

# LINUX SYLLABUS COPY

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Engineered for skill enhancement.

# PROGRAM HIGHLIGHTS

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- **Accredited Certificates :**
  - ✓ Program approved ISO Certification
- **Internships :**
  - ✓ Industry-relevant opportunities providedPlacement
- **Assistance :**
  - ✓ Career guidance from industry expertsBasic to Advanced Level

# ABOUT US

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- **OUR MISSION :**

NxtSync is a pioneering EdTech company committed to bridging the gap between theoretical learning and practical application. Our mission is to empower students with cutting-edge AI skills that enhance employability and prepare them for a tech-driven future.

- **OUR VISION--UPSKILL:**

Empowering minds for the future.

- **INNOVATE:**

Fostering creativity and breakthroughs .

- **EXCEL:**

Preparing industry-ready professionals.

# Module 1: Introduction to Linux

- History and evolution of Linux
- Open-source philosophy
- Linux distributions (Ubuntu, CentOS, Debian, etc.)
- Installing Linux (Virtual Machine, Dual Boot, Cloud)

## **Module 2: Linux Basics & Command Line Interface (CLI)**

- Linux directory structure
- Basic commands (ls, pwd, cd, cp, mv, rm, cat, echo, touch)
- File permissions and ownership (chmod, chown)
- Working with nano, vi, and vim editors

# Module 3: File System Management

- File system hierarchy
- Disk partitions and file system types
- Mounting and unmounting file systems
- File compression (tar, zip, gzip)

# Module 4: User & Group Management

- .Adding, deleting, and modifying users & groups
- User permissions and access control
- Switching users and sudo privileges

# Module 5: Process Management

- Understanding processes and jobs
- Foreground & background processes
- Process monitoring (ps, top, htop)
- Killing & renicing processes

# Module 6: Package Management

- Package managers (apt, yum, dnf, pacman)
- Installing, updating, and removing software
- Compiling software from source

# Module 7: Networking in Linux

- Basic networking commands (ifconfig, ip, netstat, ping, traceroute)
- Configuring IP addresses and interfaces
- SSH, SCP, and remote access

# Module 8: Shell Scripting

- Writing and executing shell scripts
- Variables, loops, and conditionals
- Automating tasks with cron jobs

# Module 9: System Administration

- Log files and monitoring (journalctl, syslog)
- System performance tuning
- Service management (systemctl, service)

# Module 10: Security & Firewall

- User authentication and passwords
- Firewall (iptables, ufw)
- Securing SSH and network services