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Rocky Enterprise Linux 9.2 Manual Pages on command 'SSL_SESSION_up_ref.3ossl'

\$ man SSL_SESSION_up_ref.3ossl

SSL_SESSION_FREE(3ossl) OpenSSL SSL_SESSION_FREE(3ossl)

NAME

SSL_SESSION_new, SSL_SESSION_dup, SSL_SESSION_up_ref, SSL_SESSION_free

- create, free and manage SSL_SESSION structures

SYNOPSIS

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

SSL_SESSION *SSL_SESSION_new(void);

SSL_SESSION *SSL_SESSION_dup(const SSL_SESSION *src);

int SSL_SESSION_up_ref(SSL_SESSION *ses);

void SSL_SESSION_free(SSL_SESSION *session);
```

DESCRIPTION

SSL_SESSION_new() creates a new SSL_SESSION structure and returns a pointer to it.

SSL_SESSION_dup() copies the contents of the SSL_SESSION structure in src and returns a pointer to it.

SSL_SESSION_up_ref() increments the reference count on the given SSL_SESSION structure.

SSL_SESSION_free() decrements the reference count of session and

removes the `SSL_SESSION` structure pointed to by `session` and frees up the allocated memory, if the reference count has reached 0. If `session` is `NULL` nothing is done.

NOTES

`SSL_SESSION` objects are allocated, when a TLS/SSL handshake operation is successfully completed. Depending on the settings, see

`SSL_CTX_set_session_cache_mode(3)`, the `SSL_SESSION` objects are internally referenced by the `SSL_CTX` and linked into its session cache.

SSL objects may be using the `SSL_SESSION` object; as a session may be reused, several SSL objects may be using one `SSL_SESSION` object at the same time. It is therefore crucial to keep the reference count (usage information) correct and not delete a `SSL_SESSION` object that is still used, as this may lead to program failures due to dangling pointers.

These failures may also appear delayed, e.g. when an `SSL_SESSION` object was completely freed as the reference count incorrectly became 0, but it is still referenced in the internal session cache and the cache list is processed during a `SSL_CTX_flush_sessions(3)` operation.

`SSL_SESSION_free()` must only be called for `SSL_SESSION` objects, for which the reference count was explicitly incremented (e.g. by calling `SSL_get1_session()`, see `SSL_get_session(3)`) or when the `SSL_SESSION` object was generated outside a TLS handshake operation, e.g. by using `d2i_SSL_SESSION(3)`. It must not be called on other `SSL_SESSION` objects, as this would cause incorrect reference counts and therefore program failures.

RETURN VALUES

`SSL_SESSION_new` returns a pointer to the newly allocated `SSL_SESSION` structure or `NULL` on error.

`SSL_SESSION_up_ref` returns 1 on success or 0 on error.

SEE ALSO

`ssl(7)`, `SSL_get_session(3)`, `SSL_CTX_set_session_cache_mode(3)`,
`SSL_CTX_flush_sessions(3)`, `d2i_SSL_SESSION(3)`

HISTORY

The `SSL_SESSION_dup()` function was added in OpenSSL 1.1.1.

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