*Module 19 Linux server - Deploy, configure, and maintain systems Assignment*

*Level Basic to Advance*

1. ***What is RPM package manager?***

*Ans. The RPM package manager, also known as RPM (Red Hat Package Manager), is a package management system used primarily in Linux distributions to package, install, update, and remove software packages. It was originally developed by Red Hat and has since become a widely used standard for software packaging in many Linux distributions, including Fedora, CentOS, openSUSE, and Oracle Linux, among others.*

1. ***What is “yum “***

*Ans. "yum" (Yellowdog Updater Modified) is a command-line package management utility for RPM-based Linux distributions. It is the default package manager used in CentOS, RHEL (Red Hat Enterprise Linux), and other RPM-based systems. Yum is designed to automate the process of package installation, upgrade, removal, and dependency resolution.*

1. ***I want to check all list of available packages, which command will help***

*Ans. To check the list of all available packages in the repositories configured on your system, you can use the appropriate package manager command for your Linux distribution. Here are the commands for both Yum and Dnf, depending on which package manager is used in your system:*

1. *For Yum (used in CentOS 7 and earlier, RHEL 7 and earlier, and other RPM-based systems):*

***yum list available***

1. ***From which command, we register with RedHat satellite?***

*Ams. To register a system with Red Hat Satellite, you typically use the "subscription-manager" command-line tool. "Subscription-manager" is a part of the Red Hat Subscription Management (RHSM) system and is used to manage subscription and entitlement information for Red Hat products.*

***Sudo subscription-manager register***

1. ***What is the use of repo file?***

*Ans. A repo file, short for repository file, is a configuration file used by package managers in Linux-based operating systems. It contains information about software repositories, which are collections of software packages and metadata that can be accessed and managed by the package manager. These repository files provide essential details for the package manager to know where to find and download software packages and updates.*

1. ***what is “at”***

*Ans. In Linux, "at" is a command-line utility that allows you to schedule one-time tasks or commands to run at a specific time in the future. It provides a way to execute a command or script later without the need for the system to be actively running atz that moment.*

*The "at" command is particularly useful for running jobs or tasks that need to be executed once at a specified time, such as running a backup script, initiating system maintenance, or performing specific actions at non-standard hours.*

1. ***Where do we find “atd” daemon?***

*Ans. The location of the "atd" daemon may vary depending on your Linux distribution. On most RPM-based systems (like CentOS, RHEL, Fedora), and Debian-based systems (like Ubuntu, Debian), the "atd" daemon can typically be found in the standard system directory for daemons, which is usually "/usr/sbin/".*

1. ***Which command is used to get an overview of the pending jobs for user?***

*Ans. To get an overview of the pending "at" jobs for a specific user, you can use the "atq" command. The "atq" command displays a list of scheduled "at" jobs in the systems "at" spool directory for the current user or, if you have sufficient privileges, for all users.*

*Here's the basic syntax of the "atq" command:*

***atq [-u username]***

1. ***Which command is used to remove a scheduled job?***

*Ans. To remove a scheduled job created using the "at" command, you can use the "atrm" (at remove) command followed by the job ID. The "atrm" command allows you to delete specific pending jobs from the "at" queue, preventing them from being executed at their scheduled times.*

*Here's the syntax of the "atrm" command:*

***atrm JOB\_ID***

1. ***What is the use of ‘crontab -l’ command?***

*Ans. The crontab -l command is used to view the current user's scheduled cron jobs. "cron" is a time-based job scheduler in Unix-like operating systems, including Linux. It allows users to schedule commands or scripts to run at specific intervals or at fixed times on a regular basis.*

*Here's how the crontab -l command works:*

*crontab: The crontab command is used to manage the user-specific cron jobs. It allows users to create, edit, list, and remove their scheduled tasks.*

*-l: The -l option stands for "list" and is used with the crontab command to display the user's current cron jobs.*

*When you run crontab -l, it will show the list of cron jobs scheduled for the current user. Each cron job is displayed on a separate line, and the format of a cron job entry typically follows this pattern:*

***\* \* \* \* \* /path/to/command or script***

1. ***What is the use of ‘crontab -r’ command?***

*Ans. The crontab -r command is used to remove or delete the current user's scheduled cron jobs. "cron" is a time-based job scheduler in Unix-like operating systems, and users can schedule commands or scripts to run at specific intervals or fixed times on a regular basis using the crontab command.*

*When you run crontab -r, it removes all the cron jobs associated with the current user, effectively deleting the user's entire cron tab or scheduled tasks.*

*It's important to use this command with caution since it does not prompt confirmation before removing the cron jobs. Once you execute crontab -r, all your scheduled tasks will be gone, and there is no way to recover them.*

*The typical usage of crontab -r is when a user wants to clear their scheduled jobs completely, either because they no longer need the tasks, or they want to start fresh with new cron jobs.*

*Keep in mind that crontab -r only affects the current user's scheduled jobs. It does not remove or affect cron jobs created by other users on the system.*

*If you want to remove a specific cron job without deleting all of them, you should use the crontab -e command to open the cron tab in an editor, manually delete the entry corresponding to the job you want to remove, and then save the changes.*

1. ***What is a bootloader?***

*Ans. A bootloader is a small program that is responsible for loading the operating system (OS) into the computer's memory and initiating its execution. It is the first piece of software that runs when you power on or restart your computer, and its primary task is to find, load, and start the operating system kernel.*

*The bootloader is crucial in the boot process, as it facilitates the transition from the computer's initial power-on state to a running operating system. When you turn on your computer, the following sequence of events typically occurs:*

1. *Power-On Self-Test (POST): The computer's hardware performs a self-test to check if all components are working correctly.*
2. *BIOS/UEFI Initialization: The Basic Input/Output System (BIOS) or Unified Extensible Firmware Interface (UEFI) firmware is activated. BIOS or UEFI is responsible for hardware initialization, detecting connected devices, and preparing the computer for the boot process.*
3. *Bootloader Execution: After the hardware is initialized, the BIOS/UEFI locates the bootloader program. The bootloader is usually stored in the Master Boot Record (MBR) of the bootable disk or in a special partition called the EFI System Partition (ESP) on UEFI systems.*
4. *Bootloader Function: The bootloader's main job is to identify and load the operating system kernel into memory. It may also handle optional tasks like presenting a boot menu to allow the user to choose between multiple operating systems or kernel options.*
5. *Handover to the Operating System: Once the bootloader has loaded the kernel into memory, it hands over control to the kernel, allowing the operating system to take control of the computer.*

*Common bootloaders used in Linux and other Unix-like systems include GRUB (GRand Unified Bootloader), LILO (Linux Loader), and system-boot (formerly known as gummiboot).*

*The bootloader is an essential component of the computer's boot process, ensuring that the operating system starts correctly and allowing users to choose the desired OS or boot options in multi-boot configurations.*

1. ***is the bootloader in Linux 7.0***

*Ans. Red Hat Enterprise Linux 7 includes a new boot loader, GRUB 2, which is more robust, portable, and powerful than its predecessor, GRUB, which is the boot loader that Red Hat Enterprise Linux 6 uses.*

1. ***What is POST?***

*Ans. POST stands for "Power-On Self-Test." It is a series of diagnostic tests that a computer's hardware performs during the initial boot process when you power on or restart the system. The POST process is a critical step in the computer's startup sequence and is designed to ensure that essential hardware components are functioning correctly before the operating system is loaded.*

*During the POST, the computer's firmware (BIOS or UEFI) checks various hardware components and devices to identify any potential issues that could prevent the system from booting properly. The main objectives of the POST include:*

1. *Hardware Detection: The firmware detects and identifies essential hardware components, such as the CPU (Central Processing Unit), memory (RAM), storage devices (hard drives or SSDs), graphics card, and other peripherals.*
2. *Memory Testing: The firmware tests the system's memory (RAM) to ensure it is functioning correctly. This memory test checks for memory errors or faults that could cause system instability or crashes.*
3. *CPU Check: The firmware verifies the CPU's operation and ensures that it is functioning within its specified parameters.*
4. *Peripheral Checks: The POST also verifies the status of connected peripheral devices, such as keyboards, mice, and monitors.*
5. *Firmware Integrity: The firmware itself is checked for any corruption or errors that could affect its ability to perform correctly.*

*If the POST detects any hardware issues or failures during the diagnostic process, it typically displays an error message or emits a series of beep codes to indicate the problem. These error messages or beep codes help users or technicians identify the faulty component or area that requires attention.*

*Once the POST process completes successfully and no critical hardware issues are found, the firmware proceeds to the next stage of the boot process, where it locates and executes the bootloader, which, in turn, loads the operating system into memory, allowing the computer to complete the boot-up and become fully functional.*

1. ***Full form of POST***

*Ans. The full form of POST is "Power-On Self-Test."*

1. ***Full form of MBR***

*Ans. The full form of MBR is "Master Boot Record."*

1. ***What is kickstart***

*Ans.*

1. ***What is the use of “url” in kickstart file?***

*Ans.*

1. ***Who allowed the graphical installation to be viewed remotely via VNC?***

*Ans.*

1. ***Which command is used in kickstart for clearing the specified partitions before installation?***

*Ans.*

1. ***Which command is ignoring the specified disks when installing?***

*Ans.*

1. ***I want to configure kickstart graphically, what should I do?***

*Ans.*

1. ***How to check the syntax of kickstart configuration file?***

*Ans.*

***Task:1***

1. ***Run command to register with RedHat satellite( noworry if not registered)***

*Ans. Done in lab.*

1. ***Show all available packages***

*Ans. Done in lab.*

1. ***Check particular yum packagers***

*Ans. Done in lab.*

1. ***Check a file, which is responsible for password***

*Ans. Done in lab.*

1. ***Check all file which is created in yum***

*Ans. Done in lab.*

1. ***Install “vsftpd.x86\_64”***

*Ans. Done in lab.*

1. ***Show all configuration file of “vsftpd”***

*Ans. Done in lab.*

1. ***Check script file of “vsftpd”***

*Ans. Done in lab.*

1. ***Create repo file***

*Ans. Done in lab.*

1. ***Install new kernel***

*Ans. Done in lab.*

***Task: 2***

1. ***Set text base logins only***

*Ans. Done in lab.*

1. ***Set Graphical and text base logins***

*Ans. Done in lab.*

1. ***Recover root password***

*Ans. Done in lab.*

1. ***Repair bootloader***

*Ans. Done in lab.*

***Task: 3***

1. ***Install all httpd package***

*Ans. Done in lab.*

1. ***Open kickstart configuration graphically***

*Ans.*

1. ***Configure new kickstart file***

*Ans.*

1. ***Show full configuration of new kickstart file***

*Ans.*

1. ***Validate new kickstart file***

*Ans.*

1. ***All http on firewall***

*Ans. Done In lab.*

1. ***Reload firewall.***

*Ans. Done In lab.*

1. ***Start and restart http***

*Ans. Done in lab.*

1. ***Install new foundation using new kickstart file***

*Ans.*