

## "Linux Drivers" by Anil Pugalia

- + Session 1: Introduction
  - > W's of Linux Drivers
  - > Ecosystem of Linux Drivers
  - > Drivers, Modules, and the "Device" Drivers
  - > Verticals & Horizontals
- + Session 2: The First Driver
  - > Driver Development Environment
  - > Building Basic Drivers
  - > Various Usage Mechanisms
  - > OSS vs Proprietary Drivers
- + Session 3: Character Drivers
  - > Name vs Number
  - > Registration & the Cleanups
  - > Kernel Data Structures & File Operations
  - > Linux Device Model & Bus Architectures
  - > Analog & Digital I/Os
- + Session 4: Low-level Accesses
  - > Memory Access
  - > Hardware Access
- + Session 5: Embedded Device Bus Drivers
  - > Overview of TTY
  - > I2C
  - > SPI
  - > Processor Bus, e.g. PCI
- + Session 6: Kernel 'Embedded C' Programming
  - > Fundamentals of Kernel Programming
  - > Concurrency & Synchronization
  - > Time Management
  - > Delays & Timers
- + Session 7: USB Drivers
  - > Device & Driver Layout
  - > USB Core
  - > Driver & Device Registration
  - > URB & its Functionalities
- + Session 8: Interrupts
  - > Interrupts & IRQs
  - > Soft IRQs
  - > Exceptions
  - > Board coupled Porting
- + Session 9: Block Drivers
  - > Driver & Device Registration
  - > Kernel Data Structures & Device File Operations
  - > Request Queue Ecosystem
- + Session 10: File System Modules
  - > Virtual File System
  - > The Five Operation Sets
  - > Interaction with the Block Device

- + Session 11: Network Drivers
  - > OSI Layers & the Network (TCP/IP) Stack Placement
  - > Driver & Device Registration
  - > Kernel Data Structures & Device File Operations
  
- + Session 12: Wrap Up
  - > Conclusion
  - > What Next?
  
- + Session X: Hands-On Debugging
  - > Interspersed with various Sessions