3. Student Activity

Student Activity: Practicing Linux Package Management and Disk Management

Welcome to the hands-on session! In this activity, you will practice using Linux package management and disk management tools. Follow the steps below to gain practical experience with these essential Linux concepts. Make sure you have access to a Linux system, either through a virtual machine or a physical installation.

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1. Package Management in Linux

Objective:

Learn how to install, update, and remove software packages using APT and YUM package managers.

Activities:

For Debian-based Systems (Using APT):

1. **Install a Package:**
   - Open a terminal and install the `curl` package.

```
sudo apt install curl
```

   - Verify the installation by checking the version.

```
curl --version
```

2. **Update Package List and Upgrade Packages:**
   - Update the package list to ensure you have the latest information.

```
sudo apt update
```

- Upgrade all installed packages to their latest versions.

```
sudo apt upgrade
```

3. **Remove a Package:**
   - Remove the `curl` package from your system.

```
sudo apt remove curl
```

   - Confirm the removal by checking if `curl` is still available.

```
curl --version
```

For Red Hat-based Systems (Using YUM):

1. **Install a Package:**
   - Open a terminal and install the `wget` package.

```
sudo yum install wget
```

   - Verify the installation by checking the version.

```
wget --version
```

2. **Check for Updates and Upgrade Packages:**
   - Check for available package updates.

```
sudo yum check-update
```

   - Upgrade all installed packages to their latest versions.

```
sudo yum update
```

3. **Remove a Package:**
   - Remove the `wget` package from your system.

```
sudo yum remove wget
```

- Confirm the removal by checking if `wget` is still available.

```
wget --version
```

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2. Disk Management in Linux

Objective:

Understand how to create, modify, and delete disk partitions and file systems.

Activities:

1. **View Disk Partitions:**
   - Use the `lsblk` command to list all available disk partitions.

   ```
   lsblk
   ```

   - Identify the disk you want to work with (e.g., `/dev/sda`).
2. **Create a New Partition:**
   - Use `fdisk` to create a new partition on a selected disk.

   ```
   sudo fdisk /dev/sda
   ```

   - Follow the prompts to create a new partition. Use `n` to create a new partition, `p` for primary, and specify the partition size.
3. **Format the New Partition with ext4 File System:**
   - Format the newly created partition (e.g., `/dev/sda1`) with the ext4 file system.

   ```
   sudo mkfs.ext4 /dev/sda1
   ```

4. **Mount the New Partition:**
   - Create a mount point and mount the new partition.

   ```
   sudo mkdir /mnt/new_partition
   sudo mount /dev/sda1 /mnt/new_partition
   ```

- Verify the mount by listing the contents of the mount point.

```
ls /mnt/new_partition
```

5. **Unmount and Delete the Partition:**
   - Unmount the partition.

```
sudo umount /mnt/new_partition
```

   - Use `fdisk` again to delete the partition.

```
sudo fdisk /dev/sda
```

   - Follow the prompts to delete the partition using the `d` command.

Conclusion

By completing these activities, you have practiced essential tasks in Linux package management and disk management. These skills are crucial for effectively managing software and storage on a Linux system. If you encounter any issues or have questions, feel free to ask for assistance. Happy learning!