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## **Red Hat Enterprise Linux Release 9.2 Manual Pages on 'EVP\_PKEY\_CTX\_gettable\_params.3ossl' command**

**`$ man EVP_PKEY_CTX_gettable_params.3ossl`**

`EVP_PKEY_CTX_SET_PARAMS(3ossl)`    `OpenSSL`    `EVP_PKEY_CTX_SET_PARAMS(3ossl)`

### 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` 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. See `OSSL_PARAM(3)` for the use of `OSSL_PARAM` as parameter descriptor. 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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