

University of Pennsylvania
Department of Electrical and System Engineering
System-on-a-Chip Architecture

ESE532, Spring 2017

HW1 FAQ

Monday, January 23

This roundup summarizes issues and solutions provided by students in the course.

- **Default workspace path is read-only**

- Symptom: When you start SDSoC, you see a dialog warning you that the workspace is read only.
- Affected systems: PCs in Ketterer Lab
- Solution: Dismiss the dialog, and select another location in the next dialog.

- **SDSoC cannot deal with paths longer than 260 characters**

- Symptom: During the creation of a new project, SDSoC did not accept a long path name
- Affected systems: Windows
- Solution: Specify a different directory. See [AR#52787](#) for a related error in Vivado.

- **Power adapter not used**

- Symptom: SDSoC cannot communicate with ZedBoard. No LEDs on board are on.
- Affected systems: All
- Solution: The ZedBoard does not can be powered via USB. Power it using the power adapter.

- **Power-only USB cables**

- Symptom: SDSoC cannot communicate with ZedBoard.
- Affected systems: All
- Solution: It has been reported that some cables in the Ketterer lab are power-only. Replace them with other USB cables.

- **Cannot find zed platform during project creation**

- Symptom: When a new SDSoC project is created, the **zed** hardware platform is not listed.
- Affected systems: SDx 2016.3

- Solution: Choose *Manage Repositories...*. Press the plus icon on the left, and add a new platform named `zed`. Select the `platforms/zed` directory in the SDx installation root. Now, you should be able to use the ZedBoard.
- **SDSoC installation is too large**
 - Symptom: A full SDSoC installation is too large.
 - Affected systems: All
 - Solution: Deselect *MPSoC* during the installation. We will not use it in the course. In Windows 10, this saves 21 out of 45 GB of space.
- **SDSoC cannot find gmake**
 - Symptom: When a project is built, SDSoC throws the message `Application Exception: Not f`
 - Affected systems: Ubuntu
 - Solution: Create a symbolic link using the following command:

```
sudo ln -s /usr/bin/make /usr/bin/gmake
```

This is also documented in the release notes. Note that the release notes also recommend to install a few 32-bit libraries after installation.
- **Cannot find how to create SDSoC project**
 - Symptom: When you try to create an *SDSoC project*, you cannot find this option in the menu.
 - Affected systems: SDx 2016.3
 - Solution: In SDx 2016.3, an *SDSoC project* is called *SDx project*. Note that you may see this name change in other parts of SDSoC too. The instructors do test the instructions on SDSoC 2016.2, so expect more discrepancies.
- **Visual Studio 2012 Redistributable cannot be installed**
 - Symptom: When you launch SDx, it tells you that you have to install the Visual Studio 2012 Redistributable. After installing it, SDSoC keeps suggesting you to install it.
 - Affected systems: SDx 2016.3 on Windows
 - Solution: Remove the file `Vivado\tps\win64\xvcredist.exe` in your SDx installation root. More information can be found on the [Xilinx Community Forums](#).
- **SDSoC does not runs old version of code**
 - Symptom: When you change the code, and run it, the board behaves as before the code change.
 - Affected systems: All
 - Solution: You have to rebuild your code after a change.

- **Building takes a long time**

- Symptom: It takes a long time to build your code.
- Affected systems: All
- Solution: First of all, when you build a project in SDSoC, you build both the hardware and software. Building hardware is notoriously slow, so you have to live with it. That said, there are a few things that may reduce the time somewhat. If you run your code on a network drive (such as **S:** in the Ketterer lab), you should consider moving your code to a local drive. Moreover, make sure that you build only the projects that you want to build. In other words, select your project and choose *Build Project* instead of building the entire workspace. You can also close projects to avoid building them.

- **SDSoC does not run on a virtual machine**

- Symptom: Running the code on the ZedBoard does not work.
- Affected systems: Any operating system run in a virtual machine such as VirtualBox.
- Solution: Most students have not been successful at running SDSoC in a virtual machine. Expect difficulties communicating with the ZedBoard. For an easy experience, do not use a virtual machine.

- **COM port is busy**

- Symptom: When you start a debug session on the hardware platform, you see an error that the COM port is busy.
- Affected systems: Windows
- Solution: Remove the USB cables from the host PC. Reconnect them again, and find the COM port name. Change the serial port configuration in SDSoC as needed, and restart your debug session.

- **Cannot place breakpoint**

- Symptom: When you try to place a break point, SDSoC complains:
`Cannot plant breakpoint. Unresolved source line information.`
- Affected systems: All
- Solution: You have probably built your system in *Release* configuration. Build it in *Debug* configuration and try again.

- **SDSoC tries to make shared library**

- Symptom: When you build your project, you get the error: `relocationR_ARM_MOVW_ABS_NC` aga
- Affected systems: All

- Solution: This is a bug in SDSoC. It occurs when you first select *Shared library* when *Linux* is chosen in the *OS* dropdown box of the *Create SDSoC project* dialog, and then switch to *Standalone OS*. Standalone operating systems do not have the possibility to select shared libraries, but SDSoC erroneously tries to make a shared library anyway.
- **The driver for the serial port is not installed automatically.**
 - Symptom: The driver for the serial port is not installed automatically.
 - Affected systems: Windows
 - Solution: You can install the driver manually. Go to *Devices and Printers*. Right-click on the **Cypress USB2UART** device, select *Update device drivers*. In the following dialogs, make sure that you search for the drivers online.
- **Resuming does not restart a finished application**
 - Symptom: When your application has finished and you press the *Resume* button, the application will keep running, but it does nothing.
 - Affected systems: All
 - Solution: There is an infinite loop at the end of the application. If you want to restart it, you will have to *Relaunch* it.
- **UNC addresses are not supported**
 - Symptom: When you select a resource on a network disk (like **S:** in the Ketterer lab) in a file dialog using the mouse, the SDSoC project does not build.
 - Affected systems: Windows
 - Solution: SDSoC automatically uses a UNC address to point to a network resource. You should make sure that the network drive with the resource has a Windows-style drive name, such as **S:**, and then enter a path with that drive instead.
- **Workspace path cannot contain spaces**
 - Symptom: When you create a workspace, you get an error saying `Workspace path cannot have`
 - Affected systems: All
 - Solution: Choose a path without spaces.
- **SDSoC cannot build code provided in homework 1 assignment**
 - Symptom: When you copy the code from the first homework assignment, SDSoC complains that a symbol was not recognized.
 - Affected systems: All
 - Solution: The apostrophes are shown as a different character in the PDF document. You will have to restore them manually.

- **No ARM device is found on the board**
 - Symptom: When you try to launch your code on the ZedBoard, you get the following error:
`No ARM device found on the board`
 - Affected systems: Windows
 - Solution: A power cycle of the ZedBoard may help.