

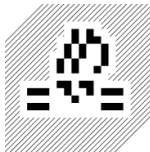
Paketmanagement, im Vergleich

Debian, RedHat oder Arch ? Alles irgendwie anders

Orloff

Hackspace Siegen

6. Mai 2025



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- ▶ Was ist ein Repository ?
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- **lokale Konfiguration**



► Was ist ein Repository ?

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► **/etc/apt/sources.list**



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- ▶ `/etc/apt/sources.list`
- ▶ `/etc/apt/sources.list.d/*.list`
- ▶ `/etc/apt/sources.list.d/*.sources`



```
deb https://deb.debian.org/debian bookworm main non-free-firmware
deb-src https://deb.debian.org/debian bookworm main non-free-firmware
```

```
deb https://security.debian.org/debian-security bookworm-security mai
non-free-firmware
deb-src https://security.debian.org/debian-security bookworm-security
non-free-firmware
```

```
deb https://deb.debian.org/debian bookworm-updates main non-free-firm
deb-src https://deb.debian.org/debian bookworm-updates main non-free-
```



Types: deb deb-src

URIs: <https://deb.debian.org/debian>

Suites: bookworm bookworm-updates

Components: main non-free-firmware

Enabled: yes

Signed-By: /usr/share/keyrings/debian-archive-keyring.gpg

Types: deb deb-src

URIs: <https://security.debian.org/debian-security>

Suites: bookworm-security

Components: main non-free-firmware

Enabled: yes

Signed-By: /usr/share/keyrings/debian-archive-keyring.gpg



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Key	Description	Example
Enabled	Status	yes/no
Types	Repo-Types	deb/deb-src
URLs	Repo-URL	https://...
Suites	Deb-Suites	bookworm
Components	Deb-Components	main, contrib, ...
Optionns		
Architectures	Sys-Arch	amd64, aarm64, ...
Languages	Sprachpakete	de_DE, en_US, ...
Singend-By	GPG-Keyring	/usr/share/...

Das ist nur eine Auswahl, es gibt noch mehr.



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► **/etc/yum.repos.d/*.repo**



```
[fedora]
```

```
name=Fedora $releasever - $basearch
```

```
baseurl=http://download.example/pub/fedora/linux/releases/...
```

```
#metalink=https://mirrors.fedoraproject.org/metalink?repo...
```

```
enabled=1
```

```
countme=1
```

```
metadata_expire=7d
```

```
repo_gpgcheck=0
```

```
type=rpm
```

```
gpgcheck=1
```

```
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-fedora-...
```

```
skip_if_unavailable=False
```

```
[red-hat-enterprise-linux-scalable-...]  
name = Red Hat Enterprise Linux Scalable File System ...  
baseurl = https://cdn.redhat.com/content/dist/rhel/entitlement-6/...  
  
enabled = 1  
gpgcheck = 1  
gpgkey = file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release  
sslverify = 1  
sslcacert = /etc/rhsm/ca/redhat-uep.pem  
sslclientkey = /etc/pki/entitlement/key.pem  
sslclientcert = /etc/pki/entitlement/11300387955690106.pem
```



Key	Description	Example
ID	Repo-Name(Unique)	[fedora]
Name	Repo-Name	Fedora ...
baseurl	Repo-URL	https://...
metalink	Repo-XML	https://...
enabled	Status	1(true)
countme	Special Flag	1(true)
metadata_expire	Expire-Time	7d
repo_gpgcheck	GPG-Flag Repo	0(false)
type	Repo-Type	rpm
gpgcheck	GPG-Flag Packages	1(true)
gpgkey	GPG-Key	file:///etc/pki/...
skip_if_unavailable	Opt. Repo	false
sslverify	SSL-Flag (ESM)	0(false)
sslcacert	CA-Cert (ESM)	/etc/...
sslclientkey	Client-Key (ESM)	/etc/pki/...
sslclientcert	Client-Cert (ESM)	/etc/pki/...



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► **/etc/pacman.conf**



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- ▶ `/etc/pacman.conf`
- ▶ `/etc/pacman.d/mirrorlist`
- ▶ `/etc/pacman.d/*` (Includes)



```
#  
# pacman.conf  
#  
[options]  
NoUpgrade = etc/passwd etc/group etc/shadow  
NoUpgrade = etc/fstab  
[core]  
Include = /etc/pacman.d/core  
[custom]  
Server = file:///home/pkgs
```



```
#  
# mirrorlist  
#  
Server = https://.../$repo/os/$arch  
Server = https://.../$repo/os/$arch  
Server = https://.../$repo/os/$arch  
Server = https://.../$repo/os/$arch  
Server = https://.../$repo/os/$arch  
Server = https://.../$repo/os/$arch
```



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Key	Description	Example
ID	Repo-Name(Unique)	[core]
Include	SubFiles	/etc/pacman.d/...
CacheServer	PKG-URL	https://...
SigLevel	Security	Optional, Required
Usage	Usage-Types	All



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- ▶ **Debian**

- ▶ **apt-get update**

- ▶ **apt update**

- ▶ **aptitude update**



- ▶ Sync des Paketindexes

- ▶ Debian

- ▶ apt-get update
- ▶ apt update
- ▶ aptitude update

- ▶ RedHat

- ▶ **dnf check-update**
- ▶ **dnf make-cache**
- ▶ **BUILTIN!!: wird automatisch durchgeführt**



- ▶ Sync des Paketindexes
- ▶ Debian
 - ▶ apt-get update
 - ▶ apt update
 - ▶ aptitude update
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 - ▶ dnf check-update
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- ▶ Suche im Paketindex
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 - ▶ **apt show 'pkgname'**
 - ▶ **aptitude show 'pkgname'**



- ▶ Paketinformationen
- ▶ Debian
 - ▶ apt-cache policy 'pkgname'
 - ▶ apt show 'pkgname'
 - ▶ aptitude show 'pkgname'
- ▶ RedHat
 - ▶ dnf info 'pkgname'



- ▶ Paketinformationen
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► Download aus dem Repo



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- ▶ **Debian**
 - ▶ **apt install --download-only 'pkgname'**
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► Installation/Deinstallation des Pakets



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- `apt remove 'pkgname'`

► RedHat

- `dnf install 'pkgname'`
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► ArchLinux

- `pacman -S 'pkgname'`
- `pacman -R 'pkgname'`



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- apt-mark manual 'pkgname'

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- dnf install 'pkgname'
- dnf mark remove 'pkgname'
- dnf mark 'pkgname'



► Installation des Pakets als Abhängigkeit

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- `apt-mark auto 'pkgname'`
- `apt-mark manual 'pkgname'`

► RedHat

- `dnf install 'pkgname'`
- `dnf mark remove 'pkgname'`
- `dnf mark 'pkgname'`

► ArchLinux

- `pacman -S --asdeps 'pkgname'`
- `pacman -D --asexplicit 'pkgname'`



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▶ Lokale Informationen von Paketen

▶ **Debian**

▶ **aptitude show 'pkgname'**

▶ **dpkg -s 'pkgname'**



- ▶ Lokale Informationen von Paketen
- ▶ Debian
 - ▶ aptitude show 'pkgname'
 - ▶ dpkg -s 'pkgname'
- ▶ **RedHat**
 - ▶ **dnf info installed 'pkgname'**
 - ▶ **rpm -qa 'pkgname'**



- ▶ Lokale Informationen von Paketen
- ▶ Debian
 - ▶ `aptitude show 'pkgname'`
 - ▶ `dpkg -s 'pkgname'`
- ▶ RedHat
 - ▶ `dnf info installed 'pkgname'`
 - ▶ `rpm -qa 'pkgname'`
- ▶ **ArchLinux**
 - ▶ `pacman -Qi 'pkgname'`



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► Bereinigen von lokalen Inhalten (Caches)



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- ▶ Bereinigen von lokalen Inhalten (Caches)

- ▶ **Debian**

 - ▶ **apt-cache clean**

 - ▶ **apt clean**



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- ▶ Bereinigen von lokalen Inhalten (Caches)

- ▶ Debian

 - ▶ apt-cache clean

 - ▶ apt clean

- ▶ **RedHat**

 - ▶ **dnf clean all**

 - ▶ **dnf clean packages**



- ▶ Bereinigen von lokalen Inhalten (Caches)

- ▶ Debian

- ▶ apt-cache clean
- ▶ apt clean

- ▶ RedHat

- ▶ dnf clean all
- ▶ dnf clean packages

- ▶ **ArchLinux**

- ▶ **pacman -Sc**



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► Datei gehört zu welchem Paket ?



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- ▶ Datei gehört zu welchem Paket ?
- ▶ **Debian**
 - ▶ **`dpkg -S 'filepath'`**



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- ▶ Datei gehört zu welchem Paket ?
- ▶ Debian
 - ▶ `dpkg -S 'filepath'`
- ▶ **RedHat**
 - ▶ `rpm -qf 'filepath'`
 - ▶ `dnf provides 'filepath'`



- ▶ Datei gehört zu welchem Paket ?
- ▶ Debian
 - ▶ `dpkg -S 'filepath'`
- ▶ RedHat
 - ▶ `rpm -qf 'filepath'`
 - ▶ `dnf provides 'filepath'`
- ▶ **ArchLinux**
 - ▶ **`pacman -Qo 'filepath'`**



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► Paket beinhaltet Datei



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- ▶ Paket beinhaltet Datei
- ▶ **Debian**
 - ▶ **`dpkg -L 'pkgname'`**



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- ▶ Paket beinhaltet Datei
- ▶ Debian
 - ▶ `dpkg -L 'pkgname'`
- ▶ **RedHat**
 - ▶ `rpm -ql 'pkgname'`



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- ▶ Debian
 - ▶ `dpkg -L 'pkgname'`
- ▶ RedHat
 - ▶ `rpm -ql 'pkgname'`
- ▶ **ArchLinux**
 - ▶ `pacman -Qi 'pkgname'`



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► Paketinhalte sauber und unverändert



- ▶ Paketinhalte sauber und unverändert
- ▶ **Debian**
 - ▶ **debsums 'pkgname'**



- ▶ Paketinhalte sauber und unverändert
- ▶ Debian
 - ▶ `debsums 'pkgname'`
- ▶ **RedHat**
 - ▶ `rpm -V 'pkgname'`



- ▶ Paketinhalte sauber und unverändert
- ▶ Debian
 - ▶ `debsums 'pkgname'`
- ▶ RedHat
 - ▶ `rpm -V 'pkgname'`
- ▶ **ArchLinux**
 - ▶ `pacman -Qk 'pkgname'`
 - ▶ `pacman -Qkk 'pkgname'`



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► Aktualisieren/Installieren von Paketen



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- ▶ Aktualisieren/Installieren von Paketen
- ▶ **Debian**
 - ▶ **apt upgrade 'pkgname'**



- ▶ Aktualisieren/Installieren von Paketen
- ▶ Debian
 - ▶ `apt upgrade 'pkgname'`
- ▶ **RedHat**
 - ▶ `dnf upgrade 'pkgname' (?)`
 - ▶ `dnf install 'pkgname' (!)`



- ▶ Aktualisieren/Installieren von Paketen
- ▶ Debian
 - ▶ `apt upgrade 'pkgname'`
- ▶ RedHat
 - ▶ `dnf upgrade 'pkgname' (?)`
 - ▶ `dnf install 'pkgname' (!)`
- ▶ **ArchLinux**
 - ▶ `pacman -Su 'pkgname'`



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► virtuelle Pakete aus installierten Paketen



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- ▶ virtuelle Pakete aus installierten Paketen
- ▶ **Debian**
 - ▶ **`dpkg -s 'pkgname'`**



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- ▶ virtuelle Pakete aus installierten Paketen
- ▶ Debian
 - ▶ `dpkg -s 'pkgname'`
- ▶ **RedHat**
 - ▶ ???



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- ▶ virtuelle Pakete aus installierten Paketen
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 - ▶ `dpkg -s 'pkgname'`
- ▶ RedHat
 - ▶ ???
- ▶ **ArchLinux**
 - ▶ `pacman -Qi 'pkgname'`



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► Bereinigen von installierten, unnötigen Paketen



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- ▶ Bereinigen von installierten, unnötigen Paketen
- ▶ **Debian**
 - ▶ **apt autoremove**
 - ▶ **aptitude purge '~o'**



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- ▶ Bereinigen von installierten, unnötigen Paketen
- ▶ Debian
 - ▶ apt autoremove
 - ▶ aptitude purge '~o'
- ▶ **RedHat**
 - ▶ **dnf autoremove**
 - ▶ **dnf repoquery --extras**



- ▶ Bereinigen von installierten, unnötigen Paketen
- ▶ Debian
 - ▶ apt autoremove
 - ▶ aptitude purge '~o'
- ▶ RedHat
 - ▶ dnf autoremove
 - ▶ dnf repoquery --extras
- ▶ **ArchLinux**
 - ▶ **pacman -Qdtq | pacman -Rs -**
 - ▶ **pacman -Qdttq | pacman -Rs - (opt. Deps)**
 - ▶ **pacman -Qmq | pacman -Rs - (Pkgs ohne Repo)**



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