Day-1 Hands-on Labs: Getting to Know your System

Hi trainees, this document has your assignment for day-1. The goal of day-1 is to *help you familiarize yourself with your GNU/Linux environment by knowing its capabilities*. By the end of these labs, you should be comfortable identifying your distribution, navigating man pages, exploring the shell, understanding the boot process, and interpreting the filesystem hierarchy.

Lab-1: Understand your Distribution

1. Find the distribution name, version, and release information (**`/etc/os-release`**, **`lsb_release -a`**). What's the difference you see in both?
2. Check which package manager the system uses (**`which yum || which apt`**).
3. Discover the kernel information of your system (**`uname -r`**).
4. Check how long the system has been running (**`uptime`**).

Lab-2: Using man Pages

1. Identify which section of the man pages documents file formats and conventions.
2. Use **`man ls`** and explain what the **`-r`** option shows. What are the other options it can be used with?
3. With the help of **`-k`** and **`-K`** based keyword search methods, find the command that's responsible for changing the age of passwords.

Lab-3: The Shell and Its Modes

1. Identify which shell you are currently running (**`echo $SHELL`**).
2. Set the default editor for your shell as Vim.
3. Write a simple script named **`hello.sh`** that prints "Hello, <your-name>!" and run it.

Lab-4: Understanding the File System

1. In **`/proc`**, find the file that shows system uptime.
2. In **`/etc`**, find the file that stores the hostname.
3. In **`/var`**, find where log files are stored. Explore the different log files and let us know.
4. In **`/dev`**, test what **`/dev/null`** does (**`echo test > /dev/null`**).
5. Locate the current working directory of your shell process by inspecting **`/proc/<pid>/cwd`**. You can find the PID of your shell by running **`ps`**.

Lab-5: System Capabilities

1. Display CPU information from **`/proc/cpuinfo`**.
2. Display memory information from **`/proc/meminfo`**.
3. Count the number of processes currently running (**`ps -ef | wc -l`**).
4. Identify how many users are currently logged in (**`who`**).