z/OS UNIX System Services Part 1 - Concepts & Facilities Training

Duration: **2 Day**

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Overview

This two-day course describes and explains UNIX System Services from a technician's point of view. The principal UNIX concepts are introduced and explained, and followed by a thorough examination of USS (UNIX) at a conceptual level.
The course goes on to describe the facilities available and explains how the z/OS system environment has changed to support open system and UNIX concepts through z/OS USS.

This course is also available for one-company, on-site presentations and for live presentation over the Internet, via the Virtual Classroom Environment service.

Prerequisites

A basic understanding of the z/OS environment.

What You Will Learn

- understand and use the terminology associated with UNIX
- describe basic UNIX concepts
- issue UNIX shell commands
- identify and utilise key shell commands such as 'find', 'grep', etc.
- explain the changes that have been made to the MVS platform in order to support applications created for a UNIX environment
- identify the facilities and functions provided within USS
- utilise ISHELL.

Outline

Introduction to UNIX & Open Systems

Where did UNIX come from?; Modern UNIX history; The UNIX 'culture'; Commercial UNIX systems; What is 'Open Systems'?; Some 'official' definitions; Open platforms; Portable Operating System Interface - POSIX; The POSIX standards; Open Group branding; What is DCE?

UNIX System Overview

UNIX internals overview; The Kernel; System calls; Processes and programs; The shell; Tools; UNIX shells; The UNIX file system; The system files - /etc, /dev, /bin and others; UNIX security basics; UNIX User ids (uids); User attributes; Access control in UNIX; File access control attributes; Meaning of permissions; Changing user and file attributes; Changing user information; Changing file information; File permission and user mask; Additional permission bits; User account information; User-determined information; The root username - the superuser.

The Kernel & the Shell

The Kernel; The Shell; Main shell functions; Basic command syntax; Input and Output redirection; Examples of redirecting Input and Output; Piping input between commands; Environment variables;

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Special shell variables; Shell variables; Local and environment variables; Special keyboard operations; Online help; UNIX multitasking; Placing a command in background; Monitoring background commands;; Controlling background commands; Moving processes between foreground and background; File wild card searches; Shell programming; Shell programming commands and features; Passing arguments to shell programs; Shells and shell commands; Overview of commands; Command history.

The UNIX File System Concept

UNIX file types; Directory structure; Paths and file names; zFS and HFS; Recommended file structure; Lengths of path and file names; Specifying UNIX files in z/OS; Creating, listing and viewing files; Positioning current work directory; Path and file name lengths; Working with directories; File system protection; Assigning file attributes; Permission attributes (r, w, x); Assigning permission attributes to a file; Setting file permissions - chmod; File attributes; Default file permissions - umask; Links - file name 'alias'; Hard links; Hard links and i-node numbers; Hard link - listing; Symbolic links; Additional list options; Listing files - pattern matching; Locating files - find; The find command; Additional search qualifiers; Copying files - cp; Moving and removing files; Controlling Input and Output; Passing files between programs - pipes; Regular expressions; Searching for strings in files - grep; grep - a science in its own right; grep and regular expressions; Sorting text files - sort; Formatting files with pr; Printing to hardcopy - lp; Example of files and directories.

Interactive USS

Invoking USS; Running USS interactively; Login to USS; TSO terminal support - Pseudo TTY; TSO or asynchronous, OCS or direct?; 1003.1 Compliant communication functions; The shell; The OMVS command; Default PF keys in OMVS; OMVS subcommands; Shell commands; TSO/E commands and ISPF panels; ISPF panel for file management - ISHELL; Directory list; File - drop down menu; The ISPF edit panel; Directory - drop down menu; OEDIT and OBROWSE.

USS File Systems

zFS and HFS; Recommended file structure; Lengths of path and file names; File name examples; Specifying UNIX files in z/OS; File attributes.