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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'EVP_KEYMGMT_free.3ossl' command

$ man EVP_KEYMGMT_free.3ossl

EVP_KEYMGMT(3ossl) OpenSSL EVP_KEYMGMT(3ossl)

NAME

EVP_KEYMGMT, EVP_KEYMGMT_fetch, EVP_KEYMGMT_up_ref, EVP_KEYMGMT_free, EVP_KEYMGMT_get0_provider, EVP_KEYMGMT_is_a, EVP_KEYMGMT_get0_description, EVP_KEYMGMT_get0_name, EVP_KEYMGMT_do_all_provided, EVP_KEYMGMT_names_do_all, EVP_KEYMGMT_gettable_params, EVP_KEYMGMT_settable_params, EVP_KEYMGMT_gen_settable_params - EVP key management routines

SYNOPSIS

```
#include <openssl/evp.h>
typedef struct evp_keymgmt_st EVP_KEYMGMT;
EVP_KEYMGMT *EVP_KEYMGMT_fetch(OSSL_LIB_CTX *ctx, const char *algorithm,
                               const char *properties);
int EVP_KEYMGMT_up_ref(EVP_KEYMGMT *keymgmt);
void EVP_KEYMGMT_free(EVP_KEYMGMT *keymgmt);
const OSSL_PROVIDER *EVP_KEYMGMT_get0_provider(const EVP_KEYMGMT *keymgmt);
int EVP_KEYMGMT_is_a(const EVP_KEYMGMT *keymgmt, const char *name);
const char *EVP_KEYMGMT_get0_name(const EVP_KEYMGMT *keymgmt);
const char *EVP_KEYMGMT_get0_description(const EVP_KEYMGMT *keymgmt);
void EVP_KEYMGMT_do_all_provided(OSSL_LIB_CTX *libctx,
                                 void (*fn)(EVP_KEYMGMT *keymgmt, void *arg),
                                 void *arg);
int EVP_KEYMGMT_names_do_all(const EVP_KEYMGMT *keymgmt,
```

```
                    void (*fn)(const char *name, void *data),
                    void *data);
    const OSSL_PARAM *EVP_KEYMGMT_gettable_params(const EVP_KEYMGMT *keymgmt);
    const OSSL_PARAM *EVP_KEYMGMT_settable_params(const EVP_KEYMGMT *keymgmt);
    const OSSL_PARAM *EVP_KEYMGMT_gen_settable_params(const EVP_KEYMGMT *keymgmt);
```

DESCRIPTION

EVP_KEYMGMT is a method object that represents key management implementations for different cryptographic algorithms. This method object provides functionality to have providers import key material from the outside, as well as export key material to the outside. Most of the functionality can only be used internally and has no public interface, this object is simply passed into other functions when needed.

EVP_KEYMGMT_fetch() looks for an algorithm within the provider that has been loaded into the OSSL_LIB_CTX given by ctx, having the name given by algorithm and the properties given by properties.

EVP_KEYMGMT_up_ref() increments the reference count for the given EVP_KEYMGMT keymgmt.

EVP_KEYMGMT_free() decrements the reference count for the given EVP_KEYMGMT keymgmt, and when the count reaches zero, frees it.

EVP_KEYMGMT_get0_provider() returns the provider that has this particular implementation.

EVP_KEYMGMT_is_a() checks if keymgmt is an implementation of an algorithm that's identifiable with name.

EVP_KEYMGMT_get0_name() returns the algorithm name from the provided implementation for the given keymgmt. Note that the keymgmt may have multiple synonyms associated with it. In this case the first name from the algorithm definition is returned. Ownership of the returned string is retained by the keymgmt object and should not be freed by the caller.

EVP_KEYMGMT_names_do_all() traverses all names for the keymgmt, and calls fn with each name and data.

EVP_KEYMGMT_get0_description() returns a description of the keymgmt,

meant for display and human consumption. The description is at the discretion of the keymgmt implementation.

EVP_KEYMGMT_do_all_provided() traverses all key keymgmt implementations by all activated providers in the library context libctx, and for each of the implementations, calls fn with the implementation method and data as arguments.

EVP_KEYMGMT_gettable_params() and EVP_KEYMGMT_settable_params() return a constant OSSL_PARAM array that describes the names and types of key parameters that can be retrieved or set. EVP_KEYMGMT_gettable_params() is used by EVP_PKEY_gettable_params(3). See OSSL_PARAM(3) for the use of OSSL_PARAM as a parameter descriptor.

EVP_KEYMGMT_gen_settable_params() returns a constant OSSL_PARAM array that describes the names and types of key generation parameters that can be set via EVP_PKEY_CTX_set_params(3).

NOTES

EVP_KEYMGMT_fetch() may be called implicitly by other fetching functions, using the same library context and properties. Any other API that uses keys will typically do this.

RETURN VALUES

EVP_KEYMGMT_fetch() returns a pointer to the key management implementation represented by an EVP_KEYMGMT object, or NULL on error.

EVP_KEYMGMT_up_ref() returns 1 on success, or 0 on error.

EVP_KEYMGMT_names_do_all() returns 1 if the callback was called for all names. A return value of 0 means that the callback was not called for any names.

EVP_KEYMGMT_free() doesn't return any value.

EVP_KEYMGMT_get0_provider() returns a pointer to a provider object, or NULL on error.

EVP_KEYMGMT_is_a() returns 1 of keymgmt was identifiable, otherwise 0.

EVP_KEYMGMT_get0_name() returns the algorithm name, or NULL on error.

EVP_KEYMGMT_get0_description() returns a pointer to a decription, or NULL if there isn't one.

EVP_KEYMGMT_gettable_params(), EVP_KEYMGMT_settable_params() and

EVP_KEYMGMT_gen_settable_params() return a constant OSSL_PARAM array or NULL on error.

SEE ALSO

EVP_MD_fetch(3), OSSL_LIB_CTX(3)

HISTORY

The functions described here were added in OpenSSL 3.0.

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