6.4 Setting the Time Zone Variable

The value of the **TZ** environment variable should be set as follows (spaces are for clarity only):

std offset dst offset, rule

The expanded format is as follows:

stdoffset[dst[offset][,start[/time],end[/time]]]

where

std, *dst*

Three or more letters that you specify to designate the standard *(std)* or summer *(dst)* time zone. Only *std* is required. If *dst* is omitted, then summer time doesn't apply in this locale. Upper- and lowercase letters are allowed. Any characters except for a leading colon (:), digits, comma (,), minus (-), plus (+), and ASCII NUL (\0) are allowed.

** There's no specified list of time zone designations, you can specify whatever name or acronym you'd like. What's important for the library is the information that follows the names -- the numbers that indicate the difference between the local time and UTC, and the rules that specify when to switch on, or out of, daylight saving time.

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offset

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

hh[:*mm*[:*ss*]]

Minutes (*mm*) and seconds (*ss*) are optional. The hour (*hh*) is required; it 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 may be between 0 and 24; the minutes (and seconds), if present, between 0 and 59. If preceded by a "-", the time zone is east of the *Prime Meridian*; otherwise it's 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* may be one of the following:

J*n*
The Julian day *n* (1 <= n <= 365). Leap days aren' t counted. That is, in all years- including leap years -- February 28 is day 59 and March 1 is day 60. It' s impossible to refer explicitly to the occasional February 29.
n
The zero-based Julian day (0 <= n <= 365). Leap years are counted; it' s possible to refer to February 29.
M*m.n.d*
The *d*th day (0 <= *d* <= 6) of week *n* of month *m* of the year (1 <= *n* <= 5, 1 <= *m* <= 12, where week 5 means "the last *d* day in month *m*", which may occur in the fourth or 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 omitted, is 02:00:00.

Here are some examples:

1. TZ=EST5EDT

   This is the default when the **TZ** variable isn' t set.

   - Eastern Standard Time is 5 hours earlier than Coordinated Universal Time (UTC). Standard time and daylight saving time both apply to this locale.
   - By default, Eastern Daylight Time (EDT) is one hour ahead of standard time (that is, EDT4).
   - Since it isn' t specified, daylight saving time starts on the first Sunday of April at 2:00 A.M. and ends on the last Sunday of October at 2:00 A.M.

2. TZ=EST5EDT4,M4.1.0/02:00:00,M10.5.0/02:00:00

   This is the full specification for the default when the **TZ** variable isn' t set.

   - Eastern Standard Time is 5 hours earlier than Coordinated Universal Time (UTC).
   - Standard time and daylight saving time both apply to this locale.
   - Eastern Daylight Time (EDT) is one hour ahead of standard time.
   - Daylight saving time starts on the first (1) Sunday (0) of April (4) at 2:00 A.M. and ends on the last (5) Sunday (0) of October (10) at 2:00 A.M.

3. TZ=PST8PDT

- Pacific Standard Time is 8 hours earlier than Coordinated Universal Time (UTC).
- Standard time and daylight saving time both apply to this locale.
- By default, Pacific Daylight Time is one hour ahead of standard time (that is, PDT7).
- Since it isn't specified, daylight saving time starts on the first Sunday of April at 2:00 A.M. and ends on the last Sunday of October at 2:00 A.M.

4. TZ=NST3:30NDT1:30
    - Newfoundland Standard Time is 3.5 hours earlier than Coordinated Universal Time (UTC).
    - Standard time and daylight saving time both apply to this locale.
    - Newfoundland Daylight Time is 1.5 hours earlier than Coordinated Universal Time (UTC).
5. TZ=Central Europe Time-2:00
    - Central European Time is 2 hours later than Coordinated Universal Time (UTC).
    - Daylight saving time doesn't apply in this locale.
6. TZ=JST-9
    - Japanese Standard Time is 9 hours earlier than Coordinated Universal Time (UTC).
    - Daylight saving time doesn't apply in this locale.