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## **Red Hat Enterprise Linux Release 9.2 Manual Pages on 'EVP\_PBE\_CipherInit.3oss1' command**

**\$ man EVP\_PBE\_CipherInit.3oss1**

EVP\_PBE\_CIPHERINIT(3oss1)      OpenSSL      EVP\_PBE\_CIPHERINIT(3oss1)

### 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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3.0.7                    2023-07-13      EVP\_PBE\_CIPHERINIT(3openssl)