

MSP 2016 Online Training + 16 PDUs Certificate

Enquire Now (<https://www.multisoftsystems.com/microsoft/mastering-microsoft-project-2016-training>)

🏠 (<https://www.multisoftsystems.com/>)

All Courses (<https://www.multisoftsystems.com/index.php?ms=all-courses>)

Embedded Systems/VLSI/Industrial Automation (<https://www.multisoftsystems.com/embedded-systems/>)

Linux Kernel and Device Driver Development Training

Linux Kernel and Device Driver Development Training

Overview

Course Content

Drop us a Query

1. Process Management (kernel side)
2. Process Scheduling
3. System Calls
4. Memory Management
5. The Virtual File system
6. Interrupts and Interrupt Handlers
7. An Introduction to Kernel Synchronization
8. Timers and Time Management
9. Linux Device Driver
10. Writing a device Driver Program
11. RTOS
12. Task
13. Scheduling
14. Task functions

1. Process Management (kernel side)

- ➡ The Process
- ➡ Process Descriptor and the Task Structure
- ➡ Allocating the Process Descriptor
- ➡ Storing the Process Descriptor
- ➡ Process State
- ➡ Manipulating the Current Process State

Ask a Demo

Get a Call Back

[➔ Process Context](#)[➔ Copy-on-Write](#)[➔ Forking](#)[➔ vfork\(\)](#)[➔ Kernel Threads](#)

2. Process Scheduling

[➔ Multitasking](#)[➔ Linux's Process Scheduler Policy](#)[» I/O-Bound Versus Processor-Bound Processes](#)[» Process Priority](#)[» Time slice](#)[» The Scheduling Policy in Action](#)[➔ The Linux Scheduling Algorithm](#)[» Scheduler Classes](#)[» Process Scheduling in Unix Systems](#)[» Fair Scheduling](#)[➔ The Scheduler Entry Point](#)[➔ Wait Queues](#)[➔ Waking Up](#)[➔ Preemption and Context Switching](#)

3. System Calls

[➔ System Calls](#)[➔ Examples of system calls](#)[➔ Examples of Standard APIs](#)[➔ System call Implementation](#)[➔ API-system Call-OS relationship](#)[➔ Types of system calls](#)[➔ Processor Affinity System Calls](#)[➔ Yielding Processor Time](#)[➔ Communicating with the Kernel](#)[➔ APIs, POSIX, and the C Library](#)[➔ Accessing the System Call from User-Space](#)

4. Memory Management

[➔ Pages](#)[➔ Zones](#)[Ask a Demo](#)[↻ Get a Call Back](#)

- ➔ Getting Pages
- ➔ Getting Zeroed Pages
- ➔ Freeing Pages
- ➔ kmalloc()
- ➔ gfp_mask Flags
- ➔ Action Modifiers
- ➔ Zone Modifiers
- ➔ Type Flags
- ➔ kfree()
- ➔ vmalloc()
- ➔ Slab Layer
- ➔ Design of the Slab Layer
- ➔ Slab Allocator Interface
- ➔ Allocating from the Cache
- ➔ The Process Address Space

5. The Virtual File system

- ➔ Common File system Interface
- ➔ File system Abstraction Layer
- ➔ Unix File systems
- ➔ VFS Objects and Their Data Structures
- ➔ The Superblock Object
- ➔ Superblock Operations
- ➔ The Inode Object
- ➔ Inode Operations
- ➔ The Dentry Object
- ➔ The File Object
- ➔ File Operations
- ➔ Data Structures Associated with File systems
- ➔ Data Structures Associated with a Process

6. Interrupts and Interrupt Handlers

- ➔ Top Halves verses Bottom Halves
- ➔ Registering an interrupt handler
- ➔ Interrupt context
- ➔ Taslets
- ➔ Softirq

Ask a Demo

 *Get a Call Back*

7. An Introduction to Kernel Synchronization

- ➔ Kernel Synchronization Methods
- ➔ Spin locks
- ➔ Reader-writer locks
- ➔ Semaphores

8. Timers and Time Management

- ➔ Jiffies
- ➔ Hardware clocks and timers

9. LINUX DEVICE DRIVER

- ➔ Introduction
- ➔ Role of Device Driver
- ➔ types of Device driver
- ➔ loadable modules and its benefits
- ➔ Functions used to load and unload modules
- ➔ Passing parameters to a loadable module

10. Writing a device Driver Program

- ➔ Important header files
- ➔ Writing a simple module
- ➔ Compiling and loading modules
- ➔ Device information in /proc
- ➔ Character driver
- ➔ character driver basics
- ➔ major and minor numbers
- ➔ creating device files with mknod
- ➔ registering a character device driver
- ➔ Hand- on Practice
- ➔ Character Device Driver writing
- ➔ Userspace interaction
- ➔ Proc/sys model
- ➔ Lcd implementation
- ➔ Understanding the serial device driver

11. RTOS

- ➔ Introduction to RTOS
- ➔ What is Real Time System?
- ➔ Ask a Demo
- ➔ Get a Call Back

- ➔ Requirements of Real time System
- ➔ Hard Real-time Systems and Soft Real-time Systems

12. Task

- ➔ What is a task creation?
- ➔ Unitask approach Vs multitask approach
- ➔ Task states

13. Scheduling

- ➔ Multitasking Kernel
- ➔ Context switch
- ➔ Priority based scheduling
- ➔ Round Robin scheduling

14. Task functions

- ➔ Task states
- ➔ Task hooks
- ➔ Task synchronization

A Few Things You'll Love!



Accredited Training Partner



Certified & Industry Experts Trainers



Multiple Training Delivery Models



Customize course



24/7 e-Learning Access



Assessments and Mock Tests



Advance Analytical Reports



Placement Assistance

Related Courses

- ✓ Embedded Linux and RTOS Training (<https://www.multisoftsystems.com/embedded-systems/embedd...>)
- ✓ Linux System Programming Training (<https://www.multisoftsystems.com/embedded-systems/linux-sy...>)



Ask a Demo

Get a Call Back

What our Students Speak

“ I would say the skills and knowledge of the trainer were excellent. His way of teaching was also good. He always ensures that students should understand the concept and try to teach in the way which is easy to grasp the concepts. He was supportive in clearing the doubts throughout the classes.

Juhy Kaur Dhingra

Information Security Analyst, Bank of America

VIEW ALL TESTIMONIALS →

([HTTPS://WWW.MULTISOFTSYSTEMS.COM](https://www.multisoftsystems.com/index.php?ms=user_testimonial)
/INDEX.PHP?MS=USER_TESTIMONIAL)

Top Courses

- > **Skype for Business**
(<https://www.multisoftsystems.com/microsoft/skype-business-training-certification>)
- > Machine Learning
(<https://www.multisoftsystems.com/big-data/machine-learning-training>)
- > Data Science/Hadoop
(<https://www.multisoftsystems.com/business-analytics/data-science-training>)
- > HANA (<https://www.multisoftsystems.com/erp/hana-training>)
- > MS Dynamics AX 2012
(<https://www.multisoftsystems.com/microsoft-dynamics/introduction-to-microsoft-dynamics-ax-2012-training>)
- > Office 365 (<https://www.multisoftsystems.com/microsoft/managing-office-365-identities-and-services>)
- > PeopleSoft Financials
(<https://www.multisoftsystems.com/oracle/oracle-peoplesoft-financials-training>)
- > Primavera P6 (<https://www.multisoftsystems.com/cad-cam-piping/primavera-training>)
- > Windows Azure (<https://www.multisoftsystems.com/cloud-ask-a-question>)

- > Robotics Process Automation Training
(<https://www.multisoftsystems.com/business-analytics/robotics-process-automation-training>)
- > AngularJS (<https://www.multisoftsystems.com/webdesigning-development/angularjs-training>)
- > Smart Plant - 3D (SP3D)
(<https://www.multisoftsystems.com/cad-cam-piping/sp3d-training>)
- > Robotics with 8051 MC
(<https://www.multisoftsystems.com/embedded-systems/robotics-with-8051-microcontroller-training>)
- > Embedded Linux and RTOS
(<https://www.multisoftsystems.com/embedded-systems/embedded-linux-and-rtos-training>)
- > Cognos BI Reporting Fundamentals
(<https://www.multisoftsystems.com/ibm-certification-training-courses/cognos-bi-reporting-fundamentals-training>)
- > Solution Architect - Associate Level
(<https://www.multisoftsystems.com/cloud-computing/associate-level-training>)
- > JBoss Middleware Administration
(<https://www.multisoftsystems.com/redhat/jboss-middleware-administration-training>)

Ask a Question Get a Call Back

- ## Top Domains

- ## Why Multisoft

- Follow us!**



(<https://www.linkedin.com>



/company  



(<http://www.youtube.com/watch?v=Uj38Uj38Uj38>)

We Accept Online Payments



(https://www.multisoftsystems.com/index.php?ms=ms_pay_req)

Subscribe to our Newsletter

Enter e-mail Id



Learn On



(<https://play.google.com/store/apps/details?id=com.multisoft.systems>)



About Multisoft (https://www.multisoftsystems.com/index.php?ms=ms_about)

Contact Us (https://www.multisoftsystems.com/index.php?ms=ms_contact)

Ask a Demo



 [Get a Call Back](#)

Partners (<https://www.multisoftsystems.com/index.php?ms=partners>) |
Careers (<https://www.multisoftsystems.com/index.php?ms=newJobs>) |
Become a Mentor (<https://www.multisoftsystems.com/index.php?ms=our-mentors>) |
Blog (<https://www.multisoftsystems.com/blog/>) |
Faqs (<https://www.multisoftsystems.com/index.php?ms=faqs>) |
Privacy Policy (https://www.multisoftsystems.com/index.php?ms=ms_policy) |
Terms and Conditions (<https://www.multisoftsystems.com/index.php?ms=terms-and-conditions>) |
Refund/Cancellation Policy (<https://www.multisoftsystems.com/index.php?ms=terms-and-conditions#refund>) |
Feedback (<https://www.multisoftsystems.com/index.php?ms=usrFeedback>) |
Login (<http://learning.multisoftsystems.com>) |
Corporate Training (<https://www.multisoftsystems.com/trainings/onsite-corporate-training>) |
Pay Online (https://www.multisoftsystems.com/index.php?ms=ms_pay_reg)

An ISO 9001:2015 Certified Company

Disclaimer

- > PMP, PMI, PMBOK, CAPM, PgMP, PfMP, ACP and SP are registered marks of the Project Management Institute, Inc.
- > PRINCE2® is a registered trade mark of AXELOS Limited
- > ITIL® is a registered trade mark of AXELOS Limited
- > MSP® is a registered trade mark of AXELOS Limited"
- > The Swirl logo™ is a trade mark of AXELOS Limited, used under permission of AXELOS Limited. All rights reserved.

Copyright © 2010-2020 Multisoft Systems. All rights reserved.

The certification names and logos are the trademarks of their respective owners. **View Disclaimer**
(https://www.multisoftsystems.com/index.php?ms=ms_disclaimer)



Ask a Demo

 *Get a Call Back*