Linux Courses at Greenville Technical College

Greenville Technical College is proud to be a member institution of the Red Hat Academy which provides the only academic Linux curriculum in the world designed for hands-on, performance-based instruction and assessments. Greenville Technical College is the only college in South Carolina to provide Red Hat Academy courses for college credit. Currently Greenville Technical College offers four Linux courses:

IST190: Linux Essentials

Workbook 1: Quick Tour

Logging In; The Kernel, Programs, and Processes; Examining the Filesystem; Running Commands; Managing Terminals; Getting Help

Workbook 2: Filesystem Basics

Filesystem Navigation; Important Directories; Managing Files; Managing Directories; File Names and File Globbing; Examining Files; Editing Files

Workbook 3: Users and Groups

Linux Users and the /etc/passwd File; Linux Groups and the /etc/group File; Examining User Information; Changing Identity

Workbook 4: File Ownerships and Permissions

Regular File Ownerships and Permissions; Changing File Permissions: chmod; Changing File Ownerships with chgrp and chown; Directory Ownerships and Permissions; chmod Revisited: Octal Notation; Controlling Default Permissions: umask

Workbook 5: The Linux File System

File Details; Hard and Soft Links; Directories and Device Nodes; Disks, Filesystems, and Mounting; Locating Files with locate and find; Compressing Files: gzip and bzip2; Archiving Files with tar

Workbook 6: The Bash Shell

Introduction to Bash; Command Lists and Scripts; Bash Variables; Command Line Expansion; Shell Customizations; Sourcing Shell Scripts and Shell Initialization

Workbook 7: Standard I/O and Pipes

Standard In and Standard Out; Standard Error; Pipes

Workbook 8: String Processing Tools

Text Encoding and Word Counting; Finding Text: grep; Introduction to Regular Expressions; Everything Sorting: sort and uniq; Extracting and Assembling Text: cut and paste; Tracking Differences: diff; Translating Text: tr; Spell Checking: aspell; Formatting Text (fmt) and Splitting Files (split)

Workbook 9: Managing Processes

An Introduction to Processes; Process States; Process Scheduling: nice and renice; Sending Signals; Job Control; Scheduling Delayed Tasks: at; Scheduling Periodic Tasks: cron

Workbook 10: Network Applications

An Introduction to TCP/IP Networking; Linux Printing; Managing Printfiles; Email Overview; The Evolution MUA; Network Diagnostic Applications; Terminal Based Web and FTP Clients; Remote Shell Commands

Workbook 11: Supplements

Advanced Shell Scripting; Character Encoding and Internationalization; The RPM Package Manager

IST191: Linux System Administration

Workbook 1: Red Hat Enterprise Linux Installation

The Red Hat Linux Installer: Anaconda; Network Based Installations, and Other Installer Topics; Using Kickstart to Automate Installations

Workbook 2: Hardware and Device Configuration

Hardware Overview; PCI Devices; USB and Other Hot Pluggable Devices; Filesystem Device Nodes; Performance Monitoring

Workbook 3: Linux Filesystem Management

Disk Recognition and Partitioning; Creating and Managing Filesystems; Mounting Filesystems; The /etc/fstab File; Managing Swap Space; Miscellaneous Filesystem Management Commands; SELinux: Secure Linux

Workbook 4: System Initialization and Services

Boot Sequence Overview; The GRUB Bootloader; /sbin.init and Run Levels; Red Hat Linux Service Scripts; Troubleshooting the Boot Sequence

Workbook 5: User and Group Administration

What Is a User?; Adding, Modifying, and Deleting Users; Managing Passwords; Adding, Modifying, and Deleting Groups; Users and the UNIX Filesystem; Network Based User Models Customizing the User's Environment

Workbook 6: Network Configuration

Managing Network Interfaces; Basic IP Routing and Gateways; Configuring DNS Clients; Miscellaneous Network Settings; Network Diagnostic Utilities

Workbook 7: System Administration Tools

The CUPS print system and system-config-printer; CUPS Administration: the Web Interface and Command Line Tools; System Logging; Periodic Tasks: Managing cron; Automated System Maintenance

Workbook 8: RPM: The Red Hat Package Manager

RPM: Installing and Removing Software; RPM Queries and Verification; Miscellaneous RPM Utilities; YUM

Workbook 9: Kernel Services and Configuration

Kernel Modules and Updating Kernels; The Network File System (NFS); The Automounter; Filesystem Quotas; Software RAID; Logical Volume Management

Workbook 10: The X Windowing System

Overview of the X Windowing System; X Server Configuration; X Startup Configuration

IST192: Linux Network Applications

Workbook 1: Introduction to Networking Services

Red Hat Enterprise Linux network Services; Managing Red Hat Services; Managing xinetd; Controlled Daemons; SELinux: Secure Linux

Workbook 2: The Apache Web Server

Webserver Basics; Apache Configuration; Apache Configuration: Containers; Virtual Hosts; The Squid Proxy Server

Workbook 3: Berkley Domain Name Service (BIND)

Introduction to DNS; Installing and Configuring BIND; BIND Databases and Resource Records; More BIND Configuration

Workbook 4: The Network File Service (NFS) and DHCP

NFS Servers; The Dynamic Host Configuration Protocol;

Workbook 5: Samba

Introducing the Samba Service; Samba Global Configuration; Samba Shares

Workbook 6: Sendmail

Overview of Email Delivery; Managing Sendmail; Configuring Sendmail

Workbook Supplement: E-mail Alternatives

Switch MTAs: alternatives; Postfix; Service Profile: Postfix; Configuring Postfix; Additional Postfix Configuration; Enhanced Postfix Configuration; Debugging Postfix; Dovecot; Service Profile: Dovecot

IST193: Linux Security Administration

Workbook 1: Introduction and User Authentication

Computer Security; User Authentication, Account Information, and Password Management; The Pluggable Authentication Modules (PAM)

Workbook 2: System Monitoring

Monitoring the Network; Monitoring System Logs; Monitoring the Filesystem; Monitoring Processes

Workbook 3: Network and Service Access Controls

Kernel Level Firewalling; Advanced Kernel Level Firewalling; TCP Wrappers

Workbook 4: Securing Data

Introduction to Encryption; Asymmetric ("Public Key") Encryption; Public Key Infrastructures; OpenSSH

Linux Shell Script Programming

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