

Installation

[Proxmox Backup](#) is split into a server and client part. The server part can either be installed with a graphical installer or on top of [Debian](#) from the provided package repository.

System Requirements

We recommend using high quality server hardware when running Proxmox Backup in production. To further decrease the impact of a failed host, you can set up periodic, efficient, incremental [datastore synchronization](#) from other Proxmox Backup Server instances.

Minimum Server Requirements, for Evaluation

These minimum requirements are for evaluation purposes only and should not be used in production.

- CPU: 64bit (x86-64 or AMD64), 2+ Cores
- Memory (RAM): 2 GB RAM
- Hard drive: more than 8GB of space.
- Network card (NIC)

Recommended Server System Requirements

- CPU: Modern AMD or Intel 64-bit based CPU, with at least 4 cores
- Memory: minimum 4 GiB for the OS, filesystem cache and Proxmox Backup Server daemons. Add at least another GiB per TiB storage space.
- OS storage:
 - 32 GiB, or more, free storage space
 - Use a hardware RAID with battery protected write cache (*BBU*) or a redundant ZFS setup (ZFS is not compatible with a hardware RAID controller).
- Backup storage:
 - Prefer fast storage that delivers high IOPS for random IO workloads; use only enterprise SSDs for best results.
 - If HDDs are used: Using a metadata cache is highly recommended, for example, add a ZFS [special device mirror](#).
- Redundant Multi-GBit/s network interface cards (NICs)

Supported Web Browsers for Accessing the Web Interface

To access the server's web-based user interface, we recommend using one of the following browsers:

- Firefox, a release from the current year, or the latest Extended Support Release
- Chrome, a release from the current year
- Microsoft's currently supported version of Edge
- Safari, a release from the current year

Debian Package Repositories

All Debian based systems use [APT](#) as a package management tool. The lists of repositories are defined in `/etc/apt/sources.list` and the `.list` files found in the `/etc/apt/sources.d/` directory. Updates can be installed directly with the `apt` command-line tool, or via the GUI.

[APT](#) `sources.list` files list one package repository per line, with the most preferred source listed first. Empty lines are ignored and a `#` character anywhere on a line marks the remainder of that line as a comment. The information available from the configured sources is acquired by `apt update`.

File: `/etc/apt/sources.list`

```
deb http://deb.debian.org/debian bookworm main contrib
deb http://deb.debian.org/debian bookworm-updates main contrib

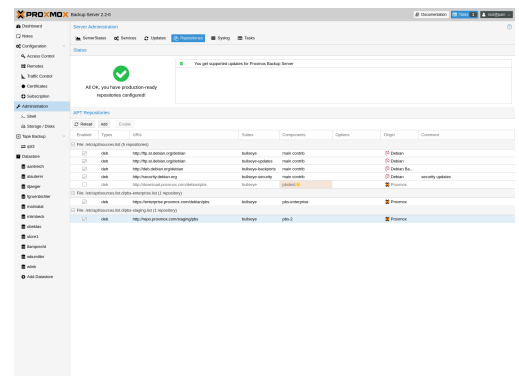
# security updates
deb http://security.debian.org/debian-security bookworm-security main contrib
```

In addition, you need a package repository from Proxmox to get Proxmox Backup updates.

SecureApt

The *Release* files in the repositories are signed with GnuPG. APT is using these signatures to verify that all packages are from a trusted source.

If you install Proxmox Backup Server from an official ISO image, the verification key is already installed.



If you install Proxmox Backup Server on top of Debian, download and install the key with the following commands:

```
# wget https://enterprise.proxmox.com/debian/proxmox-release-bookworm.gpg
```

Verify the SHA512 checksum afterwards with the expected output below:

```
# sha512sum /etc/apt/trusted.gpg.d/proxmox-release-bookworm.gpg
7da6fe34168adc6e479327ba517796d4702fa2f8b4f0a9833f5ea6e6b48f6507a6da40f
```

and the md5sum, with the expected output below:

```
# md5sum /etc/apt/trusted.gpg.d/proxmox-release-bookworm.gpg
41558dc019ef90bd0f6067644a51cf5b /etc/apt/trusted.gpg.d/proxmox-release-bookworm.gpg
```

Proxmox Backup Enterprise Repository

This is the stable, recommended repository. It is available for all Proxmox Backup subscription users. It contains the most stable packages, and is suitable for production use. The `pbs-enterprise` repository is enabled by default:

File: `/etc/apt/sources.list.d/pbs-enterprise.list`

```
deb https://enterprise.proxmox.com/debian/pbs bookworm pbs-enterprise
```

To never miss important security fixes, the superuser (`root@pam` user) is notified via email about new packages as soon as they are available. The change-log and details of each package can be viewed in the GUI (if available).

Please note that you need a valid subscription key to access this repository. More information regarding subscription levels and pricing can be found at

<https://www.proxmox.com/en/proxmox-backup-server/pricing>

Note:

You can disable this repository by commenting out the above line using a `#` (at the start of the line). This prevents error messages if you do not have a subscription key. Please configure the `pbs-no-subscription` repository in that case.

Proxmox Backup No-Subscription Repository

As the name suggests, you do not need a subscription key to access this repository. It can be used for testing and non-production use. It is not recommended to use it on production servers, because these packages are not always heavily tested and validated.

We recommend to configure this repository in `/etc/apt/sources.list`.

File: `/etc/apt/sources.list`

```
deb http://deb.debian.org/debian bookworm main contrib
deb http://deb.debian.org/debian bookworm-updates main contrib

# Proxmox Backup Server pbs-no-subscription repository provided by proxmox
# NOT recommended for production use
deb http://download.proxmox.com/debian/pbs bookworm pbs-no-subscription

# security updates
deb http://security.debian.org/debian-security bookworm-security main contrib
```

Proxmox Backup Test Repository

This repository contains the latest packages and is heavily used by developers to test new features.

You can access this repository by adding the following line to `/etc/apt/sources.list`:

`sources.list` entry for `pbstest`

```
deb http://download.proxmox.com/debian/pbs bookworm pbstest
```

Proxmox Backup Client-only Repository

If you want to [use the Proxmox Backup Client](#) on systems using a Linux distribution not based on Proxmox projects, you can use the client-only repository.

Currently there's only a client-repository for APT based systems.

APT-based Proxmox Backup Client Repository

For modern Linux distributions using *apt* as package manager, like all Debian and Ubuntu Derivative do, you may be able to use the APT-based repository.

In order to configure this repository you need to first [setup the Proxmox release key](#). After that, add the repository URL to the APT sources lists.

Repositories for Debian 12 (Bookworm) based releases

This repository is tested with:

- Debian Bookworm

Edit the file `/etc/apt/sources.list.d/pbs-client.list` and add the following snippet

File: `/etc/apt/sources.list`

```
deb http://download.proxmox.com/debian/pbs-client bookworm main
```

Repositories for Debian 11 (Bullseye) based releases

This repository is tested with:

- Debian Bullseye

Edit the file `/etc/apt/sources.list.d/pbs-client.list` and add the following snippet

File: `/etc/apt/sources.list`

```
deb http://download.proxmox.com/debian/pbs-client bullseye main
```

Repositories for Debian 10 (Buster) based releases

This repository is tested with:

- Debian Buster
- Ubuntu 20.04 LTS

It may work with older, and should work with more recent released versions.

Edit the file `/etc/apt/sources.list.d/pbs-client.list` and add the following snippet

File: `/etc/apt/sources.list`

```
deb http://download.proxmox.com/debian/pbs-client buster main
```

Repository Access Behind HTTP Proxy

Some setups have restricted access to the internet, sometimes only through a central proxy. You can setup a HTTP proxy through the Proxmox Backup Server's web-interface in the *Configuration -> Authentication* tab.

Once configured this proxy will be used for apt network requests and for checking a Proxmox Backup Server support subscription.

Standard HTTP proxy configurations are accepted, `[http://]<host>[:port]` where the `<host>` part may include an authorization, for example:

`http://user:pass@proxy.example.org:12345`

Server Installation

The backup server stores the actual backed up data and provides a web based GUI for various management tasks such as disk management.

Note:

You always need a backup server. It is not possible to use Proxmox Backup without the server part.

The disk image (ISO file) provided by Proxmox includes a complete Debian system as well as all necessary packages for the Proxmox Backup Server.

The installer will guide you through the setup process and allow you to partition the local disk(s), apply basic system configuration (for example timezone, language, network), and install all required packages. The provided ISO will get you started in just a few minutes, and is the recommended method for new and existing users.

Alternatively, Proxmox Backup Server can be installed on top of an existing Debian system.

Install Proxmox Backup Server using the Installer

Download the ISO from <https://www.proxmox.com/downloads>. It includes the following:

- The Proxmox Backup Server installer, which partitions the local disk(s) with ext4, xfs or ZFS, and installs the operating system
- Complete operating system (Debian Linux, 64-bit)
- Proxmox Linux kernel with ZFS support
- Complete tool-set to administer backups and all necessary resources
- Web based management interface

Note:

During the installation process, the complete server is used by default and all existing data is removed.

Install [Proxmox Backup](#) Server Unattended

It is possible to install {pve} automatically in an unattended manner. This enables you to fully automate the setup process on bare-metal. Once the installation is complete and the host has booted up, automation tools like Ansible can be used to further configure the installation.

The necessary options for the installer must be provided in an answer file. This file allows the use of filter rules to determine which disks and network cards should be used.

To use the automated installation, it is first necessary to prepare an installation ISO. For more details and information on the unattended installation see [our wiki](#).

Install [Proxmox Backup](#) Server on Debian

Proxmox ships as a set of Debian packages which can be installed on top of a standard Debian installation. After configuring the [Debian Package Repositories](#), you need to run:

```
# apt update
# apt install proxmox-backup-server
```

The above commands keep the current (Debian) kernel and install a minimal set of required packages.

If you want to install the same set of packages as the installer does, please use the following:

```
# apt update
# apt install proxmox-backup
```

This will install all required packages, the Proxmox kernel with [ZFS](#) support, and a set of common and useful packages.

Caution:

Installing Proxmox Backup on top of an existing [Debian](#) installation looks easy, but it assumes that the base system and local storage have been set up correctly. In general this is not trivial, especially when [LVM](#) or [ZFS](#) is used. The network configuration is completely up to you as well.

Note:

You can access the web interface of the Proxmox Backup Server with your web browser, using HTTPS on port 8007. For example at `https://<ip-or-dns-name>:8007`

Install Proxmox Backup Server on [Proxmox VE](#)

After configuring the [Debian Package Repositories](#), you need to run:

```
# apt update
# apt install proxmox-backup-server
```

Caution:

Installing the backup server directly on the hypervisor is not recommended. It is safer to use a separate physical server to store backups. Should the hypervisor server fail, you can still access the backups.

Note:

You can access the web interface of the Proxmox Backup Server with your web browser, using HTTPS on port 8007. For example at `https://<ip-or-dns-name>:8007`

Client Installation

Install Proxmox Backup Client on Debian

Proxmox ships as a set of Debian packages to be installed on top of a standard Debian installation. After configuring the [APT-based Proxmox Backup Client Repository](#), you need to run:

```
# apt update
# apt install proxmox-backup-client
```

Note:

The client-only repository should be usable by most recent Debian and Ubuntu derivatives.