Lab1 Intro
Building a Complete Embedded System on Zynq

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Introduction

- This lab guides you through the process of using Vivado and IP Integrator to create a complete ARM Cortex-A9 based processor system targeting the PYNQ-Z1 or PYNQ-Z2 Board.
- You will use the IP Integrator and Block Design to create the system and XSDK to create an application to verify the design functionality.

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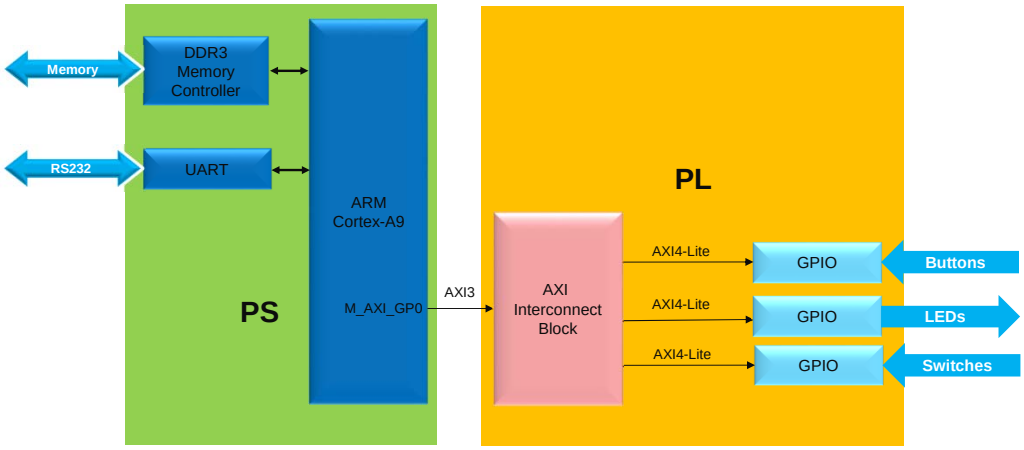
ARM Cortex-A9 based Embedded System Design



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Procedure

- Create a project using Vivado
- Create the processor system using the IP Integrator and Block Design
- Add the three instances of the GPIO IP
- Validate the design
- Generate the bitstream
- Export the project to the XSDK
- Create an application in the XSDK
- Verify the design functionality in hardware

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Summary

- In this lab, you created an ARM Cortex-A9 processor based embedded system in the Zynq device.
- You instantiated the Xilinx standard GPIO IP to provide input and output functionality.
- You created the project in Vivado, created the hardware system using IP Integrator, synthesized and implemented the design and exported the generated bitstream to the XSDK, created a software application in the XSDK, and verified the functionality after programming the PL section and running the application from the DDR memory.

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