**Unix Training Content**

Topics:

1. 1-3 : Mandatory to cover with practical/practices scenarios
2. 4 & 5: Cover briefly for Awareness with study material and practical exercise to complete post training.

**Lab Requirements**

<https://docs.microsoft.com/en-us/windows/wsl/install-win10>

**Install your Linux distribution of choice Ubuntu 20.04 LTS**

**Duration: 40 hours**

**Day 1**

* What is Unix ?
* Unix Architecture:
* System Bootup:
* Login Unix:
* To log in:
* Change Password:
* Listing Directories and Files:
* Who Are You?
* Who is Logged In?
* Logging Out:
* To log out:
* System Shutdown:
* Unix File Management
* Listing Files:
* Meta Characters:
* Hidden Files:
* Creating Files:
* Editing Files:
* Display Content of a File:
* Counting Words in a File:
* Copying Files:
* Renaming Files:
* Deleting Files:
* Standard Unix Streams:
* Unix Directories
* Home Directory:
* Absolute/Relative Pathnames:
* Listing Directories:
* Creating Directories:
* Creating Parent Directories:
* Removing Directories:
* Changing Directories:
* Renaming Directories:
* The directories  (dot) and  (dot dot)
* Unix File Permission Setup
* The Permission Indicators:
* File Access Modes:
* Read:
* Write:
* Execute:
* Directory Access Modes:
* Read:
* Write:
* Execute:
* Changing Permissions:
* Using chmod in Symbolic Mode:
* Using chmod with Absolute Permissions:
* Changing Owners and Groups:
* Changing Ownership:
* Changing Group Ownership:
* SUID and SGID File Permission:
* Unix Environment
* The profile File:
* Setting the Terminal Type:
* Setting the PATH:
* PS and PS Variables:
* Environment Variables:
* Java Basic Utilities
* Printing Files:
* The pr Command:
* The lp and lpr Commands:
* The lpstat and lpq Commands:
* The cancel and lprm Commands:
* Sending Email:
* Unix Pipes and Filters
* The grep Command:
* The sort Command:
* The pg and more Commands:

**Day 2**

* Unix Processes Management
* Starting a Process:
* Foreground Processes:
* Background Processes:
* Listing Running Processes:
* Stopping Processes:
* Parent and Child Processes:
* Zombie and Orphan Processes:
* Daemon Processes:
* The top Command:
* Job ID Versus Process ID:
* Unix Communication
* The ping Utility:
* Syntax:
* Example:
* The ftp Utility:
* Syntax:
* Example:
* The telnet Utility:
* The finger Utility:
* Unix – The vi Editor
* Starting the vi Editor:
* Operation Modes:
* Getting Out of vi:
* Moving within a File:
* Control Commands:
* Editing Files:
* Deleting Characters:
* Change Commands:
* Copy and Past Commands:
* Advanced Commands:
* Word and Character Searching:
* Set Commands:
* Running Commands:
* Replacing Text:
* IMPORTANT:
* Unix- What is Shell
* Shell Prompt:
* Shell Types:
* Shell Scripts:
* Example Script:
* Shell Comments:

**Day 3**

* Extended Shell Scripts:
* Unix- Using Variables
* Variable Names:
* Defining Variables:
* Accessing Values:
* Read-only Variables:
* Unsetting Variables:
* Variable Types:
* Unix-Special Variables
* Command-Line Arguments:
* Special Parameters $\* and $@:
* Exit Status:
* Unix – Using Arrays
* Defining Array Values:
* Accessing Array Values:
* Unix - Basic Operators
* Arithmetic Operators:
* Relational Operators:
* Boolean Operators:
* Example:
* String Operators:
* Example:
* File Test Operators:
* Example:
* C Shell Operators:
* Arithmatic and Logical Operators:
* File Test Operators:
* Korn Shell Operators:
* Arithmatic and Logical Operators:
* File Test Operators:
* Unix – Decision Making
* The ifelse statements:
* iffi statement
* Syntax:
* Example:
* ifelsefi statement
* Syntax:
* Example:
* ifelifelsefi statement
* Syntax:
* Example:
* The caseesac Statement:
* caseesac statement
* Syntax:
* Example:
* Unix – Shell Loops
* The while loop
* Syntax:
* Example:
* The for loop
* Syntax:
* Example:
* The until loop
* Syntax:
* Example:
* The select loop
* Syntax:
* Example:
* Nesting Loops:
* Nesting while Loops:
* Syntax:
* Example:
* Unix – Loop Control
* The infinite Loop:
* Example:
* The break statement:
* Syntax:
* Example:
* The continue statement:
* Syntax:
* Example:

**Day 4**

* Unix – Shell Substitutions
* What is Substitution?
* Example:
* Command Substitution:
* Syntax:
* Example:
* Variable Substitution:
* Unix – Quoting Mechanisms
* The Metacharacters
* Example:
* The Single Quotes:
* The Double Quotes:
* The Back Quotes:
* Syntax:
* Example:
* Example:
* Unix – IO Redirections
* Output Redirection:
* Input Redirection:
* Here Document:
* Discard the output:
* Redirection Commands:
* Unix – Shell Functions
* Creating Functions:
* Example:
* Pass Parameters to a Function:
* Returning Values from Functions:
* Example:
* Nested Functions:
* Function Call from Prompt:
* Unix - Manpage Help
* Syntax:
* Example:
* Man Page Sections:
* Useful Shell Commands:
* Unix - Regular Expressions
* Invoking sed:
* The sed General Syntax:
* Deleting All Lines with sed:
* The sed Addresses:
* The sed Address Ranges:
* The Substitution Command:
* Substitution Flags:
* Using an Alternative String Separator:
* Replacing with Empty Space:
* Address Substitution:
* The Matching Command:
* Using Regular Expression:
* Matching Characters:
* Character Class Keywords:
* Aampersand Referencing:
* Using Multiple sed Commands:
* Back References:

**Day 5**

* Unix – File System Basics
* Directory Structure:
* Navigating the File System:
* The df Command:
* The du Command:
* Mounting the File System:
* Unmounting the File System:
* User and Group Quotas:
* Unix – User Administration
* Managing Users and Groups:
* Create a Group
* Modify a Group:
* Delete a Group:
* Create an Account
* Modify an Account:
* Delete an Account:
* Unix – System Performance
* Peformance Components:
* Peformance Tools:
* Unix – System Logging
* Syslog Facilities:
* Syslog Priorities:
* The /etc/syslogconf file:
* Logging Actions:
* The logger Command:
* Log Rotation:
* Important Log Locations
* Unix – Signals and Traps
* List of Signals:
* Default Actions:
* Sending Signals:
* Trapping Signals:
* Cleaning Up Temporary Files:
* Ignoring Signals:
* Resetting Traps:
* Unix – Useful Commands
* Files and Directories:
* Manipulating data:
* Compressed Files:
* Getting Information:
* Network Communication:
* Messages between Users:
* Programming Utilities:
* Misc Commands:
* Unix – Builtin Functions