

# [How to Display the Progress Bar in Linux Commands?](#)

written by sysadmin | 29 September 2025

[The previous article](#) has explained how to display progress in a process, but unfortunately, this application is limited to displaying the copy and move process. This article will explain how to display a progress that not only displays the copy and move process, but can also display the backup process and restore a database.

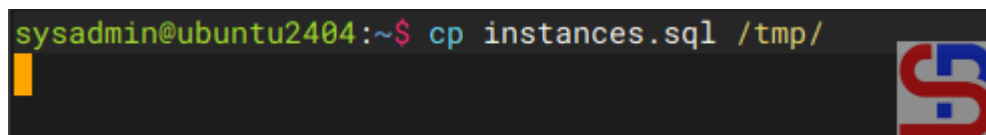
## **Problem**

How to display the progress bar in Linux commands?

## **Solution**

By default, Linux commands do not display a progress bar, so you don't know when the process is complete, like in the image below:

```
sysadmin@ubuntu2404:~$ cp instances.sql /tmp/
```

A terminal window with a dark background. The prompt is 'sysadmin@ubuntu2404:~\$'. The command 'cp instances.sql /tmp/' is entered. A yellow cursor is visible at the end of the command line. To the right of the terminal is a logo consisting of a blue 'S' and a red 'S'.

Copy the file without using pv application

Therefore, Andrew Wood, An Experienced Unix Sysadmin, created an application to display a progress bar named Pipe Viewer or PV. To install the application, use the command below:

### **RockyLinux/AlmaLinux/CentOS**

```
yum install epel-release  
yum install pv
```

### **Ubuntu/Debian**

```
sudo apt update
sudo apt install pv
```

## **OpenSUSE**

```
sudo zypper install pv
```

If you want to install pv applications in addition to the operating system shown above, you can go to [this page](#). Here are some methods when using the pv application:

### **A. Copy**

#### **1. Copy the file**

Use the format below to copy the file:

```
pv file1 > /folder/filename
```

So, if you want to copy an instances.sql to the /tmp folder, use the command below:

```
pv instances.sql > /tmp/instance.sql
```

A terminal window screenshot showing the command 'pv instances.sql > /tmp/instance.sql' being executed. The progress bar shows 87.2MiB transferred in 0:00:02 at a rate of 23.7MiB/s. The terminal prompt is 'sysadmin@ubuntu2404:~\$'.

Copy the file using pv application

#### **2. Copy more than one file**

If you want to copy more than one file to the folder, use the format below:

```
tar cf - file1 file2 file3 | pv | tar xf - -C /folder
```

Here is the command to copy more than one file to the /tmp folder

```
tar cf - babel.sql babel.sql.gz babel.sql.tar.gz | pv | tar xf - -C /tmp
```

A terminal window screenshot showing the command 'tar cf - babel.sql babel.sql.gz babel.sql.tar.gz | pv | tar xf - -C /tmp' being executed. The progress bar shows 192MiB transferred in 0:00:00 at a rate of 356MiB/s. The terminal prompt is 'sysadmin@ubuntu2404:~\$'.

Copy more than one file in pv application

### 3. Copy the folder

If you want to copy the folder, use the format below:

```
tar cf - folder_name/ | pv | tar xf - -C /folder
```

If you want to copy the example folder to the /tmp folder, use the command below:

```
tar cf - example/ | pv | tar xf - -C /tmp
```

```
sysadmin@ubuntu2404:~$ tar cf - example/ | pv | tar xf - -C /tmp
160MiB 0:00:00 [ 576MiB/s] | <=>
sysadmin@ubuntu2404:~$
```

Copy some files using pv application

### 4. Copy more than one folder

If you want to copy more than one folder, use the format below:

```
tar cf - folder1/ folder2/ | pv | tar xf - -C /folder
```

So, if you want to copy more than one folder to the /tmp directory, use the command below:

```
tar cf - example/ test-project/ | pv | tar xf - -C /tmp
```

```
sysadmin@ubuntu2404:~$ tar cf - example/ test-project/ | pv | tar xf - -C /tmp
160MiB 0:00:00 [ 361MiB/s] | <=>
sysadmin@ubuntu2404:~$
```

Copy some folders using pv application

## B. Move

If you want to use the move command on the PV application, then you can actually use the command to copy number 1, but add the command **&& rm -rf file1/folder1** behind it.

### 1. Move the file

So, if you want to move an instances.sql to the /tmp folder, use the command below:

```
pv instances.sql > /tmp/instance.sql && rm -rf instances.sql
```

```
sysadmin@ubuntu2404:~$ pv instances.sql > /tmp/instance.sql && rm -rf instances.sql
592MiB 0:00:01 [ 446MiB/s] [=====]
sysadmin@ubuntu2404:~$
```

Move the file in pv application

## 2. Move more than one file

If you want to move some files to the /tmp folder, use the command below:

```
tar cf - babel.sql babel.sql.gz babel.sql.tar.gz | pv | tar xf - -C /tmp && rm -rf babel.sql babel.sql.gz babel.sql.tar.gz
```

```
sysadmin@ubuntu2404:~$ tar cf - babel.sql babel.sql.gz babel.sql.tar.gz | pv | tar xf - -C /tmp && rm -rf babel.sql babel.sql.gz babel.sql.tar.gz
192MiB 0:00:00 [ 345MiB/s] [ <=> ]
sysadmin@ubuntu2404:~$
```

Move more than one file in pv application

## 3. Move the folder

If you want to move a folder to the /tmp folder, use the command below:

```
tar cf - example/ | pv | tar xf - -C /tmp && rm -rf example/
```

```
sysadmin@ubuntu2404:~$ tar cf - example/ | pv | tar xf - -C /tmp && rm -rf example/
665MiB 0:00:02 [ 319MiB/s] [ <=> ]
sysadmin@ubuntu2404:~$
```

Move the folder in pv application

## 4. Move more than one folder

If you want to move some folders to the /tmp folder, use the command below:

```
tar cf - example/ test-project/ | pv | tar xf - -C /tmp && rm -rf example/ test-project/
```

```
sysadmin@ubuntu2404:~$ tar cf - example/ test-project/ | pv | tar xf - -C /tmp
160MiB 0:00:00 [ 361MiB/s] [ <=> ]
sysadmin@ubuntu2404:~$
```

Move more than one folder in pv application

## C. Compress

### 1. Using gz

Use the format below to run the gz command in pv

application:

```
pv filename | gzip > filename.gz
```

For example, you want to compress babel.sql using gz, so use the command below:

```
pv babel.sql | gzip > babel.sql.gz
```

```
sysadmin@ubuntu2404:~$ pv babel.sql | gzip > babel.sql.gz
08.4MiB 0:00:01 [28.4MiB/s] [=====] 22% ETA 0:00:00
```

Compress the file using gz in pv application

## 2. Using tar

Use the format below to run the tar command in pv application:

```
tar cf - filename | pv | gzip > filename.tar.gz
```

For example, you want to compress babel.sql using tar, use the command below:

```
tar cf - babel.sql | pv | gzip > babel.sql.tar.gz
```

```
sysadmin@ubuntu2404:~$ tar cf - babel.sql | pv | gzip > babel.sql.tar.gz
03.1MiB 0:00:02 [33.8MiB/s] [=====>]
```

Compress the file using tar in pv application

## 3. Using bz2

Use the format below to run the tar command in pv application:

```
pv filename | bzip2 > filename.bz2
```

For example, you want to compress babel.sql using bz2, use the command below:

```
pv babel.sql | bzip2 > babel.sql.bz2
```

```
sysadmin@ubuntu2404:~$ pv babel.sql | bzip2 > babel.sql.bz2
04.4MiB 0:00:02 [16.4MiB/s] [=====] 26% ETA 0:00:00
```

Compress the file using bzip2 in pv application

## 4. Using zip

Use the format below to run the tar command in pv application:

```
pv filename | zip filename.zip -q -
```

For example, you want to compress `babel.sql` using `bz2`, use the command below:

```
pv babel.sql | zip babel.sql.zip -q -
```

```
sysadmin@ubuntu2404:~$ pv babel.sql | zip babel.sql.zip -q -
39.7MiB 0:00:01 [29.7MiB/s] [----->] 23% ETA 0:00:01
```

Compress the file using `zip` in `pv` application

## D. Extract

### 1. Using `gunzip`

Use the format below to extract the `gz` compression in `pv` application:

```
pv filename.gz | gunzip > filename
```

For example, you want to extract `babel.sql.gz`, so use the command below:

```
pv babel.sql.gz | gunzip > babel.sql
```

```
sysadmin@ubuntu2404:~$ pv babel.sql.gz | gunzip > babel.sql
32.3MiB 0:00:00 [45.7MiB/s] [----->]
sysadmin@ubuntu2404:~$
```

Extract the file using `gunzip` in `pv` application

### 2. Using `tar.gz`

Use the format below to extract the `gz` compression in `pv` application:

```
pv filename.tar.gz | tar xzf -
```

For example, you want to extract `babel.sql.tar.gz`, so use the command below:

```
pv babel.sql.tar.gz | tar xzf -
```

```
sysadmin@ubuntu2404:~$ pv babel.sql.tar.gz | tar xzf -
32.3MiB 0:00:00 [40.9MiB/s] [----->]
sysadmin@ubuntu2404:~$
```

Extract the file using `tar` in `pv` application

### 3. Using `bunzip2`

Use the format below to extract the `bz2` compression in `pv` application:

```
pv filename.sql.bz2 | bunzip2 > filename.sql
```

For example, you want to extract `babel.sql.bz2`, so use the

command below:

```
pv babel.sql.bz2 | bunzip2 > babel.sql
```

```
sysadmin@ubuntu2404:~$ pv babel.sql.bz2 | bunzip2 | mariadb -uroot -p
Enter password:
0.61MiB 0:00:05 [ 441KiB/s] [=====] 6% ETA 0:03
```

Extract using bunzip2 in pv application

#### 4. Using unzip

Use the format below to extract the zip compression in pv application:

```
unzip filename.zip | pv
```

For example, you want to extract babel.sql.zip, so use the command below:

```
unzip babel.sql.zip | pv
```

```
sysadmin@ubuntu2404:~$ unzip babel.sql.zip | pv
Archive: babel.sql.zip
  inflating: -
62.0 B 0:00:00 [81.0 B/s] [ <=>]
sysadmin@ubuntu2404:~$
```

Extract the file in pv application

#### E. Backup DB

If you use MariaDB, you can use the commands below:

##### 1. Without compressing the database

Use the format below to back up the database without compression in pv application:

```
mariadb-dump -u username -p dbname | pv > dbname.sql
```

So, use the command below to back up the database without compression in pv application:

```
mariadb-dump -uroot -p babel | pv > babel.sql
```

```
sysadmin@ubuntu2404:~$ mariadb-dump -uroot -p babel | pv > babel.sql
Enter password:
2.8MiB 0:00:01 [42.8MiB/s] [ <=>]
```

Backup database without compression in pv application

##### 2. Back up the database using gz

Use the format below to back up the database using gz compression in pv application:

```
mariadb-dump -u username -p dbname | pv | gzip > dbname.sql.gz
```

Use the command below to back up the database using gz compression in pv application:

```
mariadb-dump -uroot -p babel | pv | gzip > babel.sql.gz
```

```
sysadmin@ubuntu2404:~$ mariadb-dump -uroot -p babel | pv | gzip > dbname.sql.gz
Enter password:
0.2MiB 0:00:02 [13.4MiB/s] [ <=> ]
```

Backup using gz compression in pv application

### 3. Backup the database using bz2

Use the format below to back up the database using bz2 compression in pv application:

```
mariadb-dump -u username -p dbname | pv | bzip2 > dbname.sql.bz2
```

Use the command below to back up the database using bz2 compression in pv application:

```
mysqldump -uroot -p babel | pv | bzip2 > babel.sql.bz2
```

```
sysadmin@ubuntu2404:~$ mysqldump -uroot -p babel | pv | bzip2 > babel.sql.bz2
Enter password:
0.2MiB 0:00:03 [9.13MiB/s] [ <=> ]
```

Backup using bz2 compression in pv application

## F. Restore DB

If you use MariaDB, you can use the commands below:

### 1. Restore the database without compression

Use the format below to restore the database without compression in pv application:

```
pv backup_file.sql | mariadb -u username -p
```

So, use the command below to restore the database without compression in pv application:

```
pv babel.sql | mariadb -uroot -p
```

```
sysadmin@ubuntu2404:~$ pv babel.sql | mariadb -uroot -p
Enter password:
1.4MiB 0:00:05 [2.18MiB/s] [=====] 8% ETA 0:00:07
```

Restore the database without compression in pv application

### 2. Restore the database with gz compression

Use the format below to restore the database using gz compression in pv application:

```
pv backup_file.gz | gunzip | mysql -u username -p
```

Use the command below to restore the database using gz compression in pv application:

```
pv babel.sql.gz | gunzip | mariadb -uroot -p
```

```
sysadmin@ubuntu2404:~$ pv babel.sql.gz | gunzip | mariadb -uroot -p
Enter password:
0.12MiB 0:00:06 | 500KiB/s | [=====] 9% ETA 0:00
```

Restore the database using gz in pv application

### 3. Restore the database with bz2 compression

Use the format below to restore the database using bz2 compression in pv application:

```
pv backup_file.sql.bz2 | mariadb -u username -p
```

Use the command below to restore the database using bz2 compression in pv application:

```
pv babel.sql.bz2 | bunzip2 | mariadb -uroot -p babel
```

```
sysadmin@ubuntu2404:~$ pv babel.sql.bz2 | bunzip2 | mariadb -uroot -p
Enter password:
0.61MiB 0:00:05 | 441KiB/s | [=====] 6% ETA 0:00
```

Restore the database using bz2 in pv application

## Note

If you are using a MySQL database, then you can use the commands in point E to back up the database and the commands in point F to restore the database by changing the mariadb-dump command to mysqldump and changing the mariadb command to mysql.

## References

- [superuser.com](https://superuser.com)
- [howtogeek.com](https://howtogeek.com)
- [dba.stackexchange.com](https://dba.stackexchange.com)
- [tecmint.com](https://tecmint.com)
- [catonmat.net](https://catonmat.net)

# How to Fix the Hard Disk Size After Deleting Large Files?

written by sysadmin | 29 September 2025

I once deleted large files on my Linux server, but when I saw the disk size using the `df -h` command, it turned out that the hard disk size on the server had not changed.

## Problem

How to fix the hard disk size after deleting large files?

## Solution

I have a Linux server that has a hard disk size as shown below:

Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/root	33G	27G	5.9G	83%	/
tmpfs	983M	0	983M	0%	/dev/shm
tmpfs	393M	1.2M	392M	1%	/run
tmpfs	5.0M	0	5.0M	0%	/run/lock
efivarfs	56K	24K	27K	48%	/sys/firmware/efi/efivars
/dev/sda16	881M	63M	757M	8%	/boot
/dev/sda15	105M	6.2M	99M	6%	/boot/efi
tmpfs	197M	12K	197M	1%	/run/user/1017
tmpfs	197M	12K	197M	1%	/run/user/1002

Initial Harddisk size

And you see the partition / only 17 percent left, and I want to delete large files on the server. After seeing in various partitions, I saw a large file in the log folder, as shown below:

12K	zabbix_agentd.log
12K	zabbix_agentd.log.1
15G	zabbix_server.log
6.8G	zabbix_server.log.1

The big file

And I did the command to delete the file. But after deletion, the size of the hard drive on the server is still the same as in the image above. After I find out the reason why the hard disk size has not changed, it turns out this is due to the deleted files still held open by a process commonly known as the zombie file. As a result, the system cannot release the disk space occupied by these files. Because these files are marked as deleted, the df and du commands cannot account for their space usage. So, to see files that are still open by a process, use the lsof command. If on your Linux server, there is no lsof package, use the commands below to install the lsof package:

#### **RockyLinux/AlmaLinux/CentOS**

```
dnf install lsof
```

#### **Ubuntu/Debian**

```
sudo apt update  
sudo apt install lsof
```

Use the command below to see the deleted files still held open by a process:

```
lsof +L1
```

And in my case, it will look like in the image below:

COMMAND	PID	USER	FD	TYPE	DEVICE	SIZE/OFF	NLINK	NODE	NAME
networkd-	693	root	txt	REG	8,1	8021824	0	2163	/usr/bin/python3.12 (deleted)
unattende	777	root	txt	REG	8,1	8021824	0	2163	/usr/bin/python3.12 (deleted)
mariadb	21897	mysql	7u	REG	8,1	0	0	33890	/tmp/#33890 (deleted)
mariadb	21897	mysql	8u	REG	8,1	0	0	33891	/tmp/#33891 (deleted)
mariadb	21897	mysql	13u	REG	8,1	0	0	33892	/tmp/#33892 (deleted)
mariadb	21897	mysql	16u	REG	8,1	0	0	33893	/tmp/#33893 (deleted)
sudo	111117	root	0u	CHR	136,0	0t0	0	3	/dev/pts/0 (deleted)
sudo	111117	root	1u	CHR	136,0	0t0	0	3	/dev/pts/0 (deleted)
sudo	111117	root	2u	CHR	136,0	0t0	0	3	/dev/pts/0 (deleted)
sudo	111118	root	0u	CHR	136,0	0t0	0	3	/dev/pts/0 (deleted)
sudo	111118	root	1u	CHR	136,0	0t0	0	3	/dev/pts/0 (deleted)
sudo	111118	root	2u	CHR	136,0	0t0	0	3	/dev/pts/0 (deleted)
tail	111119	root	3r	REG	8,1	10819	0	528809	/var/log/zabbix/zabbix_agentd.log.1 (deleted)
zabbix_se	119254	zabbix	1w	REG	8,1	7207503973	0	530161	/var/log/zabbix/zabbix_server.log.1 (deleted)
zabbix_se	119254	zabbix	2w	REG	8,1	7207503973	0	530161	/var/log/zabbix/zabbix_server.log.1 (deleted)
zabbix_se	119255	zabbix	1w	REG	8,1	7207503973	0	530161	/var/log/zabbix/zabbix_server.log.1 (deleted)
zabbix_se	119255	zabbix	2w	REG	8,1	7207503973	0	530161	/var/log/zabbix/zabbix_server.log.1 (deleted)
zabbix_se	119256	zabbix	1w	REG	8,1	7207503973	0	530161	/var/log/zabbix/zabbix_server.log.1 (deleted)
zabbix_se	119256	zabbix	2w	REG	8,1	7207503973	0	530161	/var/log/zabbix/zabbix_server.log.1 (deleted)
apache2	119443	root	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	917760	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	918511	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	920526	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	920527	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	920528	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	920540	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	920676	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	921995	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	922015	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	925199	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)

The file(s) are still open by a process

After that, use the command to delete the files using the kill command based on the pid number, as shown in the image below:

```
kill -9 111119 119254 119255 119256
```

And the above command should delete the process that uses the PID number, as shown in the image below:

COMMAND	PID	USER	FD	TYPE	DEVICE	SIZE/OFF	NLINK	NODE	NAME
networkd-	693	root	txt	REG	8,1	8021824	0	2163	/usr/bin/python3.12 (deleted)
unattende	777	root	txt	REG	8,1	8021824	0	2163	/usr/bin/python3.12 (deleted)
mariadb	21897	mysql	7u	REG	8,1	0	0	33890	/tmp/#33890 (deleted)
mariadb	21897	mysql	8u	REG	8,1	0	0	33891	/tmp/#33891 (deleted)
mariadb	21897	mysql	13u	REG	8,1	0	0	33892	/tmp/#33892 (deleted)
mariadb	21897	mysql	16u	REG	8,1	0	0	33893	/tmp/#33893 (deleted)
apache2	119443	root	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	917760	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	918511	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	920526	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	920527	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	920528	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	920540	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	920676	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	921995	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	922015	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)
apache2	925199	www-data	9u	REG	0,1	0	0	7876	/memfd:opcache_lock (deleted)

The files that we have deleted are no longer on the list

And if you run the `df -h` command, the size of the hard disk on the Linux server should be reduced according to the size of the files that we deleted earlier, like in the image below:

Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/root	33G	21G	13G	62%	/
tmpfs	983M	0	983M	0%	/dev/shm
tmpfs	393M	1.2M	392M	1%	/run
tmpfs	5.0M	0	5.0M	0%	/run/lock
efivarfs	56K	24K	27K	48%	/sys/firmware/efi/efivars
/dev/sda16	881M	63M	757M	8%	/boot
/dev/sda15	105M	6.2M	99M	6%	/boot/efi
tmpfs	197M	12K	197M	1%	/run/user/1017
tmpfs	197M	12K	197M	1%	/run/user/1002

The final hard disk size

## Note

If, after you delete using a kill based on the PID number, but the size of the hard disk on the Linux server still hasn't changed, then the server must be restarted, and after you restart the server, the size of the hard disk will correspond to the number of files you deleted earlier.

## References

[pietervogelaar.nl](http://pietervogelaar.nl)  
[howtoforge.com](http://howtoforge.com)  
[access.redhat.com](http://access.redhat.com)  
[alibabacloud.com](http://alibabacloud.com)

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## [How to Install NagiosQL in Ubuntu/Debian?](#)

written by sysadmin | 29 September 2025

After you [install the Nagios](#) application on the Ubuntu/Debian server, by default, Nagios Core does not provide a web-based interface to manage Nagios configuration for adding/deleting/changing hosts and services. Therefore, some developers create a web-based interface so users can manage the hosts and services easily. This article will explain how to install the NagiosQL application to set up the device or service on Nagios.

### Problem

How to install NagiosQL in Ubuntu/Debian?

### Solution

NagiosQL is a professional, web-based configuration tool for Nagios 2.x/3.x/4.x and other Nagios-based monitoring tools. It is designed for large enterprise requirements as well as small environments, and any Nagios functionality is supported. I ran the steps below in Ubuntu 24.04, and I think it will work in Debian too. Here are the steps to install the NagiosQL application, and

## **A. Install the dependencies**

Use the following command to install the dependencies:

```
sudo apt update
sudo apt-get install -y php libmcrypt-dev php-cli php-gd php-curl php-mysql
php-ldap php-zip php-fileinfo php-pear gcc php-dev php zlib1g-dev libssh2-1
libssh2-1-dev php-ssh2 mariadb-server build-essential
sudo pear channel-update pear.php.net
sudo pear install HTML_Template_IT
```

## **B. Install PHP Modules**

After that, install PHP Modules using the following command:

```
sudo pecl install mcrypt
```

## **C. Configure PHP**

Type the following commands to configure PHP:

```
echo "extension=mcrypt.so" >> /etc/php/*/apache2/php.ini
echo "date.timezone=Asia/Singapore" >> /etc/php/*/apache2/php.ini
sudo systemctl restart apache2
```

## **D. Configure the database**

Start MariaDB and give the password using the following commands:

```
sudo systemctl start mariadb
sudo mariadb-secure-installation
```

Access to MariaDB using the following command:

```
mariadb -uroot -p
```

Type your root password and then run the following commands to create a database for NagiosQL:

```
CREATE DATABASE nagiosql;
```

```
GRANT ALL PRIVILEGES ON nagiosql.* TO `nagiosql_user`@`%` IDENTIFIED BY
'qwerty';
FLUSH PRIVILEGES;
```

## E. Download NagiosQL

Download the latest release of the NagiosQL application, as of this writing (August 2025), has reached version 3.5.0, and configure it by typing the commands below:

```
cd /tmp/
wget https://sourceforge.net/projects/nagiosql/files/latest/download -O
nagiosql.tar.gz
tar -zxvf nagiosql.tar.gz
sudo cp -vprf nagiosql-*/ /usr/local/nagios/share/nagiosql
```

## F. Configure files and folders

Copy the commands below to configure files and folders:

```
sudo mkdir /usr/local/nagios/etc/nagiosql;
sudo mkdir /usr/local/nagios/etc/nagiosql/hosts;
sudo mkdir /usr/local/nagios/etc/nagiosql/services;
sudo mkdir /usr/local/nagios/etc/nagiosql/backup;
sudo mkdir /usr/local/nagios/etc/nagiosql/backup/hosts;
sudo mkdir /usr/local/nagios/etc/nagiosql/backup/services;
sudo chown nagios:nagcmd /usr/local/nagios/var/rw
sudo chown nagios:nagcmd /usr/local/nagios/var/rw/nagios.cmd
sudo chown nagios:www-data /usr/local/nagios/etc/nagios.cfg;
sudo chown nagios:www-data /usr/local/nagios/etc/cgi.cfg;
sudo chown nagios:www-data /usr/local/nagios/etc/resource.cfg;
sudo chown nagios:www-data /usr/local/nagios/var/spool/checkresults;
sudo chown nagios:www-data /usr/local/nagios/bin/nagios;
sudo chmod 775 /usr/local/nagios/etc/
sudo chmod 777 /usr/local/nagios/bin/nagios
sudo chmod -R 777 /usr/local/nagios/share/nagiosql/config
sudo chmod -R 6775 /usr/local/nagios/etc/nagiosql;
sudo chmod 660 /usr/local/nagios/var/rw/nagios.cmd;
sudo chmod 775 /usr/local/nagios/etc/;
sudo chmod 664 /usr/local/nagios/etc/nagios.cfg;
sudo chmod 664 /usr/local/nagios/etc/cgi.cfg;
sudo chmod g+x /usr/local/nagios/var/rw/;
sudo chgrp www-data /usr/local/nagios/etc/;
sudo chgrp www-data /usr/local/nagios/etc/nagios.cfg;
sudo chgrp www-data /usr/local/nagios/etc/cgi.cfg;
sudo sed -i 's/^cfg/#cfg/' /usr/local/nagios/etc/nagios.cfg
echo "" | sudo tee -a /usr/local/nagios/etc/nagios.cfg
```

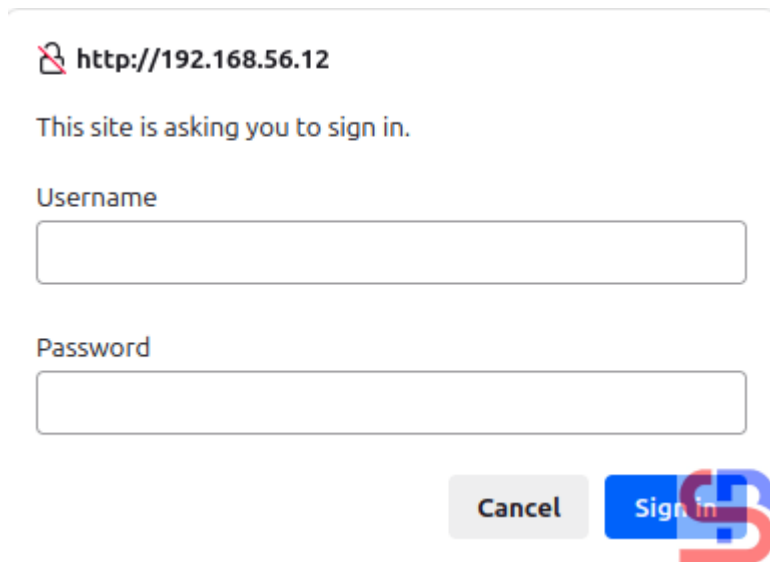
```
echo "cfg_dir=/usr/local/nagios/etc/nagiosql" | sudo tee -a /usr/local/nagios/etc/nagios.cfg
```

## G. Configure NagiosQL in the browser

Next, configure the application in the browser by typing the command in the browser:

```
http://your_ip_server/nagios/nagiosql
```

If the browser asks to insert the username and password, insert your Nagios username and password.



The screenshot shows a browser sign-in dialog for the URL `http://192.168.56.12`. The dialog contains the text "This site is asking you to sign in." followed by two input fields: "Username" and "Password". At the bottom, there are two buttons: "Cancel" and "Sign in". A large, stylized "S" logo is overlaid on the "Sign in" button.

Insert username and password

After you insert the password, there will be a display like this:

## Welcome to the NagiosQL installation wizard

This wizard will help you to install and configure NagiosQL.  
For questions please visit: [NagiosQL @ Sourceforge](#)

**NagiosQL version 3.5.0**

First let's check your local environment and find out if everything NagiosQL needs is available.

The basic requirements are:

- PHP 7.2.0 or above (PHP 8 is recommended) including:
  - PHP database module: supported types are **mysqli**
  - PHP module: **session**
  - PHP module: **gettext**
  - PHP module: **filter**
  - PHP module: **FTP** (optional)
  - PECL extension: **SSH** (optional)
- php.ini options:
  - file\_uploads on (for upload features)
  - session.auto\_start needs to be off
  - date.timezone should be set to your local timezone
- A database server
- Nagios 2.x/3.x/4.x

Settings file not found or not readable (config/settings.php). Upgrade not available!

**START INSTALLATION**

START UPDATE

[Online documentation](#)

NagiosQL



Configure the NagiosQL button

Click the **START INSTALLATION** button, and there is a display like the image below:

Requirements

Installation

Finish

## NagiosQL Installation: Checking requirements

### Checking Client

✔ Javascript: **ENABLED**

### Checking PHP version

✔ Version : **OK** (PHP 8.3.6 detected)

### Checking PHP extensions

The following modules/extensions are *required* to run NagiosQL:

- ✔ PEAR: **OK**
- ✔ Session: **OK**
- ✔ Gettext: **OK**
- ✔ Filter: **OK**

The next couple of extensions are *optional* but recommended:

- ✔ FTP: **OK**
- ✔ SSH2: **OK**

### Checking available database interfaces

Check which of the supported extensions are installed. At least one of them is required.:

- ✔ MySQLi: **OK**

### Checking php.ini/.htaccess settings

The following settings are *required* to run NagiosQL:

- ✔ file\_uploads: **OK**
- ✔ session.auto\_start: **OK**
- ✔ suhosin.session.encrypt: **OK**
- ✔ date.timezone: **OK**

### Checking System Permission

- ⚠ Settings file does not exists (config/settings.php): **will be created**
- ✔ Write test on settings directory (config/): **OK**
- ✔ Read test on one class file (functions/NagVisualClass.php): **OK**
- ✔ Read test on home page file (admin.php): **OK**
- ✔ Read test on one template file (templates/index.tpl.htm): **OK**
- ✔ Read test on one admin template file (templates/admin/datalist.htm.tpl): **OK**
- ✔ Read test on one file template (templates/files/contacts.tpl.dat): **OK**
- ✔ Read test on one image file (images/pixel.gif): **OK**

**Environment test completed successfully**



Checking requirements

Make sure there is no error like in the image above. Click the **Next** button, and it will be an image like this:



## NagiosQL Installation: Setup

Please complete the form below. Mandatory fields marked \*:

Database Configuration	
Database Type *	mysql
Database Server *	localhost
Local hostname or IP address *	localhost
Database Server Port *	3306
Database name *	nagiosql
NagiosQL DB User *	nagiosql_user
NagiosQL DB Password *	.....
Administrative Database User *	root
Administrative Database Password *	.....
Drop database if already exists?	<input checked="" type="checkbox"/>

NagiosQL User Setup	
Initial NagiosQL User *	admin
Initial NagiosQL Password *	.....
Please repeat the password *	.....

Nagios Configuration	
Import Nagios sample config?	<input checked="" type="checkbox"/>

NagiosQL path values	
Create NagiosQL config paths?	<input checked="" type="checkbox"/>
NagiosQL config path	/usr/local/nagios/etc/nagiosql
Nagios config path	/usr/local/nagios/etc

Both path values were stored in your configuration target settings for localhost.  
If you select the create path option, be sure that the NagiosQL base path exist and the webserver demon has write access to it. So the installer will create the required subdirectories in your localhost's filesystem (hosts, services, backup etc.)



### Setup NagiosQL

You must fill in the configuration columns, and I fill in like in this image above. After you fill it out, press the Next button, and there is a display like the image below:

## NagiosQL Installation: Finishing Setup

Requirements

Installation

Finish

### Create new NagiosQL database

Database server connection (privileged user)	passed (mysqli)
Database server version	10.11.13-MariaDB-0ubuntu0.24.04.1
Database server support	supported
Delete existing NagiosQL database	done (nagiosql)
Creating new database	done (nagiosql)
Installing NagiosQL database tables	done
Create NagiosQL database user	done
Set initial NagiosQL Administrator	done (Only added rights to existing user: nagiosql_user)
Database server connection (NagiosQL user)	done
	passed

### Deploy NagiosQL settings

Writing global settings to database	done
Writing database configuration to settings.php	done
Import Nagios sample data	done
Create and/or store NagiosQL path settings	done

Please delete the install directory to continue!



Finish

NagiosQL

The finishing setup

Before you click the **Finish** button, use the command below to delete the install directory:

```
rm -rf /usr/local/nagios/share/nagiosql/install/
```

After that, click the Finish button, and it should display an image like the image below:



## Welcome

Username:

Password:

Please enter your username and password to access NagiosQL.  
If you forgot one of them, please contact your Administrator.

NagiosQL 3.5.0



The NagiosQL login

Enter the username (**admin**) and password, and if nothing is wrong, the NagiosQL application will appear like the image below:

Administration NagiosQL

Administration -> [Main page](#) Domain: localhost  Logged in: admin [Logout](#)

**Main page** **NagiosQL Administration**

Supervision

Alarming

Commands

Specialties

Tools

Administration

[Hide menu]

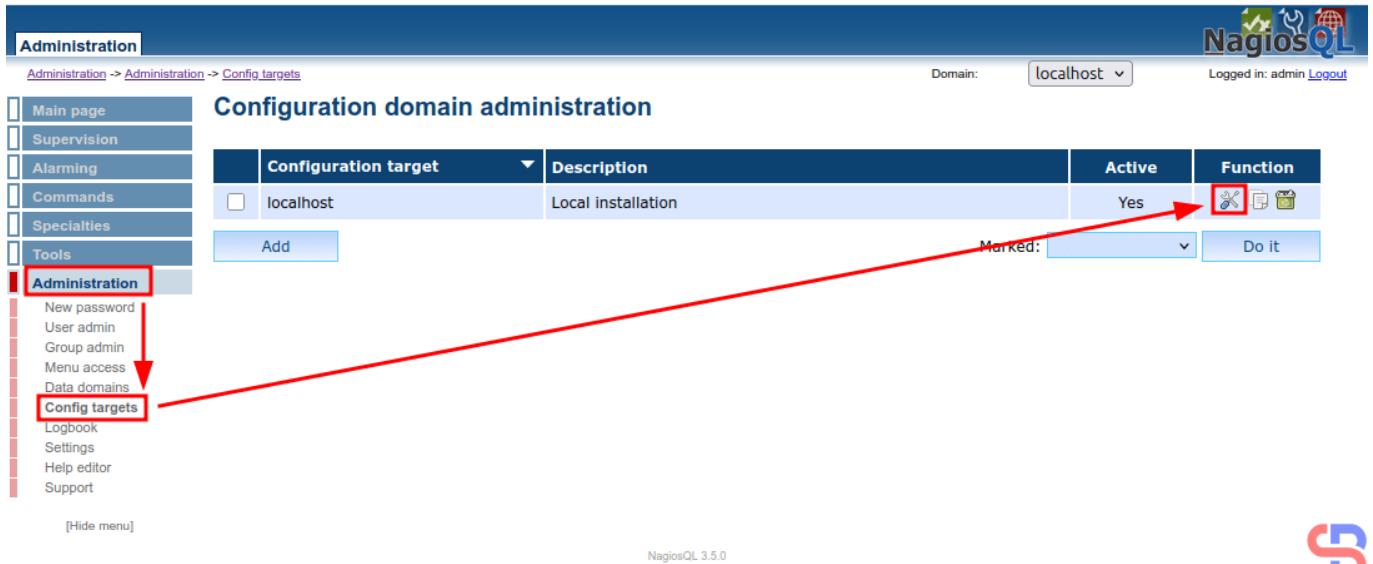
Welcome to NagiosQL, the administration module that can be used to easily create, modify and delete configuration files for Nagios. The data is stored in a database and can be written directly to the standard files at any time you want.

NagiosQL 3.5.0 - GIT Version: 2023-06-18



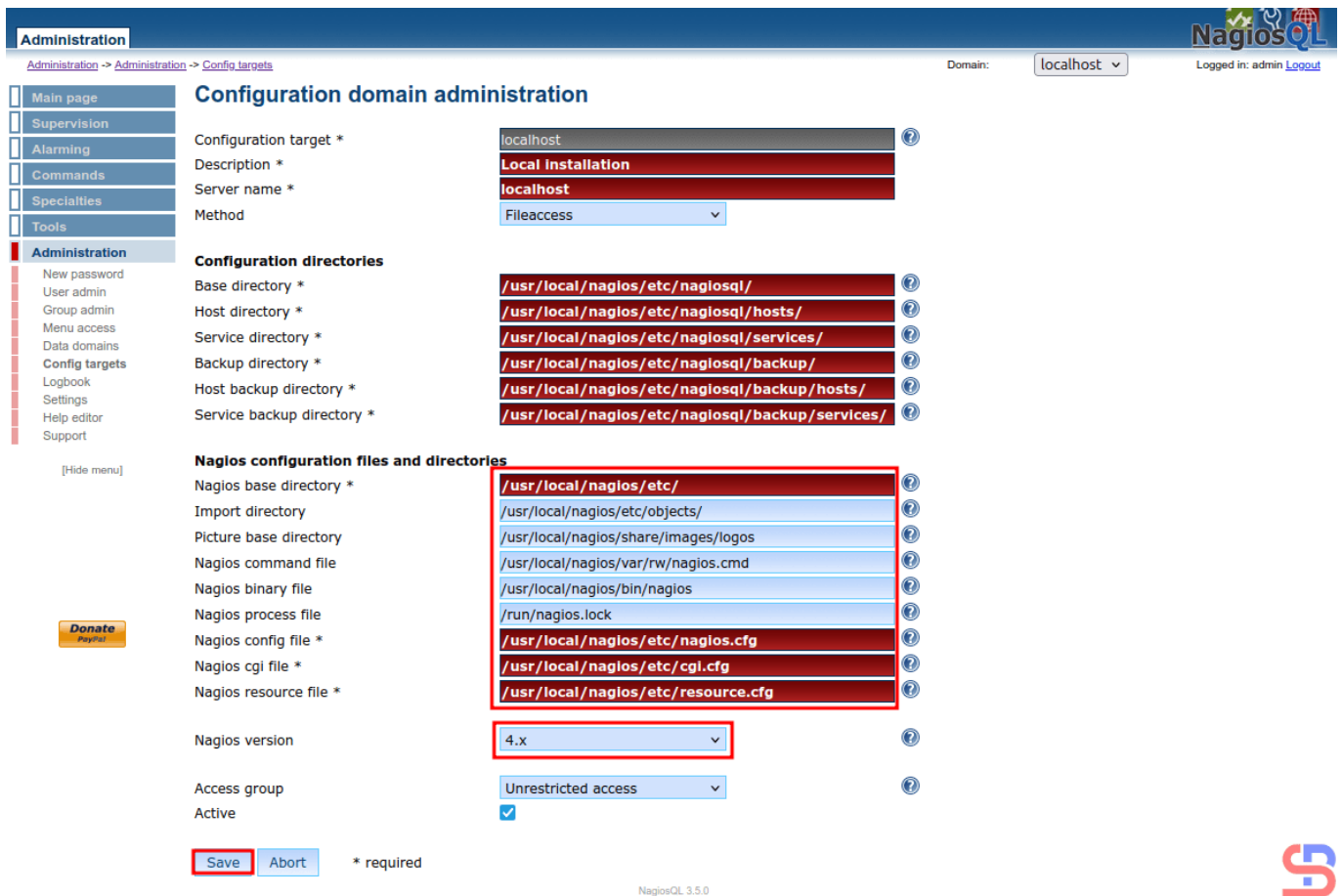
The page of NagioQL administration

Now, configure the NagiosQL application to integrate it with Nagios. Click **Administration > Config targets > Modify**, like in the image below:



Configure domain administration

And there will be a display like the image below:



Configure the NagiosQL

Configure in the red box like my configuration in the image above, and click the **Save** button. After that, go to **Tools >**

**Nagios control** and click all the buttons like the image below, and make sure there is no error:

The image displays four screenshots of the Nagios control interface, arranged in a 2x2 grid. Each screenshot shows a 'Check written configuration files' section with several 'Do it' buttons. In the top-left and top-right screenshots, the 'Do it' buttons for 'Write monitoring data' and 'Write additional data' are highlighted with red boxes. The bottom-left screenshot shows the 'Do it' button for 'Check configuration files:' highlighted with a red box. The bottom-right screenshot shows the 'Do it' button for 'Restart Nagios:' highlighted with a red box. Below the 'Restart Nagios:' button in the bottom-right screenshot, there is a green message: 'Restart command successfully send to Nagios'. At the bottom right of the bottom-right screenshot, there is a red and blue logo consisting of a stylized 'S' and 'G'.

Click all the Do it buttons

Now go to the Nagios application in the **Hosts** page and make sure that on the page, 3 default hosts appear in Nagios (**hplj2605dn**, **linksys-srw224p**, and **winserver**) besides localhost, like in the image below:

← → ↻ Not Secure http://192.168.56.12/nagios/ ☆

# Nagios

General

- Home
- Documentation
- Current Status**
- Tactical Overview
- Map
- Hosts**
- Services
- Host Groups
  - Summary
  - Grid
- Service Groups
  - Summary
  - Grid
- Problems
  - Services (Unhandled)
  - Hosts (Unhandled)
  - Network Outages
- Quick Search:

**Current Network Status**  
 Last Updated: Tue Aug 19 14:57:40 UTC 2025  
 Updated every 90 seconds  
 Nagios® Core™ 4.5.9 - www.nagios.org  
 Logged in as nagiosadmin

View Service Status Detail For All Host Groups  
 View Status Overview For All Host Groups  
 View Status Summary For All Host Groups  
 View Status Grid For All Host Groups

**Host Status Totals**

Up	Down	Unreachable	Pending
1	3	0	0

All Problems All Types

3	4
---	---

**Service Status Totals**

Ok	Warning	Unknown	Critical	Pending
7	1	1	12	0

All Problems All Types


14	21
----	----

**Host Status Details For All Host Groups**

Limit Results: 100

Host	Status	Last Check	Duration	Status Information
hplj2605dn	DOWN	08-19-2025 14:55:59	0d 0h 10m 41s	PING CRITICAL - Packet loss = 100%
linksys-srw224p	DOWN	08-19-2025 14:55:44	0d 0h 9m 26s	PING CRITICAL - Packet loss = 100%
localhost	UP	08-19-2025 14:56:24	0d 3h 14m 21s	PING OK - Packet loss = 0%, RTA = 0.08 ms
winsrvr	DOWN	08-19-2025 14:56:31	0d 0h 8m 39s	PING CRITICAL - Packet loss = 100%

Results 1 - 4 of 4 Matching Hosts



3 new hosts in the Hosts page on Nagios

Now go to the **Services** section, and there should be services that appear on the 3 new default hosts:

← → ↻ Not Secure http://192.168.56.12/nagios/ ☆

# Nagios

General

- Home
- Documentation
- Current Status**
- Tactical Overview
- Map
- Hosts
- Services**
- Host Groups
  - Summary
  - Grid
- Service Groups
  - Summary
  - Grid
- Problems
  - Services (Unhandled)
  - Hosts (Unhandled)
  - Network Outages
- Quick Search:

**Current Network Status**  
 Last Updated: Tue Aug 19 14:58:48 UTC 2025  
 Updated every 90 seconds  
 Nagios® Core™ 4.5.9 - www.nagios.org  
 Logged in as nagiosadmin

View History For all hosts  
 View Notifications For All Hosts  
 View Host Status Detail For All Hosts

**Host Status Totals**

Up	Down	Unreachable	Pending
1	3	0	0

All Problems All Types

3	4
---	---

**Service Status Totals**

Ok	Warning	Unknown	Critical	Pending
7	1	1	12	0

All Problems All Types


14	21
----	----

**Service Status Details For All Hosts**

Limit Results: 100

Host	Service	Status	Last Check	Duration	Attempt	Status Information
hplj2605dn	PING	CRITICAL	08-19-2025 14:48:28	0d 0h 10m 20s	1/3	PING CRITICAL - Packet loss = 100%
	Printer Status	CRITICAL	08-19-2025 14:49:58	0d 0h 8m 50s	1/3	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec/check_hpljd, ...) failed. errno is 2: No such file or directory
	Port 1 Bandwidth Usage	UNKNOWN	08-19-2025 14:52:58	0d 0h 5m 50s	1/3	check_mrtgtraf: Unable to open MRTG log file
	Port 1 Link Status	CRITICAL	08-19-2025 14:54:27	0d 0h 4m 21s	1/3	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec/check_snmp, ...) failed. errno is 2: No such file or directory
linksys-srw224p	Uptime	CRITICAL	08-19-2025 14:55:57	0d 0h 2m 51s	1/3	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec/check_snmp, ...) failed. errno is 2: No such file or directory
	Current Load	OK	08-19-2025 14:53:54	0d 3h 14m 54s	1/4	OK - load average: 0.00, 0.00, 0.00
	Current Users	OK	08-19-2025 14:54:32	0d 3h 14m 16s	1/4	USERS OK - 1 users currently logged in
	HTTP	OK	08-19-2025 14:55:09	0d 3h 13m 39s	1/4	HTTP OK: HTTP/1.1 200 OK - 10945 bytes in 0.001 second response time
	PING	OK	08-19-2025 14:55:47	0d 3h 13m 1s	1/4	PING OK - Packet loss = 0%, RTA = 0.06 ms
	Root Partition	WARNING	08-19-2025 14:54:24	0d 1h 49m 24s	4/4	DISK WARNING - free space: / 1583 MiB (16.75% inode=78%):
	SSH	OK	08-19-2025 14:57:03	0d 3h 11m 46s	1/4	SSH OK - OpenSSH_9.6p1 Ubuntu-3ubuntu13.11 (protocol 2.0)
Swap Usage	OK	08-19-2025 14:57:39	0d 3h 11m 9s	1/4	SWAP OK - 100% free (1952 MB out of 1967 MB)	
Total Processes	OK	08-19-2025 14:58:17	0d 3h 10m 31s	1/4	PROCS OK: 43 processes with STATE = RSZDT	
winsrvr	C:\ Drive Space	CRITICAL	08-19-2025 14:51:01	0d 0h 7m 47s	3/3	CRITICAL - Socket timeout
	CPU Load	CRITICAL	08-19-2025 14:50:21	0d 0h 8m 27s	1/3	CRITICAL - Socket timeout
	Explorer	CRITICAL	08-19-2025 14:51:50	0d 0h 6m 58s	1/3	CRITICAL - Socket timeout
	Memory Usage	CRITICAL	08-19-2025 14:53:20	0d 0h 5m 28s	1/3	CRITICAL - Socket timeout
	NSClient++ Version	CRITICAL	08-19-2025 14:54:50	0d 0h 3m 58s	1/3	CRITICAL - Socket timeout
Uptime	CRITICAL	08-19-2025 14:56:20	0d 0h 2m 28s	1/3	CRITICAL - Socket timeout	
W3SVC	CRITICAL	08-19-2025 14:51:23	0d 0h 7m 25s	3/3	CRITICAL - Socket timeout	

Results 1 - 21 of 21 Matching Services



Services in the 3 new hosts

If there are 3 additional hosts in the Hosts and Services

section in Nagios, you have successfully integrated the Nagios application with the NagiosQL application.

## Note

You have to be careful when filling in the Configuration domain administration section, because if it is wrong in this section, then the NagiosQL application will not run properly

## References

[sourceforge.net](http://sourceforge.net)  
[tecadmin.net](http://tecadmin.net)

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# [How to Create a File of a Certain Size in Linux?](#)

written by sysadmin | 29 September 2025

[The previous article](#) has explained how to reduce the size of a file in Linux. This article will explain how to increase the size of a file in Linux.

## Problem

How to create a file of a certain size in Linux?

## Solution

By default, if you want to create a file, it will use the command:

```
touch example.txt
```

And the command above will generate an example.txt file with a size of 0 bytes, as shown in the image below:

```
sysadmin@Ubuntu2404:~$ touch log.txt
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 0 Aug 14 14:54 log.txt
sysadmin@Ubuntu2404:~$
```

Create a file in Linux

However, sometimes there are situations where you have to create a file of a certain size for a purpose, e.g., you have to create a test.txt file with a size of 2 GB, Then there are several methods to generate such files of a certain size:

### 1. Using the fallocate command

Use the command below to create a test.txt file with a size of 2 GB:

```
fallocate -l 2048MB test.txt
```

```
sysadmin@Ubuntu2404:~$ fallocate -l 2048MB test.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 2.0G
-rw-rw-r-- 1 sysadmin sysadmin 2.0G Aug 14 14:59 test.txt
sysadmin@Ubuntu2404:~$
```

Using the fallocate command

### 2. Using the truncate command

Create a test.txt file with a size of 2 GB using the command below:

```
truncate -s 2048MB test.txt
```

```
sysadmin@Ubuntu2404:~$ truncate -s 2048MB test.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 2.0G
-rw-rw-r-- 1 sysadmin sysadmin 2.0G Aug 14 15:00 test.txt
sysadmin@Ubuntu2404:~$
```

Using the truncate command

### 3. Using the dd command

To produce a test.txt file that is 2 GB in size, run the command below:

```
dd if=/dev/zero of=test.txt bs=1M count=2048MB
```

```
sysadmin@Ubuntu2404:~$ dd if=/dev/zero of=test.txt bs=1M count=2048MB
1953+1 records in
1953+1 records out
2048000000 bytes (2.0 GB, 1.9 GiB) copied, 1.88197 s, 1.1 GB/s
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 2.0G
-rw-rw-r-- 1 sysadmin sysadmin 2.0G Aug 14 15:02 test.txt
sysadmin@Ubuntu2404:~$
```

Using the dd command

### 4. Using the head command

Use the command below to generate a test.txt file of size 2 GB:

```
head --bytes 2048MB /dev/zero > test.txt
```

```
sysadmin@Ubuntu2404:~$ head --bytes 2048MB /dev/zero > test.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 2.0G
-rw-rw-r-- 1 sysadmin sysadmin 2.0G Aug 14 15:03 test.txt
sysadmin@Ubuntu2404:~$
```

Using the head command

### 5. Using the tail command

Utilize the following command to generate a 2 GB test.txt file:

```
tail --bytes 2048MB /dev/zero > test.txt
```

```
sysadmin@Ubuntu2404:~$ tail --bytes 2048MB /dev/zero > test.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 2.0G
-rw-rw-r-- 1 sysadmin sysadmin 2.0G Aug 14 15:04 test.txt
sysadmin@Ubuntu2404:~$
```

Using the tail command

## 6. Using Perl commands

Below is the command to create a 2 GB test.txt file (the number 2147483648 comes from  $2048 \times 1024 \times 1024$ ):

```
perl -e 'print '0' x 2147483648' > test.txt
```

```
sysadmin@Ubuntu2404:~$ perl -e 'print '0' x 2147483648' > test.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 2.1G
-rw-rw-r-- 1 sysadmin sysadmin 2.0G Aug 14 15:07 test.txt
sysadmin@Ubuntu2404:~$
```

Using the Perl command

## 7. Using the base64 command

Create a 2 GB test.tx file, followed by (the number 2147483648 comes from  $2048 \times 1024 \times 1024$ ):

```
base64 /dev/urandom | head -c 2147483648 > test.txt
```

```
sysadmin@Ubuntu2404:~$ base64 /dev/urandom | head -c 2147483648 > test.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 2.1G
-rw-rw-r-- 1 sysadmin sysadmin 2.0G Aug 14 15:09 test.txt
sysadmin@Ubuntu2404:~$
```

Using the base64 command

## Note

To get quick results when creating a file of a certain size, you can use the truncate or fallocate command.

## References

[baeldung.com](http://baeldung.com)  
[tutorialspoint.com](http://tutorialspoint.com)  
[ostechnix.com](http://ostechnix.com)  
[unix.stackexchange.com](http://unix.stackexchange.com)  
[stackoverflow.com](http://stackoverflow.com)

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## [How to Reduce the Size of a File on Linux?](#)

written by sysadmin | 29 September 2025

One that often causes the hard drive on the Linux device to decrease its size is the number of very large files that are usually logged by an application. Therefore, as a Sysadmin, you must maintain and supervise the files so that the size is not too large. This article will explain how to reduce the size of a file on Linux.

### Problem

How to reduce the size of a file on Linux?

### Solution

There are several methods to reduce a file in Linux, and assume that you have a **log.txt** file measuring 4 GB.

#### A. Up to 0 Bytes

There are several methods to reduce the file size to 0 bytes:

##### 1. Using the colon command

Use the below command to reduce the file to 0 bytes:

```
: > log.txt
```

```
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 4.0G Aug 12 09:52 log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ : > log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 0 Aug 12 13:30 log.txt
sysadmin@Ubuntu2404:~$
```

Reduce the file size up to 0 bytes using the colon command

## 2. Using the cat command

To decrease the file to 0 bytes, use the command below:

```
cat /dev/null > log.txt
```

```
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 4.0G Aug 12 13:31 log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ cat /dev/null > log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 0 Aug 12 13:32 log.txt
sysadmin@Ubuntu2404:~$
```

Reduce the file size up to 0 bytes using the /dev/null command

## 3. Using the echo command

Use the command below to reduce the file size to zero bytes.:

```
echo -n > log.txt
```

```
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 4.0G Aug 12 13:33 log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ echo -n > log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 0 Aug 12 13:33 log.txt
sysadmin@Ubuntu2404:~$
```

Reduce the file size up to 0 bytes using the echo command

#### 4. Using the redirection command

To get the file down to zero bytes, use the command below:

```
> log.txt
```

```
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 4.0G Aug 12 13:34 log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ > log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 0 Aug 12 13:34 log.txt
sysadmin@Ubuntu2404:~$
```

Reduce the file size up to 0 bytes using the redirection command

#### 5. Using the truncate command

To shrink the file to zero bytes, use the command below:

```
truncate -s 0 log.txt
```

```
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 4.0G Aug 12 13:35 log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ truncate -s 0 log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 0 Aug 12 13:35 log.txt
sysadmin@Ubuntu2404:~$
```

Reduce the file size up to 0 bytes using the truncate command

### B. Up to 1 Byte

To reduce the file size to 1 byte, use the command below:

```
echo "" > log.txt
```

```
sysadmin@Ubuntu2404:~$ ls -lh
total 0
-rw-rw-r-- 1 sysadmin sysadmin 4.0G Aug 12 13:36 log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ echo "" > log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 4.0K
-rw-rw-r-- 1 sysadmin sysadmin 1 Aug 12 13:37 log.txt
sysadmin@Ubuntu2404:~$
```

Reduce the file size to 1 byte

### C. Reduce the file size to a certain size

To reduce the file size to a certain size (for example, make the file size 100 M), use the following command:

```
truncate -s 100M log.txt
```

```
sysadmin@Ubuntu2404:~$ ls -lh
total 4.0K
-rw-rw-r-- 1 sysadmin sysadmin 4.0G Aug 12 13:38 log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ truncate -s 100M log.txt
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls -lh
total 4.0K
-rw-rw-r-- 1 sysadmin sysadmin 100M Aug 12 13:38 log.txt
sysadmin@Ubuntu2404:~$
```

Reduce the file size to a certain size

## Note

By using the command above, you can reduce the size of a file, causing the size of the hard disk on the Linux device to increase. And if you experience failure in reducing the file size, then usually the problem is with the write permissions on the file. Use the command below so that the file gets write permission to reduce the file size:

```
sudo sh -c '> filename'
```

Change the filename to your real filename. After that, run one of the commands above, and the file size should be reduced.

## References

[namehero.com](http://namehero.com)  
[phoenixnap.com](http://phoenixnap.com)  
[operavps.com](http://operavps.com)  
[linuxconfig.org](http://linuxconfig.org)

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## [How to Use the Trash-cli as Recycle](#)

# [Bin in Linux?](#)

written by sysadmin | 29 September 2025

[The previous article](#) explained how to create a recycle bin in the Linux CLI without installing an application. This article will explain how to create a recycle bin in the Linux CLI using the trash-cli application.

## **Problem**

How to use the trash-cli as a recycle bin in Linux?

## **Solution**

Trash-cli is an application to trash files, recording the original path, deletion date, and permissions, which can function as a recycle bin in the Linux CLI.

### **A. Install the app**

#### **RockyLinux/AlmaLinux/CentOS**

```
yum install epel-release  
yum install trash-cli
```

#### **Ubuntu/Debian**

```
sudo apt update  
sudo apt-get install trash-cli
```

#### **OpenSUSE**

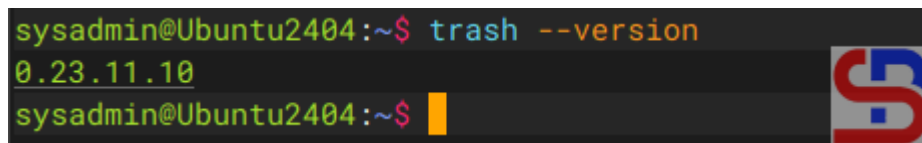
```
zypper addrepo  
https://download.opensuse.org/repositories/home:siegel/openSUSE_Leap_15.1/home:siegel.repo  
zypper refresh  
zypper install python-trash-cli
```

You can also install this application from GitHub by using the command below:

```
git clone https://github.com/andreafrancia/trash-cli.git
cd trash-cli
python setup.py install
```

To see the trash-cli version installed, you can use the command:

```
trash --version
```

A terminal window screenshot with a dark background. The prompt is 'sysadmin@Ubuntu2404:~\$'. The command 'trash --version' is entered in green and orange. The output '0.23.11.10' is shown in green. The prompt 'sysadmin@Ubuntu2404:~\$' is shown again with a yellow cursor. To the right of the terminal is a logo consisting of a red 'S' and a blue 'S'.

Display version of trash-cli

## **B. Delete item(s)**

If you want to delete a file, for example, the images.zip file, then use the command below:

```
trash images.zip
```

If you want to delete more than one file, you can delete them directly using, for example, the command below:

```
trash test.txt chatgpt.png
```

You can also delete folder(s) using the format above.

## **C. Displays deleted item(s)**

To show deleted file(s) and folder(s), use the command below:

```
trash-list
```

```
sysadmin@Ubuntu2404:~$ trash images.zip
sysadmin@Ubuntu2404:~$ trash test.txt chatgpt.png
sysadmin@Ubuntu2404:~$ trash ex-folder/
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ trash-list
2025-08-10 17:49:48 /home/sysadmin/ex-folder
2025-08-10 17:48:39 /home/sysadmin/chatgpt.png
2025-08-10 17:48:39 /home/sysadmin/test.txt
2025-08-10 17:35:03 /home/sysadmin/images.zip
sysadmin@Ubuntu2404:~$
```

Displays the contents in the trash

#### D. Restore item(s)

To restore deleted item(s), use the command below:

```
trash-restore
```

It will display all the items that have been deleted, and you will be asked to select the files to be restored. Enter the file number, and the file will be restored to its original location as in the image below:

```
sysadmin@Ubuntu2404:~$ ls
Cloudflare.pdf  data  'Disk Space Requirement.txt'  nfs  pictures.zip
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ trash-restore
 0 2025-08-10 17:35:03 /home/sysadmin/images.zip
 1 2025-08-10 17:48:39 /home/sysadmin/chatgpt.png
 2 2025-08-10 17:48:39 /home/sysadmin/test.txt
 3 2025-08-10 17:49:48 /home/sysadmin/ex-folder
What file to restore [0..3]: 0
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls
Cloudflare.pdf  data  'Disk Space Requirement.txt'  images.zip  nfs  pictures.zip
sysadmin@Ubuntu2404:~$
```

Restoring the content from the trash

If you want to restore more than one item, you can write file numbers separated by commas.

```
sysadmin@Ubuntu2404:~$ trash-restore
 0 2025-08-10 17:48:39 /home/sysadmin/chatgpt.png
 1 2025-08-10 17:48:39 /home/sysadmin/test.txt
 2 2025-08-10 17:49:48 /home/sysadmin/ex-folder
What file to restore [0..2]: 0,2
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ trash-list
2025-08-10 17:48:39 /home/sysadmin/test.txt
sysadmin@Ubuntu2404:~$
```



Restoring the contents from the trash

### E. Empty the trash bin

If you want to empty the trash bin, use the command below:

```
trash-empty
```

All items in the trash can be deleted as shown in the image below:

```
sysadmin@Ubuntu2404:~$ trash-empty
Would empty the following trash directories:
- /home/sysadmin/.local/share/Trash
Proceed? (y/n) y
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ trash-list
sysadmin@Ubuntu2404:~$
```



Empty the trash

In addition, you can delete some items that are more than 3 days old by using the command:

```
trash-empty 7
```

You can also delete items with the .zip extension by using the command:

```
trash-empty *.zip
```

## F. Combine the rm command with the trash application

By default, you have to use the trash command to delete a file or folder when using the trash-cli application. However, Linux uses the `rm` command to delete a file or folder. Therefore, you can combine the `rm` command and the trash command by adding the script below to the `.bashrc` file:

```
alias rm='trash'
```

After that, run the command:

```
source ~/.bashrc
```

Then, try deleting files or folders using the `rm` command, then the items that have been deleted using the `rm` command should be in the trash can using the `trash-list` command, as in the image below:

```
sysadmin@Ubuntu2404:~$ cat ~/.bashrc | grep trash
alias rm='trash'
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ source ~/.bashrc
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ ls
chatgpt.png  Cloudflare.pdf  data  'Disk Space Requirement.txt'  ex-folder  images.zip  nfs  pictures.zip
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ rm pictures.zip Cloudflare.pdf ex-folder/
sysadmin@Ubuntu2404:~$
sysadmin@Ubuntu2404:~$ trash-list
2025-08-10 18:00:32 /home/sysadmin/ex-folder
2025-08-10 18:00:32 /home/sysadmin/pictures.zip
2025-08-10 18:00:32 /home/sysadmin/Cloudflare.pdf
sysadmin@Ubuntu2404:~$
```

Combine the `rm` command with `trash-cli`

### Warning

If you combine the `rm` command with the trash application, you can delete the folder without using `-rf` option like in the image above.

### Note

You have to manually change the `.bashrc` file for each user who wants to combine the `rm` command and this trash

application. You can also use crontab for each user to delete items in the trash can. Just like the previous method, **the weakness of this method** is that if you use sudo to delete a file or folder, the file or folder will be immediately deleted from the Linux system and will not be saved in the Recycle bin that has been created. So be careful about that.

## References

[github.com](https://github.com)

[tecmint.com](https://tecmint.com)

[vitux.com](https://vitux.com)

[installati.one](https://installati.one)

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## [How to Share a Folder Between Container Hosts?](#)

written by sysadmin | 29 September 2025

The previous articles have explained storage connections using [volume](#) and [bind](#) mount. This article will describe how to share a folder so that containers on other hosts can access it.

### Problem

How to share a data folder between container hosts?

### Solution

In this article, I use 3 servers where 1 server runs an NFS server with an IP of 192.168.56.12, and 2 servers run Docker with IPs 192.168.56.2 (docker1) and 192.168.56.102 (docker2). You can go to [this article](#) about NFS, and I use

the `/var/nfs` folder as a data folder for all containers. After installing NFS on the server, type the following commands to configure NFS in the NFS server:

```
sudo mkdir /var/nfs
sudo chmod -R 777 /var/nfs
sudo echo "/var/nfs 192.168.56.0/24(rw, sync, no_subtree_check, no_root_squash)"
| sudo tee /etc/exports
sudo exportfs -r
sudo touch /var/nfs/test.txt
sudo bash -c 'echo "This is from NFS server" > /var/nfs/test.txt'
```

### Warning

I think you should know the version of NFS you are using by typing the command `nfsstat -s` so that when creating the container for the `nfsvers` option, you can fill the option with that version of NFS.

On 2 other Docker hosts, type the command below to make a volume Docker:

```
docker volume create --driver local \
  --opt type=nfs \
  --opt o=addr=192.168.56.12,rw,nfsvers=4,noatime,nodev,nosuid \
  --opt device=:/var/nfs \
  nfs_volume
```

After that, type the command below on those 2 Docker hosts to run the container connected to your NFS server:

```
docker run --rm -it -u root --workdir /root \
  --mount source=nfs_volume,target=/root \
  alpine ash
```

### INFO

The docker `run --rm -it image_name shell` command is used to run a container, and then you go to the folder `/` in the container. Add the `--workdir /root` option if you want to directly access the `/root` folder automatically after the container is formed. And if you exit from the container, the container is deleted instantly.

The image below is an example of when a container from docker1 host (192.168.56.2) accesses the NFS server:

```
sysadmin@docker1:~$ docker volume create --driver local \
  --opt type=nfs \
  --opt o=addr=192.168.56.12,rw,nfsvers=4,noatime,nodev,nosuid \
  --opt device=:/var/nfs \
  nfs_volume
nfs_volume
sysadmin@docker1:~$ docker run --rm -it -u root --workdir /root \
  --mount source=nfs_volume,target=/root \
  alpine ash
~ # ls
test.txt
~ # cat test.txt
This is from NFS server
~ # echo "This is from docker1" >> test.txt
~ #
```

Access the NFS folder from the docker1 host

The image below is an example of when a container from the docker2 host (192.168.56.102) accesses the NFS server:

```
[sysadmin@docker2 ~]$ docker volume create --driver local \
  --opt type=nfs \
  --opt o=addr=192.168.56.12,rw,nfsvers=4,noatime,nodev,nosuid \
  --opt device=:/var/nfs \
  nfs_volume
nfs_volume
[sysadmin@docker2 ~]$ docker run --rm -it -u root --workdir /root \
  --mount source=nfs_volume,target=/root \
  alpine ash
~ # ls
test.txt
~ # cat test.txt
This is from NFS server
This is from docker1
~ # echo "This is from docker2" >> test.txt
~ # cat test.txt
This is from NFS server
This is from docker1
This is from docker2
~ #
```

Access the NFS folder from docker2 host

As you can see in the images above, all containers can access the NFS server and can change the files on the NFS server.

## Note

On the internet, some developers make a Docker plugin to access NFS servers from containers, such as plugins [docker-volume-netshare](#), [nfs-volume-plugin](#), [nfsvol](#), and so on. I have tried the first 3 plugins, but I always failed when accessing the NFS server using the plugins. But, there is a Docker plugin called [docker-volume-sshfs](#) that can access a folder, but the connection does not use NFS; but uses SSH, so you don't need to install and configure NFS. As long as the folder can still be accessed using SSH, then this Docker plugin can still be used. For example, I create **/home/sysadmin/data** as a data folder in IP 192.168.56.12, so I use the commands below to create the folder:

```
mkdir /home/sysadmin/data
cd /home/sysadmin/data
echo "This is from server" > test.txt
```


On the 2 Docker hosts, use the command below to install the Docker plugin:

```
docker plugin install --grant-all-permissions vieux/sshfs DEBUG=1
docker plugin ls
```

```
sysadmin@docker1:~$ docker plugin install --grant-all-permissions vieux/sshfs DEBUG=1
latest: Pulling from vieux/sshfs
Digest: sha256:1d3c3e42c12138da5ef7873b97f7f32cf99fb6edde75fa4f0bcf9ed277855811
52d435ada6a4: Complete
Installed plugin vieux/sshfs
sysadmin@docker1:~$ docker plugin ls
```

ID	NAME	DESCRIPTION	ENABLED
3919c531ed7b	vieux/sshfs:latest	sshFS plugin for Docker	true

```
sysadmin@docker1:~$
```



Install Docker plugin vieux/sshfs

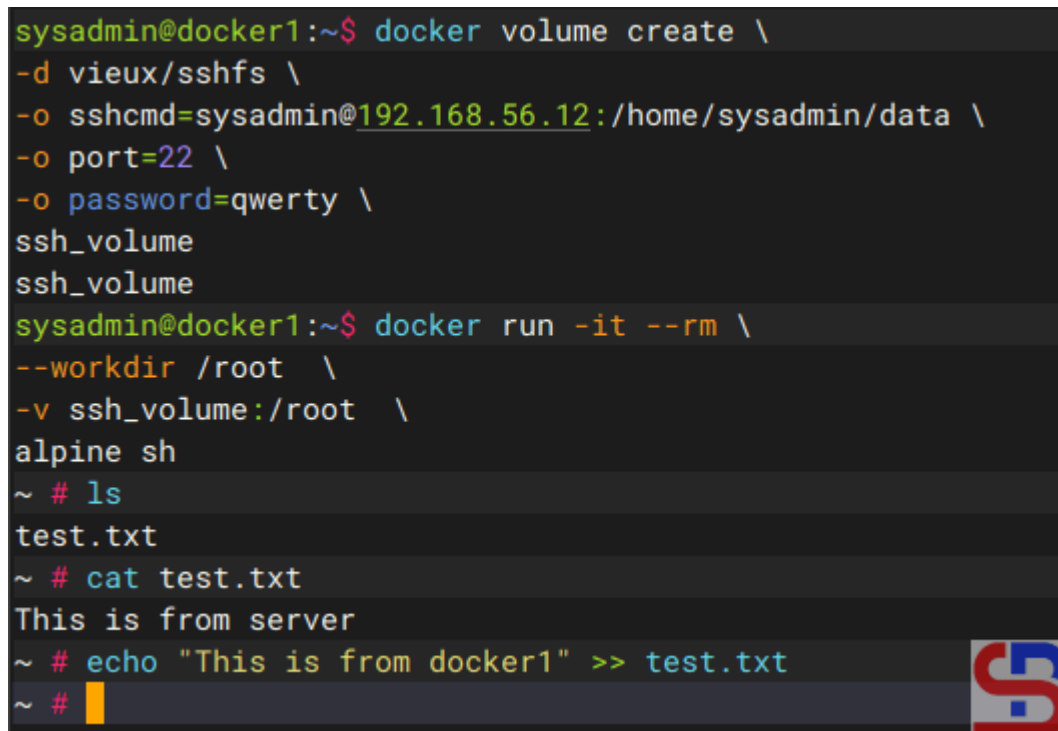
Use the command below to create a volume in Docker:

```
docker volume create \  
-d vieux/sshfs \  
-o sshcmd=sysadmin@192.168.56.12:/home/sysadmin/data \  
-o port=22 \  
-o password=qwerty \  
ssh_volume
```

After that, use the command below to run the container to connect to the folder:

```
docker run -it --rm \  
--workdir /root \  
-v ssh_volume:/root \  
alpine sh
```

The image below is an example of when a container from docker1 host (192.168.56.2) accesses the data folder:

A terminal window showing the execution of Docker commands. The user 'sysadmin' is at the 'docker1' host. They create a volume named 'ssh\_volume' with options: '-d vieux/sshfs', '-o sshcmd=sysadmin@192.168.56.12:/home/sysadmin/data', '-o port=22', and '-o password=qwerty'. Then they run a container 'alpine sh' with options: '-it --rm', '--workdir /root', and '-v ssh\_volume:/root'. Inside the container, they run 'ls' showing 'test.txt', 'cat test.txt' showing 'This is from server', and 'echo "This is from docker1" >> test.txt'. A red and blue logo is visible in the bottom right corner of the terminal window.

```
sysadmin@docker1:~$ docker volume create \  
-d vieux/sshfs \  
-o sshcmd=sysadmin@192.168.56.12:/home/sysadmin/data \  
-o port=22 \  
-o password=qwerty \  
ssh_volume  
ssh_volume  
sysadmin@docker1:~$ docker run -it --rm \  
--workdir /root \  
-v ssh_volume:/root \  
alpine sh  
~ # ls  
test.txt  
~ # cat test.txt  
This is from server  
~ # echo "This is from docker1" >> test.txt  
~ #
```

Access the data folder from docker1 host

The image below is an example of when a container from docker2 host (192.168.56.102) accesses the data folder:

```
[sysadmin@docker2 ~]$ docker volume create \
-d vieux/sshfs \
-o sshcmd=sysadmin@192.168.56.12:/home/sysadmin/data \
-o port=22 \
-o password=qwerty \
ssh_volume
ssh_volume
[sysadmin@docker2 ~]$ docker run -it --rm \
--workdir /root \
-v ssh_volume:/root \
alpine sh
~ # ls
test.txt
~ # cat test.txt
This is from server
This is from docker1
~ # echo "This is from docker2" >> test.txt
~ # cat test.txt
This is from server
This is from docker1
This is from docker2
~ #
```

Access the data folder from docker2 host

As you can see in the images above, all containers can access the data folder and can change the files in the folder.

## References

- [youtube.dimas-maryanto.com](https://youtube.dimas-maryanto.com)
- [docs.docker.com](https://docs.docker.com)