



Linux Ubuntu 26.04 Manual Pages on command 'tee.2'

\$ man tee.2

tee(2) System Calls Manual tee(2)

NAME

tee - duplicating pipe content

LIBRARY

Standard C library (libc, -lc)

SYNOPSIS

```
#define _GNU_SOURCE      /* See feature_test_macros(7) */
#include <fcntl.h>

ssize_t tee(int fd_in, int fd_out, size_t size, unsigned int flags);
```

DESCRIPTION

tee() duplicates up to size bytes of data from the pipe referred to by the file descriptor fd_in to the pipe referred to by the file descriptor fd_out. It does not consume the data that is duplicated from fd_in; therefore, that data can be copied by a subsequent splice(2). flags is a bit mask that is composed by ORing together zero or more of the following values:

SPLICE_F_MOVE Currently has no effect for tee(); see splice(2).

SPLICE_F_NONBLOCK Do not block on I/O; see splice(2) for further details.

SPLICE_F_MORE Currently has no effect for tee(), but may be implemented in the future; see splice(2).

SPLICE_F_GIFT Unused for tee(); see vmsplice(2).

RETURN VALUE

Upon successful completion, tee() returns the number of bytes that were duplicated between the input and output. A return value of 0 means that there was no data to transfer, and it would not make sense to block, because there are no writers connected to the write end of

the pipe referred to by fd_in.

On error, tee() returns -1 and errno is set to indicate the error.

ERRORS

EAGAIN SPLICE_F_NONBLOCK was specified in flags or one of the file descriptors had been marked as nonblocking (O_NONBLOCK), and the operation would block.

EINVAL fd_in or fd_out does not refer to a pipe; or fd_in and fd_out refer to the same pipe.

ENOMEM Out of memory.

STANDARDS

Linux.

HISTORY

Linux 2.6.17, glibc 2.5.

NOTES

Conceptually, tee() copies the data between the two pipes. In reality no real data copying takes place though: under the covers, tee() assigns data to the output by merely grabbing a reference to the input.

EXAMPLES

The example below implements a basic tee(1) program using the tee() system call. Here is an example of its use:

```
$ date | ./a.out out.log | cat;
```

```
Tue Oct 28 10:06:00 CET 2014
```

```
$ cat out.log;
```

```
Tue Oct 28 10:06:00 CET 2014
```

Program source

```
#define _GNU_SOURCE
```

```
#include <errno.h>
```

```
#include <fcntl.h>
```

```
#include <limits.h>
```

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
#include <sys/types.h>
```

```
#include <unistd.h>
```

```
int
```

```
main(int argc, char *argv[])
```

```

{
    int    fd;

    ssize_t size, ssize;

    if (argc != 2) {
        fprintf(stderr, "Usage: %s <file>\n", argv[0]);
        exit(EXIT_FAILURE);
    }

    fd = open(argv[1], O_WRONLY | O_CREAT | O_TRUNC, 0644);

    if (fd == -1) {
        perror("open");
        exit(EXIT_FAILURE);
    }

    for (;;) {
        /*
         * tee stdin to stdout.
         */

        size = tee(STDIN_FILENO, STDOUT_FILENO,
                   INT_MAX, SPLICE_F_NONBLOCK);

        if (size < 0) {
            if (errno == EAGAIN)
                continue;

            perror("tee");
            exit(EXIT_FAILURE);
        }

        if (size == 0)
            break;

        /*
         * Consume stdin by splicing it to a file.
         */

        while (size > 0) {
            ssize = splice(STDIN_FILENO, NULL, fd, NULL,
                           size, SPLICE_F_MOVE);

            if (ssize < 0) {

```

```
        perror("splice");
        exit(EXIT_FAILURE);
    }
    size -= ssize;
}
}
close(fd);
exit(EXIT_SUCCESS);
}
```

SEE ALSO

splice(2), vmsplice(2), pipe(7)

Linux man-pages 6.17

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