.LVM (LOGICAL VOLUME MANAGER) COMMAND

LVM (Logical Volume Manager) is a storage management technology in Ubuntu and other Linux-based operating systems that allows users to manage their disk storage more flexibly than traditional partitioning schemes.

Creating an extended LVM involves creating a new LVM partition on an existing physical volume, which can then be used to store additional logical volumes. This allows you to expand your storage capacity without having to resize existing partitions or reformatting the disk.

To create an extended LVM, you would typically use a tool like the Logical Volume Manager GUI or the command-line tool lv create. You would need to specify the size of the new LVM partition, the physical volume on which it should be created, and any other relevant parameters.

Reusing LVM involves resizing or moving existing logical volumes to free up space on a physical volume for other uses. This is useful when you need to make more space available for new partitions or other storage needs.

To reuse LVM, you would typically use the lvresize or lvmove command-line tools. These tools allow you to resize or move logical volumes, respectively, while maintaining data integrity and without the need for reformatting or repartitioning. You would need to specify the size of the new logical volume or the target physical volume for the move operation.

```
himanshu@himanshu:~$ sudo apt-get update
[sudo] password for himanshu:
Hit:1 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:2 http://in.archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Hit:5 http://dell.archive.canonical.com focal InRelease
Ign:6 https://www.virtualbox.org/virtualbox/debian focal InRelease
Err:7 https://www.virtualbox.org/virtualbox/debian focal Release
  404  Not Found [IP: 137.254.60.32 443]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2,430 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [798 kB]
Reading package lists... Done
E: The repository 'http://virtualbox.org/virtualbox/debian focal Release' does not have a Release file.
N: Updating from such a repository can't be done securely, and is therefore disabled by default.
N: See apt-secure(8) manpage for repository creation and user configuration details.
himanshu@himanshu:~$ sudo apt-get install lvm2
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
  gir1.2-goa-1.0
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  dmeventd libaio1 libdevmapper-event1.02.1 liblvm2cmd2.03 libreadline5 thin-provisioning-tools
The following NEW packages will be installed:
  dmeventd libaio1 libdevmapper-event1.02.1 liblvm2cmd2.03 libreadline5 lvm2 thin-provisioning-tools
0 upgraded, 7 newly installed, 0 to remove and 0 not upgraded.
Need to get 2,255 kB of archives.
After this operation, 8,919 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu focal/main amd64 libdevmapper-event1.02.1 amd64 2:1.02.167-1ubuntu1 [11.9 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal/main amd64 libaio1 amd64 0.3.112-5 [7,184 B]
Get:3 http://in.archive.ubuntu.com/ubuntu focal/main amd64 liblvm2cmd2.03 amd64 2.03.07-1ubuntu1 [673 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal/main amd64 dmeventd amd64 2:1.02.167-1ubuntu1 [35.1 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal/main amd64 libreadline5 amd64 5.2+dfsg-3build3 [100 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu focal/main amd64 lvm2 amd64 2.03.07-1ubuntu1 [1,053 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal/main amd64 thin-provisioning-tools amd64 0.8.5-4build1 [375 kB]
Fetched 2,255 kB in 9s (241 kB/s)
Selecting previously unselected package libdevmapper-event1.02.1:amd64.
(Reading database ... 185935 files and directories currently installed.)
Preparing to unpack .../0-libdevmapper-event1.02.1_2%3a1.02.167-1ubuntu1_amd64.deb ...
Unpacking libdevmapper-event1.02.1:amd64 (2:1.02.167-1ubuntu1) ...
Selecting previously unselected package libaio1:amd64.
Preparing to unpack .../1-libaio1_0.3.112-5_amd64.deb ...
Unpacking libaio1:amd64 (0.3.112-5) ...
Selecting previously unselected package liblvm2cmd2.03:amd64.
Preparing to unpack .../2-liblvm2cmd2.03_2.03.07-1ubuntu1_amd64.deb ...
Unpacking liblvm2cmd2.03:amd64 (2.03.07-1ubuntu1) ...
Selecting previously unselected package dmeventd.
Preparing to unpack .../3-dmeventd_2%3a1.02.167-1ubuntu1_amd64.deb ...
Unpacking dmeventd (2:1.02.167-1ubuntu1) ...
Selecting previously unselected package libreadline5:amd64.
Preparing to unpack .../4-libreadline5_5.2+dfsg-3build3_amd64.deb ...
```

```
himanshu@himanshu:~$ sudo lvmdiskscan
  /dev/nvme0n1   [    <476.94 GiB]
  /dev/loop0     [     <61.96 MiB]
  /dev/nvme0n1p1 [     512.00 MiB]
  /dev/loop1     [    <346.30 MiB]
  /dev/nvme0n1p2 [    <476.44 GiB]
  /dev/loop3     [     <63.32 MiB]
  /dev/loop4     [    <346.33 MiB]
  /dev/loop5     [     <91.69 MiB]
  /dev/loop6     [      46.96 MiB]
  /dev/loop7     [     <54.24 MiB]
  /dev/loop8     [     <45.93 MiB]
  0 disks
  11 partitions
  0 LVM physical volume whole disks
  0 LVM physical volumes
himanshu@himanshu:~$
```

.SHELL SCRIPTING

1. Open a terminal: You can open a terminal by pressing Ctrl + Alt + T on your keyboard or by searching for "Terminal" in the applications menu.

2. Create a new file: Use the following command to create a new file named script.sh:

- touch script.sh

3. Open the file: You can open the file using a text editor like Nano, Vim, or Gedit. For example, to open the file in Nano, use the following command:

- nano script.sh

4. Add your commands: Write your shell commands in the file, one command per line. For example:

- ```
  #!/bin/bash
  echo "Hello, World!"
  ```

The first line, #!/bin/bash, is called a shebang and tells the system which interpreter to use to run the script. In this case, we're using the Bash shell.

5. Save the file: Press Ctrl + X, then Y, then Enter to save the file.
  ```

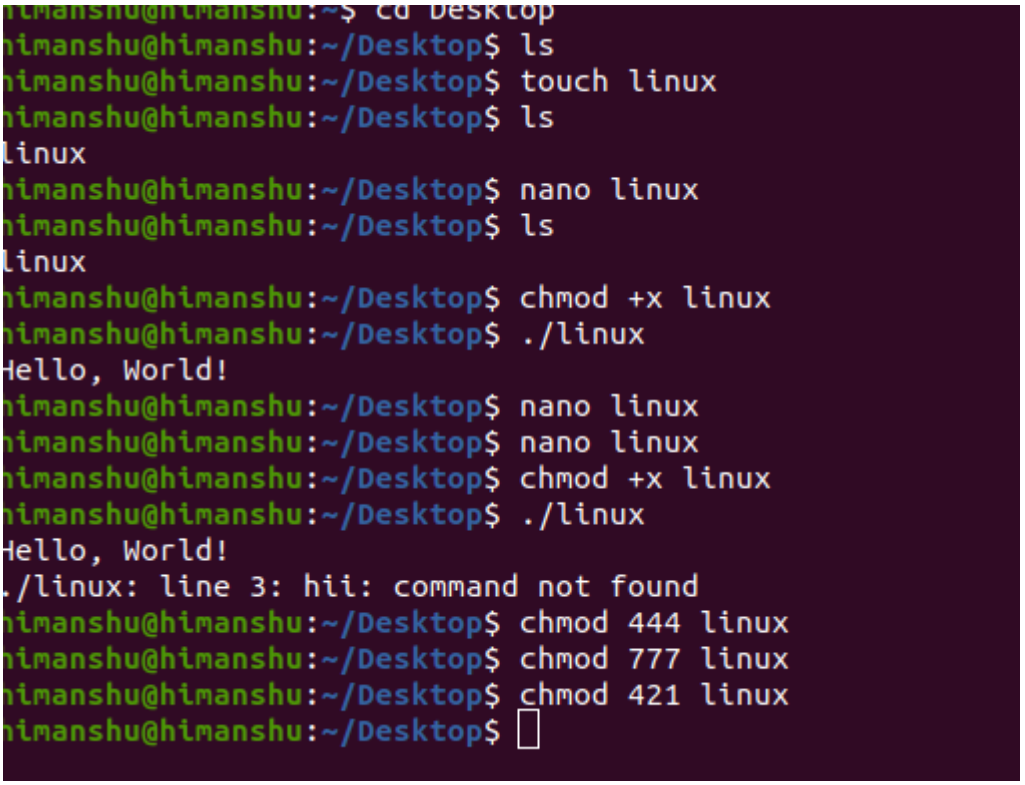
6. Make the file executable: To make the script executable, use the following command:

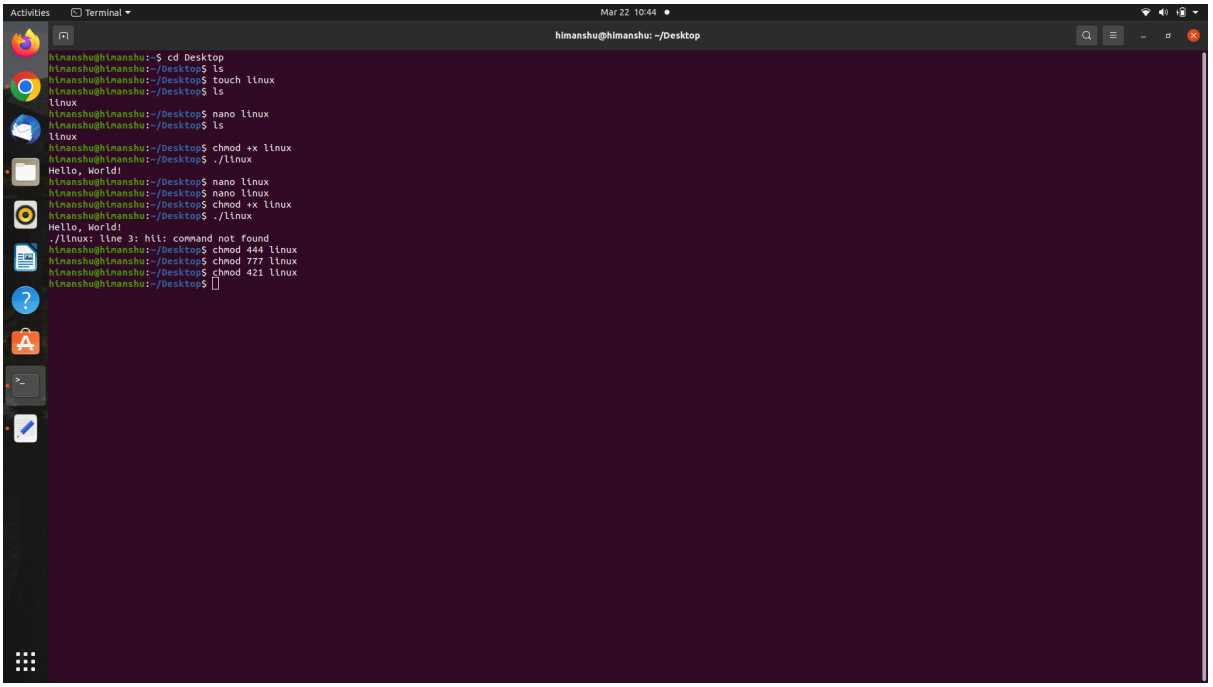
- chmod +x script.sh

7. Run the script: To run the script, use the following command:

- ./script.sh

This will execute the commands in the script and display the output on the terminal.




Activities
Terminal
Mar 22 10:44
himanshu@himanshu: ~/Desktop
himanshu@himanshu:~$ cd Desktop
himanshu@himanshu:~/Desktop$ ls
himanshu@himanshu:~/Desktop$ touch linux
himanshu@himanshu:~/Desktop$ ls
linux
himanshu@himanshu:~/Desktop$ nano linux
himanshu@himanshu:~/Desktop$ ls
linux
himanshu@himanshu:~/Desktop$ chmod +x linux
himanshu@himanshu:~/Desktop$ ./linux
Hello, World!
himanshu@himanshu:~/Desktop$ nano linux
himanshu@himanshu:~/Desktop$ nano linux
himanshu@himanshu:~/Desktop$ chmod +x linux
himanshu@himanshu:~/Desktop$ ./linux
Hello, World!
./linux: line 3: hli: command not found
himanshu@himanshu:~/Desktop$ chmod 444 linux
himanshu@himanshu:~/Desktop$ chmod 777 linux
himanshu@himanshu:~/Desktop$ chmod 421 linux
himanshu@himanshu:~/Desktop$