

# Convert certificates with OpenSSL

## DER

Convert a DER file (.crt .cer .der) to PEM

```
openssl x509 -inform der -in certificate.cer -out certificate.pem
```

## PEM

Convert a PEM file to DER

```
openssl x509 -outform der -in certificate.pem -out certificate.der
```

Convert a PEM file to P7B

```
openssl crl2pkcs7 -nocrl -certfile certificate.cer -out certificate.p7b  
-certfile CACert.cer
```

Convert a PEM certificate file and a private key to PKCS#12 (.pfx .p12)

```
openssl pkcs12 -export -out certificate.pfx -inkey privateKey.key -in  
certificate.crt -certfile CACert.crt
```

## PFX

Convert a PKCS#12 file (.pfx .p12) containing a private key and certificates to PEM

```
openssl pkcs12 -in keyStore.pfx -out keyStore.pem -nodes
```

You can add **-nocerts** to only output the private key or add **-nokeys** to only output the certificates.

## P7B

Convert a P7B to PEM

```
openssl pkcs7 -print_certs -in certificate.p7b -out certificate.cer
```

### Convert a P7B to PFX

```
openssl pkcs7 -print_certs -in certificate.p7b -out certificate.cer  
openssl pkcs12 -export -in certificate.cer -inkey privateKey.key -out  
certificate.pfx -certfile CACert.cer
```

## Other commands

### Export public key from private key

```
openssl rsa -in privkey.pem -pubout > key.pub
```

### Remove password from private key

```
openssl rsa -in [file1.key] -out [file2.key]
```

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