

**NAME**

getutent, getutid, getutline, pututline, setutent, endutent, utmpname - access utmp file entries

**SYNOPSIS**

```
#include <utmp.h>

struct utmp *getutent(void);
struct utmp *getutid(const struct utmp *ut);
struct utmp *getutline(const struct utmp *ut);

struct utmp *pututline(const struct utmp *ut);

void setutent(void);
void endutent(void);

int utmpname(const char *file);
```

**DESCRIPTION**

New applications should use the POSIX.1-specified utmpx versions of these functions; see **CONFORMING TO**.

**utmpname()** sets the name of the utmp-format file for the other utmp functions to access. If **utmpname()** is not used to set the filename before the other functions are used, they assume **\_PATH\_UTMP**, as defined in *<paths.h>*.

**setutent()** rewinds the file pointer to the beginning of the utmp file. It is generally a good idea to call it before any of the other functions.

**endutent()** closes the utmp file. It should be called when the user code is done accessing the file with the other functions.

**getutent()** reads a line from the current file position in the utmp file. It returns a pointer to a structure containing the fields of the line. The definition of this structure is shown in [utmp\(5\)](#).

**getutid()** searches forward from the current file position in the utmp file based upon *ut*. If *ut->ut\_type* is one of **RUN\_LVL**, **BOOT\_TIME**, **NEW\_TIME**, or **OLD\_TIME**, **getutid()** will find the first entry whose *ut\_type* field matches *ut->ut\_type*. If *ut->ut\_type* is one of **INIT\_PROCESS**, **LOGIN\_PROCESS**, **USER\_PROCESS**, or **DEAD\_PROCESS**, **getutid()** will find the first entry whose *ut\_id* field matches *ut->ut\_id*.

**getutline()** searches forward from the current file position in the utmp file. It scans entries whose *ut\_type* is **USER\_PROCESS** or **LOGIN\_PROCESS** and returns the first one whose *ut\_line* field matches *ut->ut\_line*.

**pututline()** writes the *utmp* structure *ut* into the utmp file. It uses **getutid()** to search for the proper place in the file to insert the new entry. If it cannot find an appropriate slot for *ut*, **pututline()** will append the new entry to the end of the file.

**RETURN VALUE**

**getutent()**, **getutid()**, and **getutline()** return a pointer to a *struct utmp* on success, and NULL on failure (which includes the record not found case). This *struct utmp* is allocated in static storage, and may be overwritten by subsequent calls.

On success **pututline()** returns *ut*; on failure, it returns NULL.

**utmpname()** returns 0 if the new name was successfully stored, or -1 on failure.

In the event of an error, these functions *errno* set to indicate the cause.

**ERRORS****ENOMEM**

Out of memory.

**ESRCH**

Record not found.

**setutent()**, **pututline()**, and the **getut\*()** functions can also fail for the reasons described in [open\(2\)](#).

**FILES**

`/var/run/utmp` database of currently logged-in users

`/var/log/wtmp` database of past user logins

**CONFORMING TO**

XPG2, SVr4.

In XPG2 and SVID 2 the function **pututline()** is documented to return void, and that is what it does on many systems (AIX, HP-UX). HP-UX introduces a new function **\_pututline()** with the prototype given above for **pututline()**.

All these functions are obsolete now on non-Linux systems. POSIX.1-2001, following SUSv1, does not have any of these functions, but instead uses

```
#include <utmpx.h>
```

```
struct utmpx *getutxent(void);
struct utmpx *getutxid(const struct utmpx *);
struct utmpx *getutxline(const struct utmpx *);
struct utmpx *pututxline(const struct utmpx *);
void setutxent(void);
void endutxent(void);
```

These functions are provided by glibc, and perform the same task as their equivalents without the x, but use *struct utmpx*, defined on Linux to be the same as *struct utmp*. For completeness, glibc also provides **utmpxname()**, although this function is not specified by POSIX.1.

On some other systems, the *utmpx* structure is a superset of the *utmp* structure, with additional fields, and larger versions of the existing fields, and parallel files are maintained, often `/var/*/utmpx` and `/var/*/wtmpx`.

Linux glibc on the other hand does not use a parallel *utmpx* file since its *utmp* structure is already large enough. The x functions listed above are just aliases for their counterparts without the x (e.g., **getutxent()** is an alias for **getutent()**).

**NOTES****Glibc notes**

The above functions are not thread-safe. Glibc adds reentrant versions

```
#define _GNU_SOURCE /* or _SVID_SOURCE or _BSD_SOURCE;
see feature_test_macros(7) */
#include <utmp.h>
```

```
int getutent_r(struct utmp *ubuf, struct utmp **ubufp);
```

```
int getutid_r(struct utmp *ut,
struct utmp *ubuf, struct utmp **ubufp);
```

```
int getutline_r(struct utmp *ut,
struct utmp *ubuf, struct utmp **ubufp);
```

These functions are GNU extensions, analogs of the functions of the same name without the `_r` suffix. The *ubuf* argument gives these functions a place to store their result. On success they return 0, and a pointer to the result is written in *\*ubufp*. On error, these functions return -1. There are no *utmpx* equivalents of the above functions. (POSIX.1 does not specify such functions.)

**EXAMPLE**

The following example adds and removes a utmp record, assuming it is run from within a pseudo terminal. For usage in a real application, you should check the return values of [getpwuid\(3\)](#) and [ttyname\(3\)](#).

```
#include <string.h>
#include <stdlib.h>
#include <pwd.h>
#include <unistd.h>
#include <utmp.h>

int
main(int argc, char *argv[])
{
    struct utmp entry;

    system(echo before adding entry::who);

    entry.ut_type = USER_PROCESS;
    entry.ut_pid = getpid();
    strcpy(entry.ut_line, ttyname(STDIN_FILENO) + strlen(/dev/));
    /* only correct for ptys named /dev/tty[pqr][0-9a-z] */
    strcpy(entry.ut_id, ttyname(STDIN_FILENO) + strlen(/dev/tty));
    time(&entry.ut_time);
    strcpy(entry.ut_user, getpwuid(getuid())->pw_name);
    memset(entry.ut_host, 0, UT_HOSTSIZE);
    entry.ut_addr = 0;
    setutent();
    pututline(&entry);

    system(echo after adding entry::who);

    entry.ut_type = DEAD_PROCESS;
    memset(entry.ut_line, 0, UT_LINESIZE);
    entry.ut_time = 0;
    memset(entry.ut_user, 0, UT_NAMESIZE);
    setutent();
    pututline(&entry);

    system(echo after removing entry::who);

    endutent();
    exit(EXIT_SUCCESS);
}
```

**SEE ALSO**

[getutmp\(3\)](#), [utmp\(5\)](#)

**COLOPHON**

This page is part of release 3.74 of the Linux *man-pages* project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <http://www.kernel.org/doc/man-pages/>.