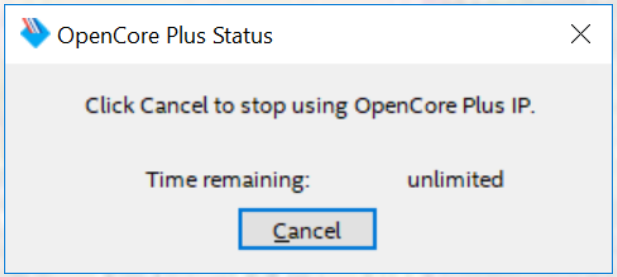
Nios_Debug_Guide

- No spaces allowed in paths or file names
- No simulation can be selected
- The Time-Limited warning box must be left open

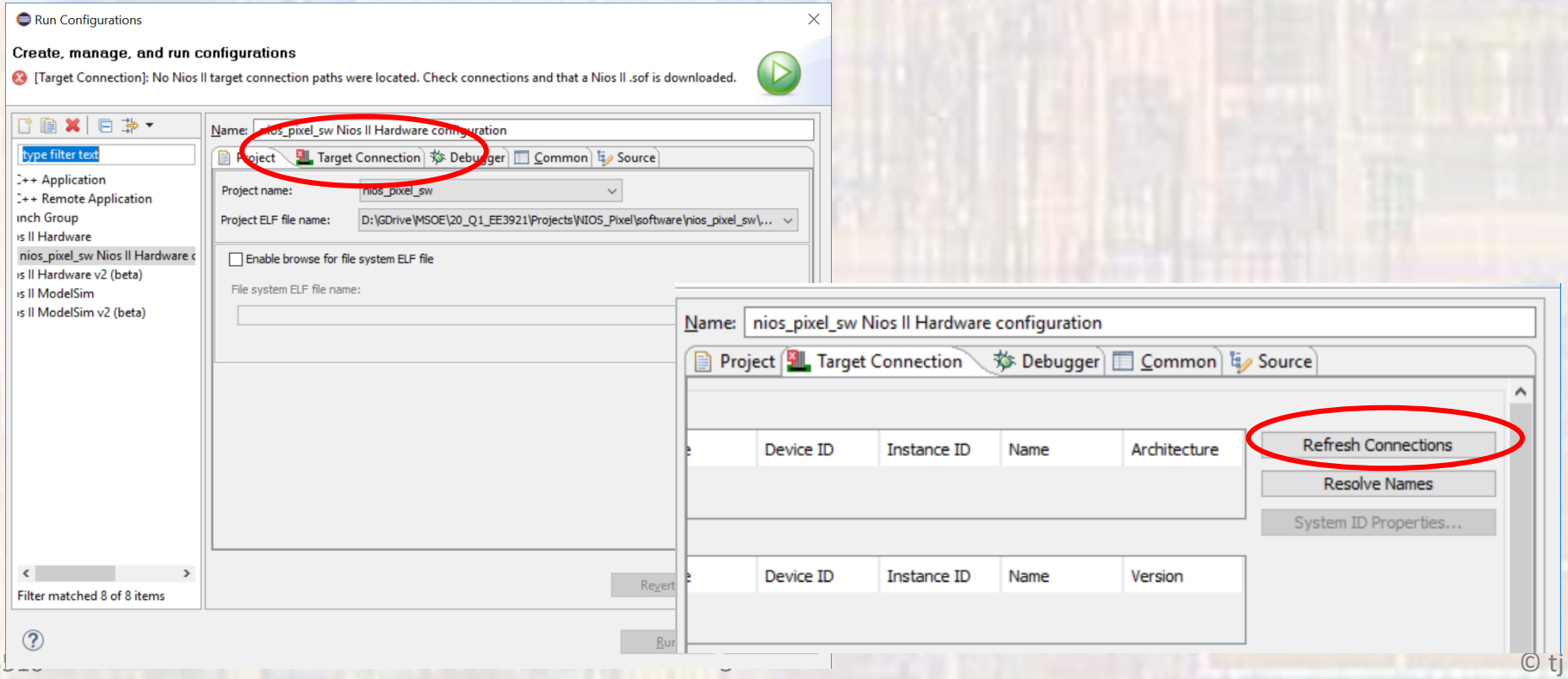


Nios_Debug_Guide

- To debug your C code
  - Select “debug as” instead of “run as”
  - You have access to variables, registers, stepping, breakpoints, …

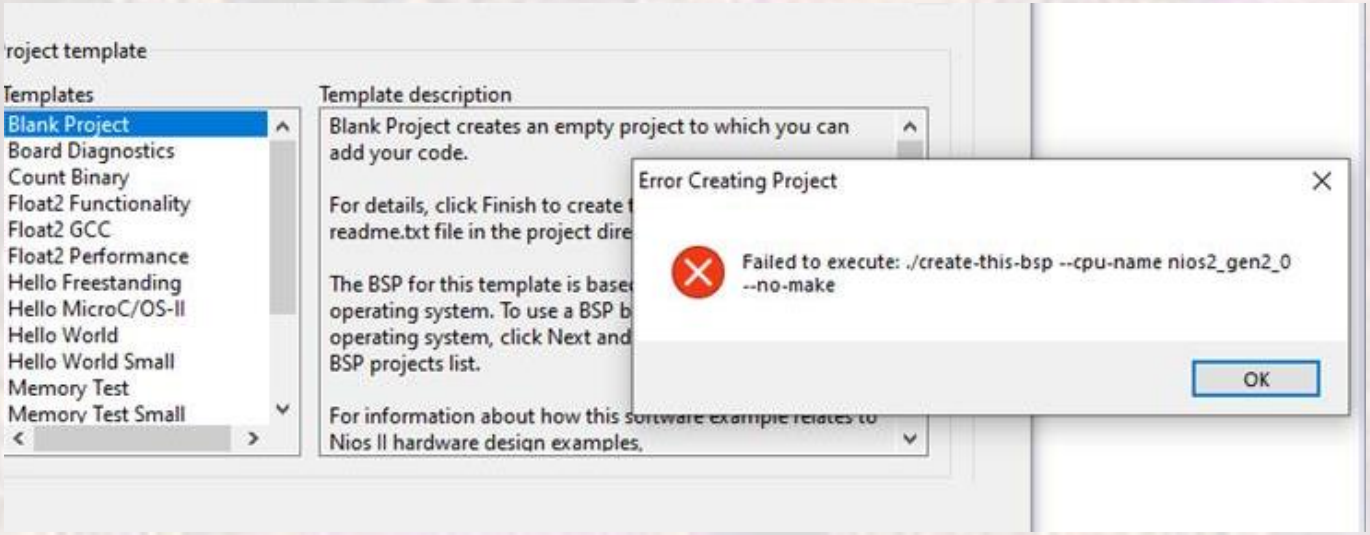
Nios_Debug_Guide

- Can't find … (you built the BSP without the DE10 programmed and the time-limited window open)
  - Select the Target Connection tab
  - Scroll to the far right
  - Select refresh connections



Nios_Debug_Guide

- Cannot generate BSP



- You failed to correct the path name when generating the platform designer HDP file
  - Remove the qip file from the project
  - Re-generate HDL with the corrected path
  - Compile, program
  - Open Eclipse …

Nios_Debug_Guide

- ELF errors
  - Executable and Linkable Format
    - Contains the executable portions of your code along with information as to how to link, order and debug the sections

  - MOST ELF errors are CLOCK errors
    1. Look at your Quartus RTL
       1. Make sure you compiled the correct TOP LEVEL design
       2. Make sure your pin NAMES are correct (capitalization MATTERS in pin names)
    2. Check the pin planner and look for any pins that have not been assigned (they will appear white)
    3. Check your Platform Designer (qsys) design
       1. Make sure all blocks have a clock and reset
       2. Check PLL frequencies (and phase shifts if using external DRAM)

Nios_Debug_Guide

- NIOS Pixel specific issues
  - My processor starts (prints out “entered main” or something similar) but nothing is going to the VGA display

1. The notes clearly say that alt_up_pixel_buffer_dma_draw() draws to the back buffer, which means it is not going directly to the VGA

2. Since the pixel buffer is in the external SDRAM but your code is in the FPGA SRAM – you probably have a connection issue with the SDRAM
   1. Make sure the PLL has the correct phase offset
   2. Make sure the PLL drives the SDRAM CLK input

-- continued --

Nios_Debug_Guide

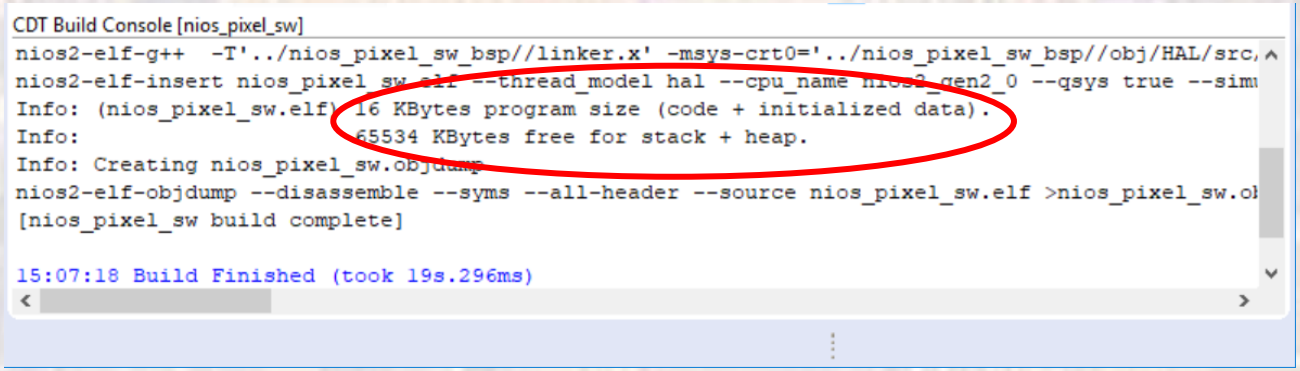
- NIOS Pixel specific issues
  - My processor starts (prints out “entered main” or something similar but nothing is going to the VGA display)

3. Edit the BSP and open the Linker Script tab.
   1. .txt and the exceptions should point to on-chip-memory
   2. All other sections should point to the SDRAM

If not – recheck the wiring on the Pixel DMA buffer and the front and back buffer memory addresses

Nios_Debug_Guide

- NIOS Pixel specific issues
  - My processor does nothing (no elf error)
    - Make sure you checked the “small C library” and “reduced device driver” boxes in the BSP editor
    - Watch for “processor OK” and “processor paused” in the Nios console window
    - Check the memory allocation during the build project



Nios_Debug_Guide

- NIOS Pixel specific issues
  - My display has a fixed colorful pattern
    - SDRAM is in it's default state – you are not writing to it or it is not connected properly
  - My display has a fixed colorful pattern except the top has some ransom flickering pixels
    - Your program is running out of SDRAM and overlapping your pixel buffer
    - This usually is the result of a connection error between the pixel buffer and the SDRAM controller