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

\$ man RSAPublicKey_dup.3ossl

X509_DUP(3ossl) OpenSSL X509_DUP(3ossl)

NAME

DECLARE_ASN1_FUNCTIONS, IMPLEMENT_ASN1_FUNCTIONS, ASN1_ITEM,
ACCESS_DESCRIPTION_free, ACCESS_DESCRIPTION_new, ADMISSIONS_free,
ADMISSIONS_new, ADMISSION_SYNTAX_free, ADMISSION_SYNTAX_new,
ASIdOrRange_free, ASIdOrRange_new, ASIdentifierChoice_free,
ASIdentifierChoice_new, ASIdentifiers_free, ASIdentifiers_new,
ASRange_free, ASRange_new, AUTHORITY_INFO_ACCESS_free,
AUTHORITY_INFO_ACCESS_new, AUTHORITY_KEYID_free, AUTHORITY_KEYID_new,
BASIC_CONSTRAINTS_free, BASIC_CONSTRAINTS_new,
CERTIFICATEPOLICIES_free, CERTIFICATEPOLICIES_new,
CMS_ContentInfo_free, CMS_ContentInfo_new, CMS_ContentInfo_new_ex,
CMS_ContentInfo_print_ctx, CMS_ReceiptRequest_free,
CMS_ReceiptRequest_new, CRL_DIST_POINTS_free, CRL_DIST_POINTS_new,
DIRECTORYSTRING_free, DIRECTORYSTRING_new, DISPLAYTEXT_free,
DISPLAYTEXT_new, DIST_POINT_NAME_free, DIST_POINT_NAME_new,
DIST_POINT_free, DIST_POINT_new, DSAParams_dup, ECPARAMETERS_free,

ECPARAMETERS_new, ECPKPARAMETERS_free, ECPKPARAMETERS_new,
EDIPARTYNAME_free, EDIPARTYNAME_new, ESS_CERT_ID_dup, ESS_CERT_ID_free,
ESS_CERT_ID_new, ESS_CERT_ID_V2_dup, ESS_CERT_ID_V2_free,
ESS_CERT_ID_V2_new, ESS_ISSUER_SERIAL_dup, ESS_ISSUER_SERIAL_free,
ESS_ISSUER_SERIAL_new, ESS_SIGNING_CERT_dup, ESS_SIGNING_CERT_free,
ESS_SIGNING_CERT_it, ESS_SIGNING_CERT_new, ESS_SIGNING_CERT_V2_dup,
ESS_SIGNING_CERT_V2_free, ESS_SIGNING_CERT_V2_it,
ESS_SIGNING_CERT_V2_new, EXTENDED_KEY_USAGE_free,
EXTENDED_KEY_USAGE_new, GENERAL_NAMES_free, GENERAL_NAMES_new,
GENERAL_NAME_dup, GENERAL_NAME_free, GENERAL_NAME_new,
GENERAL_SUBTREE_free, GENERAL_SUBTREE_new, IPAddressChoice_free,
IPAddressChoice_new, IPAddressFamily_free, IPAddressFamily_new,
IPAddressOrRange_free, IPAddressOrRange_new, IPAddressRange_free,
IPAddressRange_new, ISSUER_SIGN_TOOL_free, ISSUER_SIGN_TOOL_it,
ISSUER_SIGN_TOOL_new, ISSUING_DIST_POINT_free, ISSUING_DIST_POINT_it,
ISSUING_DIST_POINT_new, NAME_CONSTRAINTS_free, NAME_CONSTRAINTS_new,
NAMING_AUTHORITY_free, NAMING_AUTHORITY_new,
NETSCAPE_CERT_SEQUENCE_free, NETSCAPE_CERT_SEQUENCE_new,
NETSCAPE_SPKAC_free, NETSCAPE_SPKAC_new, NETSCAPE_SPKI_free,
NETSCAPE_SPKI_new, NOTICEREF_free, NOTICEREF_new, OCSP_BASICRESP_free,
OCSP_BASICRESP_new, OCSP_CERTID_dup, OCSP_CERTID_new,
OCSP_CERTSTATUS_free, OCSP_CERTSTATUS_new, OCSP_CRLID_free,
OCSP_CRLID_new, OCSP_ONEREQ_free, OCSP_ONEREQ_new, OCSP_REQINFO_free,
OCSP_REQINFO_new, OCSP_RESPBYTES_free, OCSP_RESPBYTES_new,
OCSP_RESPDATA_free, OCSP_RESPDATA_new, OCSP_RESPID_free,
OCSP_RESPID_new, OCSP_RESPONSE_new, OCSP_REVOKEDINFO_free,
OCSP_REVOKEDINFO_new, OCSP_SERVICELOC_free, OCSP_SERVICELOC_new,
OCSP_SIGNATURE_free, OCSP_SIGNATURE_new, OCSP_SINGLERESP_free,
OCSP_SINGLERESP_new, OSSL_CMP_ITAV_dup, OSSL_CMP_ITAV_free,
OSSL_CMP_MSG_dup, OSSL_CMP_MSG_it, OSSL_CMP_MSG_free,
OSSL_CMP_PKIHEADER_free, OSSL_CMP_PKIHEADER_it, OSSL_CMP_PKIHEADER_new,
OSSL_CMP_PKISI_dup, OSSL_CMP_PKISI_free, OSSL_CMP_PKISI_it,
OSSL_CMP_PKISI_new, OSSL_CMP_PKISTATUS_it, OSSL_CRMF_CERTID_dup,

OSSL_CRMF_CERTID_free, OSSL_CRMF_CERTID_it, OSSL_CRMF_CERTID_new,
OSSL_CRMF_CERTTEMPLATE_free, OSSL_CRMF_CERTTEMPLATE_it,
OSSL_CRMF_CERTTEMPLATE_new, OSSL_CRMF_ENCRYPTEDVALUE_free,
OSSL_CRMF_ENCRYPTEDVALUE_it, OSSL_CRMF_ENCRYPTEDVALUE_new,
OSSL_CRMF_MSGS_free, OSSL_CRMF_MSGS_it, OSSL_CRMF_MSGS_new,
OSSL_CRMF_MSG_dup, OSSL_CRMF_MSG_free, OSSL_CRMF_MSG_it,
OSSL_CRMF_MSG_new, OSSL_CRMF_PBMPARAMETER_free,
OSSL_CRMF_PBMPARAMETER_it, OSSL_CRMF_PBMPARAMETER_new,
OSSL_CRMF_PKIPUBLICATIONINFO_free, OSSL_CRMF_PKIPUBLICATIONINFO_it,
OSSL_CRMF_PKIPUBLICATIONINFO_new, OSSL_CRMF_SINGLEPUBINFO_free,
OSSL_CRMF_SINGLEPUBINFO_it, OSSL_CRMF_SINGLEPUBINFO_new,
OTHERNAME_free, OTHERNAME_new, PBE2PARAM_free, PBE2PARAM_new,
PBEPARAM_free, PBEPARAM_new, PBKDF2PARAM_free, PBKDF2PARAM_new,
PKCS12_BAGS_free, PKCS12_BAGS_new, PKCS12_MAC_DATA_free,
PKCS12_MAC_DATA_new, PKCS12_SAFEBAG_free, PKCS12_SAFEBAG_new,
PKCS12_free, PKCS12_new, PKCS7_DIGEST_free, PKCS7_DIGEST_new,
PKCS7_ENCRYPT_free, PKCS7_ENCRYPT_new, PKCS7_ENC_CONTENT_free,
PKCS7_ENC_CONTENT_new, PKCS7_ENVELOPE_free, PKCS7_ENVELOPE_new,
PKCS7_ISSUER_AND_SERIAL_free, PKCS7_ISSUER_AND_SERIAL_new,
PKCS7_RECIP_INFO_free, PKCS7_RECIP_INFO_new, PKCS7_SIGNED_free,
PKCS7_SIGNED_new, PKCS7_SIGNER_INFO_free, PKCS7_SIGNER_INFO_new,
PKCS7_SIGN_ENVELOPE_free, PKCS7_SIGN_ENVELOPE_new, PKCS7_dup,
PKCS7_free, PKCS7_new_ex, PKCS7_new, PKCS7_print_ctx,
PKCS8_PRIV_KEY_INFO_free, PKCS8_PRIV_KEY_INFO_new,
PKEY_USAGE_PERIOD_free, PKEY_USAGE_PERIOD_new, POLICYINFO_free,
POLICYINFO_new, POLICYQUALINFO_free, POLICYQUALINFO_new,
POLICY_CONSTRAINTS_free, POLICY_CONSTRAINTS_new, POLICY_MAPPING_free,
POLICY_MAPPING_new, PROFESSION_INFOS_free, PROFESSION_INFOS_new,
PROFESSION_INFO_free, PROFESSION_INFO_new,
PROXY_CERT_INFO_EXTENSION_free, PROXY_CERT_INFO_EXTENSION_new,
PROXY_POLICY_free, PROXY_POLICY_new, RSAPrivateKey_dup,
RSAPublicKey_dup, RSA_OAEP_PARAMS_free, RSA_OAEP_PARAMS_new,
RSA_PSS_PARAMS_free, RSA_PSS_PARAMS_new, RSA_PSS_PARAMS_dup,

SCRYPT_PARAMS_free, SCRYPT_PARAMS_new, SXNETID_free, SXNETID_new,
SXNET_free, SXNET_new, TLS_FEATURE_free, TLS_FEATURE_new,
TS_ACCURACY_dup, TS_ACCURACY_free, TS_ACCURACY_new, TS_MSG_IMPRINT_dup,
TS_MSG_IMPRINT_free, TS_MSG_IMPRINT_new, TS_REQ_dup, TS_REQ_free,
TS_REQ_new, TS_RESP_dup, TS_RESP_free, TS_RESP_new, TS_STATUS_INFO_dup,
TS_STATUS_INFO_free, TS_STATUS_INFO_new, TS_TST_INFO_dup,
TS_TST_INFO_free, TS_TST_INFO_new, USERNOTICE_free, USERNOTICE_new,
X509_ALGOR_free, X509_ALGOR_it, X509_ALGOR_new, X509_ATTRIBUTE_dup,
X509_ATTRIBUTE_free, X509_ATTRIBUTE_new, X509_CERT_AUX_free,
X509_CERT_AUX_new, X509_CINF_free, X509_CINF_new, X509_CRL_INFO_free,
X509_CRL_INFO_new, X509_CRL_dup, X509_CRL_free, X509_CRL_new_ex,
X509_CRL_new, X509_EXTENSION_dup, X509_EXTENSION_free,
X509_EXTENSION_new, X509_NAME_ENTRY_dup, X509_NAME_ENTRY_free,
X509_NAME_ENTRY_new, X509_NAME_dup, X509_NAME_free, X509_NAME_new,
X509_REQ_INFO_free, X509_REQ_INFO_new, X509_REQ_dup, X509_REQ_free,
X509_REQ_new, X509_REQ_new_ex, X509_REVOKED_dup, X509_REVOKED_free,
X509_REVOKED_new, X509_SIG_free, X509_SIG_new, X509_VAL_free,
X509_VAL_new, X509_dup, - ASN1 object utilities

SYNOPSIS

```
#include <openssl/asn1t.h>
```

```
DECLARE_ASN1_FUNCTIONS(type)
```

```
IMPLEMENT_ASN1_FUNCTIONS(stname)
```

```
typedef struct ASN1_ITEM_st ASN1_ITEM;
```

```
extern const ASN1_ITEM TYPE_it;
```

```
TYPE *TYPE_new(void);
```

```
TYPE *TYPE_dup(const TYPE *a);
```

```
void TYPE_free(TYPE *a);
```

```
int TYPE_print_ctx(BIO *out, TYPE *a, int indent, const ASN1_PCTX *pctx);
```

The following functions have been deprecated since OpenSSL 3.0, and can be hidden entirely by defining `OPENSSL_API_COMPAT` with a suitable version value, see `openssl_user_macros(7)`:

```
DSA *DSAparams_dup(const DSA *dsa);
RSA *RSAPrivateKey_dup(const RSA *rsa);
RSA *RSAPublicKey_dup(const RSA *rsa);
```

DESCRIPTION

In the description below, `TYPE` is used as a placeholder for any of the OpenSSL datatypes, such as `X509`.

The OpenSSL ASN1 parsing library templates are like a data-driven bytecode interpreter. Every ASN1 object as a global variable, `TYPE_it`, that describes the item such as its fields. (On systems which cannot export variables from shared libraries, the global is instead a function which returns a pointer to a static variable.

The macro `DECLARE_ASN1_FUNCTIONS()` is typically used in header files to generate the function declarations.

The macro `IMPLEMENT_ASN1_FUNCTIONS()` is used once in a source file to generate the function bodies.

`TYPE_new()` allocates an empty object of the indicated type. The object returned must be released by calling `TYPE_free()`.

`TYPE_new_ex()` is similiar to `TYPE_new()` but also passes the library context `libctx` and the property query `propq` to use when retrieving algorithms from providers. This created object can then be used when loading binary data using `d2i_TYPE()`.

`TYPE_dup()` copies an existing object, leaving it untouched.

TYPE_free() releases the object and all pointers and sub-objects within it.

TYPE_print_ctx() prints the object a on the specified BIO out. Each line will be prefixed with indent spaces. The pctx specifies the printing context and is for internal use; use NULL to get the default behavior. If a print function is user-defined, then pass in any pctx down to any nested calls.

RETURN VALUES

TYPE_new(), TYPE_new_ex() and TYPE_dup() return a pointer to the object or NULL on failure.

TYPE_print_ctx() returns 1 on success or zero on failure.

HISTORY

The functions X509_REQ_new_ex(), X509_CRL_new_ex(), PKCS7_new_ex() and CMS_ContentInfo_new_ex() were added in OpenSSL 3.0.

The functions DSAParams_dup(), RSAPrivateKey_dup() and RSAPublicKey_dup() were deprecated in 3.0.

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