

# Enabling RackCorp Object Storage with Veeam Backup 12

For purpose of this guide, we used the latest Veeam patch at time of writing, 12.2, however the same functionality is exposed on 12.x

## Create a Object Storage for direct backups

1. Add the backup repository to Veeam; select OBJECT STORAGE

The screenshot shows the Veeam Backup & Replication console. On the left is the 'Backup Infrastructure' tree with 'Backup Repositories' selected. The main area displays a table of existing repositories:

| Name                      | Type          | Host        | Capacity | Path                             |
|---------------------------|---------------|-------------|----------|----------------------------------|
| Default Backup Repository | Windows       | ws19-sep-22 | 199.5 GB | C:\Backup                        |
| ncle_s3                   | S3-compatible | Direct      | N/A      | amazonS3://au-nsw-ledc-ncle1.s3. |

An 'Add Backup Repository' dialog box is open, prompting the user to select a type of backup repository. The options are:

- Direct attached storage**: Microsoft Windows or Linux server with internal or direct attached storage. This configuration enables data movers to run directly on the server, allowing for fastest performance.
- Network attached storage**: Network share on a file server or a NAS device. When backing up to a remote share, we recommend that you select a gateway server located in the same site with the share.
- Deduplicating storage appliance**: Dell Data Domain, ExaGrid, Fujitsu ETERNUS CS800, HPE StoreOnce, Infinidat InfiniGuard or Quantum DXI. If you are unable to meet the requirements of advanced integration via native appliance API, use the network attached storage option instead.
- Object storage**: On-prem object storage system or a cloud object storage provider.

2. Select S3 COMAPTIBLE as we will be using the S3 API to connect to the object store

**Backup Infrastructure**

- Backup Proxies
- Backup Repositories**
- External Repositories
- Scale-out Repositories
- WAN Accelerators
- Service Providers
- SureBackup
  - Application Groups
  - Virtual Labs
- Managed Servers
  - Microsoft Windows

Search:

| Name ↑                    | Type          | Host        | Capacity | Path                           |
|---------------------------|---------------|-------------|----------|--------------------------------|
| Default Backup Repository | Windows       | ws19-sep-22 | 199.5 GB | C:\Backup                      |
| ncl_s3                    | S3-compatible | Direct      | N/A      | amazonS3://au-nsw-ledc-ncl1.s3 |

### Object Storage

Select the type of object storage you want to use as a backup repository.

- Veeam Data Cloud Vault**  
Add fully managed, secure cloud object storage from Veeam. For more information and pricing, please go to [vee.am/vault](http://vee.am/vault).
- S3 Compatible**  
Add an on-premises system or a cloud object storage provider.
- Hyperscalers**  
Add cloud object storage from Amazon S3, Microsoft Azure or Google Cloud Storage.
- Additional Providers**  
Add object storage from select cloud object storage providers used by a large number of Veeam customers.

### 3. Choose S3 Compatible

| Name ↑                    | Type          | Host        | Capacity | Path                                       |
|---------------------------|---------------|-------------|----------|--|
| Default Backup Repository | Windows       | ws19-sep-22 | 199.5 GB | C:\Backup                                  |
| ncl_s3                    | S3-compatible | Direct      | N/A      | amazonS3://au-nsw-ledc-ncl1.s3.rackcorp.cc |

### S3 Compatible


Select the type of S3 compatible storage you want to use as a backup repository.

- S3 Compatible**  
Add an S3-compatible object storage. We will automatically detect if the object storage system implements Smart Object Storage API.
- S3 Compatible with Data Archiving**  
Add an S3-compatible object storage system that implements the archiving extension of the Smart Object Storage API.

4. Give the object store connection a unique name, For example in this exercise we are connecting to the RackCorp Object store in Newcastle

Direct N/A amazonS3://au-nsw-ledc-ncle1.s3.rackcorp.com

### New Object Storage Repository




**Name**  
Type in a name and description for this object storage repository.

|              |  |
|--------------|--|
| <b>Name</b>  | Name:<br>rackcorp_object_store_newcastle                                   |
| Account      |  |
| Bucket       | Description:<br>Created by WS19-SEP-22\Administrator at 5/09/2024 1:44 PM. |
| Mount Server |  |
| Review       |  |
| Apply        |  |
| Summary      |  |

5. Fill in the Server Details for the object store. Use the server name and endpoints provided to you via tech support or the RackCorp Portal

Direct N/A amazonS3://au-nsw-ledc-ncle1.s3.rackcorp.com/dominic-sharoo/Veeam N/A

### New Object Storage Repository



**Account**  
Specify account to use for connecting to S3 compatible storage system.

|                |   |
|----------------|---|
| Name           | Service point:<br>https://au.rackcorpobjects.com                            |
| <b>Account</b> | Region:<br>au-nsw   |
| Bucket         | Credentials:<br>Select existing or add new credentials                      |
| Mount Server   | <a href="#">Manage cloud accounts</a> <input type="button" value="Add..."/> |
| Review         |   |
| Apply          |   |

6. Here we will define credentials to use for the storage. Click Add and fill in credentials that should give access to the storage system. which are your ACCESS KEY and SECRET

### Manage AWS Credentials

Use this dialog to centrally manage all public cloud accounts and their passwords.

| Accou... | Type ↑ | Description      | Last Edited         |
|----------|--------|------------------|---------------------|
| A...     | AWS    |                  | 184 days ago        |
| KI...    | AWS    |                  | less than a day ago |
| O...     | AWS    |                  | 184 days ago        |
| O...     | AWS    | rackcorp s3 bulk | less than a day ago |

Buttons: Add..., Edit..., Remove

7. Once added, select the credential as default from the list and hit NEXT.

### New Object Storage Repository

Account: Specify account to use for connecting to S3 compatible storage system.

Name: Service point:

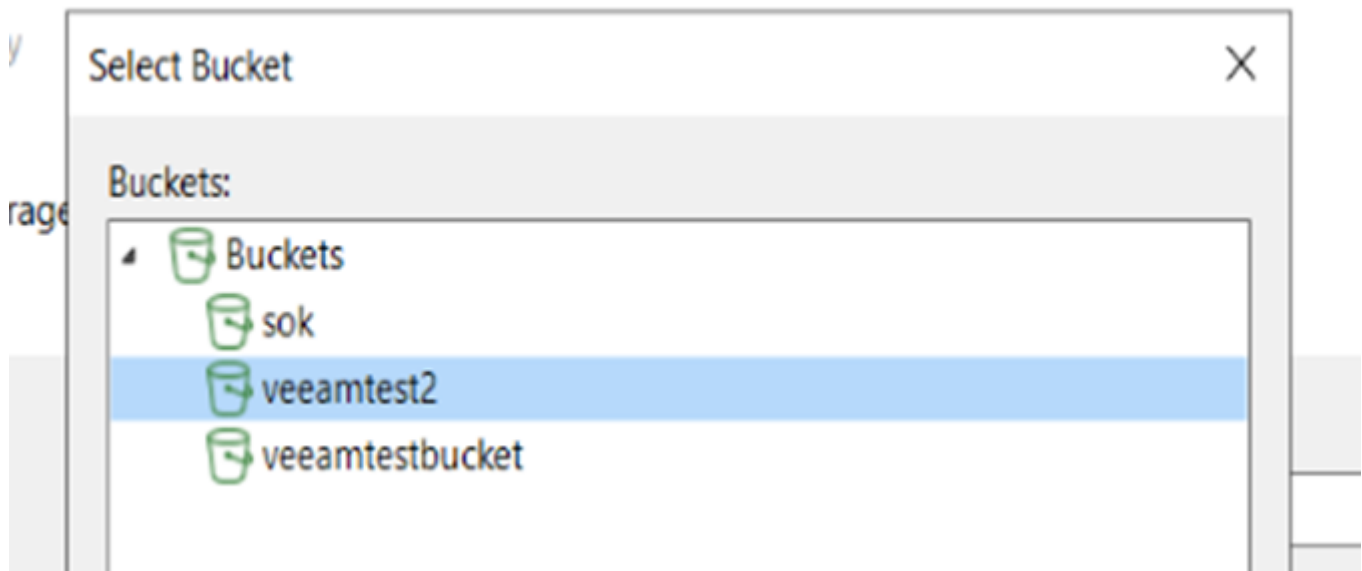
Account: Region:

Bucket: Credentials:

- AHBF27N3QAW7MWELC2ZX (last edited: 184 days ago)
- KISuZ6yblOpkuWQjku0I (last edited: less than a day ago)
- O3D8TER1GNWGNFGGAGKJ (last edited: 184 days ago)
- OGI7T770B5L46W692GDE (rackcorp s3 bulk, last edited: less than a day ago)
- wjchhPEdFGMjIm7m0UPM (rackcorp object store, last edited: less than a day ago)

Buttons: Add...

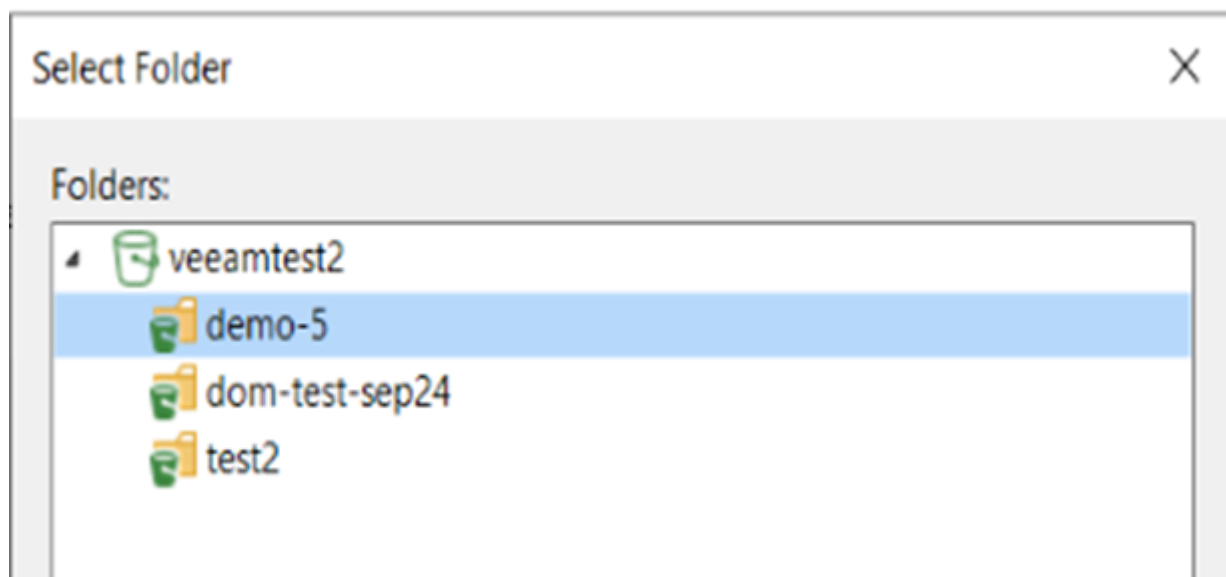
8. If the credential is valid, veeam will read back the buckets available to you under your credential



A bucket should have been pre-created for you, select it. Veeam will place its backups automatically into a SUBFOLDER of the bucket. Eg BUCKETNAME\Veeeam


But feel free to create a subfolder if you wish for Veeam to use

Eg BUCKETNAME\Backups



9. Once you have selected your bucket and folder, it is important to enable IMMUTABLE. The setting is definable by user but if we are doing a daily backup a 1 day immtuable is fine. Press NEXT to continue

New Object Storage Repository X

 **Bucket**  
Specify object storage system bucket to use.

|               |  |
|---------------|--|
| Name          | Bucket:  |
| Account       | <input type="text" value="veeamtest2"/> <span>Browse...</span>   |
| <b>Bucket</b> | Folder:  |
| Mount Server  | <input type="text" value="demo-5"/> <span>Browse...</span>   |
| Review        | <input type="checkbox"/> Limit object storage consumption to: <input type="text" value="10"/> <input type="text" value="TB"/>  |
| Apply         | <p>This is a soft limit to help control your object storage spend. If the limit is exceeded, already running tasks will be allowed to complete, but no new tasks will be started.</p>                              |
| Summary       | <input checked="" type="checkbox"/> Make recent backups immutable for: <input type="text" value="1"/> days<br><p>Protects backups from modification or deletion by ransomware, malicious insiders and hackers.</p> |

10. We dont need to modify any settings on the mount page, hit NEXT.

ble Direct N/A amazonS3://au-nsw-ledc-ncle1.s3.rackcorp.com/dominic-sharoo/Veeam N/A

### New Object Storage Repository

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

**Name** Mount server:  
ws19-sep-22 (Backup server) Add New...

**Account**

**Bucket** Instant recovery write cache folder:  
C:\ProgramData\Veeam\Backup\IRCache\ Browse...

**Mount Server** Ensure that the selected volume has sufficient free disk space to store changed disk blocks of instantly recovered machines. We recommend placing the write cache folder on an SSD drive.


**Enable vPower NFS service on the mount server (recommended)** Ports...  
Unlocks instant recovery of any backup (physical, virtual or cloud) to a VMware vSphere VM. vPower NFS service is not used for instant recovery to a Microsoft Hyper-V VM.

Helper appliance has been configured successfully. Configure...

< Previous **Next >** Finish Cancel

11. Review your settings here. IF you are aware that you have existing backups in your storage bucket you can import them here by selecting the option. Hit NEXT.

New Object Storage Repository X

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

**Name**      The following components will be processed on server ws19-sep-22:

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

**Account**

**Bucket**

**Mount Server**

**Review**

**Apply**

**Summary**

Search the repository for existing backups and import them automatically

Import guest file system index data to the catalog

< Previous   Apply   Finish   Cancel

12. The apply page will execute your settings against the server. There should be no errors (red marks here). When done hit NEXT



## New Object Storage Repository



### Summary

You can copy the configuration information below for future reference.

|              |   |
|--------------|---|
| Name         | Summary:  |
| Account      | Object storage repository was successfully created.                     |
| Bucket       | Name: rackcorp_object_store_newcastle                                   |
| Mount Server | Description: Created by WS19-SEP-22\Administrator at 5/09/2024 1:44 PM. |
| Review       | Type: S3-compatible   |
| Apply        | Gateway server: direct connection                                       |
| Summary      | Service point: https://au.rackcorpobjects.com                           |
|              | Region: au-nsw  |
|              | Bucket: veeamtest2  |
|              | Folder: demo-5  |
|              | Concurrent tasks limit: unlimited                                       |
|              | Storage consumption limit: unlimited                                    |
|              | Recent backups will be immutable for 1 day                              |
|              | Mount server: ws19-sep-22   |
|              | Helper appliance: ws19-sep-22   |

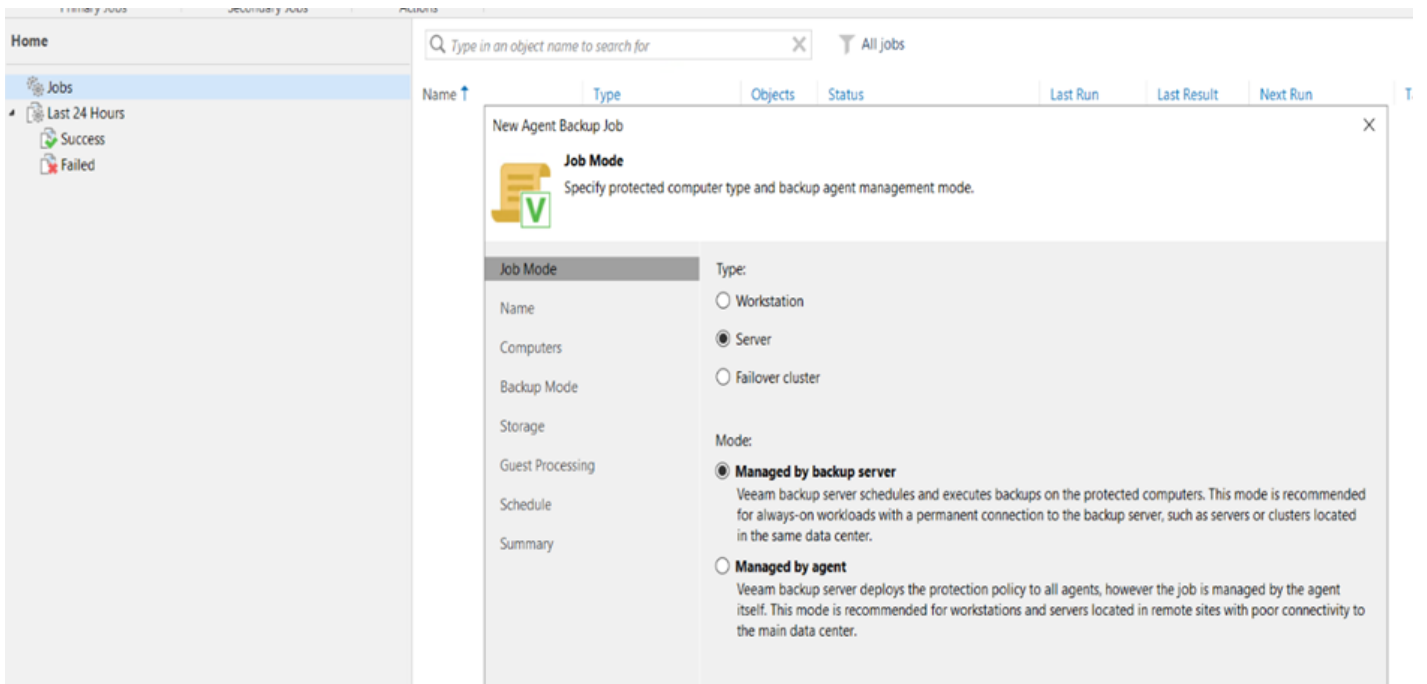
## Create a Backup Job

We have successfully created the object store, we will now create a backup job to backup our files into the object store directly.

| Name                        | Type          | Host        | Capacity | Path  | Free   | Used Space |
|-----------------------------|---------------|-------------|----------|---|--------|------------|
| Default Backup Repository   | Windows       | ws19-sep-22 | 199.5 GB | C:\Backup   | 124 GB | 0 B        |
| ncle_s3                     | S3-compatible | Direct      | N/A      | amazonS3://au-nsw-ledc-ncle1.s3.rackcorp.com/dominic-sharoo/Veeam | N/A    | 0 B        |
| rackcorp_object_store_ne... | S3-integrated | Direct      | 2 TB     | amazonS3://au.rackcorpobjects.com/veeamtest2/Veeam                | 2 TB   | 0 B        |


Here we can see the 'legacy' S3 storage system and our Object Store system (in blue), both use the S3 API command set however.

1. Go to the jobs menu and add a new job as illustrated. For this example we are assuming no existing jobs for the system or backup object store exist.



2. Make sure to add a descriptive title to the backup job as by default the placeholder names are vague

New Agent Backup Job X

 **Name**  
Type in a name and description for this agent backup job.

**Job Mode**

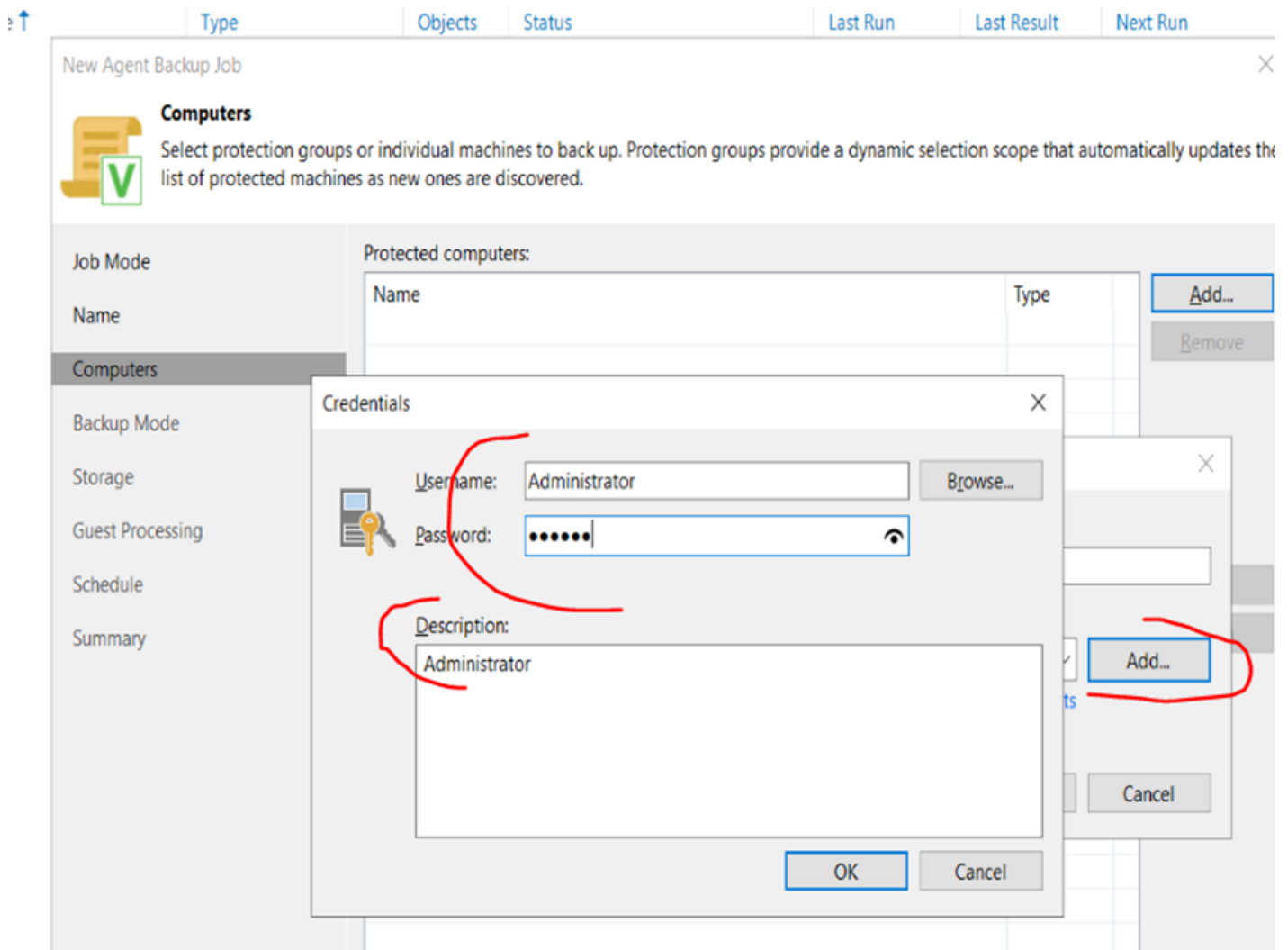
**Name**

**Description:**

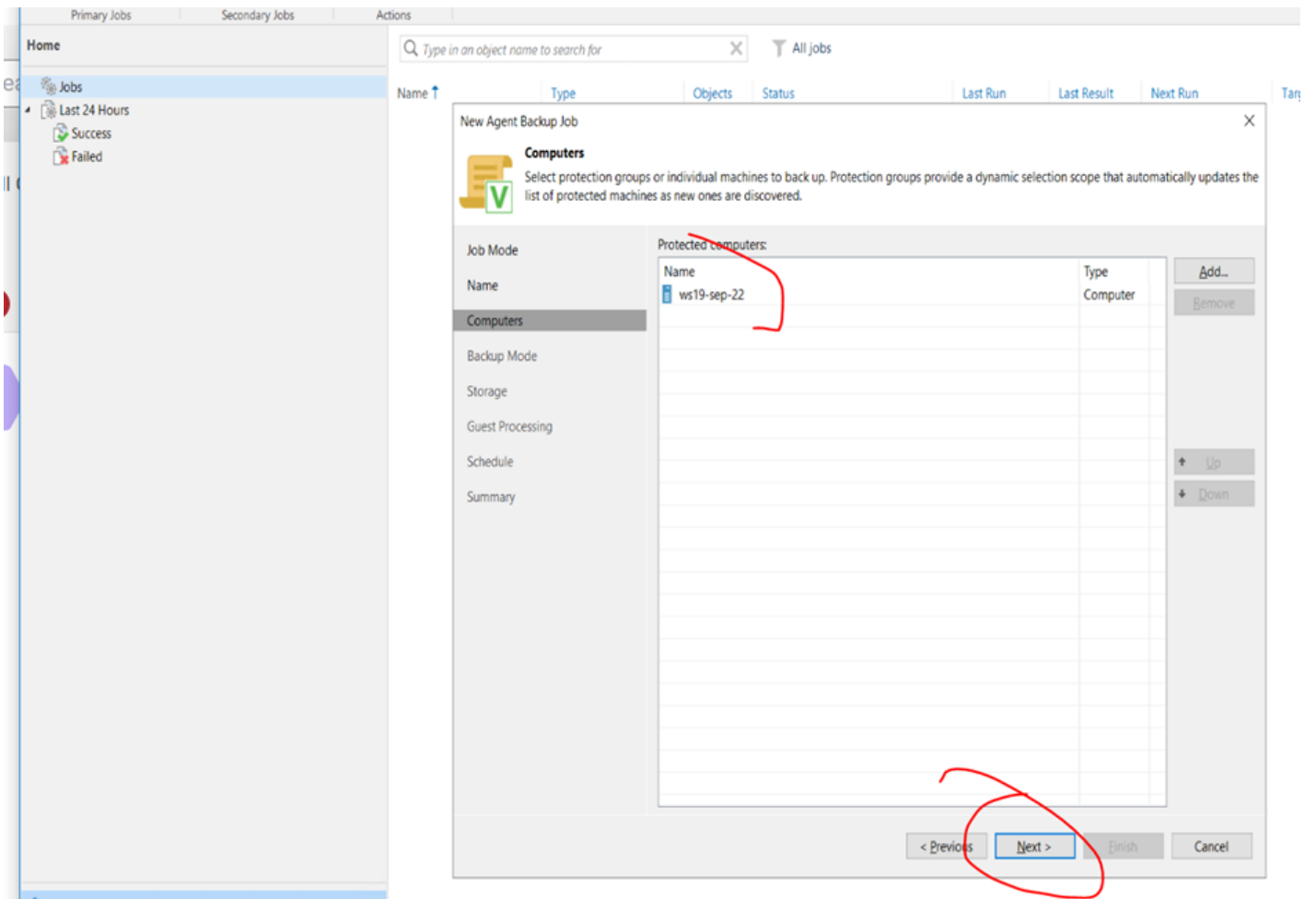
**High priority**  
Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

3. Add the machine DNS name that will be backed up





5. Return to the Computers window and ensure your desired machines are added successfully and proceed.



6. Under backup mode, choose your desired backup source. for this example we will be backing up the C:\PAYLOAD folder so we choose file level backup

Type

Objects

Status

Last Run

Last Result

Next Run

## New Agent Backup Job



### Backup Mode

Choose what data you want to back up from selected computers.

Job Mode

Name

Computers

**Backup Mode**

Objects

Storage

Guest Processing

Schedule

Summary

**Entire computer**

Back up entire computer image for fast recovery on any level. Deleted, temporary and page files are automatically excluded from the image to reduce the backup size.

Include external USB drives

**Volume level backup**

Back up images of specified volumes, for example only data volumes. Deleted, temporary and page files are automatically excluded from the image to reduce the backup size.

**File level backup (slower)**

Back up selected files and directories only. This mode still produces an image-based backup, but only with protected file system objects included in the image.



New Agent Backup Job

**Storage**  
Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Job Mode

Name

Computers

Backup Mode

Objects

**Storage**

Guest Processing

Schedule

Summary

Backup repository:  
rackcorp\_object\_store\_newcastle (Created by WS19-SEP-22\Administrator at 5/09/2024 1:44 PM.)

2 TB free of 2 TB [Map backup](#)

Retention policy: 7 days

Keep certain full backups longer for archival purposes  
GFS retention policy is not configured [Configure...](#)

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. [Advanced...](#)

< Previous **Next >** Finish Cancel

8. Indexing and Malware protection is optional, Select this if you originally had advanced indexing enaled on the windows machine you will be backing up

**Guest Processing**

Choose application processing options.

|                  |   |
|------------------|---|
| Job Mode         | <input checked="" type="checkbox"/> <b>Enable application-aware processing</b>  |
| Name             | Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot. |
| Computers        | Customize application handling options for individual machines and applications <span>Applications...</span>  |
| Backup Mode      | <input type="checkbox"/> <b>Enable guest file system indexing and malware detection</b>   |
| Objects          | Indexing enables global file search functionality, automatic detection of suspicious file system activity and known malware files.  |
| Storage          | Customize advanced guest file system indexing options for individual machines <span>Indexing...</span>  |
| Guest Processing |   |

9. Review your backup schedule options. Select run automatically to enable a backup schedule . To preserve bandwidth you can enable the Terminate Job checkbox to force backups only during your defined off peak hours

type | OBJECTS | STATUS | LAST RUN | LAST RESULT | NEXT RUN

New Agent Backup Job

### Schedule

Specify the 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 Days...

Monthly at this time: 10:00 PM Fourth Saturday Months...

Periodically every: 1 Hours Schedule...

After this job:

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 Window...

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

< Previous Apply Finish Cancel

10. Review your backup job settings. Within a few minutes the backup should start. You will not see an progress immediately. To run the first pass of the job without waiting for the schedule select the Run tis job tickbox



**Summary**

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

Summary:

Configuration has been successfully saved.

Name: folder-backup-to-object-store

Description: Created by WS19-SEP-22\Administrator at 5/09/2024 1:58 PM.

Type: server

Mode: managed by backup server

Protected computers:  
ws19-sep-22

Backup mode: file level backup

Destination: Veeam backup repository

Target storage: rackcorp\_object\_store\_newcastle

Retention policy: 7 days

Application-aware processing is enabled

Backup is scheduled to run automatically

GFS retention policy: not set

Run the job when I click Finish

< Previous   Next >   **Finish**   Cancel

11. Once a few minutes have passed, you can monitor the status and statistics of the backup job. From here on, the backup job will adhere to your defined schedule.

Job Control Details Manage Job Online Assistant

Home

Type in an object name to search for X

| Name                          | Type                 | Objects | Status  | Last Run      | Last Result | Next Run           | Target                         | Description                                       |
|-------------------------------|----------------------|---------|---------|---------------|-------------|--------------------|--------------------------------|---|
| folder-backup-to-object-store | Windows Agent Backup | 1       | Stopped | 3 minutes ago | Success     | 5/09/2024 10:00 PM | rackcorp_object_store_newca... | Created by WS19-SEP-22\Administrator at 5/09/2024 |

**SUMMARY**  
 Duration: 02:58  
 Processing rate: 820 MB/s  
 Bottleneck: N/A

**DATA**  
 Processed: 75.5 GB (100%)  
 Read: 8 GB  
 Transferred: 8 GB (Tx)

**STATUS**  
 Success: 1  
 Warnings: 0  
 Errors: 0

**THROUGHPUT (ALL TIME)**  
 Speed 475 MB/s

| Name        | Status  | Action                                  | Duration |
|-------------|---------|---|----------|
| ws19-sep-22 | Success | Job started at 5/09/2024 2:05:06 PM     |          |
|             |         | Building the list of objects to process | 00:04    |
|             |         | Processing ws19-sep-22                  | 02:29    |
|             |         | Job finished at 5/09/2024 2:08:05 PM    |          |

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