

LINUX SYLLABUS COPY

Engineered for skill enhancement.

PROGRAM HIGHLIGHTS

- **Accredited Certificates :**

- ✓ Program approved ISO Certification

- **Internships :**

- ✓ Industry-relevant opportunities provided Placement

- **Assistance :**

- ✓ Career guidance from industry experts Basic to Advanced Level

ABOUT US

- **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