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Rocky Enterprise Linux 9.2 Manual Pages on command 'EVP_PBE_find.3ossl'

\$ man EVP_PBE_find.3ossl

EVP_PBE_CIPHERINIT(3ossl) OpenSSL EVP_PBE_CIPHERINIT(3ossl)

NAME

EVP_PBE_CipherInit, EVP_PBE_CipherInit_ex, EVP_PBE_find,
EVP_PBE_find_ex, EVP_PBE_alg_add_type, EVP_PBE_alg_add - Password based
encryption routines

SYNOPSIS

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

```
int EVP_PBE_CipherInit(ASN1_OBJECT *pbe_obj, const char *pass, int passlen,  
ASN1_TYPE *param, EVP_CIPHER_CTX *ctx, int en_de);
```

```
int EVP_PBE_CipherInit_ex(ASN1_OBJECT *pbe_obj, const char *pass, int passlen,  
ASN1_TYPE *param, EVP_CIPHER_CTX *ctx, int en_de,  
OSSL_LIB_CTX *libctx, const char *propq);
```

```
int EVP_PBE_find(int type, int pbe_nid, int *pcnid, int *pmnid,  
EVP_PBE_KEYGEN **pkeygen);
```

```
int EVP_PBE_find_ex(int type, int pbe_nid, int *pcnid, int *pmnid,  
    EVP_PBE_KEYGEN **pkeygen, EVP_PBE_KEYGEN_EX **keygen_ex);
```

```
int EVP_PBE_alg_add_type(int pbe_type, int pbe_nid, int cipher_nid,  
    int md_nid, EVP_PBE_KEYGEN *keygen);
```

```
int EVP_PBE_alg_add(int nid, const EVP_CIPHER *cipher, const EVP_MD *md,  
    EVP_PBE_KEYGEN *keygen);
```

DESCRIPTION

PBE operations

`EVP_PBE_CipherInit()` and `EVP_PBE_CipherInit_ex()` initialise an `EVP_CIPHER_CTX` ctx for encryption (`en_de=1`) or decryption (`en_de=0`) using the password `pass` of length `passlen`. The PBE algorithm type and parameters are extracted from an OID `pbe_obj` and parameters `param`.

`EVP_PBE_CipherInit_ex()` also allows the application to specify a library context `libctx` and property query `propq` to select appropriate algorithm implementations.

PBE algorithm search

`EVP_PBE_find()` and `EVP_PBE_find_ex()` search for a matching algorithm using two parameters:

1. An algorithm type `type` which can be:

? `EVP_PBE_TYPE_OUTER` - A PBE algorithm

? `EVP_PBE_TYPE_PRF` - A pseudo-random function

? `EVP_PBE_TYPE_KDF` - A key derivation function

2. A `pbe_nid` which can represent the algorithm identifier with

parameters e.g. `NID_pbeWithSHA1AndRC2_CBC` or an algorithm class e.g.

NID_pbes2.

They return the algorithm's cipher ID pcnid, digest ID pmnid and a key generation function for the algorithm pkeygen. EVP_PBE_CipherInit_ex() also returns an extended key generation function keygen_ex which takes a library context and property query.

If a NULL is supplied for any of pcnid, pmnid, pkeygen or pkeygen_ex then this parameter is not returned.

PBE algorithm add

EVP_PBE_alg_add_type() and EVP_PBE_alg_add() add an algorithm to the list of known algorithms. Their parameters have the same meaning as for EVP_PBE_find() and EVP_PBE_find_ex() functions.

NOTES

The arguments pbe_obj and param to EVP_PBE_CipherInit() and EVP_PBE_CipherInit_ex() together form an X509_ALGOR and can often be extracted directly from this structure.

RETURN VALUES

Return value is 1 for success and 0 if an error occurred.

SEE ALSO

PKCS5_PBE_keyivgen(3), PKCS12_PBE_keyivgen_ex(3),
PKCS5_v2_PBE_keyivgen_ex(3), PKCS12_pbe_crypt_ex(3),
PKCS12_create_ex(3)

HISTORY

EVP_PBE_CipherInit_ex() and EVP_PBE_find_ex() were added in OpenSSL 3.0.

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