

NETWORKING – LINUX

COURSE CONTENT

Introduction to Linux

What is Linux?

- Then What is Unix?
- A Graphical View of Unix History
- Brief Linux History
- Linux System Construction
- Comparing Linux to Unix
- Comparing Linux to Windows/DOS
- Various Linux Distributions
- Common Linux Resources

Installing Linux

Hardware Requirements

- What You Need Before Installing
- The Install Process

Getting Started

Logging In

- Basic Linux Commands
- Using Online Help
- Restarting and Shutting Down Linux

The X Window System

- Overview of the X Window System
- Configuring X to Start Manually
- Starting X Manually
- Starting X Automatically
- Working with Windows and Menus

Customizing the X Interface

- Adding/Removing Shortcuts
- Modifying the Gnome Panel

The Shell Environment

- Kernel/Shell Relationship
- Types of Shells

- Getting to a Command Prompt
- Executing a Shell
- Changing the Default Shell
- Variables
- The Shell as a Programming Environment

The Bash Shell

- The Home Directory
- Startup Files
- Variables Revisited
- Accessing Previous Commands-History
- Command Completion
- Colors in a Command Line

Linux Commands

- Shell Command Syntax
- The MSG Command
- Writing Active Users
- Printing Files
- Defining and Creating Aliases

The Linux File System

- The Linux File System Standard (FSSTND)
- File System Structure
- Linux Directory Structure
- Navigating from the Command Line
- Viewing Files/Directories in X
- Viewing Files/Directories from the Command Line
- Using Wildcard Characters

Redirection and Pipes

- Standard Input and Output
- Standard Output Redirection
- Standard Input Redirection
- Simultaneous Redirection
- Pipes

Organizing Files

- The Touch Command
- Creating Directories
- Deleting Files and Directories
- Copying and Moving Files and Directories
- Moving and Renaming
- Creating Links to a File
- Organizing Files and Directories in X

File/Directory Permissions

- What are Permissions?
- The CHMOD Command
- The UMASK Command
- The CHOWN Command
- Changing Permissions in X

Working with Applications and Packages

- Installing: The Traditional Unix Method
- Installing: The Linux Package Method (RPM)

Working with Text Documents and Editors

- Viewing and Editing Text Files in X
- Viewing Text Files from the Command Line
- Editing Text Files from the Command Line
- Using the Pico Editor
- The VIM Editor
- Deleting and Changing Text

Using Floppies and CDs

- Mounting/Unmounting File systems
- Mtools
- Auto mounting in X

Power User Utilities

- Regular Expressions
- Wildcards
- Locating Files from the Command Line
- Locating Files from Within X
- The GREP Command
- Determining Disk Usage
- The WC Command
- The SORT Command
- The UNIQ Command

Network Utilities

- The Control Panel – Network Configuration
- Networking Commands from the Shell
- The /ETC/Hosts File

Process Management

- Listing Processes from Within Gnome
- Listing Processes from the Command Line
- Killing Processes from Within Gnome
- Killing Processes from the Command Line

Background Mode Operation (&)

- Installation, Initialization, and Shutdown
- The Boot Process and Boot PROM
- User and Software Package Administration
- System Security and Remote Connection
- Process Control
- File Systems, Files, and Directories
- Disk Configuration
- Backup and Recovery
- vi Editor and Command Syntax
- LP Print Service

- Practice Exam

Lesson Detail:

Installation, Initialization, and Shutdown

- Selected system administrator terms
- Requirements and preparation for installation
- Software and configuration clusters
- System configuration to be installed
- Disk storage systems
- Device drivers
- Installing the Solaris 8 software
- Power on and booting the system
- System run states
- Init phase
- Stopping and starting services with control scripts
- System shutdown

The Boot Process and Boot PROM

- OpenBoot environment
- OpenBoot architecture
- OpenBoot interface
- PROM full device names
- OpenBoot device aliases
- OpenBoot non-volatile RAM (NVRAM)
- OpenBoot security
- OpenBoot diagnostics
- Input and output control
- boot
- Kernel

User and Software Package Administration

- Adding user accounts with Admintool
- Managing user accounts with Admintool
- Managing users from the command line

- User initialization files
- Home directories and name services
- Managing software
- Listing and spooling software packages
- Adding and removing software
- Software patches

System Security and Remote Connection

- Physical security
- Controlling system access
- Storing user account information
- Controlling file access
- Permission schemes for user and group IDs
- Access Control Lists (ACLs)
- Managing ACL entries
- Setting path and identification permission
- Monitoring users and system usage
- Obtaining login information
- Using firewalls and securing network services
- Other network security methods
- Remote system operations and the trusted host
- Restricting FTP
- Restricting root access
- Monitoring superuser access
- Automated Security Enhancement Tool (ASET)

Process Control

- Viewing a process
- The pgrep and prstat commands
- Process Manager
- Using signals
- Scheduling processes
- The crontab command

- The at command
- syslog and other logs

File Systems, Files, and Directories

- A file system defined
- Solaris file system types
- Disk slices
- Creating slices with the format utility
- Parts of a UFS file system
- Creating a UFS file system
- Custom file system parameters
- File system operations
- Mounting file systems
- Displaying mounted file systems
- Constructing a file system
- Tuning file systems
- Options for mounting a file system
- Unmounting a file system
- Volume Manager
- Modifying devices with the Volume Manager
- Troubleshooting media devices
- Information on file systems

Disk Configuration

- Device drivers
- Physical device names
- Device auto-configuration
- Instance names
- Transparent configurations
- Major and minor device numbers
- Logical device names
- Virtual volume management
- Metadevices and drivers

- StorEdge Volume Manager

Backup and Recovery

- Backup media and utilities
- The tar command
- The dd command
- The cpio command
- The pax command
- The ufsdump command
- The ufsrestore command
- Recovering file systems

Vi Editor and Command Syntax

- Shell script basics
- Selecting a shell to use
- Bourne shell variables
- Bourne shell built-ins and conditionals
- The if and case conditionals
- Repeated-action commands and functions

LP Print Service

- The Solaris LP print service
- The print spooler and LP daemons
- Printer hardware
- Printer software
- Print servers
- Creating printer classes
- Managing printers with GUI tools
- Routine printer tasks
- Checking printer status
- Managing user access to printers
- Managing printer queues

Practice Exam

- System concepts
- The boot PROM
- Installation
- Initialization and shutdown
- User administration
- Security
- Process control
- File systems
- Files and directories
- The boot process
- Disk configuration
- Backup and recovery
- Basic command syntax