

“Online Training on Baremetal Programming using Embedded C” by Anil Pugalia

- + **Session 1: BBB Setup & Exploration**
 - Readyng BBB for Baremetal Programming
 - Understanding BBB for Embedded C

- + **Session 2: Embedded C Development**
 - Cross Compilation
 - Linker & its Tweaks

- + **Session 3: Basic I/Os Programming**
 - General Purpose I/Os
 - Blinking the LEDs

- + **Session 4: Debug Interface Setup**
 - Serial Programming
 - Debug Interface over Serial

- + **Session 5: Interrupt Management**
 - Timer Module
 - Interrupt Sub-system

- + **Session 6: I²C Interfacing**
 - I²C Protocol
 - EEPROM Access

- + **Session 7: Learning Integration**
 - Shell Application aka Firmware

- + **Session 8: Wrap Up**
 - XMODEM Protocol
 - What Next?

Caution: All sessions are highly interactive & hands-on with hardware

Hands-On Details

+ **BBB Setup & Exploration**

- Setting up the BBB and related hardware

+ **Embedded C Development**

- Compiling Embedded C programs
- Executing Embedded C programs

+ **Basic I/Os Programming**

- Blinking LEDs
- Optimization Effects

+ **Debug Interface Setup**

- Setting up the Serial Debug Interface
- Reading & Writing Numbers
- Uninitialized BSS

+ **Interrupt Management**

- Implementing a Timer Use Case
- Interrupt based Timer Implementation

+ **I²C Interfacing**

- I²C Protocol Programming
- Pin Muxing in Action
- Accessing an I²C EEPROM

+ **Learning Integration**

- Implement an Interactive Embedded Application aka Firmware
- XMODEM Firmware Experiments