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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'ASN1_TYPE_get.3ossl' command

$ man ASN1_TYPE_get.3ossl

ASN1_TYPE_GET(3ossl) OpenSSL ASN1_TYPE_GET(3ossl)

NAME

ASN1_TYPE_get, ASN1_TYPE_set, ASN1_TYPE_set1, ASN1_TYPE_cmp, ASN1_TYPE_unpack_sequence, ASN1_TYPE_pack_sequence - ASN1_TYPE utility functions

SYNOPSIS

```
#include <openssl/asn1.h>
int ASN1_TYPE_get(const ASN1_TYPE *a);
void ASN1_TYPE_set(ASN1_TYPE *a, int type, void *value);
int ASN1_TYPE_set1(ASN1_TYPE *a, int type, const void *value);
int ASN1_TYPE_cmp(const ASN1_TYPE *a, const ASN1_TYPE *b);
void *ASN1_TYPE_unpack_sequence(const ASN1_ITEM *it, const ASN1_TYPE *t);
ASN1_TYPE *ASN1_TYPE_pack_sequence(const ASN1_ITEM *it, void *s,
                                   ASN1_TYPE **t);
```

DESCRIPTION

These functions allow an ASN1_TYPE structure to be manipulated. The ASN1_TYPE structure can contain any ASN.1 type or constructed type such as a SEQUENCE: it is effectively equivalent to the ASN.1 ANY type.

ASN1_TYPE_get() returns the type of a or 0 if it fails.

ASN1_TYPE_set() sets the value of a to type and value. This function uses the pointer value internally so it must not be freed up after the call.

ASN1_TYPE_set1() sets the value of a to type a copy of value.

ASN1_TYPE_cmp() compares ASN.1 types a and b and returns 0 if they are identical and nonzero otherwise.

ASN1_TYPE_unpack_sequence() attempts to parse the SEQUENCE present in t using the ASN.1 structure it. If successful it returns a pointer to the ASN.1 structure corresponding to it which must be freed by the caller. If it fails it return NULL.

ASN1_TYPE_pack_sequence() attempts to encode the ASN.1 structure s corresponding to it into an ASN1_TYPE. If successful the encoded ASN1_TYPE is returned. If t and *t are not NULL the encoded type is written to t overwriting any existing data. If t is not NULL but *t is NULL the returned ASN1_TYPE is written to *t.

NOTES

The type and meaning of the value parameter for ASN1_TYPE_set() and ASN1_TYPE_set1() is determined by the type parameter. If type is V_ASN1_NULL value is ignored. If type is V_ASN1_BOOLEAN then the boolean is set to TRUE if value is not NULL. If type is V_ASN1_OBJECT then value is an ASN1_OBJECT structure. Otherwise type is and ASN1_STRING structure. If type corresponds to a primitive type (or a string type) then the contents of the ASN1_STRING contain the content octets of the type. If type corresponds to a constructed type or a tagged type (V_ASN1_SEQUENCE, V_ASN1_SET or V_ASN1_OTHER) then the ASN1_STRING contains the entire ASN.1 encoding verbatim (including tag and length octets).

ASN1_TYPE_cmp() may not return zero if two types are equivalent but have different encodings. For example the single content octet of the boolean TRUE value under BER can have any nonzero encoding but ASN1_TYPE_cmp() will only return zero if the values are the same.

If either or both of the parameters passed to ASN1_TYPE_cmp() is NULL the return value is nonzero. Technically if both parameters are NULL the two types could be absent OPTIONAL fields and so should match, however, passing NULL values could also indicate a programming error (for example an unparsable type which returns NULL) for types which do not match. So applications should handle the case of two absent values

separately.

RETURN VALUES

ASN1_TYPE_get() returns the type of the ASN1_TYPE argument.

ASN1_TYPE_set() does not return a value.

ASN1_TYPE_set1() returns 1 for success and 0 for failure.

ASN1_TYPE_cmp() returns 0 if the types are identical and nonzero otherwise.

ASN1_TYPE_unpack_sequence() returns a pointer to an ASN.1 structure or NULL on failure.

ASN1_TYPE_pack_sequence() return an ASN1_TYPE structure if it succeeds or NULL on failure.

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