

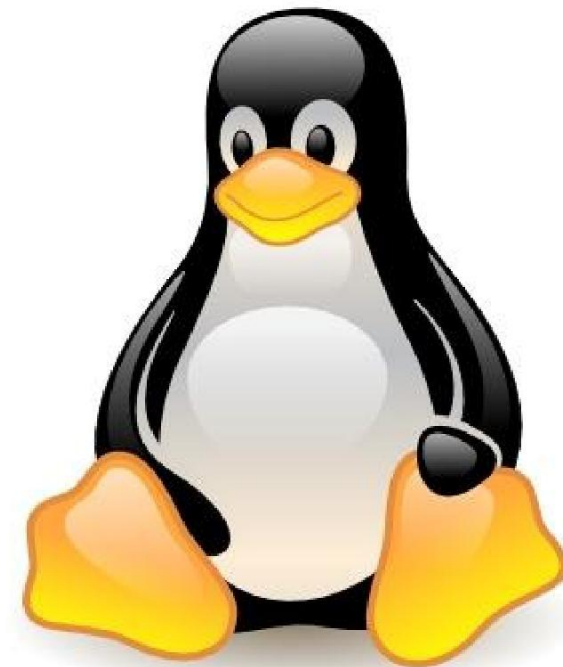
Embedded Linux BSP BootCAMP



www.aeslab.com

PHYTEC

www.phytec.in [Hardware Provider]



www.aeslab.com || info@aeslab.com || +91-80-41307589 || +91-9972039671

Training Outlines

Day-1

- 1st Half: **[Get Comfort with ARM Target Board]**
- PhyBoard-WEGA System Arch
 - Boot Process from PowerOn
 - o Primary Boot Loader
 - o Main Boot Loader (U-Boot / Barebox)
 - o Kernel & Root File System
 - Flashing Images using TFTP
 - o (BootLoader, Kernel, RFS)
 - Cross compile C app and Execute on Target
- 2nd Half: **[Bootloader & Kernel Deep Dive HANDS-ON]**
- Bootloader Code Walk through
 - Basic Hardware Configuration in Bootloader
 - o RAM / FLASH (NAND)
 - o Communication Ports (Serial, Ethernet)
 - Lab Modify/Add GPIO Driver to power LED status in Bootloader code and test it on Target
 - Kernel Code Walk through
 - Kernel Modifications for basic Board Booting
 - o Board File Structure & Components
 - o Understanding Pin Muxing
 - o Adding devices inits in Board File
 - Understanding Platform data
 - Adding PMIC configuration for power domains
 - Modifying Voltage Regulator for different devices
 - Adding NAND support
 - Adding Serial Port
 - o Make file modifications & Board Config file creation

Day-2

- 1st Half: **[Kernel Deep Dive Cont... HANDS-ON]**
- Walkthrough MMC domain in AM335x & its implementation
 - Lab Add SD-CARD support to Board file and enable root file system to be mounted from SD-Card partition.
 - Walkthrough GPIO's and its driver implementation
 - Lab Modify Board file to configure any pin of WEGA Board and test it using Linux user application.
 - Understanding UARTs in AM335x and its driver components
 - Lab Modify Board file to configure UART-2 & UART-3 on WEGA Board and test it using Linux user application.
- 2nd Half: **[Kernel Deep Dive Cont... HANDS-ON]**
- Input Subsystem in Linux
 - Lab: Modify Board file to Configure Switches on WEGA board to generate input events & test it from user app.
 - I2C Subsystem in Linux
 - Lab: Modify Board file to add support of i2c based EEPROM or RTC and test it using user app.
 - SPI Subsystem in Linux
 - Lab: Modify Board file to add SPI based External ADC device to WEGA Board and test it from user app.
 - Display Sub-System in Linux
 - Lab: Configure the 7" LCD Display and test it using fbtest utils in linux.

Training Objective

- Learn Linux BSP Development from scratch and get ready for the next project engaged in Board Bring-up and BSP Development.
- Deep dive in to the Boot-loader & Kernel code to become familiar for BSP modifications.
- Make your hands dirty with Board file writing, modifying pin Muxing & device driver code.

Additional Details:

Fees: India: 5000.00 INR || Europe: 500 Euro || USA: 650 USD || Singapore, South Korea, Japan, China, Arabian Countries [Call us]

Register Now: http://www.aeslab.com/embedded_linux_bsp_bootcamp.php

Board Link: <http://www.phytec.in/products/sbc/wega.html>

Source Code Link: <ftp://ftp.phytec.de/pub/Products/India/phyBOARD-WEGA-AM335x/Linux/PD14.0.0/src/>

Pre-Requisite:

- Laptop with 30GB Free Space
- Install Ubuntu-12.04LTS before day (get support for installing support@phytec.in)
- Good C Programming Knowledge
- Basic Micro-Controller Programming Knowledge
- Linux Programming Knowledge [[Linux Internals & Advance Programming](#) / [Embedded Linux porting on ARM](#)]
- Linux Device Driver Knowledge [[Device Drivers Programming on ARM](#)]



phyBoard-WEGA

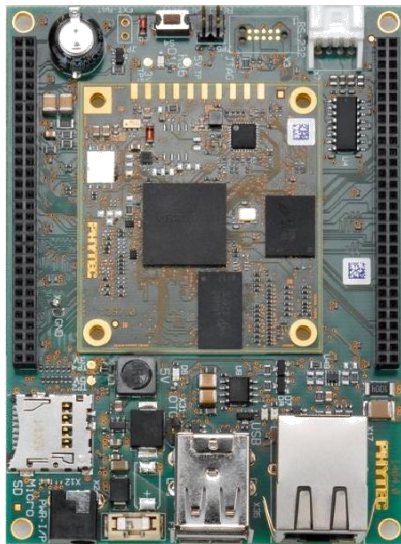
[Industrial HMI ARM Single Board Computer]

Best solution for all your advance fancy User Interface in Control & Automation Systems. Cut down & Simplify your application development time using QT / Android / WinCE

[Fore More Details Click Here](#)

phyBoard-WEGA Features:

- ❖ ARM Cortex - A8@720MHz [TI-AM335x]
- onBoard Devices
 - ❖ 1 x USB Host / ❖ 1 x USB OTG
 - ❖ 2 x 10/100 Ethernet / ❖ Micro SDCARD
- Display Interface on Expansion Connectors
 - ❖ LCD / VGA / HDMI
- Communication Interfaces
 - ❖ UART1(RS232) ❖ UART0 console (TTL)
 - ❖ 1xI2C
 - ❖ 1xSPI
 - ❖ 1xCAN Interface
- Expansion Connectors
 - ❖ 1x ADC(12Bit,8Channel)
 - ❖ GPIOsJTAG



phyBoard-RANA

[Industrial I/O Control ARM Single Board Computer]

It's time to replace micro-controller firmware based systems to ARM Linux based systems with easy migration path. Ready with all device drivers and lot of open source packages support.

[Fore More Details Click Here](#)

phyBoard-RANA Features:

- ❖ ARM Cortex - A8@720MHz [TI-AM335x]
- onBoard Devices
 - ❖ 2 x USB Host
 - ❖ 1 x 10/100 Ethernet / ❖ Micro SDCARD
- Communication Interfaces
 - ❖ UART1(RS232) ❖ UART0 console (TTL)
 - ❖ 1xI2C
 - ❖ 1xSPI
 - ❖ 1xCAN Interface
- Expansion Connectors
 - ❖ 1x ADC(12Bit,8Channel)
 - ❖ GPIOsJTAG

Address:

#9/1 1st Floor, 3rd Main, 8th Block, Opp. Police Station, Kormangala, Bangalore-560095, India. Ph: +91-80-41307589, Mob: +91-9972039671, www.aeslab.com, info@aeslab.com

Trainer Profile



B. Vasu Dev

Qualification: Master of Science (M.Sc) in Electronics

Experience: With 9 Years of Industry Experience work, with major MNC's like LG, Wipro & MIC Electronics now as a Director of PHYTEC Embedded Pvt. Ltd. Worked on ARM based SOC design, System Software Development, Linux Porting, BSP Development, Android Porting & Android BSP Development. In past few years trained more than 3000 working professionals in INDIA and overseas to upgrade their skill to meet the current technology project requirements of ARM, Linux & Android.

Few of our valuable Clients

