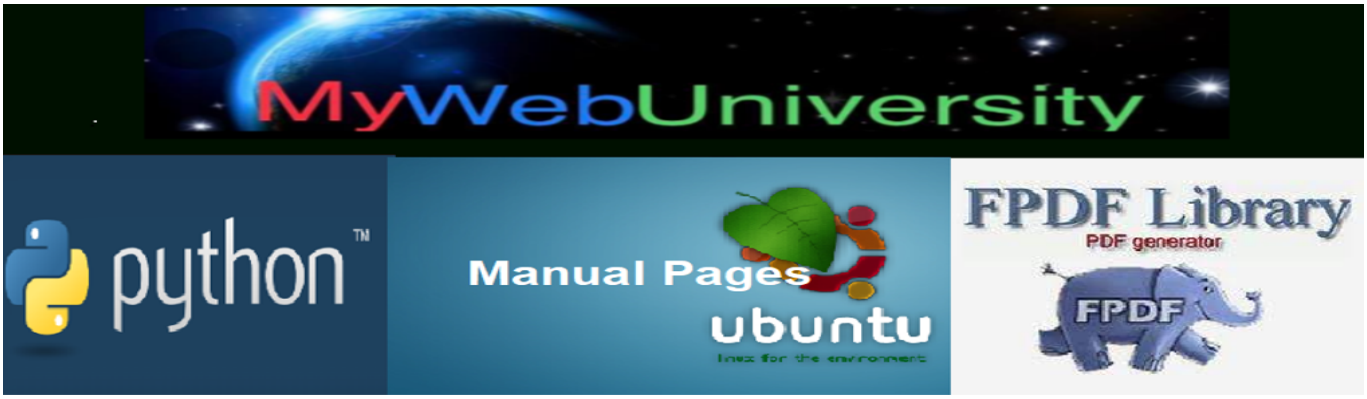

Rocky Enterprise Linux 9.2 Manual Pages on command 'bio.7ssl'

$ man bio.7ssl

BIO(7SSL) OpenSSL BIO(7SSL)

NAME

bio - Basic I/O abstraction

SYNOPSIS

#include <openssl/bio.h>

DESCRIPTION

A BIO is an I/O abstraction, it hides many of the underlying I/O details from an application. If an application uses a BIO for its I/O it can transparently handle SSL connections, unencrypted network connections and file I/O.

There are two types of BIO, a source/sink BIO and a filter BIO.

As its name implies a source/sink BIO is a source and/or sink of data, examples include a socket BIO and a file BIO.

A filter BIO takes data from one BIO and passes it through to another, or the application. The data may be left unmodified (for example a message digest BIO) or translated (for example an encryption BIO). The effect of a filter BIO may change according to the I/O operation it is performing: for example an encryption BIO will encrypt data if it is being written to and decrypt data if it is being read from.

BIOs can be joined together to form a chain (a single BIO is a chain with one component). A chain normally consists of one source/sink BIO and one or more filter BIOs. Data read from or written to the first BIO then traverses the chain to the end (normally a source/sink BIO).

Some BIOs (such as memory BIOs) can be used immediately after calling BIO_new(). Others (such as file BIOs) need some additional initialization, and frequently a utility function

exists to create and initialize such BIOs.

If BIO_free() is called on a BIO chain it will only free one BIO resulting in a memory leak.

Calling BIO_free_all() on a single BIO has the same effect as calling BIO_free() on it other than the discarded return value.

Normally the type argument is supplied by a function which returns a pointer to a BIO_METHOD. There is a naming convention for such functions: a source/sink BIO typically starts with BIO_s_ and a filter BIO with BIO_f_.

EXAMPLES

Create a memory BIO:

```
BIO *mem = BIO_new(BIO_s_mem());
```

SEE ALSO

BIO_ctrl(3), BIO_f_base64(3), BIO_f_buffer(3), BIO_f_cipher(3), BIO_f_md(3), BIO_f_null(3), BIO_f_ssl(3), BIO_f_readbuffer(3), BIO_find_type(3), BIO_new(3), BIO_new_bio_pair(3), BIO_push(3), BIO_read_ex(3), BIO_s_accept(3), BIO_s_bio(3), BIO_s_connect(3), BIO_s_fd(3), BIO_s_file(3), BIO_s_mem(3), BIO_s_null(3), BIO_s_socket(3), BIO_set_callback(3), BIO_should_retry(3)

COPYRIGHT