Zenkner Technology
IT services & software development
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SETUP GUIDE
ZenVault 0.1.0
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ZenVault

Your document archive on your own server

This guide takes you from installing the server to using ZenVault in the browser and on your phone. ZenVault stores all documents exclusively on your own system, for example in your homelab, on a mini PC or on a rented server. Text recognition and automatic sorting run entirely locally. Note: the ZenVault interface itself is currently in German.

1. Overview

Component	Purpose	Where to get it
ZenVault server	Stores documents, recognises text, sorts and provides the web interface	zenkner-technology.de/en/projekte/zenvault
Browser extension	Archives web pages, PDFs and detected invoices from Chrome	Chrome Web Store
Android app	Scans documents, shares files into the archive, search on the go	Google Play Store
Tailscale	Secure access on the go without open ports on the router	tailscale.com

2. Requirements

- A computer that runs permanently: Proxmox host, mini PC, NAS with Docker or a Linux server.
- At least 2 CPU cores, 2 GB RAM (4 GB recommended) and enough storage for your documents.
- Operating system Debian 12 or 13, Ubuntu 22.04 or newer, or any environment with Docker.
- A free Tailscale account if you want to use ZenVault on the go.

3. Installation with Docker

The easiest way on a system where Docker is already running. Download the server package from the website and unpack it:

```
curl -fsSL https://www.zenkner-technology.de/zenvault/zenvault-latest.tar.gz | tar -xz
cd zenvault
cp .env.example .env
```

Enter a long, random value for ZENVAULT_SECRET_KEY in the .env file. Then start it:

```
docker compose up -d --build
```

ZenVault is then reachable at http://SERVER-IP:8000. The database, text recognition and background service start automatically.

4. Installation on Debian, Ubuntu or in a Proxmox LXC

Directly on a server or in an existing container

The installation script sets up PostgreSQL, Tesseract, the Python environment, systemd services and a daily backup. Run it as root:

```
curl -fsSL https://www.zenkner-technology.de/zenvault/install.sh | bash -s -- --tailscale
```

The --tailscale option also installs Tailscale and makes ZenVault available via HTTPS in your private network. Without this option, ZenVault is only reachable in your local network.

New container on a Proxmox host

On the Proxmox host, the included script creates an unprivileged Debian container with a TUN device for Tailscale, installs ZenVault in it and creates a snapshot. You can choose any container ID:

```
curl -fsSLO https://www.zenkner-technology.de/zenvault/zenvault-latest.tar.gz
tar -xzf zenvault-latest.tar.gz
ZENVAULT_RELEASE=$PWD/zenvault-latest.tar.gz bash zenvault/deploy/proxmox-lxc.sh 103
```

Variable	Default	Meaning
ZENVAULT_STORAGE	local-lvm	Proxmox storage for the root file system
ZENVAULT_DISK_GB	32	Container size in GB
ZENVAULT_MEMORY	4096	Memory in MB
ZENVAULT_CORES	2	CPU cores
ZENVAULT_BRIDGE	vmbr0	Network bridge

> Important paths after installation: program in /opt/zenvault, configuration in /etc/zenvault/zenvault.env, documents and backups in /srv/zenvault.

5. Remote access with Tailscale

Tailscale connects your devices through an encrypted private network. No ports need to be opened on the router, and ZenVault is not visible from the internet.

1. Create a free account at tailscale.com.
2. Run the installation with --tailscale on the server and open the sign-in link shown.
3. In the Tailscale admin console under DNS, enable MagicDNS and HTTPS certificates.
4. Install the Tailscale app on your laptop and phone and sign in with the same account.
5. ZenVault is now reachable everywhere at https://zenvault.YOUR-TAILNET.ts.net.

The exact address is shown by the command tailscale status on the server or in the Tailscale app under Devices.

6. Initial setup

1. Open the ZenVault address in your browser.
2. Set a username and password for the administrator. This account later manages further users.
3. Create your first categories under tags, correspondents, document types and collections, for example insurance, electricity, tax.

4. Drag and drop your first documents into the inbox.

Every user has their own separate archive. The administrator creates further users in the settings.

7. Browser extension

1. Search for ZenVault in the Chrome Web Store or use the link on the project page and add the extension.
2. In ZenVault, create a new token named after the browser under settings, devices and access tokens, and copy it.
3. Enter the server address and the token in the extension options and choose save and test.
4. Optionally grant access to websites so that detected invoices can be downloaded directly.

- Click the ZenVault icon: archive the current page or PDF, set title, tags, correspondent and collection.
- Right-click on a page, link or image: archive it directly.
- Download invoices as PDF: ZenVault asks whether the file should be archived.
- Search field in the popup: full-text search across the whole archive.

8. Android app

1. Install ZenVault from the Google Play Store.
2. Install and sign in to the Tailscale app if you want to use ZenVault on the go.
3. In ZenVault, enter the server address, username and password. The app automatically creates its own access token.

- Scan: edge detection, several pages, result as PDF. Text recognition is done by the server.
- Share: tap share in any app and choose archive in ZenVault.
- Offline: uploads without a connection are saved and sent automatically later.
- Inbox: check new documents, accept suggestions, mark them as reviewed.

9. Sorting documents automatically

Rules

Rules run after text recognition for every new document. A rule consists of conditions and actions. Example: text contains Stadtwerke sets correspondent Stadtwerke, tag electricity and the title {correspondent} {type} {date}.

Placeholder	Replaced with
{correspondent}	Name of the correspondent
{type}	Document type
{date}, {year}, {month}	Document date
{invoice_number}, {amount}	Invoice number and amount
{title}, {filename}	Detected title and file name

Learning model

ZenVault learns from documents you have marked as reviewed and suggests tags, correspondents, types and collections. The model is retrained every hour and can also be trained manually under rules. It runs entirely on your server.

Detected information

For every document, date, due date, amount, IBAN and invoice number are extracted automatically. All open payment deadlines appear under due dates.

Further inputs

- Consume folder: files in /srv/zenvault/consume are imported automatically. Subfolders named after a user end up in that user's archive. The folder can be shared on the network via Samba, for example as a target for a network scanner.
- Email: with ZENVAULT_IMAP_HOST, ZENVAULT_IMAP_USER and ZENVAULT_IMAP_PASSWORD in the configuration, attachments of unread emails are imported every five minutes.

10. Backup and update

The database is backed up daily at 03:15 to /srv/zenvault/backups. Backups older than 14 days are removed. In addition, the folder /srv/zenvault should be copied to another drive regularly; on Proxmox the easiest way is vzdump.

```
zenvault-backup
systemctl list-timers zenvault-backup.timer
```

To update, run the installation script again. Configuration and data are kept:

```
curl -fsSL https://www.zenkner-technology.de/zenvault/install.sh | bash
```

With Docker:

```
curl -fsSL https://www.zenkner-technology.de/zenvault/zenvault-latest.tar.gz | tar -xz
cd zenvault && docker compose up -d --build
```

11. Troubleshooting

Problem	Solution
Page not reachable	Check systemctl status zenvault-api. With Tailscale, check whether the device is signed in to the tailnet.
Documents stay in processing	Check systemctl status zenvault-worker and journalctl -u zenvault-worker -n 50.
No text recognised	Check in the settings whether Tesseract is available. Choose OCR again in the document.
Extension reports an error	Enter the server address with https://, create a new token, confirm access for the server address.
App does not connect	Is the Tailscale app active? Test the address in the phone browser.
Forgotten password	An administrator can delete and recreate the account. If there is none, support can help.

Further help and contact: zenkner-technology.de/en/projekte/zenvault