

NAME

closelog, openlog, syslog, vsyslog - send messages to the system logger

SYNOPSIS

```
#include <syslog.h>
```

```
void openlog(const char *ident, int option, int facility);
```

```
void syslog(int priority, const char *format, ...);
```

```
void closelog(void);
```

```
void vsyslog(int priority, const char *format, va_list ap);
```

Feature Test Macro Requirements for glibc (see [feature_test_macros\(7\)](#)):

vsyslog(): Since glibc 2.19: `_DEFAULT_SOURCE` Glibc 2.19 and earlier: `_BSD_SOURCE`

DESCRIPTION

closelog() closes the file descriptor being used to write to the system logger. The use of **closelog()** is optional.

openlog() opens a connection to the system logger for a program. The string pointed to by *ident* is prepended to every message, and is typically set to the program name. If *ident* is NULL, the program name is used. (POSIX.1-2008 does not specify the behavior when *ident* is NULL.)

The *option* argument specifies flags which control the operation of **openlog()** and subsequent calls to **syslog()**. The *facility* argument establishes a default to be used if none is specified in subsequent calls to **syslog()**. Values for *option* and *facility* are given below. The use of **openlog()** is optional; it will automatically be called by **syslog()** if necessary, in which case *ident* will default to NULL.

syslog() generates a log message, which will be distributed by **syslogd(8)**. The *priority* argument is formed by ORing the *facility* and the *level* values (explained below). The remaining arguments are a *format*, as in [printf\(3\)](#) and any arguments required by the *format*, except that the two character sequence `%m` will be replaced by the error message string *strerror(errno)*. A trailing newline may be added if needed.

The function **vsyslog()** performs the same task as **syslog()** with the difference that it takes a set of arguments which have been obtained using the [stdarg\(3\)](#) variable argument list macros.

The subsections below list the parameters used to set the values of *option*, *facility*, and *priority*.

option

The *option* argument to **openlog()** is an OR of any of these:

LOG_CONS Write directly to system console if there is an error while sending to system logger.

LOG_NDELAY Open the connection immediately (normally, the connection is opened when the first message is logged).

LOG_NOWAIT Don't wait for child processes that may have been created while logging the message. (The GNU C library does not create a child process, so this option has no effect on Linux.)

LOG_ODELAY The converse of **LOG_NDELAY**; opening of the connection is delayed until **syslog()** is called. (This is the default, and need not be specified.)

LOG_PERROR (Not in POSIX.1-2001 or POSIX.1-2008.) Print to *stderr* as well.

LOG_PID Include PID with each message.

facility

The *facility* argument is used to specify what type of program is logging the message. This lets the configuration file specify that messages from different facilities will be handled differently.

LOG_AUTH security/authorization messages

LOG_AUTHPRIV	security/authorization messages (private)
LOG_CRON	clock daemon (cron and at)
LOG_DAEMON	system daemons without separate facility value
LOG_FTP	ftp daemon
LOG_KERN	kernel messages (these can't be generated from user processes)
LOG_LOCAL0 through LOG_LOCAL7	reserved for local use
LOG_LPR	line printer subsystem
LOG_MAIL	mail subsystem
LOG_NEWS	USENET news subsystem
LOG_SYSLOG	messages generated internally by syslogd(8)
LOG_USER (default)	generic user-level messages
LOG_UUCP	UUCP subsystem

level

This determines the importance of the message. The levels are, in order of decreasing importance:

LOG_EMERG	system is unusable
LOG_ALERT	action must be taken immediately
LOG_CRIT	critical conditions
LOG_ERR	error conditions
LOG_WARNING	warning conditions
LOG_NOTICE	normal, but significant, condition
LOG_INFO	informational message
LOG_DEBUG	debug-level message

The function [setlogmask\(3\)](#) can be used to restrict logging to specified levels only.

ATTRIBUTES

For an explanation of the terms used in this section, see [attributes\(7\)](#).

Interface	Attribute	Value
openlog() , closelog()	Thread safety	MT-Safe
syslog() , vsyslog()	Thread safety	MT-Safe env locale

CONFORMING TO

The functions **openlog()**, **closelog()**, and **syslog()** (but not **vsyslog()**) are specified in SUSv2, POSIX.1-2001, and POSIX.1-2008. POSIX.1-2001 specifies only the **LOG_USER** and **LOG_LOCAL*** values for *facility*. However, with the exception of **LOG_AUTHPRIV** and **LOG_FTP**, the other *facility* values appear on most UNIX systems. The **LOG_PERROR** value for *option* is not specified by POSIX.1-2001 or POSIX.1-2008, but is available in most versions of UNIX.

NOTES

The argument *ident* in the call of **openlog()** is probably stored as-is. Thus, if the string it points to is changed, **syslog()** may start prepending the changed string, and if the string it points to ceases to exist, the results are undefined. Most portable is to use a string constant.

Never pass a string with user-supplied data as a format, use the following instead:

```
syslog(priority, "%s", string);
```

SEE ALSO

[logger\(1\)](#), [setlogmask\(3\)](#), [syslog.conf\(5\)](#), [syslogd\(8\)](#)

COLOPHON

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