

VMware/Hyper-V Backup Plug-in User Guide

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TECHNICAL SUPPORT AND SERVICES

If you have questions about installing or using this software, check this and other documents first - you will find answers to most of your questions here or there. If you need further assistance, please contact us.

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Welcome

This document has been developed to help both users familiar with the StarWind products and novice users to get started with Hyper-V/VMware Backup Plug-in without any difficulties.

The StarWind team stands behind its products and does its best to make your experience with Backup Plug-in effective and pleasant.

Hyper-V/VMware Backup Plug-in

Backup Plug-in Benefits

- Fast and reliable backup and restore of virtual machines
- Full integration with StarWind Management Console ensures flat learning curve for users familiar with StarWind solutions
- Built-in Global Deduplication saves up to 80% of disk space
- Simple installation and management of backup infrastructure reduces management overhead and drastically saves time
- Backups are stored in original hypervisor format (VHD for Hyper-V and VMDK for VMware), which enables rapid VM restore and smooth operation with the third-party software
- Agentless architecture of this software does not require shutdown of hypervisor and guest VMs for the installation
- Support of all VMware and Hyper-V features

System Requirements

Backup Plug-in System Requirements

The recommended OS for running Backup Plug-in is Windows 2008 Server R2 (64 bit).

Supported OS for Hyper-V Backup:

- Microsoft Hyper-V Server 2008 R2 SP1
- Windows Server 2008 R2 Hyper-V SP1

Supported guest operating systems (32/64 bit) for Hyper-V Backup:

- MS Windows XP SP2
- MS Windows Vista
- MS Windows 7
- MS Windows Server 2003
- MS Windows Server 2008 R2
- Linux-based OS

Virtual Machine Support for Hyper-V Backup:

- All guest operating systems supported by Hyper-V
- Any application
- Any file system

Used Ports:

- TCP Port 9090

Supported virtualization platforms for VMware Backup:

- vSphere 5.0
- vSphere 4.0 and 4.1
- Full ESX and ESXi hypervisor support

Virtual machine support for VMware Backup:

- All guest operating systems supported by VMware
- Any application
- Any file system

Used Ports:

- TCP Port 9090

Memory requirements for StarWind deduplication target

Block size	Target size	Memory requirements	Deduplication rates
4 KB	1 TB	3500 Mb	X
8 KB	1 TB	1700 Mb	X – 15%

16 KB	1 TB	850 Mb	X – 30%
32 KB	1 TB	400 Mb	X – 45%

Getting Started

StarWind Management Console Workspace Elements

Backup Plug-in is managed from StarWind Management Console.

Management Console elements:

- **Console tree** serves for navigation to the Management Console items: StarWind Servers, Backup, Archives, ESX and Hyper-V servers.
- **Menu bar** is a panel on the top of the Management Console window that provides the controls (buttons) to perform the operations available in the software, namely:



Refreshes the list of available hosts and targets



Connects to the selected host



Disconnects from the selected host



Connects a previously installed backup server to the Console. The backup server manages ESX and Hyper-V servers, storage pools, and archives.



Removes the selected host



Opens Backup Wizard

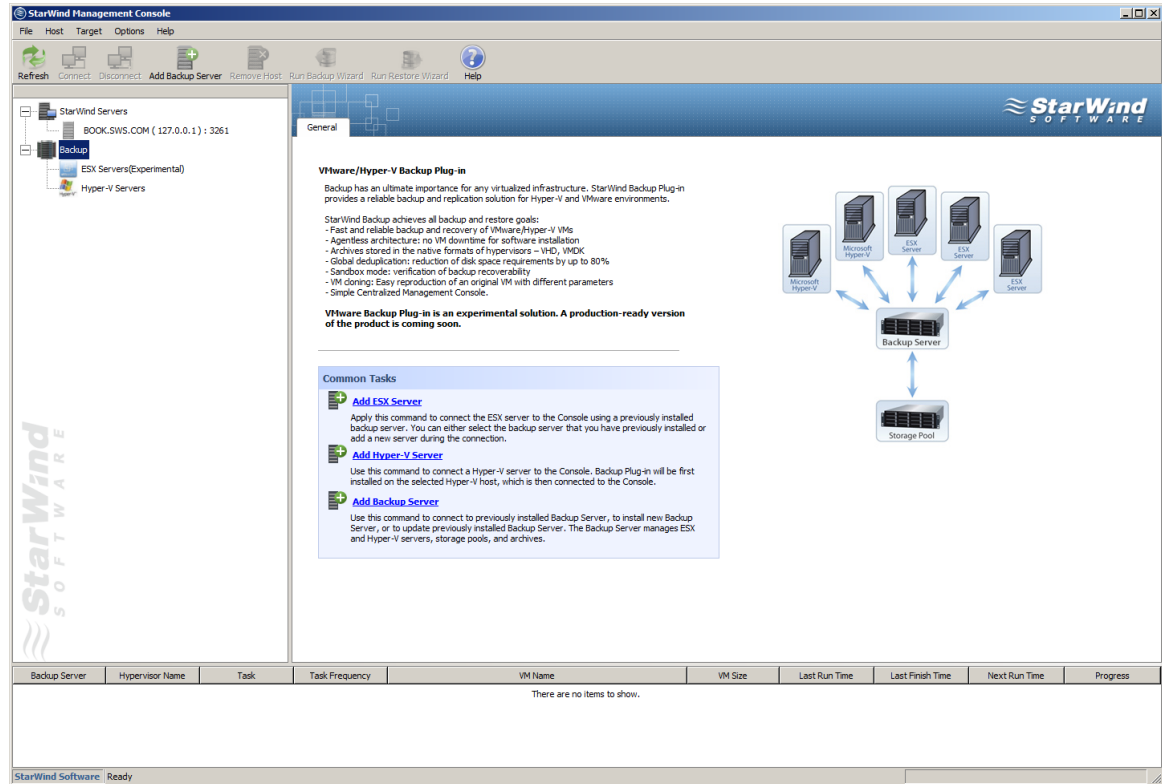


Opens Restore Wizard



Launches Backup Plug-in Help

- **Main area** serves for configuration of backup, restore, and other operations. The Main area changes dynamically depending on an item selected on the Console tree and provides actual information regarding current processes, states, and software capabilities.



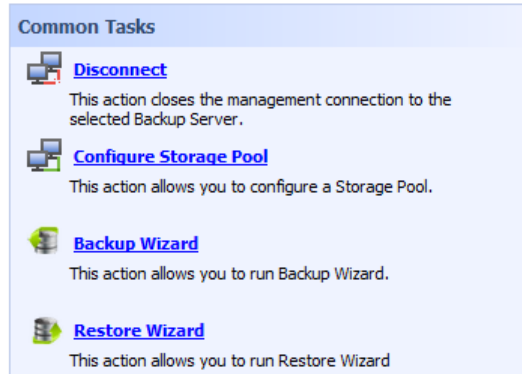
Expand the **Backup** item on the Console tree to view its subitems.

From the **Common Tasks** section, you can perform the following actions:

- **Add ESX Server** allows adding an ESX server to StarWind Management Console.
- **Add Hyper-V Server** allows adding a Hyper-V server to StarWind Management Console.
- **Install New Backup Server** configures a backup sever on a remote computer.
- **Add Existing Backup Server** connects a previously installed server to the Console.

As soon as you add a backup server it appears on the Console tree under the **Backup Servers** item.

Click a backup server to view the common tasks:

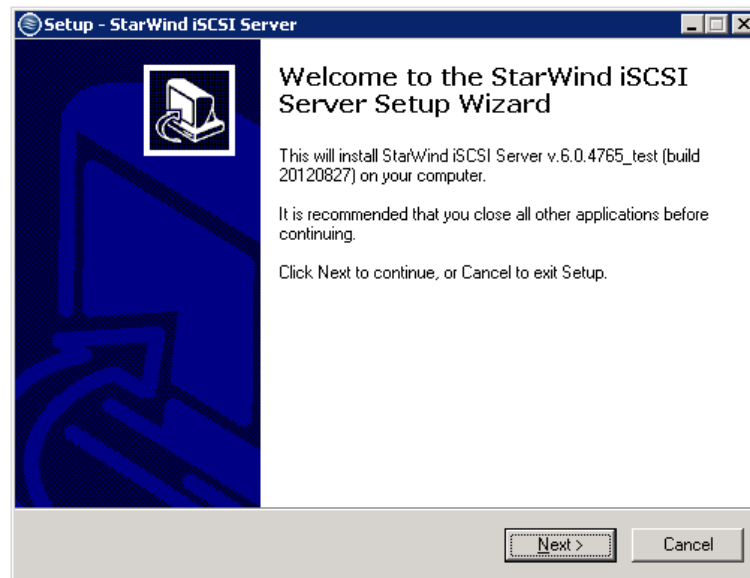


- **Disconnect** closes the management connection to a selected backup server.
- **Configure Storage Pool** – Storage pool is a location where your archives are stored. You will be prompted to create a storage pool when you backup your virtual machines for the first time. The current version of Backup Plug-in allows configuring only one storage pool.
- **Backup Wizard** initiates backup of virtual machines.
- **Restore Wizard** initiates recovery of VMs from the selected archive.

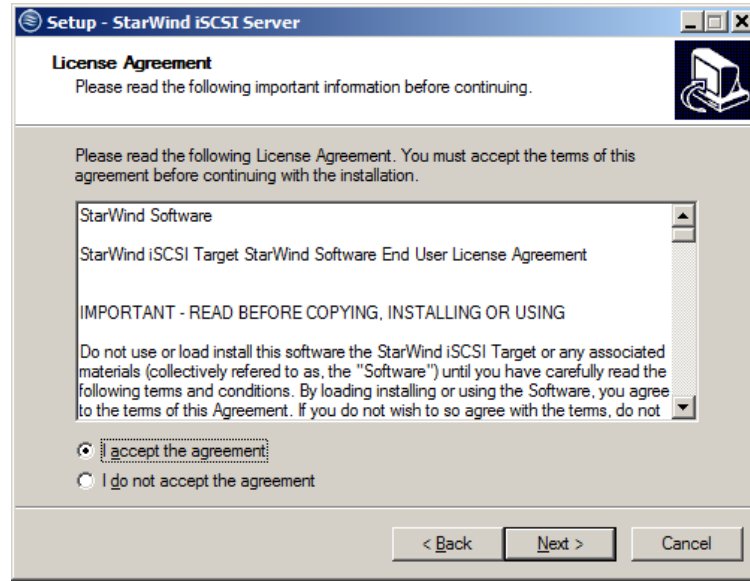
Installation Procedure

Set up StarWind Management Console with Hyper-V/VMware Backup Plug-in:

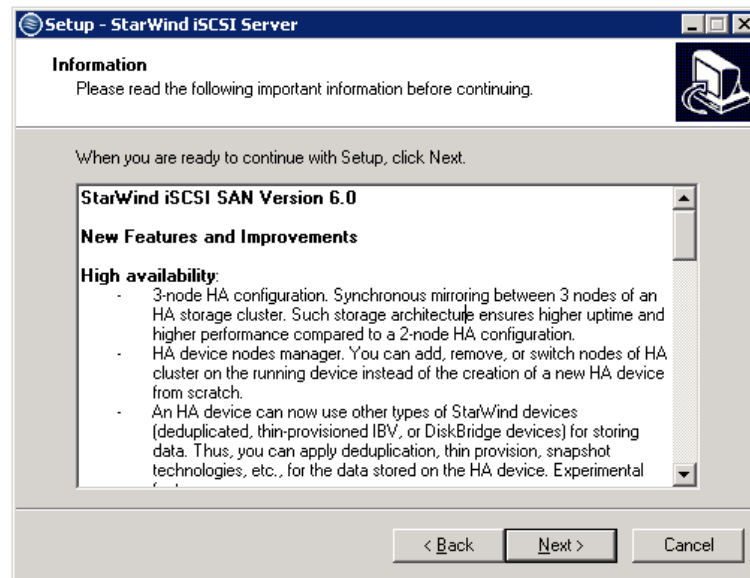
1. Download StarWind Backup Plug-in: <http://www.starwindsoftware.com/customer/download/starwind.exe>
2. Launch the setup file and follow the wizard's steps to install StarWind Management Console.
3. Click **Next** to continue.



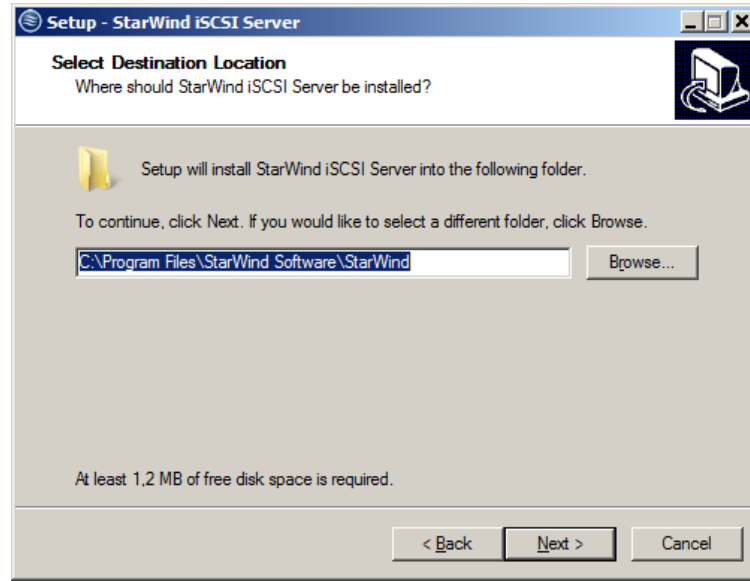
4. Read and accept the terms of the **License Agreement**.
5. Click **Next** to continue.



6. Read the information about the StarWind product. Click **Next** to continue.
7. Click **Next** to continue.

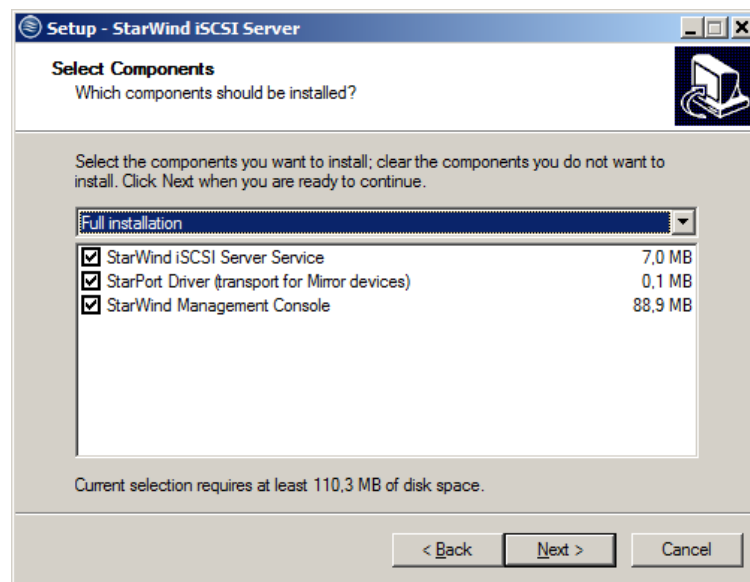


8. Click **Browse** to select the installation path.
9. Click **Next** to continue.



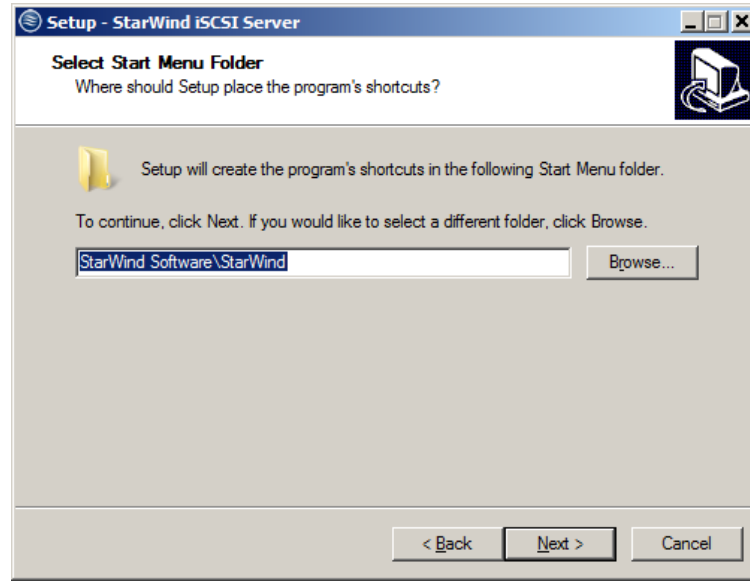
10. Select the **Full installation** type.

11. Click **Next** to continue.

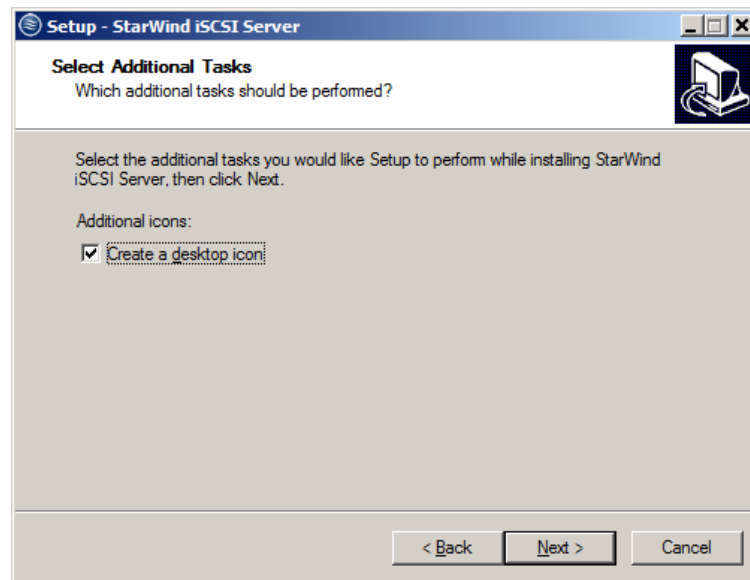


12. Select the **Start Menu** folder.

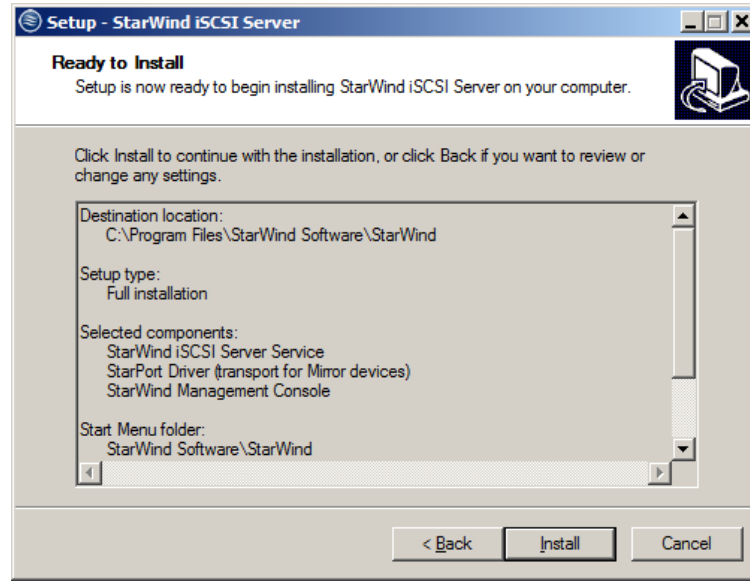
13. Click **Next** to continue.



14. Select the corresponding checkbox if you want to create a desktop icon.
15. Click **Next** to continue.



16. Make sure you have specified the correct settings. Click **Back** if you need to make any changes.
17. Click **Install** to continue.

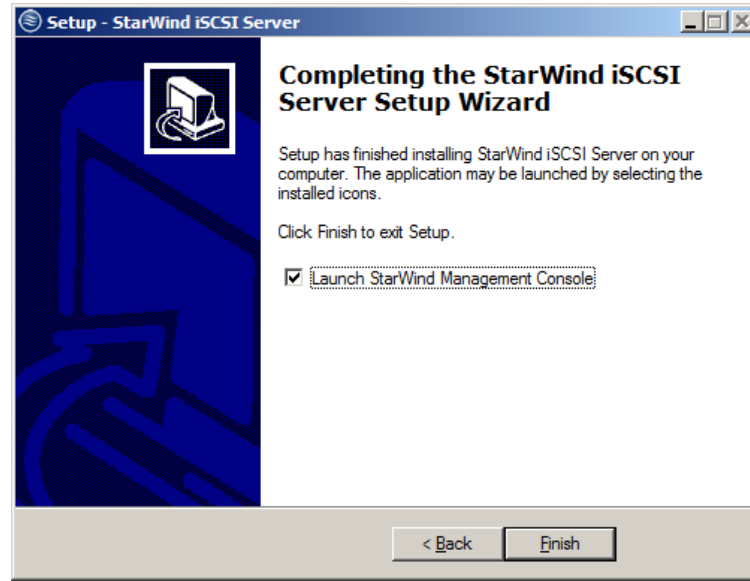



18. After the installation process is completed, you will be prompted to apply either a time-limited fully functional evaluation key, a FREE version license key, or a fully unlocked commercial license key that is supplied after the purchase of StarWind product. Select the appropriate option.

19. Click **Next** to continue.



20. Select the **Launch StarWind Management Console** checkbox, and click **Finish** to close the wizard.

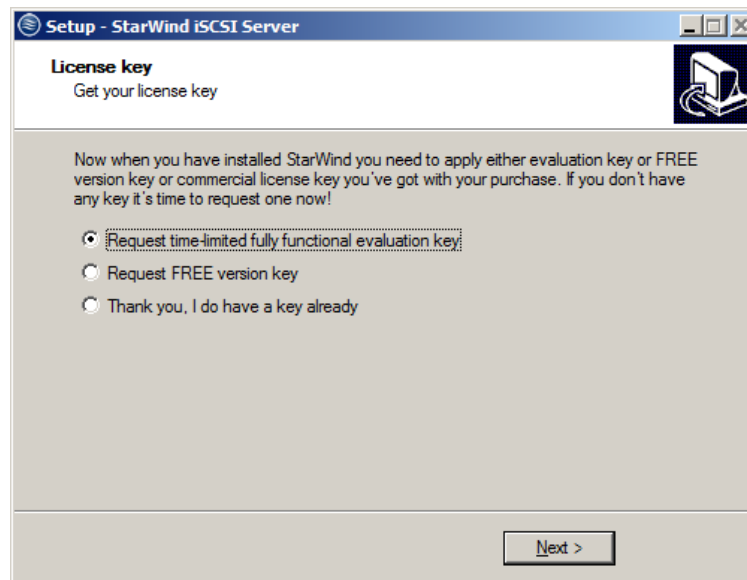


 **Note:** The Management Console of Backup Plug-in is available as a part of StarWind Management Console that can be installed on any machine within the same subnetwork.

Licensing and Registration

To register StarWind Management Console:

1. Generate a license key using the following link:
<http://www.starwindsoftware.com/registration-iscsi-san>
2. Save the license file locally on your computer.
3. After the installation of StarWind Management Console, you will be prompted to apply either a time-limited fully functional evaluation key, a FREE version key, or a fully unlocked commercial license key that is supplied with the acquired StarWind product. Select the appropriate option during the installation process.

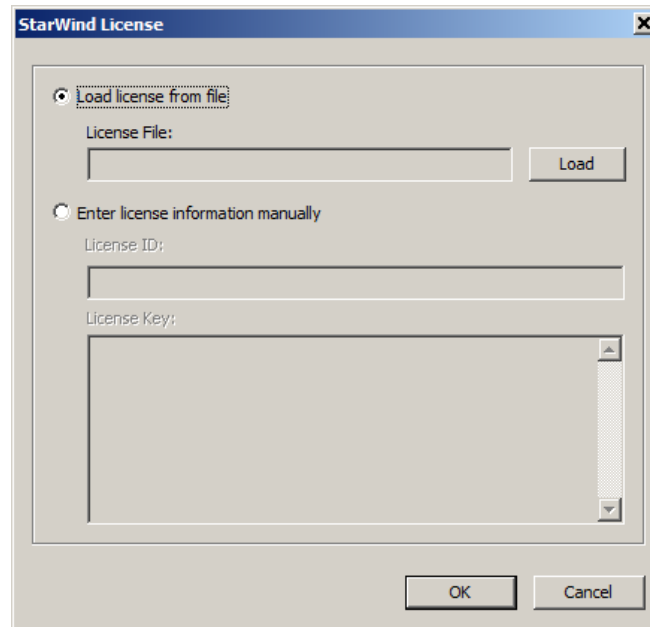


4. As you launch StarWind Console for the first time, you will need to enter your license key. Click **Apply key** if you already have it.

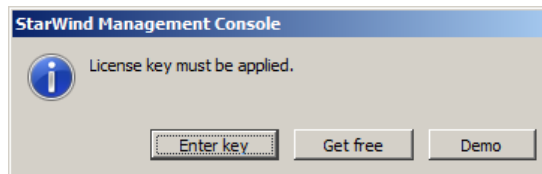


5. Click **Load** to navigate to your license file or enter appropriate information manually.

6. Click **OK**.

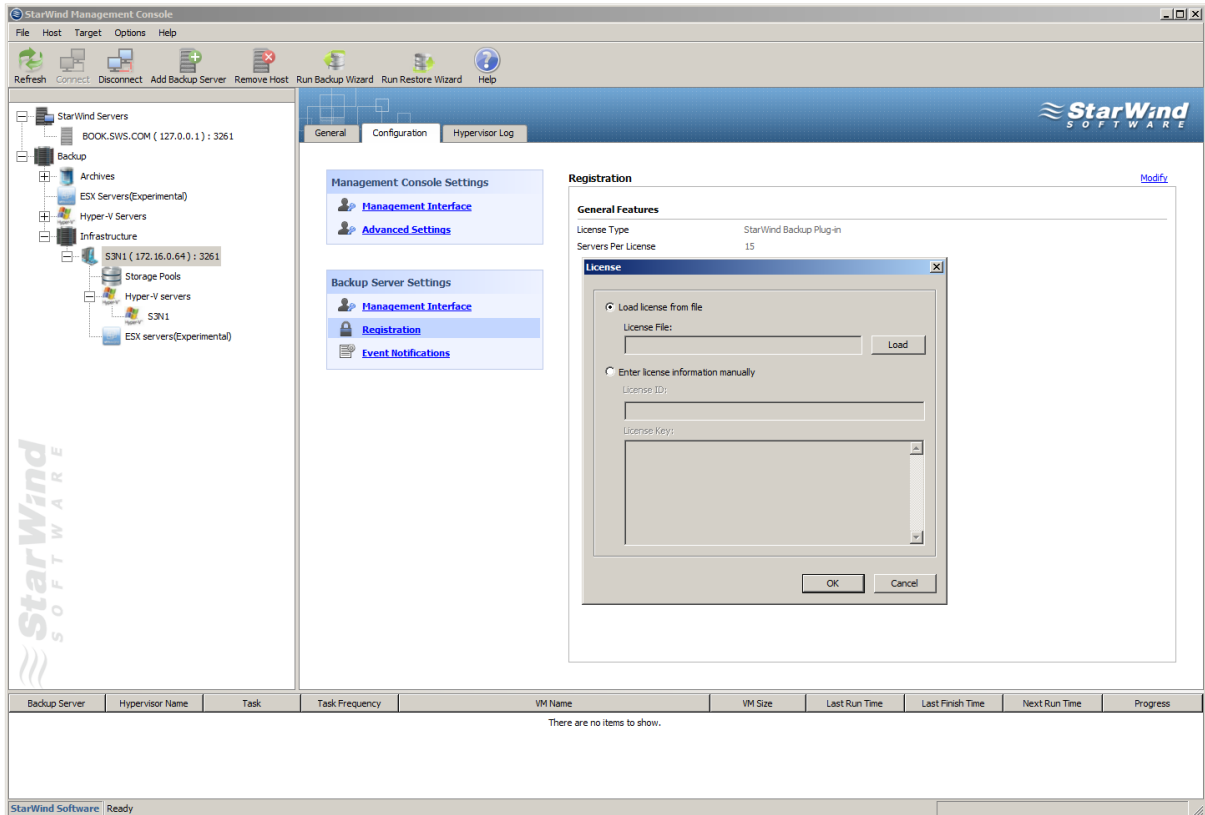


To register Backup Plug-in, follow the registration procedure described for StarWind Management Console. You will not be able to connect to the Backup Server, if you do not register Hyper-V/VMware Backup Plug-in. The following message will appear every time you try to do so.



Alternative way to register your backup license:

1. Select a backup server on the Console tree.
2. Click the **Configuration** tab.
3. Click the **Registration** item.
4. Click **Modify**.
5. Click **Load** to navigate to your license file or enter appropriate information manually.
6. Click **OK**.



The screenshot shows the StarWind Management Console interface. On the left is a tree view of the backup infrastructure, including StarWind Servers, Backup, Archives, ESX Servers, Hyper-V Servers, Infrastructure, and Storage Pools. The main area is divided into Management Console Settings and Backup Server Settings. A 'Registration' dialog box is open, showing 'StarWind Backup Plug-in' with 15 servers per license. The dialog offers two options: 'Load license from file' and 'Enter license information manually'. The 'Enter license information manually' option is selected, with fields for License ID and License Key. Below the dialog is a table with columns: Backup Server, Hypervisor Name, Task, Task Frequency, VM Name, VM Size, Last Run Time, Last Finish Time, Next Run Time, and Progress. The table is currently empty, displaying 'There are no items to show.'

Backup Server	Hypervisor Name	Task	Task Frequency	VM Name	VM Size	Last Run Time	Last Finish Time	Next Run Time	Progress
There are no items to show.									

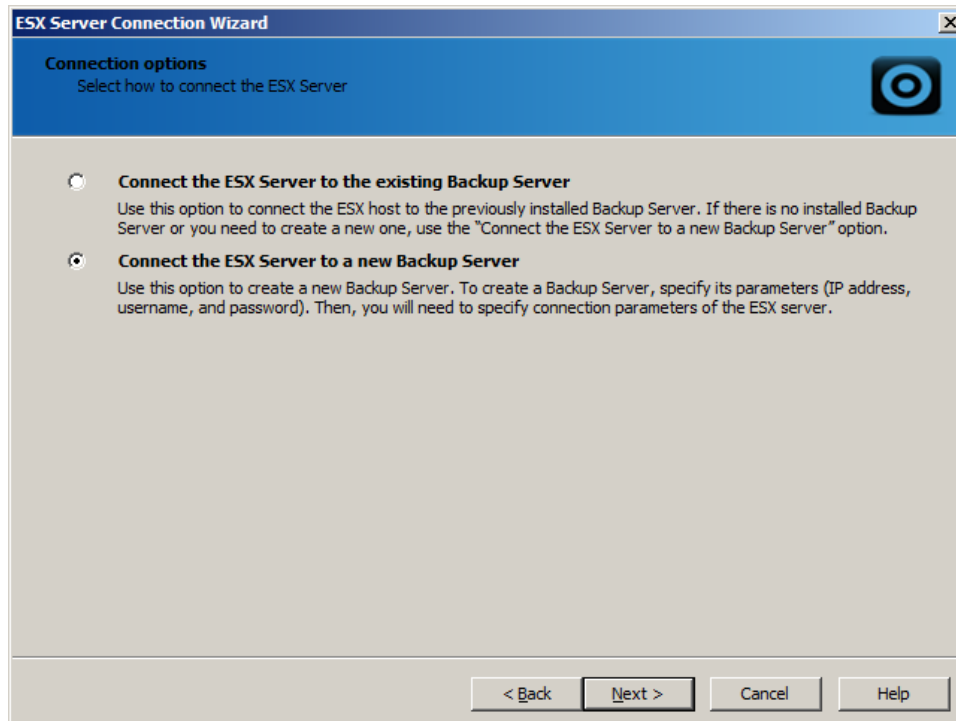
Configuration and Management

Adding ESX Servers

ESX servers can be added both to a new backup server and to an existing backup server. To add an ESX server to an existing backup server, you should previously [install a backup server](#) and connect it to the Management Console.

To add an ESX server to a new backup server:

1. Run **ESX Server Connection Wizard**:
 - Click the **Backup** item from the Console tree and select **Add ESX Server** from the **Common Tasks**.
 - Right-click the **Backup** item from the Console tree and select **Add ESX Server** from the shortcut menu.
2. As **ESX Server Connection Wizard** appears, click **Next** to continue.
3. Select connection to a new backup server.
4. Click **Next** to continue.

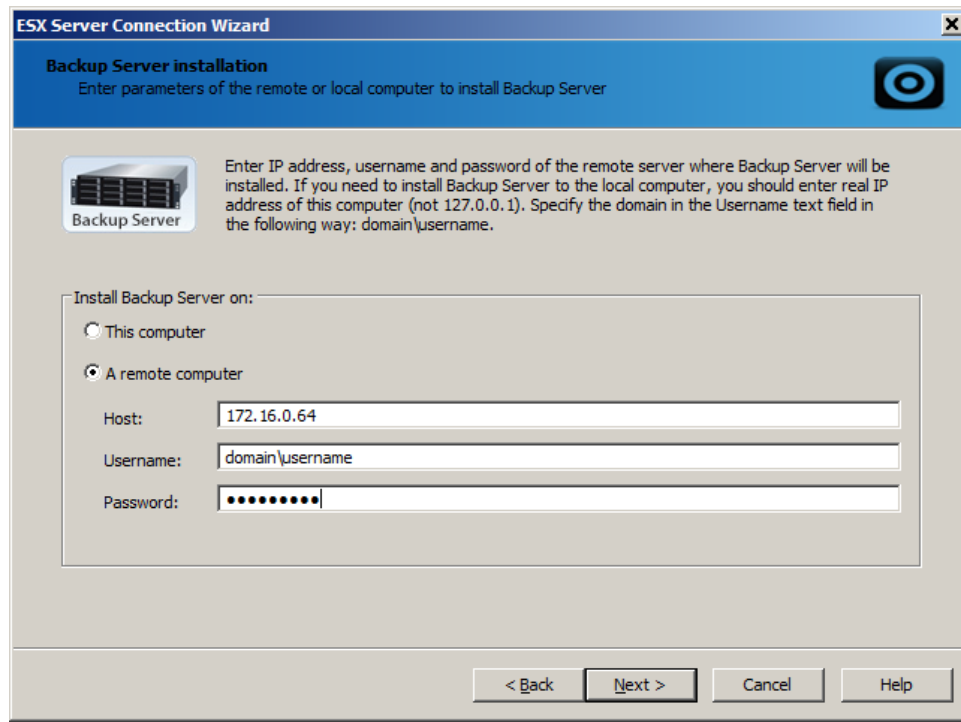


5. Specify IP address, user name and password of a new backup server in the corresponding text fields.


Note: Specify the domain in the **Username** text field in the following way: domain

\username.

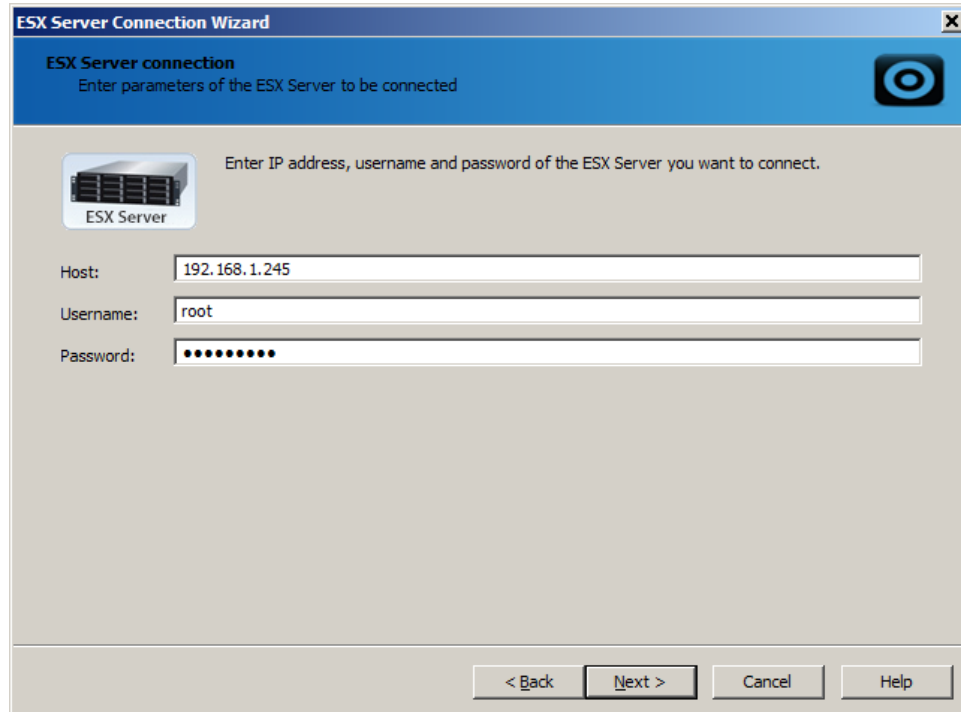
6. Click **Next** to continue.



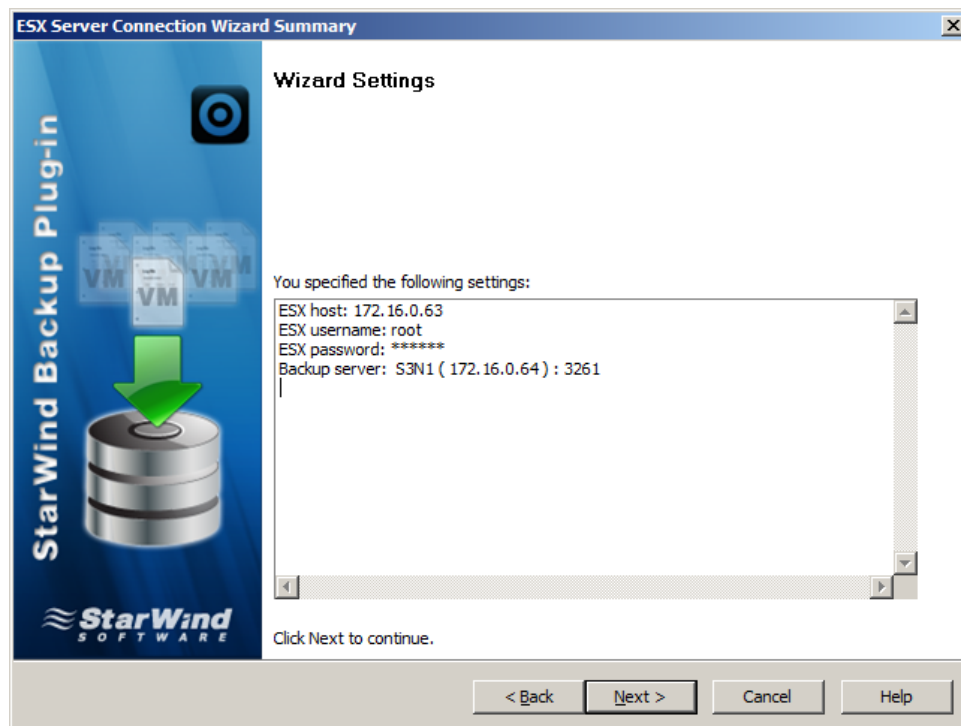
7. Specify IP address, user name, and password of the ESX server you want to connect.

 **Note:** TCP Port 9090 should be opened.

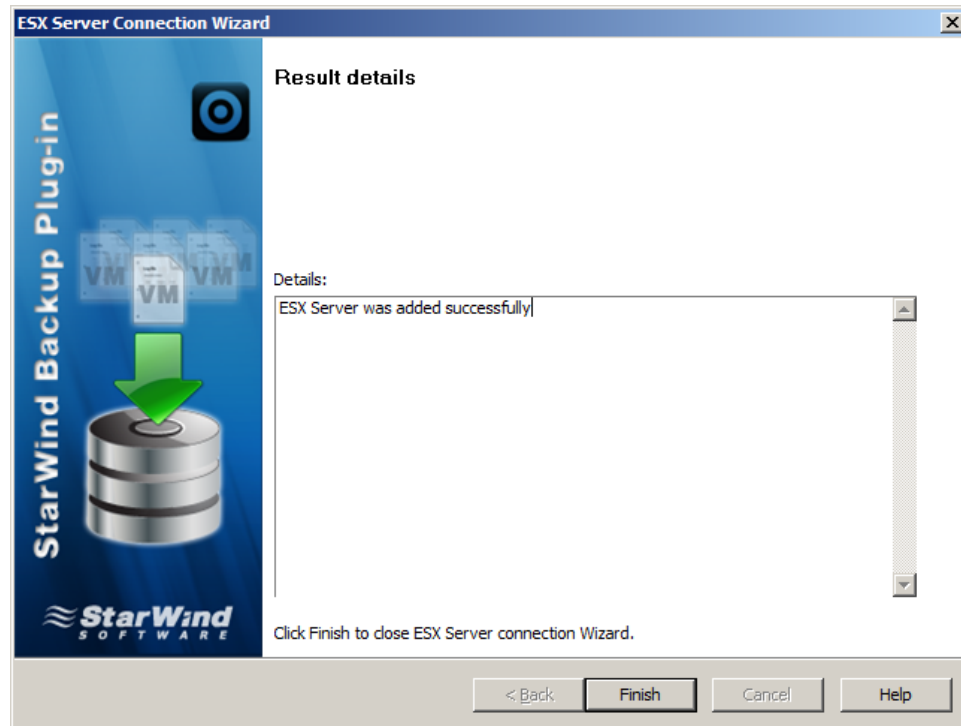
8. Click **Next** to continue.



9. Check the specified settings. Click **Back** if you need to make any changes. Click **Next** to continue.



10. Click **Finish** to close the wizard.



To add ESX servers to the existing backup server:

1. Run **ESX Server Connection Wizard**:

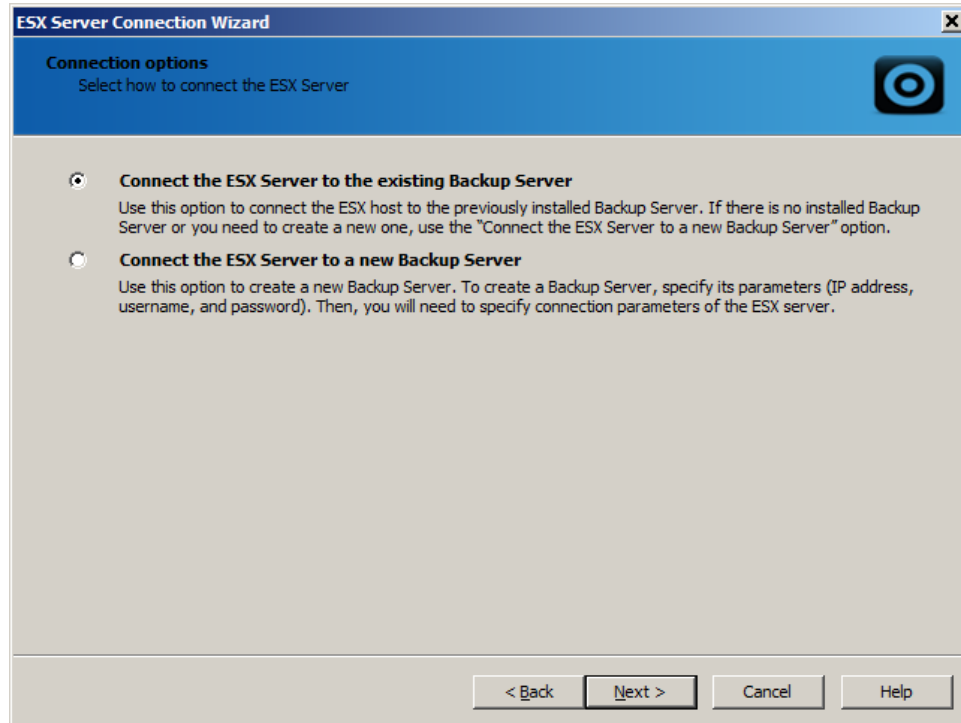
- Click the **Backup** item from the Console tree and select **Add ESX Server** from the **Common Tasks**.
- Right-click the **Backup** item from the Console tree and select **Add ESX Server** from the shortcut menu.

2. As **ESX Server Connection Wizard** appears, click **Next** to continue.

3. Select connection to the existing backup server.

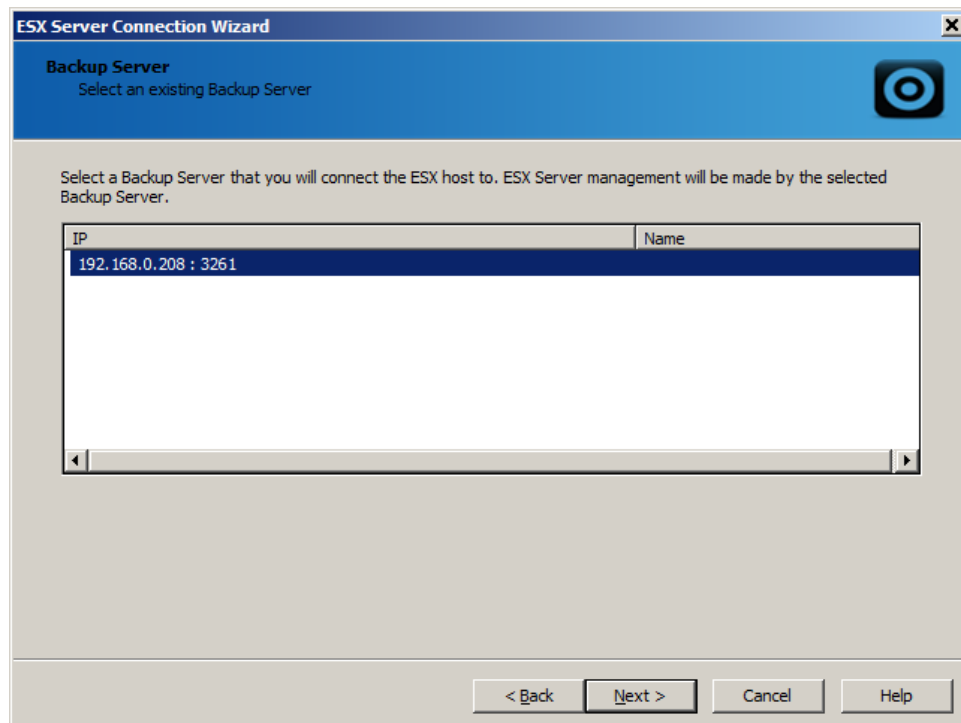
 **Note:** You should previously [install a backup server](#) and connect it to the Management Console.

4. Click **Next** to continue.




5. Select a backup server for your ESX host.

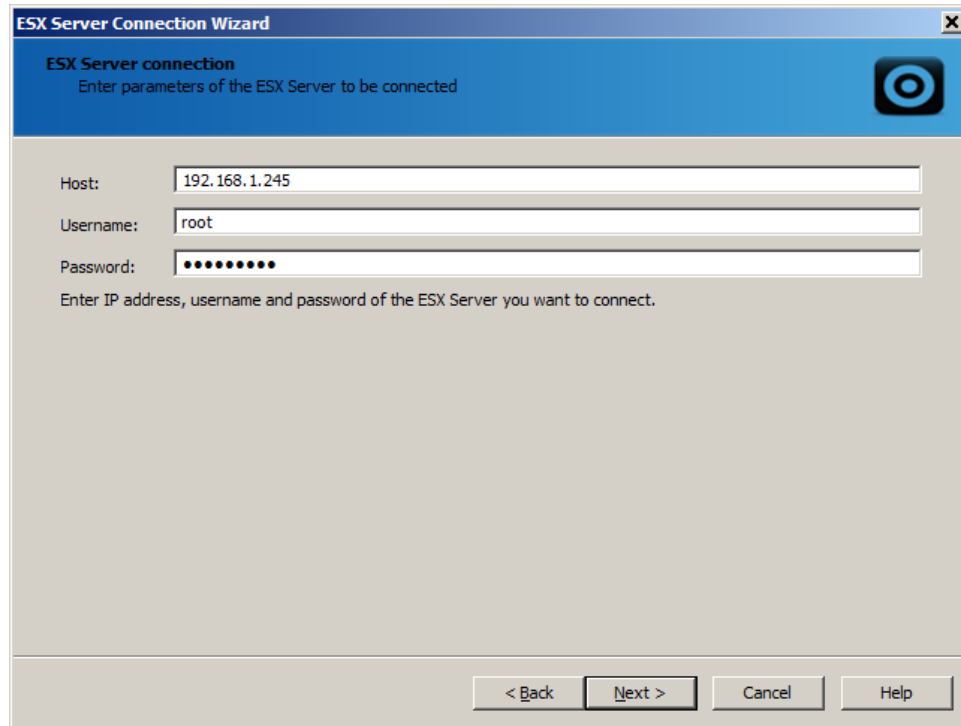
6. Click **Next** to continue.



7. Specify IP address, user name, and password of the ESX server you want to connect.

 **Note:** TCP Port 9090 should be opened.

8. Click **Next** to continue.



ESX Server Connection Wizard

ESX Server connection
Enter parameters of the ESX Server to be connected

Host: 192.168.1.245

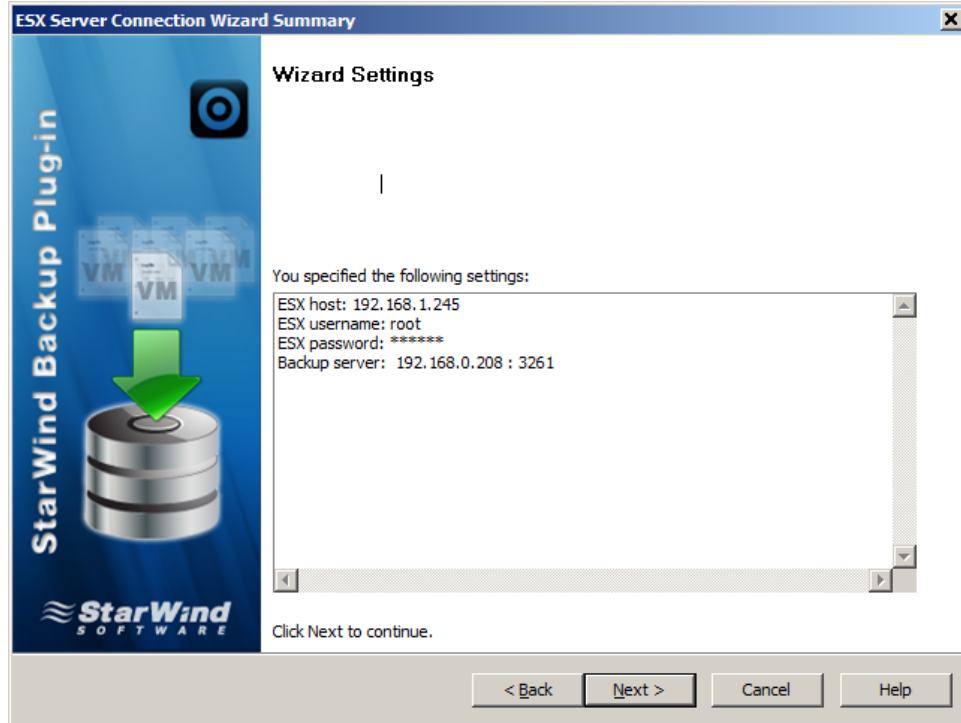
Username: root

Password: ●●●●●●●●

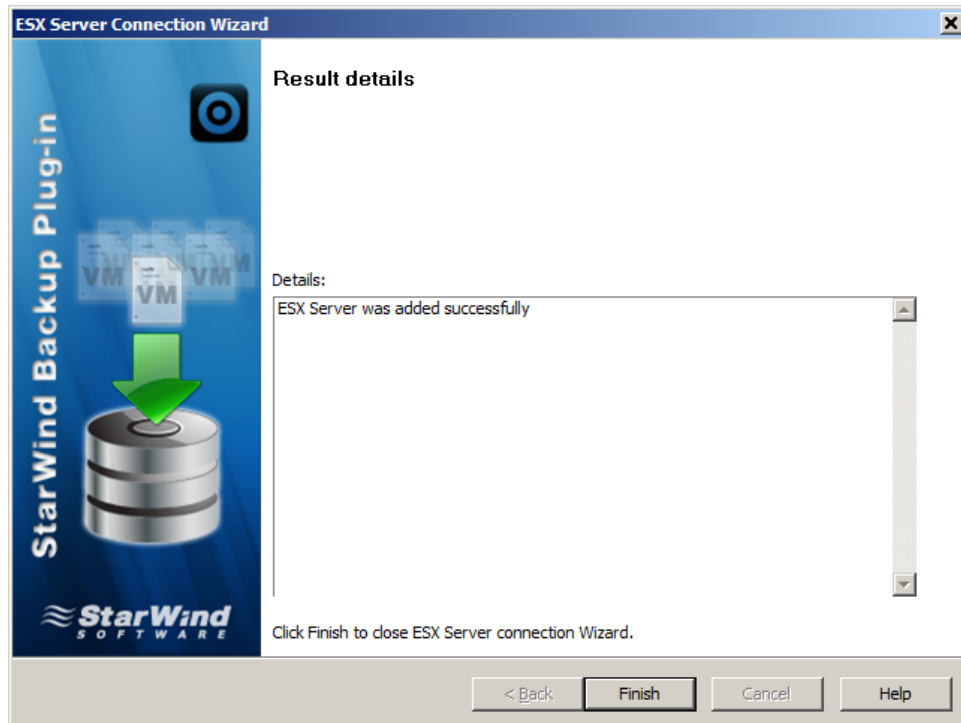
Enter IP address, username and password of the ESX Server you want to connect.

< Back Next > Cancel Help

9. Check the specified settings. Click **Back** if you need to make any changes. Click **Next** to continue.



10. Click **Finish** to close the wizard.



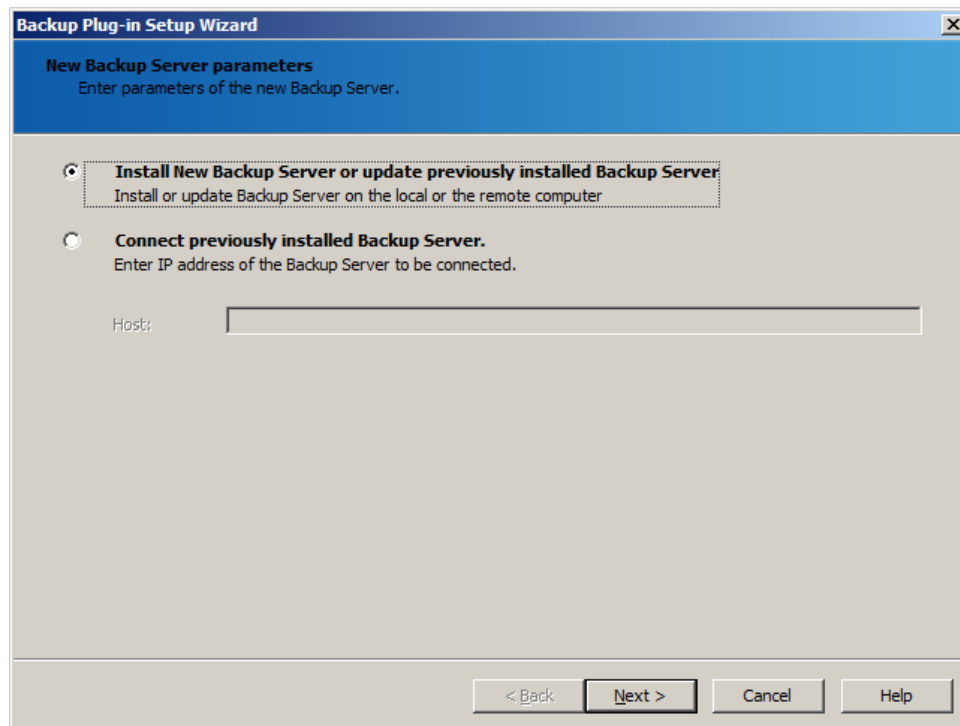
Configuring and Connecting a New Backup Server

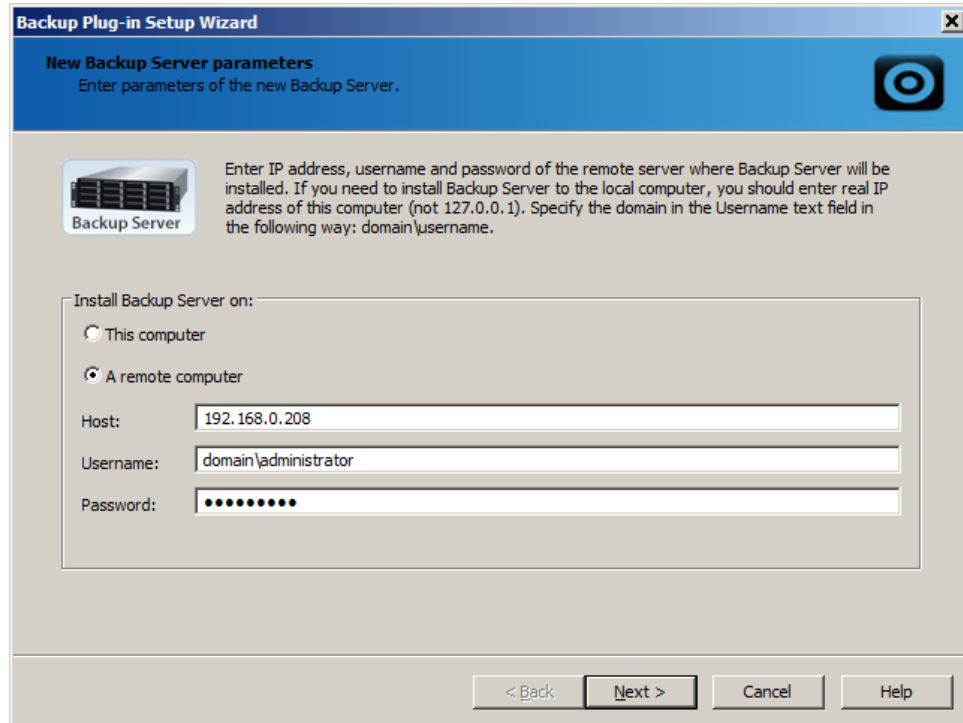
To install Backup Plug-in:


1. Run **Backup Plug-in Setup Wizard**:
 - Click the **Backup** item from the Console tree and select **Install New Backup Server** from the **Common Tasks**.
 - Right-click the **Backup** item from the Console tree and select **Install New Backup Server** from the shortcut menu.
2. **Backup Setup Wizard** appears. Click **Next** to continue.
3. Specify IP address, user name and password of a new backup server in the corresponding text fields.

 **Note:** Specify the domain in the **Username** text field in the following way: domain \username.

4. Click **Next** to continue.



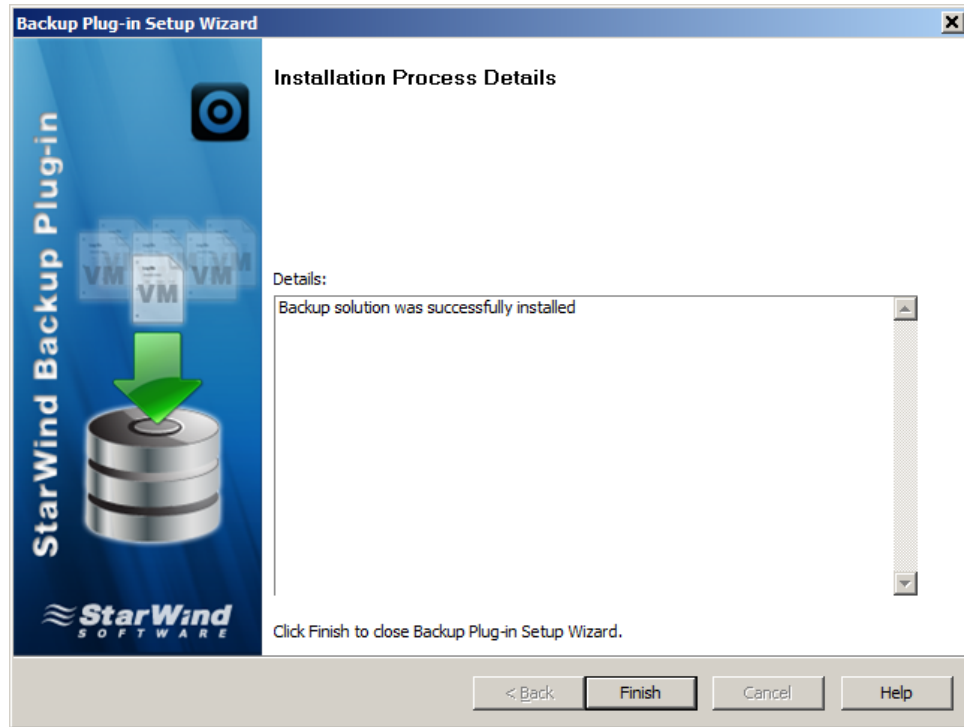


 **Note:** TCP Port 9090 should be opened.

5. Check installation settings. Click **Back** if you need to make any changes. Click **Next** to start the installation process.

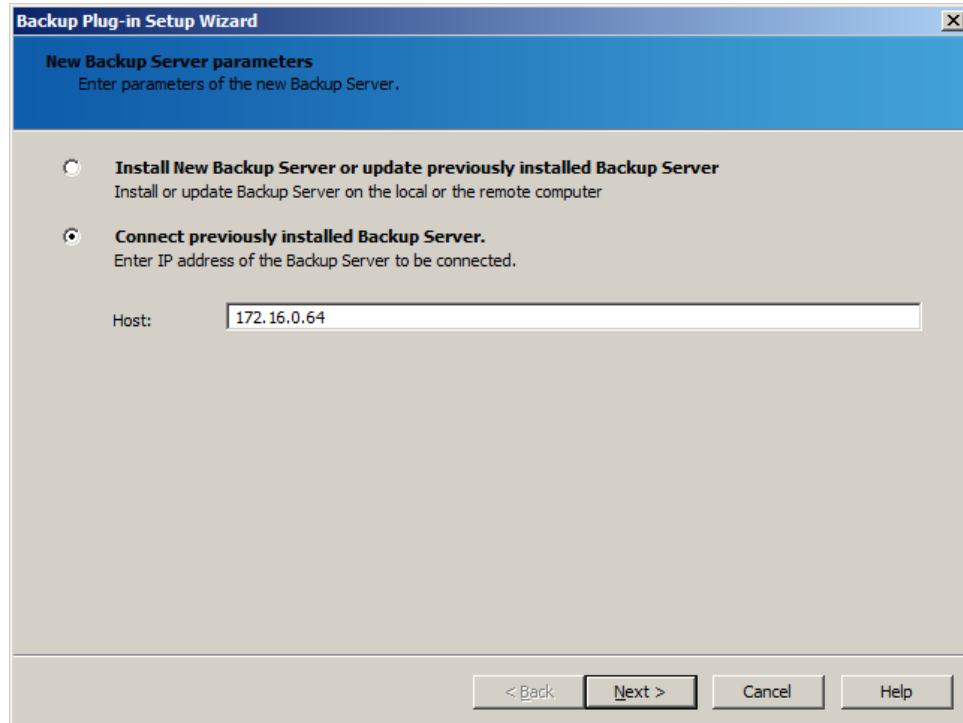



6. Click **Finish** to close the wizard.



To add an existing backup server:

1. Select **Add Existing Backup Server** from the **Common Tasks** list or click **Add Existing Backup Server** on the Menu bar.
2. Specify IP address of a backup server that you add in the **Add Existing Backup Server** dialog.
3. Click **OK**.

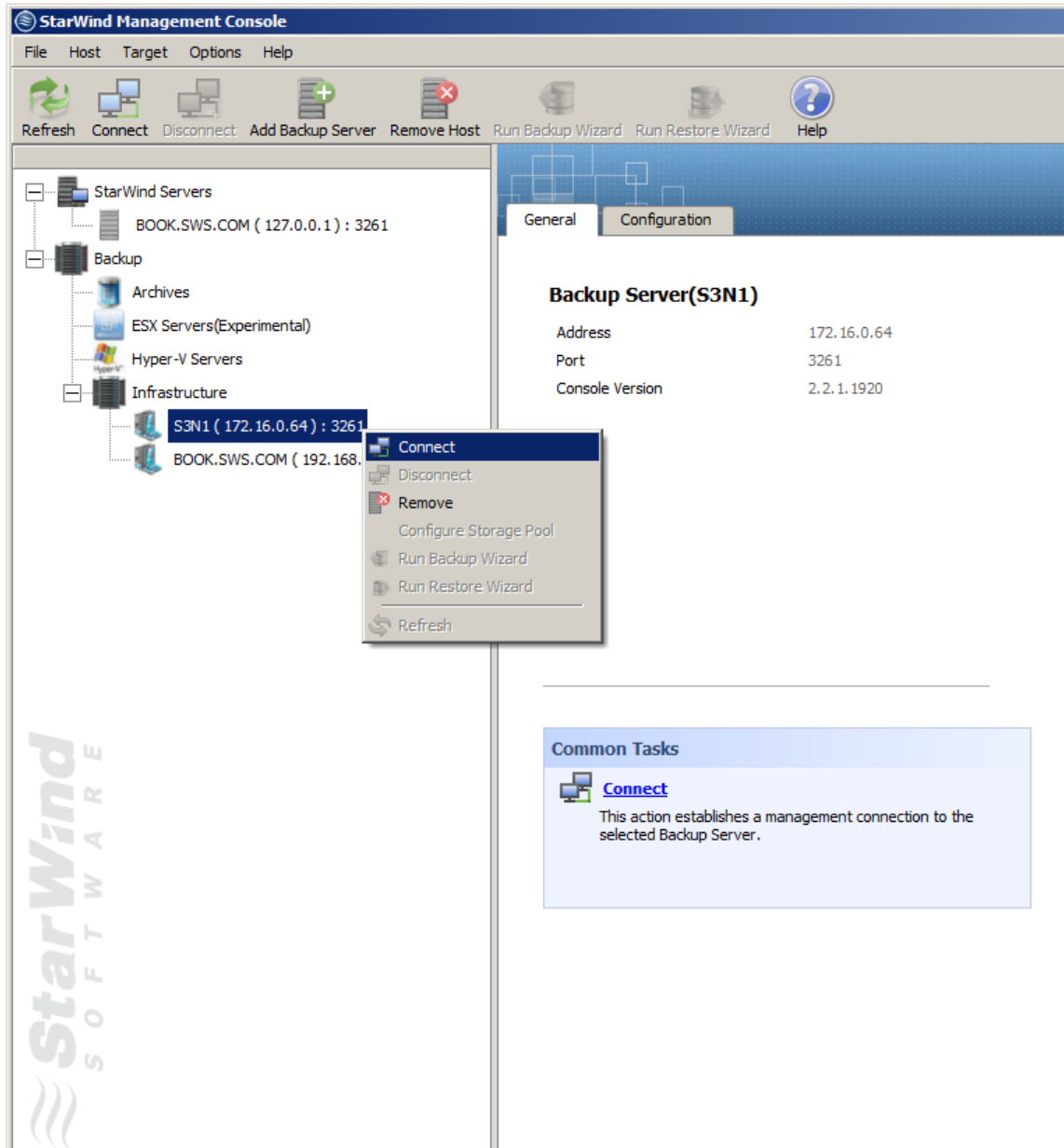


 **Note:** TCP Port 9090 should be opened.


4. On the Console tree, expand the **Backup Server** item to view the added backup server.

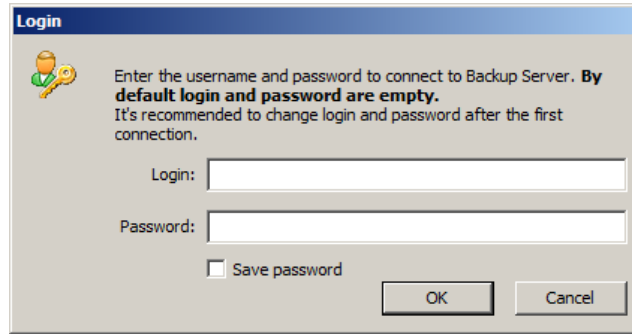
To connect a backup server to the Management Console:

1. On the Console tree, expand the **Backup** item.
2. Right-click the backup server you need to connect to the Management Console.
3. On the shortcut menu, click **Connect** (or click Connect on the **Common Tasks** section).



4. To connect to the backup server, click **OK**.

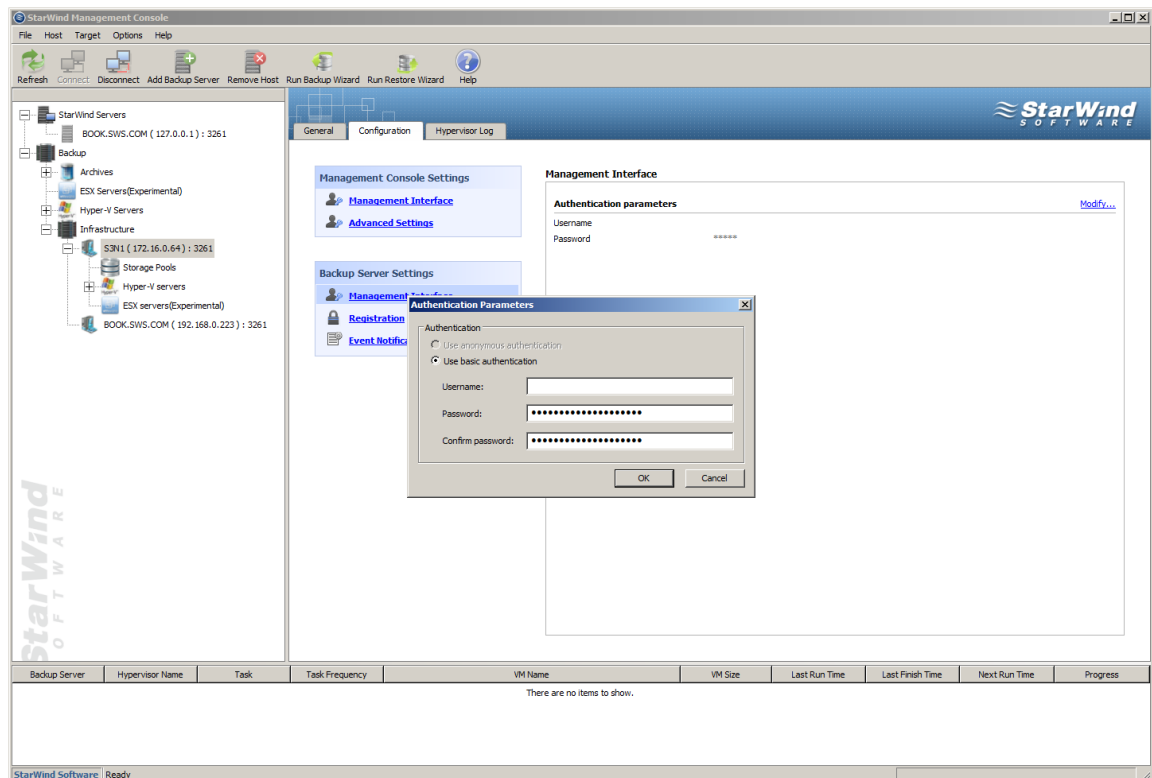
 **Note:** By default login and password are empty. It is strongly recommended to change login and password after the first connection.



5. After the backup server is connected you can add ESX servers and perform backup and restore operations.

To change login and/or password:

1. On the Console tree, expand the **Backup Servers** item.
2. Click the name of your physical server.
3. On the Main area, select the **Configuration** tab.
4. Click **Management Interface** in the **Backup Server Settings** pane.
5. Click **Modify** to change the default authentication parameters.
6. Enter a new user name. Specify and confirm a new password.
7. Click **OK**.

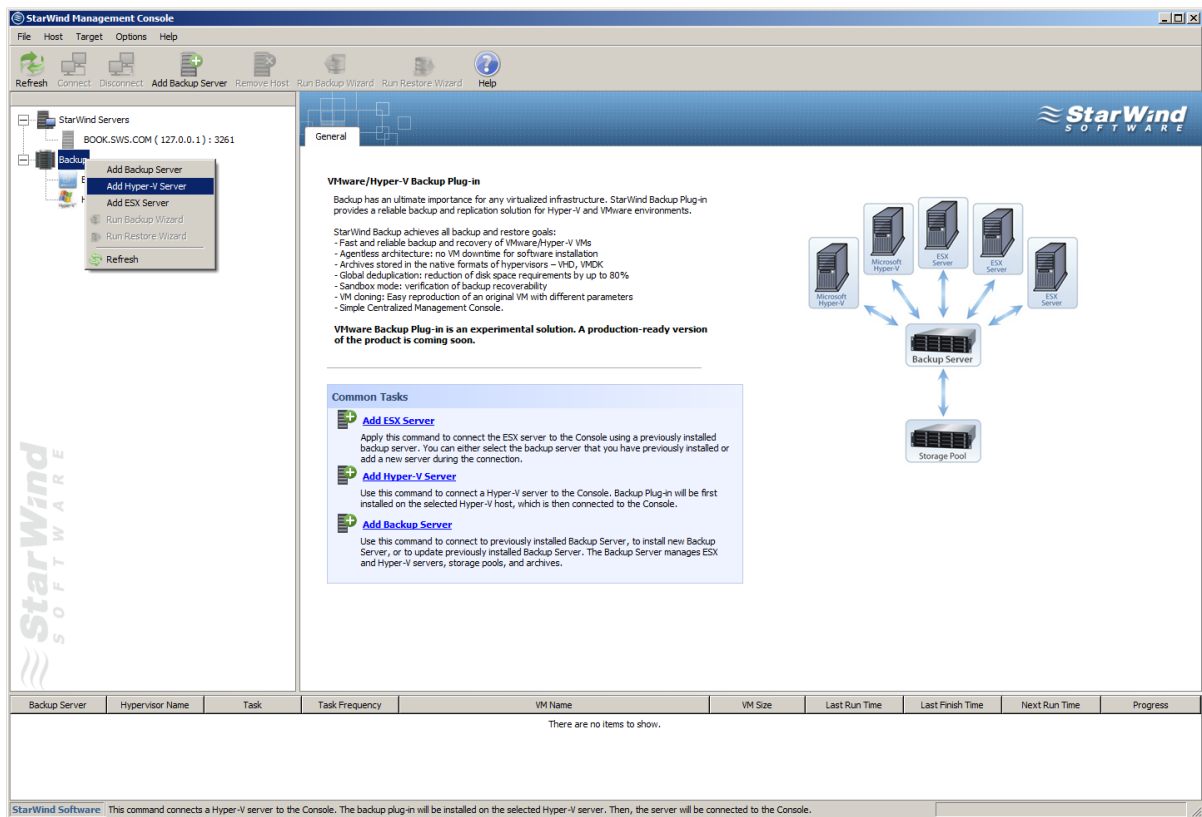


Adding Hyper-V Servers

To add a Hyper-V server to a new backup server:

1. Run **Backup Plug-in Setup Wizard**:

- Click the **Backup** item from the Console tree and select **Add Hyper-V Server** from the **Common Tasks**.
- Right-click the **Backup** item from the Console tree and select **Add Hyper-V Server** from the shortcut menu.



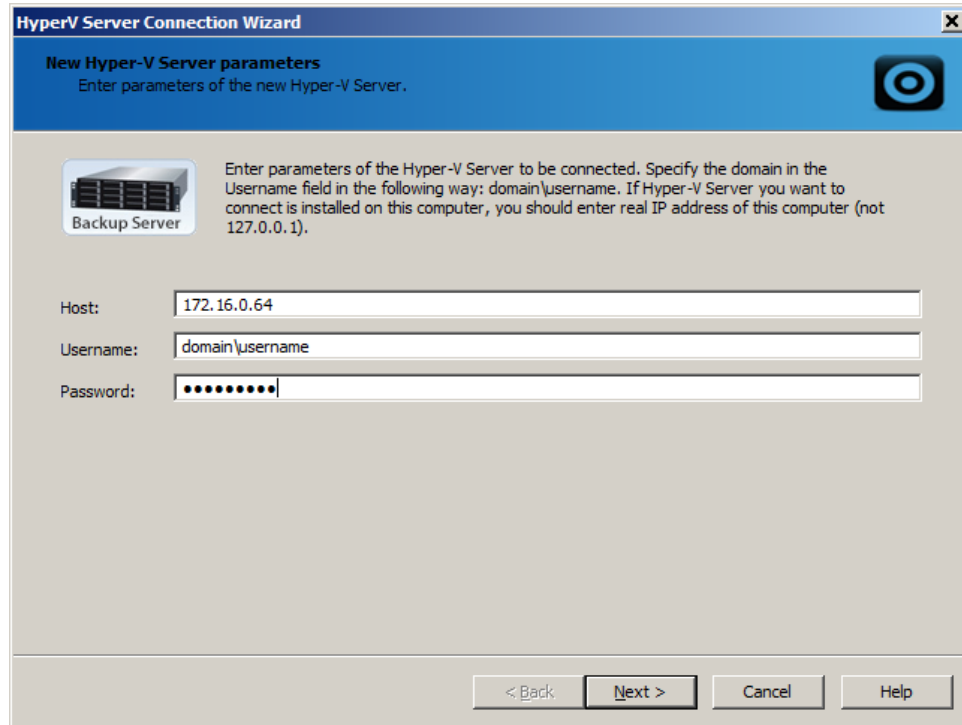
The screenshot shows the StarWind Management Console interface. On the left, a tree view shows 'StarWind Servers' with a 'Backup' folder expanded. A context menu is open over the 'Backup' folder, with 'Add Hyper-V Server' selected. The main pane displays the 'General' tab for the 'Add Hyper-V Server' task. It includes a description of the 'VMware/Hyper-V Backup Plug-in', a list of 'Common Tasks' with instructions for 'Add ESX Server', 'Add Hyper-V Server', and 'Add Backup Server', and a diagram showing the architecture of the backup solution. The diagram illustrates a 'Storage Pool' connected to a 'Backup Server', which in turn connects to multiple 'ESX Server' and 'Microsoft Hyper-V' servers. Below the main pane is a table with columns for 'Backup Server', 'Hypervisor Name', 'Task', 'Task Frequency', 'VM Name', 'VM Size', 'Last Run Time', 'Last Finish Time', 'Next Run Time', and 'Progress'. The table is currently empty, showing 'There are no items to show.'


2. **Backup Setup Wizard** appears. Click **Next** to continue.

3. Specify IP address, user name and password of a Hyper-V server in the corresponding text fields.

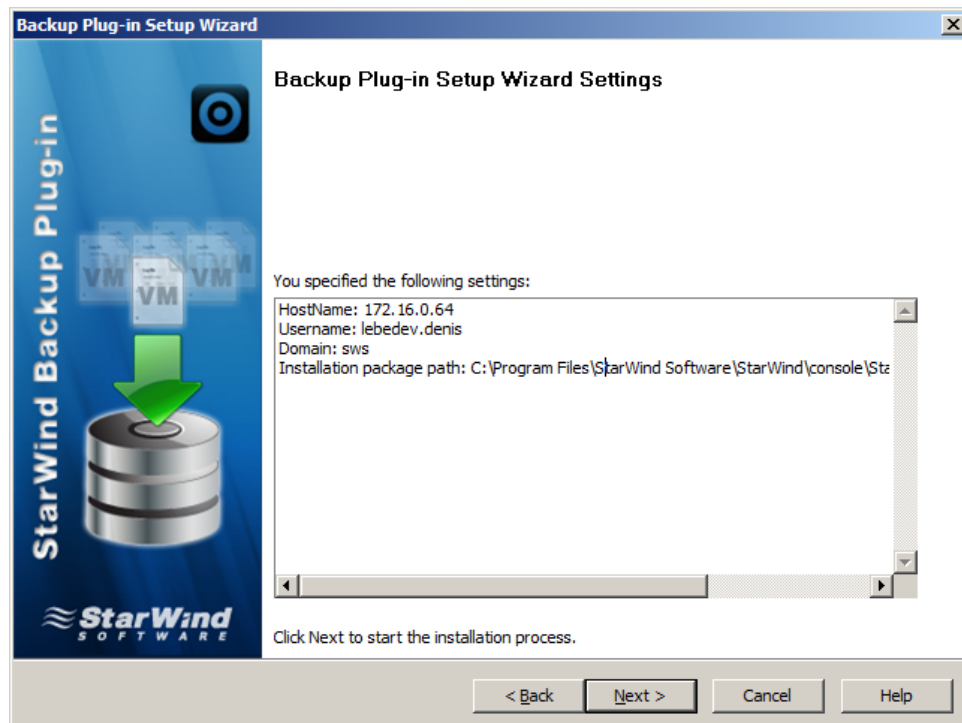
 **Note:** Specify the domain in the **Username** text field in the following way: domain username.

4. Click **Next** to continue.

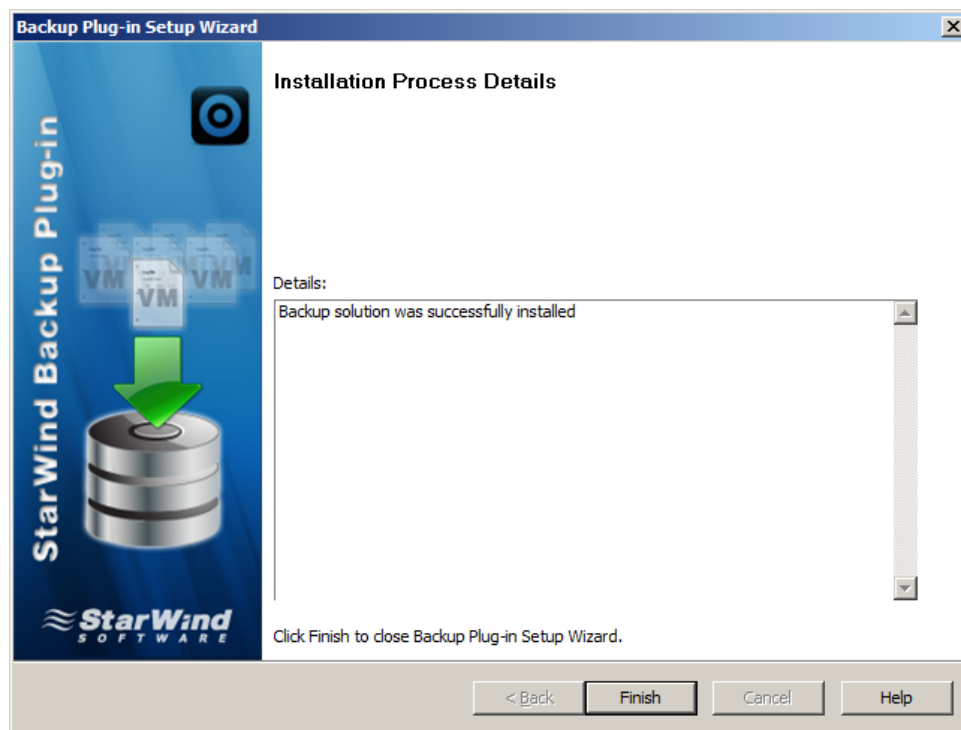


 **Note:** TCP Port 9090 should be opened.

5. Check installation settings. Click **Back** to make any changes. Click **Next** to start the installation process.





6. Click **Finish** to close the wizard.



Creating a Storage Pool

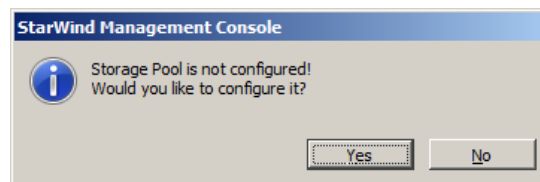
A storage pool is used to store VM archives. The storage pool location and parameters are set at the stage of creation. Later, when you initiate the backup process it will be necessary only to select the created storage pool. The system will set all backup parameters automatically.

 **Note:** The current version of Backup Plug-in allows for creation of one storage pool per a backup server.

 **Note:** Backup Plug-in stores VM archives in the hypervisor original file format (VMDK for VMware and VHD for Hyper-V). Thus you can work with your archives using any third-party software that supports VMDK or VHD. Moreover, you can immediately restore Hyper-V virtual machines right from the archive.

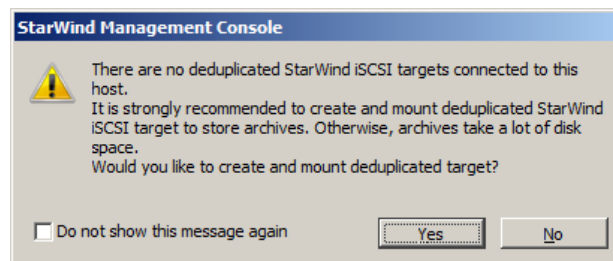
To create a storage pool:


1. You will be prompted to create a storage pool when you try to back up your VMs for the first time. Click **Yes** to launch the **Storage Pool Wizard**.



Alternatively, right-click the backup server, and select **Configure Storage Pool**.

2. If there is no StarWind target connected, the program shows the warning message. The message will recommend to create a deduplicated StarWind target, connect it to the backup server, and use it as a location for the storage pool.




 **Note:** It is strongly recommended to store archives on Deduplicated StarWind target as it allows saving up to 80% of disk space. You can store archives on any other (undeduplicated) volume but in this case they will occupy much more disk space.

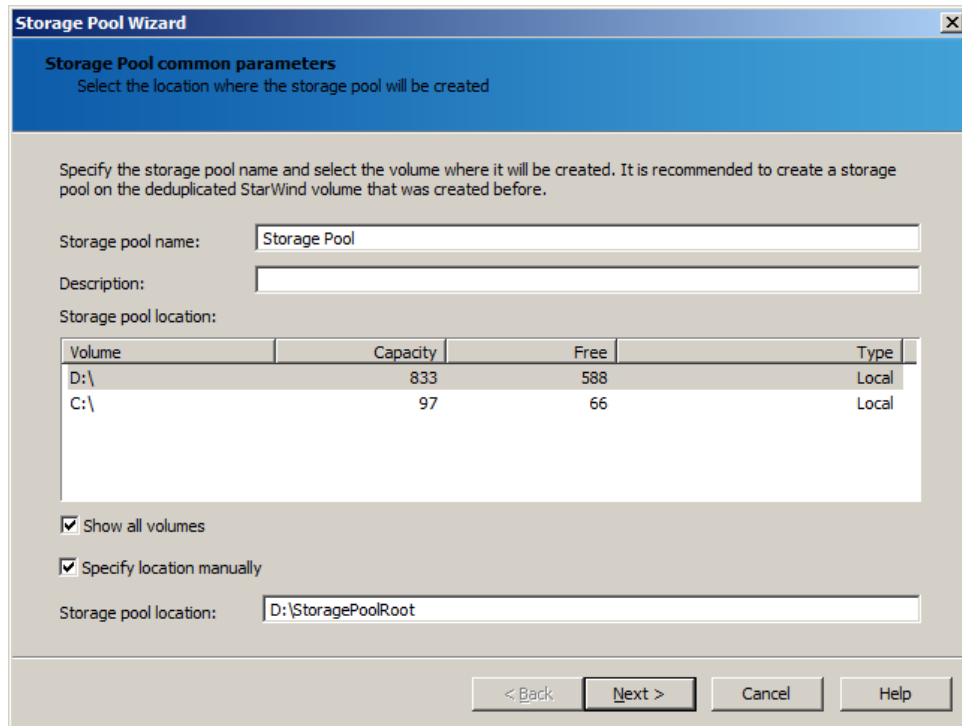
 **Note:** Click the link to view how to [create and connect StarWind target](#) .

3. **Storage Pool Wizard** appears. Click **Next** to continue.

4. Specify the name and location of your pool in the corresponding text fields.

 **Note:** If you have previously created Deduplicated StarWind target, it is recommended to define it as a location for your storage pool. In this case, all VM archives will be automatically deduplicated before they are written to the storage pool. That will let you save up to 80% of disk space.

5. Click **Next** to continue.



Storage Pool Wizard

Storage Pool common parameters
Select the location where the storage pool will be created

Specify the storage pool name and select the volume where it will be created. It is recommended to create a storage pool on the deduplicated StarWind volume that was created before.

Storage pool name:

Description:

Storage pool location:

Volume	Capacity	Free	Type
D:\	833	588	Local
C:\	97	66	Local

Show all volumes

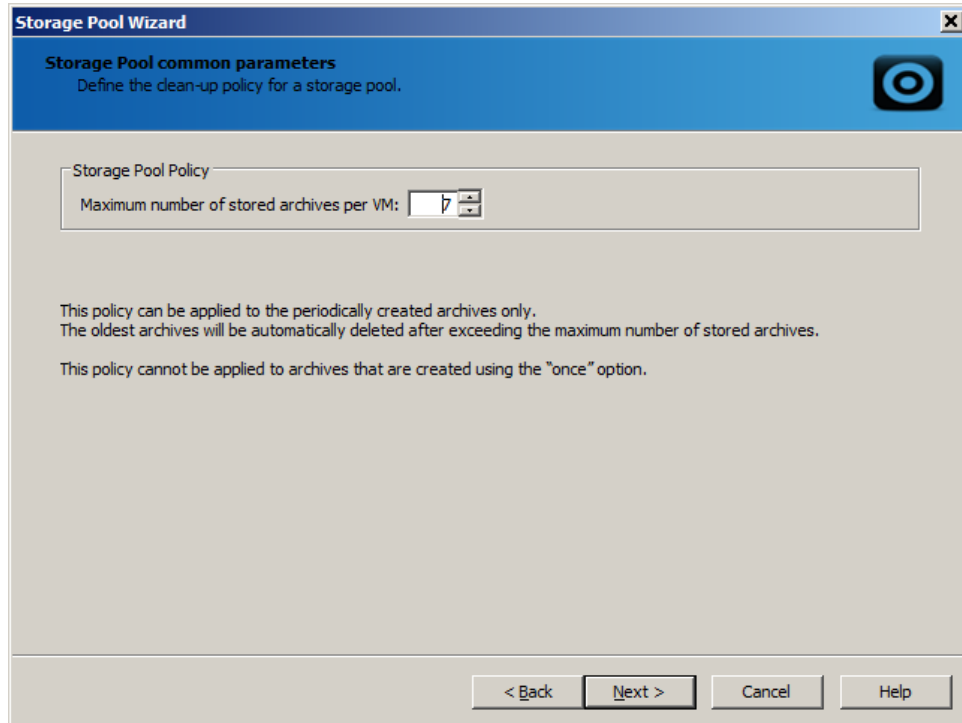
Specify location manually

Storage pool location:

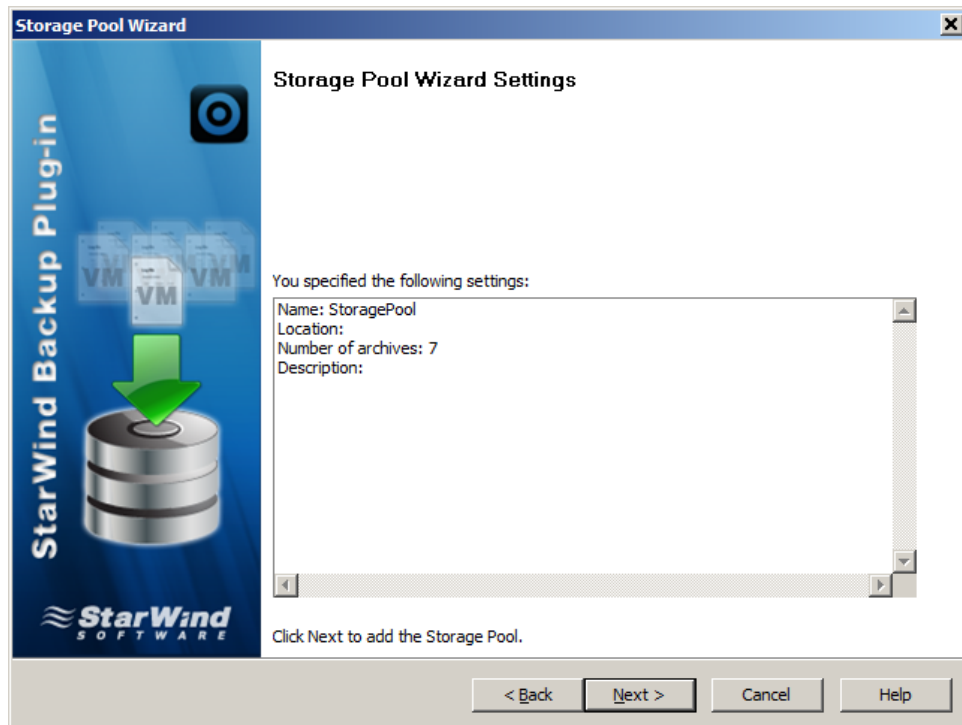
< Back Next > Cancel Help

6. Specify the maximum number of stored archives per a VM in the corresponding text field.

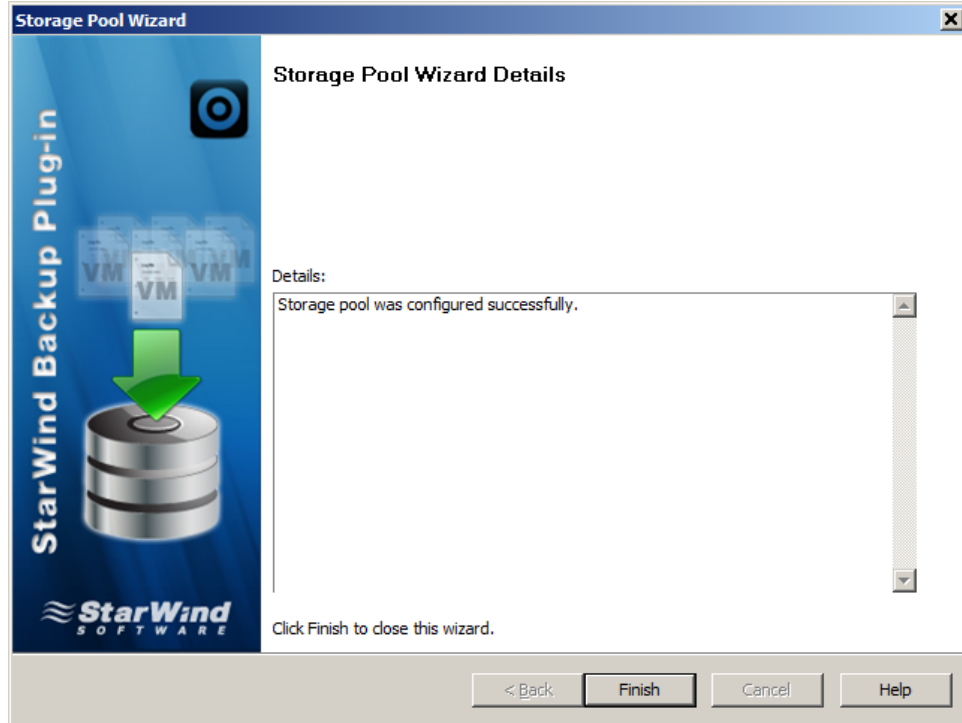
7. Click **Next** to continue.




8. Make sure you have specified the correct settings. Click **Back** if you need to make any changes. Click **Next** to continue.



9. Click **Finish** to close the wizard.

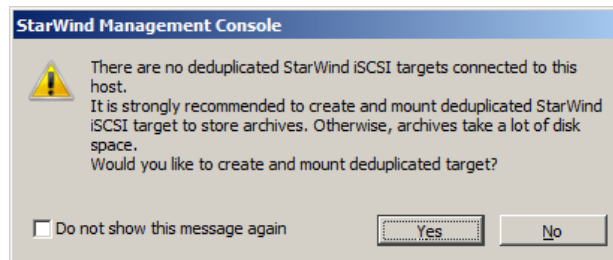


Creating and Connecting a StarWind Target

 **Note:** StarWind target requires preliminary installation and launch of a StarWind server on the network.

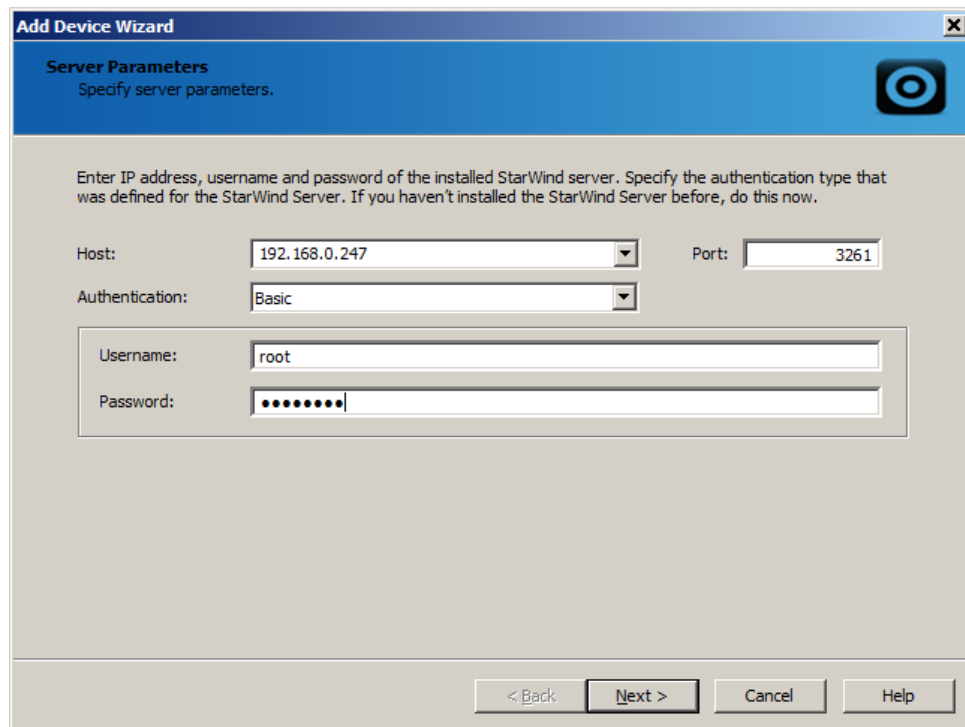
To create a StarWind target:

1. The following message appears as you start creation of a storage pool. Click **Yes** to confirm creation of a deduplicated StarWind target. **Add Device Wizard** opens.

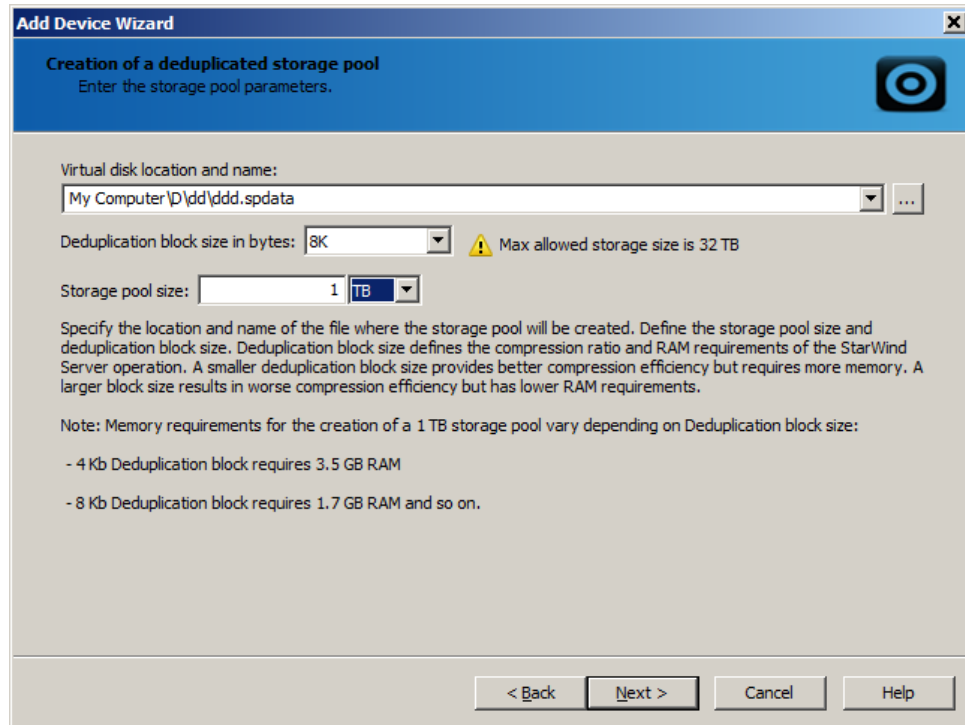


 **Note:** You can also run the wizard by selecting one of the existing storage pools in the Main area and clicking **Add Deduplication Target** from the shortcut menu.

2. Specify the required parameters of the previously installed StarWind server.
3. Click **Next** to continue.



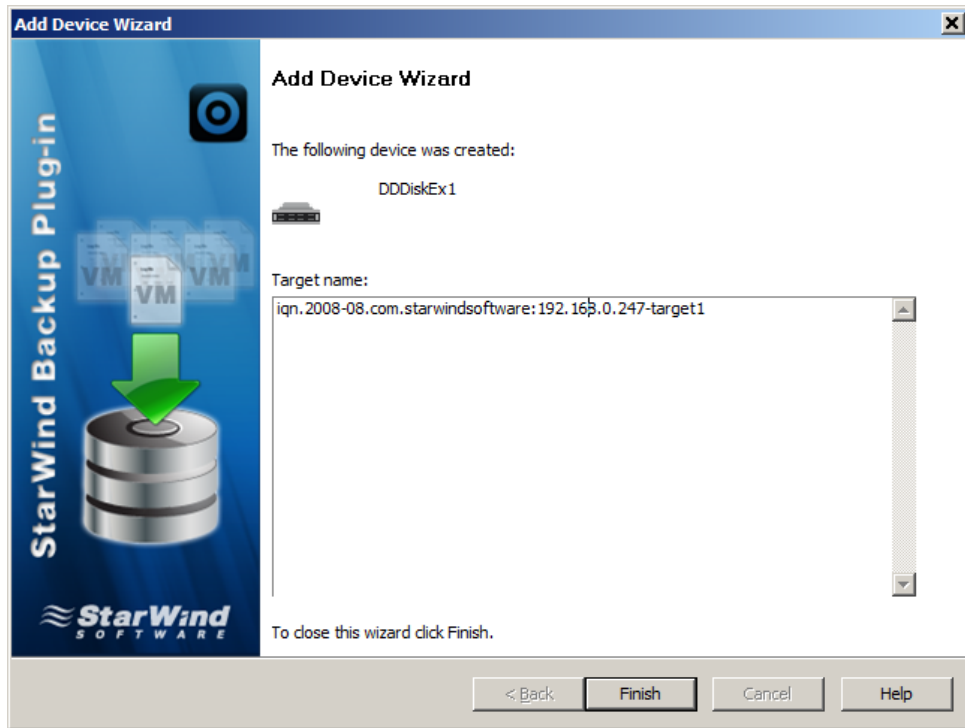
4. Specify the storage pool parameters, and read the information.
5. Click **Next** to continue.



6. Check the specified setting and click **Back** to make any changes. Click **Next** to continue.



7. Click **Finish** to close the wizard.



Backup of Virtual Machine(s)

Backup Overview

StarWind provides flexible backup engine that allows you to set up backup policy according to your individual needs.

StarWind performs two types of backup:

- Basic backup
- Incremental backup

Basic backup is the starting point for incremental backup. It stores all data of VMs that are selected to be backed up. Since Basic backup stores all VM information, frequent Basic backups result in faster and simpler restore operations.

Incremental backup stores all files changed since the last basic or incremental backup. The advantage of this backup type is that it takes less time to complete as well as occupies considerably less space. However, the restore process is more lengthy than that of the basic archives.

Backup system is "equipped" with backup scheduler that allows to set up single or periodical backup procedures based on your requirements. You can define the exact time when backup operation should begin, and perform backup operation:

- Once
- Daily
- Weekly
- Custom (set up periodicity of backup operations at any time interval)

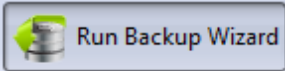
Performing a Backup

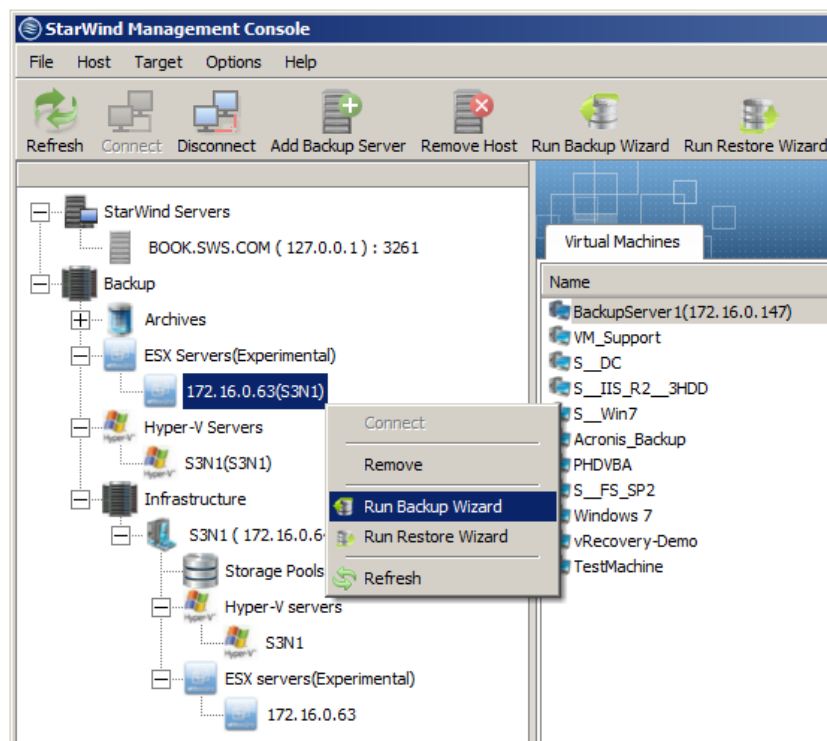
You can perform backup of a single virtual machine, as well as to back up several VMs simultaneously.

To make a backup, you should specify the following information in the Backup Wizard: virtual machines, a storage pool where backup files will be stored, and backup policy.

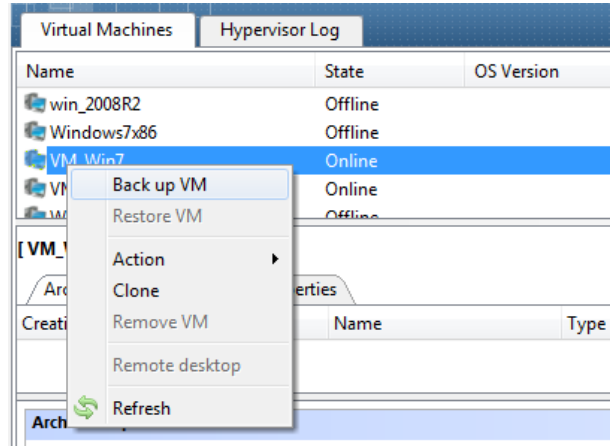
To perform a backup:

1. Launch the **Backup Wizard**, using one of the following ways:

- Click the  button from the Management Console toolbar.
- Click the Backup Wizard item in the **Common Tasks** section of StarWind Management Console (when the connected server is selected)
- Right-click the connected server and select **Run Backup Wizard**

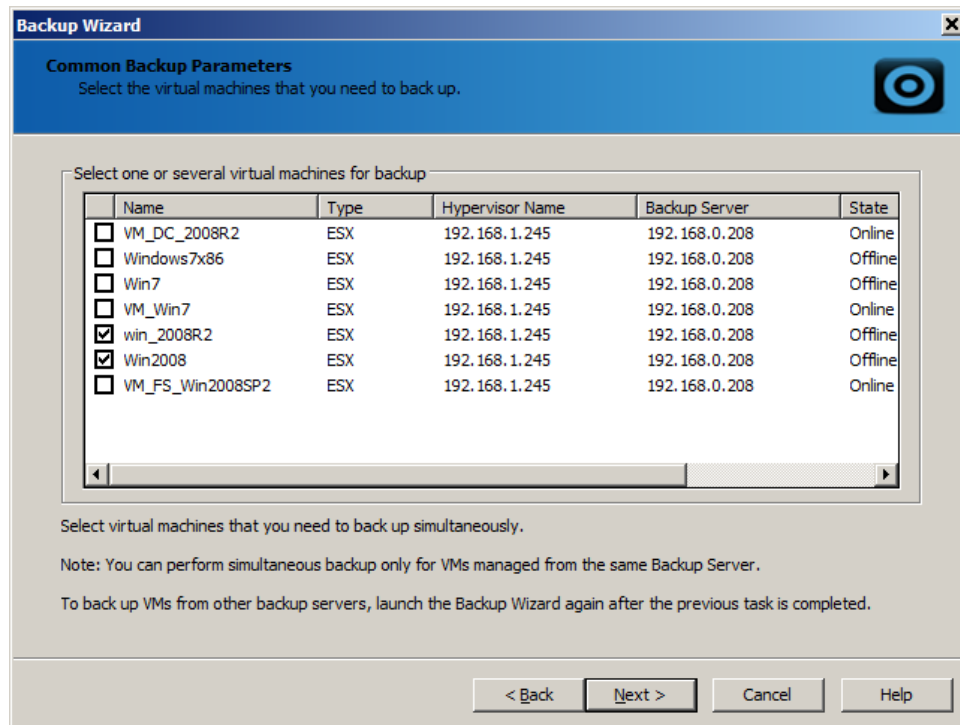


- Right-click the needed virtual machine and back up it individually.

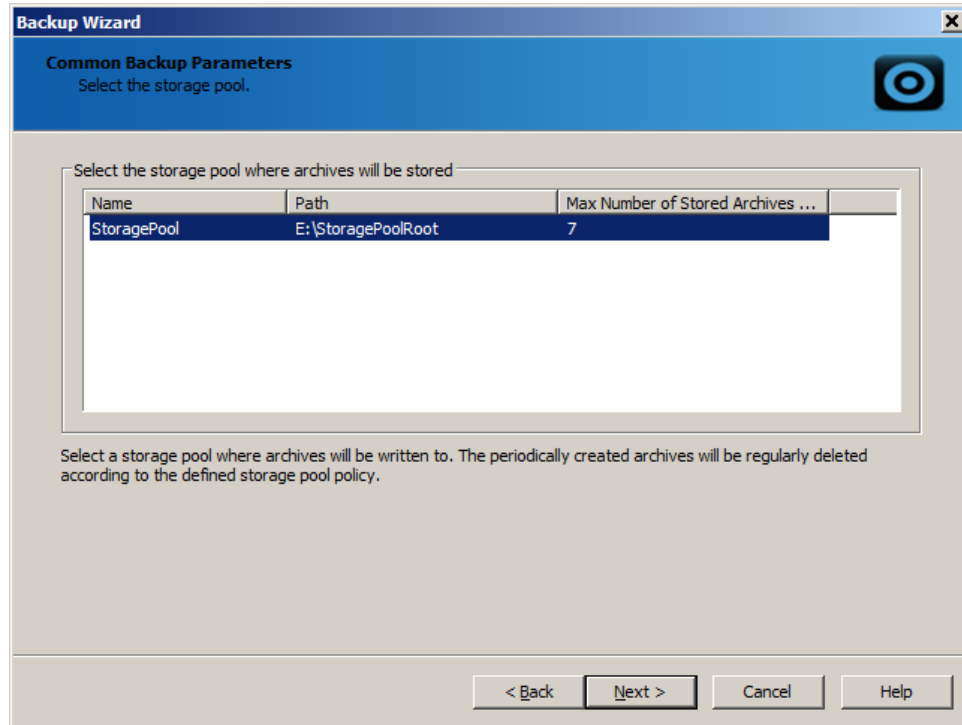


2. As **Backup Wizard** opens, click **Next** to continue.

3. Select one or several virtual machines that you need to backup.

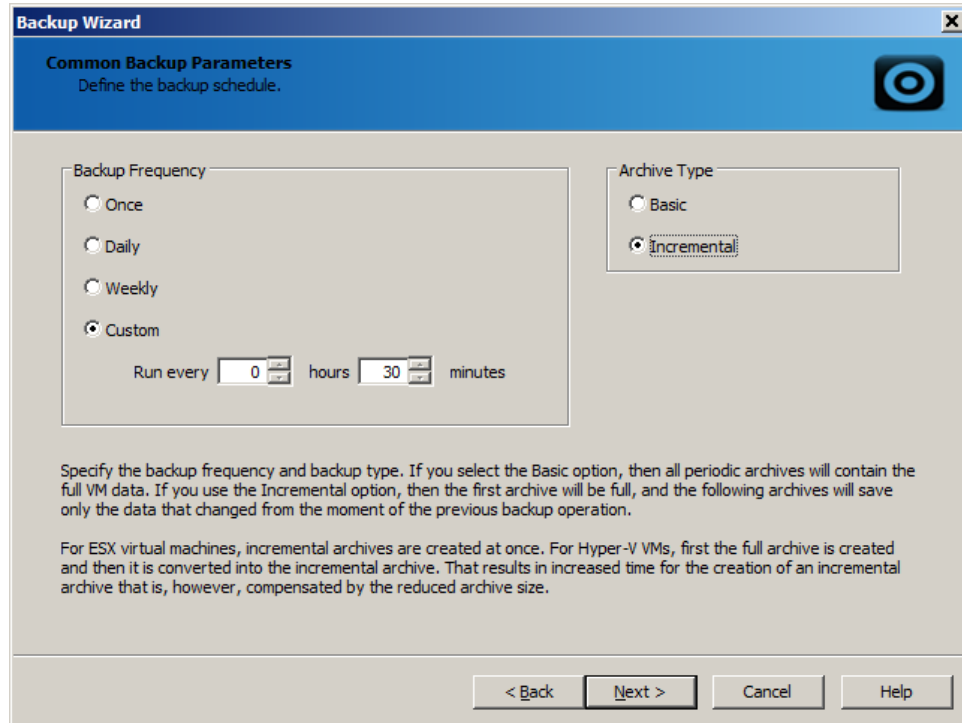


4. Select the storage pool that will store virtual machine archives.



5. Specify backup frequency and time interval.

Backup frequency	Description
Once	Implies a single backup operation.
Daily	Performs backup every day at the specified time.
Weekly	Performs backup once a week at the specified time
Custom	You can specify backup periodicity with any time interval.



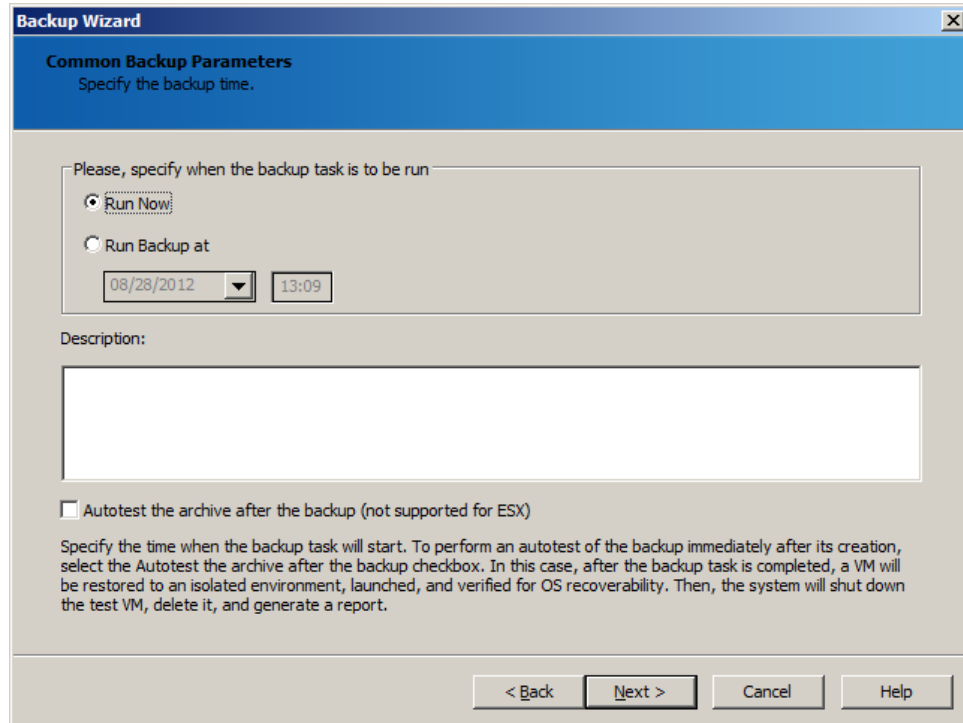
6. Specify type of archive.

Archive type	Description
Basic	Basic backup is the starting point for incremental backup. It stores all the data of VMs that are selected to be backed up. Since basic backup stores all VM information, frequent basic backups result in faster and simpler restore operations.
Incremental	Incremental backup stores all files changed since the last basic or incremental backup. The advantage of this backup type is that it takes less time to complete. However, the restore process is more lengthy than that of the basic archives.

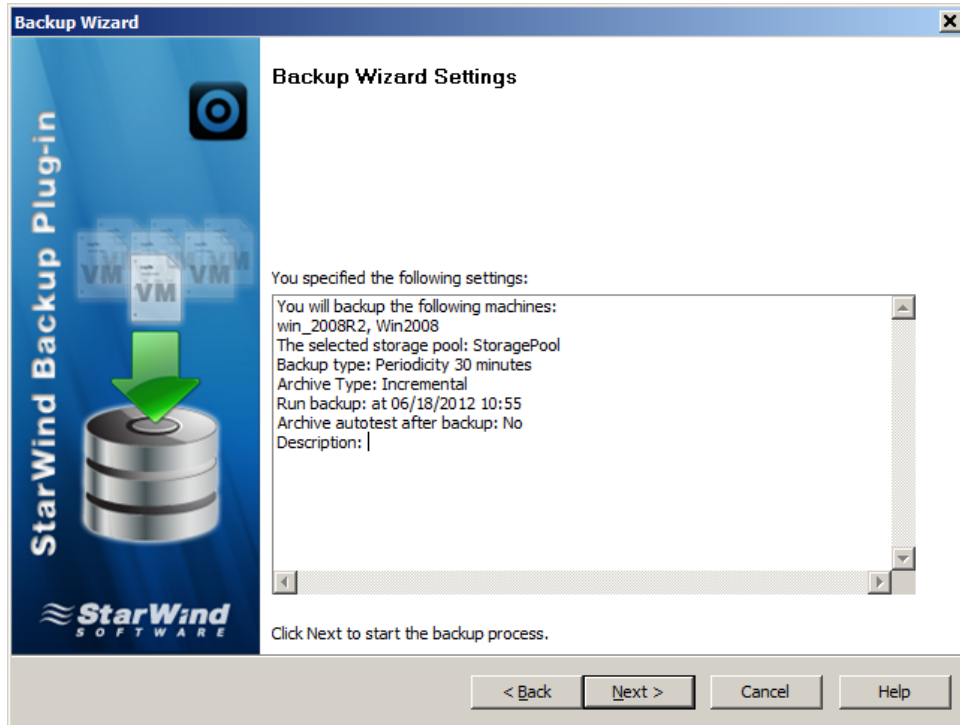
7. Click **Next** to continue.

8. Specify the time when backup should be started.

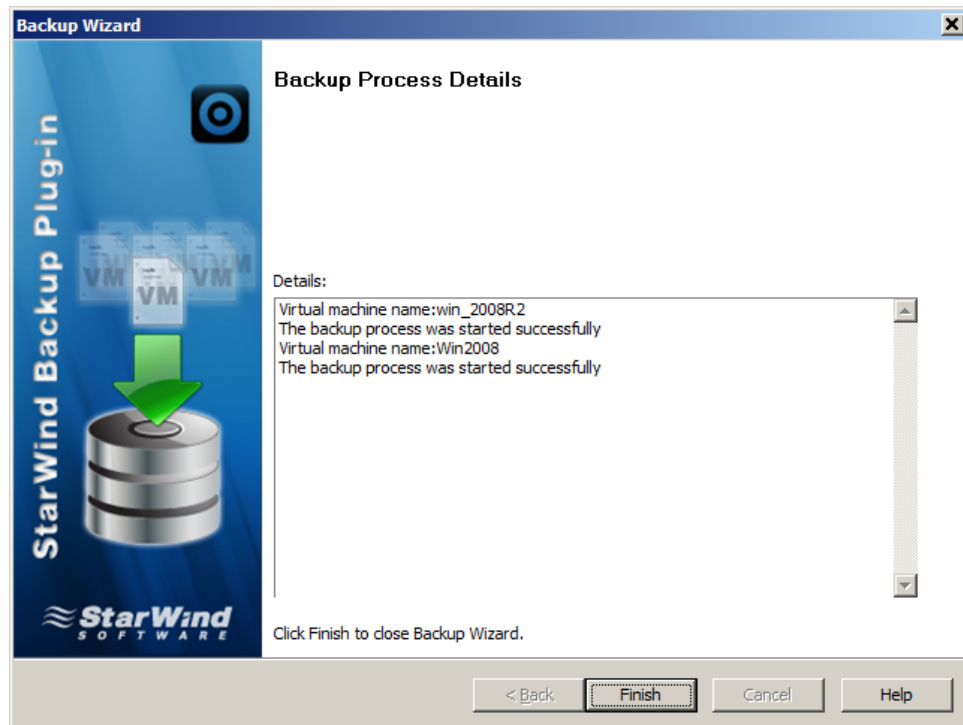
Backup time	Description
Run Now	Starts the backup operation immediately
Run Backup at	Allows to specify the exact time when backup operation should start.



9. Select the **Autotest the archive after the backup** checkbox to perform an autotest of the backup immediately after its creation. In this case, after the backup task is completed, a VM will be restored to an isolated environment, launched, and verified for OS recoverability. Then, the system will shut down the test VM, delete it, and generate a report.
10. Click **Next** to continue.
11. In the **Backup Wizard Settings** window, view the details of the backup operation, and click **Next**.



12. Click **Finish** to complete the Wizard and perform backup of the selected virtual machine(s).



13. As soon as you start the backup process, the progress line appears in the bottom section of the Management Console.



Note: You can stop the backup process at any time.

Backup Server	Hypervisor Name	Task	Task Frequency	VM Name	VM Size	Last Run Time	Last Finish Time	Next Run Time	Progress
192.168.0.247	MAX	Backup(Base)	Periodical	L_DC	15.0 GB	28-08-2012 13:21	28-08-2012 13:20	28-08-2012 14:41	3 %
192.168.0.247	MAX	Backup(Increment)	Periodical	Win2008x86	15.0 GB	28-08-2012 12:43	28-08-2012 12:05	28-08-2012 13:53	28 %
192.168.0.247	MAX	Restore	Once	Windows7_x86	15.0 GB	28-08-2012 13:22	-	-	1 %

Stop Process
Refresh

StarWind Software | Stop Process

To stop a backup operation:

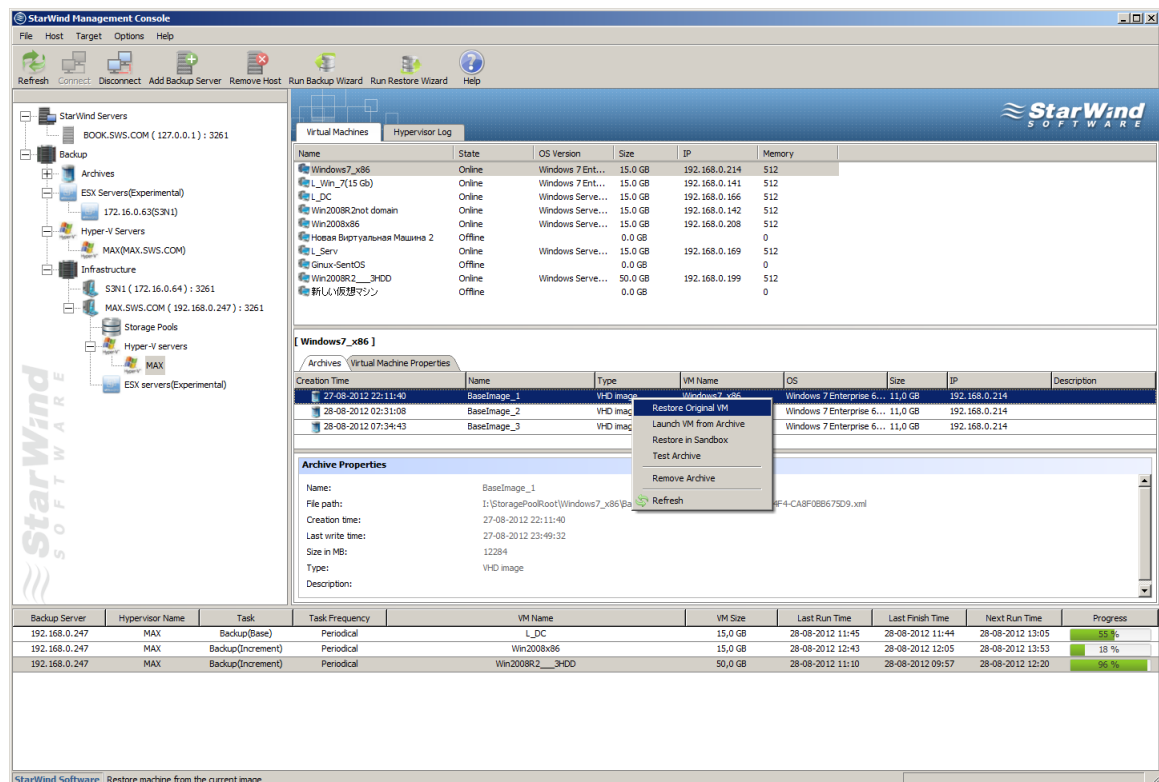
1. Select the backup progress line, and right-click it.
2. Click **Stop Process** from the shortcut menu.

Restore of Hyper-V/VMware Virtual Machines

Restoring an Original Virtual Machine

To restore the selected virtual machine:


1. On the **Virtual Machines** tab, select a VM that you need to restore. All archives of this VM appear below, on the **Archives** tab.
2. Right-click an archive with the VM you need to restore.
3. From the shortcut menu, select **Restore Original VM**.

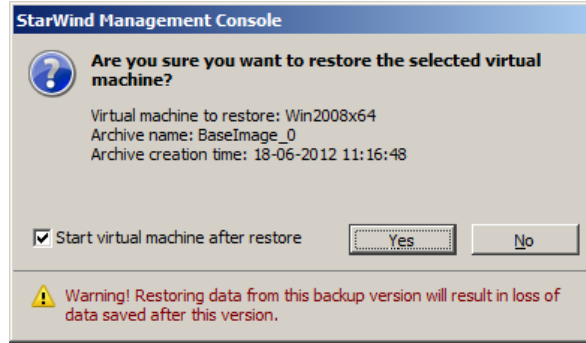


The screenshot shows the StarWind Management Console interface. On the left, a tree view shows the hierarchy of backup servers and virtual machines. The main window is divided into several panes. The top pane shows a list of virtual machines with columns for Name, State, OS Version, Size, IP, and Memory. Below this, the 'Archives' tab for a selected VM is open, showing a list of backup archives with columns for Creation Time, Name, Type, VM Name, OS, Size, IP, and Description. A context menu is open over the selected archive, with 'Restore Original VM' highlighted. The bottom pane shows a table of backup tasks with columns for Backup Server, Hypervisor Name, Task, Task Frequency, VM Name, VM Size, Last Run Time, Last Finish Time, Next Run Time, and Progress.

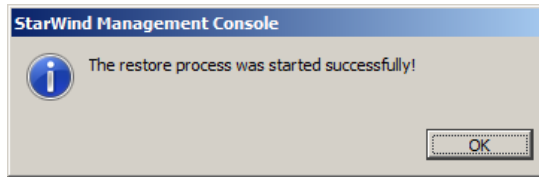
Backup Server	Hypervisor Name	Task	Task Frequency	VM Name	VM Size	Last Run Time	Last Finish Time	Next Run Time	Progress
192.168.0.247	MAX	Backup(Base)	Periodical	L_DC	15.0 GB	28-08-2012 11:45	28-08-2012 11:44	28-08-2012 13:05	100 %
192.168.0.247	MAX	Backup(Increment)	Periodical	Win2008x86	15.0 GB	28-08-2012 12:43	28-08-2012 12:05	28-08-2012 13:53	18 %
192.168.0.247	MAX	Backup(Increment)	Periodical	Win2008R2_3HDD	50.0 GB	28-08-2012 11:10	28-08-2012 09:57	28-08-2012 12:20	96 %

4. Click **Start virtual machine after restore** to launch a VM immediately after the restore operation is completed.
5. Click **Yes** in the confirmation message box to confirm the restore request.

 **Note:** The data restore from earlier backup version results in loss of data saved after this version.



6. Click **OK** to continue.



7. The restore progress line appears in the bottom part of StarWind Management Console.

To stop the restore process:

1. Right-click the restore progress line.
2. Click **Stop Process** from the shortcut menu.

Backup Server	Hypervisor Name	Task	Task Frequency	VM Name	VM Size	Last Run Time	Last Finish Time	Next Run Time	Progress
192.168.0.247	MAX	Backup(Base)	Periodical	L_DC	15,0 GB	28-08-2012 13:21	28-08-2012 13:20	28-08-2012 14:41	3 %
192.168.0.247	MAX	Backup(Increment)	Periodical	Win2008x86	15,0 GB	28-08-2012 12:43	28-08-2012 12:05	28-08-2012 13:53	28 %
192.168.0.247	MAX	Restore	Once	Windows7_x86	15,0 GB	28-08-2012 13:22	-	-	1 %

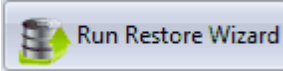
StarWind Software | Stop Process

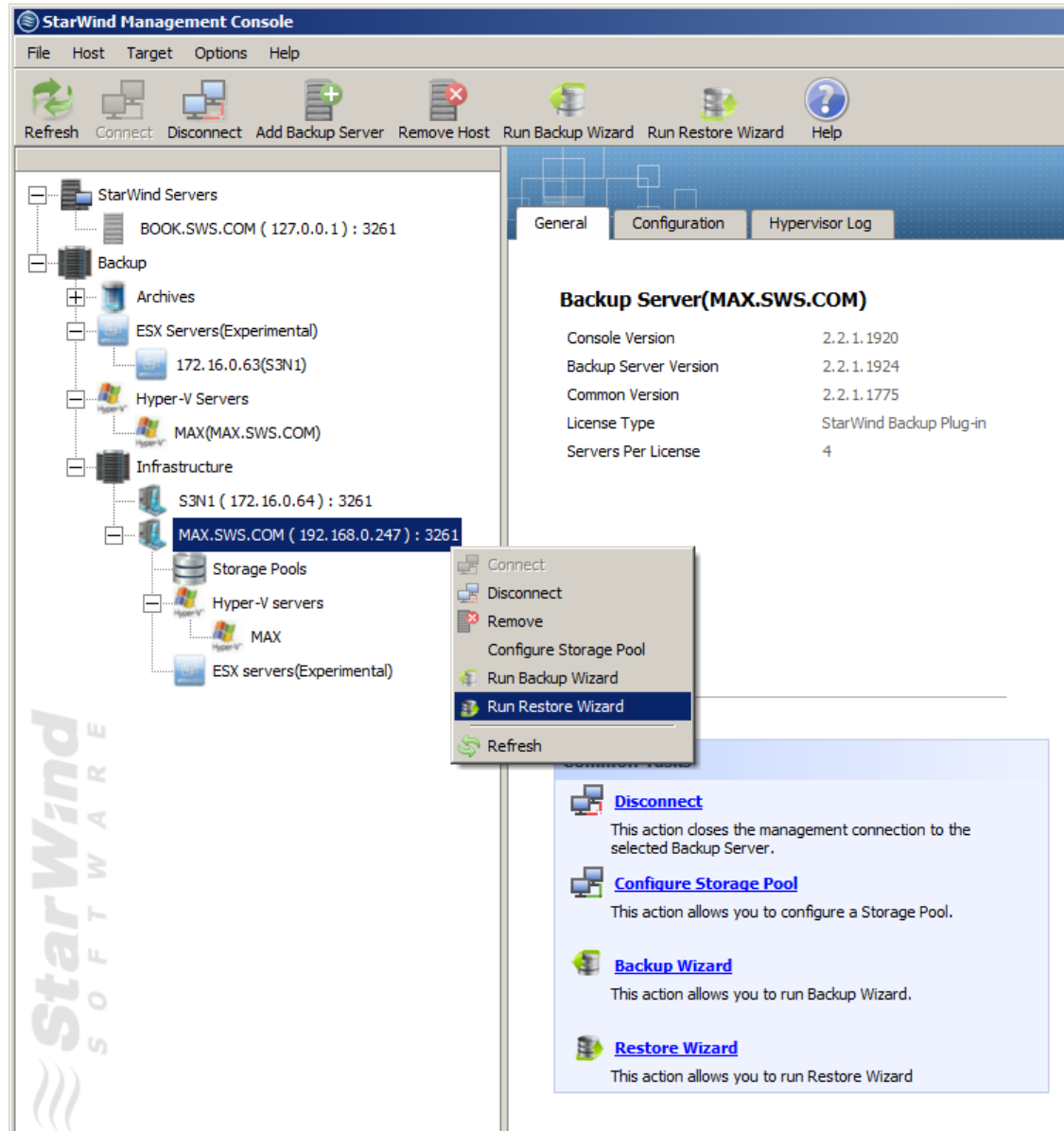
Restoring a VM with the Restore Wizard

To restore a virtual machine using the Restore Wizard:

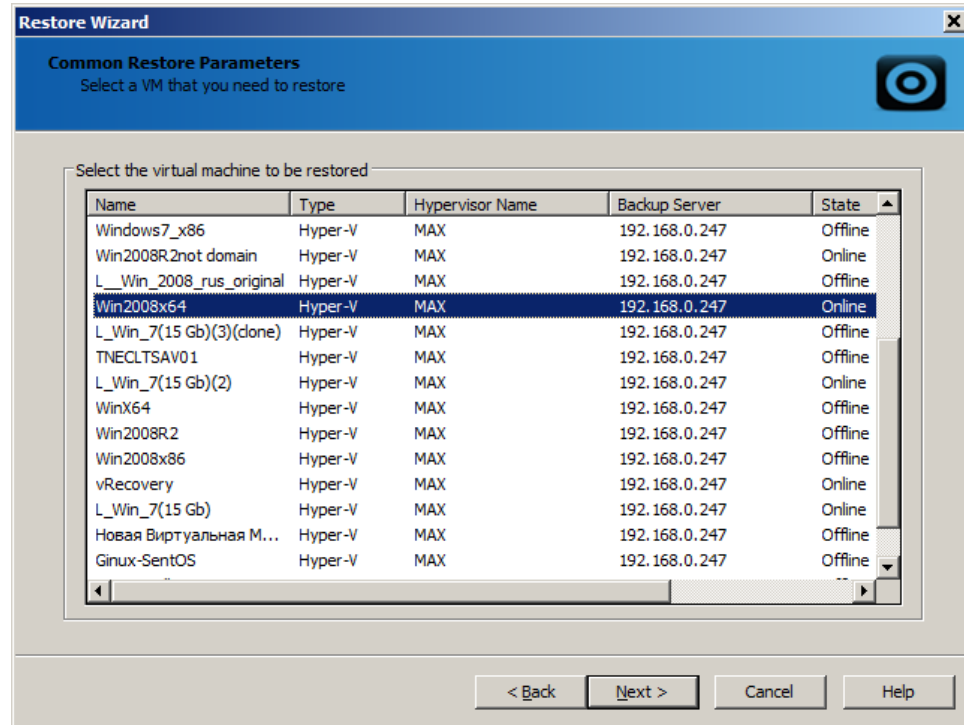
1. Launch the **Restore Wizard** by one of the following ways:


Similarly to [using the Backup Wizard](#) ⁴⁶ you can launch the Restore Wizard by one of the following ways:

- Click the  button from the Management Console toolbar.
- Click the **Restore Wizard** item on the **Common Tasks** section of StarWind Management Console (when the connected server is selected)
- Right-click a connected server and select **Run Restore Wizard**

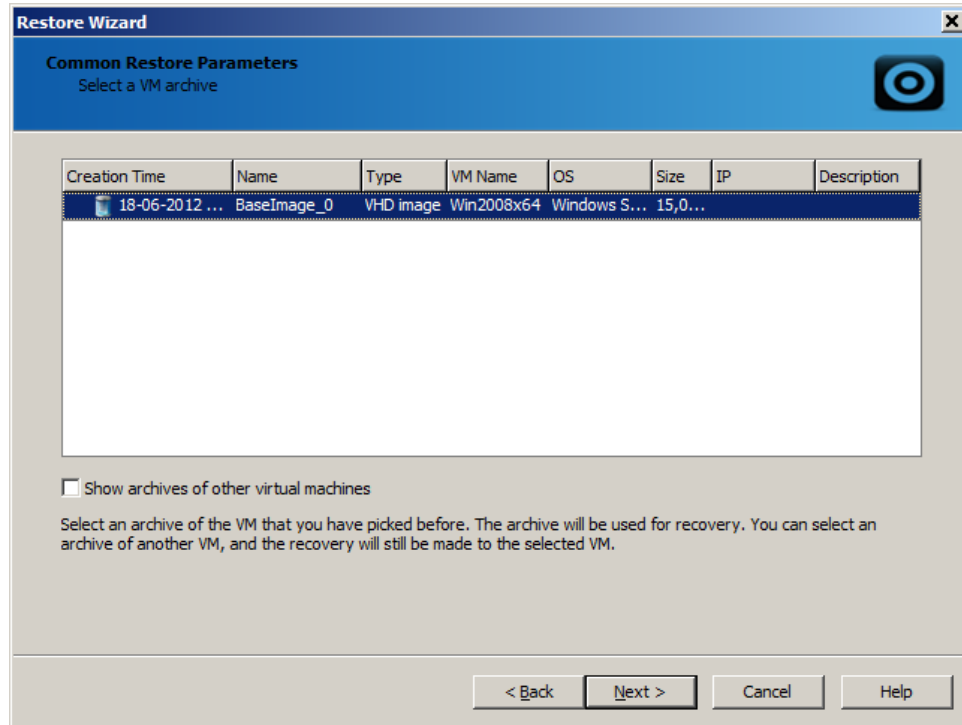


2. In the **Restore Wizard** window, click **Next** to continue.
3. Select a VM that you need to restore from the list of VMs. Click the scroll arrows to view all virtual machines connected to the selected server.
4. Click **Next** to proceed.




 **Note:** Any virtual machine can be restored from any other VM archive, if needed. However, it is not recommended since a VM may be restored with incorrect settings.

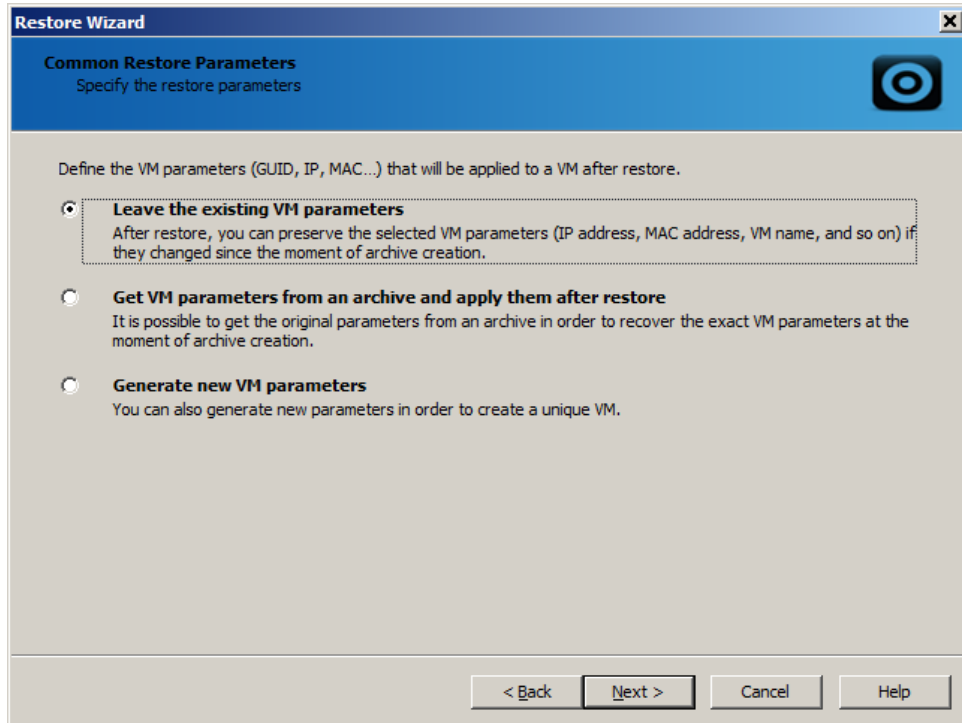
5. To view all VM archives, select the **Show archives of other virtual machines** checkbox.
6. Click **Next** to continue.



7. Define parameters of the VM that will be applied after its restore.

 **Note:** These restore parameters can be applied to Hyper-V VMs only. Restore Wizard of ESX virtual machines doesn't provide such options.

8. Click **Next** to continue.



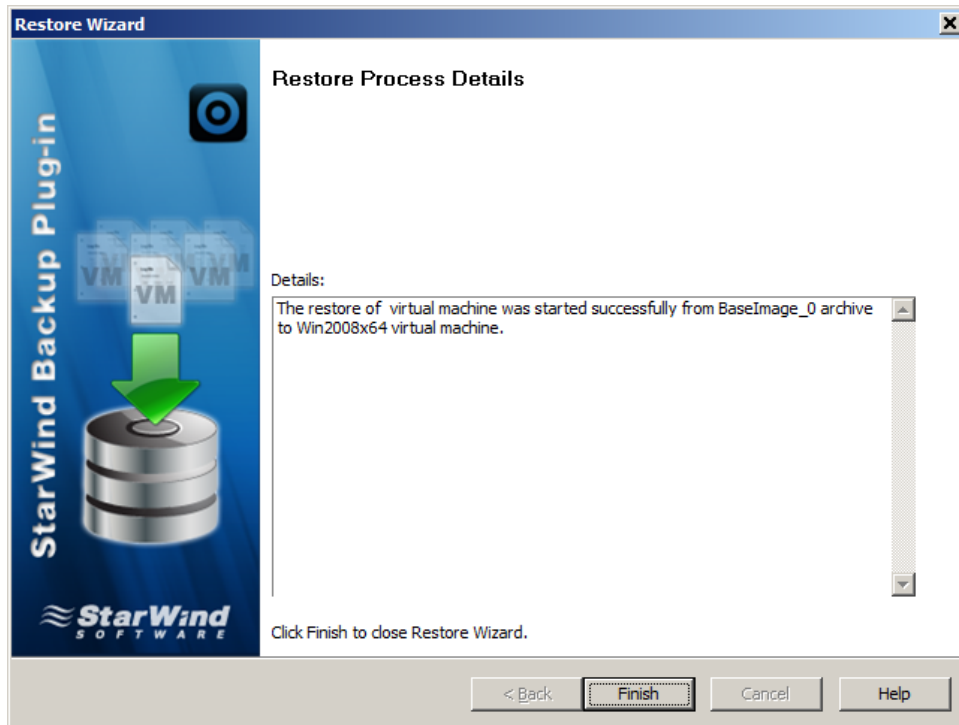
9. Make sure the restore settings have been specified correctly.

10. Click **Next** to continue.



11. In the **Details** area, check the restore process details.

12. Click **Finish** to complete the **Restore Wizard**. The progress line appears at the bottom section of the Console and shows how restore progresses.



To stop the restore process:

1. Right-click the restore progress line that you need.
2. Click **Stop process** from the shortcut menu.

Hyper-V Specific Restore

The Backup Plug-in provides additional options for restore of Hyper-V virtual machines.

To restore VMs stored in Hyper-V native VHD format you can also use:

1. [Manual restore of individual files and folders from an archive.](#)

Enables simple restore process of separated files and folders. You need just attach an archive to a VM as a new volume and copy the files you need.


2. [Rapid restore of VMs from an archive.](#)


Allows quick launch of a VM directly from an archive.

3. [Restore of VMs in Sandbox.](#)

Restores VMs to an emulated environment for testing and verification.

Manual Restore of Individual Files and Folders

 **Note:** The individual file restore option is available for archives stored in VHD format only.

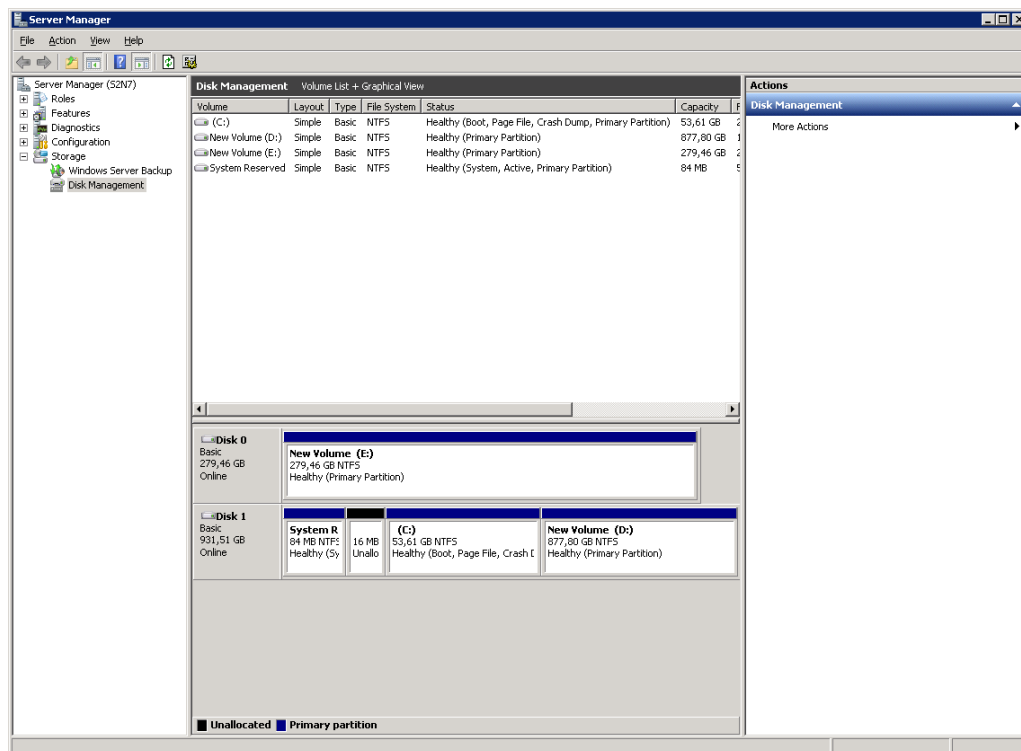
 **Note:** You can attach a VHD archive of the selected machine or any other archive that contains files that you need to restore.

You need to launch Disk Management inside of a virtual machine that will keep the restored files.

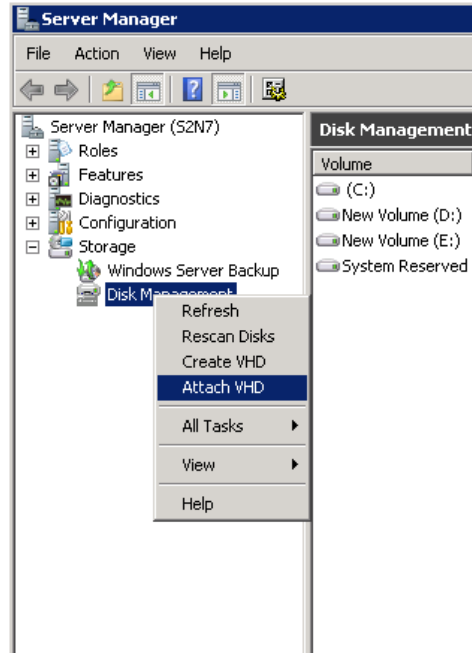
To copy individual files for restore:

1. Share the folder where archives are stored to make it available on the network.
2. Using **Remote Desktop** open virtual machine where the restored files will be located.
3. Launch **Disk Manager**. The **Server Manager** window is opened.

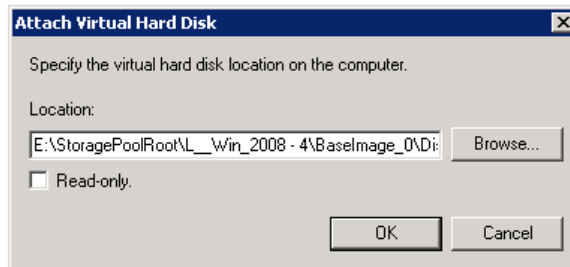
 **Note:** To launch Disk Manager: click **Start**, then click **Run**, type **compmgmt.msc**, and click **OK**.



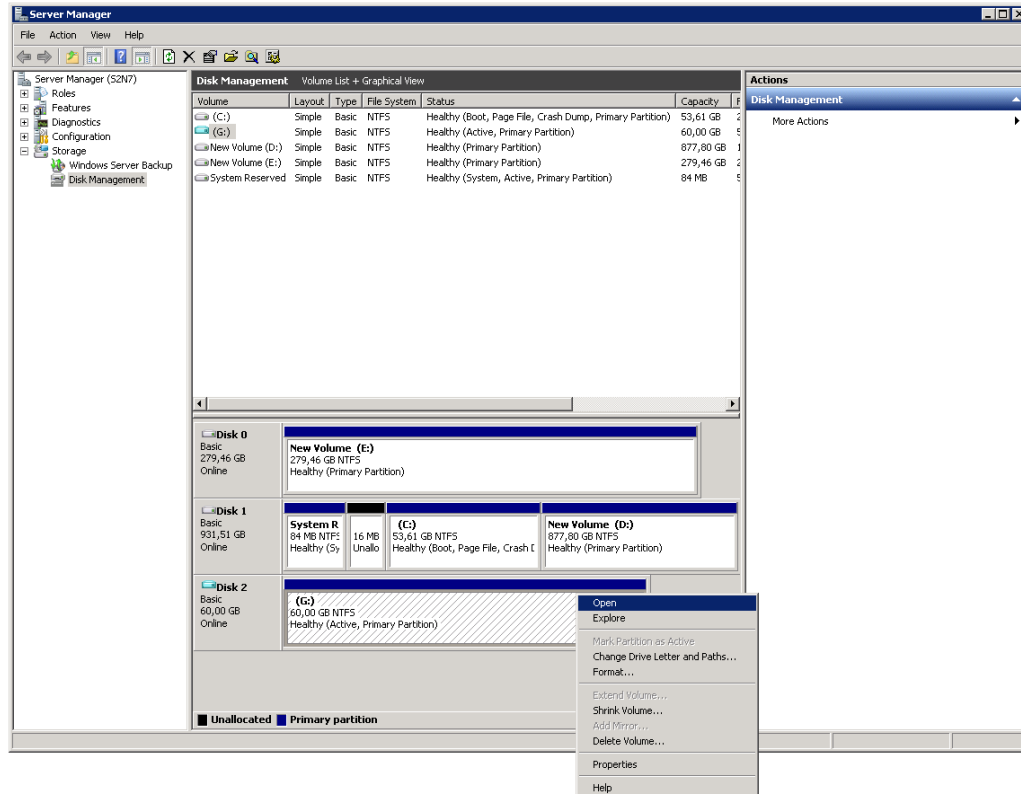
4. Right-click **Disk Management** in the Console tree and click **Attach VHD** from the shortcut menu.



5. Select a VHD-file that you need to restore.



6. Right-click the VHD icon and click **Online** from the shortcut menu (if needed).
7. Using the VHD shortcut menu, assign a letter to it (if needed).
8. Copy the files you need from the new volume.



9. Right-click the VHD icon, and select **Detach VHD** from the shortcut menu.

Restore of VMs from an Archive

Note: Restore of a selected VM directly from an archive is available for VHD format only.

To restore VMs directly from an archive:

1. Go to the **Storage Pools** item on the Console Tree and select the needed storage pool.
2. Right-click the archive, containing the needed VM and select **Launch VM from Archive**.

The screenshot shows the StarWind Management Console interface. On the left, the console tree is expanded to 'Storage Pools'. The main area displays a table of 'Archives' with columns: Name, Hypervisor Name, Creation Time, Type, VM Name, OS, Size, IP, and Description. A context menu is open over the 'BaseImage_3' archive, with 'Launch VM from Archive' selected. Below the main table, there is a summary table for backup tasks.

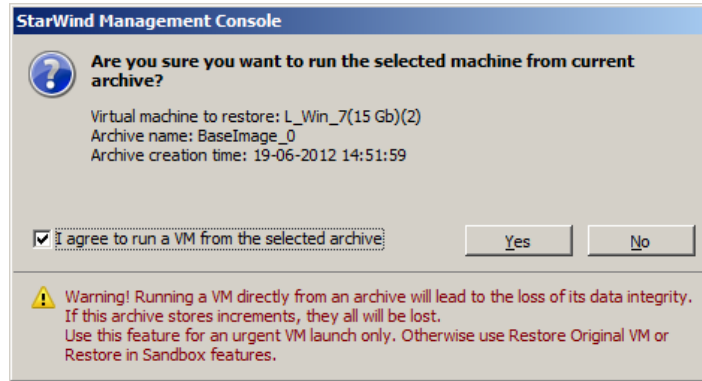
Name	Hypervisor Name	Creation Time	Type	VM Name	OS	Size	IP	Description
BaseImage_7	MAX	28-08-2012 13:21:31	VHD image			15,0 GB		
BaseImage_1	MAX	28-08-2012 12:43:38	VHD image			15,0 GB		
BaseImage_2	MAX	28-08-2012 10:56:05	VHD image			15,0 GB		
BaseImage_4	MAX	28-08-2012 12:09:43	VHD image			15,0 GB		
BaseImage_1	MAX	27-08-2012 22:11:40	VHD image	Windows7_x86	Windows 7 Enterpri...	11,0 GB	192.168.0.214	
BaseImage_2	MAX	28-08-2012 02:31:08	VHD image	Windows7_x86	Windows 7 Enterpri...	11,0 GB	192.168.0.214	
BaseImage_3	MAX	28-08-2012 13:21:31	VHD image	Windows7_x86	Windows 7 Enterpri...	11,0 GB	192.168.0.214	
BaseImage_0	MAX	28-08-2012 12:43:38	VHD image	Win2008R2_3HCD	Windows Server 20...	15,0 GB	192.168.0.199	
IncrementalIm...	MAX	28-08-2012 12:43:38	VHD image	Win2008R2_3HCD	Windows Server 20...	15,0 GB	192.168.0.199	
IncrementalIm...	MAX	28-08-2012 12:43:38	VHD image	Win2008R2_3HCD	Windows Server 20...	15,0 GB	192.168.0.199	
BaseImage_0	MAX	28-08-2012 12:43:38	VHD image	L_Win_7(15 GB)	Windows 7 Enterpri...	15,0 GB	192.168.0.141	
BaseImage_1	MAX	28-08-2012 12:43:38	VHD image	L_Win_7(15 GB)	Windows 7 Enterpri...	15,0 GB	192.168.0.141	
BaseImage_0	MAX	28-08-2012 12:43:38	VHD image	Win2008x86	Windows Server (R)...	15,0 GB	192.168.0.208	
IncrementalIm...	MAX	28-08-2012 12:43:38	VHD image	Win2008x86	Windows Server (R)...	15,0 GB	192.168.0.208	
IncrementalIm...	MAX	28-08-2012 12:43:38	VHD image	Win2008x86	Windows Server (R)...	15,0 GB	192.168.0.208	
BaseImage_0	MAX	27-08-2012 19:40:11	VHD image	L_Serv	Windows Server 20...	15,0 GB	192.168.0.169	
IncrementalIm...	MAX	28-08-2012 10:52:54	VHD image	L_Serv	Windows Server 20...	15,0 GB	192.168.0.169	
IncrementalIm...	MAX	28-08-2012 12:40:14	VHD image	L_Serv	Windows Server 20...	15,0 GB	192.168.0.169	
BaseImage_3	MAX	28-08-2012 01:38:57	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	
BaseImage_4	MAX	28-08-2012 05:46:00	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	
BaseImage_5	MAX	28-08-2012 10:09:53	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	
BaseImage_6	MAX	28-08-2012 11:45:45	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	

Backup Server	Hypervisor Name	Task	Task Frequency	VM Name	VM Size	Last Run Time	Last Finish Time	Next Run Time	Progress
192.168.0.247	MAX	Backup(Base)	Periodical	L_DC	15,0 GB	28-08-2012 13:21	28-08-2012 13:20	28-08-2012 14:41	9 %
192.168.0.247	MAX	Backup(Increment)	Periodical	Win2008x86	15,0 GB	28-08-2012 12:43	28-08-2012 12:05	28-08-2012 13:53	35 %
192.168.0.247	MAX	Restore	Once	Windows7_x86	15,0 GB	28-08-2012 13:22	-	-	11 %

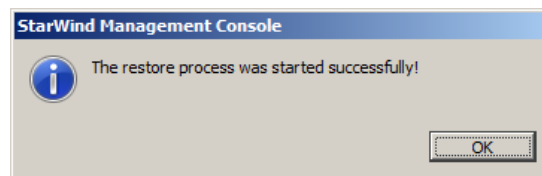
3. Read the warning and select the checkbox, if you agree to run the VM from the archive. Click **Yes** to continue.

Note: Running a VM directly from an archive leads to loss of data integrity. If the archive contains increments, they will be lost.

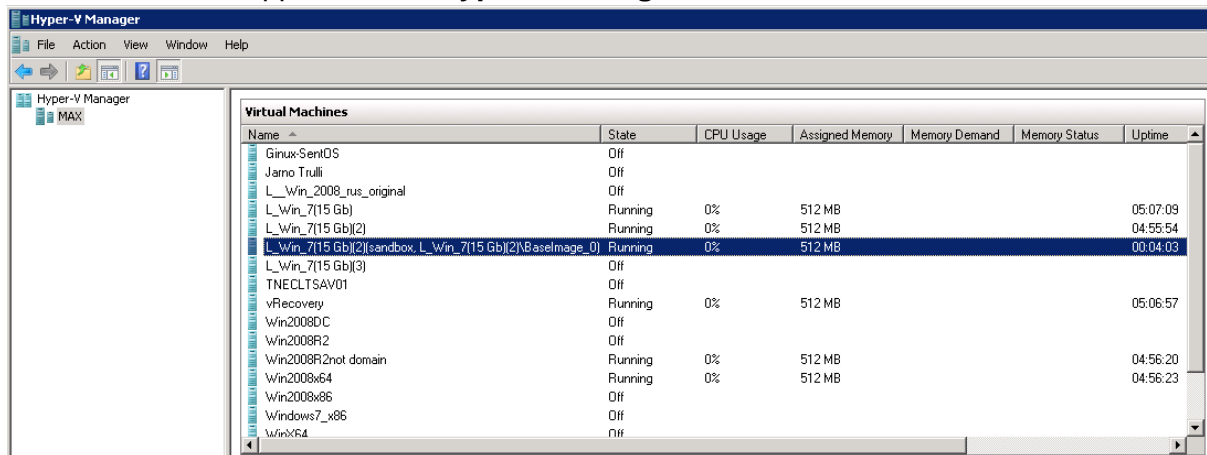
Use this feature only in case of emergency. Otherwise, choose **Restore Original VM** or **Restore in Sandbox** options.




4. Click **OK** to continue.



5. The needed VM appears in the **Hyper-V Manager** window.



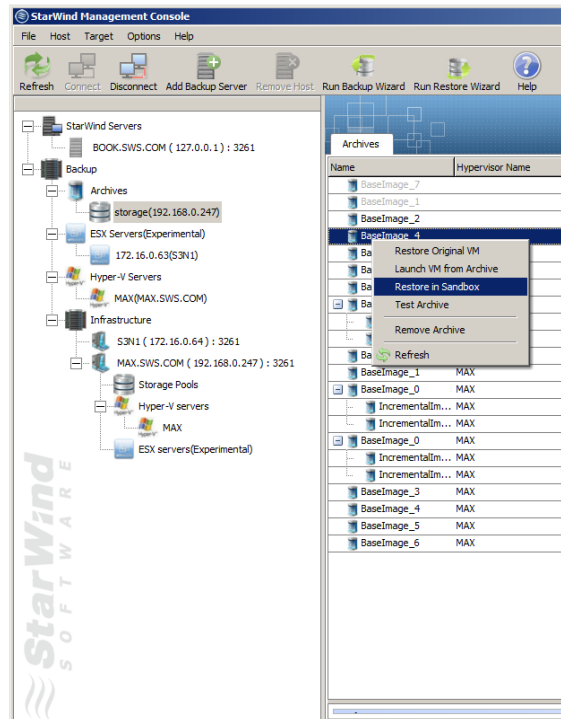
Restore in Sandbox

 **Note:** Restore in Sandbox is available for VHD format only.


Sandbox mode allows running VMs in an emulated environment without affecting original VM files. It is mostly used for testing purposes and verification of archive recoverability.

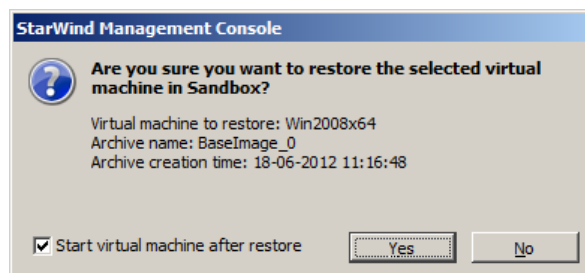
To restore a VM in Sandbox mode:

1. Go to the **Archives** item on the Console tree. Right-click the need archive from the list of available archives and select **Restore in Sandbox**.

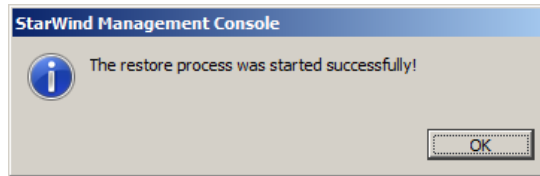


2. Click **Yes** to restore the VM in Sandbox. If need to start a VM after the restore process, select the appropriate checkbox.

 **Note:** Running a VM from an archive in Sandbox mode in no way affects the original virtual machine.



3. Click **OK** to complete the restore operation.



More Options for VM, Archive, and Storage Pool Management

Actions that can be performed on Virtual Machines

To view the list of virtual machines located on a definite ESX/Hyper-V host:

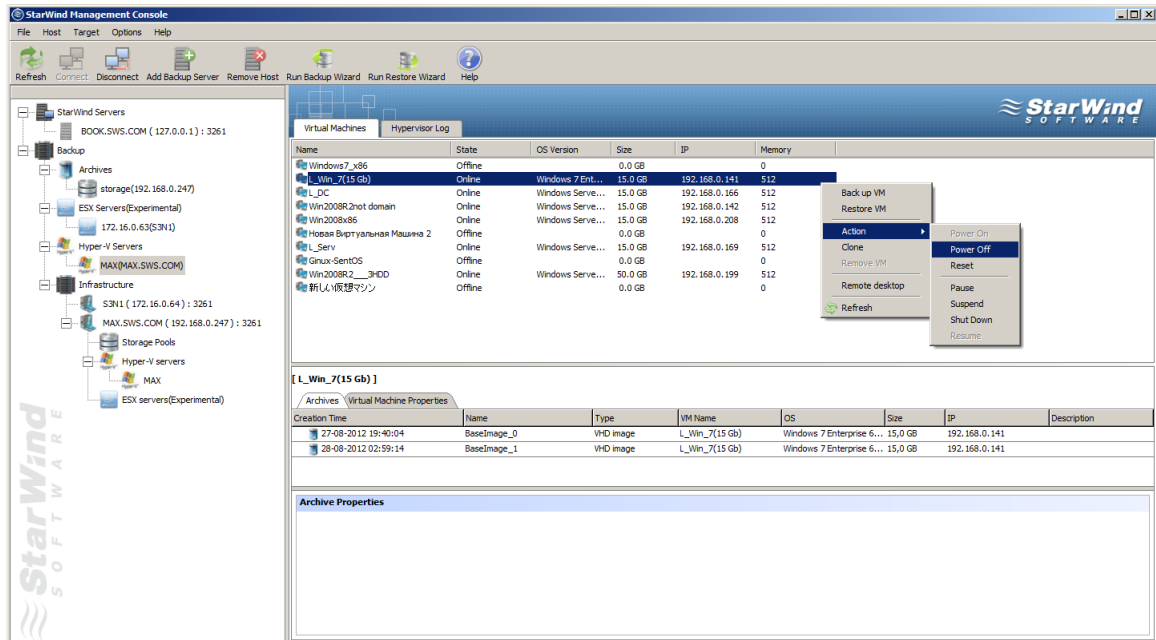
1. Expand **Backup** on the Console tree.
2. Click **ESX servers** or **Hyper-V servers** item to expand it. You can see all physical machines running VMware ESX and Hyper-V, respectively.
3. Select the server to view all virtual machines hosted on it. The **Virtual Machines** tab appears on the Main area providing the list of all VMs located on the selected host.

In the current version of Backup Plug-in the following actions that can be performed on ESX virtual machines:

Action	What does it do?
Power On	Starts a virtual machine and brings its state online
Power Off	Turns off a virtual machine and brings its state offline
Remove	Removes a virtual machine

Actions that can be performed on Hyper-V VMs include:

Action	What does it do?
Power On	Starts a virtual machine and brings its state online
Power Off	Turns off a virtual machine and brings its state offline
Reset	Restarts a virtual machine
Pause	Temporarily halts virtual machine operations
Suspend	Hibernates a virtual machine preserving its states
Shut down	Shuts down a virtual machine
Resume	Resumes virtual machine operations after Reset or Pause.
Remove	Removes a virtual machine



To perform an operation:


1. Select a virtual machine and right-click it.
2. Click **Action** on the shortcut menu.
3. Choose the operation that you need to perform.

Note: You can also run Remote Desktop for VMs. This action is available for running VMs available on the local network and can be accessed through Windows 7 Remote Desktop.

Making a VM Clone

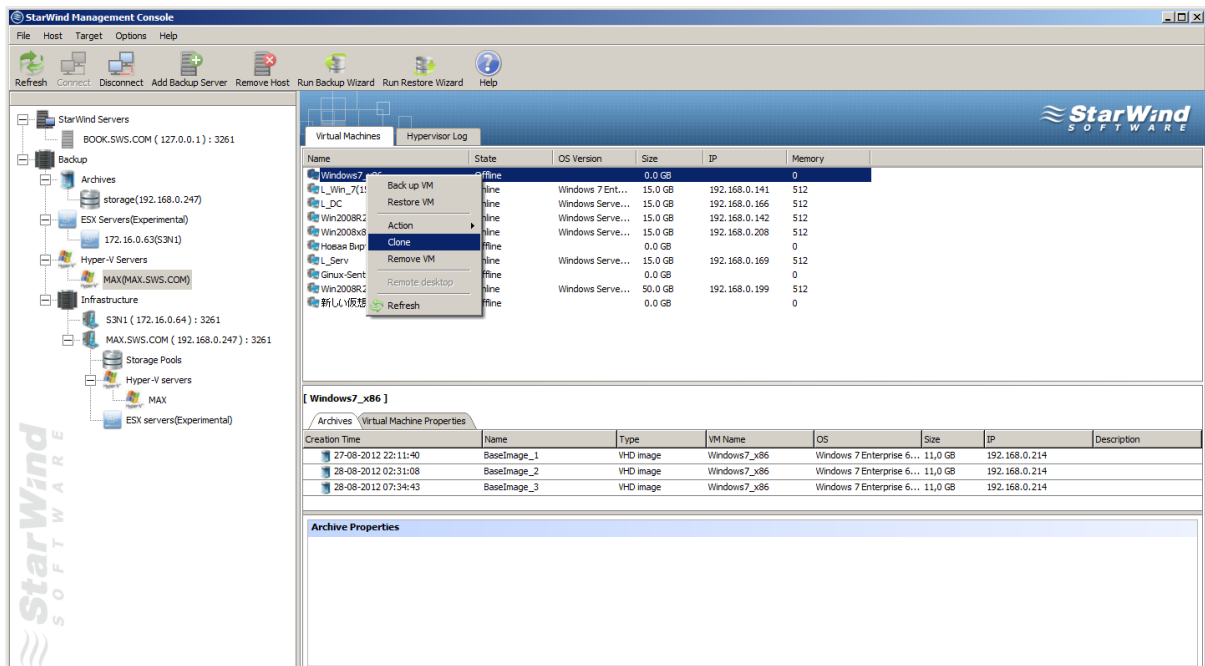
A clone is a complete virtual machine copy that differs in the network settings only (GUID, IP address, Name, MAC). Clones are used for running a VM in the testing environment without affecting the original VM operating in production.

Clones can also be used for deployment of new virtual machines. It is possible to clone a VM with the required OS and applications as many times as necessary rather than installing the same OS and programs on several new VMs.

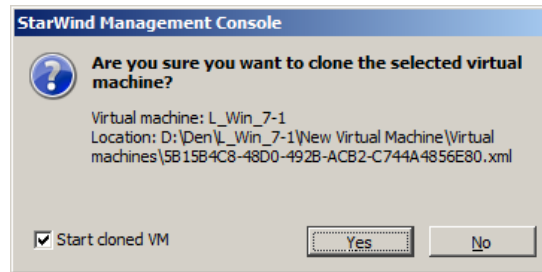
 **Note:** Clones can be made for Hyper-V virtual machines only.

To make a clone of a virtual machine:

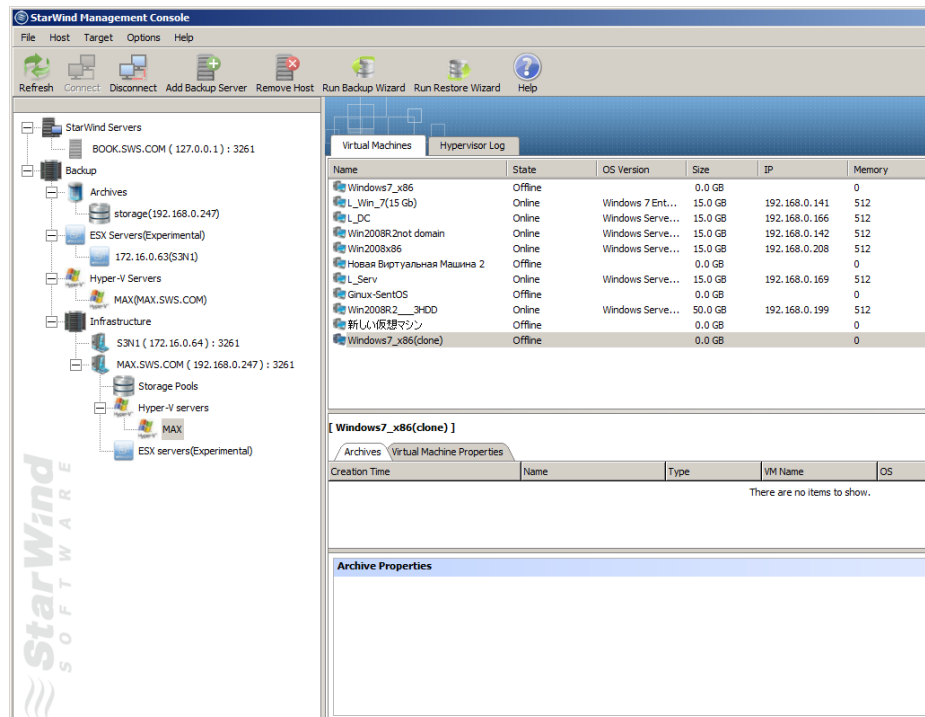
1. Expand **Backup** on the Console tree.
2. Expand **Hyper-V Servers** and click the name of a host where a VM that need to be cloned is located.
3. Under the **Virtual Machines** tab of the Main area all VMs located on the selected Hyper-V host are listed.
4. Click the required virtual machine and choose **Clone** from the shortcut menu.



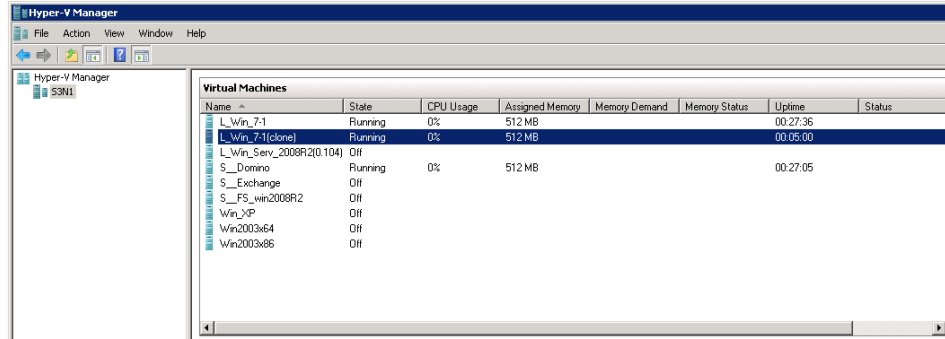
5. Click the **Start cloned VM** checkbox if you need your clone to be launched.
6. Click **Yes** to perform the operation.



7. The cloned virtual machine appears in the **Virtual Machines** list in the Management Console interface.



The VM clone also appears in the list of virtual machines in the **Hyper-V Manager**. It is possible to work with a VM clone the same way as with an ordinary virtual machine. Clones are labeled by the word clone in brackets (**clone**) in order to distinguish them from virtual machines.



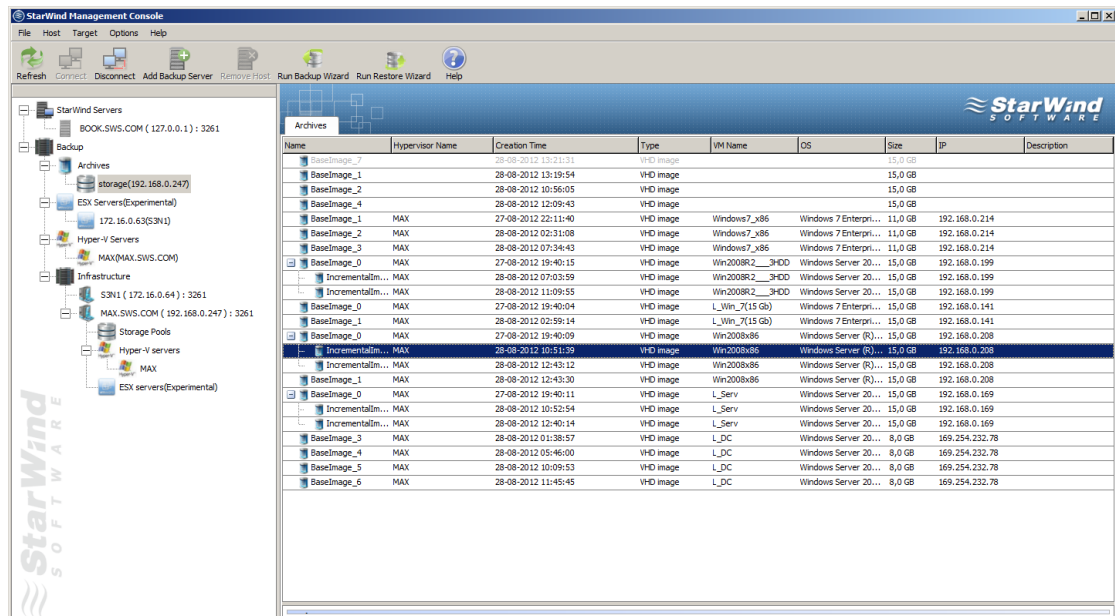
Actions that can be performed on VM Archives

To view the list of virtual machines located on a definite host:


1. Expand the **Backup** item on the Console tree.
2. Click **ESX servers** or **Hyper-V servers** item to expand it. You can see all physical machines running VMware ESX or Hyper-V.
3. Select the server to view virtual machines hosted on it. The **Virtual Machines** tab appears on the Main area providing the list of all VMs located on the selected host.
4. When you select a VM on the **Virtual Machines** tab, its archives appear on the **Archives** tab below.

To view the list of archives stored in a definite Storage Pool:

1. Expand the **Backup** item on the Console tree and the **Archives** item.
2. Select one of the storage pools.
3. The list of archives stored on the selected storage pool appears on the **Archives** tab.



Name	Hypervisor Name	Creation Time	Type	VM Name	OS	Size	IP	Description
BaseImage_7		28-08-2012 13:21:31	VHD image			15,0 GB		
BaseImage_1		28-08-2012 13:19:54	VHD image			15,0 GB		
BaseImage_2		28-08-2012 10:56:05	VHD image			15,0 GB		
BaseImage_4		28-08-2012 12:09:43	VHD image			15,0 GB		
BaseImage_1	MAX	27-08-2012 22:11:40	VHD image	Windows7_x86	Windows 7 Enterpri...	11,0 GB	192.168.0.214	
BaseImage_2	MAX	28-08-2012 02:31:08	VHD image	Windows7_x86	Windows 7 Enterpri...	11,0 GB	192.168.0.214	
BaseImage_3	MAX	28-08-2012 07:34:43	VHD image	Windows7_x86	Windows 7 Enterpri...	11,0 GB	192.168.0.214	
BaseImage_0	MAX	27-08-2012 19:40:15	VHD image	Win2008R2_3HDD	Windows Server 20...	15,0 GB	192.168.0.199	
IncrementalIm...	MAX	28-08-2012 07:03:59	VHD image	Win2008R2_3HDD	Windows Server 20...	15,0 GB	192.168.0.199	
IncrementalIm...	MAX	28-08-2012 11:09:55	VHD image	Win2008R2_3HDD	Windows Server 20...	15,0 GB	192.168.0.199	
BaseImage_0	MAX	27-08-2012 19:40:04	VHD image	L_Win_7(15 Gb)	Windows 7 Enterpri...	15,0 GB	192.168.0.141	
BaseImage_1	MAX	28-08-2012 02:59:14	VHD image	L_Win_7(15 Gb)	Windows 7 Enterpri...	15,0 GB	192.168.0.141	
BaseImage_0	MAX	27-08-2012 19:40:09	VHD image	Win2008x86	Windows Server (R)...	15,0 GB	192.168.0.208	
IncrementalIm...	MAX	28-08-2012 10:51:39	VHD image	Win2008x86	Windows Server (R)...	15,0 GB	192.168.0.208	
IncrementalIm...	MAX	28-08-2012 12:43:12	VHD image	Win2008x86	Windows Server (R)...	15,0 GB	192.168.0.208	
BaseImage_1	MAX	28-08-2012 12:43:30	VHD image	Win2008x86	Windows Server (R)...	15,0 GB	192.168.0.208	
BaseImage_0	MAX	27-08-2012 19:40:11	VHD image	L_Serv	Windows Server 20...	15,0 GB	192.168.0.169	
IncrementalIm...	MAX	28-08-2012 10:52:54	VHD image	L_Serv	Windows Server 20...	15,0 GB	192.168.0.169	
IncrementalIm...	MAX	28-08-2012 12:40:14	VHD image	L_Serv	Windows Server 20...	15,0 GB	192.168.0.169	
BaseImage_3	MAX	28-08-2012 01:38:57	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	
BaseImage_4	MAX	28-08-2012 05:46:00	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	
BaseImage_5	MAX	28-08-2012 10:09:53	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	
BaseImage_6	MAX	28-08-2012 11:45:45	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	

 **Note:** To delete all archives from the selected Storage pool, right-click the storage pool, and choose **Clear** from the shortcut menu.

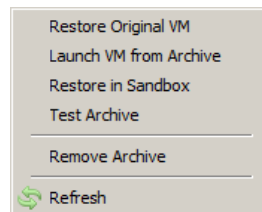
The following actions that can be performed on VMware archives:

Feature	What does it do?
---------	------------------

Restore Original VM	Restores a virtual machine to its original state
Remove archive	Deletes an archive
Refresh	Makes a refresh of a virtual machine

The following actions that can be performed on Hyper-V archives:

Feature	What does it do?
Restore Original VM	Restores a virtual machine to its original state
Launch VM from Archive	Restores a virtual machine directly from an archive. Allows quick recovery and is used in case of emergency.
Restore in Sandbox	Restores and launches a VM from an archive in an emulated virtual environment. Used for testing a VM operability.
Test archive	Restores a VM into a temporary folder and launches it after restore is completed. Then VM is shut down and both VM and temporary folder are deleted. This feature allows to test integrity and operability of any archive.
Remove archive	Deletes an archive
Refresh	Makes a refresh of a virtual machine



Testing Archives

Note: Testing can be performed for Hyper-V virtual machines only.

This feature allows verification of integrity and operability of any archive. Performance of this operation requires restoration of an archive in Sandbox, and further VM launch, testing, and shutdown. After the test launch Sandbox is cleared and the report is sent via e-mail.

To test an archive:

1. Expand the **Backup Servers** item on the Console tree and select one of the connected backup servers. Click the **Storage Pools** item.
2. Right-click the needed archive from the list of available archives and select the **Test Archive** option.

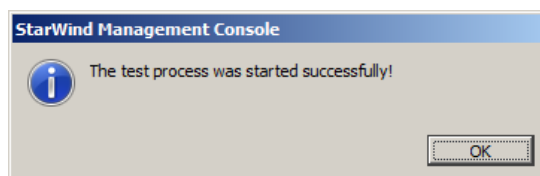
The screenshot shows the StarWind Management Console interface. On the left, a tree view shows the navigation path: StarWind Servers > Backup Servers > Storage Pools. The main window displays a table of 'Storage Pools' and a larger table of 'Archives'. A context menu is open over the 'Archives' table, with 'Test Archive' selected. Below the 'Archives' table, there is a table showing backup tasks.

Name	Path	Used Space	Free Space	State	Max Number of Stored Archives (per a VM)	Description
storage	I:\StoragePoolRoot	171 GB	845 GB	active	4	

Name	Hypervisor Name	Creation Time	Type	VM Name	OS	Size	IP	Description
BaseImage_1		28-08-2012 13:19:54	VHD image			15,0 GB		
BaseImage_2		28-08-2012 10:56:05	VHD image			15,0 GB		
BaseImage_3		28-08-2012 12:09:43	VHD image			15,0 GB		
BaseImage_4		27-08-2012 22:11:40	VHD image	Windows7_x86	Windows 7 Enterpri...	11,0 GB	192.168.0.214	
BaseImage_5		28-08-2012 13:19:54	VHD image	Windows7_x86	Windows 7 Enterpri...	11,0 GB	192.168.0.214	
BaseImage_6		28-08-2012 12:43:30	VHD image	Win2008x86	Windows Server R...	15,0 GB	192.168.0.208	
BaseImage_7		28-08-2012 12:43:30	VHD image	Win2008x86	Windows Server R...	15,0 GB	192.168.0.208	
BaseImage_8		28-08-2012 12:43:30	VHD image	Win2008x86	Windows Server R...	15,0 GB	192.168.0.208	
BaseImage_9		27-08-2012 19:40:11	VHD image	L_Serv	Windows Server 20...	15,0 GB	192.168.0.169	
BaseImage_10		28-08-2012 10:52:54	VHD image	L_Serv	Windows Server 20...	15,0 GB	192.168.0.169	
BaseImage_11		28-08-2012 12:40:14	VHD image	L_DC	Windows Server 20...	15,0 GB	192.168.0.169	
BaseImage_12		28-08-2012 01:38:57	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	
BaseImage_13		28-08-2012 05:46:00	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	
BaseImage_14		28-08-2012 10:09:53	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	
BaseImage_15		28-08-2012 11:45:45	VHD image	L_DC	Windows Server 20...	8,0 GB	169.254.232.78	


Backup Server	Hypervisor Name	Task	Task Frequency	VM Name	VM Size	Last Run Time	Last Finish Time	Next Run Time	Progress
192.168.0.247	MAX	Backup(Base)	Periodical	L_DC	15,0 GB	28-08-2012 13:21	28-08-2012 13:20	28-08-2012 14:41	31 %
192.168.0.247	MAX	Backup(Increment)	Periodical	Win2008x86	15,0 GB	28-08-2012 12:43	28-08-2012 13:33	28-08-2012 13:53	
192.168.0.247	MAX	Restore	Once	Windows7_x86	15,0 GB	28-08-2012 13:22	-	-	55 %
192.168.0.247	MAX	Restore	Once	Windows7_x86(done)	15,0 GB	28-08-2012 13:35	-	-	52 %

3. Click **OK** to proceed the testing.



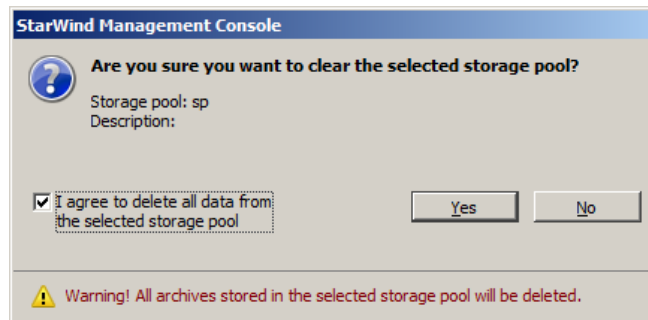
Actions that can be performed on a Storage pool

All VM archives are sent to a storage pool where they are stored.

- Use the following link to view how to [create and configure a storage pool](#) .

To delete all archives stored in a storage pool:

1. Expand **Backup** on the Console tree.
2. Expand **Backup Servers** on the Console tree.
3. Click **Storage Pools**. Your storage pool appears on the **Storage Pools** tab in the Main area.
4. Right-click the storage pool that you need to clear, and select **Clear** from the shortcut menu.
5. The following message appears.



6. Select the checkbox to confirm that you are ready to clear the storage pool.
7. Click **Yes** to complete the operation. The system will delete all archives from the storage pool.

StarWind Management Console Interface

Understanding Current Tasks Tab

When the **Backup** item is expanded in the Console tree, you can monitor the processes taking place using the **Current Tasks** tab. Each activity is displayed in the table that contains:

- **Hypervisor Name**- Shows the hypervisor name
- **Task** Shows the task: Backup (Incremental or Base), or Restore.
- **Task Frequency** - Shows how frequently backup is performed (Once, Daily, Weekly, Custom). For the restore operation it is always Once.
- **VM Name** – Shows the name of a virtual machine that is being involved in the process.
- **VM Size** - Shows the size of a VM involved in the process.
- **Last Run Time** – If backup schedule is set to Daily, Weekly, or Custom, this field shows when the periodical backup was started the last time.
- **Last Finish Time** – If backup schedule is set to Daily, Weekly, or Custom, this field shows when the periodical backup was finished the last time.
- **Next Run Time** – If backup schedule is set to Daily or Weekly, or Custom, this field shows when the next periodical backup will be performed.
- **Progress** – Displays the progress bar showing how backup or restore process is progressing

Backup Server	Hypervisor Name	Task	Task Frequency	VM Name	VM Size	Last Run Time	Last Finish Time	Next Run Time	Progress
192.168.0.247	MAX	Backup(Base)	Periodical	L_DC	15,0 GB	28-08-2012 13:21	28-08-2012 13:20	28-08-2012 14:41	<div style="width: 33%;"></div> 33 %
192.168.0.247	MAX	Backup(Increment)	Periodical	Win2008x86	15,0 GB	28-08-2012 12:43	28-08-2012 13:33	28-08-2012 13:53	<div style="width: 57%;"></div> 57 %
192.168.0.247	MAX	Restore	Once	Windows7_x86	15,0 GB	28-08-2012 13:22	-	-	<div style="width: 59%;"></div> 59 %
192.168.0.247	MAX	Restore	Once	Windows7_x86(clone)	15,0 GB	28-08-2012 13:35	-	-	<div style="width: 59%;"></div> 59 %

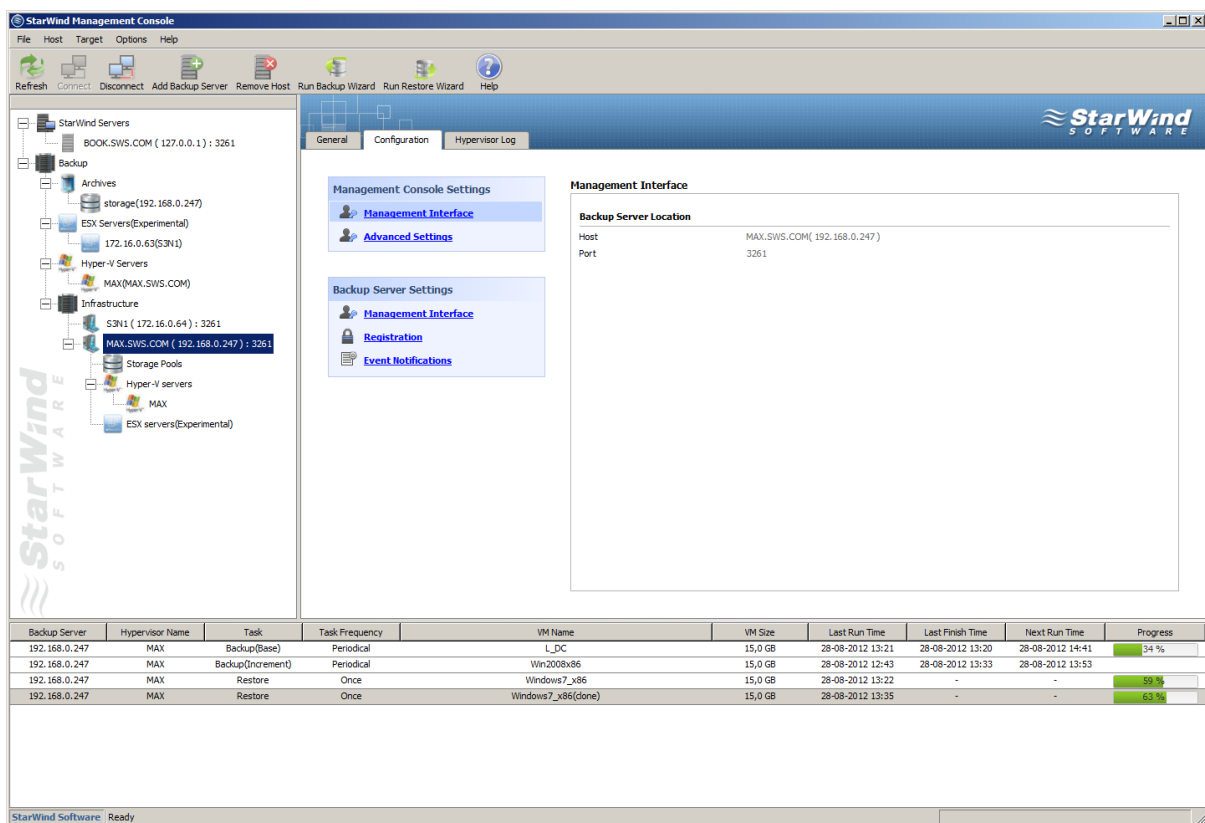
Using the Configuration Tab

The **Configuration** tab appears on the Main area when you expand the **Backup** item in the Console tree, and select one of the Backup Servers.

The **Configuration** tab contains **Management Console Settings** and **Backup Server Settings**.

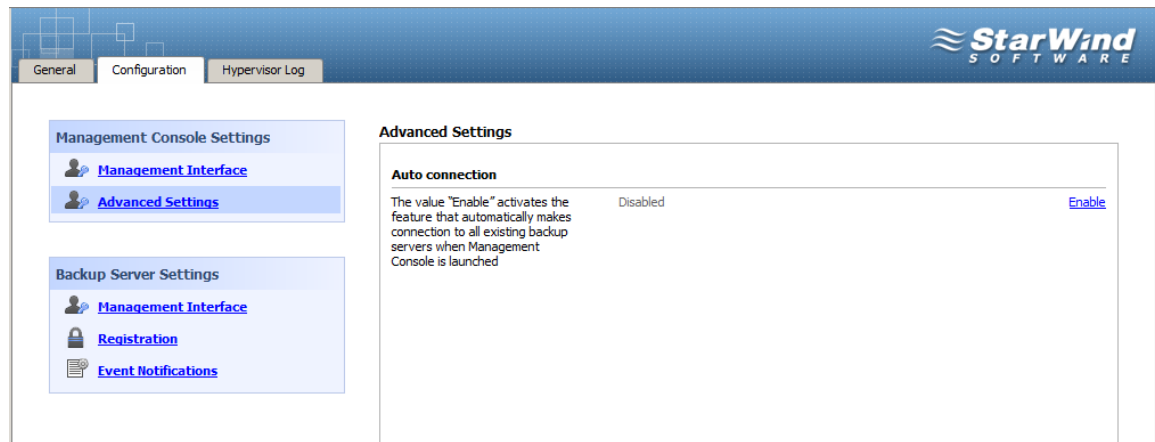
Management Console Settings allows configuring:

- **Management Interface:**
 - **Backup Server Location** - Shows IP-address and port number of the backup server.



Backup Server	Hypervisor Name	Task	Task Frequency	VM Name	VM Size	Last Run Time	Last Finish Time	Next Run Time	Progress
192.168.0.247	MAX	Backup(Base)	Periodical	L_DC	15,0 GB	28-08-2012 13:21	28-08-2012 13:20	28-08-2012 14:41	34 %
192.168.0.247	MAX	Backup(Increment)	Periodical	Win2008x86	15,0 GB	28-08-2012 12:43	28-08-2012 13:33	28-08-2012 13:53	
192.168.0.247	MAX	Restore	Once	Windows7_x86	15,0 GB	28-08-2012 13:22	-	-	59 %
192.168.0.247	MAX	Restore	Once	Windows7_x86(done)	15,0 GB	28-08-2012 13:35	-	-	63 %

- **Advanced Settings** - The value “Enable” activates the feature that automatically makes connection to all existing backup servers when the Management Console is launched.



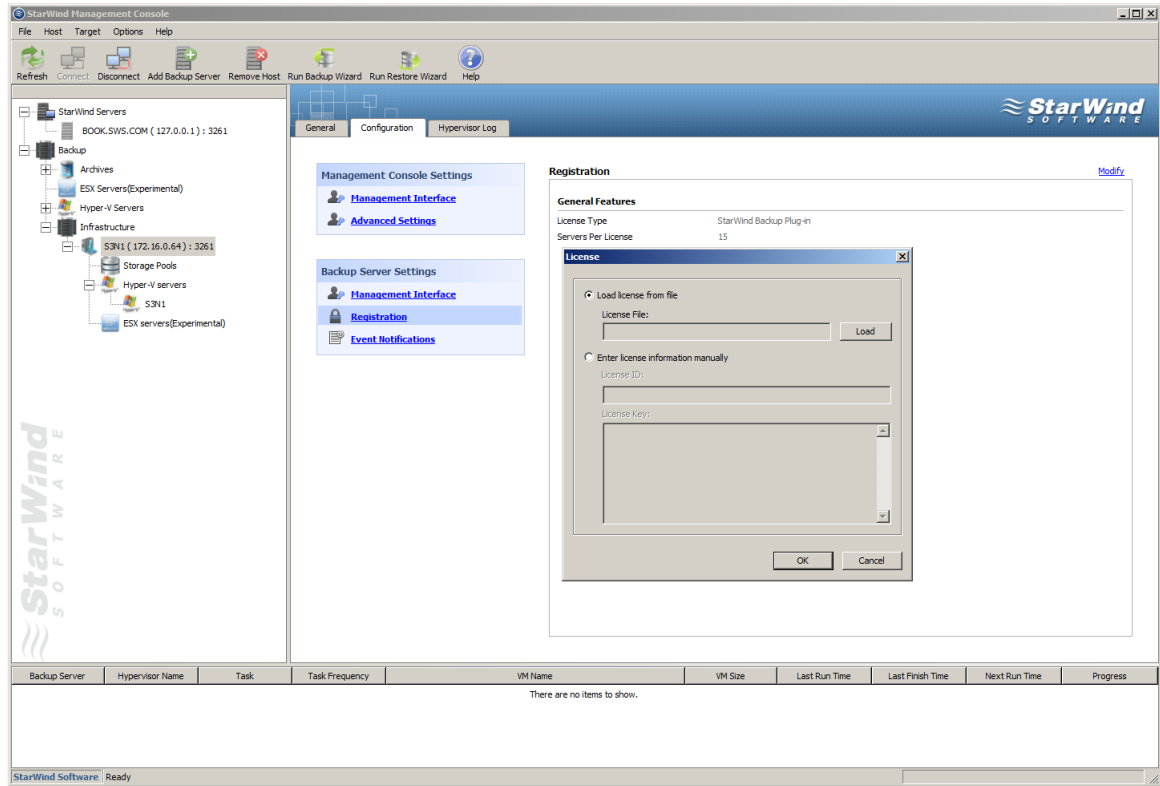
Backup Server Settings allows configuring:

- **Management Interface**
 - **Authentication Parameters** - Allows changing the existing authentication parameters for accessing a backup server. Click **Modify** to change Username and Password.

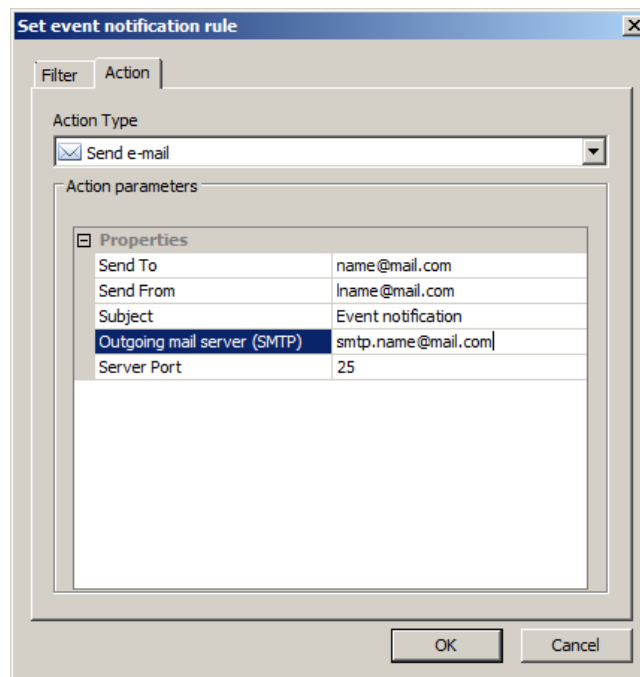


- **Registration** – Allows you to register your license. Click the **Modify** item on the **Configuration** tab to enter a license. The **License** dialog box appears. Download the Backup license file by clicking the **Load** button or enter the license information manually.

View [Licensing and Registration](#) ¹⁸ to get all details on this process.



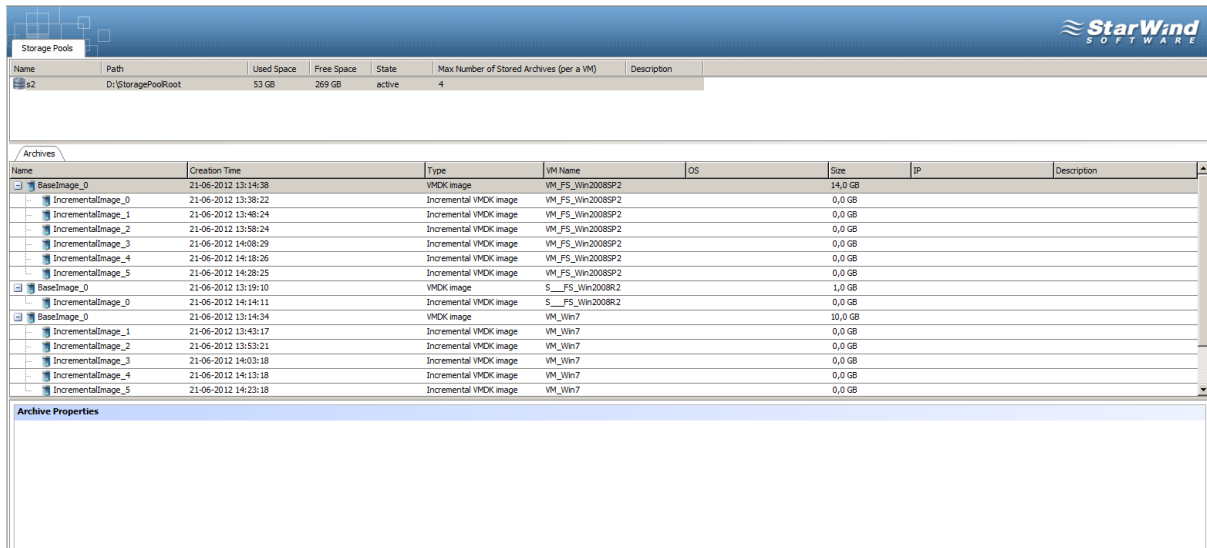
- Event Notification** – Allows you to set an email notification about errors or any other events on the server. Click the **Modify** item on the **Configuration** tab. In the **Set event notification rule** dialog specify notification parameters, and click **OK**.



Understanding the Storage Pool List Tab

The **Storage Pools** tab appears when you select the **Storage Pools** item on the Console tree. It allows to view all existing storage pools with all archives that they contain.

 **Note:** The current version of VMware Backup Plug-in allows creation of one storage pool.



The screenshot shows the StarWind interface with the 'Storage Pools' tab selected. Below the header, there is a table for storage pools and an 'Archives' section with a detailed table of backup archives.

Name	Path	Used Space	Free Space	State	Max Number of Stored Archives (per a VM)	Description
s2	D:\StoragePoolRoot	53 GB	269 GB	active	4	

Name	Creation Time	Type	VM Name	OS	Size	IP	Description
BaseImage_0	21-06-2012 13:14:38	VMK image	VM_FS_Win2008SP2		14,0 GB		
IncrementalImage_0	21-06-2012 13:38:22	Incremental VMK image	VM_FS_Win2008SP2		0,0 GB		
IncrementalImage_1	21-06-2012 13:48:24	Incremental VMK image	VM_FS_Win2008SP2		0,0 GB		
IncrementalImage_2	21-06-2012 13:58:24	Incremental VMK image	VM_FS_Win2008SP2		0,0 GB		
IncrementalImage_3	21-06-2012 14:08:29	Incremental VMK image	VM_FS_Win2008SP2		0,0 GB		
IncrementalImage_4	21-06-2012 14:18:26	Incremental VMK image	VM_FS_Win2008SP2		0,0 GB		
IncrementalImage_5	21-06-2012 14:28:25	Incremental VMK image	VM_FS_Win2008SP2		0,0 GB		
BaseImage_0	21-06-2012 13:19:10	VMK image	S__FS_Win2008R2		1,0 GB		
IncrementalImage_0	21-06-2012 14:14:11	Incremental VMK image	S__FS_Win2008R2		0,0 GB		
BaseImage_0	21-06-2012 13:14:34	VMK image	VM_Win7		10,0 GB		
IncrementalImage_1	21-06-2012 13:43:17	Incremental VMK image	VM_Win7		0,0 GB		
IncrementalImage_2	21-06-2012 13:53:21	Incremental VMK image	VM_Win7		0,0 GB		
IncrementalImage_3	21-06-2012 14:03:18	Incremental VMK image	VM_Win7		0,0 GB		
IncrementalImage_4	21-06-2012 14:13:18	Incremental VMK image	VM_Win7		0,0 GB		
IncrementalImage_5	21-06-2012 14:23:18	Incremental VMK image	VM_Win7		0,0 GB		

The **Storage Pools** tab displays the following information:

- **Name** – Shows a storage pool name
- **Path** – Shows location when a storage pool is stored
- **Used Space** - Shows how much storage space is currently occupied by the stored data
- **State** - The state Active indicates that the storage pool has been configured and is available for storing of backups. The state Not valid indicates that there are no configured storage pools.
- **Max Number of Stored Archives** – Shows the maximal number of archives (per virtual machine) that will be stored. This value is specified at the stage of a storage pool creation. When the number of archives exceeds the specified value, they are automatically deleted from the storage pool.
- **Description** – Shows the storage pool description.

The **Archives** tab provides the list of all archives stored in a storage pool and allows to view the details of virtual machine(s) backed up in an archive:

- **Name** – Shows the archive's name
- **Creation Time** – Shows the date and time when an archive was created
- **Type** – Shows the format of archive file.
- **VM Name** – Shows a name of VM that was backed up in an archive
- **OS** – Shows an operating system running on a VM
- **Size** - Shows the size of the archive
- **IP** – Shows IP-address of a virtual machine
- **Description** – Shows a VM description

The **Archive Properties** section displays the detailed properties of a selected archive.

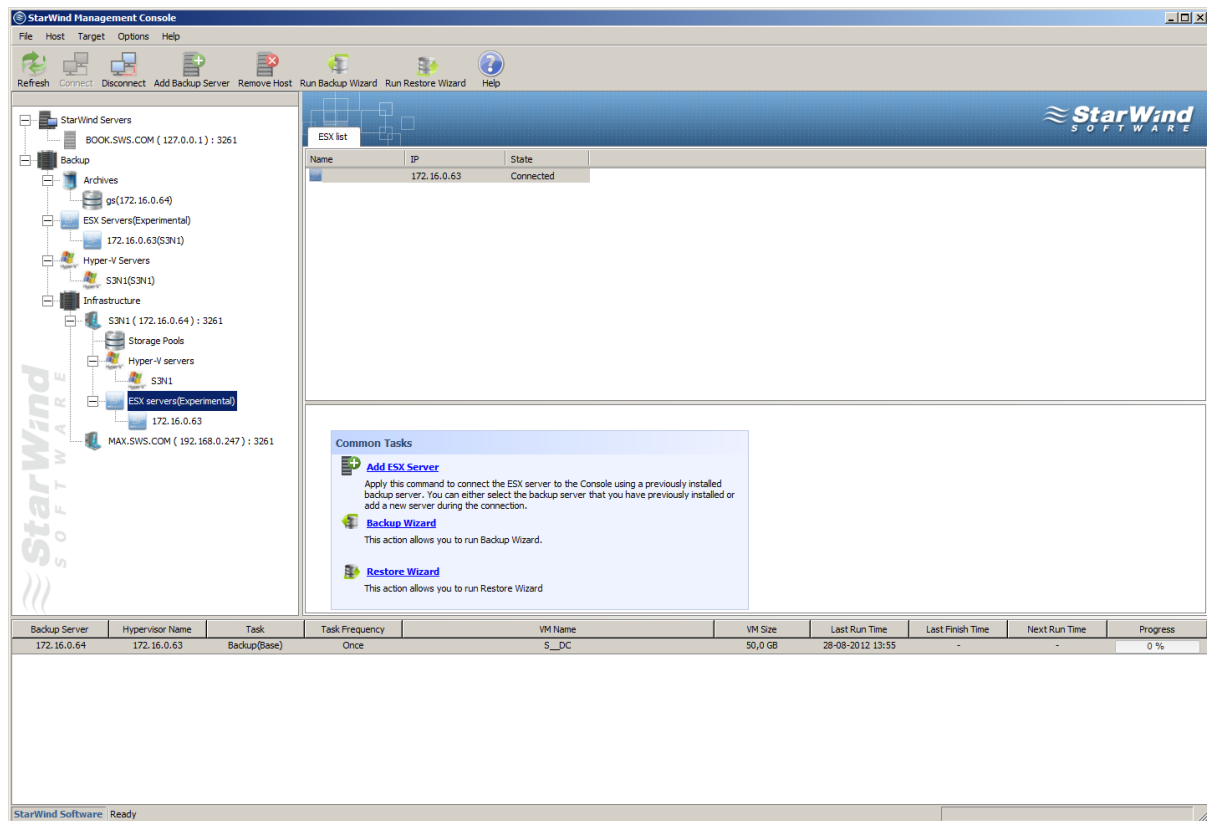
Archive Properties	
Name:	BaseImage_0
File path:	D:\StoragePoolRoot\node_1_VM2\BaseImage_0\Config.vmx
Creation time:	08-06-2012 10:46:18
Last write time:	08-06-2012 11:15:39
Size in MB:	15360
Type:	VMDK image
Description:	

Understanding the ESX List Tab

The **ESX list** tab appears when you select the **ESX Servers** item on the Console tree.

The tab displays all ESX hosts and their details:

- **Name** – Shows a name of the selected ESX server
- **IP** – Shows IP-address of the selected ESX server
- **State** – Shows a state of the selected ESX server. It can be Connected or Disconnected.



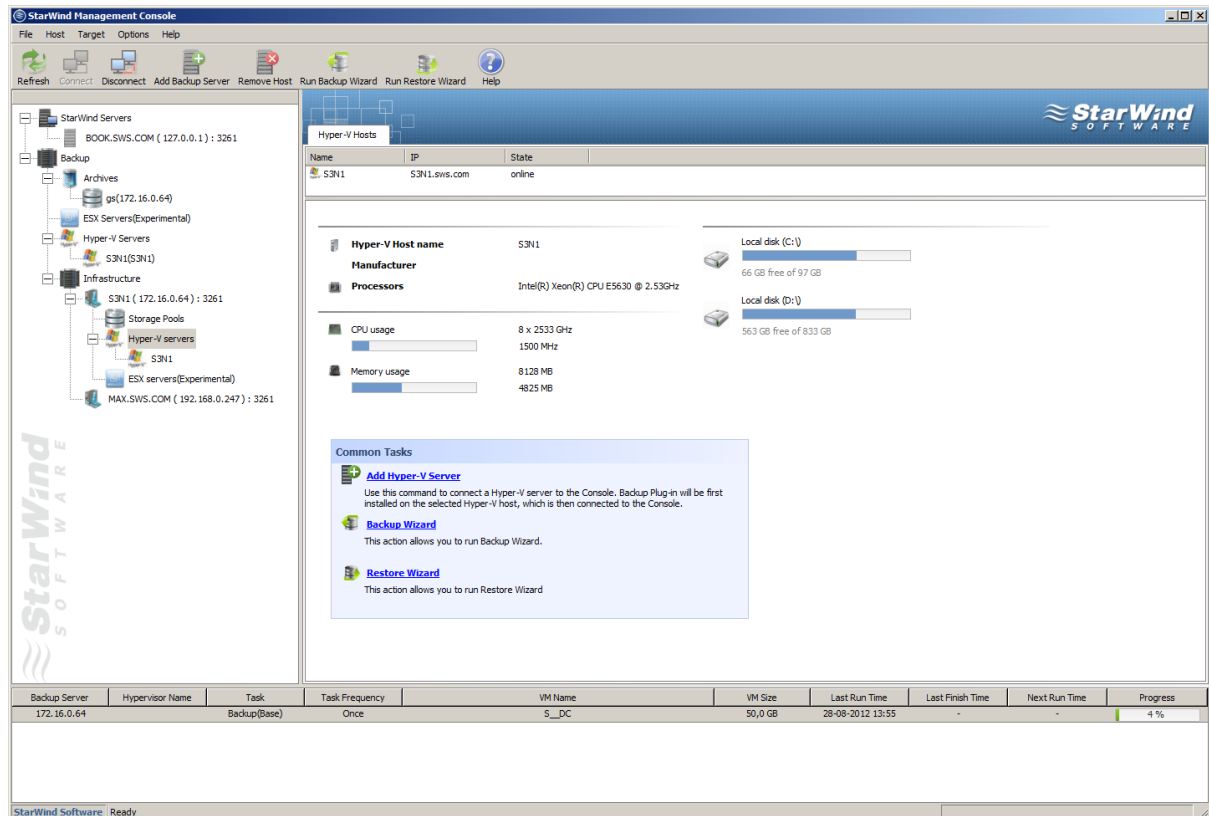
Backup Server	Hypervisor Name	Task	Task Frequency	VM Name	VM Size	Last Run Time	Last Finish Time	Next Run Time	Progress
172.16.0.64	172.16.0.63	Backup(Base)	Once	S_DC	50,0 GB	28-08-2012 13:55	-	-	0 %

Understanding the Hyper-V Hosts Tab

This tab appears when you select the **Hyper-V** servers item on the Console tree.

The upper area of the tab displays all Hyper-V hosts and their details:

- **Name** – Shows a name of a Hyper-V host
- **IP** – Shows IP address of a Hyper-V host
- **State** – Shows a state of a Hyper-V host. It can be **online** or **offline**.



The screenshot shows the StarWind Management Console interface. On the left is a tree view with 'Hyper-V Servers' selected. The main pane displays a table of Hyper-V hosts:

Name	IP	State
S3N1	S3N1.sws.com	online

Below the table, technical details for the selected host 'S3N1' are shown:

- Hyper-V Host name:** S3N1
- Manufacturer:** Intel(R) Xeon(R) CPU E5630 @ 2.53GHz
- Processors:** 8 x 2533 GHz
- CPU usage:** 1500 MHz
- Memory usage:** 8128 MB
- Local disk (C:):** 66 GB free of 97 GB
- Local disk (D:):** 563 GB free of 833 GB

A 'Common Tasks' section at the bottom provides links for 'Add Hyper-V Server', 'Backup Wizard', and 'Restore Wizard'.

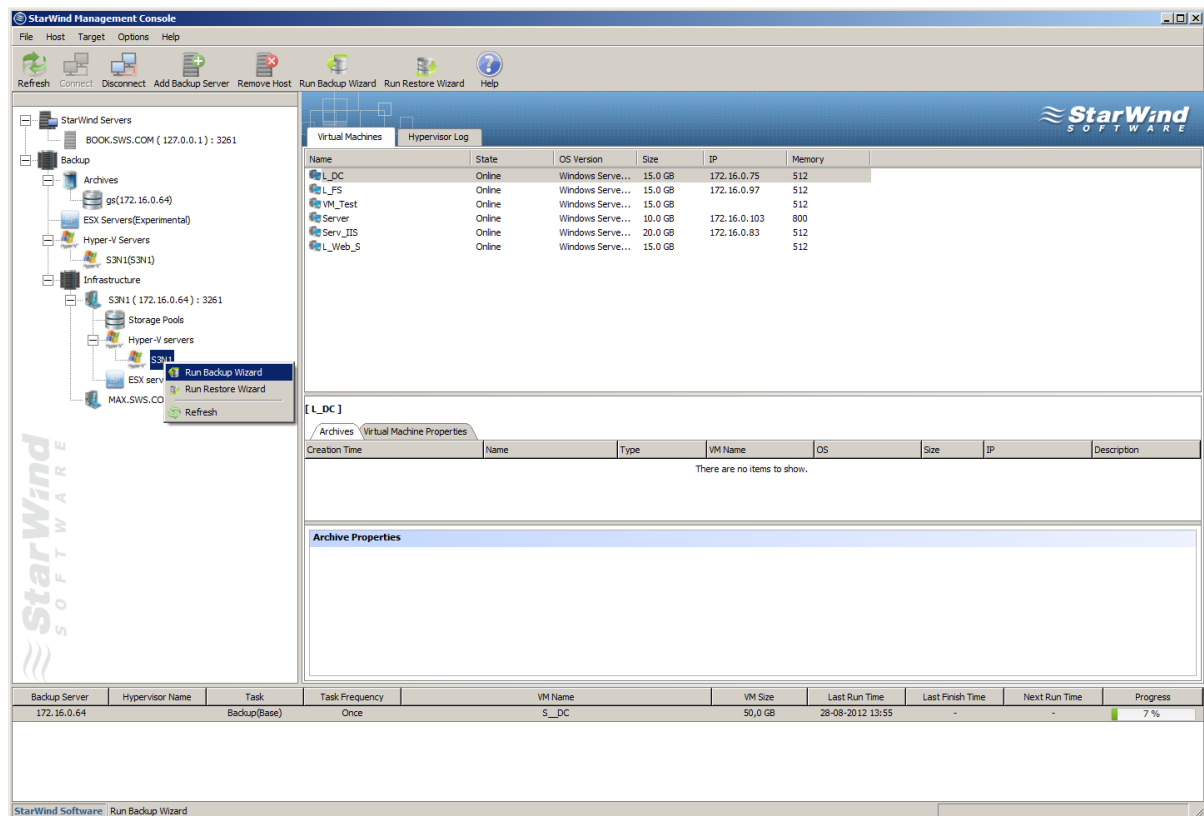
The bottom area of the **Hyper-V Hosts** tab displays the technical parameters of the Hyper-V server: processors, CPU and memory usage.

Understanding the Virtual Machines Tab

The **Virtual Machines** tab appears on the Main area when any server is selected on the Console tree.

The tab displays the list of virtual machines located on a selected host:

- **Name** – Shows a VM name
- **State** – Shows a VM state. Depending on the action performed on a virtual machine, its state may be Online and Offline
- **OS Version** – Shows operating system running on a virtual machine
- **Size** – Shows the size of the VM
- **IP** – Shows an IP-address of a virtual machine
- **Memory** – Shows RAM capacity of a virtual machine



The **Archives** tab displays all archives of a virtual machine that is currently selected in the VM list, and archive properties. The **Archive properties** are the same on **Storage Pool** and **Virtual Machines** tabs.

The **Virtual Machine Properties** tab displays the properties of a selected virtual machine.

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