



ARMv7-A Software Development

Summary:

This course covers the knowledge required for those developing software for platforms powered by ARMv7-A processors.

Prerequisites:

- Basic understanding of ARMv7-A exception model (unless taking day 0)
- Familiarity with ARM assembler and C programming
- Experience of embedded system development is helpful but not essential

Audience:

This course is aimed at software developers writing low level and bare-metal code for ARMv7-A processors.

Length:

3+ days

Modules:

Optional Day 0:

Introduction to ARMv7-A

Required for audiences who do not have prior knowledge of the ARMv7-A Architecture, programmer's model, instruction sets, memory management and exception handling.

Day 1-3

- Introduction to the ARM Architecture
- Caches and Branch Prediction
- Using the MMU
- TrustZone
- Synchronization
- Programming the GIC
- GIC Workbook
- Cortex-A Power Management
- Cache Coherency
- OS Support
- Barriers
- Multi-Cluster
- Debug
- PMU Workbook
- Writing C for ARM
- NEON Overview
- Virtualization