**Module 19**

**Linux server - Deploy, configure, and maintain systems**

**Assignment**

**Level Basic to Advance**

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

* RPM Package Manager (also known as RPM), originally called the Red-hat Package Manager, is an open source program for installing, uninstalling, and managing software packages in Linux.

1. **What is “ yum “**

* . YUM (Yellow Dog Updater, Modified) is an open-source Linux package management application that uses the RPM package manager.

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

* We use the apt list command to list all the installed and available packages. The output of the apt list command is very long. We pipe it to the head command to only list the first ten lines.

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

* Log in to the Atomic Host as the root user.
* Change the mode of katello-rhsm-consumer to make it executable: # chmod +x katello-rhsm-consumer.
* Run katello-rhsm-consumer : # ./katello-rhsm-consumer. Register with Red Hat Subscription Manager:

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

* A repo allows software development teams to implement multiple changes to a software's program code without compromising the main source code. Instead of applying the changes directly to the main branch, they use features in a repo to edit and review the changes.

1. **what is “at”**

* The **AT command** in Linux is a powerful utility that allows you to schedule tasks to be executed at a later time. Whether you need to run a script, execute a command, or perform a system task at a specific time, the AT command provides the flexibility to automate processes without manual intervention

1. **Where we find “atd” daemon?**

* The atd process is a daemon that performs job scheduling. The jobs are typically one-time tasks and are scheduled at a specific time using the at or batch command. Although still available on many Linux distributions, its usage is typically lower than the cron facility.

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

* squeue. Use the squeue command to get a high-level overview of all active (running and pending) jobs in the cluster.

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

* The Remove Job Schedule Entry (RMVJOBSCDE) command allows you to remove an entry, entries, or generic entries in the job schedule. Each job schedule entry corresponds to one batch job, and contains the information needed to automatically run the job once or at regularly scheduled intervals.

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

* The crontab -l command displays the contents of a crontab file much the same way that the cat command displays the contents of other types of files. You do not have to change the directory to /var/spool/cron/crontabs directory (where crontab files are located) to use this command.

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

* crontab -l – used to view crontab entries (cron jobs) and display system crontab file contents. crontab -r – will remove the current crontab file. crontab -i – will show a prompt before removing a user's crontab. Highly recommended to use it together with the -r flag, making the flag -ri.

**12.What is bootloader?**

* What is a boot loader? A boot loader, also called a boot manager, is **a small program that places the operating system (OS) of a computer into memory**.

**13.is the bootloader in linux 7.0**

* 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.

**14.What is POST?**

* POST stands for Power-On Self-Test. It's a set of diagnostic tests that a computer runs every time it's powered on to make sure all of its components are working properly.

**15.Full form of POST**

* Power-On Self-Test

**16.Full form of MBR**

* Master Boot Record

**17.What is kickstart**

* Kickstarter is a place to bring new creative ideas to life, and to find support for your project. Projects are launched on Kickstarter to create something new; whether it be recording an album, publishing a comic, filming a short, building a gadget, or creating a work of art that will be shared with others.

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

* The url Kickstart command is optional. It performs the installation from an installation tree image on a remote server using FTP, HTTP, or HTTPS. --url= - The location to install from. Supported protocols are HTTP , HTTPS , FTP , and file .

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

* The ability to view the graphical installation remotely via **VNC (Virtual Network Computing)** is a valuable feature for managing headless systems (systems without a display, keyboard, and mouse) located in remote data centers.

**20.Which command is used in kickstart for clear the specified partitions before installation?**

* clearpart (optional) - Remove All Existing PartitionsRemoves partitions from the system, prior to creation of new partitions. By default, no partitions are removed. If the clearpart command is used, then the part --onpart command cannot be used on a logical partition.

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

* The command that allows you to **ignore specified disks during installation** is the ignoredisk command in a **Kickstart file**. When using Kickstart for unattended installations, you can specify which disks should be ignored during the installation process.

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

* To configure a Kickstart file graphically, you can use the Kickstart Configurator, which provides a user-friendly interface for creating or modifying Kickstart files. Here are the steps:
* Kickstart Configurator:
* The Kickstart Configurator allows you to create or edit Kickstart files without needing to remember the exact syntax.
* Note that while the Kickstart Configurator is available, it is no longer actively updated and may not reflect changes in Kickstart syntax between different versions of Red Hat Enterprise Linux.
* Installation:
* First, ensure that the Kickstart Configurator is installed on your system. If it’s not installed by default, you can install it using the package manager.
* For example, on Red Hat Enterprise Linux 6.9, you can install it with:
* $ sudo yum install system-config-kickstart

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

* Use the ksvalidator command line utility to verify that your Kickstart file is valid. This is useful when you make extensive changes to a Kickstart file. Replace /path/to/kickstart. ks with the path to the Kickstart file you want to verify.

**Task:1**

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

* To register a host with Red Hat Satellite, you have a few options depending on your requirements.
* Using the subscription-manager Command:
* The subscription-manager command is commonly used to register a system with Red Hat Subscription Management services.
* $ sudo subscription-manager register --org=<org\_id> --activationkey=<activation\_key>
* Replace <org\_id> with your organization ID and <activation\_key> with the appropriate activation key.
* You can verify the registration status with:
* $ sudo subscription-manager status

1. **Show all available packages**

* Solution: In order to view all installed packages in linux Ubuntu, run on terminal apt --installed list , Use apt flags and would be able to see available upgrades to some packages ( --upgradeable ) / current installed packages ( --installed ) / all available versions ( --all-versions ).

1. **Check particular yum packagers**

* Open the terminal app.
* For remote server log in using the ssh command: ssh user@centos-linux-server-IP-here.
* Show information about all installed packages on CentOS, run: sudo yum list installed.
* To count all installed packages run: sudo yum list installed | wc -l.

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

* The file is owned by the root and can only be modified by root or users with sudo privileges, although it is readable by all system users. Each user's password is stored in an encrypted form within the /etc/passwd file.

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

* Open the terminal bash shell and type: sudo yum install yum-utils.
* See the files installed by a yum package named bash when using the yum command: ...
* The dnf users, need to run the following command to see list the contents (files) of a package named htop:

1. **Install “vsftpd.x86\_64”**

* Go to the directory where you downloaded the ftp package, for example, cd /opt/software/ftp.
* Run the yum install vsftpd. x86\_64 command to install the FTP server.

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

* conf file. Depending on the Linux distribution, it should be located at either /etc/vsftpd. conf or /etc/vsftpd/vsftpd.

1. **Check script file of “vsftpd”**

* The configuration file for **vsftpd** (Very Secure FTP Daemon) is located at /etc/vsftpd.conf. This file contains various settings that control the behavior of the FTP server.

1. **Create repo file**

* To create a new repo, you'll use the git init command. git init is a one-time command you use during the initial setup of a new repo. Executing this command will create a new .git subdirectory in your current working directory. This will also create a new main branch.

**10.Install new kernel**

* Display version of currently running Kernel: uname -r. Example output: 4.15.0-76-generic.
* Update current packages sudo apt update.
* List available for installation kernels: sudo apt list linux-\*image-\* | grep generic.

**Task: 2**

* 1. **Set text base logins only**
* To switch your system to **text mode (console mode)** instead of the graphical user interface (GUI),

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

* To configure your system for both **graphical** (GUI) and **text-based** logins, follow these steps:
* **Switching to Text Mode (Console Mode)**:
* Open a terminal application (you can use the **ssh** command for remote servers).
* Find out which target unit is currently used by default:
* systemctl get-default
* To change the boot target to text mode, set it to the **multi-user.target**:
* sudo systemctl set-default multi-user.targe

**3. Recover root password**

* Reboot the Linux system: Start by rebooting the system. ...
* Access the bootloader menu: ...
* Edit the boot configuration: ...
* Open the Recovery Menu. ...
* Select root. ...
* Remount the root filesystem: ...
* Reset the root password: ...
* Reboot the system:

**4. Repairbootloader**

* To repair the bootloader in Linux, you have a few options depending on the specific issue you’re facing.
* **Using GRUB Rescue Commands**:
* If you encounter boot issues related to GRUB (Grand Unified Bootloader), you can use the **GRUB Rescue prompt** to fix the problem.
* When GRUB fails to boot the system, the GRUB Rescue prompt appears. Common errors include “no such partition” or “unknown filesystem.”
* Here are some commonly used GRUB Rescue commands:
* boot: Start booting (shortcuts: F10, CTRL + x).
* cat: Write the contents of a file to standard output.
* configfile: Load a configuration file.
* initrd: Load the initrd.img file.
* insmod: Load a module.
* loopback: Mount an image file as a device.
* ls: Display the contents of a directory or partition.
* lsmod: Display a list of loaded modules.
* normal: Activate the normal module.
* search: Search for devices.
* set: Set an environment variable.
* [Use these commands in the GRUB Rescue prompt to troubleshoot and boot your system1](https://www.howtogeek.com/887757/how-to-use-grub-rescue-to-fix-linux/).

**Task: 3**

* 1. **Install all httpd package**
* Enter the following command: # yum install httpd.
* Start the server, and configure it to start after system reboots: # service httpd start # chkconfig httpd on.
* Check for configuration errors: # service httpd configtest.

**2. Open kickstart configuration graphically**

* Kickstart Configurator is not installed by default, so user needs to install it with yum or user's graphical package manager. To start Kickstart Configurator, select Applications (the main menu on the panel), System Tools, Kickstart, or type the command /usr/sbin/system-config-kickstart.

**3. Configure new kickstart file**

* Use the online Kickstart configuration tool.
* Copy the Kickstart file created as a result of a manual installation.
* Write the entire Kickstart file manually. Note that editing an already existing file from the other methods is faster, so this method is not recommended.

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

* Creating a **Kickstart file** allows you to automate the installation process of Red Hat Enterprise Linux (RHEL) by providing a set of instructions. Here’s how you can create a Kickstart file:
* **Manual Approach (Recommended)**:
* The recommended approach is to perform a manual installation on one system first. After the installation completes, all choices made during the installation are saved into a file named anaconda-ks.cfg, located in the /root/ directory on the installed system.
* You can then copy this file, make any necessary changes, and use the resulting configuration file for further installations.
* Use any text editor (such as Gedit, vim, or Notepad) to create and edit Kickstart files.
* Remember that the file name of your Kickstart configuration does not matter, but it’s recommended to use a simple name for ease of reference.
* **Online Kickstart Configuration Tool (Red Hat Customer Portal)**:
* If you have a Red Hat Customer Portal account, you can use the \*\*Kickstart

**5. Validate new kickstart file**

* Use the ksvalidator command line utility to verify that your Kickstart file is valid. This is useful when you make extensive changes to a Kickstart file. Replace /path/to/kickstart. ks with the path to the Kickstart file you want to verify.

**6. All http on firewall**

* From the start menu begin typing "Allow a program through Windows Firewall". Scroll the bottom of the list and look for World Wide Web Services (HTTP) and enable it on your networks. It works fine.

**7. Reload firewall.**

* Make the changes in permanent mode: firewall-cmd --permanent <other options>
* Reload the settings: firewall-cmd --reload.

**8. Start and restart http**

* You can use the service or systemctl command to restart httpd server. Another option is use /etc/init. d/httpd service script under Linux or Unix-like systems. This page explains how to reload or restart HTTPD web serer using the command-line option.

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

* To install a new foundation using a Kickstart file, follow these steps:
* **Create a Kickstart File**:
* You can create a Kickstart file using one of the following methods:
* **Manual Approach**: Write the Kickstart file manually using a text editor. Specify installation options, partitioning details, package selection, and other settings.
* **Copy Existing Kickstart File**: If you’ve performed a manual installation on another system, copy the anaconda-ks.cfg file from the /root/ directory. Edit this file to customize it for your new installation.
* **Online Kickstart Configuration Tool (Red Hat Customer Portal)**: If you have a Red Hat Customer Portal account, use the **Kickstart Generator tool** in the Customer Portal Labs to create a Kickstart file online.