

**NAME**

PKCS8\_pkey\_get0\_attrs, PKCS8\_pkey\_add1\_attr, PKCS8\_pkey\_add1\_attr\_by\_NID,  
PKCS8\_pkey\_add1\_attr\_by\_OBJ - PKCS8 attribute functions

**SYNOPSIS**

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

```
const STACK_OF(X509_ATTRIBUTE) *  
PKCS8_pkey_get0_attrs(const PKCS8_PRIV_KEY_INFO *p8);  
int PKCS8_pkey_add1_attr(PKCS8_PRIV_KEY_INFO *p8, X509_ATTRIBUTE *attr);  
int PKCS8_pkey_add1_attr_by_NID(PKCS8_PRIV_KEY_INFO *p8, int nid, int type,  
    const unsigned char *bytes, int len);  
int PKCS8_pkey_add1_attr_by_OBJ(PKCS8_PRIV_KEY_INFO *p8, const ASN1_OBJECT *obj,  
    int type, const unsigned char *bytes, int len);
```

**DESCRIPTION**

**PKCS8\_pkey\_get0\_attrs()** returns a const STACK of X509\_ATTRIBUTE present in the passed const PKCS8\_PRIV\_KEY\_INFO structure **p8**.

**PKCS8\_pkey\_add1\_attr()** adds a constructed X509\_ATTRIBUTE **attr** to the existing PKCS8\_PRIV\_KEY\_INFO structure **p8**.

**PKCS8\_pkey\_add1\_attr\_by\_NID()** and **PKCS8\_pkey\_add1\_attr\_by\_OBJ()** construct a new X509\_ATTRIBUTE from the passed arguments and add it to the existing PKCS8\_PRIV\_KEY\_INFO structure **p8**.

**RETURN VALUES**

**PKCS8\_pkey\_add1\_attr()**, **PKCS8\_pkey\_add1\_attr\_by\_NID()**, and **PKCS8\_pkey\_add1\_attr\_by\_OBJ()** return 1 for success and 0 for failure.

**NOTES**

STACK of X509\_ATTRIBUTE is present in many X509-related structures and some of them have the corresponding set of similar functions.

**SEE ALSO**

**crypto(7)**

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