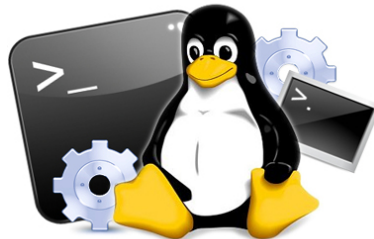




Real Time College

**Course: Embedded Linux Programming
Complete Track**

Duration: 360 Hours
Hands-On-Training: 90%

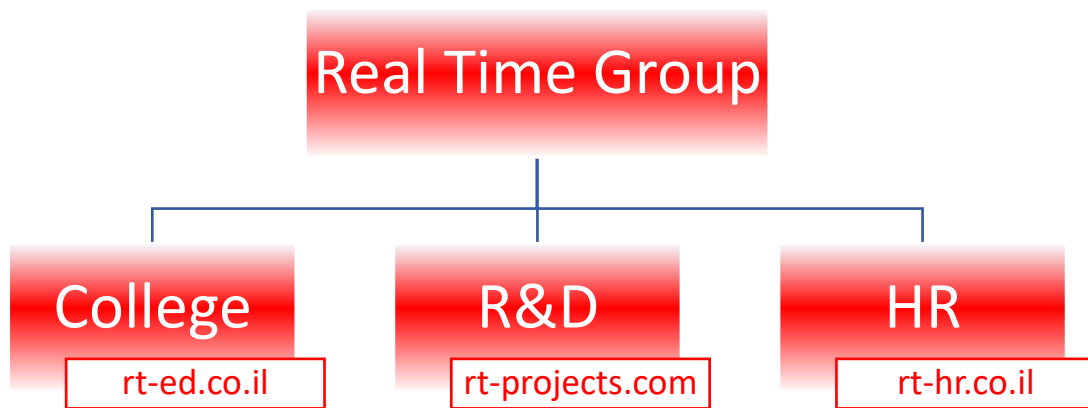




Real Time Group is a multi-disciplinary dynamic and innovative Real-Time O.S. and Embedded Software Solutions Center, established in 2007.

Providing Bare-Metal and Embedded Linux solutions, professional services and consulting, end-to-end flexible system infrastructure, outsourcing, integration and training services for Hardware, Software and RT-OS \ Embedded Systems.

The company is divided into the following three Divisions:



Training Division:

Professional Training Services for Hardware, Software, RT-OS and Embedded systems industries.

We provide the knowledge and experience needed to enable professional engineers to Develop, Integrate and QA Hardware, Software and Networking Projects.

In order to ensure experience, all courses are practical – hands-on-training. The latest Development, QA and Automation equipment which are adopted by the industry are used.

All students are supplied with Development-Boards for home-work and course projects.

Course Overview:

Being a leading provider of RT-Embedded Linux Solutions for the last decade, We have gained experience solving hundreds of complex projects. That's why we know exactly what it takes to make you an Embedded Linux Developer.

This RT-Group's flag-ship course, provides a complete and comprehensive hand-on-training for Embedded Linux Engineering.

It's designed to provide the knowledge, development tools, the experience needed to place you as an Embedded Linux Developer, Hundreds of students have participated in this Track since 2007 and successfully integrated in our Company's Development Division and the Israeli \ word-wide Hi-Tech industry.

The Complete track is composed out of 6 courses and includes all the development stages starting from system boot-loader through Loading the Linux Kernel and up to running Linux O.S. Applications.

Throughout the course we'll go through the Fundamentals of Linux, BASH Scripting, Programming Basic & Advanced Python Application, Designing and Implementing Linux System\ User-Space programming, Multi-Threading and Synchronization, usage of Linux system resources, Inter-Process Communication (IPC), Linux Kernel Modules (LKM's), Board Support Package (BSP), Embedded Linux Programming, Linux Kernel Device Drivers (implementing Drivers for Peripherals such as GPIO \ I2C \ SPI \ UART \ Timers \ PWM...) Using Debug Tools and much more.

It focuses on giving you real world coding experience by using ARM Cotex-A8 Development Boards.

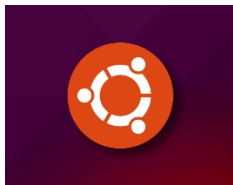


Who should attend:

- Anyone who wants a career in Embedded Linux Engineering.
- Hardware, Practical and software engineers who need to speed up with Embedded Linux as a development platform.
- Linux System\ User-Space developers.
- Linux Kernel Developers \ Linux Device Driver Developers.
- FAE's & Support engineers who will be integrating code and managing applications hosted on Embedded & Linux systems.

Prerequisite:

- High level understating of the English Language.
- Knowledge \ Experience in C Programming.
- A Basic level of Embedded Systems literacy is expected.
- No previous experience of Linux\UNIX is necessary.



The following table concludes the list of courses in the Track, with a short description and course length.

Linux Programming \ Embedded Linux Courses:

Course Name	Course Description	Length [AH]
Linux Fundamentals & BASH Scripting	Provides a comprehensive guide to Linux™, learn how to manage files and directories, Linux security mechanisms, design and write shell programs of high complexity, manage multiple concurrent processes and more.	75
Python Programming	Focusing on Python 3, aiming to provide you with the knowledge and experience needed in order to program Object Oriented real industry applications.	90
Real-Time Embedded Concepts	Fundamentals of Real-Time O.S. – Kernel Objects, Services, Development tools and programming considerations. Building blocks of Embedded Systems, Embedded peripherals, debugging etc.	40
User Space Programming \ Embedded Linux	Developing secure and optimized Linux Applications. Covers all major areas of Linux programming - Development tools, environment, processes, Makefiles, building Libraries, using system calls, accessing Hardware, Processes, Threads, IO, networking, synchronization and more.	90
Linux Kernel & Device Drivers	Detailed guide for Developing Linux based Kernel modules and Device Drivers. Contains dozens of real-world exercises practiced on Evaluation Boards. device driver types starting from Character and Block devices and ending	90
Final Project		
	Sum	385

The following Block Diagram concludes the order of the courses in the Track.
Feel free to click on the required course name for a detailed description.

Embedded Linux:

