Hands-On

UNIX & Linux Essentials

Course Description

This Hands-On course provides technical staff new to UNIX and Linux with a sound appreciation of the operating system. The course provides attendees with knowledge and confidence in the most useful UNIX & Linux tools and utilities.

On completion, attendees will have a fundamental knowledge of the UNIX & Linux operating systems and be able to use some of the more advanced facilities. Having gained suitable, complementary experience they can progress to further specialized training to establish peak effectiveness.

Students Will Learn

- **Describe the various interfaces to UNIX and Linux.**
- **Benefit from the CDE, GNOME and KDE desktop environments.**
- **Work with the command line and use basic UNIX & Linux commands.**
- **Navigate the filesystem and manipulate files and directories.**
- **Print files using the various commands available in the popular flavours of UNIX and Linux.**
- **Maintain file security.**
- **Manage processes.**
- **Benefit from the functionality of the Korn and BASH shell.**
- **Edit text with vi and vim.**
- **Access the web and utilise mail services.**
- **Create Simple Shell Scripts.**
- **And More...**

Target Audience

Technical staff (support personnel, application developers, system integrators) and users requiring the basic skills necessary to interface effectively with UNIX and Linux based Open Systems. This course is suitable for all major vendor releases of UNIX and Linux, including AIX (up to 7.x), HP-UX, Sun Solaris, SCO UNIXWare, Red Hat, SuSE, Debian etc.

Prerequisites

Attendees should be technical staff who have some knowledge of the Windows operating system at any level. No prior

experience with UNIX or Linux is required.

Course Outline

Welcome to the world of UNIX and Linux

- Why do Users choose UNIX and Linux?
- An Operating System
- The UNIX and Linux Operating Systems
- Components of the Operating System
- Organisation of a UNIX and Linux System
- The Kernel
- The Filesystem
- The Shell
- User Interfaces
- Terminal based interface
- The Command Processor
- Utilities
- Windows based Interfaces (CDE, KDE and Gnome)
- Using a Graphical Interface
- Distributed Environments and Client/Server
- Networking

Logging On and Getting Help

- Logging On
- Accessing the Command Line
- Format of UNIX and Linux Commands
- Getting Help
- Internet Based Help
- Setting and Changing the Password

Navigating the Filesystem

- Structure of a UNIX and Linux Filesystem
- Identifying Files and Directories
- Address Formats
- The Home Directory
- Where am I? (pwd)
- Moving Around the Filesystem (cd)
- Listing Directory Contents
- Creating Directories
- Removing Directories
- Displaying Files

- Displaying File Contents
- Copying Files and Directories
- Moving and Renaming Files & Directories
- Removing Files

Shell Facilities

- The Shell Environment
- Using Wildcards (Metacharacters)
- Default Action of the Shell
- Saving Output and Using File Input (Redirection)
- Bolting Commands Together (piping)
- Gluing Files Together (cat)
- Aliases

Printing

- Formatting a file to be printed
- Print File
- Print Request
- Cancel Print Request
- Enable Printer
- Line Printer Status Information

Editing With vi and vim

- Introducing the vi and vim Editors
- Key Tricks
- vi and vim Modes
- The vi and vim Editor for Beginners
- Some Further Useful features

Process Handling

- What is a Process?
- Interactive or Background?
- Process Fork / exec
- Process, Report Status
- Process, kill a
- Allocating Priority
- Logging out using Nohup
- Sequential Command

Additional UNIX and Linux Commands

- Display Date
- Display a Calander
- Spell Checking
- Word Count
- Mail Usage
- Who is on the System
- Write to User
- Grep
- Regular Expressions

UNIX and Linux Utilities

- The Find Utility
- Sort or merge Files
- sed

UNIX and Linux Security

- File System Permissions
- Change mode
- Symbolic Notation
- Octal Notation
- Change owner
- Change group
- Default Creation Mode (umask)
- Backup and Restore
- Working With Compressed Files
- Tar Utility
- Cpio Utility
- Pathname considerations for backup utilities

The Shell Environment

- Shell Environment
- System Variables
- Shell Variables
- Assigning Variables
- Displaying Variable Values
- Exporting variables

- Shell Interpretation
- Using Quotes in the Shell
- The Back Quote
- The Single Quote
- The Double Quotes
- The Backslash
- Special Escape Characters
- Additional Korn Shell Facilities

Shell Programming

- Shell Scripts
- Executing Shell Scripts
- Passing Arguments To A Program
- Positional Parameters
- Special Shell Parameters
- The Read Command

Delivery Method

Instructor-Led with numerous Hands-On labs and exercises.

Equipment Requirements

(This apply's to our hands-on courses only)

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

Course Length

3 Days