**LINUX – DAY01**

**Content:**

* **Pre – requisite software’s**

**1.SSH Tools**:

a. Putty

b. Super Putty

**2.FTP Tools:**

a. WinSCP

b. FileZilla

c. Cyberduck

* **Introduction to Linux**
* **Linux File Structure**
* **Pre – requisite software’s:** If we want to connect Linux server for write commands. We need some pre-requisite software’s.

**1.SSH (Secure Shell) Tools:**

1. For windows, we need to install Putty or Super Putty.
2. For MacBook, we have Terminal.

**Note:**

1.If you want to connect to the server, you show know about IP address/Host name, Username, Password.

**2. FTP (File Transfer Protocol) Tools:**

1) For windows, WinSCP

2) For windows/MacBook/Linux, FileZilla

**Note:**

1.There are some files in the server. If you want to retrieve or download the files using FTP protocol.

2.If you have this FTP tool in your PC, you can upload or download files.

**Introduction to Linux**

**What is Linux:**

* Linux is an Operating System that manages the hardware resources and Linux OS provides the services for the computer Programs. It is mainly known for it’s flexibility and robustness.
* Linux started around in 1991 by **Linus Torvalds**. He is the creator of the Linux OS.
* Linux is Multi user (i.e., this Os is used by multiple users), Multitasking (i.e., it can perform multiple tasks at a time).
* Linux is open source i.e., the source code of the Linux is available to all. The source code allows everyone to view, modify and share the code with others.
* Linux is case-sensitive (we can only use lower case letters for commands. If you use uppercase, it shows command not found).

**Ex:** ls, cd, mkdir etc.

**Key Features of Linux:**

* Open Source: The source code is freely available to everyone. This allows us to view, modify, share the code to others.
* Security: Linux is well known for the strong security, robust user permissions. It has a lower susceptibility to malware compared to other OS.
* Stability and Reliability: Linux Systems are renowned for their stability and reliability, often running for years without needing a reboot.
* Multi-User and Multi-Tasking: Linux allows multiple users can run multiple tasks simultaneously.

**Some of the distributions of Linux:**

Distribution is a version of Linux includes Linux kernel, system utilities, and software packages. Different Distributions are used for their needs.

1. Redhat
2. CentOS
3. Ubuntu
4. Suse Linux
5. Fedora
6. Gentoo
7. Mandriva
8. Debian
9. Slackware

**LINUX FILE SYSTEM HIERARCHY**

* For example, we can call as folders in windows. Same as, we can call as Directories in the Linux. There are Some sub- directories are also in the Directories.
* In the Linux, there is a root directory/Parent Directory. For this root Directory, there are some sub-directories.

**Sub Directories:**

1. **/root:** The root directory is the top most directory and this root directory contains all it’s nested directories and files.
2. **/home:** This home directory contains all the user’s information. It is same as users in our windows. These Users are going to create directory in the home directory.
3. **/bin:** This binary directory contains the binary files which are used for basic system functionality. In Linux, each command has the binary file.

**Ex:** mkdir

ls

cd

1. **/sbin:** This system binary directory contains the binary files.

**Ex:** useradd

userdel

shutdown

1. **/boot:** This directory contains the files needed to boot the system, such as kernel, initial RAM disk and bootloader configuration files.
2. **/etc:** This etc directory contains the all-configuration files and scripts.

**Ex:** sudoers

sshd-config

profile

shadow

group

passwd

motd

1. **/lib:** This library directory contains the all libraries of the OS.
2. **/Proc**: If you execute a command, shell script it will generate a process ID for each task. All the process

Id’s information is stored in this Directory. Along with these it stores some files are cpuinfo, meminfo.

1. **/opt:** By Default, this directory is empty. All the third-party software installation will take place in this directory. If you want to install any software, you should login as root user.
2. **/tmp:** We will use this directory as Temporary storage of files.
3. **/var:** It contains the variables information’s and also log files information in this Directory.
4. **/dev:** It contains all the external hardware device information which are connected to the server.