NAME

connect - initiate a connection on a socket

LIBRARY

Standard C Library (libc, -lc)

SYNOPSIS

#include <sys/socket.h>

int
connect(*int s, const struct sockaddr *name, socklen_t namelen*);

DESCRIPTION

The *s* argument is a socket. If it is of type SOCK_DGRAM, this call specifies the peer with which the socket is to be associated; this address is that to which datagrams are to be sent, and the only address from which datagrams are to be received. If the socket is of type SOCK_STREAM, this call attempts to make a connection to another socket. The other socket is specified by *name*, which is an address in the communications space of the socket. *namelen* indicates the amount of space pointed to by *name*, in bytes; the *sa_len* member of *name* is ignored. Each communications space interprets the *name* argument in its own way. Generally, stream sockets may successfully **connect**() only once; datagram sockets may use **connect**() multiple times to change their association. Datagram sockets may dissolve the association by connecting to an invalid address, such as a null address.

RETURN VALUES

The **connect**() function returns the value 0 if successful; otherwise the value -1 is returned and the global variable *errno* is set to indicate the error.

ERRORS

The **connect**() system call fails if:

[EBADF] The *s* argument is not a valid descriptor.

[EINVAL] The *namelen* argument is not a valid length for the address family.

[ENOTSOCK] The *s* argument is a descriptor for a file, not a socket.

[EADDRNOTAVAIL] The specified address is not available on this machine.

[EAFNOSUPPORT] Addresses in the specified address family cannot be used with this socket.

[EISCONN] The socket is already connected.

[ETIMEDOUT] Connection establishment timed out without establishing a connection.

[ECONNREFUSED]
The attempt to connect was forcefully rejected.

[ECONNRESET] The connection was reset by the remote host.

[ENETUNREACH] The network is not reachable from this host.

[EHOSTUNREACH]
The remote host is not reachable from this host.

[EADDRINUSE] The address is already in use.

[EFAULT] The *name* argument specifies an area outside the process address space.

[EINPROGRESS] The socket is non-blocking and the connection cannot be completed immediately. It is possible to select(2) for completion by selecting the socket for writing.

[EINTR] The connection attempt was interrupted by the delivery of a signal. The connection will be established in the background, as in the case of EINPROGRESS.

[EALREADY] A previous connection attempt has not yet been completed.

[EACCES] An attempt is made to connect to a broadcast address (obtained through the INADDR_BROADCAST constant or the INADDR_NONE return value) through a socket that does not provide broadcast functionality.

[EAGAIN] An auto-assigned port number was requested but no auto-assigned ports are available. Increasing the port range specified by sysctl(3) MIB variables *net.inet.ip.portrange.first* and *net.inet.ip.portrange.last* may alleviate the problem.

The following errors are specific to connecting names in the UNIX domain. These errors may not apply in future versions of the UNIX IPC domain.

[ENOTDIR] A component of the path prefix is not a directory.

[ENAMETOOLONG]
A component of a pathname exceeded 255 characters, or an entire path name exceeded 1023 characters.

[ENOENT] The named socket does not exist.

[EACCES] Search permission is denied for a component of the path prefix.

[EACCES] Write access to the named socket is denied.

[ELOOP] Too many symbolic links were encountered in translating the pathname.

[EPERM] Write access to the named socket is denied.

SEE ALSO

accept(2), getpeername(2), getsockname(2), select(2), socket(2), sysctl(3), sysctl(8)

HISTORY

The **connect**() system call appeared in 4.2BSD.