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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'SSL_waiting_for_async.3ossl' command

\$ man SSL_waiting_for_async.3ossl

SSL_GET_ALL_ASYNC_FDS(3ossl) OpenSSL SSL_GET_ALL_ASYNC_FDS(3ossl)

NAME

SSL_waiting_for_async, SSL_get_all_async_fds, SSL_get_changed_async_fds

- manage asynchronous operations

SYNOPSIS

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

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

```
int SSL_waiting_for_async(SSL *s);
```

```
int SSL_get_all_async_fds(SSL *s, OSSL_ASYNC_FD *fd, size_t *numfds);
```

```
int SSL_get_changed_async_fds(SSL *s, OSSL_ASYNC_FD *addfd, size_t *numaddfds,  
                              OSSL_ASYNC_FD *delfd, size_t *numdelfds);
```

DESCRIPTION

SSL_waiting_for_async() determines whether an SSL connection is currently waiting for asynchronous operations to complete (see the SSL_MODE_ASYNC mode in SSL_CTX_set_mode(3)).

SSL_get_all_async_fds() returns a list of file descriptor which can be used in a call to select() or poll() to determine whether the current asynchronous operation has completed or not. A completed operation will result in data appearing as "read ready" on the file descriptor (no actual data should be read from the file descriptor). This function should only be called if the SSL object is currently waiting for asynchronous work to complete (i.e. SSL_ERROR_WANT_ASYNC has been received - see SSL_get_error(3)). Typically the list will only contain

one file descriptor. However, if multiple asynchronous capable engines are in use then more than one is possible. The number of file descriptors returned is stored in `*numfds` and the file descriptors themselves are in `*fds`. The `fds` parameter may be `NULL` in which case no file descriptors are returned but `*numfds` is still populated. It is the callers responsibility to ensure sufficient memory is allocated at `*fds` so typically this function is called twice (once with a `NULL` `fds` parameter and once without).

`SSL_get_changed_async_fds()` returns a list of the asynchronous file descriptors that have been added and a list that have been deleted since the last `SSL_ERROR_WANT_ASYNC` was received (or since the `SSL` object was created if no `SSL_ERROR_WANT_ASYNC` has been received). Similar to `SSL_get_all_async_fds()` it is the callers responsibility to ensure that `*addfd` and `*delfd` have sufficient memory allocated, although they may be `NULL`. The number of added `fds` and the number of deleted `fds` are stored in `*numaddfds` and `*numdelfds` respectively.

RETURN VALUES

`SSL_waiting_for_async()` will return 1 if the current `SSL` operation is waiting for an `async` operation to complete and 0 otherwise.

`SSL_get_all_async_fds()` and `SSL_get_changed_async_fds()` return 1 on success or 0 on error.

NOTES

On Windows platforms the `<openssl/async.h>` header is dependent on some of the types customarily made available by including `<windows.h>`. The application developer is likely to require control over when the latter is included, commonly as one of the first included headers. Therefore, it is defined as an application developer's responsibility to include `<windows.h>` prior to `<openssl/async.h>`.

SEE ALSO

`ssl(7)`, `SSL_get_error(3)`, `SSL_CTX_set_mode(3)`

HISTORY

The `SSL_waiting_for_async()`, `SSL_get_all_async_fds()` and `SSL_get_changed_async_fds()` functions were added in OpenSSL 1.1.0.

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