From the command line, run the **ElfDwt.exe** utility to insert the checksum into the AXF file. The tool is available from **ARM\BIN**. The command format is:

ElfDwt.exe <filename>.axf



From the command line, run the **fromelf.exe** utility to convert the AXF file to BIN. The tool is available from **ARM\ARMCC**. The command format is:

fromelf.exe -bin -o <filename>.bin <filename>.axf



From the command line, run the **ElfDwt.exe** utility to insert the checksum into the AXF file and generate the BIN file. The tool is available from **ARM\BIN**. The command format is:

ElfDwt.exe <filename>.axf BIN(<filename>.bin)



From within the project settings, set the **Run User Programs After Build/Rebuild** to run the **elfdwt.exe** and **fromelf.exe**.

Keil does not know the location of the **elfdwt.exe** utility. It is necessary to specify the absolute path to the utility. When the elfdwt.exe utility is run, it will try to locate the AXF file within the root directory of the project. If the AXF file is in another directory other than the root, then the path must be defined.

Keil knows the location of the **fromelf.exe** utility, so the absolute path does not need to be defined. The **\$L@L** string tells Keil to use the AXF filename created under the **Output** tab.

Device Target Output Listing User C/C++ Asm Linker Debug Utilities Run User Programs Before Compilation of a C/C++ File Run #1: DOS16 Stop Build/Rebuild #1 on Exit Code: Not Specified Image: Code Run #2: DOS16 Stop Build/Rebuild #2 on Exit Code: Not Specified Image: Code Run User Programs Before Build/Rebuild DOS16 Run #1: DOS16 Run #2: DOS16 Run #2: DOS16 Run #2: DOS16	🕐 Options for Target 'Target 1'				
Run User Programs Before Compilation of a C/C++ File Run #1: Stop Build/Rebuild #1 on Exit Code: Not Specified Run #2: Stop Build/Rebuild #2 on Exit Code: Not Specified Run User Programs Before Build/Rebuild Run #1: Run #1: DOS16 Run #2: Run #1: DOS16 Run #2: Run User Programs After Build/Rebuild	Device Target Output	Listing User C/C++ Asm Linker Debug Utilities			
□ Run #1: DOS16 Stop Build/Rebuild #1 on Exit Code: Not Specified ▼ □ Run #2: DOS16 Stop Build/Rebuild #2 on Exit Code: Not Specified ▼ Run User Programs Before Build/Rebuild DOS16 □ Run #1: DOS16 □ Run #2: DOS16 Run User Programs After Build/Rebuild DOS16	- Run User Programs Be	fore Compilation of a C/C++ File			
Stop Build/Rebuild #1 on Exit Code: Not Specified Run #2: Run User Programs Before Build/Rebuild Run #1: Run #2: Run #2: Run User Programs After Build/Rebuild	🗖 Run #1:		DOS16		
Run #2: Stop Build/Rebuild #2 on Exit Code: Not Specified Run User Programs Before Build/Rebuild Run #1: Run #2: Run User Programs After Build/Rebuild	Sto	op Build/Rebuild #1 on Exit Code: Not Specified			
Stop Build/Rebuild #2 on Exit Code: Run User Programs Before Build/Rebuild Run #1: Run #2: Run User Programs After Build/Rebuild Run User Programs After Build/Rebuild	🗌 Run #2:		DOS16		
Run User Programs Before Build/Rebuild Run #1: Run #2: Run User Programs After Build/Rebuild	Sto	op Build/Rebuild #2 on Exit Code: Not Specified ▼			
Run #1: DOS16 Run #2: DOS16 Run User Programs After Build/Rebuild DOS16	Run User Programs Be	fore Build/Rebuild			
Run #2: DOS16	🗖 Run #1:		DOS16		
Run User Programs After Build/Rebuild	🗌 Run #2:		DOS16		
	Run User Programs After Build/Rebuild				
IV Run #1: [C: \keiiɔ \arm \bin \eftdwt obj \cik_out.axt □ DOS16	I Run #1: c:\kei	il5\am\bin\elfdwt obj\clk_out.axf	DOS16		
Image: Weight with a straight with the strain straight with the straight with the straight with	Run #2: frome	lfbin -o \$L@L.bin \$L@L.axf	DOS16		
Image: When Complete □ Start Debugging					
OK Cancel Defaults Help		OK Cancel Defaults	Help		

👿 Options for Target 'Target 1'		×
Device Target Output Listing User C/C++ Asm Linker Debug Utilities		
Select Folder for Objects Name of Executable: clk_out		
 Create Executable: .\obj\clk_out Debug Information 	Create Batch File	
Create HEX File		
Browse Information		
○ Create Library: .\obj\clk_out.lib		
OK Cancel Defaults	Hel	lp

From within the project settings, set the Run User Programs After Build/Rebuild to run the elfdwt.exe.

Keil does not know the location of the **elfdwt.exe** utility. It is necessary to specify the absolute path to the utility. When the elfdwt.exe utility is run, it will try to locate the AXF file within the root directory of the project. If the AXF file is in another directory other than the root, then the path must be defined. Similarly, unless the path for the BIN file is specified, the **elfdwt.exe** utility will create the BIN file in the project root directory.

Options for Target 'Target 1'				
Device Target Output Listing User C/C++ Asm Linker Debug Utilities				
Run User Programs Before Compilation of a C/C++ File				
Run #1: Dos	516			
Stop Build/Rebuild #1 on Exit Code: Not Specified				
□ Run #2: □ DOS	516			
Stop Build/Rebuild #2 on Exit Code: Not Specified				
Run User Programs Before Build/Rebuild				
🗆 Run #1:	516			
🗆 Run #2:	516			
Run User Programs After Build/Rebuild				
Run #1: c:\keil5\arm\bin\elfdwt obj\clk_out.axf BIN(obj\clk_out.bin)	516			
□ Run #2: □ DOS	516			
I Beep When Complete □ Start Debugging				
OK Cancel Defaults He	alp			

5. Testing the BIN file

The BIN file can be tested to ensure the checksum has been properly inserted into it by using the NXPISP utility. The utility is part of the AN11305 and can be downloaded from LPCWare.com

http://www.lpcware.com/content/nxpfile/an11305-usb-system-programming-lpc11u3xlpc11u2x

The NXPISP utility will check any BIN file loaded to ensure the checksum is valid.

R NXPISP	
Select Firmware Update Firmware	Firmware Path: C:\Keil5\ARM\BIN\blinky2.bin