

## Embedded Linux

### **Embedded Linux:**

- Overview for Embedded Linux
- Use of embedded Linux in applications
- Linux Concepts
- Accessing the command line (terminal and desktop)
- Accessing and using manual pages
- Working with the command line and the shell
- Piping and redirection
- Linux OS
- Introduction to Open Source concepts
- Development environment and Tools
- Linux file system
- Basics regarding Kernel Space and its interface to User Space
- Shell and basic shell commands
- Different Linux commands like cp , mv mount

- Introduction to VI editor.
- Creating script
- Shell variables conditions (if else )
- Shell control structures
- Shell programs to read command line parameters
- Linux lab for shell programming
- Open source and choice-points for Embedded development
- Setting up Embedded development environment
- Boot loader and building root file system
- Components of Embedded Linux Kernel
- Embedded application programming

### **Embedded Linux & OS Concepts:**

- Linux Architecture
- Introduction to components of I/O architecture
- Objectives of Linux I/O model
- Virtual file system
- File system services
- I/O cache

- Understanding file descriptors
- Generic Architecture of a Embedded Linux,
- System Start up, Types of Boot Configuration
- Root File System Structure, Root file system setup
- Setting up the boot loader
- Embedded Storage (Memory Technology Devices).
- Embedded File System
- Introduction to common file APIs
- Accessing file attributes
- Standard I/O operations
- File control operations(fcntl())
- Alternate File I/O models
- Huge file I/O
- Monitoring File and directory events
- Use cases
- Process creation & Process termination
- Threads ,programming on threads
- Inter process communication

- Different IPC mechanism like shared memory semaphores, message queues
- Process synchronization mechanism, mutexes
- Linux system calls for signals
- Difference between native compiler and cross compiler
- Porting Linux kernel and Root file system to Rpi board
- Raspbian OS (Linux Desktop)
- Setting up the RPi : Raspbian OS
- Booting the RPi
- Writing Linux Application on Rpi

**ADDRESS:**

Office No 86 To 89, Fifth Floor, C Wing,  
Shrinath Plaza, Dyaneshwar Paduka Chowk,  
F C Road, Shivaji Nagar, Pune

 [www.technoscripts.in](http://www.technoscripts.in)

 [info@technoscripts.in](mailto:info@technoscripts.in)



Landline: 020-41217199



Mobile: 8605006788