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## **Red Hat Enterprise Linux Release 9.2 Manual Pages on 'X509\_self\_signed.3openssl' command**

**\$ man X509\_self\_signed.3openssl**

X509\_VERIFY(3openssl)          OpenSSL          X509\_VERIFY(3openssl)

### NAME

X509\_verify, X509\_self\_signed, X509\_REQ\_verify\_ex, X509\_REQ\_verify,  
X509\_CRL\_verify - verify certificate, certificate request, or CRL  
signature

### SYNOPSIS

```
#include <openssl/x509.h>
```

```
int X509_verify(X509 *x, EVP_PKEY *pkey);
```

```
int X509_self_signed(X509 *cert, int verify_signature);
```

```
int X509_REQ_verify_ex(X509_REQ *a, EVP_PKEY *pkey, OSSL_LIB_CTX *libctx,  
                      const char *propq);
```

```
int X509_REQ_verify(X509_REQ *a, EVP_PKEY *r);
```

```
int X509_CRL_verify(X509_CRL *a, EVP_PKEY *r);
```

### DESCRIPTION

X509\_verify() verifies the signature of certificate x using public key pkey. Only the signature is checked: no other checks (such as certificate chain validity) are performed.

X509\_self\_signed() checks whether certificate cert is self-signed. For success the issuer and subject names must match, the components of the authority key identifier (if present) must match the subject key identifier etc. The signature itself is actually verified only if verify\_signature is 1, as for explicitly trusted certificates this verification is not worth the effort.

X509\_REQ\_verify\_ex(), X509\_REQ\_verify() and X509\_CRL\_verify() verify the signatures of certificate requests and CRLs, respectively.

## RETURN VALUES

X509\_verify(), X509\_REQ\_verify\_ex(), X509\_REQ\_verify() and X509\_CRL\_verify() return 1 if the signature is valid and 0 if the signature check fails. If the signature could not be checked at all because it was ill-formed, the certificate or the request was not complete or some other error occurred then -1 is returned.

X509\_self\_signed() returns the same values but also returns 1 if all respective fields match and verify\_signature is 0.

## SEE ALSO

d2i\_X509(3), ERR\_get\_error(3), X509\_CRL\_get0\_by\_serial(3),  
X509\_get0\_signature(3), X509\_get\_ext\_d2i(3),  
X509\_get\_extension\_flags(3), X509\_get\_pubkey(3),  
X509\_get\_subject\_name(3), X509\_get\_version(3),  
X509\_NAME\_ENTRY\_get\_object(3), X509\_NAME\_get\_index\_by\_NID(3),  
X509\_NAME\_print\_ex(3), X509V3\_get\_d2i(3), X509\_verify\_cert(3),  
OSSL\_LIB\_CTX(3)

## HISTORY

The X509\_verify(), X509\_REQ\_verify(), and X509\_CRL\_verify() functions are available in all versions of OpenSSL.

X509\_REQ\_verify\_ex(), and X509\_self\_signed() were added in OpenSSL 3.0.

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