



Veeam Backup & Replication

Version 12

Permissions for VMware vSphere

March, 2023

© 2023 Veeam Software.

All rights reserved. All trademarks are the property of their respective owners.

No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form by any means, without written permission from Veeam Software (Veeam). The information contained in this document represents the current view of Veeam on the issue discussed as of the date of publication and is subject to change without notice. Veeam shall not be liable for technical or editorial errors or omissions contained herein. Veeam makes no warranties, express or implied, in this document. Veeam may have patents, patent applications, trademark, copyright, or other intellectual property rights covering the subject matter of this document. All other trademarks mentioned herein are the property of their respective owners. Except as expressly provided in any written license agreement from Veeam, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

NOTE

Read the End User Software License Agreement before using the accompanying software programs. Using any part of the software indicates that you accept the terms of the End User Software License Agreement.

Contents

CONTACTING VEEAM SOFTWARE	4
ABOUT THIS DOCUMENT	5
INSTALLATION AND OPERATION	6
CUMULATIVE PERMISSIONS.....	8
BACKUP	11
REPLICATION.....	13
REPLICA FAILOVER	15
REPLICA FAILBACK	16
CONTINUOUS DATA PROTECTION (CDP).....	17
CDP FAILOVER	19
CDP FAILBACK.....	20
INSTANT VM RECOVERY	21
QUICK MIGRATION.....	22
SUREBACKUP.....	23
ENTIRE VM RESTORE.....	25
FILE-LEVEL RESTORE	27
VSPHERE WEB CLIENT PLUG-IN FOR VEEAM BACKUP & REPLICATION.....	28

Contacting Veeam Software

At Veeam Software we value feedback from our customers. It is important not only to help you quickly with your technical issues, but it is our mission to listen to your input and build products that incorporate your suggestions.

Customer Support

Should you have a technical concern, suggestion or question, visit the [Veeam Customer Support Portal](#) to open a case, search our knowledge base, reference documentation, manage your license or obtain the latest product release.

Company Contacts

For the most up-to-date information about company contacts and office locations, visit the [Veeam Contacts Webpage](#).

Online Support

If you have any questions about Veeam products, you can use the following resources:

- Full documentation set: veeam.com/documentation-guides-datasheets.html
- Veeam R&D Forums: forums.veeam.com

About This Document

This document provides information about accounts and permissions required for Veeam Backup & Replication installation and operation, and also about granular vCenter Server permissions required for the certain Veeam Backup & Replication operations in VMware vSphere 6.x environment.

Installation and Operation

The accounts used for installing and using Veeam Backup & Replication must have the following permissions (detailed list is provided in the User Guide):

Account	Required Permissions
Setup Account	Local Administrator permissions on the Veeam Backup & Replication console to install Veeam Backup & Replication.
Target/Source Host Configuration	Linux host: root or equivalent permissions Hyper-V server: Local Administrator permissions Target folder and share: write permissions ESXi server: root permissions vCenter: administrative or granular* permissions * The required granular permissions depend on the operations that you are planning to carry out. For the possible operations, see other sections in this guide. For example, permissions required for backup operations are described in the Backup section.
SQL Server	The account used to run Veeam Backup Service requires <i>db_datareader</i> and <i>db_datawriter</i> roles, as well as permissions to execute stored procedures for the VeeamBackup database (or another one used as Veeam Backup database) on the SQL Server instance. Alternatively, you can assign <i>db_owner</i> role for that database to service account. The account used to run Veeam Backup Enterprise Manager service requires <i>db_datareader</i> and <i>db_datawriter</i> roles, as well as permissions to execute stored procedures for the VeeamBackupReporting database (or another one used as Veeam Backup Enterprise Manager database) on the SQL Server instance. Alternatively, you can assign <i>db_owner</i> role for that database to service account.
Veeam Backup Enterprise Manager	Local Administrator permissions on the destination server to install Veeam Backup Enterprise Manager. To be able to work with Veeam Backup Enterprise Manager, users must be assigned the Portal Administrator, Restore Operator or Portal User role. For more information on permissions required for Enterprise Manager operation, see the Required Permissions section in the Enterprise Manager User Guide.
Veeam Explorer for Microsoft Active Directory	The account used for connection with target domain controller where objects/containers will be restored needs the following: <ul style="list-style-type: none">• Administrative rights for target Active Directory• Membership in the Exchange Organization Management group – to provide for automatic mailbox re-connect for recovered user or group account

Account	Required Permissions
Veeam Explorer for Microsoft SQL Server	<ul style="list-style-type: none"> The user account that you specify for guest processing of the Microsoft SQL Server VM in the backup job should have the sysadmin fixed role assigned on that SQL Server, or the set of granular roles described here. The account you will use to access the target Microsoft SQL server where database will be restored needs the sysadmin fixed role on that server. The account you plan to use for connection to the Windows machine (where database log backup files will be copied for further log replay) will need sufficient permissions to access the administrative share on that machine: Read and Write are minimal required. For restore scenarios that involve log replay, that machine is your target SQL Server. For export, this is your staging system. For more information, see the Required Permissions section in the Veeam Explorers User Guide. The account used to run Veeam Explorer for Microsoft SQL Server should have sufficient permissions for the folder where you plan to export the database files: Read and Write are minimal recommended.
Veeam Explorer for Microsoft Exchange	<p>Full access to Microsoft Exchange database and its log files for item recovery. You need both Read and Write permissions to all files in the folder with the database.</p> <p>Access rights for item recovery can be provided through impersonation, as described in the Configuring Exchange Impersonation article, or by providing user account with Full Access to mailbox.</p> <p>For more information, see the Required Permissions section in the Veeam Explorers User Guide.</p>
Veeam Explorer for Microsoft SharePoint	<p>For more information on accounts used for Veeam Explorer operations and corresponding permissions, see the Required Permissions section in the Veeam Explorers User Guide.</p>
Veeam Explorer for Oracle	<p>For more information on accounts used for Veeam Explorer operations, and corresponding permissions see the Required Permissions section in the Veeam Explorers User Guide.</p>

IMPORTANT!

To backup and restore virtual machines in VMware vSphere 5.x environment, make sure the following permissions are set for the corresponding account at the vCenter Server level: Disable methods, Enable methods, Licenses.

For more information, see the VMware Knowledge Base [KB 2063054](#) article.

Cumulative Permissions

This section lists cumulative vCenter permissions required for Veeam Backup & Replication operations.

IMPORTANT

To back up and restore virtual machines in VMware vSphere 5.x environment, make sure the following permissions are set for the corresponding account at the vCenter Server level: Disable Methods, Enable Methods, Licenses.

For more information, refer to the VMware Knowledge Base [KB 2063054](#) article.

NOTE

The permissions to create and edit tag categories can only be granted at the root level.

Privilege Level	Cumulative Permissions
Cryptographic operations²	Add disk Direct Access Encrypt Encrypt new Migrate
dvPort Group	Create Delete Modify
Datastore	Allocate space Browse datastore Configure datastore Low-level file operations Remove file
Extension	Register extension Unregister extension
Folder	Create folder Delete folder
Global	Diagnostics ¹ Disable methods Enable methods Licenses Log event Manage custom attributes Set custom attribute Settings

Privilege Level		Cumulative Permissions
Host	Configuration	Advanced settings Maintenance Network configuration Query patch Storage partition configuration
vSphere Tagging		Assign or Unassign vSphere Tag
Network		Assign network Configure
Resource		Assign virtual machine to resource pool Create resource pool Migrate powered off virtual machine Migrate powered on virtual machine Remove resource pool
Datastore cluster		Configure a datastore cluster
Profile-driven storage		Profile-driven storage update Profile-driven storage view
vApp		Add virtual machine Assign resource pool Unregister
Virtual Machine	Change Configuration	Acquire disk lease Add existing disk Add new disk Add or remove device Advanced configuration Change settings Change resource Configure RAW device ³ Extend virtual disk Modify device settings Remove disk Rename Set annotation Toggle disk change tracking
	Edit Inventory	Create Register Remove Unregister

Privilege Level		Cumulative Permissions
	Guest operations	Guest operation modifications Guest operation program execution Guest operation queries
	Interaction	Configure CD media Configure floppy media Console interaction Connect devices Guest operating system management by VIX API Power Off Power On Suspend
	Provisioning	Allow disk access Allow read-only disk access Allow virtual machine download Allow virtual machine files upload Mark as template ⁴ Mark as virtual machine ⁴
	Snapshot Management	Create snapshot Remove snapshot Rename snapshot Revert to snapshot

¹ required if continuous data protection is configured

² required if encryption policies are used

³ required if machines have Virtual Compatibility RDM disks and Virtual appliance mode is used for a backup proxy

⁴ required for template restore

Backup

Below are vCenter Server granular permissions required for backup:

Privilege Level		Required Permissions		
		Direct SAN Access Mode	Virtual Appliance Mode	Network Mode
Cryptographic operations		Direct Access	Direct Access	Direct Access
Datastore		Low-level file operations	Low-level file operations	Low-level file operations
Global		Disable methods Enable methods Licenses Log event Manage custom attributes Set custom attribute	Disable methods Enable methods Licenses Log event Manage custom attributes Set custom attribute	Disable methods Enable methods Licenses Log event Manage custom attributes Set custom attribute
Datastore cluster		Configure a datastore cluster	Configure a datastore cluster	Configure a datastore cluster
Virtual Machine	Change Configuration	Acquire disk lease Advanced configuration Set Annotation Toggle disk change tracking	Acquire disk lease Add existing disk Add or remove device Advanced configuration Configure RAW device (if machines have Virtual Compatibility RDM disks) Remove disk Set annotation Toggle disk change tracking	Acquire disk lease Advanced configuration Set annotation Toggle disk change tracking
	Guest operations	Guest operation modifications Guest operation program execution Guest operation queries	Guest operation modifications Guest operation program execution Guest operation queries	Guest operation modifications Guest operation program execution Guest operation queries
	Interaction	Guest operating system management by VIX API	Guest operating system management by VIX API	Guest operating system management by VIX API

Privilege Level		Required Permissions		
		Direct SAN Access Mode	Virtual Appliance Mode	Network Mode
	Provisioning	Allow read-only disk access Allow virtual machine download	Allow read-only disk access Allow virtual machine download	Allow read-only disk access Allow virtual machine download
	Snapshot Management	Create snapshot Remove snapshot	Create snapshot Remove snapshot	Create snapshot Remove snapshot

Replication

Below are vCenter Server granular permissions required for replication:

Privilege Level	Required Permissions		
	Direct SAN Access Mode	Virtual Appliance Mode	Network Mode
Cryptographic operations	Direct Access	Direct Access	Direct Access
Datastore	Allocate space Browse datastore Configure datastore Low-level file operations Remove file	Allocate space Browse datastore Configure datastore Low-level file operations Remove file	Allocate space Browse datastore Configure datastore Low-level file operations Remove file
Global	Disable methods Enable methods Licenses Log event Manage custom attributes Set custom attribute	Disable methods Enable methods Licenses Log event Manage custom attributes Set custom attribute	Disable methods Enable methods Licenses Log event Manage custom attributes Set custom attribute
Network	Assign network	Assign network	Assign network
Resource	Assign virtual machine to resource pool	Assign virtual machine to resource pool	Assign virtual machine to resource pool
Datastore cluster	Configure a datastore cluster	Configure a datastore cluster	Configure a datastore cluster
Profile-driven storage	Profile-driven storage update Profile-driven storage view	Profile-driven storage update Profile-driven storage view	Profile-driven storage update Profile-driven storage view
vApp	Add virtual machine Assign resource pool Unregister	Add virtual machine Assign resource pool Unregister	Add virtual machine Assign resource pool Unregister

Privilege Level		Required Permissions		
		Direct SAN Access Mode	Virtual Appliance Mode	Network Mode
Virtual Machine	Change Configuration	Acquire disk lease Add new disk Advanced configuration Change Settings Extend virtual disk Modify device settings Toggle disk change tracking	Acquire disk lease Add existing disk Add new disk Advanced configuration Change Settings Change resource Extend virtual disk Modify device settings Remove disk Toggle disk change tracking	Acquire disk lease Add new disk Advanced configuration Change Settings Extend virtual disk Modify device settings Toggle disk change tracking
	Edit Inventory	Create new Register Remove	Create new Register Remove	Create new Register Remove
	Guest operations	Guest operation modifications Guest operation program execution Guest operation queries	Guest operation modifications Guest operation program execution Guest operation queries	Guest operation modifications Guest operation program execution Guest operation queries
	Interaction	Connect devices Guest operating system management by VIX API	Connect devices Guest operating system management by VIX API	Connect devices Guest operating system management by VIX API
	Provisioning	Allow disk access Allow read-only disk access Allow virtual machine download	Allow disk access Allow read-only disk access Allow virtual machine download	Allow disk access Allow read-only disk access Allow virtual machine download
	Snapshot Management	Create snapshot Remove snapshot Rename snapshot Revert to snapshot	Create snapshot Remove snapshot Rename snapshot Revert to snapshot	Create snapshot Remove snapshot Rename snapshot Revert to snapshot

Replica Failover

Below are vCenter Server granular permissions required for replica failover:

Privilege Level		Required Permissions
Datastore		Browse datastore Low-level file operations Remove file
Global		Log event
Virtual Machine	Change Configuration	Advanced Configuration Rename
	Interaction	Power Off Power On
	Snapshot Management	Create snapshot Remove snapshot Revert to snapshot

Replica Failback

Below are vCenter Server granular permissions required for replica failback:

Privilege Level		Required Permissions
Datastore		Allocate space Browse datastore Low-level file operations Remove file
Global		Disable methods Enable methods Licenses Log event
vSphere Tagging		Assign or Unassign vSphere Tag
Resource		Assign virtual machine to resource pool
Profile-driven storage		Profile-driven storage update Profile-driven storage view
Virtual Machine	Change Configuration	Acquire disk lease Add existing disk Add new disk Advanced configuration Remove disk Rename Toggle disk change tracking
	Edit Inventory	Register
	Interaction	Power Off Power On
	Provisioning	Allow disk access Allow read-only disk access Allow virtual machine download
	Snapshot Management	Create snapshot Remove snapshot Revert to snapshot

Continuous Data Protection (CDP)

Below are vCenter Server granular permissions required for continuous data protection (CDP):

Privilege Level		Required Permissions
Datastore		<ul style="list-style-type: none"> Allocate space Browse datastore Configure datastore Low-level file operations Remove file
Global		<ul style="list-style-type: none"> Diagnostics Disable methods Enable methods Licenses Log event Manage custom attributes Set custom attribute
Host	Configuration	<ul style="list-style-type: none"> Advanced settings Maintenance Query patch
Network		<ul style="list-style-type: none"> Assign network
Resource		<ul style="list-style-type: none"> Assign virtual machine to resource pool
Datastore cluster		<ul style="list-style-type: none"> Configure a datastore cluster
Profile-driven storage		<ul style="list-style-type: none"> Profile-driven storage update Profile-driven storage view
vApp		<ul style="list-style-type: none"> Add virtual machine Assign resource pool Unregister
Virtual Machine	Change Configuration	<ul style="list-style-type: none"> Acquire disk lease Add existing disk Add new disk Advanced configuration Change settings Extend virtual disk Remove disk Toggle disk change tracking

Privilege Level		Required Permissions
	Edit Inventory	Register Remove
	Guest operations	Guest operation modifications Guest operation program execution Guest operation queries
	Interaction	Connect devices Guest operating system management by VIX API
	Provisioning	Allow disk access Allow read-only disk access Allow virtual machine download
	Snapshot Management	Create snapshot Remove snapshot Rename snapshot Revert to snapshot

CDP Failover

Granular permissions required for CDP failover are the same as for replica failover. For more information, see [Replica Failover](#).

CDP Failback

Below are vCenter Server granular permissions required for CDP failback:

Privilege Level		Required Permissions
Datastore		Allocate space Browse datastore Low-level file operations Remove file
Global		Disable methods Enable methods Licenses Log event
vSphere Tagging		Assign or Unassign vSphere Tag
Resource		Assign virtual machine to resource pool
Profile-driven storage		Profile-driven storage update Profile-driven storage view
Virtual Machine	Change Configuration	Acquire disk lease Add existing disk Add new disk Advanced configuration Change Settings Remove disk Rename Toggle disk change tracking
	Edit Inventory	Register
	Interaction	Power Off Power On
	Provisioning	Allow disk access Allow read-only disk access Allow virtual machine download
	Snapshot Management	Create snapshot Remove snapshot Revert to snapshot

Instant VM Recovery

Below are vCenter Server granular permissions required for Instant VM Recovery:

Privilege Level		Required Permissions
Datastore		Browse datastore Low-level file operations Remove file
Global		Log event
Host	Configuration	Storage partition configuration
Network		Assign network Configure
Resource		Assign virtual machine to resource pool
vApp		Add virtual machine Assign resource pool Unregister
Virtual Machine	Change Configuration	Modify device settings Toggle disk change tracking
	Interaction	Configure CD media Configure floppy media Console interaction Power Off Power On
	Edit Inventory	Register Unregister
	Snapshot Management	Create snapshot Remove snapshot

Quick Migration

Below are vCenter Server granular permissions required for Quick Migration:

Privilege Level		Required Permissions
Datastore		Allocate space Browse datastore Low-level file operations Remove file
Global		Disable methods Enable methods Licenses Log event Settings
Resource		Assign virtual machine to resource pool Migrate powered off virtual machine Migrate powered on virtual machine
vApp		Add virtual machine Assign resource pool
Virtual Machine	Change Configuration	Add existing disk Add new disk Advanced configuration Change resource Remove disk Rename
	Interaction	Connect devices Power Off Power On Suspend
	Edit Inventory	Register Remove Unregister
	Provisioning	Allow disk access Allow read-only disk access Allow virtual machine download
	Snapshot Management	Create snapshot Remove snapshot Revert to snapshot

SureBackup

Below are vCenter Server granular permissions required for SureBackup:

Privilege Level		Required Permissions
dvPort Group		Create Delete
Datastore		Browse datastore Low-level file operations Remove file Configure datastore (if you restore to vSAN datastore)
Folder		Create folder Delete folder
Global		Licenses Log event
Host	Configuration	Network configuration Storage partition configuration
Network		Assign network
Resource		Assign virtual machine to resource pool Create resource pool Remove resource pool
Virtual Machine	Change Configuration	Add or remove device Advanced configuration Modify device settings* Toggle disk change tracking* * For virtual labs with VMware Distributed vSwitch (DVS).
	Interaction	Power Off Power On
	Edit Inventory	Register Remove Unregister
	Provisioning	Allow disk access

Privilege Level		Required Permissions
	Snapshot Management	Create snapshot Remove snapshot

Entire VM Restore

Below are vCenter Server granular permissions required for entire VM restore:

Privilege Level	Required Permissions		
	Direct SAN Access Mode	Virtual Appliance Mode	Network Mode
dvPort Group	Create Delete	Create Delete	Create Delete
Datastore	Allocate space Browse datastore Low-level file operations Remove file	Allocate space Browse datastore Configure datastore (if you restore to vSAN datastore) Low-level file operations Remove file	Allocate space Browse datastore Configure datastore (if you restore to vSAN datastore) Low-level file operations Remove file
Folder	Create folder	Create folder	Create folder
Global	Disable methods Enable methods Licenses Log event	Disable methods Enable methods Licenses Log event	Disable methods Enable methods Licenses Log event
vSphere Tagging	Assign or Unassign vSphere Tag	Assign or Unassign vSphere Tag	Assign or Unassign vSphere Tag
Network	Assign network Configure	Assign network Configure	Assign network Configure
Resource	Assign virtual machine to resource pool	Assign virtual machine to resource pool	Assign virtual machine to resource pool
Profile-driven storage	Profile-driven storage update Profile-driven storage view	Profile-driven storage update Profile-driven storage view	Profile-driven storage update Profile-driven storage view
vApp	Add virtual machine Assign resource pool Unregister	Add virtual machine Assign resource pool Unregister	Add virtual machine Assign resource pool Unregister

Privilege Level		Required Permissions		
		Direct SAN Access Mode	Virtual Appliance Mode	Network Mode
Virtual Machine	Change Configuration	Acquire disk lease Add existing disk Add new disk Advanced configuration Change Settings Modify device settings Remove disk Toggle disk change tracking	Add existing disk Add new disk Advanced configuration Change Settings Modify device settings Remove disk Toggle disk change tracking	Add existing disk Add new disk Advanced configuration Change Settings Modify device settings Remove disk Toggle disk change tracking
	Edit Inventory	Register Remove	Create Register Remove	Create Register Remove
	Interaction	Connect devices Power Off Power On	Connect devices Power Off Power On	Connect devices Power Off Power On
	Provisioning	Allow disk access Allow read-only disk access Allow virtual machine download Allow virtual machine files upload Mark as template* Mark as virtual machine*	Allow disk access Allow read-only disk access Allow virtual machine download Allow virtual machine files upload Mark as template* Mark as virtual machine*	Allow disk access Allow read-only disk access Allow virtual machine download Allow virtual machine files upload Mark as template* Mark as virtual machine*
	Snapshot Management	Create snapshot Remove snapshot Revert to snapshot	Create snapshot Remove snapshot Revert to snapshot	Create snapshot Remove snapshot Revert to snapshot

* required for template restore

File-level Restore

File-level Restore (Windows)

Below are vCenter Server granular permissions required for file-level restore of a Windows VM:

Privilege Level		Required Permissions
Virtual Machine	Guest operations	Guest operation modifications Guest operation program execution Guest operation queries

File-level Restore (Other guest)

Below are vCenter Server granular permissions required for file-level restore of a non-Windows VM:

Privilege Level		Required Permissions
Datastore		Browse datastore Low-level file operations
Global		Log event
Host	Configuration	Storage partition configuration
Network		Assign network Configure
Resource		Assign virtual machine to resource pool
Virtual Machine	Change Configuration	Modify device settings Change Settings
	Interaction	Power Off Power On
	Edit Inventory	Register Unregister

vSphere Web Client Plug-in for Veeam Backup & Replication

Below are vCenter Server granular permissions required for installation and uninstallation of vSphere Web Client plug-in for Veeam Backup & Replication:

Privilege Level	Required Permissions
Extension	Register extension Unregister extension