DevOpsSchool

Course curriculum · November 2026

LINUX SYSADMIN (LFCS) · TRAINING PROGRAM

Linux User Space Internals Course

A practical, hands-on Linux User Space Internals Course curriculum: 83 topics over 4 days. Learn live online in a small batch, as a private corporate batch, or self-paced with one year of LMS access.

LIVE ONLINE Max 8-10 hours	**CORPORATE** Private team batch, on demand	**SELF-PACED VIDEO** 1-year LMS access
BATCH SIZE Max 10 learners	**NEXT BATCHES** 1st of every month · weekends: first Saturday	**CERTIFICATE** Verifiable certificate of completion

INSIDE THIS CURRICULUM

Who should attend	Objectives, audience, prerequisites
Agenda	83 topics over 4 days
Formats and fees	Live, 1:1, self-paced, corporate
Trainer and reviews	Rajesh Kumar
Enrolment	Batches, payment, contacts

WHY DEVOPSSCHOOL

- Rated 4.6 on Google
- 1,500+ verifiable certificates issued in the public registry
- Trainer Rajesh Kumar: 20 years in industry
- Small batches: max 10 learners, every session recorded

Course page: www.devopsschool.com/courses/linux/linux-user-space-internals.html
Talk to us: WhatsApp +91 99057 40781 · +1 (469) 756-6329 · contact@DevOpsSchool.com · reply within 1 hour

COURSE FIT

Who this program is for

Use this page to decide whether Linux User Space Internals Course matches your role and experience.

1

Objectives

Understand the core concepts and usage model, apply practical workflows through examples and guided tasks, and prepare for implementation, certification or team adoption.

2

Who should attend

Developers, DevOps engineers, administrators, SREs, security engineers, platform teams, release teams, technical leads and corporate teams working with this topic.

3

Before you start

Basic computer literacy and awareness of software, operations, cloud, DevOps or security workflows is helpful. Deep programming experience is not needed unless the topic requires it.

AGENDA AT A GLANCE · 83 TOPICS OVER 4 DAYS

Day 1
19 topics · Session 1: Linux Application Space Overview

Day 2
24 topics · Exercises

Day 3
26 topics · Exercises

Day 4
14 topics · Exercises

AGENDA · 83 TOPICS OVER 4 DAYS

Linux User Space Internals Course agenda

Days are for corporate (day-wise) delivery; live online batches cover the agenda in max 8-10 hours.

DAY 1

19 topics

1. Session 1: Linux Application Space Overview
2. Linux System Overview
3. Types of Kernel Architectures
4. Linux System components
5. Session 2: System Calls in Linux
6. Need for System Calls
7. System Calls & Library Functions
8. Using strace, ltrace
9. Example programs on System calls
10. Exercises
11. System call tracing
12. Locking a file & file regions
13. Getting the time & formating the same
14. Session 3: Linux Processes
15. Need for Process
16. Creating & Exec'ing the process
17. Waiting for the process termination
18. Zombie & Orphan process
19. Daemonizing the process

DAY 2

24 topics

20. Exercises
21. Creating a Process
22. Creating multiple processes
23. Distinguishing between the child & parent processes
24. Client configuration
25. ntpq command output interpretation
26. ntpq command output interpretation continued
27. Times Zones
28. Using chrony
29. Session 4: Managing the signals
30. Need for Signals
31. Overview of Signals in Linux
32. Handling the signal
33. Blocking/Masking the signals with signal sets
34. Registering a signal handler

35. Restoring the signal disposition
36. Using SIGCHLD signal to notify the parent process
37. Examine the signal mask for the proces
38. Blocking the signal
39. Session 5: Inter-Process Communication Mechanisms
40. Need for IPCs
41. Using Pipes & FIFOs
42. Message Queues
43. Shared Memory & Semaphores

DAY 3

26 topics

44. Exercises
45. Pipes to communicate amount the related processes
46. Using popen function for the pipes
47. Pipe Communication among unrelated processes
48. Using Message Queues
49. Communication using Shared Memory
50. Synchronizing the access to Shared Memory
51. Session 6: Threads
52. Need for Threads
53. Process Vs Thread
54. Creating thread with pthread APIs
55. Waiting for thread termination
56. Creating a detached thread
57. Cancelling the threads
58. Clean-up handlers
59. Creating a thread
60. Passing arguments to the thread
61. Waiting for threads & examining the return value
62. Modifying the thread attributes to create the detached thread
63. Using the clean-up handler
64. Session 7: Thread Synchronization
65. Need for Synchronization
66. Using Mutex
67. Using Semaphores
68. Reader / Writer Lock
69. Conditional Variables

DAY 4

14 topics

70. Exercises

71. Example for mutex usage
72. Example for semaphore usage
73. Case study on Synchronizing threads
74. Example on reader/writer Lock
75. Using the Conditional variables
76. Session 8: Socket Programming
77. Introduction to Sockets
78. Socket APIs
79. Client & Server
80. Connectionless & Connection oriend Sockects
81. Creating UDP/TCP server/Client
82. Creating local Client & Server
83. Creating networked Client & Server

HOW YOU CAN LEARN

Formats and fees

The same agenda in four formats. Fees are in Indian rupees as of November 2026; the course page shows them in your currency.

FORMAT	DURATION	WHAT YOU GET	FEE
Live & interactive (online)	Max 8-10 hours	Instructor-led public batch of max 10 learners with demos, labs, Q&A and assignment review. Weekday batches start on the 1st of every month, weekend batches on the first Saturday of every month.	**INR 34,999**
1:1 live training (online)	Max 8-10 hours, one-to-one	The same agenda, taught one-to-one by the trainer. Starts immediately, without waiting for the next batch; sessions planned around your working hours, at your pace.	**INR 99,999**
Self-paced video	1-year LMS access	This program plus 20+ more courses and 50+ tools, at your own pace.	**INR 833/month** billed yearly at INR 9,996
Corporate	Planned with your team	A private batch for your team, on demand, with examples mapped to your platforms.	**Quote on request**

ASSESSMENT AND CERTIFICATE

Your progress is checked through hands-on tasks and assignments. On completion you receive a DevOpsSchool certificate of completion with a unique credential ID that anyone can verify at devopsschool.com/certificates.

INCLUDED WITH EVERY LIVE BATCH

- Every live session is recorded and stays in your LMS for a year.
- Can't attend your batch? Move to next month's batch.
- Free demo class before you pay.
- Free 10-15 minute call with an advisor or the trainer to check the course fits you.

YOUR TRAINER

Learn from Rajesh Kumar

Principal Architect, trainer and mentor in DevOps, SRE, DevSecOps and platform engineering, with 20 years across 8+ software MNCs, including Staff DevOps/SRE Engineer for a leading Japanese mobile-payment platform and Principal DevOps Architect and Manager in Europe.

Profile: www.rajeshkumar.xyz · Videos: youtube.com/@TheDevOpsSchool

20 years in industry	**200+** corporate trainings
10,000+ engineers mentored	**70+** organisations coached

REVIEWS

What learners say

Rated 4.6 on Google · more reviews at devopsschool.com/testimonials and in our video testimonials.

> “Rajesh is very good trainer. Rajesh was able to resolve our queries and question effectively. We really liked the hands-on examples covered during this training program.”
>
> Indrayani, India

> “The training was very useful and interactive. Rajesh helped develop the confidence of all.”
>
> Abhinav Gupta, Pune

START YOUR TRAINING

Join the next batch

Weekday batches start on the 1st of every month and weekend batches on the first Saturday of every month, with max 10 learners each. 1:1 training can start immediately; corporate batches run on demand. We reply within 1 hour.

Pay by UPI, credit and debit cards, net banking or PayPal. Before you pay, read our refund policy. All courses: www.devopsschool.com/courses/

ENROL OR RESERVE A SEAT
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