

**NAME**

getprotoent, getprotobyname, getprotobynumber, setprotoent, endprotoent – get protocol entry

**LIBRARY**

Standard C library (*libc*, *-lc*)

**SYNOPSIS**

```
#include <netdb.h>

struct protoent *getprotoent(void);

struct protoent *getprotobyname(const char *name);
struct protoent *getprotobynumber(int proto);

void setprotoent(int stayopen);
void endprotoent(void);
```

**DESCRIPTION**

The **getprotoent()** function reads the next entry from the protocols database (see **protocols(5)**) and returns a *protoent* structure containing the broken-out fields from the entry. A connection is opened to the database if necessary.

The **getprotobyname()** function returns a *protoent* structure for the entry from the database that matches the protocol name *name*. A connection is opened to the database if necessary.

The **getprotobynumber()** function returns a *protoent* structure for the entry from the database that matches the protocol number *number*. A connection is opened to the database if necessary.

The **setprotoent()** function opens a connection to the database, and sets the next entry to the first entry. If *stayopen* is nonzero, then the connection to the database will not be closed between calls to one of the **getproto\***() functions.

The **endprotoent()** function closes the connection to the database.

The *protoent* structure is defined in *<netdb.h>* as follows:

```
struct protoent {
    char *p_name;           /* official protocol name */
    char **p_aliases;       /* alias list */
    int p_proto;            /* protocol number */
}
```

The members of the *protoent* structure are:

*p\_name*

The official name of the protocol.

*p\_aliases*

A NULL-terminated list of alternative names for the protocol.

*p\_proto*

The protocol number.

**RETURN VALUE**

The **getprotoent()**, **getprotobyname()**, and **getprotobynumber()** functions return a pointer to a statically allocated *protoent* structure, or a null pointer if an error occurs or the end of the file is reached.

**FILES**

*/etc/protocols*

protocol database file

**ATTRIBUTES**

For an explanation of the terms used in this section, see **attributes(7)**.

| Interface                               | Attribute     | Value   |
|---|---------------|---|
| <b>getprotoent()</b>                    | Thread safety | MT-Unsafe race:protoent race:protoentbuf locale |
| <b>getprotobyname()</b>                 | Thread safety | MT-Unsafe race:protobyname locale               |
| <b>getprotobynumber()</b>               | Thread safety | MT-Unsafe race:protobynumber locale             |
| <b>setprotoent(),<br/>endprotoent()</b> | Thread safety | MT-Unsafe race:protoent locale                  |

In the above table, *protoent* in *race:protoent* signifies that if any of the functions **setprotoent()**, **getprotoent()**, or **endprotoent()** are used in parallel in different threads of a program, then data races could occur.

## STANDARDS

POSIX.1-2001, POSIX.1-2008, 4.3BSD.

## SEE ALSO

**getnetent(3)**, **getprotoent\_r(3)**, **getservent(3)**, **protocols(5)**