NAME

SSL_connect - initiate the TLS/SSL handshake with an TLS/SSL server

SYNOPSIS

```
#include <openssl/ssl.h>

int SSL_connect(SSL *ssl);
```

DESCRIPTION

SSL_connect() initiates the TLS/SSL handshake with a server. The communication channel must already have been set and assigned to the **ssl** by setting an underlying **BIO**.

NOTES

The behaviour of *SSL_connect()* depends on the underlying BIO.

If the underlying BIO is **blocking**, *SSL_connect()* will only return once the handshake has been finished or an error occurred.

If the underlying BIO is **non-blocking**, *SSL_connect()* will also return when the underlying BIO could not satisfy the needs of *SSL_connect()* to continue the handshake, indicating the problem by the return value -1. In this case a call to *SSL_get_error()* with the return value of *SSL_connect()* will yield **SSL_ERROR_WANT_READ** or **SSL_ERROR_WANT_WRITE**. The calling process then must repeat the call after taking appropriate action to satisfy the needs of *SSL_connect()*. The action depends on the underlying BIO. When using a non-blocking socket, nothing is to be done, but *select()* can be used to check for the required condition. When using a buffering BIO, like a BIO pair, data must be written into or retrieved out of the BIO before being able to continue.

RETURN VALUES

The following return values can occur:

0   The TLS/SSL handshake was not successful but was shut down controlled and by the specifications of the TLS/SSL protocol. Call *SSL_get_error()* with the return value **ret** to find out the reason.

1   The TLS/SSL handshake was successfully completed, a TLS/SSL connection has been established.

<0   The TLS/SSL handshake was not successful, because a fatal error occurred either at the protocol level or a connection failure occurred. The shutdown was not clean. It can also occur of action is need to continue the operation for non-blocking BIOs. Call *SSL_get_error()* with the return value **ret** to find out the reason.

SEE ALSO

SSL_get_error(3), *SSL_accept(3)*, *SSL_shutdown(3)*, *ssl(3)*, *bio(3)*, *SSL_set_connect_state(3)*, *SSL_do_handshake(3)*, *SSL_CTX_new(3)*

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