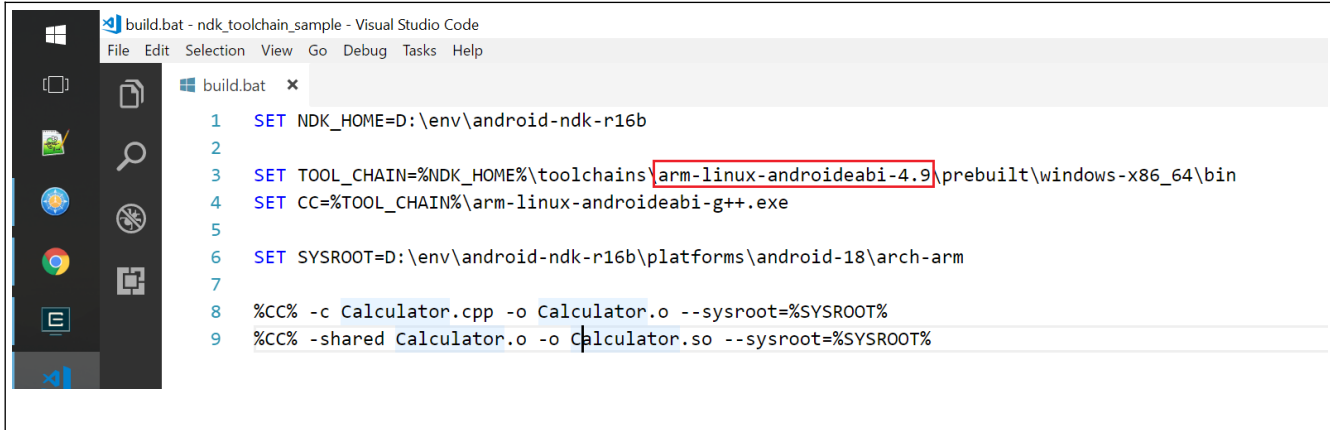


# Android NDK Standalone Toolchain

## G++

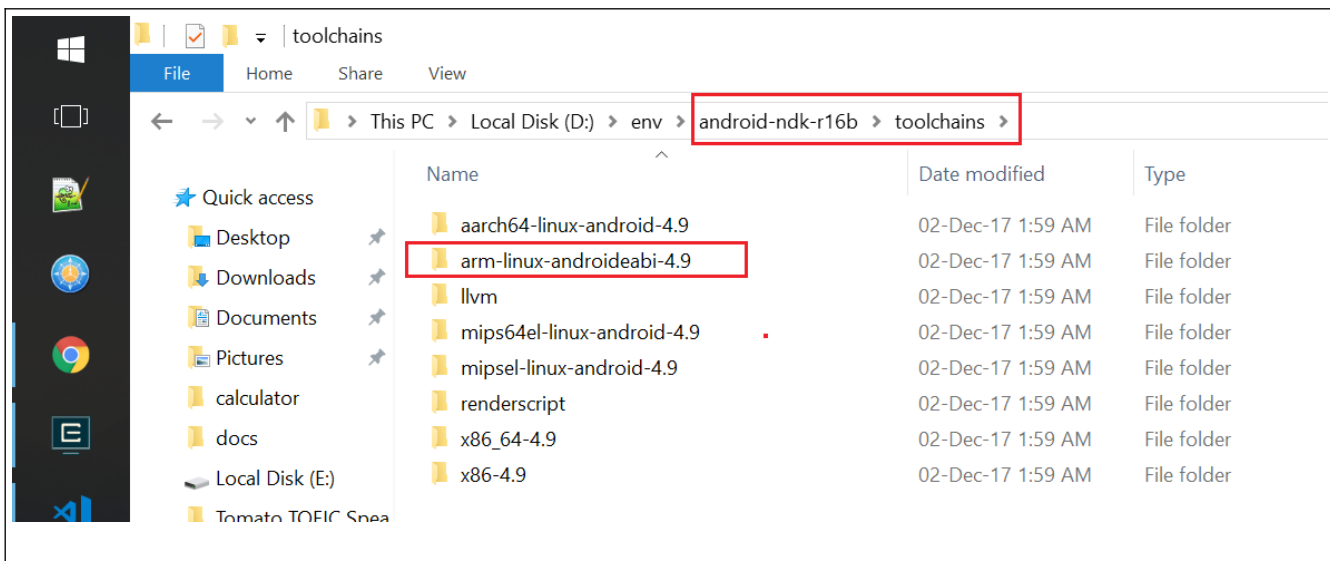
### - Select Toolchain



The screenshot shows the Visual Studio Code editor with a file named `build.bat` open. The file contains the following lines:

```
1 SET NDK_HOME=D:\env\android-ndk-r16b
2
3 SET TOOL_CHAIN=%NDK_HOME%\toolchains\arm-linux-androideabi-4.9\prebuilt\windows-x86_64\bin
4 SET CC=%TOOL_CHAIN%\arm-linux-androideabi-g++.exe
5
6 SET SYSROOT=D:\env\android-ndk-r16b\platforms\android-18\arch-arm
7
8 %CC% -c Calculator.cpp -o Calculator.o --sysroot=%SYSROOT%
9 %CC% -shared Calculator.o -o Calculator.so --sysroot=%SYSROOT%
```

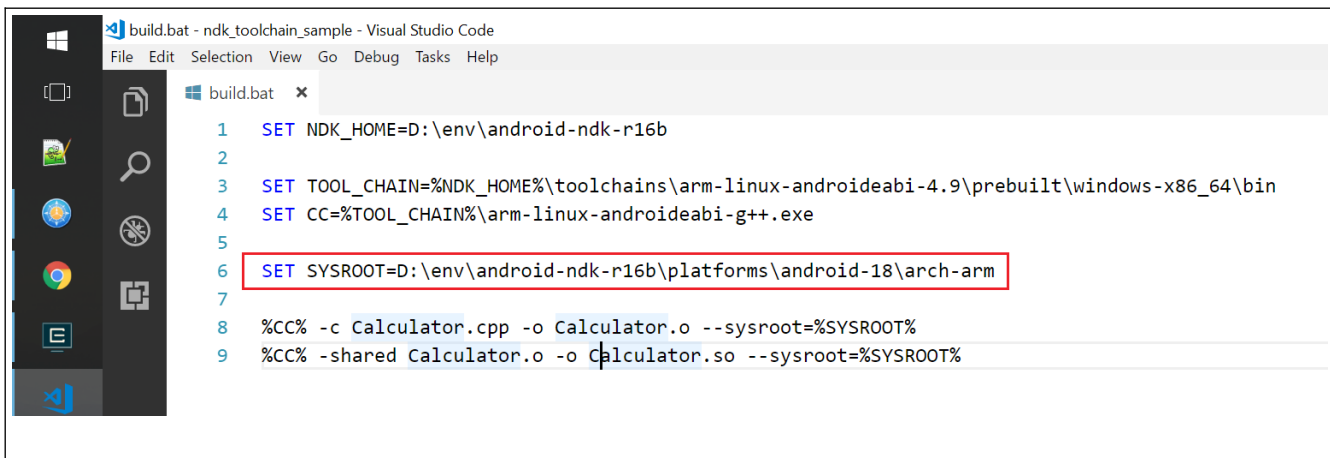
The path `arm-linux-androideabi-4.9` in line 3 is highlighted with a red box.



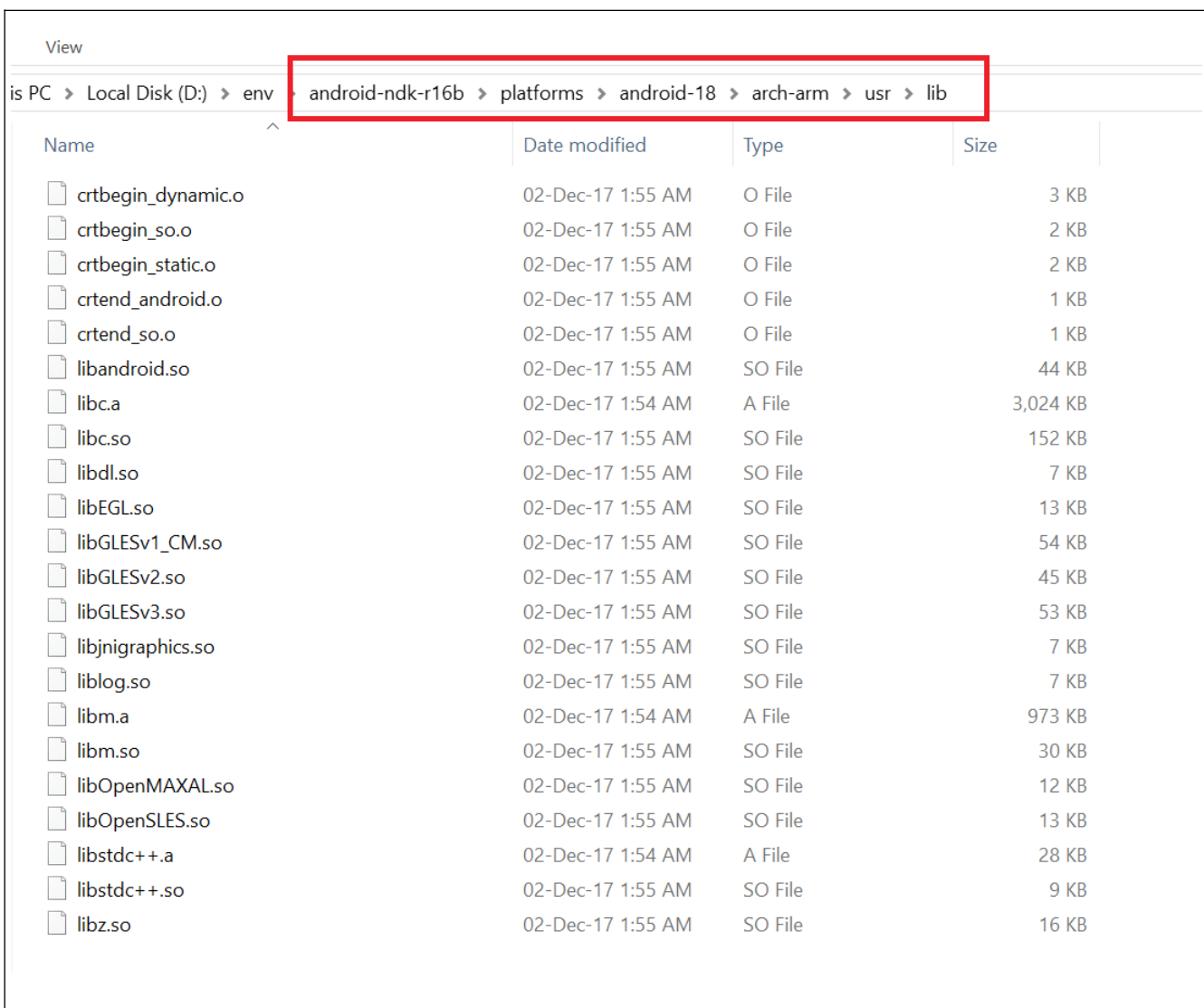
### - Select Compile Tool

Set `CC=arm-linux-androideabi-g++.exe`

### - Select Sysroot



```
1 SET NDK_HOME=D:\env\android-ndk-r16b
2
3 SET TOOL_CHAIN=%NDK_HOME%\toolchains\arm-linux-androideabi-4.9\prebuilt\windows-x86_64\bin
4 SET CC=%TOOL_CHAIN%\arm-linux-androideabi-g++.exe
5
6 SET SYSROOT=D:\env\android-ndk-r16b\platforms\android-18\arch-arm
7
8 %CC% -c Calculator.cpp -o Calculator.o --sysroot=%SYSROOT%
9 %CC% -shared Calculator.o -o calculator.so --sysroot=%SYSROOT%
```



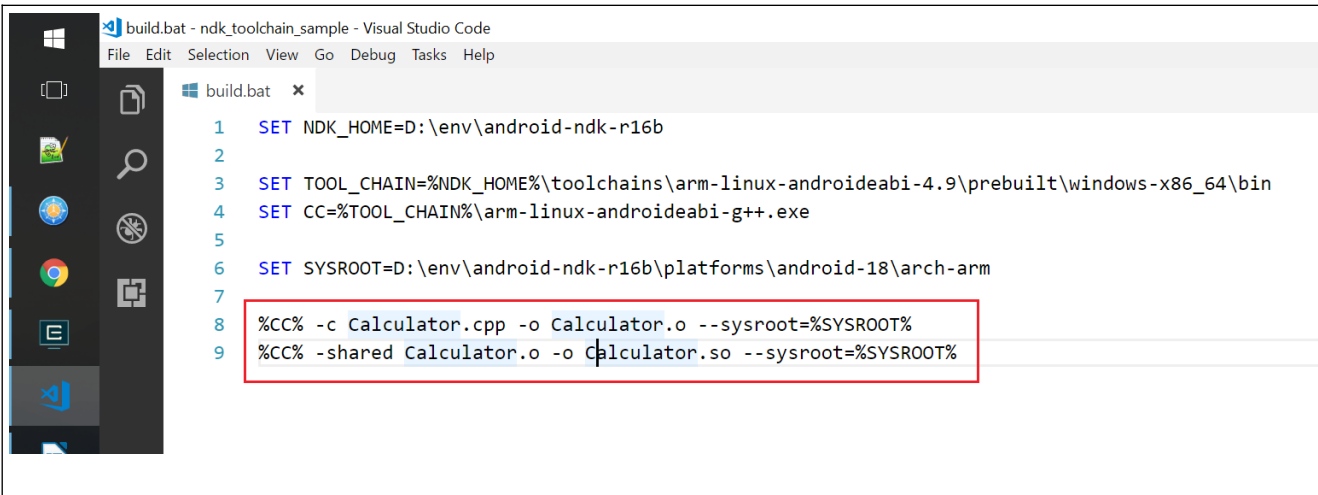
Name	Date modified	Type	Size
crtbegin_dynamic.o	02-Dec-17 1:55 AM	O File	3 KB
crtbegin_so.o	02-Dec-17 1:55 AM	O File	2 KB
crtbegin_static.o	02-Dec-17 1:55 AM	O File	2 KB
crtend_android.o	02-Dec-17 1:55 AM	O File	1 KB
crtend_so.o	02-Dec-17 1:55 AM	O File	1 KB
libandroid.so	02-Dec-17 1:55 AM	SO File	44 KB
libc.a	02-Dec-17 1:54 AM	A File	3,024 KB
libc.so	02-Dec-17 1:55 AM	SO File	152 KB
libdl.so	02-Dec-17 1:55 AM	SO File	7 KB
libEGL.so	02-Dec-17 1:55 AM	SO File	13 KB
libGLSv1_CM.so	02-Dec-17 1:55 AM	SO File	54 KB
libGLSv2.so	02-Dec-17 1:55 AM	SO File	45 KB
libGLSv3.so	02-Dec-17 1:55 AM	SO File	53 KB
libjnigraphics.so	02-Dec-17 1:55 AM	SO File	7 KB
liblog.so	02-Dec-17 1:55 AM	SO File	7 KB
libm.a	02-Dec-17 1:54 AM	A File	973 KB
libm.so	02-Dec-17 1:55 AM	SO File	30 KB
libOpenMAXAL.so	02-Dec-17 1:55 AM	SO File	12 KB
libOpenSLES.so	02-Dec-17 1:55 AM	SO File	13 KB
libstdc++.a	02-Dec-17 1:54 AM	A File	28 KB
libstdc++.so	02-Dec-17 1:55 AM	SO File	9 KB
libz.so	02-Dec-17 1:55 AM	SO File	16 KB

#### - Build object file

```
arm-linux-androideabi-g++ -c Calculator.cpp -o Calculator.o --sysroot=android-18\arch-arm
```

## - Create shared library

```
arm-linux-androideabi-g++ -shared Calculator.o -o Calculator.so --sysroot=android-18\arch-arm
```

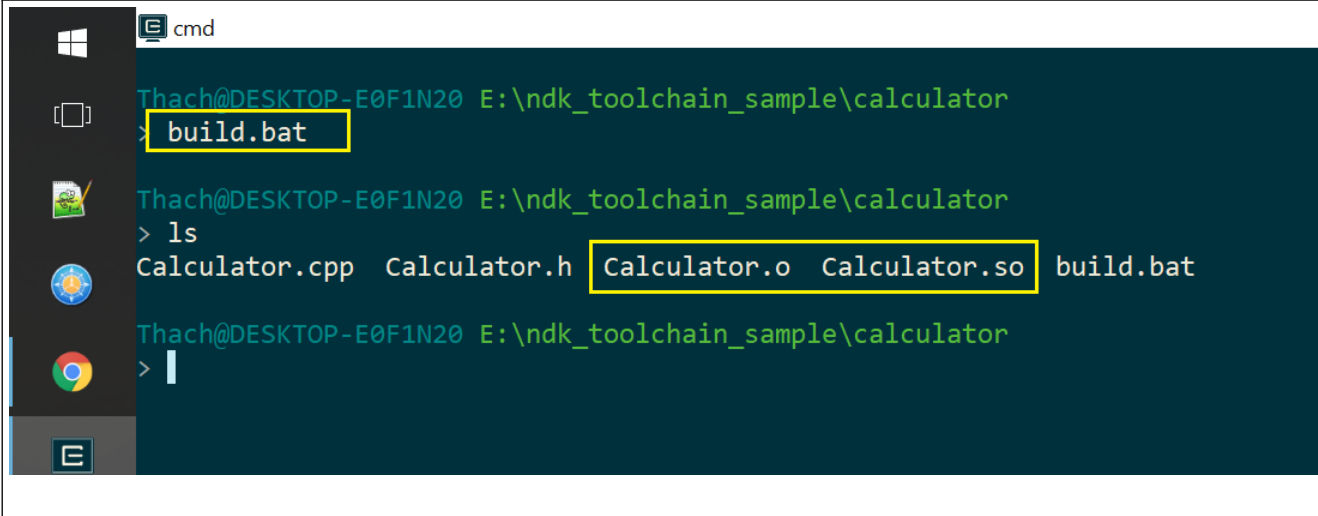


The screenshot shows the Visual Studio Code editor with a file named `build.bat` open. The file contains the following commands:

```
1 SET NDK_HOME=D:\env\android-ndk-r16b
2
3 SET TOOL_CHAIN=%NDK_HOME%\toolchains\arm-linux-androideabi-4.9\prebuilt\windows-x86_64\bin
4 SET CC=%TOOL_CHAIN%\arm-linux-androideabi-g++.exe
5
6 SET SYSROOT=D:\env\android-ndk-r16b\platforms\android-18\arch-arm
7
8 %CC% -c Calculator.cpp -o Calculator.o --sysroot=%SYSROOT%
9 %CC% -shared Calculator.o -o Calculator.so --sysroot=%SYSROOT%
```

The last two lines (8 and 9) are highlighted with a red rectangular box.

## - Result



The screenshot shows a Windows command prompt window with the following commands and output:

```
Thach@DESKTOP-E0F1N20 E:\ndk_toolchain_sample\calculator
> build.bat

Thach@DESKTOP-E0F1N20 E:\ndk_toolchain_sample\calculator
> ls
Calculator.cpp  Calculator.h  Calculator.o  Calculator.so  build.bat

Thach@DESKTOP-E0F1N20 E:\ndk_toolchain_sample\calculator
> |
```

The `build.bat` command and the output files `Calculator.o` and `Calculator.so` are highlighted with yellow rectangular boxes.