

NAME

tzset - initialize time conversion information

LIBRARY

Standard C Library (libc, -lc)

SYNOPSIS

```
#include <time.h>
```

```
void
```

```
tzset(void);
```

DESCRIPTION

The **tzset()** function initializes time conversion information used by the library routine **localtime(3)**. The environment variable TZ specifies how this is done.

If TZ does not appear in the environment, the best available approximation to local wall clock time, as specified by the **tzfile(5)**-format file */etc/localtime* is used.

If TZ appears in the environment but its value is a null string, Coordinated Universal Time (UTC) is used (without leap second correction).

If TZ appears in the environment and its value begins with a colon (':'), the rest of its value is used as a pathname of a **tzfile(5)**-format file from which to read the time conversion information. If the first character of the pathname is a slash ('/') it is used as an absolute pathname; otherwise, it is used as a pathname relative to the system time conversion information directory.

If its value does not begin with a colon, it is first used as the pathname of a file (as described above) from which to read the time conversion information. If that file cannot be read, the value is then interpreted as a direct specification (the format is described below) of the time conversion information.

If the TZ environment variable does not specify a **tzfile(5)**-format file and cannot be interpreted as a direct specification, UTC is used.

SPECIFICATION FORMAT

When TZ is used directly as a specification of the time conversion information, it must have the following syntax (spaces inserted for clarity):

```
std offset [dst [offset] [, rule]]
```

Where:

std and *dst* Three or more bytes that are the designation for the standard (*std*) or summer (*dst*) time zone. Only *std* is required; if *dst* is missing, then summer time does not apply in this locale. Upper and lowercase letters are explicitly allowed. Any characters except a leading colon (':'), digits, comma (','), minus ('-'), plus ('+'), and ASCII NUL are allowed.

offset Indicates the value one must add to the local time to arrive at Coordinated Universal Time. The *offset* has the form:

$$hh[:mm[:ss]]$$

The minutes (*mm*) and seconds (*ss*) are optional. The hour (*hh*) is required and may be a single digit. The *offset* following *std* is required. If no *offset* follows *dst*, summer time is assumed to be one hour ahead of standard time. One or more digits may be used; the value is always interpreted as a decimal number. The hour must be between zero and 24, and the minutes (and seconds) -- if present -- between zero and 59. If preceded by a ('-') the time zone shall be east of the Prime Meridian; otherwise it shall be west (which may be indicated by an optional preceding ('+')).

rule Indicates when to change to and back from summer time. The *rule* has the form:

$$date/time,date/time$$

where the first *date* describes when the change from standard to summer time occurs and the second *date* describes when the change back happens. Each *time* field describes when, in current local time, the change to the other time is made.

The format of *date* is one of the following:

J *n* The Julian day *n* ($1 \leq n \leq 365$). Leap days are not counted; that is, in all years -- including leap years -- February 28 is day 59 and March 1 is day 60. It is impossible to explicitly refer to the occasional February 29.

n The zero-based Julian day ($0 \leq n \leq 365$). Leap days are counted, and it is possible to refer to February 29.

M *m.n.d* The *d*'th day ($0 \leq d \leq 6$) of week *n* of month *m* of the year ($1 \leq n \leq 5$), ($1 \leq m \leq 12$), where week 5 means "the last *d* day in month *m*" which

may occur in either the fourth or the fifth week). Week 1 is the first week in which the *d*'th day occurs. Day zero is Sunday.

The *time* has the same format as *offset* except that no leading sign ('-') or ('+') is allowed. The default, if *time* is not given, is **02:00:00**.

If no *rule* is present in the TZ specification, the rules specified by the tzfile(5)-format file *posixrules* in the system time conversion information directory are used, with the standard and summer time offsets from UTC replaced by those specified by the *offset* values in TZ.

For compatibility with System V Release 3.1, a semicolon (;) may be used to separate the *rule* from the rest of the specification.

FILES

<i>/etc/localtime</i>	local time zone file
<i>/usr/share/zoneinfo</i>	time zone directory
<i>/usr/share/zoneinfo/posixrules</i>	rules for POSIX-style TZ's
<i>/usr/share/zoneinfo/Etc/GMT</i>	for UTC leap seconds

If the file */usr/share/zoneinfo/UTC* does not exist, UTC leap seconds are loaded from */usr/share/zoneinfo/posixrules*.

SEE ALSO

date(1), gettimeofday(2), ctime(3), getenv(3), time(3), tzfile(5)

HISTORY

The **tzset()** function first appeared in 4.4BSD.