

Syllabus – Linux+ Certification Prep

Instructor: Nathan Isburgh – instructor@edgecloud.com

Length: 40 hours

Format: Lecture and lab

Required Texts: None

Optional Texts:

- “Linux Administration Handbook” - Prentice Hall – second edition
- “Linux in a Nutshell” - O'Reilly – sixth edition
- “CompTIA Linux+ Complete Study Guide” - Sybex – First edition

Abstract: The Linux+ Certification course is designed to prepare the student for the Linux+ Certification Exam offered by CompTIA. After a preliminary study of Linux and its history, the course will move towards development of competent skills in the linux system. The early classes will focus on building a core understanding of linux and how to move around and perform common user tasks in the shell. Later, system and network administration duties will be emphasized, giving the student a broad skill set to work with in the linux environment.

Syllabus:

1) Introductions, Course overview	Total: 0.5 hours
2) Linux Big Picture	Total: 2.0 hours
1. History, Open source movement	
2. Kernel + modules, libraries, applications	
3. Distributions	
4. Multiuser	
5. Multitasking	
3) Hardware	Total: 1.0 hours
1. Components	
1. Core	
1. CPU, RAM, Hard drive, Motherboard, PSU	
2. Peripheral	
1. Keyboard, Mouse, Monitor, Case, Video, Sound, Printer	
2. RAID arrays	
3. Backup media	
4) Installation	Total: 2.0 hours
1. Process, methods, steps	
2. Installing student workstations	
5) Shells	Total: 7.0 hours
1. Command line	2.0 h
1. The Big Loop	
2. Metacharacters and Quoting	
3. Basic commands	
2. Working directories and hierarchal relationships	1.0 h
3. Environment	0.5 h
4. Man pages	0.5 h
5. Redirection	2.0 h
6. Pipes	1.0 h
6) Filesystems	Total: 4.0 hours
1. File types and directories	
2. Standard hierarchy	
3. Ownership	
4. Permissions	

5. Links	
6. Editing files	
7) Processes	Total: 2.0 hours
1. Structure	
2. Listing	
3. States	
4. Signals	
5. Jobs	
8) Boot Process	Total: 1.0 hours
1. POST	
2. Boot loader	
3. Kernel	
4. Init and runlevels	
5. Daemons	
9) System Administration	Total: 12.0 hours
1. Users and Groups	1.0 h
2. Backups	1.0 h
1. tar	
2. Compression	
3. Troubleshooting	3.0 h
1. Logs	
2. Top	
3. Sysstat	
4. Performance Tuning	1.0 h
1. Benchmarks	
5. Kernel	1.0 h
1. Modules	
2. Boot parameters	
3. Runtime parameters	
6. Filesystems	2.0 h
1. Mounting/Unmounting	
2. Partitioning	
3. Formatting	
4. Checking	
5. Quotas	
7. Shell scripting	1.0 h
8. Crond and atd	0.5 h
9. Software installation	0.5 h
1. From packages	
2. From source	
10. X Windows	0.5h
11. Printers	0.5h
10) Networking	Total: 8.0 hours
1. Overview	2.0 h
1. IP addresses and networks, Routing, DNS	
2. Configuration	3.0 h
3. Services	1.0 h
1. FTP, HTTP, POP3, IMAP, SSH, SMTP	
4. Troubleshooting	2.0 h
11) CompTIA Test Information	Total: 0.5 hours