openssl

- Certificados, certificaciones, Entidades de Certificación
- https://www.sslshopper.com/article-most-common-openssl-commands.html

utils

- Remove a passphrase from a private key:

```
openssl rsa -in privateKey.pem -out newPrivateKey.pem
```

check

- Check a Certificate Signing Request (CSR):

```
openssl req -text -noout -verify -in CSR.csr
```

- Check a private key:

```
openssl rsa -in privateKey.key -check
```

- Check a certificate:

```
openssl x509 -in certificate.crt -text -noout
```

- Check a PKCS#12 file (.pfx or .p12):

```
openssl pkcs12 -info -in keyStore.p12
```

debug

- Check an MD5 hash of the public key to ensure that it matches with what is in a CSR or private key:

```
openssl x509 -noout -modulus -in certificate.crt | openssl md5
openssl rsa -noout -modulus -in privateKey.key | openssl md5
openssl req -noout -modulus -in CSR.csr | openssl md5
```

converting

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

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

- Convert a PEM file to DER:

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

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

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

- 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
```