

**NAME**

SSL\_set\_fd, SSL\_set\_rfd, SSL\_set\_wfd - connect the SSL object with a file descriptor

**SYNOPSIS**

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

```
int SSL_set_fd(SSL *ssl, int fd);  
int SSL_set_rfd(SSL *ssl, int fd);  
int SSL_set_wfd(SSL *ssl, int fd);
```

**DESCRIPTION**

**SSL\_set\_fd()** sets the file descriptor **fd** as the input/output facility for the TLS/SSL (encrypted) side of **ssl**. **fd** will typically be the socket file descriptor of a network connection.

When performing the operation, a **socket BIO** is automatically created to interface between the **ssl** and **fd**. The BIO and hence the SSL engine inherit the behaviour of **fd**. If **fd** is nonblocking, the **ssl** will also have nonblocking behaviour.

If there was already a BIO connected to **ssl**, **BIO\_free()** will be called (for both the reading and writing side, if different).

**SSL\_set\_rfd()** and **SSL\_set\_wfd()** perform the respective action, but only for the read channel or the write channel, which can be set independently.

**RETURN VALUES**

The following return values can occur:

- 0 The operation failed. Check the error stack to find out why.
- 1 The operation succeeded.

**NOTES**

On Windows, a socket handle is a 64-bit data type (UINT\_PTR), which leads to a compiler warning (conversion from 'SOCKET' to 'int', possible loss of data) when passing the socket handle to **SSL\_set\_\*fd()**. For the time being, this warning can safely be ignored, because although the Microsoft documentation claims that the upper limit is INVALID\_SOCKET-1 ( $2^{64} - 2$ ), in practice the current **socket()** implementation returns an index into the kernel handle table, the size of which is limited to  $2^{24}$ .

**SEE ALSO**

**SSL\_get\_fd(3), SSL\_set\_bio(3), SSL\_connect(3), SSL\_accept(3), SSL\_shutdown(3), ssl(7) , bio(7)**

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