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Linux and Unix tee command tutorial with examples

Tutorial on using tee, a UNIX and Linux command for copying standard input to standard output and making a copy to one or more files. Examples of writing to a file, appending to a file and writing to a privileged file.

Estimated reading time: 2 minutes

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```
TEE(1)                                User Commands                                TEE(1)

NAME

tee - read from standard input and write to
      standard output and files
```

What is the tee command in UNIX?

The **tee** command in UNIX is a command line utility for copying standard input to standard output. It supports writing whatever it is given from standard input to standard output and optional writing to one or more files. The command is named after T splitter used in plumbing.

How to write to standard output and a file

To write to standard output and a file use **tee** after a pipe and specify the file or files to write to.

```
echo 'foo' | tee foo.txt
foo
cat foo.txt
foo
```

This writes the output of the first command to standard output and to a file called **foo.txt**

How to write to a file and append output

To use **tee** and append to a file rather use the **-a** option.

```
cat foo.txt
foo
echo 'bar' | tee -a foo.txt
```

```
bar
cat foo.txt
foo
bar
```

How to write the state of a pipe

As data flows through UNIX pipelines it can be useful to take a snapshot of the state of the data. This can be for debugging purposes or to take a backup.

```
ls ~/ | tee pipe1.txt | grep ^b | tee pipe2.txt | sort -r
```

How to watch log files and write to a file

In this example there is a requirement to analyse the HTTP2 traffic going through an nginx server. Using **tee** the live logs can be streamed to standard output and also write to a file for further analysis later.

```
tail -f /var/log/nginx/access.log | grep --line-buffered "HTTP/2.0" .
```

How to write to a privileged file using tee

To write to a privileged file **tee** may be used as part of a pipe to elevate to sudo permissions.

Suppose we have a **file** owned by root. Trying to append to this file as a normal user results in a permissions error.

```
echo 'foo' >> file
zsh: permission denied: file
```

As part of a pipe **tee** can take the input, elevate permissions and write to the file.

```
echo "foo" | sudo tee -a file
```

Further reading

- [tee man page \(http://man7.org/linux/man-pages/man1/tee.1.html\)](http://man7.org/linux/man-pages/man1/tee.1.html)
- [Linux Terminal: the tee command \(https://linuxaria.com/pills/linux-terminal-the-tee-command\)](https://linuxaria.com/pills/linux-terminal-the-tee-command)
- [Linux and Unix tee command help and examples \(http://www.computerhope.com/unix/utee.htm\)](http://www.computerhope.com/unix/utee.htm)

Have an update or suggestion for this article? [You can edit it here and send me a pull request.](https://github.com/shapeshed/shapeshed.com/edit/master/content/posts/unix-tee.md)
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