

Rapidops , Ahmedabad

Name - Rehan Shaikh

Topic – Linux Exercise-1

1. Check the current working directory command, then get a list of all files & folders including hidden file as well as file-size of each file and folder.

```
rehan.shaikh@RSPL-230:~$ pwd
/home/ad.rapidops.com/rehan.shaikh
rehan.shaikh@RSPL-230:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
rehan.shaikh@RSPL-230:~$ ls -a
.          .bash_history  .cache  Documents  .local  .pki  .ssh
..         .bash_logout  .config  Downloads  Music  .profile  Templates
.anydesk  .bashrc      Desktop  .gnupg     Pictures  Public  Videos
rehan.shaikh@RSPL-230:~$ ls -lh
total 32K
drwxr-xr-x 2 rehan.shaikh domain users 4.0K Dec 26 18:44 Desktop
drwxr-xr-x 4 rehan.shaikh domain users 4.0K Jan  3 11:58 Documents
drwxr-xr-x 2 rehan.shaikh domain users 4.0K Dec 26 18:44 Downloads
drwxr-xr-x 2 rehan.shaikh domain users 4.0K Dec 26 18:44 Music
drwxr-xr-x 2 rehan.shaikh domain users 4.0K Jan  3 13:52 Pictures
drwxr-xr-x 2 rehan.shaikh domain users 4.0K Dec 26 18:44 Public
drwxr-xr-x 2 rehan.shaikh domain users 4.0K Dec 26 18:44 Templates
drwxr-xr-x 2 rehan.shaikh domain users 4.0K Dec 26 18:44 Videos
rehan.shaikh@RSPL-230:~$ ls -a -lh
total 84K
drwx----- 17 rehan.shaikh domain users 4.0K Jan  3 11:44 .
drwxr-xr-x  3 root          domain users 4.0K Dec 26 18:44 ..
drwxr-xr-x  2 rehan.shaikh domain users 4.0K Dec 26 18:44 .anydesk
-rw-----  1 rehan.shaikh domain users  712 Jan  3 14:03 .bash_history
-rw-----  1 rehan.shaikh domain users  220 Dec 26 18:44 .bash_logout
-rw-----  1 rehan.shaikh domain users  3.7K Dec 26 18:44 .bashrc
drwxr-xr-x 14 rehan.shaikh domain users 4.0K Jan  3 13:52 .cache
drwxr-xr-x 13 rehan.shaikh domain users 4.0K Jan  3 13:49 .config
drwxr-xr-x  2 rehan.shaikh domain users 4.0K Dec 26 18:44 Desktop
drwxr-xr-x  4 rehan.shaikh domain users 4.0K Jan  3 11:58 Documents
drwxr-xr-x  2 rehan.shaikh domain users 4.0K Dec 26 18:44 Downloads
drwx-----  3 rehan.shaikh domain users 4.0K Jan  3 10:30 .gnupg
drwxr-xr-x  3 rehan.shaikh domain users 4.0K Dec 26 18:44 .local
drwxr-xr-x  2 rehan.shaikh domain users 4.0K Dec 26 18:44 Music
drwxr-xr-x  2 rehan.shaikh domain users 4.0K Jan  3 13:52 Pictures
drwx-----  3 rehan.shaikh domain users 4.0K Jan  2 13:28 .pki
-rw-----  1 rehan.shaikh domain users  807 Dec 26 18:44 .profile
drwxr-xr-x  2 rehan.shaikh domain users 4.0K Dec 26 18:44 Public
drwx-----  2 rehan.shaikh domain users 4.0K Jan  2 13:26 .ssh
drwxr-xr-x  2 rehan.shaikh domain users 4.0K Dec 26 18:44 Templates
drwxr-xr-x  2 rehan.shaikh domain users 4.0K Dec 26 18:44 Videos
rehan.shaikh@RSPL-230:~$
```

2. Then create two folders named as 'intern-2021' & 'rapidops-2021',

```
rehan.shaikh@RSPL-230:~/Documents/linux$ mkdir intern-2021
rehan.shaikh@RSPL-230:~/Documents/linux$ mkdir rapidops-2021
rehan.shaikh@RSPL-230:~/Documents/linux$ ls
intern-2021  rapidops-2021
rehan.shaikh@RSPL-230:~/Documents/linux$
```

3. Then create two files within 'intern-2021' folder, names are 'dev.txt' & 'helloworld.txt',

```
rehan.shaikh@RSPL-230:~/Documents/linux$ cd intern-2021
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ cat > dev.txt

rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ cat > helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ ls
dev.txt  helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$
```

4. Then open the 'dev.txt' file and write something in it, and in 'helloworld.txt' file write 'helloworld' using echo command,

```
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ cat > dev.txt
this is the dev file
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ echo 'helloworld' >> helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ cat dev.txt
this is the dev file
```

5. Now copy 'dev.txt' and 'helloworld.txt' into rapidops-2021 folder,

```
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ cp dev.txt ../../rapidops-2021
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ cp helloworld.txt ../../rapidops-2021
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ cd ..
rehan.shaikh@RSPL-230:~/Documents/linux$ cd rapidops-2021
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ ls
dev.txt  helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$
```

6. Now go to the rapidops-2021 folder and rename those two (dev.txt, helloworld.txt) files.

```
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ mv dev.txt rapidops-dev.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ mv helloworld.txt rapidops-helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ ls
rapidops-dev.txt  rapidops-helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$
```

7. In the same directory path, give 'read only' permission to **dev.txt** for file's owner, and for **helloworld.txt** give 'read-write-execute' permission to it's owner & 'read-write' permission to it's group.

```
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ ls
rapidops-dev.txt  rapidops-helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ chmod u+x rapidops-helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ ls -l
total 8
-r--r--r-- 1 rehan.shaikh domain users 22 Jan  3 14:26 rapidops-dev.txt
-rwxr--r-- 1 rehan.shaikh domain users 11 Jan  3 14:26 rapidops-helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$
```

```
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ mv dev.txt rapidops-dev.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ mv helloworld.txt rapidops-helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ ls
rapidops-dev.txt  rapidops-helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ chmod 0444 rapidops-dev.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ ls -l
total 8
-r--r--r-- 1 rehan.shaikh domain users 22 Jan  3 14:26 rapidops-dev.txt
-rw-r--r-- 1 rehan.shaikh domain users 11 Jan  3 14:26 rapidops-helloworld.txt
```

8. Now create archive file within same directory and shift into **intern-2021** directory.

```
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ ls
archive.tar  rapidops-dev.txt  rapidops-helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ tar -cvf archive.tar rapidops-dev.txt rapidops-helloworld.txt
tar: rapidops-dev.txt: Cannot stat: No such file or directory
tar: rapidops-helloworld.txt: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ tar -cvf archive.tar rapidops-dev.txt rapidops-helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ ls
archive.tar  rapidops-dev.txt  rapidops-helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ mv archive.tar ../../intern-2021
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ cd ..
rehan.shaikh@RSPL-230:~/Documents/linux$ cd intern-2021
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ ls
archive.tar  dev.txt  helloworld.txt
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$
```

9. Now copy that archive file in this directory location and remove that older archive file.

```
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ cp ../../intern-2021/archive.tar ./
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ ls
archive.tar  rapidops-dev.text  rapidops-helloworld.text
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$
```

```
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ cp ../../intern-2021/archive.tar ./
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$ ls
archive.tar  rapidops-dev.text  rapidops-helloworld.text
rehan.shaikh@RSPL-230:~/Documents/linux/rapidops-2021$
```

10. Using the command find out the dev.txt file.

```
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ find dev.txt
dev.txt
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$
```

11. Check the CPU, memory usage using CLI.

```
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ lscpu
Architecture:                x86_64
CPU op-mode(s):              32-bit, 64-bit
Byte Order:                  Little Endian
Address sizes:               39 bits physical, 48 bits virtual
CPU(s):                      8
On-line CPU(s) list:         0-7
Thread(s) per core:          2
Core(s) per socket:          4
Socket(s):                   1
NUMA node(s):                1
Vendor ID:                   GenuineIntel
CPU family:                  6
Model:                       142
Model name:                  Intel(R) Core(TM) i7-8565U CPU @ 1.80GHz
Stepping:                    12
CPU MHz:                     2800.000
CPU max MHz:                 4600.0000
CPU min MHz:                 400.0000
BogoMIPS:                    3999.93
Virtualization:              VT-x
L1d cache:                   128 KiB
L1i cache:                   128 KiB
L2 cache:                    1 MiB
L3 cache:                     8 MiB
NUMA node0 CPU(s):           0-7
Vulnerability Itlb multihit:  KVM: Mitigation: VMX disabled
Vulnerability L1tf:           Not affected
Vulnerability Mds:            Not affected
Vulnerability Meltdown:       Not affected
Vulnerability Mmio stale data: Mitigation; Clear CPU buffers; SMT vulnerable
Vulnerability Retbleed:        Mitigation; Enhanced IBRS
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1:      Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:      Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBSRB-eIBRS SW sequence
Vulnerability Srbds:           Mitigation; Microcode
Vulnerability Tsx async abort: Not affected
Flags:                        fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc art arch
                              _perfmnon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf pni pclmulqdq dtes64 monitor ds_cpl vmx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid sse4_1 sse4_2 x2
                              apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb invpcid_single ssbd ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi
                              flexpriority ept vpid ept_ad fsgsbase tsc_adjust sgx bmi1 avx2 smep bmi2 erms invpcid mpx rdseed adx snap clflushopt intel_pt xsaveopt xsavec xgetbv1 xsaves dtherm ida a
                              rat pln pts hwp hwp_notify hwp_act_window hwp_epp md_clear flush_l1d arch_capabilities
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$
```


12. Check the disk usage and free disk space using CLI.

```
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            12G   0    12G   0% /dev
tmpfs           2.4G  2.5M  2.4G   1% /run
/dev/mapper/vgubuntu-root 437G  11G  404G   3% /
tmpfs           12G  415M   12G   4% /dev/shm
tmpfs           5.0M  4.0K  5.0M   1% /run/lock
tmpfs           12G   0    12G   0% /sys/fs/cgroup
/dev/loop0      62M   62M   0 100% /snap/core20/1611
/dev/loop1     128K  128K   0 100% /snap/bare/5
/dev/loop2     347M  347M   0 100% /snap/gnome-3-38-2004/115
/dev/loop4      55M   55M   0 100% /snap/snap-store/558
/dev/loop5      92M   92M   0 100% /snap/gtk-common-themes/1535
/dev/sda2       1.4G  278M  1.1G  22% /boot
/dev/sda1       511M  5.3M  506M   2% /boot/efi
tmpfs           2.4G  44K  2.4G   1% /run/user/1124202878
/dev/loop6      50M   50M   0 100% /snap/snapd/17883
/dev/loop7      64M   64M   0 100% /snap/core20/1778
/dev/loop8     347M  347M   0 100% /snap/gnome-3-38-2004/119
/dev/loop9      46M   46M   0 100% /snap/snap-store/638
rehan.shaikh@RSPL-230:~/Documents/linux/intern-2021$
```

13. Check the all system process and filter out any of one process service using CLI .

```
rehan.shaiikh@RSPL-230:~/Documents/linux/intern-2021$ ps aux -m
USER          PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.0  0.0 169860 13008 ?        Ss   10:24   0:03 /sbin/init splash
root           2  0.0  0.0      0     0 ?        S    10:24   0:00 [kthreadd]
root           3  0.0  0.0      0     0 ?        S    10:24   0:00 [rcu_gp]
root           4  0.0  0.0      0     0 ?        I<   10:24   0:00 [rcu_par_gp]
root           5  0.0  0.0      0     0 ?        I<   10:24   0:00 [netns]
root           9  0.0  0.0      0     0 ?        I<   10:24   0:00 [mm_percpu_wq]
root          10  0.0  0.0      0     0 ?        S    10:24   0:00 [rcu_tasks_rude_]
root          11  0.0  0.0      0     0 ?        S    10:24   0:00 [rcu_tasks_trace]
root          12  0.1  0.0      0     0 ?        S    10:24   0:40 [ksoftirqd/0]
root          13  0.0  0.0      0     0 ?        S    10:24   0:18 [rcu_sched]
root          14  0.0  0.0      0     0 ?        I    10:24   0:00 [migration/0]
root          15  0.0  0.0      0     0 ?        S    10:24   0:00 [idle_inject/0]
root          17  0.0  0.0      0     0 ?        S    10:24   0:00 [cpuhp/0]
root          18  0.0  0.0      0     0 ?        S    10:24   0:00 [cpuhp/1]
root          19  0.0  0.0      0     0 ?        S    10:24   0:00 [idle_inject/1]
root          20  0.0  0.0      0     0 ?        S    10:24   0:00 [migration/1]
root          21  0.0  0.0      0     0 ?        S    10:24   0:00 [ksoftirqd/1]
root          23  0.0  0.0      0     0 ?        I<   10:24   0:00 [kworker/1:0H-events_highpri]
root          24  0.0  0.0      0     0 ?        S    10:24   0:00 [cpuhp/2]
root          25  0.0  0.0      0     0 ?        S    10:24   0:00 [idle_inject/2]
root          26  0.0  0.0      0     0 ?        S    10:24   0:00 [migration/2]
root          27  0.0  0.0      0     0 ?        S    10:24   0:00 [ksoftirqd/2]
root          29  0.0  0.0      0     0 ?        I<   10:24   0:00 [kworker/2:0H-events_highpri]
root          30  0.0  0.0      0     0 ?        S    10:24   0:00 [cpuhp/3]
root          31  0.0  0.0      0     0 ?        S    10:24   0:00 [idle_inject/3]
```

14. Retrieve the content from web server using CLI. [Here Link](#)

```
rehan.shaiikh@RSPL-230:~/Documents/linux/intern-2021$ wget https://releases.mattermost.com/desktop/4.3.2/mattermost-desktop-4.3.2-linux-1386.deb
--2023-01-03 16:32:50-- https://releases.mattermost.com/desktop/4.3.2/mattermost-desktop-4.3.2-linux-1386.deb
Resolving releases.mattermost.com (releases.mattermost.com)... 13.227.138.13, 13.227.138.80, 13.227.138.74, ...
Connecting to releases.mattermost.com (releases.mattermost.com)[13.227.138.13]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 74745386 (71K) [application/x-debian-package]
Saving to: 'mattermost-desktop-4.3.2-linux-1386.deb'

mattermost-desktop-4.3.2-linux-1386.deb 100%[=====] 71.28M 11.2MB/s in 8.2s

2023-01-03 16:33:00 (8.74 MB/s) - 'mattermost-desktop-4.3.2-linux-1386.deb' saved [74745386/74745386]

rehan.shaiikh@RSPL-230:~/Documents/linux/intern-2021$
```

15. Check your network interface information using CLI

```
rehan.shaiikh@RSPL-230:~/Documents/linux/intern-2021$ ip link show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: enp0s31f6: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc fq_codel state DOWN mode DEFAULT group default qlen 1000
    link/ether 98:fa:9b:83:10:e0 brd ff:ff:ff:ff:ff:ff
3: wlp5s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP mode DORMANT group default qlen 1000
    link/ether 40:74:e0:a2:1f:61 brd ff:ff:ff:ff:ff:ff
rehan.shaiikh@RSPL-230:~/Documents/linux/intern-2021$
```