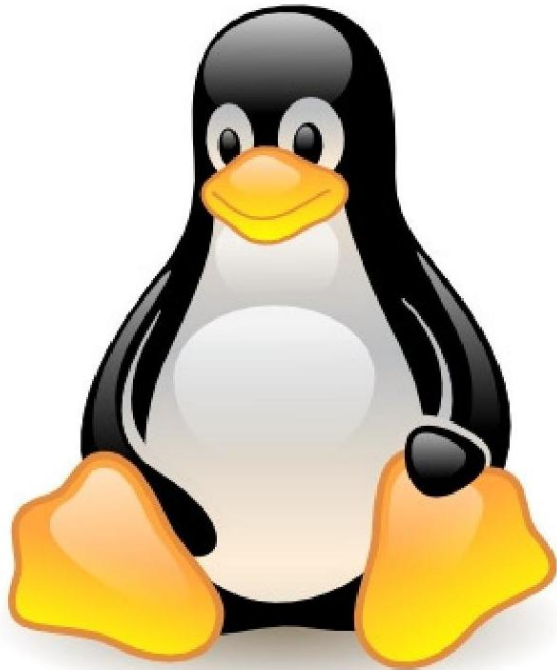


# Device Drivers Training



## Training Highlights:

- Learn through Practical's
- Work on Latest ARM Core like Cortex A5/A8/A9
- Real World Examples and Projects
- Assured Post Training Support
- Unlimited Access to the Hardware Boards for Practical's
- Training Tutorials & data available online

# Device Driver Development

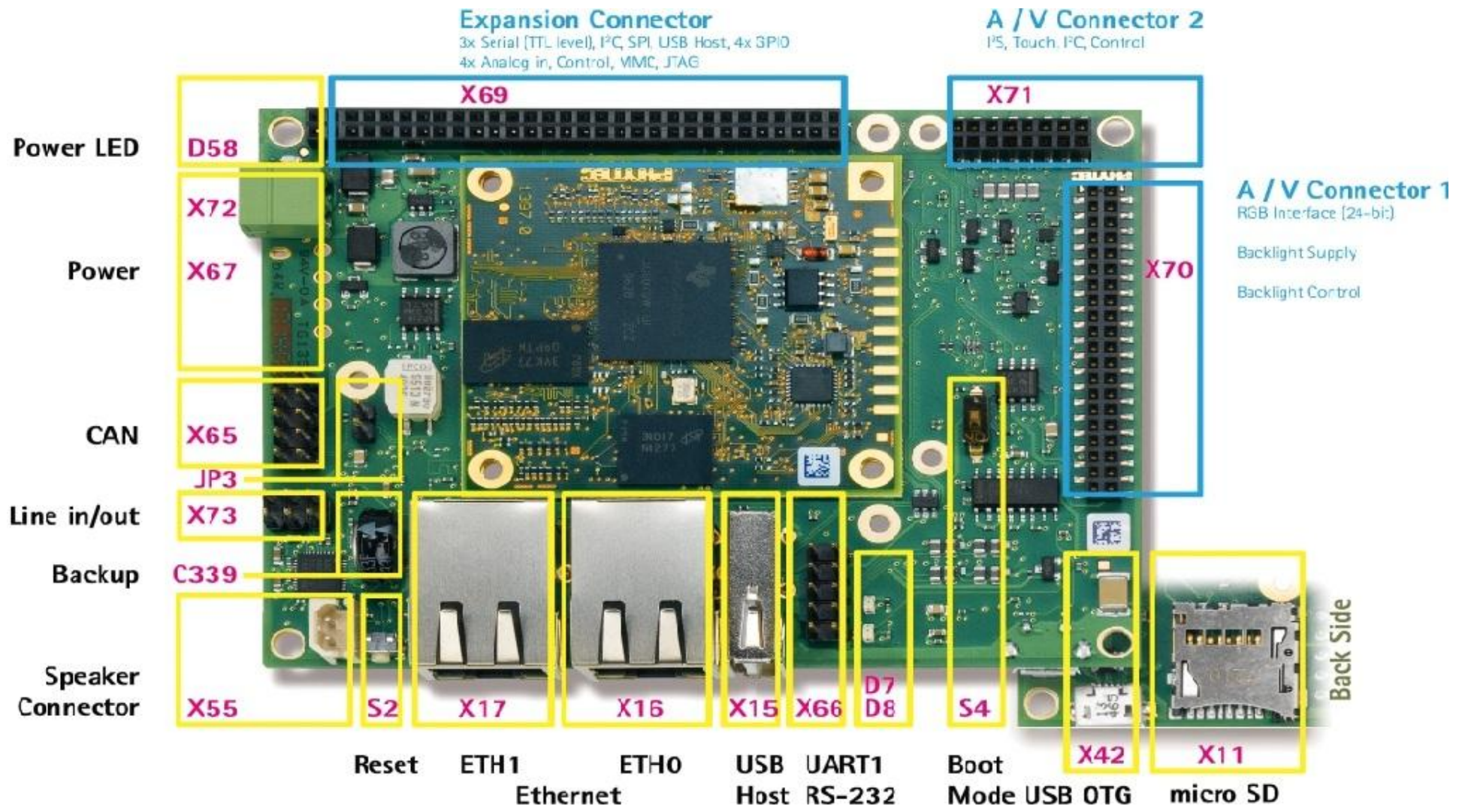
**Duration: 2Days**

**Timings: 9:30 AM to 5:30 PM**

## Day-1

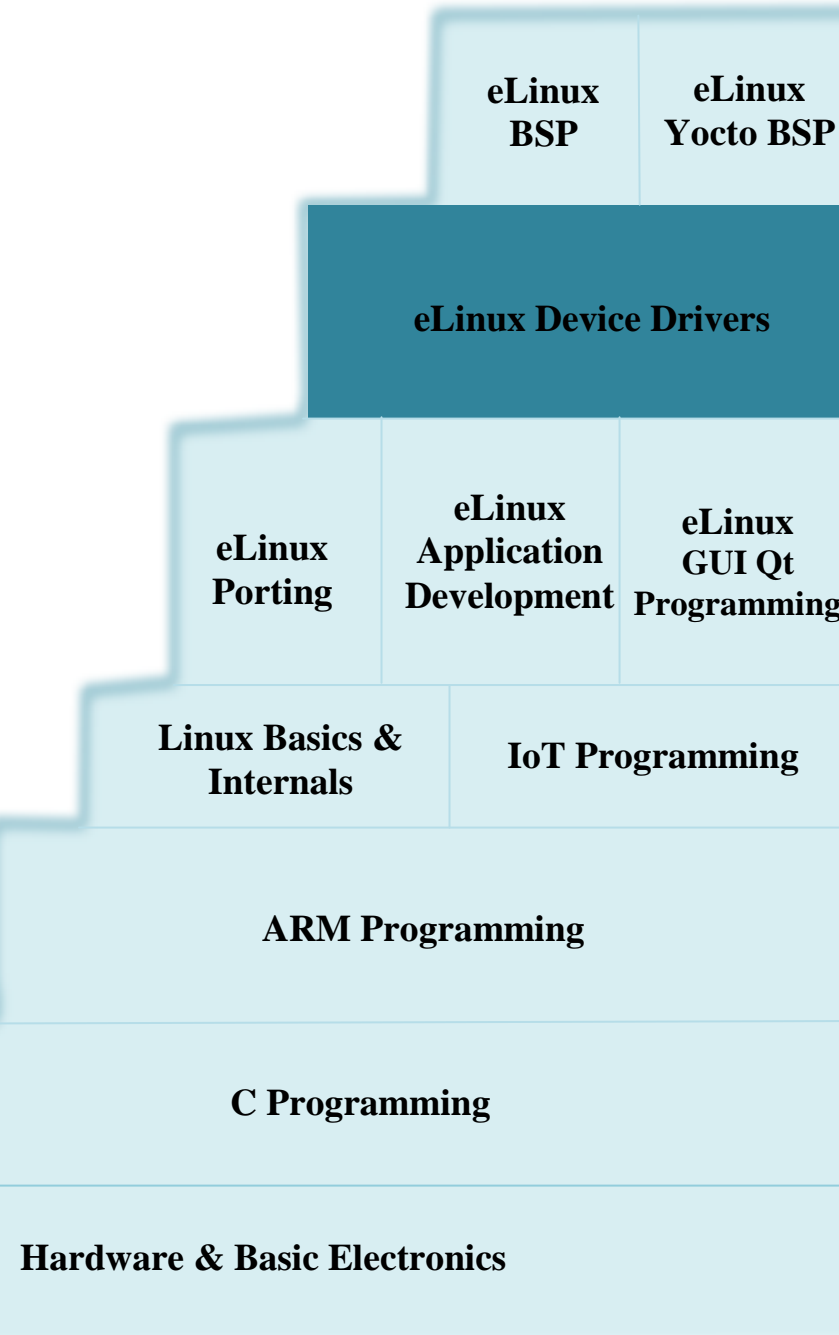
Time	Topic	Activities
09:30 - 11:00	<b>Introduction and Arch of Linux Device Drivers</b>	<ul style="list-style-type: none"><li>➤ Introduction to Kernel Space and User Space</li><li>➤ Memory Management in Kernel</li><li>➤ How to develop Kernel Device Driver</li><li>➤ Layers of LDD</li><li>➤ Processor Memory Layout</li><li>➤ Device Register Access from Code</li></ul>
<b>Tea Break</b>		
11:15-12:45	<b>Kernel Module Programming</b>	<ul style="list-style-type: none"><li>➤ Kernel Module Programming</li><li>➤ Module Parameters</li><li>➤ Exporting Symbols between modules</li></ul>
<b>Lunch Break</b>		
13:30-14:30	<b>Character Device Drivers</b>	<ul style="list-style-type: none"><li>➤ Linux Kernel Device Driver Framework</li><li>➤ Virtual File System as bridge between Driver and Application</li><li>➤ Implementing basic character driver</li></ul>
14:30-15:30	<b>Character Device Drivers</b>	<ul style="list-style-type: none"><li>➤ Writing Makefile to compile Device driver</li><li>➤ Compiling and running on X86</li><li>➤ Cross Compiling and running on ARM Hardware</li></ul>
<b>Tea Break</b>		
15:45-17:30	<b>Advance options in Character Device Drivers</b>	<ul style="list-style-type: none"><li>➤ Implementing advance api like ioctl in character device driver</li><li>➤ Standards to follow while implementing ioctl</li><li>➤ Writing and testing LED driver with IOCTL on ARM Hardware</li></ul>

<b>Day-2</b>		
<b>Time</b>	<b>Topic</b>	<b>Activities</b>
<b>09:30 - 11:00</b>	<b>Interrupts in Device Driver</b>	<ul style="list-style-type: none"> <li>➤ Interrupts in ARM Processor</li> <li>➤ Interrupts Mechanism in Linux Kernel</li> <li>➤ How to implement Interrupts in device driver</li> </ul>
<b>Tea Break</b>		
<b>11:15-12:45</b>	<b>Interrupt Handling &amp; Bottom Half</b>	<ul style="list-style-type: none"> <li>➤ Writing and testing Interrupt for Button press on ARM Target</li> <li>➤ Writing and testing multiple Interrupts in single driver</li> <li>➤ How to implement Shared Interrupts</li> <li>➤ How to handle lengthy ISR using Bottom Half ( Soft IRQ, Tasklet &amp; Workqueues )</li> </ul>
<b>Lunch Break</b>		
<b>13:30-14:30</b>	<b>Special File Systems ProcFS &amp; SysFS</b>	<ul style="list-style-type: none"> <li>➤ Ram based files systems in Linux</li> <li>➤ Using procs for special purpose and accessing kernel data structure</li> <li>➤ How to implement procs</li> <li>➤ Sysfs implementation in device drivers for easy application access.</li> </ul>
<b>14:30-15:30</b>	<b>Introduction to Block Device and Network Device Drivers</b>	<ul style="list-style-type: none"> <li>➤ Introduction to block and network device drivers</li> <li>➤ Case study of Network Device Drivers</li> </ul>
<b>Tea Break</b>		
<b>15:45-17:30</b>	<b>Advance Device Drivers and debugging</b>	<ul style="list-style-type: none"> <li>➤ MTD Subsystem for Flash Memory Devices</li> <li>➤ Nand and Nor Device Drivers</li> <li>➤ USB Subsystem Introduction</li> <li>➤ How usb gadget drivers are used in Embedded Applications</li> <li>➤ Debugging Techniques like debugfs / target debugging</li> </ul>



Embedded Engineering Steps

Locations / Fees / Duration



Embedded Engineering

Locations

- Pune | Bangalore | Hyderabad | Chennai | Kochi | Delhi

Duration:

- 2 Days

Fees:

- 6000.00 INR || Europe: 500 Euro || USA: 500 USD
- [Register Now](#)

After development workshop:

- When you return to work, you are entitled to schedule a technical discussion with the course instructor for help and guidance as you apply your new skills to your projects.

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