QSAN Official Document

Veeam Setup Guide

Application Note

June 2024

ANNOUNCEMENT

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PREFACE

Technical Support

Do you have any questions or need help trouble-shooting a problem? Please contact QSAN Support, we will reply to you as soon as possible.

- Via the Web: https://www.qsan.com/technical_support
- Via Telephone: +886-2-77206355
- (Service hours: 09:30 - 18:00, Monday - Friday, UTC+8)
- Via Skype Chat, Skype ID: qsan.support
- (Service hours: 09:30 - 02:00, Monday - Friday, UTC+8, Summer time: 09:30 - 01:00)
- Via Email: support@qsan.com

Information, Tip, and Caution

This document uses the following symbols to draw attention to important safety and operational information.

INFORMATION

INFORMATION provides useful knowledge, definition, or terminology for reference.

TIP

TIP provides helpful suggestions for performing tasks more effectively.

CAUTION

CAUTION indicates that failure to take a specified action could result in damage to the system.

1. VEEAM INTRODUCTION

Nowadays, the most valuable kind of information takes on everywhere from the internet. Digital data is the life blood of business, government, and our everyday virtual lives. One of the most critical risks facing every organization is the threat of a ransomware attack. Ransomware can strike any internet-accessible device without warning and then quickly spread throughout your entire infrastructure. An attack can disable business operations and cost significant time and real money to resolve.

Veeam supports immutable backup, starting from **Backup & Replication** v11 (currently v12) which is an untouched version of that source data that is always recoverable and safe from any failure scenario. Veeam Backup & Replication enables you to store your short-term retention backups locally onsite for fast recovery with the protection of immutability. In addition, you can now tier those backups into an immutable storage offering offsite, giving you additional protection against unforeseen malicious activity or accidental deletion.

Additionally, Veeam offers free software called **Veeam Agent for Microsoft Windows**. It is a powerful solution designed for backing up PCs and servers. We will also introduce this free software later.

QSAN storage and Veeam provide an efficient and highly secure solution. It also optimizes IT resources and provides agility solutions for ever-increasing data.

1.1. Veeam Backup & Replication Software

Veeam Backup & Replication v12 is a comprehensive solution encompassing backup, replication, anti-ransomware protection, disaster recovery, and VM (Virtual Machine) monitoring, designed to fulfill the data protection requirements of contemporary virtual, physical, and cloud environments.

Figure 1-1 Veeam Backup & Replication Software

This document highlights the seamless integration of Veeam Backup & Replication v12 with QSAN storage solutions. In the fast-paced business landscape of today, safeguarding the security and accessibility of critical data is paramount. Veeam's robust backup and replication software, when paired with QSAN's dependable storage infrastructure, offers a holistic solution tailored to the evolving demands of modern enterprises. This document examines the collaborative strengths of Veeam and QSAN storage, illustrating how their combined features enable organizations to efficiently and effectively meet their data protection, disaster recovery, and business continuity objectives. Whether serving a small business or a large corporation, the integration of Veeam with QSAN storage delivers a scalable and cost-effective strategy for safeguarding your essential data assets.

1.2. Veeam Backup Agent for PC and Server

The **Veeam Agent for Microsoft Windows** is a powerful and free software solution designed for backing up PCs and servers. One of its notable features is the ability to seamlessly integrate with NAS (Network Attached Storage) and SAN (Storage Area Network) devices, providing users with flexible and efficient backup options. This document focuses on the utilization of the Veeam Agent in conjunction with NAS and SAN, showcasing how this combination can enhance data protection strategies for both individuals and organizations. By following the instructions and best practices, users will gain valuable insights on effectively integrating the Veeam Agent with NAS and SAN, thereby optimizing their backup processes and ensuring the security and availability of critical data.

INFORMATION

Veeam Agent Webpage: [Veeam Agent for Microsoft Windows FREE]

TIP

QSAN tested the FREE Community edition. It is compatible with paid editions such as Workstation and Server. Here is the feature comparison table: [Veeam Agent Feature Comparison]

2. CONFIGURE VEEAM BACKUP & REPLICATION

In this chapter, we will take an in-depth look at backup solutions integrating Veeam Backup & Replication v12 software with QSAN storage.

2.1. Recommended Storage

1. Use XCalc. tool on the QSAN website to obtain recommended storages.
2. Enter the **Total Usable Capacity Required** and the desired **RAID Level**.

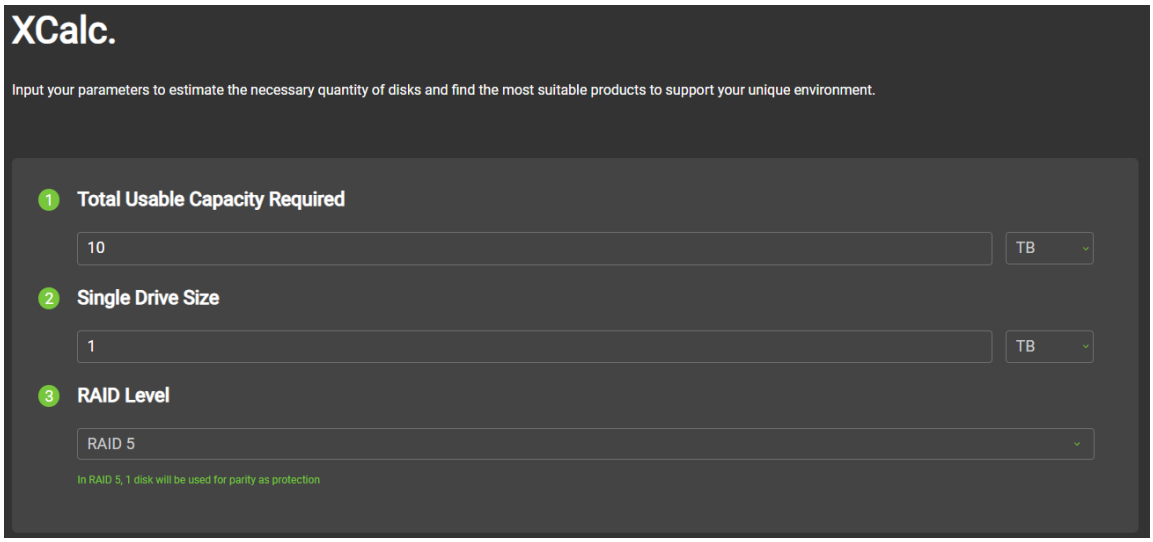

Figure 2-1 Use XCalc. Tool to Obtain Recommended Storages

3. Select the **Virtualization** option.

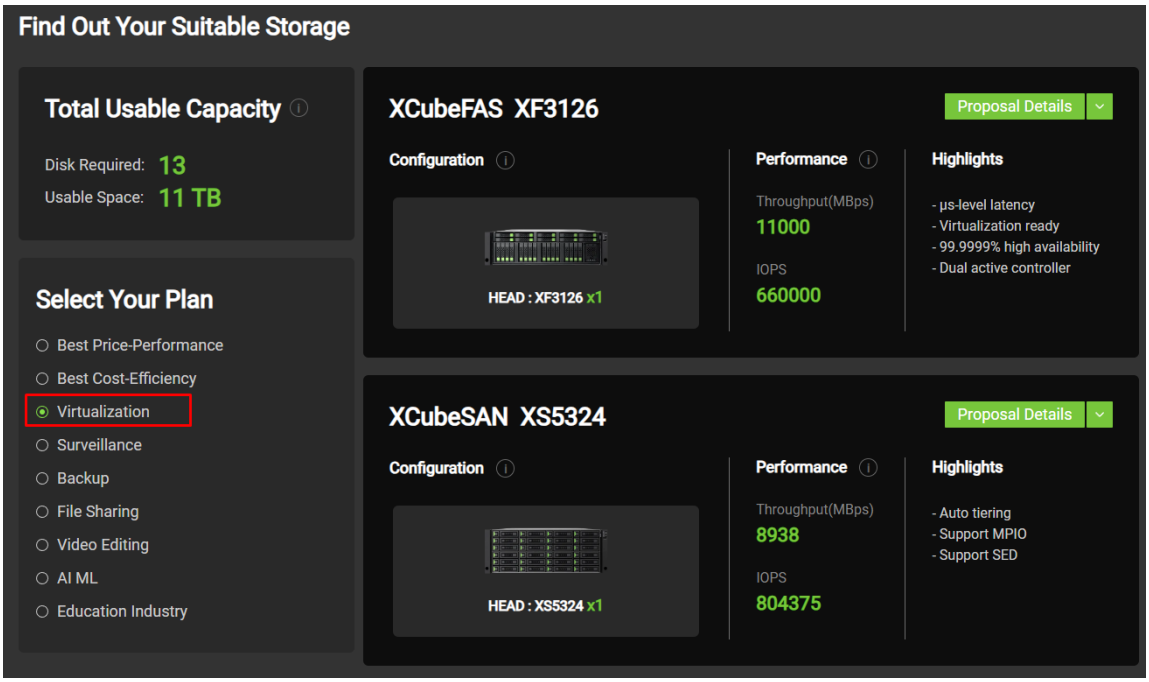

Figure 2-2 Select Virtualization Option

4. Select the model and click the **Proposal Details** button to view more.

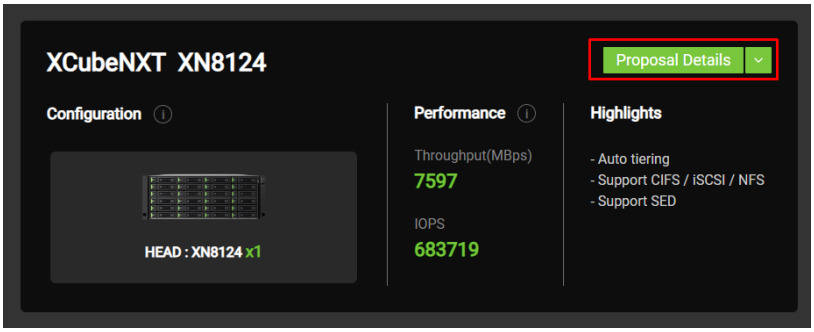

Figure 2-3 Click Proposal Details Button to View More

5. If necessary, click the **Export the Result** button to export the report.

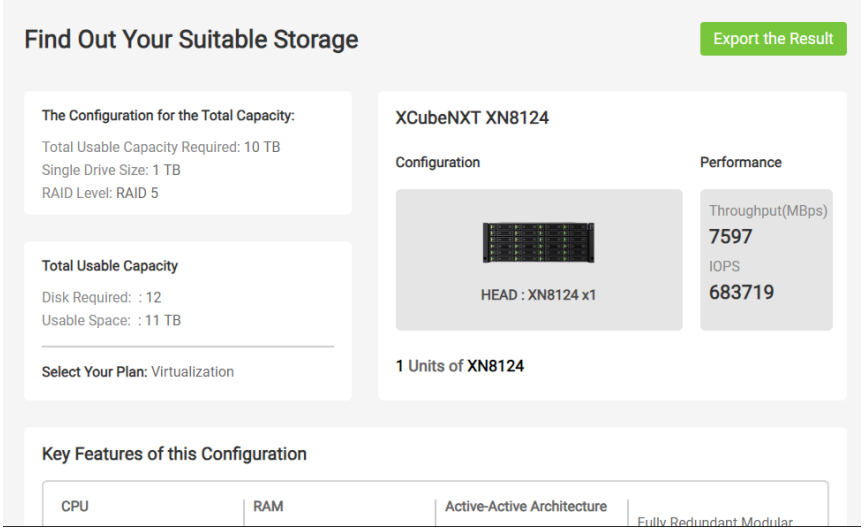

Figure 2-4 Click Export Button to Export Result

2.2. Environment and Topology

Configuring Veeam on the server is straightforward and requires minimal hardware resources. In fact, Veeam's hardware requirements are very modest. For added convenience and flexibility, Veeam can even be installed directly on a VM hosted on the VMware ESXi server to be backed up. This means that you can leverage an existing Windows-based VM on an ESXi host to install Veeam, and then use that VM to perform a backup of the entire virtualized environment, including the VMs that reside on the ESXi server itself. This approach not only simplifies the setup process but also optimizes resource utilization by integrating backup capabilities into the virtualized infrastructure.

Demonstration Environment

- Server

  CPU: 4 cores
  Memory: 4 GB
  Disk: 100 GB
  IP Address: 192.168.195.23

- Storage
  - Model: XCubeNXT 8124D
    Memory: 16 GB per controller
    Disk: 12 x 10 TB Nearline SAS HDD
  - Pool: RAID 6
    Volume: 2 TB file volume
    Protocol: CIFS
    IP Address: 192.168.195.1

Demonstration Topology

The connection is very simple, here is the brief one and any topology that will work if the logical connection is pingable.

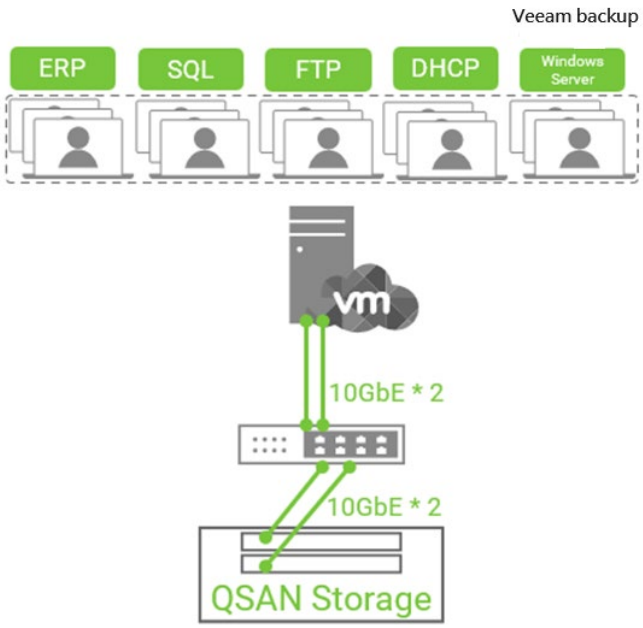

Figure 2-5 Demonstration Topology

2.3. Configure Backup Steps

In this use case, we will explore how to perform a backup using Veeam Backup & Replication v12 and store the backup data on an XCubeNXT storage solution. This configuration ensures the security and accessibility of critical data, providing a reliable solution for data protection and disaster recovery.

1. After create file volume, share, and CIFS share host in XCubeNXT, run Veeam Backup & Replication v12 application.
2. Click the **Add Repository** icon to add the repository. And then select the **Network Attached Storage** option.

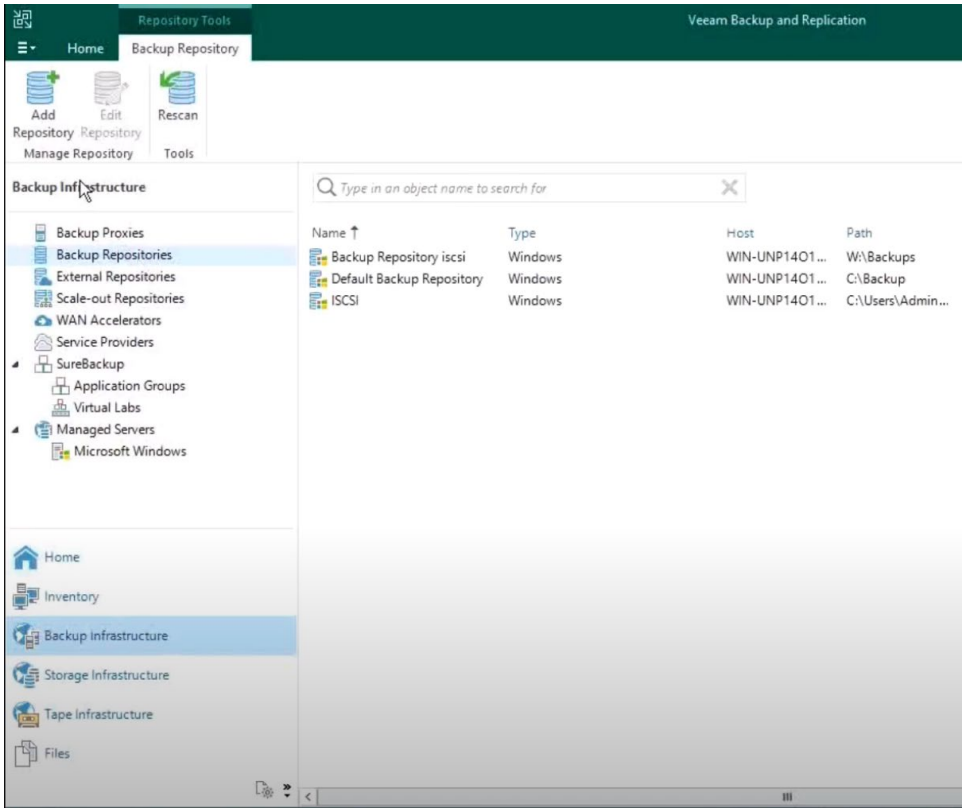

Figure 2-6 Add a Repository Step 1

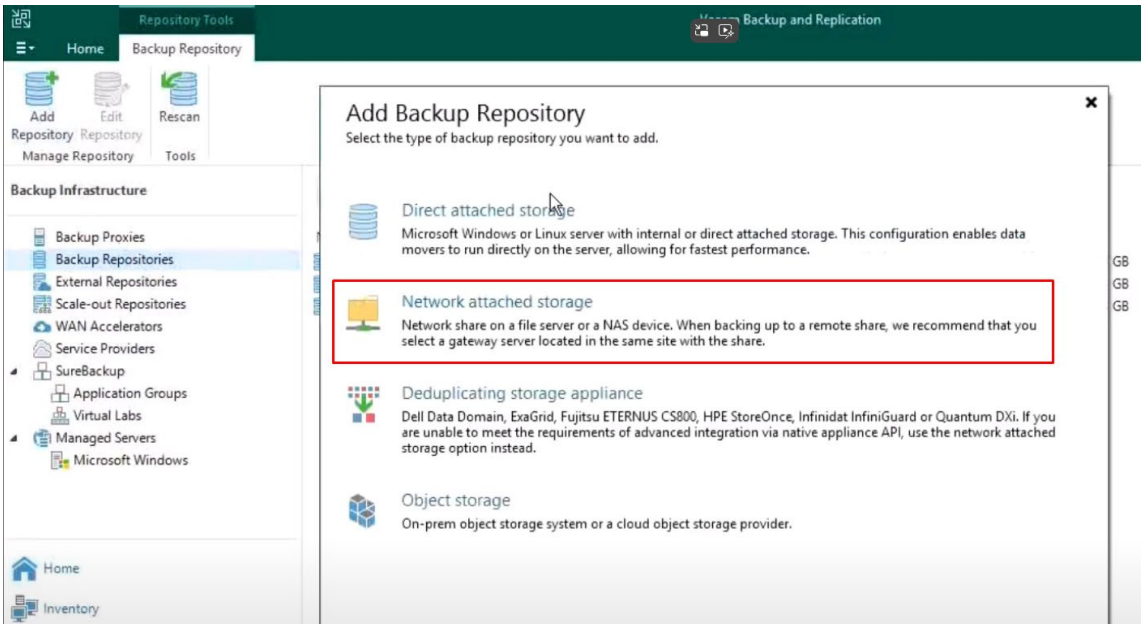

Figure 2-7 Add a Repository Step 2

3. Select the **SMB share** option, then enter the IP share folder and access credentials.

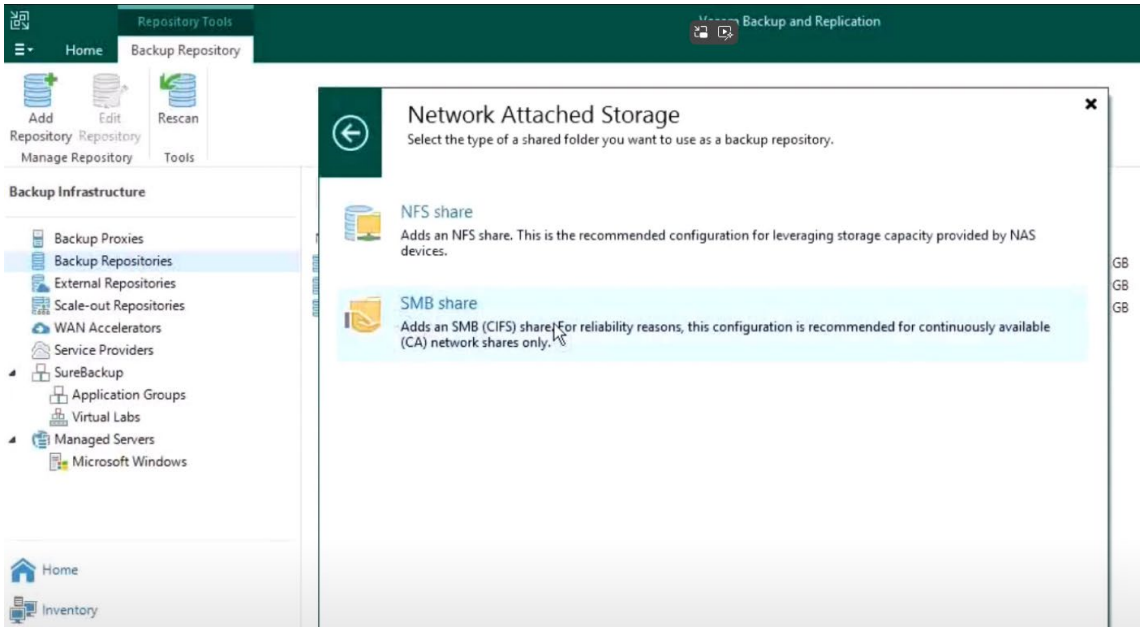

Figure 2-8 Add a Repository Step 3

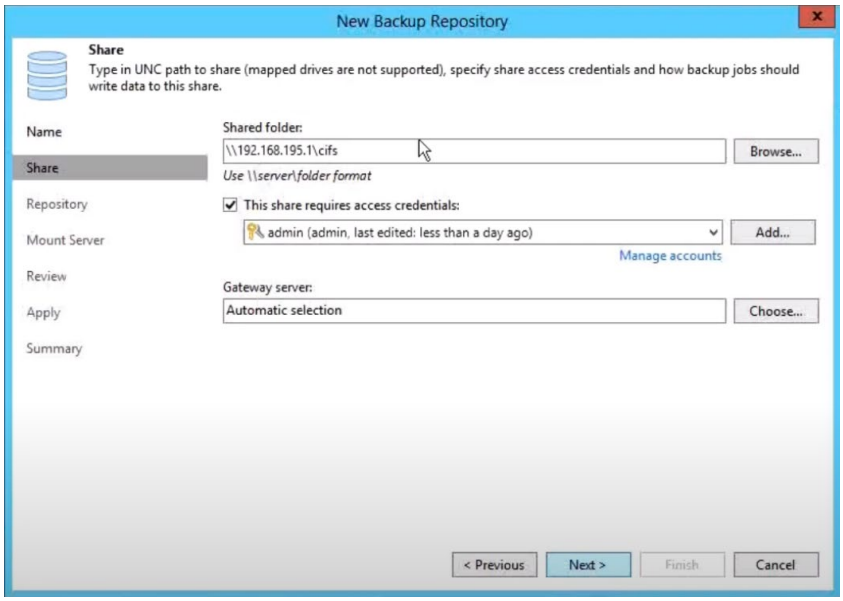

Figure 2-9 Add a Repository Step 4

4. Confirm the **Mount server**, then apply the setting. Check the repository already created in the menu.

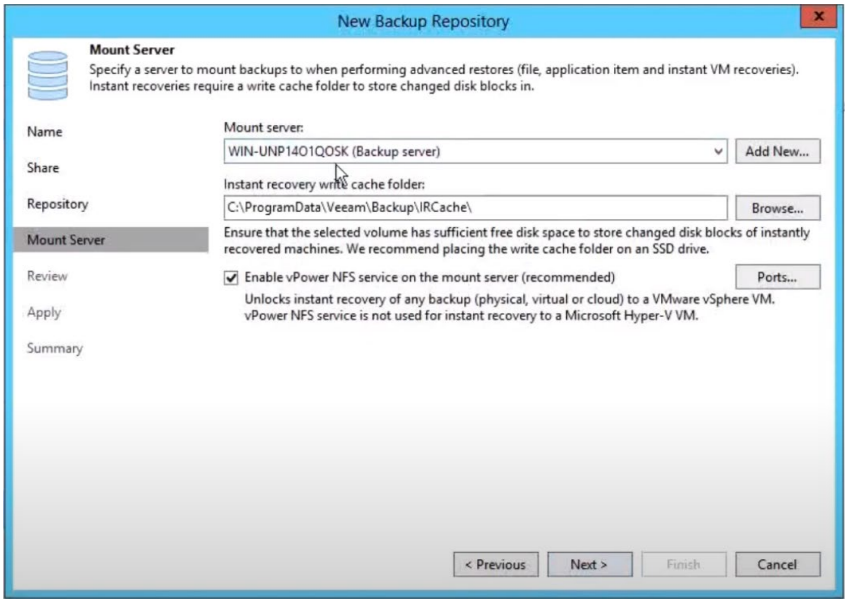

Figure 2-10 Add a Repository Step 5

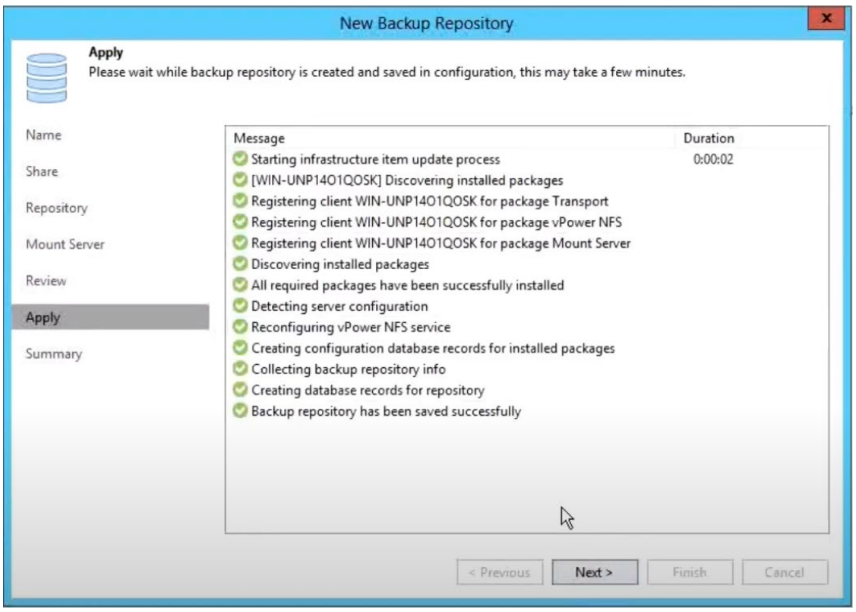

Figure 2-11 Add a Repository Step 6

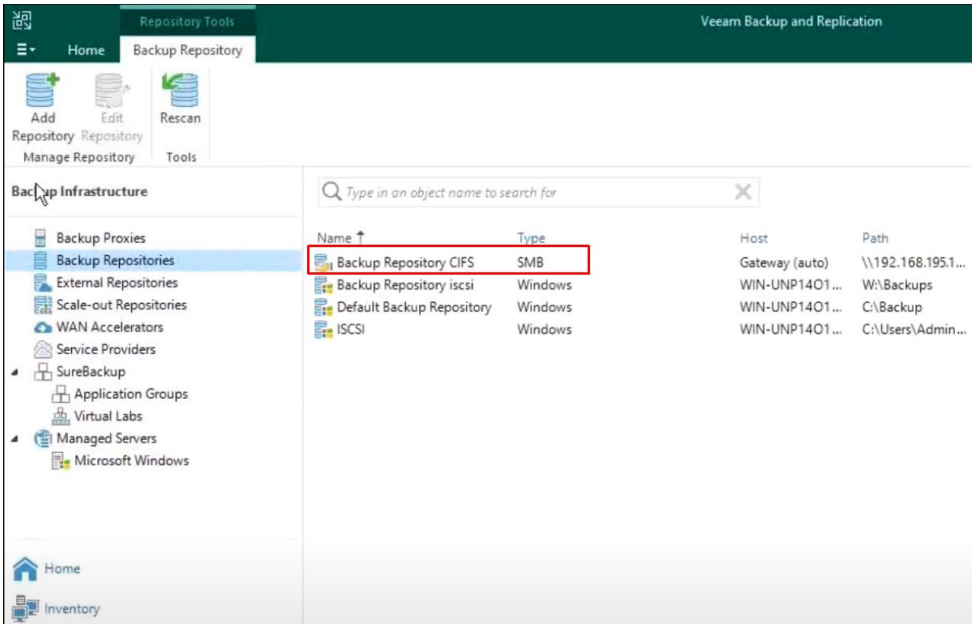

Figure 2-12 Add a Repository Step 7

5. Go to **Home** > **Jobs** > **Backup**, and select the **Windows computer**.

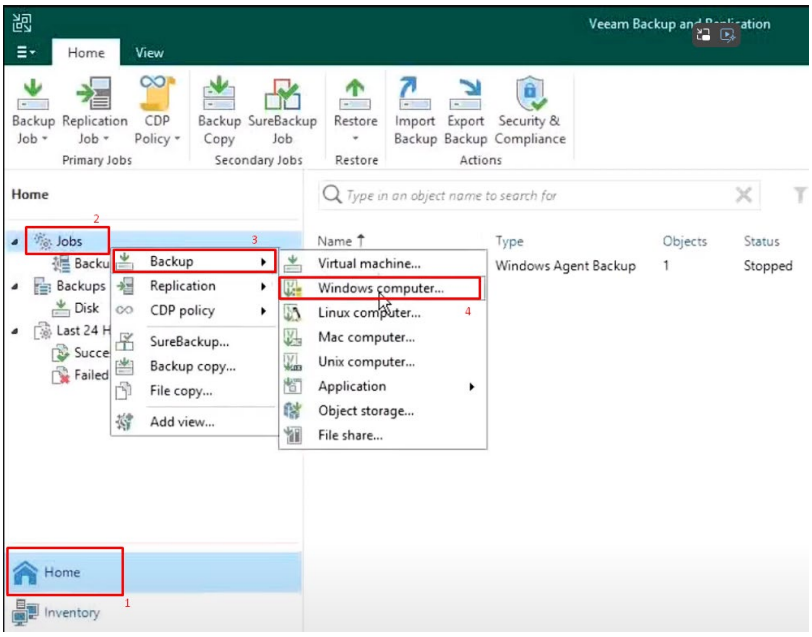

Figure 2-13 Add a Backup Job

6. Keep the default setting and click the **Next** button, then enter a job name.

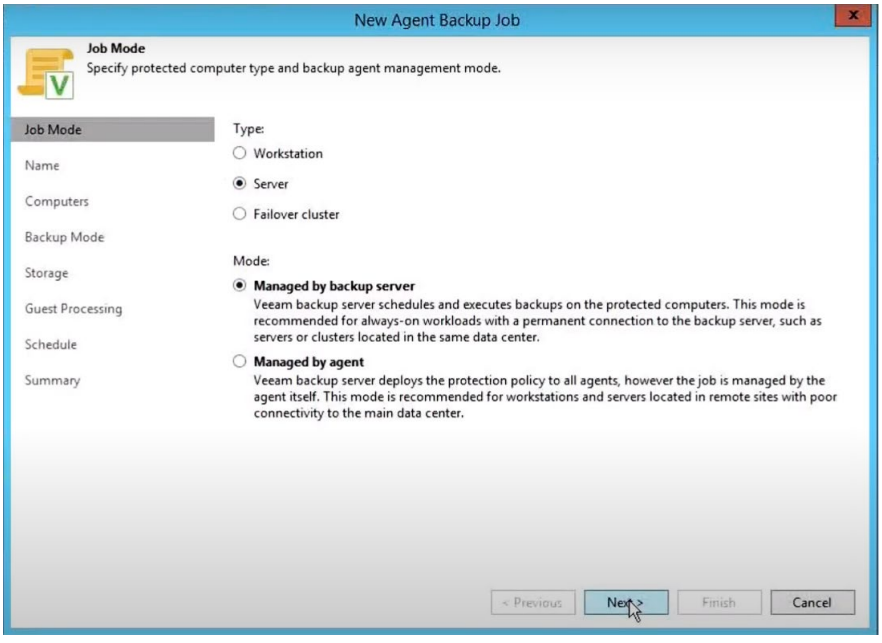

Figure 2-14 Job Mode

7. Next, enter the host **IP address** and **Credentials**. In the **Backup Mode** submenu, we choose **File level backup** as example.

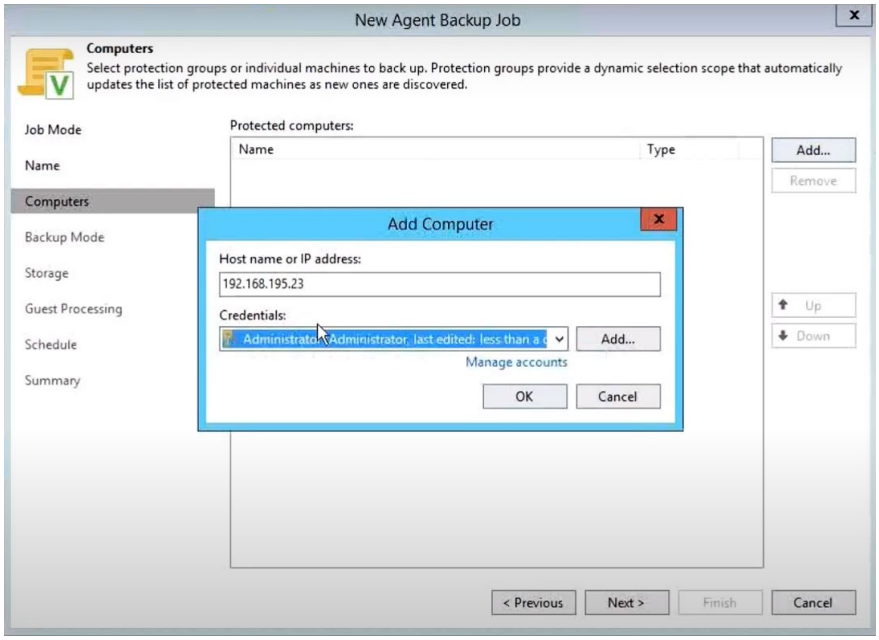

Figure 2-15 Enter Host IP Address

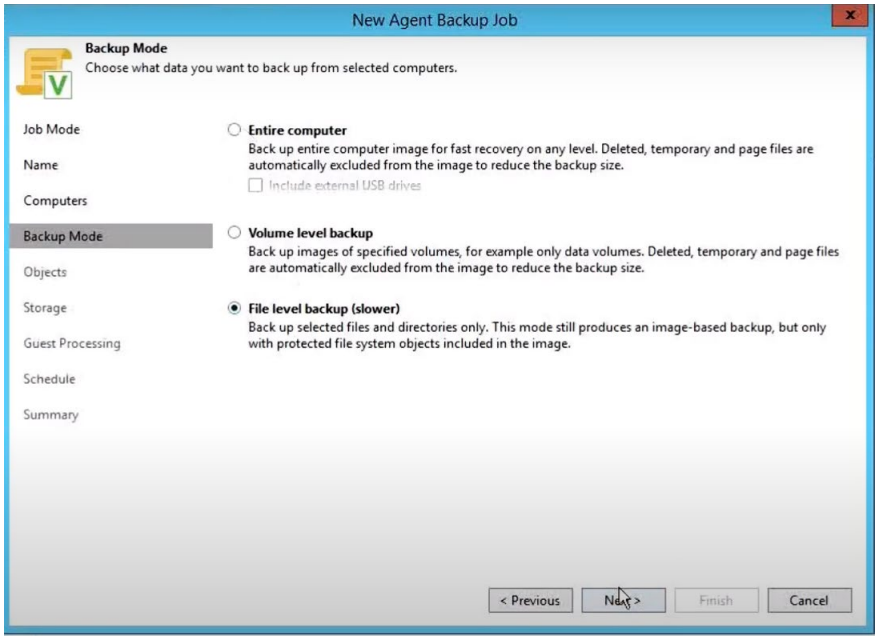

Figure 2-16 Select Backup Mode

8. Select the objects which you want to backup.

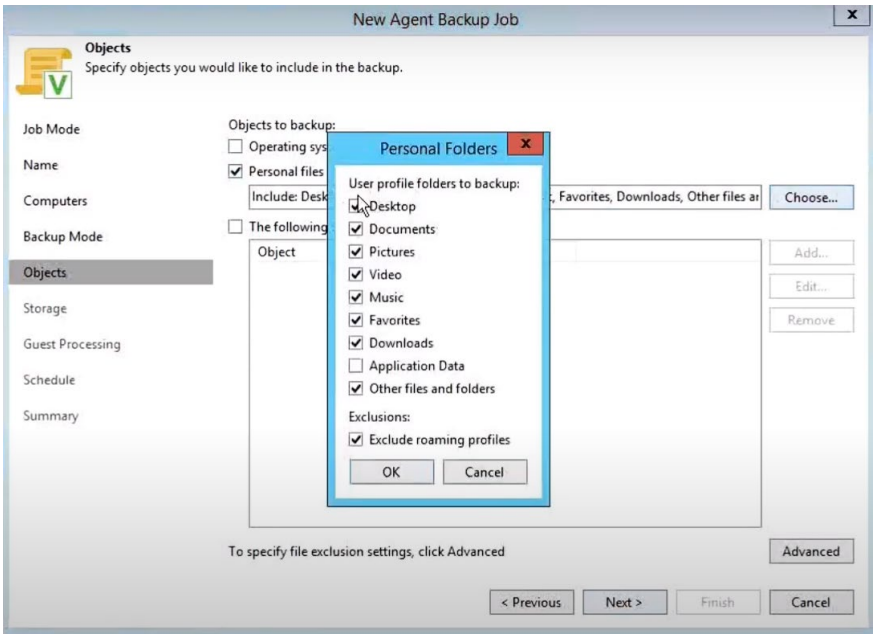

Figure 2-17 Select Backup Objects

9. Select the **Backup repository** which we just created, then configure the backup schedule, and click the **Finish** button.

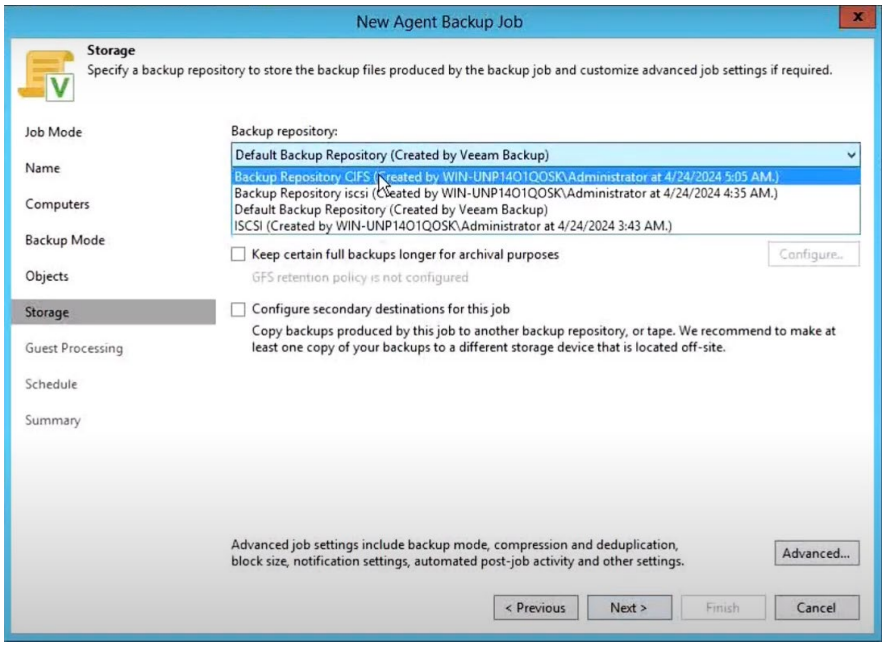

Figure 2-18 Select Backup Repository

10. Check the task we just created in the list, and run the task. And then wait for the task to complete.

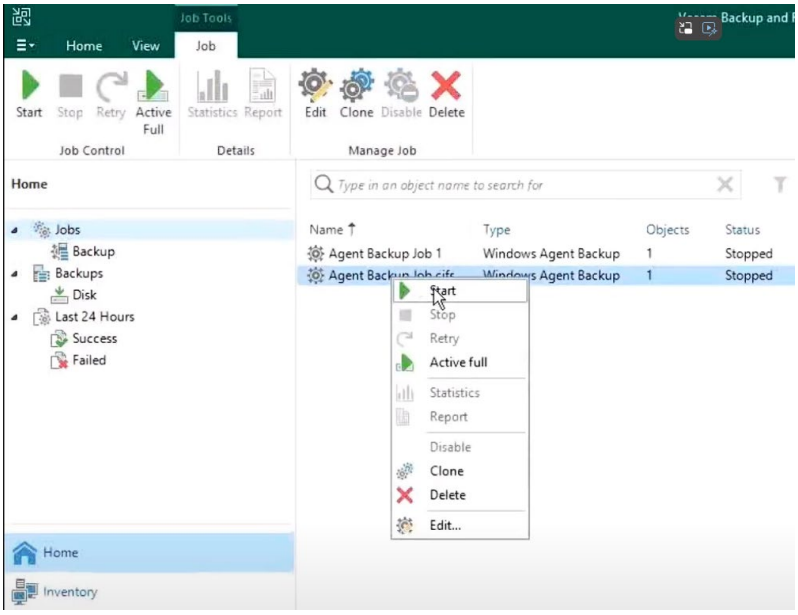

Figure 2-19 Run the Task

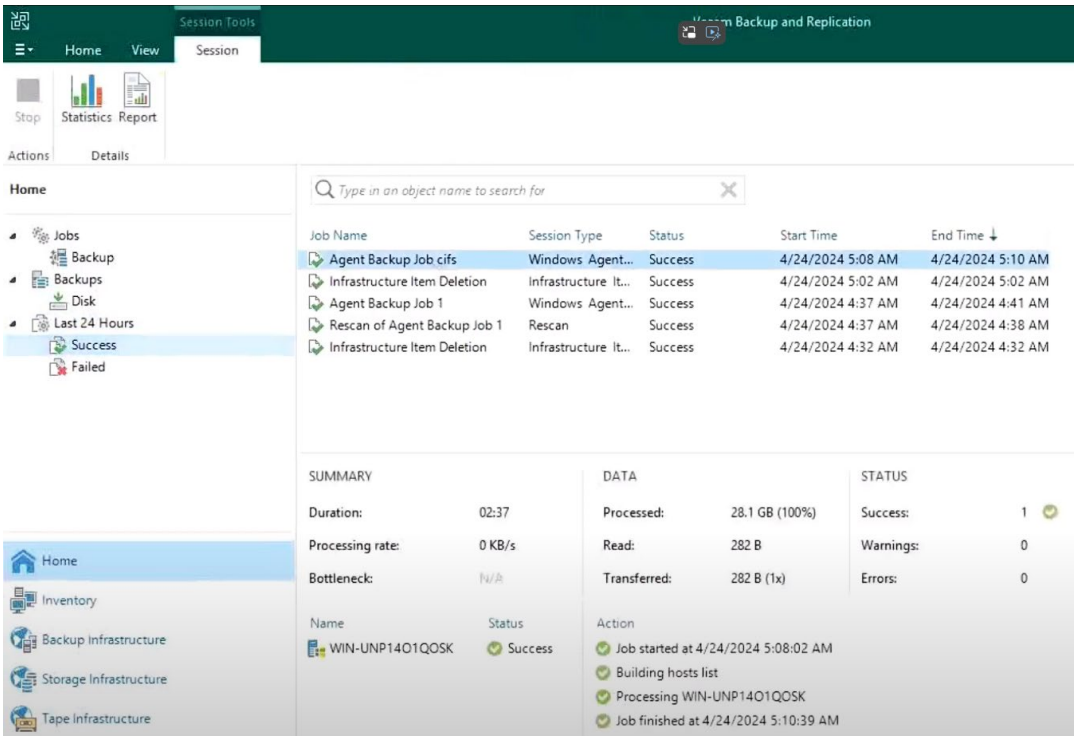

Figure 2-20 Task Completed

11. Finally, you can find backup file in the file explorer.

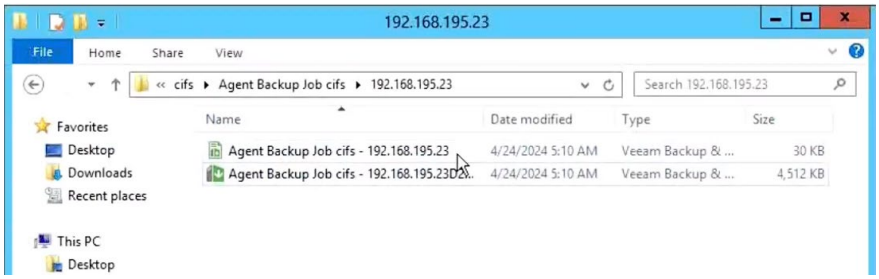

Figure 2-21 Check Backup Files

3. CONFIGURE VEEAM BACKUP AGENT

In this introduction, we highlight the capability of the Veeam Agent to integrate with NAS and SAN devices. We emphasize the value of this integration in enhancing data protection strategies. Furthermore, we mention that the application note will provide instructions and best practices to guide users in effectively leveraging the Veeam Agent's capabilities in conjunction with NAS and SAN. Finally, we underline the importance of optimizing backup processes and ensuring data security and availability through this combined approach.

3.1. System Requirements

The Veeam Agent is designed to be lightweight and compatible with a wide range of hardware configurations. It can be installed on both PCs and servers in an IT environment. The system requirements for the Veeam Agent are minimal, making it accessible for most users.

Hardware

- CPU: 1 GHz or faster
- RAM: 2 GB or more
- Disk Space: At least 200 MB of free space on the system drive for installation

Network

- Internet connectivity is required for initial product activation and obtaining updates

TIP

It is important to ensure that the hardware meets the minimum requirements to ensure smooth operation and performance when using the Veeam Agent. Additionally, the system should have sufficient disk space to accommodate the backup data.

These system requirements are intended to provide compatibility with a wide range of PCs and servers commonly found in personal and IT environments. By meeting these requirements, users can proceed with the installation and enjoy the benefits of using the Veeam Agent to back up their PCs or servers.

3.2. Installation

To install and configure the Veeam Agent, please follow these steps.

1. Visit the following webpage to download the Veeam Agent for Windows: Veeam Agent for Microsoft Windows FREE.
2. On the download page, click on the **Download Now** button to start the download process. Choose the appropriate version (32-bit or 64-bit) based on your system architecture.
3. Once the download is complete, locate the installation file and double-click on it to begin the installation process.
4. In the Veeam Agent installation wizard, carefully read and accept the EULA (End User License Agreement) to proceed with the installation.
5. Select the desired installation type. The available options may include Typical or Custom. For most users, the **Typical** installation is recommended, as it includes all the necessary components for backup operations.
6. Specify the installation location on your system where you want the Veeam Agent to be installed. By default, the software will suggest a location, but you can choose a different path if desired.
7. You may have the option to install additional components or configure advanced settings. Review the available options and make any necessary selections based on your requirements.
8. Once you have reviewed and confirmed the installation settings, click on the **Install** button to initiate the installation process.
9. The installer will now proceed to install the Veeam Agent on your system. This may take a few moments.
10. Once the installation is complete, you will see a confirmation message. You can choose to launch the Veeam Agent immediately or exit the installer.
11. To configure the Veeam Agent, launch the application from the **Start** menu or desktop shortcut.
12. Follow the on-screen prompts to set up the backup job, select the files and folders to be included in the backup, and specify the backup destination, such as a NAS or SAN storage.
13. Once you have configured the backup settings, you can schedule the backup job to run automatically at specified intervals.

That's it! You have now successfully installed and configured the Veeam Agent. You can start enjoying the benefits of automated backups and data protection for your personal PC or server. Remember to regularly review and adjust the backup settings based on your changing requirements.

3.3. Configure a Backup Job

Here is an example to configure a backup job.

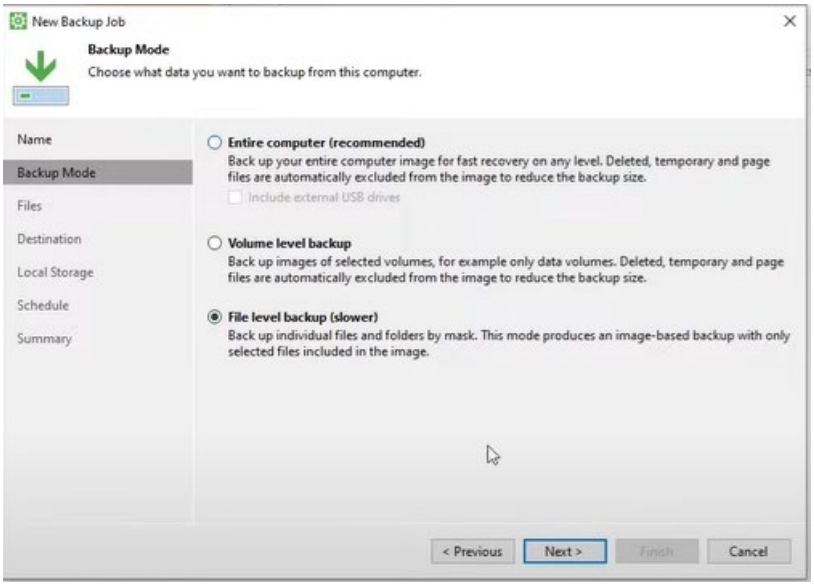

Figure 3-1 Configure a Backup Job Step 1

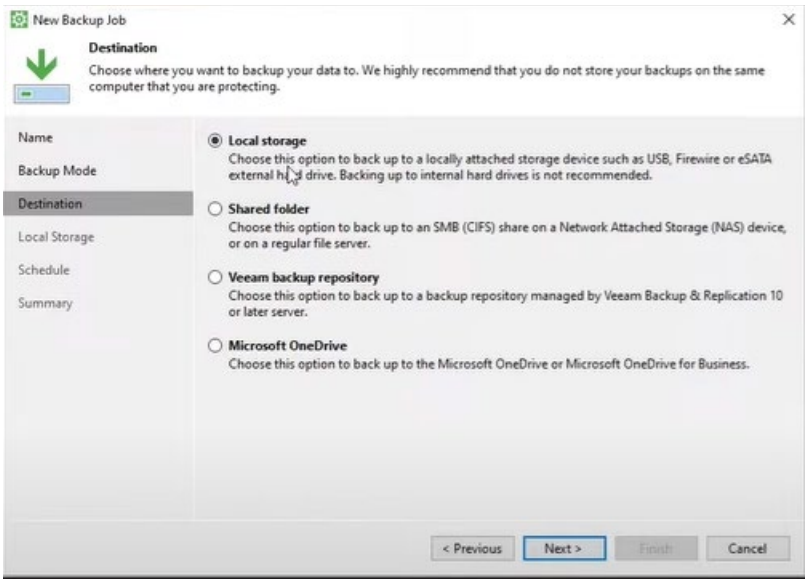

Figure 3-2 Configure a Backup Job Step 2

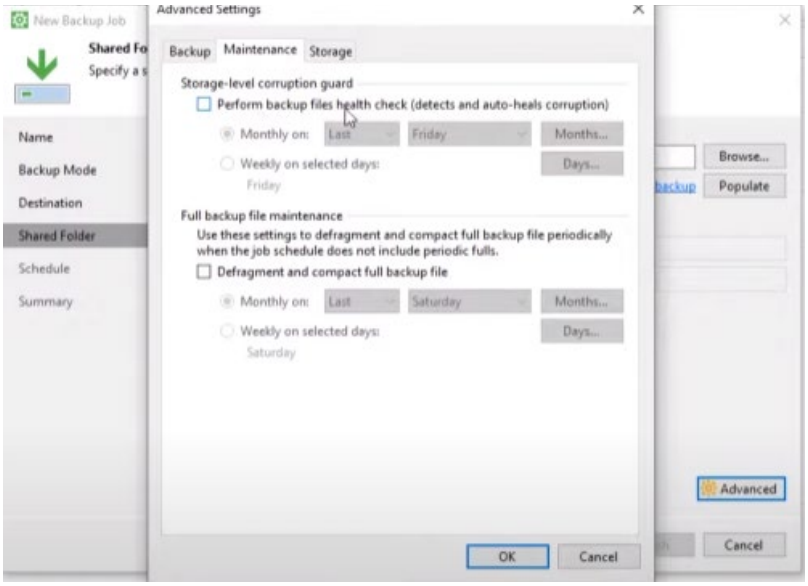

Figure 3-3 Configure a Backup Job Step 3

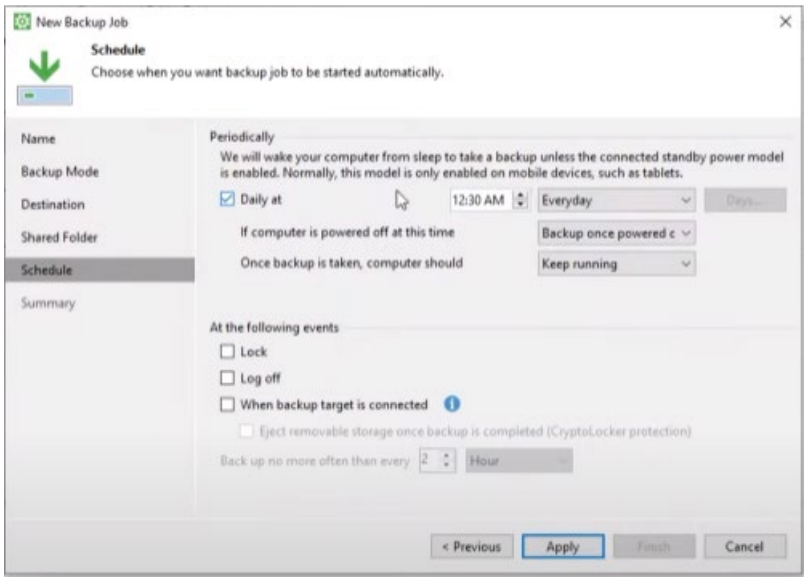

Figure 3-4 Configure a Backup Job Step 4

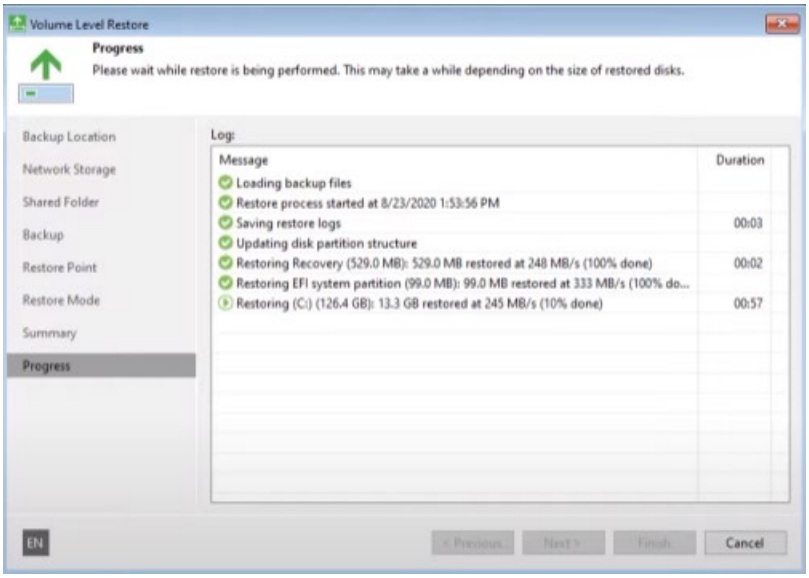

Figure 3-5 Configure a Backup Job Step 5

4. CONCLUSION

Veeam Backup & Replication v12 is a comprehensive backup and recovery solution designed to protect data on Windows hosts. Its strength lies in its comprehensiveness and flexibility, catering to various backup needs and environments. Through Veeam, users can easily back up essential data such as files, applications, system configurations, and more, with the capability for quick and reliable restoration when needed. Additionally, Veeam offers incremental backup functionality, meaning it only backs up the changed portions, thereby saving backup time and storage space. Managing Veeam Backup & Replication v12 is also straightforward, featuring an intuitive and user-friendly interface where administrators can easily configure and monitor backup jobs, and generate reports to ensure smooth operation. In summary, Veeam Backup & Replication v12 is an excellent backup solution, offering comprehensive features, efficient performance, and ease of management, ensuring data security and providing reliable business continuity.

The Veeam Agent provides a robust and free software solution for backing up PCs and servers. By leveraging external storage devices like NAS and SAN, users can enhance their data protection strategies with increased flexibility, convenience, and performance. NAS offers benefits such as network accessibility, shared storage capabilities, and ease of management, making it an ideal choice for backup destinations. On the other hand, SAN provides high-speed data transfers, low latency, and efficient storage utilization, catering to organizations with demanding performance requirements.

Remember, data protection is crucial, and leveraging the capabilities of the Veeam along with external storage is a valuable approach to safeguarding your information assets.

5. APPENDIX

5.1. Apply To

- XEVO firmware 2.3.3 and later
- QSN firmware 4.0.3 and later

5.2. Reference

Product Page

- XCubeSAN 5300 Series
- XCubeNXT 8100 Series

Document

- XEVO Software Manual
- QSM 4 Software Manual