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// TUTORIAL //

# How to Install TestDisk on Linux and Recover Deleted Files

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UNIX/Linux



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# Recover Deleted Files in Ubuntu with TestDisk

Step-By-Step Guide from Installation to Recovery



While we believe that this content benefits our community, we have not yet thoroughly reviewed it. If you have any suggestions for improvements, please let us know by clicking the "report an issue" button at the bottom of the tutorial.

Ever stuck in a situation where you accidentally deleted a file? In this tutorial, we'll go over how to install TestDisk in Linux and recover deleted files.

In this tutorial, I'll be using an Ubuntu server to work with, but even if you are on any other distribution, you can follow the same steps. The only thing that will be different is the package manager used for installation.

## Install TestDisk on Linux

The **testdisk** package is available on all the major Linux distributions and can be easily downloaded with the use of the default package manager. Here, I've listed down the distro-specific commands to install testdisk on Linux.

### Install TestDisk on Ubuntu/Debian

```
sudo apt update  
sudo apt -y install testdisk
```

[Copy](#)

We're using the apt package manager instead of the apt-get since that's the new package manager for Ubuntu/Debian.

### Install TestDisk on Red Hat and CentOS 7

```
yum install epel-release  
yum update  
yum install testdisk
```

[Copy](#)

### Install TestDisk on Red Hat and CentOS 8

```
yum install https://dl.fedoraproject.org/pub/epel/epel-release-latest-8.noar  
yum update  
yum install testdisk
```

[Copy](#)

You need to also enable/install the EPEL repository. The EPEL repository is an additional package repository that provides easy access to install packages for commonly used software.

To know more about the EPEL repository, visit the [official page](#).

### Install TestDisk on Arch Linux

```
sudo pacman -S testdisk
```

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### Install TestDisk on Fedora

```
sudo dnf install testdisk
```

[Copy](#)

## How To Recover Deleted Files in Linux?

Now that you have the testdisk utility installed, it's time to use it to recover our deleted files or partitions.

Testdisk works with the following partition types:

#### TestDisk checks and recovers lost partitions

It works with :

- BeFS (BeOS)
- CramFS, Compressed File System
- XBox FATX
- HFS, HFS+, Hierarchical File System
- Linux btrfs
- Linux GFS2
- Linux Raid
- LVM, LVM2, Logical Volume Manager
- Windows NTFS
- Sun Solaris i386 disklabel
- XFS, SGI's Journaled File System
- Sun ZFS
- BSD disklabel (Free/Open/Net BSD)
- DOS/Windows FAT12, FAT16 and FAT32
- Windows exFAT
- JFS, IBM's Journaled File System
- Linux ext2, ext3 and ext4
- Linux LUKS
- Linux Swap
- Netware NSS
- ReiserFS 3.5, 3.6 and 4
- UFS and UFS2 (Sun/BSD/...)
- Wii WBFS

#### Partition Types Testdisk Works With

You might not need to check for the partition type as the above list covers almost all the major partition types. But if you're unsure, enter one of the commands:

```
stat -f <partition>
df -T
fdisk -l
```

Copy

```
ninad@Phantom:~$ sudo fdisk -l
Disk /dev/sda: 20 GiB, 21474836480 bytes, 41943040 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x9fafde61

Device      Boot    Start        End    Sectors    Size Id Type
/dev/sda1   *         2048   13885439   13883392    6.6G 83 Linux
/dev/sda2             13887486   41940991   28053506   13.4G  5 Extended
/dev/sda5             13887488   18079743    4192256     2G 82 Linux swap / Solaris
/dev/sda6             18081792   41940991   23859200   11.4G 83 Linux

ninad@Phantom:~$ S
```

#### Fdisk L

Either of the commands above will give you the filesystem type information.

## 1. Starting TestDisk and Configuring Where it Runs

In your terminal, simply enter the command `testdisk` to run the utility and you'll be greeted with the below prompt. You can select the appropriate disk drive that you want to recover files on.

```
TestDisk 7.0, Data Recovery Utility, April 2015
Christophe GRENIER <grenier@cgsecurity.org>
http://www.cgsecurity.org

TestDisk is free data recovery software designed to help recover lost
partitions and/or make non-booting disks bootable again when these symptoms
are caused by faulty software, certain types of viruses or human error.
It can also be used to repair some filesystem errors.

Information gathered during TestDisk use can be recorded for later
review. If you choose to create the text file, testdisk.log, it
will contain TestDisk options, technical information and various
outputs; including any folder/file names TestDisk was used to find and
list onscreen.

Use arrow keys to select, then press Enter key:
>[ Create ] Create a new log file
  [ Append ] Append information to log file
  [ No Log ] Don't record anything
```

Testdisk Welcome Screen Log

If its the first time you're running this utility, it will give you an option to create a log file on the welcome screen. You can select create and just move ahead with the defaults.

The next screen asks you to select the disk drive/partition:

```
TestDisk 7.0, Data Recovery Utility, April 2015
Christophe GRENIER <grenier@cgsecurity.org>
http://www.cgsecurity.org

TestDisk is free software, and
comes with ABSOLUTELY NO WARRANTY.

Select a media (use Arrow keys, then press Enter):
>Disk /dev/sda - 21 GB / 20 GiB - VBOX HARDDISK
```

Test Disk Partition Select

## 2. Selecting and Analyzing the Partition

Once you've selected the right partition, you will be asked to select the partition type.

```
TestDisk 7.0, Data Recovery Utility, April 2015
Christophe GRENIER <grenier@cgsecurity.org>
http://www.cgsecurity.org

Disk /dev/sda - 21 GB / 20 GiB - VBOX HARDDISK

Please select the partition table type, press Enter when done.
>[Intel  ] Intel/PC partition
[EFI GPT] EFI GPT partition map (Mac i386, some x86_64...)
[Humax  ] Humax partition table
[Mac    ] Apple partition map
[None   ] Non partitioned media
[Sun    ] Sun Solaris partition
[XBox   ] Xbox partition
[Return ] Return to disk selection
```

Testdisk Partition Type Selection Screen

It should auto-select the correct partition type, but if it doesn't, make sure you select the correct type.

Once that's done, you'll be given a menu of options out of which we need to go ahead with "Analyse" to search for lost data.

```
TestDisk 7.0, Data Recovery Utility, April 2015
Christophe GRENIER <grenier@cgsecurity.org>
http://www.cgsecurity.org

Disk /dev/sda - 21 GB / 20 GiB - VBOX HARDDISK
  CHS 2610 255 63 - sector size=512

>[Analyse] Analyse current partition structure and search for lost partitions
[Advanced] Filesystem Utils
[Geometry] Change disk geometry
[Options  ] Modify options
[MBR Code ] Write TestDisk MBR code to first sector
[Delete   ] Delete all data in the partition table
[Quit     ] Return to disk selection
```

Test Disk Analyse Partitions

You can go with "Quick Search" or "Deeper Search" as it fits your needs and let the search run until it has scanned all the inodes.

```

TestDisk 7.0, Data Recovery Utility, April 2015
Christophe GRENIER <grenier@cgsecurity.org>
http://www.cgsecurity.org

Disk /dev/sda - 21 GB / 20 GiB - CHS 2610 255 63
Current partition structure:

```

	Partition	Start	End	Size in sectors
1	* Linux	0 32 33	864 83 51	13883392
2	E extended	864 116 19	2610 180 2	28053506
5	L Linux Swap	864 116 21	1125 105 4	4192256
	X extended	1125 105 5	2610 180 2	23861248
6	L Linux	1125 137 37	2610 180 2	23859200

Testdisk Analyse Screen

### 3. Scanning the Partition for Deleted Files

With the option selected, you'll be greeted with which specific partition you want to scan.

```

TestDisk 7.0, Data Recovery Utility, April 2015
Christophe GRENIER <grenier@cgsecurity.org>
http://www.cgsecurity.org

Disk /dev/sda - 21 GB / 20 GiB - CHS 2610 255 63

```

	Partition	Start	End	Size in sectors
>*	Linux	0 32 33	864 83 51	13883392
P	Linux Swap	864 116 21	1125 105 4	4192256
P	Linux	1125 137 37	2610 115 1	23855104

```

Structure: Ok. Use Up/Down Arrow keys to select partition.
Use Left/Right Arrow keys to CHANGE partition characteristics:
*=Primary bootable P=Primary L=Logical E=Extended D=Deleted
Keys A: add partition, L: load backup, T: change type, P: list files,
Enter: to continue
ext4 blocksize=4096 Large_file Sparse_SB Recover, 7108 MB / 6779 MiB

```

Analyze Specific Partitions

Select the correct partition, and let the utility scan the entire drive. Within some time, you'll get the list of files within the partition. When the scanning is in progress, you'll see

a screen similar to the one below.

```
TestDisk 7.0, Data Recovery Utility, April 2015
Christophe GRENIER <grenier@cgsecurity.org>
http://www.cgsecurity.org

Disk /dev/sda - 21 GB / 20 GiB - CHS 2610 255 63
Analyse cylinder 154/2609: 05%

Linux          0  32 33   864  83 51   13883392
Linux          0  32 33   864  83 51   13883392
Linux          0  32 33   864  83 51   13883392
Linux          0  32 33   864  83 51   13883392
Linux          0  32 33   864  83 51   13883392
Linux          0  32 33   864  83 51   13883392
```

Testdisk Working

Now once the progress is completed, it provides you with the option to select the partition that you want to browse the files in. All the files that are highlighted in “red” or any color or text style (can also be influenced by terminal configuration) are the files that have been recovered by the TestDisk utility.

To restore those files, simply press the letter “c” and it will allow you to copy that file and paste it in some other directory that you want to restore it to.

## Conclusion

Well, there you have it. You’ve learned how to recover deleted files in Linux! Go ahead and explore this utility more on a virtual machine to get a hang of it before using it in real-life situations so you know exactly how to work with it on an advanced scale.

We hope you’ve understood the use of the testdisk utility in Linux and know how to use it now. If you have any questions, let us know in the comments below.

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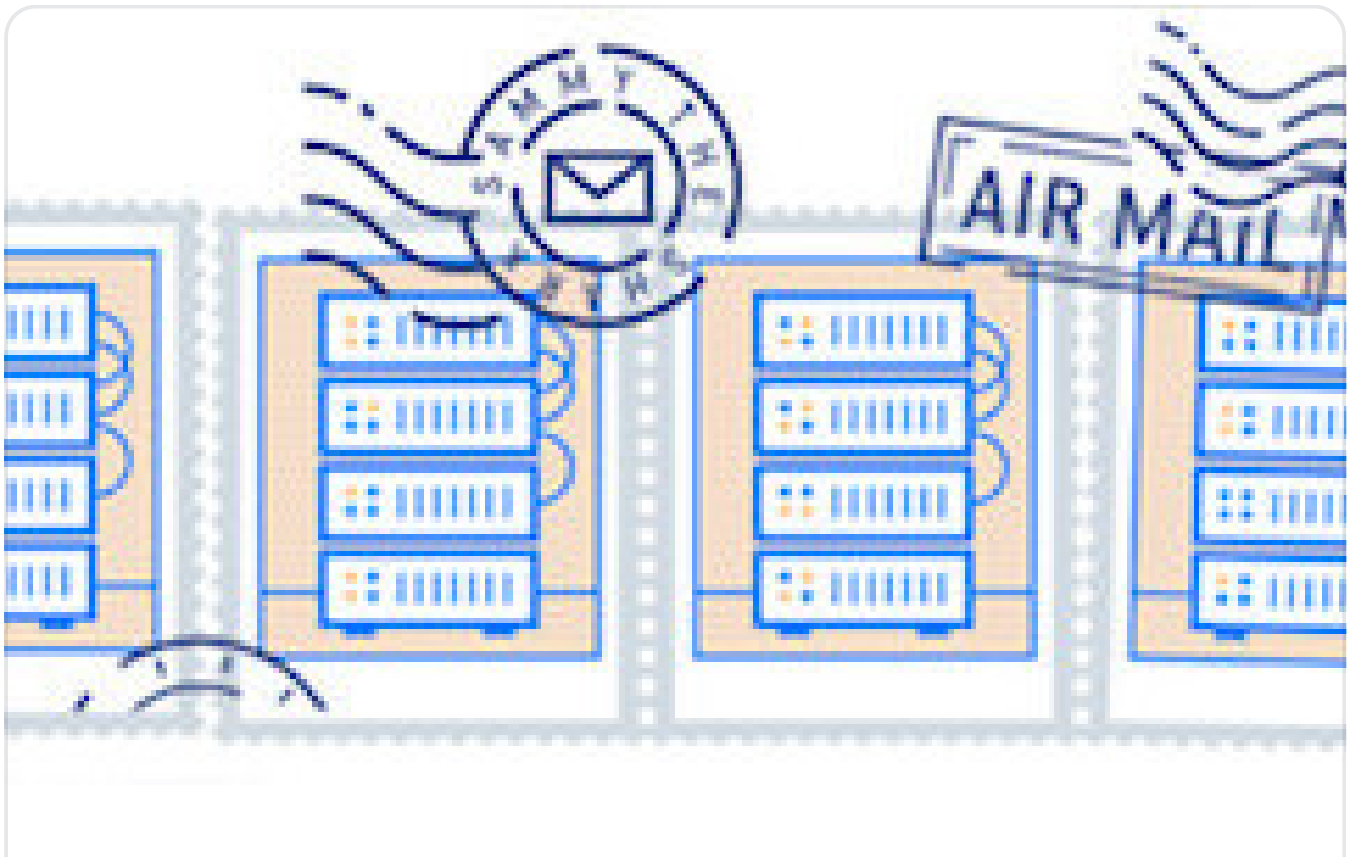
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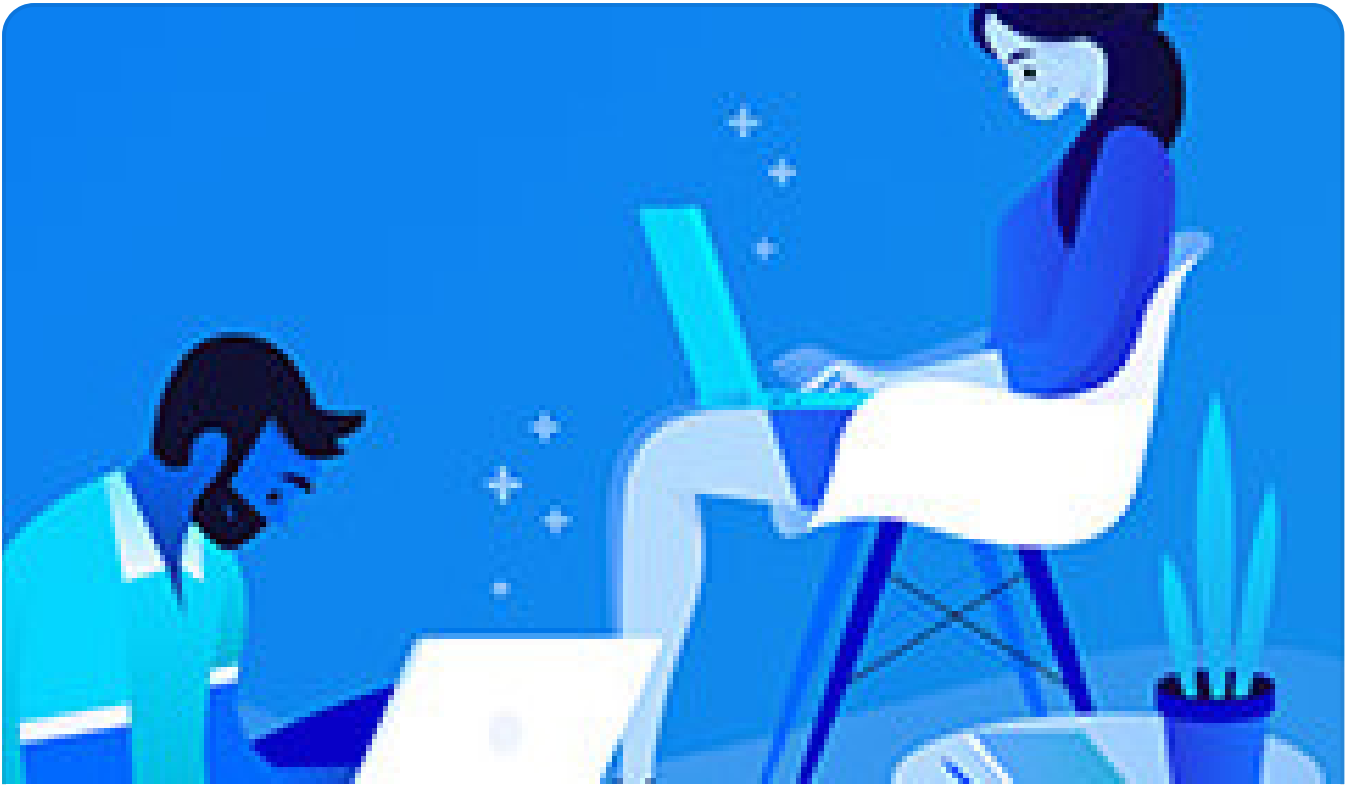
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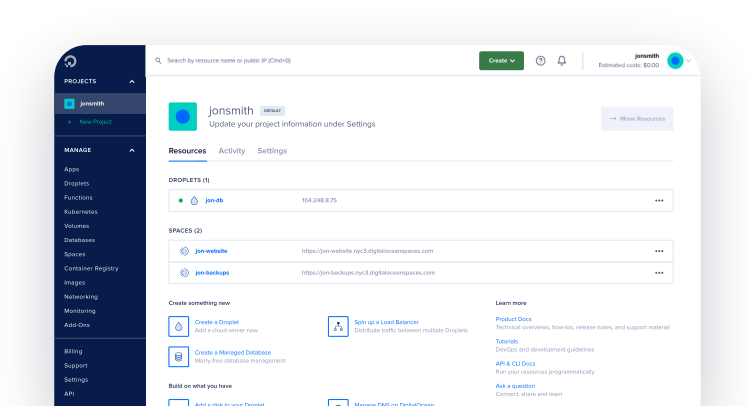
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