage Device for each of the containers.



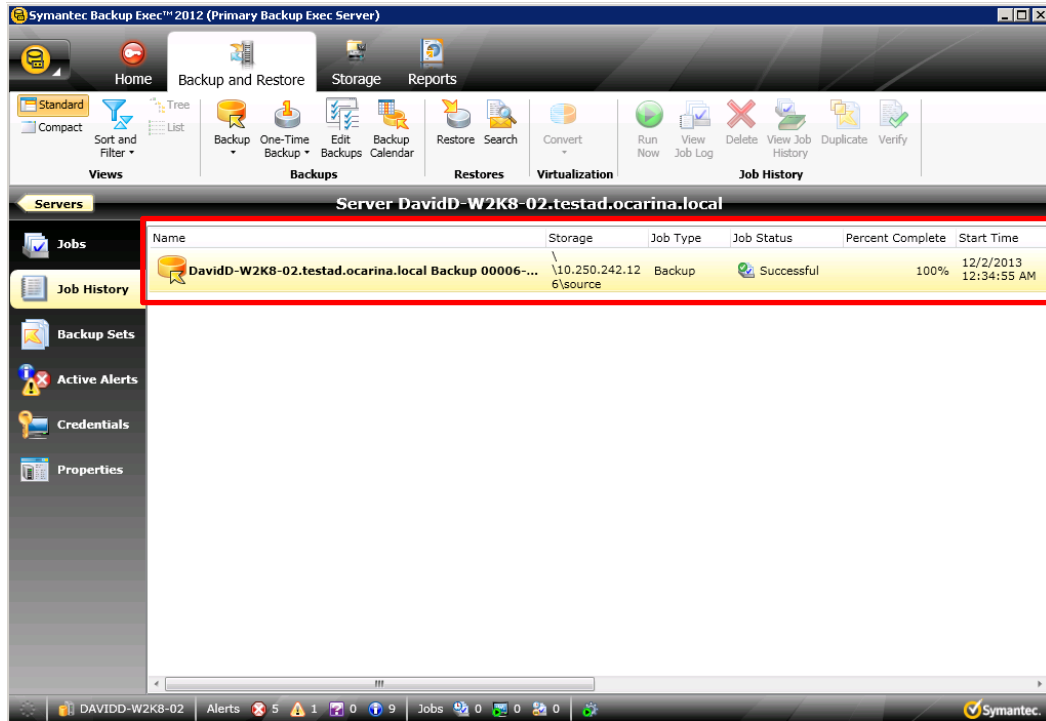
For Backup Exec 2014, after adding the target DR CIFS container, check that the device was added.



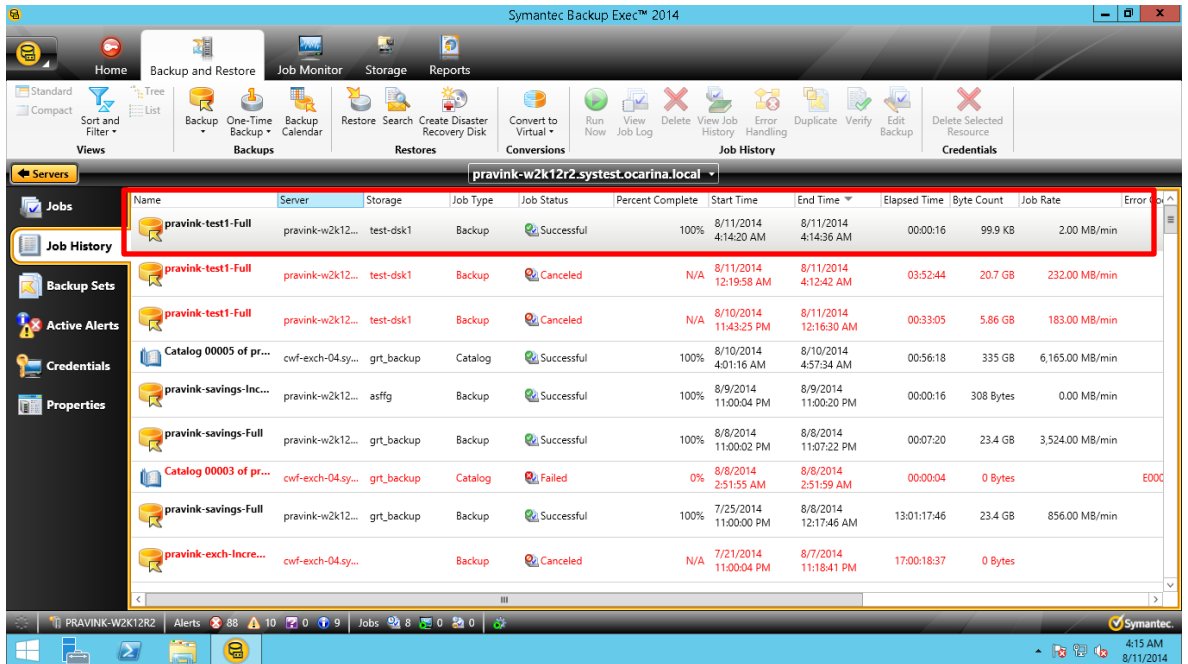
2. From DR1 GUI management interface, click **Replication** and then click **Create**.
 - a. Set the 'source' container as the replication source.
 - b. Set the DR2 'target' container as the replication target.
 - c. Start the replication session.



3. Schedule and run backup jobs to the source Disk Storage Device.

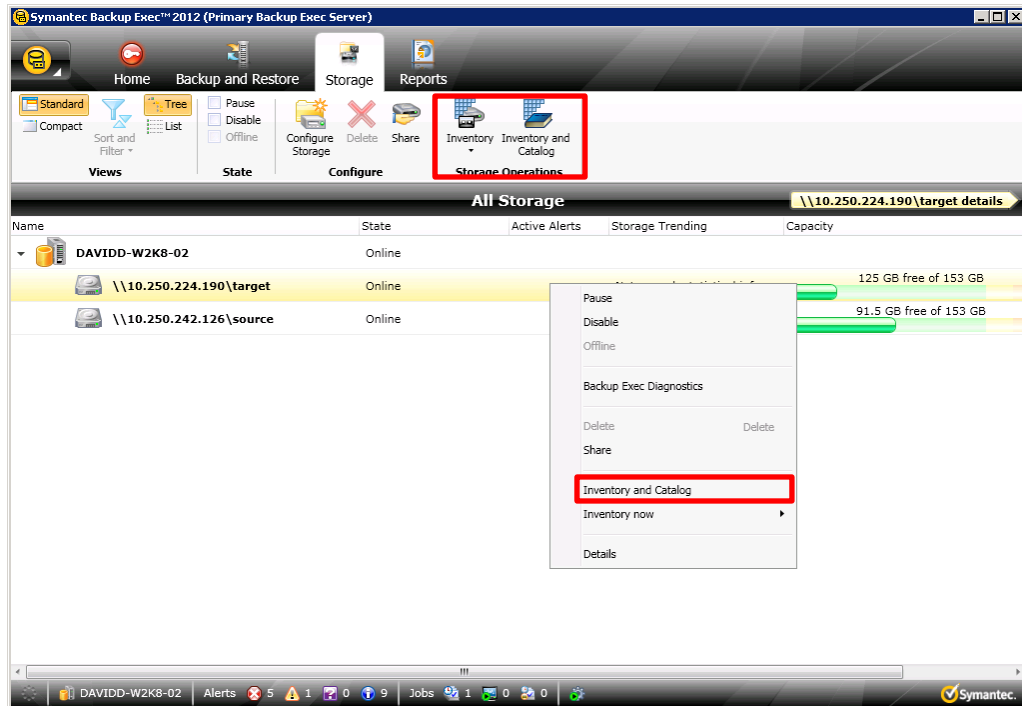


For Backup Exec 2014 you can view the Job History screen.

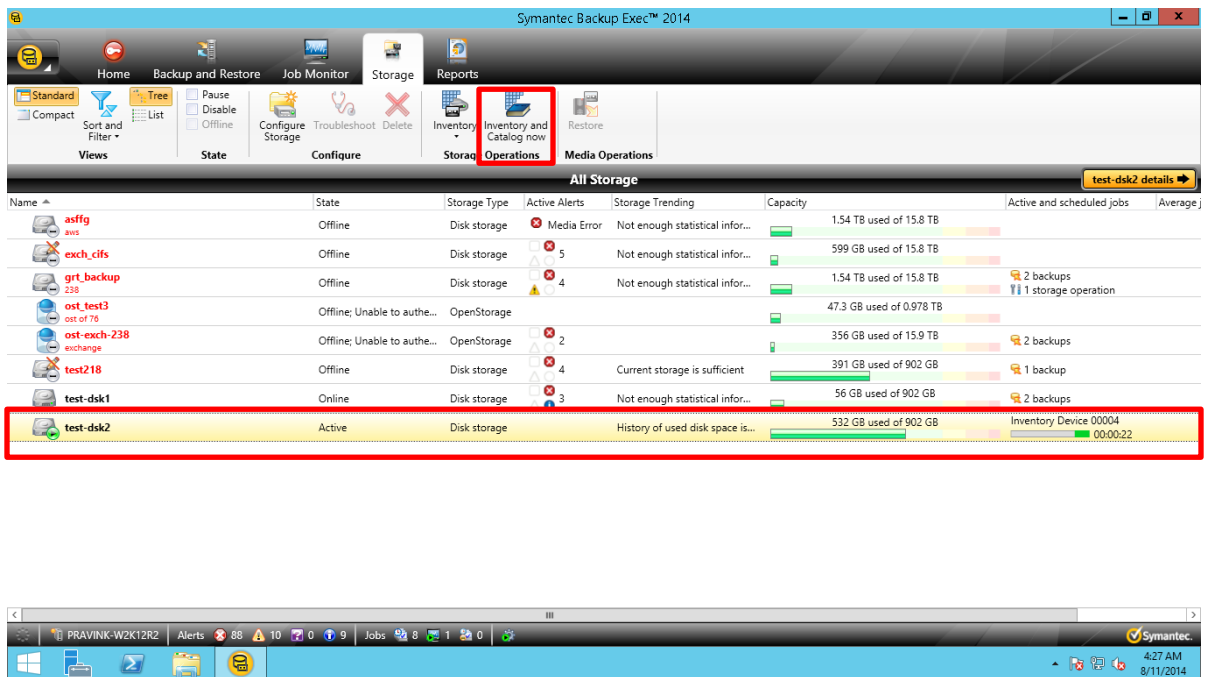


4.2 Restoring from a replication target

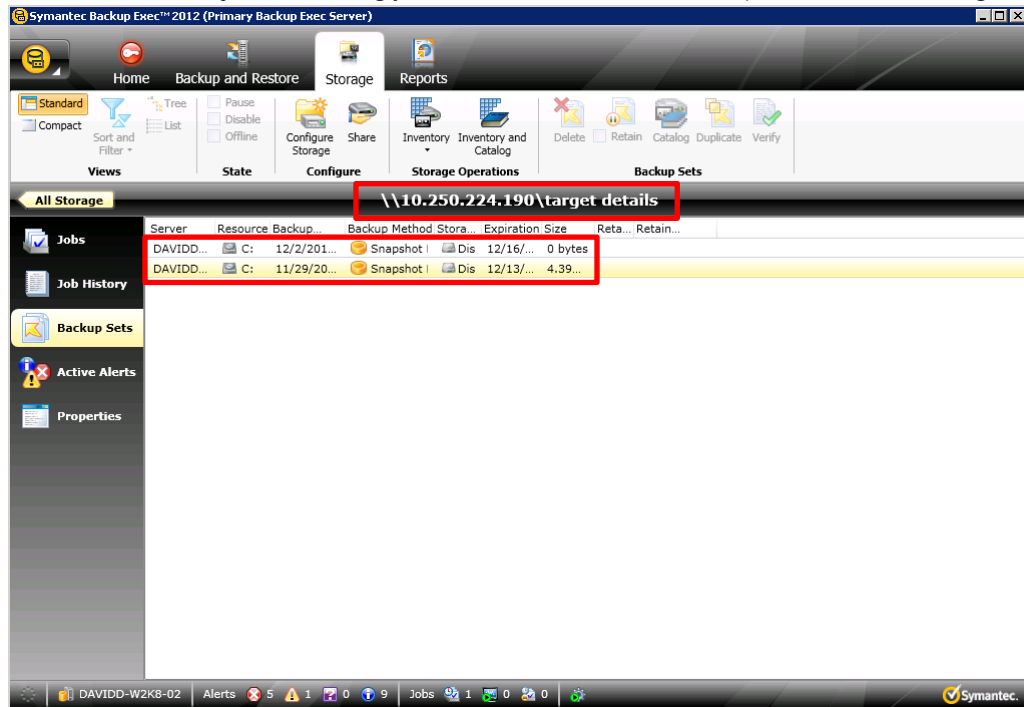
1. Under **Storage > Storage Operations**, right-click the replication target device, and then select **Inventory and Catalog**.



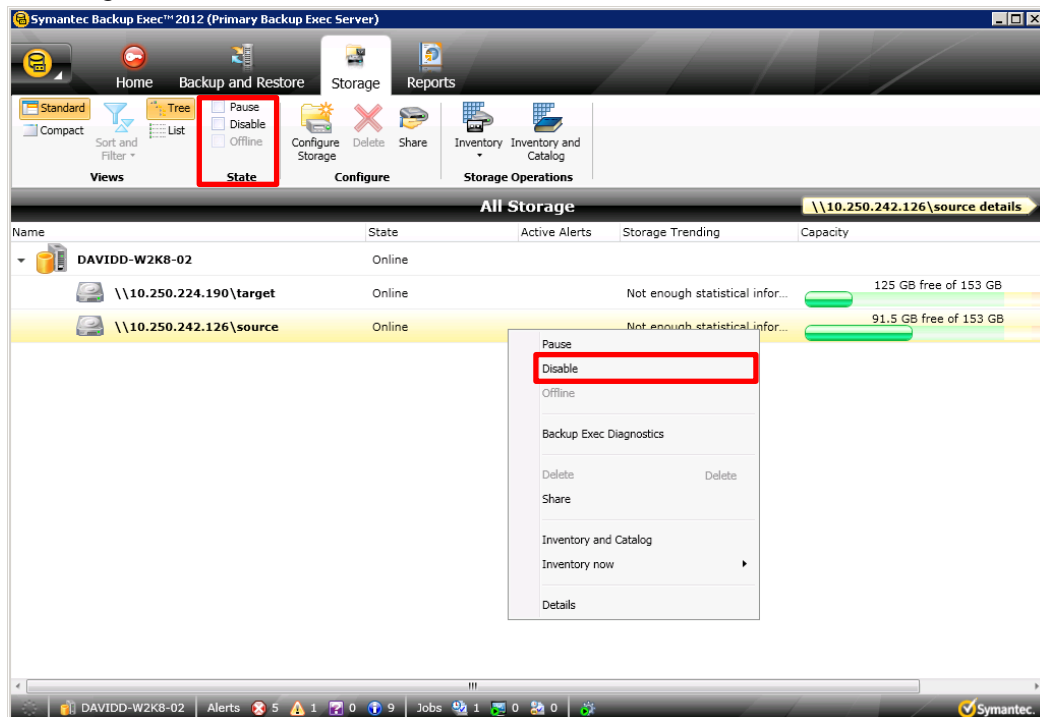
For Backup Exec 2014, the screen appears as shown in the following example.



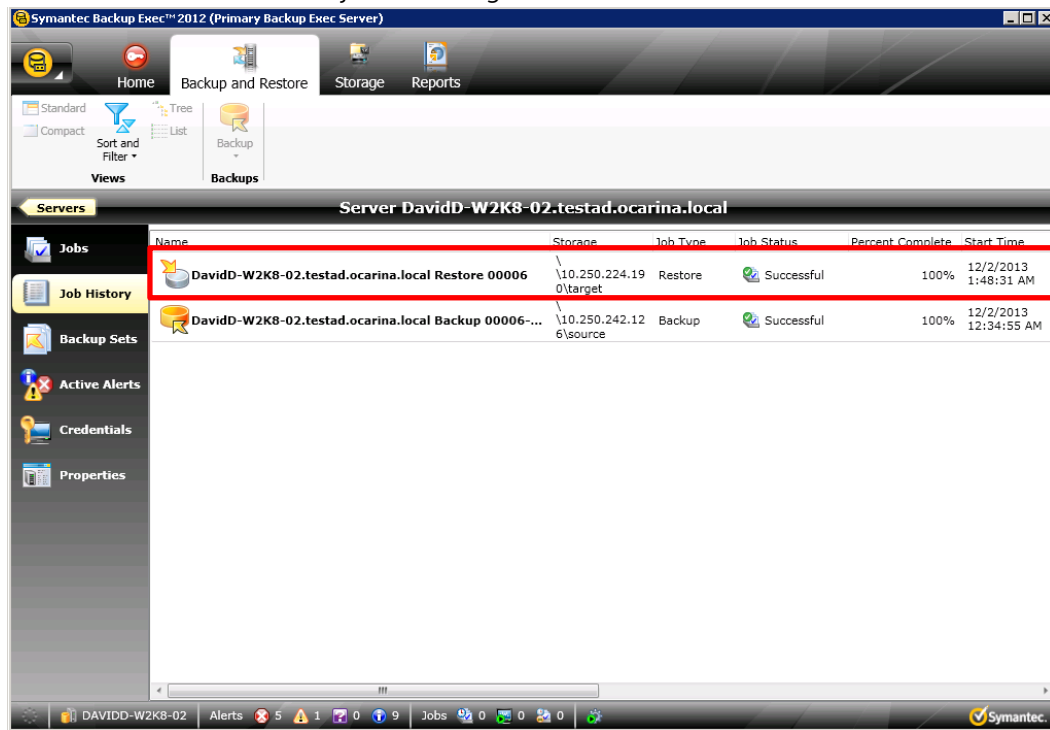
2. After the Inventory and Catalog job is done, check the Backup Sets shown in target storage device.



3. Disable source storage under **Storage > State**, by right-clicking the source storage device and selecting **Disable**.



4. Schedule and run a restore job from target device.



5 Setting up the DR Series system cleaner

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.

The system cleaner runs during idle time. If your workflow does not have a sufficient amount of idle time on a daily basis, then you should consider scheduling the cleaner to force it to run during a scheduled time.

If necessary, you can perform the procedure shown in the following example screenshot to force the cleaner to run. After all of the backup jobs are set up, the DR Series system cleaner can be scheduled. The DR Series system cleaner should run at least six hours per week when backups are not taking place, and generally after a backup job has completed.

The screenshot shows the Dell DR Series system cleaner configuration interface. The sidebar menu on the left includes sections for Dashboard, Alerts, Events, Health, Usage, Statistics, Storage, Containers, Replication, Compression Level, Clients, Schedules, System Configuration, and Support. The 'Cleaner Schedule' option is highlighted in the Schedules section. The main content area is titled 'Cleaner Schedule' and displays the following information:

System time zone: US/Pacific, Fri Jul 5 05:00:41 2013

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

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

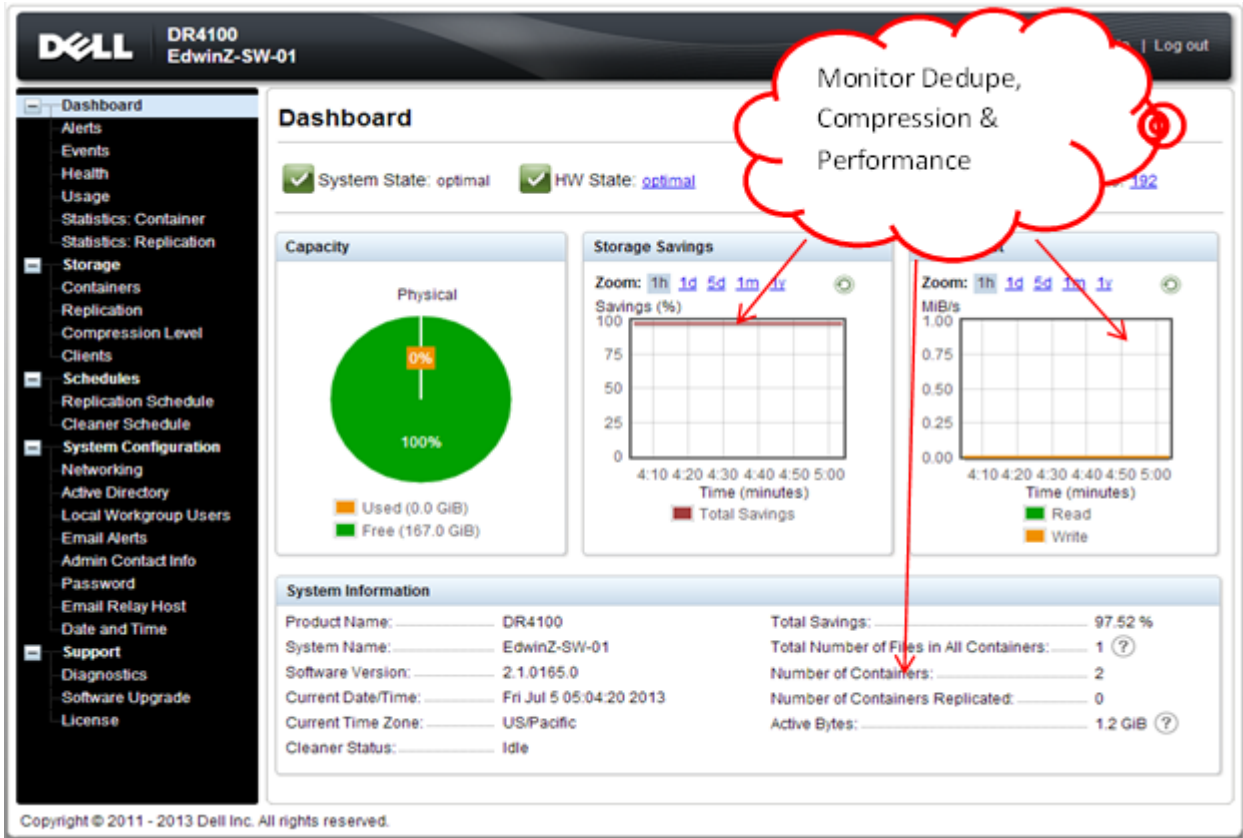
An 'Edit Schedule' button is located in the top right corner, and a red arrow labeled 'Schedule Cleaner' points to it.

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6 Monitoring deduplication, compression, and performance

After backup jobs have run, the DR Series system tracks capacity, storage savings, and throughput on the DR Series system dashboard. This information is valuable in understanding the benefits of the DR Series system.

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 are completed, the ratios will increase. Backup jobs with a 12-week retention will average a 15x ratio, in most cases.



A Appendix: Setting data expiration for Backup Exec 2012

Backup images will be deleted by Backup Exec (2012) after image expiration if more backups have run (At least two full backups of the same data set). Refer to the following link for more information:
<http://www.symantec.com/business/support/index?page=content&id=TECH187957>

For information about image expiration, you can refer to the section, "About Backup Job Settings," in the *Symantec Backup Exec 2012 Administrator's Guide*. If you would like to keep the backup sets, refer to the section, "About Keeping Backup Sets."

You can change the data expiration settings by editing the specific backup job under **Backups > About backup job settings > Storage > Keep for**.

