

EnduraData EDpCloud file replication and synchronization software installation on SLES-15-SP4-64bit LINUX operating system.

www.enduradata.com
support@enduradata.com

1. Requirements

To install and configure EnduraData EDpCloud software on SUSE SLES, you will need:

- A minimum of 8GB memory
- 20 GB of disk space (more if you intend to retain logs and history for a few weeks or if you have frequent file changes that need to be replicated very frequently).
- 64 bit EnduraData EDpCloud software (Downloaded from enduradata.com)
- A trial or paid license from EnduraData

2. Installation

We assume that you downloaded the following package from EnduraData.com:

- `edpcloud_LINUX_x64_v6_0_4_E-libc-ge-2.6.tar.gz`
- We will install EDpCloud under `/usr/local/enduradata/edpcloud`
- You will need to obtain a file called `edlicense` from EnduraData

2.1 Uncompress the package

```
gunzip edpcloud_LINUX_x64_v6_0_4_E-libc-ge-2.6.tar.gz
```

2.2 Extract the package

```
tar xvf dpcloud_LINUX_x64_v6_0_4_E-libc-ge-2.6.tar
```

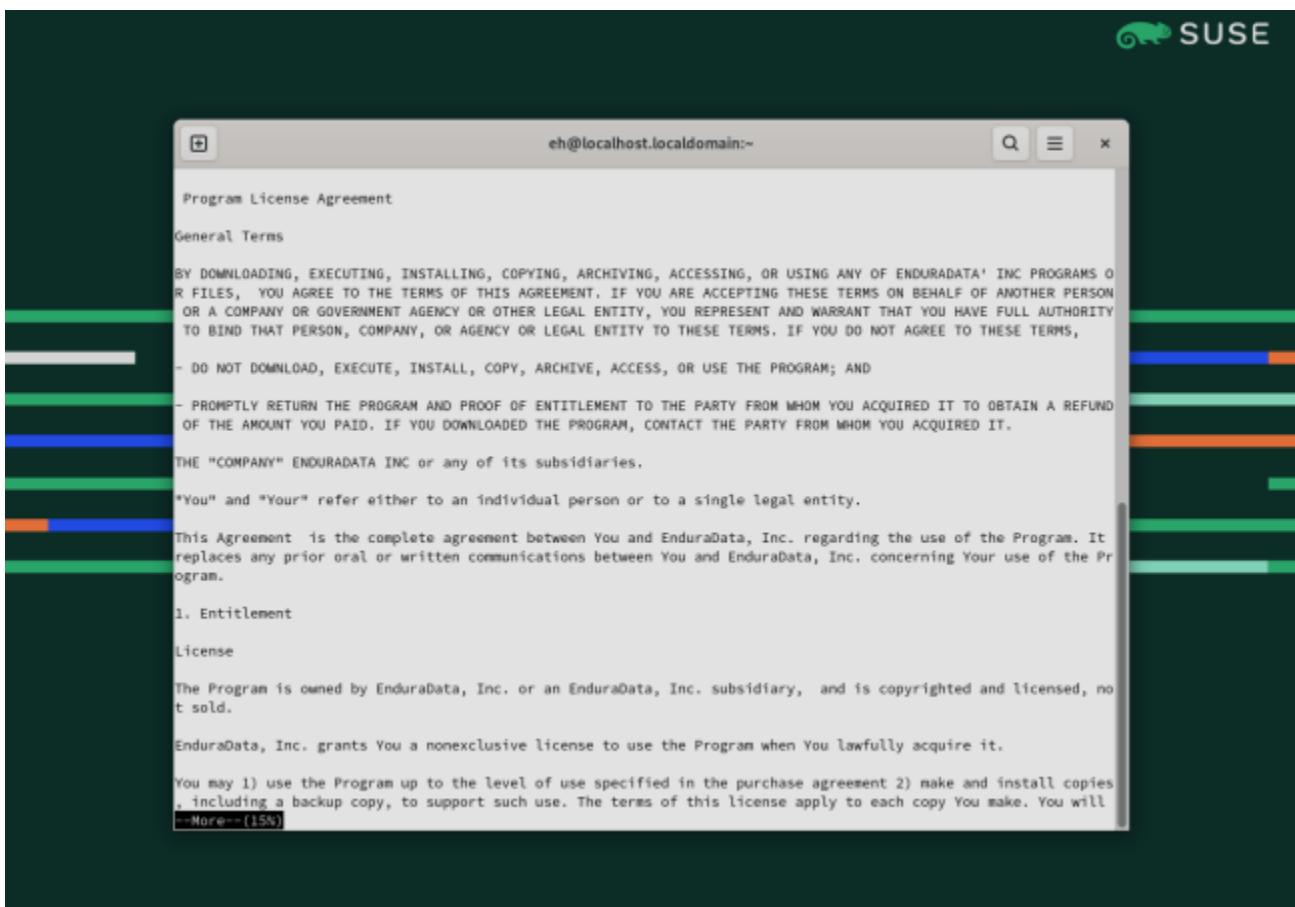
This would extract the package into a directory called `enduradata_edpcloud`

2.3 Install

```
cd enduradata_edpcloud  
./install.sh
```

You will see a series of prompts for the installation directory, the ports to use as shown in the following images.

a. Accept the license



```
eh@localhost.localdomain:~  
Program License Agreement  
General Terms  
BY DOWNLOADING, EXECUTING, INSTALLING, COPYING, ARCHIVING, ACCESSING, OR USING ANY OF ENDURADATA' INC PROGRAMS OR  
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TO BIND THAT PERSON, COMPANY, OR AGENCY OR LEGAL ENTITY TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,  
- DO NOT DOWNLOAD, EXECUTE, INSTALL, COPY, ARCHIVE, ACCESS, OR USE THE PROGRAM; AND  
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*You" and *Your" refer either to an individual person or to a single legal entity.  
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t sold.  
EnduraData, Inc. grants You a nonexclusive license to use the Program when You lawfully acquire it.  
You may 1) use the Program up to the level of use specified in the purchase agreement 2) make and install copies  
, including a backup copy, to support such use. The terms of this license apply to each copy You make. You will  
--More-- (15%)
```

```
eh@localhost.localdomain:~  
6. Governing Law, Jurisdiction, and Arbitration  
Governing Law  
Both You and EnduraData, Inc. consent to the application of the laws of the laws of the the State of Minnesota,  
United States of America to govern, interpret, and enforce all of Your and EnduraData, Inc.'s rights, duties, a  
nd obligations arising from, or relating in any manner to, the subject matter of this Agreement, without regard  
to conflict of law principles.  
The United Nations Convention on Contracts for the International Sale of Goods does not apply.  
Jurisdiction  
All of our rights, duties, and obligations are subject to the laws and courts of the state of Minnesota, United  
States of America.  
7. You agree not to use EnduraData Inc demo software to conduct any business without paying EnduraData for ever  
y copy used.  
8. You agree not to use EnduraData's products in any business transactions with CUBA, North Korea, Iran, Algeria  
, Syria or other countries black listed by the United States of America. A complete list can be found in this UR  
L: https://www.bis.doc.gov/index.php/policy-guidance/country-guidance/sanctioned-destinations#:~:text=The%20Bure  
au%20of%20Industry%20and,United%20Nations%20Security%20Council%20Resolutions.  
9. EnduraData Inc Contact Information  
EnduraData Inc  
6448 Flying Cloud drive  
Suite 210  
Eden Prairie, MN 55344  
952-746-4160  
support@enduradata.com  
Accept the entire agreement [YES/NO] : Y
```



```
eh@localhost.localdomain:~  
drwx----- 1 root bin      8 Apr 15 11:52 shistory  
/ /tmp/enduradata_edpcloud  
/tmp/enduradata_edpcloud  
Fixing environment scripts ...  
Using ED_BASE_DIR = /usr/local/enduradata/edpcloud  
Making directory /usr/local/enduradata/edpcloud ...  
Copying content of edpcloud  
Verifying EDpCLOUD directory structure ...  
Management port: [9000] :  
Content receiver port: [8888] :  
Run the WEB/browser based GUI. (y|n): [Y] :  
Start running the services now. (y|n): [Y] :  
Installing to /usr/local/enduradata...  
Found an existing password file will skip resetting the password file  
Editing startup scripts ...  
Editing /usr/local/enduradata/edpcloud/bin/edpcloud.sh  
Relocating /usr/local/enduradata/edpcloud/bin/edpcloud.sh.tmp  
Checking for auto start ...  
/ /tmp/enduradata_edpcloud  
/tmp/enduradata_edpcloud  
Creating SysV type startup script  
/ /tmp/enduradata_edpcloud  
/tmp/enduradata_edpcloud  
Building env /usr/local/enduradata/edpcloud/tmp/enduradata_env.tmp ...  
Building /usr/local/enduradata/edpcloud/tmp/enduradata_startcd ...  
cp: cannot stat '/usr/local/enduradata/edpcloud.upgrade.202308250910/etc/*/*rcvr-paused*': No such file or directory  
  
Your old config files were restored. Please verify them before you restart ...  
Upgrade complete.  
-----  
Fri Aug 25 09:11:27 CDT 2023  
edpcloud.sh restartall called  
-----
```

Once you accept the license, the installer will start configuring your system.
You will be prompted to enter the top directory where to install:

b. Enter the configuration parameters

Enter install path name [/usr/local/enduradata] :

Enter the TCP port number used to manage EDpCloud and the port number use to send data

Management port: [9000] :

Content receiver port: [8888] :

Run the WEB/browser based GUI. (y|n): [Y] :

Start running the services now. (y|n): [Y] :

c. Set up the environment

```
cd /usr/local/enduradata/edpcloud/bin  
. enduradata_env
```

**d. Create a configuration (See the documentation for eddist.cfg) under
/usr/local/enduradata/edpcloud/doc**

The following is a simple configuration that specifies the sender and the receiver and where the data will be stored.

```
eh@localhost.localdomain:~  
localhost:/tmp # cp edlicense /usr/local/enduradata/edpcloud/etc/  
localhost:/tmp # cd /usr/local/enduradata/edpcloud/bin/  
localhost:/usr/local/enduradata/edpcloud/bin # . enduradata_env  
localhost:/usr/local/enduradata/edpcloud/bin # cd ../etc  
localhost:/usr/local/enduradata/edpcloud/etc # cat eddist.cfg  
<?xml version="1.0" encoding="UTF-8"?>  
  
<config name="enduradata" password="fd29458ae58ac32a2d8734ed90ad51ec" workers="2">  
  
  <link name="l1" >  
    <sender hostname="localhost"  
    />  
    <receiver hostname="localhost"  
      storepath="/home/testedpcloud"  
    />  
  </link>  
</config>  
  
localhost:/usr/local/enduradata/edpcloud/etc #
```

e. Configure the real time:

edit /usr/local/enduradata/edpcloud/etc/edfsmonitor.cfg and enter the full path of directories to monitor for file changes in real time

Example:

```
/home/users  
/data
```

f. Edit the include and exclude list

f.1 Edit /usr/local/enduradata/edpcloud/etc/excludes to enter the list of file patterns to exclude from replication (The format is POSIX regular expressions)

Example:

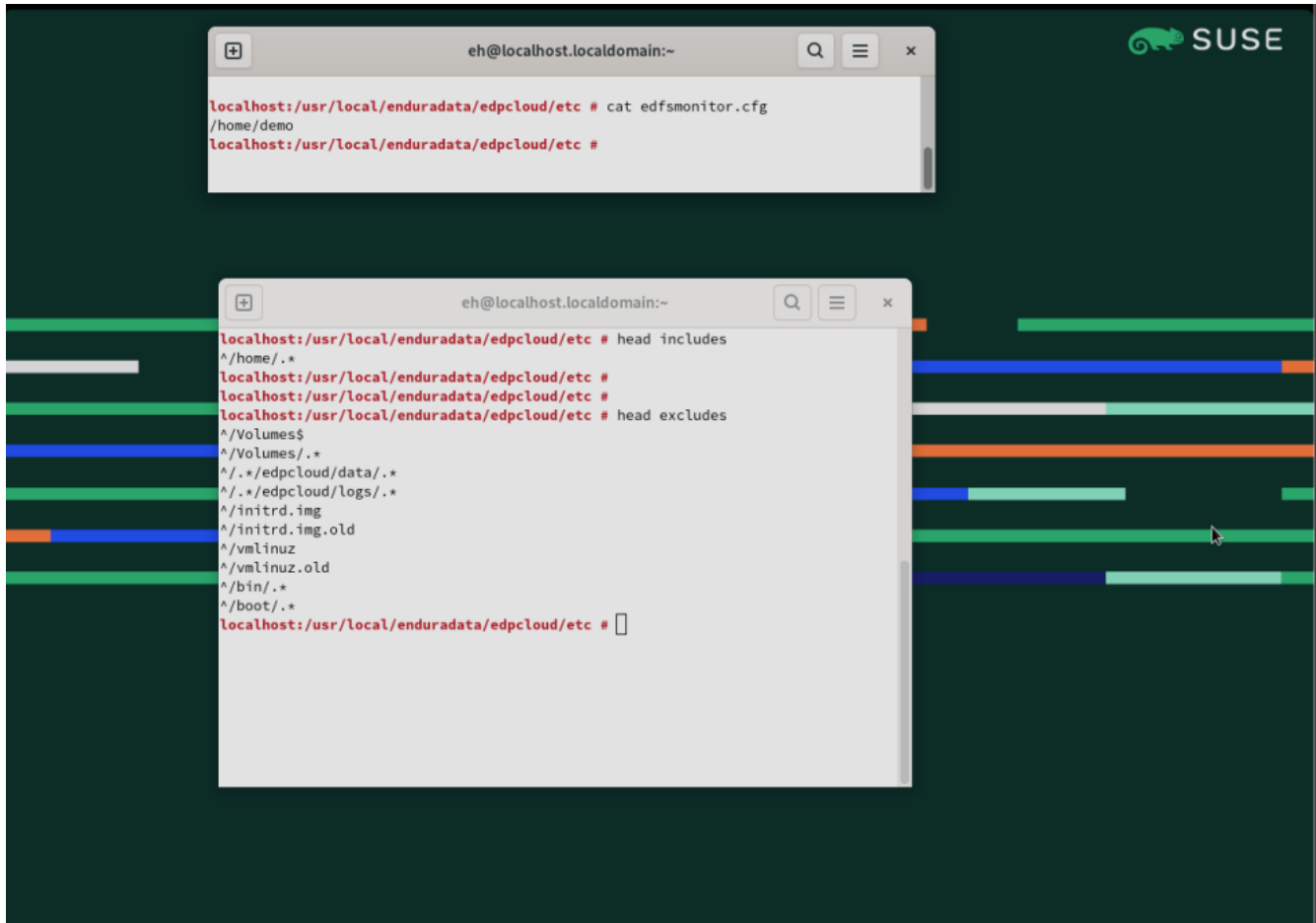
```
/home/.*\.$  
/data/.*junk.*  
/home/users/private/.*
```

f.2 Edit /usr/local/enduradata/edpcloud/etc/includes to enter the file patterns to include

Example:

```
/home/users/.*\.$  
/home/users/.*  
/data/reports/.*  
/data/financials/.*  
/data/images/.*  
/data/www/.*
```

The rule is that files in includes and that are not in excludes will be replicated if no includes file exists, then all files not in the excludes list will be replicated.



g. Copy the license file

```
cp edlicense /usr/local/enduradata/edpcloud/etc/edlicense
```

3. Start EDpCloud

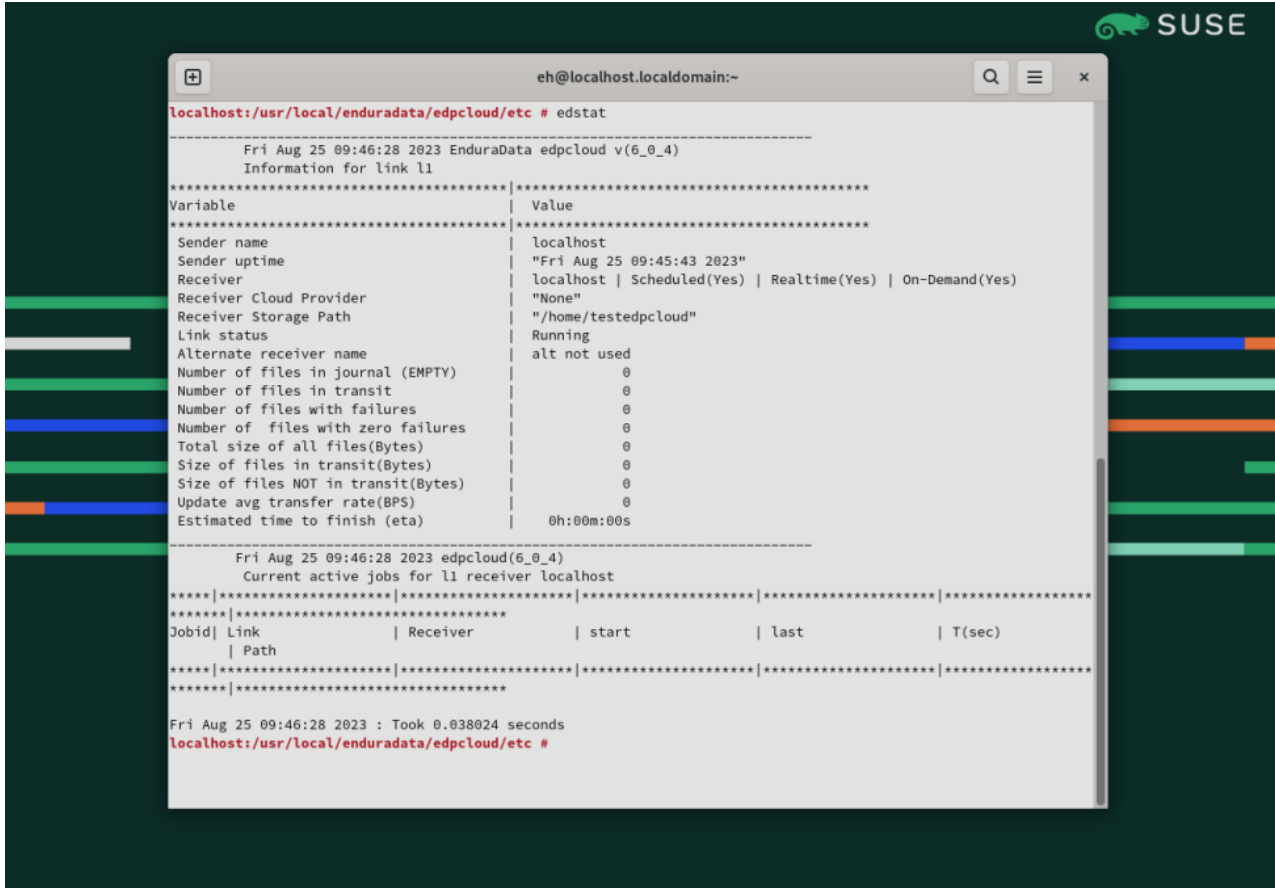
```
edpcloud.sh startall
```



```
Activities Terminal Aug 25 09:45 SUSE
eh@localhost.localdomain:~
localhost:/usr/local/enduradata/edpcloud/etc # edpcloud.sh startall
-----
Fri Aug 25 09:45:38 CDT 2023
edpcloud.sh startall called
-----
5773 edscheduler
Trying to stop proc edscheduler pid 5773 ...
Trying to stop proc edscheduler pid 9058 ...
Trying to stop proc ed_sender pid 9070 ...
5881 edrcvrd
Trying to stop proc edrcvrd pid 5881 ...
Trying to stop proc edrcvrd pid 9082 ...
8969 ed_receiver
Trying to stop proc ed_receiver pid 8969 ...
Trying to stop proc ed_receiver pid 9094 ...
5771 eddistd
Trying to stop proc eddistd pid 5771 ...
Trying to stop proc eddistd pid 9106 ...
5778 eddist
Trying to stop proc eddist pid 5778 ...
Trying to stop proc eddist pid 9118 ...
/tmp /usr/local/enduradata/edpcloud/etc
0 S root 9132 9121 0 80 0 - 1408 pipe_r 09:45 pts/0 00:00:00 grep eduwfs
Fri Aug 25 09:45:43 CDT 2023
Reading /usr/local/enduradata/edpcloud/etc/edfsmmonitor.cfg to see if we have any directories to monitor for FS c
hanges
Trying to unmount loopback file system /home/demo
/home/demo is not mounted
lsof: WARNING: can't stat() fuse.gvfsd-fuse file system /run/user/1000/gvfs
Output information may be incomplete.
Stop web based gui servers ...starting eddist service:
starting edscheduler service:
/tmp /usr/local/enduradata/edpcloud/bin /usr/local/enduradata/edpcloud/etc
starting eduwfs service:
starting edrcvrd service:
starting web based gui servers ...localhost:/usr/local/enduradata/edpcloud/etc #
```

4. Check the status of EnduraData EDpCloud by running:

edstat

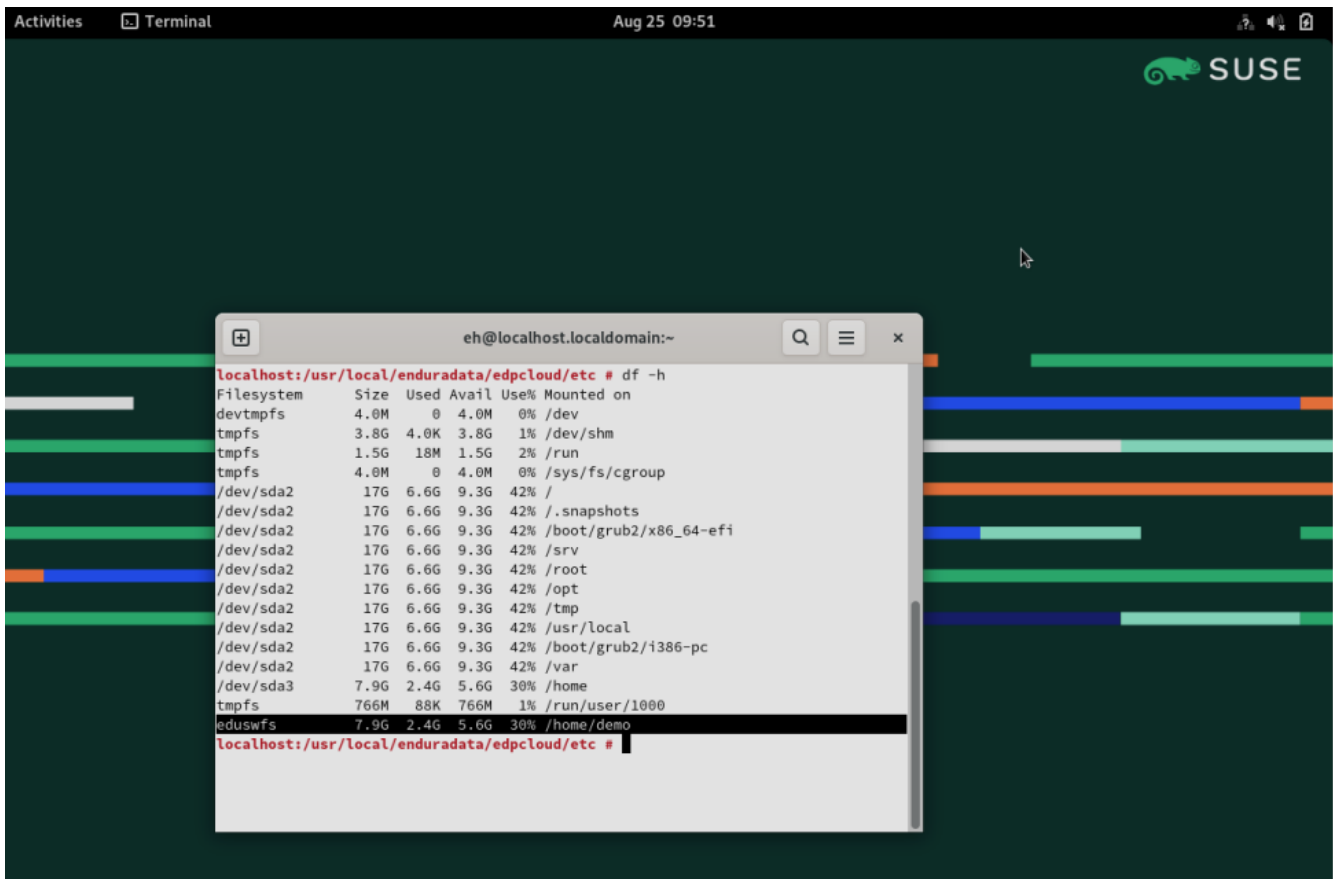


```
eh@localhost.localdomain:~
localhost:/usr/local/enduradata/edpcloud/etc # edstat
-----
Fri Aug 25 09:46:28 2023 EnduraData edpcloud v(6_0_4)
Information for link l1
-----
Variable | Value
-----|-----
Sender name | localhost
Sender uptime | "Fri Aug 25 09:45:43 2023"
Receiver | localhost | Scheduled(Yes) | Realtime(Yes) | On-Demand(Yes)
Receiver Cloud Provider | "None"
Receiver Storage Path | "/home/testedpcloud"
Link status | Running
Alternate receiver name | alt not used
Number of files in journal (EMPTY) | 0
Number of files in transit | 0
Number of files with failures | 0
Number of files with zero failures | 0
Total size of all files(Bytes) | 0
Size of files in transit(Bytes) | 0
Size of files NOT in transit(Bytes) | 0
Update avg transfer rate(BPS) | 0
Estimated time to finish (eta) | 0h:00m:00s
-----
Fri Aug 25 09:46:28 2023 edpcloud(6_0_4)
Current active jobs for l1 receiver localhost
-----|-----|-----|-----|-----|-----
Jobid| Link | Receiver | start | last | T(sec)
-----|-----|-----|-----|-----|-----
-----|-----|-----|-----|-----|-----
-----|-----|-----|-----|-----|-----
Fri Aug 25 09:46:28 2023 : Took 0.038024 seconds
localhost:/usr/local/enduradata/edpcloud/etc #
```

Check to see if `/home/demo` was mounted by `edpcloud` `eduwfs` file system filter driver.

`df -h`

You will see a file system called `eduwfs` and the mount point you put in `edfsmonitor.cfg`



The image shows a terminal window on a SUSE Linux system. The terminal title is "eh@localhost.localdomain:~". The command executed is `df -h`. The output is a table showing disk usage for various filesystems. The entry for `eduwfs` is highlighted in black, showing it is mounted at `/home/demo` with 30% usage.

```
eh@localhost.localdomain:~ # df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        4.0M   0 4.0M   0% /dev
tmpfs           3.8G  4.0K 3.8G   1% /dev/shm
tmpfs           1.5G  18M  1.5G   2% /run
tmpfs           4.0M   0 4.0M   0% /sys/fs/cgroup
/dev/sda2       17G  6.6G  9.3G  42% /
/dev/sda2       17G  6.6G  9.3G  42% /.snapshots
/dev/sda2       17G  6.6G  9.3G  42% /boot/grub2/x86_64-efi
/dev/sda2       17G  6.6G  9.3G  42% /srv
/dev/sda2       17G  6.6G  9.3G  42% /root
/dev/sda2       17G  6.6G  9.3G  42% /opt
/dev/sda2       17G  6.6G  9.3G  42% /tmp
/dev/sda2       17G  6.6G  9.3G  42% /usr/local
/dev/sda2       17G  6.6G  9.3G  42% /boot/grub2/i386-pc
/dev/sda2       17G  6.6G  9.3G  42% /var
/dev/sda3       7.9G  2.4G  5.6G  30% /home
tmpfs           766M   88K 766M   1% /run/user/1000
eduwfs          7.9G  2.4G  5.6G  30% /home/demo
eh@localhost.localdomain:~ #
```

5. The last step

Once everything is working, you can configure EDpCloud to restart after reboots:

Do the following once and a service will be installed to start EDpCloud after each reboot:

`/usr/local/enduradata/edpcloud/bin/autostart/sys5debian_autostart`

6. Logs

The logs are located under `/usr/local/enduradata/edpcloud/logs`

Examine `eddlist.log`, `ed_sender*log`, `ed_receiver*log`

Logs are compressed once they exceed a certain size

7. History

Replication history are located on the both the sending and receiving hosts and have a file pattern that matches `history_*`

8. Manuals and documentation

Manuals and man pages are available under `/usr/local/enduradata/doc`

Start by doing “`man eddist.cfg`” or by reading `eddlist.cfg.pdf`

The manuals are also available as html pages

At a minimum glance at the following man pages (or PDFs):

man eddist.cfg

man edfsmonitor.cfg

man edq

man edmfq

man edstat

man edjob

man edpasswd

9. Running on demand replication

edq -l linkname -r receivername -n directoryname

See the man page for edq and edmfq

10. Creating scheduled replication

You can create scheduled replication by editing `/usr/local/enduradata/edpcloud/etc/edscheduler.cfg`
See the man page for `edscheduler.cfg`

12. Security

EDpCloud runs as root and the install directory is owned by root. You can also run as a different user. Root can also assign different permissions.

The following are some security measures taken by EDpCloud:

- Only root has access to the install directory and binaries
- EDpCloud uses OpenSSL to encrypt everything.
- EDpCloud uses SSL certificates (See man `eddist.cfg`)
- EDpCloud uses a password (see man `edpasswd`) with hosts allowed and reverse lookup
- EDpCloud uses detailed audit logs

13. EnduraData EDpCloud support and help:

SUSE users can get free working demos and support.
Call or email support if you need additional help

support@enduradata.com

Downloading the software: <https://enduradata.com/downloads>

A detailed manual is available for customers.

14. SUSE SLES information

EDpCloud was certified to run on SLES-15-SP4-64bit

Visit <https://suse.com> for more info on SUSE Linux products.