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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'SRP_create_verifier_BN.3oss1' command

\$ man SRP_create_verifier_BN.3oss1

SRP_CREATE_VERIFIER(3oss1) OpenSSL SRP_CREATE_VERIFIER(3oss1)

NAME

SRP_create_verifier_ex, SRP_create_verifier, SRP_create_verifier_BN_ex,
SRP_create_verifier_BN, SRP_check_known_gN_param, SRP_get_default_gN -
SRP authentication primitives

SYNOPSIS

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

The following functions have been deprecated since OpenSSL 3.0, and can be hidden entirely by defining OPENSSL_API_COMPAT with a suitable version value, see openssl_user_macros(7):

```
int SRP_create_verifier_BN_ex(const char *user, const char *pass, BIGNUM **salt,  
                             BIGNUM **verifier, const BIGNUM *N,  
                             const BIGNUM *g, OSSL_LIB_CTX *libctx,  
                             const char *propq);  
  
char *SRP_create_verifier_BN(const char *user, const char *pass, BIGNUM **salt,  
                             BIGNUM **verifier, const BIGNUM *N, const BIGNUM *g);  
  
char *SRP_create_verifier_ex(const char *user, const char *pass, char **salt,  
                             char **verifier, const char *N, const char *g,  
                             OSSL_LIB_CTX *libctx, const char *propq);
```

```
char *SRP_create_verifier(const char *user, const char *pass, char **salt,  
                          char **verifier, const char *N, const char *g);
```

```
char *SRP_check_known_gN_param(const BIGNUM *g, const BIGNUM *N);  
SRP_gN *SRP_get_default_gN(const char *id);
```

DESCRIPTION

All of the functions described on this page are deprecated. There are no available replacement functions at this time.

The `SRP_create_verifier_BN_ex()` function creates an SRP password verifier from the supplied parameters as defined in section 2.4 of RFC 5054 using the library context `libctx` and property query string `propq`. Any cryptographic algorithms that need to be fetched will use the `libctx` and `propq`. See "ALGORITHM FETCHING" in `crypto(7)`.

`SRP_create_verifier_BN()` is the same as `SRP_create_verifier_BN_ex()` except the default library context and property query string is used.

On successful exit `*verifier` will point to a newly allocated BIGNUM containing the verifier and (if a salt was not provided) `*salt` will be populated with a newly allocated BIGNUM containing a random salt. If `*salt` is not NULL then the provided salt is used instead. The caller is responsible for freeing the allocated `*salt` and `*verifier` BIGNUMS (use `BN_free(3)`).

The `SRP_create_verifier()` function is similar to `SRP_create_verifier_BN()` but all numeric parameters are in a non-standard base64 encoding originally designed for compatibility with `libsrp`. This is mainly present for historical compatibility and its use is discouraged. It is possible to pass NULL as `N` and an SRP group id as `g` instead to load the appropriate `gN` values (see `SRP_get_default_gN()`). If both `N` and `g` are NULL the 8192-bit SRP group

parameters are used. The caller is responsible for freeing the allocated `*salt` and `*verifier` (use `OPENSSL_free(3)`).

The `SRP_check_known_gN_param()` function checks that `g` and `N` are valid SRP group parameters from RFC 5054 appendix A.

The `SRP_get_default_gN()` function returns the `gN` parameters for the RFC 5054 id SRP group size. The known ids are "1024", "1536", "2048", "3072", "4096", "6144" and "8192".

RETURN VALUES

`SRP_create_verifier_BN_ex()` and `SRP_create_verifier_BN()` return 1 on success and 0 on failure.

`SRP_create_verifier_ex()` and `SRP_create_verifier()` return NULL on failure and a non-NULL value on success: "*" if `N` is not NULL, the selected group id otherwise. This value should not be freed.

`SRP_check_known_gN_param()` returns the text representation of the group id (i.e. the prime bit size) or NULL if the arguments are not valid SRP group parameters. This value should not be freed.

`SRP_get_default_gN()` returns NULL if `id` is not a valid group size, or the 8192-bit group parameters if `id` is NULL.

EXAMPLES

Generate and store a 8192 bit password verifier (error handling omitted for clarity):

```
#include <openssl/bn.h>
#include <openssl/srp.h>
```

```
const char *username = "username";
```

```
const char *password = "password";

SRP_VBASE *srpData = SRP_VBASE_new(NULL);

SRP_gN *gN = SRP_get_default_gN("8192");

BIGNUM *salt = NULL, *verifier = NULL;
SRP_create_verifier_BN_ex(username, password, &salt, &verifier, gN->N, gN->g,
    NULL, NULL);

SRP_user_pwd *pwd = SRP_user_pwd_new();
SRP_user_pwd_set1_ids(pwd, username, NULL);
SRP_user_pwd_set0_sv(pwd, salt, verifier);
SRP_user_pwd_set_gN(pwd, gN->g, gN->N);

SRP_VBASE_add0_user(srpData, pwd);
```

SEE ALSO

openssl-srp(1), SRP_VBASE_new(3), SRP_user_pwd_new(3)

HISTORY

SRP_create_verifier_BN_ex() and SRP_create_verifier_ex() were introduced in OpenSSL 3.0. All other functions were added in OpenSSL 1.0.1.

All of these functions were deprecated in OpenSSL 3.0.

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