

StarWind x Veeam Hardened Backup Repository: Configuration Guide for VMware vSphere [ESXi], StarWind x Veeam Hardened Backup Repository Deployed as a Controller VM using Web UI

2026

TECHNICAL PAPERS



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Annotation

Relevant products

StarWind x Veeam Hardened Backup Repository (StarWind x VHBR)

Purpose

StarWind x Veeam Hardened Backup Repository (StarWind x VHBR) is a software solution that runs as a Virtual Machine on top of the VMware vSphere host and turns it into a modern and robust backup repository.

This document outlines how to configure the StarWind x Veeam Hardened Backup Repository on VMware vSphere host. It covers the steps on how to create a Hardened Repository and connect it to Veeam Backup & Replication for achieving backups immutability.

Audience

This technical guide is intended for storage and virtualization architects, system and backup administrators, and partners designing virtualized environments StarWind x Veeam Hardened Backup Repository.

Expected result

The end result of following this guide will be a fully configured StarWind x Veeam Hardened Backup Repository on a VMware vSphere host with a Hardened Repository created and connected to Veeam Backup & Replication.

Prerequisites

StarWind x Veeam Hardened Backup Repository system requirements

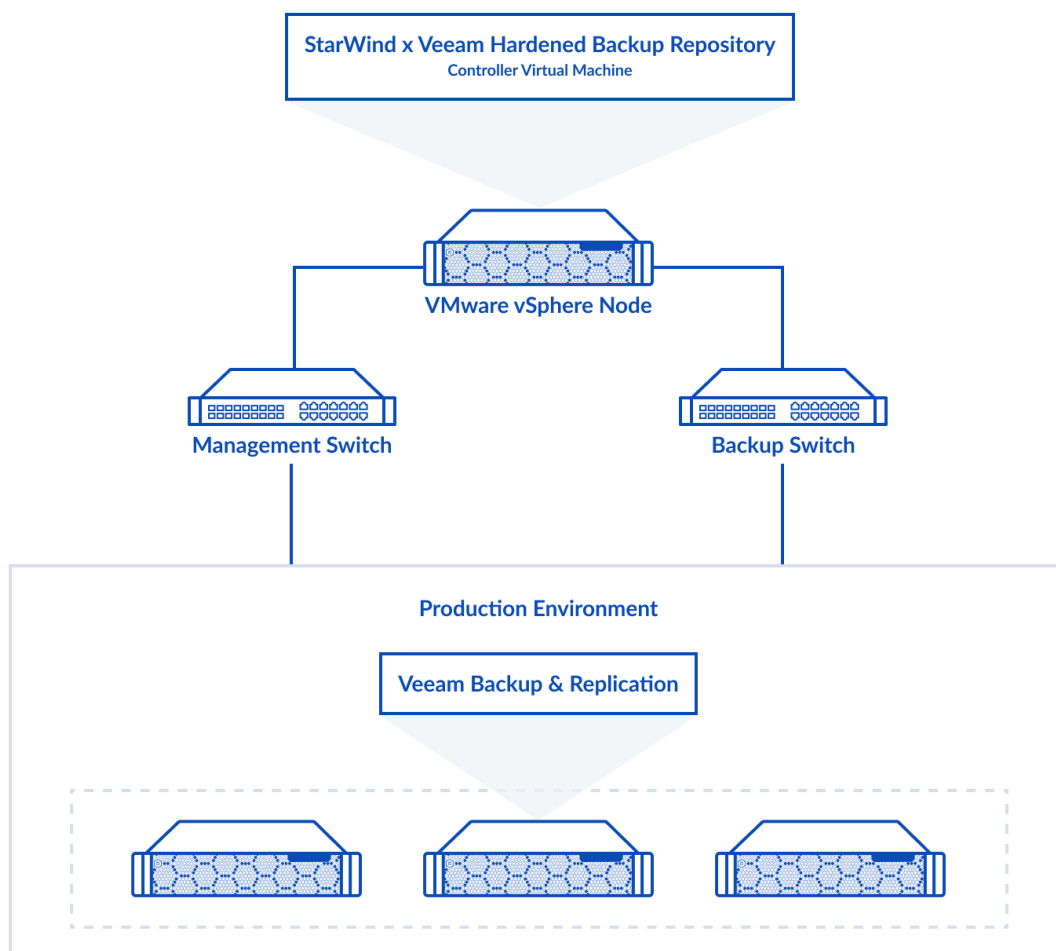
Prior to installing StarWind StarWind x Veeam Hardened Backup Repository, please make sure that the system meets the requirements, which are available via the following link: <https://www.starwindsoftware.com/system-requirements#svhbr>

Recommended RAID settings for HDD and SSD disks:

<https://knowledgebase.starwindsoftware.com/guidance/recommended-raid-settings-for-hdd-and-ssd-disks/>

Solution diagram

The diagrams below illustrate the network and storage configuration of the solution:



Preconfiguring VMware Vsphere Host

1. Using the VMware ESXi web console, create a standard vSwitch for Data (backup) traffic.

+ Add standard virtual switch - vSwitch-Data

Add uplink

vSwitch Name	vSwitch-Data	
MTU	9000	
Uplink 1	vmnic2 - Up, 100000 Mbps	X
> Link discovery	Click to expand	
> Security	Click to expand	

CANCEL ADD

2. Add a Virtual Machine Port Group on the vSwitch for Data (backup) traffic.

+ Add port group - Data

Name	Data
VLAN ID	0
Virtual switch	vSwitch-Data
> Security	Click to expand

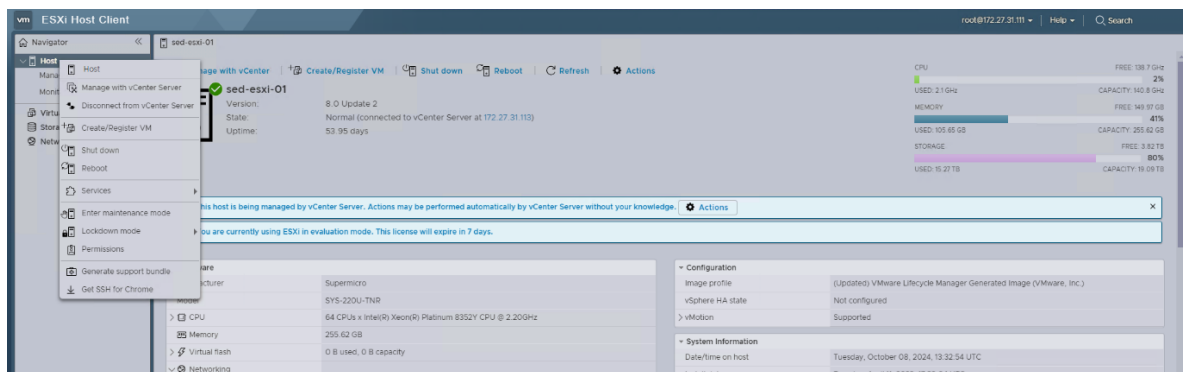
CANCEL ADD

Deploying Starwind X Veeam Hardened Backup Repository

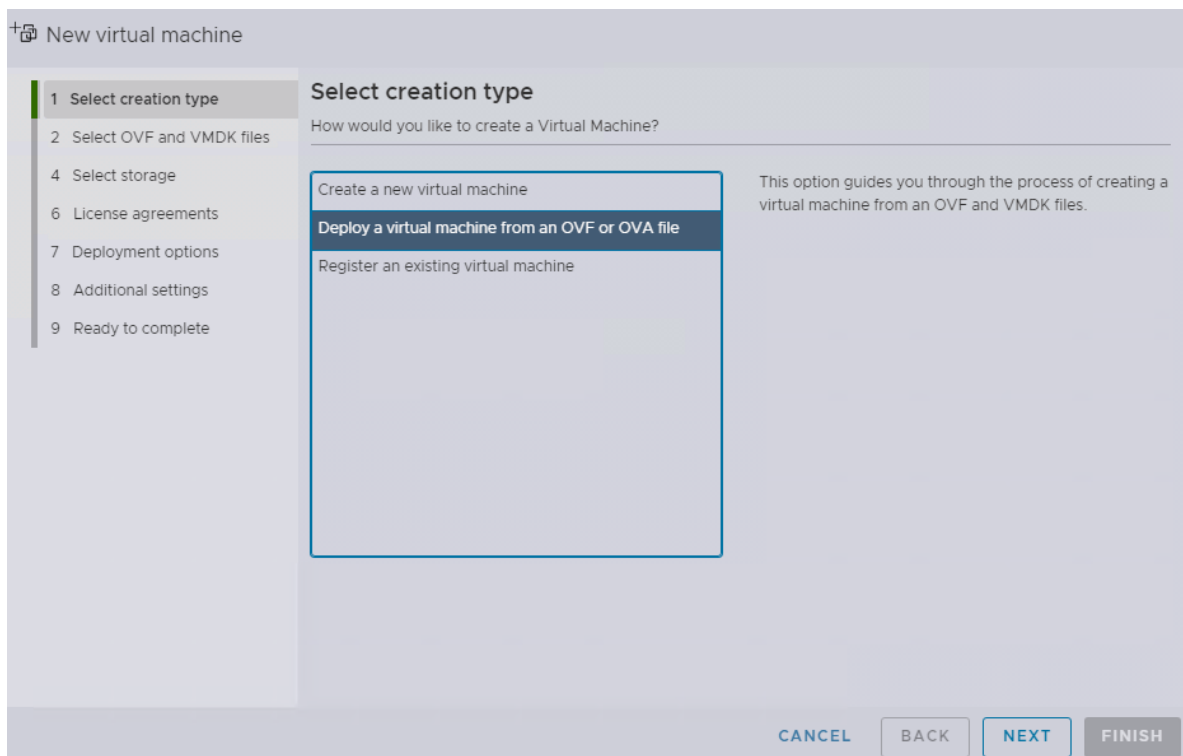
1. Download StarWind x Veeam Hardened Backup Repository zip archive: <https://www.starwindsoftware.com/resource-library/veeam-hardened-backup-repository/#download>

2. Extract the virtual machine files.

3. Deploy the controller virtual machine to the VMware vSphere. Right-click on the Host and select the “Create/Register VM” option from a drop-down menu.



4. In the first step of the wizard, Select “Deploy a virtual machine from OF or OVA file” and click Next.



5. Specify the VM name and select the extracted VM files. Click Next.

New virtual machine - SW-VHR

- 1 Select creation type
- 2 Select OVF and VMDK files
- 3 Select storage
- 4 Select storage
- 5 License agreements
- 6 License agreements
- 7 Deployment options
- 8 Additional settings
- 9 Ready to complete

Select OVF and VMDK files

Select the OVF and VMDK files or OVA for the VM you would like to deploy

Enter a name for the virtual machine.

SW-VHR

Virtual machine names can contain up to 80 characters and they must be unique within each ESXi instance.

Click to select files or drag/drop

CVM-1.nvram

CANCEL BACK NEXT FINISH

6. Select the storage type and Datastore for the VM system drive and click Next.

New virtual machine - SW-VHR

- 1 Select creation type
- 2 Select OVF and VMDK files
- 3 Select storage
- 4 Select storage
- 5 License agreements
- 6 License agreements
- 7 Deployment options
- 8 Additional settings
- 9 Ready to complete

Select storage

Select the storage type and datastore

Standard Persistent Memory

Select a datastore for the virtual machine's configuration files and all of its virtual disks.

Name	Capacity	Free	Type	Thin provision	Access
Datastore	13.84 TB	3.58 TB	VMFS6	Supported	Single
datastore1	95 GB	93.59 GB	VMFS6	Supported	Single
DS-03	745 GB	743.58 GB	VMFS6	Supported	Single
DS-04	745 GB	743.58 GB	VMFS6	Supported	Single
DS-NVME01	1.46 TB	1.42 TB	VMFS6	Supported	Single
DS-NVME02	1.46 TB	454.73 GB	VMFS6	Supported	Single

6 items

CANCEL BACK NEXT FINISH

7. Select the destination network for each network adapter assigned to the VM. Specify corresponding network connections according to your virtual network naming. Click Next.

NOTE: Replication Network is not required for StarWind x Veeam Hardened Backup Repository. You can select the same Data (backup) traffic network for it and remove after the installation.

New virtual machine - SW-VHR

1 Select creation type
2 Select OVF and VMDK files
4 Select storage
7 **Deployment options**
8 Additional settings
9 Ready to complete

Deployment options
Select deployment options

Network mappings

Management Network
VM Network

Data Network
Data

Replication Network
Data

Disk provisioning
☒ Thin ☐ Thick

Power on automatically
☒

CANCEL BACK NEXT FINISH

8. Specify the static IPv4 address, gateway, DNS, and additional network settings for Management network interface. Check the “Enable SSH” checkbox. Click Next.

NOTE: if a DHCP server is available on the given network, you can skip setting the additional parameters for that interface.

New virtual machine - SW-VHR

- Select creation type
- Select OVF and VMDK files
- Select storage
- Deployment options
- Additional settings
- Ready to complete

Additional settings

Additional properties for the VM

Management interface network settings		
IPv4 address for Management interface	172.27.31.64	i
IPv4 netmask for Management interface	255.255.255.0	i
IPv4 gateway for Management interface	172.27.31.10	i
DNS Server for Management interface	172.27.31.1	i
Enable additional services		
Enable SSH	☒	i

CANCEL BACK NEXT FINISH

9. Review the deployment summary information and click Finish to start the VM creation.

New virtual machine - SW-VHR

- Select creation type
- Select OVF and VMDK files
- Select storage
- Deployment options
- Additional settings
- Ready to complete

Ready to complete

Review your settings selection before finishing the wizard

Product	StarWind Appliance
VM Name	SW-VHR
Files	CVM-0.vmdk CVM-1.nvram
Datastore	Datastore
Provisioning type	Thin
Network mappings	Management Network: VM Network, Data Network: Data, Replication Network: Data
Guest OS Name	Ubuntu Linux (64-bit)
> Properties	Click to expand

 Do not refresh your browser while this VM is being deployed.

CANCEL BACK NEXT FINISH

Initial Configuration Wizard

1. Start StarWind x Veeam Hardened Backup Repository VM.
2. Launch VM console to see the VM boot process and get the IPv4 address of the Management network interface.

NOTE: in case VM has no IPv4 address obtained from a DHCP server, use the Text-based User Interface (TUI) to set up a Management network.

Default credentials for TUI: user/rds123RDS

3. Using the web browser, open a new tab and enter the VM IPv4 address to open Web Interface. Click “Advanced” and then “Continue to...”



Your connection is not private

Attackers might be trying to steal your information from **172.27.31.149** (for example, passwords, messages, or credit cards). [Learn more](#)

NET::ERR_CERT_AUTHORITY_INVALID

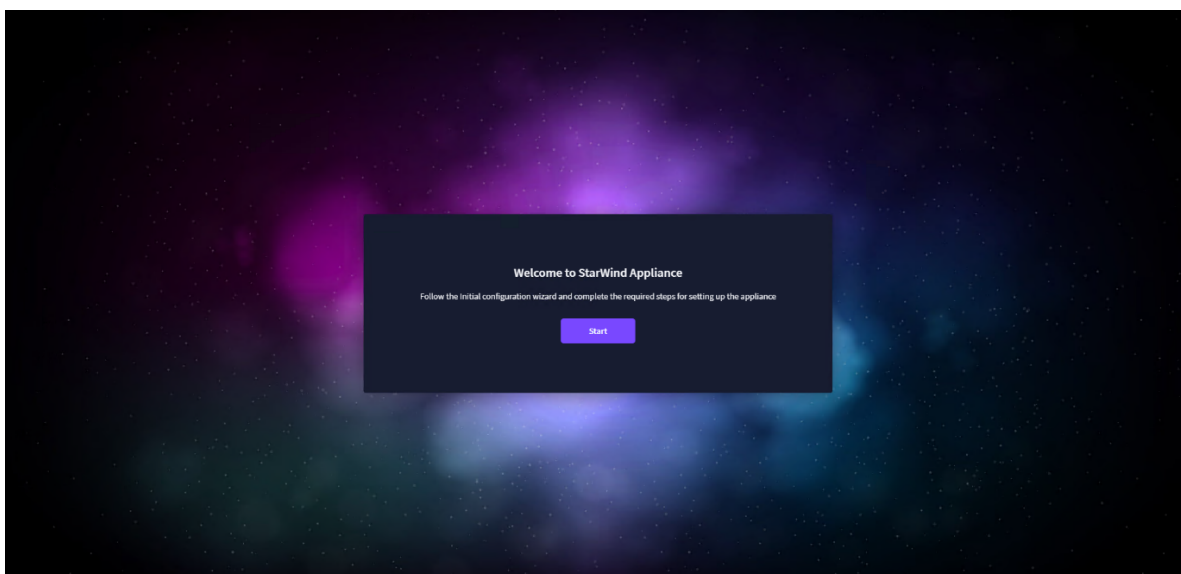


Turn on enhanced protection to get Chrome's highest level of security

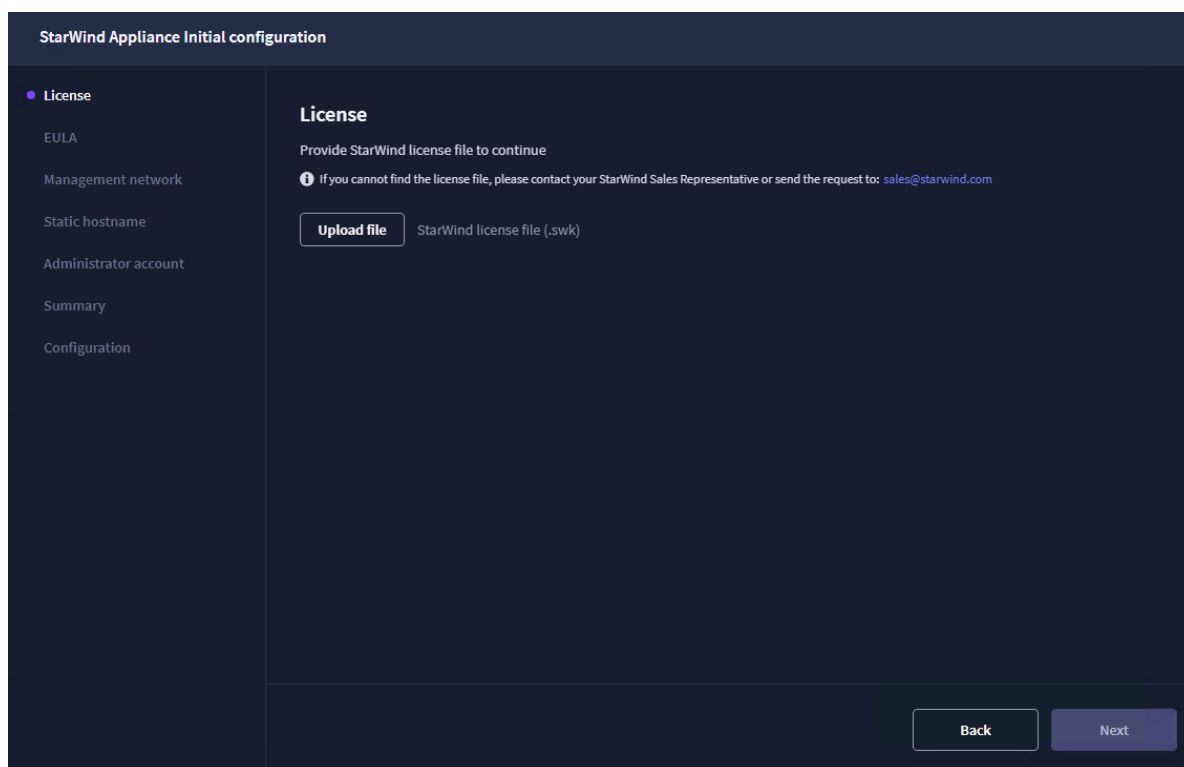
Advanced

Back to safety

4. StarWind x Veeam Hardened Backup Repository web UI welcomes you, and the “Initial Configuration” wizard will guide you through the deployment process.



5. In the following step, upload the license file.



6. Read and accept the End User License Agreement to proceed.

StarWind Appliance Initial configuration

License

EULA

Management network

Static hostname

Administrator account

Summary

Configuration

End-user license agreement

Review and accept the following license agreement to continue

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1. Definitions. Each of the expressions indicated below will have, in this Agreement, the meaning assigned to it, namely:

1.1. "Account Manager" shall mean the point of contact provided by StarWind to manage Licensee's account and support requests and identified as the Account Manager. StarWind may change the Account Manager in its sole discretion by giving

☒ I accept the terms of the license agreement

Back

Next

7. Review or edit the Network settings and click Next.

NOTE: Static network settings are recommended for the configuration.

StarWind Appliance Initial configuration

License

EULA

Management network

Static hostname

Administrator account

Summary

Configuration

Management network

Specify the unique IP address (static is recommended) and configure other network settings.

The Management network is used to communicate with services such as DNS and NTP and to access the appliance web UI from external clients.

IP mode

Static

NIC	Adapter model	Bandwidth	MAC address	IP address	Netmask	Gateway
enp7s18	VirtIO Ethernet Co...	10 Gbit	BC:24:11:69:9...	172.27.31.64	255.255.255.0	172.27.31.10

Name servers (optional):

DNS 1

172.27.31.1

DNS 2

8.8.8.8

Time settings (optional):

NTP server

Time zone

UTC

Separate servers with commas, a maximum of 3 servers

Back

Next

8. Specify the hostname for the virtual machine and click Next.

StarWind Appliance Initial configuration

License

EULA

Management network

Static hostname

Administrator account

Summary

Configuration

Static hostname

Set the current appliance hostname

Use Latin letters, numbers, and dash

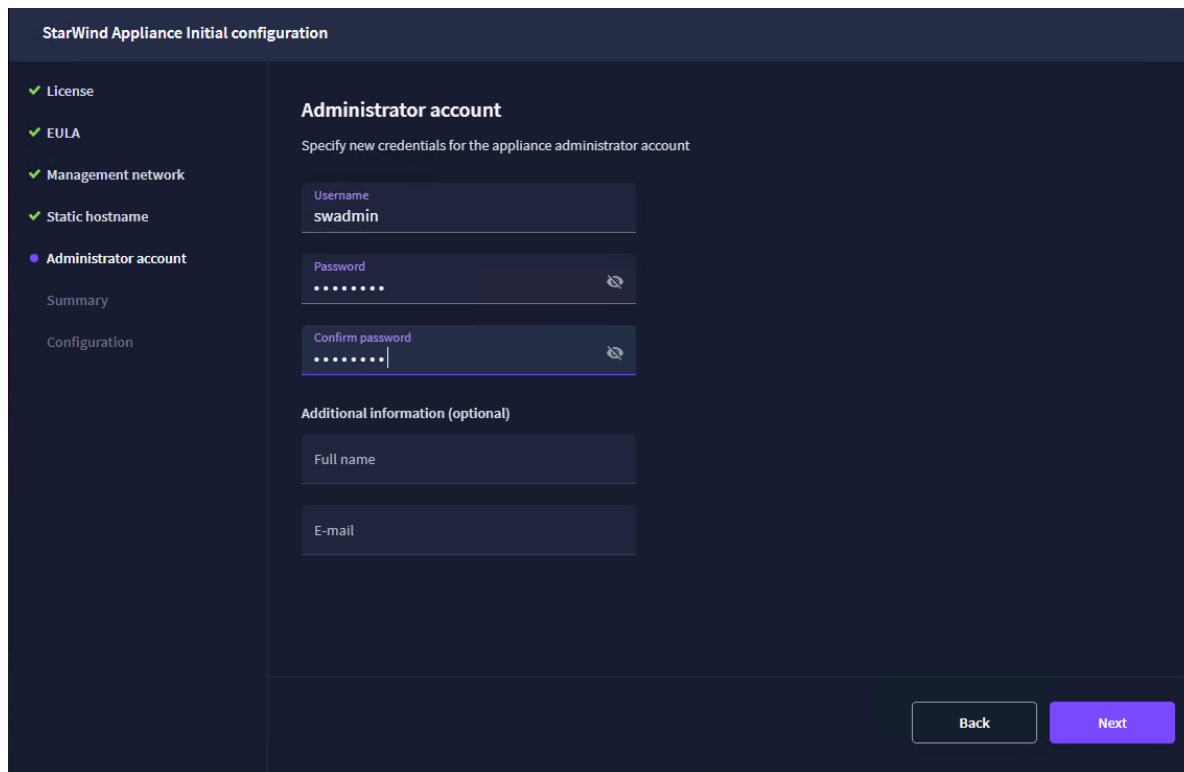
Hostname

SW-VHR

Back

Next

9. Create an administrator account. Click Next.



The screenshot shows the 'StarWind Appliance Initial configuration' window. On the left is a sidebar with a list of configuration steps: License, EULA, Management network, Static hostname, Administrator account (which is highlighted with a blue dot), Summary, and Configuration. The main area is titled 'Administrator account' and contains the instruction 'Specify new credentials for the appliance administrator account'. It features three input fields: 'Username' with the value 'swadmin', 'Password' (masked with dots), and 'Confirm password' (also masked with dots). Below these are two optional fields: 'Full name' and 'E-mail'. At the bottom right of the main area are two buttons: 'Back' and 'Next'.

10. Review your settings selection before setting up StarWind x Veeam Hardened Backup Repository.

StarWind Appliance Initial configuration

✓ License

✓ EULA

✓ Management network

✓ Static hostname

✓ Administrator account

● Summary

Configuration

Summary

License type

License

Trial

Network settings

Interface

ens160 (82574L Gigabit Network Connection)

Bandwidth

1 Gbit

MTU

1500

IP address

172.27.31.64

Appliance hostname

SW-VHR

Credentials

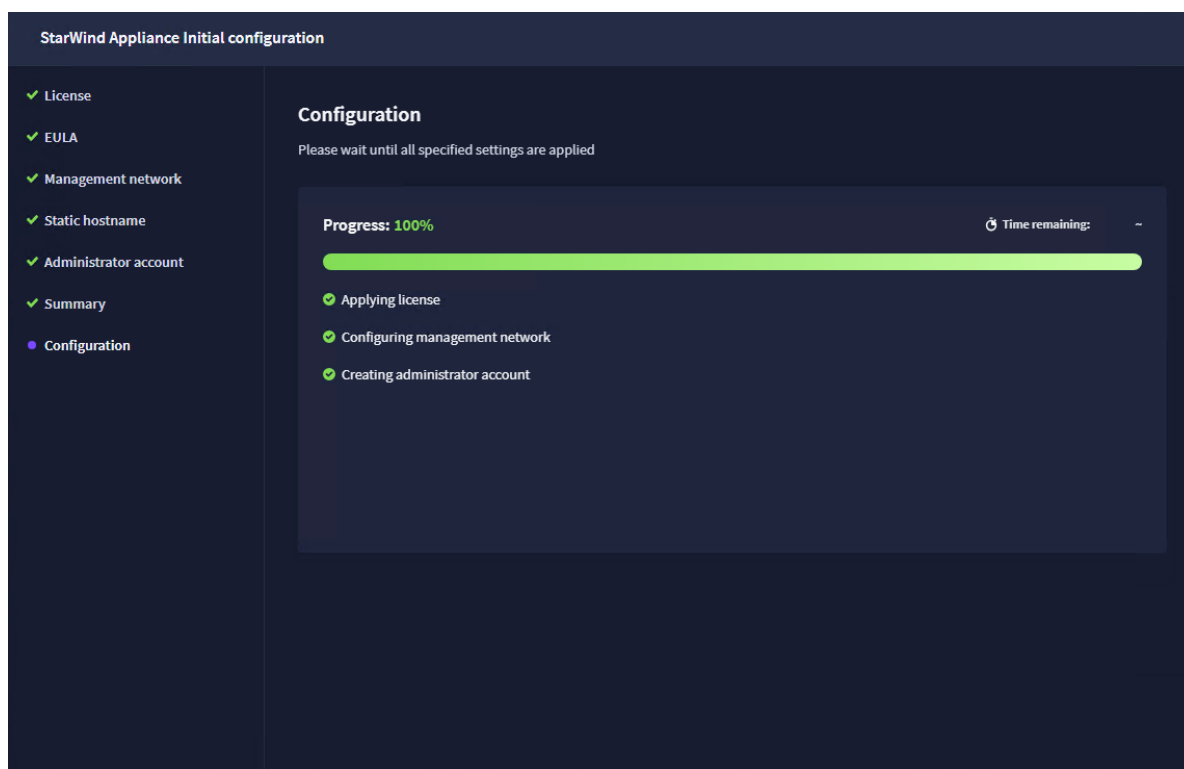
Administrator username

swadmin

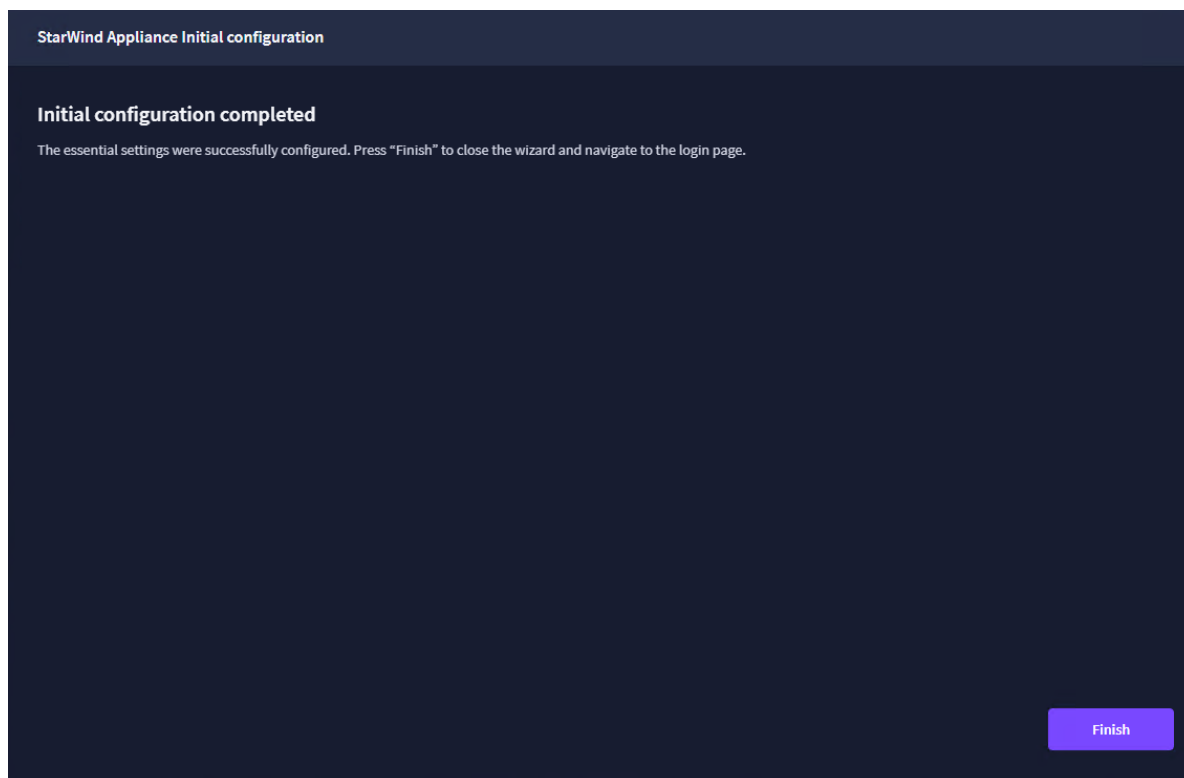
Back

Configure

11. Please standby until the Initial Configuration Wizard configures StarWind x Veeam Hardened Backup Repository for you.

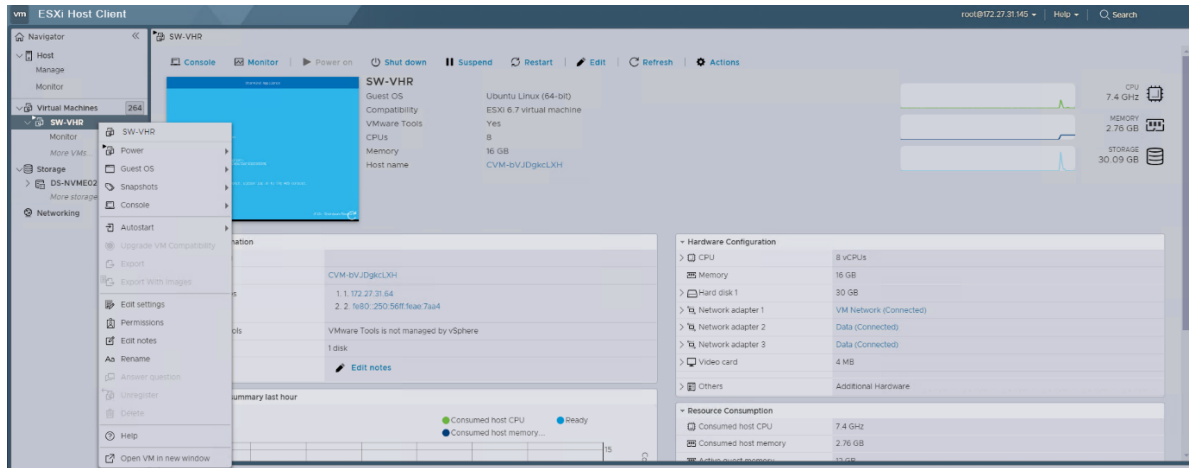


12. The appliance is set and ready. Click Finish to proceed to the Login page.

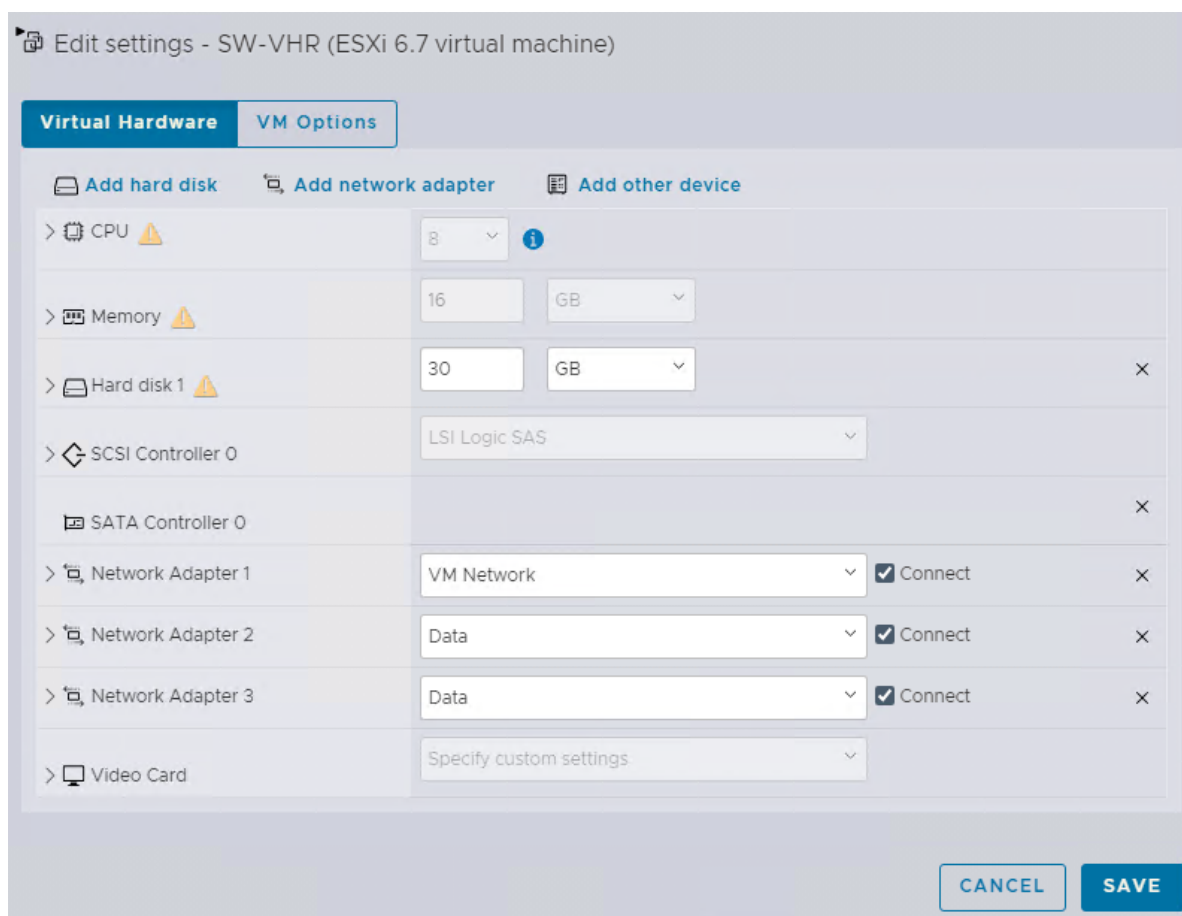


Configure Networking

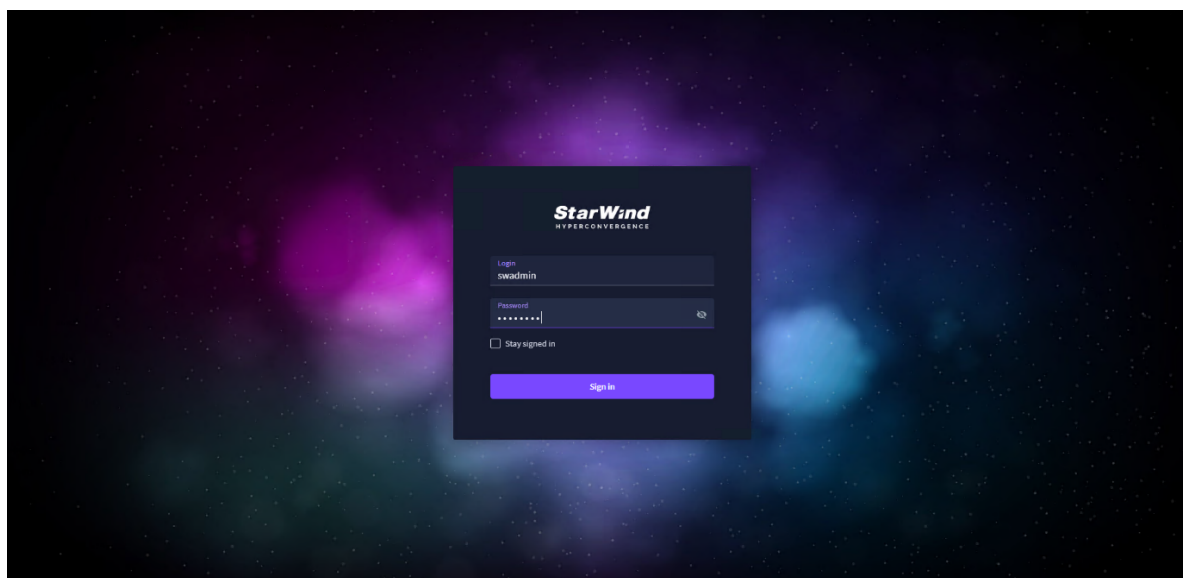
1. In ESXi WEB Console, select the recently created StarWind x Veeam Hardened Backup Repository VM, right-click it and Select “Edit settings”.



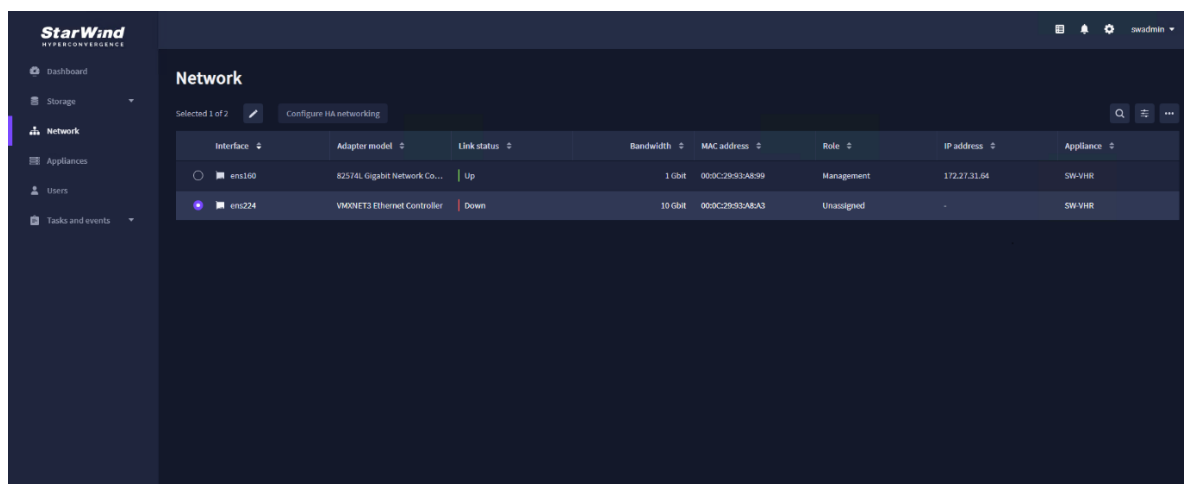
2. Remove the second Data network adapter and click Save.



3. Log in to the VM WEB UI using the username and password specified during the initial configuration.



4. Navigate to the Network tab, select the network adapter that will be used for Data (Backup) traffic, and click the Edit icon.



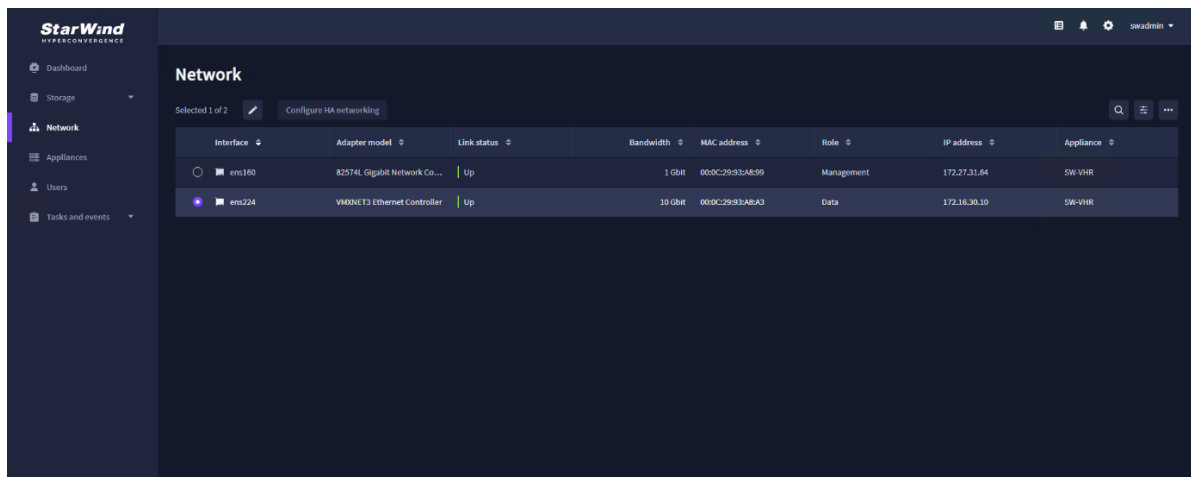
5. If the network adapter status is “Down”, uncheck the “Disable network adapter” checkbox. Make sure that the “Connect automatically on boot” checkbox is enabled and MTU is set to 9000 Assign the Data role to the network adapter, and specify the IPv4 address and network mask. Click Save.

Edit network adapter settings

×

Name ens224	Adapter model VMXNET3 Ethernet Controller
Role Data	IP mode Static
IPv4 address 172.16.30.10 e.g. 192.168.100.100	Netmask 255.255.255.0 e.g. 255.255.255.0 or CIDR notation (e.g. 24)
Gateway e.g. 192.168.100.1 or leave the settings empty	DNS Separate IP addresses with commas (,) or leave the settings empty
MTU 9000 The valid value in the range of 1500-9000	
☐ Disable network adapter ☒ Connect automatically on boot	
Cancel Save	

6. You should see the newly assigned “Data” role and IP address to the network adapter.



Add Physical Disks

Attach physical storage to StarWind x Veeam Hardened Backup Repository Controller VM:

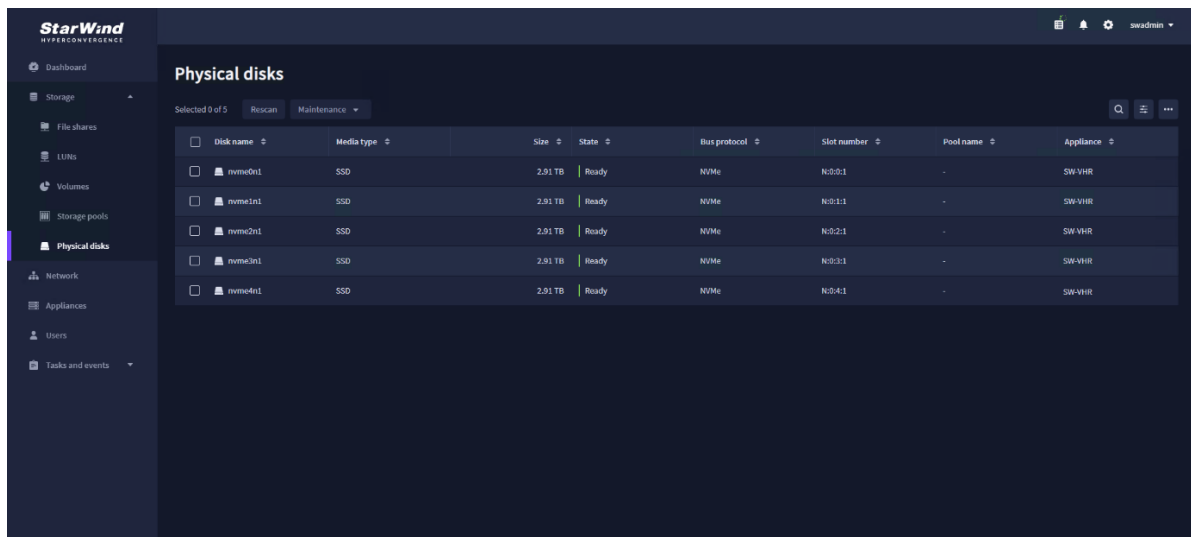
- Ensure that all physical drives are connected through an HBA or RAID controller.
- Add HBA, RAID controllers, or NVMe SSD drives to StarWind CVM via a passthrough device or add a virtual disk.

Learn more about storage provisioning guidelines in the [KB article](#).

NOTE. In this guide, NVMe drives are passed through to StarWind x Veeam Hardened Backup Repository CVM as an example.

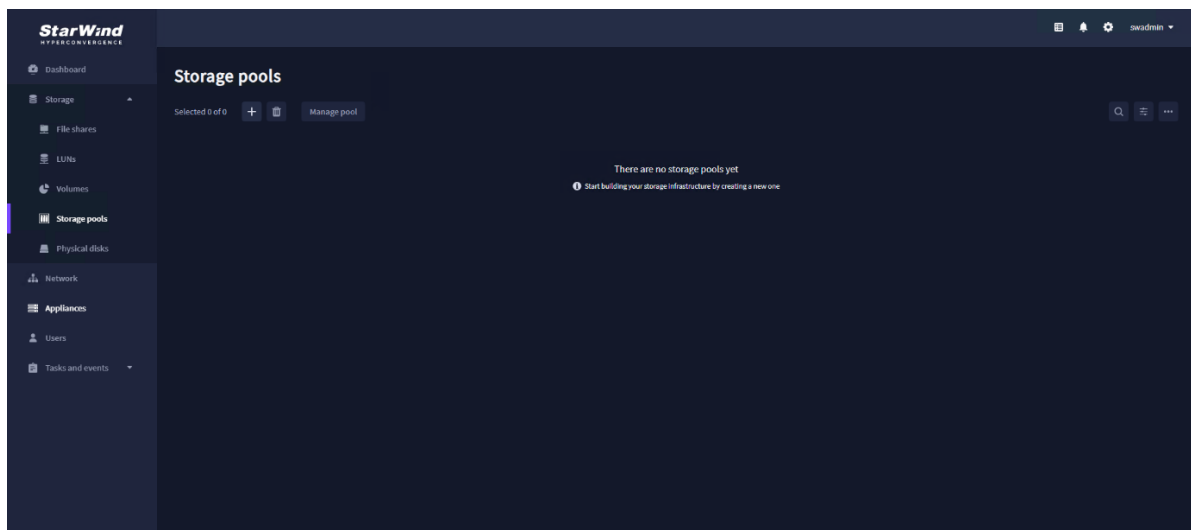
Create Storage Pool

1. Navigate to the Storage tab, select Physical disks and click Rescan.

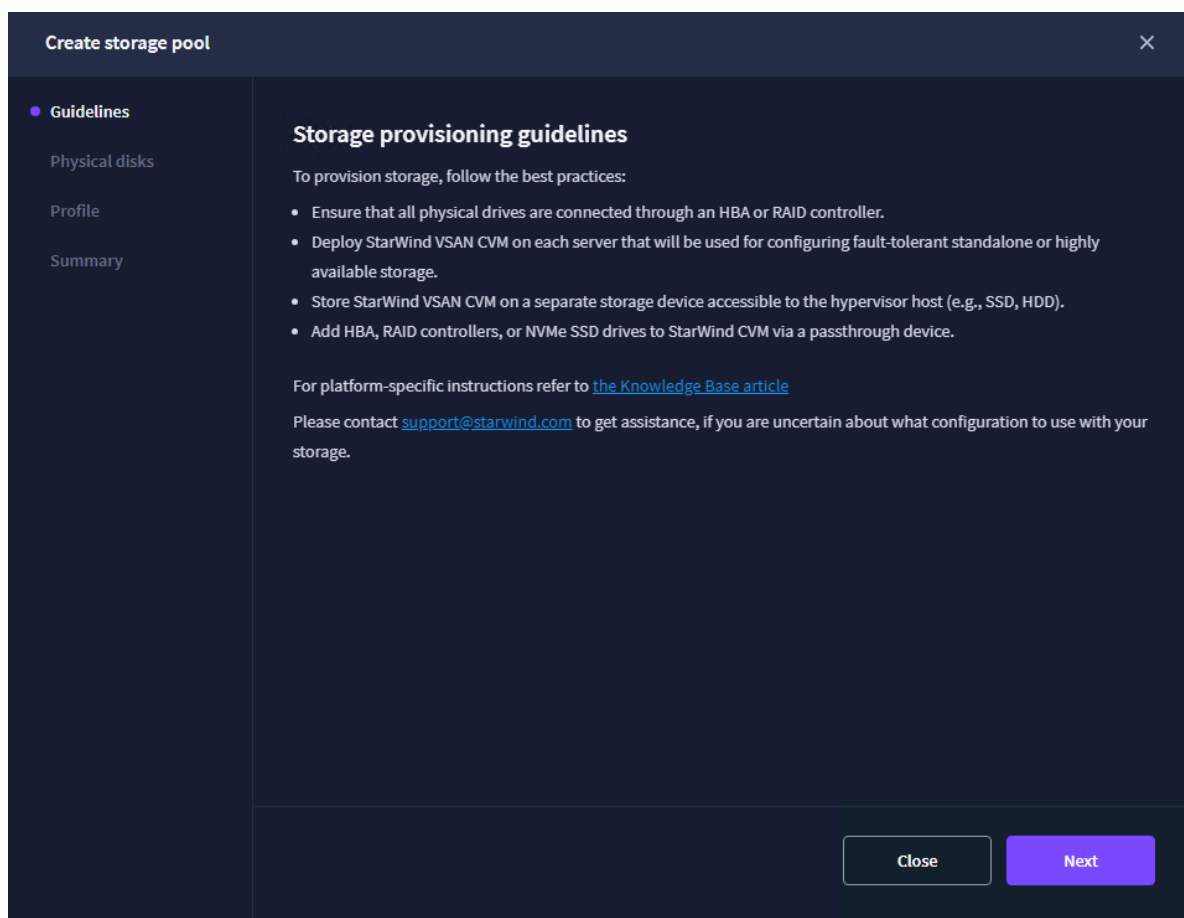


NOTE: StarWind x Veeam Hardened Backup Repository can use storage from a hardware RAID or create a Linux Software RAID or ZFS storage pools from the drives connected to an HBA controller. This guide uses Linux Software RAID as an example.

2. In the Storage tab, navigate to the Storage pools and click the “+” sign.



3. Verify the prerequisites and click Next.



4. Select the drives to create a Linux Software RAID and click Next.

Create storage pool

Guidelines

Physical disks

Profile

Summary

Physical disks

Select physical disks to include in storage pools on each node

SW-VHR

	Disk name	Media t...	Bus pro...	Size	Slot	Contro...
☒	nvme0n1	SSD	NVMe	2.91 TB	N:0:0:1	Micron_745...
☒	nvme1n1	SSD	NVMe	2.91 TB	N:0:1:1	Micron_745...
☒	nvme2n1	SSD	NVMe	2.91 TB	N:0:2:1	Micron_745...
☒	nvme3n1	SSD	NVMe	2.91 TB	N:0:3:1	Micron_745...
☒	nvme4n1	SSD	NVMe	2.91 TB	N:0:4:1	Micron_745...

Total raw capacity of selected disks: 14.55 TB

Back

Next

5. Select one of the preconfigured storage profiles or create a redundancy layout for the new storage pool manually according to your redundancy, capacity, and performance requirements. Software RAID-6 is highly recommended. To configure it, select Manual and click Next.

Create storage pool

Guidelines

Physical disks

Profile

Summary

Profile

Choose an optimal storage pool profile. Selected disks left unused will be assigned to hot spares.

Storage pool profile	Usable capacity	Fault tolerance	Hot spares
☐ High performance (recommended) Maximize storage performance while maintaining redundancy (Software RAID\RAID-10)	5.76 TB	2	- 1 +
☐ Better redundancy Maximize storage capacity while maintaining redundancy (ZFS\RAID-Z2)	7.77 TB	2	- 0 +
☐ High capacity Maximize redundancy while maintaining high storage capacity (Software RAID\RAID-5)	11.52 TB	1	- 0 +
☒ Manual Allows you to configure the storage pool layout manually.	-	-	-

Back

Next

6. Select Software RAID and then select Software RAID\RAID-6 from the Available storage pool layouts. Click Next.

Create storage pool

Guidelines

Physical disks

Profile

Manual configuration

Summary

Manual configuration

Choose the storage pool type and layout. Selected disks left unused will be assigned to hot spares.

Software RAID

- Better random write performance
- Better scalability
- Optimal for highly available (HA) SSD or HDD configurations

ZFS

- Enables storage snapshots
- Provides "bit rot" protection
- Optimal for HDD-based standalone configurations

Available storage pool layouts

Software RAID\RAID-6

Number of disk groups

1

Hot spare

0

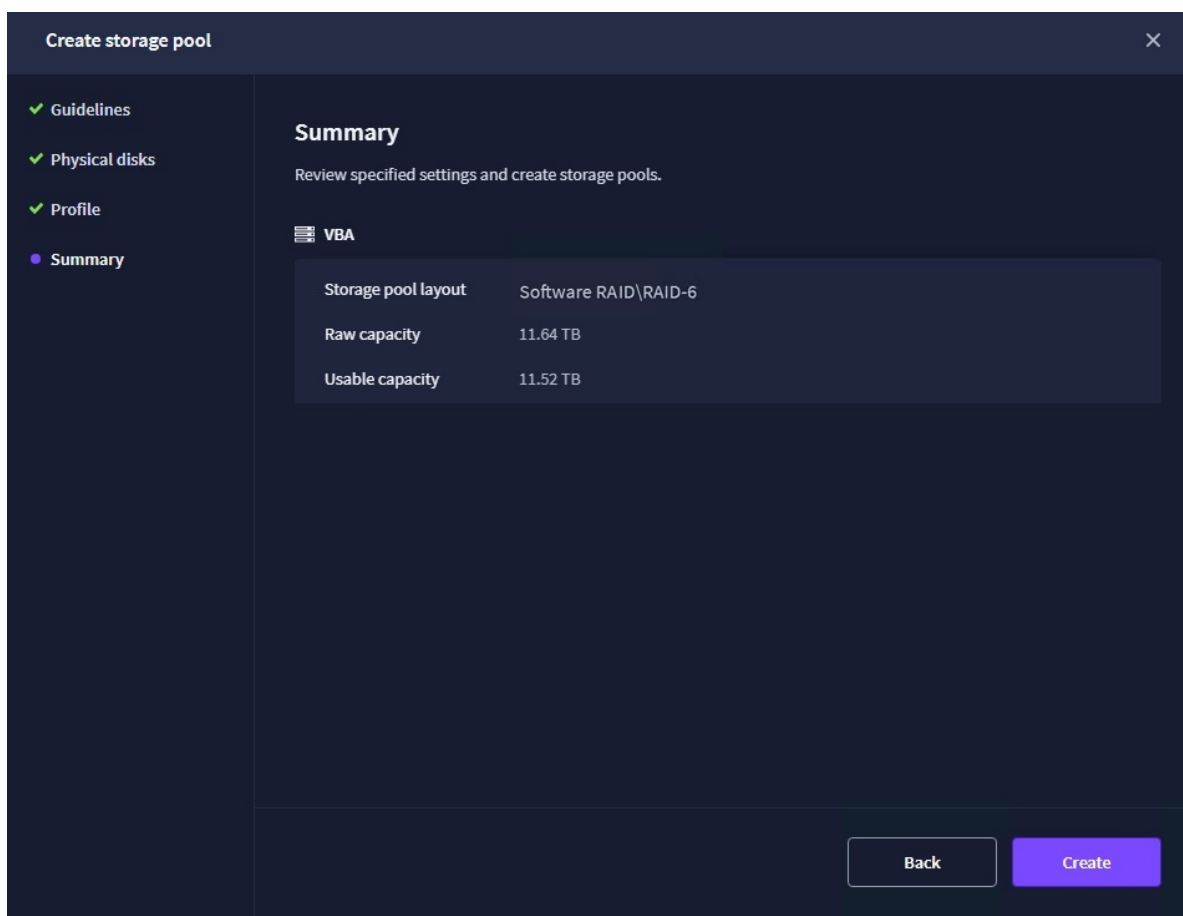
Disks in each group: 5

The estimated usable capacity for the configured storage pool layout:

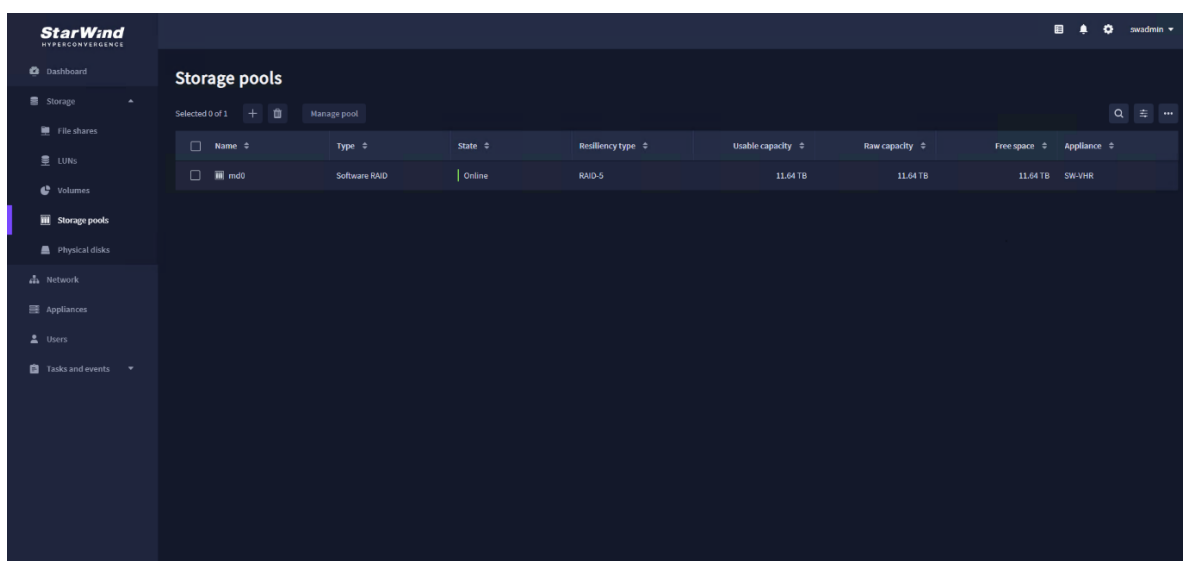
Back

Next

7. Review "Summary" and click the "Create" button to create the storage pool.



8. Wait until the Linux Software RAID synchronization process is fully complete and its state changes to Online.



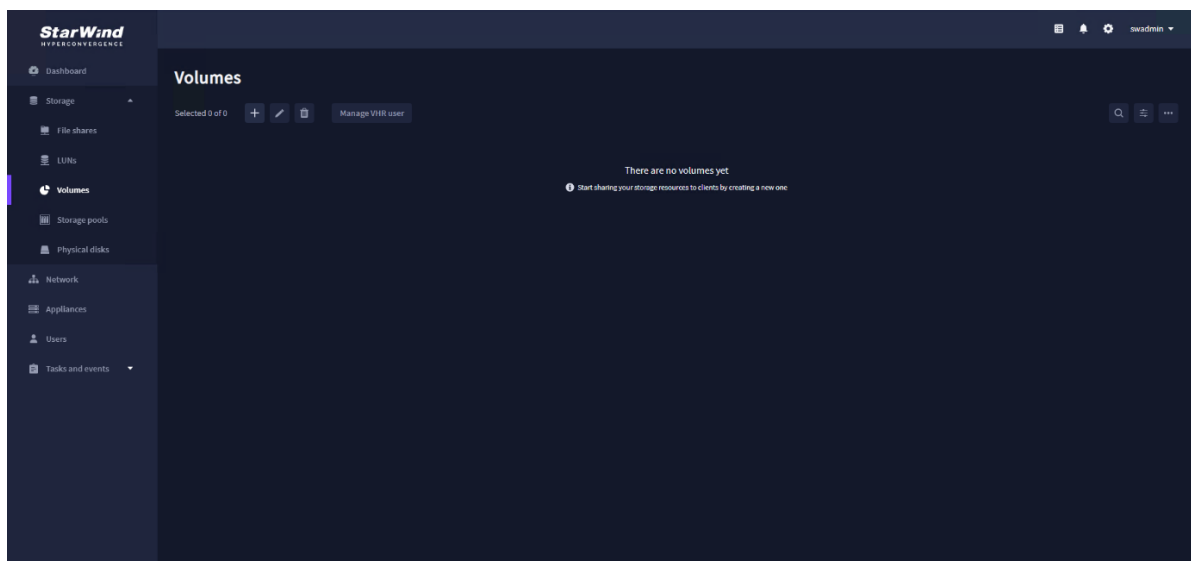
Create Backup Repository

StarWind x Veeam Hardened Backup Repository supports the creation of only hardened backup repository and non-hardened backup repository (direct attach Linux repository) for use with Veeam Backup & Replication.

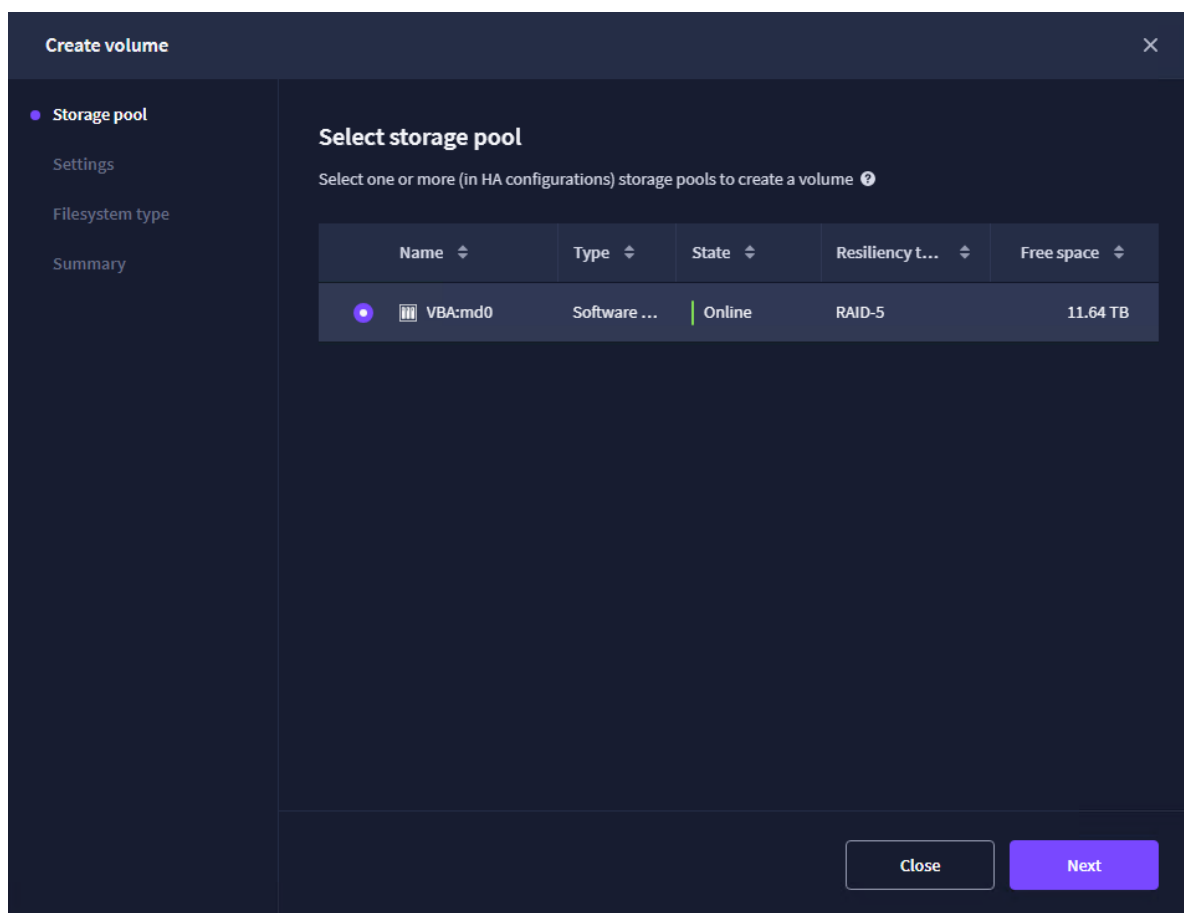
NOTE. Hardened Repository ensures immutability only when used with Veeam Backup & Replication.

Hardened Repository For Veeam Backup & Replication

1. Navigate to the “Volumes” tab and click the “+” button to open the “Create volume” wizard.



2. Select the storage pool that will be used for a new volume and click Next.



3. Specify the volume name and capacity. Click Next.

Create volume

✓ Storage pool

● Settings

Filesystem type

Summary

Specify settings

Specify the volume name and size

Name

sw-hardened-repo

You can use Latin letters, numbers, and dash

Size

11

Units

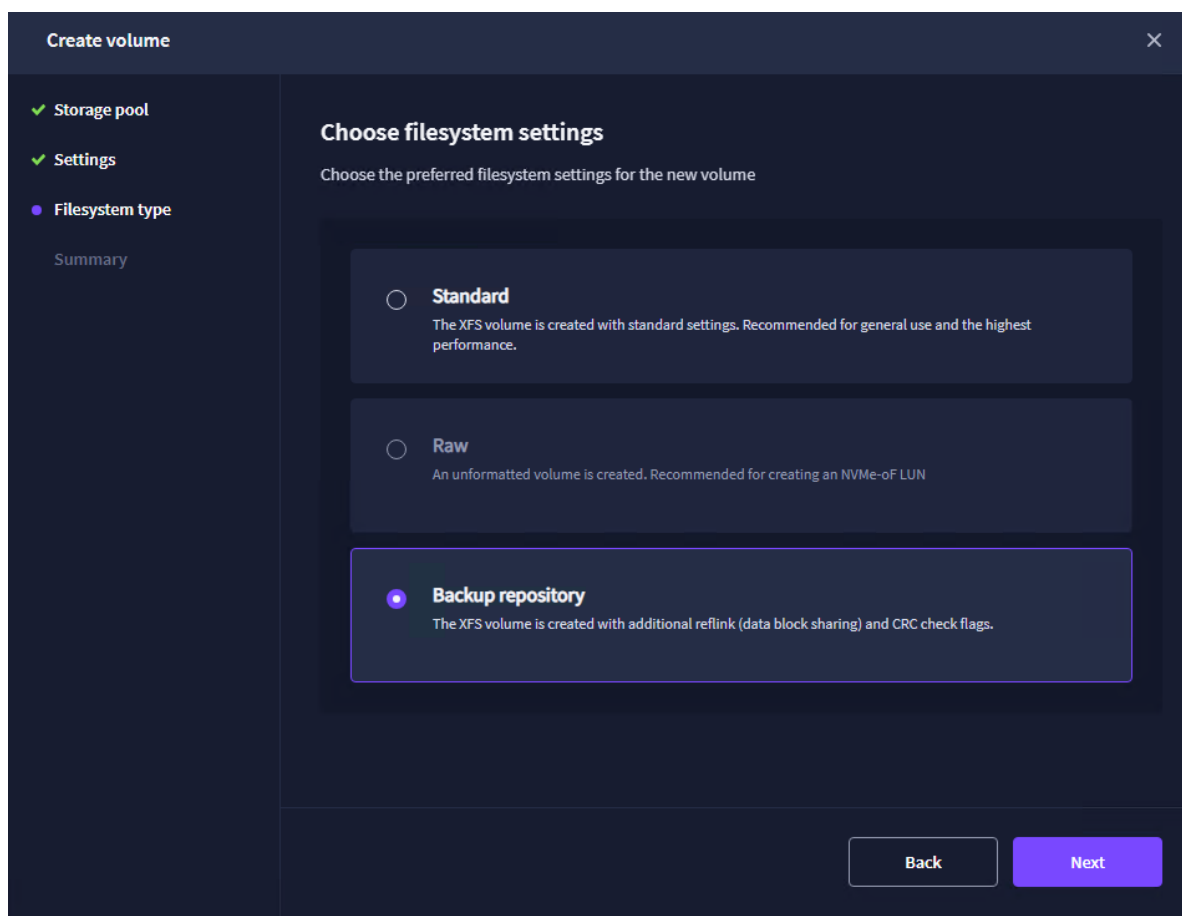
TB

Available storage pool capacity: 11.643 TB

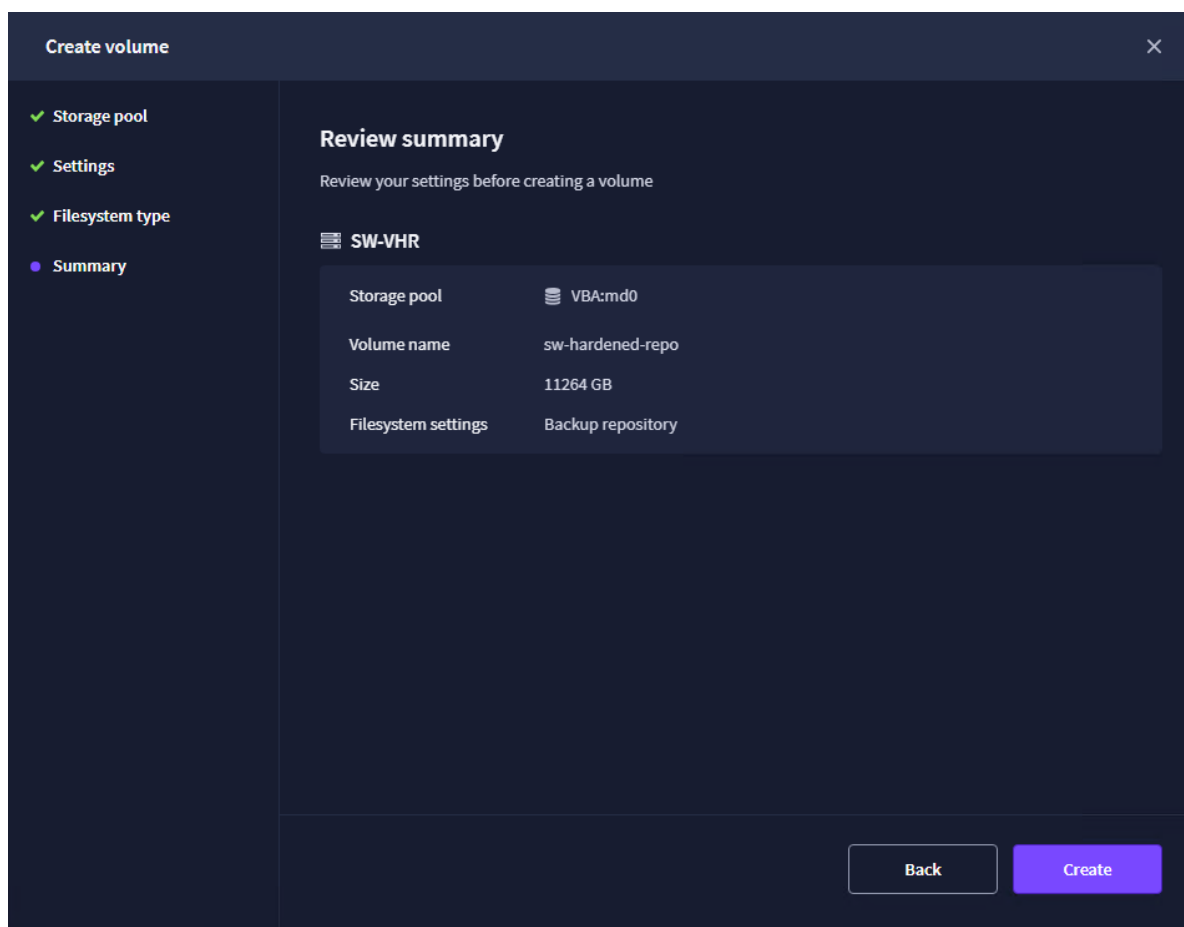
Back

Next

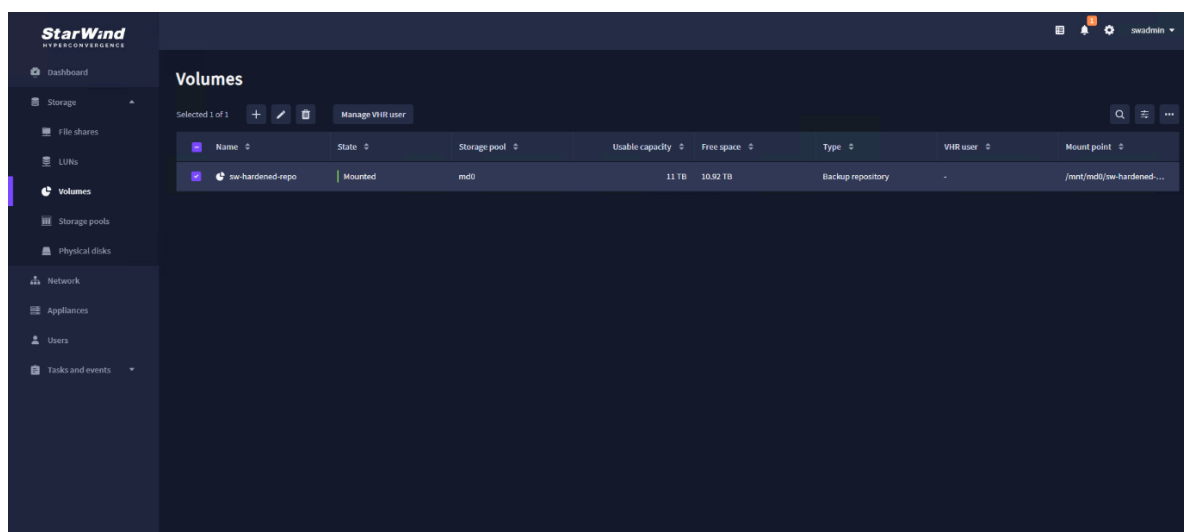
4. Select the “Backup repository” volume type and click Next. Backup repository volume type has been specifically designed for use with Veeam Backup & Replication.



5. Review Summary and click Create.



6. Select the recently created Volume and click “Manage VHR user”. This will create a dedicated Veeam Hardened Repository user with limited permissions for the selected volume.



Note. If Hardened Repository is not required, you can skip the further steps of creating a VHR user. The backup repository can be then added to Veeam Backup & Replication as a Direct Attached Linux storage to benefit from faster Veeam transport Service.

7. Click the “+” sign to create a new VHR user.

Manage VHR user

Create a new or choose the existing Veeam hardened repository (VHR) user that will have exclusive access to **sw-hardened-repo**

+
Q

User	Date created	SSH access
------	--------------	------------

Cancel
Save

8. Specify the user name and password. Make sure to enable SSH access for VHR user.

Click Save.

Create Veeam user

×

The new user will be assigned to the **Veeam service** group. ?

Veeam user name

veeamuser

Can contain lowercase Latin letters, digits, underscores, periods and dashes

Password

••••••••

Must contain 8-64 characters, including numbers, symbols and capital letter

☒ Enable SSH for this user

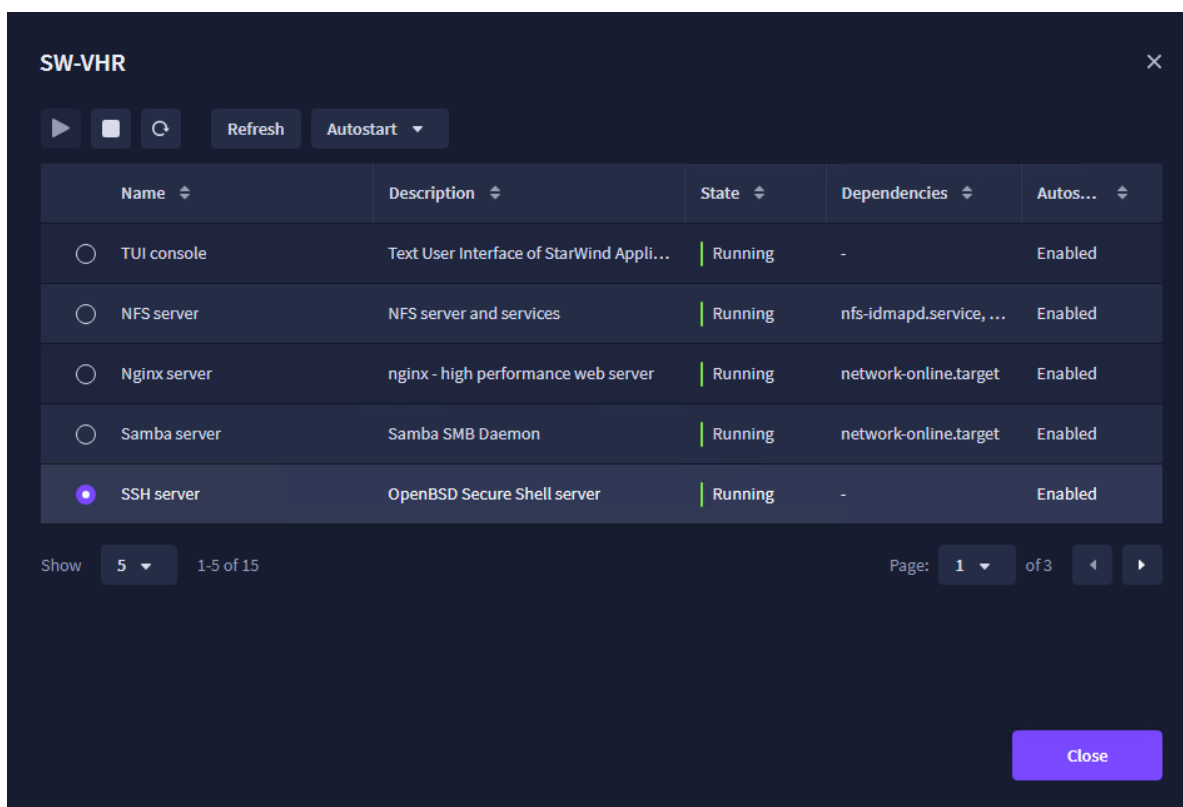
!

Disable SSH after adding the host and creating the hardened repository in the Veeam Backup & Replication console.

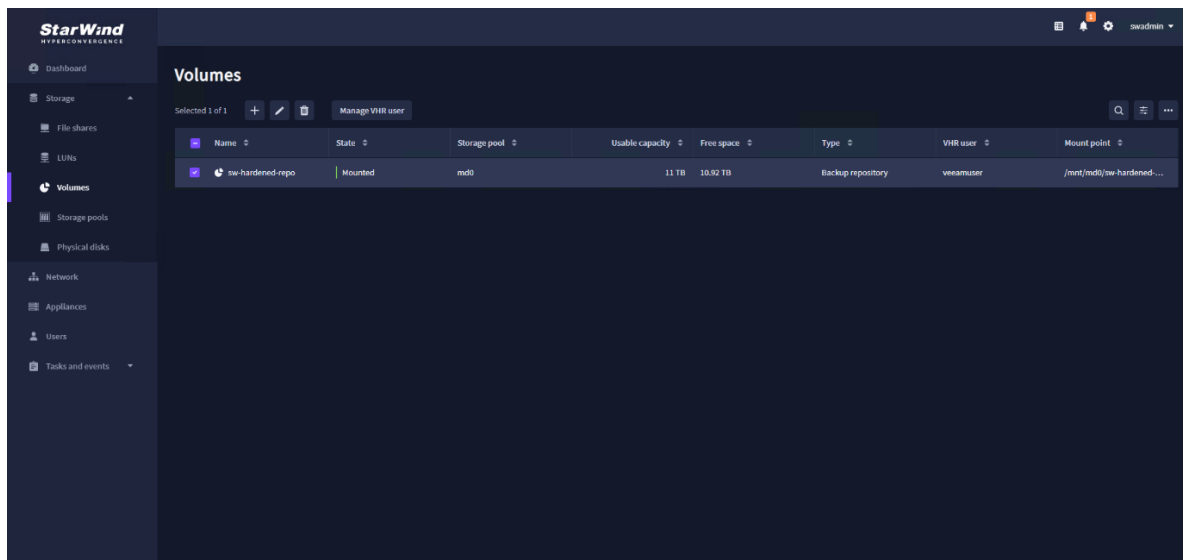
Cancel

Save

9. Make sure that SSH service is started and running in StarWind x Veeam Hardened Backup Repository CVM, For this, click the “settings icon”, navigate to “Services” and start SSH server.

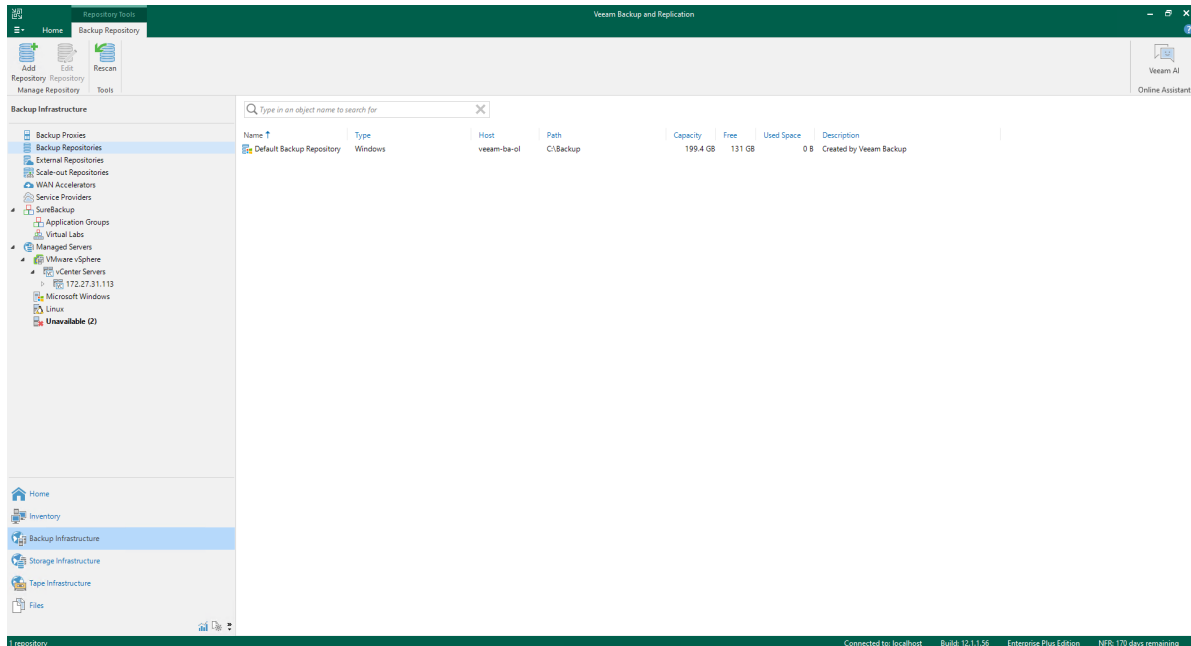


10. The recently created VHR user has been assigned to the volume.



Adding Hardened Repository To Veeam Backup & Replication

1. Open the Veeam Backup and Replication console, navigate to “Backup Infrastructure”, and select “Backup Repositories”.



2. Click “Add Repository” and select “Direct attached storage”.

Add Backup Repository ✕

Select the type of backup repository you want to add.



Direct attached storage

Microsoft Windows or Linux server with internal or direct attached storage. This configuration enables data movers to run directly on the server, allowing for fastest performance.



Network attached storage

Network share on a file server or a NAS device. When backing up to a remote share, we recommend that you select a gateway server located in the same site with the share.



Deduplicating storage appliance

Dell Data Domain, ExaGrid, Fujitsu ETERNUS CS800, HPE StoreOnce, Infinidat InfiniGuard or Quantum DXi. If you are unable to meet the requirements of advanced integration via native appliance API, use the network attached storage option instead.



Object storage

On-prem object storage system or a cloud object storage provider.

Cancel

3. Select "Linux (Hardened Repository)".



✕

Direct Attached Storage

Select the operating system type of a server you want to use as a backup repository.



Microsoft Windows

Adds local storage presented as a regular volume or Storage Spaces. For better performance and storage efficiency, we recommend using ReFS.



Linux

Adds local storage or locally mounted NFS share. For better performance and storage efficiency, we recommend using XFS. The Linux server must use bash shell, and have SSH and Perl installed.



Linux (Hardened Repository)

Requires a Linux server with internal or direct attached storage. This configuration enables protection against cybersecurity threats with immutable backups. The Linux server must use bash shell and have SSH installed. For reduced attack surface, minimal Linux installation is highly recommended.

Cancel

4. In the “New Backup Repository” wizard, specify the name and description for the new repository and click “Next”.

New Backup Repository
×



Name
Type in a name and description for this backup repository.

Name	Name: sw-vhr
Server	Description: Created by SW-VEEAMBR-OL\Administrator at 10/16/2024 9:16 AM.
Repository	
Mount Server	
Review	
Apply	
Summary	

< Previous
Next >
Finish
Cancel

5. Click “Add New...”.

New Backup Repository
×



Server
Choose repository server. You can select server from the list of managed servers added to the console.

Name

Server
Repository
Mount Server
Review
Apply
Summary

Repository server:

Add New...

Path	Capacity	Free

Populate

< Previous

Next >

Finish

Cancel

6. In the “New Linux Server” wizard, specify the IP address of the backup traffic network interface (Data) on StarWind x Veeam Hardened Backup Repository CVM and click “Next”.

NOTE: You can add a backup repository using the management IP address of StarWind x Veeam Hardened Backup Repository CVM or DNS name. It is recommended to add the backup traffic network (Data) to Veeam preferred Networks after the addition of backup repository in case a separate dedicated backup (Data) network is present:

https://helpcenter.veeam.com/docs/backup/vsphere/select_backup_network.html?ver=120

New Linux Server
×



Name
Specify DNS name or IP address of Linux server. The server must have SSH and Perl installed.

Name	DNS name or IP address: 172.16.30.10
SSH Connection	Description: Created by SW-VEEAMBR-OL\Administrator at 10/4/2024 8:09 AM.
Review	
Apply	
Summary	

< Previous
Next >
Finish
Cancel

7. Click “Add...” to add the VHR user account created previously that will be used for single-use credentials.

New Linux Server
×


SSH Connection
 Provide credentials for service console connection, and adjust secure shell (SSH) port number using advanced settings if required.

Name	Single-use credentials:
SSH Connection	Add new single-use credentials ▼ Add...
Review	
Apply	
Summary	

Customize advanced connection settings such as SSH timeout and service ports.

Advanced...

< Previous

Next >

Finish

Cancel

8. Specify the VHR user account credentials and click “OK”. Specify Advanced settings if required and then click “Next”.

Credentials

Username:

veeamuser

Password:

.....

SSH port:

22

Non-root account

☒ Elevate account privileges automatically
 ☐ Add account to the sudoers file
 ☐ Use "su" if "sudo" fails

Root password:

Description:

veeamuser

OK

Cancel

9. Review the components that will be installed and click "Apply".

StarWind x Veeam Hardened Backup Repository: Configuration Guide for VMware vSphere [ESXi], StarWind x Veeam Hardened Backup Repository Deployed as a Controller VM using Web UI

43

New Linux Server
×



Review
Please review your settings and click Apply to continue.

Name
SSH Connection
Review
Apply
Summary

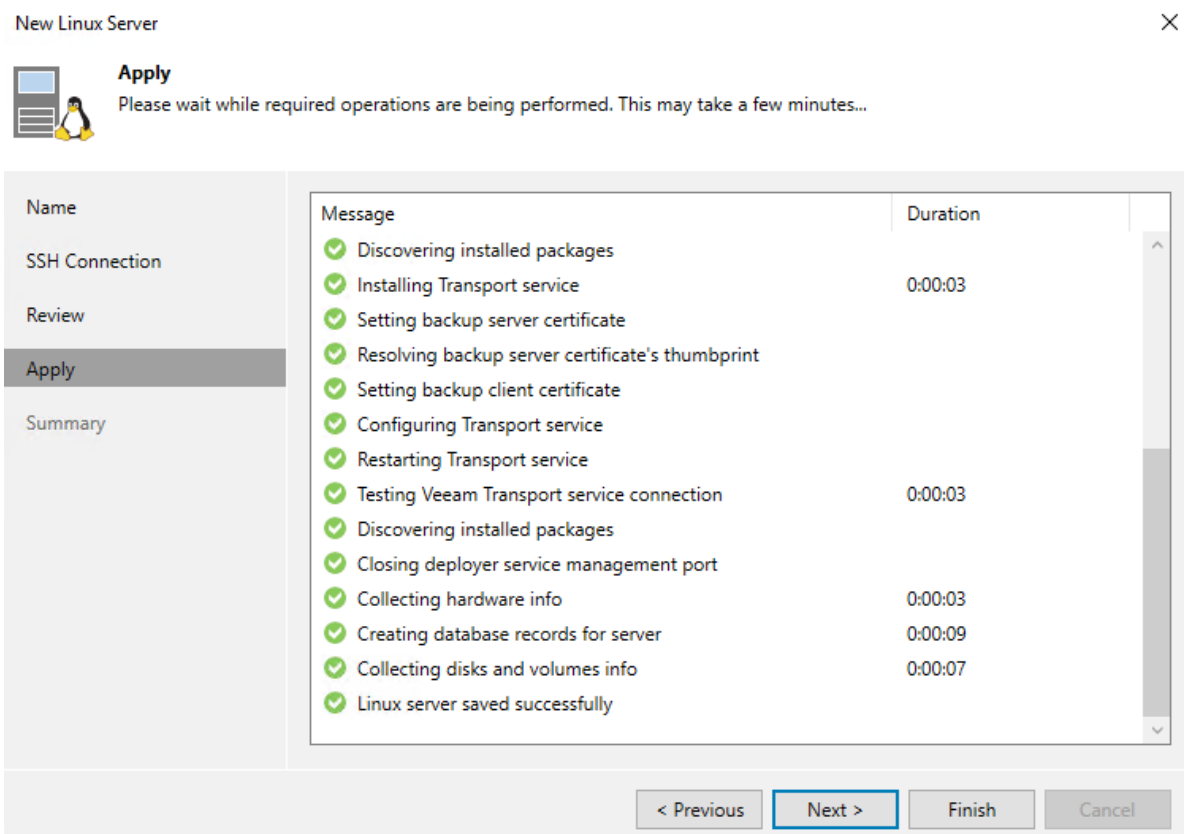
Due to these modifications the following components will be installed or removed on the target host:

Component name	Status
Installer	will be installed
Transport	will be installed

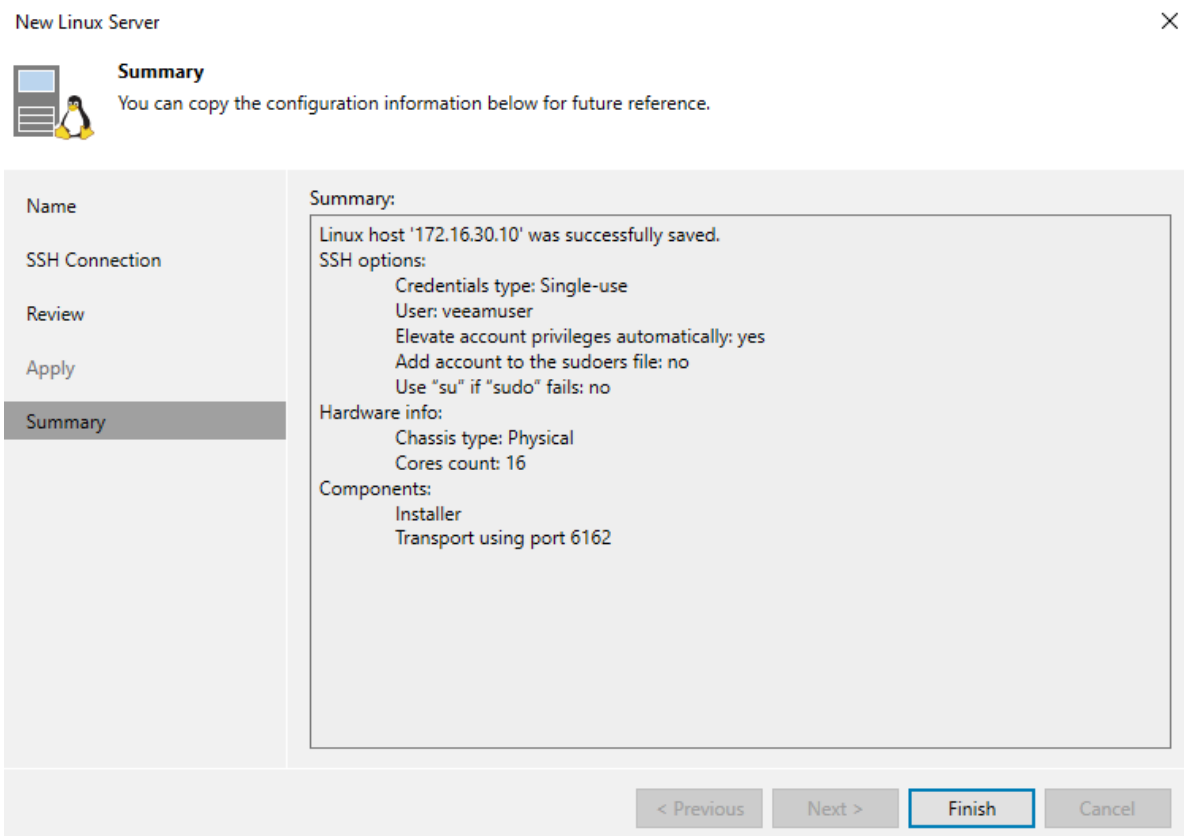
After you click Apply missing components will be installed on the target host.

< Previous
Apply
Finish
Cancel

10. Wait until the installation is complete and click “Next”.



11. Review the summary and click “Finish”.



12. In the “New Backup Repository” wizard, select the newly added StarWind x Veeam Hardened Backup Repository server and click “Populate”. Select the Backup repository volume created in StarWind x Veeam Hardened Backup Repository and click “Next”

New Backup Repository



Server

Choose repository server. You can select server from the list of managed servers added to the console.

Name	Repository server:																																						
Server	172.16.30.10 (Created by SW-VEEAMBR-OL\Administrator at 10/4/2024 8:09 AM.) Add New...																																						
Repository	<table border="1"> <thead> <tr> <th>Path</th> <th>Capacity</th> <th>Free</th> </tr> </thead> <tbody> <tr> <td>/ (/dev/mapper/main-root)</td> <td>28.7 GB</td> <td>18.5 GB</td> </tr> <tr> <td>/boot (/dev/sda3)</td> <td>456 MB</td> <td>240.6 MB</td> </tr> <tr> <td>/boot/efi (/dev/sda2)</td> <td>240.2 MB</td> <td>240.2 MB</td> </tr> <tr> <td>/dev (udev)</td> <td>3.8 GB</td> <td>3.8 GB</td> </tr> <tr> <td>/dev/shm (tmpfs)</td> <td>3.9 GB</td> <td>3.9 GB</td> </tr> <tr> <td>/mnt/md0/sw-hardened-repo (/dev/mapper/vg...</td> <td>11 TB</td> <td>10.9 TB</td> </tr> <tr> <td>/run (tmpfs)</td> <td>793.4 MB</td> <td>790.8 MB</td> </tr> <tr> <td>/run/lock (tmpfs)</td> <td>5 MB</td> <td>5 MB</td> </tr> <tr> <td>/run/user/1002 (tmpfs)</td> <td>793.3 MB</td> <td>793.3 MB</td> </tr> <tr> <td>/run/user/1003 (tmpfs)</td> <td>793.3 MB</td> <td>793.3 MB</td> </tr> <tr> <td>/sys/fs/cgroup (tmpfs)</td> <td>3.9 GB</td> <td>3.9 GB</td> </tr> </tbody> </table> Populate			Path	Capacity	Free	/ (/dev/mapper/main-root)	28.7 GB	18.5 GB	/boot (/dev/sda3)	456 MB	240.6 MB	/boot/efi (/dev/sda2)	240.2 MB	240.2 MB	/dev (udev)	3.8 GB	3.8 GB	/dev/shm (tmpfs)	3.9 GB	3.9 GB	/mnt/md0/sw-hardened-repo (/dev/mapper/vg...	11 TB	10.9 TB	/run (tmpfs)	793.4 MB	790.8 MB	/run/lock (tmpfs)	5 MB	5 MB	/run/user/1002 (tmpfs)	793.3 MB	793.3 MB	/run/user/1003 (tmpfs)	793.3 MB	793.3 MB	/sys/fs/cgroup (tmpfs)	3.9 GB	3.9 GB
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Mount Server																																							
Review																																							
Apply																																							
Summary																																							

< Previous
Next >
Finish
Cancel

13. Make sure that the “Use fast cloning on XFS volumes” setting is enabled and specify the required retention period for immutability as well as other settings if required. Click “Next”.

New Backup Repository
✕

Repository

Type in path to the folder where backup files should be stored, and set repository load control options.

Name Server Repository Mount Server Review Apply Summary	Location Path to folder: /mnt/md0/sw-hardened-repo/backups Browse... Capacity: <Unknown> Free space: <Unknown> Populate ☒ Use fast cloning on XFS volumes (recommended) Reduces storage consumption and improves synthetic backup performance. Make recent backups immutable for: 7 days Protects backups from modification or deletion by ransomware, malicious insiders and hackers. GFS backups are made immutable for the entire duration of their retention policy. Load control Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings: ☒ Limit maximum concurrent tasks to: 4 ☐ Limit read and write data rate to: 1 MB/s Click Advanced to customize repository settings. Advanced...
--	--

14. Select the Mount server and instant-recovery write cache folder. Specify additional Ports settings if required.

New Backup Repository
✕



Mount Server

Specify a server to mount backups to when performing advanced restores (file, application item and instant VM recoveries). Instant recoveries require a write cache folder to store changed disk blocks in.

Name	Mount server:
Server	sw-veeambr-01 (Backup server) ▼ Add New...
Repository	Instant recovery write cache folder: C:\ProgramData\Veeam\Backup\IRCache\ Browse...
Mount Server	Ensure that the selected volume has sufficient free disk space to store changed disk blocks of instantly recovered machines. We recommend placing the write cache folder on an SSD drive. ☒ Enable vPower NFS service on the mount server (recommended) Unlocks instant recovery of any backup (physical, virtual or cloud) to a VMware vSphere VM. vPower NFS service is not used for instant recovery to a Microsoft Hyper-V VM. Ports...
Review	
Apply	
Summary	

< Previous
Next >
Finish
Cancel

15. Review the settings and components that will be installed and click “Apply”.

New Backup Repository
×



Review
Please review the settings, and click Apply to continue.

Name
Server
Repository
Mount Server
Review
Apply
Summary

The following components will be processed on server sw-veeambr-ol:

Component name	Status
vPower NFS	already exists
Mount Server	already exists
VMware VDDK	already exists

☐ Search the repository for existing backups and import them automatically
☐ Import guest file system index data to the catalog

< Previous
Apply
Finish
Cancel

16. Wait until the backup repository is created and click “Next”.

New Backup Repository



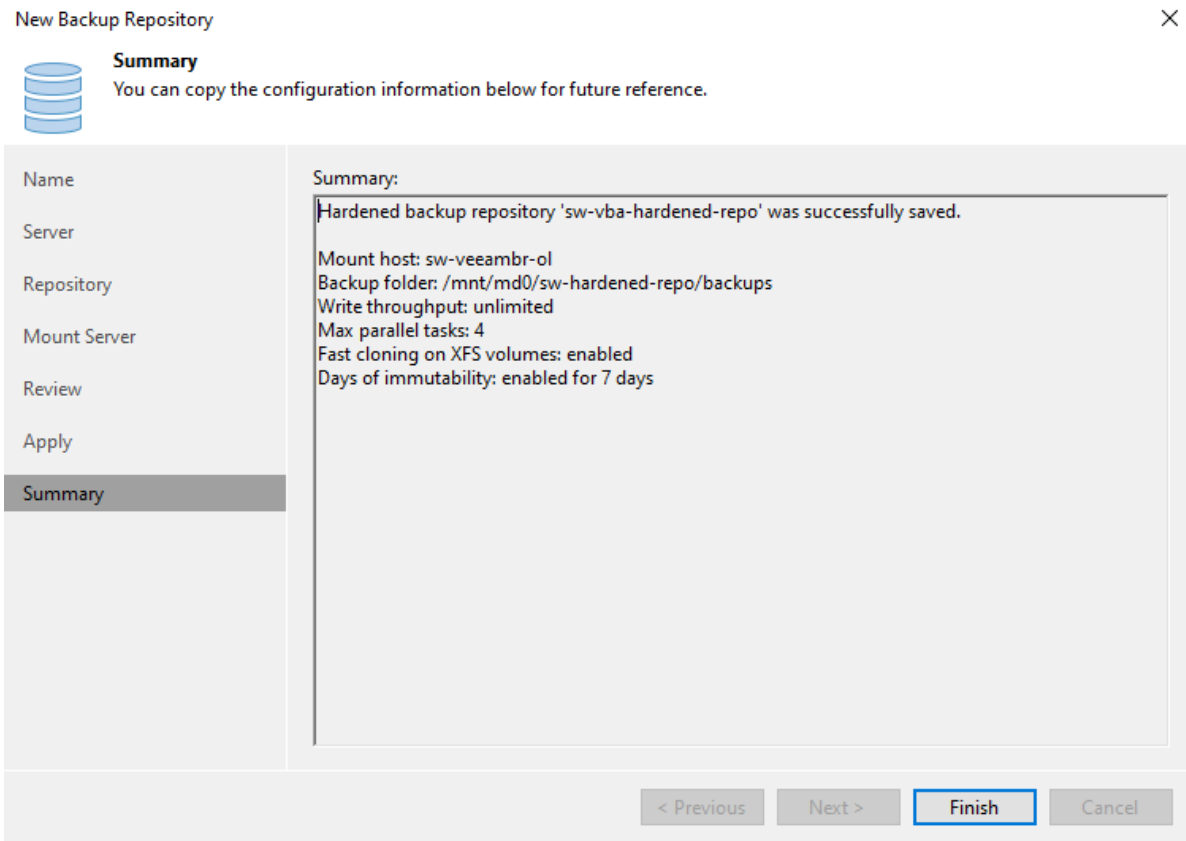
Apply

Please wait while backup repository is created and saved in configuration, this may take a few minutes.

Name	Message	Duration
Server	✓ Starting infrastructure item update process	0:00:02
Repository	✓ Discovering installed packages	
Mount Server	✓ Registering client sw-veeambr-ol for package vPower NFS	
	✓ Registering client sw-veeambr-ol for package Mount Server	
	✓ Registering client sw-veeambr-ol for package VMware VDDK	
Review	✓ Discovering installed packages	
	✓ All required packages have been successfully installed	
Apply	✓ Detecting server configuration	
	✓ Reconfiguring vPower NFS service	0:00:07
	✓ Creating configuration database records for installed packages	
	✓ Collecting backup repository info	0:00:03
	✓ Opening deployer service management port	
	✓ Checking write permissions for the repository folder	
	✓ Enabling restricted mode for Installer	
	✓ Closing deployer service management port	
	✓ Creating database records for repository	0:00:04
	✓ Backup repository has been saved successfully	
Summary		

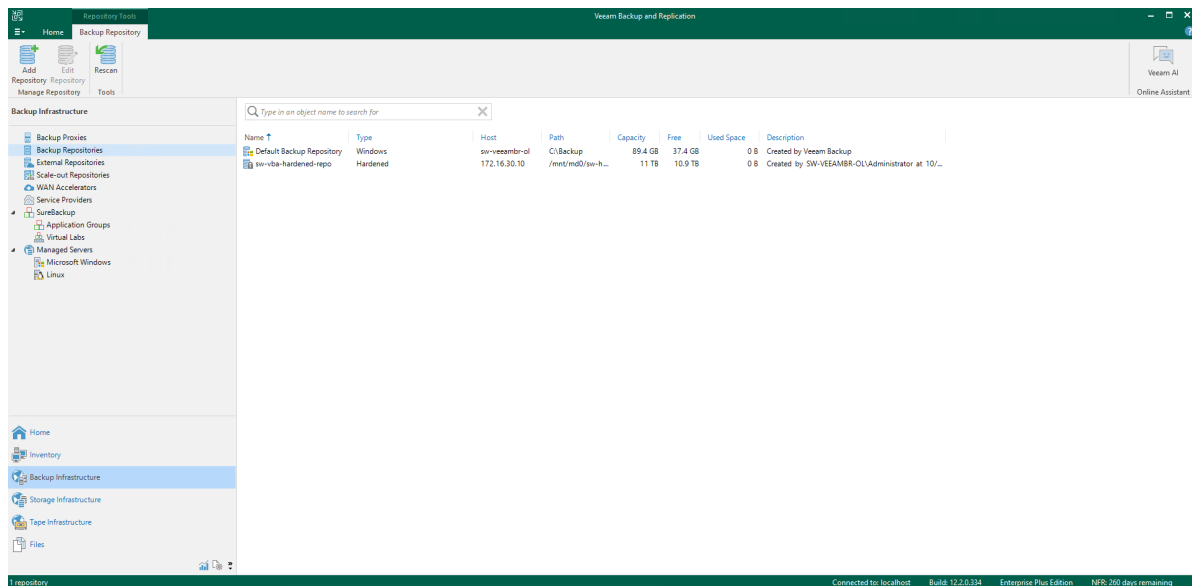
[< Previous](#)
[Next >](#)
[Finish](#)
[Cancel](#)

17. Review the summary and click “Finish”.

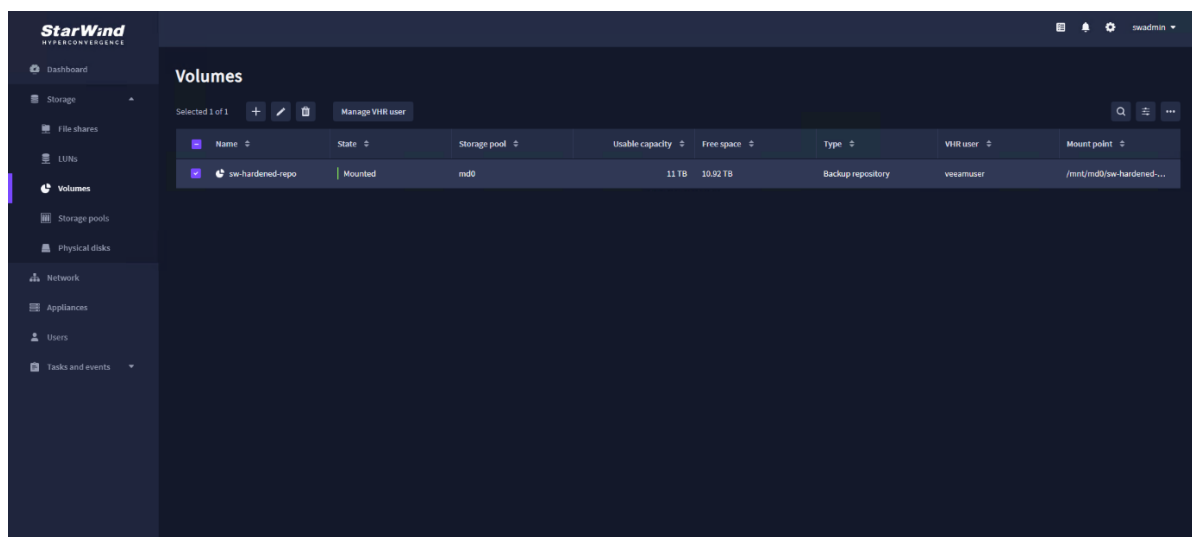


18. Veeam prompts whether you want to change the configuration backup location to the newly added repository. Select the preferred option according to your requirements.

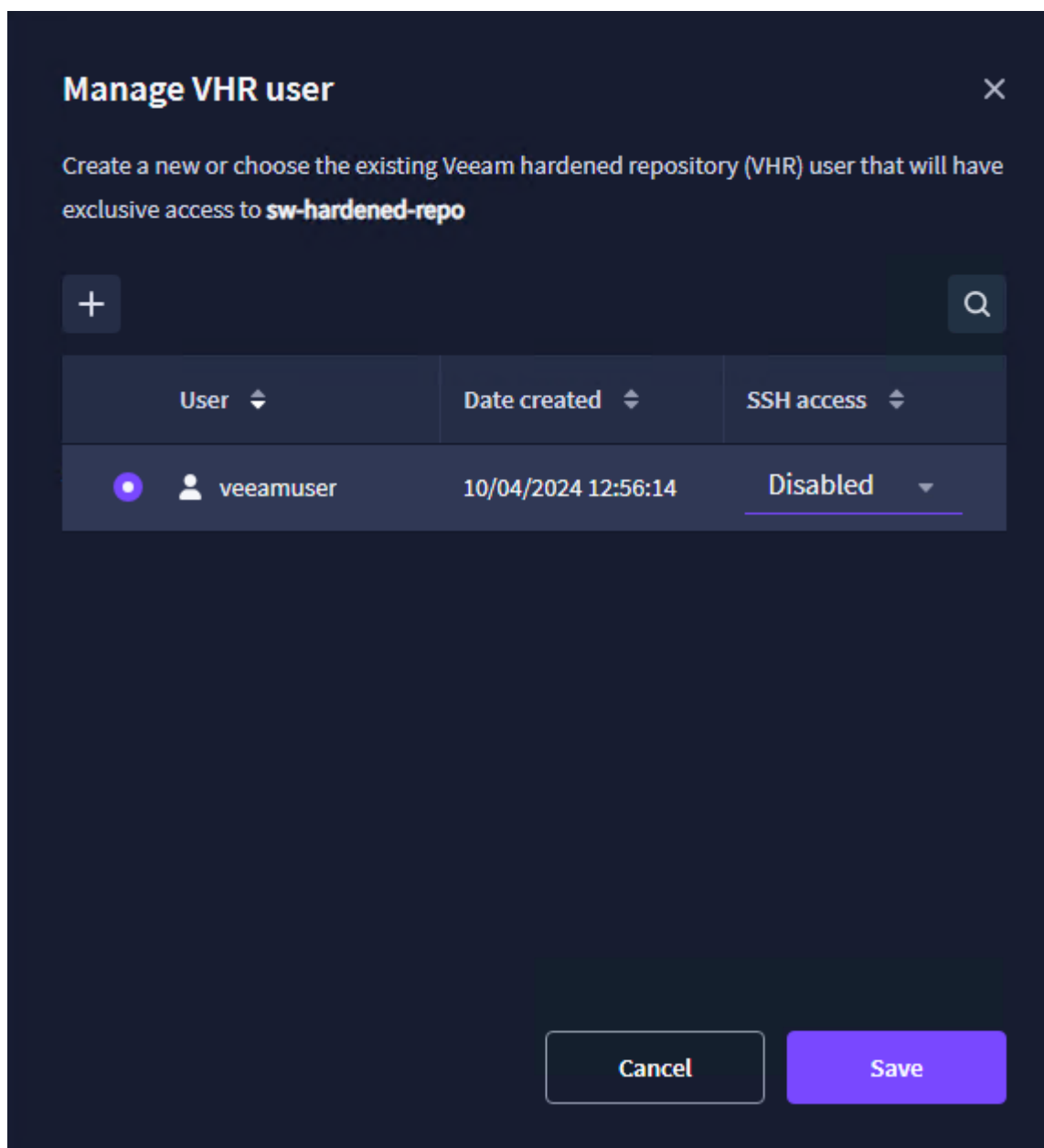
19. Hardened Repository has been successfully added to Veeam Backup & Replication.



20. Navigate back to the “Volumes” tab in StarWind x Veeam Hardened Backup Repository CVM WEB UI, select the Backup repository volume and click “Manage VHR user”.



21. Change SSH access to “Disabled” to secure the StarWind Appliance from potential local threats such as credentials theft. Click “Save”.



Conclusion

Following this guide, Veeam Hardened Linux Repository has been configured in StarWind x Veeam Hardened Backup Repository installed on a vSphere host and added to Veeam Backup & Replication.

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