NAME

EVP_PKEY_CTX_set_params, EVP_PKEY_CTX_settable_params, EVP_PKEY_CTX_get_params, EVP_PKEY_CTX_gettable_params - provider parameter passing operations

SYNOPSIS

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

int EVP_PKEY_CTX_set_params(EVP_PKEY_CTX *ctx, const OSSL_PARAM *params);
const OSSL_PARAM *EVP_PKEY_CTX_settable_params(const EVP_PKEY_CTX *ctx);
int EVP_PKEY_CTX_get_params(EVP_PKEY_CTX *ctx, OSSL_PARAM *params);
const OSSL_PARAM *EVP_PKEY_CTX_gettable_params(const EVP_PKEY_CTX *ctx);
```

DESCRIPTION

The **EVP_PKEY_CTX_get_params()** and **EVP_PKEY_CTX_set_params()** functions allow transfer of arbitrary key parameters to and from providers. Not all parameters may be supported by all providers. See **OSSL_PROVIDER**(3) for more information on providers. See **OSSL_PARAM**(3) for more information on parameters. These functions must only be called after the EVP_PKEY_CTX has been initialised for use in an operation. These methods replace the **EVP_PKEY_CTX_ctrl()** mechanism. (EVP_PKEY_CTX_ctrl now calls these methods internally to interact with providers).

EVP_PKEY_CTX_gettable_params() and **EVP_PKEY_CTX_settable_params()** get a constant **OSSL_PARAM**(3) array that describes the gettable and settable parameters for the current algorithm implementation, i.e. parameters that can be used with **EVP_PKEY_CTX_get_params()** and **EVP_PKEY_CTX_set_params()** respectively. These functions must only be called after the EVP_PKEY_CTX has been initialised for use in an operation.

Parameters

Examples of EVP_PKEY parameters include the following:

"Common parameters" in **provider-keymgmt**(7) "Key Exchange parameters" in **provider-keyexch**(7) "Signature parameters" in **provider-signature**(7)

"Common RSA parameters" in **EVP_PKEY-RSA**(7) "RSA key generation parameters" in **EVP_PKEY-RSA**(7) "FFC parameters" in **EVP_PKEY-FFC**(7) "FFC key generation parameters" in **EVP_PKEY-FFC**(7) "DSA parameters" in **EVP_PKEY-DSA**(7) "DSA key generation parameters" in **EVP_PKEY-DSA**(7) "DH parameters" in **EVP_PKEY-DH**(7) "DH key generation parameters" in **EVP_PKEY-DH**(7) "Common EC parameters" in **EVP_PKEY-EC**(7) "Common X25519, X448, ED25519 and ED448 parameters" in **EVP_PKEY-X25519**(7)

RETURN VALUES

EVP_PKEY_CTX_set_params() returns 1 for success or 0 otherwise.
EVP_PKEY_CTX_settable_params() returns an OSSL_PARAM array on success or NULL on error. It may also return NULL if there are no settable parameters available.

All other functions and macros described on this page return a positive value for success and 0 or a negative value for failure. In particular a return value of -2 indicates the operation is not supported by the public key algorithm.

SEE ALSO

EVP_PKEY_CTX_new(3), **EVP_PKEY_encrypt**(3), **EVP_PKEY_decrypt**(3), **EVP_PKEY_sign**(3), **EVP_PKEY_verify**(3), **EVP_PKEY_verify_recover**(3), **EVP_PKEY_derive**(3), **EVP_PKEY_keygen**(3)

HISTORY

All functions were added in OpenSSL 3.0.

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