



## **Red Hat Enterprise Linux Release 9.2 Manual Pages on 'ASN1\_STRING\_length.3oss1' command**

**\$ man ASN1\_STRING\_length.3oss1**

ASN1\_STRING\_LENGTH(3oss1)      OpenSSL      ASN1\_STRING\_LENGTH(3oss1)

### NAME

ASN1\_STRING\_dup, ASN1\_STRING\_cmp, ASN1\_STRING\_set, ASN1\_STRING\_length,  
ASN1\_STRING\_type, ASN1\_STRING\_get0\_data, ASN1\_STRING\_data,  
ASN1\_STRING\_to\_UTF8 - ASN1\_STRING utility functions

### SYNOPSIS

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

int ASN1_STRING_length(ASN1_STRING *x);

const unsigned char *ASN1_STRING_get0_data(const ASN1_STRING *x);

unsigned char *ASN1_STRING_data(ASN1_STRING *x);

ASN1_STRING *ASN1_STRING_dup(const ASN1_STRING *a);

int ASN1_STRING_cmp(ASN1_STRING *a, ASN1_STRING *b);

int ASN1_STRING_set(ASN1_STRING *str, const void *data, int len);

int ASN1_STRING_type(const ASN1_STRING *x);

int ASN1_STRING_to_UTF8(unsigned char **out, const ASN1_STRING *in);
```

### DESCRIPTION

These functions allow an ASN1\_STRING structure to be manipulated.

ASN1\_STRING\_length() returns the length of the content of x.

ASN1\_STRING\_get0\_data() returns an internal pointer to the data of x.

Since this is an internal pointer it should not be freed or modified in any way.

ASN1\_STRING\_data() is similar to ASN1\_STRING\_get0\_data() except the returned value is not constant. This function is deprecated:

applications should use `ASN1_STRING_get0_data()` instead.

`ASN1_STRING_dup()` returns a copy of the structure `a`.

`ASN1_STRING_cmp()` compares `a` and `b` returning 0 if the two are identical. The string types and content are compared.

`ASN1_STRING_set()` sets the data of string `str` to the buffer data of length `len`. The supplied data is copied. If `len` is -1 then the length is determined by `strlen(data)`.

`ASN1_STRING_type()` returns the type of `x`, using standard constants such as `V_ASN1_OCTET_STRING`.

`ASN1_STRING_to_UTF8()` converts the string `in` to UTF8 format, the converted data is allocated in a buffer in `*out`. The length of `out` is returned or a negative error code. The buffer `*out` should be freed using `OPENSSL_free()`.

## NOTES

Almost all ASN1 types in OpenSSL are represented as an `ASN1_STRING` structure. Other types such as `ASN1_OCTET_STRING` are simply typedef'ed to `ASN1_STRING` and the functions call the `ASN1_STRING` equivalents.

`ASN1_STRING` is also used for some CHOICE types which consist entirely of primitive string types such as `DirectoryString` and `Time`.

These functions should not be used to examine or modify `ASN1_INTEGER` or `ASN1_ENUMERATED` types: the relevant `INTEGER` or `ENUMERATED` utility functions should be used instead.

In general it cannot be assumed that the data returned by `ASN1_STRING_data()` is null terminated or does not contain embedded nulls. The actual format of the data will depend on the actual string type itself: for example for an `IA5String` the data will be ASCII, for a `BMPString` two bytes per character in big endian format, and for a `UTF8String` it will be in UTF8 format.

Similar care should be taken to ensure the data is in the correct format when calling `ASN1_STRING_set()`.

## RETURN VALUES

`ASN1_STRING_length()` returns the length of the content of `x`.

`ASN1_STRING_get0_data()` and `ASN1_STRING_data()` return an internal

pointer to the data of x.

ASN1\_STRING\_dup() returns a valid ASN1\_STRING structure or NULL if an error occurred.

ASN1\_STRING\_cmp() returns an integer greater than, equal to, or less than 0, according to whether a is greater than, equal to, or less than b.

ASN1\_STRING\_set() returns 1 on success or 0 on error.

ASN1\_STRING\_type() returns the type of x.

ASN1\_STRING\_to\_UTF8() returns the number of bytes in output string out or a negative value if an error occurred.

#### SEE ALSO

ERR\_get\_error(3)

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