VEEAM BACKUP
AND REPLICATION

OPERATIONS GUIDE

VOLUME 3

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Veeam Backup and Replication Operational Guide Volume 4

Volume 4 Based on Version 12

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We’d like to hear from you! If you have any comments about how we could improve the quality of this book, please don’t hesitate to contact us by visiting www.checkyourlogs.net or emailing feedback@mvpdays.com.

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Foreword

Here is another book by Dave, Cristal, Cary and Emile; what a significant milestone!

Ask yourself one question: Why? There are so many technologies, but why do we use what we use? Why do we do what we do? The answer is how. It's how we use something. I like to explain compliance in this way sometimes. No product or technology is inherently compliant. It's how it is implemented and how it is audited. The same goes for technology implementations; it's about how we use them. The how is the why.

Operations are still cool. There are so many razzle-dazzle job titles and buzzwords in the market today, but in the end, Operations are Operations. DevOps, PlatformOps, SRE (Sire Reliability Engineer), Platform Engineering... I do not need to go on, but no technology will take care of itself across all disciplines. How it is used, implemented, monitored, etc., matters today. Technology still needs humans and their knowledge.

Expert advice is the difference. We all learn from each other. When it comes to taking on the next new challenge, where does one go first? We look for resources to consume. Blogs, books like this, and social profiles; the established experts in the space are the trusted advisors in the technology space. Call it community, social sharing, or what you want; we all find ourselves going to the go-to experts of a particular space.

Above and Beyond. What Dave, Cristal, Cary, and Emile put forth in this book, in their practical advice for technology, is outstanding. They could easily focus on their professional responsibilities and keep them narrow. But writing a book is hard work! Editing a book is hard work! I've not discussed this with them, but I'm sure they aren't doing it for the money of writing a book. They write this book because they go above and beyond, share, and care.

I'm sure you will enjoy this book, and a big congratulations on this book, Dave, Cristal, Cary and Emile.

Best Regards,

Rick W. Vanover *Microsoft MVP, VMware vExpert, Cisco Champion*
Senior Director, Product Strategy - Veeam Software
Twitter: @RickVanover[1]

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[1] http://www.twitter.com/rickvanover

About the Authors

Dave Kawula–Microsoft MVP

Dave is a Microsoft Most Valuable Professional (MVP) with over 20 years of experience in the IT industry. His background includes data communications networks within multi-server environments, and he has led architecture teams for virtualization, System Centers, Exchange, Active Directory, and Internet gateways. Very active within the Microsoft technical and consulting teams, Dave has provided deep-dive technical knowledge and subject matter expertise on various System centers and operating system topics.

Dave is well-known as an evangelist for Microsoft, 1E, and Veeam technologies. Locating Dave is easy as he speaks at conferences and sessions each year, including TechEd, Ignite, MVP Days Community Roadshow, and VeeamOn.

Recently, Dave has been honoured to take on the role of Conference Co-Chair of TechMentor and Cyber Security & Ransomware Live with fellow MVP Sami Laiho. The lineup of speakers and attendees attending this conference over the past 20 years is fantastic.

As the founder and Managing Principal Consultant at TriCon Elite Consulting, Dave is a leading technology expert for local customers and large international enterprises, providing optimal guidance and methodologies to achieve and maintain an efficient infrastructure.

BLOG: www.checkyourlogs.net[1]
Twitter: @DaveKawula

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[1] http://www.checkyourlogs.net

Cristal Kawula–Microsoft MVP

Cristal Kawula co-founded MVPDays Community Roadshow, and #MVPHour live Twitter Chat. She was also a Technical Advisory board member and the President of TriCon Elite Consulting. Cristal is the only 2nd Woman worldwide to receive the prestigious Veeam Vanguard award.

Cristal speaks at Microsoft Ignite, MVPDays, and other local user groups. In addition, she has been instrumental in founding MVPDays Publishing and has helped author over 25 + books.

At conferences like Microsoft Ignite, she has led community meetups on topics such as Women in IT, Parenting in IT, Diversity in Tech, and becoming a Community Rockstar.

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Twitter: @supercristal1

Cary Sun–Microsoft MVP

Cary Sun has a wealth of knowledge and expertise in data center and deployment solutions. As a Principal Consultant, he likely works closely with clients to help them design, implement, and manage their data center infrastructure and deployment strategies.

With his background in data center solutions, Cary Sun may have experience in server and storage virtualization, network design and optimization, backup and disaster recovery planning, and security and compliance management. He has held CISCO-CERTIFIED INTERNETWORK EXPERT (CCIE No.4531) since 1999. Cary is a Microsoft Most Valuable Professional (MVP), Microsoft Azure MVP, and Veeam Vanguard. He is a published author with several titles, including blogs on Checkyourlogs.net, and the author of many books.

Cary is a very active blogger at checkyourlogs.net and is permanently available online for questions from the community. His passion for technology is contagious, improving everyone around him at what they do.

Blog site: https://www.checkyourlogs.net

Web site: https://carysun.com

Blog site: https://gooddealmart.com

Twitter: @SifuSun

in: https://www.linkedin.com/in/sifusun/

Amazon Author: https://Amazon.com/author/carysun

Emile Cabot–Microsoft MVP

Emile started in the industry during the mid-90s working at an ISP and designing celebrity websites. He has a solid operational background specializing in Systems Management and collaboration solutions. He has spent many years performing infrastructure analyses and solution implementations for organizations ranging from 20 to over 200,000 employees. Coupling his wealth of experience with a small partner network, Emile works very closely with TriCon Elite, 1E, and Veeam to deliver low-cost solutions with minimal infrastructure requirements.

He actively volunteers as a member of the Canadian Ski Patrol, providing over 250 hours each year for first aid services and public education at Castle Mountain Resort and in the community.

BLOG: http://www.checkyourlogs.net

Twitter: @ecabot

Introduction

This book aims to showcase the fantastic expertise of our guest speakers of MVPDays Online. They have so much passion, expertise, and expert knowledge that it only seemed fitting to write it down in a book.

This book aims to show how to be operationally proficient using Veeam Backup and Replication, Veeam One and various other Veeam products and tools. We hope you find immense value in reviewing this guide and encourage you to share your operational knowledge and skills with others in the community.

Sample Files

All sample files for this book can be downloaded from http://www.checkyourlogs.net and www.github.com/mvpday[1]s

Additional Resources

In addition to all the tips and tricks provided in this book, you can find extra resources like articles and video recordings on our blog http://www.checkyourlogs.net

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[1] http://www.github.com/mvpdayspublishing

Chapter 1: Backup and Backup Copy

Veeam Backup & Replication creates VM image-level backups. It treats virtual machines as objects rather than a collection of files. Veeam Backup & Replication copies the entire VM image at a block level when you backup a VM. Image-level backups can be used for various restore scenarios, such as instant recovery, restoring full VM, recovering VM files, recovering file-level, and so on.

Typically, backup technology is used for VMs with shorter RTOs. When the primary virtual machine fails, restoring VM data from a deduplicated and compressed backup file takes some time.

The backup copy process is job-driven. Veeam Backup & Replication fully automates backup copying. It allows you to specify retention settings to keep the desired number of restore points and full backups for archival purposes.

The primary goal of backup is to protect your data from disasters and virtual or physical machine failures. On the other hand, having only one backup does not provide the necessary level of security. The primary backup and production data may be destroyed, leaving you with no backups from which to restore data.

It is recommended that you follow the 3-2-1 rule when developing a successful data protection and disaster recovery plan:

3: At least three copies of your data are required: the original production data and two backups.

2: You must store copies of your data on at least two media types: local disc and cloud.

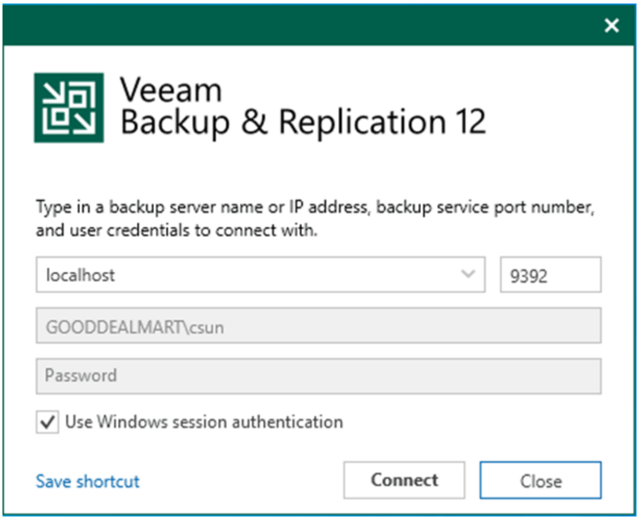
1: At least one backup must be kept off-site, such as in the cloud or a remote location.

As a result, you must have at least two backups, each in a different location. If your production data and local backup are destroyed in a disaster, you can still recover from your off-site backup.

Creating a Backup job to backup the VMS portion of the Hyper-V Host

This process creates a backup job to backup the VMS of the Hyper-V host, but not all of them.

1. Login to the Veeam Backup and replication v12 manager server.
2. Open the Veeam Backup & Replication v12 Console and click Connect.



Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

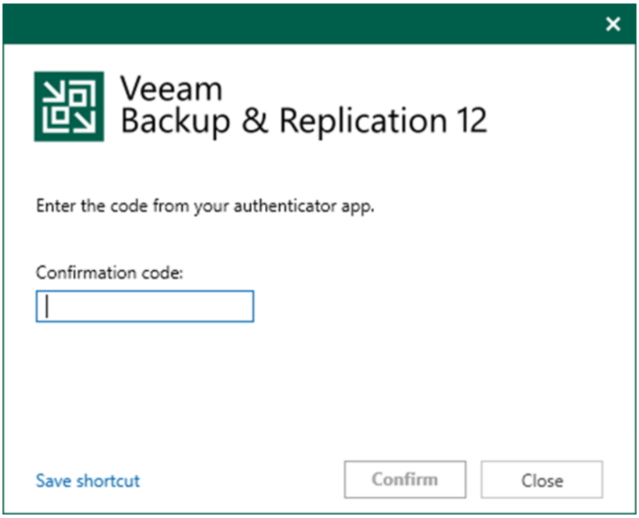
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

3. Enter the MFA Confirmation code and click Confirm.



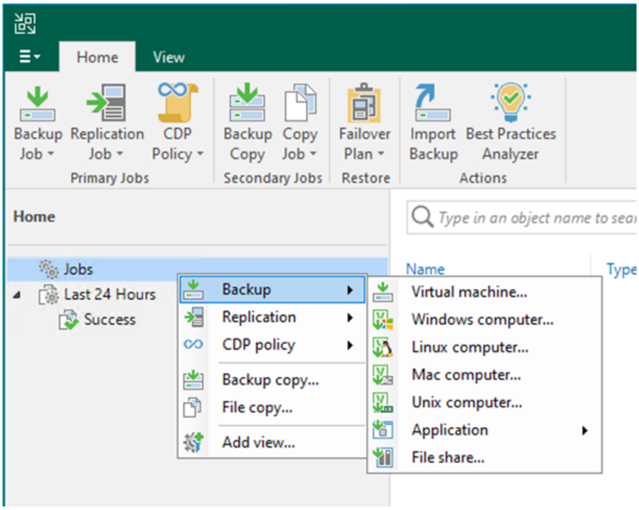
Veeam
Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

Save shortcut
Confirm
Close

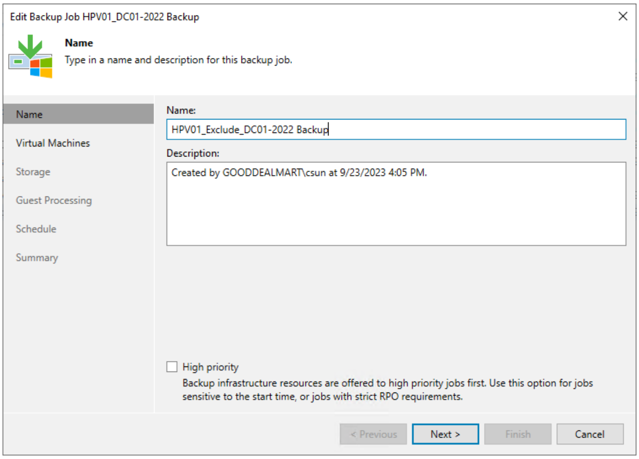
4. Select Jobs on the Home page and right-click Jobs.
5. Select Backup and click Virtual machine.



Home
View
Backup Job
Replication Job
CDP Policy
Primary Jobs
Backup Copy
Copy Job
Secondary Jobs
Failover Plan
Restore
Import Backup
Best Practices Analyzer
Actions
Home
Type in an object name to sea
Jobs
Last 24 Hours
Success
Name
Type
Backup
Replication
CDP policy
Backup copy...
File copy...
Add view...
Virtual machine...
Windows computer...
Linux computer...
Mac computer...
Unix computer...
Application
File share...

6. On the Name page, enter a name for the backup job in the Name field.
7. Give a brief description in the Description field for the future.
8. Select the High priority checkbox if you want this job to allocate resources in the first place.

9. Click Next.



Edit Backup Job HPV01_DC01-2022 Backup

Name

Type in a name and description for this backup job.

Name: HPV01_Exclude_DC01-2022 Backup

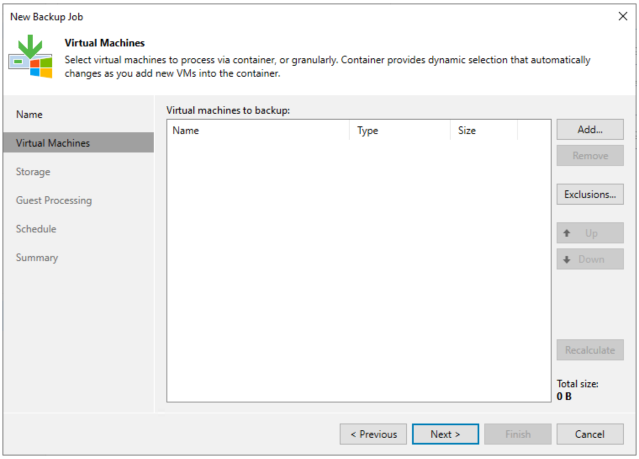
Description: Created by GOODDEALMART\csun at 9/23/2023 4:05 PM.

☐ High priority

Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
< Previous
Next >
Finish
Cancel

10. Click Add on the Virtual Machines page.



New Backup Job

Virtual Machines

Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VMs into the container.

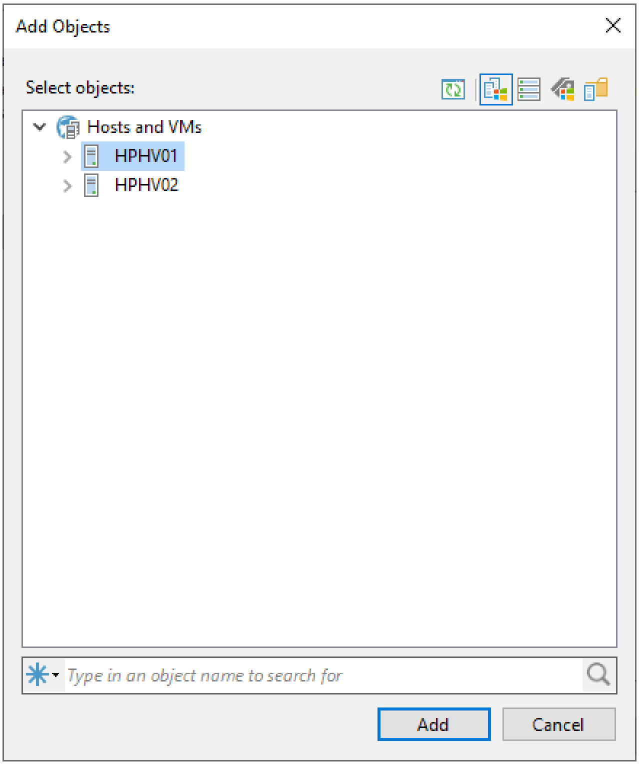
Virtual machines to backup:

Name	Type	Size

Total size: **0 B**

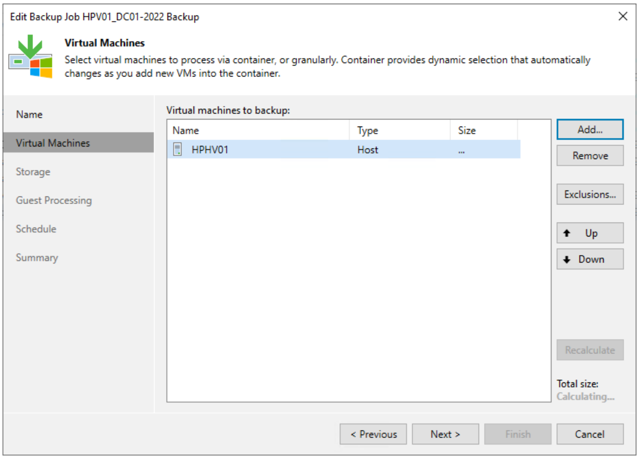
Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
Add...
Remove
Exclusions...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

11. Select the host on the Add Objects page list and click Add.
12. If multiple hosts need to backup in the same backup job, you can repeat the step to add them.



Add Objects
Select objects:
Hosts and VMs
HPHV01
HPHV02
Type in an object name to search for
Add
Cancel

13. On the Virtual Machines page, click Exclusions.



Edit Backup Job HPV01_DC01-2022 Backup

Virtual Machines

Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VMs into the container.

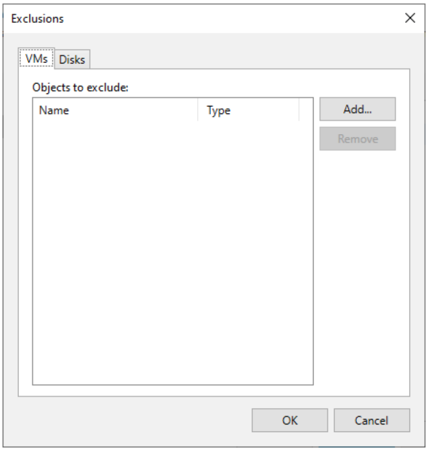
Virtual machines to backup:

Name	Type	Size
HPHV01	Host	...

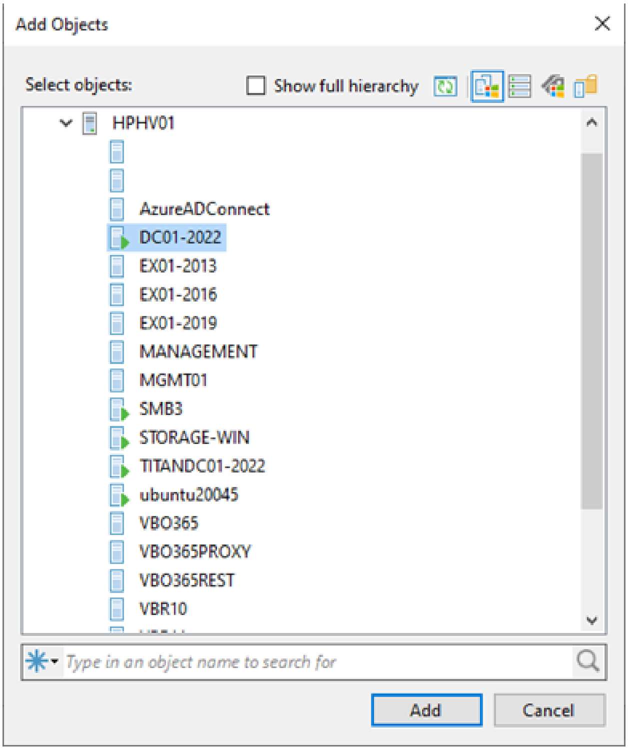
Total size: Calculating...

Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
Add...
Remove
Exclusions...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

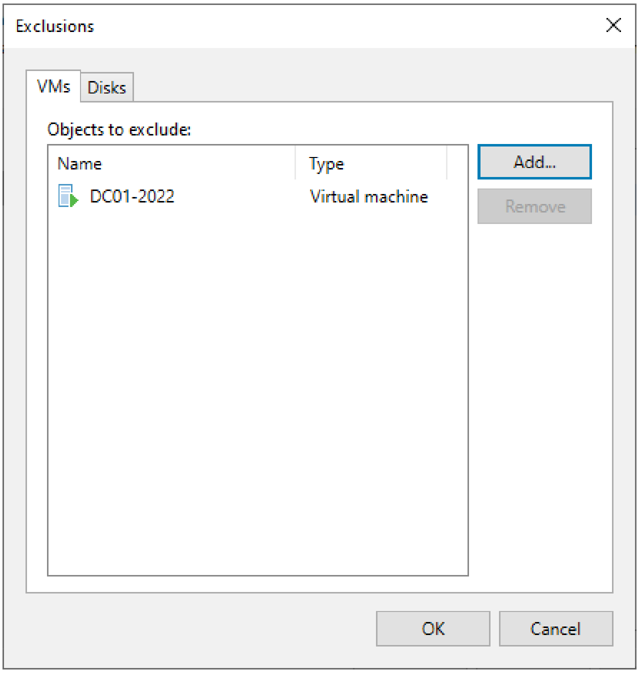
14. On the Exclusions page, select VMS and click Add.


Exclusions
VMs
Disks
Objects to exclude:
Name
Type
Add...
Remove
OK
Cancel

15. On the Add Objects page, expand the host.
16. Select the VM you want to exclude and click Add.


Add Objects
Select objects:
☐ Show full hierarchy
HPHV01
AzureADConnect
DC01-2022
EX01-2013
EX01-2016
EX01-2019
MANAGEMENT
MGMT01
SMB3
STORAGE-WIN
TITANDC01-2022
ubuntu20045
VBO365
VBO365PROXY
VBO365REST
VBR10
Type in an object name to search for
Add
Cancel

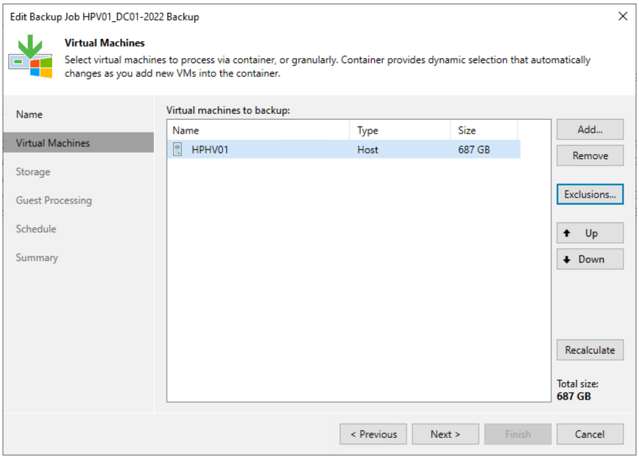
17. On the Exclusions page, click OK.


Exclusions
VMs
Disks
Add...
Remove
OK
Cancel

Objects to exclude:

Name	Type
DC01-2022	Virtual machine

18. On the Virtual Machines page, click Next.


Edit Backup Job HPV01_DC01-2022 Backup
Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
Add...
Remove
Exclusions...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

Virtual Machines

Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VMs into the container.

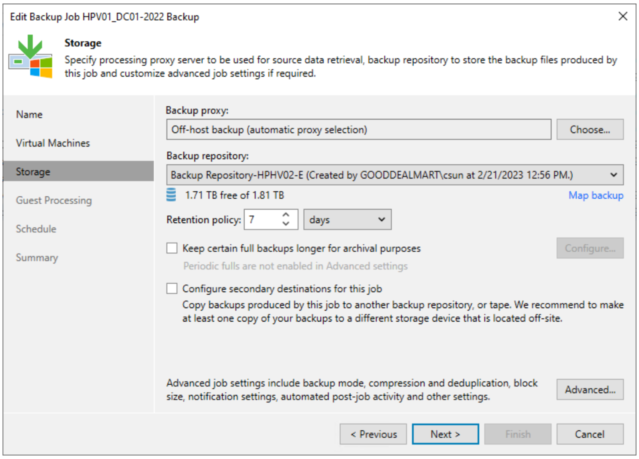
Virtual machines to backup:

Name	Type	Size
HPHV01	Host	687 GB

Total size:
687 GB

19. On the Storage page, click Choose to select a backup proxy if you don’t

want to use the default Off-host backup (automatic proxy selection) setting.



Edit Backup Job HPV01_DC01-2022 Backup

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 days

☐ Keep certain full backups longer for archival purposes

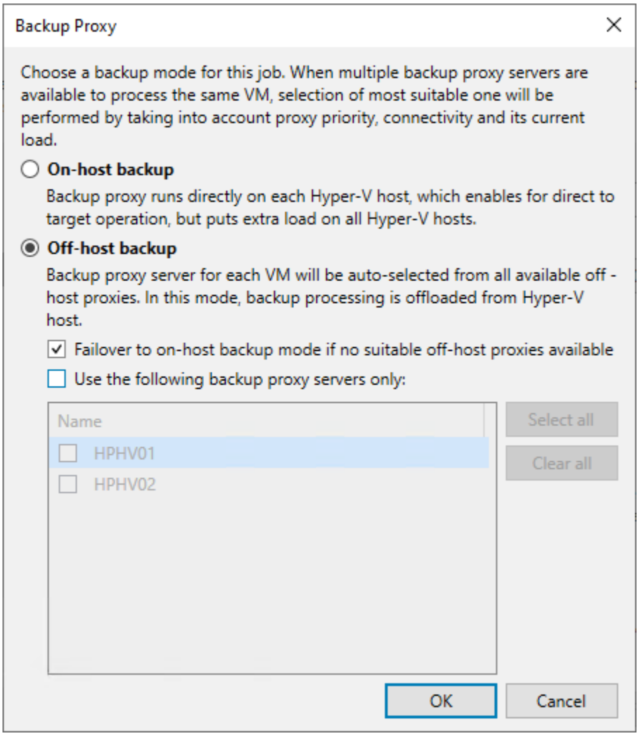
Periodic fulls are not enabled in Advanced settings

☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

20. On the Backup Proxy page, if you select On-host backup mode, the source Microsoft Hyper-V host will serve as both the source host and the backup proxy. In this mode, Veeam Data Mover runs directly on the source host, which speeds up data retrieval but places additional strain on the host.
21. If you select Off-host backup mode, Veeam Data Mover will run on a dedicated off-host backup proxy. In this model, all backup processing operations from the source host are routed to the off-host backup proxy.
22. If the off-host backup mode is selected for the job, but no off-host backup proxies are available when the job begins, Veeam Backup & Replication will transition to on-host backup mode.
23. You unselect the Failover to on-host backup mode if no suitable off-host proxies are available in the checkbox. Still, the job will fail to start if off-host backup proxies are unavailable or configured properly.
24. Click OK.



Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

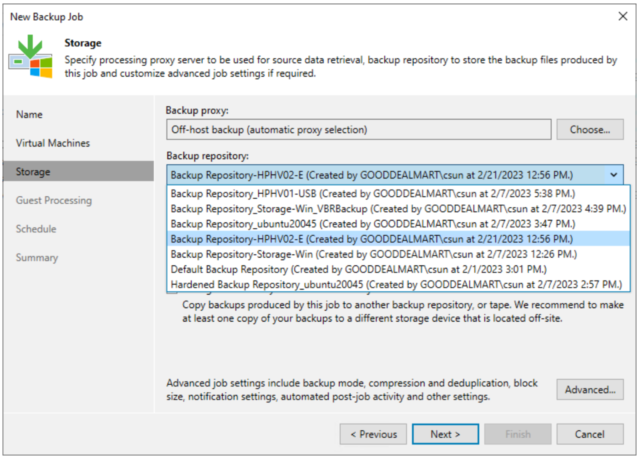
☑ Failover to on-host backup mode if no suitable off-host proxies available

☐ Use the following backup proxy servers only:

☐ HPHV01

☐ HPHV02

25. Select the backup repository from the Backup repository drop-down list where the created backup files must be saved.



Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

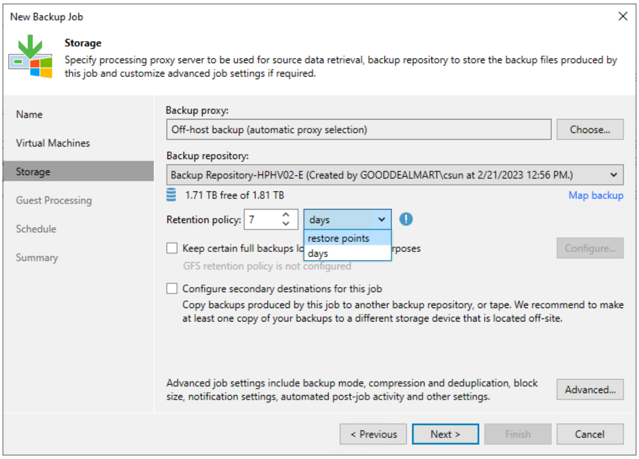
Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

Backup Repository_HPHV01-USB (Created by GOODDEALMART\csun at 2/7/2023 5:38 PM.)
Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 PM.)
Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 3:47 PM.)
Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)
Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 2/7/2023 12:26 PM.)
Default Backup Repository (Created by GOODDEALMART\csun at 2/1/2023 3:01 PM.)
Hardened Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 2:57 PM.)

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

26. Set the retention policy settings for restore points in the Retention Policy field.
27. Select days or restore points from the drop-down list.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 days

☐ Keep certain full backups lo… …rposes

GFS retention policy is not configured

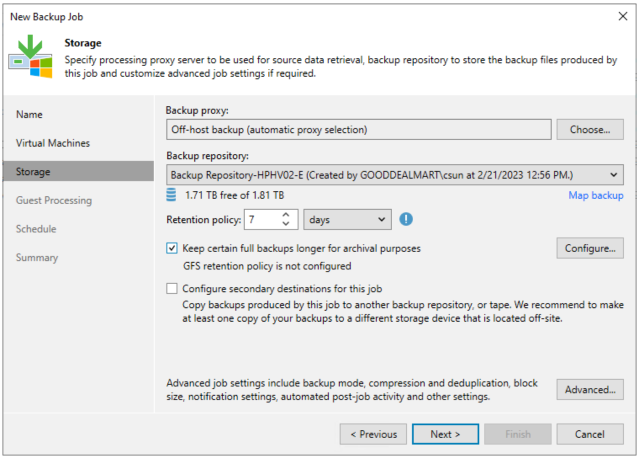
☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
Choose...
Map backup
restore points
days
Configure...
Advanced...
< Previous
Next >
Finish
Cancel

28. You can configure the backup job’s GFS retention policy settings to ignore the short-term retention policy for some full backups and store them for long-term archiving.
29. Select Keep certain full backups for longer for archival purposes and click Configure.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 days

☑ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

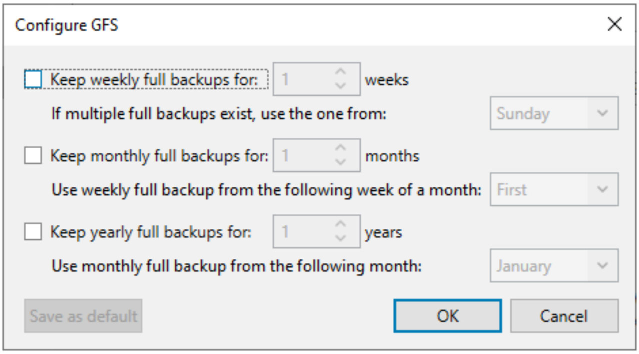
☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

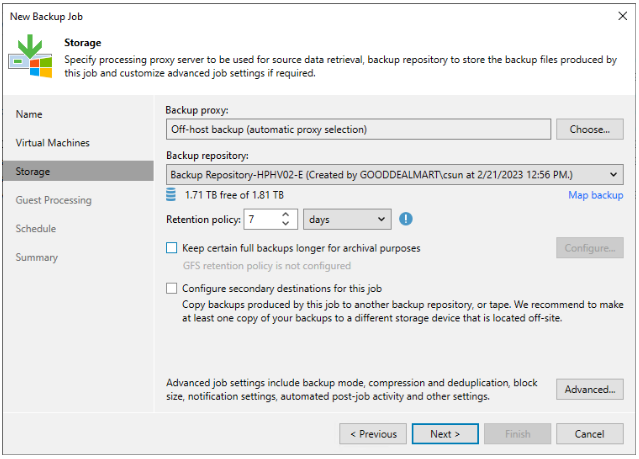
Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
Choose...
Map backup
Configure...
Advanced...
< Previous
Next >
Finish
Cancel

30. Select the Keep weekly full backups for checkbox and specify the number of weeks you want to prevent restore points from being modified and deleted.
31. Select the Keep monthly full backups for checkbox and specify the months you want to prevent restore points from being modified and deleted.
32. Select the Keep yearly full backups for checkbox and specify the years you want to prevent restore points from being modified and deleted.
33. Click OK.


Configure GFS
Save as default
OK
Cancel

☐ Keep weekly full backups for: 1 weeks
If multiple full backups exist, use the one from: Sunday
☐ Keep monthly full backups for: 1 months
Use weekly full backup from the following week of a month: First
☐ Keep yearly full backups for: 1 years
Use monthly full backup from the following month: January

34. On the Storage page, click Advanced.


New Backup Job
Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
Choose...
Map backup
Configure...
Advanced...
< Previous
Next >
Finish
Cancel

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

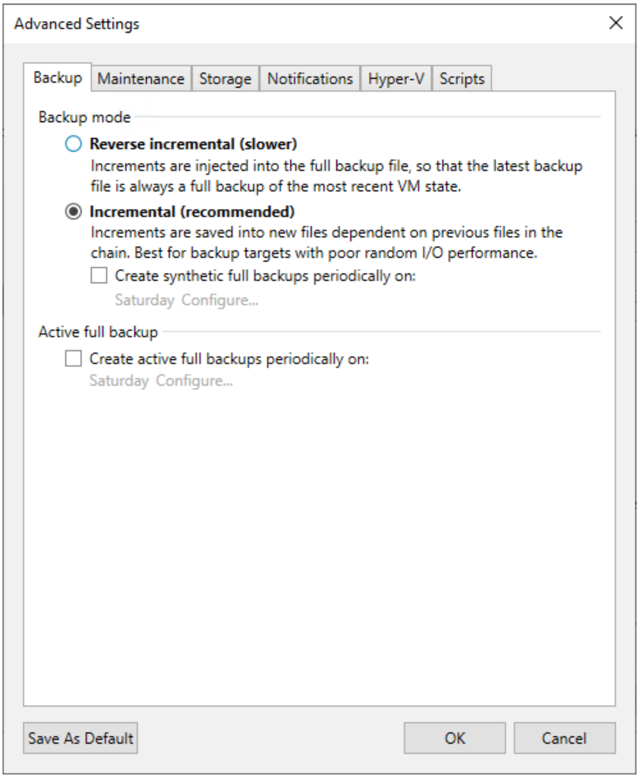
Retention policy: 7 days

☐ Keep certain full backups longer for archival purposes
GFS retention policy is not configured

☐ Configure secondary destinations for this job
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

35. Select Incremental and disable synthetic full and active full backups to create a forever forward incremental backup chain.



Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

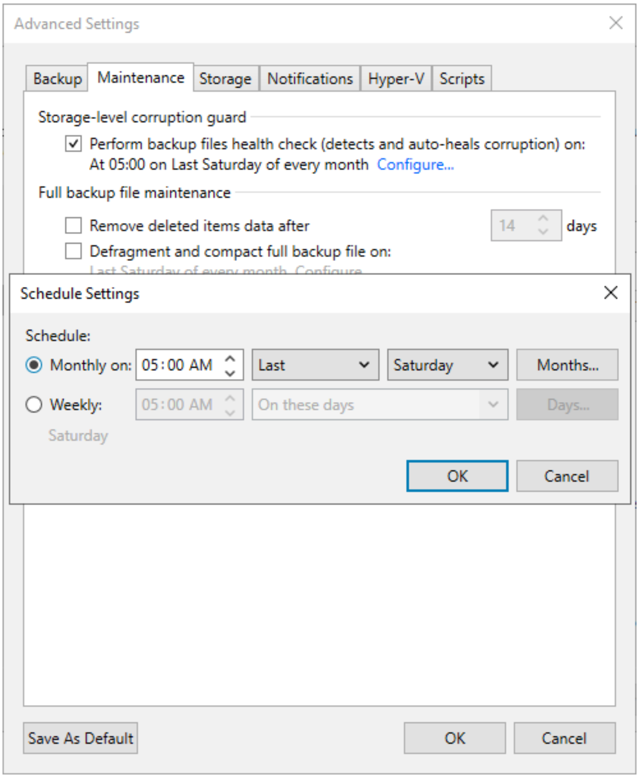
● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

☐ Create synthetic full backups periodically on:
Saturday Configure...

Active full backup

☐ Create active full backups periodically on:
Saturday Configure...

36. On the Advanced Settings, Maintenance.
37. To regularly perform a health check on the backup chain’s most recent restore point, select the Perform backup files health check (detects and auto-heals corruption) checkbox in the Storage-level corruption guard section.
38. Click Configure to set a timetable for the health check.


Advanced Settings
Backup
Maintenance
Storage
Notifications
Hyper-V
Scripts
Save As Default
OK
Cancel

Storage-level corruption guard

☑ Perform backup files health check (detects and auto-heals corruption) on:
At 05:00 on Last Saturday of every month Configure...

Full backup file maintenance

☐ Remove deleted items data after 14 days
☐ Defragment and compact full backup file on:
Last Saturday of every month Configure

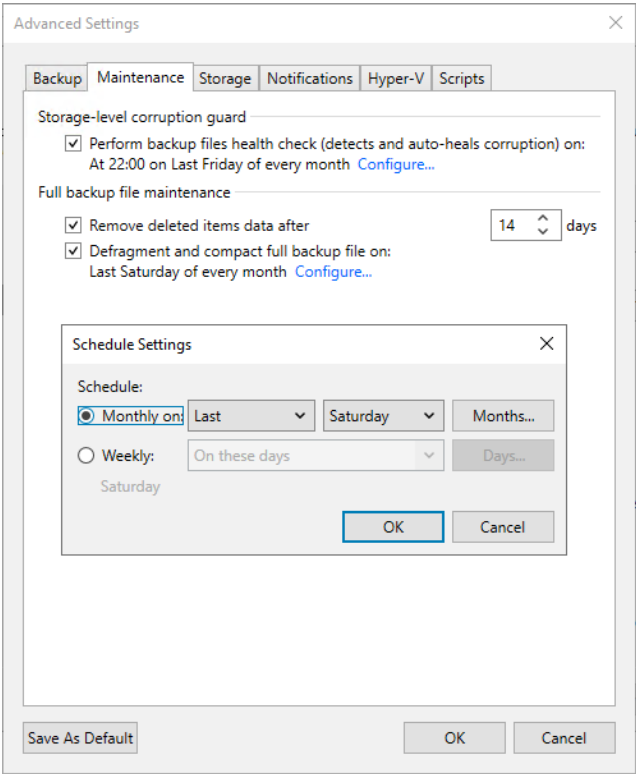
Schedule Settings

Schedule:
● Monthly on: 05:00 AM Last Saturday Months...
○ Weekly: 05:00 AM On these days Days...
Saturday

39. Select the Remove deleted items data after the checkbox and enter the few days you want backup data for deleted VMs to be kept.
40. Select the Defragment and compact full backup file checkbox and click Configure.
41. Set the schedule for the compact operation to compact a full backup periodically.

Note:

> GFS retention is not compatible with defragment and compact functionality.


Advanced Settings
Backup
Maintenance
Storage
Notifications
Hyper-V
Scripts
OK
Cancel
Save As Default
OK
Cancel

Storage-level corruption guard

☑ Perform backup files health check (detects and auto-heals corruption) on:
At 22:00 on Last Friday of every month Configure...

Full backup file maintenance

☑ Remove deleted items data after 14 days

☑ Defragment and compact full backup file on:
Last Saturday of every month Configure...

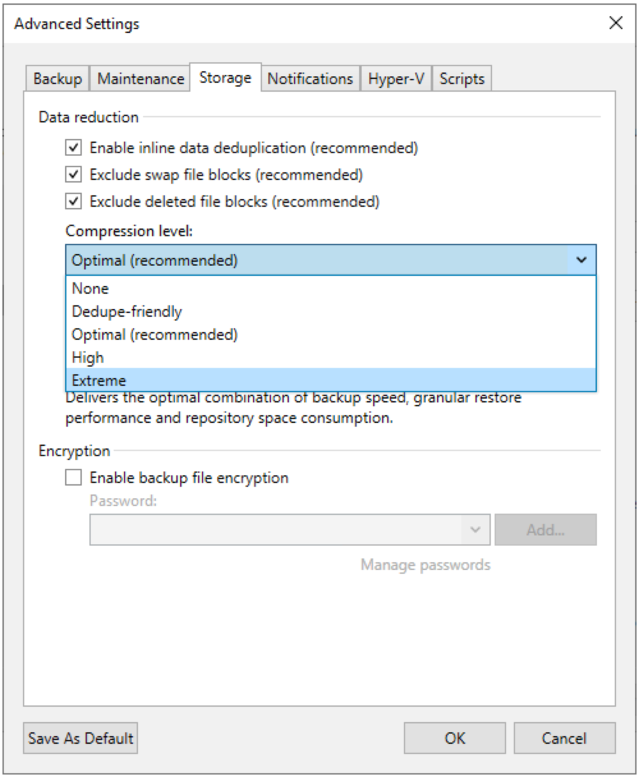
Schedule Settings

Schedule:

● Monthly on: Last Saturday Months...

○ Weekly: On these days Days...
Saturday

42. On Advanced Settings, select Storage.
43. Select the Enable inline data deduplication (recommended) checkbox.
44. Select the Exclude swap file blocks (recommended) checkbox.
45. Select the Exclude deleted file blocks (recommended) checkbox.
46. Select the compression level for the backup from the drop-down list.


Advanced Settings
Backup
Maintenance
Storage
Notifications
Hyper-V
Scripts
Save As Default
OK
Cancel
Add...
Manage passwords

Data reduction

☑ Enable inline data deduplication (recommended)
☑ Exclude swap file blocks (recommended)
☑ Exclude deleted file blocks (recommended)

Compression level:

Optimal (recommended)

- None
- Dedupe-friendly
- Optimal (recommended)
- High
- Extreme

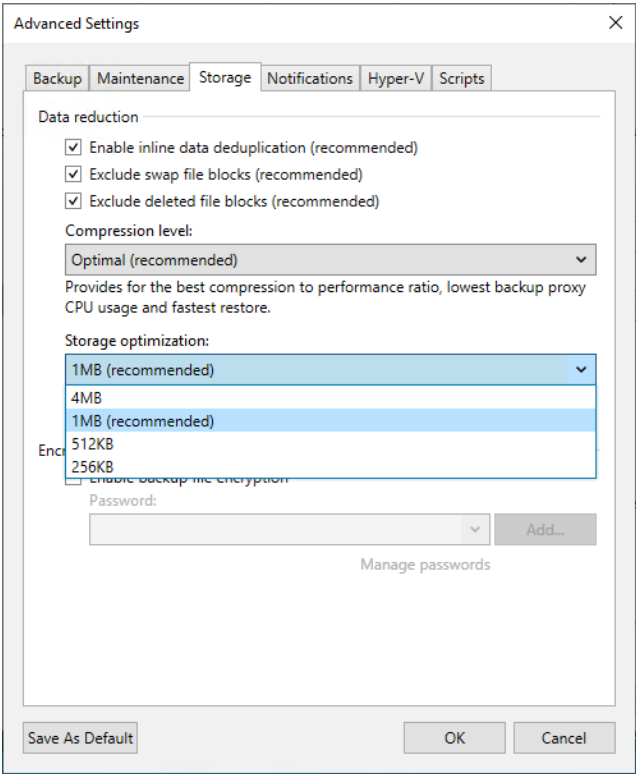
Delivers the optimal combination of backup speed, granular restore performance and repository space consumption.

Encryption

☐ Enable backup file encryption

Password:

47. Select the Storage optimization for the backup from the drop-down list.


Advanced Settings
Backup
Maintenance
Storage
Notifications
Hyper-V
Scripts
Save As Default
OK
Cancel
Add...
Manage passwords

Data reduction

☑ Enable inline data deduplication (recommended)
☑ Exclude swap file blocks (recommended)
☑ Exclude deleted file blocks (recommended)

Compression level:

Optimal (recommended)

Provides for the best compression to performance ratio, lowest backup proxy CPU usage and fastest restore.

Storage optimization:

1MB (recommended)

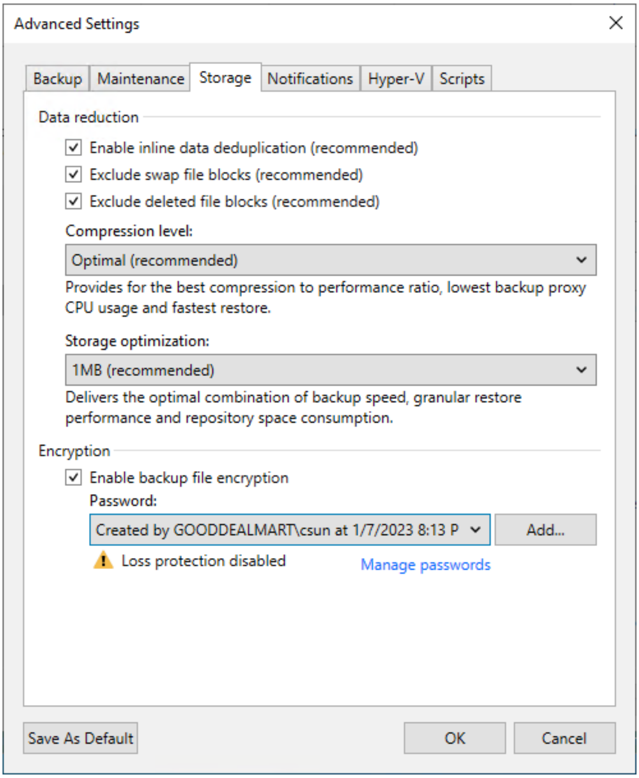
- 4MB
- 1MB (recommended)
- 512KB
- 256KB

Enc

☐

Password:

48. Select the Enable backup file encryption checkbox to encrypt the content of backup files.
49. Select a password from the drop-down list. If you still need to do so, click Add or use the Manage passwords link to create a new password.


Advanced Settings
Backup
Maintenance
Storage
Notifications
Hyper-V
Scripts
Add...
Manage passwords
Save As Default
OK
Cancel

Data reduction

☑ Enable inline data deduplication (recommended)
☑ Exclude swap file blocks (recommended)
☑ Exclude deleted file blocks (recommended)

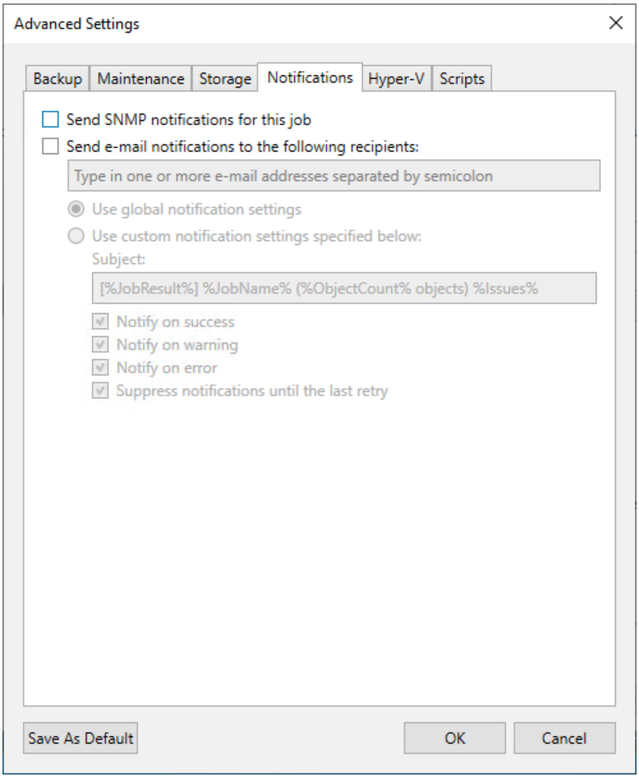
Compression level:
Optimal (recommended)
Provides for the best compression to performance ratio, lowest backup proxy CPU usage and fastest restore.

Storage optimization:
1MB (recommended)
Delivers the optimal combination of backup speed, granular restore performance and repository space consumption.

Encryption

☑ Enable backup file encryption
Password:
Created by GOODDEALMART\csun at 1/7/2023 8:13 P
Loss protection disabled

50. On the Advanced Settings, select Notifications.
51. Keep the default settings.


Advanced Settings
Backup
Maintenance
Storage
Notifications
Hyper-V
Scripts
Save As Default
OK
Cancel

☐ Send SNMP notifications for this job

☐ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

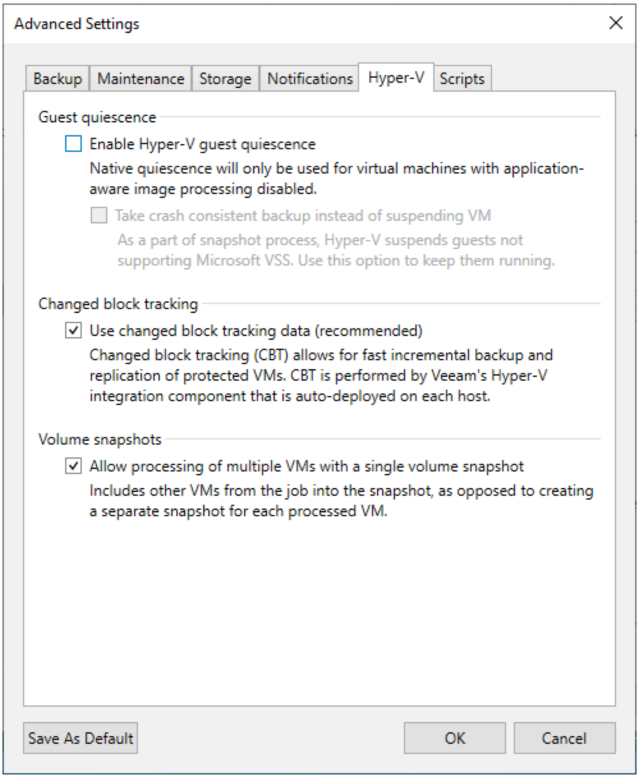
☑ Notify on success

☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

52. On the Advanced Settings, select Hyper-V.
53. Keep the default settings.



Advanced Settings
Backup
Maintenance
Storage
Notifications
Hyper-V
Scripts

Guest quiescence

☐ Enable Hyper-V guest quiescence

Native quiescence will only be used for virtual machines with application-aware image processing disabled.

☐ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

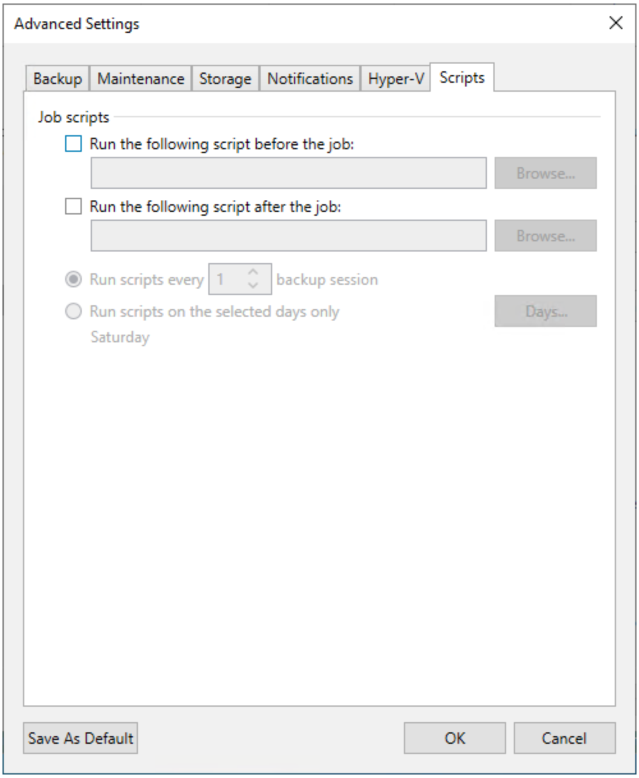
Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

Save As Default
OK
Cancel

54. On the Advanced Settings page, click Scripts and keep the default settings.
55. Click OK.



Advanced Settings

Backup
Maintenance
Storage
Notifications
Hyper-V
Scripts

Job scripts

☐ Run the following script before the job:

☐ Run the following script after the job:

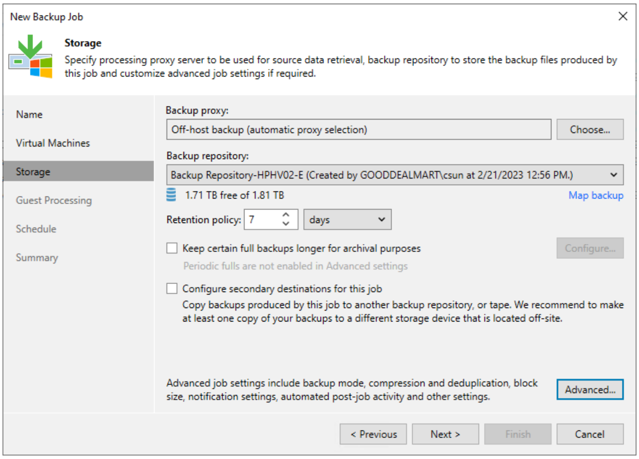
● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

Browse...
Browse...
Days...
Save As Default
OK
Cancel

56. Click Next on the Storage page.


New Backup Job
Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
Choose...
Map backup
Configure...
Advanced...
< Previous
Next >
Finish
Cancel

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 days

☐ Keep certain full backups longer for archival purposes

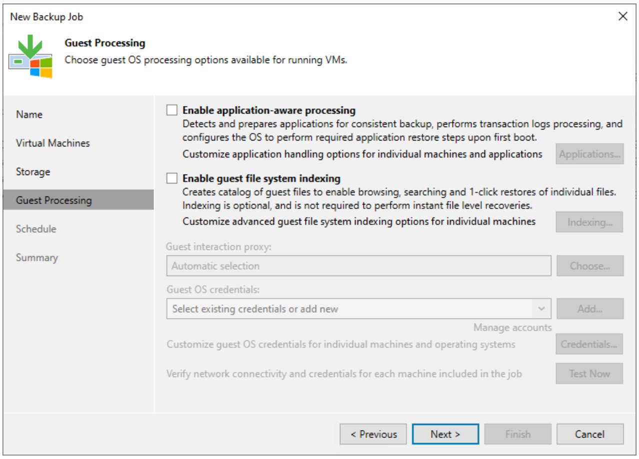
Periodic fulls are not enabled in Advanced settings

☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

57. Click Next on the Guess Processing page.


New Backup Job
Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
Applications...
Indexing...
Choose...
Add...
Manage accounts
Credentials...
Test Now
< Previous
Next >
Finish
Cancel

Guest Processing

Choose guest OS processing options available for running VMs.

☐ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

☐ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

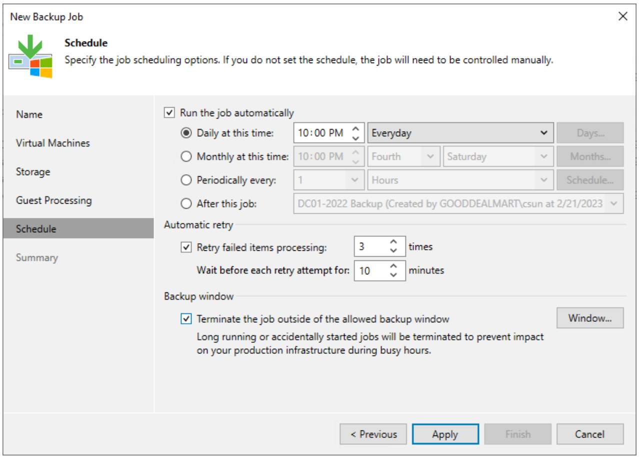
Guest OS credentials: Select existing credentials or add new

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

58. Select Run the job automatically checkbox on the Schedule page and select your specified schedule.
59. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.
60. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.

61. Click Apply.


New Backup Job
Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
Days...
Months...
Schedule...
Window...
< Previous
Apply
Finish
Cancel

Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 10:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DC01-2022 Backup (Created by GOODDEALMART\csun at 2/21/2023

Automatic retry

☑ Retry failed items processing: 3 times

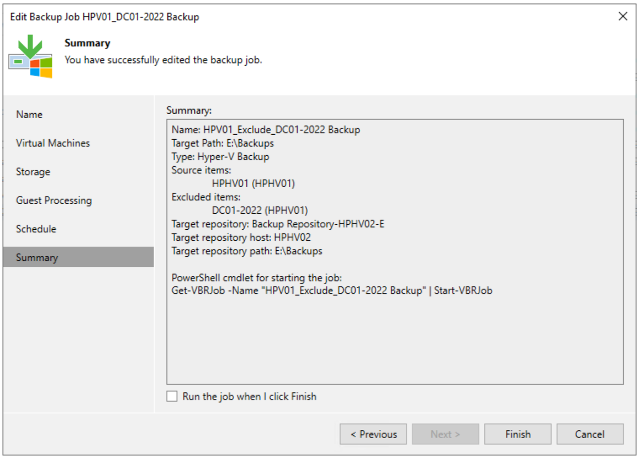
Wait before each retry attempt for: 10 minutes

Backup window

☑ Terminate the job outside of the allowed backup window

Long running or accidentally started jobs will be terminated to prevent impact on your production infrastructure during busy hours.

62. Click Finish on the Summary page.


Edit Backup Job HPV01_DC01-2022 Backup
Name
Virtual Machines
Storage
Guest Processing
Schedule
Summary
< Previous
Next >
Finish
Cancel

Summary

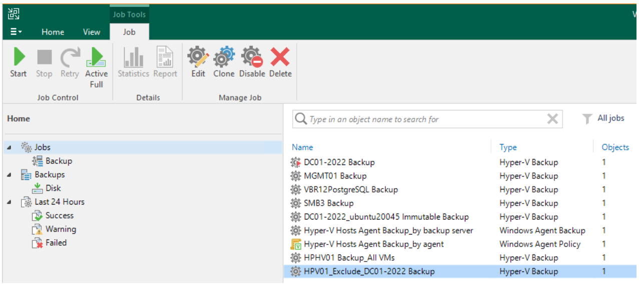
You have successfully edited the backup job.

Summary:

```
Name: HPV01_Exclude_DC01-2022 Backup
Target Path: E:\Backups
Type: Hyper-V Backup
Source items:
        HPHV01 (HPHV01)
Excluded items:
        DC01-2022 (HPHV01)
Target repository: Backup Repository-HPHV02-E
Target repository host: HPHV02
Target repository path: E:\Backups

PowerShell cmdlet for starting the job:
Get-VBRJob -Name "HPV01_Exclude_DC01-2022 Backup" | Start-VBRJob
```

☐ Run the job when I click Finish

63. Verify that the backup job has been added.

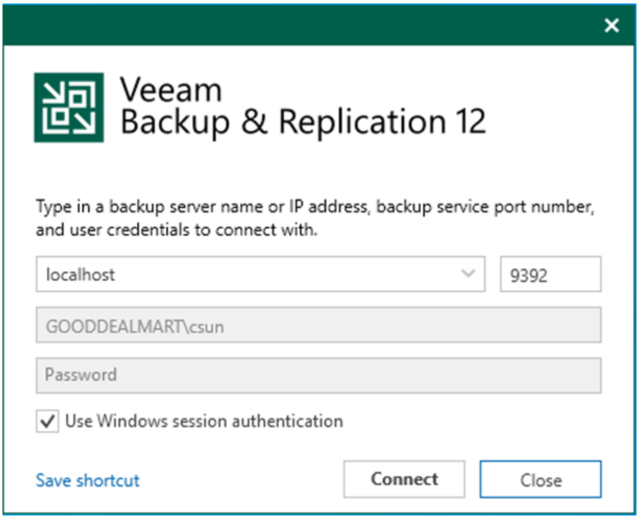

Job Tools
Home
View
Job
Start
Stop
Retry
Active Full
Statistics
Report
Edit
Clone
Disable
Delete
Job Control
Details
Manage Job
Home
Jobs
Backup
Backups
Disk
Last 24 Hours
Success
Warning
Failed
Type in an object name to search for
All jobs

Name	Type	Objects
DC01-2022 Backup	Hyper-V Backup	1
MGMT01 Backup	Hyper-V Backup	1
VBR12PostgreSQL Backup	Hyper-V Backup	1
SMB3 Backup	Hyper-V Backup	1
DC01-2022_ubuntu20045 Immutable Backup	Hyper-V Backup	1
Hyper-V Hosts Agent Backup_by backup server	Windows Agent Backup	1
Hyper-V Hosts Agent Backup_by agent	Windows Agent Policy	1
HPHV01 Backup_All VMs	Hyper-V Backup	1
HPV01_Exclude_DC01-2022 Backup	Hyper-V Backup	1

Creating a Backup Copy Job with an Immediate copy from the backup job workload

Immediate copies help reduce your RPO, which is the maximum allowable data loss in the event of a disaster. By creating copies as soon as new data is backed up, you ensure minimal data loss.

1. Login to the Veeam Backup and replication v12 manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.


Veeam
Backup & Replication 12
Save shortcut
Connect
Close

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost

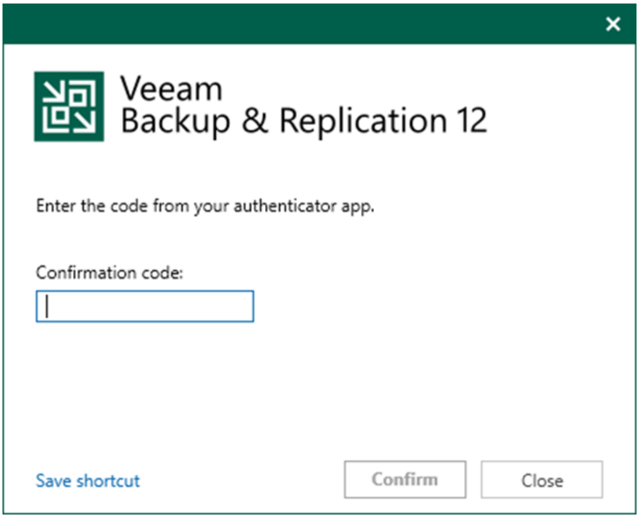
9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

3. Enter the MFA Confirmation code and click Confirm.

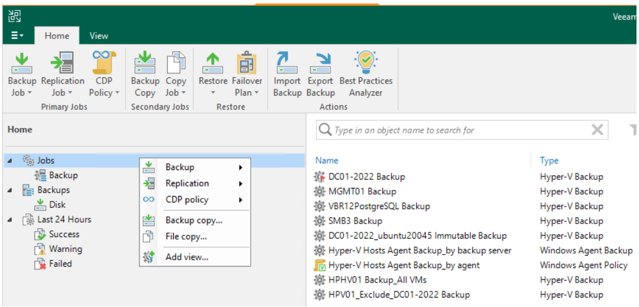

Veeam
Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

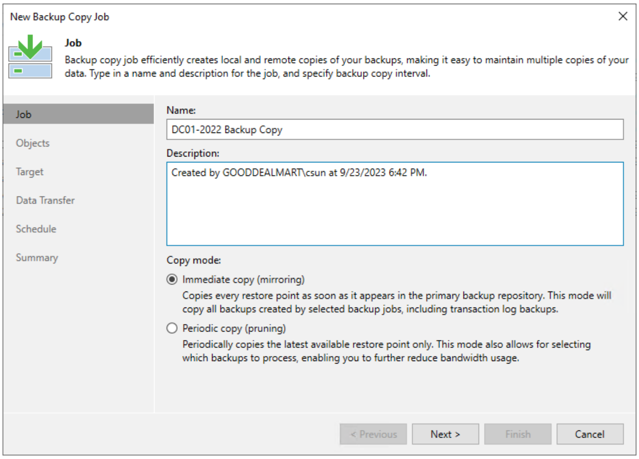
Save shortcut
Confirm
Close

4. On the Home page, select Jobs, right-click Jobs, select Backup copy and click Virtual machine.


Home
View
Backup Job
Replication Job
CDP Policy
Primary Jobs
Backup Copy
Copy Job
Secondary Jobs
Restore
Failover Plan
Restore
Import Backup
Export Backup
Best Practices Analyzer
Actions
Home
Jobs
Backup
Backups
Disk
Last 24 Hours
Success
Warning
Failed
Backup
Replication
CDP policy
Backup copy...
File copy...
Add view...
Type in an object name to search for

Name	Type
DC01-2022 Backup	Hyper-V Backup
MGMT01 Backup	Hyper-V Backup
VBR12PostgreSQL Backup	Hyper-V Backup
SMB3 Backup	Hyper-V Backup
DC01-2022_ubuntu20045 Immutable Backup	Hyper-V Backup
Hyper-V Hosts Agent Backup_by backup server	Windows Agent Backup
Hyper-V Hosts Agent Backup_by agent	Windows Agent Policy
HPHV01 Backup_All VMs	Hyper-V Backup
HPV01_Exclude_DC01-2022 Backup	Hyper-V Backup

5. On the Name page, enter a name in the Name field.
6. Describe the Description field.
7. In the Copy mode session, select Immediate copy (mirroring).
8. Click Next.


New Backup Copy Job
Job
Objects
Target
Data Transfer
Schedule
Summary
< Previous
Next >
Finish
Cancel

Job

Backup copy job efficiently creates local and remote copies of your backups, making it easy to maintain multiple copies of your data. Type in a name and description for the job, and specify backup copy interval.

Name: DC01-2022 Backup Copy

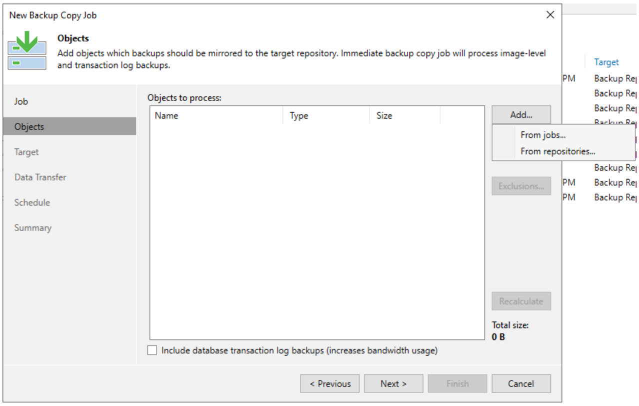
Description: Created by GOODDEALMART\csun at 9/23/2023 6:42 PM.

Copy mode:

● Immediate copy (mirroring)
Copies every restore point as soon as it appears in the primary backup repository. This mode will copy all backups created by selected backup jobs, including transaction log backups.

○ Periodic copy (pruning)
Periodically copies the latest available restore point only. This mode also allows for selecting which backups to process, enabling you to further reduce bandwidth usage.

9. On the Objects page, click Add and select From jobs...


New Backup Copy Job
Job
Objects
Target
Data Transfer
Schedule
Summary
Name
Type
Size
Add...
From jobs...
From repositories...
Exclusions...
Recalculate
< Previous
Next >
Finish
Cancel
Target
PM
Backup Re
Backup Re
Backup Re
Backup Re
Backup Re
Backup Re
PM
PM
Backup Re

Objects

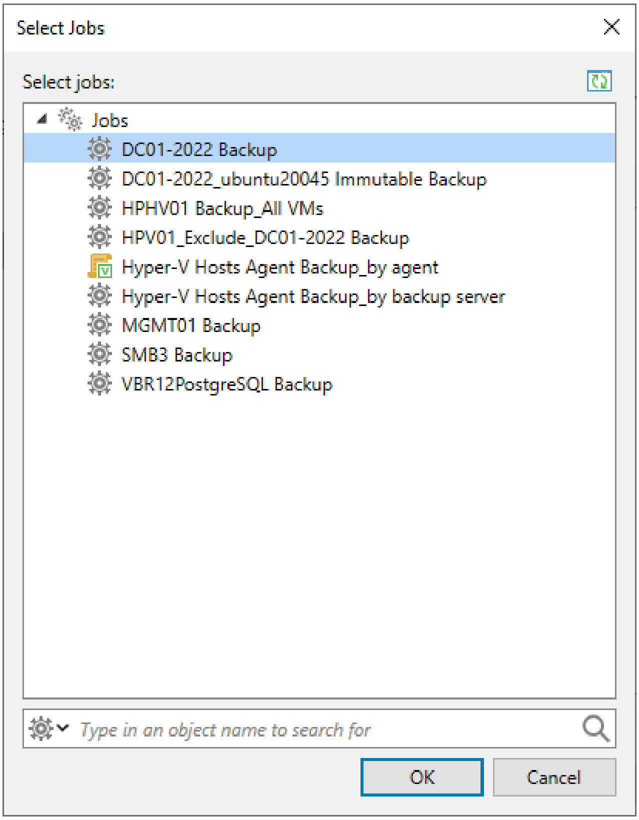
Add objects which backups should be mirrored to the target repository. Immediate backup copy job will process image-level and transaction log backups.

Objects to process:

☐ Include database transaction log backups (increases bandwidth usage)

Total size: 0 B

10. Select the job from the jobs list on the Select jobs page and click OK.

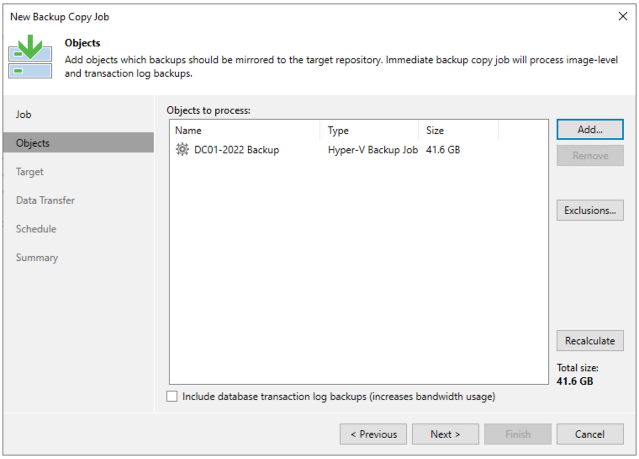


Select Jobs

Select jobs:

- Jobs
  - DC01-2022 Backup
  - DC01-2022_ubuntu20045 Immutable Backup
  - HPHV01 Backup_All VMs
  - HPV01_Exclude_DC01-2022 Backup
  - Hyper-V Hosts Agent Backup_by agent
  - Hyper-V Hosts Agent Backup_by backup server
  - MGMT01 Backup
  - SMB3 Backup
  - VBR12PostgreSQL Backup

11. On the Objects page, click Next.
12. Select Include database transacting log backups (increases bandwidth usage) If required.



New Backup Copy Job

Objects

Add objects which backups should be mirrored to the target repository. Immediate backup copy job will process image-level and transaction log backups.

Objects to process:

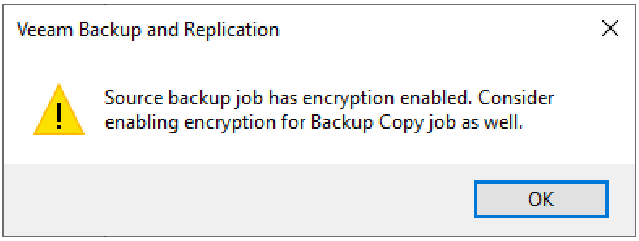
Name	Type	Size
DC01-2022 Backup	Hyper-V Backup Job	41.6 GB

☐ Include database transaction log backups (increases bandwidth usage)

Total size:
41.6 GB

Job
Objects
Target
Data Transfer
Schedule
Summary
Add...
Remove
Exclusions...
Recalculate
< Previous
Next >
Finish
Cancel

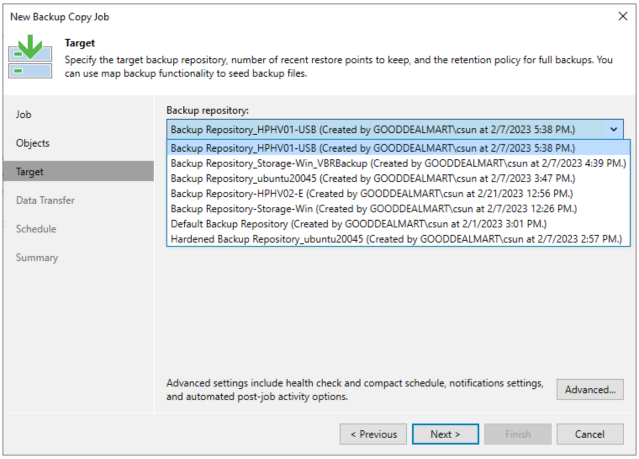
13. Click OK in the encryption-enabled warning message if the source backup job has encryption enabled.



Veeam Backup and Replication

Source backup job has encryption enabled. Consider enabling encryption for Backup Copy job as well.

14. On the Target page, select the backup repository from the drop-down list.


New Backup Copy Job
Job
Objects
Target
Data Transfer
Schedule
Summary
Advanced...
< Previous
Next >
Finish
Cancel

Target

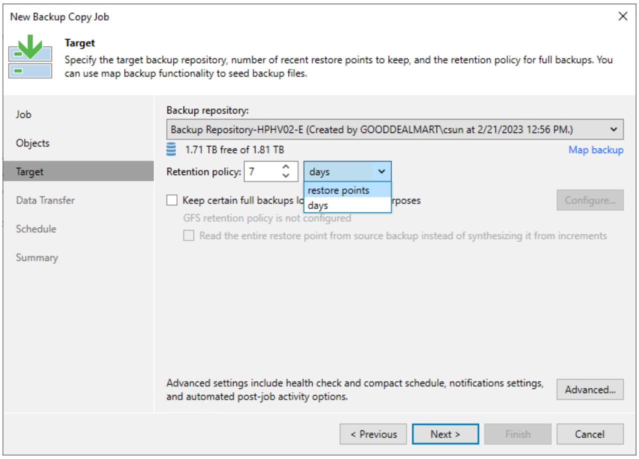
Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository_HPHV01-USB (Created by GOODDEALMART\csun at 2/7/2023 5:38 PM.)

- Backup Repository_HPHV01-USB (Created by GOODDEALMART\csun at 2/7/2023 5:38 PM.)
- Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 PM.)
- Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 3:47 PM.)
- Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)
- Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 2/7/2023 12:26 PM.)
- Default Backup Repository (Created by GOODDEALMART\csun at 2/1/2023 3:01 PM.)
- Hardened Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 2:57 PM.)

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

15. Set the retention policy settings for restore points in the Retention Policy field.
16. Select days or restore points from the drop-down list.


New Backup Copy Job
Job
Objects
Target
Data Transfer
Schedule
Summary
Map backup
Configure...
Advanced...
< Previous
Next >
Finish
Cancel

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 days

- restore points
- days

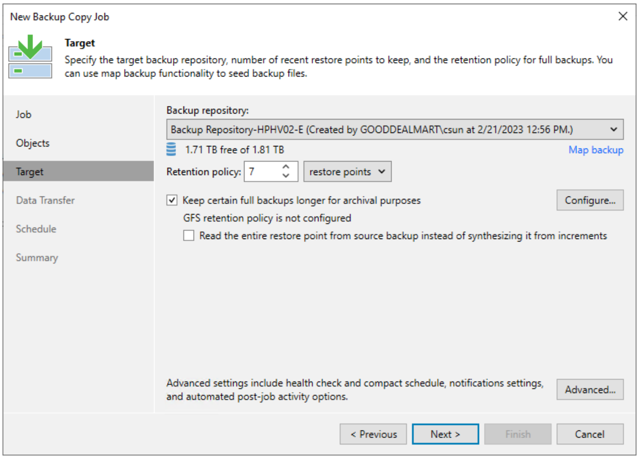
☐ Keep certain full backups lo rposes

GFS retention policy is not configured

☐ Read the entire restore point from source backup instead of synthesizing it from increments

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

17. You can configure GFS retention policy settings for the backup copy job for long-term archiving.
18. Select Keep specific full backups for longer for archival purposes and click Configure.


New Backup Copy Job
Job
Objects
Target
Data Transfer
Schedule
Summary
Map backup
Configure...
Advanced...
< Previous
Next >
Finish
Cancel

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 restore points

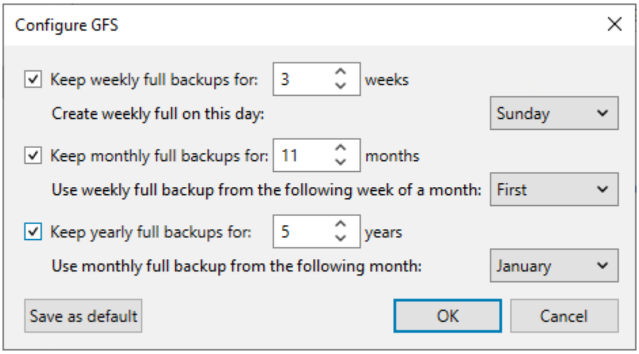
☑ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

☐ Read the entire restore point from source backup instead of synthesizing it from increments

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

19. On the Configure GFS page, select the Keep weekly full backups for checkbox, and specify the number of weeks you want to prevent restore points from being modified and deleted.
20. Select the Keep monthly full backups for checkbox and specify the months you want to prevent restore points from being modified and deleted.
21. Select the Keep yearly full backups for checkbox and specify the years you want to prevent restore points from being modified and deleted.
22. Click OK.


Configure GFS
Save as default
OK
Cancel

☑ Keep weekly full backups for: 3 weeks

Create weekly full on this day: Sunday

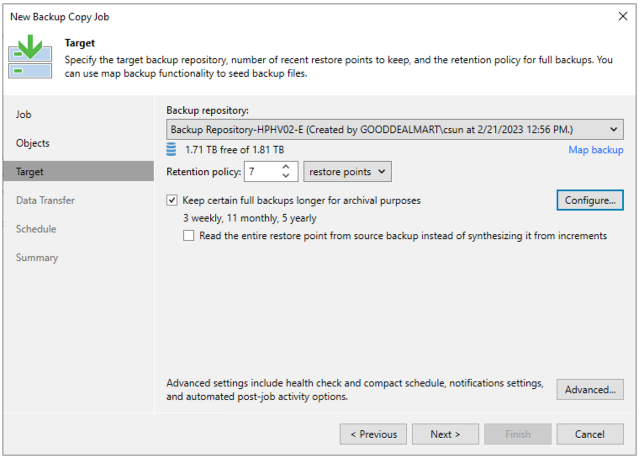
☑ Keep monthly full backups for: 11 months

Use weekly full backup from the following week of a month: First

☑ Keep yearly full backups for: 5 years

Use monthly full backup from the following month: January

23. On the Target page, click Advanced.


New Backup Copy Job
Job
Objects
Target
Data Transfer
Schedule
Summary
Map backup
Configure...
Advanced...
< Previous
Next >
Finish
Cancel

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 restore points

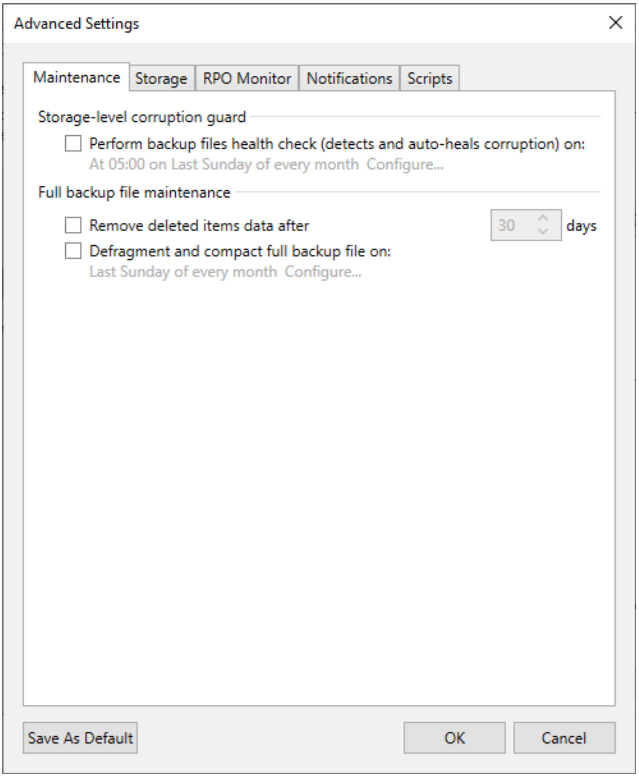
☑ Keep certain full backups longer for archival purposes

3 weekly, 11 monthly, 5 yearly

☐ Read the entire restore point from source backup instead of synthesizing it from increments

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

24. On the Advanced Settings, click Maintenance.
25. Select the Perform backup files health check (detects and auto-heals corruption) checkbox and specify the schedule for the health check if required.
26. Select the Remove deleted items data after checkbox and specify the retention days settings for deleted workloads if required.
27. Select the Defragment and compact full backup file checkbox and specify the schedule for the compacting operation if required.



Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Save As Default
OK
Cancel

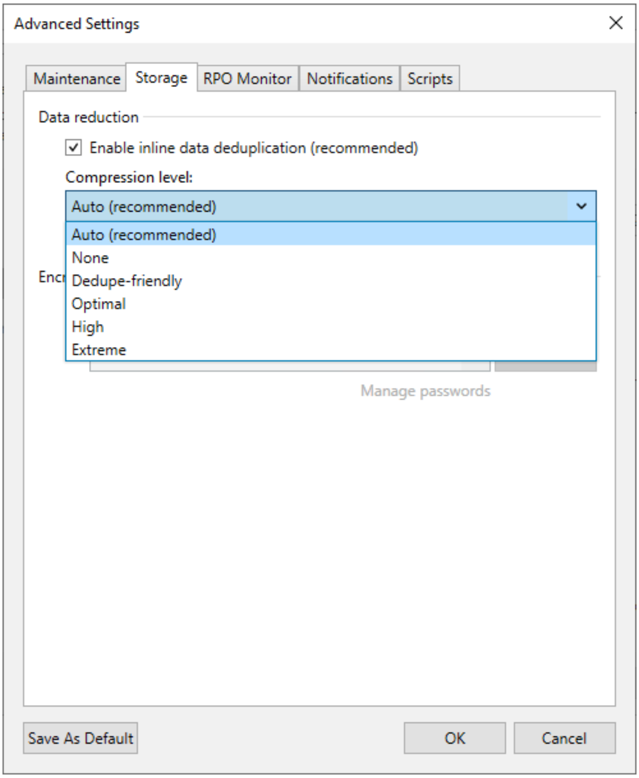
Storage-level corruption guard

☐ Perform backup files health check (detects and auto-heals corruption) on:
At 05:00 on Last Sunday of every month Configure...

Full backup file maintenance

☐ Remove deleted items data after 30 days
☐ Defragment and compact full backup file on:
Last Sunday of every month Configure...

28. On Advanced Settings, click Storage.
29. Select the Enable inline data deduplication checkbox.
30. Select the compression level for the backup copy from the drop-down list.



Advanced Settings

Maintenance
Storage
RPO Monitor
Notifications
Scripts

Data reduction

☑ Enable inline data deduplication (recommended)

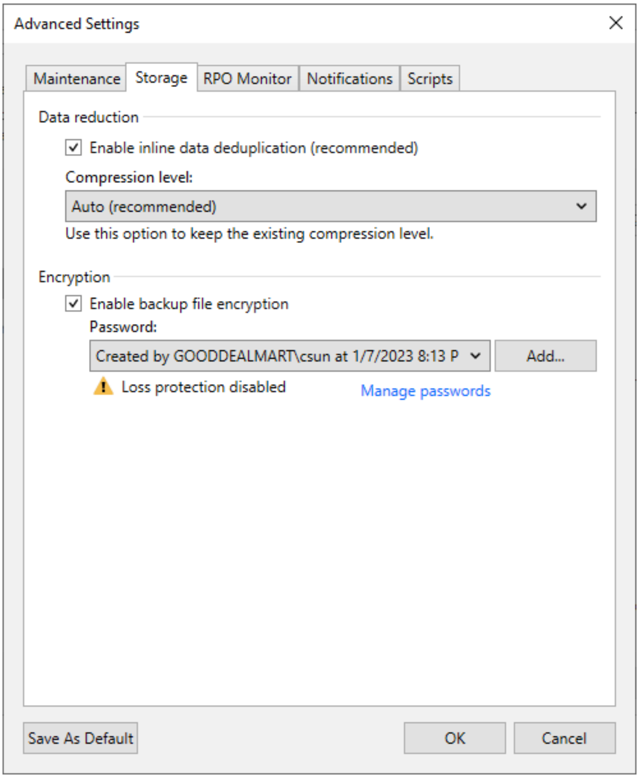
Compression level:

Auto (recommended)

- Auto (recommended)
- None
- Dedupe-friendly
- Optimal
- High
- Extreme

Encr
Manage passwords
Save As Default
OK
Cancel

31. Select the Enable backup file encryption checkbox to encrypt the content of backup files.
32. Select a password from the drop-down list. If you haven’t done so, click Add or use the Manage passwords link to create a new password.


Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Save As Default
OK
Cancel

Data reduction

☑ Enable inline data deduplication (recommended)

Compression level:

Auto (recommended)

Use this option to keep the existing compression level.

Encryption

☑ Enable backup file encryption

Password:

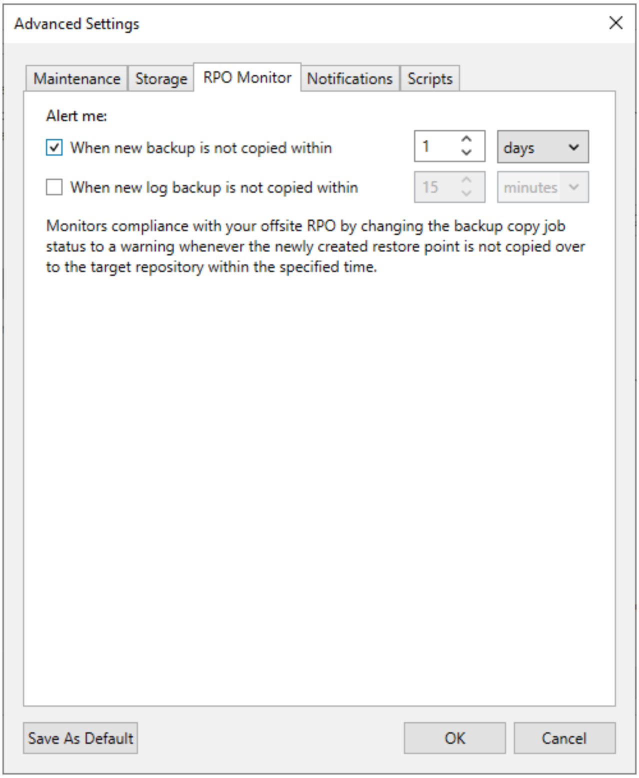
Created by GOODDEALMART\csun at 1/7/2023 8:13 P

Add...

Loss protection disabled

Manage passwords

33. On the Advanced Settings page, select RPO Monitor.
34. Select the Alert me if a backup is not copied within checkbox, and specify the desired RPO in minutes, hours, or days.
35. Select Alert me if log backup is not copied within checkbox.
36. If you have enabled copying of log backups, specify the desired RPO in minutes, hours, or days.


Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Save As Default
OK
Cancel

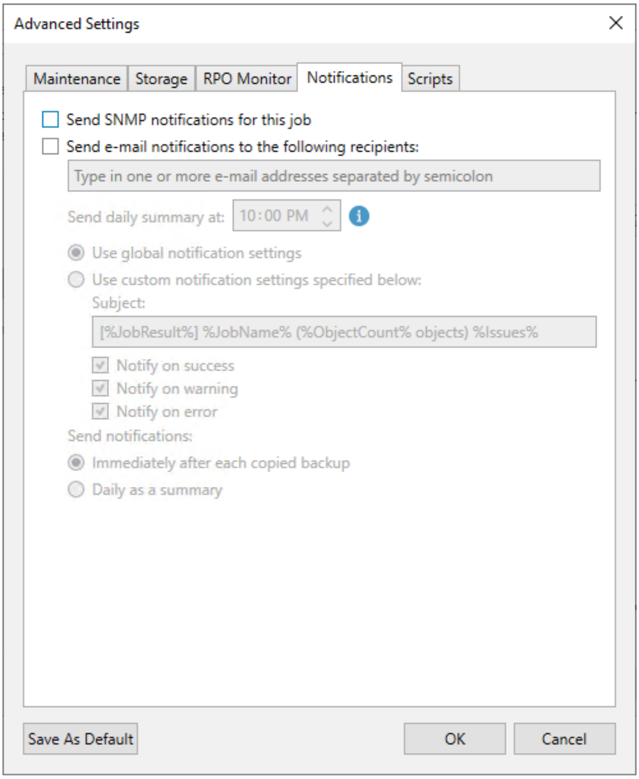
Alert me:

☑ When new backup is not copied within 1 days

☐ When new log backup is not copied within 15 minutes

Monitors compliance with your offsite RPO by changing the backup copy job status to a warning whenever the newly created restore point is not copied over to the target repository within the specified time.

37. On the Advanced Settings, select Notifications.
38. Keep the default settings.


Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Save As Default
OK
Cancel

☐ Send SNMP notifications for this job

☐ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

Send daily summary at: 10:00 PM

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

☑ Notify on success

☑ Notify on warning

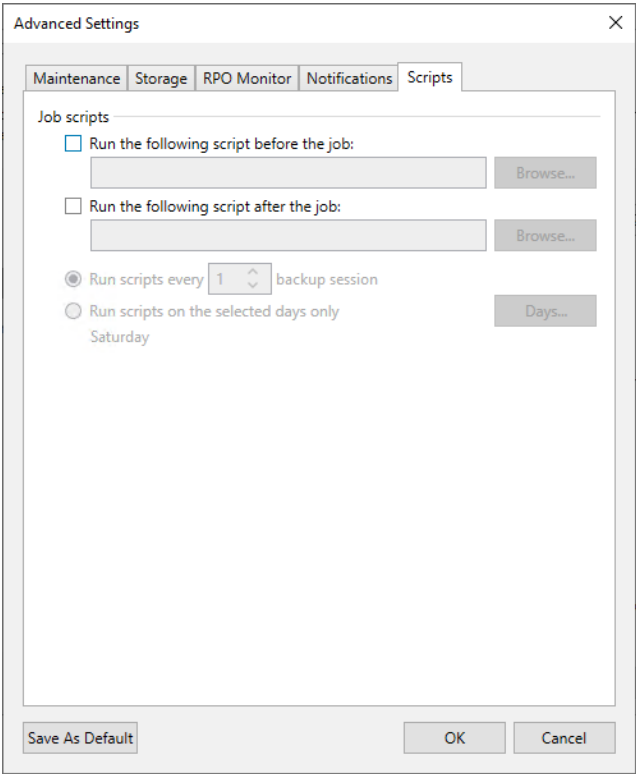
☑ Notify on error

Send notifications:

● Immediately after each copied backup

○ Daily as a summary

39. On the Advanced Settings page, click Scripts.
40. Keep the default settings and click OK.



Advanced Settings

Maintenance
Storage
RPO Monitor
Notifications
Scripts

Job scripts

☐ Run the following script before the job:

☐ Run the following script after the job:

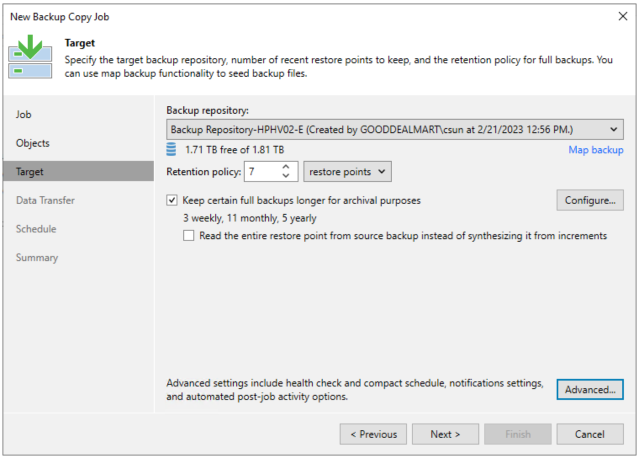
● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

Browse...
Browse...
Days...
Save As Default
OK
Cancel

41. On the Target page, click Next.


New Backup Copy Job
Job
Objects
Target
Data Transfer
Schedule
Summary
Map backup
Configure...
Advanced...
< Previous
Next >
Finish
Cancel

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 restore points

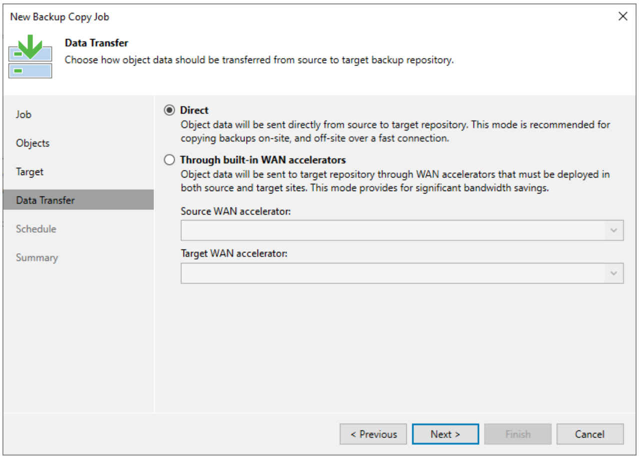
☑ Keep certain full backups longer for archival purposes

3 weekly, 11 monthly, 5 yearly

☐ Read the entire restore point from source backup instead of synthesizing it from increments

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

42. On the Data Transfer page, Select Direct if you plan to copy backup files over high-speed connections.
43. Click Next.


New Backup Copy Job
Job
Objects
Target
Data Transfer
Schedule
Summary
< Previous
Next >
Finish
Cancel

Data Transfer

Choose how object data should be transferred from source to target backup repository.

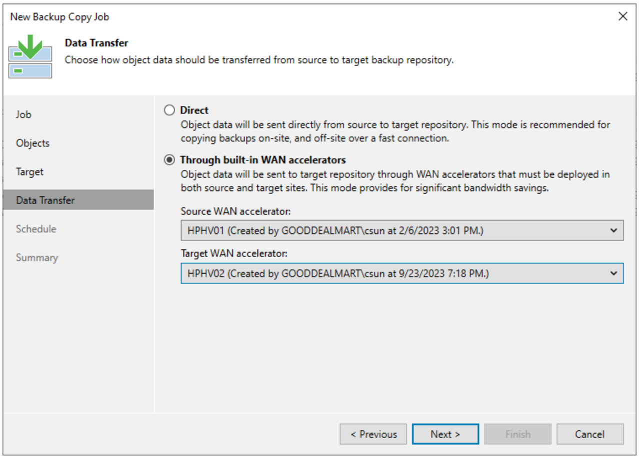
● **Direct**
Object data will be sent directly from source to target repository. This mode is recommended for copying backups on-site, and off-site over a fast connection.

○ **Through built-in WAN accelerators**
Object data will be sent to target repository through WAN accelerators that must be deployed in both source and target sites. This mode provides for significant bandwidth savings.

Source WAN accelerator:

Target WAN accelerator:

44. Select the Through built-in WAN accelerators if you copy backup files over WAN or slow connections.
45. Select a WAN accelerator configured in the source site from the Source WAN accelerator drop-down list.
46. Select a WAN accelerator configured in the target site from the Target WAN accelerator drop-down list.



New Backup Copy Job

Data Transfer

Choose how object data should be transferred from source to target backup repository.

○ **Direct**

Object data will be sent directly from source to target repository. This mode is recommended for copying backups on-site, and off-site over a fast connection.

● **Through built-in WAN accelerators**

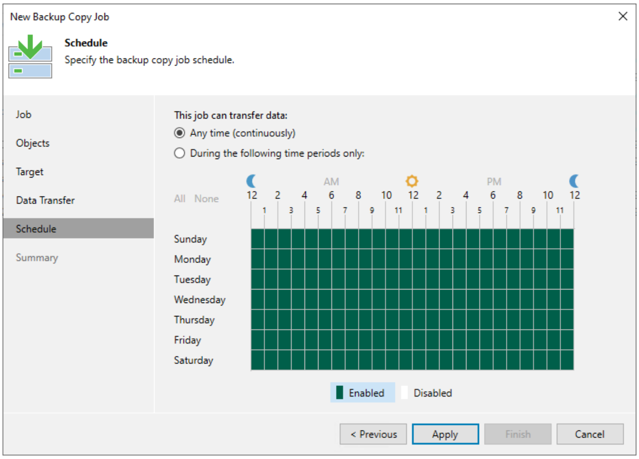
Object data will be sent to target repository through WAN accelerators that must be deployed in both source and target sites. This mode provides for significant bandwidth savings.

Source WAN accelerator: HPHV01 (Created by GOODDEALMART\csun at 2/6/2023 3:01 PM.)

Target WAN accelerator: HPHV02 (Created by GOODDEALMART\csun at 9/23/2023 7:18 PM.)

Job
Objects
Target
Data Transfer
Schedule
Summary
< Previous
Next >
Finish
Cancel

47. On the Schedule page, select Any time (continuously) if this job can transfer data at any time.
48. Select During the following periods only if required.
49. Click Apply.



New Backup Copy Job

Schedule

Specify the backup copy job schedule.

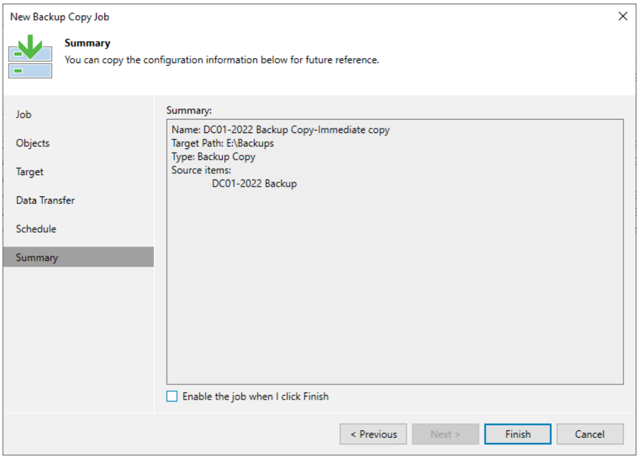
This job can transfer data:

● Any time (continuously)

○ During the following time periods only:

Job
Objects
Target
Data Transfer
Schedule
Summary
All
None
AM
PM
12 2 4 6 8 10 12 2 4 6 8 10 12
1 3 5 7 9 11 1 3 5 7 9 11
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Enabled
Disabled
< Previous
Apply
Finish
Cancel

50. Select Enable the job on the Summary page when I click the Finish checkbox. If you want to start the job after creating it, click Finish.


New Backup Copy Job
Summary
You can copy the configuration information below for future reference.
Job
Objects
Target
Data Transfer
Schedule
Summary
Summary:
< Previous
Next >
Finish
Cancel

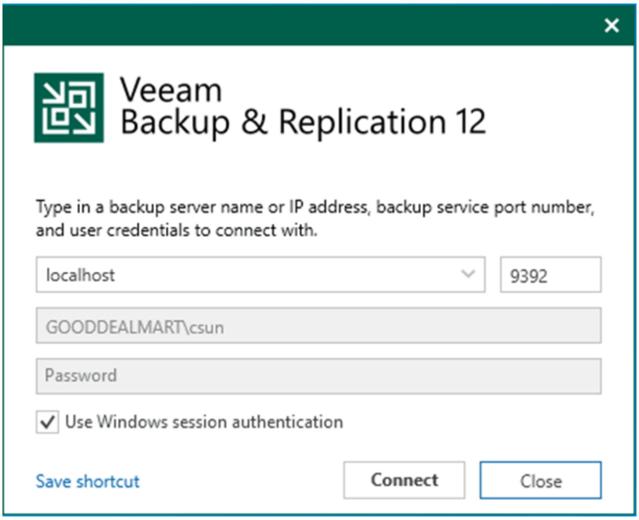
Name: DC01-2022 Backup Copy-Immediate copy
Target Path: E:\Backups
Type: Backup Copy
Source items:
DC01-2022 Backup

☐ Enable the job when I click Finish

Creating a Backup Copy Job with Periodic copy from the backup job workload

Periodic copy jobs can be scheduled to run during non-business hours or low-activity periods, reducing the impact on production systems. This allows you to efficiently manage backup and copy operations without causing disruption.

1. Login to the Veeam Backup and replication v12 manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.



Veeam Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost 9392

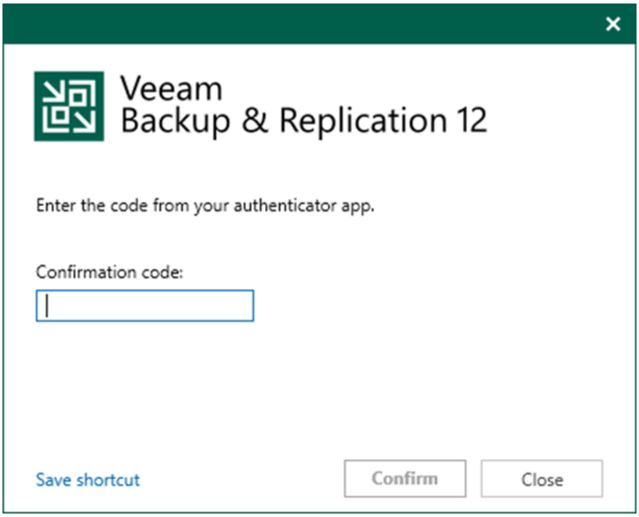
GOODDEALMART\csun

Password

☑ Use Windows session authentication

Save shortcut
Connect
Close

3. Enter the MFA Confirmation code and click Confirm.



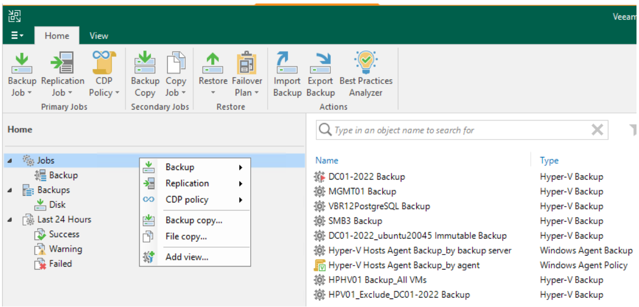
Veeam Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

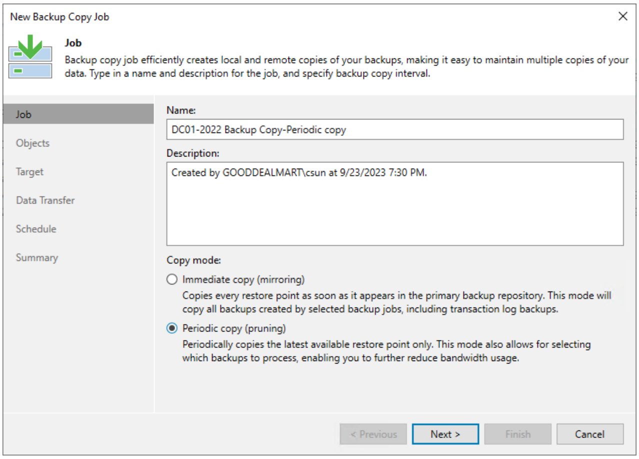
Save shortcut
Confirm
Close

4. On the Home page, select Jobs, right-click Jobs, select Backup copy and click Virtual machine.


Veeam
Home
View
Backup Job
Replication Job
CDP Policy
Primary Jobs
Backup Copy
Copy Job
Secondary Jobs
Restore
Failover Plan
Restore
Import Backup
Export Backup
Best Practices Analyzer
Actions
Home
Type in an object name to search for
Jobs
Backup
Backups
Disk
Last 24 Hours
Success
Warning
Failed
Backup
Replication
CDP policy
Backup copy...
File copy...
Add view...

Name	Type
DC01-2022 Backup	Hyper-V Backup
MGMT01 Backup	Hyper-V Backup
VBR12PostgreSQL Backup	Hyper-V Backup
SMB3 Backup	Hyper-V Backup
DC01-2022_ubuntu20045 Immutable Backup	Hyper-V Backup
Hyper-V Hosts Agent Backup_by backup server	Windows Agent Backup
Hyper-V Hosts Agent Backup_by agent	Windows Agent Policy
HPHV01 Backup_All VMs	Hyper-V Backup
HPV01_Exclude_DC01-2022 Backup	Hyper-V Backup

5. On the Name page, enter a name in the Name field.
6. Describe the Description field.
7. In the Copy mode session, select Periodic copy.
8. Click Next.


New Backup Copy Job
Job
Objects
Target
Data Transfer
Schedule
Summary
< Previous
Next >
Finish
Cancel

Job

Backup copy job efficiently creates local and remote copies of your backups, making it easy to maintain multiple copies of your data. Type in a name and description for the job, and specify backup copy interval.

Name:
DC01-2022 Backup Copy-Periodic copy

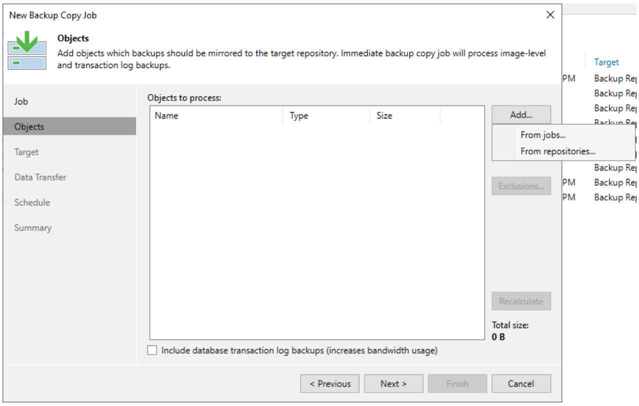
Description:
Created by GOODDEALMART\csun at 9/23/2023 7:30 PM.

Copy mode:

○ Immediate copy (mirroring)
Copies every restore point as soon as it appears in the primary backup repository. This mode will copy all backups created by selected backup jobs, including transaction log backups.

● Periodic copy (pruning)
Periodically copies the latest available restore point only. This mode also allows for selecting which backups to process, enabling you to further reduce bandwidth usage.

9. On the Objects page, click Add and select From jobs...



New Backup Copy Job

Objects

Add objects which backups should be mirrored to the target repository. Immediate backup copy job will process image-level and transaction log backups.

Objects to process:

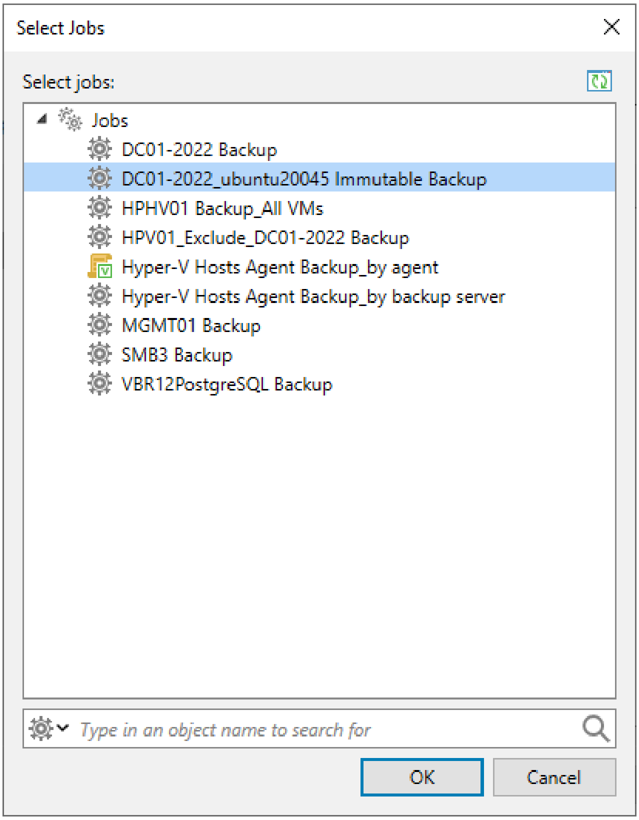
Name	Type	Size

Total size: **0 B**

☐ Include database transaction log backups (increases bandwidth usage)

Job
Objects
Target
Data Transfer
Schedule
Summary
Add...
From jobs...
From repositories...
Exclusions...
Recalculate
< Previous
Next >
Finish
Cancel
Target
PM
Backup Re
PM
PM

10. Select the job from the jobs list on the Select jobs page and click OK.



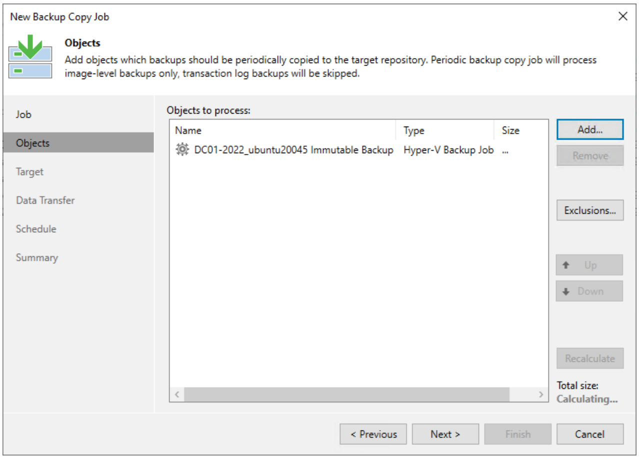
Select Jobs

Select jobs:

- Jobs
  - DC01-2022 Backup
  - DC01-2022_ubuntu20045 Immutable Backup
  - HPHV01 Backup_All VMs
  - HPV01_Exclude_DC01-2022 Backup
  - Hyper-V Hosts Agent Backup_by agent
  - Hyper-V Hosts Agent Backup_by backup server
  - MGMT01 Backup
  - SMB3 Backup
  - VBR12PostgreSQL Backup

Type in an object name to search for
OK
Cancel

11. On the Objects page, click Next.



New Backup Copy Job

Objects

Add objects which backups should be periodically copied to the target repository. Periodic backup copy job will process image-level backups only, transaction log backups will be skipped.

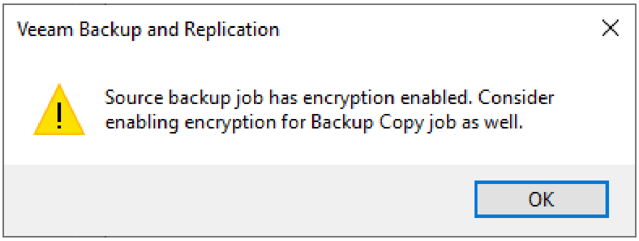
Objects to process:

Name	Type	Size
DC01-2022_ubuntu20045 Immutable Backup	Hyper-V Backup Job	...

Total size: Calculating...

Job
Objects
Target
Data Transfer
Schedule
Summary
Add...
Remove
Exclusions...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

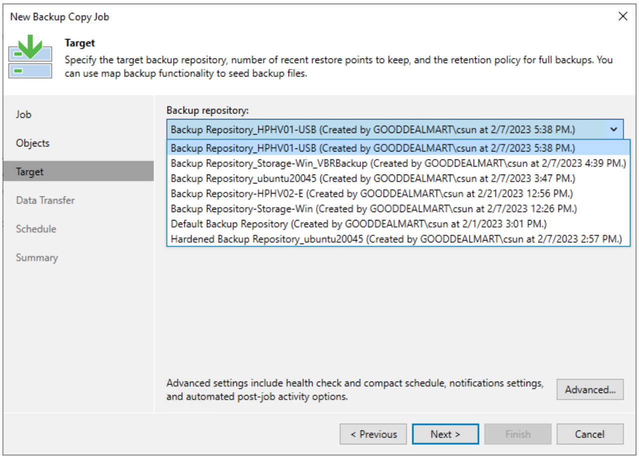
12. Click OK in the encryption-enabled warning message if the source backup job has encryption enabled.



Veeam Backup and Replication

Source backup job has encryption enabled. Consider enabling encryption for Backup Copy job as well.

13. On the Target page, select the backup repository from the drop-down list.



New Backup Copy Job

Target

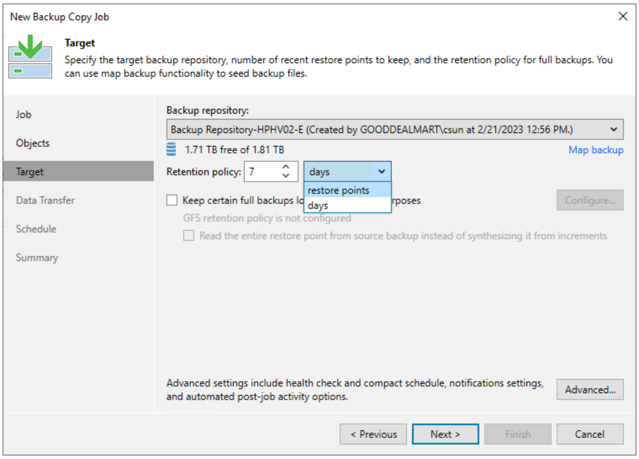
Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository_HPHV01-USB (Created by GOODDEALMART\csun at 2/7/2023 5:38 PM.)

- Backup Repository_HPHV01-USB (Created by GOODDEALMART\csun at 2/7/2023 5:38 PM.)
- Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 PM.)
- Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 3:47 PM.)
- Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)
- Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 2/7/2023 12:26 PM.)
- Default Backup Repository (Created by GOODDEALMART\csun at 2/1/2023 3:01 PM.)
- Hardened Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 2:57 PM.)

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

14. Set the retention policy settings for restore points in the Retention Policy field.
15. Select days or restore points from the drop-down list.



New Backup Copy Job

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 days

- restore points
- days

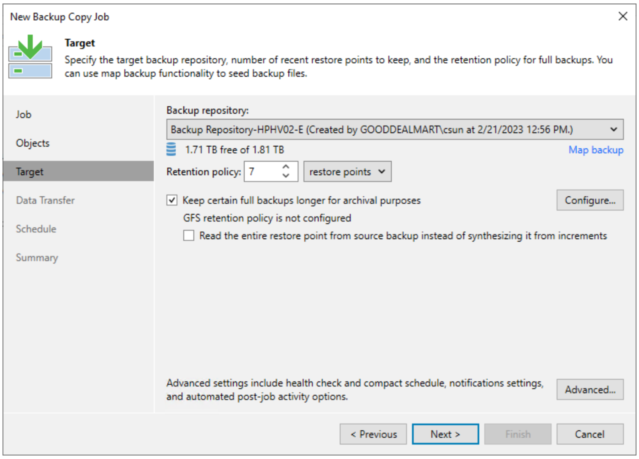
☐ Keep certain full backups lo…rposes

GFS retention policy is not configured

☐ Read the entire restore point from source backup instead of synthesizing it from increments

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

16. You can configure GFS retention policy settings for the backup copy job for long-term archiving.
17. Select Keep specific full backups for longer for archival purposes and click Configure.


New Backup Copy Job
Job
Objects
Target
Data Transfer
Schedule
Summary
Map backup
Configure...
Advanced...
< Previous
Next >
Finish
Cancel

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 restore points

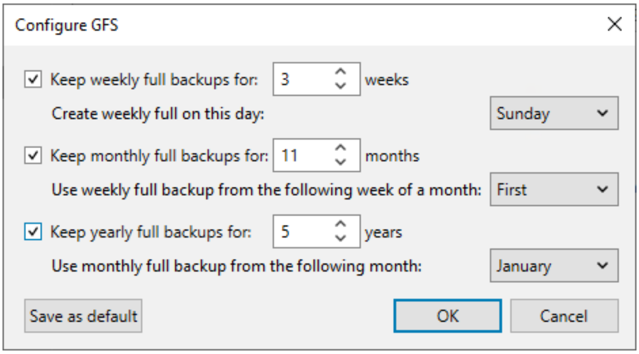
☑ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

☐ Read the entire restore point from source backup instead of synthesizing it from increments

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

18. On the Configure GFS page, select the Keep weekly full backups for checkbox, and specify the number of weeks you want to prevent restore points from being modified and deleted.
19. Select the Keep monthly full backups for checkbox and specify the months you want to prevent restore points from being modified and deleted.
20. Select the Keep yearly full backups for checkbox and specify the years you want to prevent restore points from being modified and deleted.
21. Click OK.


Configure GFS
Save as default
OK
Cancel

☑ Keep weekly full backups for: 3 weeks

Create weekly full on this day: Sunday

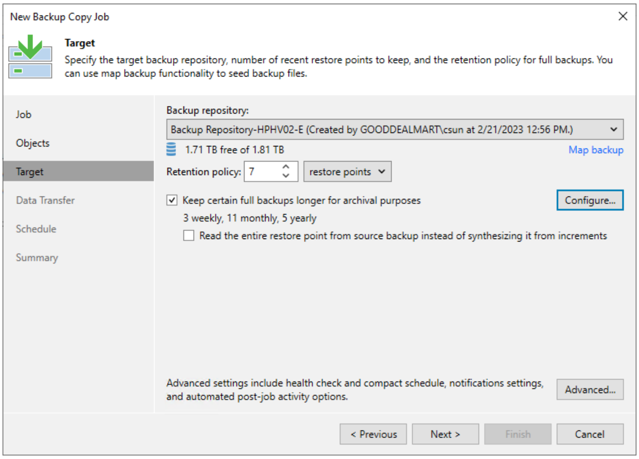
☑ Keep monthly full backups for: 11 months

Use weekly full backup from the following week of a month: First

☑ Keep yearly full backups for: 5 years

Use monthly full backup from the following month: January

22. On the Target page, click Advanced.


New Backup Copy Job

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 restore points

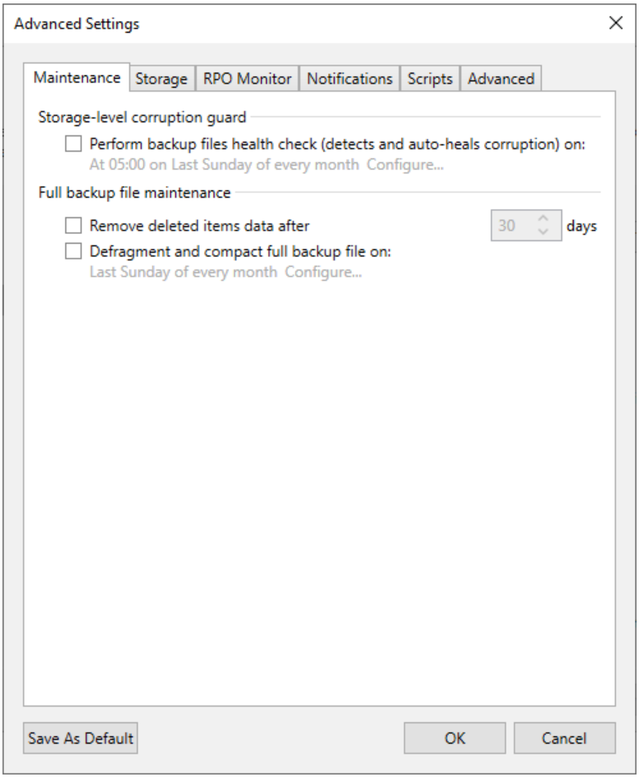
☑ Keep certain full backups longer for archival purposes

3 weekly, 11 monthly, 5 yearly

☐ Read the entire restore point from source backup instead of synthesizing it from increments

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

23. On the Advanced Settings, click Maintenance.
24. Select the Perform backup files health check (detects and auto-heals corruption) checkbox and specify the schedule for the health check if required.
25. Select the Remove deleted items data after checkbox and specify the retention days settings for deleted workloads if required.
26. Select the Defragment and compact full backup file checkbox and specify the schedule for the compacting operation if required.


Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Advanced
Save As Default
OK
Cancel

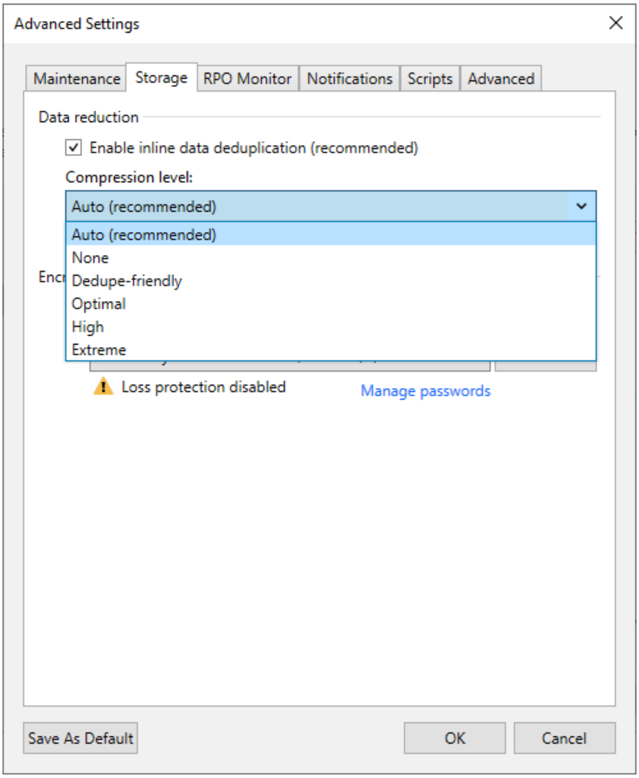
Storage-level corruption guard

☐ Perform backup files health check (detects and auto-heals corruption) on:
At 05:00 on Last Sunday of every month Configure...

Full backup file maintenance

☐ Remove deleted items data after 30 days
☐ Defragment and compact full backup file on:
Last Sunday of every month Configure...

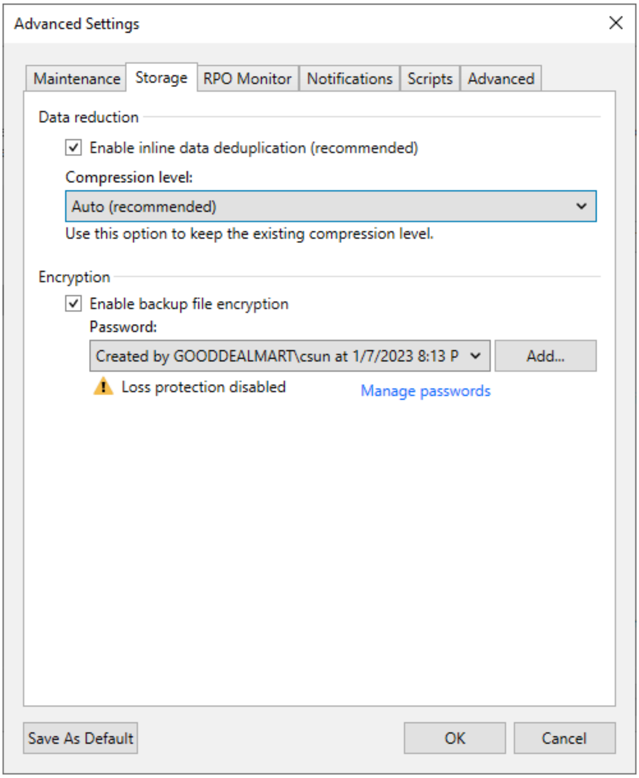
27. On Advanced Settings, click Storage.
28. Select the Enable inline data deduplication checkbox.
29. Select the compression level for the backup copy from the drop-down list.


Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Advanced
Data reduction
Encr
Auto (recommended)
None
Dedupe-friendly
Optimal
High
Extreme
Loss protection disabled
Manage passwords
Save As Default
OK
Cancel

☑ Enable inline data deduplication (recommended)

Compression level: Auto (recommended)

30. Select the Enable backup file encryption checkbox to encrypt the content of backup files.
31. Select a password from the drop-down list. If you haven't done so, click Add or use the Manage passwords link to create a new password.


Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Advanced
Add...
Manage passwords
Save As Default
OK
Cancel

Data reduction

☑ Enable inline data deduplication (recommended)

Compression level: Auto (recommended)

Use this option to keep the existing compression level.

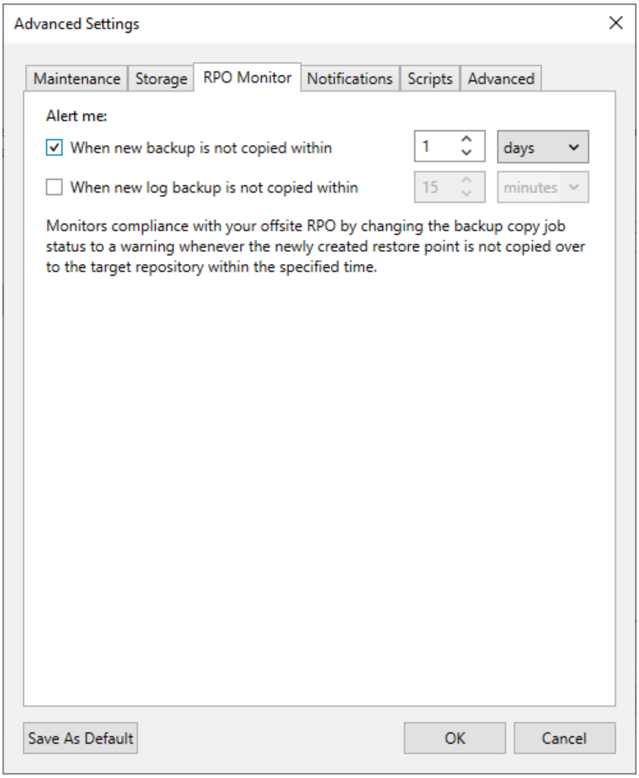
Encryption

☑ Enable backup file encryption

Password: Created by GOODDEALMART\csun at 1/7/2023 8:13 P

Loss protection disabled

32. On the Advanced Settings page, select RPO Monitor.
33. Select the Alert me if a backup is not copied within checkbox, and specify the desired RPO in minutes, hours, or days.
34. Select Alert me if log backup is not copied within checkbox.
35. If you have enabled copying of log backups, specify the desired RPO in minutes, hours, or days.


Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Advanced
Save As Default
OK
Cancel

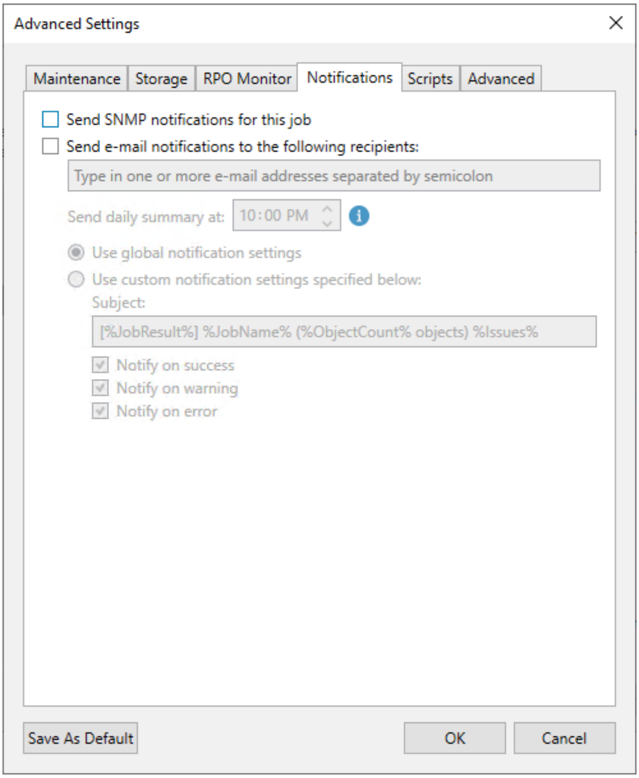
Alert me:

☑ When new backup is not copied within 1 days

☐ When new log backup is not copied within 15 minutes

Monitors compliance with your offsite RPO by changing the backup copy job status to a warning whenever the newly created restore point is not copied over to the target repository within the specified time.

36. On the Advanced Settings, select Notifications.
37. Keep the default settings.


Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Advanced
Save As Default
OK
Cancel

☐ Send SNMP notifications for this job

☐ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

Send daily summary at: 10:00 PM

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

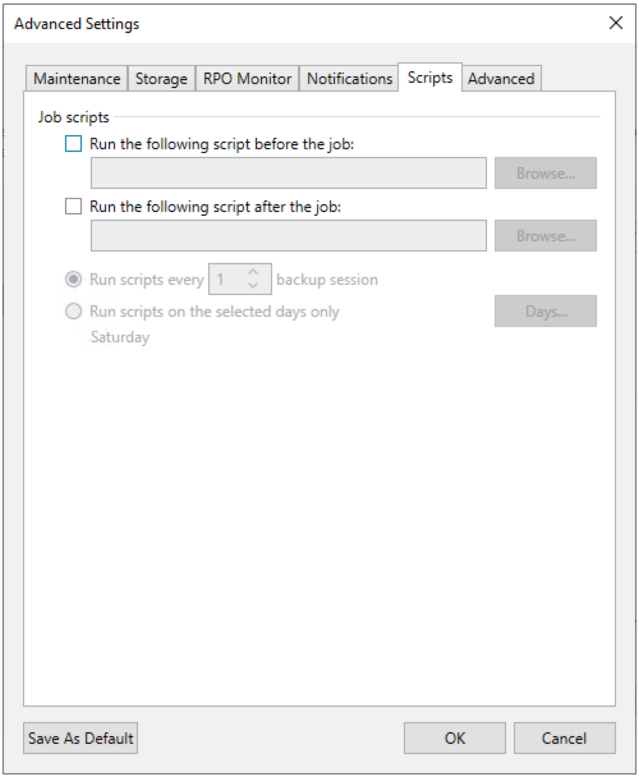
[%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

☑ Notify on success

☑ Notify on warning

☑ Notify on error

38. On the Advanced Settings page, click Scripts.
39. Keep the default settings.



Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Advanced
Browse...
Browse...
Days...
Save As Default
OK
Cancel

Job scripts

☐ Run the following script before the job:

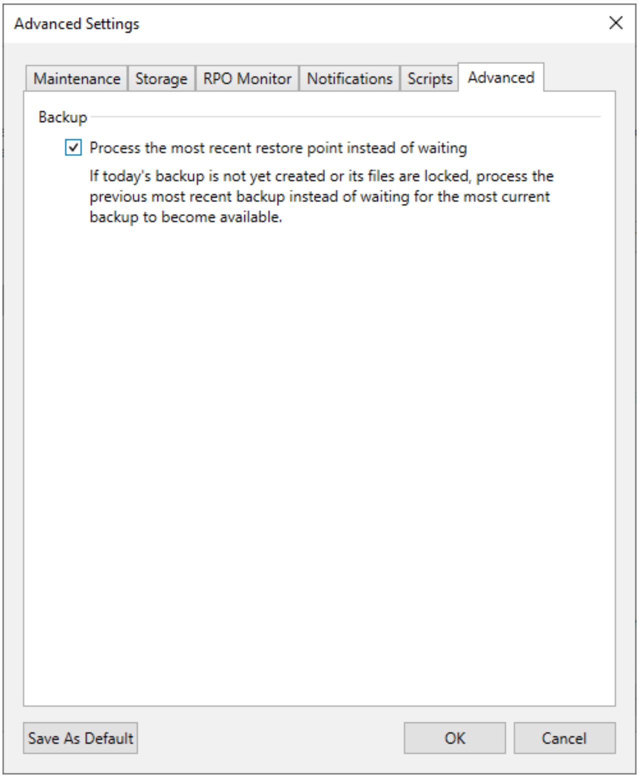
☐ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

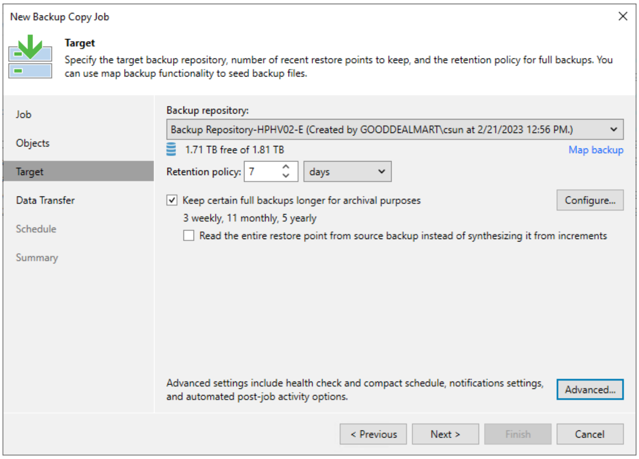
40. On the Advanced Settings page, click Advanced.
41. Select Process the most recent restore point of waiting checkbox.
42. Click OK.


Advanced Settings
Maintenance
Storage
RPO Monitor
Notifications
Scripts
Advanced
Backup
Save As Default
OK
Cancel

☑ Process the most recent restore point instead of waiting

If today's backup is not yet created or its files are locked, process the previous most recent backup instead of waiting for the most current backup to become available.

43. On the Target page, click Next.



New Backup Copy Job

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.71 TB free of 1.81 TB

Retention policy: 7 days

☑ Keep certain full backups longer for archival purposes

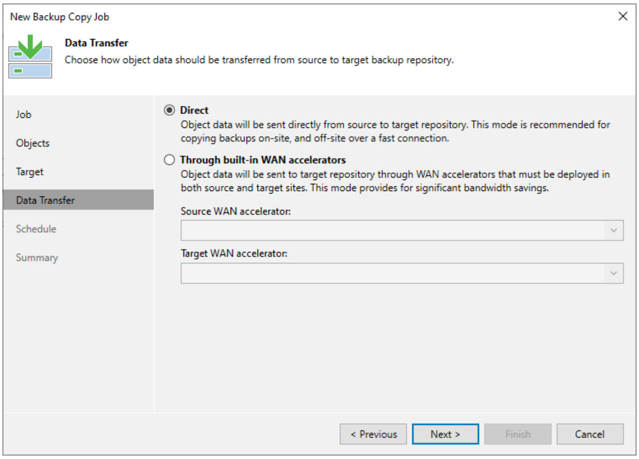
3 weekly, 11 monthly, 5 yearly

☐ Read the entire restore point from source backup instead of synthesizing it from increments

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

Job
Objects
Target
Data Transfer
Schedule
Summary
Map backup
Configure...
Advanced...
< Previous
Next >
Finish
Cancel

44. On the Data Transfer page, Select Direct if you plan to copy backup files over high-speed connections.
45. Click Next.



New Backup Copy Job

Data Transfer

Choose how object data should be transferred from source to target backup repository.

● **Direct**

Object data will be sent directly from source to target repository. This mode is recommended for copying backups on-site, and off-site over a fast connection.

○ **Through built-in WAN accelerators**

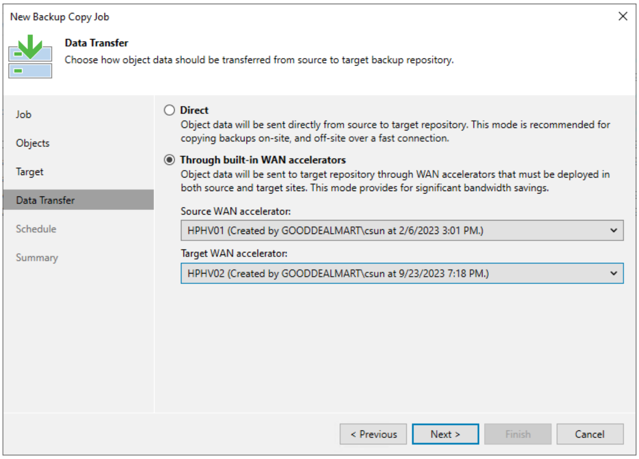
Object data will be sent to target repository through WAN accelerators that must be deployed in both source and target sites. This mode provides for significant bandwidth savings.

Source WAN accelerator:

Target WAN accelerator:

Job
Objects
Target
Data Transfer
Schedule
Summary
< Previous
Next >
Finish
Cancel

46. Select the Through built-in WAN accelerators if you copy backup files over WAN or slow connections.
47. Select a WAN accelerator configured in the source site from the Source WAN accelerator drop-down list.
48. Select a WAN accelerator configured in the target site from the Target WAN accelerator drop-down list.


New Backup Copy Job

Data Transfer

Choose how object data should be transferred from source to target backup repository.

○ **Direct**

Object data will be sent directly from source to target repository. This mode is recommended for copying backups on-site, and off-site over a fast connection.

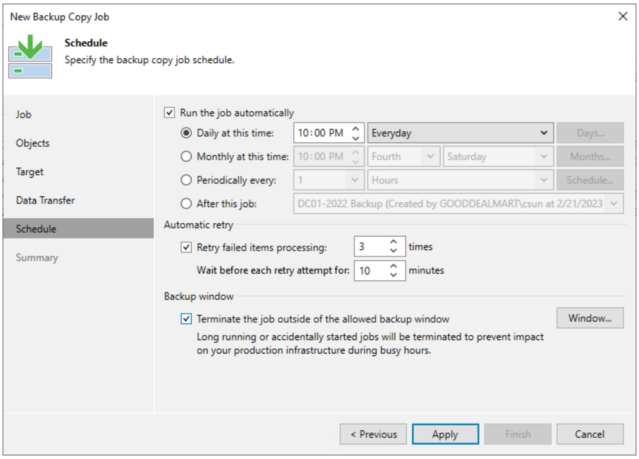
● **Through built-in WAN accelerators**

Object data will be sent to target repository through WAN accelerators that must be deployed in both source and target sites. This mode provides for significant bandwidth savings.

Source WAN accelerator: HPHV01 (Created by GOODDEALMART\csun at 2/6/2023 3:01 PM.)

Target WAN accelerator: HPHV02 (Created by GOODDEALMART\csun at 9/23/2023 7:18 PM.)

49. Select Run the job automatically checkbox on the Schedule page and select your specified schedule.
50. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.
51. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.
52. Click Apply.


New Backup Copy Job

Schedule

Specify the backup copy job schedule.

☑ Run the job automatically

● Daily at this time: 10:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DC01-2022 Backup (Created by GOODDEALMART\csun at 2/21/2023

Automatic retry

☑ Retry failed items processing: 3 times

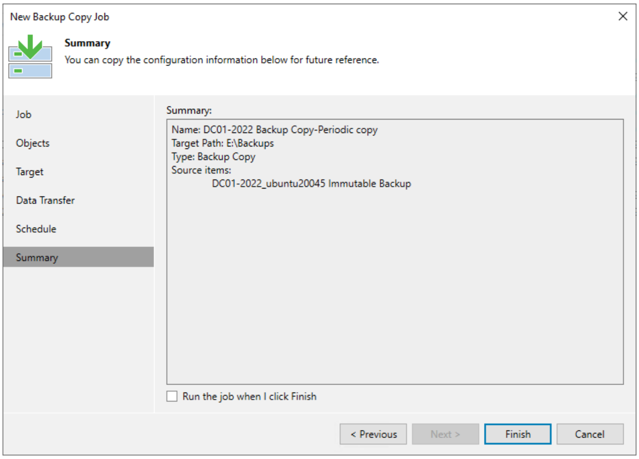
Wait before each retry attempt for: 10 minutes

Backup window

☑ Terminate the job outside of the allowed backup window

Long running or accidentally started jobs will be terminated to prevent impact on your production infrastructure during busy hours.

53. Select Enable the job on the Summary page when I click the Finish checkbox. If you want to start the job after creating it, click Finish.


New Backup Copy Job
Summary
You can copy the configuration information below for future reference.
Job
Objects
Target
Data Transfer
Schedule
Summary
< Previous
Next >
Finish
Cancel

Summary:

Name: DC01-2022 Backup Copy-Periodic copy
Target Path: E:\Backups
Type: Backup Copy
Source items:
DC01-2022_ubuntu20045 Immutable Backup

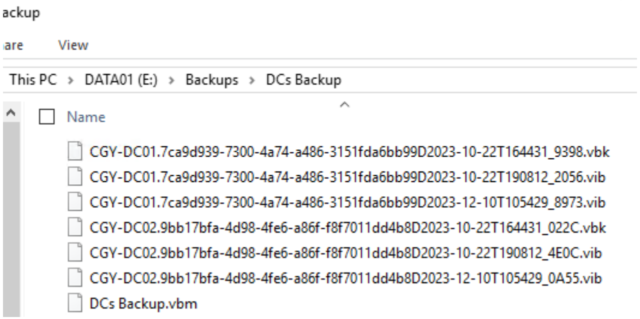
☐ Run the job when I click Finish

Upgrading Backup Chain Format from Per-Machine Backup with Single Metadata File to Per-Machine with Separate Metadata Files

Since Veeam Backup & Replication version 12, the per-machine backup format with individual metadata files has been the default choice for new repositories. Veeam Backup & Replication stores data from each workload into a separate backup file and creates a separate metadata file (.VBM) for each workload.

You can upgrade the existing backup chains format from per-machine backup with single metadata to per-machine with separate metadata files.

1. Check the existing backup chain files, and you will see the backup chain format is per machine with a single metadata file for each job.

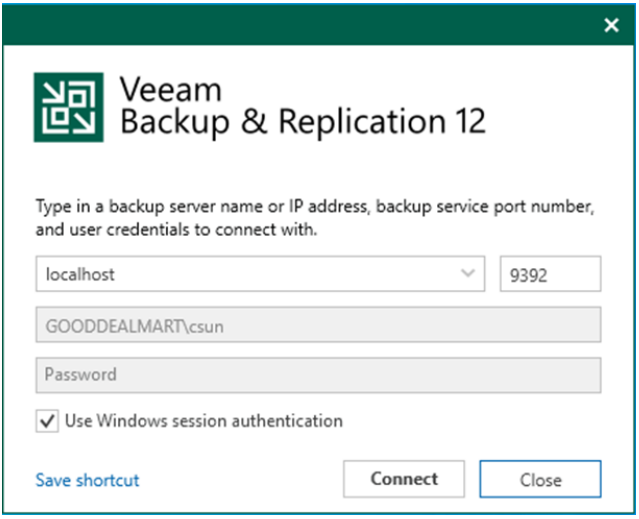


This PC › DATA01 (E:) › Backups › DCs Backup

☐ Name

- CGY-DC01.7ca9d939-7300-4a74-a486-3151fda6bb99D2023-10-22T164431_9398.vbk
- CGY-DC01.7ca9d939-7300-4a74-a486-3151fda6bb99D2023-10-22T190812_2056.vib
- CGY-DC01.7ca9d939-7300-4a74-a486-3151fda6bb99D2023-12-10T105429_8973.vib
- CGY-DC02.9bb17bfa-4d98-4fe6-a86f-f8f7011dd4b8D2023-10-22T164431_022C.vbk
- CGY-DC02.9bb17bfa-4d98-4fe6-a86f-f8f7011dd4b8D2023-10-22T190812_4E0C.vib
- CGY-DC02.9bb17bfa-4d98-4fe6-a86f-f8f7011dd4b8D2023-12-10T105429_0A55.vib
- DCs Backup.vbm

2. Login to the Veeam Backup and replication v12 manager server.
3. Open the Veeam Backup & Replication 12 Console and click Connect.



Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

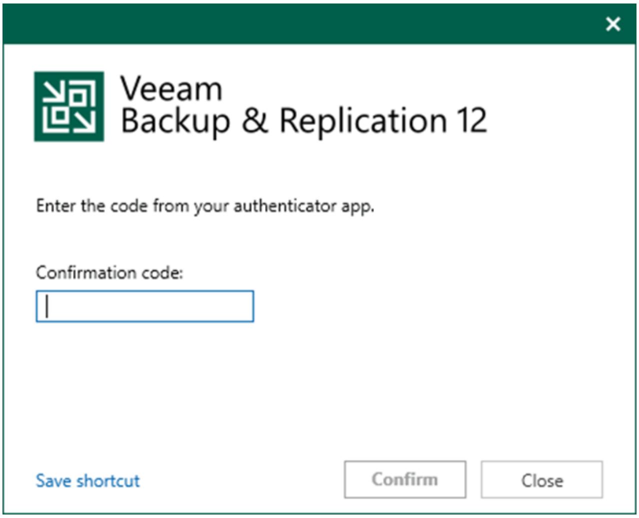
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

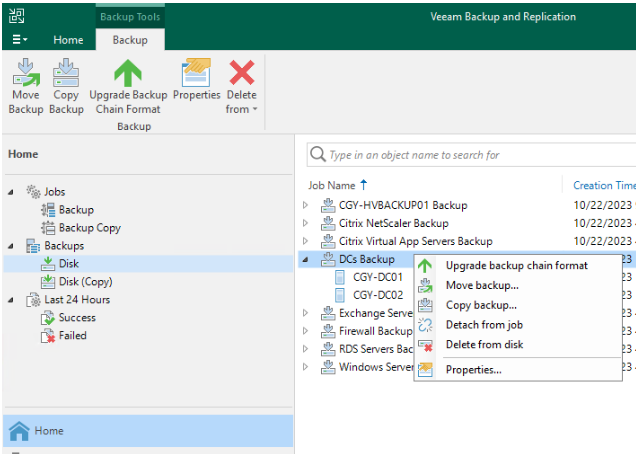
4. Enter the MFA Confirmation code and click Confirm.


Veeam
Backup & Replication 12
Save shortcut
Confirm
Close

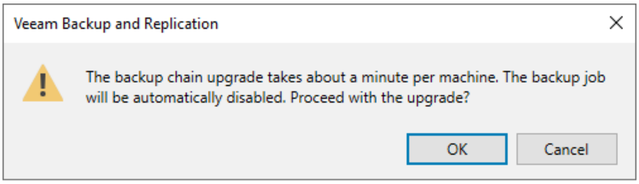
Enter the code from your authenticator app.

Confirmation code:

5. On the Home page, expend Backups, select Disk.
6. Right-click the backup job and select Upgrade backup chain format.

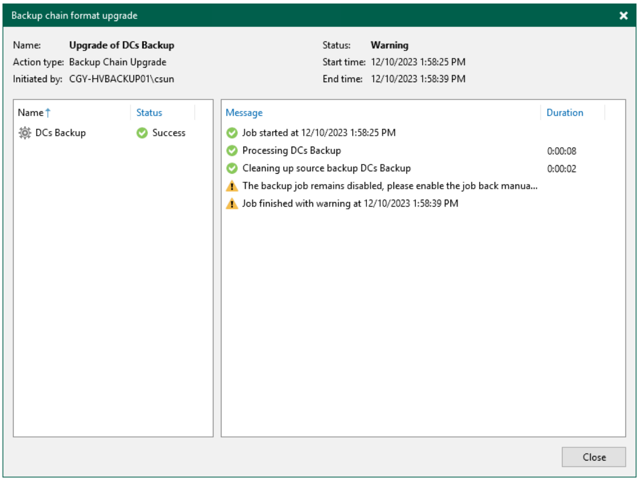

Backup Tools
Veeam Backup and Replication
Home
Backup
Move Backup
Copy Backup
Upgrade Backup Chain Format
Properties
Delete from
Backup
Home
Type in an object name to search for
Jobs
Backup
Backup Copy
Backups
Disk
Disk (Copy)
Last 24 Hours
Success
Failed
Home
Job Name
Creation Time
CGY-HVBACKUP01 Backup 10/22/2023
Citrix NetScaler Backup 10/22/2023
Citrix Virtual App Servers Backup 10/22/2023
DCs Backup
CGY-DC01
CGY-DC02
Exchange Serve
Firewall Backup
RDS Servers Bac
Windows Server
Upgrade backup chain format
Move backup...
Copy backup...
Detach from job
Delete from disk
Properties...

7. Click OK on the backup job will be automatically disabled the warning page.


Veeam Backup and Replication
OK
Cancel

The backup chain upgrade takes about a minute per machine. The backup job will be automatically disabled. Proceed with the upgrade?

8. On the Backup chain format upgrade page, ensure the upgrade status is successful and click Close.

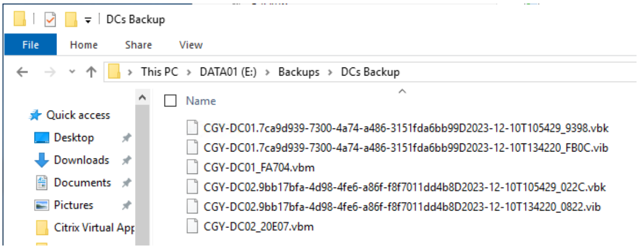

Backup chain format upgrade
Close

Name: **Upgrade of DCs Backup**
Action type: Backup Chain Upgrade
Initiated by: CGY-HVBACKUP01\csun
Status: **Warning**
Start time: 12/10/2023 1:58:25 PM
End time: 12/10/2023 1:58:39 PM

Name ↑	Status
DCs Backup	✓ Success

Message	Duration
✓ Job started at 12/10/2023 1:58:25 PM	
✓ Processing DCs Backup	0:00:08
✓ Cleaning up source backup DCs Backup	0:00:02
⚠ The backup job remains disabled, please enable the job back manua...	
⚠ Job finished with warning at 12/10/2023 1:58:39 PM	

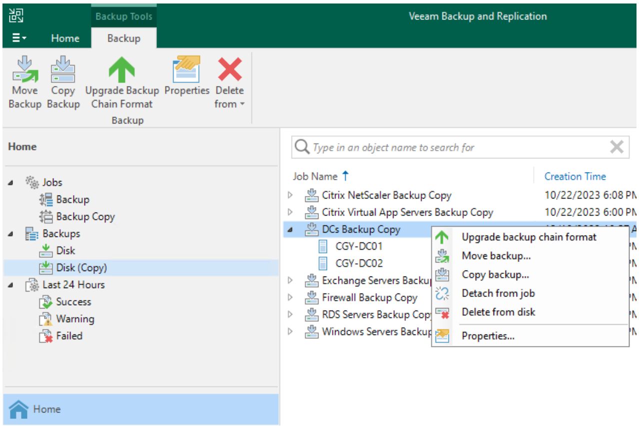
9. Check the backup chain files.
10. The backup chain format is per machine with separate metadata files.


DCs Backup
File
Home
Share
View
This PC › DATA01 (E:) › Backups › DCs Backup
Quick access
Desktop
Downloads
Documents
Pictures
Citrix Virtual App
Name

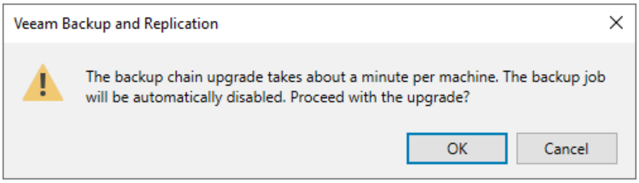
CGY-DC01.7ca9d939-7300-4a74-a486-3151fda6bb99D2023-12-10T105429_9398.vbk
CGY-DC01.7ca9d939-7300-4a74-a486-3151fda6bb99D2023-12-10T134220_FB0C.vib
CGY-DC01_FA704.vbm
CGY-DC02.9bb17bfa-4d98-4fe6-a86f-f8f7011dd4b8D2023-12-10T105429_022C.vbk
CGY-DC02.9bb17bfa-4d98-4fe6-a86f-f8f7011dd4b8D2023-12-10T134220_0822.vib
CGY-DC02_20E07.vbm

11. You need to upgrade the backup chain format for the backup copy.

12. On the Home page, expend Backups, select Disk (Copy).
13. Right-click the backup copy job and select Upgrade backup chain format.

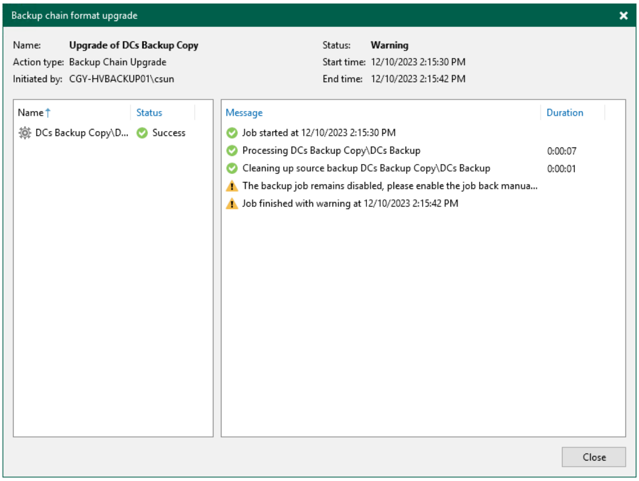

Backup Tools
Veeam Backup and Replication
Home
Backup
Move Backup
Copy Backup
Upgrade Backup Chain Format
Properties
Delete from
Backup
Home
Type in an object name to search for
Jobs
Backup
Backup Copy
Backups
Disk
Disk (Copy)
Last 24 Hours
Success
Warning
Failed
Home
Job Name
Creation Time
Citrix NetScaler Backup Copy
10/22/2023 6:08 PM
Citrix Virtual App Servers Backup Copy
10/22/2023 6:00 PM
DCs Backup Copy
CGY-DC01
CGY-DC02
Exchange Servers Backup
Firewall Backup Copy
RDS Servers Backup Copy
Windows Servers Backup
Upgrade backup chain format
Move backup...
Copy backup...
Detach from job
Delete from disk
Properties...

14. Click OK on the backup job will be automatically disabled the warning page.


Veeam Backup and Replication

The backup chain upgrade takes about a minute per machine. The backup job will be automatically disabled. Proceed with the upgrade?

15. On the Backup chain format upgrade page, ensure the upgrade status is successful and click Close.

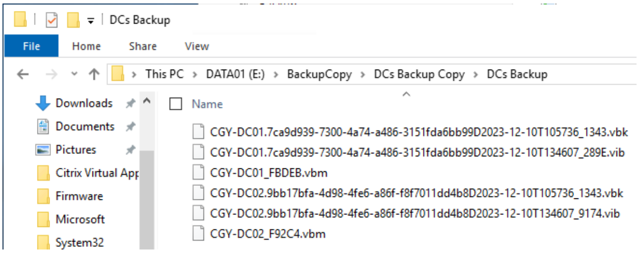

Backup chain format upgrade
Close

Name: **Upgrade of DCs Backup Copy**
Action type: Backup Chain Upgrade
Initiated by: CGY-HVBACKUP01\csun
Status: **Warning**
Start time: 12/10/2023 2:15:30 PM
End time: 12/10/2023 2:15:42 PM

Name	Status
DCs Backup Copy\D...	Success

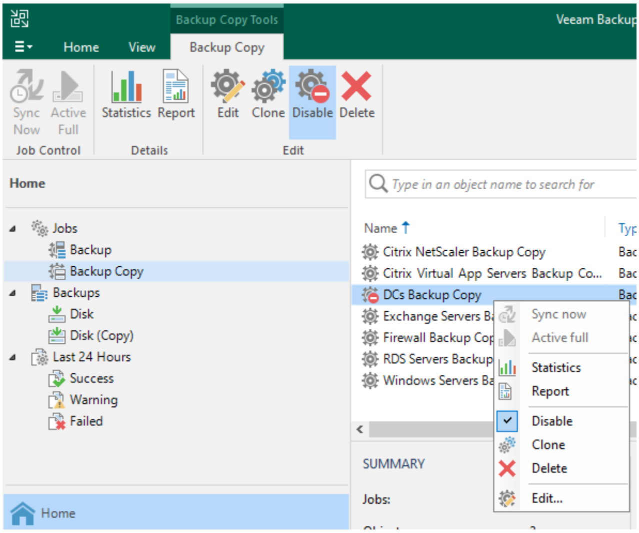
Message	Duration
Job started at 12/10/2023 2:15:30 PM	
Processing DCs Backup Copy\DCs Backup	0:00:07
Cleaning up source backup DCs Backup Copy\DCs Backup	0:00:01
The backup job remains disabled, please enable the job back manua...	
Job finished with warning at 12/10/2023 2:15:42 PM	

16. Check the backup chain files.
17. The backup chain format is per machine with separate metadata files.


DCs Backup
File
Home
Share
View
This PC › DATA01 (E:) › BackupCopy › DCs Backup Copy › DCs Backup
Downloads
Documents
Pictures
Citrix Virtual App
Firmware
Microsoft
System32
Name

CGY-DC01.7ca9d939-7300-4a74-a486-3151fda6bb99D2023-12-10T105736_1343.vbk
CGY-DC01.7ca9d939-7300-4a74-a486-3151fda6bb99D2023-12-10T134607_289E.vib
CGY-DC01_FBDEB.vbm
CGY-DC02.9bb17bfa-4d98-4fe6-a86f-f8f7011dd4b8D2023-12-10T105736_1343.vbk
CGY-DC02.9bb17bfa-4d98-4fe6-a86f-f8f7011dd4b8D2023-12-10T134607_9174.vib
CGY-DC02_F92C4.vbm

18. On the Home page, expend Jobs, and select Backup Copy.
19. Right-click the backup copy job and unselect the Disable to reenable the backup copy job.

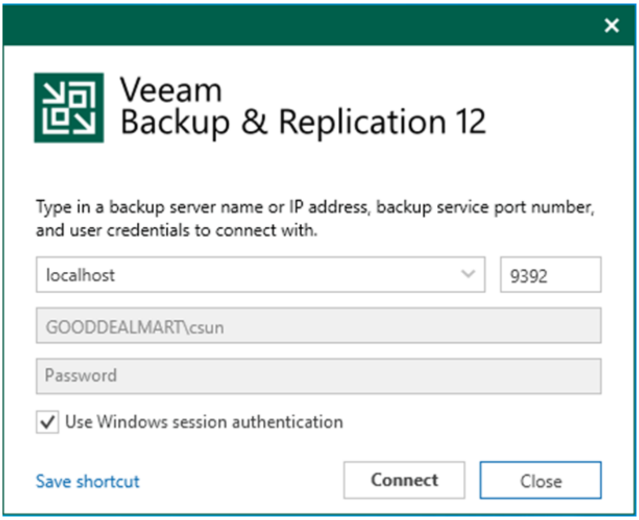

Backup Copy Tools
Veeam Backup
Home
View
Backup Copy
Sync Now
Active Full
Statistics
Report
Edit
Clone
Disable
Delete
Job Control
Details
Edit
Home
Jobs
Backup
Backup Copy
Backups
Disk
Disk (Copy)
Last 24 Hours
Success
Warning
Failed
Home
Type in an object name to search for
Name
Typ
Citrix NetScaler Backup Copy
Citrix Virtual App Servers Backup Co...
DCs Backup Copy
Exchange Servers B
Firewall Backup Cop
RDS Servers Backup
Windows Servers Ba
Sync now
Active full
Statistics
Report
Disable
Clone
Delete
Edit...
SUMMARY
Jobs:

Moving Backups to Another Repository

You can migrate all backups from a backup operation to another repository using Veeam Backup & Replication v12.

If you run out of free space on a repository and want to migrate all backups made by a backup job to another repository, target the backup job to this repository, and continue the backup chain, moving backups to another repository can be useful.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.



Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost 9392

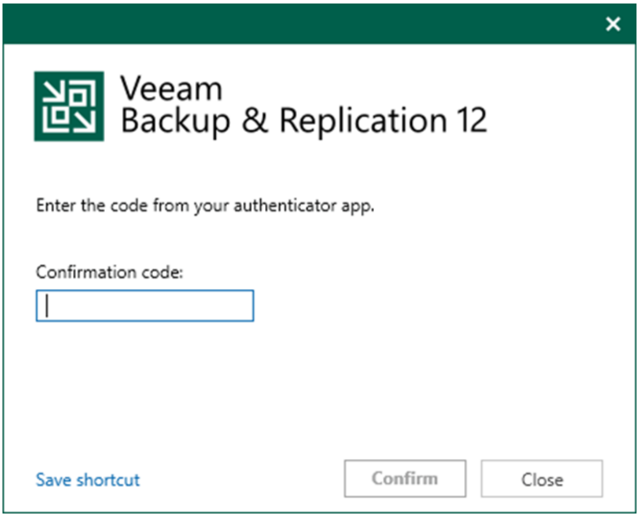
GOODDEALMART\csun

Password

☑ Use Windows session authentication

Save shortcut
Connect
Close

3. Enter the MFA Confirmation code and click Confirm.



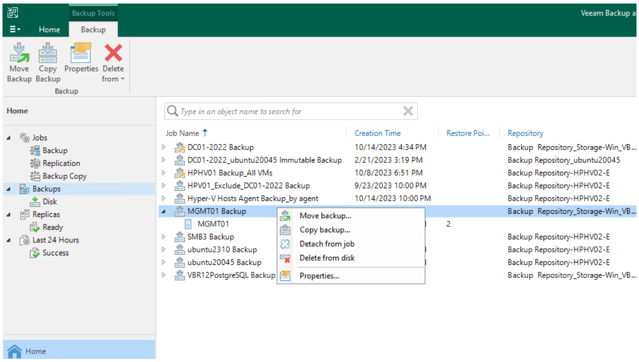
Veeam
Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

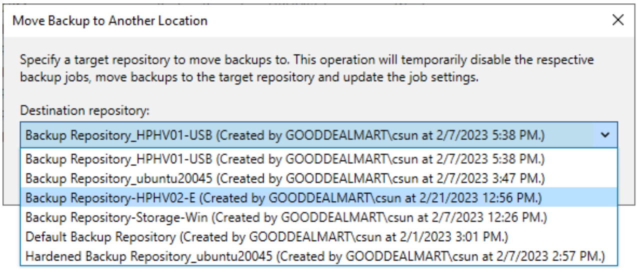
Save shortcut
Confirm
Close

4. On the Home page, select Backups.
5. Right-click the backup job and select Move backup.


Backup Tools
Veeam Backup a
Home
Backup
Move Backup
Copy Backup
Properties
Delete from
Backup
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Type in an object name to search for
Move backup...
Copy backup...
Detach from job
Delete from disk
Properties...
Home

Job Name	Creation Time	Restore Poi...	Repository
DC01-2022 Backup	10/14/2023 4:34 PM		Backup Repository_Storage-Win_VB...
DC01-2022_ubuntu20045 Immutable Backup	2/21/2023 3:19 PM		Backup Repository_ubuntu20045
HPHV01 Backup_All VMs	10/8/2023 6:51 PM		Backup Repository-HPHV02-E
HPV01_Exclude_DC01-2022 Backup	9/23/2023 10:00 PM		Backup Repository-HPHV02-E
Hyper-V Hosts Agent Backup_by agent	10/14/2023 10:00 PM		Backup Repository-HPHV02-E
MGMT01 Backup			Backup Repository_Storage-Win_VB...
MGMT01		2	
SMB3 Backup			Backup Repository-HPHV02-E
ubuntu2310 Backup			Backup Repository-HPHV02-E
ubuntu20045 Backup			Backup Repository-HPHV02-E
VBR12PostgreSQL Backup			Backup Repository_Storage-Win_VB...

6. On the Move Backup to Another Location page, select the repository from the Destination repository drop-down list.

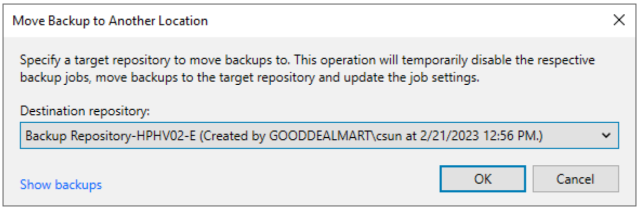

Move Backup to Another Location

Specify a target repository to move backups to. This operation will temporarily disable the respective backup jobs, move backups to the target repository and update the job settings.

Destination repository: Backup Repository_HPHV01-USB (Created by GOODDEALMART\csun at 2/7/2023 5:38 PM.)

Backup Repository_HPHV01-USB (Created by GOODDEALMART\csun at 2/7/2023 5:38 PM.)
Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 3:47 PM.)
Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)
Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 2/7/2023 12:26 PM.)
Default Backup Repository (Created by GOODDEALMART\csun at 2/1/2023 3:01 PM.)
Hardened Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 2:57 PM.)

7. Click OK on the Move Backup to Another Location page.

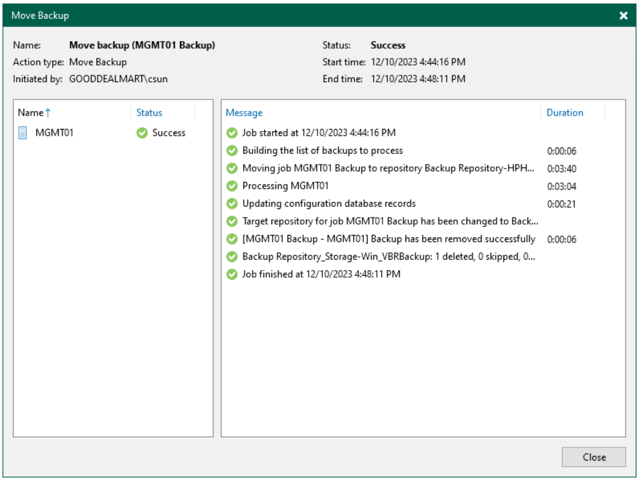

Move Backup to Another Location

Specify a target repository to move backups to. This operation will temporarily disable the respective backup jobs, move backups to the target repository and update the job settings.

Destination repository: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

Show backups
OK
Cancel

8. On the Move backup page, ensure move backup success and click Close.



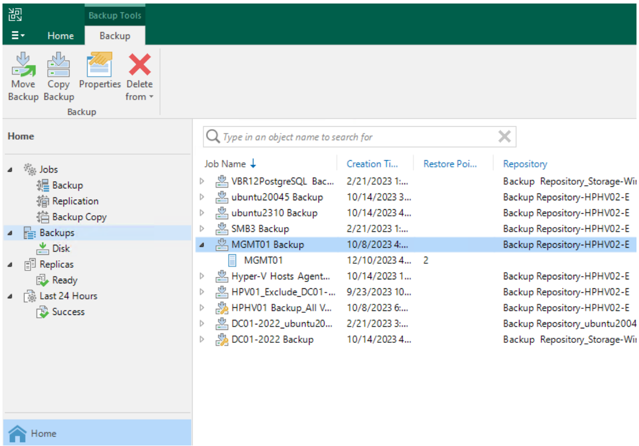
Move Backup
Close

Name: **Move backup (MGMT01 Backup)**
Action type: Move Backup
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 12/10/2023 4:44:16 PM
End time: 12/10/2023 4:48:11 PM

Name	Status
MGMT01	✓ Success

Message	Duration
✓ Job started at 12/10/2023 4:44:16 PM	
✓ Building the list of backups to process	0:00:06
✓ Moving job MGMT01 Backup to repository Backup Repository-HPH...	0:03:40
✓ Processing MGMT01	0:03:04
✓ Updating configuration database records	0:00:21
✓ Target repository for job MGMT01 Backup has been changed to Back...	
✓ [MGMT01 Backup - MGMT01] Backup has been removed successfully	0:00:06
✓ Backup Repository_Storage-Win_VBRBackup: 1 deleted, 0 skipped, 0...	
✓ Job finished at 12/10/2023 4:48:11 PM	

9. On the Home page, select Backups.
10. Ensure the Repository of the job is the new target repository.



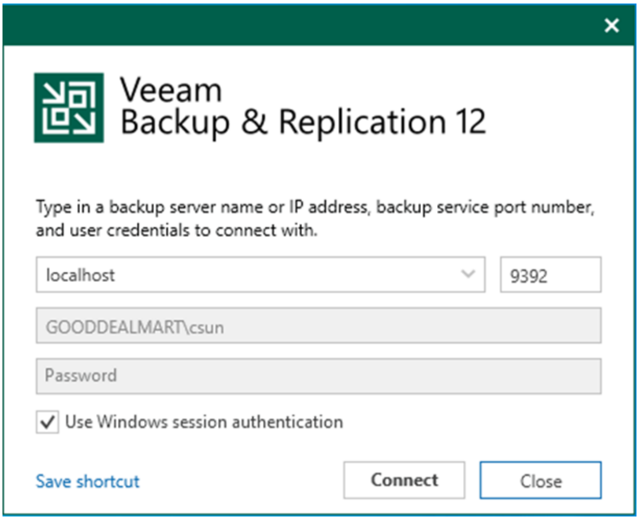
Backup Tools
Home
Backup
Move Backup
Copy Backup
Properties
Delete from
Backup
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Home
Type in an object name to search for

Job Name	Creation Ti...	Restore Poi...	Repository
VBR12PostgreSQL Bac...	2/21/2023 1:...		Backup Repository_Storage-Wi
ubuntu20045 Backup	10/14/2023 3...		Backup Repository-HPHV02-E
ubuntu2310 Backup	10/14/2023 4...		Backup Repository-HPHV02-E
SMB3 Backup	2/21/2023 1:...		Backup Repository-HPHV02-E
MGMT01 Backup	10/8/2023 4:...		Backup Repository-HPHV02-E
MGMT01	12/10/2023 4...	2	
Hyper-V Hosts Agent...	10/14/2023 1...		Backup Repository-HPHV02-E
HPV01_Exclude_DC01-...	9/23/2023 10...		Backup Repository-HPHV02-E
HPHV01 Backup_All V...	10/8/2023 6:...		Backup Repository-HPHV02-E
DC01-2022_ubuntu20...	2/21/2023 3:...		Backup Repository_ubuntu2004
DC01-2022 Backup	10/14/2023 4...		Backup Repository_Storage-Wi

Moving VM Backups to Another Job

Moving workloads and their backups to a different backup job can be useful if you want to split a backup job into multiple backup jobs or alter backup settings for certain workloads. You also want to keep the existing backup chains for the workloads.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.



Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

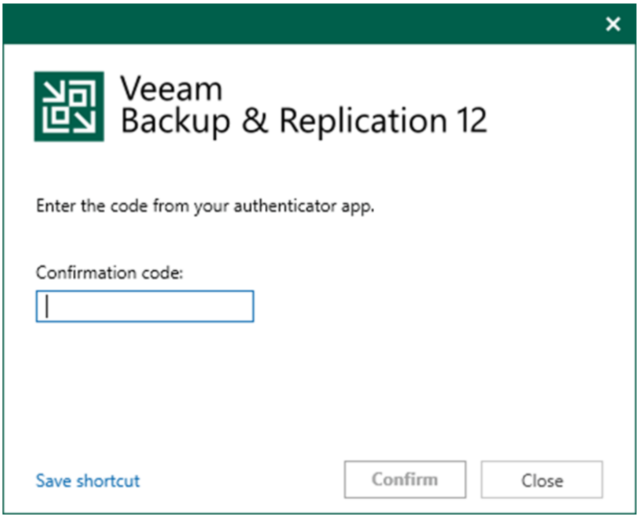
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

3. Enter the MFA Confirmation code and click Confirm.



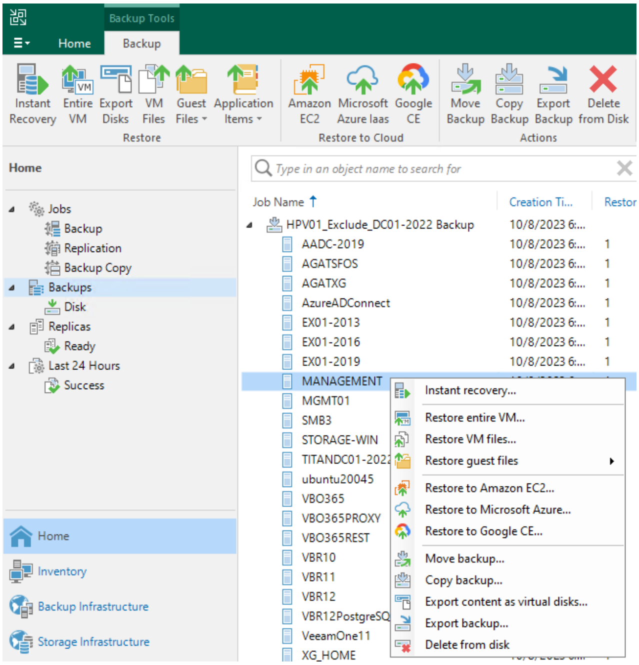
Veeam
Backup & Replication 12

Enter the code from your authenticator app.

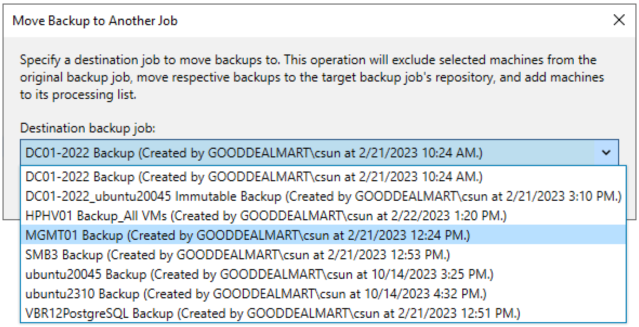
Confirmation code:

Save shortcut
Confirm
Close

4. On the Home page, select Backups.
5. Expand the backup job, right-click the workload, and select Move backup.


Backup Tools
Home
Backup
Instant Recovery
Entire VM
Export Disks
VM Files
Guest Files
Application Items
Restore
Amazon EC2
Microsoft Azure Iaas
Google CE
Restore to Cloud
Move Backup
Copy Backup
Export Backup
Delete from Disk
Actions
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Home
Inventory
Backup Infrastructure
Storage Infrastructure
Type in an object name to search for
Job Name
Creation Ti...
Restor
HPV01_Exclude_DC01-2022 Backup
AADC-2019
AGATSFOS
AGATXG
AzureADConnect
EX01-2013
EX01-2016
EX01-2019
MANAGEMENT
MGMT01
SMB3
STORAGE-WIN
TITANDC01-2022
ubuntu20045
VBO365
VBO365PROXY
VBO365REST
VBR10
VBR11
VBR12
VBR12PostgreSQL
VeeamOne11
XG_HOME
10/8/2023 6:...
Instant recovery...
Restore entire VM...
Restore VM files...
Restore guest files
Restore to Amazon EC2...
Restore to Microsoft Azure...
Restore to Google CE...
Move backup...
Copy backup...
Export content as virtual disks...
Export backup...
Delete from disk

6. Select the backup job from the Destination backup job drop-down list on the Move Backup to Another Job page.


Move Backup to Another Job

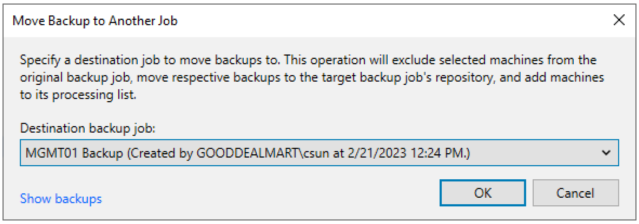
Specify a destination job to move backups to. This operation will exclude selected machines from the original backup job, move respective backups to the target backup job's repository, and add machines to its processing list.

Destination backup job:

DC01-2022 Backup (Created by GOODDEALMART\csun at 2/21/2023 10:24 AM.)

DC01-2022 Backup (Created by GOODDEALMART\csun at 2/21/2023 10:24 AM.)
DC01-2022_ubuntu20045 Immutable Backup (Created by GOODDEALMART\csun at 2/21/2023 3:10 PM.)
HPHV01 Backup_All VMs (Created by GOODDEALMART\csun at 2/22/2023 1:20 PM.)
MGMT01 Backup (Created by GOODDEALMART\csun at 2/21/2023 12:24 PM.)
SMB3 Backup (Created by GOODDEALMART\csun at 2/21/2023 12:53 PM.)
ubuntu20045 Backup (Created by GOODDEALMART\csun at 10/14/2023 3:25 PM.)
ubuntu2310 Backup (Created by GOODDEALMART\csun at 10/14/2023 4:32 PM.)
VBR12PostgreSQL Backup (Created by GOODDEALMART\csun at 2/21/2023 12:51 PM.)

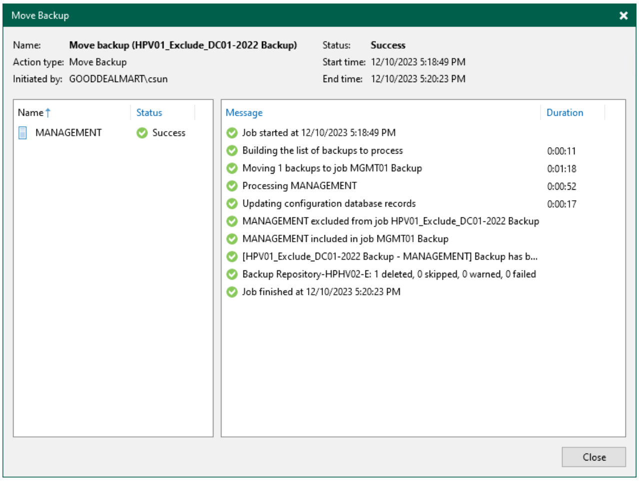
7. Click OK on the Move Backup to Another Job page.



Specify a destination job to move backups to. This operation will exclude selected machines from the original backup job, move respective backups to the target backup job's repository, and add machines to its processing list.

Destination backup job: MGMT01 Backup (Created by GOODDEALMART\csun at 2/21/2023 12:24 PM.)

8. On the Move backup page, ensure move backup success, and click Close.
9. Workloads will be added to the selected job and excluded from the original job by Veeam Backup & Replication. The chosen workloads' backup will be migrated to the repository for which the chosen job is destined.



Name: **Move backup (HPV01_Exclude_DC01-2022 Backup)**
Action type: Move Backup
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 12/10/2023 5:18:49 PM
End time: 12/10/2023 5:20:23 PM

Name ↑	Status
MANAGEMENT	✓ Success

Message	Duration
✓ Job started at 12/10/2023 5:18:49 PM	
✓ Building the list of backups to process	0:00:11
✓ Moving 1 backups to job MGMT01 Backup	0:01:18
✓ Processing MANAGEMENT	0:00:52
✓ Updating configuration database records	0:00:17
✓ MANAGEMENT excluded from job HPV01_Exclude_DC01-2022 Backup	
✓ MANAGEMENT included in job MGMT01 Backup	
✓ [HPV01_Exclude_DC01-2022 Backup - MANAGEMENT] Backup has b...	
✓ Backup Repository-HPHV02-E: 1 deleted, 0 skipped, 0 warned, 0 failed	
✓ Job finished at 12/10/2023 5:20:23 PM	

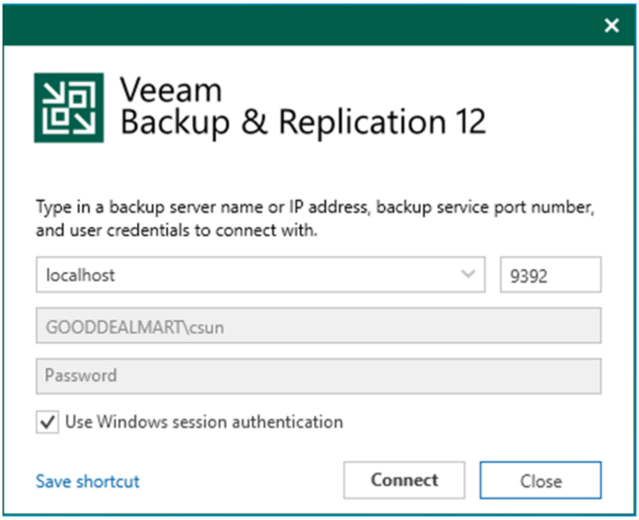
Deleting VM Backup from Disk

Use the Delete from disk if you want to remove backup records from the Veeam Backup & Replication v12 console and configuration database.

You can delete VM backup files from the repository.

Veeam Backup & Replication v12 deletes the backup chain from the backup repository when you erase backup files from a disk. As a result, the next time the backup job runs, Veeam Backup & Replication v12 will create full backups of the VMs included in the task.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.



Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

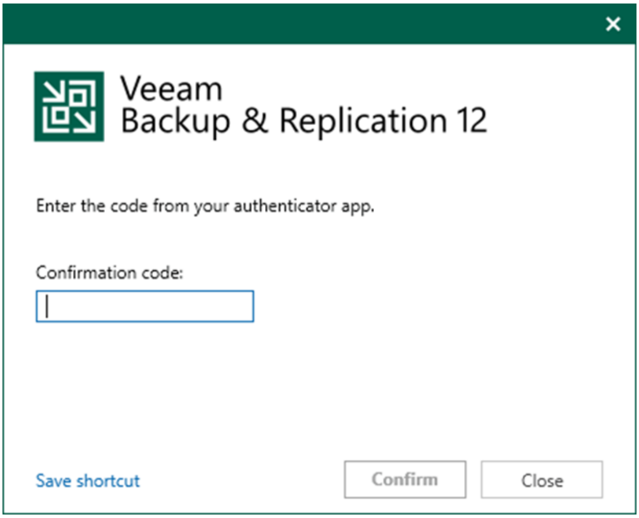
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

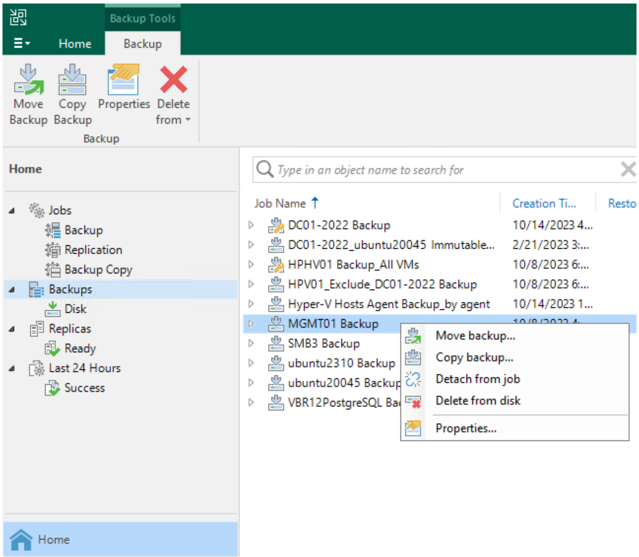
3. Enter the MFA Confirmation code and click Confirm.


Veeam
Backup & Replication 12
Save shortcut
Confirm
Close

Enter the code from your authenticator app.

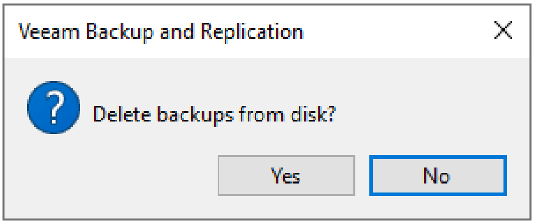
Confirmation code:

4. On the Home page, select Backups.
5. Right-click the job and select Delete from disk.


Backup Tools
Home
Backup
Move Backup
Copy Backup
Properties
Delete from
Backup
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Home
Type in an object name to search for
Move backup...
Copy backup...
Detach from job
Delete from disk
Properties...

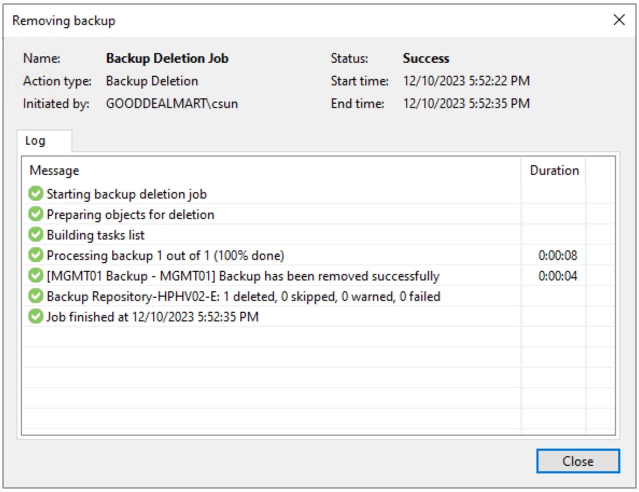
Job Name	Creation Ti...	Resto
DC01-2022 Backup	10/14/2023 4...	
DC01-2022_ubuntu20045 Immutable...	2/21/2023 3:...	
HPHV01 Backup_All VMs	10/8/2023 6:...	
HPV01_Exclude_DC01-2022 Backup	10/8/2023 6:...	
Hyper-V Hosts Agent Backup_by agent	10/14/2023 1...	
MGMT01 Backup		
SMB3 Backup		
ubuntu2310 Backup		
ubuntu20045 Backup		
VBR12PostgreSQL Ba		

6. Click Yes to delete backups from the disk.


Veeam Backup and Replication

Delete backups from disk?

7. On the Removing backup page, ensure removing backup success, click Close.


Removing backup

Name: **Backup Deletion Job**
Action type: Backup Deletion
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 12/10/2023 5:52:22 PM
End time: 12/10/2023 5:52:35 PM

```
Message                                                                      Duration
Starting backup deletion job
Preparing objects for deletion
Building tasks list
Processing backup 1 out of 1 (100% done)                                     0:00:08
[MGMT01 Backup - MGMT01] Backup has been removed successfully                0:00:04
Backup Repository-HPHV02-E: 1 deleted, 0 skipped, 0 warned, 0 failed
Job finished at 12/10/2023 5:52:35 PM
```

Deleting Entire job back files from the backup repository

If you want to remove backup records from the Veeam Backup & Replication v12 console and configuration database, you must use the Delete from disk.

You can delete all the job backup files from the repository.

Veeam Backup & Replication v12 deletes the backup chain from the backup repository when you erase backup files from a disk. As a result, the next time the backup job runs, Veeam Backup & Replication v12 will create full backups of the VMs included in the task.

Chapter 2: Replication

Veeam replication is a data protection and disaster recovery solution that enables businesses to replicate virtual machines (VMs) and their data in an offsite location. This helps to ensure that critical data is protected and available in case of a disaster or other unexpected events that could disrupt business operations.

Veeam replication creates a copy of the virtual machine and its data on a remote server, which can be located in another data center or a cloud environment. This copy is then kept in sync with the original VM so that any changes made to the original are also reflected in the replica.

The replica can be quickly activated in a disaster to restore services and minimize downtime. Veeam replication also provides several features to ensure the reliability and security of the replicated data, including encryption, compression, and bandwidth throttling.

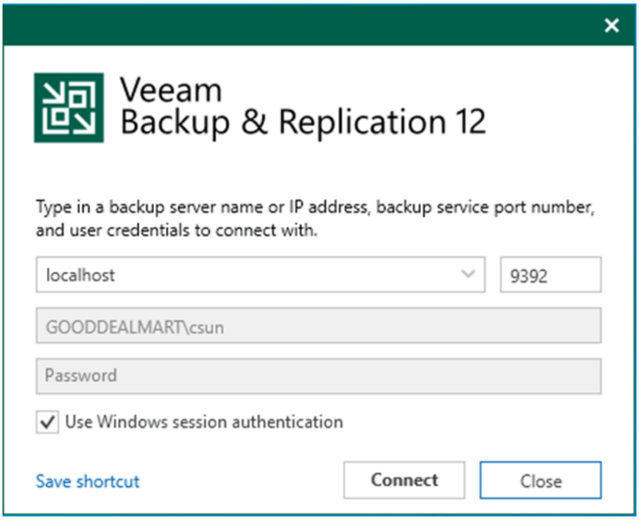
Overall, Veeam replication is a powerful tool for businesses that must ensure the availability and reliability of their critical data. It can help minimize the impact of disasters and other unexpected events.

Creating a Replication job to replicate the specified VMs at the Production Site

A replication job must be configured before you can create VM replicas. The replication job specifies how, where, and when VM data is replicated. A single job can process one or more virtual machines.

This procedure creates a replication job to replicate the specified production virtual machines at the same production site.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.


Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost 9392

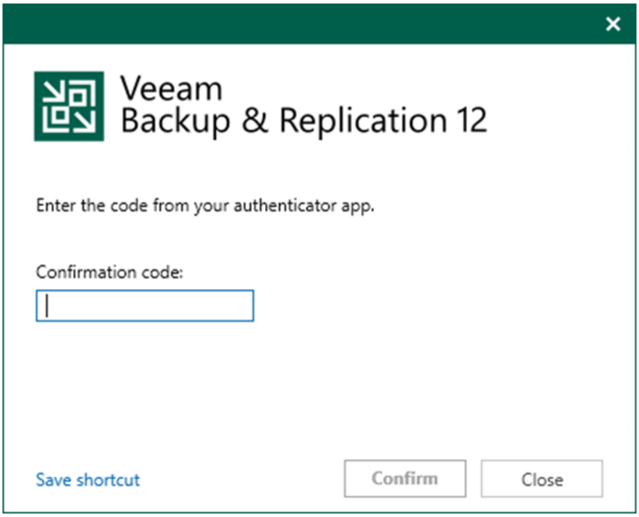
GOODDEALMART\csun

Password

☑ Use Windows session authentication

Save shortcut
Connect
Close

3. Enter the MFA Confirmation code and click Confirm.

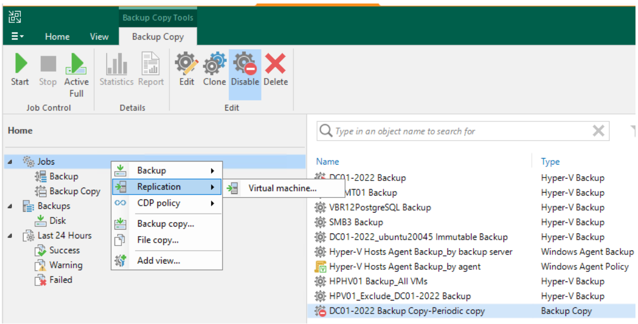

Veeam
Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

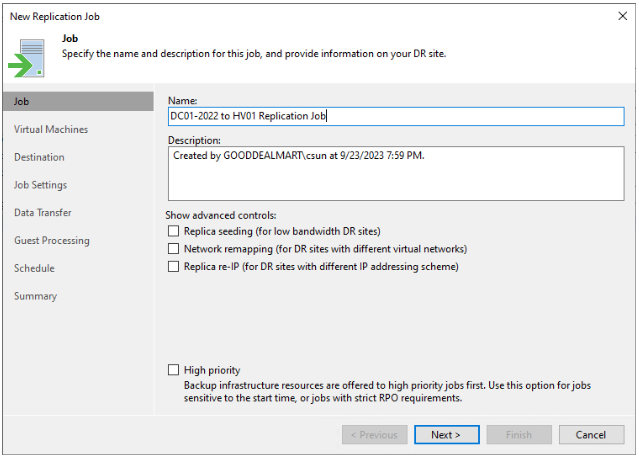
Save shortcut
Confirm
Close

4. On the Home page, select Jobs.
5. Right-click Jobs and select Replication.
6. Click Virtual machine.


Backup Copy Tools
Home
View
Backup Copy
Start
Stop
Active Full
Statistics
Report
Edit
Clone
Disable
Delete
Job Control
Details
Edit
Home
Type in an object name to search for
Jobs
Backup
Backup Copy
Backups
Disk
Last 24 Hours
Success
Warning
Failed
Backup
Replication
CDP policy
Backup copy...
File copy...
Add view...
Virtual machine...

Name	Type
DC01-2022 Backup	Hyper-V Backup
MT01 Backup	Hyper-V Backup
VBR12PostgreSQL Backup	Hyper-V Backup
SMB3 Backup	Hyper-V Backup
DC01-2022_ubuntu20045 Immutable Backup	Hyper-V Backup
Hyper-V Hosts Agent Backup_by backup server	Windows Agent Backup
Hyper-V Hosts Agent Backup_by agent	Windows Agent Policy
HPHV01 Backup_All VMs	Hyper-V Backup
HPV01_Exclude_DC01-2022 Backup	Hyper-V Backup
DC01-2022 Backup Copy-Periodic copy	Backup Copy

7. Enter a name for the replication job on the Job page in the Name field.
8. Describe the Description field.
9. Select the High priority check box if required.
10. Click Next.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
< Previous
Next >
Finish
Cancel

Job

Specify the name and description for this job, and provide information on your DR site.

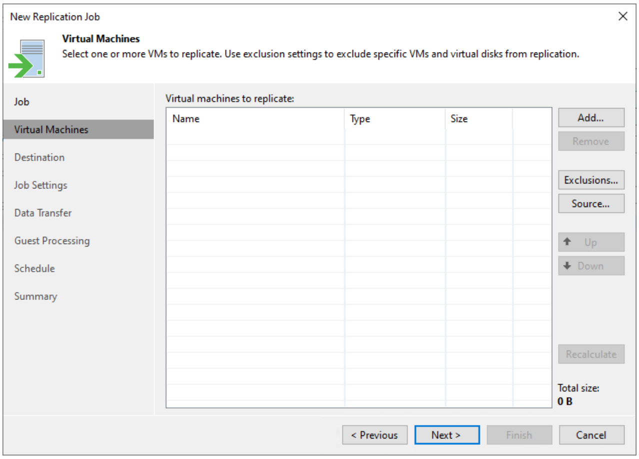
Name:
DC01-2022 to HV01 Replication Job

Description:
Created by GOODDEALMART\csun at 9/23/2023 7:59 PM.

Show advanced controls:
☐ Replica seeding (for low bandwidth DR sites)
☐ Network remapping (for DR sites with different virtual networks)
☐ Replica re-IP (for DR sites with different IP addressing scheme)

☐ High priority
Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

11. On the Virtual Machines page, click Add.


New Replication Job

Virtual Machines

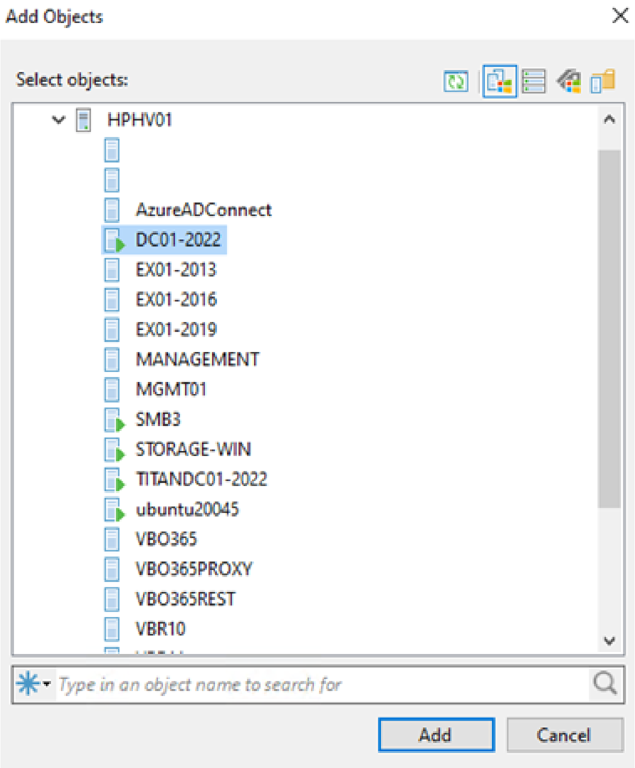
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

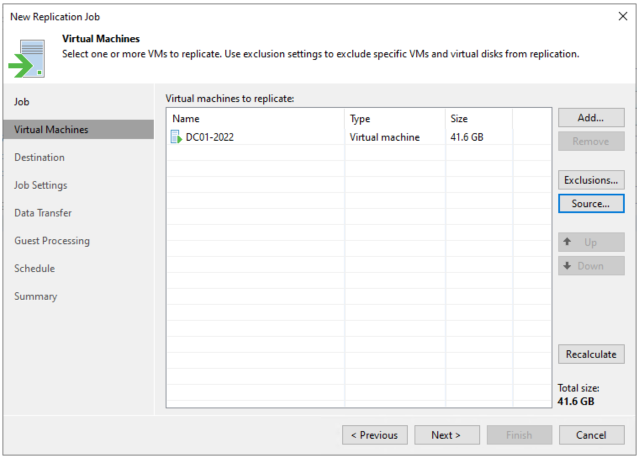
Total size:
0 B

Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Name
Type
Size
Add...
Remove
Exclusions...
Source...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

12. Select the objects in the list on the Add Objects page and click Add.


Add Objects
Select objects:
HPHV01
AzureADConnect
DC01-2022
EX01-2013
EX01-2016
EX01-2019
MANAGEMENT
MGMT01
SMB3
STORAGE-WIN
TITANDC01-2022
ubuntu20045
VBO365
VBO365PROXY
VBO365REST
VBR10
Type in an object name to search for
Add
Cancel

13. On the Virtual machines page, click Source.


New Replication Job

Virtual Machines

Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

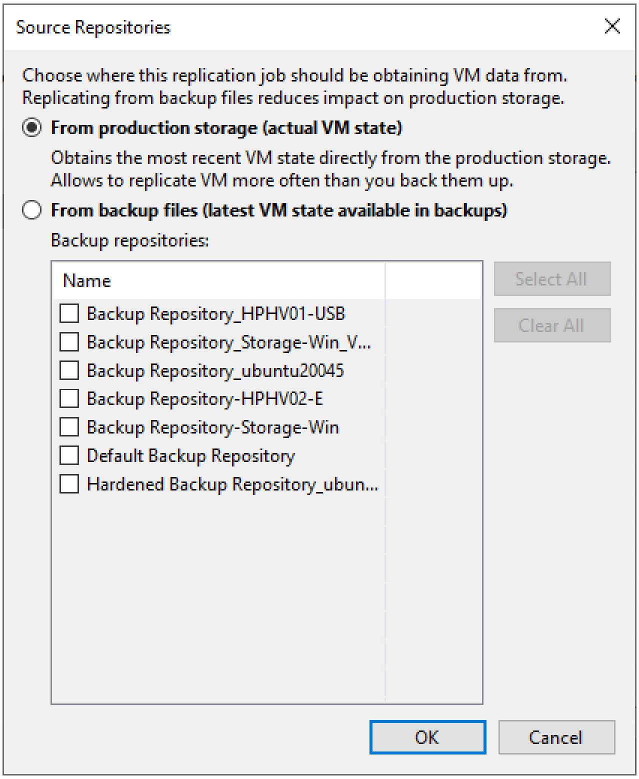
Virtual machines to replicate:

Name	Type	Size
DC01-2022	Virtual machine	41.6 GB

Total size:
41.6 GB

Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Add...
Remove
Exclusions...
Source...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

14. Select From production storage (actual VM state) on the Source Repositories page. Veeam Replication will retrieve VM data from data stores connected to the source Microsoft Hyper-V host.
15. Select From backup files (latest VM state available in backups) if required. Veeam Replication will read VM data from the backup chain that is already in the selected backup repository.
16. Click OK.



Choose where this replication job should be obtaining VM data from. Replicating from backup files reduces impact on production storage.

● **From production storage (actual VM state)**

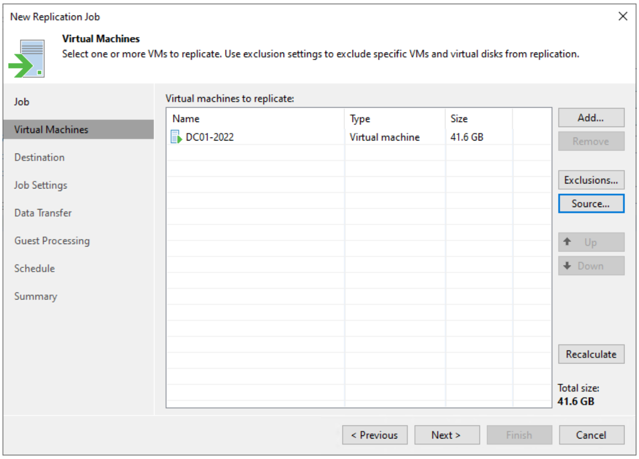
Obtains the most recent VM state directly from the production storage. Allows to replicate VM more often than you back them up.

○ **From backup files (latest VM state available in backups)**

Backup repositories:

Name
☐ Backup Repository_HPHV01-USB
☐ Backup Repository_Storage-Win_V...
☐ Backup Repository_ubuntu20045
☐ Backup Repository-HPHV02-E
☐ Backup Repository-Storage-Win
☐ Default Backup Repository
☐ Hardened Backup Repository_ubun...

17. On the Virtual Machines page, click Next.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Add...
Remove
Exclusions...
Source...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

Virtual Machines

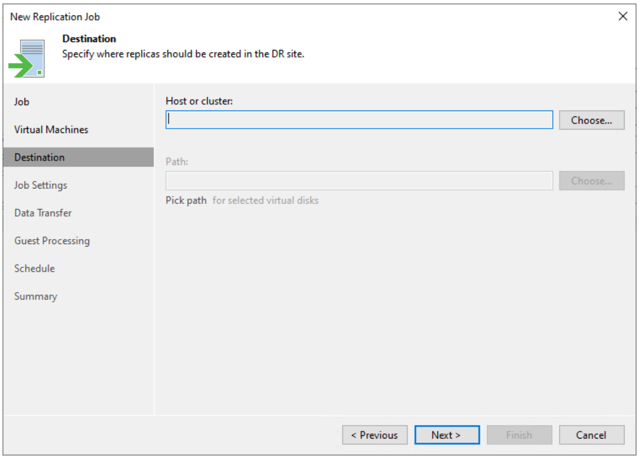
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

Name	Type	Size
DC01-2022	Virtual machine	41.6 GB

Total size:
41.6 GB

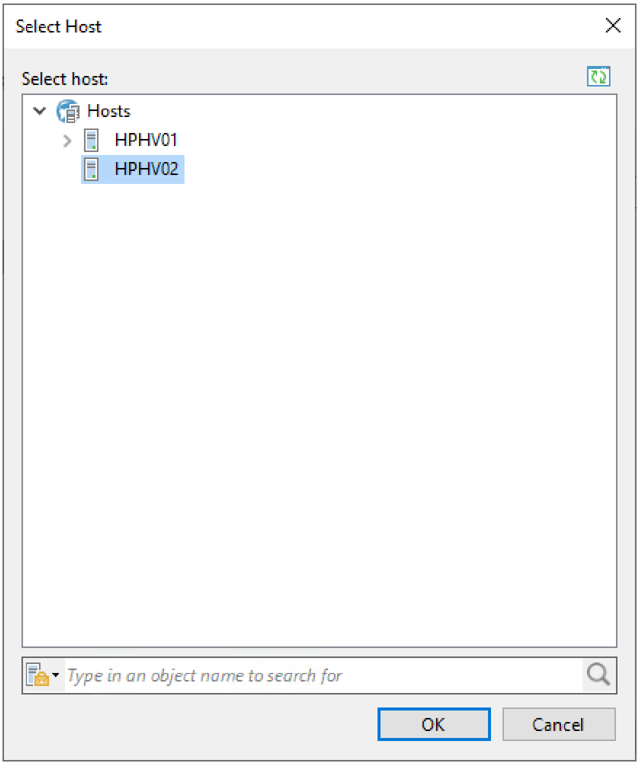
18. On the Destination page, click Choose in the Host or cluster session.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Host or cluster:
Choose...
Path:
Choose...
Pick path for selected virtual disks
< Previous
Next >
Finish
Cancel

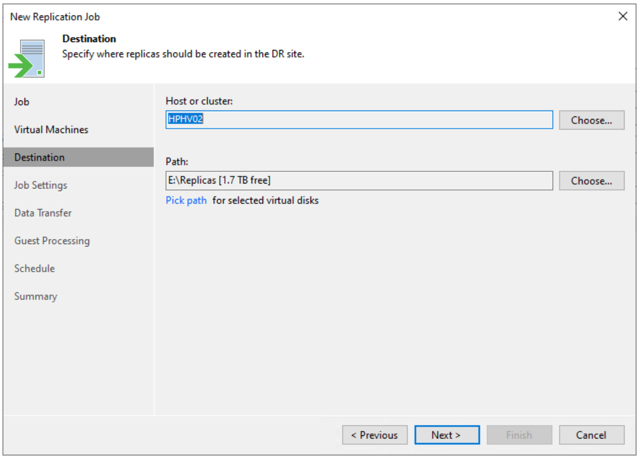
Destination

Specify where replicas should be created in the DR site.

19. Select the destination host server on the Select Host page and click OK.


Select Host
Select host:
Hosts
HPHV01
HPHV02
Type in an object name to search for
OK
Cancel

20. On the Destination page, click Choose in the Path session.


New Replication Job
Destination
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Choose...
Choose...
Pick path
< Previous
Next >
Finish
Cancel

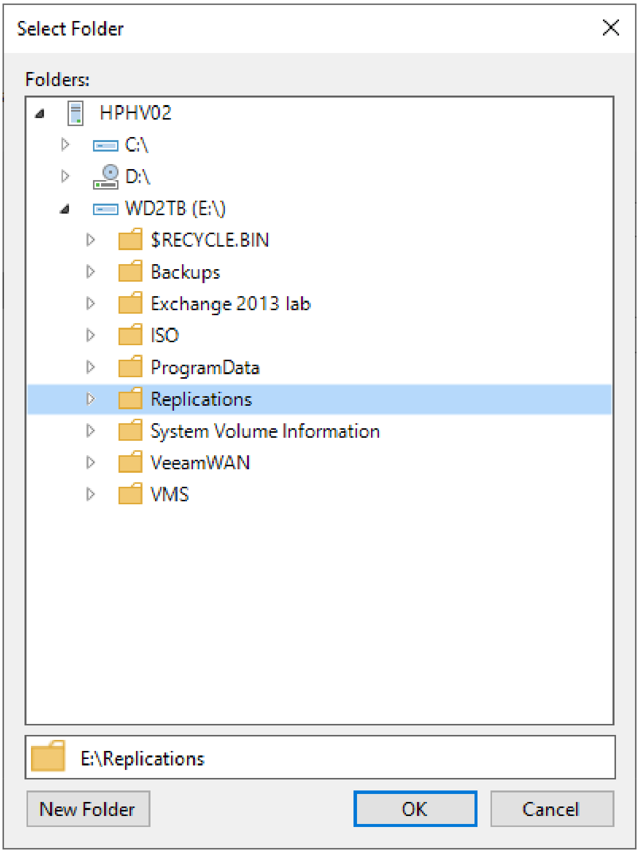
Specify where replicas should be created in the DR site.

Host or cluster: HPHV02

Path: E:\Replicas [1.7 TB free]

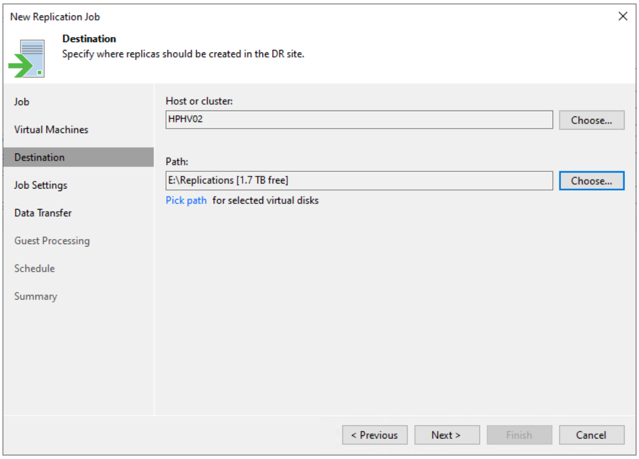
Pick path for selected virtual disks

21. On the Folders page, specify a path to the folder where VM replica files must be stored, and click OK.


Select Folder
Folders:
HPHV02
C:\
D:\
WD2TB (E:\)
$RECYCLE.BIN
Backups
Exchange 2013 lab
ISO
ProgramData
Replications
System Volume Information
VeeamWAN
VMS
New Folder
OK
Cancel

E:\Replications

22. On the Destination page, click Next.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Choose...
Choose...
< Previous
Next >
Finish
Cancel

Destination

Specify where replicas should be created in the DR site.

Host or cluster: HPHV02

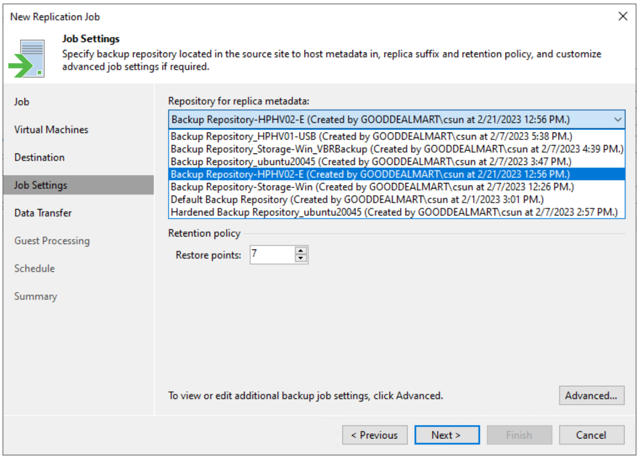
Path: E:\Replications [1.7 TB free]

Pick path for selected virtual disks

23. Select the Repository for metadata from the drop-down list on the Job Settings page.

Note:

- This setting must be specified only for snapshot replicas. Legacy replicas do not use a backup repository for storing metadata.
- You cannot store VM replica metadata on deduplicating storage appliances.
- You cannot store replica metadata in a scale-out backup repository.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Advanced...
< Previous
Next >
Finish
Cancel

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

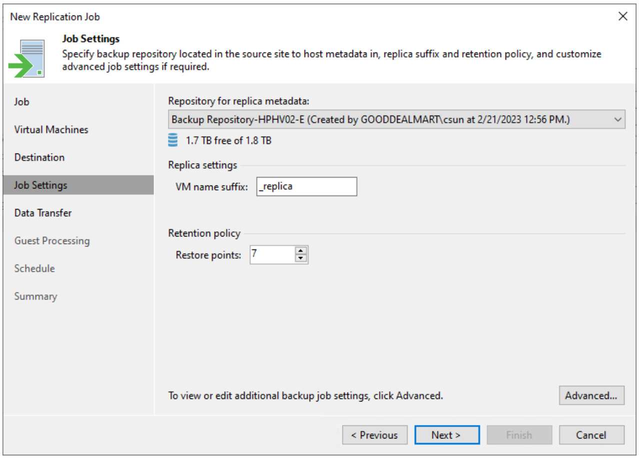
Backup Repository_HPHV01-USB (Created by GOODDEALMART\csun at 2/7/2023 5:38 PM.)
Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 PM.)
Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 3:47 PM.)
Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)
Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 2/7/2023 12:26 PM.)
Default Backup Repository (Created by GOODDEALMART\csun at 2/1/2023 3:01 PM.)
Hardened Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 2:57 PM.)

Retention policy

Restore points: 7

To view or edit additional backup job settings, click Advanced.

24. Enter a suffix that will be appended to the original VM names in the Replica name suffix field.
25. Enter the number of restore points in the field.
26. Click Advanced.



New Replication Job

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.7 TB free of 1.8 TB

Replica settings

VM name suffix: _replica

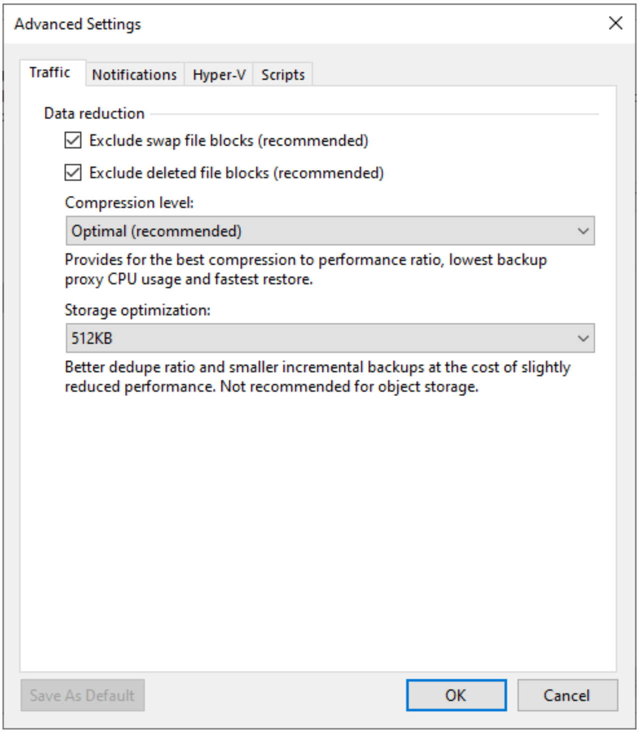
Retention policy

Restore points: 7

To view or edit additional backup job settings, click Advanced.

Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Advanced...
< Previous
Next >
Finish
Cancel

27. On Advanced Settings, click Traffic.
28. Select the Exclude swap file blocks checkbox (recommended).
29. Select the Exclude deleted file blocks (recommended) checkbox.


Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
Save As Default
OK
Cancel

Data reduction

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

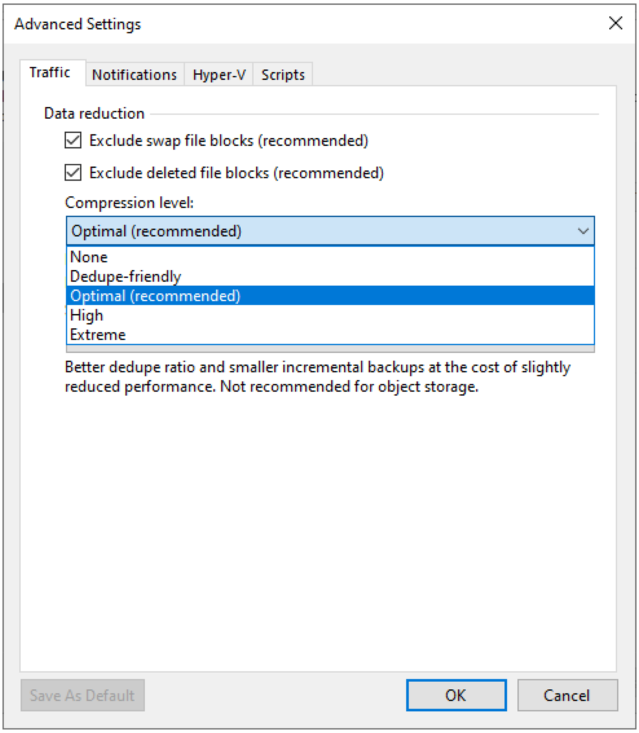
Compression level: Optimal (recommended)

Provides for the best compression to performance ratio, lowest backup proxy CPU usage and fastest restore.

Storage optimization: 512KB

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Not recommended for object storage.

30. Select the compression level for replicas from the drop-down list.



Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
Save As Default
OK
Cancel

Data reduction

☑ Exclude swap file blocks (recommended)

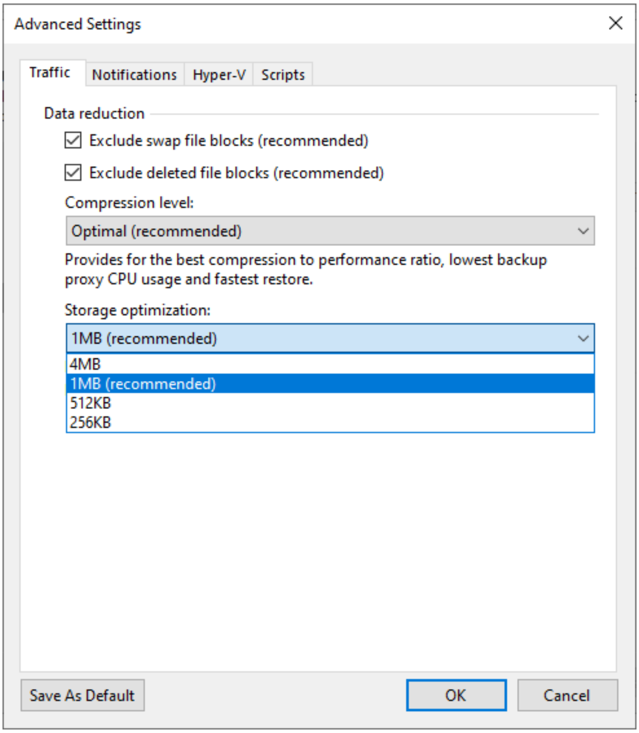
☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

- None
- Dedupe-friendly
- Optimal (recommended)
- High
- Extreme

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Not recommended for object storage.

31. Select Storage optimization from the drop-down list.


Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
4MB
1MB (recommended)
512KB
256KB
Save As Default
OK
Cancel

Data reduction

☑ Exclude swap file blocks (recommended)

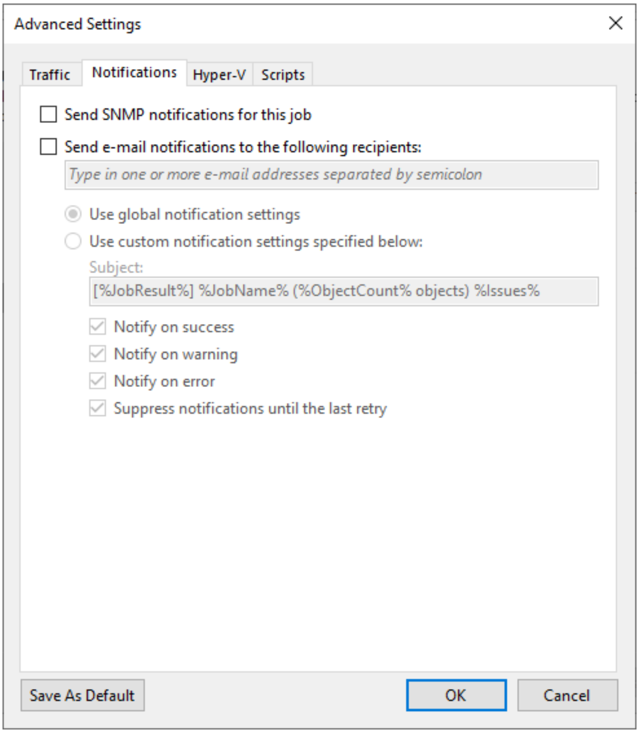
☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

Provides for the best compression to performance ratio, lowest backup proxy CPU usage and fastest restore.

Storage optimization: 1MB (recommended)

32. On the Advanced Settings, select Notifications.
33. Keep the default settings.



Advanced Settings

Traffic
Notifications
Hyper-V
Scripts

☐ Send SNMP notifications for this job

☐ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

☑ Notify on success

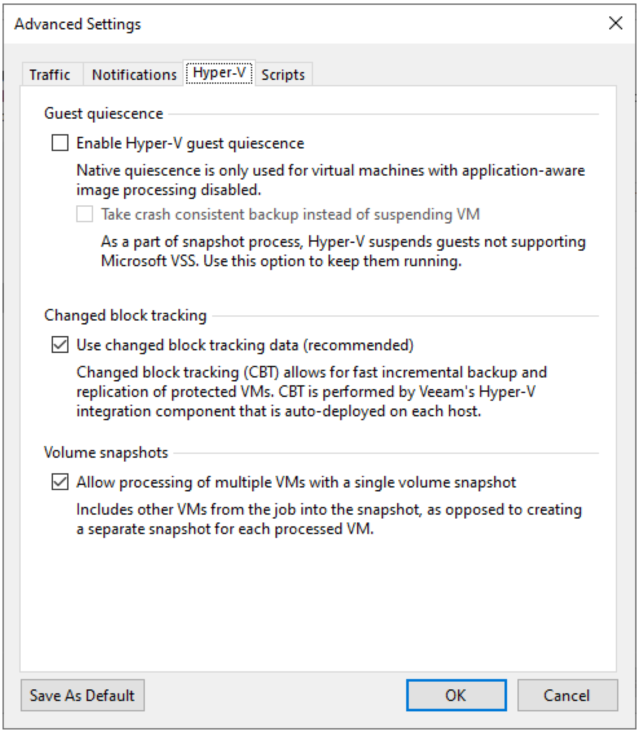
☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

Save As Default
OK
Cancel

34. On the Advanced Settings, select Hyper-V.
35. Keep the default settings.



Guest quiescence

☐ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

☐ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

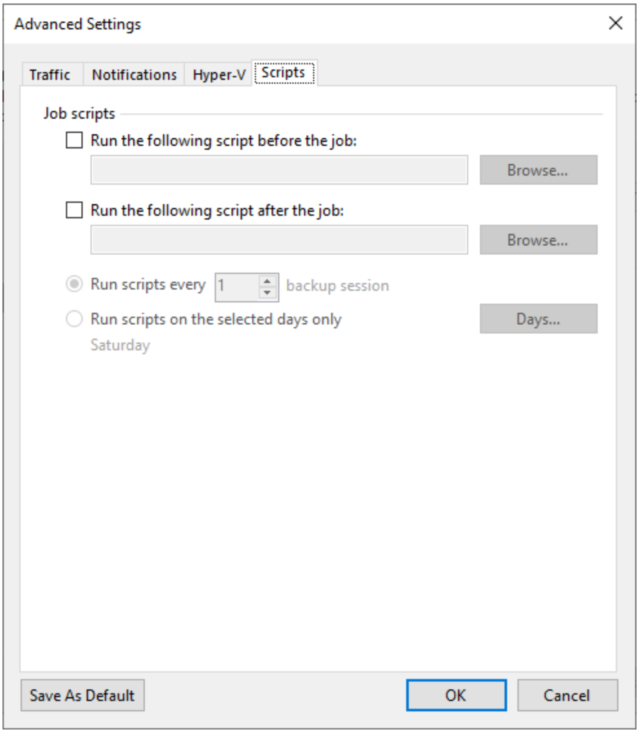
Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

36. On the Advanced Settings page, click Scripts.
37. Keep the default settings and click OK.


Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
Browse...
Browse...
Days...
Save As Default
OK
Cancel

Job scripts

☐ Run the following script before the job:

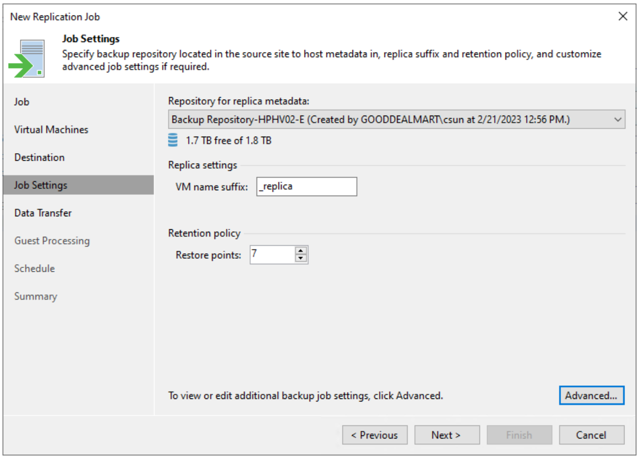
☐ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

38. On the Job Settings page, click Next.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Advanced...
< Previous
Next >
Finish
Cancel

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata: Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

1.7 TB free of 1.8 TB

Replica settings

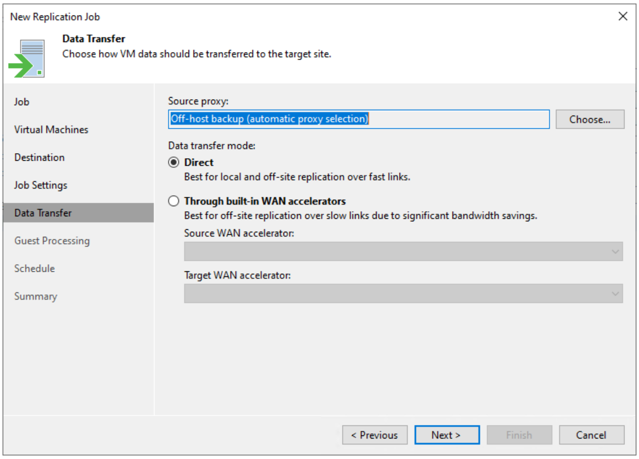
VM name suffix: _replica

Retention policy

Restore points: 7

To view or edit additional backup job settings, click Advanced.

39. Click Choose to specify Source Proxy on the Data Transfer page.



New Replication Job

Data Transfer

Choose how VM data should be transferred to the target site.

Source proxy: Off-host backup (automatic proxy selection)

Data transfer mode:

● **Direct**
Best for local and off-site replication over fast links.

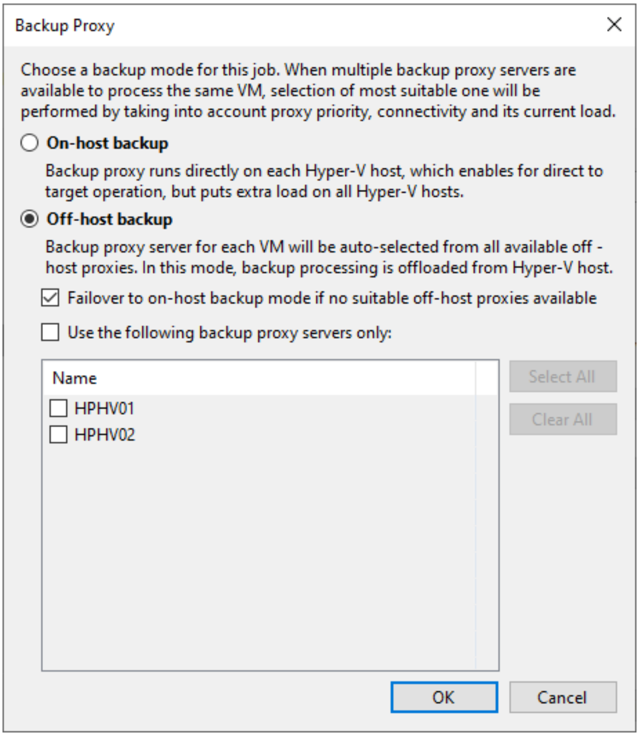
○ **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.

Source WAN accelerator:

Target WAN accelerator:

Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Choose...
< Previous
Next >
Finish
Cancel

40. On the Backup Proxy page, keep the default settings.
41. Click OK.



Backup Proxy

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

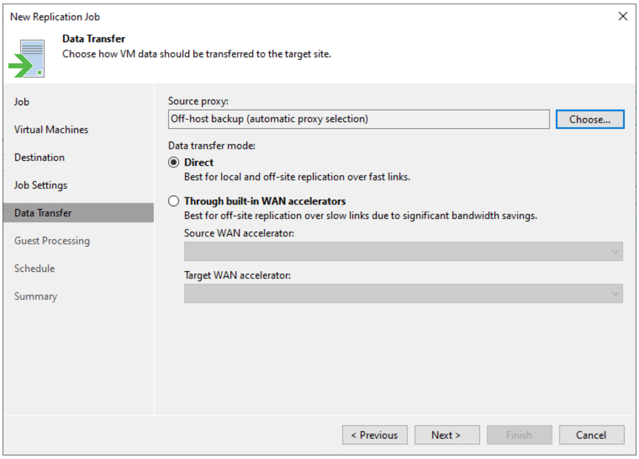
☑ Failover to on-host backup mode if no suitable off-host proxies available

☐ Use the following backup proxy servers only:

Name
☐ HPHV01
☐ HPHV02

Select All
Clear All
OK
Cancel

42. On the Data Transfer mode session, select Direct.
43. Click Next.



New Replication Job

Data Transfer
Choose how VM data should be transferred to the target site.

Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary

Source proxy:
Off-host backup (automatic proxy selection)

Choose...

Data transfer mode:

● **Direct**
Best for local and off-site replication over fast links.

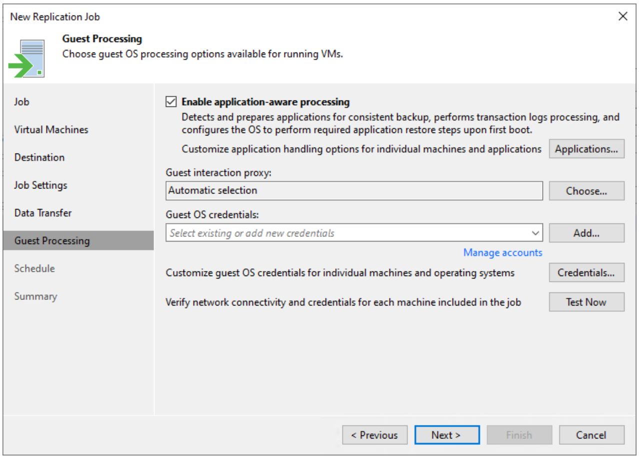
○ **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.

Source WAN accelerator:

Target WAN accelerator:

< Previous
Next >
Finish
Cancel

44. When you add VMs running VSS-aware applications to the backup job, you can enable application-aware processing to create a transactionally consistent backup. The transactionally consistent backup ensures that applications on VMs can be recovered without data loss.
45. Select the Enable application-aware processing checkbox on the Guest Processing page and click Applications.


New Replication Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

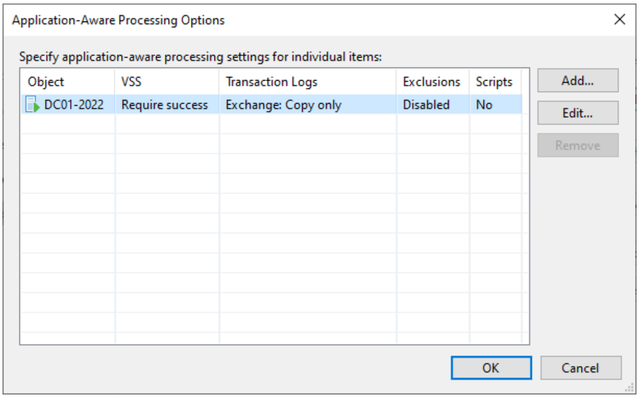
Guest OS credentials: Select existing or add new credentials

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Applications...
Choose...
Add...
Manage accounts
Credentials...
Test Now
< Previous
Next >
Finish
Cancel

46. On the Application-Aware Processing Options page, select the object and click Edit.


Application-Aware Processing Options

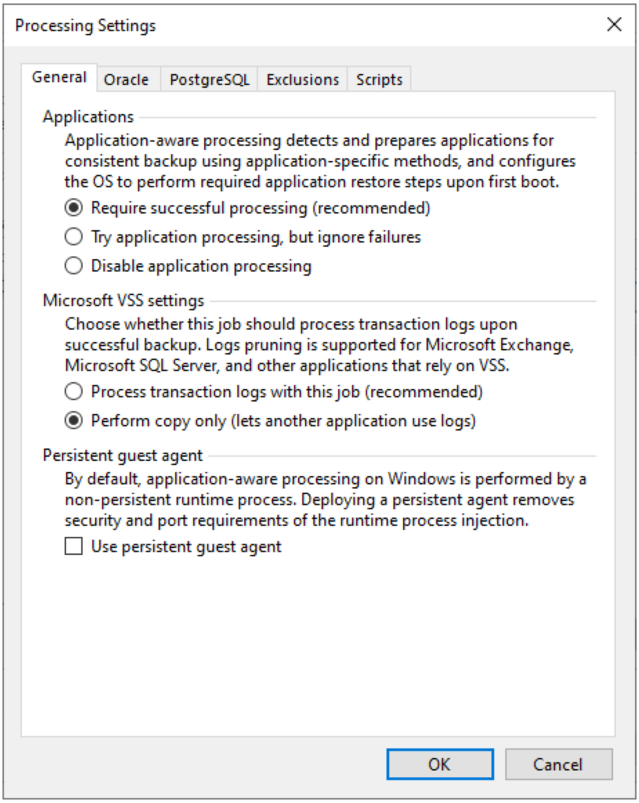
Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
DC01-2022	Require success	Exchange: Copy only	Disabled	No

Add...
Edit...
Remove
OK
Cancel

47. On the Processing Settings, click General.

48. Keep the default settings if the VM is not Microsoft Exchange, SQL, and other applications that rely on VSS.



Applications

Application-aware processing detects and prepares applications for consistent backup using application-specific methods, and configures the OS to perform required application restore steps upon first boot.

● Require successful processing (recommended)
○ Try application processing, but ignore failures
○ Disable application processing

Microsoft VSS settings

Choose whether this job should process transaction logs upon successful backup. Logs pruning is supported for Microsoft Exchange, Microsoft SQL Server, and other applications that rely on VSS.

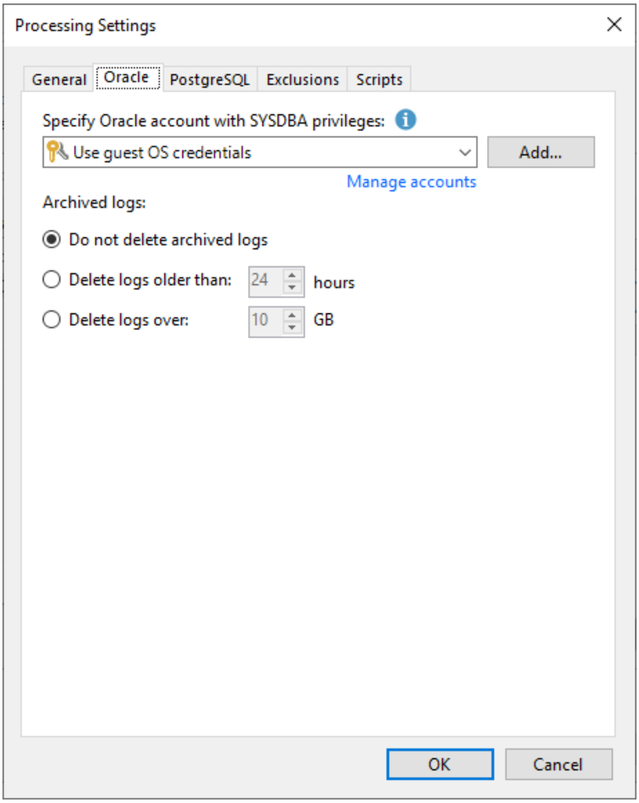
○ Process transaction logs with this job (recommended)
● Perform copy only (lets another application use logs)

Persistent guest agent

By default, application-aware processing on Windows is performed by a non-persistent runtime process. Deploying a persistent agent removes security and port requirements of the runtime process injection.

☐ Use persistent guest agent

49. On the Processing Settings, click Oracle.
50. Keep the Default settings if the VM is not an Oracle server.



Processing Settings
General
Oracle
PostgreSQL
Exclusions
Scripts
Add...
Manage accounts
OK
Cancel

Specify Oracle account with SYSDBA privileges: Use guest OS credentials

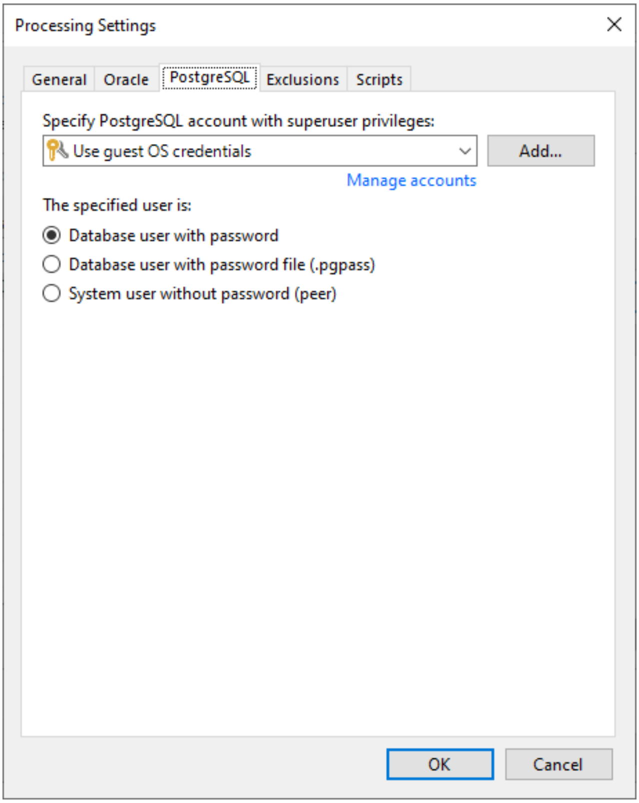
Archived logs:

● Do not delete archived logs

○ Delete logs older than: 24 hours

○ Delete logs over: 10 GB

51. On the Processing Settings, click PostgreSQL.
52. Keep the Default settings if the VM is not a PostgreSQL server.



Processing Settings

General
Oracle
PostgreSQL
Exclusions
Scripts

Specify PostgreSQL account with superuser privileges:

Use guest OS credentials

Add...
Manage accounts

The specified user is:

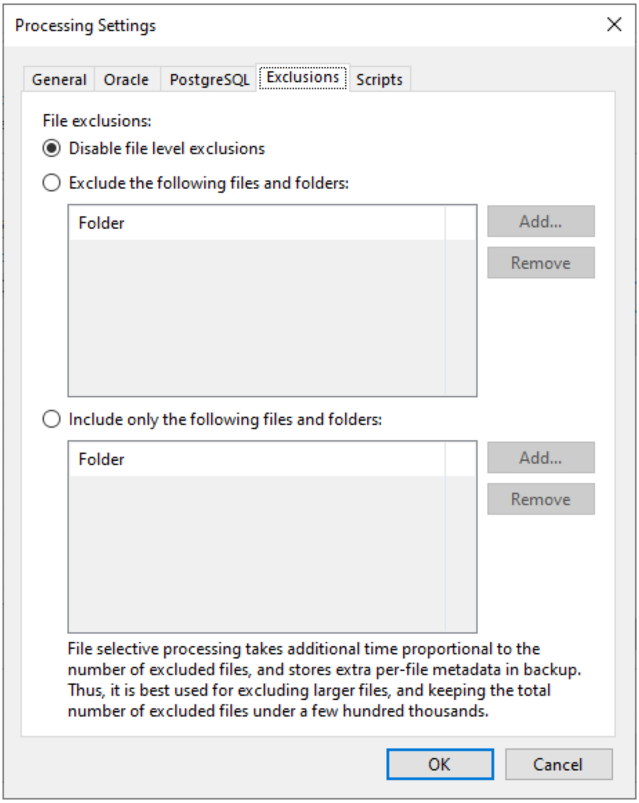
● Database user with password

○ Database user with password file (.pgpass)

○ System user without password (peer)

OK
Cancel

53. On the Processing Settings page, click Exclusions and keep the default settings.


Processing Settings
General
Oracle
PostgreSQL
Exclusions
Scripts
Folder
Add...
Remove
Folder
Add...
Remove
OK
Cancel

File exclusions:

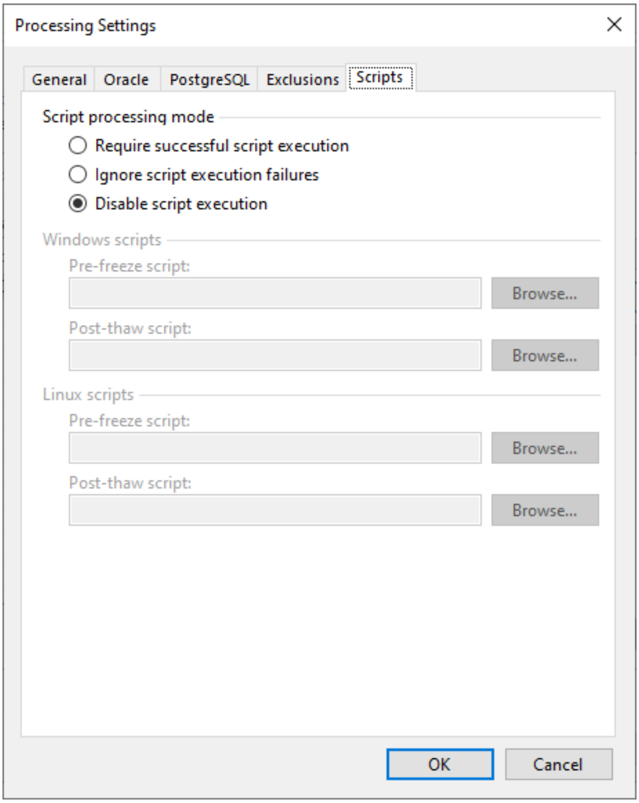
● Disable file level exclusions

○ Exclude the following files and folders:

○ Include only the following files and folders:

File selective processing takes additional time proportional to the number of excluded files, and stores extra per-file metadata in backup. Thus, it is best used for excluding larger files, and keeping the total number of excluded files under a few hundred thousands.

54. On the Processing Settings page, click Scripts.
55. Keep the default settings and click OK.


Processing Settings
General
Oracle
PostgreSQL
Exclusions
Scripts
Browse...
Browse...
Browse...
Browse...
OK
Cancel

Script processing mode

○ Require successful script execution

○ Ignore script execution failures

● Disable script execution

Windows scripts

Pre-freeze script:

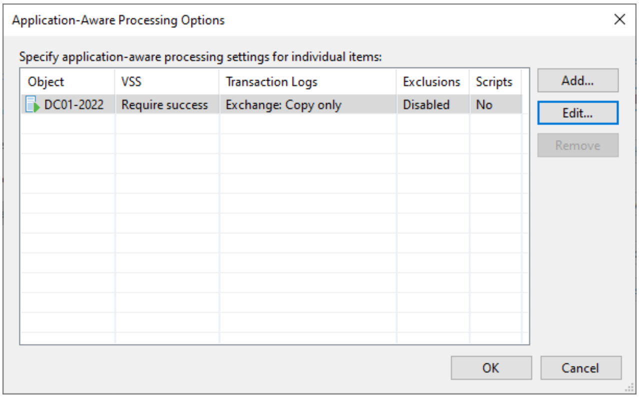
Post-thaw script:

Linux scripts

Pre-freeze script:

Post-thaw script:

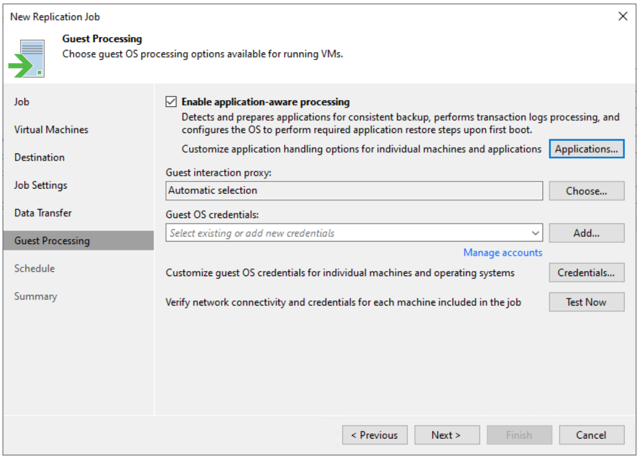
56. On the Application-Aware Processing Options page, click OK.


Application-Aware Processing Options
Add...
Edit...
Remove
OK
Cancel

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
DC01-2022	Require success	Exchange: Copy only	Disabled	No

57. Click Choose on the Guest interaction proxy field on the Guest Processing page.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Applications...
Choose...
Add...
Manage accounts
Credentials...
Test Now
< Previous
Next >
Finish
Cancel

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

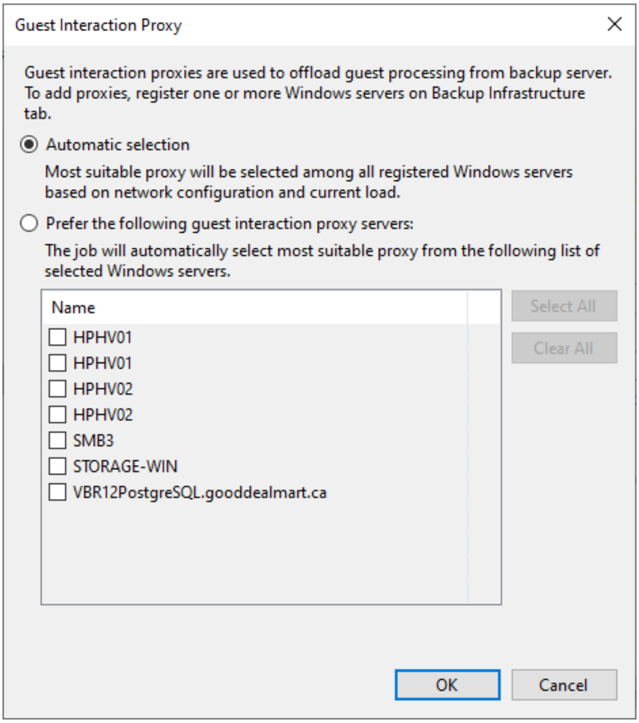
Guest interaction proxy: Automatic selection

Guest OS credentials: *Select existing or add new credentials*

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

58. On the Guest Interaction Proxy page, you can keep the default setting to select Automatic selection to let Veeam Backup & Replication automatically select the guest interaction proxy.
59. Or select Prefer the following guest interaction proxy servers to explicitly define which servers will perform the guest interaction proxy role.
60. Click OK.



Guest interaction proxies are used to offload guest processing from backup server. To add proxies, register one or more Windows servers on Backup Infrastructure tab.

● Automatic selection

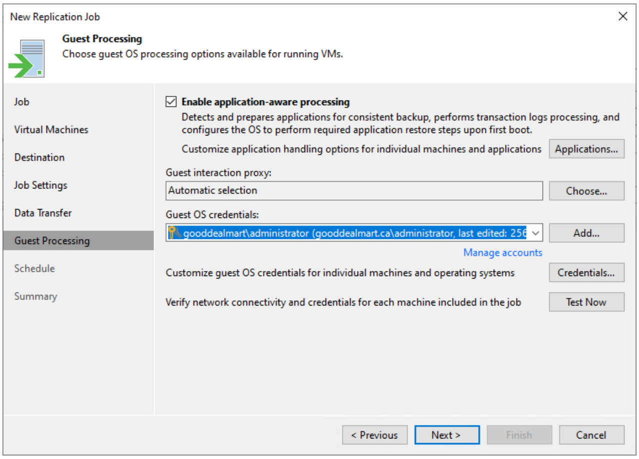
Most suitable proxy will be selected among all registered Windows servers based on network configuration and current load.

○ Prefer the following guest interaction proxy servers:

The job will automatically select most suitable proxy from the following list of selected Windows servers.

Name
☐ HPHV01
☐ HPHV01
☐ HPHV02
☐ HPHV02
☐ SMB3
☐ STORAGE-WIN
☐ VBR12PostgreSQL.gooddealmart.ca

61. Choose a user account on the Guest Processing page with sufficient permissions from the Guest OS credentials drop-down list.
62. Click Credentials to Customize guest OS credentials for individual machines and operating systems.



New Replication Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

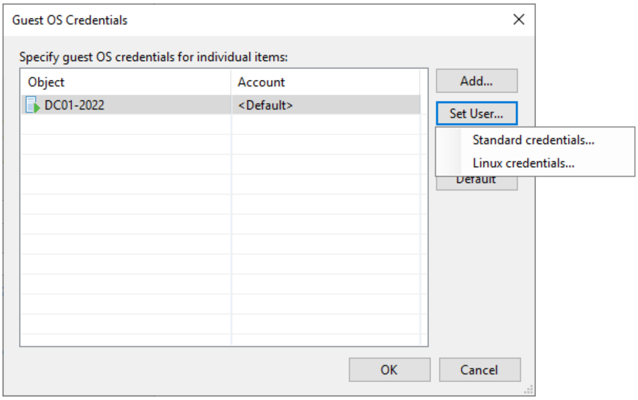
Guest OS credentials: gooddealmart\administrator (gooddealmart.ca\administrator, last edited: 25

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Applications...
Choose...
Add...
Manage accounts
Credentials...
Test Now
< Previous
Next >
Finish
Cancel

63. On the Guest OS Credentials page, select the VM and click Set User.
64. Select Standard credentials.



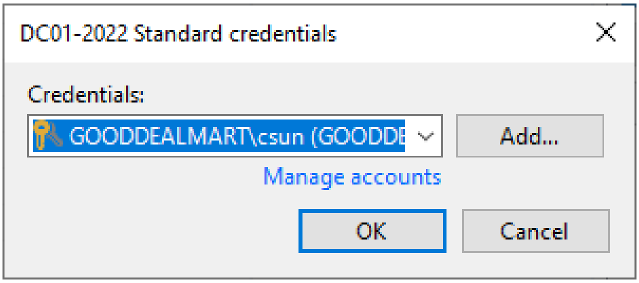
Guest OS Credentials

Specify guest OS credentials for individual items:

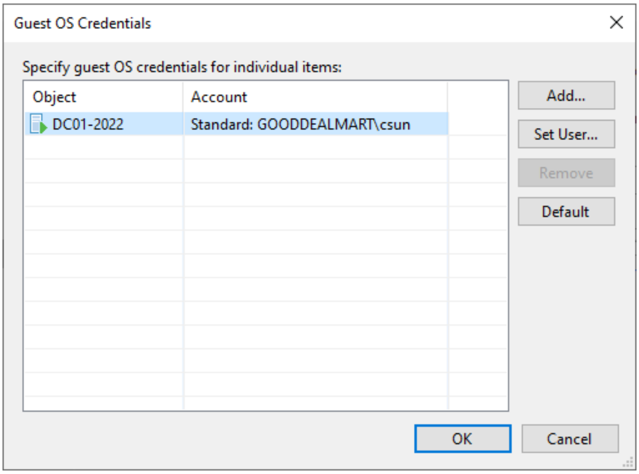
Object	Account
DC01-2022	<Default>

Add...
Set User...
Standard credentials...
Linux credentials...
Default
OK
Cancel

65. Choose a user from the Credentials drop-down list and click OK.
66. Repeat the steps for each VM.


DC01-2022 Standard credentials
Credentials:
GOODDEALMART\csun (GOODDE
Add...
Manage accounts
OK
Cancel

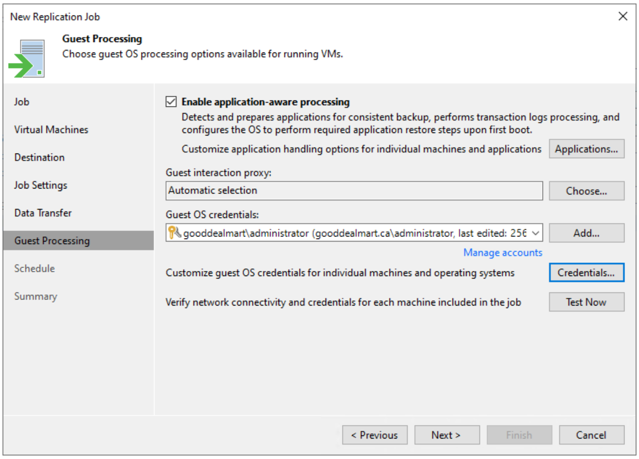
67. On the Guest OS Credentials page, click OK.


Guest OS Credentials
Add...
Set User...
Remove
Default
OK
Cancel

Specify guest OS credentials for individual items:

Object	Account
DC01-2022	Standard: GOODDEALMART\csun

68. On the Guest Processing page, click Test Now.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Applications...
Choose...
Add...
Manage accounts
Credentials...
Test Now
< Previous
Next >
Finish
Cancel

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

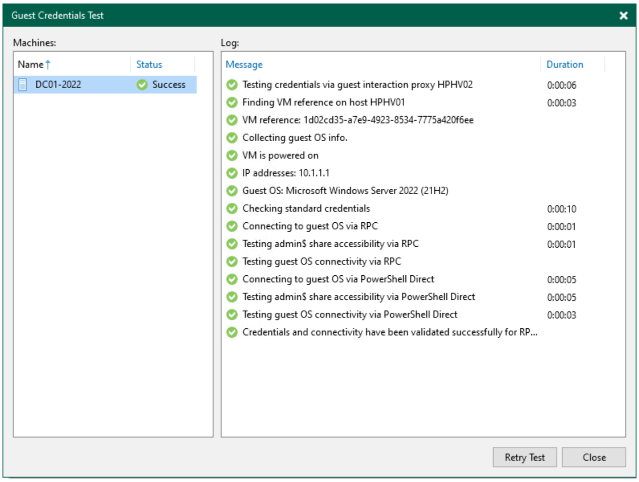
Guest interaction proxy: Automatic selection

Guest OS credentials: gooddealmart\administrator (gooddealmart.ca\administrator, last edited: 256

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

69. On the Guest Credentials Test page, ensure each machine's success.
70. Click Close.


Guest Credentials Test
Retry Test
Close

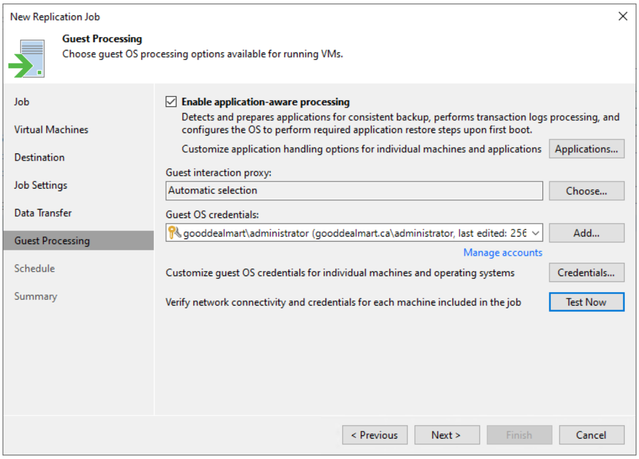
Machines:

Name ↑	Status
DC01-2022	Success

Log:

Message	Duration
Testing credentials via guest interaction proxy HPHV02	0:00:06
Finding VM reference on host HPHV01	0:00:03
VM reference: 1d02cd35-a7e9-4923-8534-7775a420f6ee	
Collecting guest OS info.	
VM is powered on	
IP addresses: 10.1.1.1	
Guest OS: Microsoft Windows Server 2022 (21H2)	
Checking standard credentials	0:00:10
Connecting to guest OS via RPC	0:00:01
Testing admin$ share accessibility via RPC	0:00:01
Testing guest OS connectivity via RPC	
Connecting to guest OS via PowerShell Direct	0:00:05
Testing admin$ share accessibility via PowerShell Direct	0:00:05
Testing guest OS connectivity via PowerShell Direct	0:00:03
Credentials and connectivity have been validated successfully for RP...	

71. On the Guest Processing page, click Next.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Applications...
Choose...
Add...
Manage accounts
Credentials...
Test Now
< Previous
Next >
Finish
Cancel

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

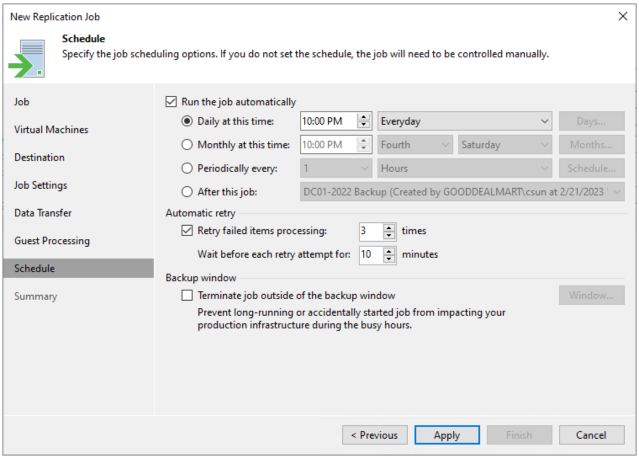
Guest interaction proxy: Automatic selection

Guest OS credentials: gooddealmart\administrator (gooddealmart.ca\administrator, last edited: 256

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

72. Select Run the job automatically on the Schedule page and select your specified schedule.
73. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.
74. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.
75. Click Apply.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Days...
Months...
Schedule...
Window...
< Previous
Apply
Finish
Cancel

Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 10:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DC01-2022 Backup (Created by GOODDEALMART\csun at 2/21/2023

Automatic retry

☑ Retry failed items processing: 3 times

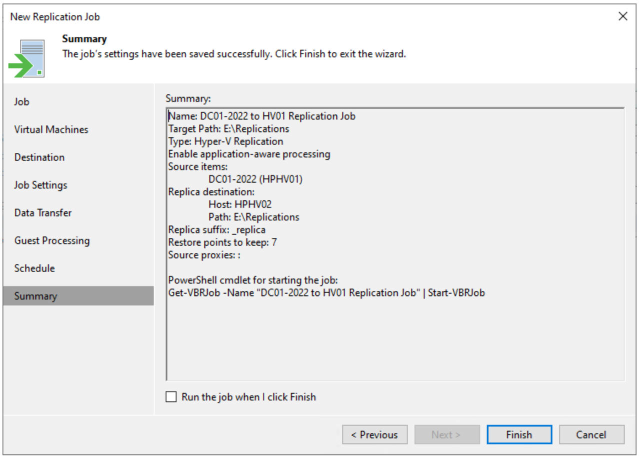
Wait before each retry attempt for: 10 minutes

Backup window

☐ Terminate job outside of the backup window

Prevent long-running or accidentally started job from impacting your production infrastructure during the busy hours.

76. On the Summary page, click Finish.


New Replication Job
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
< Previous
Next >
Finish
Cancel

Summary

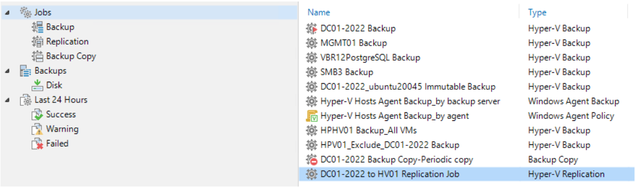
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: DC01-2022 to HV01 Replication Job
Target Path: E:\Replications
Type: Hyper-V Replication
Enable application-aware processing
Source items:
            DC01-2022 (HPHV01)
Replica destination:
            Host: HPHV02
            Path: E:\Replications
Replica suffix: _replica
Restore points to keep: 7
Source proxies: :

PowerShell cmdlet for starting the job:
Get-VBRJob -Name "DC01-2022 to HV01 Replication Job" | Start-VBRJob
```

☐ Run the job when I click Finish

77. Verify the job has been added.

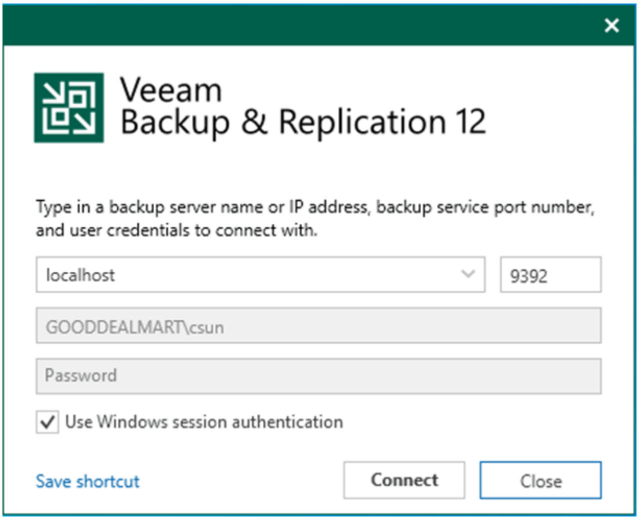

Jobs
Backup
Replication
Backup Copy
Backups
Disk
Last 24 Hours
Success
Warning
Failed

Name	Type
DC01-2022 Backup	Hyper-V Backup
MGMT01 Backup	Hyper-V Backup
VBR12PostgreSQL Backup	Hyper-V Backup
SMB3 Backup	Hyper-V Backup
DC01-2022_ubuntu20045 Immutable Backup	Hyper-V Backup
Hyper-V Hosts Agent Backup_by backup server	Windows Agent Backup
Hyper-V Hosts Agent Backup_by agent	Windows Agent Policy
HPHV01 Backup_All VMs	Hyper-V Backup
HPV01_Exclude_DC01-2022 Backup	Hyper-V Backup
DC01-2022 Backup Copy-Periodic copy	Backup Copy
DC01-2022 to HV01 Replication Job	Hyper-V Replication

Creating a Replication job to replicate the specified VMs to the Disaster Recovery Site

This procedure creates a replication job to replicate the specified VMs to the disaster recovery site. If a disaster strikes and the production VM stops working properly, you can fail over to its replica.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.



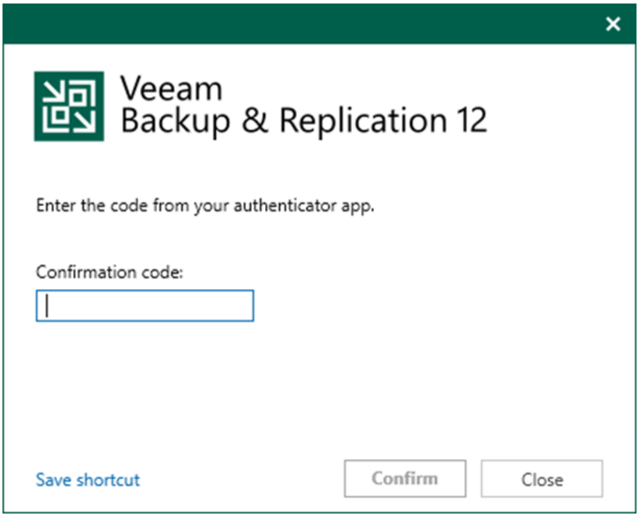
Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost
9392
GOODDEALMART\csun
Password
☑ Use Windows session authentication

Save shortcut
Connect
Close

3. Enter the MFA Confirmation code and click Confirm.



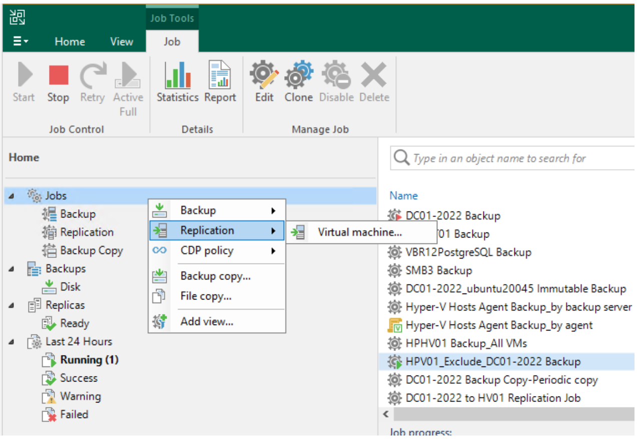
Veeam
Backup & Replication 12

Enter the code from your authenticator app.

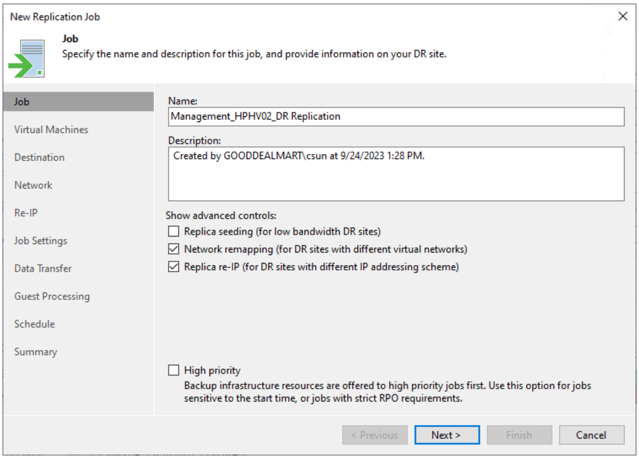
Confirmation code:

Save shortcut
Confirm
Close

4. On the Home page, select Jobs, right-click Jobs, select Replication and click Virtual machine.


Job Tools
Home
View
Job
Start
Stop
Retry
Active Full
Statistics
Report
Edit
Clone
Disable
Delete
Job Control
Details
Manage Job
Home
Type in an object name to search for
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Running (1)
Success
Warning
Failed
Backup
Replication
CDP policy
Backup copy...
File copy...
Add view...
Virtual machine...
Name
DC01-2022 Backup
01 Backup
VBR12PostgreSQL Backup
SMB3 Backup
DC01-2022_ubuntu20045 Immutable Backup
Hyper-V Hosts Agent Backup_by backup server
Hyper-V Hosts Agent Backup_by agent
HPHV01 Backup_All VMs
HPV01_Exclude_DC01-2022 Backup
DC01-2022 Backup Copy-Periodic copy
DC01-2022 to HV01 Replication Job
Job progress:

5. Enter a name for the replication job on the Job page in the Name field.
6. Describe the Description field.
7. Select Network remapping (for DR sites with different virtual networks).
8. Replica re-IP (for DR sites with different IP addressing schemes).
9. Select the High priority check box if required.
10. Click Next.



New Replication Job

Job

Specify the name and description for this job, and provide information on your DR site.

Name:
Management_HPHV02_DR Replication

Description:
Created by GOODDEALMART\csun at 9/24/2023 1:28 PM.

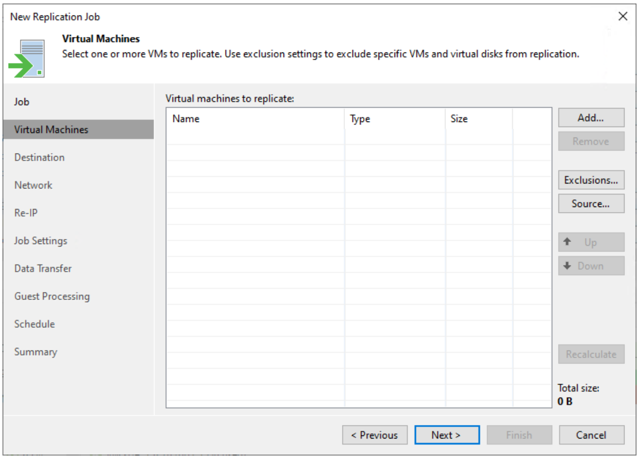
Show advanced controls:

☐ Replica seeding (for low bandwidth DR sites)
☑ Network remapping (for DR sites with different virtual networks)
☑ Replica re-IP (for DR sites with different IP addressing scheme)

☐ High priority
Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
< Previous
Next >
Finish
Cancel

11. On the Virtual Machines page, click Add.



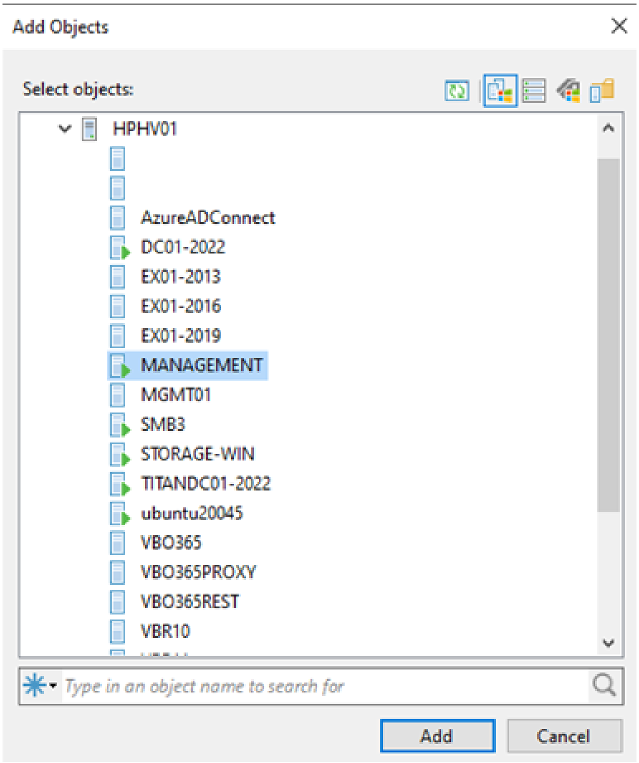
New Replication Job

Virtual Machines

Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

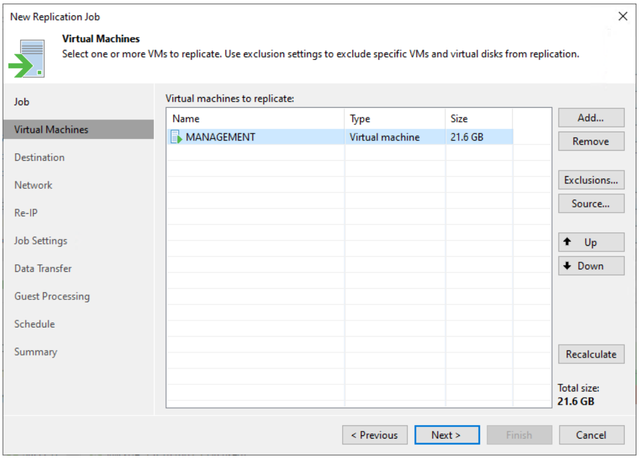
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Virtual machines to replicate:
Name
Type
Size
Add...
Remove
Exclusions...
Source...
Up
Down
Recalculate
Total size:
0 B
< Previous
Next >
Finish
Cancel

12. Select the objects in the list on the Add Objects page and click Add.



Add Objects
Select objects:
HPHV01
AzureADConnect
DC01-2022
EX01-2013
EX01-2016
EX01-2019
MANAGEMENT
MGMT01
SMB3
STORAGE-WIN
TITANDC01-2022
ubuntu20045
VBO365
VBO365PROXY
VBO365REST
VBR10
Type in an object name to search for
Add
Cancel

13. On the Virtual machines page, click Source.



New Replication Job

Virtual Machines

Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

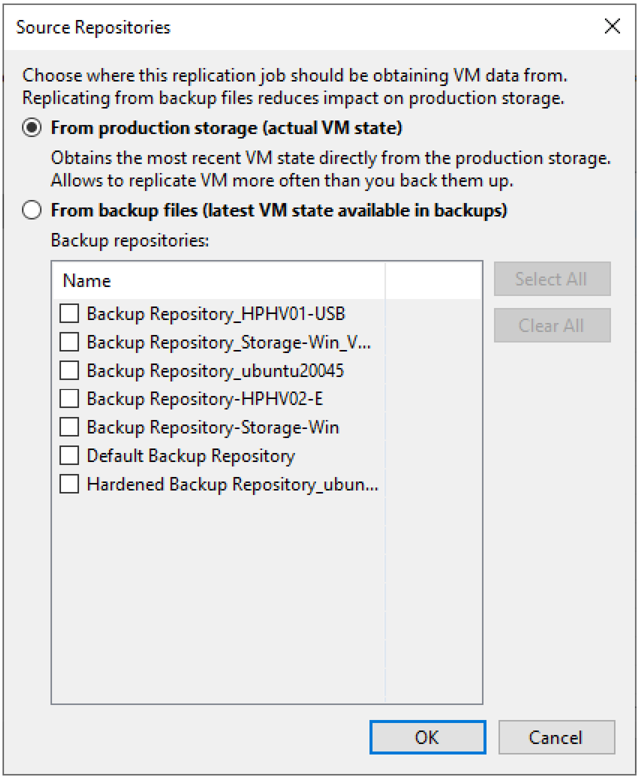
Virtual machines to replicate:

Name	Type	Size
MANAGEMENT	Virtual machine	21.6 GB

Total size: **21.6 GB**

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Add...
Remove
Exclusions...
Source...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

14. Select From production storage (actual VM state) on the Source Repositories page. Veeam Replication will retrieve VM data from data stores connected to the source Microsoft Hyper-V host.
15. Or select Form backup files (latest VM state available in backups) if required. Veeam Backup & Replication will read VM data from the backup chain that is already in the selected backup repository.
16. Click OK.



Choose where this replication job should be obtaining VM data from.
Replicating from backup files reduces impact on production storage.

● **From production storage (actual VM state)**

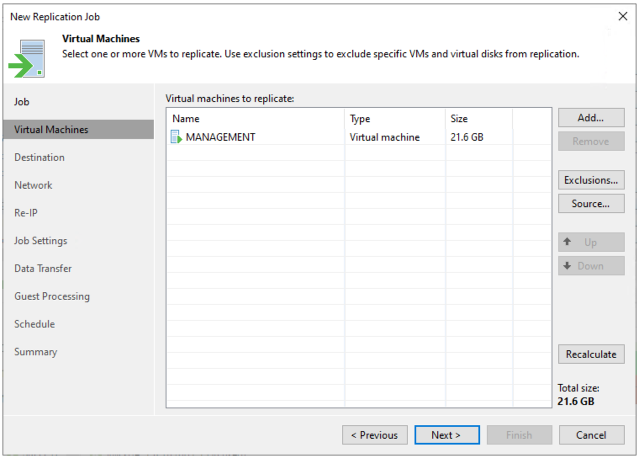
Obtains the most recent VM state directly from the production storage.
Allows to replicate VM more often than you back them up.

○ **From backup files (latest VM state available in backups)**

Backup repositories:

Name
☐ Backup Repository_HPHV01-USB
☐ Backup Repository_Storage-Win_V...
☐ Backup Repository_ubuntu20045
☐ Backup Repository-HPHV02-E
☐ Backup Repository-Storage-Win
☐ Default Backup Repository
☐ Hardened Backup Repository_ubun...

17. On the Virtual Machines page, click Next.


New Replication Job

Virtual Machines

Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

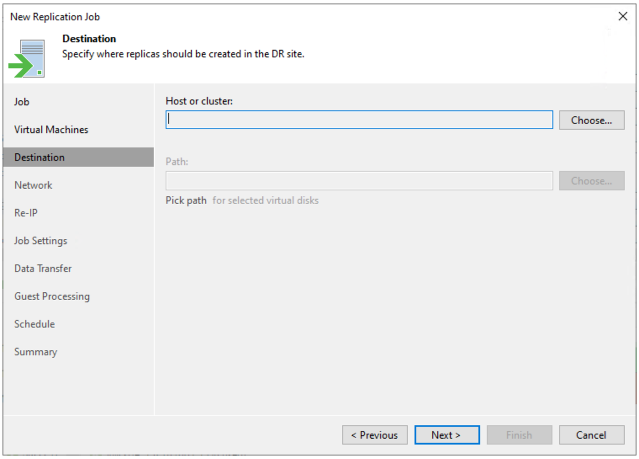
Virtual machines to replicate:

Name	Type	Size
MANAGEMENT	Virtual machine	21.6 GB

Total size:
21.6 GB

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Add...
Remove
Exclusions...
Source...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

18. On the Destination page, click Choose in the Host or cluster session.


New Replication Job

Destination

Specify where replicas should be created in the DR site.

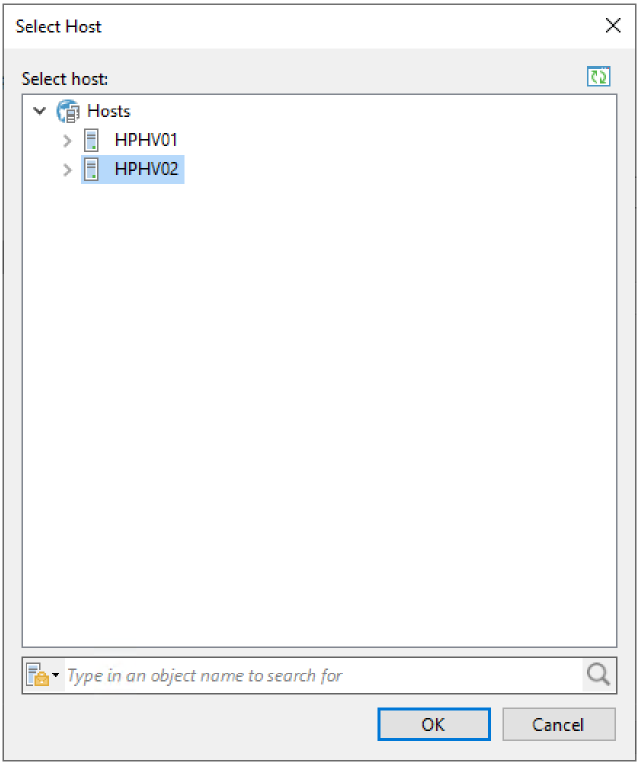
Host or cluster:

Path:

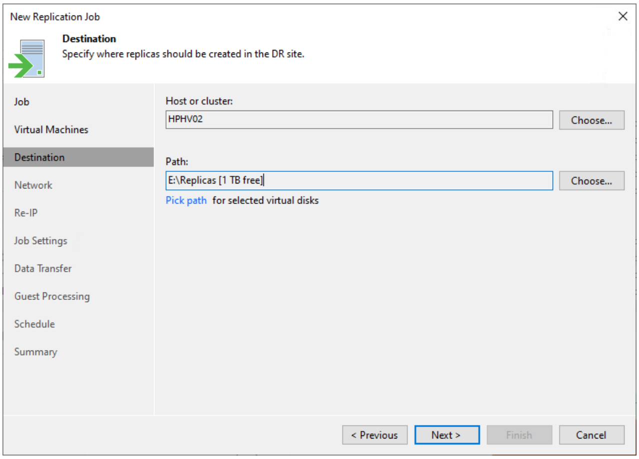
Pick path for selected virtual disks

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Choose...
Choose...
< Previous
Next >
Finish
Cancel

19. Select the destination host server on the Select Host page and click OK.


Select Host
Select host:
Hosts
HPHV01
HPHV02
Type in an object name to search for
OK
Cancel

20. On the Destination page, click Choose in the Path session.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Choose...
Choose...
< Previous
Next >
Finish
Cancel

Destination

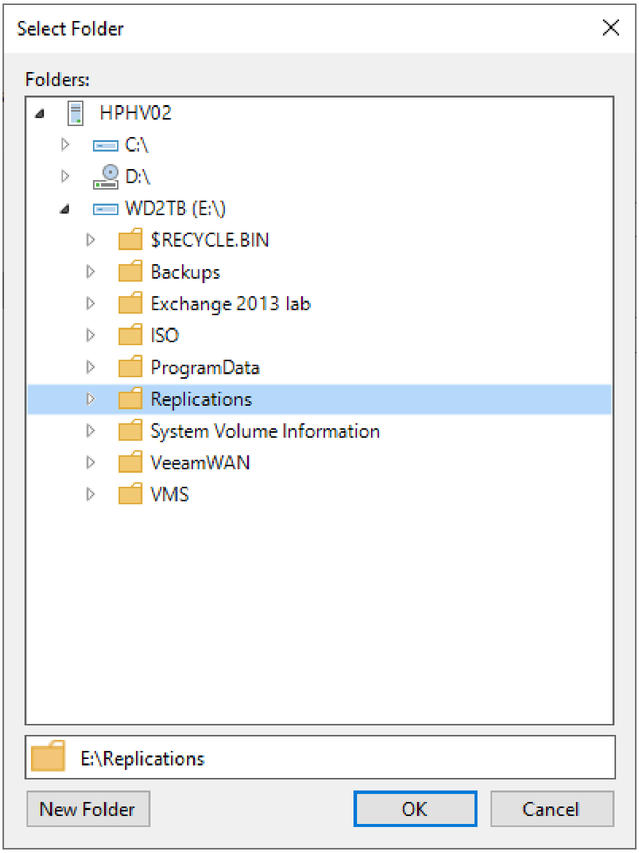
Specify where replicas should be created in the DR site.

Host or cluster: HPHV02

Path: E:\Replicas [1 TB free]

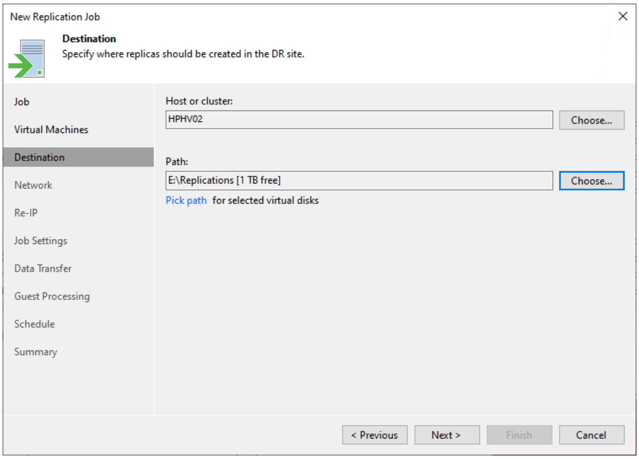
Pick path for selected virtual disks

21. On the Folders page, specify a path to the folder where VM replica files must be stored, and click OK.


Select Folder
Folders:
HPHV02
C:\
D:\
WD2TB (E:\)
$RECYCLE.BIN
Backups
Exchange 2013 lab
ISO
ProgramData
Replications
System Volume Information
VeeamWAN
VMS
New Folder
OK
Cancel

E:\Replications

22. On the Destination page, click Next.



New Replication Job

Destination

Specify where replicas should be created in the DR site.

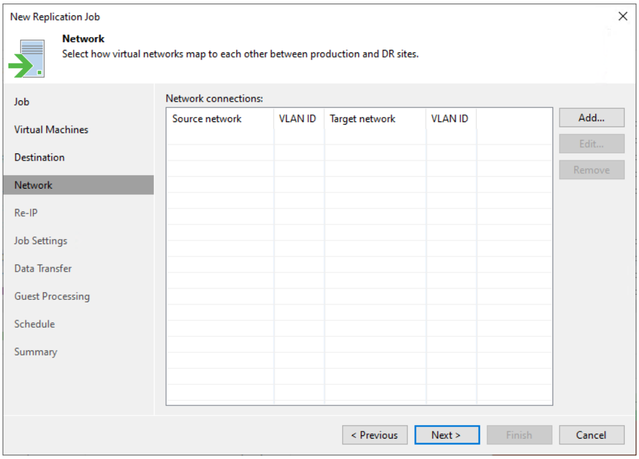
Host or cluster: HPHV02

Path: E:\Replications [1 TB free]

Pick path for selected virtual disks

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Choose...
Choose...
< Previous
Next >
Finish
Cancel

23. On the Network page, click Add.



New Replication Job

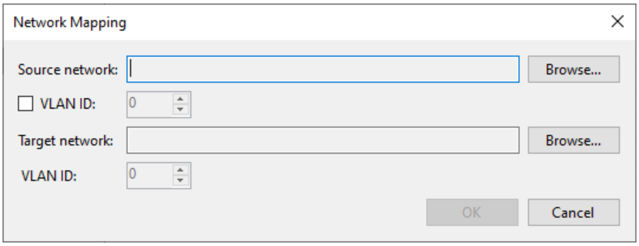
Network

Select how virtual networks map to each other between production and DR sites.

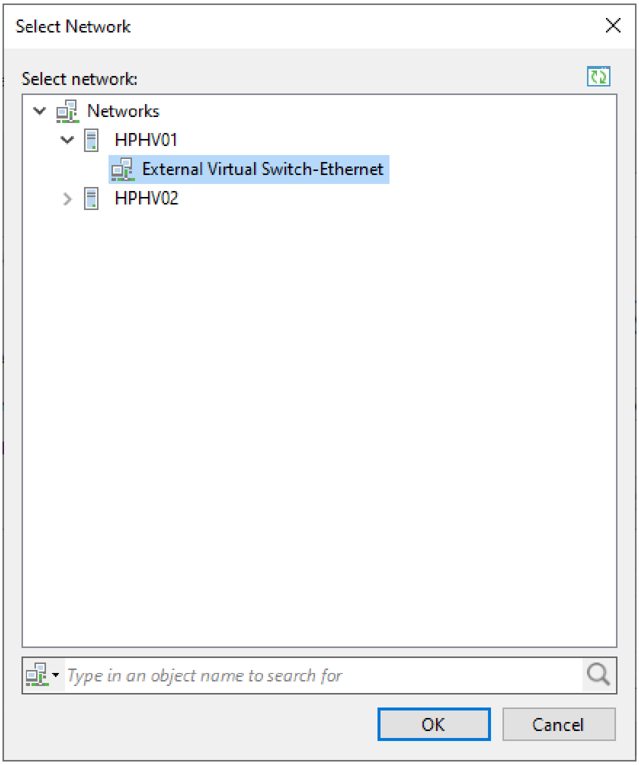
Network connections:

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Source network
VLAN ID
Target network
VLAN ID
Add...
Edit...
Remove
< Previous
Next >
Finish
Cancel

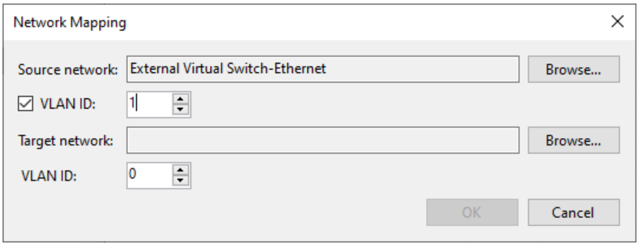
24. On the Network Mapping page, click Browse in the Source network session.


Network Mapping
Source network:
Browse...
☐ VLAN ID:
0
Target network:
Browse...
VLAN ID:
0
OK
Cancel

25. Select the production network on the Select Network page to which the original VMs are connected and click OK.

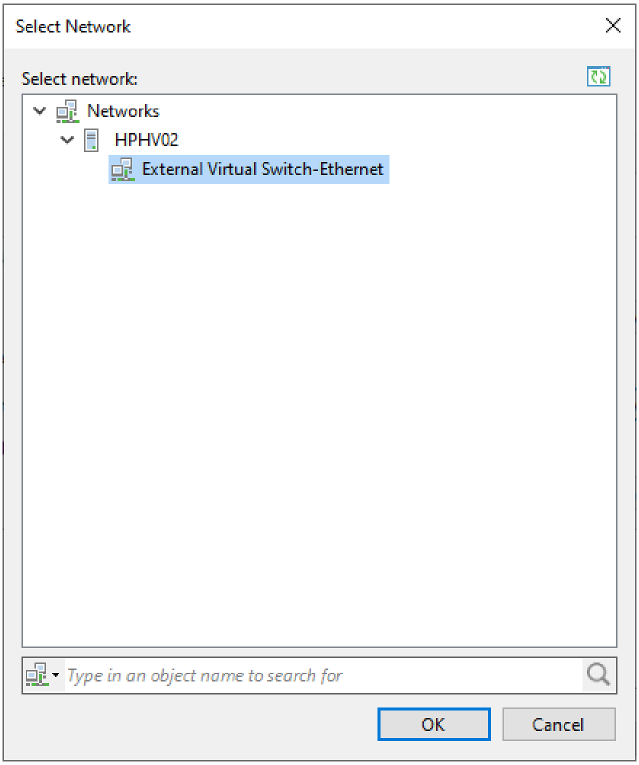

Select Network
Select network:
Networks
HPHV01
External Virtual Switch-Ethernet
HPHV02
Type in an object name to search for
OK
Cancel

26. If you use VLAN IDs for networking, select the VLAN ID check box and enter the VLAN ID of the source network.
27. On the Network Mapping page, click Browse in the Target network session.

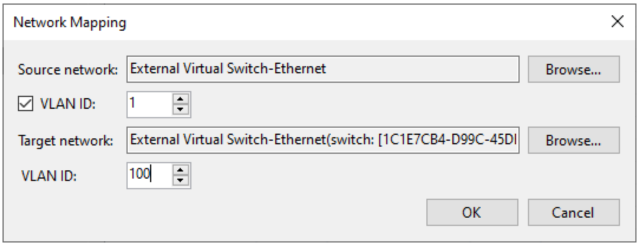

Network Mapping
Browse...
Browse...
OK
Cancel

Source network: External Virtual Switch-Ethernet
☑ VLAN ID: 1
Target network:
VLAN ID: 0

28. Select the DR site network on the Select Network page to which replicas will be connected and click OK.


Select Network
Select network:
Networks
HPHV02
External Virtual Switch-Ethernet
Type in an object name to search for
OK
Cancel

29. If you use VLAN IDs for networking, select the VLAN ID check box and enter the VLAN ID of the target network.
30. Click OK.



Network Mapping

Source network: External Virtual Switch-Ethernet

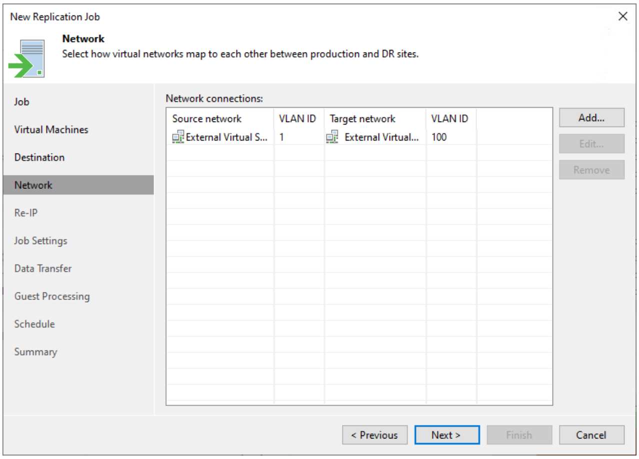
☑ VLAN ID: 1

Target network: External Virtual Switch-Ethernet(switch: [1C1E7CB4-D99C-45DI

VLAN ID: 100

Browse...
Browse...
OK
Cancel

31. On the Network page, click Next.



New Replication Job

Network

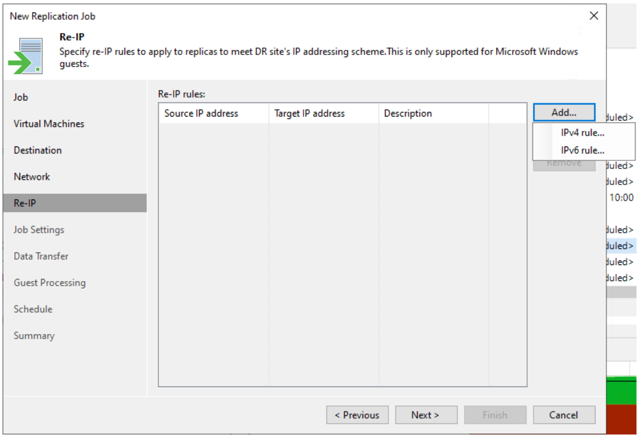
Select how virtual networks map to each other between production and DR sites.

Network connections:

Source network	VLAN ID	Target network	VLAN ID
External Virtual S...	1	External Virtual...	100

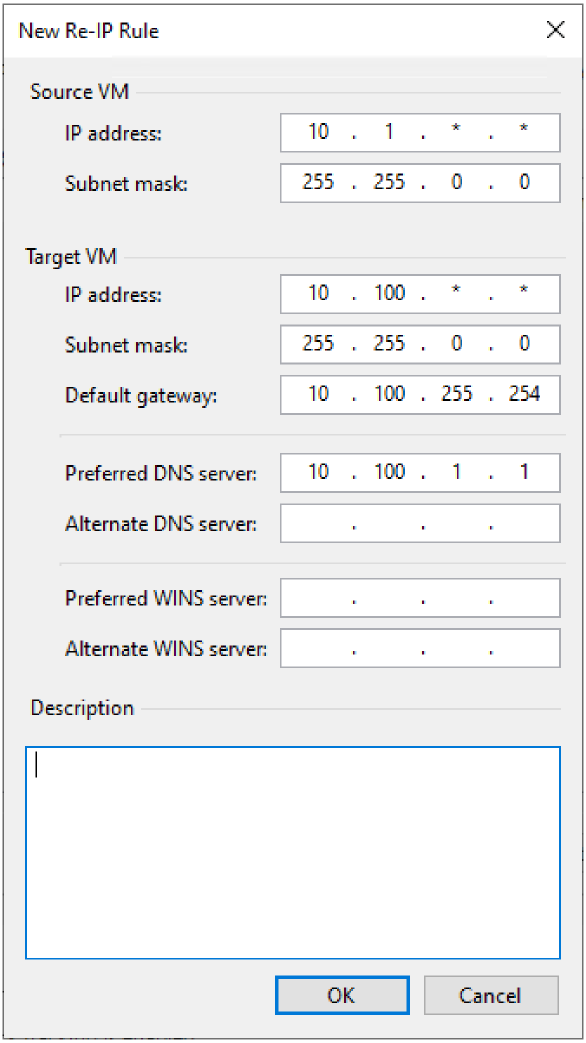
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Add...
Edit...
Remove
< Previous
Next >
Finish
Cancel

32. On the Re-IP page, click Add.
33. Select the IPv4 rule.


New Replication Job
Re-IP
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Re-IP rules:
Source IP address
Target IP address
Description
Add...
IPv4 rule...
IPv6 rule...
Remove
< Previous
Next >
Finish
Cancel

Specify re-IP rules to apply to replicas to meet DR site's IP addressing scheme.This is only supported for Microsoft Windows guests.

34. On the New Re-IP Rule page, Enter the IP numbering scheme used at the production site in the Source VM section.
35. Enter the IP numbering scheme used at the DR site in the Target VM section.
36. Describe the rule in the Description field.
37. Click OK.



Source VM

IP address: 10 . 1 . * . *

Subnet mask: 255 . 255 . 0 . 0

Target VM

IP address: 10 . 100 . * . *

Subnet mask: 255 . 255 . 0 . 0

Default gateway: 10 . 100 . 255 . 254

Preferred DNS server: 10 . 100 . 1 . 1

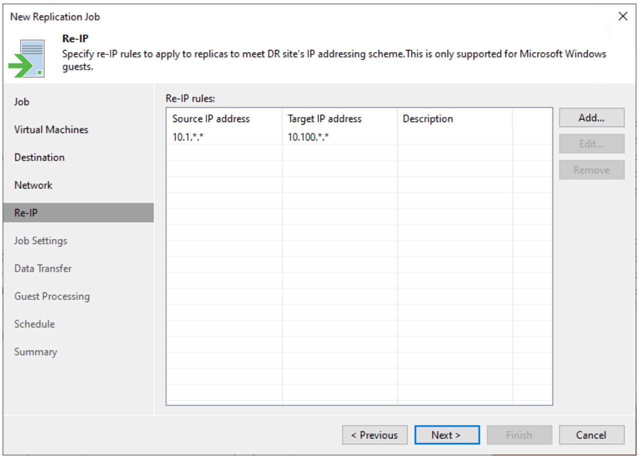
Alternate DNS server: . . .

Preferred WINS server: . . .

Alternate WINS server: . . .

Description

38. On the Re-IP page, click Next.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Add...
Edit...
Remove
< Previous
Next >
Finish
Cancel

Re-IP

Specify re-IP rules to apply to replicas to meet DR site's IP addressing scheme.This is only supported for Microsoft Windows guests.

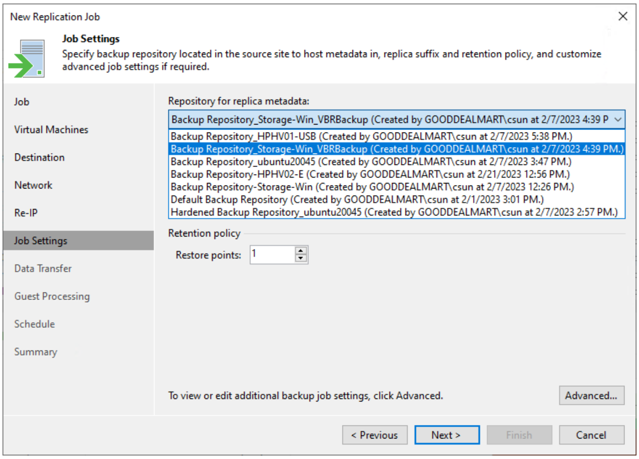
Re-IP rules:

Source IP address	Target IP address	Description
10.1.*.*	10.100.*.*	

39. Select the Repository for replica metadata from the drop-down list on the Job Settings page.

Note:

- This setting must be specified only for snapshot replicas. Legacy replicas do not use a backup repository for storing metadata.
- You cannot store VM replica metadata on deduplicating storage appliances.
- You cannot store replica metadata in a scale-out backup repository.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Advanced...
< Previous
Next >
Finish
Cancel

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata:

Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 P

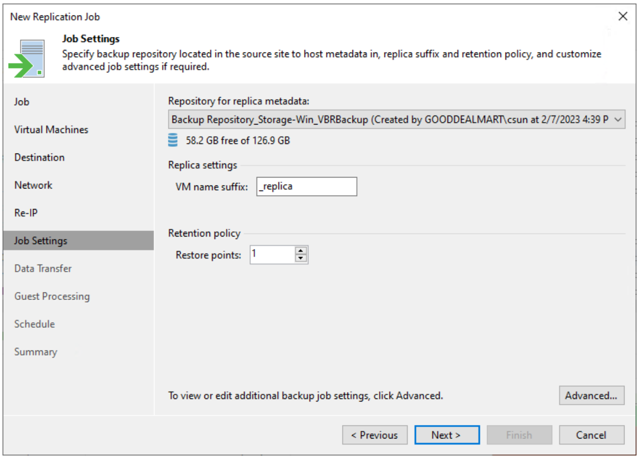
Backup Repository_HPHV01-USB (Created by GOODDEALMART\csun at 2/7/2023 5:38 PM.)
Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 PM.)
Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 3:47 PM.)
Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)
Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 2/7/2023 12:26 PM.)
Default Backup Repository (Created by GOODDEALMART\csun at 2/1/2023 3:01 PM.)
Hardened Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 2:57 PM.)

Retention policy

Restore points: 1

To view or edit additional backup job settings, click Advanced.

40. Enter a suffix that will be appended to the original VM names in the Replica name suffix field.
41. Enter the number of restore points in the field.
42. Click Advanced.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Advanced...
< Previous
Next >
Finish
Cancel

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata: Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 P

58.2 GB free of 126.9 GB

Replica settings

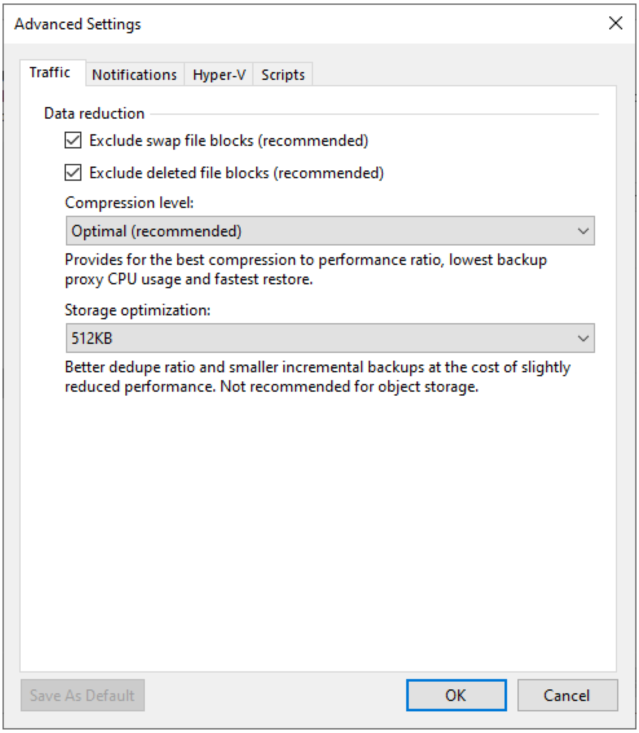
VM name suffix: _replica

Retention policy

Restore points: 1

To view or edit additional backup job settings, click Advanced.

43. On Advanced Settings, click Traffic.
44. Select the Exclude swap file blocks (recommended) checkbox.
45. Select the Exclude deleted file blocks (recommended) checkbox.


Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
Save As Default
OK
Cancel

Data reduction

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

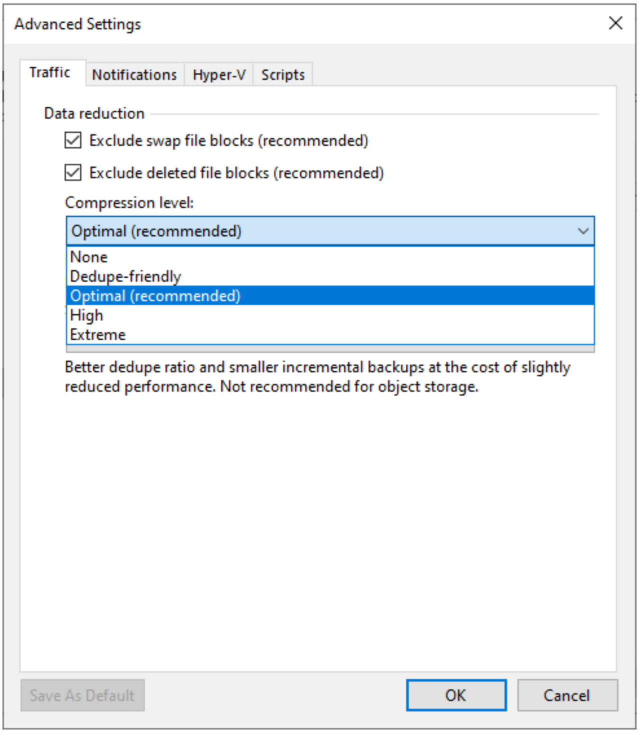
Compression level: Optimal (recommended)

Provides for the best compression to performance ratio, lowest backup proxy CPU usage and fastest restore.

Storage optimization: 512KB

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Not recommended for object storage.

46. Select the compression level for replicas from the drop-down list.


Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
Data reduction
Save As Default
OK
Cancel

☑ Exclude swap file blocks (recommended)

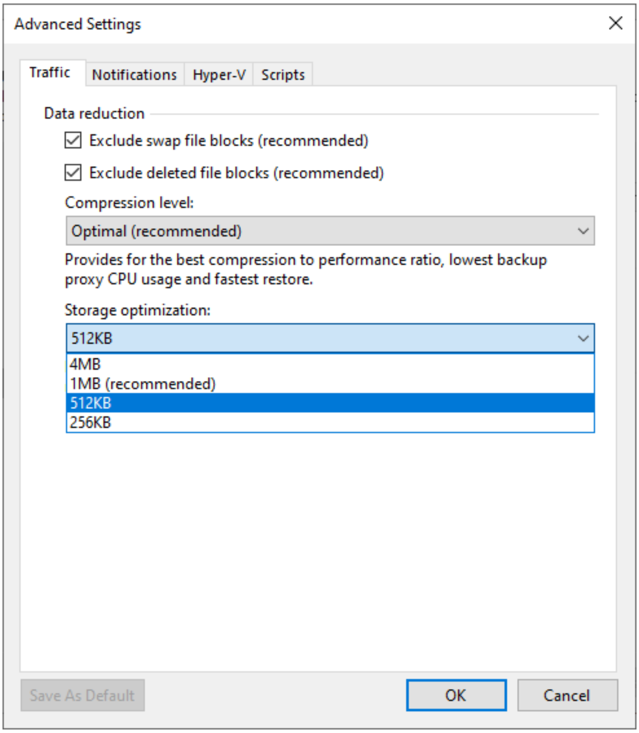
☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

None
Dedupe-friendly
Optimal (recommended)
High
Extreme

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Not recommended for object storage.

47. Select Storage optimization from the drop-down list.



Advanced Settings

Traffic
Notifications
Hyper-V
Scripts

Data reduction

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

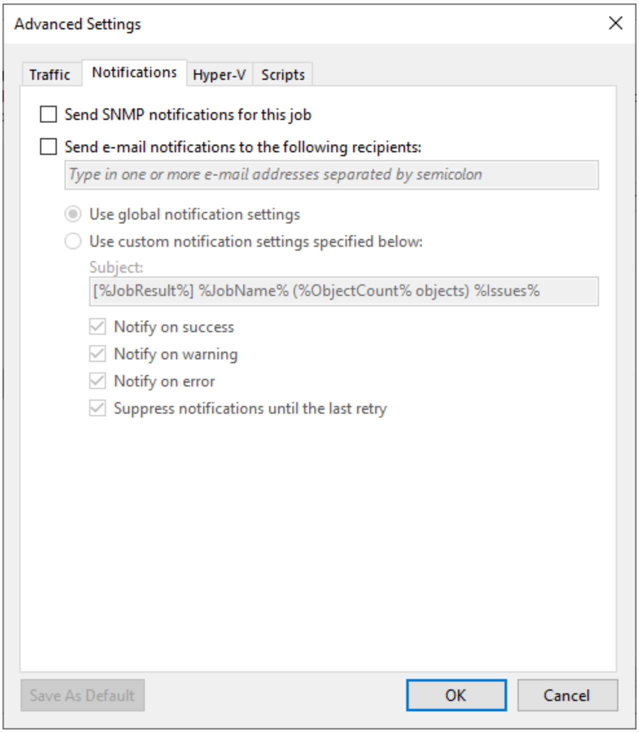
Compression level: Optimal (recommended)

Provides for the best compression to performance ratio, lowest backup proxy CPU usage and fastest restore.

Storage optimization: 512KB

4MB
1MB (recommended)
512KB
256KB
Save As Default
OK
Cancel

48. On the Advanced Settings, select Notifications.
49. Keep the default settings.


Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
Save As Default
OK
Cancel

☐ Send SNMP notifications for this job

☐ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

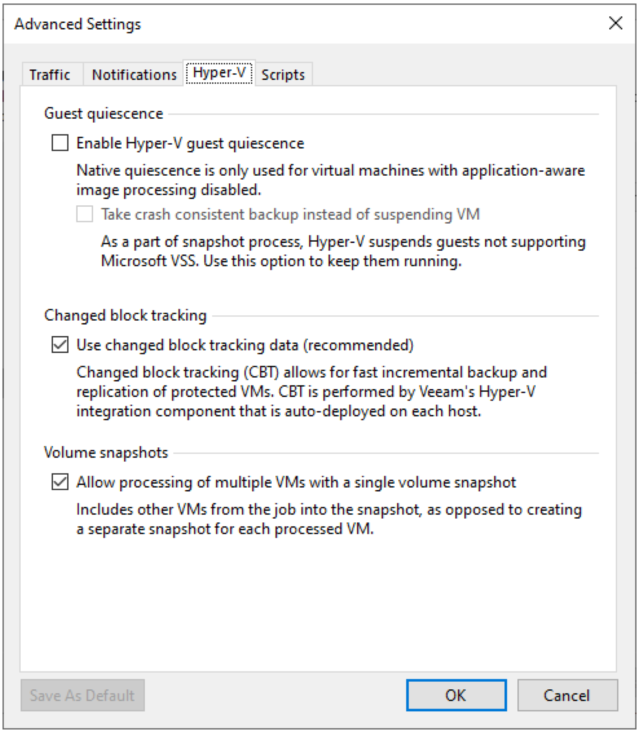
☑ Notify on success

☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

50. On the Advanced Settings, select Hyper-V.
51. Keep the default settings.


Advanced Settings

Guest quiescence

☐ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

☐ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

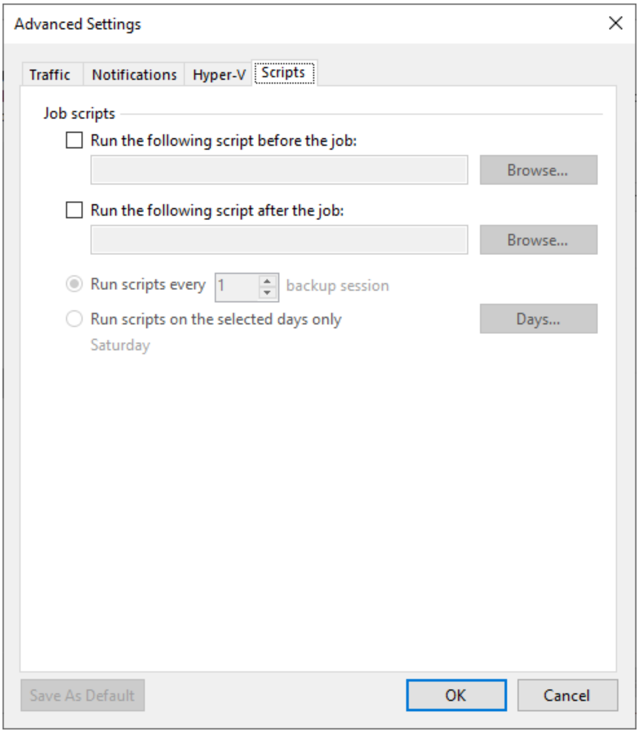
Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

52. On the Advanced Settings page, click Scripts.
53. Keep the default settings and click OK.



Advanced Settings

Traffic
Notifications
Hyper-V
Scripts

Job scripts

☐ Run the following script before the job:

☐ Run the following script after the job:

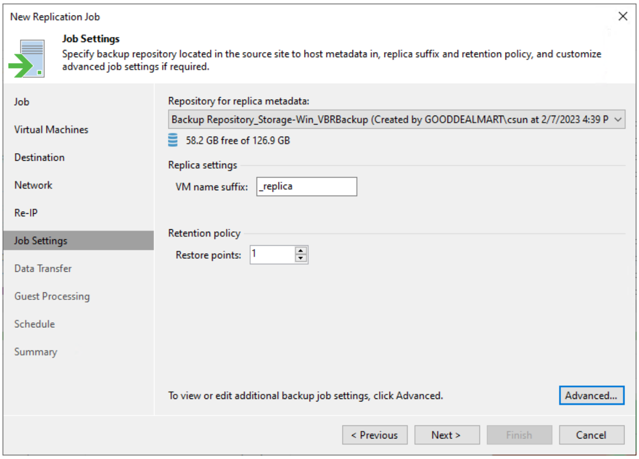
● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

Browse...
Browse...
Days...
Save As Default
OK
Cancel

54. On the Job Settings page, click Next.



New Replication Job

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary

Repository for replica metadata:

Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 P

58.2 GB free of 126.9 GB

Replica settings

VM name suffix: _replica

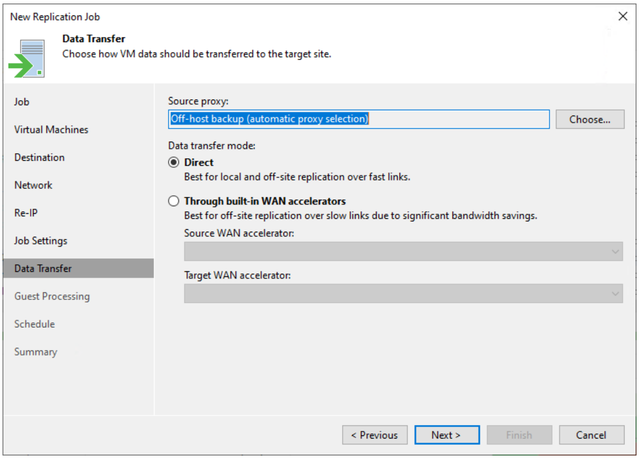
Retention policy

Restore points: 1

To view or edit additional backup job settings, click Advanced.

Advanced...
< Previous
Next >
Finish
Cancel

55. Click Choose to specify Source Proxy on the Data Transfer page.



New Replication Job

Data Transfer

Choose how VM data should be transferred to the target site.

Source proxy: Off-host backup (automatic proxy selection)

Data transfer mode:

● **Direct**
Best for local and off-site replication over fast links.

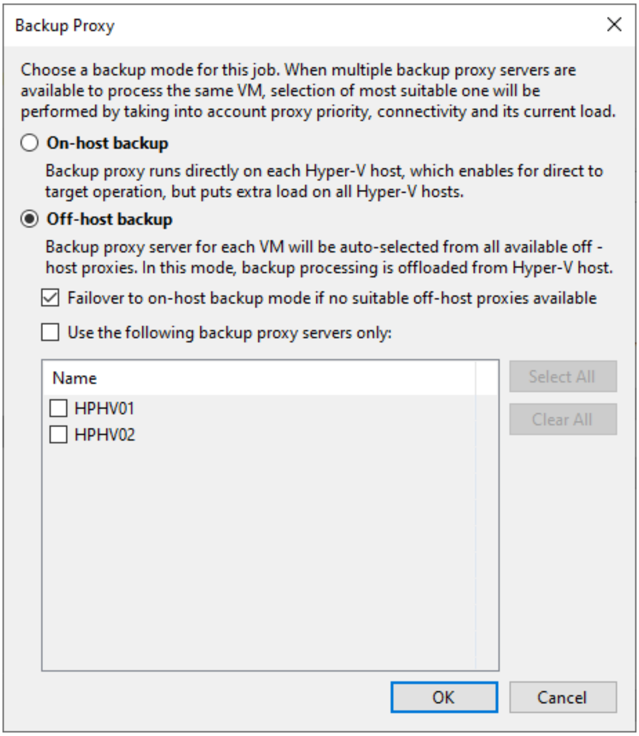
○ **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.

Source WAN accelerator:

Target WAN accelerator:

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Choose...
< Previous
Next >
Finish
Cancel

56. On the Backup Proxy page, keep the default settings.
57. Click OK.



Backup Proxy

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

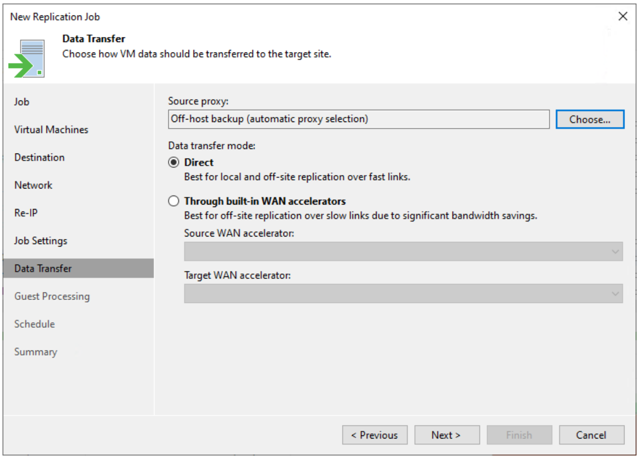
☑ Failover to on-host backup mode if no suitable off-host proxies available

☐ Use the following backup proxy servers only:

Name
☐ HPHV01
☐ HPHV02

Select All
Clear All
OK
Cancel

58. Select Direct on the Data Transfer mode session if you plan to copy backup files over high-speed connections.



New Replication Job

Data Transfer
Choose how VM data should be transferred to the target site.

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary

Source proxy: Off-host backup (automatic proxy selection)

Data transfer mode:

● **Direct**
Best for local and off-site replication over fast links.

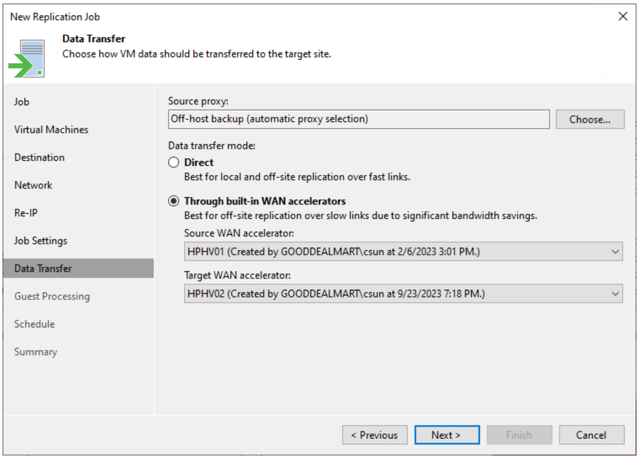
○ **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.

Source WAN accelerator:

Target WAN accelerator:

Choose...
< Previous
Next >
Finish
Cancel

59. Select Direct on the Data Transfer mode session if you plan to copy backup files over high-speed connections.
60. Select the Through built-in WAN accelerators if you transfer data over WAN or slow connections.
61. Select a WAN accelerator configured in the source site from the Source WAN accelerator drop-down list.
62. Select a WAN accelerator configured in the target site from the Target WAN accelerator drop-down list.
63. Click Next.



New Replication Job

Data Transfer

Choose how VM data should be transferred to the target site.

Source proxy:
Off-host backup (automatic proxy selection)

Data transfer mode:

○ **Direct**
Best for local and off-site replication over fast links.

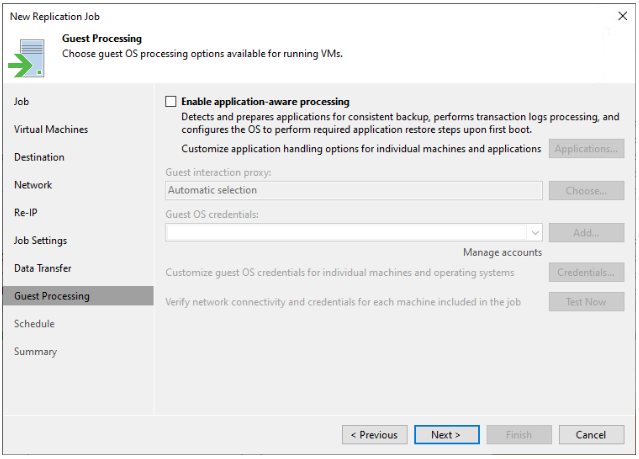
● **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.

Source WAN accelerator:
HPHV01 (Created by GOODDEALMART\csun at 2/6/2023 3:01 PM.)

Target WAN accelerator:
HPHV02 (Created by GOODDEALMART\csun at 9/23/2023 7:18 PM.)

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Choose...
< Previous
Next >
Finish
Cancel

64. On the Guest Processing page, keep the default settings.
65. Click Next.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Applications...
Choose...
Add...
Manage accounts
Credentials...
Test Now
< Previous
Next >
Finish
Cancel

Guest Processing

Choose guest OS processing options available for running VMs.

☐ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

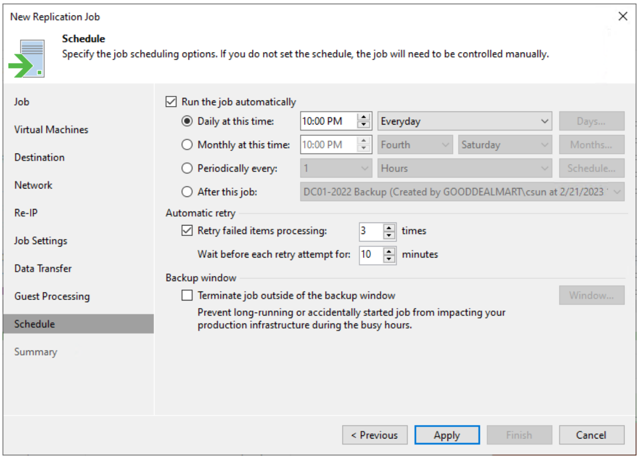
Guest interaction proxy: Automatic selection

Guest OS credentials:

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

66. Select Run the job automatically on the Schedule page and select your specified schedule.
67. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.
68. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.
69. Click Apply.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Days...
Months...
Schedule...
Window...
< Previous
Apply
Finish
Cancel

Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 10:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DC01-2022 Backup (Created by GOODDEALMART\csun at 2/21/2023

Automatic retry

☑ Retry failed items processing: 3 times

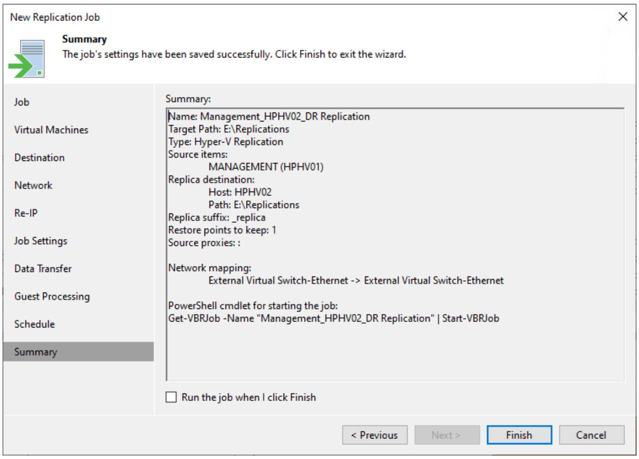
Wait before each retry attempt for: 10 minutes

Backup window

☐ Terminate job outside of the backup window

Prevent long-running or accidentally started job from impacting your production infrastructure during the busy hours.

70. On the Summary page, click Finish.



New Replication Job
Summary
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
< Previous
Next >
Finish
Cancel

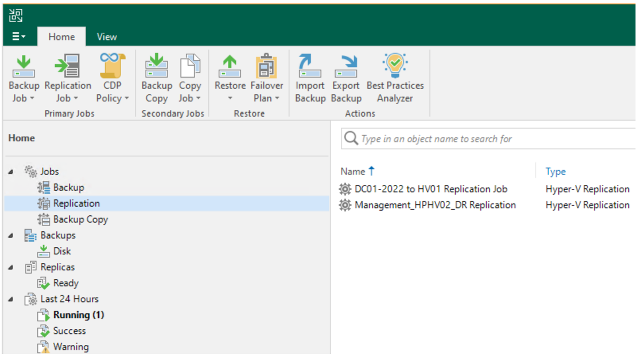
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: Management_HPHV02_DR Replication
Target Path: E:\Replications
Type: Hyper-V Replication
Source items:
        MANAGEMENT (HPHV01)
Replica destination:
        Host: HPHV02
        Path: E:\Replications
Replica suffix: _replica
Restore points to keep: 1
Source proxies: :

Network mapping:
        External Virtual Switch-Ethernet -> External Virtual Switch-Ethernet

PowerShell cmdlet for starting the job:
Get-VBRJob -Name "Management_HPHV02_DR Replication" | Start-VBRJob
```

☐ Run the job when I click Finish

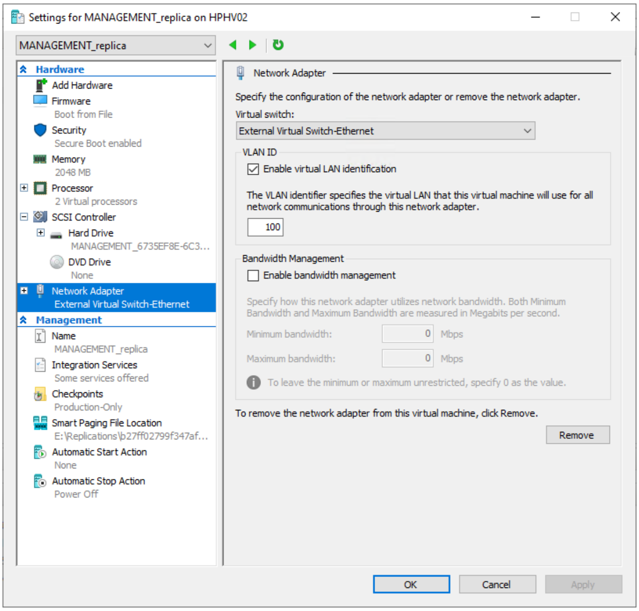
71. Verify the job has been added.



Home
View
Backup Job
Replication Job
CDP Policy
Primary Jobs
Backup Copy
Copy Job
Secondary Jobs
Restore
Failover Plan
Restore
Import Backup
Export Backup
Best Practices Analyzer
Actions
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Running (1)
Success
Warning
Type in an object name to search for

Name ↑	Type
DC01-2022 to HV01 Replication Job	Hyper-V Replication
Management_HPHV02_DR Replication	Hyper-V Replication

72. Ensure the VLAN ID of the target VM is changed after the replication job is completed.



Settings for MANAGEMENT_replica on HPHV02

MANAGEMENT_replica

Hardware
- Add Hardware
- Firmware: Boot from File
- Security: Secure Boot enabled
- Memory: 2048 MB
- Processor: 2 Virtual processors
- SCSI Controller
  - Hard Drive: MANAGEMENT_6735EF8E-6C3...
  - DVD Drive: None
- Network Adapter: External Virtual Switch-Ethernet

Management
- Name: MANAGEMENT_replica
- Integration Services: Some services offered
- Checkpoints: Production-Only
- Smart Paging File Location: E:\Replications\b27ff02799f347af...
- Automatic Start Action: None
- Automatic Stop Action: Power Off

Network Adapter

Specify the configuration of the network adapter or remove the network adapter.

Virtual switch: External Virtual Switch-Ethernet

VLAN ID

☑ Enable virtual LAN identification

The VLAN identifier specifies the virtual LAN that this virtual machine will use for all network communications through this network adapter.

100

Bandwidth Management

☐ Enable bandwidth management

Specify how this network adapter utilizes network bandwidth. Both Minimum Bandwidth and Maximum Bandwidth are measured in Megabits per second.

Minimum bandwidth: 0 Mbps

Maximum bandwidth: 0 Mbps

To leave the minimum or maximum unrestricted, specify 0 as the value.

To remove the network adapter from this virtual machine, click Remove.

Creating a Replication job with seeding to the Disaster Recovery Site

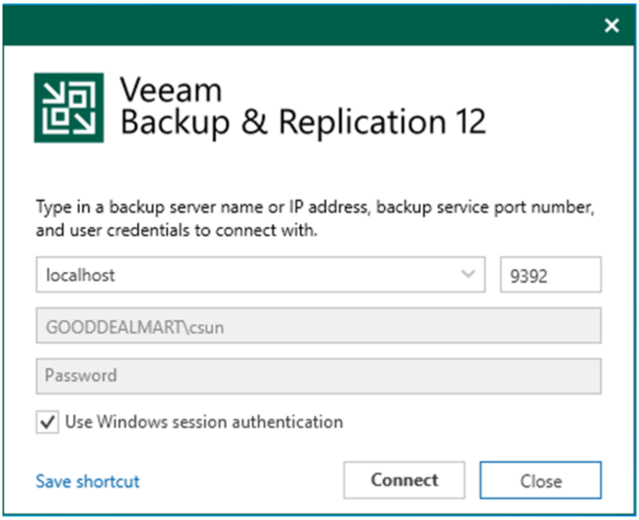
This procedure creates a replication job with seeding to replicate the specified VMs to the disaster recovery site. If a disaster strikes and the production VM stops working properly, you can fail over to its replica.

As a prerequisite for replica seeding, you must create a backup of the VM you intend to replicate. Replica seeding and mapping are two technologies that help to reduce network traffic. Veeam Backup & Replication does not need to transfer all VM data from the source host to the target host across sites during the first session of a replication job using these technologies (during the initial replication).

Configure replica mapping if you have ready-to-use copies of the original VMs on the host in the DR site. These can be restored virtual machines (VMs) or replicas created by other replication jobs. Veeam Backup & Replication will use these ready-to-use VMs as replicas after synchronizing their states with the most current state of the original VMs. You can also use replica mapping to reconfigure or recreate replication jobs, such as splitting one replication job into multiple jobs.

If seeding or mapping is enabled in a replication job, it must be applied to all VMs. It will be skipped if a VM does not have a seed or is not mapped to an existing VM.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.



Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

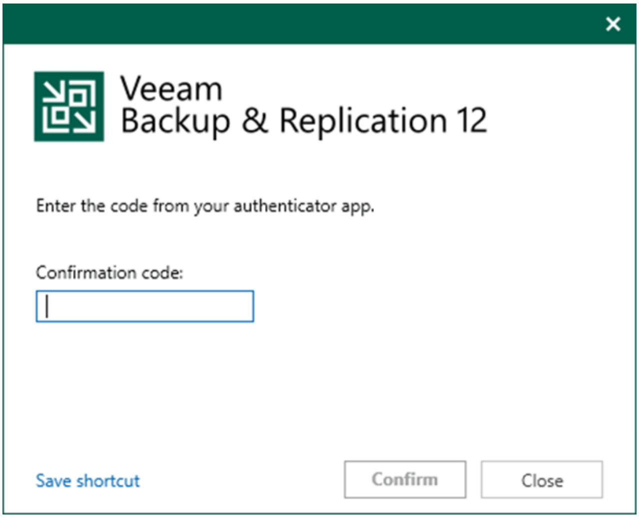
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

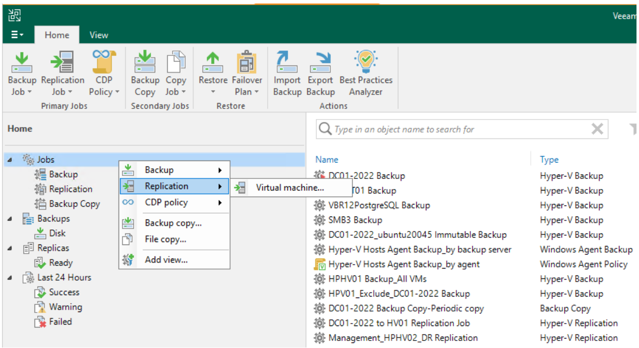
3. Enter the MFA Confirmation code and click Confirm.


Veeam
Backup & Replication 12
Save shortcut
Confirm
Close

Enter the code from your authenticator app.

Confirmation code:

4. On the Home page, select Jobs, right-click Jobs, select Replication and click Virtual machine.


Veeam
Home
View
Backup Job
Replication Job
CDP Policy
Primary Jobs
Backup Copy
Copy Job
Secondary Jobs
Restore
Failover Plan
Restore
Import Backup
Export Backup
Best Practices Analyzer
Actions
Home
Type in an object name to search for
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Warning
Failed
Backup
Replication
CDP policy
Backup copy...
File copy...
Add view...
Virtual machine...

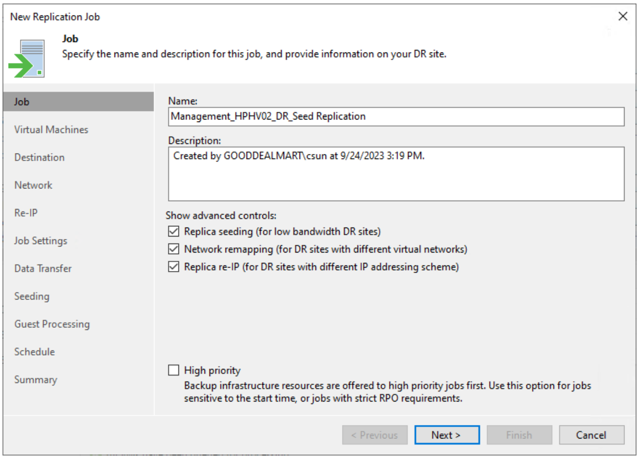
Name	Type
DC01-2022 Backup	Hyper-V Backup
T01 Backup	Hyper-V Backup
VBR12PostgreSQL Backup	Hyper-V Backup
SMB3 Backup	Hyper-V Backup
DC01-2022_ubuntu20045 Immutable Backup	Hyper-V Backup
Hyper-V Hosts Agent Backup_by backup server	Windows Agent Backup
Hyper-V Hosts Agent Backup_by agent	Windows Agent Policy
HPHV01 Backup_All VMs	Hyper-V Backup
HPV01_Exclude_DC01-2022 Backup	Hyper-V Backup
DC01-2022 Backup Copy-Periodic copy	Backup Copy
DC01-2022 to HV01 Replication Job	Hyper-V Replication
Management_HPHV02_DR Replication	Hyper-V Replication

5. Enter a name for the replication job on the Job page in the Name field.
6. Describe the Description field.
7. Select Replica seeding (for low bandwidth DR sites).

Note:

As a prerequisite for replica seeding, you must create a backup of a VM you intend to replicate.

8. Select Network remapping (for DR sites with different virtual networks).
9. Replica re-IP (for DR sites with different IP addressing schemes).
10. Select the High priority check box if required.
11. Click Next.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
< Previous
Next >
Finish
Cancel

Job

Specify the name and description for this job, and provide information on your DR site.

Name: Management_HPHV02_DR_Seed Replication

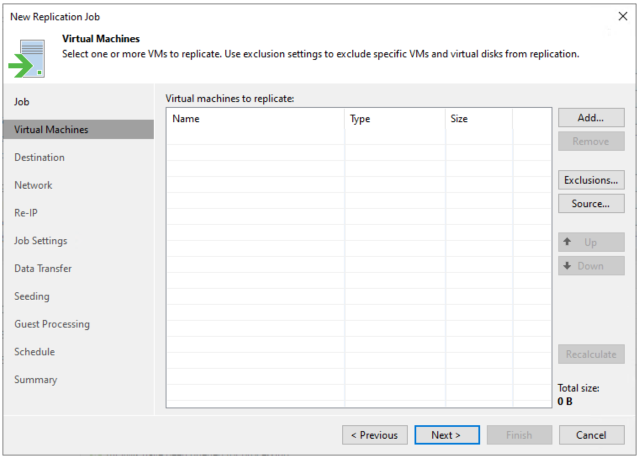
Description: Created by GOODDEALMART\csun at 9/24/2023 3:19 PM.

Show advanced controls:

☑ Replica seeding (for low bandwidth DR sites)
☑ Network remapping (for DR sites with different virtual networks)
☑ Replica re-IP (for DR sites with different IP addressing scheme)

☐ High priority
Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

12. On the Virtual Machines page, click Add.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Name
Type
Size
Add...
Remove
Exclusions...
Source...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

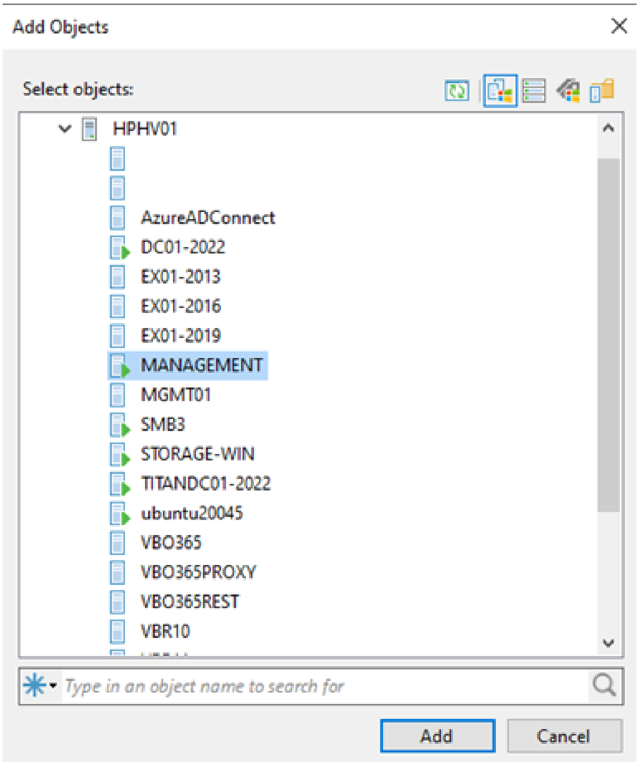
Virtual Machines

Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

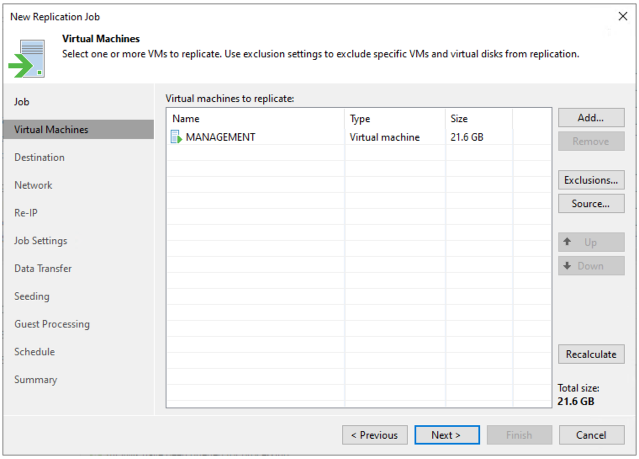
Virtual machines to replicate:

Total size: **0 B**

13. Select the objects in the list on the Add Objects page and click Add.


Add Objects
Select objects:
HPHV01
AzureADConnect
DC01-2022
EX01-2013
EX01-2016
EX01-2019
MANAGEMENT
MGMT01
SMB3
STORAGE-WIN
TITANDC01-2022
ubuntu20045
VBO365
VBO365PROXY
VBO365REST
VBR10
Type in an object name to search for
Add
Cancel

14. On the Virtual Machines page, click Source.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Add...
Remove
Exclusions...
Source...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

Virtual Machines

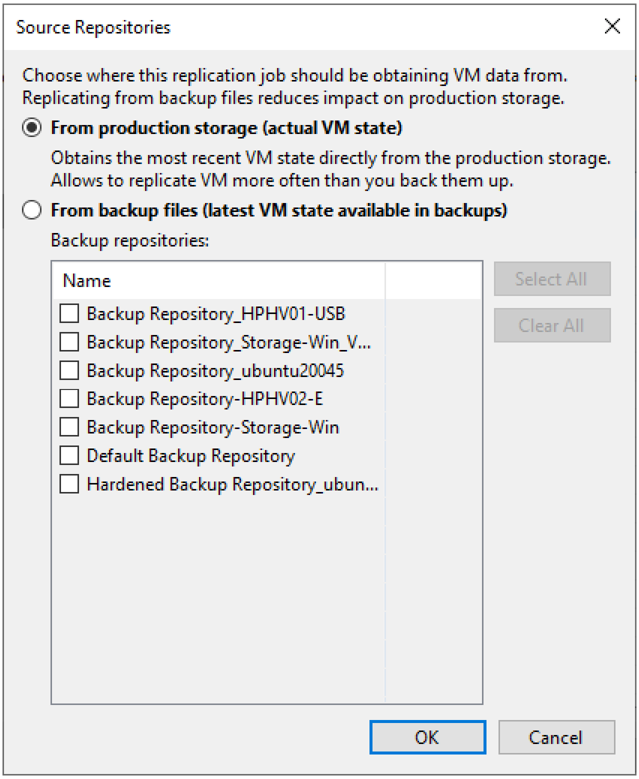
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

Name	Type	Size
MANAGEMENT	Virtual machine	21.6 GB

Total size:
21.6 GB

15. Select From production storage (actual VM state) on the Source Repositories page. Veeam Replication will retrieve VM data from data stores connected to the source Microsoft Hyper-V host.
16. Or select From backup files (latest VM state available in backups) if required. Veeam Backup & Replication will read VM data from the backup chain that is already in the selected backup repository.
17. Click OK.



Source Repositories

Choose where this replication job should be obtaining VM data from.
Replicating from backup files reduces impact on production storage.

● **From production storage (actual VM state)**

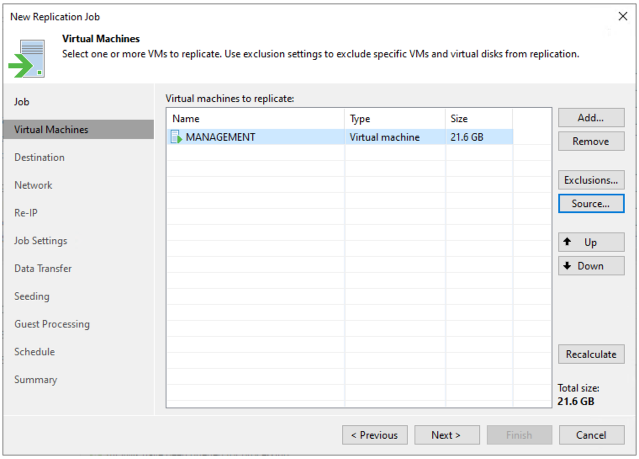
Obtains the most recent VM state directly from the production storage.
Allows to replicate VM more often than you back them up.

○ **From backup files (latest VM state available in backups)**

Backup repositories:

Name
☐ Backup Repository_HPHV01-USB
☐ Backup Repository_Storage-Win_V...
☐ Backup Repository_ubuntu20045
☐ Backup Repository-HPHV02-E
☐ Backup Repository-Storage-Win
☐ Default Backup Repository
☐ Hardened Backup Repository_ubun...

18. On the Virtual Machines page, click Next.


New Replication Job

Virtual Machines

Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

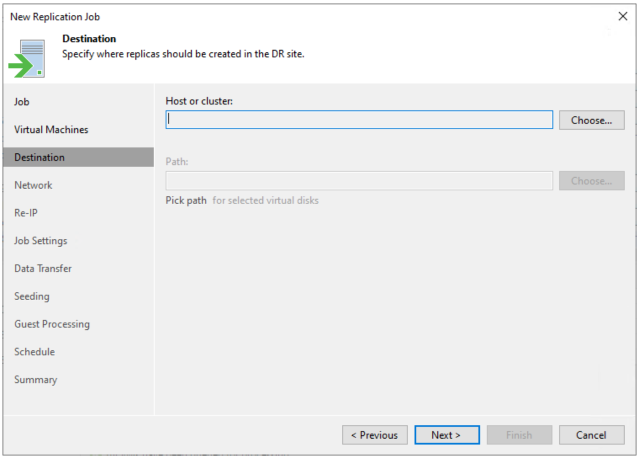
Virtual machines to replicate:

Name	Type	Size
MANAGEMENT	Virtual machine	21.6 GB

Total size:
21.6 GB

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Add...
Remove
Exclusions...
Source...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

19. On the Destination page, click Choose in the Host or cluster session.


New Replication Job

Destination

Specify where replicas should be created in the DR site.

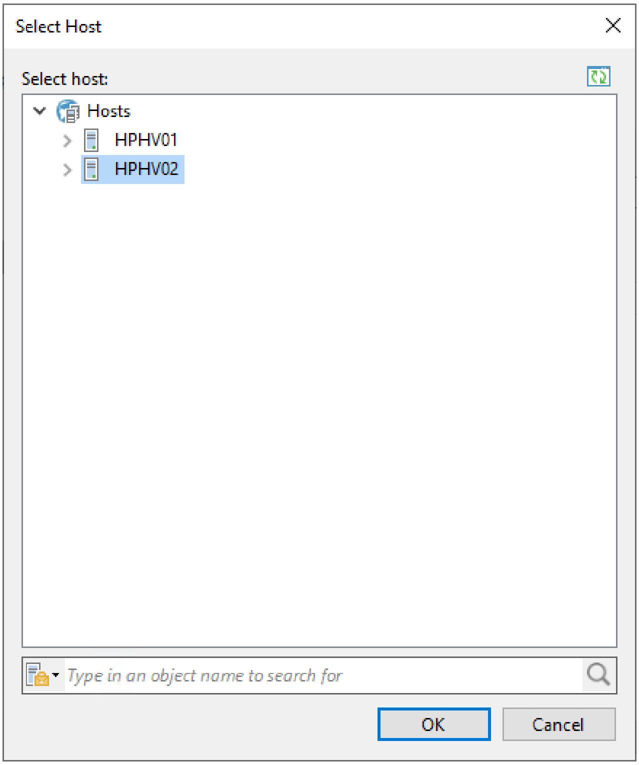
Host or cluster:

Path:

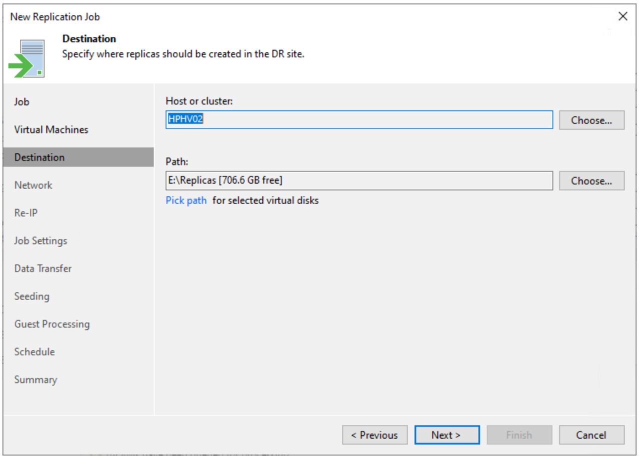
Pick path for selected virtual disks

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Choose...
Choose...
< Previous
Next >
Finish
Cancel

20. Select the destination host server on the Select Host page and click OK.


Select Host
Select host:
Hosts
HPHV01
HPHV02
Type in an object name to search for
OK
Cancel

21. On the Destination page, click Choose in the Path session.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Choose...
Choose...
Pick path
< Previous
Next >
Finish
Cancel

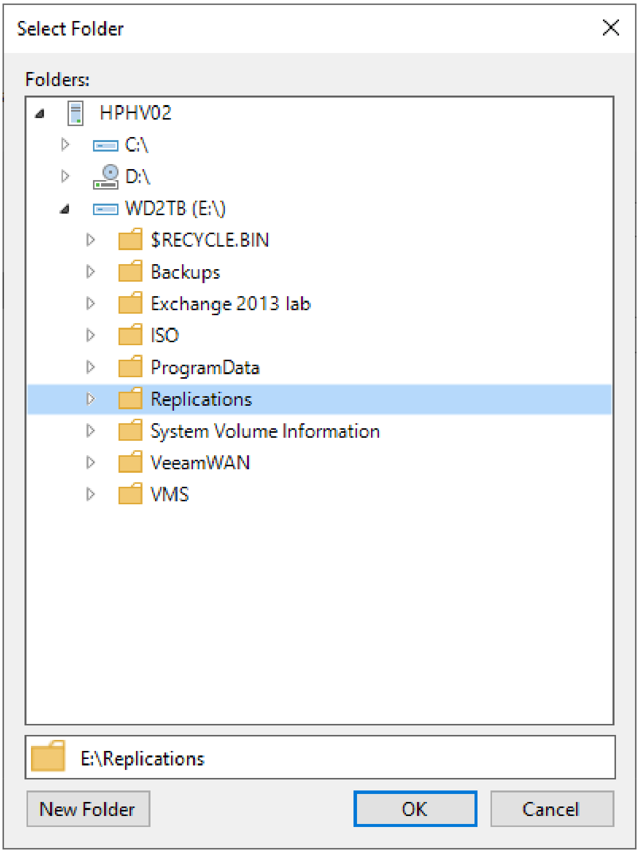
Destination
Specify where replicas should be created in the DR site.

Host or cluster: HPHV02

Path: E:\Replicas [706.6 GB free]

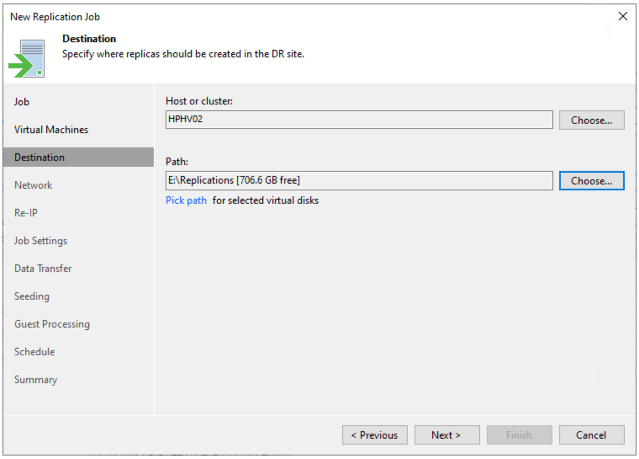
Pick path for selected virtual disks

22. On the Folders page, specify a path to the folder where VM replica files must be stored, and click OK.


Select Folder
Folders:
HPHV02
C:\
D:\
WD2TB (E:\)
$RECYCLE.BIN
Backups
Exchange 2013 lab
ISO
ProgramData
Replications
System Volume Information
VeeamWAN
VMS
New Folder
OK
Cancel

E:\Replications

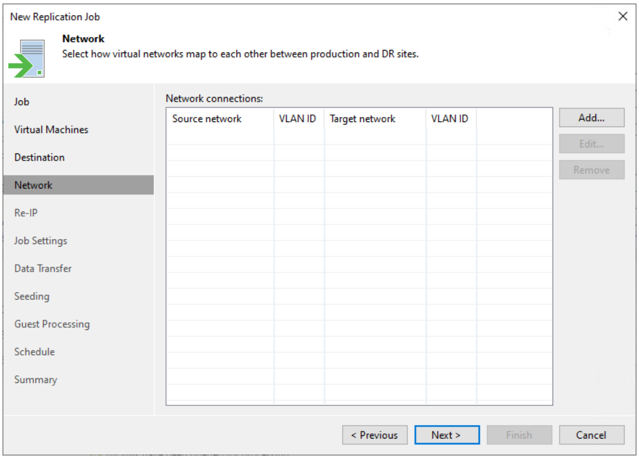
23. On the Destination page, click Next.


New Replication Job
Destination
Specify where replicas should be created in the DR site.
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Choose...
Choose...
Pick path for selected virtual disks
< Previous
Next >
Finish
Cancel

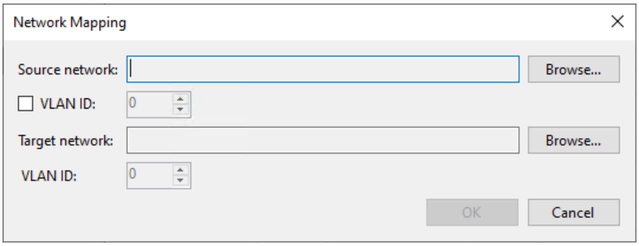
Host or cluster: HPHV02

Path: E:\Replications [706.6 GB free]

24. On the Network page, click Add.


New Replication Job
Network
Select how virtual networks map to each other between production and DR sites.
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Network connections:
Source network
VLAN ID
Target network
VLAN ID
Add...
Edit...
Remove
< Previous
Next >
Finish
Cancel

25. On the Network Mapping page, click Browse in the Source network session.


Network Mapping

Source network:

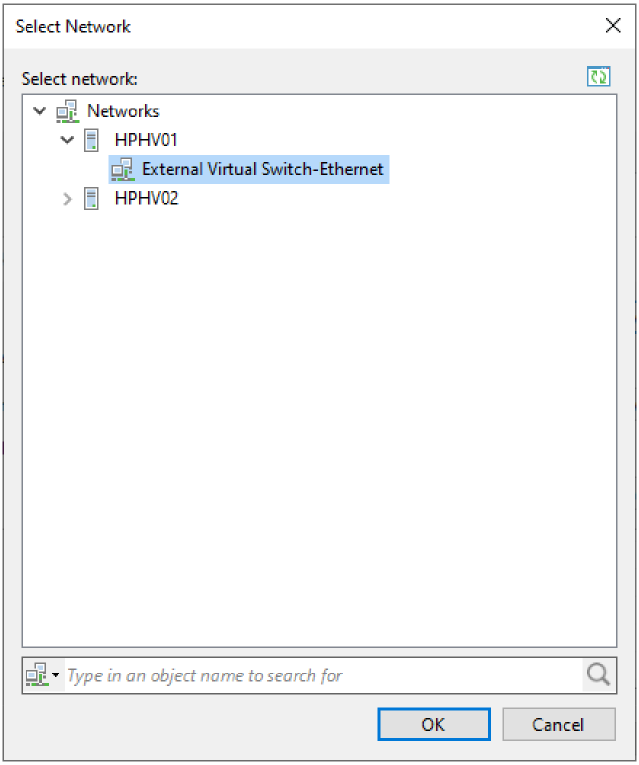
☐ VLAN ID: 0

Target network:

VLAN ID: 0

Browse...
Browse...
OK
Cancel

26. Select the production network on the Select Network page to which the original VMs are connected and click OK.

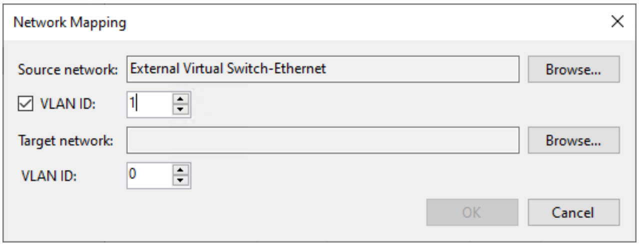

Select Network

Select network:

- Networks
  - HPHV01
    - External Virtual Switch-Ethernet
  - HPHV02

Type in an object name to search for
OK
Cancel

27. If you use VLAN IDs for networking, select the VLAN ID check box and enter the VLAN ID of the source network.
28. On the Network Mapping page, click Browse in the Target network session.


Network Mapping

Source network: External Virtual Switch-Ethernet

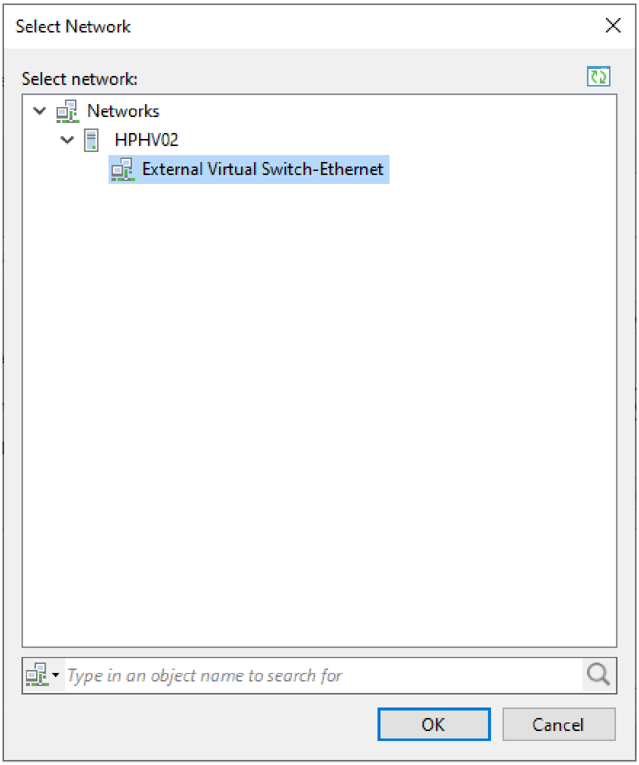
☑ VLAN ID: 1

Target network:

VLAN ID: 0

Browse...
Browse...
OK
Cancel

29. Select the DR site network on the Select Network page to which replicas will be connected and click OK.

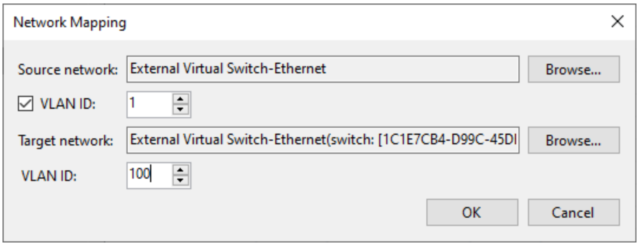

Select Network

Select network:

- Networks
  - HPHV02
    - External Virtual Switch-Ethernet

Type in an object name to search for
OK
Cancel

30. If you use VLAN IDs for networking, select the VLAN ID check box and enter the VLAN ID of the target network.
31. Click OK.


Network Mapping
Browse...
Browse...
OK
Cancel

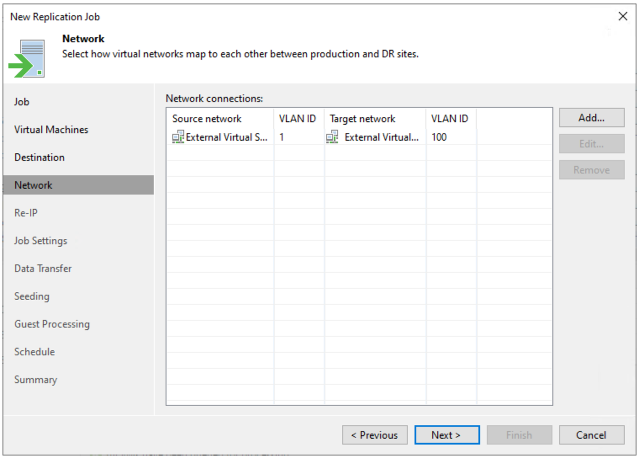
Source network: External Virtual Switch-Ethernet

☑ VLAN ID: 1

Target network: External Virtual Switch-Ethernet(switch: [1C1E7CB4-D99C-45D

VLAN ID: 100

32. On the Network page, click Next.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Add...
Edit...
Remove
< Previous
Next >
Finish
Cancel

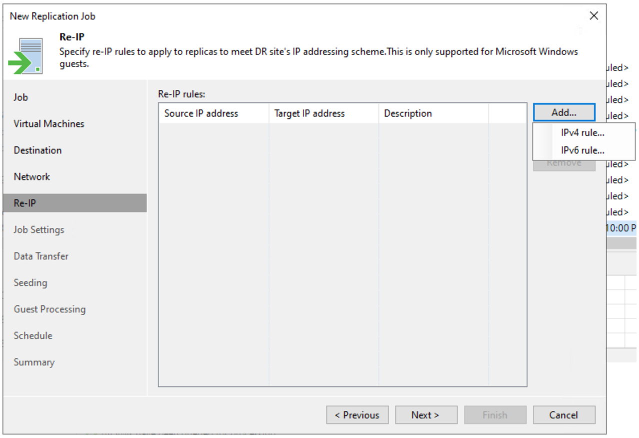
Network

Select how virtual networks map to each other between production and DR sites.

Network connections:

Source network	VLAN ID	Target network	VLAN ID
External Virtual S...	1	External Virtual...	100

33. On the Re-IP page, click Add.
34. Select the IPv4 rule.



New Replication Job

Re-IP

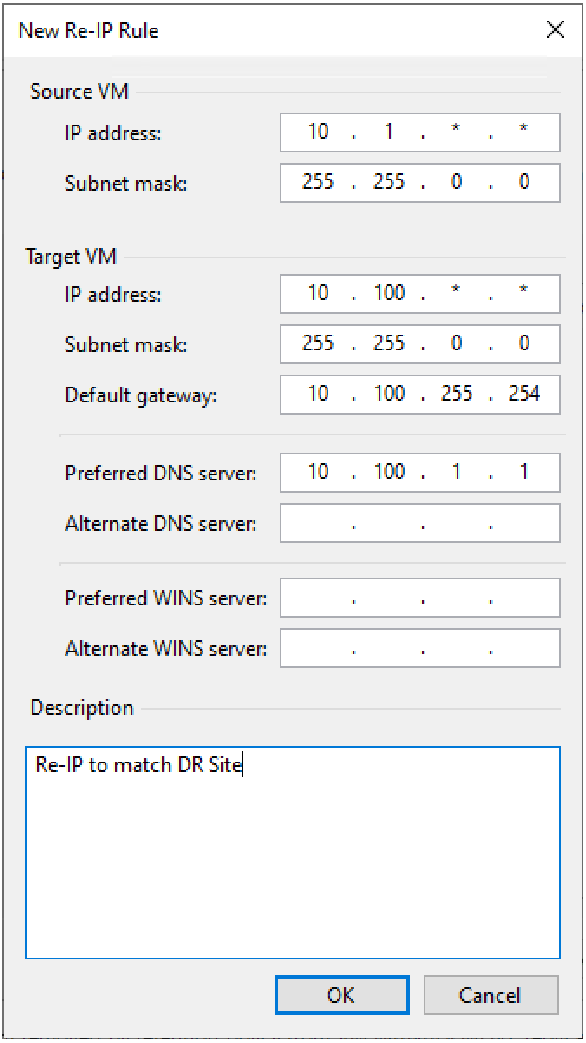
Specify re-IP rules to apply to replicas to meet DR site's IP addressing scheme.This is only supported for Microsoft Windows guests.

Re-IP rules:

Source IP address	Target IP address	Description

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Add...
IPv4 rule...
IPv6 rule...
Remove
< Previous
Next >
Finish
Cancel

35. On the New Re-IP Rule page, Enter the IP numbering scheme used at the production site in the Source VM section.
36. Enter the IP numbering scheme used at the DR site in the Target VM section.
37. Describe the rule in the Description field.
38. Click OK.



New Re-IP Rule

Source VM

IP address: 10 . 1 . * . *

Subnet mask: 255 . 255 . 0 . 0

Target VM

IP address: 10 . 100 . * . *

Subnet mask: 255 . 255 . 0 . 0

Default gateway: 10 . 100 . 255 . 254

Preferred DNS server: 10 . 100 . 1 . 1

Alternate DNS server: . . .

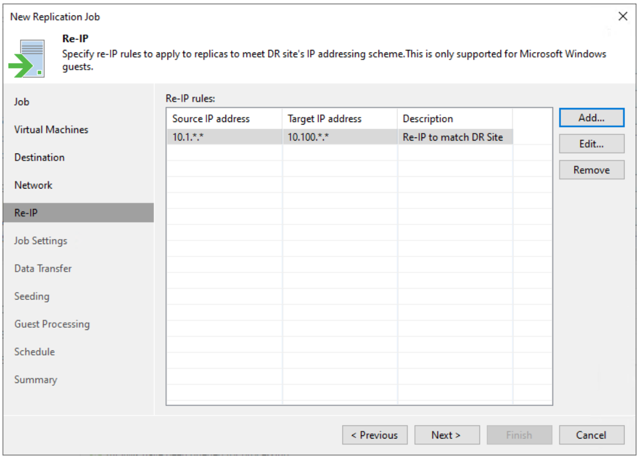
Preferred WINS server: . . .

Alternate WINS server: . . .

Description

Re-IP to match DR Site

39. On the Re-IP page, click Next.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Add...
Edit...
Remove
< Previous
Next >
Finish
Cancel

Re-IP

Specify re-IP rules to apply to replicas to meet DR site's IP addressing scheme.This is only supported for Microsoft Windows guests.

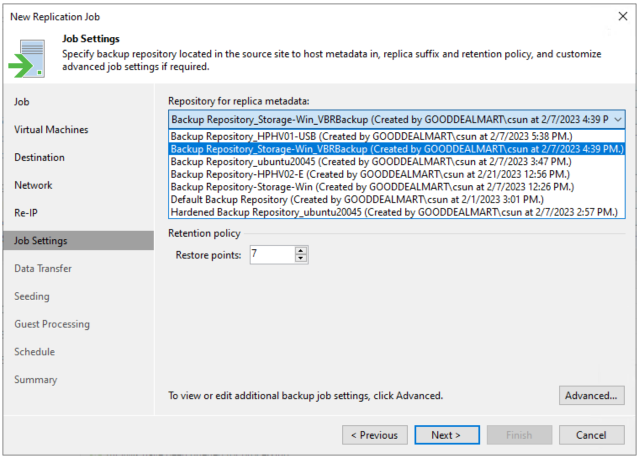
Re-IP rules:

Source IP address	Target IP address	Description
10.1.*.*	10.100.*.*	Re-IP to match DR Site

40. Select the Repository for replica metadata from the drop-down list on the Job Settings page.

Note:

- This setting must be specified only for snapshot replicas. Legacy replicas do not use a backup repository for storing metadata.
- You cannot store VM replica metadata on deduplicating storage appliances.
- You cannot store replica metadata in a scale-out backup repository.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Advanced...
< Previous
Next >
Finish
Cancel

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata:

Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 P

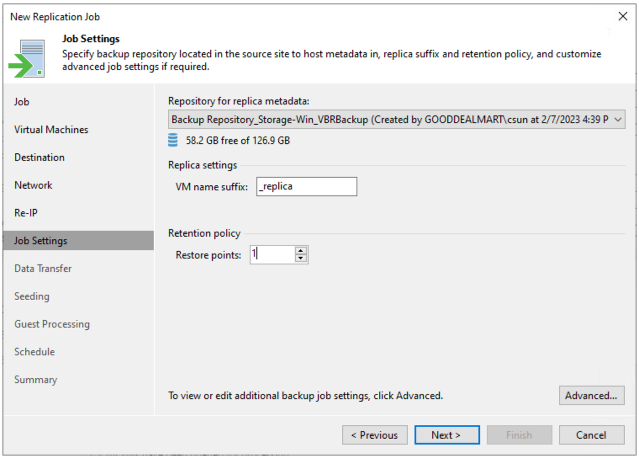
Backup Repository_HPHV01-USB (Created by GOODDEALMART\csun at 2/7/2023 5:38 PM.)
Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 PM.)
Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 3:47 PM.)
Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)
Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 2/7/2023 12:26 PM.)
Default Backup Repository (Created by GOODDEALMART\csun at 2/1/2023 3:01 PM.)
Hardened Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 2/7/2023 2:57 PM.)

Retention policy

Restore points: 7

To view or edit additional backup job settings, click Advanced.

41. Enter a suffix that will be appended to the original VM names in the Replica name suffix field.
42. Enter the number of restore points in the field.
43. Click Advanced.



New Replication Job

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata: Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 P

58.2 GB free of 126.9 GB

Replica settings

VM name suffix: _replica

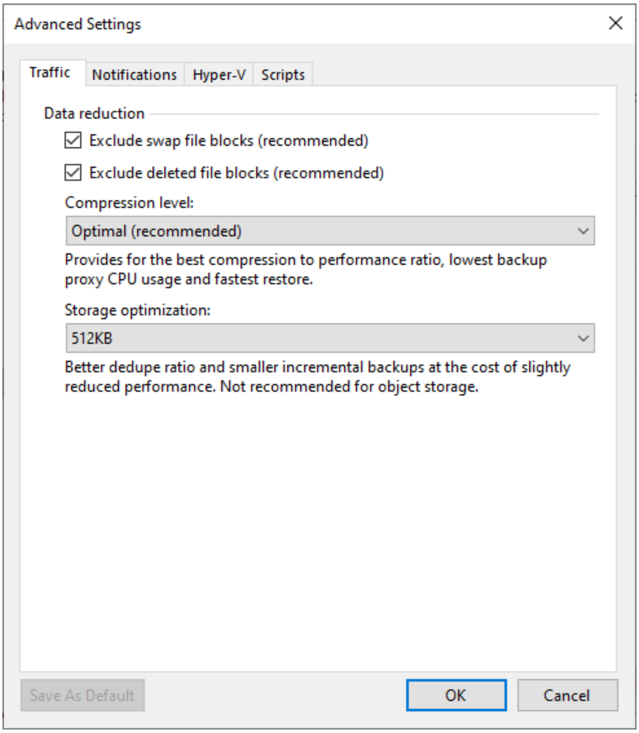
Retention policy

Restore points: 1

To view or edit additional backup job settings, click Advanced.

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Advanced...
< Previous
Next >
Finish
Cancel

44. On Advanced Settings, click Traffic.
45. Select the Exclude swap file blocks (recommended) checkbox.
46. Select the Exclude deleted file blocks (recommended) check box.


Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
Save As Default
OK
Cancel

Data reduction

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

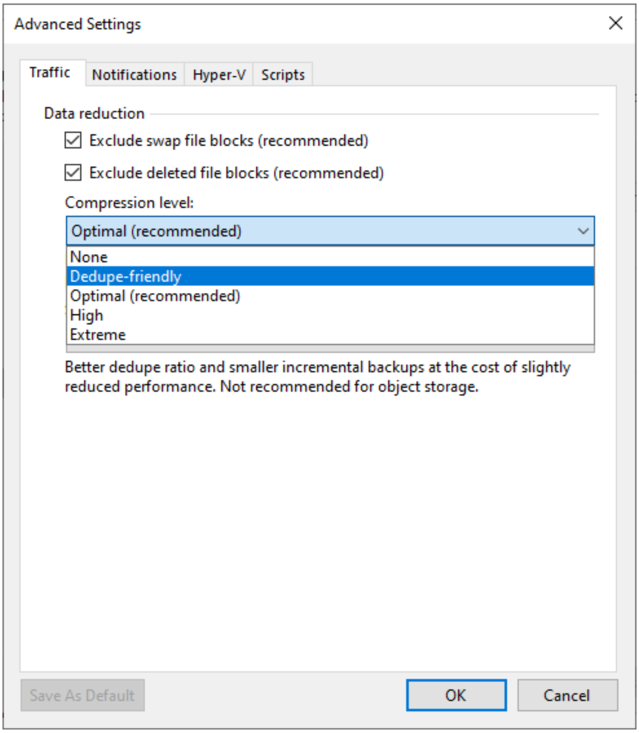
Compression level: Optimal (recommended)

Provides for the best compression to performance ratio, lowest backup proxy CPU usage and fastest restore.

Storage optimization: 512KB

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Not recommended for object storage.

47. Select the compression level for replicas from the drop-down list.


Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
None
Dedupe-friendly
Optimal (recommended)
High
Extreme
Save As Default
OK
Cancel

Data reduction

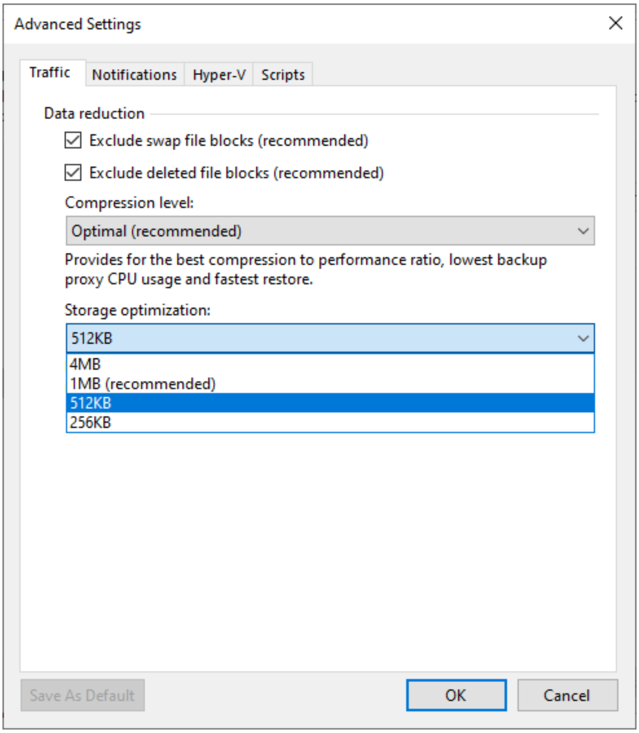
☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Not recommended for object storage.

48. Select Storage optimization from the drop-down list.


Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
Save As Default
OK
Cancel

Data reduction

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level:

Optimal (recommended)

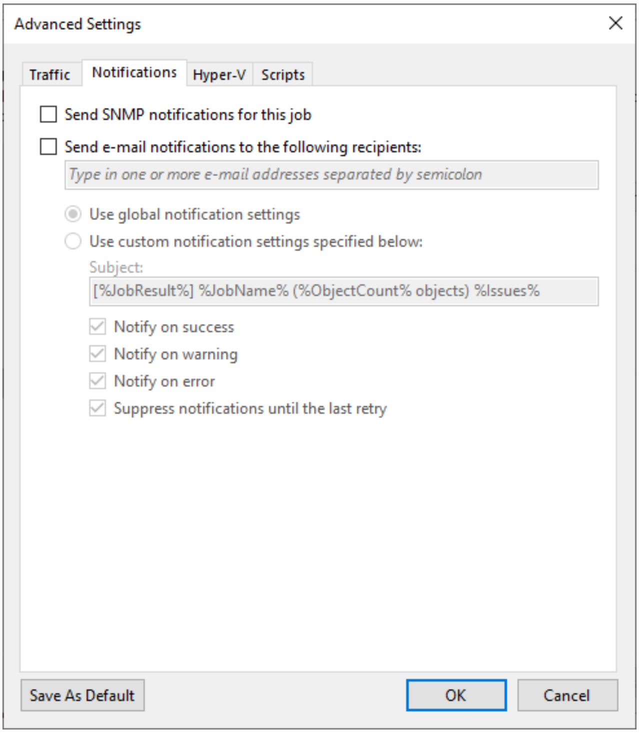
Provides for the best compression to performance ratio, lowest backup proxy CPU usage and fastest restore.

Storage optimization:

512KB

- 4MB
- 1MB (recommended)
- 512KB
- 256KB

49. On the Advanced Settings, select Notifications.
50. Keep the default settings.



Advanced Settings

Traffic
Notifications
Hyper-V
Scripts

☐ Send SNMP notifications for this job

☐ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

☑ Notify on success

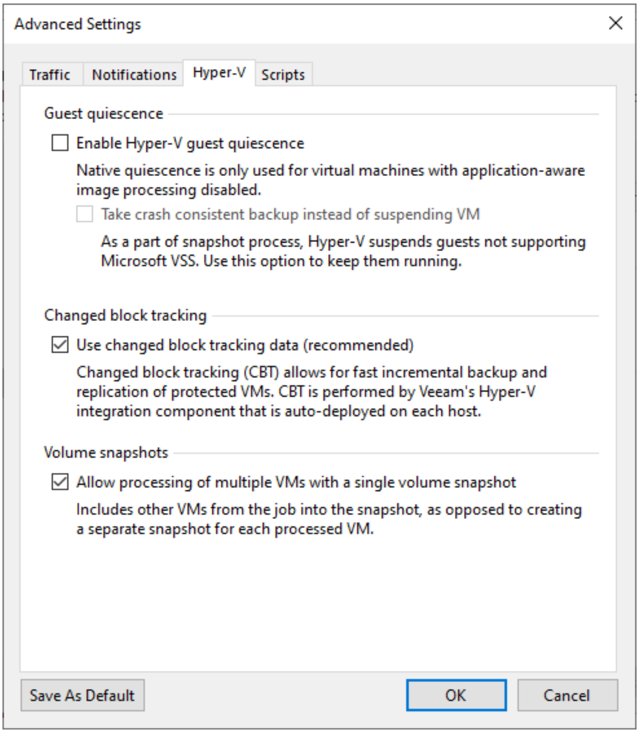
☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

Save As Default
OK
Cancel

51. On the Advanced Settings, select Hyper-V.
52. Keep the default settings.



Advanced Settings

Guest quiescence

☐ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

☐ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

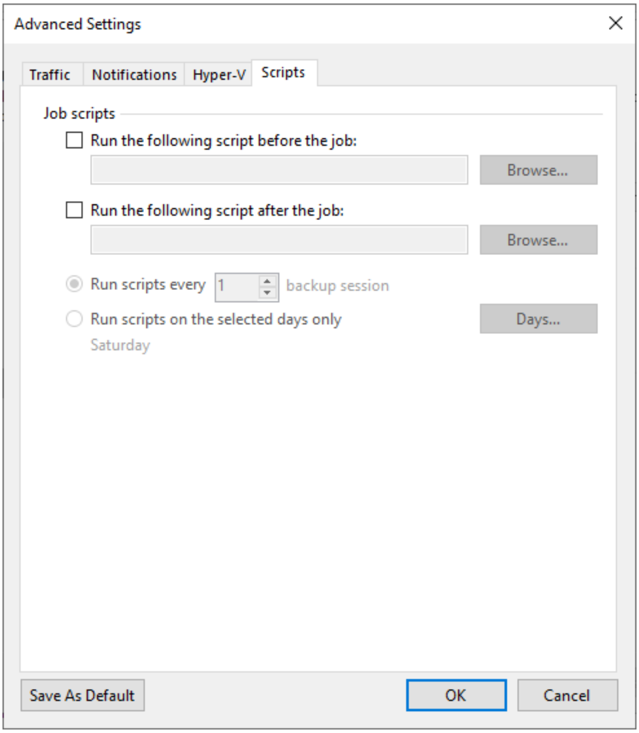
Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

53. On the Advanced Settings page, click Scripts.
54. Keep the default settings and click OK.


Advanced Settings
Traffic
Notifications
Hyper-V
Scripts
Browse...
Browse...
Days...
Save As Default
OK
Cancel

Job scripts

☐ Run the following script before the job:

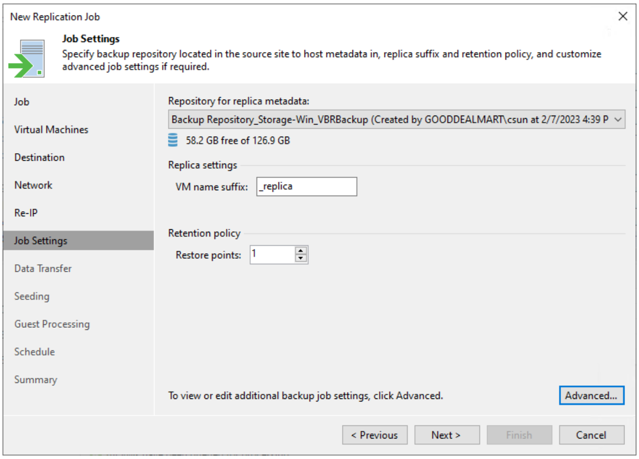
☐ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

55. On the Job Settings page, click Next.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Advanced...
< Previous
Next >
Finish
Cancel

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata:

Backup Repository_Storage-Win_VBRBackup (Created by GOODDEALMART\csun at 2/7/2023 4:39 P

58.2 GB free of 126.9 GB

Replica settings

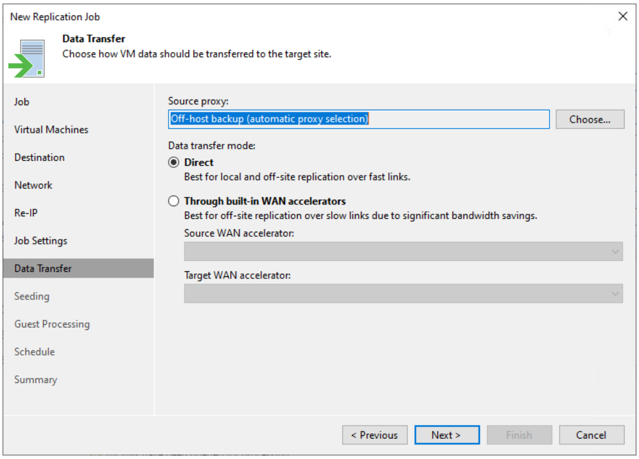
VM name suffix: _replica

Retention policy

Restore points: 1

To view or edit additional backup job settings, click Advanced.

56. Click Choose to specify Source Proxy on the Data Transfer page.



New Replication Job

Data Transfer

Choose how VM data should be transferred to the target site.

Source proxy: Off-host backup (automatic proxy selection)

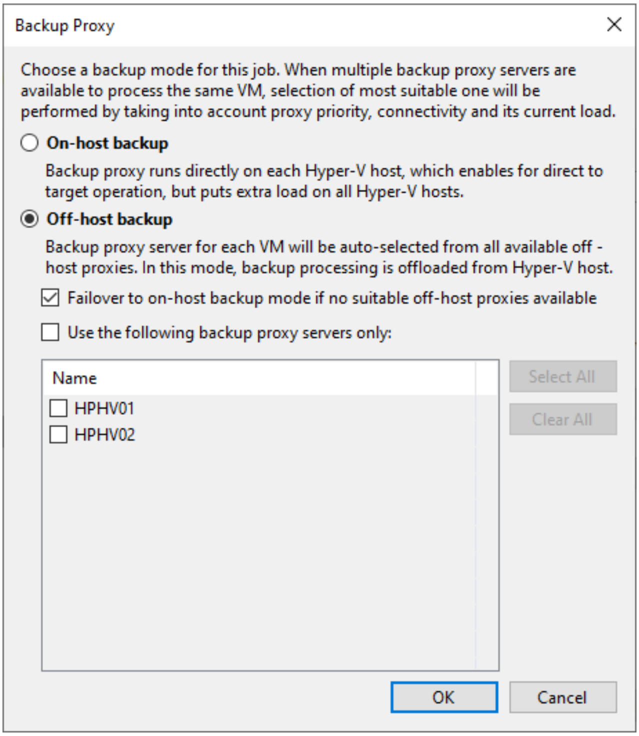
Data transfer mode:

● **Direct**
Best for local and off-site replication over fast links.

○ **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Choose...
Source WAN accelerator:
Target WAN accelerator:
< Previous
Next >
Finish
Cancel

57. On the Backup Proxy page, keep the default settings.
58. Click OK.


Backup Proxy
Name
Select All
Clear All
OK
Cancel

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

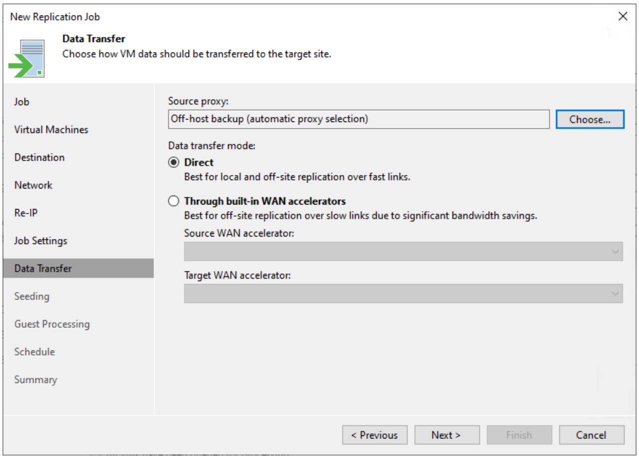
Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

☑ Failover to on-host backup mode if no suitable off-host proxies available

☐ Use the following backup proxy servers only:

☐ HPHV01
☐ HPHV02

59. Select Direct on the Data Transfer mode session if you plan to copy backup files over high-speed connections.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Choose...
< Previous
Next >
Finish
Cancel

Data Transfer

Choose how VM data should be transferred to the target site.

Source proxy: Off-host backup (automatic proxy selection)

Data transfer mode:

● **Direct**

Best for local and off-site replication over fast links.

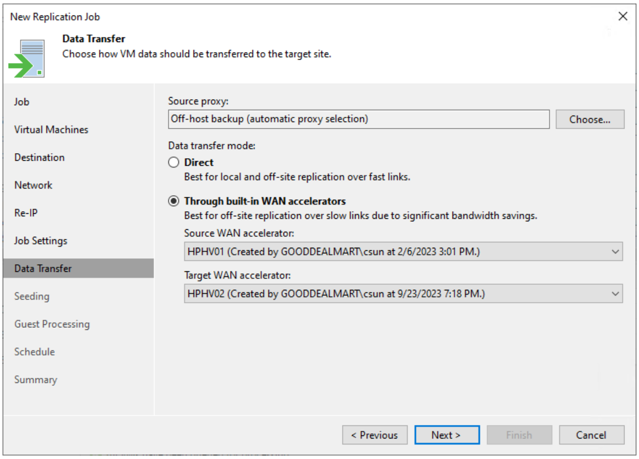
○ **Through built-in WAN accelerators**

Best for off-site replication over slow links due to significant bandwidth savings.

Source WAN accelerator:

Target WAN accelerator:

60. Select Direct on the Data Transfer mode session if you plan to copy backup files over high-speed connections.
61. Select the Through built-in WAN accelerators if you transfer data over WAN or slow connections.
62. Select a WAN accelerator configured in the source site from the Source WAN accelerator drop-down list.
63. Select a WAN accelerator configured in the target site from the Target WAN accelerator drop-down list.
64. Click Next.

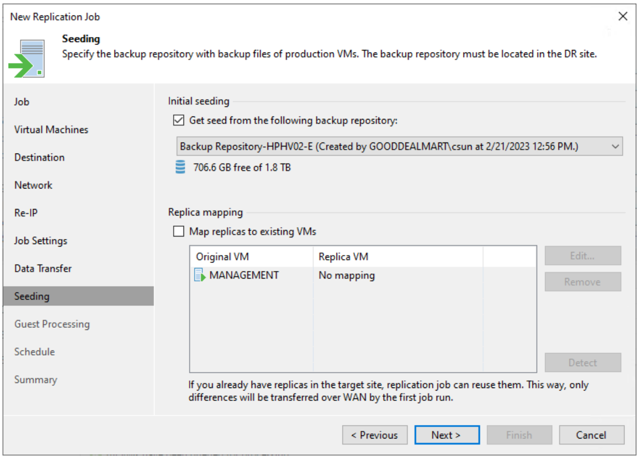

New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Choose...
< Previous
Next >
Finish
Cancel

Data Transfer
Choose how VM data should be transferred to the target site.

Source proxy: Off-host backup (automatic proxy selection)

Data transfer mode:
○ **Direct**
Best for local and off-site replication over fast links.
● **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.
Source WAN accelerator: HPHV01 (Created by GOODDEALMART\csun at 2/6/2023 3:01 PM.)
Target WAN accelerator: HPHV02 (Created by GOODDEALMART\csun at 9/23/2023 7:18 PM.)

65. Select Get seed from the following backup repository checkbox in the Initial seeding.
66. Choose the repository where your replica seeds are stored from the list of available backup repositories.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Edit...
Remove
Detect
< Previous
Next >
Finish
Cancel

Seeding
Specify the backup repository with backup files of production VMs. The backup repository must be located in the DR site.

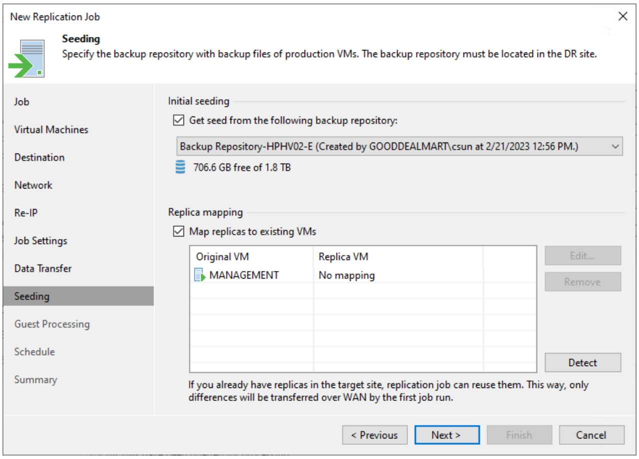
Initial seeding
☑ Get seed from the following backup repository:
Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)
706.6 GB free of 1.8 TB

Replica mapping
☐ Map replicas to existing VMs

Original VM	Replica VM
MANAGEMENT	No mapping

If you already have replicas in the target site, replication job can reuse them. This way, only differences will be transferred over WAN by the first job run.

67. Configure replica mapping if you have ready-to-use copies of the original VMs on the host in the DR site. These can be restored virtual machines (VMs) or replicas created by other replication jobs. Veeam Backup & Replication will use these ready-to-use VMs as replicas after synchronizing their states with the most current state of the original VMs. You can also use replica mapping to reconfigure or recreate replication jobs, such as splitting one replication job into multiple jobs.
68. Select Map replicas to existing VMs and click Detect.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Edit...
Remove
Detect
< Previous
Next >
Finish
Cancel

Seeding
Specify the backup repository with backup files of production VMs. The backup repository must be located in the DR site.

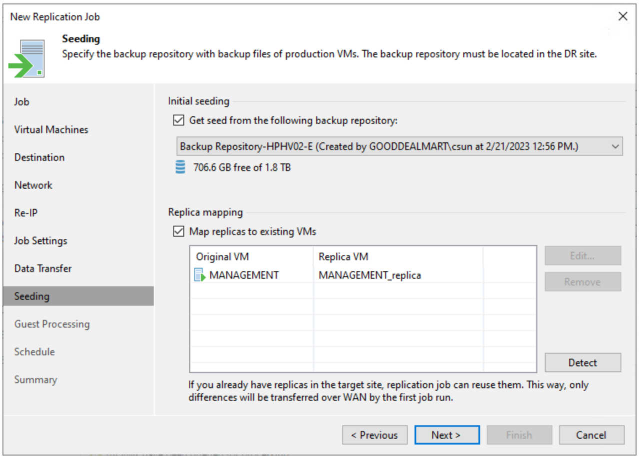
Initial seeding
☑ Get seed from the following backup repository:
Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)
706.6 GB free of 1.8 TB

Replica mapping
☑ Map replicas to existing VMs

Original VM	Replica VM
MANAGEMENT	No mapping

If you already have replicas in the target site, replication job can reuse them. This way, only differences will be transferred over WAN by the first job run.

69. On the Seeding page, click Next.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Edit...
Remove
Detect
< Previous
Next >
Finish
Cancel

Seeding

Specify the backup repository with backup files of production VMs. The backup repository must be located in the DR site.

Initial seeding

☑ Get seed from the following backup repository:

Backup Repository-HPHV02-E (Created by GOODDEALMART\csun at 2/21/2023 12:56 PM.)

706.6 GB free of 1.8 TB

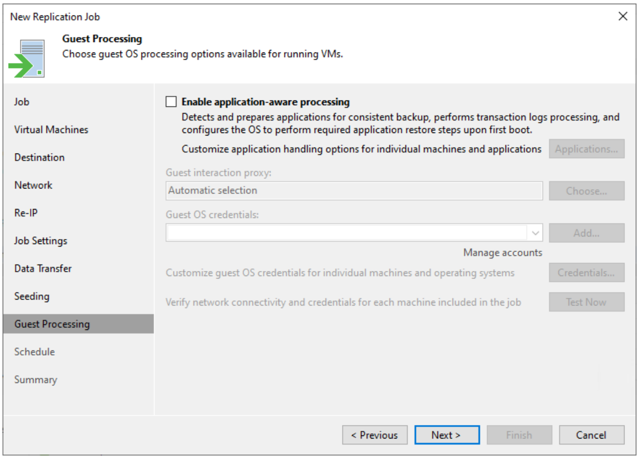
Replica mapping

☑ Map replicas to existing VMs

Original VM	Replica VM
MANAGEMENT	MANAGEMENT_replica

If you already have replicas in the target site, replication job can reuse them. This way, only differences will be transferred over WAN by the first job run.

70. On the Guest Processing page, keep the default settings.
71. Click Next.


New Replication Job
Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Applications...
Choose...
Add...
Manage accounts
Credentials...
Test Now
< Previous
Next >
Finish
Cancel

Guest Processing

Choose guest OS processing options available for running VMs.

☐ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

Guest interaction proxy:

Automatic selection

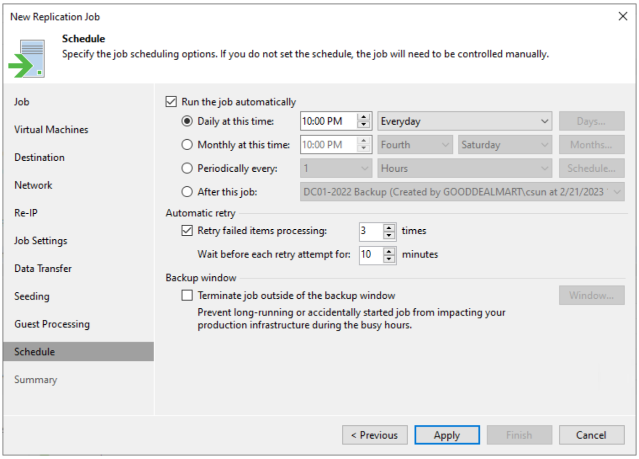
Guest OS credentials:

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

72. Select Run the job automatically on the Schedule page and select your specified schedule.
73. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.
74. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.

75. Click Apply.


New Replication Job

Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 10:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DC01-2022 Backup (Created by GOODDEALMART\csun at 2/21/2023

Automatic retry

☑ Retry failed items processing: 3 times

Wait before each retry attempt for: 10 minutes

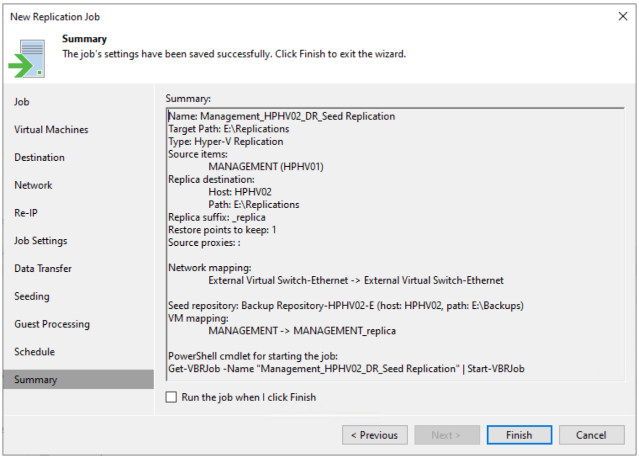
Backup window

☐ Terminate job outside of the backup window

Prevent long-running or accidentally started job from impacting your production infrastructure during the busy hours.

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
Days...
Months...
Schedule...
Window...
< Previous
Apply
Finish
Cancel

76. On the Summary page, click Finish.


New Replication Job

Summary

The job's settings have been saved successfully. Click Finish to exit the wizard.

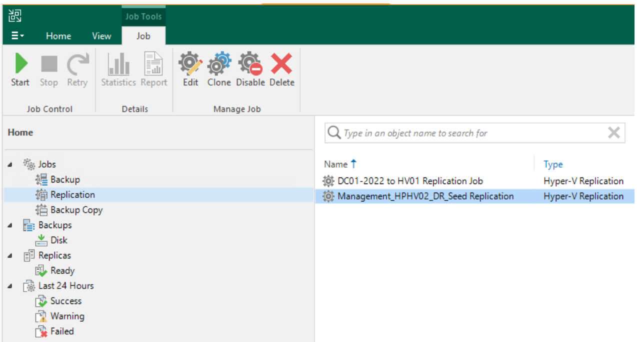
Summary:

```
Name: Management_HPHV02_DR_Seed Replication
Target Path: E:\Replications
Type: Hyper-V Replication
Source items:
        MANAGEMENT (HPHV01)
Replica destination:
        Host: HPHV02
        Path: E:\Replications
Replica suffix: _replica
Restore points to keep: 1
Source proxies: :

Network mapping:
        External Virtual Switch-Ethernet -> External Virtual Switch-Ethernet

Seed repository: Backup Repository-HPHV02-E (host: HPHV02, path: E:\Backups)
VM mapping:
        MANAGEMENT -> MANAGEMENT_replica

PowerShell cmdlet for starting the job:
Get-VBRJob -Name "Management_HPHV02_DR_Seed Replication" | Start-VBRJob
```

☐ Run the job when I click Finish

Job
Virtual Machines
Destination
Network
Re-IP
Job Settings
Data Transfer
Seeding
Guest Processing
Schedule
Summary
< Previous
Next >
Finish
Cancel

77. Verify the job has been added.

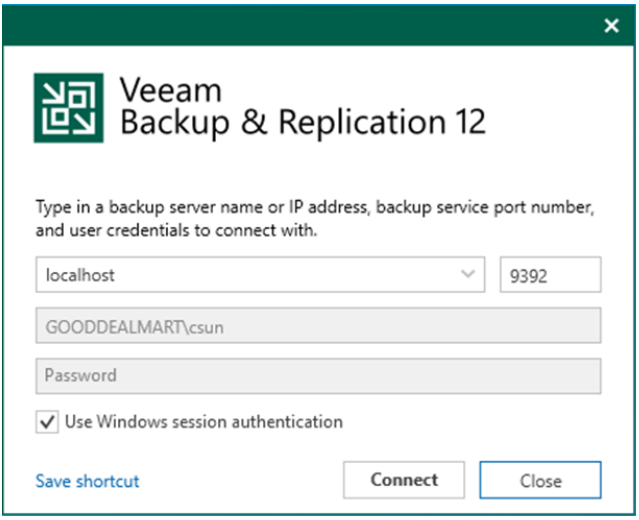

Job Tools
Home
View
Job
Start
Stop
Retry
Statistics
Report
Edit
Clone
Disable
Delete
Job Control
Details
Manage Job
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Warning
Failed
Type in an object name to search for

Name ↑	Type
DC01-2022 to HV01 Replication Job	Hyper-V Replication
Management_HPHV02_DR_Seed Replication	Hyper-V Replication

Failover Virtual Machine to Disaster Recovery Site

Failing over a virtual machine to a disaster recovery site involves replicating the virtual machine and its data to the disaster recovery site and activating the replicated copy in case of a disaster or other disruptive event that renders the original virtual machine unavailable.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.


Veeam
Backup & Replication 12
Save shortcut
Connect
Close

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

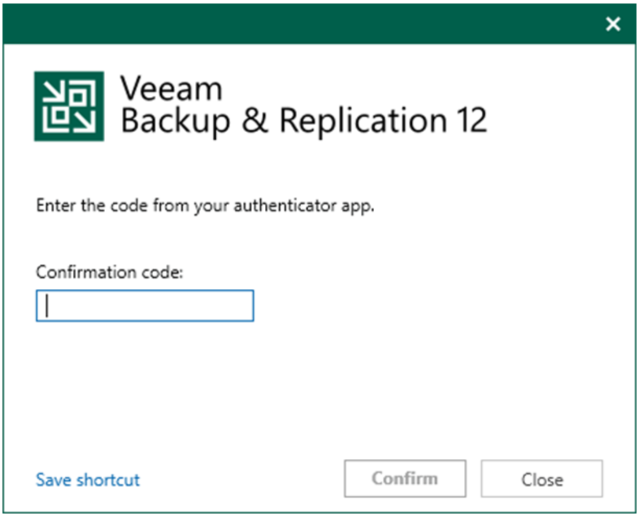
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

3. Enter the MFA Confirmation code and click Confirm.



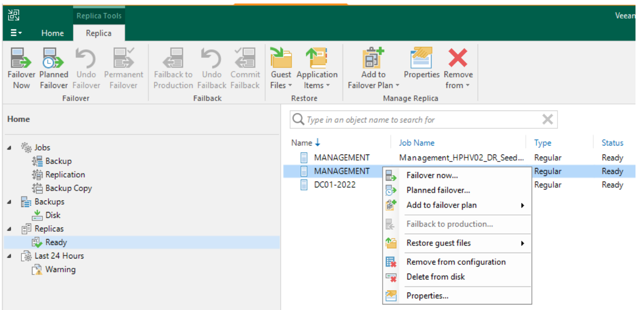
Veeam
Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

Save shortcut
Confirm
Close

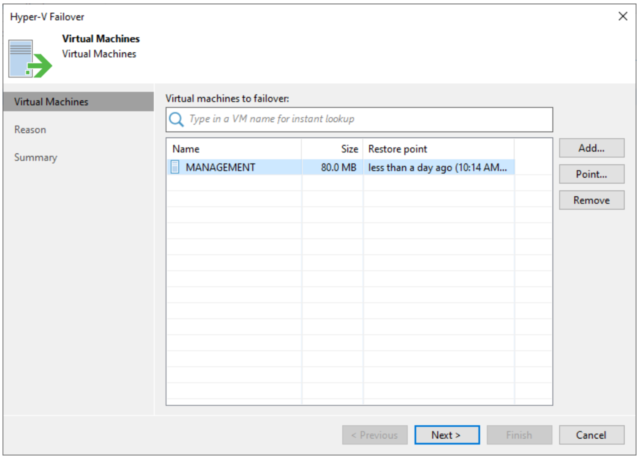
4. On the Home page, expand Replicas and select Ready.
5. Right-click the virtual machine and select Failover now.



Replica Tools
Home
Replica
Veeam
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Warning
Type in an object name to search for
Failover now...
Planned failover...
Add to failover plan
Failback to production...
Restore guest files
Remove from configuration
Delete from disk
Properties...

Name	Job Name	Type	Status
MANAGEMENT	Management_HPHV02_DR_Seed...	Regular	Ready
MANAGEMENT		Regular	Ready
DC01-2022		Regular	Ready

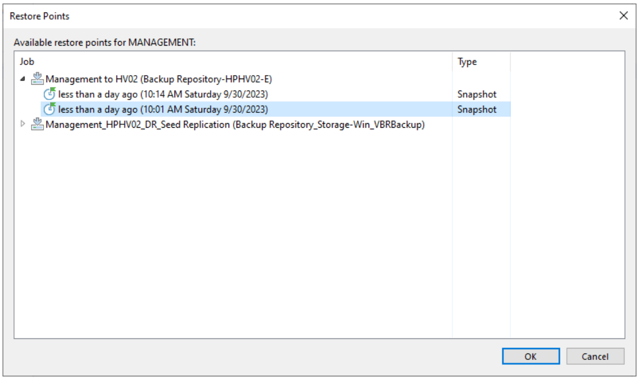
6. Select the virtual machine and click Point on the Virtual Machines page.


Hyper-V Failover
Virtual Machines
Virtual Machines
Virtual Machines
Reason
Summary
Type in a VM name for instant lookup
Add...
Point...
Remove
< Previous
Next >
Finish
Cancel

Virtual machines to failover:

Name	Size	Restore point
MANAGEMENT	80.0 MB	less than a day ago (10:14 AM...

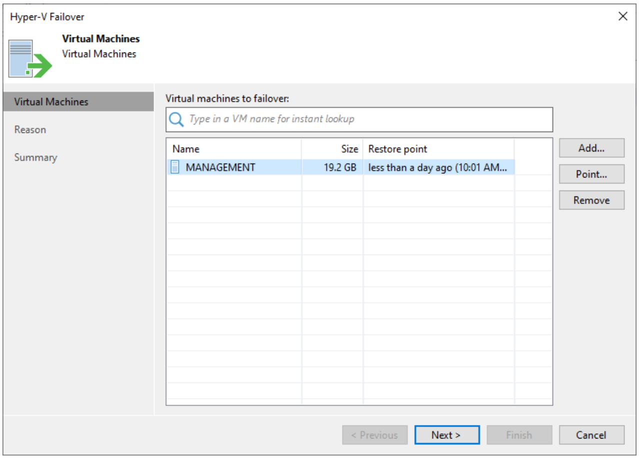
7. Expand the Job name on the Restore Point page, select the necessary restore point, and click OK.


Restore Points
OK
Cancel

Available restore points for MANAGEMENT:

Job	Type
Management to HV02 (Backup Repository-HPHV02-E)	
less than a day ago (10:14 AM Saturday 9/30/2023)	Snapshot
less than a day ago (10:01 AM Saturday 9/30/2023)	Snapshot
Management_HPHV02_DR_Seed Replication (Backup Repository_Storage-Win_VBRBackup)	

8. On the Virtual Machines page, click Next.

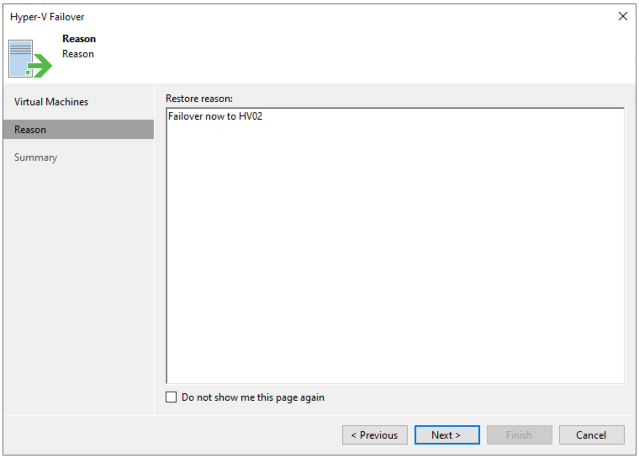

Hyper-V Failover
Virtual Machines
Virtual Machines
Virtual Machines
Reason
Summary
Add...
Point...
Remove
< Previous
Next >
Finish
Cancel

Virtual machines to failover:

Type in a VM name for instant lookup

Name	Size	Restore point
MANAGEMENT	19.2 GB	less than a day ago (10:01 AM...

9. On the Reason page, the Restore reason, click Next.

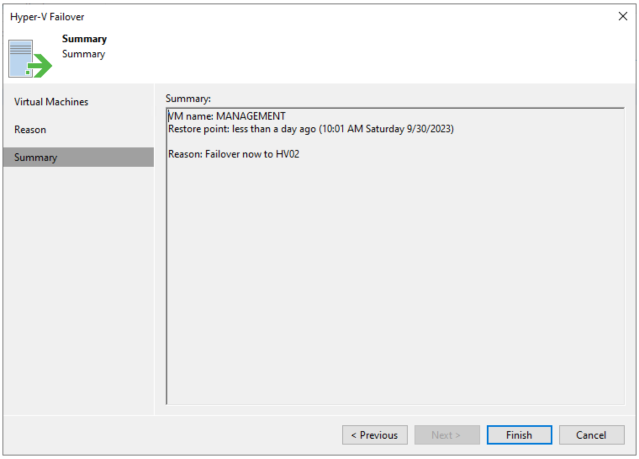

Hyper-V Failover
Reason
Reason
Virtual Machines
Reason
Summary
< Previous
Next >
Finish
Cancel

Restore reason:

Failover now to HV02

☐ Do not show me this page again

10. On the Summary page, click Finish.

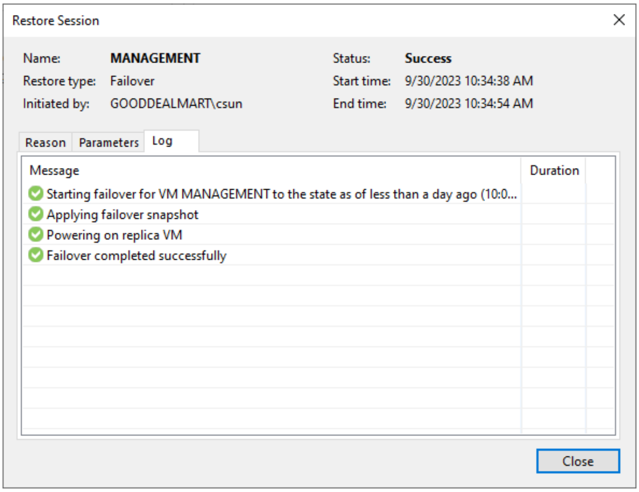

Hyper-V Failover
Summary
Summary
Virtual Machines
Reason
Summary
< Previous
Next >
Finish
Cancel

Summary:

VM name: MANAGEMENT
Restore point: less than a day ago (10:01 AM Saturday 9/30/2023)

Reason: Failover now to HV02

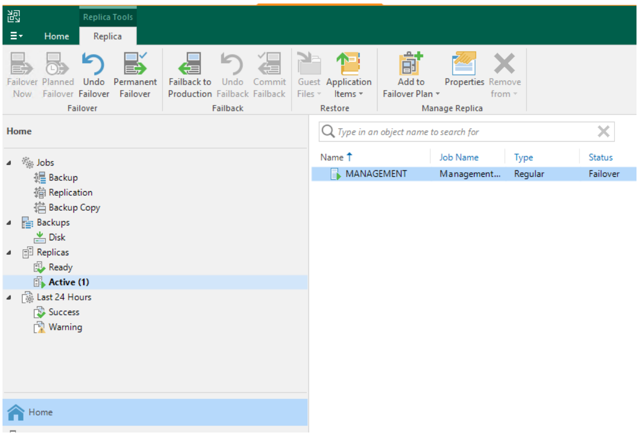
11. Select Log on the Restore Session page, ensure the failover completed processes successfully, and click Closed.


Restore Session
Reason
Parameters
Log
Close

Name: **MANAGEMENT**
Restore type: Failover
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 9/30/2023 10:34:38 AM
End time: 9/30/2023 10:34:54 AM

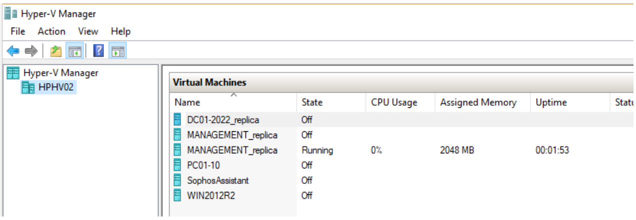
Message	Duration
✓ Starting failover for VM MANAGEMENT to the state as of less than a day ago (10:0...	
✓ Applying failover snapshot	
✓ Powering on replica VM	
✓ Failover completed successfully	

12. On the Home page, expend Replicas and select Active. The virtual machine status shows Failover.


Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Warning
Home
Type in an object name to search for

Name	Job Name	Type	Status
MANAGEMENT	Management...	Regular	Failover

13. The Machine is now failover and running on the DR Host (HV02).


Hyper-V Manager
File
Action
View
Help
Hyper-V Manager
HPHV02
Virtual Machines

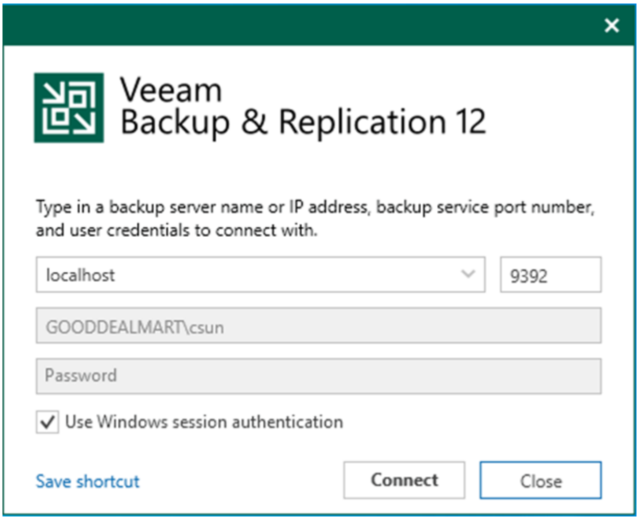
Name	State	CPU Usage	Assigned Memory	Uptime	Statu
DC01-2022_replica	Off				
MANAGEMENT_replica	Off				
MANAGEMENT_replica	Running	0%	2048 MB	00:01:53	
PC01-10	Off				
SophosAssistant	Off				
WIN2012R2	Off				

Planned Failover Virtual Machine to Disaster Recovery Site

Planned failover is the smooth manual switching from a primary VM to its replica with minor downtime. Planned failover is proper when you know primary VMs are planning to go offline, and you need to switch the workload from the original VMs to their replicas as soon as possible. For example, you can use planned failover to perform data center migration, maintenance, or software upgrades on primary VMs. You can also perform a planned failover if you see signs of an impending disaster.

1. Login to the Veeam Backup and replication manager server.

2. Open the Veeam Backup & Replication 12 Console and click Connect.



Veeam Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost 9392

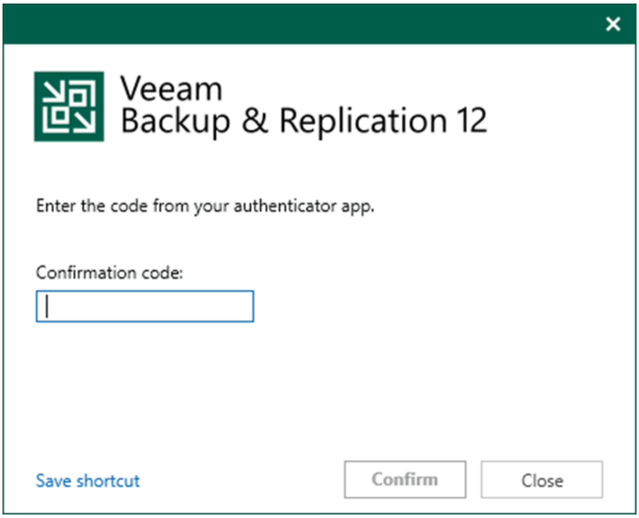
GOODDEALMART\csun

Password

☑ Use Windows session authentication

Save shortcut
Connect
Close

3. Enter the MFA Confirmation code and click Confirm.



Veeam Backup & Replication 12

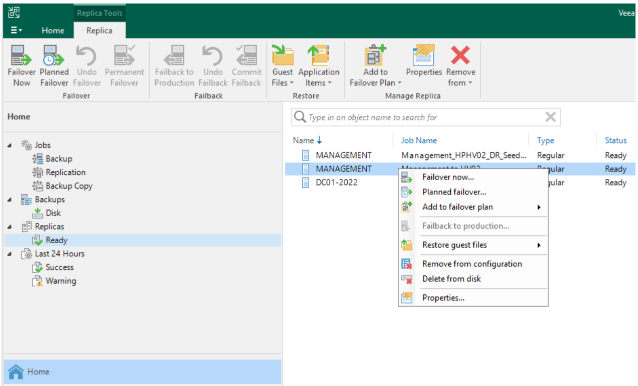
Enter the code from your authenticator app.

Confirmation code:

Save shortcut
Confirm
Close

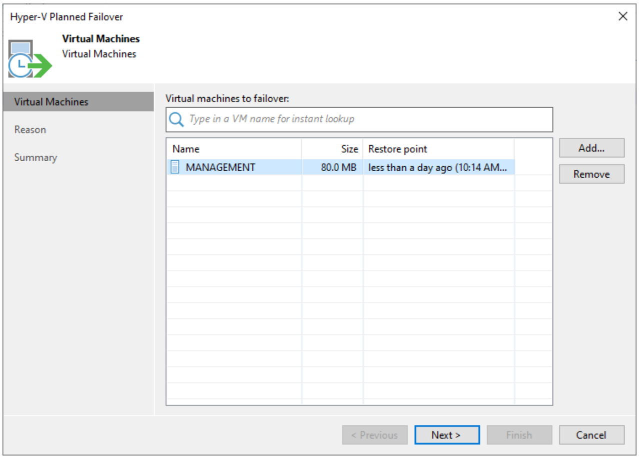
4. On the Home page, expand Replicas and select Ready.

5. Right-click the virtual machine and select Planned failover.


Replica Tools
Veea
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Warning
Home
Type in an object name to search for
Failover now...
Planned failover...
Add to failover plan
Failback to production...
Restore guest files
Remove from configuration
Delete from disk
Properties...

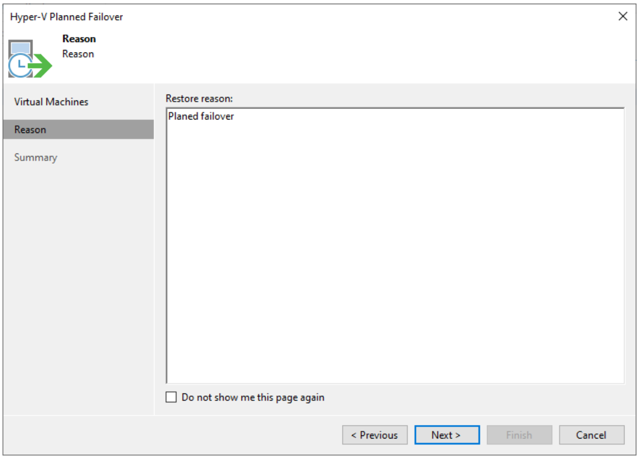
Name	Job Name	Type	Status
MANAGEMENT	Management_HPHV02_DR_Seed...	Regular	Ready
MANAGEMENT	[illegible]	Regular	Ready
DC01-2022		gular	Ready

6. On the Virtual Machines page, click Next.


Hyper-V Planned Failover
Virtual Machines
Virtual Machines
Virtual Machines
Reason
Summary
Virtual machines to failover:
Type in a VM name for instant lookup
Add...
Remove
< Previous
Next >
Finish
Cancel

Name	Size	Restore point
MANAGEMENT	80.0 MB	less than a day ago (10:14 AM...

7. On the Reason page, the Restore reason, click Next.

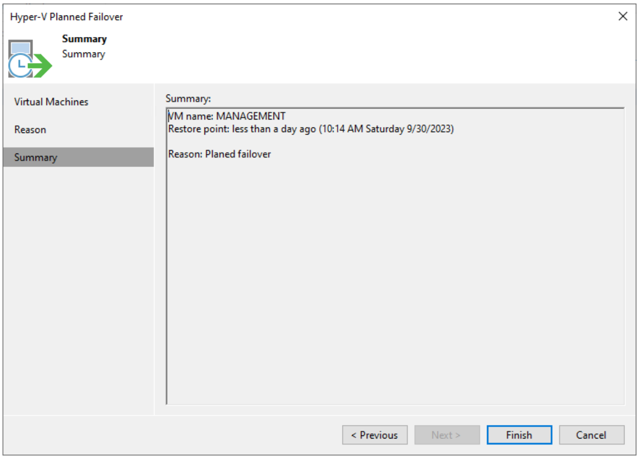

Hyper-V Planned Failover
Reason
Reason
Virtual Machines
Reason
Summary
< Previous
Next >
Finish
Cancel

Restore reason:

Planed failover

☐ Do not show me this page again

8. On the Summary page, click Finish.

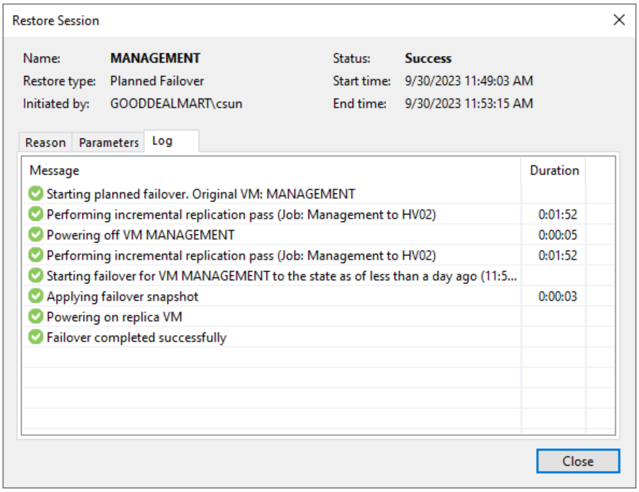

Hyper-V Planned Failover
Summary
Summary
Virtual Machines
Reason
Summary
< Previous
Next >
Finish
Cancel

Summary:

VM name: MANAGEMENT
Restore point: less than a day ago (10:14 AM Saturday 9/30/2023)

Reason: Planed failover

9. On the Restore Session page, select the log.
10. It performs replication before powering off the virtual machine.
11. It performs replication again after powering off the virtual machine.
12. Ensure the processes of the planned failover are completed successfully and click Closed.



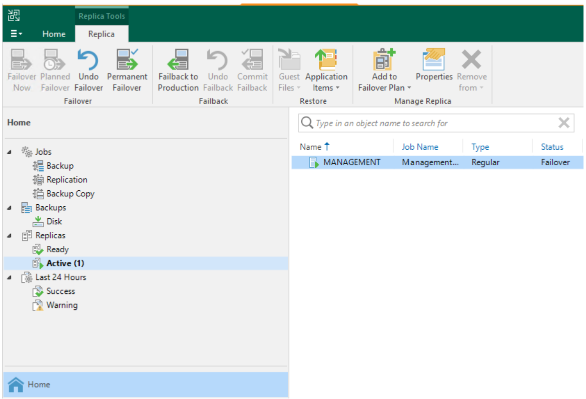
Restore Session

Name: **MANAGEMENT**
Restore type: Planned Failover
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 9/30/2023 11:49:03 AM
End time: 9/30/2023 11:53:15 AM

Reason
Parameters
Log

Message	Duration
✓ Starting planned failover. Original VM: MANAGEMENT	
✓ Performing incremental replication pass (Job: Management to HV02)	0:01:52
✓ Powering off VM MANAGEMENT	0:00:05
✓ Performing incremental replication pass (Job: Management to HV02)	0:01:52
✓ Starting failover for VM MANAGEMENT to the state as of less than a day ago (11:5...	
✓ Applying failover snapshot	0:00:03
✓ Powering on replica VM	
✓ Failover completed successfully	

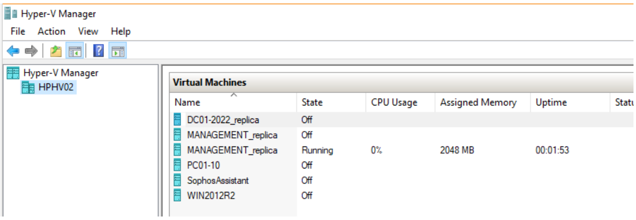
13. On the Home page, expend Replicas and select Active. The virtual machine status shows Failover.



Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Warning
Home
Type in an object name to search for

Name	Job Name	Type	Status
MANAGEMENT	Management...	Regular	Failover

14. The Machine is now failover and running on the DR Host (HV02).

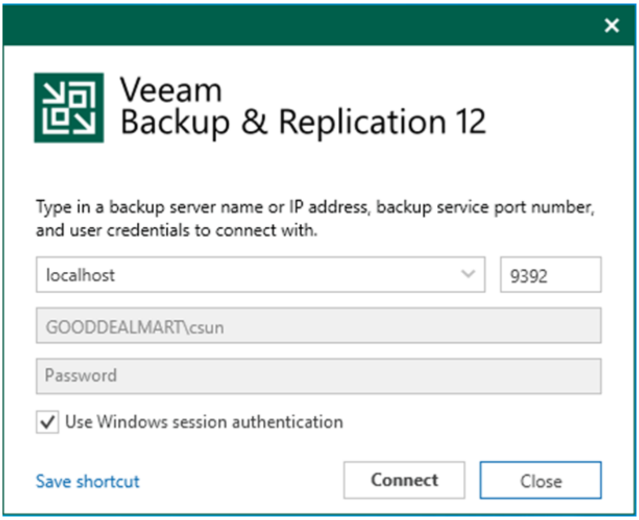

Hyper-V Manager
File
Action
View
Help
Hyper-V Manager
HPHV02
Virtual Machines

Name	State	CPU Usage	Assigned Memory	Uptime	Statu
DC01-2022_replica	Off				
MANAGEMENT_replica	Off				
MANAGEMENT_replica	Running	0%	2048 MB	00:01:53	
PC01-10	Off				
SophosAssistant	Off				
WIN2012R2	Off				

Failover Undo the Virtual Machine to Production Site

One method for completing failover is to use failover undo. When you undo failover, you return to the original VM from a VM replica. When a virtual machine replica is in the Failover state, Veeam Backup & Replication discards all changes made to the replica. This is because the Failover state is intended to temporarily restore the virtual machine to operation quickly in the event of a disaster.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.


Veeam
Backup & Replication 12
Save shortcut
Connect
Close

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost

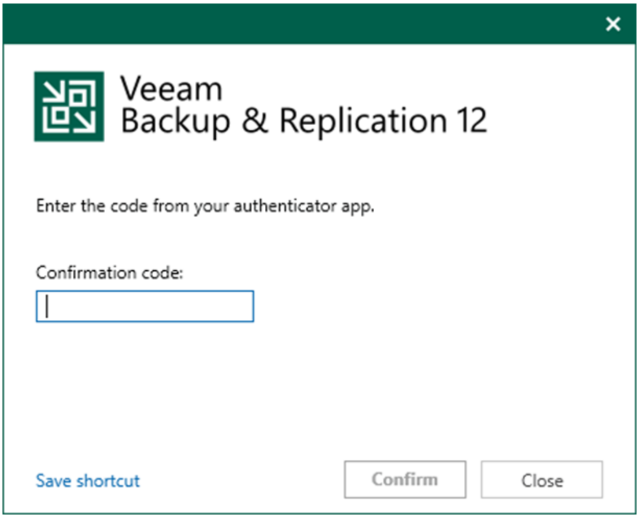
9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

3. Enter the MFA Confirmation code and click Confirm.

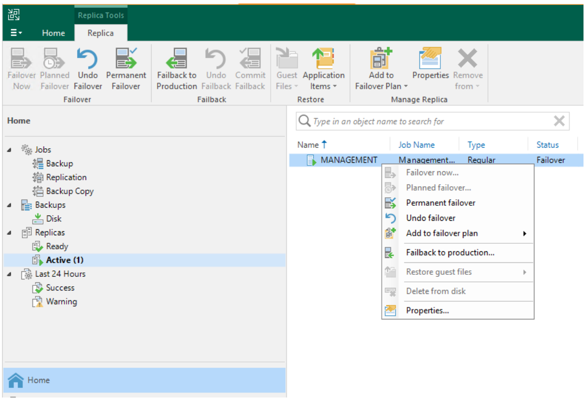

Veeam Backup & Replication 12

Enter the code from your authenticator app.

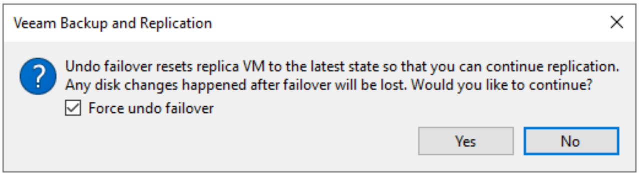
Confirmation code:

Save shortcut
Confirm
Close

4. On the Home page, expand Replicas and select Active.
5. Right-click the virtual machine and select Undo failover.


Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Warning
Home
Type in an object name to search for
Name
Job Name
Type
Status
MANAGEMENT
Management...
Regular
Failover
Failover now...
Planned failover...
Permanent failover
Undo failover
Add to failover plan
Failback to production...
Restore guest files
Delete from disk
Properties...

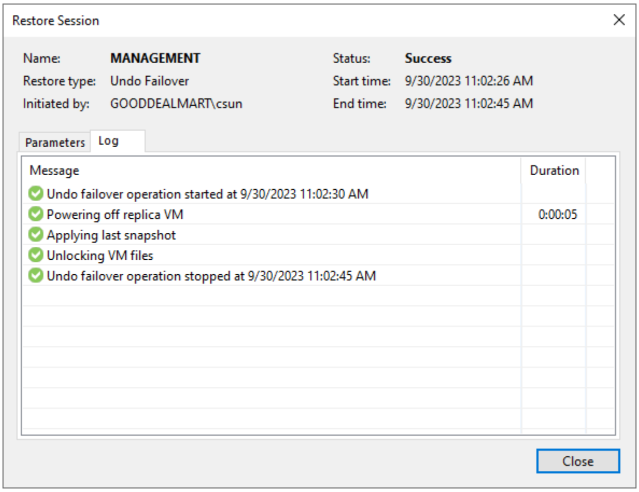
6. Select the Force undo failover checkbox on the Veeam Backup and Replication display windows and click Yes.



Undo failover resets replica VM to the latest state so that you can continue replication. Any disk changes happened after failover will be lost. Would you like to continue?

☑ Force undo failover

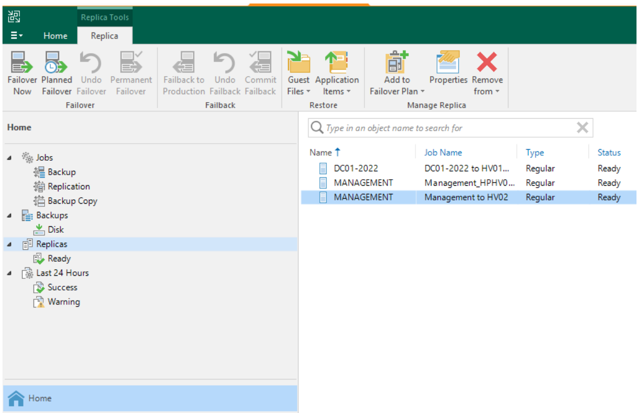
7. On the Restore Session page, select Log.
8. Ensure the undo failover is completed successfully and click Closed.



Name: **MANAGEMENT**
Restore type: Undo Failover
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 9/30/2023 11:02:26 AM
End time: 9/30/2023 11:02:45 AM

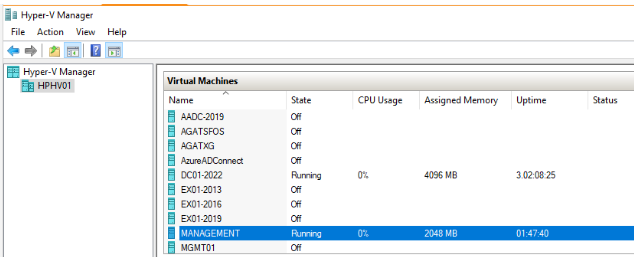
Message	Duration
✓ Undo failover operation started at 9/30/2023 11:02:30 AM	
✓ Powering off replica VM	0:00:05
✓ Applying last snapshot	
✓ Unlocking VM files	
✓ Undo failover operation stopped at 9/30/2023 11:02:45 AM	

9. Expand Replicas and the virtual machine on the Home page to regular type and Ready status.


Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Warning
Home
Type in an object name to search for

Name	Job Name	Type	Status
DC01-2022	DC01-2022 to HV01...	Regular	Ready
MANAGEMENT	Management_HPHV0...	Regular	Ready
MANAGEMENT	Management to HV02	Regular	Ready

10. The Machine is running on the Production Site Host (HV01) now.


Hyper-V Manager
File
Action
View
Help
Hyper-V Manager
HPHV01
Virtual Machines

Name	State	CPU Usage	Assigned Memory	Uptime	Status
AADC-2019	Off				
AGATSFOS	Off				
AGATXG	Off				
AzureADConnect	Off				
DC01-2022	Running	0%	4096 MB	3.02:08:25	
EX01-2013	Off				
EX01-2016	Off				
EX01-2019	Off				
MANAGEMENT	Running	0%	2048 MB	01:47:40	
MGMT01	Off				

Failback to the Original Virtual Machine of the Production Site

Failback is returning operations to the primary site after a disaster recovery event. It reverses the failover process by replicating any changes made to the virtual machine during the Failover state back to the primary site and then redirecting users and applications to the primary site.

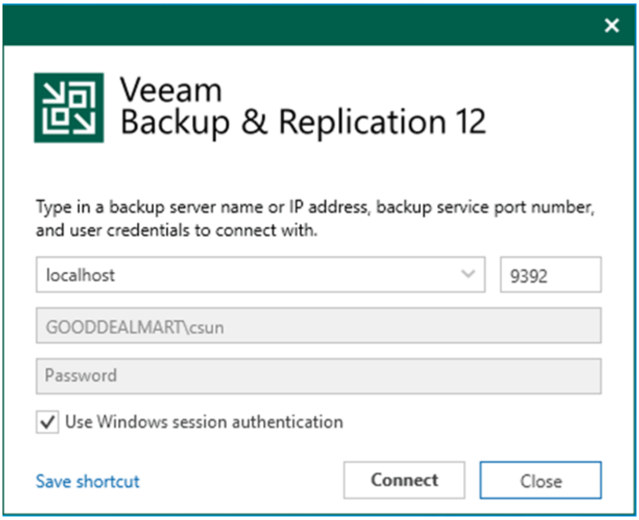
Veeam Backup & Replication provides the following failback options:

- Failback to the original VM in the original location.
- Failback to a VM already recovered to a new location. This VM must be retrieved before you perform failback.

- Failback to a VM from a replica in a different location or to any site with different settings. During the failback process, the VM will be recovered from the replica.

Because Veeam Backup & Replication only needs to transfer differences between the original/recovered VM and VM replica, the Failback to the original VM in the original location option helps reduce recovery time and network traffic.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.

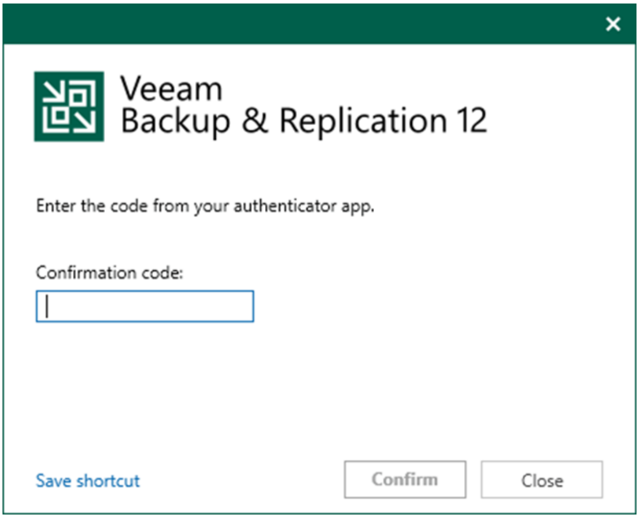


Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost
9392
GOODDEALMART\csun
Password
☑ Use Windows session authentication

3. Enter the MFA Confirmation code and click Confirm.



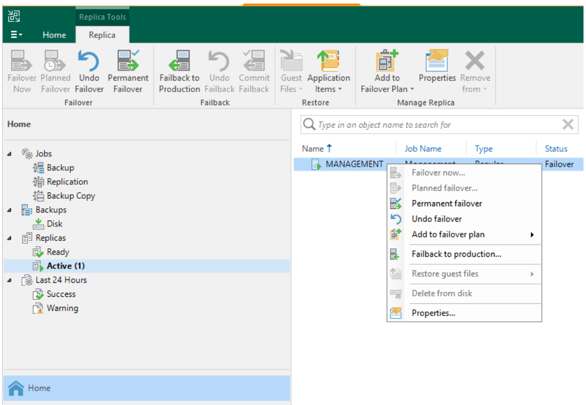
Veeam
Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

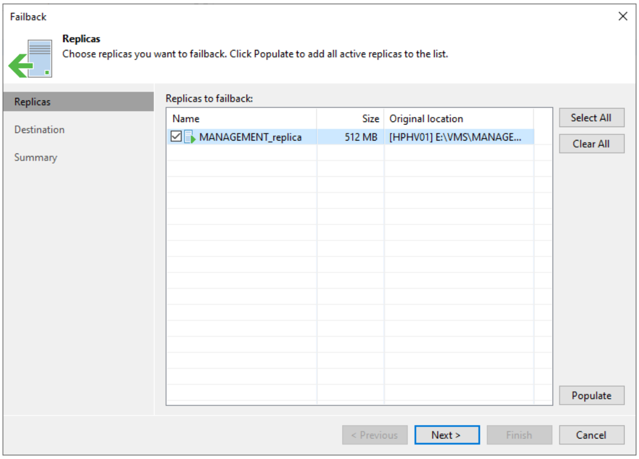
Save shortcut
Confirm
Close

4. On the Home page, expand Replicas and select Active.
5. Right-click the virtual machine and select Failback to production.



Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Warning
Home
Type in an object name to search for
Name
Job Name
Type
Status
MANAGEMENT
Failover
Failover now...
Planned failover...
Permanent failover
Undo failover
Add to failover plan
Failback to production...
Restore guest files
Delete from disk
Properties...

6. Click Populate on the Virtual Machine page to update the replicas ready for the failback list.
7. Select the replicas and click Next.



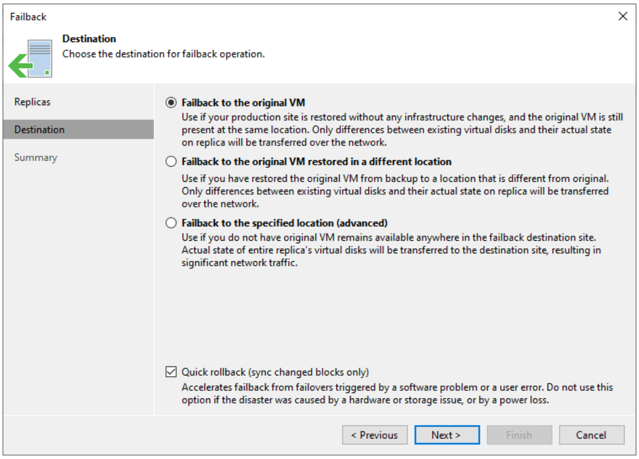
Replicas

Choose replicas you want to failback. Click Populate to add all active replicas to the list.

Replicas to failback:

Name	Size	Original location
☑ MANAGEMENT_replica	512 MB	[HPHV01] E:\VMS\MANAGE...

8. On the Destination page, select Failback to the original VM.
9. Select Quick rollback (sync changed blocks only) If you want to fasten failback, and the original VMs had problems at the guest OS level.
10. Click Next.



Destination

Choose the destination for failback operation.

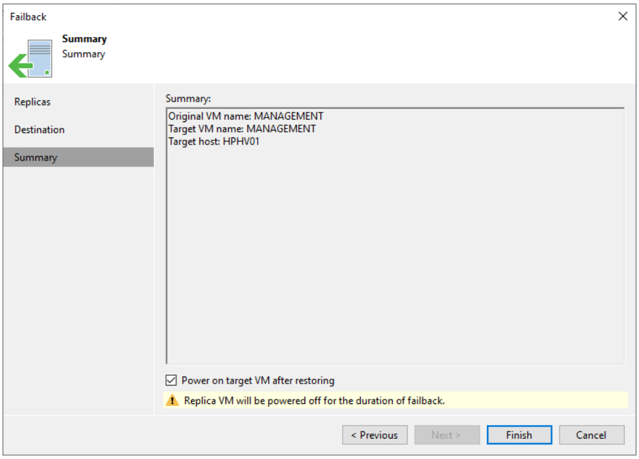
● **Failback to the original VM**
Use if your production site is restored without any infrastructure changes, and the original VM is still present at the same location. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

○ **Failback to the original VM restored in a different location**
Use if you have restored the original VM from backup to a location that is different from original. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

○ **Failback to the specified location (advanced)**
Use if you do not have original VM remains available anywhere in the failback destination site. Actual state of entire replica's virtual disks will be transferred to the destination site, resulting in significant network traffic.

☑ Quick rollback (sync changed blocks only)
Accelerates failback from failovers triggered by a software problem or a user error. Do not use this option if the disaster was caused by a hardware or storage issue, or by a power loss.

11. Select Power on the target VM after restoring and click Finish on the Summary page.

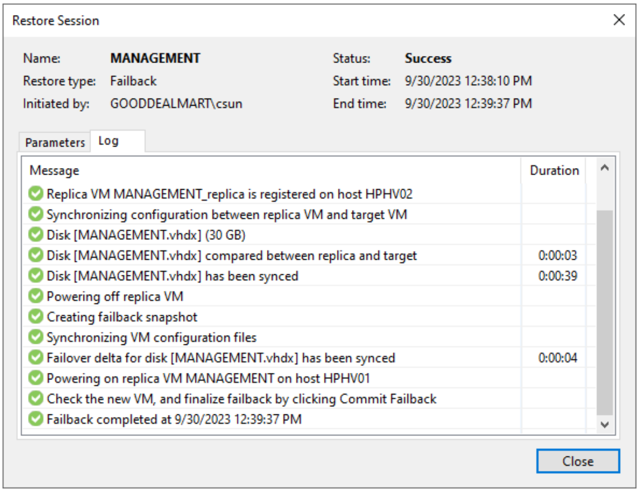

Failback
Summary
Summary
Replicas
Destination
Summary
Summary:
< Previous
Next >
Finish
Cancel

Original VM name: MANAGEMENT
Target VM name: MANAGEMENT
Target host: HPHV01

☑ Power on target VM after restoring

⚠ Replica VM will be powered off for the duration of failback.

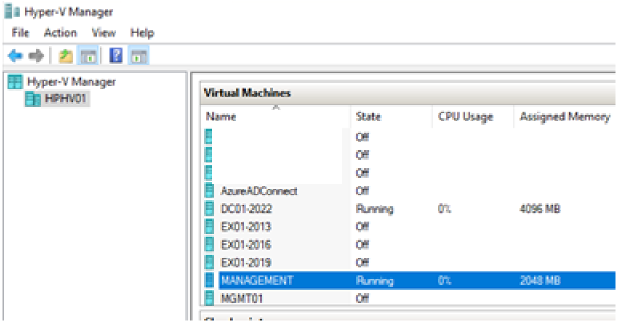
12. On the Restore Session page, select Log.
13. Ensure the failback is completed successfully and click Closed.


Restore Session
Parameters
Log
Close

Name: **MANAGEMENT**
Restore type: Failback
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 9/30/2023 12:38:10 PM
End time: 9/30/2023 12:39:37 PM

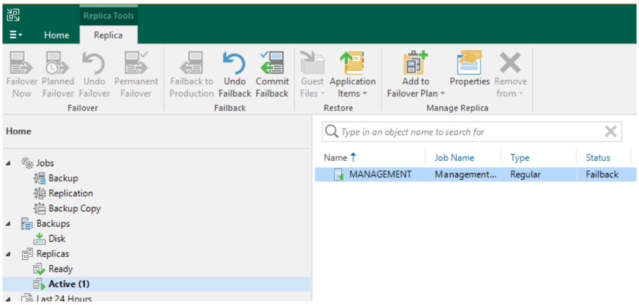
Message	Duration
✓ Replica VM MANAGEMENT_replica is registered on host HPHV02	
✓ Synchronizing configuration between replica VM and target VM	
✓ Disk [MANAGEMENT.vhdx] (30 GB)	
✓ Disk [MANAGEMENT.vhdx] compared between replica and target	0:00:03
✓ Disk [MANAGEMENT.vhdx] has been synced	0:00:39
✓ Powering off replica VM	
✓ Creating failback snapshot	
✓ Synchronizing VM configuration files	
✓ Failover delta for disk [MANAGEMENT.vhdx] has been synced	0:00:04
✓ Powering on replica VM MANAGEMENT on host HPHV01	
✓ Check the new VM, and finalize failback by clicking Commit Failback	
✓ Failback completed at 9/30/2023 12:39:37 PM	

14. The virtual machine is running on the production site host. Ensure the virtual machine functions are working properly.


Hyper-V Manager
File Action View Help
Hyper-V Manager
HPHV01
Virtual Machines

Name	State	CPU Usage	Assigned Memory
	Off		
	Off		
	Off		
AzureADConnect	Off		
DC01-2022	Running	0%	4096 MB
EX01-2013	Off		
EX01-2016	Off		
EX01-2019	Off		
MANAGEMENT	Running	0%	2048 MB
MGMT01	Off		

15. On the Home page, expand Replicas and select Active.
16. The VM status changed from Failover to Failback.

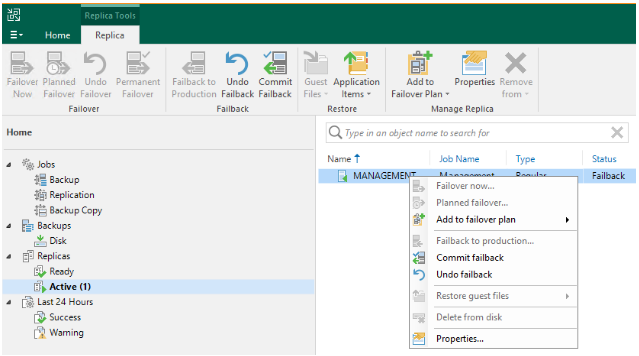

Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Type in an object name to search for
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours

Name	Job Name	Type	Status
MANAGEMENT	Management...	Regular	Failback

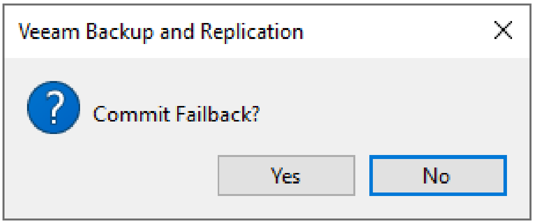
17. Right-click the VM and select Commit failback.

Note:

Select Undo failback if the virtual machine is not working properly.

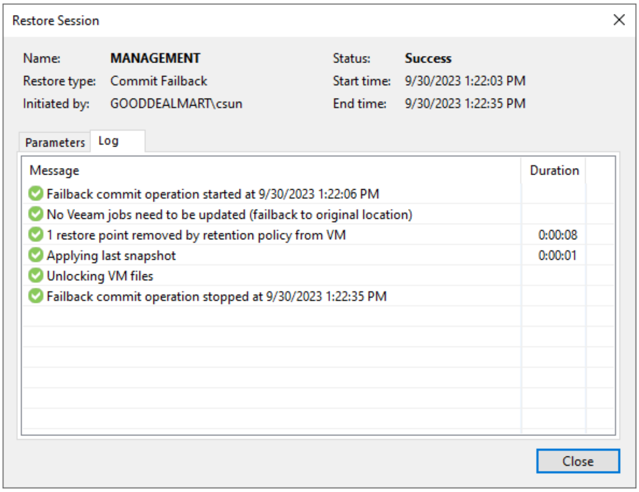

Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Warning
Type in an object name to search for
Name
Job Name
Type
Status
MANAGEMENT
Failback
Failover now...
Planned failover...
Add to failover plan
Failback to production...
Commit failback
Undo failback
Restore guest files
Delete from disk
Properties...

18. Click Yes in the Commit Failback display windows.


Veeam Backup and Replication
Yes
No

Commit Failback?

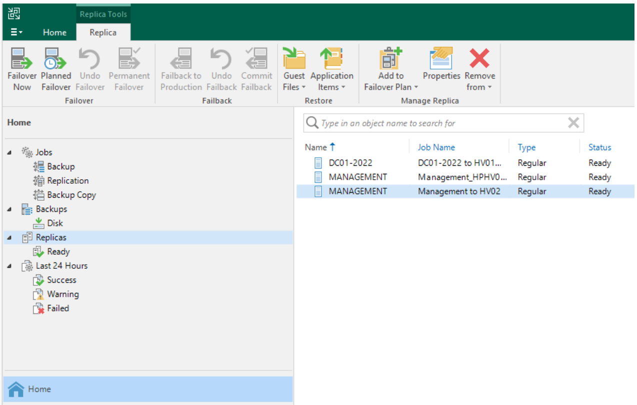
19. On the Restore Session page, select the log.
20. Ensure the Commit Failback is completed successfully and click Closed.


Restore Session
Parameters
Log
Close

Name: **MANAGEMENT**
Restore type: Commit Failback
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 9/30/2023 1:22:03 PM
End time: 9/30/2023 1:22:35 PM

```
Message                                                                 Duration
Failback commit operation started at 9/30/2023 1:22:06 PM
No Veeam jobs need to be updated (failback to original location)
1 restore point removed by retention policy from VM                     0:00:08
Applying last snapshot                                                  0:00:01
Unlocking VM files
Failback commit operation stopped at 9/30/2023 1:22:35 PM
```

21. Expand Replicas and the virtual machine on the Home page back to regular type and Ready status.

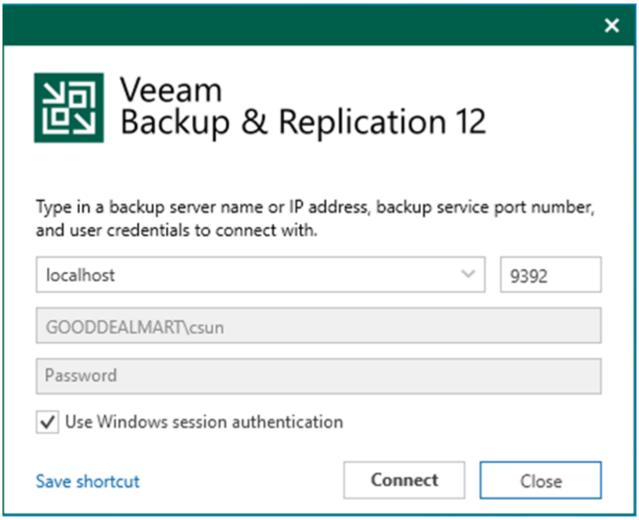

Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Warning
Failed
Home
Type in an object name to search for

Name	Job Name	Type	Status
DC01-2022	DC01-2022 to HV01...	Regular	Ready
MANAGEMENT	Management_HPHV0...	Regular	Ready
MANAGEMENT	Management to HV02	Regular	Ready

Failback to the Original Virtual Machine restored in a different location

Because Veeam Backup & Replication only needs to transfer differences between the original/recovered VM and VM replica, the failback to the original virtual machine restored in a different location helps reduce recovery time and network traffic.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.


Veeam
Backup & Replication 12
Save shortcut
Connect
Close

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

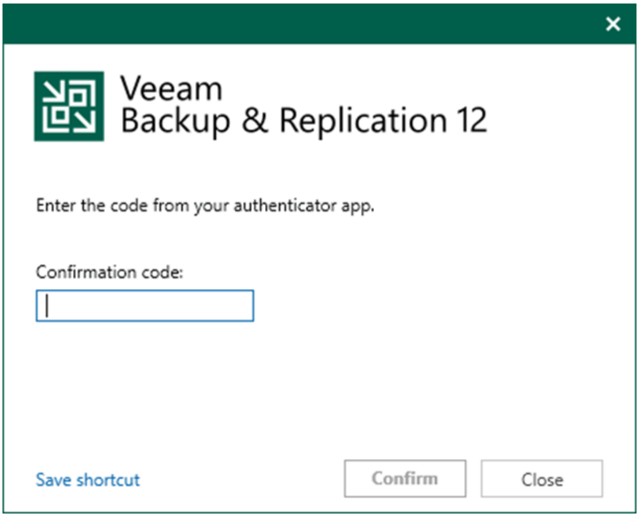
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

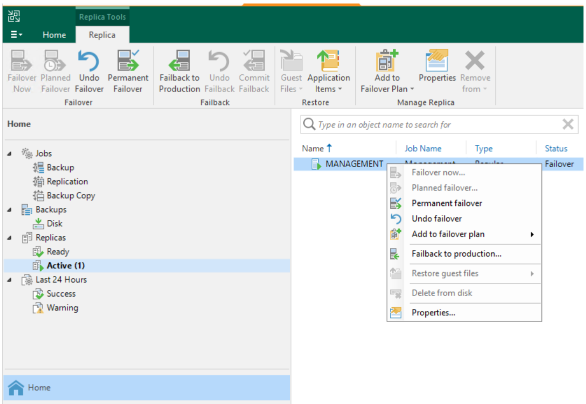
3. Enter the MFA Confirmation code and click Confirm.


Veeam
Backup & Replication 12
Save shortcut
Confirm
Close

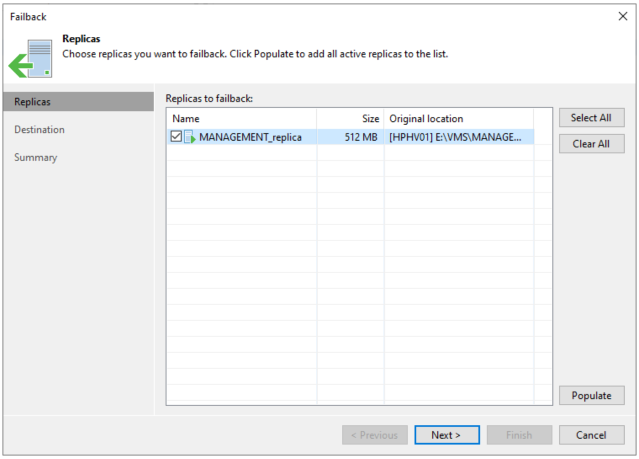
Enter the code from your authenticator app.

Confirmation code:

4. On the Home page, expand Replicas and select Active.
5. Right-click the virtual machine and select Failback to production.


Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Warning
Home
Type in an object name to search for
Name
Job Name
Type
Status
MANAGEMENT
Failover
Failover now...
Planned failover...
Permanent failover
Undo failover
Add to failover plan
Failback to production...
Restore guest files
Delete from disk
Properties...

6. Click Populate on the Virtual Machine page to update the replicas ready for the failback list.
7. Select the replicas and click Next.


Failback
Replicas
Destination
Summary
Select All
Clear All
Populate
< Previous
Next >
Finish
Cancel

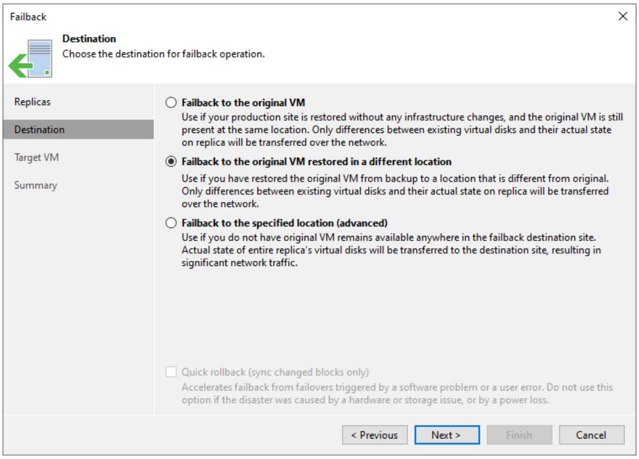
Replicas

Choose replicas you want to failback. Click Populate to add all active replicas to the list.

Replicas to failback:

Name	Size	Original location
☑ MANAGEMENT_replica	512 MB	[HPHV01] E:\VMS\MANAGE...

8. If the original VMs have already been recovered to a new location and you want to switch to the recovered VMs from their replicas.
9. Select Failback to the original VM restored in a different location on the Destination page.
10. Click Next.


Failback
Replicas
Destination
Target VM
Summary
< Previous
Next >
Finish
Cancel

Destination

Choose the destination for failback operation.

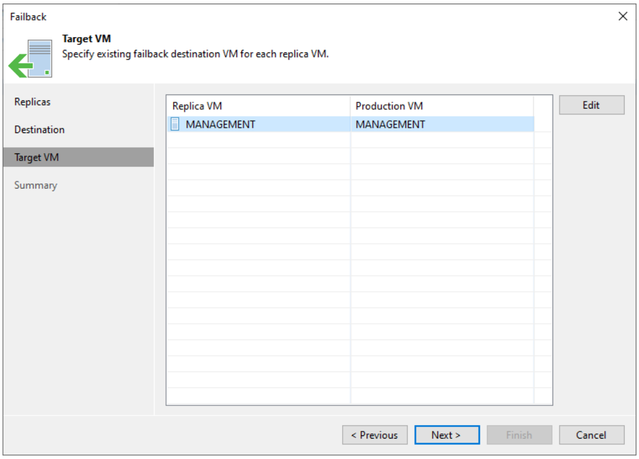
○ **Failback to the original VM**
Use if your production site is restored without any infrastructure changes, and the original VM is still present at the same location. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

● **Failback to the original VM restored in a different location**
Use if you have restored the original VM from backup to a location that is different from original. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

○ **Failback to the specified location (advanced)**
Use if you do not have original VM remains available anywhere in the failback destination site. Actual state of entire replica's virtual disks will be transferred to the destination site, resulting in significant network traffic.

☐ Quick rollback (sync changed blocks only)
Accelerates failback from failovers triggered by a software problem or a user error. Do not use this option if the disaster was caused by a hardware or storage issue, or by a power loss.

11. On the Target VM page, select the replica VM and click Edit.

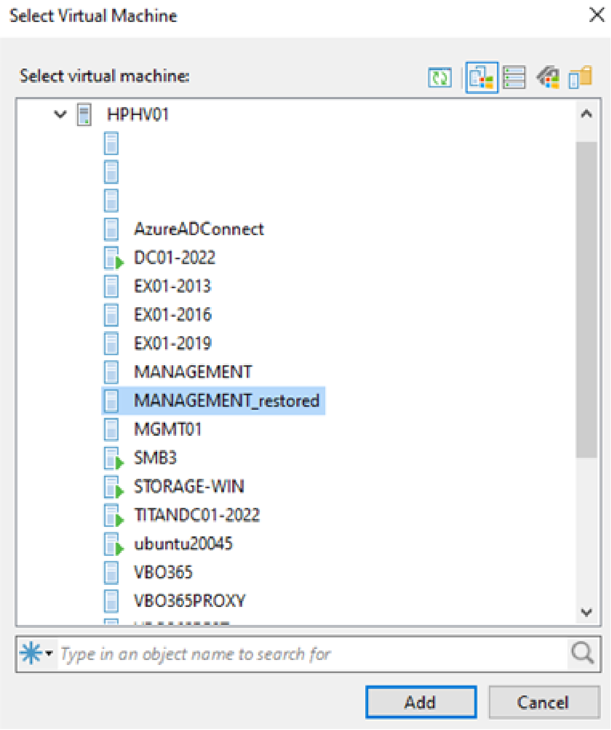

Failback
Replicas
Destination
Target VM
Summary
Edit
< Previous
Next >
Finish
Cancel

Target VM

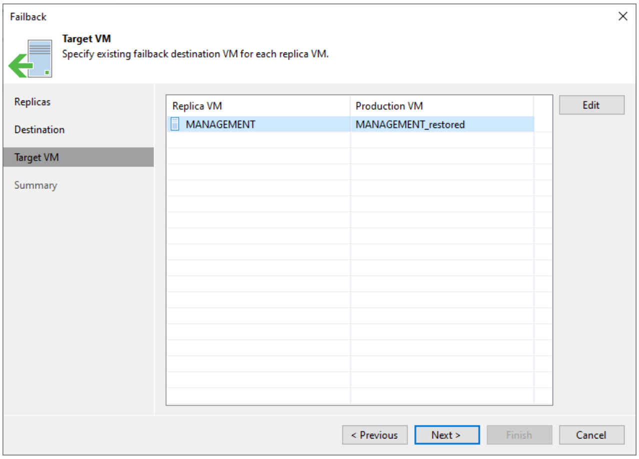
Specify existing failback destination VM for each replica VM.

Replica VM	Production VM
MANAGEMENT	MANAGEMENT

12. On the Select Virtual Machine page, select the recovered VM and click Add.


Select Virtual Machine
Select virtual machine:
HPHV01
AzureADConnect
DC01-2022
EX01-2013
EX01-2016
EX01-2019
MANAGEMENT
MANAGEMENT_restored
MGMT01
SMB3
STORAGE-WIN
TITANDC01-2022
ubuntu20045
VBO365
VBO365PROXY
Type in an object name to search for
Add
Cancel

13. On the Target VM page, click Next.

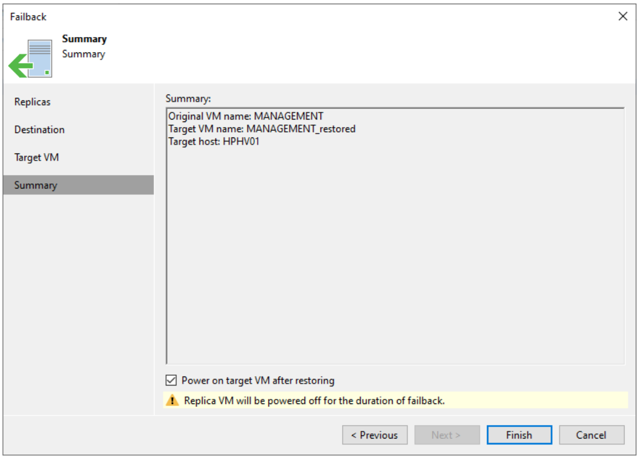

Failback
Replicas
Destination
Target VM
Summary
Edit
< Previous
Next >
Finish
Cancel

Target VM

Specify existing failback destination VM for each replica VM.

Replica VM	Production VM
MANAGEMENT	MANAGEMENT_restored

14. Select Power on the target VM after restoring and click Finish on the Summary page.

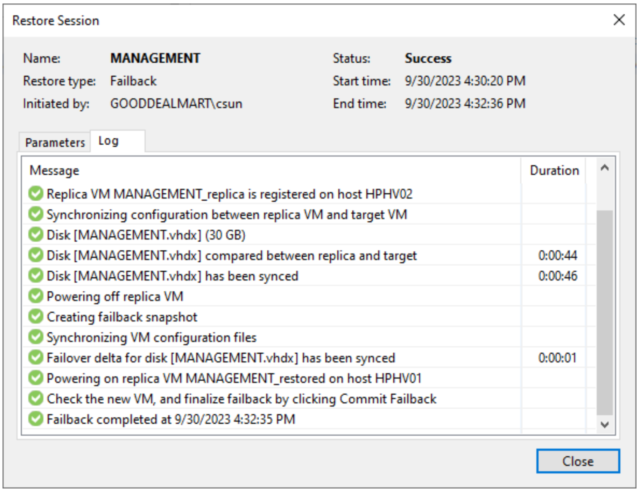


Summary:
Original VM name: MANAGEMENT
Target VM name: MANAGEMENT_restored
Target host: HPHV01

☑ Power on target VM after restoring

⚠ Replica VM will be powered off for the duration of failback.

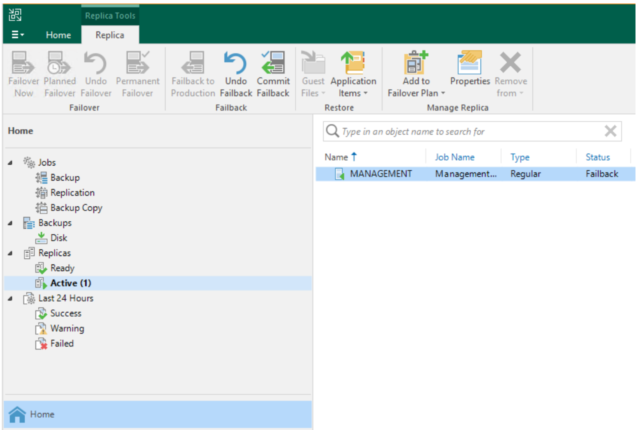
15. On the Restore Session page, select Log.
16. Ensure the failback is completed successfully and click Closed.



Name: **MANAGEMENT**
Restore type: Failback
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 9/30/2023 4:30:20 PM
End time: 9/30/2023 4:32:36 PM

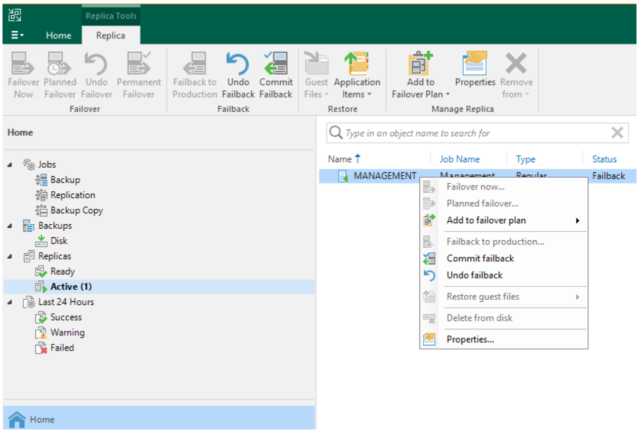
Message	Duration
✓ Replica VM MANAGEMENT_replica is registered on host HPHV02	
✓ Synchronizing configuration between replica VM and target VM	
✓ Disk [MANAGEMENT.vhdx] (30 GB)	
✓ Disk [MANAGEMENT.vhdx] compared between replica and target	0:00:44
✓ Disk [MANAGEMENT.vhdx] has been synced	0:00:46
✓ Powering off replica VM	
✓ Creating failback snapshot	
✓ Synchronizing VM configuration files	
✓ Failover delta for disk [MANAGEMENT.vhdx] has been synced	0:00:01
✓ Powering on replica VM MANAGEMENT_restored on host HPHV01	
✓ Check the new VM, and finalize failback by clicking Commit Failback	
✓ Failback completed at 9/30/2023 4:32:35 PM	

17. On the Home page, expend Replicas and select Active.
18. The VM status changed from Failover to Failback.

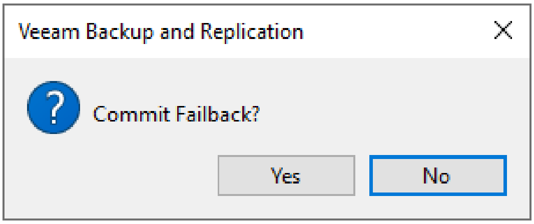

Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Type in an object name to search for
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Warning
Failed
Home

Name	Job Name	Type	Status
MANAGEMENT	Management...	Regular	Failback

19. Right-click the VM and select Commit failback.

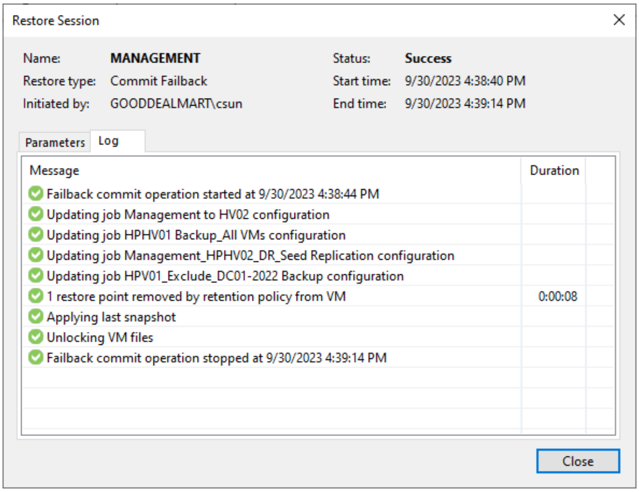

Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Type in an object name to search for
Name
Job Name
Type
Status
MANAGEMENT
Management
Regular
Failback
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Warning
Failed
Home
Failover now...
Planned failover...
Add to failover plan
Failback to production...
Commit failback
Undo failback
Restore guest files
Delete from disk
Properties...

20. Click Yes in the Commit Failback display windows.


Veeam Backup and Replication

Commit Failback?

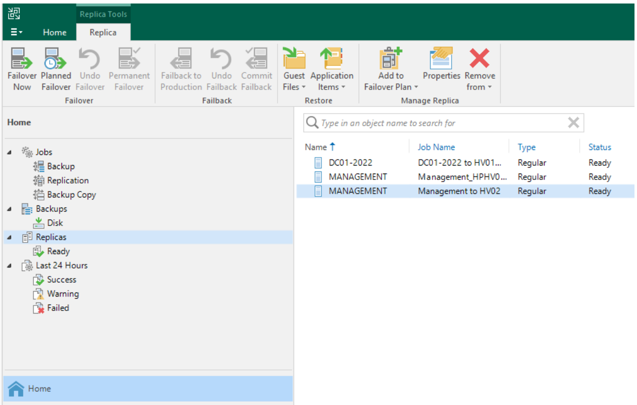
21. On the Restore Session page, select the log.
22. Veeam Backup & Replication will synchronize the recovered VMs' states with the current states of the VM replicas to apply any changes that occurred to the replicas while they were running in the DR site.
23. Ensure the Commit Failback is completed successfully and click Closed.


Restore Session
Parameters
Log
Close

Name: **MANAGEMENT**
Restore type: Commit Failback
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 9/30/2023 4:38:40 PM
End time: 9/30/2023 4:39:14 PM

Message	Duration
✓ Failback commit operation started at 9/30/2023 4:38:44 PM	
✓ Updating job Management to HV02 configuration	
✓ Updating job HPHV01 Backup_All VMs configuration	
✓ Updating job Management_HPHV02_DR_Seed Replication configuration	
✓ Updating job HPV01_Exclude_DC01-2022 Backup configuration	
✓ 1 restore point removed by retention policy from VM	0:00:08
✓ Applying last snapshot	
✓ Unlocking VM files	
✓ Failback commit operation stopped at 9/30/2023 4:39:14 PM	

24. Expand Replicas and the virtual machine on the Home page back to regular type and Ready status.

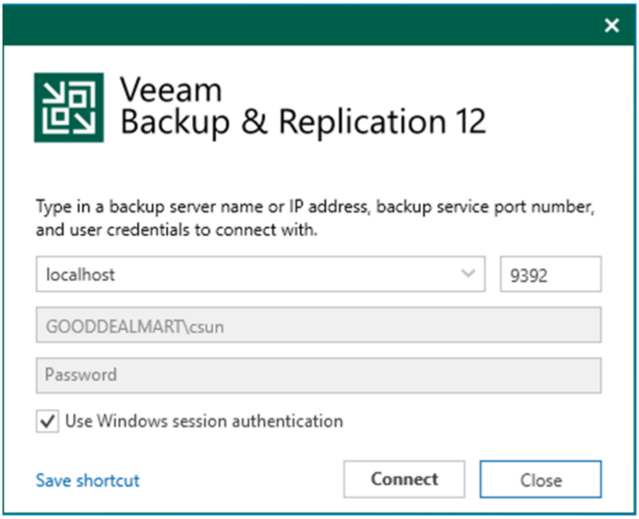

Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Warning
Failed
Home
Type in an object name to search for

Name ↑	Job Name	Type	Status
DC01-2022	DC01-2022 to HV01...	Regular	Ready
MANAGEMENT	Management_HPHV0...	Regular	Ready
MANAGEMENT	Management to HV02	Regular	Ready

Failback to the specified location of the Production Site

Veeam Backup & Replication must transfer all of the VM data, including its configuration and virtual disc content, for the failback to the specified location. Choose this option if you cannot use the original VM or restore it from a backup.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.


Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

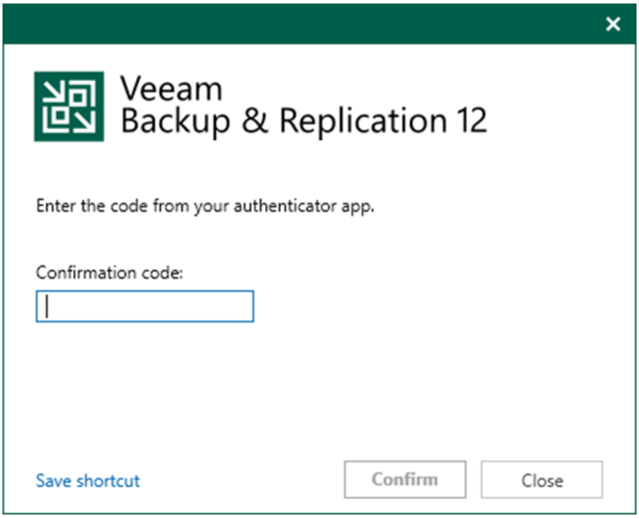
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

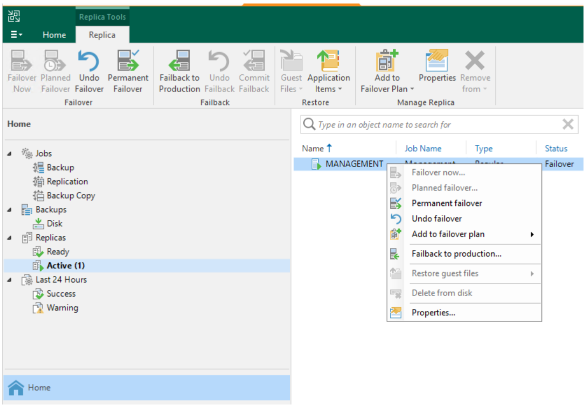
3. Enter the MFA Confirmation code and click Confirm.


Veeam
Backup & Replication 12
Save shortcut
Confirm
Close

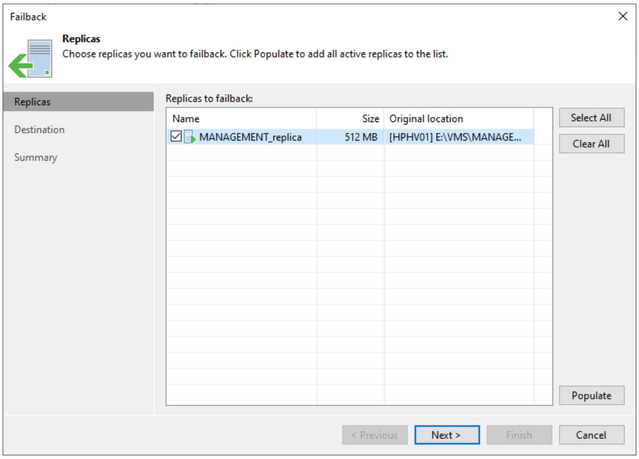
Enter the code from your authenticator app.

Confirmation code:

4. On the Home page, expand Replicas and select Active.
5. Right-click the virtual machine and select Failback to production.


Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Warning
Home
Type in an object name to search for
Name
Job Name
Type
Status
MANAGEMENT
Failover
Failover now...
Planned failover...
Permanent failover
Undo failover
Add to failover plan
Failback to production...
Restore guest files
Delete from disk
Properties...

6. Click Populate on the Virtual Machine page to update the replicas ready for the failback list.
7. Select the replicas and click Next.


Failback
Replicas
Destination
Summary
Select All
Clear All
Populate
< Previous
Next >
Finish
Cancel

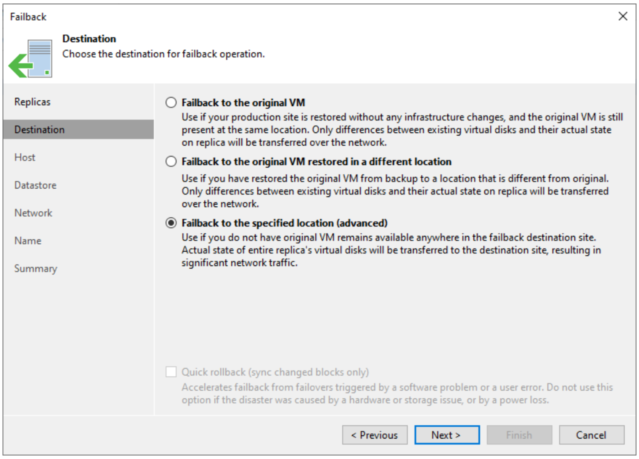
Replicas

Choose replicas you want to failback. Click Populate to add all active replicas to the list.

Replicas to failback:

Name	Size	Original location
☑ MANAGEMENT_replica	512 MB	[HPHV01] E:\VMS\MANAGE...

8. Select Failback to the specified location (advanced) on the Destination page.
9. Click Next.


Failback
Replicas
Destination
Host
Datastore
Network
Name
Summary
< Previous
Next >
Finish
Cancel

Destination

Choose the destination for failback operation.

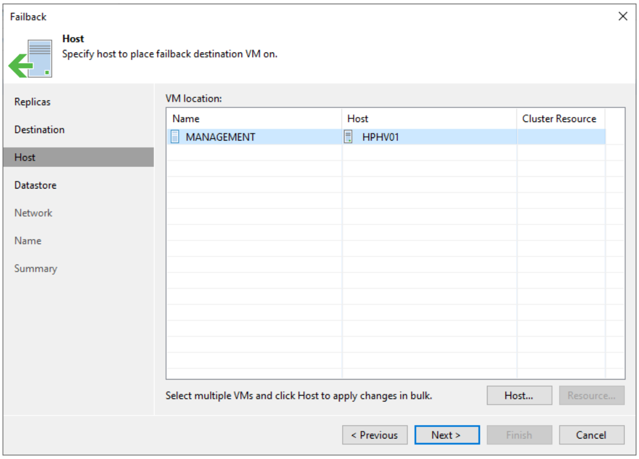
○ **Failback to the original VM**
Use if your production site is restored without any infrastructure changes, and the original VM is still present at the same location. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

○ **Failback to the original VM restored in a different location**
Use if you have restored the original VM from backup to a location that is different from original. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

● **Failback to the specified location (advanced)**
Use if you do not have original VM remains available anywhere in the failback destination site. Actual state of entire replica's virtual disks will be transferred to the destination site, resulting in significant network traffic.

☐ Quick rollback (sync changed blocks only)
Accelerates failback from failovers triggered by a software problem or a user error. Do not use this option if the disaster was caused by a hardware or storage issue, or by a power loss.

10. On the Host page, Select the VM and click Host.


Failback

Host

Specify host to place failback destination VM on.

Replicas
Destination
Host
Datastore
Network
Name
Summary

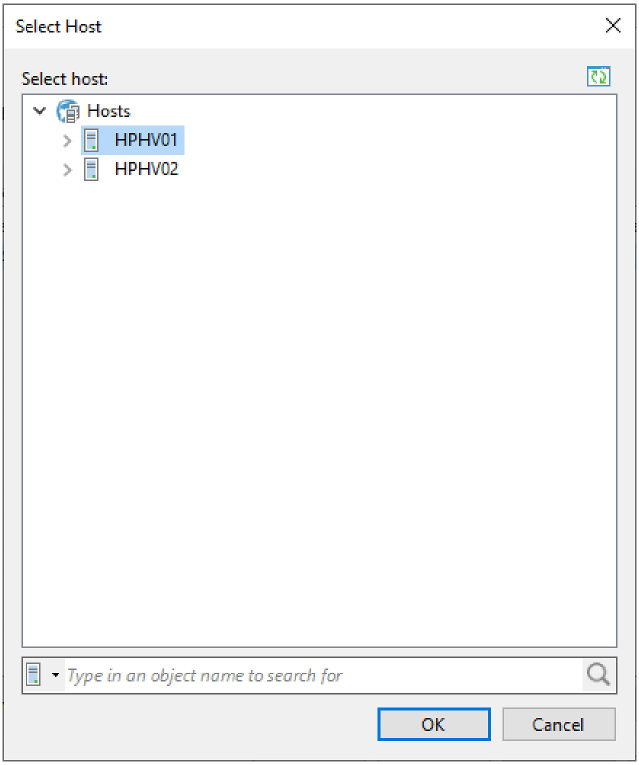
VM location:

Name	Host	Cluster Resource
MANAGEMENT	HPHV01	

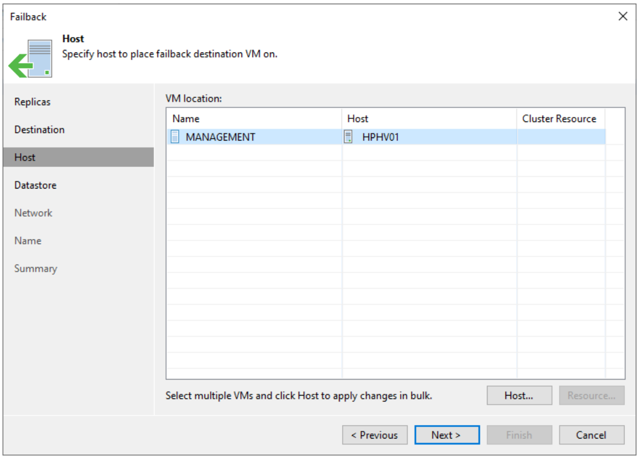
Select multiple VMs and click Host to apply changes in bulk.

Host...
Resource...
< Previous
Next >
Finish
Cancel

11. Select the failback destination host on the Select Host page and click OK.


Select Host
Select host:
Hosts
HPHV01
HPHV02
Type in an object name to search for
OK
Cancel

12. Click Next on the Host page.


Failback
Replicas
Destination
Host
Datastore
Network
Name
Summary
Host...
Resource...
< Previous
Next >
Finish
Cancel

Host

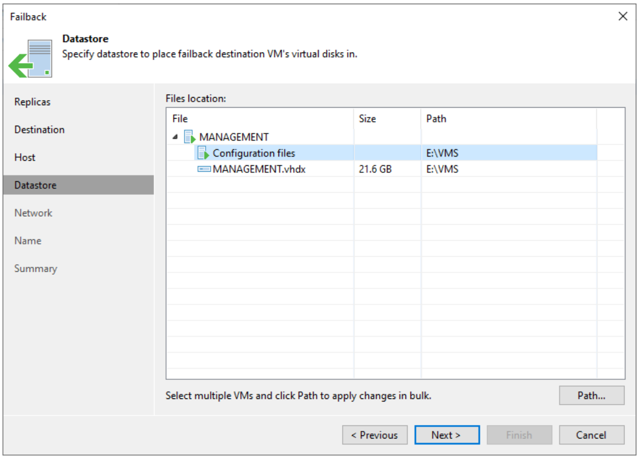
Specify host to place failback destination VM on.

VM location:

Name	Host	Cluster Resource
MANAGEMENT	HPHV01	

Select multiple VMs and click Host to apply changes in bulk.

13. On the Datastore page, select Configuration files and click Path.


Failback
Replicas
Destination
Host
Datastore
Network
Name
Summary
Path...
< Previous
Next >
Finish
Cancel

Datastore

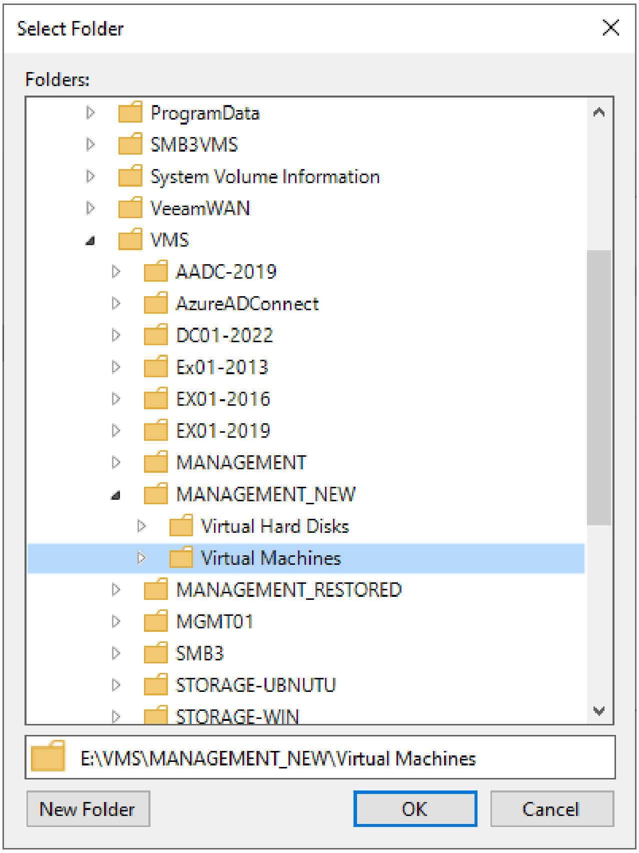
Specify datastore to place failback destination VM's virtual disks in.

Files location:

File	Size	Path
MANAGEMENT		
Configuration files		E:\VMS
MANAGEMENT.vhdx	21.6 GB	E:\VMS

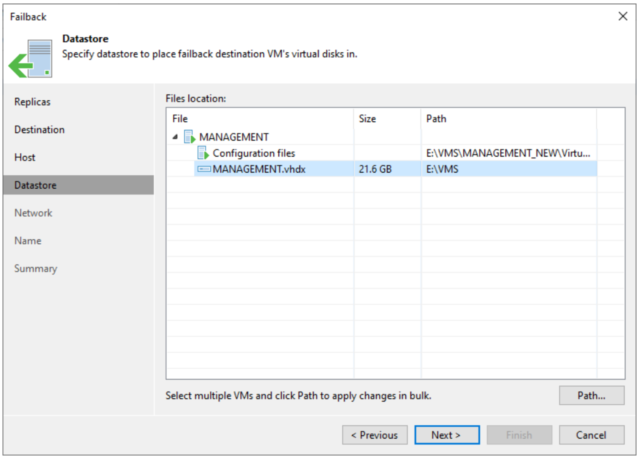
Select multiple VMs and click Path to apply changes in bulk.

14. Expand and select the failback destination folder for configuration files on the Select Folder page.
15. Click OK.


Select Folder
Folders:
ProgramData
SMB3VMS
System Volume Information
VeeamWAN
VMS
AADC-2019
AzureADConnect
DC01-2022
Ex01-2013
EX01-2016
EX01-2019
MANAGEMENT
MANAGEMENT_NEW
Virtual Hard Disks
Virtual Machines
MANAGEMENT_RESTORED
MGMT01
SMB3
STORAGE-UBNUTU
STORAGE-WIN
New Folder
OK
Cancel

E:\VMS\MANAGEMENT_NEW\Virtual Machines

16. On the Datastore page, select the vhdx file and click Path.


Failback
Replicas
Destination
Host
Datastore
Network
Name
Summary
Path...
< Previous
Next >
Finish
Cancel

Datastore

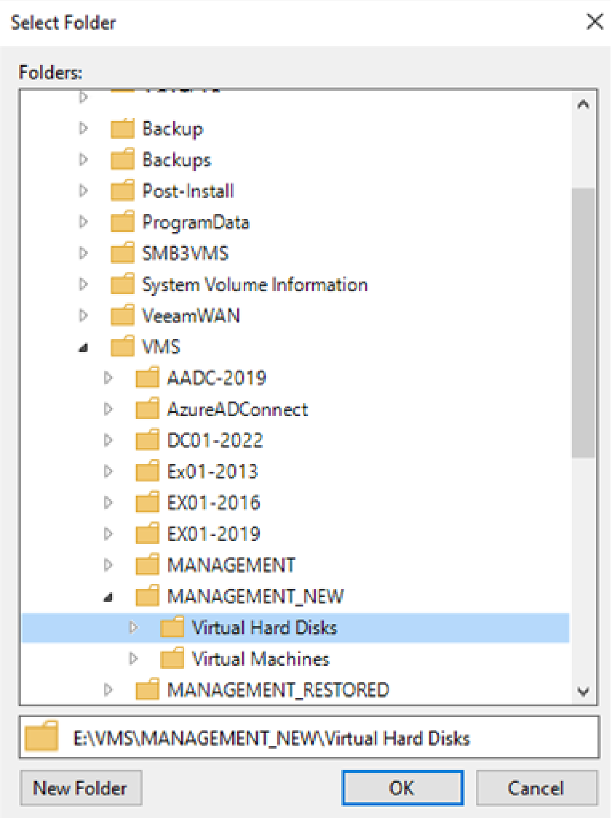
Specify datastore to place failback destination VM's virtual disks in.

Files location:

File	Size	Path
MANAGEMENT		
Configuration files		E:\VMS\MANAGEMENT_NEW\Virtu...
MANAGEMENT.vhdx	21.6 GB	E:\VMS

Select multiple VMs and click Path to apply changes in bulk.

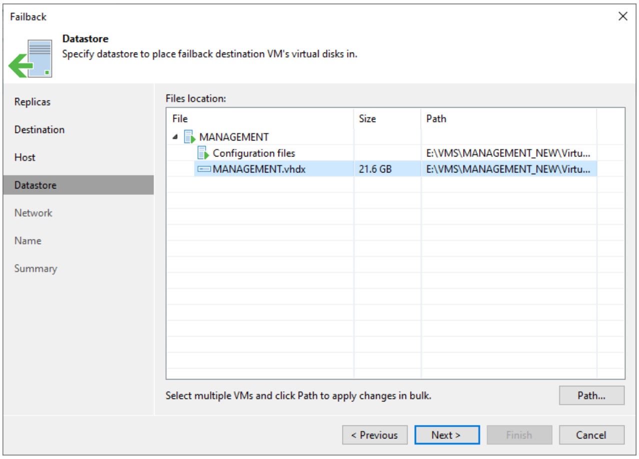
17. Expand and select the failback destination folder for vhdx files on the Select Folder page.
18. Click OK.



Select Folder
Folders:
Backup
Backups
Post-Install
ProgramData
SMB3VMS
System Volume Information
VeeamWAN
VMS
AADC-2019
AzureADConnect
DC01-2022
Ex01-2013
EX01-2016
EX01-2019
MANAGEMENT
MANAGEMENT_NEW
Virtual Hard Disks
Virtual Machines
MANAGEMENT_RESTORED
New Folder
OK
Cancel

E:\VMS\MANAGEMENT_NEW\Virtual Hard Disks

19. Click Next on the Datastore page.


Failback
Replicas
Destination
Host
Datastore
Network
Name
Summary
Path...
< Previous
Next >
Finish
Cancel

Datastore

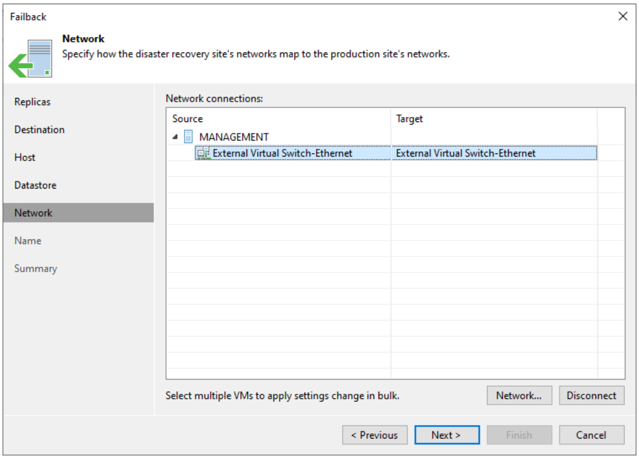
Specify datastore to place failback destination VM's virtual disks in.

Files location:

File	Size	Path
MANAGEMENT		
Configuration files		E:\VMS\MANAGEMENT_NEW\Virtu...
MANAGEMENT.vhdx	21.6 GB	E:\VMS\MANAGEMENT_NEW\Virtu...

Select multiple VMs and click Path to apply changes in bulk.

20. On the Network page, select the Network connections of VM and click Network.


Failback
Replicas
Destination
Host
Datastore
Network
Name
Summary
Network...
Disconnect
< Previous
Next >
Finish
Cancel

Network

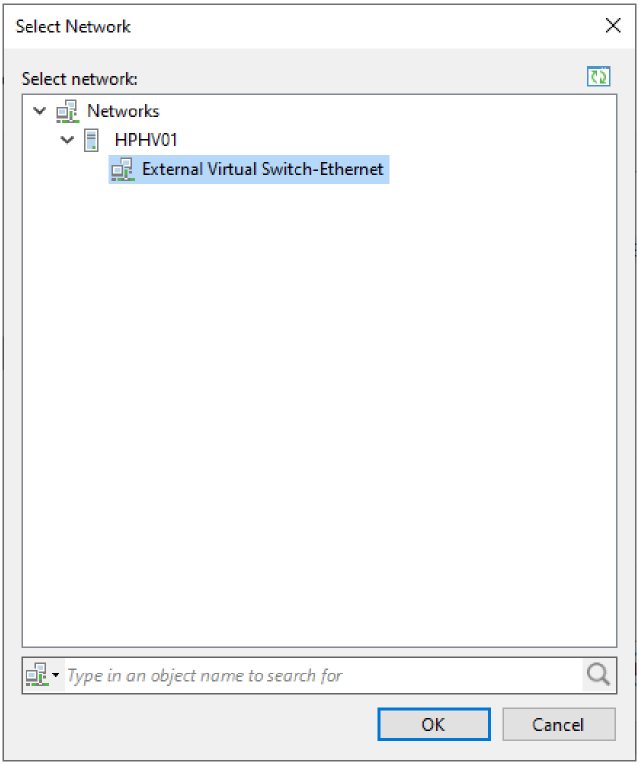
Specify how the disaster recovery site's networks map to the production site's networks.

Network connections:

Source	Target
MANAGEMENT	
External Virtual Switch-Ethernet	External Virtual Switch-Ethernet

Select multiple VMs to apply settings change in bulk.

21. Expand and select the failback destination for Network connections on the Select Network page.
22. Click OK.



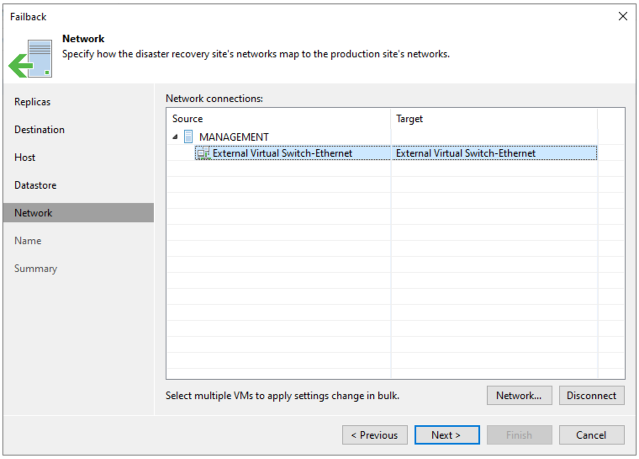
Select Network

Select network:

- Networks
  - HPHV01
    - External Virtual Switch-Ethernet

Type in an object name to search for
OK
Cancel

23. Click Next on the Network page.



Failback

Network
Specify how the disaster recovery site's networks map to the production site's networks.

Replicas
Destination
Host
Datastore
Network
Name
Summary

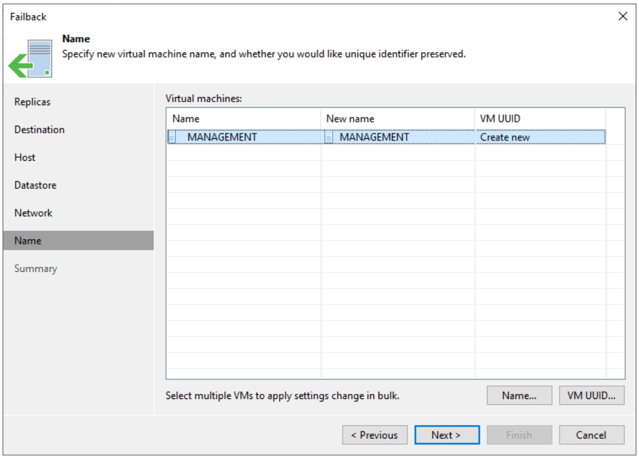
Network connections:

Source	Target
MANAGEMENT	
External Virtual Switch-Ethernet	External Virtual Switch-Ethernet

Select multiple VMs to apply settings change in bulk.

Network...
Disconnect
< Previous
Next >
Finish
Cancel

24. On the Name page, select the virtual machine and click Name.


Failback
Replicas
Destination
Host
Datastore
Network
Name
Summary
Name...
VM UUID...
< Previous
Next >
Finish
Cancel

Name

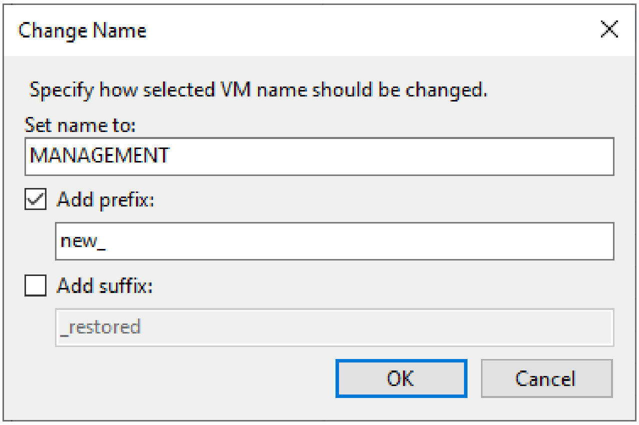
Specify new virtual machine name, and whether you would like unique identifier preserved.

Virtual machines:

Name	New name	VM UUID
MANAGEMENT	MANAGEMENT	Create new

Select multiple VMs to apply settings change in bulk.

25. On the Change Name page, select the Add prefix checkbox and click OK.


Change Name
OK
Cancel

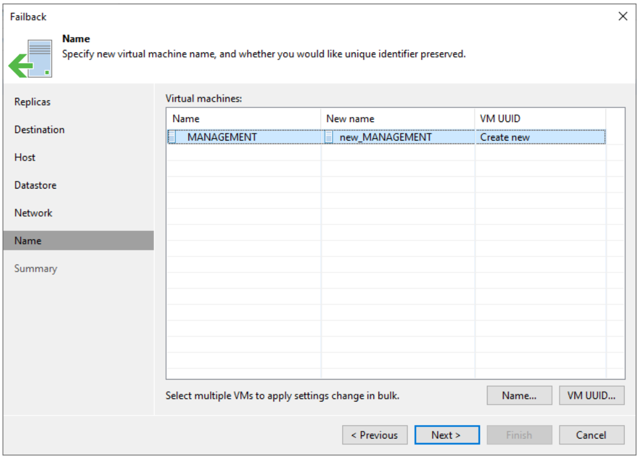
Specify how selected VM name should be changed.

Set name to: MANAGEMENT

☑ Add prefix: new_

☐ Add suffix: _restored

26. Click VM UUID on the Name page.


Failback
Replicas
Destination
Host
Datastore
Network
Name
Summary
Name...
VM UUID...
< Previous
Next >
Finish
Cancel

Name

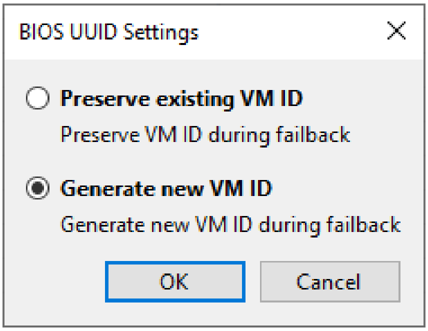
Specify new virtual machine name, and whether you would like unique identifier preserved.

Virtual machines:

Name	New name	VM UUID
MANAGEMENT	new_MANAGEMENT	Create new

Select multiple VMs to apply settings change in bulk.

27. On the BIOS UUID Settings page, select Generate new VM ID and click OK.


BIOS UUID Settings
OK
Cancel

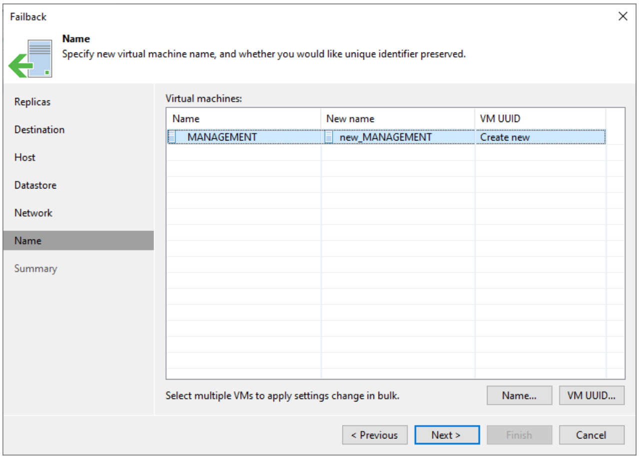
○ **Preserve existing VM ID**

Preserve VM ID during failback

● **Generate new VM ID**

Generate new VM ID during failback

28. Click Next on the Name page.


Failback
Replicas
Destination
Host
Datastore
Network
Name
Summary
Name...
VM UUID...
< Previous
Next >
Finish
Cancel

Name

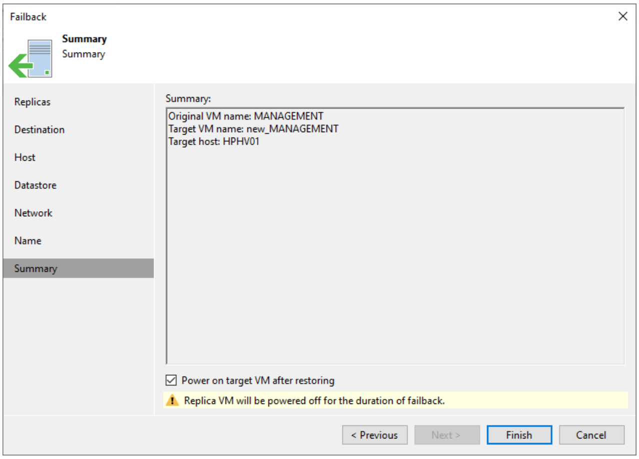
Specify new virtual machine name, and whether you would like unique identifier preserved.

Virtual machines:

Name	New name	VM UUID
MANAGEMENT	new_MANAGEMENT	Create new

Select multiple VMs to apply settings change in bulk.

29. Select Power on the target VM after restoring and click Finish on the Summary page.


Failback
Replicas
Destination
Host
Datastore
Network
Name
Summary
< Previous
Next >
Finish
Cancel

Summary

Summary

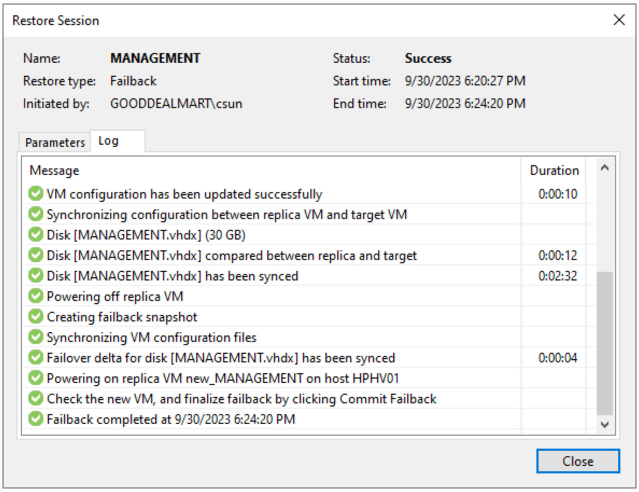
Summary:

Original VM name: MANAGEMENT
Target VM name: new_MANAGEMENT
Target host: HPHV01

☑ Power on target VM after restoring

⚠ Replica VM will be powered off for the duration of failback.

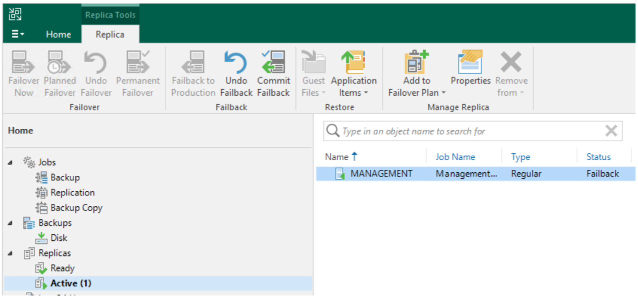
30. On the Restore Session page, select Log.
31. Ensure the failback is completed successfully and click Closed.


Restore Session
Parameters
Log
Close

Name: **MANAGEMENT**
Restore type: Failback
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 9/30/2023 6:20:27 PM
End time: 9/30/2023 6:24:20 PM

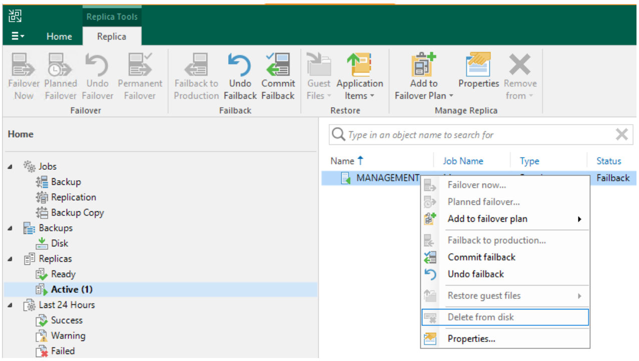
Message	Duration
✓ VM configuration has been updated successfully	0:00:10
✓ Synchronizing configuration between replica VM and target VM	
✓ Disk [MANAGEMENT.vhdx] (30 GB)	
✓ Disk [MANAGEMENT.vhdx] compared between replica and target	0:00:12
✓ Disk [MANAGEMENT.vhdx] has been synced	0:02:32
✓ Powering off replica VM	
✓ Creating failback snapshot	
✓ Synchronizing VM configuration files	
✓ Failover delta for disk [MANAGEMENT.vhdx] has been synced	0:00:04
✓ Powering on replica VM new_MANAGEMENT on host HPHV01	
✓ Check the new VM, and finalize failback by clicking Commit Failback	
✓ Failback completed at 9/30/2023 6:24:20 PM	

32. On the Home page, expend Replicas and select Active.
33. The VM status changed from Failover to Failback.

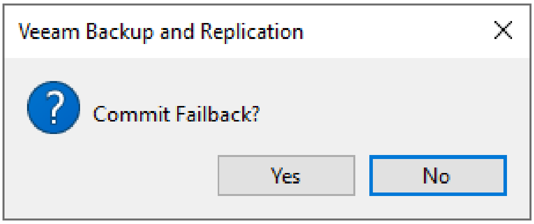

Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Type in an object name to search for

Name	Job Name	Type	Status
MANAGEMENT	Management...	Regular	Failback

34. Right-click the VM and select Commit failback.


Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Type in an object name to search for
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Warning
Failed
Name
Job Name
Type
Status
MANAGEMENT
Failback
Failover now...
Planned failover...
Add to failover plan
Failback to production...
Commit failback
Undo failback
Restore guest files
Delete from disk
Properties...

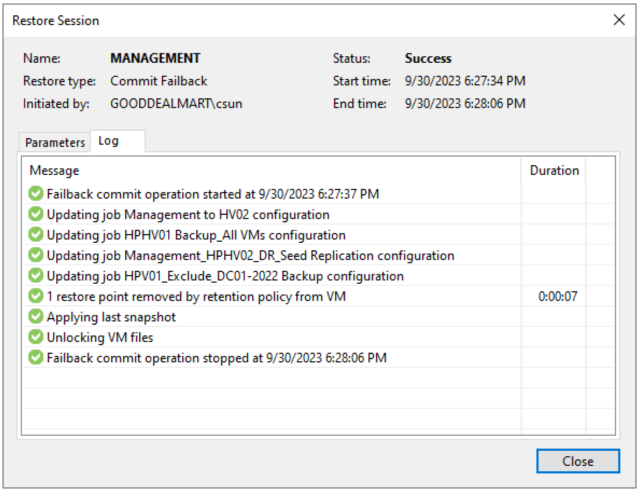
35. Click Yes in the Commit Failback display windows.



Veeam Backup and Replication

Commit Failback?

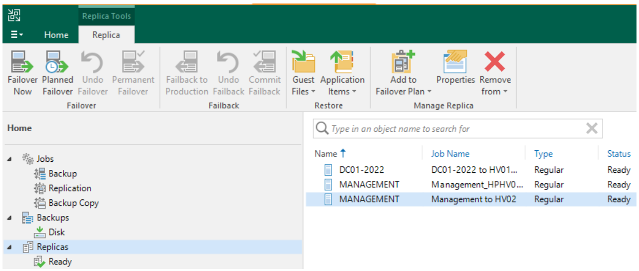
36. On the Restore Session page, select Log.
37. Veeam Backup & Replication will synchronize the recovered VMs’ states with the current states of the VM replicas to apply any changes that occurred to the replicas while they were running in the DR site.
38. Ensure the undo failover is completed successfully and click Closed.


Restore Session
Parameters
Log
Close

Name: **MANAGEMENT**
Restore type: Commit Failback
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 9/30/2023 6:27:34 PM
End time: 9/30/2023 6:28:06 PM

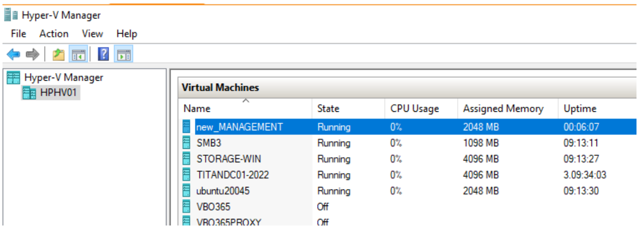
Message	Duration
Failback commit operation started at 9/30/2023 6:27:37 PM	
Updating job Management to HV02 configuration	
Updating job HPHV01 Backup_All VMs configuration	
Updating job Management_HPHV02_DR_Seed Replication configuration	
Updating job HPV01_Exclude_DC01-2022 Backup configuration	
1 restore point removed by retention policy from VM	0:00:07
Applying last snapshot	
Unlocking VM files	
Failback commit operation stopped at 9/30/2023 6:28:06 PM	

39. On the Home page, select Replicas.
40. The virtual machine back to regular type and Ready status.


Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failover
Failback to Production
Undo Failback
Commit Failback
Failback
Guest Files
Application Items
Restore
Add to Failover Plan
Properties
Remove from
Manage Replica
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Type in an object name to search for

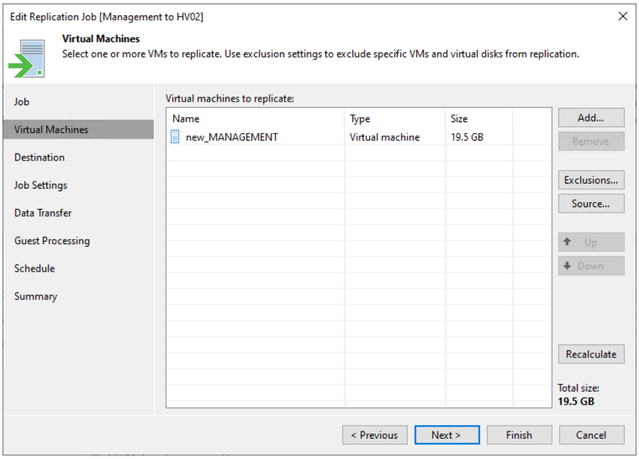
Name	Job Name	Type	Status
DC01-2022	DC01-2022 to HV01...	Regular	Ready
MANAGEMENT	Management_HPHV0...	Regular	Ready
MANAGEMENT	Management to HV02	Regular	Ready

41. The new_MANAGEMENT is running at the HPHV01 host.


Hyper-V Manager
File
Action
View
Help
Hyper-V Manager
HPHV01
Virtual Machines

Name	State	CPU Usage	Assigned Memory	Uptime
new_MANAGEMENT	Running	0%	2048 MB	00:06:07
SMB3	Running	0%	1098 MB	09:13:11
STORAGE-WIN	Running	0%	4096 MB	09:13:27
TITANDC01-2022	Running	0%	4096 MB	3.09:34:03
ubuntu20045	Running	0%	2048 MB	09:13:30
VBO365	Off			
VBO365PROXY	Off			

42. Review the Virtual Machines' settings of replication jobs and ensure the Virtual machines replicate the change to the new VM.



Edit Replication Job [Management to HV02]

Virtual Machines

Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

Name	Type	Size
new_MANAGEMENT	Virtual machine	19.5 GB

Total size:
19.5 GB

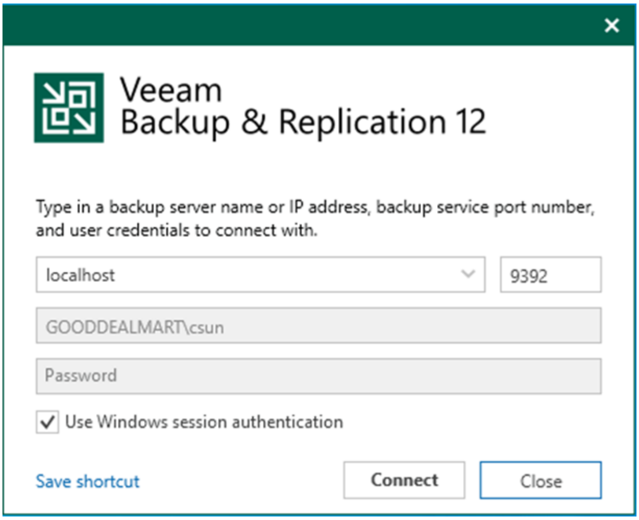
Job
Virtual Machines
Destination
Job Settings
Data Transfer
Guest Processing
Schedule
Summary
Add...
Remove
Exclusions...
Source...
Up
Down
Recalculate
< Previous
Next >
Finish
Cancel

Permanent Failover of the Virtual Machine

Permanent failover is one method of completing failover. Permanent failover means permanently switching from the original VM to its replica.

The VM replica ceases to be a replica due to permanent failover and becomes the production VM.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.



Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost 9392

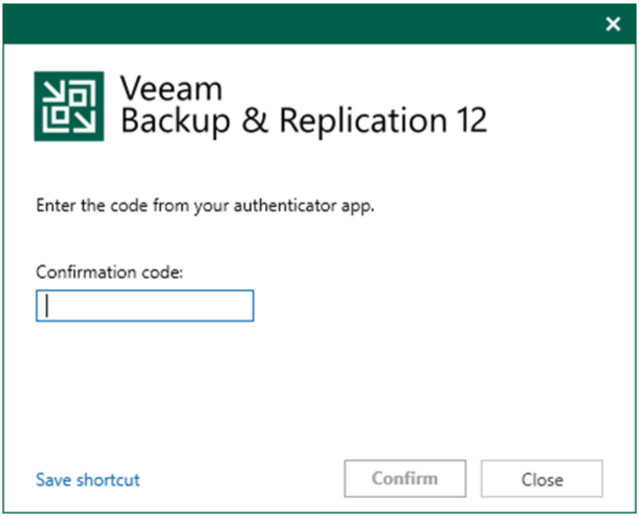
GOODDEALMART\csun

Password

☑ Use Windows session authentication

Save shortcut
Connect
Close

3. Enter the MFA Confirmation code and click Confirm.



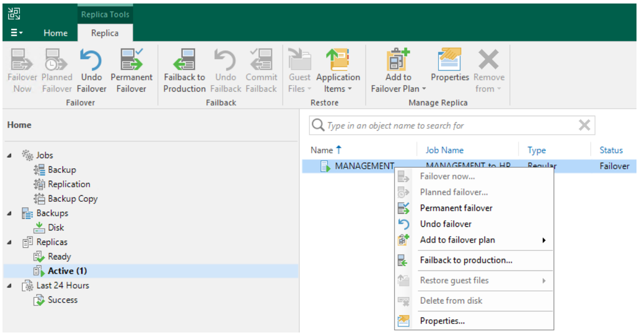
Veeam
Backup & Replication 12

Enter the code from your authenticator app.

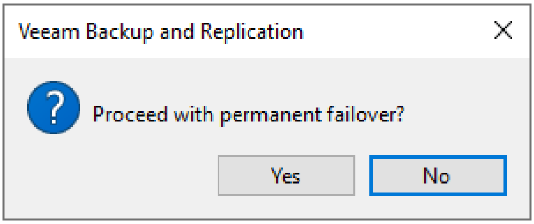
Confirmation code:

Save shortcut
Confirm
Close

4. On the Home page, expand Replicas. Select the Active.
5. Right-click the virtual machine and select the Permanent failover.

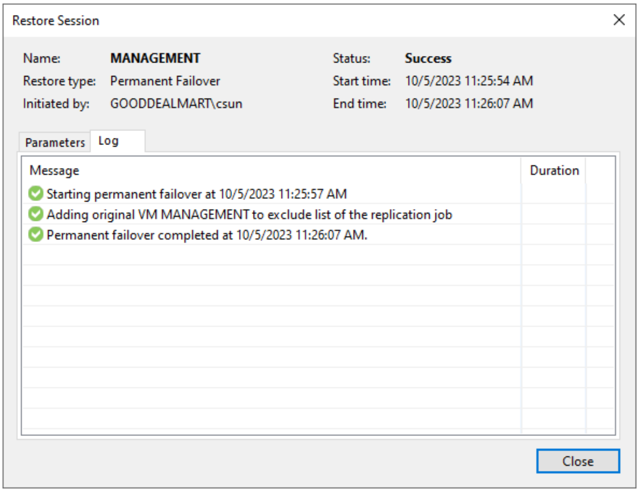

Replica Tools
Home
Replica
Failover Now
Planned Failover
Undo Failover
Permanent Failover
Failback to Production
Undo Failback
Commit Failback
Guest Files
Application Items
Add to Failover Plan
Properties
Remove from
Failover
Failback
Restore
Manage Replica
Home
Type in an object name to search for
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Active (1)
Last 24 Hours
Success
Name
Job Name
Type
Status
MANAGEMENT
MANAGEMENT to HR
Regular
Failover
Failover now...
Planned failover...
Permanent failover
Undo failover
Add to failover plan
Failback to production...
Restore guest files
Delete from disk
Properties...

6. Click Yes in the Process with the permanent failover display window.


Veeam Backup and Replication

Proceed with permanent failover?

7. On the Restore Session page, select Log.
8. Ensure the permanent failover is completed successfully and click Closed.
9. Delete the existing replication job and create a new one for the VM.



Name: **MANAGEMENT**
Restore type: Permanent Failover
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 10/5/2023 11:25:54 AM
End time: 10/5/2023 11:26:07 AM

Message	Duration
✓ Starting permanent failover at 10/5/2023 11:25:57 AM	
✓ Adding original VM MANAGEMENT to exclude list of the replication job	
✓ Permanent failover completed at 10/5/2023 11:26:07 AM.	

Chapter 3: Data Restore

Veeam Backup & Replication supports the following recovery methods:

- VM recovery entails restoring entire virtual machines (VMs) to various data protection environments, such as VMware vSphere, Hyper-V, Amazon EC2, etc.
- Disk export enables you to convert discs from various workloads (EC2 instances, Microsoft Azure VMs, and so on) to VMDK, VHD, or VHDX formats.
- Recovery of VM files, guest OS files and folders, and application items.
- Veeam Data Integration API —- to retrieve backup content via iSCSI or FUSE and analyze data stored in this backup.
- Secure restore entails scanning data with antivirus software before restoring it to production.

Note:

Backward compatibility is provided by Veeam Backup & Replication: backups created with previous product versions can be restored with later product versions. Backups created with later product versions, on the other hand, cannot be restored with previous product versions.

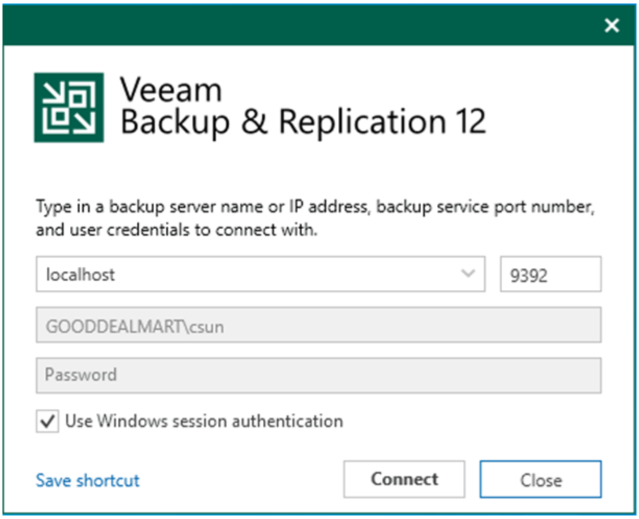
Secure Restore the Entire VM to the Original Location

If the original VM fails, you can use Veeam Backup & Replication to restore an entire VM from a backup file to the most recent state or a previous point.

Before the entire VM restore can occur, the VM image must be fully extracted to the production storage. Veeam Backup & Replication copies the VM data from the backup repository to the chosen storage, registers the VM on the desired Hyper-V host, and, if necessary, powers it on.

Veeam Backup & Replication supports secure restore, which involves scanning machine data with antivirus software before restoring the computer to the production environment.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.



Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

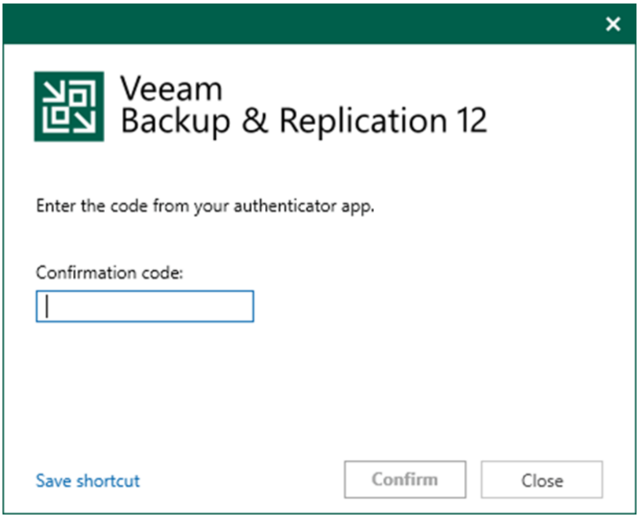
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

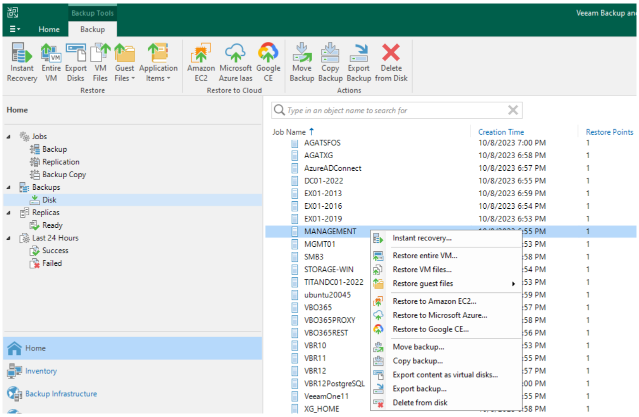
3. Enter the MFA Confirmation code and click Confirm.


Veeam
Backup & Replication 12
Save shortcut
Confirm
Close

Enter the code from your authenticator app.

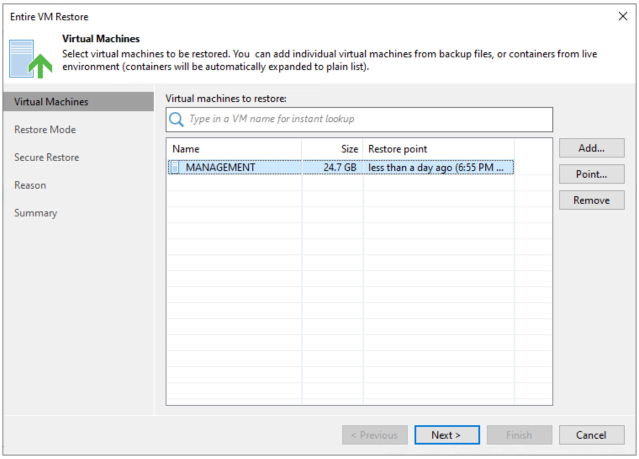
Confirmation code:

4. On the Home page, expand Backups. Select the Disk.
5. Expand the backup job name, right-click the virtual machine, and select Restore the entire VM.


Backup Tools
Veeam Backup an
Home
Backup
Instant Recovery
Entire VM
Export Disks
VM Files
Guest Files
Application Items
Restore
Amazon EC2
Microsoft Azure Iaas
Google CE
Restore to Cloud
Move Backup
Copy Backup
Export Backup
Delete from Disk
Actions
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Failed
Home
Inventory
Backup Infrastructure
Type in an object name to search for
Instant recovery...
Restore entire VM...
Restore VM files...
Restore guest files
Restore to Amazon EC2...
Restore to Microsoft Azure...
Restore to Google CE...
Move backup...
Copy backup...
Export content as virtual disks...
Export backup...
Delete from disk

Job Name	Creation Time	Restore Points
AGATSFOS	10/8/2023 7:00 PM	1
AGATXG	10/8/2023 6:58 PM	1
AzureADConnect	10/8/2023 6:57 PM	1
DC01-2022	10/8/2023 6:55 PM	1
EX01-2013	10/8/2023 6:59 PM	1
EX01-2016	10/8/2023 6:54 PM	1
EX01-2019	10/8/2023 6:53 PM	1
MANAGEMENT	55 PM	1
MGMT01	53 PM	1
SMB3	58 PM	1
STORAGE-WIN	54 PM	1
TITANDC01-2022	53 PM	1
ubuntu20045	59 PM	1
VBO365	57 PM	1
VBO365PROXY	58 PM	1
VBO365REST	56 PM	1
VBR10	53 PM	1
VBR11	55 PM	1
VBR12	57 PM	1
VBR12PostgreSQL	00 PM	1
VeeamOne11	55 PM	1
XG_HOME	58 PM	1

6. Select the virtual machine and click Point on the Virtual Machine page.


Entire VM Restore
Virtual Machines
Restore Mode
Secure Restore
Reason
Summary
Type in a VM name for instant lookup
Add...
Point...
Remove
< Previous
Next >
Finish
Cancel

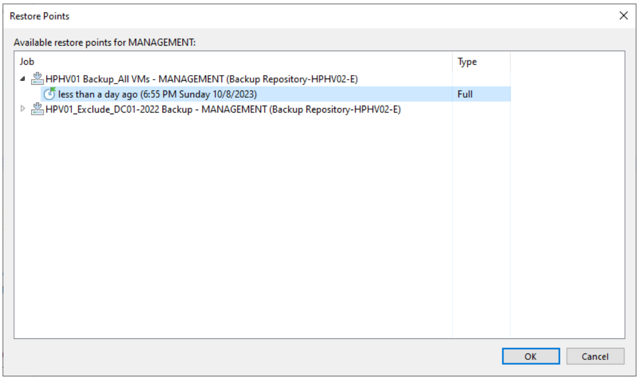
Virtual Machines

Select virtual machines to be restored. You can add individual virtual machines from backup files, or containers from live environment (containers will be automatically expanded to plain list).

Virtual machines to restore:

Name	Size	Restore point
MANAGEMENT	24.7 GB	less than a day ago (6:55 PM ...

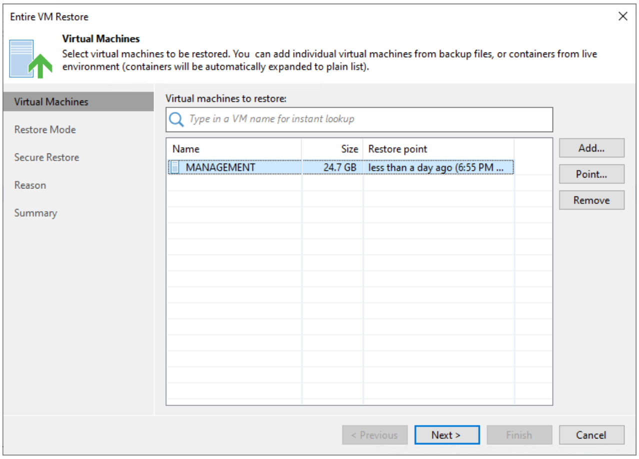
7. Expand the backup job on the Restore Point page, select the restore point, and click OK.


Restore Points
OK
Cancel

Available restore points for MANAGEMENT:

Job	Type
HPHV01 Backup_All VMs - MANAGEMENT (Backup Repository-HPHV02-E)	
less than a day ago (6:55 PM Sunday 10/8/2023)	Full
HPV01_Exclude_DC01-2022 Backup - MANAGEMENT (Backup Repository-HPHV02-E)	

8. On the Virtual Machines page, click Next.


Entire VM Restore

Virtual Machines

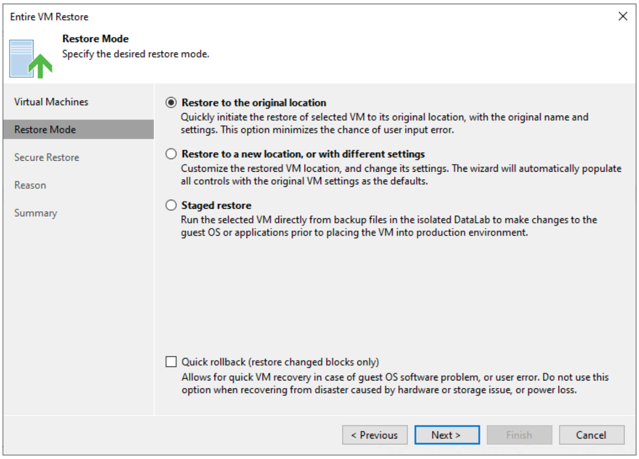
Select virtual machines to be restored. You can add individual virtual machines from backup files, or containers from live environment (containers will be automatically expanded to plain list).

Virtual machines to restore:

Name	Size	Restore point
MANAGEMENT	24.7 GB	less than a day ago (6:55 PM ...

Virtual Machines
Restore Mode
Secure Restore
Reason
Summary
Type in a VM name for instant lookup
Add...
Point...
Remove
< Previous
Next >
Finish
Cancel

9. On the Restore Mode page, select Restore to the original location.
10. Select the Quick rollback (restore changed blocks only) checkbox If you restore a VM following a problem at the VM guest OS level.
11. Click Next.


Entire VM Restore

Restore Mode

Specify the desired restore mode.

● **Restore to the original location**
Quickly initiate the restore of selected VM to its original location, with the original name and settings. This option minimizes the chance of user input error.

○ **Restore to a new location, or with different settings**
Customize the restored VM location, and change its settings. The wizard will automatically populate all controls with the original VM settings as the defaults.

○ **Staged restore**
Run the selected VM directly from backup files in the isolated DataLab to make changes to the guest OS or applications prior to placing the VM into production environment.

☐ Quick rollback (restore changed blocks only)
Allows for quick VM recovery in case of guest OS software problem, or user error. Do not use this option when recovering from disaster caused by hardware or storage issue, or power loss.

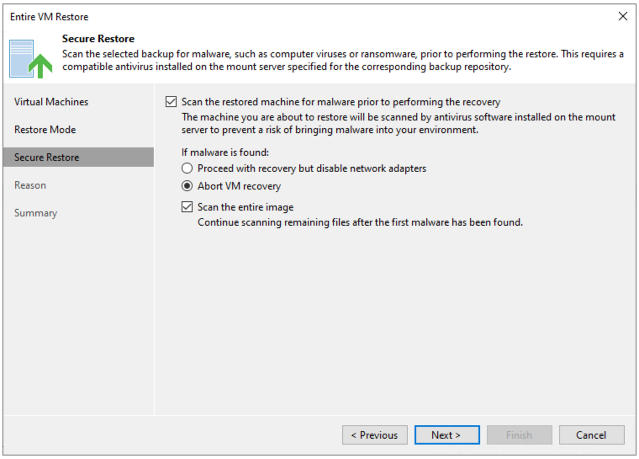
Virtual Machines
Restore Mode
Secure Restore
Reason
Summary
< Previous
Next >
Finish
Cancel

12. Select the Scan the restored machine for malware before performing the recovery checkbox.
13. Select Abort VM recovery if malware is found.
14. Select Scan the entire image checkbox.

15. Click Next.

Note:

- Support Microsoft Windows only.
- The antivirus software must be installed on the mount server and support the command line interface (CLI).
- The antivirus configuration file must be configured on the mount server.
- Veeam Backup & Replication does not perform malware scans for disks or volumes that cannot be mounted to the mount server.



Entire VM Restore

Secure Restore

Scan the selected backup for malware, such as computer viruses or ransomware, prior to performing the restore. This requires a compatible antivirus installed on the mount server specified for the corresponding backup repository.

☑ Scan the restored machine for malware prior to performing the recovery

The machine you are about to restore will be scanned by antivirus software installed on the mount server to prevent a risk of bringing malware into your environment.

If malware is found:

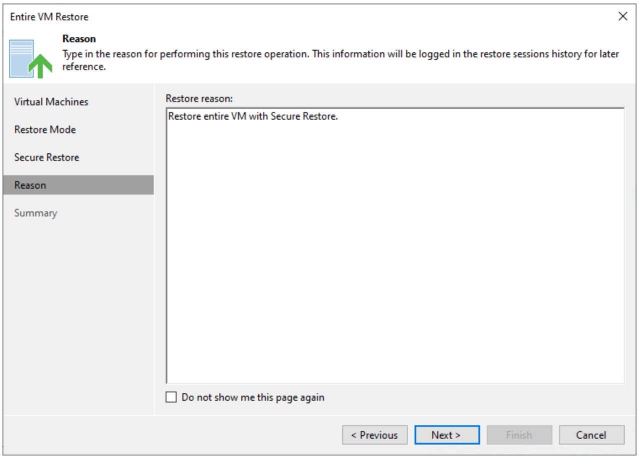
○ Proceed with recovery but disable network adapters

● Abort VM recovery

☑ Scan the entire image

Continue scanning remaining files after the first malware has been found.

16. On the Reason page, enter a reason for restoring the selected VMs.

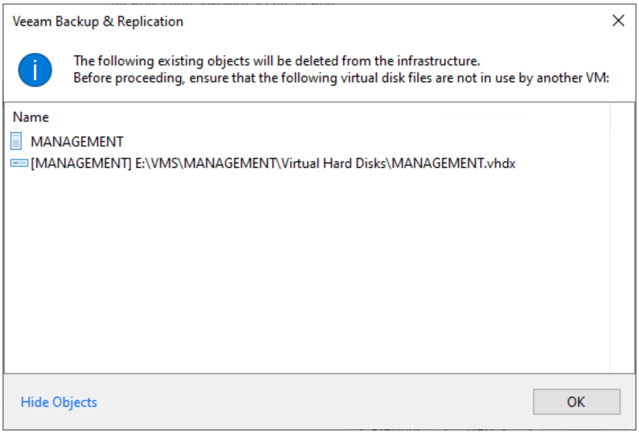

Entire VM Restore
Reason
Type in the reason for performing this restore operation. This information will be logged in the restore sessions history for later reference.
Virtual Machines
Restore Mode
Secure Restore
Reason
Summary
< Previous
Next >
Finish
Cancel

Restore reason:

Restore entire VM with Secure Restore.

☐ Do not show me this page again

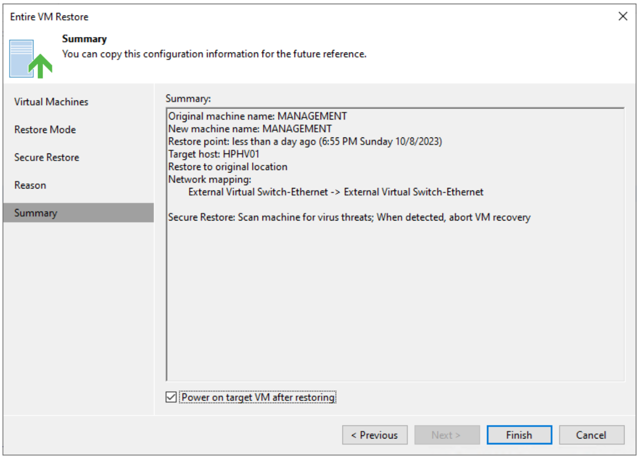
17. Click OK on the object to delete the warning message.


Veeam Backup & Replication
Hide Objects
OK

The following existing objects will be deleted from the infrastructure.
Before proceeding, ensure that the following virtual disk files are not in use by another VM:

Name
MANAGEMENT
[MANAGEMENT] E:\VMS\MANAGEMENT\Virtual Hard Disks\MANAGEMENT.vhdx

18. Select Power on the target VM after restoring and click Finish on the Summary page.


Entire VM Restore
Summary
You can copy this configuration information for the future reference.
Virtual Machines
Restore Mode
Secure Restore
Reason
Summary
Summary:

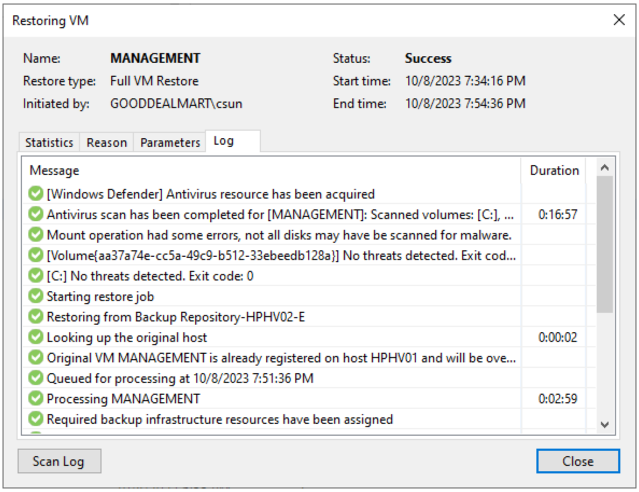
Original machine name: MANAGEMENT
New machine name: MANAGEMENT
Restore point: less than a day ago (6:55 PM Sunday 10/8/2023)
Target host: HPHV01
Restore to original location
Network mapping:
External Virtual Switch-Ethernet -> External Virtual Switch-Ethernet

Secure Restore: Scan machine for virus threats; When detected, abort VM recovery

☑ Power on target VM after restoring

< Previous
Next >
Finish
Cancel

19. On the Restoring VM page, select Log.
20. Ensure the restore VM is completed without threats detected and click Closed.


Restoring VM

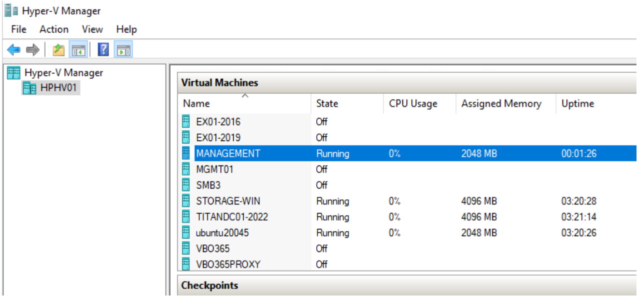
Name: **MANAGEMENT**
Restore type: Full VM Restore
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 10/8/2023 7:34:16 PM
End time: 10/8/2023 7:54:36 PM

Statistics
Reason
Parameters
Log

Message	Duration
✓ [Windows Defender] Antivirus resource has been acquired	
✓ Antivirus scan has been completed for [MANAGEMENT]: Scanned volumes: [C:], ...	0:16:57
✓ Mount operation had some errors, not all disks may have be scanned for malware.	
✓ [Volume{aa37a74e-cc5a-49c9-b512-33ebeedb128a}] No threats detected. Exit cod...	
✓ [C:] No threats detected. Exit code: 0	
✓ Starting restore job	
✓ Restoring from Backup Repository-HPHV02-E	
✓ Looking up the original host	0:00:02
✓ Original VM MANAGEMENT is already registered on host HPHV01 and will be ove...	
✓ Queued for processing at 10/8/2023 7:51:36 PM	
✓ Processing MANAGEMENT	0:02:59
✓ Required backup infrastructure resources have been assigned	

Scan Log
Close

21. Verify the VM is up and running.



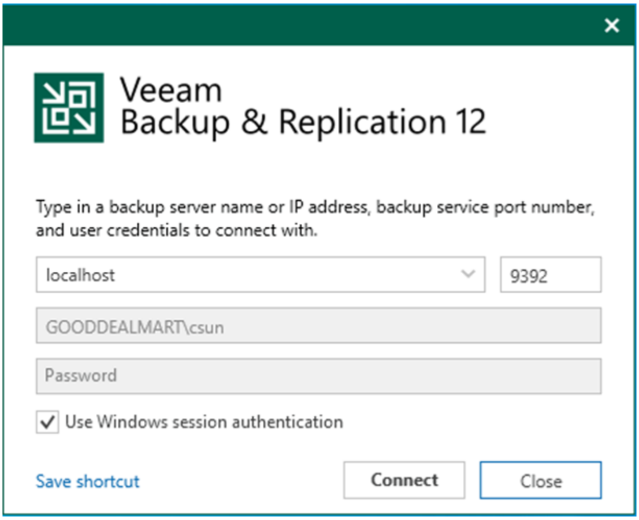
Name	State	CPU Usage	Assigned Memory	Uptime
EX01-2016	Off			
EX01-2019	Off			
MANAGEMENT	Running	0%	2048 MB	00:01:26
MGMT01	Off			
SMB3	Off			
STORAGE-WIN	Running	0%	4096 MB	03:20:28
TITANDC01-2022	Running	0%	4096 MB	03:21:14
ubuntu20045	Running	0%	2048 MB	03:20:26
VBO365	Off			
VBO365PROXY	Off			

Secure Restore the Entire VM to the New Location

Existing jobs that process the original/recovered VMs do not need to be updated if you restore them to the same host and choose to preserve VM UUIDs. If you configure restore differently and want to process the recovered VMs, you must edit existing jobs or create new ones.

Veeam Backup & Replication supports secure restore, which involves scanning machine data with antivirus software before restoring the computer to the production environment.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.



Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost 9392

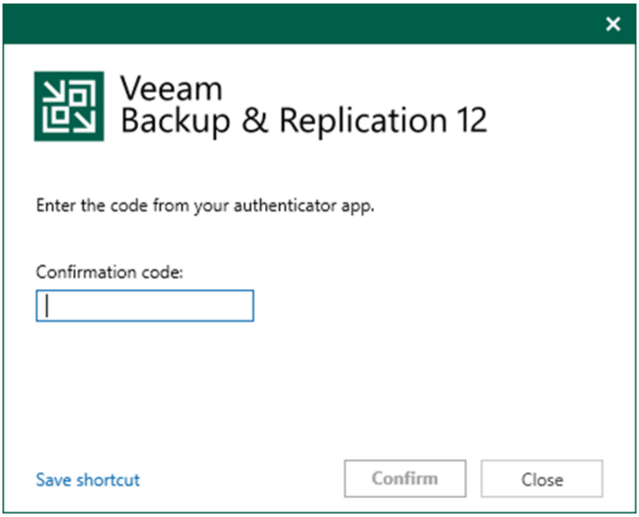
GOODDEALMART\csun

Password

☑ Use Windows session authentication

Save shortcut
Connect
Close

3. Enter the MFA Confirmation code and click Confirm.



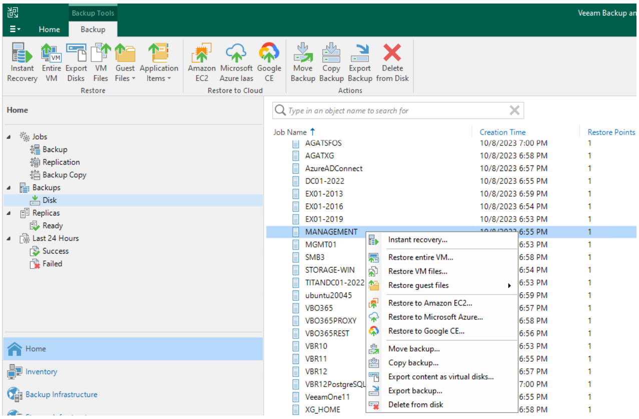
Veeam
Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

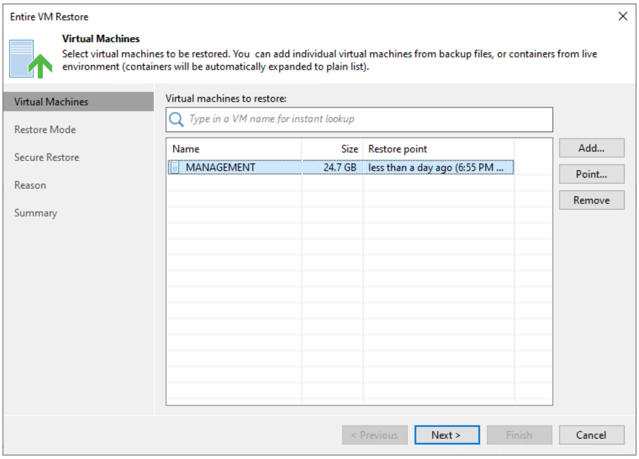
Save shortcut
Confirm
Close

4. On the Home page, expand Backups. Select the Disk.
5. Expand the backup job name, right-click the virtual machine, and select Restore the entire VM.


Backup Tools
Home
Backup
Veeam Backup an
Instant Recovery
Entire VM
Export Disks
VM Files
Guest Files
Application Items
Restore
Amazon EC2
Microsoft Azure Iaas
Google CE
Restore to Cloud
Move Backup
Copy Backup
Export Backup
Delete from Disk
Actions
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Failed
Home
Inventory
Backup Infrastructure
Type in an object name to search for
Instant recovery...
Restore entire VM...
Restore VM files...
Restore guest files
Restore to Amazon EC2...
Restore to Microsoft Azure...
Restore to Google CE...
Move backup...
Copy backup...
Export content as virtual disks...
Export backup...
Delete from disk

Job Name	Creation Time	Restore Points
AGATSFOS	10/8/2023 7:00 PM	1
AGATXG	10/8/2023 6:58 PM	1
AzureADConnect	10/8/2023 6:57 PM	1
DC01-2022	10/8/2023 6:55 PM	1
EX01-2013	10/8/2023 6:59 PM	1
EX01-2016	10/8/2023 6:54 PM	1
EX01-2019	10/8/2023 6:53 PM	1
MANAGEMENT	6:55 PM	1
MGMT01	6:53 PM	1
SMB3	6:58 PM	1
STORAGE-WIN	6:54 PM	1
TITANDC01-2022	6:53 PM	1
ubuntu20045	6:59 PM	1
VBO365	6:57 PM	1
VBO365PROXY	6:58 PM	1
VBO365REST	6:56 PM	1
VBR10	6:53 PM	1
VBR11	6:55 PM	1
VBR12	6:57 PM	1
VBR12PostgreSQL	7:00 PM	1
VeeamOne11	6:55 PM	1
XG_HOME	6:58 PM	1

6. Select the virtual machine and click Point on the Virtual Machine page.


Entire VM Restore
Virtual Machines
Restore Mode
Secure Restore
Reason
Summary
Type in a VM name for instant lookup
Add...
Point...
Remove
< Previous
Next >
Finish
Cancel

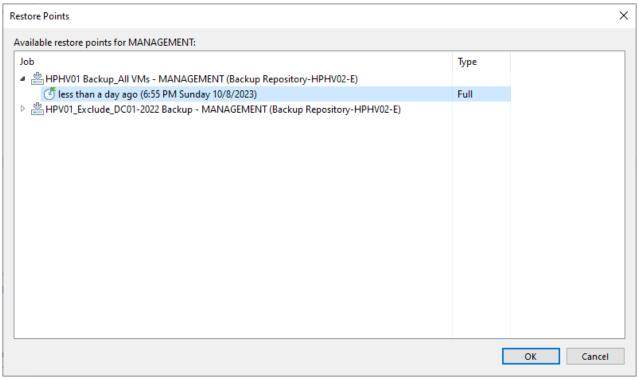
Virtual Machines

Select virtual machines to be restored. You can add individual virtual machines from backup files, or containers from live environment (containers will be automatically expanded to plain list).

Virtual machines to restore:

Name	Size	Restore point
MANAGEMENT	24.7 GB	less than a day ago (6:55 PM ...

7. Expand the backup job on the Restore Point page, select the restore point, and click OK.

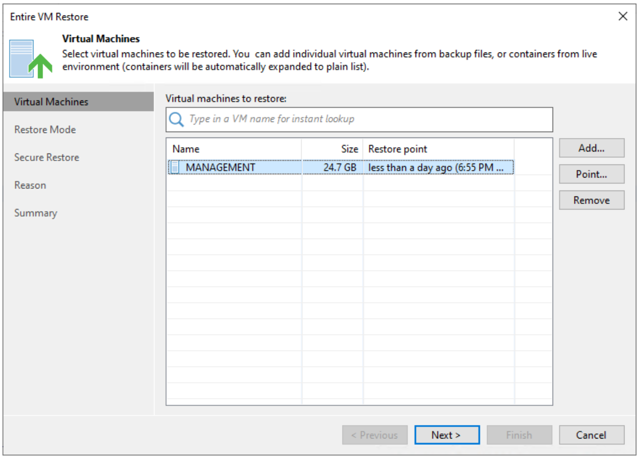


Restore Points

Available restore points for MANAGEMENT:

Job	Type
HPHV01 Backup_All VMs - MANAGEMENT (Backup Repository-HPHV02-E)	
less than a day ago (6:55 PM Sunday 10/8/2023)	Full
HPV01_Exclude_DC01-2022 Backup - MANAGEMENT (Backup Repository-HPHV02-E)	

8. On the Virtual Machines page, click Next.



Entire VM Restore

Virtual Machines

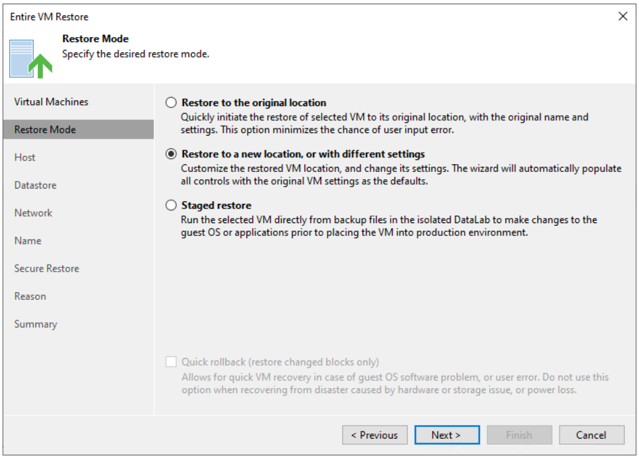
Select virtual machines to be restored. You can add individual virtual machines from backup files, or containers from live environment (containers will be automatically expanded to plain list).

Virtual machines to restore:

Name	Size	Restore point
MANAGEMENT	24.7 GB	less than a day ago (6:55 PM ...

Virtual Machines
Restore Mode
Secure Restore
Reason
Summary
Type in a VM name for instant lookup
Add...
Point...
Remove
< Previous
Next >
Finish
Cancel

9. Select Restore to a new location or with different settings on the Restore Mode page and click Next.



Entire VM Restore

Restore Mode

Specify the desired restore mode.

Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary

○ **Restore to the original location**
Quickly initiate the restore of selected VM to its original location, with the original name and settings. This option minimizes the chance of user input error.

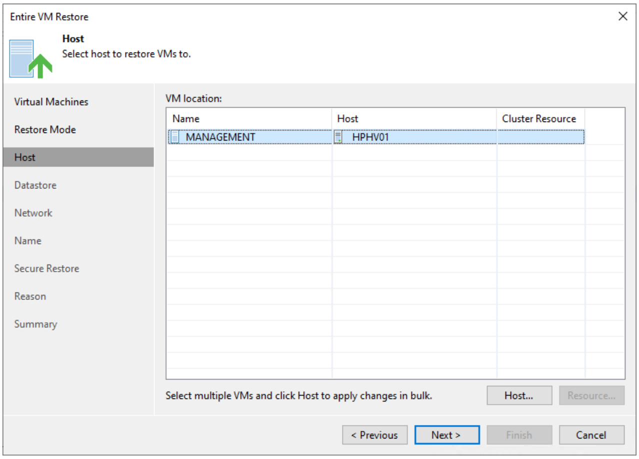
● **Restore to a new location, or with different settings**
Customize the restored VM location, and change its settings. The wizard will automatically populate all controls with the original VM settings as the defaults.

○ **Staged restore**
Run the selected VM directly from backup files in the isolated DataLab to make changes to the guest OS or applications prior to placing the VM into production environment.

☐ Quick rollback (restore changed blocks only)
Allows for quick VM recovery in case of guest OS software problem, or user error. Do not use this option when recovering from disaster caused by hardware or storage issue, or power loss.

< Previous
Next >
Finish
Cancel

10. On the Host page, select the virtual machine and click Host.



Entire VM Restore

Host

Select host to restore VMs to.

Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary

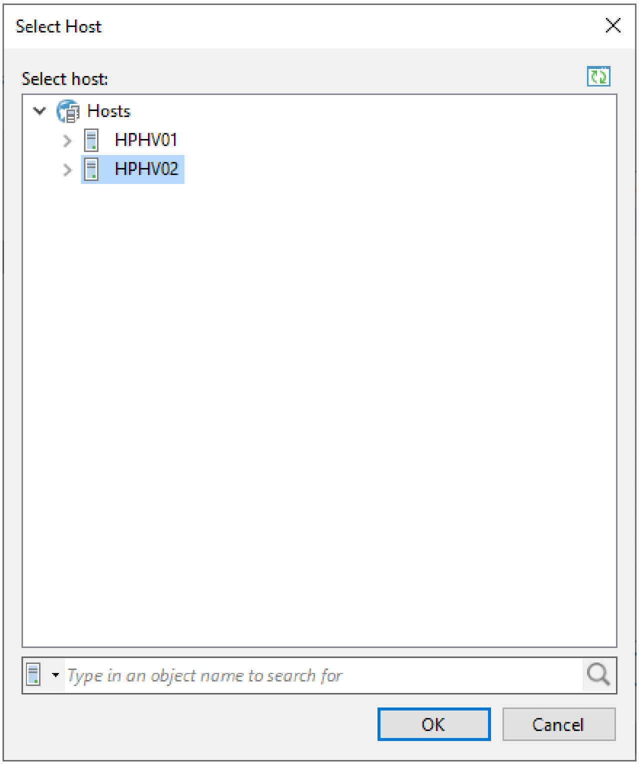
VM location:

Name	Host	Cluster Resource
MANAGEMENT	HPHV01	

Select multiple VMs and click Host to apply changes in bulk.

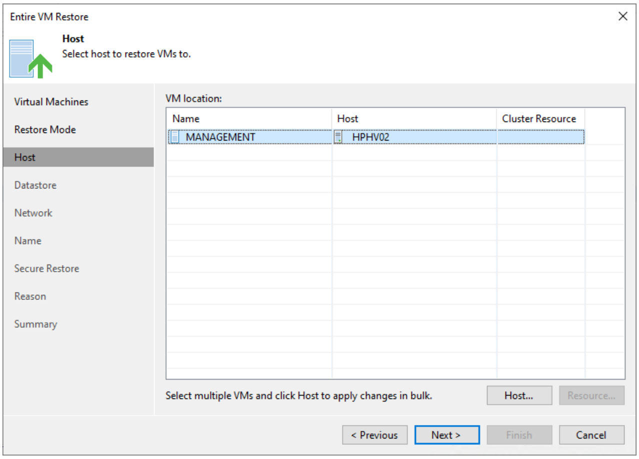
Host...
Resource...
< Previous
Next >
Finish
Cancel

11. On the Host page, select the target host and click OK.



Select Host
Select host:
Hosts
HPHV01
HPHV02
Type in an object name to search for
OK
Cancel

12. On the Host page, click Next.



Entire VM Restore
Host
Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary
Host...
Resource...
< Previous
Next >
Finish
Cancel

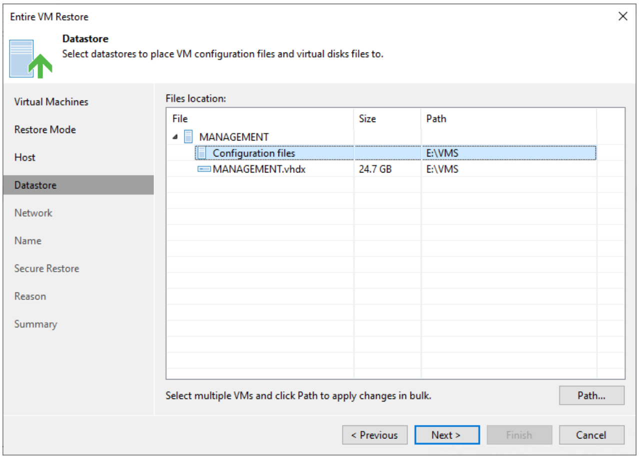
Select host to restore VMs to.

VM location:

Name	Host	Cluster Resource
MANAGEMENT	HPHV02	

Select multiple VMs and click Host to apply changes in bulk.

13. On the Datastore page, select the virtual machine’s Configuration files and click Path.



Entire VM Restore
Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary
Path...
< Previous
Next >
Finish
Cancel

Datastore

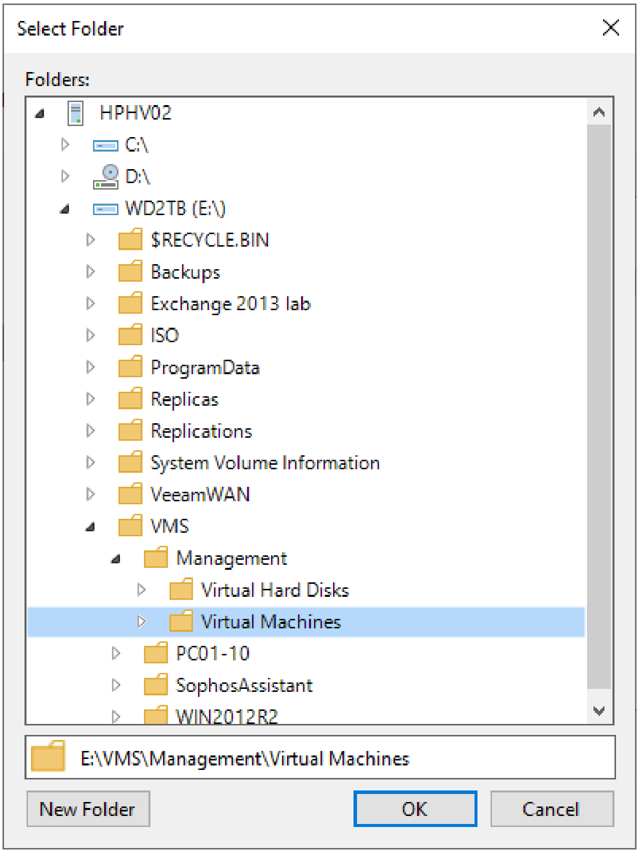
Select datastores to place VM configuration files and virtual disks files to.

Files location:

File	Size	Path
MANAGEMENT		
Configuration files		E:\VMS
MANAGEMENT.vhdx	24.7 GB	E:\VMS

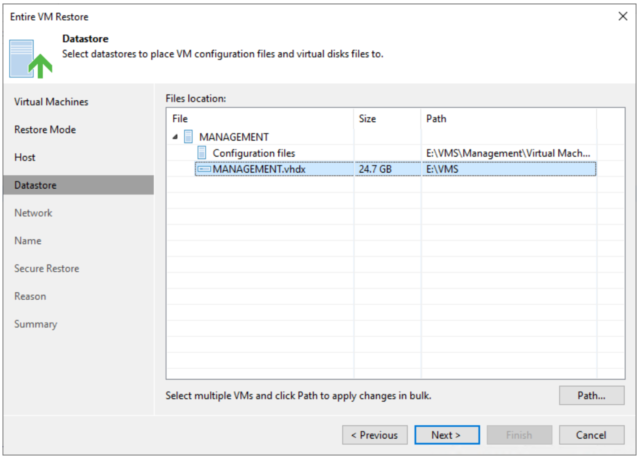
Select multiple VMs and click Path to apply changes in bulk.

14. Select the target folder and click OK on the Select Folder page.


Select Folder
Folders:
HPHV02
C:\
D:\
WD2TB (E:\)
$RECYCLE.BIN
Backups
Exchange 2013 lab
ISO
ProgramData
Replicas
Replications
System Volume Information
VeeamWAN
VMS
Management
Virtual Hard Disks
Virtual Machines
PC01-10
SophosAssistant
WIN2012R2
New Folder
OK
Cancel

E:\VMS\Management\Virtual Machines

15. On the Datastore page, select the VHDX file of the virtual machine and click Path.



Entire VM Restore

Datastore

Select datastores to place VM configuration files and virtual disks files to.

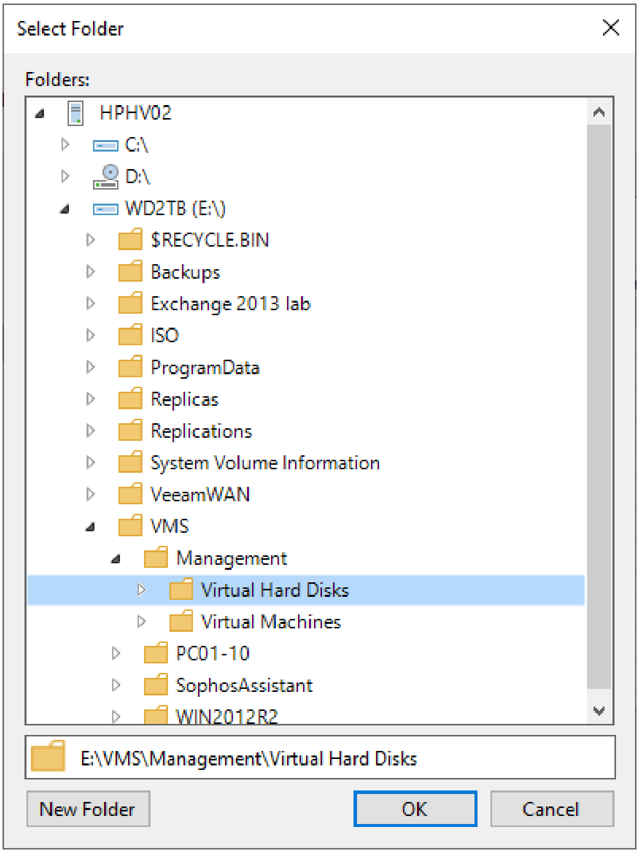
Files location:

File	Size	Path
MANAGEMENT		
Configuration files		E:\VMS\Management\Virtual Mach...
MANAGEMENT.vhdx	24.7 GB	E:\VMS

Select multiple VMs and click Path to apply changes in bulk.

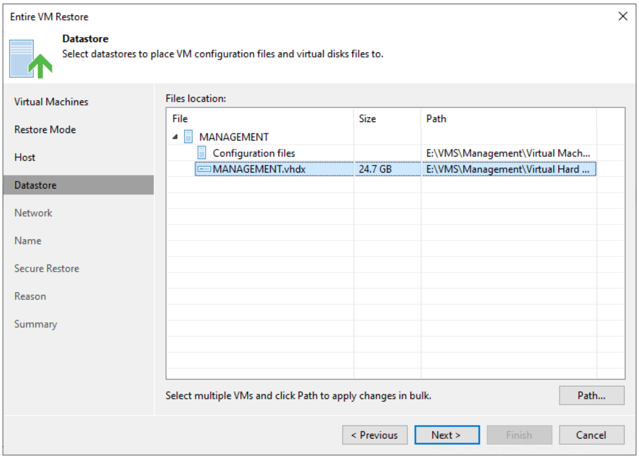
Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary
Path...
< Previous
Next >
Finish
Cancel

16. Select the target folder and click OK on the Select Folder page.


Select Folder
Folders:
HPHV02
C:\
D:\
WD2TB (E:\)
$RECYCLE.BIN
Backups
Exchange 2013 lab
ISO
ProgramData
Replicas
Replications
System Volume Information
VeeamWAN
VMS
Management
Virtual Hard Disks
Virtual Machines
PC01-10
SophosAssistant
WIN2012R2
New Folder
OK
Cancel

E:\VMS\Management\Virtual Hard Disks

17. On the Datastore page, click Next.


Entire VM Restore
Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary
Path...
< Previous
Next >
Finish
Cancel

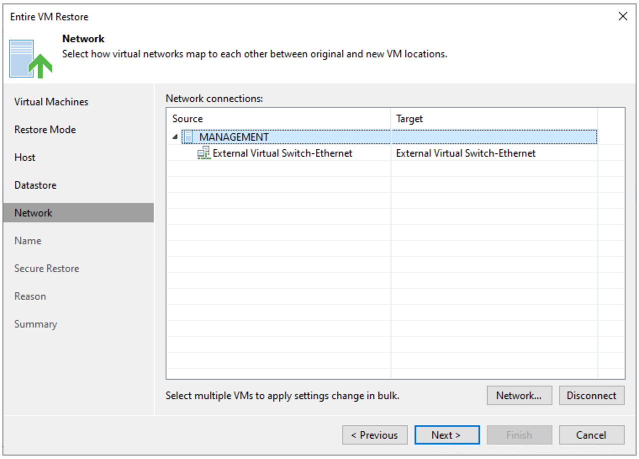
Datastore
Select datastores to place VM configuration files and virtual disks files to.

Files location:

File	Size	Path
MANAGEMENT		
Configuration files		E:\VMS\Management\Virtual Mach...
MANAGEMENT.vhdx	24.7 GB	E:\VMS\Management\Virtual Hard ...

Select multiple VMs and click Path to apply changes in bulk.

18. On the Network page, select the virtual machine and click Network.
19. If the restored VM does not need to connect to any virtual network, select the VM in the list and click Disconnected.


Entire VM Restore
Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary
Network...
Disconnect
< Previous
Next >
Finish
Cancel

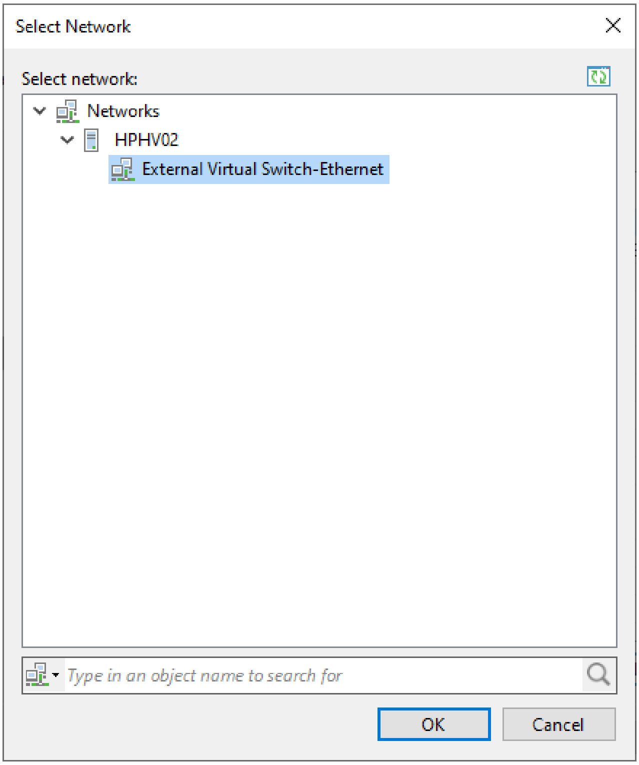
Network
Select how virtual networks map to each other between original and new VM locations.

Network connections:

Source	Target
MANAGEMENT	
External Virtual Switch-Ethernet	External Virtual Switch-Ethernet

Select multiple VMs to apply settings change in bulk.

20. On the Select Network page, select the target network for restoring the VM and click OK.



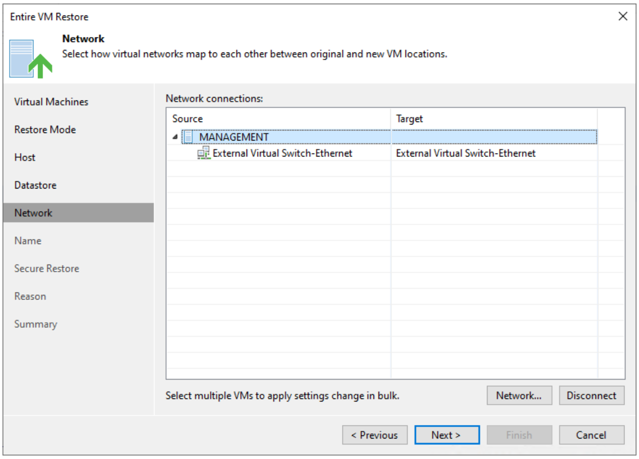
Select Network

Select network:

- Networks
  - HPHV02
    - External Virtual Switch-Ethernet

Type in an object name to search for
OK
Cancel

21. On the Network page, click Next.



Entire VM Restore

Network

Select how virtual networks map to each other between original and new VM locations.

Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary

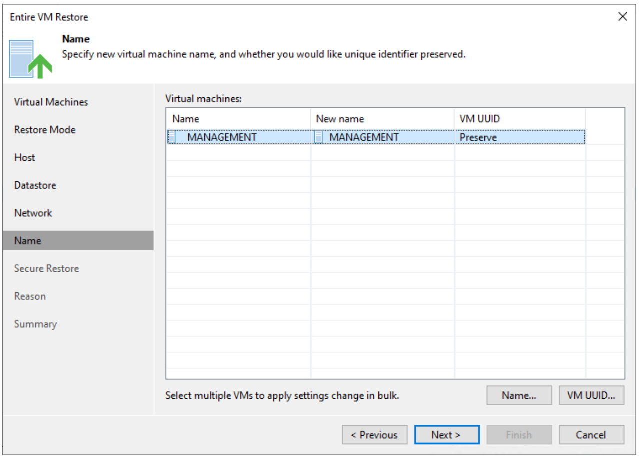
Network connections:

Source	Target
MANAGEMENT	
External Virtual Switch-Ethernet	External Virtual Switch-Ethernet

Select multiple VMs to apply settings change in bulk.

Network...
Disconnect
< Previous
Next >
Finish
Cancel

22. On the Name page, select the virtual machine and click Name.



Entire VM Restore

Name

Specify new virtual machine name, and whether you would like unique identifier preserved.

Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary

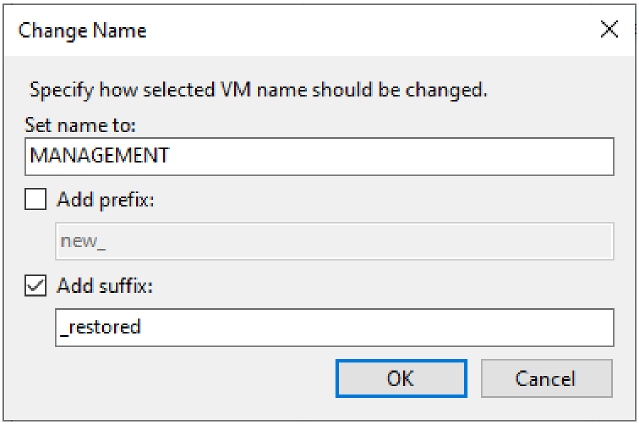
Virtual machines:

Name	New name	VM UUID
MANAGEMENT	MANAGEMENT	Preserve

Select multiple VMs to apply settings change in bulk.

Name...
VM UUID...
< Previous
Next >
Finish
Cancel

23. On the Change Name page, enter a new name or change the name by adding a prefix and suffix to the regular VM name.
24. Click OK.



Change Name

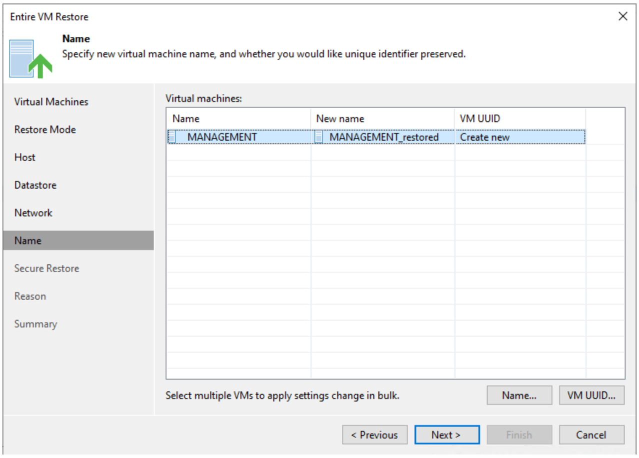
Specify how selected VM name should be changed.

Set name to: MANAGEMENT

☐ Add prefix: new_

☑ Add suffix: _restored

25. On the Name page, select the virtual machine and click VM UUID.


Entire VM Restore

Name

Specify new virtual machine name, and whether you would like unique identifier preserved.

Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary

Virtual machines:

Name	New name	VM UUID
MANAGEMENT	MANAGEMENT_restored	Create new

Select multiple VMs to apply settings change in bulk.

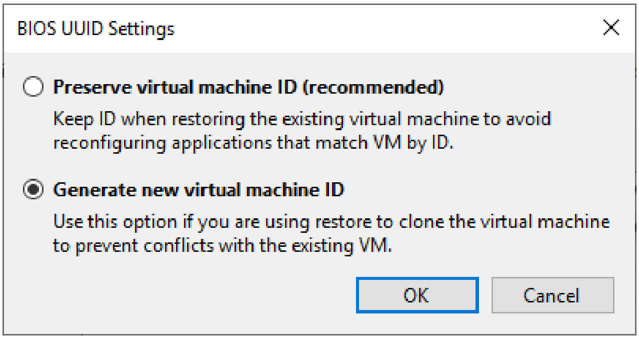
Name...
VM UUID...
< Previous
Next >
Finish
Cancel

26. In BIOS UUID Settings, select Generate new virtual machine ID.

Note:

> Select Preserve existing VM ID if the original VM was decommissioned.

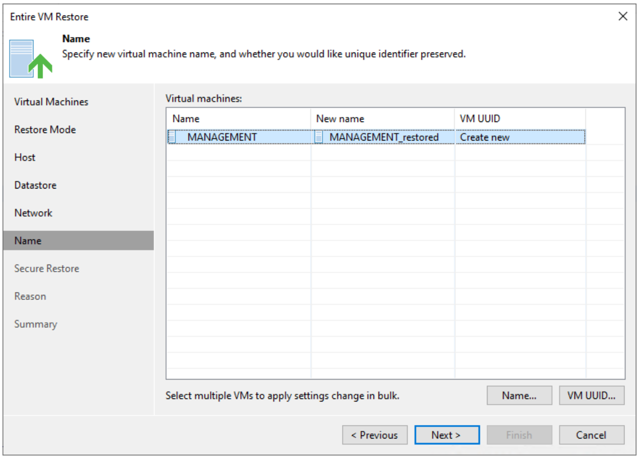
27. Click OK.


BIOS UUID Settings

○ **Preserve virtual machine ID (recommended)**
Keep ID when restoring the existing virtual machine to avoid reconfiguring applications that match VM by ID.

● **Generate new virtual machine ID**
Use this option if you are using restore to clone the virtual machine to prevent conflicts with the existing VM.

28. On the Name page, click Next.


Entire VM Restore
Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary
Name...
VM UUID...
< Previous
Next >
Finish
Cancel

Name

Specify new virtual machine name, and whether you would like unique identifier preserved.

Virtual machines:

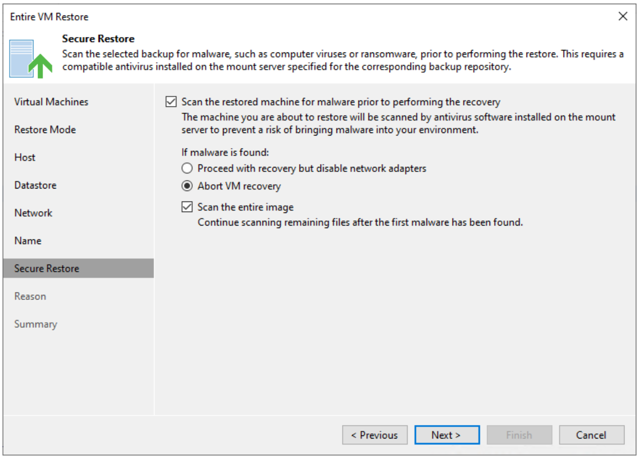
Name	New name	VM UUID
MANAGEMENT	MANAGEMENT_restored	Create new

Select multiple VMs to apply settings change in bulk.

29. Select the Scan the restored machine for malware before performing the recovery checkbox.
30. On the if malware is found session, select Abort VM recovery.
31. Select Scan the entire image checkbox.
32. Click Next.

Note:

- Support Microsoft Windows only.
- The antivirus software must be installed on the mount server and support the command line interface (CLI).
- The antivirus configuration file must be configured on the mount server.
- Veeam Backup & Replication does not perform malware scans for disks or volumes that cannot be mounted to the mount server.


Entire VM Restore
Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary
< Previous
Next >
Finish
Cancel

Secure Restore

Scan the selected backup for malware, such as computer viruses or ransomware, prior to performing the restore. This requires a compatible antivirus installed on the mount server specified for the corresponding backup repository.

☑ Scan the restored machine for malware prior to performing the recovery

The machine you are about to restore will be scanned by antivirus software installed on the mount server to prevent a risk of bringing malware into your environment.

If malware is found:

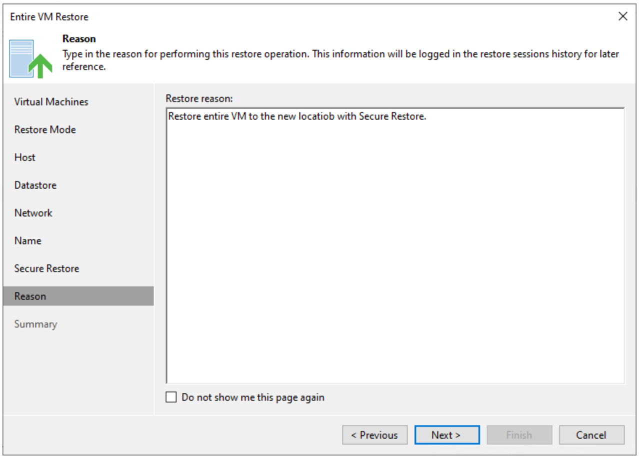
○ Proceed with recovery but disable network adapters

● Abort VM recovery

☑ Scan the entire image

Continue scanning remaining files after the first malware has been found.

33. On the Reason page, enter a reason for restoring the selected VMs and click Next.


Entire VM Restore
Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary
< Previous
Next >
Finish
Cancel

Reason

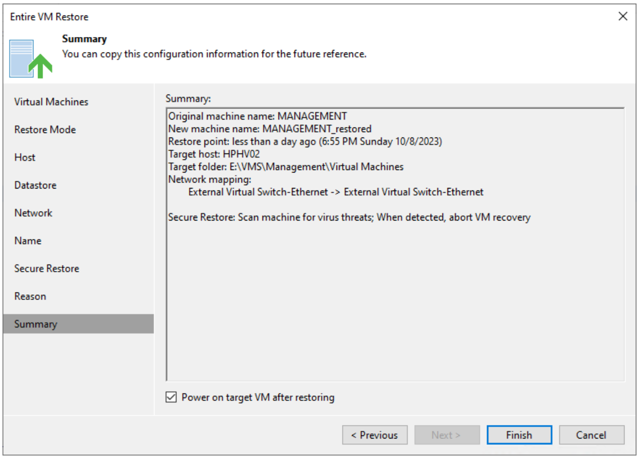
Type in the reason for performing this restore operation. This information will be logged in the restore sessions history for later reference.

Restore reason:

Restore entire VM to the new locatiob with Secure Restore.

☐ Do not show me this page again

34. Select Power on target VM on the Summary page after restoring and click Finish.

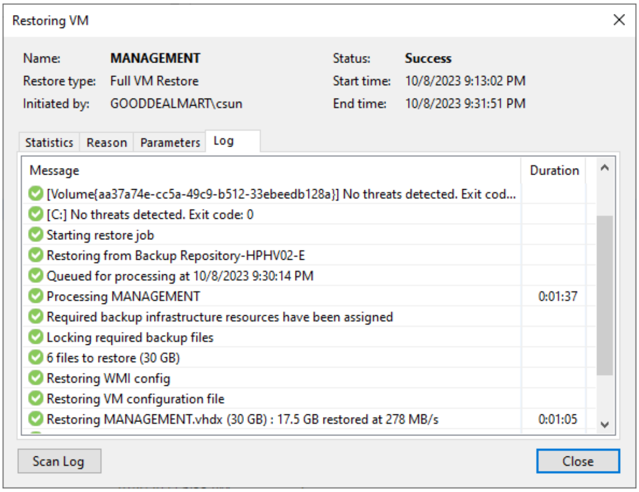

Entire VM Restore
Summary
You can copy this configuration information for the future reference.
Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary
< Previous
Next >
Finish
Cancel

Summary:

```
Original machine name: MANAGEMENT
New machine name: MANAGEMENT_restored
Restore point: less than a day ago (6:55 PM Sunday 10/8/2023)
Target host: HPHV02
Target folder: E:\VMS\Management\Virtual Machines
Network mapping:
      External Virtual Switch-Ethernet -> External Virtual Switch-Ethernet

Secure Restore: Scan machine for virus threats; When detected, abort VM recovery
```

☑ Power on target VM after restoring

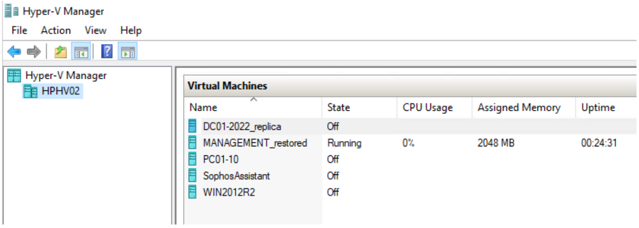
35. On the Restoring VM page, select Log.
36. Ensure the restore VM is completed successfully and click Closed.


Restoring VM
Statistics
Reason
Parameters
Log
Scan Log
Close

Name: **MANAGEMENT**
Restore type: Full VM Restore
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 10/8/2023 9:13:02 PM
End time: 10/8/2023 9:31:51 PM

```
Message                                                                         Duration
✓ [Volume{aa37a74e-cc5a-49c9-b512-33ebeedb128a}] No threats detected. Exit cod...
✓ [C:] No threats detected. Exit code: 0
✓ Starting restore job
✓ Restoring from Backup Repository-HPHV02-E
✓ Queued for processing at 10/8/2023 9:30:14 PM
✓ Processing MANAGEMENT                                                         0:01:37
✓ Required backup infrastructure resources have been assigned
✓ Locking required backup files
✓ 6 files to restore (30 GB)
✓ Restoring WMI config
✓ Restoring VM configuration file
✓ Restoring MANAGEMENT.vhdx (30 GB) : 17.5 GB restored at 278 MB/s              0:01:05
```

37. Verify the VM is up and running.



Virtual Machines

Name	State	CPU Usage	Assigned Memory	Uptime
DC01-2022_replica	Off			
MANAGEMENT_restored	Running	0%	2048 MB	00:24:31
PC01-10	Off			
SophosAssistant	Off			
WIN2012R2	Off			

Restore VM Files

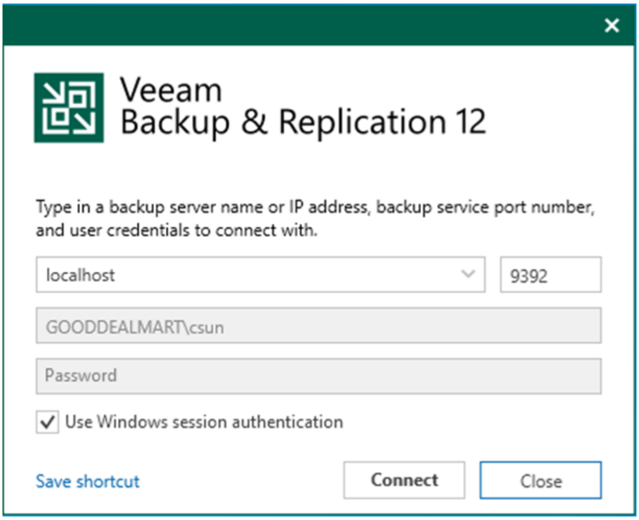
If corrupted, you can restore VM files (.XML. VMCX,.VMRS,.VMGS,.VHD,.VHDX). This option is an excellent alternative to restoring the entire VM. You can only restore a single VM file.

When you perform a VM file restore, the VM file is restored directly from regular image-level backups without de-staging VM images from backups first. VM files can be converted to either the original or a new location.

Note:

If you recover a .VMCX file and import it to Microsoft Hyper-V, the VM will be registered under the Veeam Recovery Checkpoint-(<GUID>) name. After import, you can rename the VM if required.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.

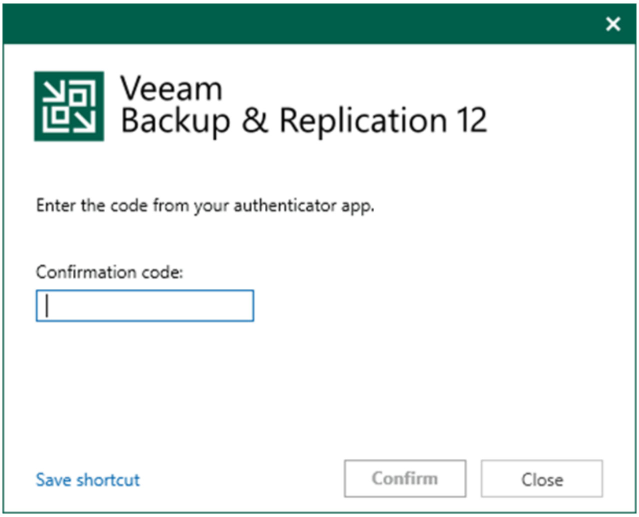

Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost
9392
GOODDEALMART\csun
Password
☑ Use Windows session authentication

Save shortcut
Connect
Close

3. Enter the MFA Confirmation code and click Confirm.

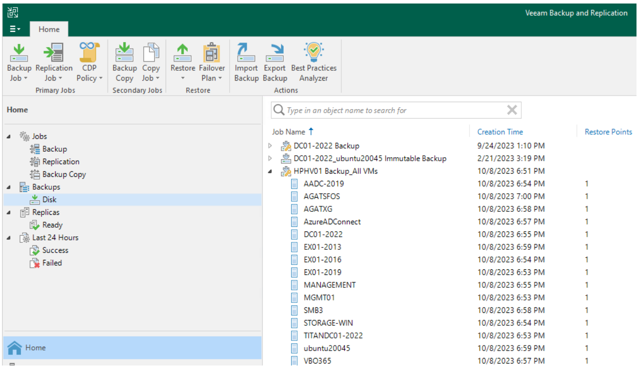

Veeam
Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

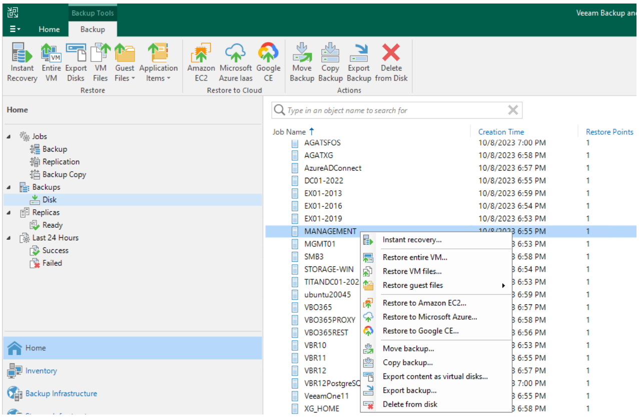
Save shortcut
Confirm
Close

4. On the Home page, expand Backups.
5. Select the Disk and expand the backup job name.


Veeam Backup and Replication
Home
Backup Job
Replication Job
CDP Policy
Primary Jobs
Backup Copy
Copy Job
Secondary Jobs
Restore
Failover Plan
Restore
Import Backup
Export Backup
Best Practices Analyzer
Actions
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Failed
Home
Type in an object name to search for

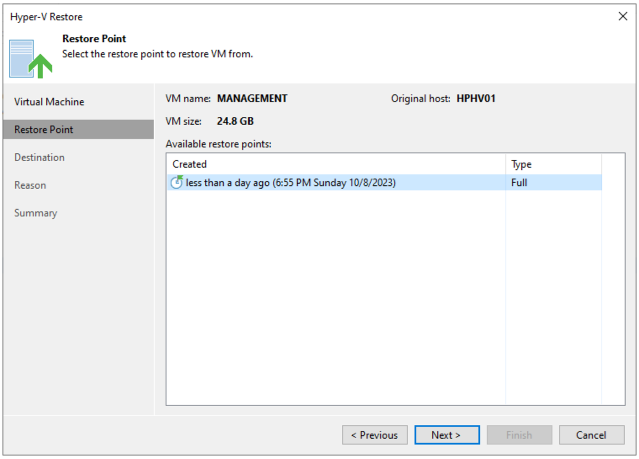
Job Name	Creation Time	Restore Points
DC01-2022 Backup	9/24/2023 1:10 PM	
DC01-2022_ubuntu20045 Immutable Backup	2/21/2023 3:19 PM	
HPHV01 Backup_All VMs	10/8/2023 6:51 PM	
AADC-2019	10/8/2023 6:54 PM	1
AGATSFOS	10/8/2023 7:00 PM	1
AGATXG	10/8/2023 6:58 PM	1
AzureADConnect	10/8/2023 6:57 PM	1
DC01-2022	10/8/2023 6:55 PM	1
EX01-2013	10/8/2023 6:59 PM	1
EX01-2016	10/8/2023 6:54 PM	1
EX01-2019	10/8/2023 6:53 PM	1
MANAGEMENT	10/8/2023 6:55 PM	1
MGMT01	10/8/2023 6:53 PM	1
SMB3	10/8/2023 6:58 PM	1
STORAGE-WIN	10/8/2023 6:54 PM	1
TITANDC01-2022	10/8/2023 6:53 PM	1
ubuntu20045	10/8/2023 6:59 PM	1
VBO365	10/8/2023 6:57 PM	1

6. Right-click the virtual machine and select Restore VM files.


Backup Tools
Veeam Backup an
Home
Backup
Instant Recovery
Entire VM
Export Disks
VM Files
Guest Files
Application Items
Restore
Amazon EC2
Microsoft Azure Iaas
Google CE
Restore to Cloud
Move Backup
Copy Backup
Export Backup
Delete from Disk
Actions
Home
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Failed
Home
Inventory
Backup Infrastructure
Type in an object name to search for
Instant recovery...
Restore entire VM...
Restore VM files...
Restore guest files
Restore to Amazon EC2...
Restore to Microsoft Azure...
Restore to Google CE...
Move backup...
Copy backup...
Export content as virtual disks...
Export backup...
Delete from disk

Job Name	Creation Time	Restore Points
AGATSFOS	10/8/2023 7:00 PM	1
AGATXG	10/8/2023 6:58 PM	1
AzureADConnect	10/8/2023 6:57 PM	1
DC01-2022	10/8/2023 6:55 PM	1
EX01-2013	10/8/2023 6:59 PM	1
EX01-2016	10/8/2023 6:54 PM	1
EX01-2019	10/8/2023 6:53 PM	1
MANAGEMENT	10/8/2023 6:55 PM	1
MGMT01	3 6:53 PM	1
SMB3	3 6:58 PM	1
STORAGE-WIN	3 6:54 PM	1
TITANDC01-202	3 6:53 PM	1
ubuntu20045	3 6:59 PM	1
VBO365	3 6:57 PM	1
VBO365PROXY	3 6:58 PM	1
VBO365REST	3 6:56 PM	1
VBR10	3 6:53 PM	1
VBR11	3 6:55 PM	1
VBR12	3 6:57 PM	1
VBR12PostgreSC	3 7:00 PM	1
VeeamOne11	3 6:55 PM	1
XG_HOME	3 6:58 PM	1

7. Select the restore point on the Restore Point page and click Next.



Hyper-V Restore
Virtual Machine
Restore Point
Destination
Reason
Summary
< Previous
Next >
Finish
Cancel

Restore Point

Select the restore point to restore VM from.

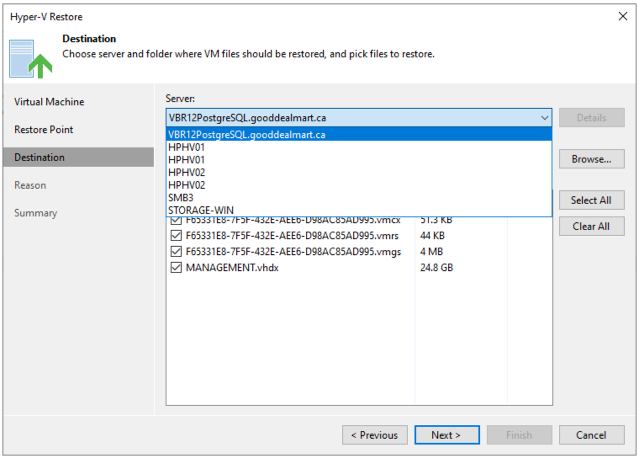
VM name: **MANAGEMENT** Original host: **HPHV01**

VM size: **24.8 GB**

Available restore points:

Created	Type
less than a day ago (6:55 PM Sunday 10/8/2023)	Full

8. On the Destination page, select the server from the drop-down list.



Hyper-V Restore
Virtual Machine
Restore Point
Destination
Reason
Summary
Details
Browse...
Select All
Clear All
< Previous
Next >
Finish
Cancel

Destination

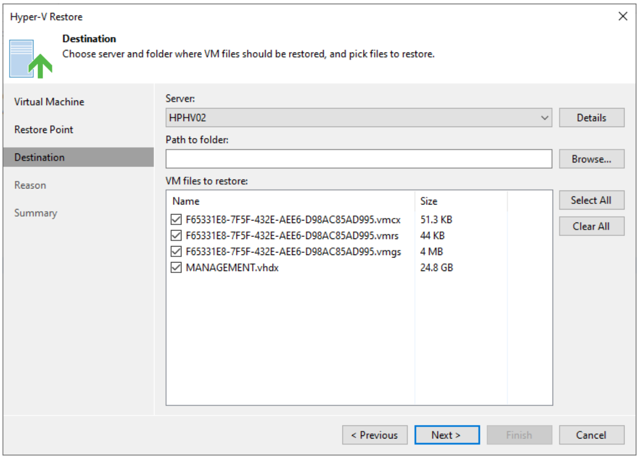
Choose server and folder where VM files should be restored, and pick files to restore.

Server: VBR12PostgreSQL.gooddealmart.ca

VBR12PostgreSQL.gooddealmart.ca
HPHV01
HPHV01
HPHV02
HPHV02
SMB3
STORAGE-WIN

☑ F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmcx	51.3 KB
☑ F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmrs	44 KB
☑ F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmgs	4 MB
☑ MANAGEMENT.vhdx	24.8 GB

9. Click Browser in the path to folder session.


Hyper-V Restore
Virtual Machine
Restore Point
Destination
Reason
Summary
Details
Browse...
Select All
Clear All
< Previous
Next >
Finish
Cancel

Destination

Choose server and folder where VM files should be restored, and pick files to restore.

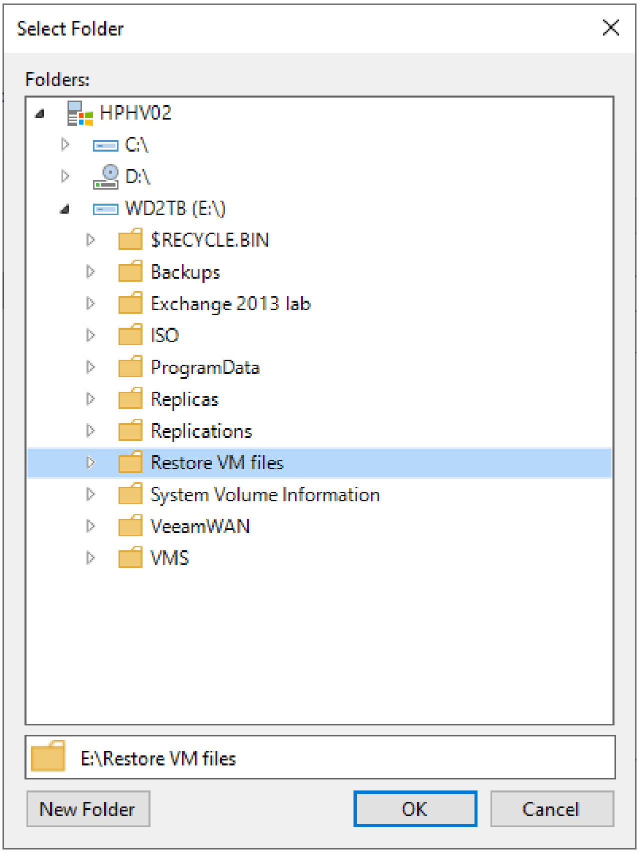
Server: HPHV02

Path to folder:

VM files to restore:

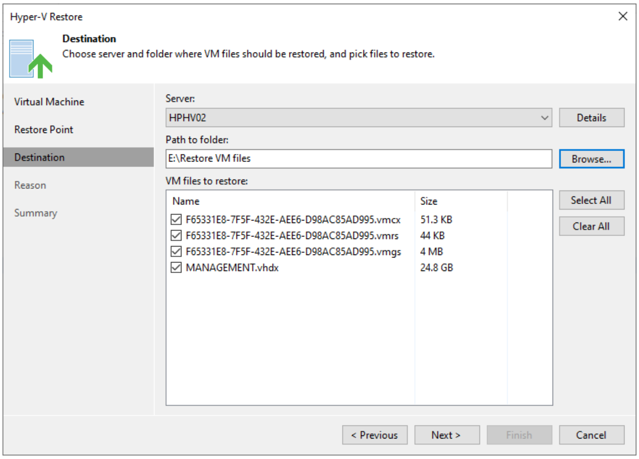
Name	Size
☑ F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmcx	51.3 KB
☑ F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmrs	44 KB
☑ F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmgs	4 MB
☑ MANAGEMENT.vhdx	24.8 GB

10. On the Select Folder page, select the target folder. Click OK.


Select Folder
Folders:
HPHV02
C:\
D:\
WD2TB (E:\)
$RECYCLE.BIN
Backups
Exchange 2013 lab
ISO
ProgramData
Replicas
Replications
Restore VM files
System Volume Information
VeeamWAN
VMS
New Folder
OK
Cancel

E:\Restore VM files

11. Select the files checkbox from the VM files to restore list and click Next.



Hyper-V Restore

Destination

Choose server and folder where VM files should be restored, and pick files to restore.

Virtual Machine
Restore Point
Destination
Reason
Summary

Server: HPHV02

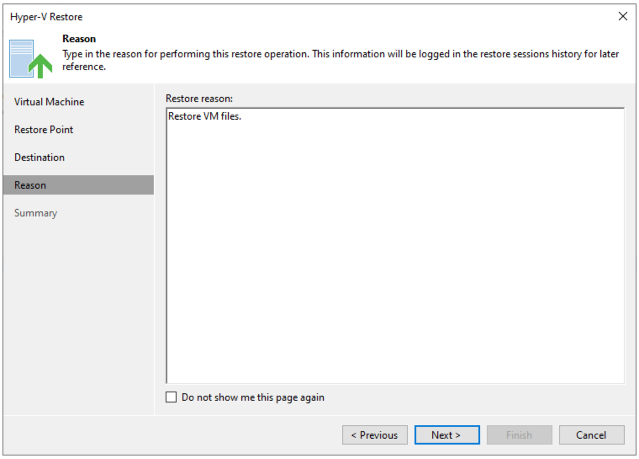
Path to folder: E:\Restore VM files

VM files to restore:

Name	Size
☑ F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmcx	51.3 KB
☑ F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmrs	44 KB
☑ F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmgs	4 MB
☑ MANAGEMENT.vhdx	24.8 GB

Details
Browse...
Select All
Clear All
< Previous
Next >
Finish
Cancel

12. Enter the reason for restoring the selected VMs on the Reason page and click Next.



Hyper-V Restore

Reason

Type in the reason for performing this restore operation. This information will be logged in the restore sessions history for later reference.

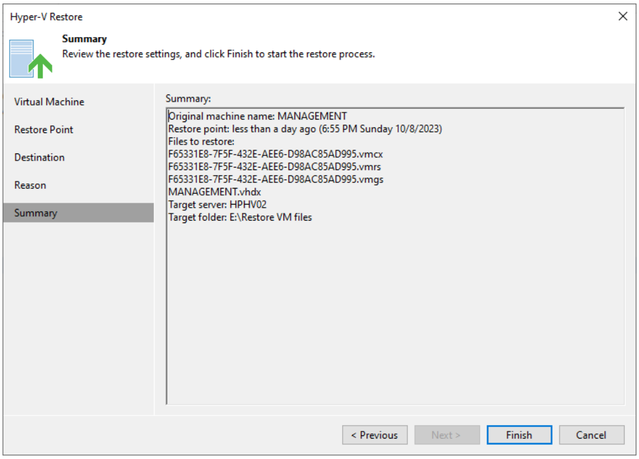
Virtual Machine
Restore Point
Destination
Reason
Summary

Restore reason: Restore VM files.

☐ Do not show me this page again

< Previous
Next >
Finish
Cancel

13. On the Summary page, click Finish.


Hyper-V Restore
Virtual Machine
Restore Point
Destination
Reason
Summary
< Previous
Next >
Finish
Cancel

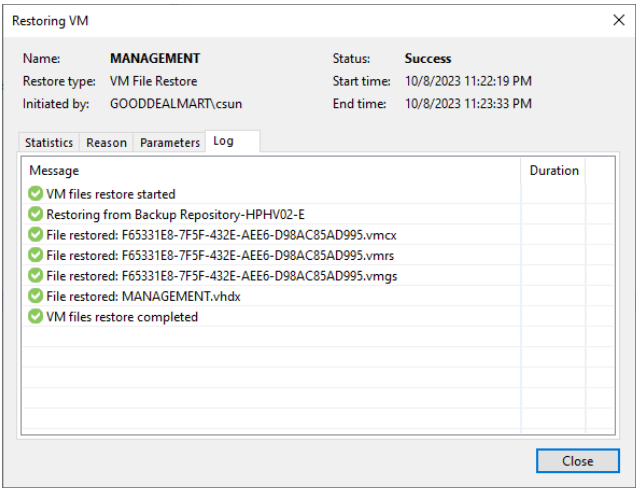
Summary

Review the restore settings, and click Finish to start the restore process.

Summary:

```
Original machine name: MANAGEMENT
Restore point: less than a day ago (6:55 PM Sunday 10/8/2023)
Files to restore:
F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmcx
F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmrs
F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmgs
MANAGEMENT.vhdx
Target server: HPHV02
Target folder: E:\Restore VM files
```

14. Select log on the Restoring VM page, ensure the restore VM files are completed successfully, and click Closed.


Restoring VM
Statistics
Reason
Parameters
Log
Close

Name: **MANAGEMENT**

Restore type: VM File Restore

Initiated by: GOODDEALMART\csun

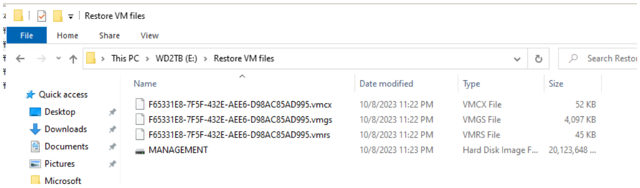
Status: **Success**

Start time: 10/8/2023 11:22:19 PM

End time: 10/8/2023 11:23:33 PM

Message	Duration
✓ VM files restore started	
✓ Restoring from Backup Repository-HPHV02-E	
✓ File restored: F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmcx	
✓ File restored: F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmrs	
✓ File restored: F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmgs	
✓ File restored: MANAGEMENT.vhdx	
✓ VM files restore completed	

15. Verify restored VM files.


Restore VM files
File
Home
Share
View
Search Restor
Quick access
Desktop
Downloads
Documents
Pictures
Microsoft

This PC › WD2TB (E:) › Restore VM files

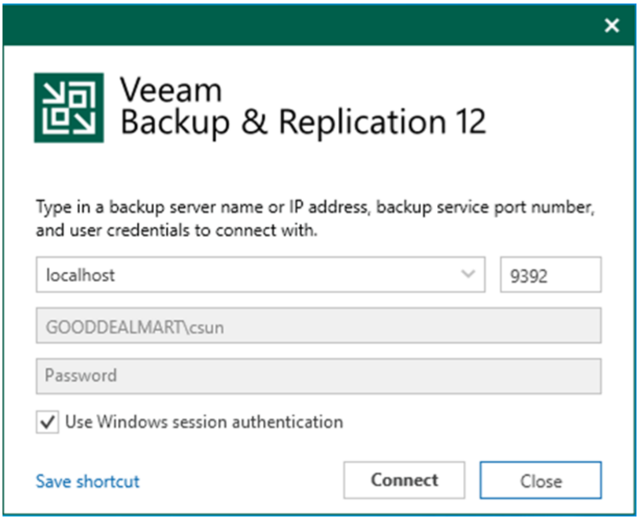
Name	Date modified	Type	Size
F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmcx	10/8/2023 11:22 PM	VMCX File	52 KB
F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmgs	10/8/2023 11:22 PM	VMGS File	4,097 KB
F65331E8-7F5F-432E-AEE6-D98AC85AD995.vmrs	10/8/2023 11:22 PM	VMRS File	45 KB
MANAGEMENT	10/8/2023 11:23 PM	Hard Disk Image F...	20,123,648 ...

Restore Guest Files (or Folder) for Microsoft Windows

You can restore files from Microsoft Windows VMs with NTFS, FAT, and ReFS file systems using the restore from FAT, NTFS, and ReFS methods.

You can restore files to their original or new location, use Microsoft Windows File Explorer to work with the converted files or launch application item restore for the files.

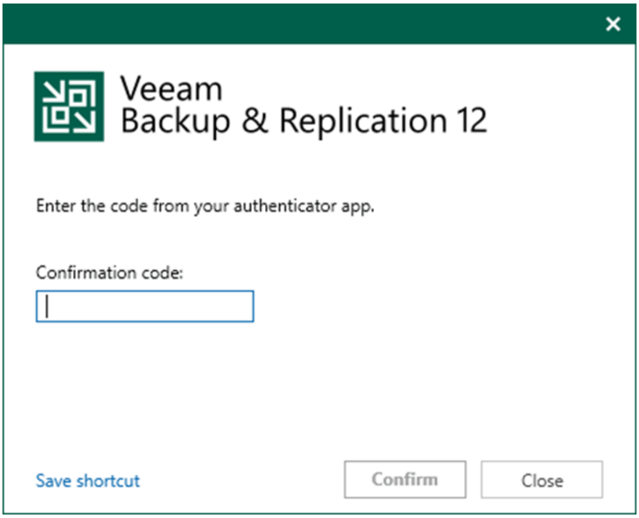
1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.


Veeam
Backup & Replication 12
Save shortcut
Connect
Close

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost
9392
GOODDEALMART\csun
Password
☑ Use Windows session authentication

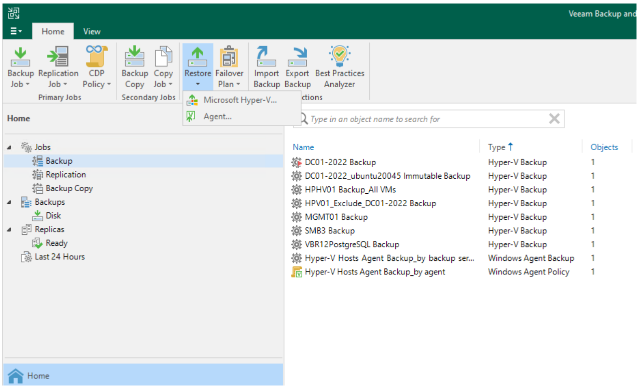
3. Enter the MFA Confirmation code and click Confirm.


Veeam
Backup & Replication 12
Save shortcut
Confirm
Close

Enter the code from your authenticator app.

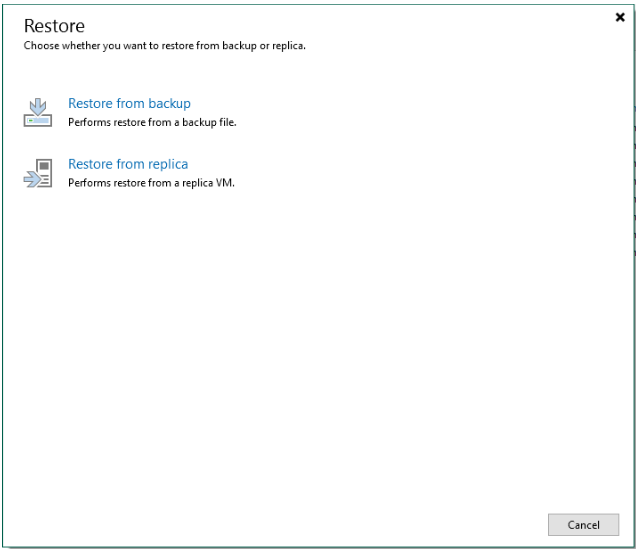
Confirmation code:

4. On the Home page, click Restore and select Microsoft Hyper-V.


Veeam Backup and
Home
View
Backup Job
Replication Job
CDP Policy
Primary Jobs
Backup Copy
Copy Job
Secondary Jobs
Restore
Failover Plan
Import Backup
Export Backup
Best Practices Analyzer
ctions
Microsoft Hyper-V...
Agent...
Home
Type in an object name to search for
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Home

Name	Type	Objects
DC01-2022 Backup	Hyper-V Backup	1
DC01-2022_ubuntu20045 Immutable Backup	Hyper-V Backup	1
HPHV01 Backup_All VMs	Hyper-V Backup	1
HPV01_Exclude_DC01-2022 Backup	Hyper-V Backup	1
MGMT01 Backup	Hyper-V Backup	1
SMB3 Backup	Hyper-V Backup	1
VBR12PostgreSQL Backup	Hyper-V Backup	1
Hyper-V Hosts Agent Backup_by backup ser...	Windows Agent Backup	1
Hyper-V Hosts Agent Backup_by agent	Windows Agent Policy	1

5. On the Restore page, select Restore from backup.



Restore

Choose whether you want to restore from backup or replica.

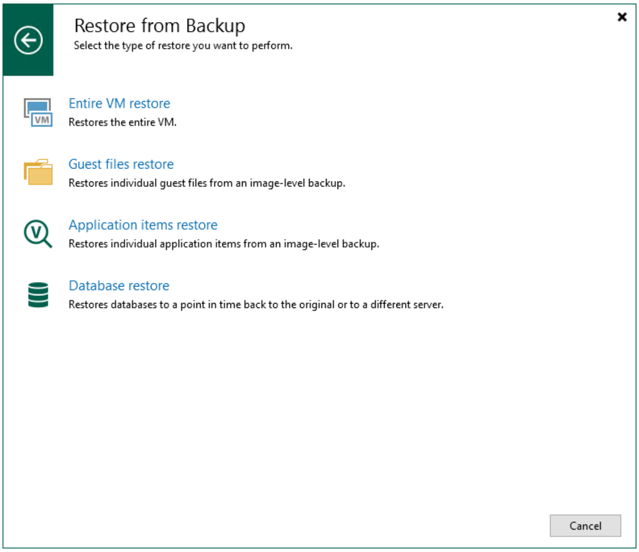
Restore from backup

Performs restore from a backup file.

Restore from replica

Performs restore from a replica VM.

6. On the Restore from Backup page, select Guest files restore.



Restore from Backup

Select the type of restore you want to perform.

Entire VM restore

Restores the entire VM.

Guest files restore

Restores individual guest files from an image-level backup.

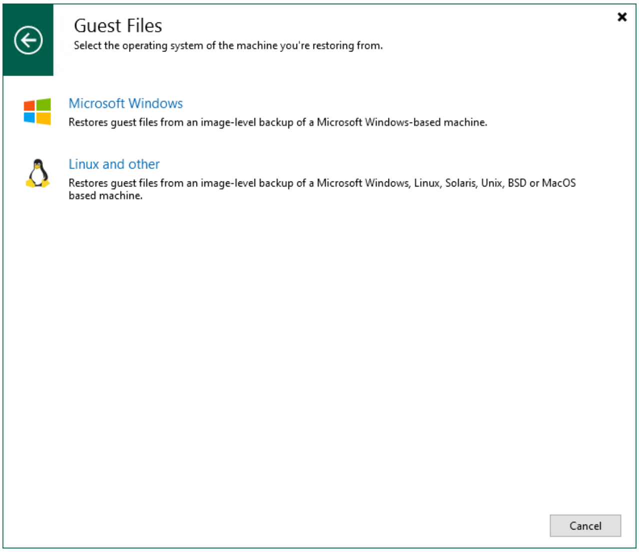
Application items restore

Restores individual application items from an image-level backup.

Database restore

Restores databases to a point in time back to the original or to a different server.

7. On the Guest files page, select Microsoft Windows.



Guest Files

Select the operating system of the machine you're restoring from.

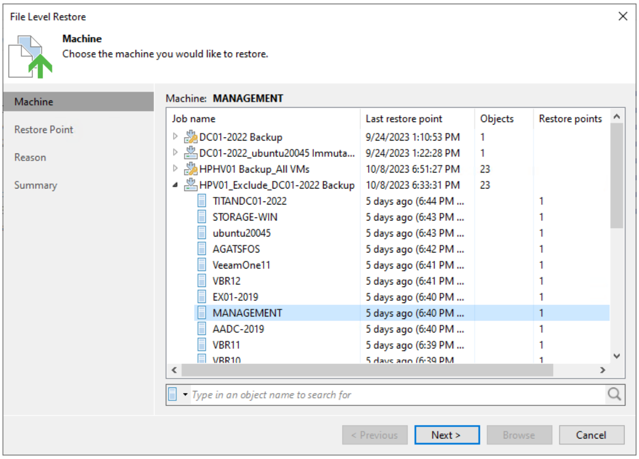
Microsoft Windows

Restores guest files from an image-level backup of a Microsoft Windows-based machine.

Linux and other

Restores guest files from an image-level backup of a Microsoft Windows, Linux, Solaris, Unix, BSD or MacOS based machine.

8. On the Machine page, expand the backup job.
9. Select the machine and click Next.


File Level Restore
Machine
Restore Point
Reason
Summary
Type in an object name to search for
< Previous
Next >
Browse
Cancel

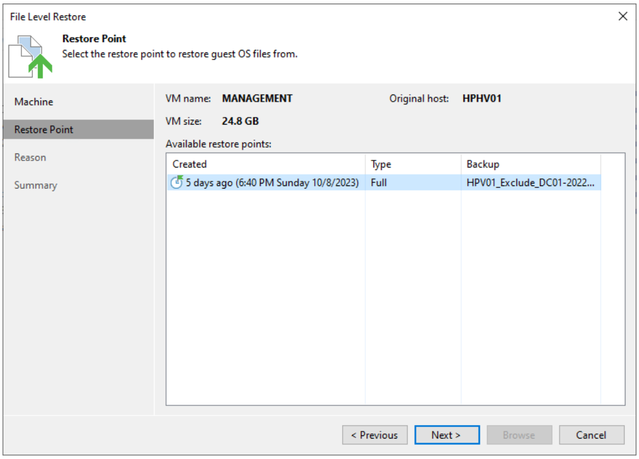
Machine

Choose the machine you would like to restore.

Machine: **MANAGEMENT**

Job name	Last restore point	Objects	Restore points
DC01-2022 Backup	9/24/2023 1:10:53 PM	1	
DC01-2022_ubuntu20045 Immuta...	9/24/2023 1:22:28 PM	1	
HPHV01 Backup_All VMs	10/8/2023 6:51:27 PM	23	
HPV01_Exclude_DC01-2022 Backup	10/8/2023 6:33:31 PM	23	
TITANDC01-2022	5 days ago (6:44 PM ...		1
STORAGE-WIN	5 days ago (6:43 PM ...		1
ubuntu20045	5 days ago (6:43 PM ...		1
AGATSFOS	5 days ago (6:42 PM ...		1
VeeamOne11	5 days ago (6:41 PM ...		1
VBR12	5 days ago (6:41 PM ...		1
EX01-2019	5 days ago (6:40 PM ...		1
MANAGEMENT	5 days ago (6:40 PM ...		1
AADC-2019	5 days ago (6:40 PM ...		1
VBR11	5 days ago (6:39 PM ...		1
VBR10	5 days ago (6:39 PM		1

10. Select the restore point on the Restore Point page and click Next.


File Level Restore
Machine
Restore Point
Reason
Summary
< Previous
Next >
Browse
Cancel

Restore Point

Select the restore point to restore guest OS files from.

VM name: **MANAGEMENT**

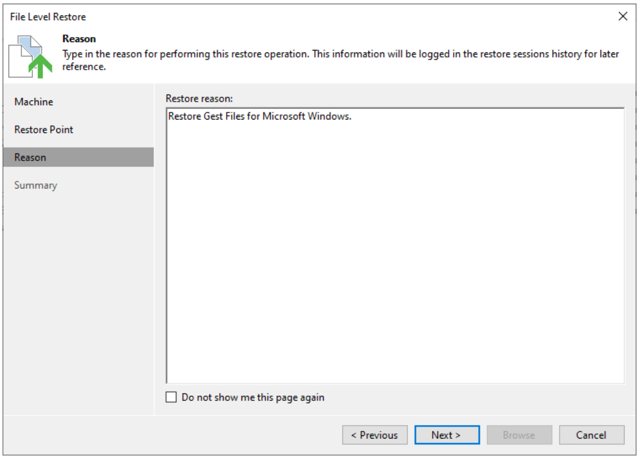
Original host: **HPHV01**

VM size: **24.8 GB**

Available restore points:

Created	Type	Backup
5 days ago (6:40 PM Sunday 10/8/2023)	Full	HPV01_Exclude_DC01-2022...

11. Enter the reason for restoring the selected VMs on the Reason page and click Next.


File Level Restore
Machine
Restore Point
Reason
Summary
< Previous
Next >
Browse
Cancel

Reason

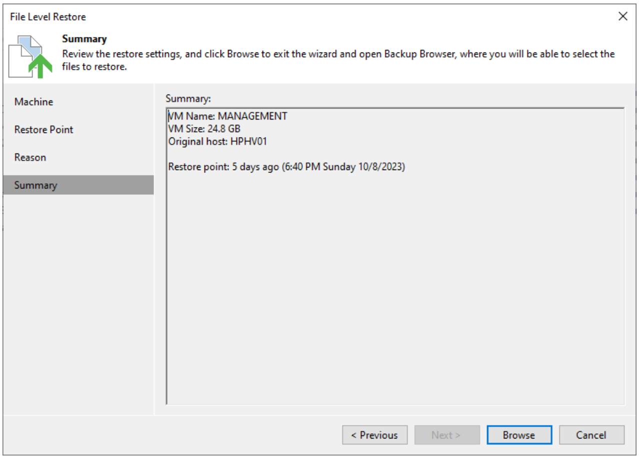
Type in the reason for performing this restore operation. This information will be logged in the restore sessions history for later reference.

Restore reason:

Restore Gest Files for Microsoft Windows.

☐ Do not show me this page again

12. On the Summary page, click Browse.


File Level Restore
Summary
Machine
Restore Point
Reason
Summary
< Previous
Next >
Browse
Cancel

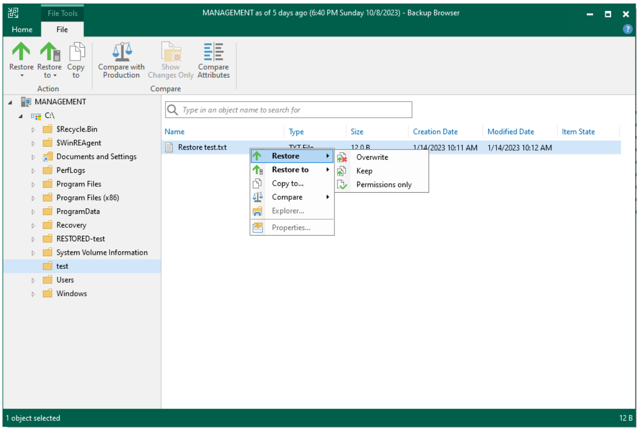
Review the restore settings, and click Browse to exit the wizard and open Backup Browser, where you will be able to select the files to restore.

Summary:

VM Name: MANAGEMENT
VM Size: 24.8 GB
Original host: HPHV01

Restore point: 5 days ago (6:40 PM Sunday 10/8/2023)

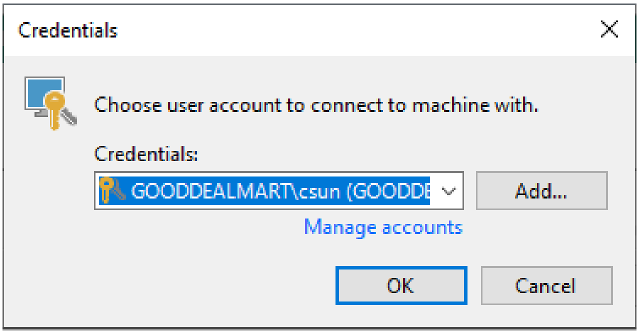
13. On the Backup Browser page, expand the disk, select the file, and right-click the file.
14. Select Restore and click Keep.


File Tools
Home
File
Restore
Restore to
Copy to
Action
Compare with Production
Show Changes Only
Compare Attributes
Compare
MANAGEMENT
C:\
$Recycle.Bin
$WinREAgent
Documents and Settings
PerfLogs
Program Files
Program Files (x86)
ProgramData
Recovery
RESTORED-test
System Volume Information
test
Users
Windows
Type in an object name to search for
Restore
Restore to
Copy to...
Compare
Explorer...
Properties...
Overwrite
Keep
Permissions only
1 object selected
12 B

MANAGEMENT as of 5 days ago (6:40 PM Sunday 10/8/2023) - Backup Browser

Name	Type	Size	Creation Date	Modified Date	Item State
Restore test.txt	TXT File	12.0 B	1/14/2023 10:11 AM	1/14/2023 10:12 AM	

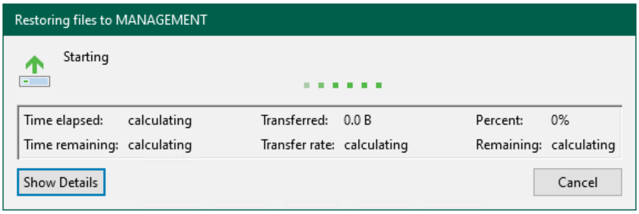
15. Select an account from the Credentials drop-down list on the Credentials page and click OK.


Credentials

Choose user account to connect to machine with.

Credentials: GOODDEALMART\csun (GOODDE

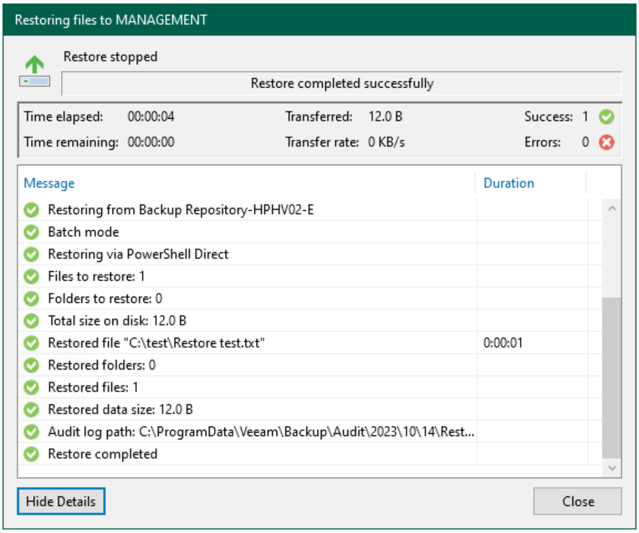
16. On the Restoring files page, click Show Details.


Restoring files to MANAGEMENT

Starting

Time elapsed: calculating
Time remaining: calculating
Transferred: 0.0 B
Transfer rate: calculating
Percent: 0%
Remaining: calculating

17. On the Restoring files page, ensure the restore is successful and click Close.


Restoring files to MANAGEMENT

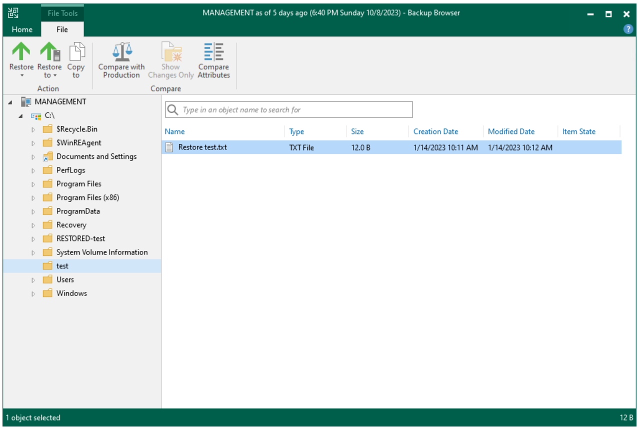
Restore stopped

Restore completed successfully

Time elapsed: 00:00:04
Time remaining: 00:00:00
Transferred: 12.0 B
Transfer rate: 0 KB/s
Success: 1
Errors: 0

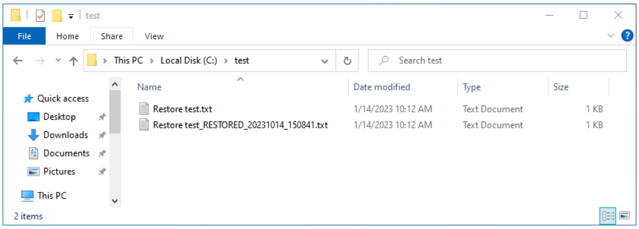
Message	Duration
Restoring from Backup Repository-HPHV02-E	
Batch mode	
Restoring via PowerShell Direct	
Files to restore: 1	
Folders to restore: 0	
Total size on disk: 12.0 B	
Restored file "C:\test\Restore test.txt"	0:00:01
Restored folders: 0	
Restored files: 1	
Restored data size: 12.0 B	
Audit log path: C:\ProgramData\Veeam\Backup\Audit\2023\10\14\Rest...	
Restore completed	

18. Close the Backup Browser.


MANAGEMENT as of 5 days ago (6:40 PM Sunday 10/8/2023) - Backup Browser
File Tools
Home
File
Restore
Restore to
Copy to
Action
Compare with Production
Show Changes Only
Compare Attributes
Compare
MANAGEMENT
C:\
$Recycle.Bin
$WinREAgent
Documents and Settings
PerfLogs
Program Files
Program Files (x86)
ProgramData
Recovery
RESTORED-test
System Volume Information
test
Users
Windows
Type in an object name to search for
1 object selected
12 B

Name	Type	Size	Creation Date	Modified Date	Item State
Restore test.txt	TXT File	12.0 B	1/14/2023 10:11 AM	1/14/2023 10:12 AM	

19. Verify the restored file.

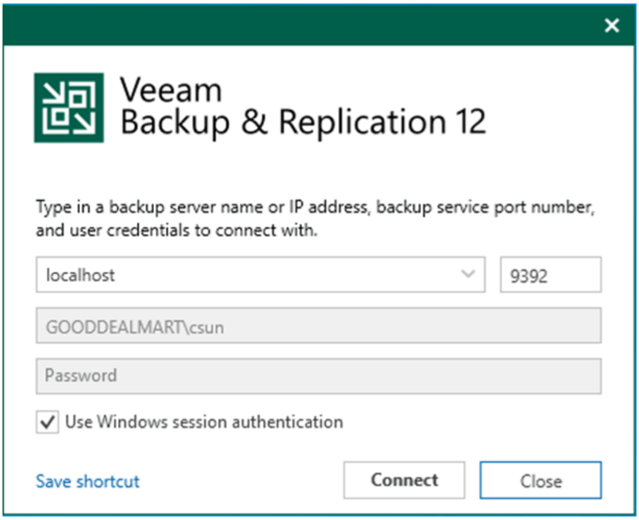

test
File
Home
Share
View
This PC › Local Disk (C:) › test
Search test
Quick access
Desktop
Downloads
Documents
Pictures
This PC
2 items

Name	Date modified	Type	Size
Restore test.txt	1/14/2023 10:12 AM	Text Document	1 KB
Restore test_RESTORED_20231014_150841.txt	1/14/2023 10:12 AM	Text Document	1 KB

Restore Guest Files (or Folder) for Linux with Host

You can restore files from Linux, Unix and other file systems to their original or new location.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.


Veeam
Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost 9392

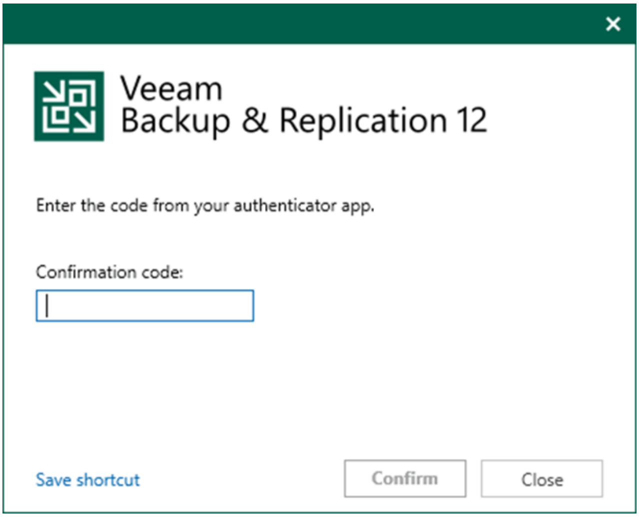
GOODDEALMART\csun

Password

☑ Use Windows session authentication

Save shortcut
Connect
Close

3. Enter the MFA Confirmation code and click Confirm.

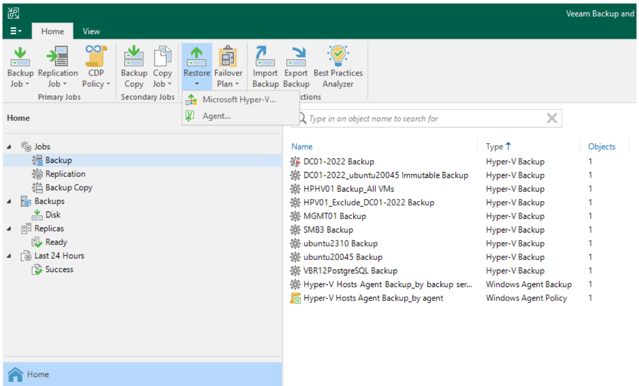

Veeam
Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

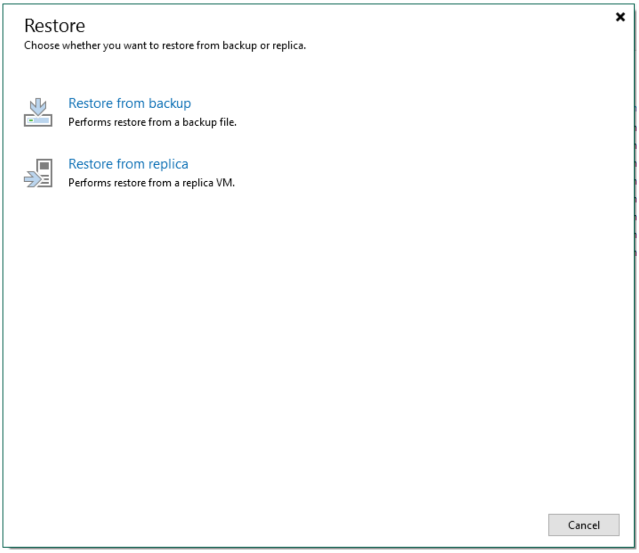
Save shortcut
Confirm
Close

4. On the Home page, click Restore and select Microsoft Hyper-V.


Veeam Backup and
Home
View
Backup Job
Replication Job
CDP Policy
Primary Jobs
Backup Copy
Copy Job
Secondary Jobs
Restore
Failover Plan
Import Backup
Export Backup
Best Practices Analyzer
ctions
Microsoft Hyper-V...
Agent...
Home
Type in an object name to search for
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Home

Name	Type	Objects
DC01-2022 Backup	Hyper-V Backup	1
DC01-2022_ubuntu20045 Immutable Backup	Hyper-V Backup	1
HPHV01 Backup_All VMs	Hyper-V Backup	1
HPV01_Exclude_DC01-2022 Backup	Hyper-V Backup	1
MGMT01 Backup	Hyper-V Backup	1
SMB3 Backup	Hyper-V Backup	1
ubuntu2310 Backup	Hyper-V Backup	1
ubuntu20045 Backup	Hyper-V Backup	1
VBR12PostgreSQL Backup	Hyper-V Backup	1
Hyper-V Hosts Agent Backup_by backup ser...	Windows Agent Backup	1
Hyper-V Hosts Agent Backup_by agent	Windows Agent Policy	1

5. On the Restore page, select Restore from backup.



Restore

Choose whether you want to restore from backup or replica.

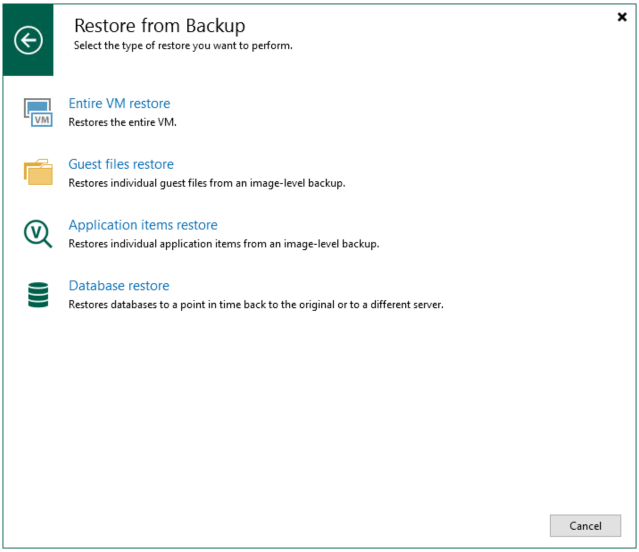
Restore from backup

Performs restore from a backup file.

Restore from replica

Performs restore from a replica VM.

6. On the Restore from Backup page, select Guest files restore.



Restore from Backup

Select the type of restore you want to perform.

Entire VM restore

Restores the entire VM.

Guest files restore

Restores individual guest files from an image-level backup.

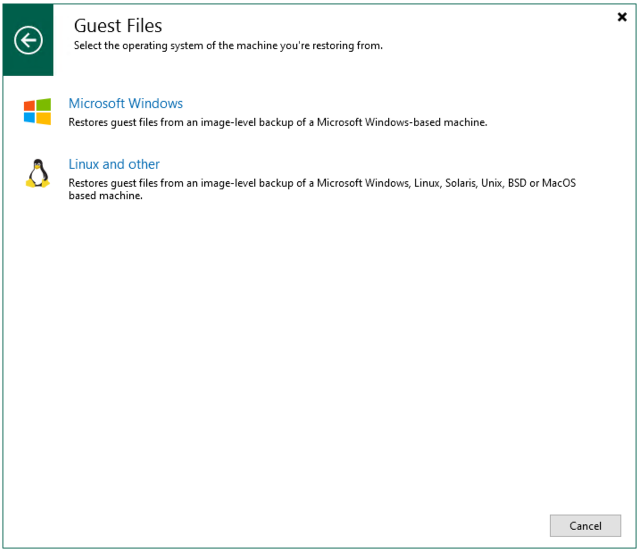
Application items restore

Restores individual application items from an image-level backup.

Database restore

Restores databases to a point in time back to the original or to a different server.

7. On the Guest files page, select Linux and other.



Guest Files

Select the operating system of the machine you're restoring from.

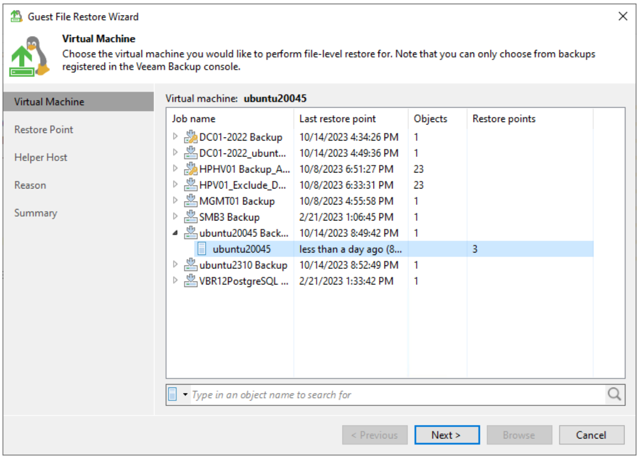
Microsoft Windows

Restores guest files from an image-level backup of a Microsoft Windows-based machine.

Linux and other

Restores guest files from an image-level backup of a Microsoft Windows, Linux, Solaris, Unix, BSD or MacOS based machine.

8. On the Virtual Machine page, expand the backup job.
9. Select the machine and click Next.



Guest File Restore Wizard
Virtual Machine
Restore Point
Helper Host
Reason
Summary
Type in an object name to search for
< Previous
Next >
Browse
Cancel

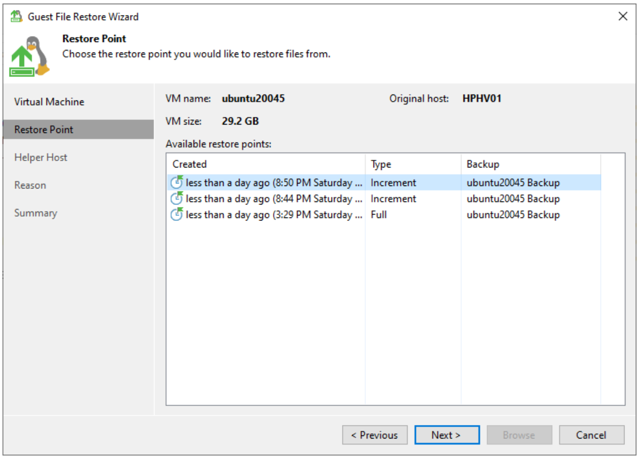
Virtual Machine

Choose the virtual machine you would like to perform file-level restore for. Note that you can only choose from backups registered in the Veeam Backup console.

Virtual machine: **ubuntu20045**

Job name	Last restore point	Objects	Restore points
DC01-2022 Backup	10/14/2023 4:34:26 PM	1	
DC01-2022_ubunt...	10/14/2023 4:49:36 PM	1	
HPHV01 Backup_A...	10/8/2023 6:51:27 PM	23	
HPV01_Exclude_D...	10/8/2023 6:33:31 PM	23	
MGMT01 Backup	10/8/2023 4:55:58 PM	1	
SMB3 Backup	2/21/2023 1:06:45 PM	1	
ubuntu20045 Back...	10/14/2023 8:49:42 PM	1	
ubuntu20045	less than a day ago (8...		3
ubuntu2310 Backup	10/14/2023 8:52:49 PM	1	
VBR12PostgreSQL ...	2/21/2023 1:33:42 PM	1	

10. Select the restore point on the Restore Point page and click Next.



Guest File Restore Wizard
Virtual Machine
Restore Point
Helper Host
Reason
Summary
< Previous
Next >
Browse
Cancel

Restore Point

Choose the restore point you would like to restore files from.

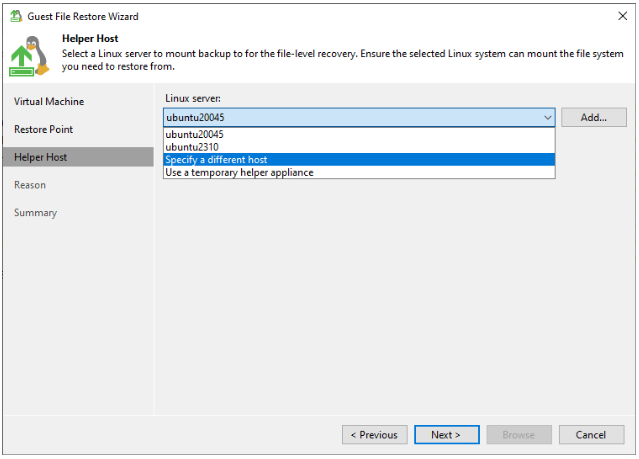
VM name: **ubuntu20045** Original host: **HPHV01**

VM size: **29.2 GB**

Available restore points:

Created	Type	Backup
less than a day ago (8:50 PM Saturday ...	Increment	ubuntu20045 Backup
less than a day ago (8:44 PM Saturday ...	Increment	ubuntu20045 Backup
less than a day ago (3:29 PM Saturday ...	Full	ubuntu20045 Backup

11. Select Specify a different host from the drop-down list on the Helper Host page and click Next.

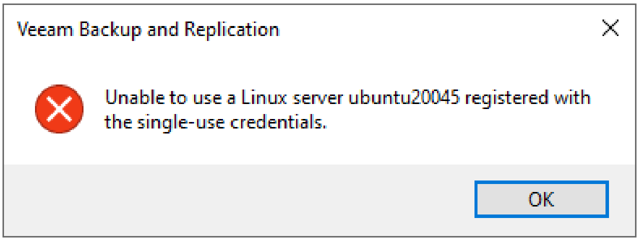

Guest File Restore Wizard

Helper Host

Select a Linux server to mount backup to for the file-level recovery. Ensure the selected Linux system can mount the file system you need to restore from.

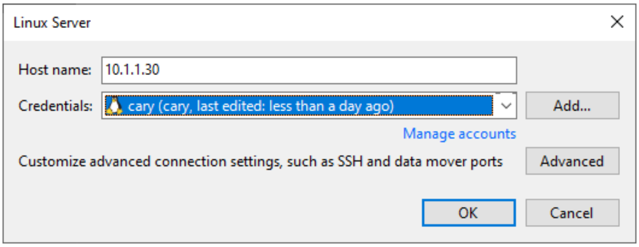
Linux server: ubuntu20045
Virtual Machine
Restore Point
Helper Host
Reason
Summary
ubuntu20045
ubuntu2310
Specify a different host
Use a temporary helper appliance
Add...
< Previous
Next >
Browse
Cancel

12. The Helper Host cannot use the single-use credential.


Veeam Backup and Replication

Unable to use a Linux server ubuntu20045 registered with the single-use credentials.

13. Enter the IP address of non-hardened repositories to the Host name.
14. Select the credential from the Credentials drop-down list.
15. Click Advance.

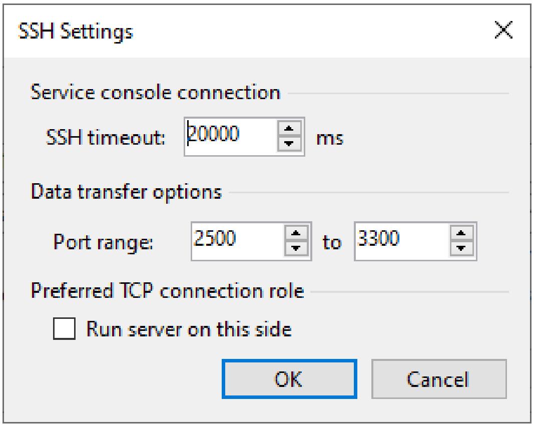

Linux Server

Host name: 10.1.1.30

Credentials: cary (cary, last edited: less than a day ago)

Customize advanced connection settings, such as SSH and data mover ports
Add...
Manage accounts
Advanced
OK
Cancel

16. On the SSH Settings page, keep the default settings and click OK.



SSH Settings

Service console connection

SSH timeout: 20000 ms

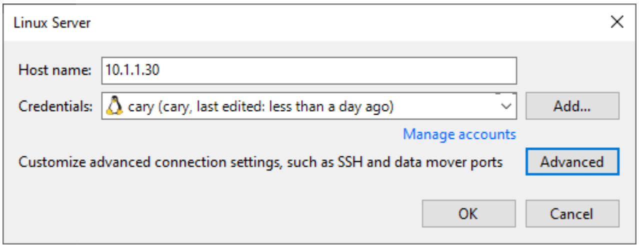
Data transfer options

Port range: 2500 to 3300

Preferred TCP connection role

☐ Run server on this side

17. Click OK on the Linux Server page.



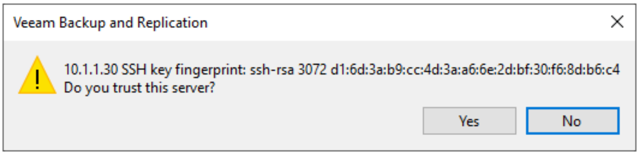
Linux Server

Host name: 10.1.1.30

Credentials: cary (cary, last edited: less than a day ago)

Customize advanced connection settings, such as SSH and data mover ports

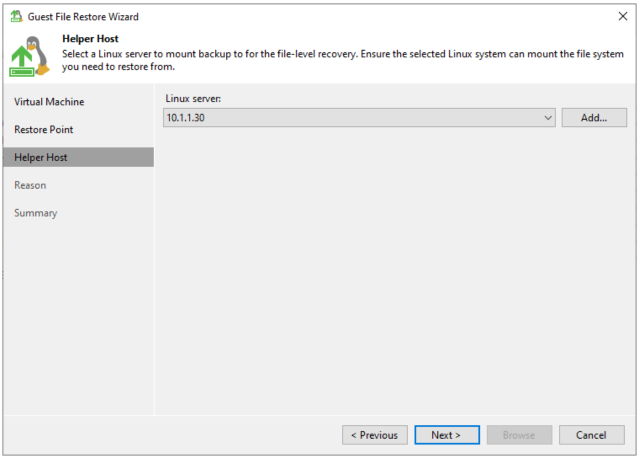
18. Click Yes on the Trust this Server warning page.



Veeam Backup and Replication

10.1.1.30 SSH key fingerprint: ssh-rsa 3072 d1:6d:3a:b9:cc:4d:3a:a6:6e:2d:bf:30:f6:8d:b6:c4
Do you trust this server?

19. Click Next on the Helper Host page.



Guest File Restore Wizard

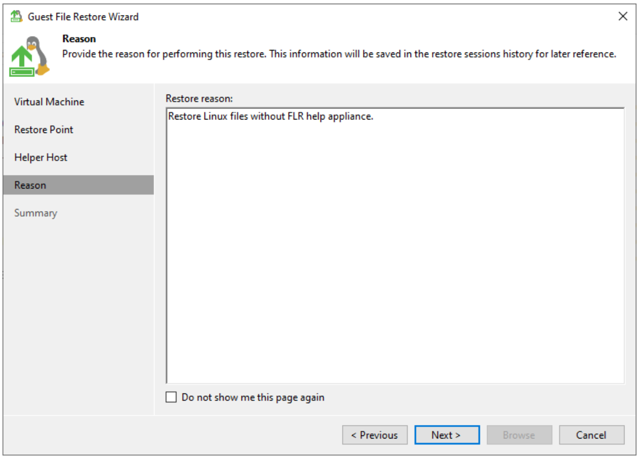
Helper Host

Select a Linux server to mount backup to for the file-level recovery. Ensure the selected Linux system can mount the file system you need to restore from.

Linux server: 10.1.1.30

Virtual Machine
Restore Point
Helper Host
Reason
Summary
Add...
< Previous
Next >
Browse
Cancel

20. Enter the reason for restoring the selected VMs on the Reason page and click Next.



Guest File Restore Wizard

Reason

Provide the reason for performing this restore. This information will be saved in the restore sessions history for later reference.

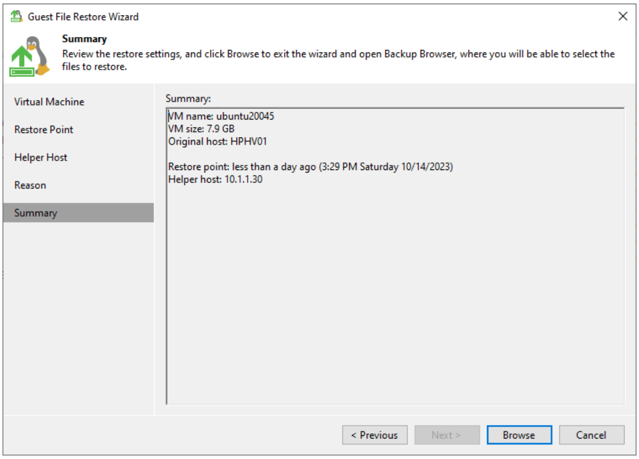
Restore reason:

Restore Linux files without FLR help appliance.

☐ Do not show me this page again

Virtual Machine
Restore Point
Helper Host
Reason
Summary
< Previous
Next >
Browse
Cancel

21. On the Summary page, click Browse.


Guest File Restore Wizard
Summary
Virtual Machine
Restore Point
Helper Host
Reason
Summary
< Previous
Next >
Browse
Cancel

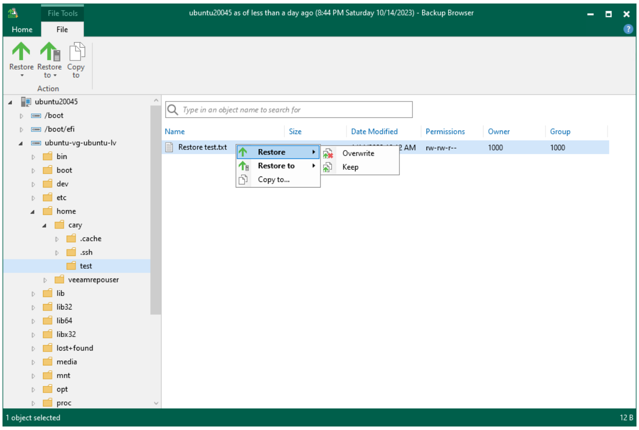
Review the restore settings, and click Browse to exit the wizard and open Backup Browser, where you will be able to select the files to restore.

Summary:

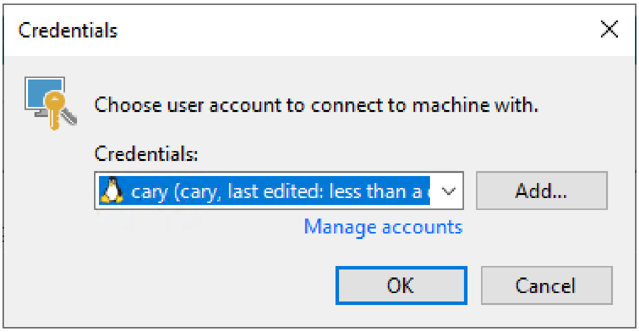
VM name: ubuntu20045
VM size: 7.9 GB
Original host: HPHV01

Restore point: less than a day ago (3:29 PM Saturday 10/14/2023)
Helper host: 10.1.1.30

22. On the Backup Browser page, expand the disk, select the file, and right-click the file.
23. Select Restore and click Keep.


ubuntu20045 as of less than a day ago (8:44 PM Saturday 10/14/2023) - Backup Browser
File Tools
Home
File
Restore
Restore to
Copy to
Action
ubuntu20045
/boot
/boot/efi
ubuntu-vg-ubuntu-lv
bin
boot
dev
etc
home
cary
.cache
.ssh
test
veeamrepouser
lib
lib32
lib64
libx32
lost+found
media
mnt
opt
proc
Type in an object name to search for
Name
Size
Date Modified
Permissions
Owner
Group
Restore test.txt
rw-rw-r--
1000
1000
Restore
Restore to
Copy to...
Overwrite
Keep
1 object selected
12 B

24. Select an account from the Credentials drop-down list on the Credentials page and click OK.

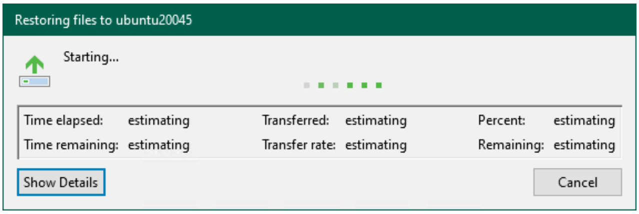


Credentials

Choose user account to connect to machine with.

Credentials: cary (cary, last edited: less than a

25. On the Restoring Files page, click Show Details.

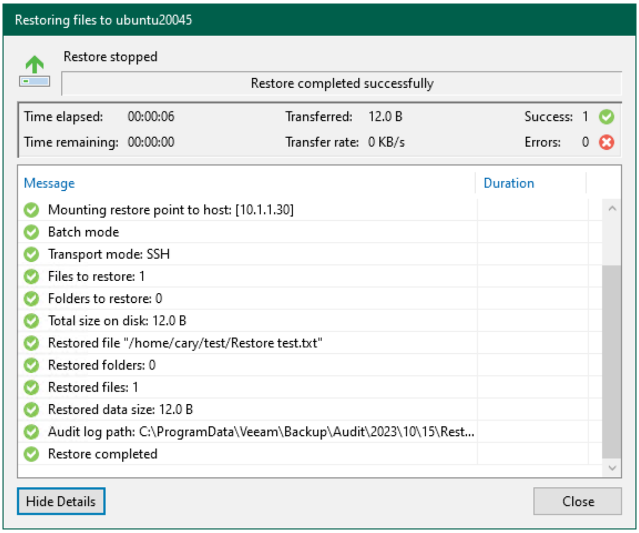


Restoring files to ubuntu20045

Starting...

Time elapsed: estimating
Time remaining: estimating
Transferred: estimating
Transfer rate: estimating
Percent: estimating
Remaining: estimating

26. On the Restoring files page, ensure the file restore is successful and click Close.



Restoring files to ubuntu20045

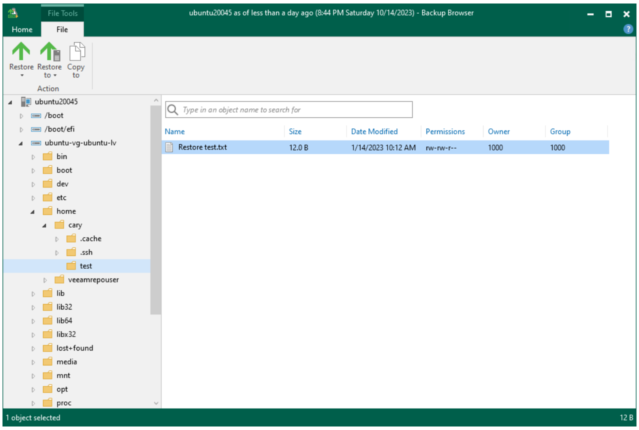
Restore stopped

Restore completed successfully

Time elapsed: 00:00:06
Time remaining: 00:00:00
Transferred: 12.0 B
Transfer rate: 0 KB/s
Success: 1
Errors: 0

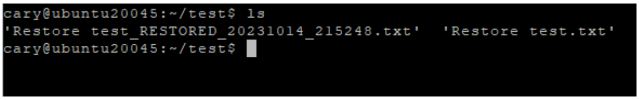
Message	Duration
Mounting restore point to host: [10.1.1.30]	
Batch mode	
Transport mode: SSH	
Files to restore: 1	
Folders to restore: 0	
Total size on disk: 12.0 B	
Restored file "/home/cary/test/Restore test.txt"	
Restored folders: 0	
Restored files: 1	
Restored data size: 12.0 B	
Audit log path: C:\ProgramData\Veeam\Backup\Audit\2023\10\15\Rest...	
Restore completed	

27. Close the Backup Browser.


ubuntu20045 as of less than a day ago (8:44 PM Saturday 10/14/2023) - Backup Browser
File Tools
Home
File
Restore
Restore to
Copy to
Action
ubuntu20045
/boot
/boot/efi
ubuntu-vg-ubuntu-lv
bin
boot
dev
etc
home
cary
.cache
.ssh
test
veeamrepouser
lib
lib32
lib64
libx32
lost+found
media
mnt
opt
proc
Type in an object name to search for
1 object selected
12 B

Name	Size	Date Modified	Permissions	Owner	Group
Restore test.txt	12.0 B	1/14/2023 10:12 AM	rw-rw-r--	1000	1000

28. Verify the restored file.

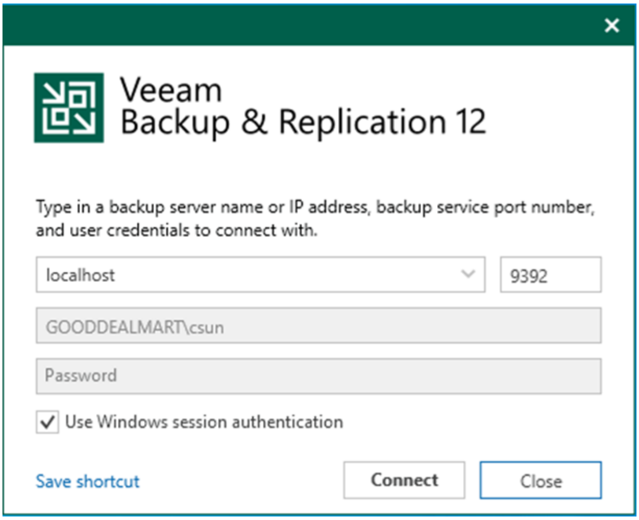


```
cary@ubuntu20045:~/test$ ls
'Restore test_RESTORED_20231014_215248.txt'  'Restore test.txt'
cary@ubuntu20045:~/test$ 
```

Restore Guest Files (or Folder) for Linux with Helper Appliance

You can restore files from Linux, Unix and other file systems to their original or new location.

1. Login to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication 12 Console and click Connect.



Veeam Backup & Replication 12

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost

9392

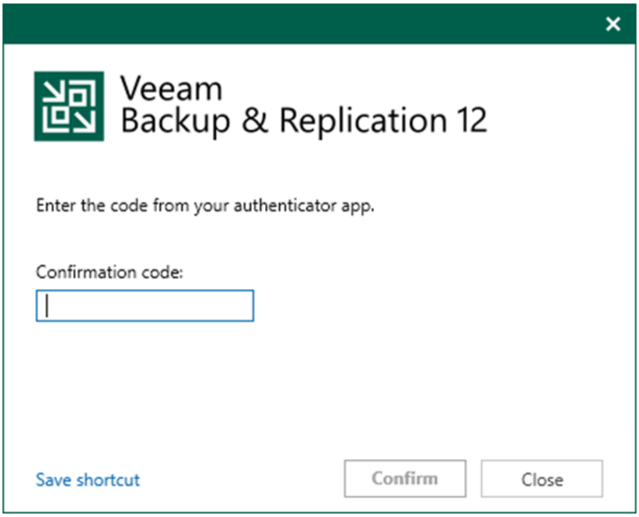
GOODDEALMART\csun

Password

☑ Use Windows session authentication

Save shortcut
Connect
Close

3. Enter the MFA Confirmation code and click Confirm.



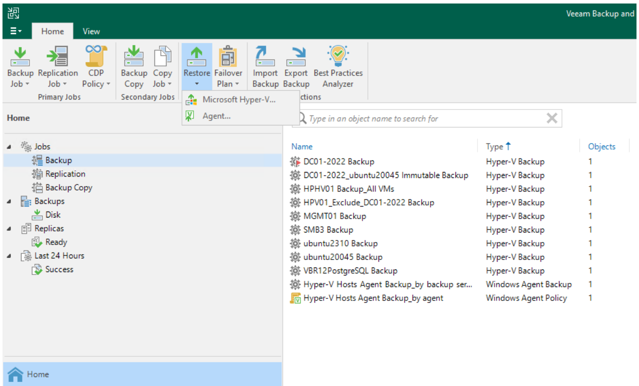
Veeam Backup & Replication 12

Enter the code from your authenticator app.

Confirmation code:

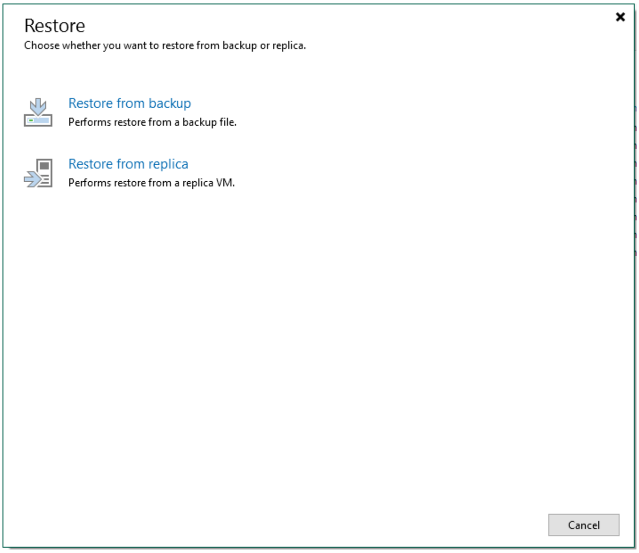
Save shortcut
Confirm
Close

4. On the Home page, click Restore and select Microsoft Hyper-V.


Veeam Backup and
Home
View
Backup Job
Replication Job
CDP Policy
Primary Jobs
Backup Copy
Copy Job
Secondary Jobs
Restore
Failover Plan
Import Backup
Export Backup
Best Practices Analyzer
ctions
Microsoft Hyper-V...
Agent...
Home
Type in an object name to search for
Jobs
Backup
Replication
Backup Copy
Backups
Disk
Replicas
Ready
Last 24 Hours
Success
Home

Name	Type	Objects
DC01-2022 Backup	Hyper-V Backup	1
DC01-2022_ubuntu20045 Immutable Backup	Hyper-V Backup	1
HPHV01 Backup_All VMs	Hyper-V Backup	1
HPV01_Exclude_DC01-2022 Backup	Hyper-V Backup	1
MGMT01 Backup	Hyper-V Backup	1
SMB3 Backup	Hyper-V Backup	1
ubuntu2310 Backup	Hyper-V Backup	1
ubuntu20045 Backup	Hyper-V Backup	1
VBR12PostgreSQL Backup	Hyper-V Backup	1
Hyper-V Hosts Agent Backup_by backup ser...	Windows Agent Backup	1
Hyper-V Hosts Agent Backup_by agent	Windows Agent Policy	1

5. On the Restore page, select Restore from backup.


Restore

Choose whether you want to restore from backup or replica.

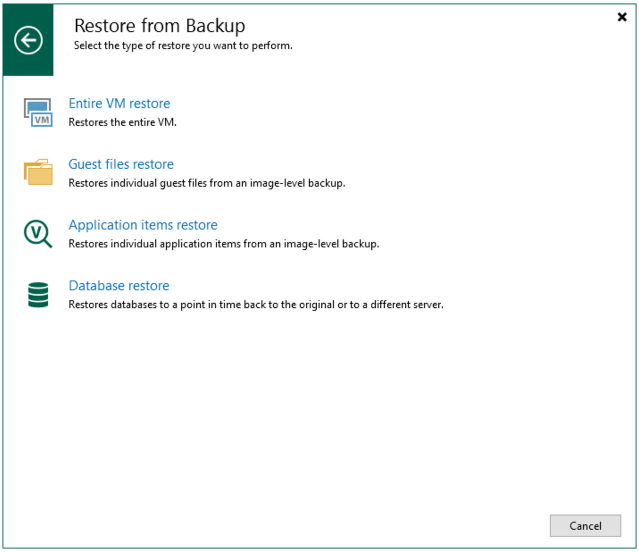
Restore from backup

Performs restore from a backup file.

Restore from replica

Performs restore from a replica VM.

6. On the Restore from Backup page, select Guest files restore.


Restore from Backup

Select the type of restore you want to perform.

Entire VM restore

Restores the entire VM.

Guest files restore

Restores individual guest files from an image-level backup.

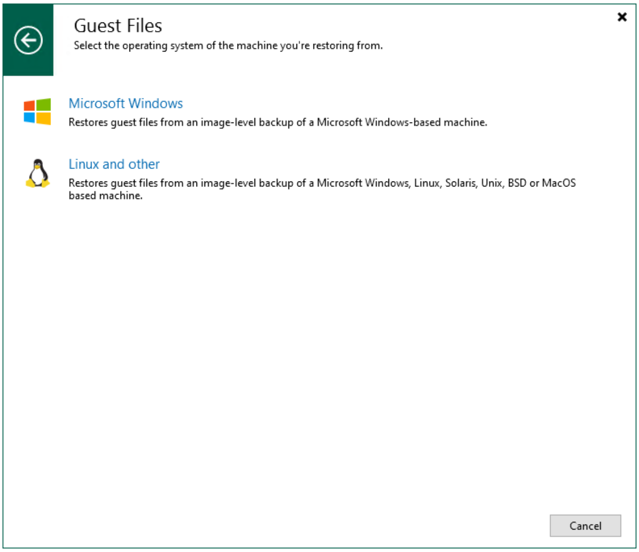
Application items restore

Restores individual application items from an image-level backup.

Database restore

Restores databases to a point in time back to the original or to a different server.

7. On the Guest files page, select Linux and other.


Guest Files

Select the operating system of the machine you're restoring from.

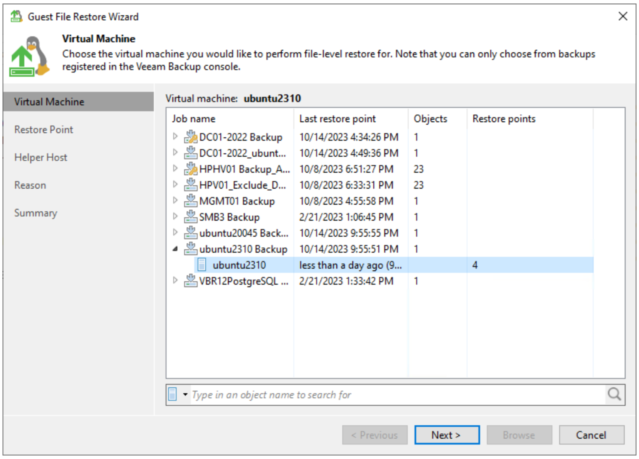
Microsoft Windows

Restores guest files from an image-level backup of a Microsoft Windows-based machine.

Linux and other

Restores guest files from an image-level backup of a Microsoft Windows, Linux, Solaris, Unix, BSD or MacOS based machine.

8. On the Virtual Machine page, expand the backup job.
9. Select the machine and click Next.


Guest File Restore Wizard
Virtual Machine
Restore Point
Helper Host
Reason
Summary
Type in an object name to search for
< Previous
Next >
Browse
Cancel

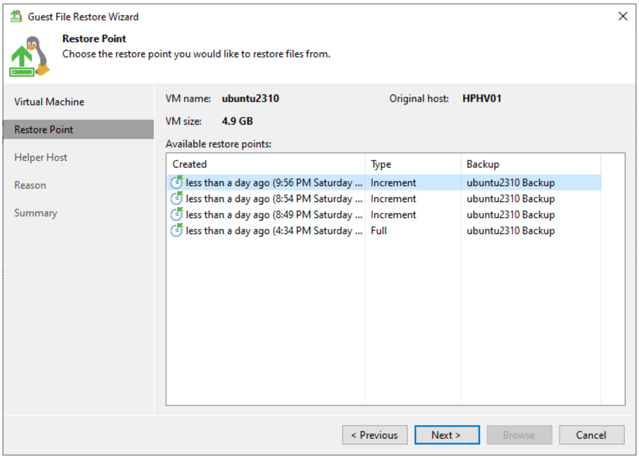
Virtual Machine

Choose the virtual machine you would like to perform file-level restore for. Note that you can only choose from backups registered in the Veeam Backup console.

Virtual machine: **ubuntu2310**

Job name	Last restore point	Objects	Restore points
DC01-2022 Backup	10/14/2023 4:34:26 PM	1	
DC01-2022_ubunt...	10/14/2023 4:49:36 PM	1	
HPHV01 Backup_A...	10/8/2023 6:51:27 PM	23	
HPV01_Exclude_D...	10/8/2023 6:33:31 PM	23	
MGMT01 Backup	10/8/2023 4:55:58 PM	1	
SMB3 Backup	2/21/2023 1:06:45 PM	1	
ubuntu20045 Back...	10/14/2023 9:55:55 PM	1	
ubuntu2310 Backup	10/14/2023 9:55:51 PM	1	
ubuntu2310	less than a day ago (9...		4
VBR12PostgreSQL ...	2/21/2023 1:33:42 PM	1	

10. Select the restore point on the Restore Point page and click Next.


Guest File Restore Wizard
Virtual Machine
Restore Point
Helper Host
Reason
Summary
< Previous
Next >
Browse
Cancel

Restore Point

Choose the restore point you would like to restore files from.

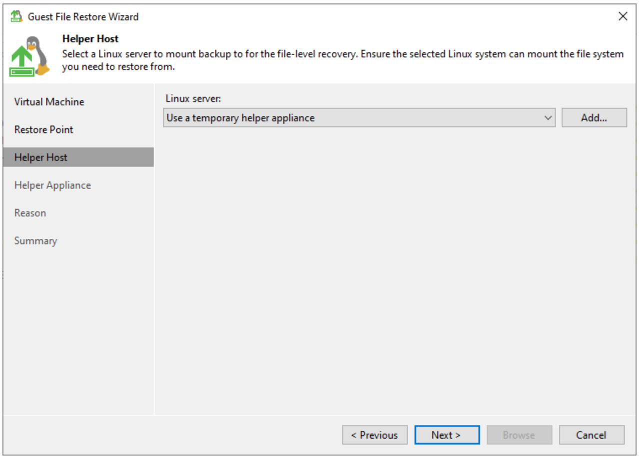
VM name: **ubuntu2310** Original host: **HPHV01**

VM size: **4.9 GB**

Available restore points:

Created	Type	Backup
less than a day ago (9:56 PM Saturday ...	Increment	ubuntu2310 Backup
less than a day ago (8:54 PM Saturday ...	Increment	ubuntu2310 Backup
less than a day ago (8:49 PM Saturday ...	Increment	ubuntu2310 Backup
less than a day ago (4:34 PM Saturday ...	Full	ubuntu2310 Backup

11. Select Use a temporary helper appliance from the drop-down list on the Helper Host page and click Next.



Guest File Restore Wizard

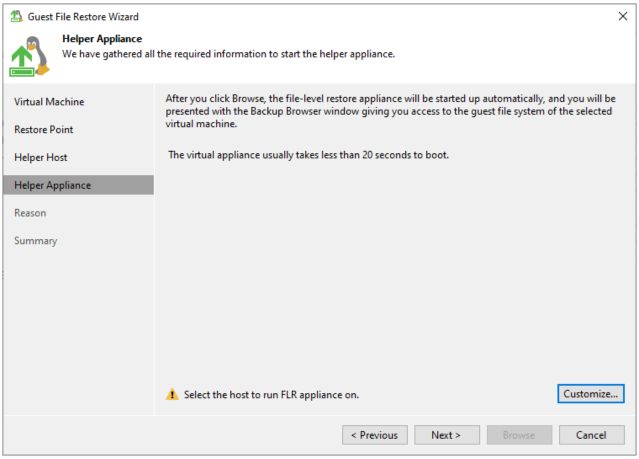
Helper Host

Select a Linux server to mount backup to for the file-level recovery. Ensure the selected Linux system can mount the file system you need to restore from.

Linux server: Use a temporary helper appliance

Virtual Machine
Restore Point
Helper Host
Helper Appliance
Reason
Summary
Add...
< Previous
Next >
Browse
Cancel

12. Click Customize on the Helper Appliance page.



Guest File Restore Wizard

Helper Appliance

We have gathered all the required information to start the helper appliance.

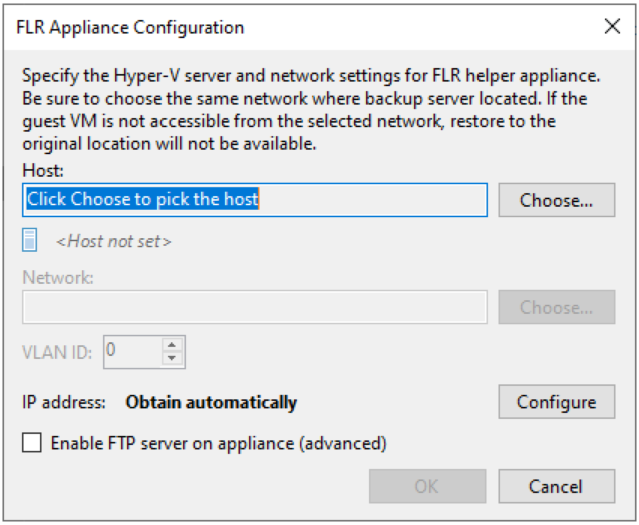
After you click Browse, the file-level restore appliance will be started up automatically, and you will be presented with the Backup Browser window giving you access to the guest file system of the selected virtual machine.

The virtual appliance usually takes less than 20 seconds to boot.

⚠ Select the host to run FLR appliance on.

Virtual Machine
Restore Point
Helper Host
Helper Appliance
Reason
Summary
Customize...
< Previous
Next >
Browse
Cancel

13. On the FLR Appliance Configuration page, click Choose to pick the host.



Specify the Hyper-V server and network settings for FLR helper appliance. Be sure to choose the same network where backup server located. If the guest VM is not accessible from the selected network, restore to the original location will not be available.

Host: Click Choose to pick the host

<Host not set>

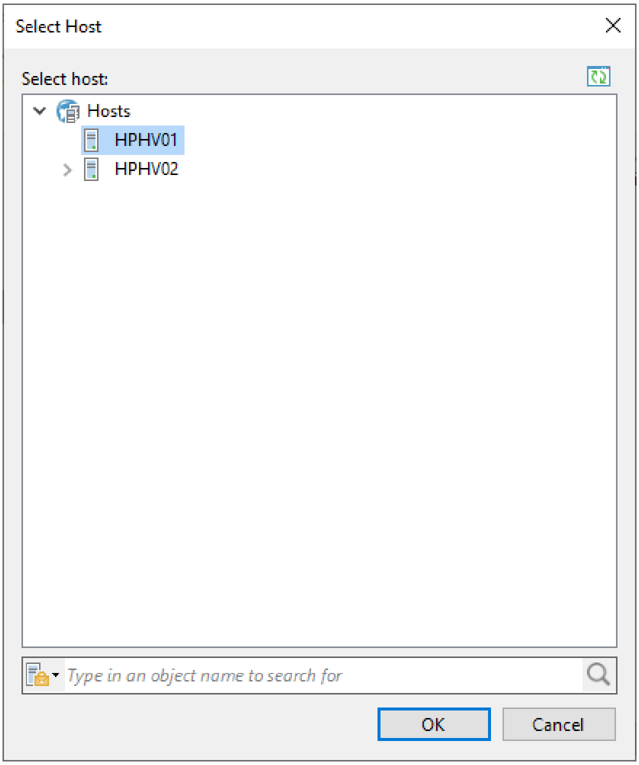
VLAN ID: 0

IP address: **Obtain automatically**

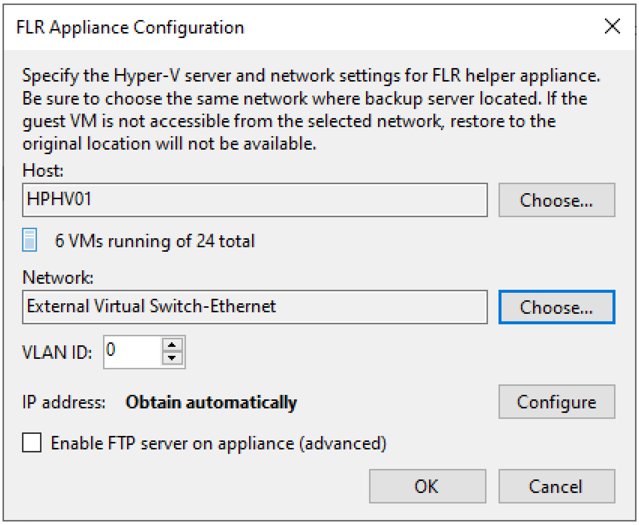
☐ Enable FTP server on appliance (advanced)

FLR Appliance Configuration
Choose...
Network:
Choose...
Configure
OK
Cancel

14. Select the host on the Select Host page and click OK.


Select Host
Select host:
Hosts
HPHV01
HPHV02
Type in an object name to search for
OK
Cancel

15. Click Choose to pick the Network.


FLR Appliance Configuration

Specify the Hyper-V server and network settings for FLR helper appliance. Be sure to choose the same network where backup server located. If the guest VM is not accessible from the selected network, restore to the original location will not be available.

Host: HPHV01

6 VMs running of 24 total

Network: External Virtual Switch-Ethernet

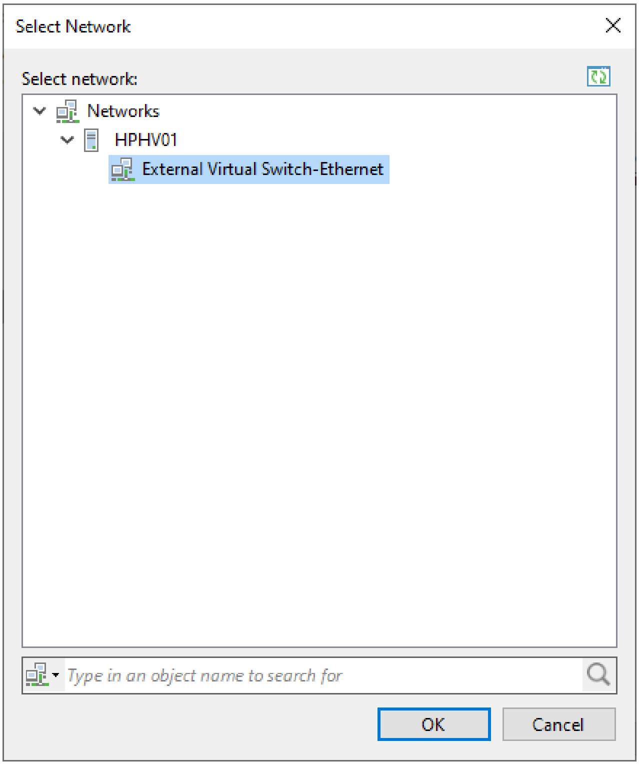
VLAN ID: 0

IP address: **Obtain automatically**

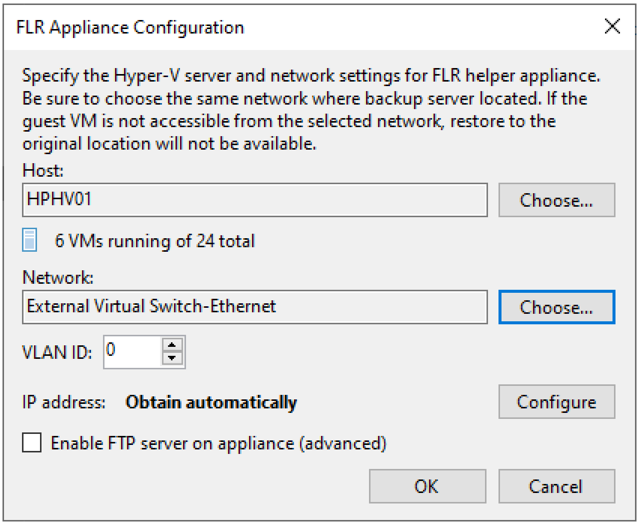
☐ Enable FTP server on appliance (advanced)

Choose...
Choose...
Configure
OK
Cancel

16. Select the network on the Select Network page.


Select Network
Select network:
Networks
HPHV01
External Virtual Switch-Ethernet
Type in an object name to search for
OK
Cancel

17. Enter the VLAN ID on the FLR Appliance Configuration page.
18. Click Configure to configure the IP address of the Appliance if you don’t use the DHCP.



FLR Appliance Configuration

Specify the Hyper-V server and network settings for FLR helper appliance. Be sure to choose the same network where backup server located. If the guest VM is not accessible from the selected network, restore to the original location will not be available.

Host: HPHV01

6 VMs running of 24 total

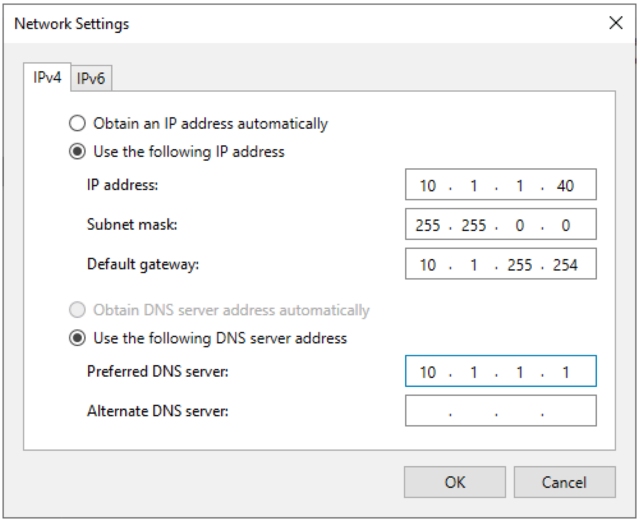
Network: External Virtual Switch-Ethernet

VLAN ID: 0

IP address: **Obtain automatically**

☐ Enable FTP server on appliance (advanced)

19. On the Network Settings page, enter the IP address and DNS settings.
20. Click OK.



Network Settings

IPv4 | IPv6

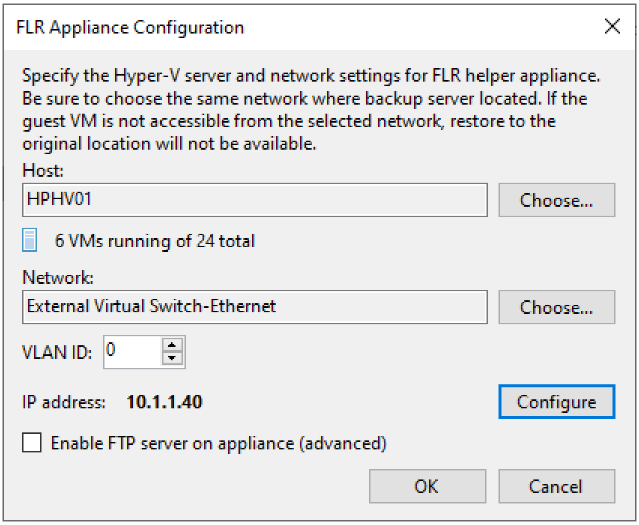
○ Obtain an IP address automatically
● Use the following IP address

IP address: 10 . 1 . 1 . 40
Subnet mask: 255 . 255 . 0 . 0
Default gateway: 10 . 1 . 255 . 254

○ Obtain DNS server address automatically
● Use the following DNS server address

Preferred DNS server: 10 . 1 . 1 . 1
Alternate DNS server: . . .

21. Click OK on the FLR Appliance Configuration page.


FLR Appliance Configuration
Choose...
Choose...
Configure
OK
Cancel

Specify the Hyper-V server and network settings for FLR helper appliance. Be sure to choose the same network where backup server located. If the guest VM is not accessible from the selected network, restore to the original location will not be available.

Host: HPHV01

6 VMs running of 24 total

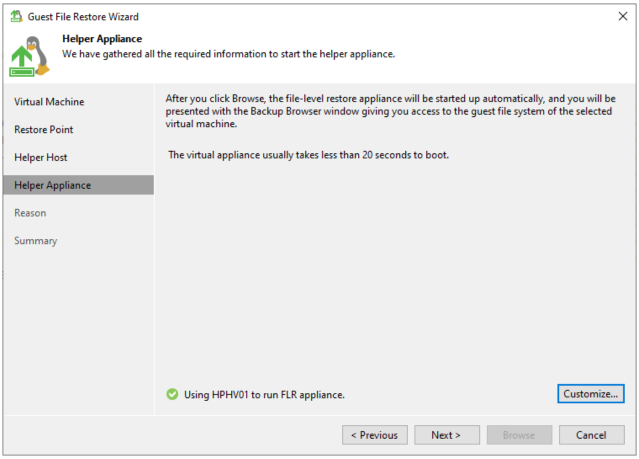
Network: External Virtual Switch-Ethernet

VLAN ID: 0

IP address: **10.1.1.40**

☐ Enable FTP server on appliance (advanced)

22. Click Next on the Helper Appliance page.


Guest File Restore Wizard
Virtual Machine
Restore Point
Helper Host
Helper Appliance
Reason
Summary
Customize...
< Previous
Next >
Browse
Cancel

Helper Appliance

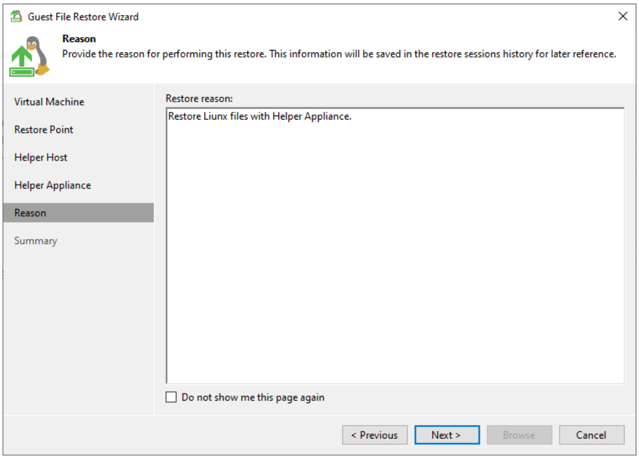
We have gathered all the required information to start the helper appliance.

After you click Browse, the file-level restore appliance will be started up automatically, and you will be presented with the Backup Browser window giving you access to the guest file system of the selected virtual machine.

The virtual appliance usually takes less than 20 seconds to boot.

✓ Using HPHV01 to run FLR appliance.

23. Enter the reason for restoring the selected VMs on the Reason page and click Next.


Guest File Restore Wizard
Virtual Machine
Restore Point
Helper Host
Helper Appliance
Reason
Summary
< Previous
Next >
Browse
Cancel

Reason

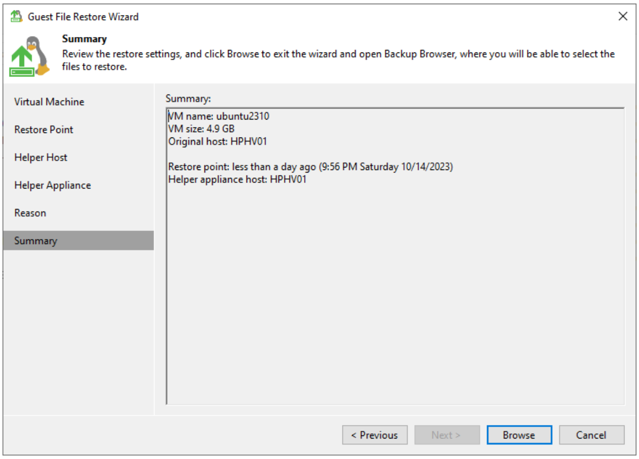
Provide the reason for performing this restore. This information will be saved in the restore sessions history for later reference.

Restore reason:

Restore Liunx files with Helper Appliance.

☐ Do not show me this page again

24. On the Summary page, click Browse.


Guest File Restore Wizard
Virtual Machine
Restore Point
Helper Host
Helper Appliance
Reason
Summary
< Previous
Next >
Browse
Cancel

Summary

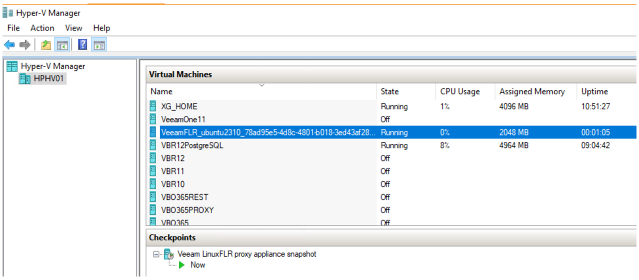
Review the restore settings, and click Browse to exit the wizard and open Backup Browser, where you will be able to select the files to restore.

Summary:

VM name: ubuntu2310
VM size: 4.9 GB
Original host: HPHV01

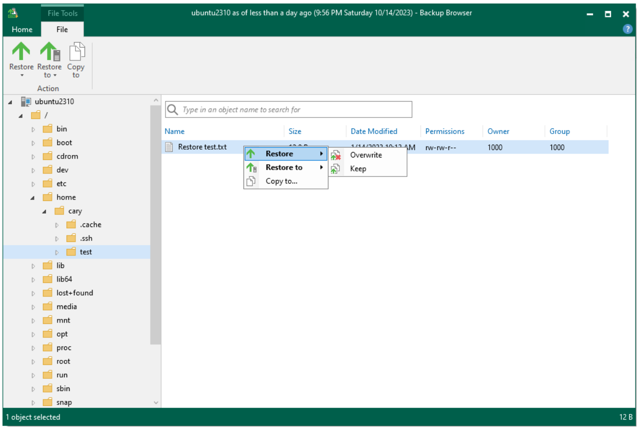
Restore point: less than a day ago (9:56 PM Saturday 10/14/2023)
Helper appliance host: HPHV01

25. The Helper Appliance VM is running at the host.

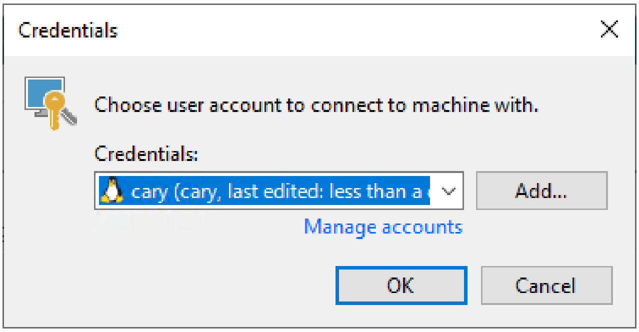

Hyper-V Manager
File
Action
View
Help
Hyper-V Manager
HPHV01
Virtual Machines
Checkpoints
Veeam LinuxFLR proxy appliance snapshot
Now

Name	State	CPU Usage	Assigned Memory	Uptime
XG_HOME	Running	1%	4096 MB	10:51:27
VeeamOne11	Off			
VeeamFLR_ubuntu2310_78ad95e5-4d8c-4801-b018-3ed43af28...	Running	0%	2048 MB	00:01:05
VBR12PostgreSQL	Running	8%	4964 MB	09:04:42
VBR12	Off			
VBR11	Off			
VBR10	Off			
VBO365REST	Off			
VBO365PROXY	Off			
VBO365	Off			

26. Expand the disk on the File Tools page, select the file, and right-click the file.
27. Select Restore and click Keep.


File Tools
ubuntu2310 as of less than a day ago (9:56 PM Saturday 10/14/2023) - Backup Browser
Home
File
Restore
Restore to
Copy to
Action
ubuntu2310
/
bin
boot
cdrom
dev
etc
home
cary
.cache
.ssh
test
lib
lib64
lost+found
media
mnt
opt
proc
root
run
sbin
snap
Type in an object name to search for
Name
Size
Date Modified
Permissions
Owner
Group
Restore test.txt
rw-rw-r--
1000
1000
Restore
Restore to
Copy to...
Overwrite
Keep
1 object selected
12 B

28. Select an account from the Credentials drop-down list on the Credentials page and click OK.

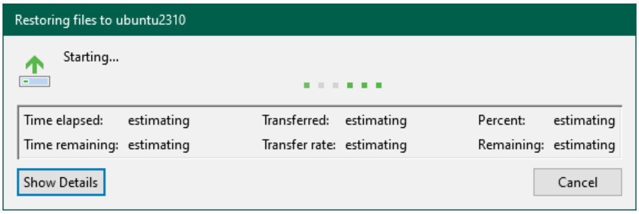


Credentials

Choose user account to connect to machine with.

Credentials: cary (cary, last edited: less than a

29. On the Restoring Files page, click Show Details.

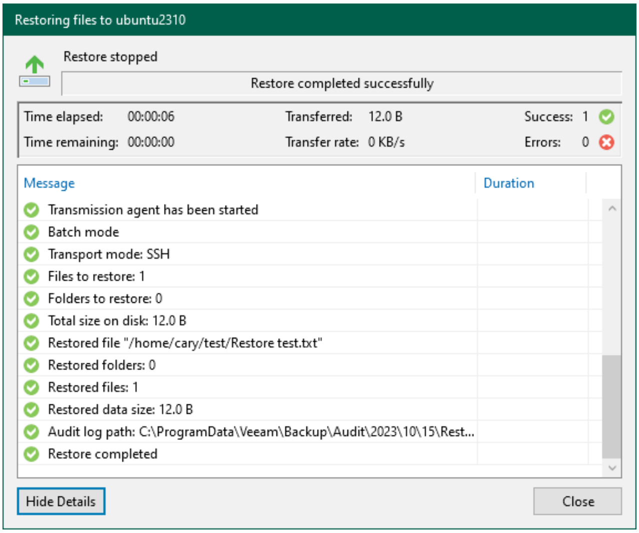


Restoring files to ubuntu2310

Starting...

Time elapsed: estimating
Time remaining: estimating
Transferred: estimating
Transfer rate: estimating
Percent: estimating
Remaining: estimating

30. On the Restoring files page, ensure the file restore is successful and click Close.



Restoring files to ubuntu2310

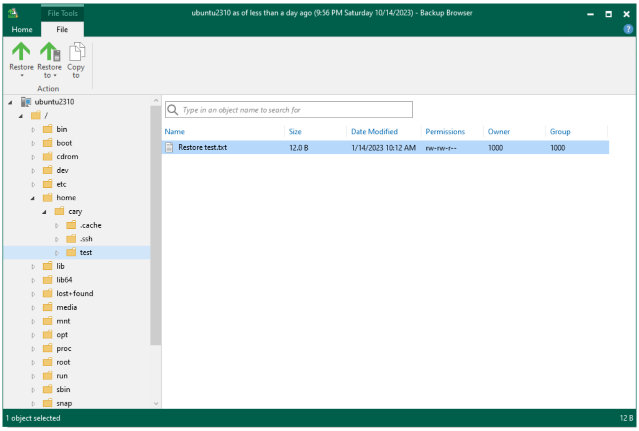
Restore stopped

Restore completed successfully

Time elapsed: 00:00:06
Time remaining: 00:00:00
Transferred: 12.0 B
Transfer rate: 0 KB/s
Success: 1
Errors: 0

Message	Duration
Transmission agent has been started	
Batch mode	
Transport mode: SSH	
Files to restore: 1	
Folders to restore: 0	
Total size on disk: 12.0 B	
Restored file "/home/cary/test/Restore test.txt"	
Restored folders: 0	
Restored files: 1	
Restored data size: 12.0 B	
Audit log path: C:\ProgramData\Veeam\Backup\Audit\2023\10\15\Rest...	
Restore completed	

31. Close the Backup Browser.

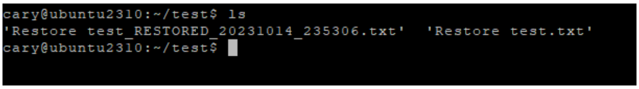

File Tools
Home
File
Restore
Restore to
Copy to
Action
Type in an object name to search for
ubuntu2310
/
bin
boot
cdrom
dev
etc
home
cary
.cache
.ssh
test
lib
lib64
lost+found
media
mnt
opt
proc
root
run
sbin
snap
12 B

ubuntu2310 as of less than a day ago (9:56 PM Saturday 10/14/2023) - Backup Browser

Name	Size	Date Modified	Permissions	Owner	Group
Restore test.txt	12.0 B	1/14/2023 10:12 AM	rw-rw-r--	1000	1000

1 object selected

32. Verify the restored file.



```
cary@ubuntu2310:~/test$ ls
'Restore test_RESTORED_20231014_235306.txt'  'Restore test.txt'
cary@ubuntu2310:~/test$
```

Chapter 4: Join us at MVPDays and meet great MVP’s like this in person

If you liked their book, you would love to hear them in person.

Live Presentations

Dave frequently speaks at Microsoft conferences around North America, such as TechEd, VeeamOn, TechDays, and MVPDays Community Roadshow.

Cristal runs the MVPDays Community Roadshow.

You can find additional information on the following blog:

www.checkyourlogs.net[1]

www.mvpdays.com[2]

Video Training

For video-based training, see the following site:

www.mvpdays.com

Live Instructor-led Classes

Dave has been a Microsoft Certified Trainer (MCT) for over 15 years, and presents scheduled instructor-led classes in the US and Canada. For current dates and locations, see the following sites:

---

[1] http://www.checkyourlogs.net

[2] http://www.mvpdays.com

- www.truesec.com
- www.checkyourlogs.net

Consulting Services

Dave and Cristal have worked with some of the largest companies in the world and have a wealth of experience and expertise. Customer engagements are typically between two weeks and six months.