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Rocky Enterprise Linux 9.2 Manual Pages on command 'ASN1_STRING_print_ex.3oss1'

\$ man ASN1_STRING_print_ex.3oss1

ASN1_STRING_PRINT_EX(3oss1) OpenSSL ASN1_STRING_PRINT_EX(3oss1)

NAME

ASN1_tag2str, ASN1_STRING_print_ex, ASN1_STRING_print_ex_fp,
ASN1_STRING_print - ASN1_STRING output routines

SYNOPSIS

```
#include <openssl/asn1.h>

int ASN1_STRING_print_ex(BIO *out, const ASN1_STRING *str, unsigned long flags);
int ASN1_STRING_print_ex_fp(FILE *fp, const ASN1_STRING *str, unsigned long flags);
int ASN1_STRING_print(BIO *out, const ASN1_STRING *str);
const char *ASN1_tag2str(int tag);
```

DESCRIPTION

These functions output an ASN1_STRING structure. ASN1_STRING is used to represent all the ASN1 string types.

ASN1_STRING_print_ex() outputs str to out, the format is determined by the options flags. ASN1_STRING_print_ex_fp() is identical except it outputs to fp instead.

ASN1_STRING_print() prints str to out but using a different format to ASN1_STRING_print_ex(). It replaces unprintable characters (other than

CR, LF) with '.'.

ASN1_tag2str() returns a human-readable name of the specified ASN.1

tag.

NOTES

ASN1_STRING_print() is a deprecated function which should be avoided;

use ASN1_STRING_print_ex() instead.

Although there are a large number of options frequently

ASN1_STRFLGS_RFC2253 is suitable, or on UTF8 terminals

ASN1_STRFLGS_RFC2253 & ~ASN1_STRFLGS_ESC_MSB.

The complete set of supported options for flags is listed below.

Various characters can be escaped. If ASN1_STRFLGS_ESC_2253 is set the

characters determined by RFC2253 are escaped. If ASN1_STRFLGS_ESC_CTRL

is set control characters are escaped. If ASN1_STRFLGS_ESC_MSB is set

characters with the MSB set are escaped: this option should not be used

if the terminal correctly interprets UTF8 sequences.

Escaping takes several forms.

If the character being escaped is a 16 bit character then the form

"UXXXX" is used using exactly four characters for the hex

representation. If it is 32 bits then "WXXXXXXXX" is used using eight

characters of its hex representation. These forms will only be used if

UTF8 conversion is not set (see below).

Printable characters are normally escaped using the backslash '\'

character. If ASN1_STRFLGS_ESC_QUOTE is set then the whole string is

instead surrounded by double quote characters: this is arguably more

readable than the backslash notation. Other characters use the "XX"

using exactly two characters of the hex representation.

If ASN1_STRFLGS_UTF8_CONVERT is set then characters are converted to

UTF8 format first. If the terminal supports the display of UTF8

sequences then this option will correctly display multi byte

characters.

If ASN1_STRFLGS_IGNORE_TYPE is set then the string type is not

interpreted at all: everything is assumed to be one byte per character.

This is primarily for debugging purposes and can result in confusing

output in multi character strings.

If `ASN1_STRFLGS_SHOW_TYPE` is set then the string type itself is printed out before its value (for example "BMPSTRING"), this actually uses `ASN1_tag2str()`.

The content of a string instead of being interpreted can be "dumped": this just outputs the value of the string using the form #XXXX using hex format for each octet.

If `ASN1_STRFLGS_DUMP_ALL` is set then any type is dumped.

Normally non character string types (such as OCTET STRING) are assumed to be one byte per character, if `ASN1_STRFLGS_DUMP_UNKNOWN` is set then they will be dumped instead.

When a type is dumped normally just the content octets are printed, if `ASN1_STRFLGS_DUMP_DER` is set then the complete encoding is dumped instead (including tag and length octets).

`ASN1_STRFLGS_RFC2253` includes all the flags required by RFC2253. It is equivalent to:

```
ASN1_STRFLGS_ESC_2253 | ASN1_STRFLGS_ESC_CTRL | ASN1_STRFLGS_ESC_MSB |  
ASN1_STRFLGS_UTF8_CONVERT | ASN1_STRFLGS_DUMP_UNKNOWN  
ASN1_STRFLGS_DUMP_DER
```

RETURN VALUES

`ASN1_STRING_print_ex()` and `ASN1_STRING_print_ex_fp()` return the number of characters written or -1 if an error occurred.

`ASN1_STRING_print()` returns 1 on success or 0 on error.

`ASN1_tag2str()` returns a human-readable name of the specified ASN.1 tag.

SEE ALSO

`X509_NAME_print_ex(3)`, `ASN1_tag2str(3)`

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