

HP-UX Network and System Administration 1

Course Summary

Length: Classroom: 5 days Virtual: 6 hrs/day - 5 days

Prerequisite: HP-UX Fundamentals or equivalent experience

Recommendation Statement:

It is assumed that the student has an understanding of UNIX. You must be familiar with basic UNIX commands, and the VI editor. The HP-UX fundamentals course or an equivalent Unix SVR4 fundamentals course is recommended.

Course Description:

This course teaches basic to intermediate topics in HP-UX system administration. The operating system will be HP-UX 11i v3 and the course is taught on both HP 9000 and Itanium.

Topics covered include:

- Understand the HP Hardware architecture (HP 9000/PA-RISC and Integrity servers)
- Understand how to startup and shutdown an HP-UX server
- Understand the boot process on HP PA-RISC and Integrity servers.
- Using SAM menus and actions
- Configure and administer devices and device files
- Managing file systems
- Loading the operating system
- Understand LVM and configure disks using LVM (from SAM and the command line)
- Understand, configure and manage HP's Journal File System (JFS)
- Configure HP-UX kernel tunables and subsystems.
- Understand the tools to backup and restore files and file systems.
- Understand how to create a recovery tape.
- Understand how to install OS patches
- Understand Dynamic Root Disk (DRD) concepts and tasks

HP-UX 11i v2 System and Network Administration I

Detailed Course Outline

Introduction to HP-UX 11i v2

- Introduction to the HP-UX 11i Operating Environments Enterprise OE/ Mission critical OE/Technical OE)
- Understand the HP-UX server platforms (HP-UX 9000/PA-RISC and Integrity platforms)
- Understand the HP-UX release levels
- Overview of SAM: Understanding SAM's capabilities and limitations?

Creating and Managing User Accounts

- Users and Groups
- /etc/passwd file
- /etc/group file
- Adding users using SAM
- Managing users with SAM
- Adding and managing and groups from the command line
- Customizing a user account
- /etc/skel directory
- ASCII vs. CDE logins

Navigating the HP-UX File Hierarchy

- The file system paradigm
- System directories
- Navigating directories and file systems
- UNIX file types
- Searching for files
- Hard links and soft links

Connecting Peripherals

- HP 9000 Architecture terminology
- Device adapter types
- Installing new interfaces and devices
- SCSI addressing
- SCSI LUN addressing
- Using ioscan to view device addresses

Configuring Device Special Files (DSF)

- HPUX device file overview
- Listing device files (ll, ioscan, lssf)
- The /dev directory
- Device file naming convention
- Disk device file names
- Tape device file names
- Terminal and modem device file names
- How device files are created
- Autoconfiguration
- Creating device files with SAM

- Creating device files with mkfs and insf

Configuring and Managing Disk Devices and LVM

- Pros and cons of disk partitions
- Disk partitioning
- Whole disk partitioning
- LVM device files
- Creating physical volumes
- Creating volume groups
- Creating logical volumes
- Extending a volume group
- Extending a logical volume
- Extending a file system

Managing File systems

- Understand File system concepts
- Understand file system structure
- Hard vs. Symbolic (soft) links
- Understand differences between HFS and VxFS file systems
- Create / mount / unmount file systems
- Mounting loopback (LOFS) file systems
- Mounting CD-ROM /DVD (CDFFS) based file systems
- Repairing corrupted file systems

Installing and Updating HP-UX 11i v2

- Planning an installation or update
- 11i v2 Hardware and file system requirements
- Choosing network parameters, an operating environment, and an install-time security bundle
- Backing up the system
- Initiating an Integrity or PA-RISC installation or update
- Understanding the Ignite-UX menus
- Performing post-install/update configuration
- Verifying and automating installs and updates
- Creating an SD-UX update or Ignite-UX install server

Managing Swap Space

- Memory concepts
- Swap concepts
- Swap types
- Pseudo swap
- Enabling swap (command line)
- Automatically enabling swap (/etc/fstab)
- Monitoring swap space
- Selecting device swap areas
- Selecting file system swap areas

Configuring the HP-UX Kernel

- Why reconfigure the kernel
- Using SAM for kernel Configuration

- Moving the new kernel into place
- What if the new kernel won't boot
- Configurable kernel parameters

Managing File System Backups

- Backups
- fbackup
- frecover
- Network backup and recovery
- The make_recovery utility
- Online Backups
- LVM mirrored backup
- JFS online backup

Accessing the System Console

- Management processor concepts
- Viewing MP/console ports
- Connecting MP serial and LAN ports
- Accessing the MP
- Navigating the MP menu and web interfaces
- Accessing the VFP, console log, and system event log
- Accessing the MP help menus
- Accessing the MP command menu
- Rebooting via the MP

Booting HP-UX 11i v2 via the EFI

- Integrity firmware architecture
- Processor and system abstraction layers
- EFI OS loader
- Integrity boot disk, system partition, OS partition, and HP service partition structures
- PA-RISC and EFI boot process comparison
- Initiating an Integrity system boot
- Choosing boot, arbitrary boot, or console devices
- Viewing system information and EFI devices via the EFI and HP-UX
- Managing the EFI boot menu and EFI file systems via the EFI and HP-UX
- Booting from an alternate disk, install DVD, Ignite-UX server, make_tape_recovery tape, HPSP, or diagnostics CD

Configuring the HP-UX Kernel

- Why reconfigure the kernel
- 11i v1 kernel configuration features
- Configuring 11i v1 kernel drivers and subsystems
- Configuring 11i v1 tunable parameters
- Processing and applying the 11i v1 kernel
- 11i v2 and v3 kernel configuration features
- Choosing a kernel configuration interface
- Using the kc* CLI, TUI, and GUI interfaces
- Kernel configuration concepts
- Special kernel configurations

- Kernel configuration commands
- Modifying the current kernel configuration
- Copying a configuration
- Loading a configuration
- Kernel module concepts, states, and state changes
- Viewing and managing module states
- Kernel tunable concepts and types
- Viewing, managing, and monitoring kernel tunables
- Viewing the kernel change log
- Booting from an alternate kernel
- Booting via override parameters
- Booting to tunable maintenance mode

OS Patches

- Why install patches?
- Patch naming conventions
- Obtaining patches
- Installing patches
- Using swinstall to manage patches
- Using swremove to remove patches
- Listing patches with swlist

Ignite-UX

- What is Ignite-UX?
- Ignite-UX tools overview
- Ignite-UX client configuration
- HP-UX 11i Ignite-UX installation
- Navigating the Ignite-UX menus
- Installing the OS with Ignite-UX
- Verifying an installation

Minimizing Downtime with Dynamic Root Disk (DRD)

- DRD concepts
- DRD benefit: minimizing unplanned and planned downtime
- Installing DRD
- Using the drd command
- Creating and updating a clone
- Accessing inactive images via DRD-safe commands and other commands
- Activating an inactive image

Configuring Role-Based Access Control (RBAC)

- RBAC features and benefits
- Installing RBAC
- Configuring and assigning RBAC roles and authorizations
- Configuring RBAC commands and file privileges
- Verifying the RBAC database
- Configuring RBAC auditing
- Running commands with privrun
- Editing files with privedit

- Fine grained privileges overview
- Security compartments overview