How to convert PFX/P12 file to SPC/PVK format

Export Certificate with Private Key.
Use the export wizard with the following options:

- Export Private Key **(Yes)**
- DO NOT TICK **include all certificates in the certification path if possible**
- TICK **enable strong protection**
- DO NOT TICK **delete private key**

Prerequisite: OpenSSL 0.9.8 or better. OpenSSL 1.x preferred.

Note: If you are running Windows you may download OpenSSL here. Otherwise, you can find compiled binaries directly from the OpenSSL Website or consult your Operating System's package management feature.

Private Key (PVK)

1. Extract your Private Key from the PFX/P12 file to PEM format.
   openssl pkcs12 -in **PFX_FILE** -nocerts -nodes -out **PEM_KEY_FILE**

   Note: The PFX/P12 password will be asked. This is the password you gave the file upon exporting it.

2. Format PEM_KEY_FILE using a text editor

   Remove "Bag attributes" and "Key Attributes" from this file and save. The contents of the file should only contain the header (-----BEGIN PRIVATE KEY-----), footer (-----END PRIVATE KEY-----) and some text between the header and footer.
3. Convert PEM Private Key to PVK format.

   OpenSSL 0.9.8 series:
   pvk -in **PEM_KEY_FILE** -topvk -out **PVK_FILE**

   Note #1: In order to use **pvk** for OpenSSL 0.9.8 series, you must download PVK Transform, which is ONLY available for Microsoft Windows environments

   OpenSSL 1.x series:
   openssl rsa -in **PEM_KEY_FILE** -outform PVK -pvk-strong -out **PVK_FILE**

Note #2: A PEM passphrase may be asked. This will be the password/passphrase that you will use to sign your code.

Software Publisher's Certificate (SPC)

1. Extract Certificate from P12/PFX file.
   openssl pkcs12 -in **PFX_FILE** -nokeys -out **CERT_PEM_FILE**
2. Convert Certificate to SPC format.
   openssl crl2pkcs7 -nocrl -certfile **CERT_PEM_FILE** -outform DER -out **SPC_FILE**

Note: If you have exported your certificate from another browser outside of IE, then please ensure in the **CERT_PEM_FILE** that **ONLY** your certificate exists or else code signing will **NOT WORK**!

Example Conversion

PVK

openssl pkcs12 -in **my_pfx_file.pfx** -nocerts -nodes -out **rsa.pem**
openssl rsa -in **rsa.pem** -outform PVK -pvk-strong -out **mykey.pvk**

SPC

openssl pkcs12 -in **my_pfx_file.pfx** -nokeys -nodes -out **cert.pem**
openssl crl2pkcs7 -nocrl -certfile **cert.pem** -outform DER -out **cert.spc**