



# ABC IT Education

We'll take you from Zero to Hero in a snap

## Linux Systems Administration

( focuses on Centos/RHEL Linux 7, Ubuntu Linux and DevOps )

### Overview

1	UNIX/Linux System Administration Course Overview
2	About the Instructor
3	About ABC IT Education
4	Certification and Career Paths
5	Introduction to Computers and Computing
6	Operating Systems (OS): What are they?
7	History of UNIX, Linux
8	Internetworking of Computers: Networking 101
9	Desktop Virtualization ( Oracle VM Virtual Box versus VMware Workstation )

### Installing a Linux System

1	Linux Distributions
2	A Bird's eye view into Ubuntu Linux
3	Installing Oracle VM VirtualBox on Windows & MacOS ( if applicable )
4	Oracle VM VirtualBox Troubleshooting Tips
5	Installing CentOS 7 and RHEL 7 ( Using a Virtual Box image )
6	When to Install Linux from Scratch
7	Installing CentOS 7 and RHEL 7 ( From Scratch using GUI )
8	Installing CentOS 7 and RHEL 7 ( From Scratch using Text )
9	Installing Ubuntu ( Using a Virtual Box image )
10	Installing Ubuntu ( From Scratch using GUI )

### Logging Into / Connecting to a Linux System

1	Log into CentOS/RHEL via the console
2	Log into CentOS/RHEL via the GUI
3	Connecting to a RHEL/CentOS system via Telnet/SSH

### Linux Fundamentals

1	The Linux Directory Structures
2	The Linux Shells
3	Basic Linux Commands
4	Getting Help at the Linux Command Lines
5	Working with Directories
6	Listing Files and Understanding the Output
7	File and Directory Permissions Explained
8	Finding Files and Directories
9	Viewing Files and the Nano Editor ( Linux )
10	Editing Files in Vi, Vim
11	Using Graphical Editors
12	Deleting, Copying, Moving, and Renaming Files

<b>Intermediate Linux Skills</b>	
1	Wildcards in Linux
2	Input, Output, and Redirection
3	Comparing Files
4	Searching in Files and Using Pipes
5	Transferring and Copying Files over the Network
6	Customizing the Shell Prompt & Shell Aliases
7	Environment Variables
8	Processes and Job Control
9	Scheduling Repeated Jobs with Cron
10	Switching Users and Running Commands as Others
11	Shell History and Tab Completion
12	Installing Software

<b>The Linux Boot Process and System Logging</b>	
1	The Linux Boot Process
2	The Linux Boot Process - Demo
3	System Logging

<b>Disk Management</b>	
1	Introduction to Disk Management
2	Creating Linux Partitions with fdisk
3	Linux File Systems

<b>LVM –The Logical Volume Manager</b>	
1	Introduction to Logical Volume Manager (LVM)
2	LVM: Layers of Abstraction
3	Creating Physical Volumes (PVs), Volume Groups (VGs), and Logical Volumes (LVs)
4	Extending Volume Groups and Logical Volumes
5	Mirroring Logical Volumes
6	Removing Logical Volumes, Physical Volumes, and Volume Groups
7	Migrating Data from One Storage Device to Another
8	Logical Volume Manager - Summary

<b>User &amp; Security Management</b>	
1	Managing Users
2	Managing Groups

<b>Linux Networking</b>	
1	TCP/IP Networking for Linux System Admins
2	Networking - DNS and Hostnames
3	Networking - DHCP, Dynamic and Static Addressing
4	Network Troubleshooting
5	Connecting to a Linux Virtual Machine Over the Network

<b>Advanced Linux Permissions</b>	
1	Special Linux Permission Modes - Part One

<b>BASH Shell Scripting</b>	
1	Shell Scripting Overview
2	Shell Scripting in a Nutshell
3	Return Codes and Exit Statuses
4	Shell Functions
5	Shell Script Check List and Template
6	Wildcards
7	Case Statements and Logic
8	Logging
9	While Loops
10	Debugging Your Bash scripts

<b>Advanced Command Line Skills</b>	
1	Tab Completion
2	Repeat as Root
3	Rerun a command starting with a string
4	Reuse arguments
5	Strip out comments and blank lines
6	Reuse the last item from the previous command

<b>Advanced Linux Skills</b>	
1	Software Installation/Patching
2	Linux Upgrade and/or Live Upgrade
3	Managing Linux System Processes
4	Securing Linux Systems
5	Linux Swap Management
6	Linux Backup and Restore
7	Special Permission Modes ( RBAC and SUDO )
8	Managing Linux Logs & Problem Resolution
9	Linux System Crashes & Core Files Management
10	Installing Apache, MySQL ( Maria DB ), PHP, and WordPress on Linux

<b>Capstone Projects</b>	
1	Linux Project I ( CentOS 7 )
2	Linux Project 2 ( CentOS 7 )
3	Linux Project 3 ( RHEL 7 )
4	Linux Project 4 ( Ubuntu )
5	DevOps Project

<b>Bonus Lesson</b>	
1	Introduction to DevOps
	<b>This an introduction into System Administration in the Cloud Computing space, and this bonus is to get your feet wet with an additional, in-demand, technology that will be beneficial to you, going forward, in the changing IT space.</b>