Building the Tomcat Native Connector binaries for Windows

This page describes the process for building the Windows Native Connector for Windows. This is the native part of the APR/Native connector.

These instructions assume that you have configured the common build environment.

Building

While tcnative itself needs to be built last, we unpack it first because there are some patches in the tcnative source distribution that will need to be applied to both APR and OpenSSL. Obtain the tcnative source from one of:

- the win32-src.zip source bundle for the version you wish to build;
- https://svn.apache.org/repos/asf/tomcat/native/

E.g.: To build the latest 1.2.x development build from trunk

```
cd \svn co https://svn.apache.org/repos/asf/tomcat/native/trunk/ tomcat-native-1.2.x
cd tomcat-native-1.2.x\native\srclib\apr
```

Unpack APR 1.7.0 source distribution in this directory (C:\tomcat-native-1.2.x\native\srclib\apr).

Apply the apr-enable-ipv6.patch. Note that the patch will apply but depending on exactly which revision you are working with you may need to skip the first part of the patch and an offset will probably be required.

```
git apply apr-enable-ipv6.patch
```

Then build

```
c:\cmsc\setenv.bat /x86
nmake -f NMAREmakefile BUILD_CPU=x86 APR_DECLARE_STATIC=1
```

```
c:\cmsc\setenv.bat /x64
nmake -f NMAREmakefile BUILD_CPU=x64 APR_DECLARE_STATIC=1
```

```
cd ..\openssl
```

OpenSSL 1.1.1 and later

Unpack the OpenSSL 1.1.1k source distribution in this directory (C:\tomcat-native-1.2.x\native\srclib\openssl).

Apply openssl-msvcrt-1.1.1.patch. Note that you may need to skip and/or use an offset to get the patch to apply.

```
c:\cmsc\setenv.bat /x86
perl Configure no-shared VC-WIN32
nmake
mkdir out32-x86
copy libssl.lib out32-x86\copy libcrypto.lib out32-x86\copy apps\openssl.exe out32-x86\nmake clean
```

```
c:\cmsc\setenv.bat /x64
perl Configure no-shared VC-WIN64A
nmake
mkdir out32-x64
copy libssl.lib out32-x64\copy libcrypto.lib out32-x64\copy apps\openssl.exe out32-x64\nmake
```

```
cd ..\openssl
```

Tomcat Native

Keeping the various libraries in versioned directories saves having to rebuild them next time if the version remains unchanged.

```
cd ..
set OPENSSL_VER=1.1.1k
set APR_VER=1.7.0
```
Beware of typos in the name and contents of hash files for OCSP binaries ("ocsp" vs "oscp"). Such typos happened.

A correct example:

tomcat-native-1.1.32-ocsp-win32-bin.zip.md5
  0b0e1e4c77b9b7051fc2c751b70d2880 *tomcat-native-1.1.32-ocsp-win32-bin.zip

tomcat-native-1.1.32-ocsp-win32-bin.zip.sha1
  b47f96dd3153d002a529e881b6b8f524cd6e321c *tomcat-native-1.1.32-ocsp-win32-bin.zip