



LEVANA TECHNOLOGIES

Neel Residency-2 CHS, Wing G, Flat No. 002, Plot 34, 48-51, Sector 3, New Panvel, Navi Mumbai.

(Land Mark Opp. Dwaraka Sweets shop) Maharashtra Pin 410206.

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Embedded Linux System Development with Raspberry Pi, BeagleBoard-xM, BeagleBone Black & Friendly ARM platforms Training Workshop

Course Duration : Two Full Days

Course Fees : INR 4,500/- + GST

Course Outline:

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- * Board Bring-up of Raspberry Pi, Beaglebone Black/Xm, Friendly ARM platforms
 - * Introduction to Embedded Linux
 - What is Embedded System?
 - Anatomy of an Embedded System
 - Why Linux?
 - Is Linux Real-Time Enough?
 - The Status of Embedded Linux Today
 - Which Embedded Linux Distribution to Choose?
 - Embedded Linux Architecture
 - * Basic requirements for Embedded Linux Product Development
 - * Building Development Environment
 - The four basic elements: Toolchain, Bootloader, Kernel, Root File System
 - Configuration, compilation and cross-compiling
 - * Target & Host Setup
 - * Setting up Networking Services
 - Network Settings
 - Static and Dynamic IP addresses
 - Subnet mask
 - Setting up services
 - TFTP
 - DHCP
 - SSHD
 - * Bootloader commands and usage
 - Getting familiar with bootloader commands
 - Downloading kernel images and RootFs on Target board.

- * Loading RootFs in Platform by various techniques
 - Configuring TFTP and downloading kernel image over TFTP.
 - Configuring NFS and using RootFs over NFS.
 - Using SD-Card for RootFs.
 - Using USB for RootFs.

- * Building an Embedded File System from Scratch -
 - Creating a minimal root file-system using Busybox
 - Creating a RAM disk image

- * Building Your Own Embedded Linux Distribution -
 - Buildroot
 - Scratchbox
 - OpenEmbedded
 - Crosstool

- * Kernel Configuration and Compilation
 - Kernel Building System
 - Patching the Kernel
 - Kernel Configuration for Embedded Systems Settings (Porting)
 - Cross-compiling the Linux Kernel

- * Booting Linux
 - The Linux boot sequence
 - boot-loaders : U-boot
 - System Initialization Scripts

- * Loading various RootFs (Distributions) in platform
 - Angstrom
 - Ubuntu
 - Fedora etc. RootFs

Practicals on Raspberry-pi, BeagleBoard-xM, BeagleBone Black and Friendly-Arm mini 2440 platforms.

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- * Raspberry-pi:
 - Board Bringup using Windows & Linux environment
 - Configure Network Setup & Remote access
 - Controlling GPIOs
 - Interfacing various peripherals including LED, Switch, Motor etc.
 - Interfacing Camera etc.
 - Installing web-server in Raspberry-pi & accessing it through network

- * BeagleBoard-xM:
 - Board Bringup using Windows & Linux environment
 - Compiling & Porting U-boot
 - Configuring and Compiling busybox for Beagle board
 - Creating & Setting up a (Root) File System for Beagle board
 - Creating a ramdisk for Beagle board
 - Serial Booting
 - Configure Network Setup & Remote access

- * BeagleBone Black:
 - Board bring-up in Linux & Windows
 - Loading Kernel & RootFs using TFTP, NFS

- * Friendly-Arm mini 2440:
 - Board bringup in Linux & Windows
 - Porting Linux through USB
 - Configuring & building Kernel
 - Setting up & using Toolchain
 - Porting the Applications on board

Advantages of Levana Technologies

- * 100% Practical Oriented Workshops
- * Comprehensive Course Material Provided
- * 1:1 Hardware Provided
- * Industry Experienced Faculty
- * Value for Money, Choose Modules of Your Choice
- * Technical Support Even After Training

Other Fast Track Training Workshops conducted by Levana Technologies

- * Linux Advanced Programming Training Workshop
- * Integrated Linux Internals and Advanced Programming Training Workshop
- * Linux Device Driver and Kernel Programming Training Workshop
- * Embedded Linux and Device Driver Programming Training Workshop
- * Unix / Linux Shell Scripting with sed and awk Training Workshop
- * ARM, 8051 Programming
- * Learn Japanese Language

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