The Open Group Base Specifications Issue 7, 2018 edition
IEEE Std 1003.1-2017 (Revision of IEEE Std 1003.1-2008)
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NAME

sys/select.h - select types

SYNOPSIS

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

DESCRIPTION

The *<sys/select.h>* header shall define the **timeval** structure, which shall include at least the following members:

```
time_t          tv_sec      Seconds.
suseconds_t     tv_usec     Microseconds.
```

The *<sys/select.h>* header shall define the **time_t** and **suseconds_t** types as described in *<sys/types.h>*.

The *<sys/select.h>* header shall define the **sigset_t** type as described in *<signal.h>*.

The *<sys/select.h>* header shall define the **timespec** structure as described in *<time.h>*.

The *<sys/select.h>* header shall define the **fd_set** type as a structure.

The *<sys/select.h>* header shall define the following symbolic constant, which shall have a value suitable for use in **#if** preprocessing directives:

FD_SETSIZE
        Maximum number of file descriptors in an **fd_set** structure.

The following shall be declared as functions, defined as macros, or both. If functions are declared, function prototypes shall be provided.

```
void FD_CLR(int, fd_set *);
int  FD_ISSET(int, fd_set *);
void FD_SET(int, fd_set *);
void FD_ZERO(fd_set *);
```

If implemented as macros, these may evaluate their arguments more than once, so applications should ensure that the arguments they supply are never expressions with side-effects.

The following shall be declared as functions and may also be defined as macros. Function prototypes shall be provided.

```
int  pselect(int, fd_set *restrict, fd_set *restrict, fd_set *restrict,
        const struct timespec *restrict, const sigset_t *restrict);
int  select(int, fd_set *restrict, fd_set *restrict, fd_set *restrict,
        struct timeval *restrict);
```

Inclusion of the *<sys/select.h>* header may make visible all symbols from the headers *<signal.h>* and *<time.h>*.

The following sections are informative.

APPLICATION USAGE

None.

RATIONALE

None.

FUTURE DIRECTIONS

None.

SEE ALSO

[<signal.h>](#), *[<sys/time.h>](#)*, *[<sys/types.h>](#)* , *[<time.h>](#)*

XSH *[pselect](#)*

CHANGE HISTORY

First released in Issue 6. Derived from IEEE Std 1003.1g-2000.

The requirement for the **fd_set** structure to have a member *fds_bits* has been removed as per The Open Group Base Resolution bwg2001-005.

Issue 7

SD5-XBD-ERN-6 is applied, reordering the DESCRIPTION.

This reference page is clarified with respect to macros and symbolic constants.

End of informative text.

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