

**NAME**

OPENSSL\_hexchar2int, OPENSSL\_hexstr2buf\_ex, OPENSSL\_hexstr2buf, OPENSSL\_buf2hexstr\_ex, OPENSSL\_buf2hexstr - Hex encoding and decoding functions

**SYNOPSIS**

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

```
int OPENSSL_hexchar2int(unsigned char c);
int OPENSSL_hexstr2buf_ex(unsigned char *buf, size_t buf_n, long *buflen,
                          const char *str, const char sep);
unsigned char *OPENSSL_hexstr2buf(const char *str, long *len);
int OPENSSL_buf2hexstr_ex(char *str, size_t str_n, size_t *strlength,
                          const unsigned char *buf, long buflen,
                          const char sep);
char *OPENSSL_buf2hexstr(const unsigned char *buf, long buflen);
```

**DESCRIPTION**

**OPENSSL\_hexchar2int()** converts a hexadecimal character to its numeric equivalent.

**OPENSSL\_hexstr2buf\_ex()** decodes the hex string *str* and places the resulting string of bytes in the given *buf*. The character *sep* is the separator between the bytes, setting this to '\0' means that there is no separator. *buf\_n* gives the size of the buffer. If *buflen* is not NULL, it is filled in with the result length. To find out how large the result will be, call this function with NULL for *buf*. Colons between two-character hex "bytes" are accepted and ignored. An odd number of hex digits is an error.

**OPENSSL\_hexstr2buf()** does the same thing as **OPENSSL\_hexstr2buf\_ex()**, but allocates the space for the result, and returns the result. It uses a default separator of ':'. The memory is allocated by calling **OPENSSL\_malloc()** and should be released by calling **OPENSSL\_free()**.

**OPENSSL\_buf2hexstr\_ex()** encodes the contents of the given *buf* with length *buflen* and places the resulting hexadecimal character string in the given *str*. The character *sep* is the separator between the bytes, setting this to '\0' means that there is no separator. *str\_n* gives the size of the of the string buffer. If *strlength* is not NULL, it is filled in with the result length. To find out how large the result will be, call this function with NULL for *str*.

**OPENSSL\_buf2hexstr()** does the same thing as **OPENSSL\_buf2hexstr\_ex()**, but allocates the space for the result, and returns the result. It uses a default separator of ':'. The memory is allocated by calling **OPENSSL\_malloc()** and should be released by calling **OPENSSL\_free()**.

**RETURN VALUES**

OPENSSL\_hexchar2int returns the value of a decoded hex character, or -1 on error.

**OPENSSL\_buf2hexstr()** and **OPENSSL\_hexstr2buf()** return a pointer to allocated memory, or NULL on error.

**OPENSSL\_buf2hexstr\_ex()** and **OPENSSL\_hexstr2buf\_ex()** return 1 on success, or 0 on error.

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