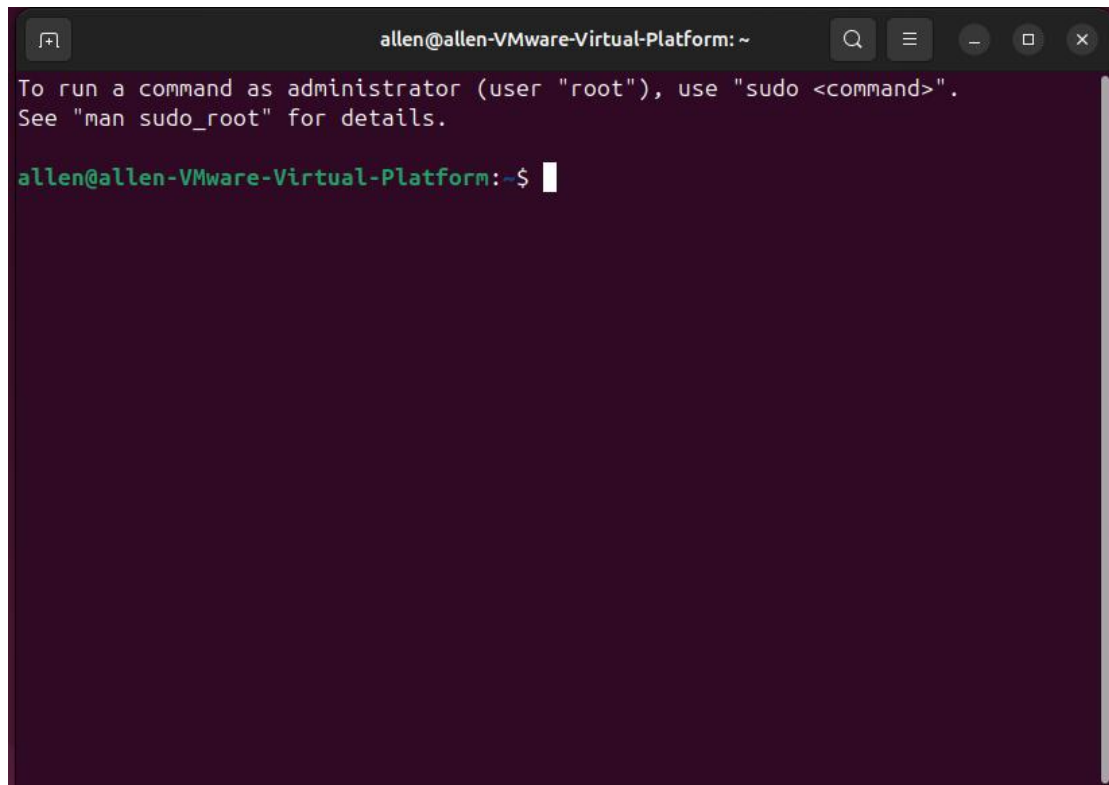


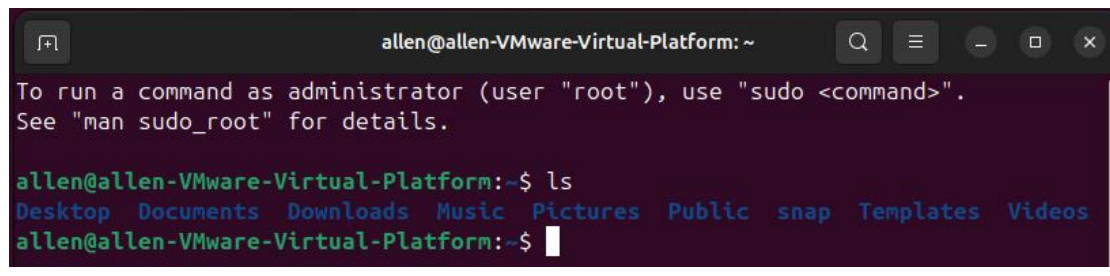
# Linux basic operation instructions

## 1. File and directory operations

- Press Ctrl+Alt+T on the keyboard to quickly display the command window



```
allen@allen-VMware-Virtual-Platform: ~  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
allen@allen-VMware-Virtual-Platform:~$
```

ls	View files and directories in the current directory
	

cd [Directory name]

Switch directory

```
allen@allen-VMware-Virtual-Platform: ~/Desktop
allen@allen-VMware-Virtual-Platform:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
allen@allen-VMware-Virtual-Platform:~$ cd Desktop/
allen@allen-VMware-Virtual-Platform:~/Desktop$ ls
test
allen@allen-VMware-Virtual-Platform:~/Desktop$
```

cd /

Return to root directory

```
allen@allen-VMware-Virtual-Platform: /
allen@allen-VMware-Virtual-Platform:~/Desktop$ pwd
/home/allen/Desktop
allen@allen-VMware-Virtual-Platform:~/Desktop$ cd /
allen@allen-VMware-Virtual-Platform:/$
```

cd ..

Back to parent directory

```
allen@allen-VMware-Virtual-Platform: ~
allen@allen-VMware-Virtual-Platform:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
allen@allen-VMware-Virtual-Platform:~$ cd Music/
allen@allen-VMware-Virtual-Platform:~/Music$ ls
allen@allen-VMware-Virtual-Platform:~/Music$ cd ..
allen@allen-VMware-Virtual-Platform:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
allen@allen-VMware-Virtual-Platform:~$
```

pwd

View current path

```
allen@allen-VMware-Virtual-Platform: ~/Desktop
allen@allen-VMware-Virtual-Platform:~/Desktop$ pwd
/home/allen/Desktop
allen@allen-VMware-Virtual-Platform:~/Desktop$
```

touch [filename]

Create a file

```
allen@allen-VMware-Virtual-Platform: ~/Desktop
allen@allen-VMware-Virtual-Platform:~$ cd Desktop/
allen@allen-VMware-Virtual-Platform:~/Desktop$ touch test_txt
allen@allen-VMware-Virtual-Platform:~/Desktop$ ls
test_txt
allen@allen-VMware-Virtual-Platform:~/Desktop$
```

mkdir [Directory name]

Create directory

```
allen@allen-VMware-Virtual-Platform: ~/Desktop
allen@allen-VMware-Virtual-Platform:~/Desktop$ mkdir test_dir
allen@allen-VMware-Virtual-Platform:~/Desktop$ ls
test  test_dir
allen@allen-VMware-Virtual-Platform:~/Desktop$
```

rm [Directory name]

Delete file

```
allen@allen-VMware-Virtual-Platform: ~/Desktop
allen@allen-VMware-Virtual-Platform:~/Desktop$ ls
test_txt
allen@allen-VMware-Virtual-Platform:~/Desktop$ rm test_txt
allen@allen-VMware-Virtual-Platform:~/Desktop$ ls
allen@allen-VMware-Virtual-Platform:~/Desktop$
```

rmdir [Directory name]

Delete an empty directory

```
allen@allen-VMware-Virtual-Platform: ~/Desktop
allen@allen-VMware-Virtual-Platform:~/Desktop$ ls
test  test_dir
allen@allen-VMware-Virtual-Platform:~/Desktop$ rmdir test_dir/
allen@allen-VMware-Virtual-Platform:~/Desktop$ ls
test
allen@allen-VMware-Virtual-Platform:~/Desktop$
```

rm -r [Directory name]


Delete a non-empty directory

```
allen@allen-VMware-Virtual-Platform: ~/Desktop
allen@allen-VMware-Virtual-Platform:~/Desktop/test_dir$ ls
test_txt
allen@allen-VMware-Virtual-Platform:~/Desktop/test_dir$ pwd
/home/allen/Desktop/test_dir
allen@allen-VMware-Virtual-Platform:~/Desktop/test_dir$ cd ..
allen@allen-VMware-Virtual-Platform:~/Desktop$ ls
test  test_dir
allen@allen-VMware-Virtual-Platform:~/Desktop$ rm -r test_dir/
allen@allen-VMware-Virtual-Platform:~/Desktop$ ls
test
allen@allen-VMware-Virtual-Platform:~/Desktop$
```

cp [Source file/directory] [Target path]	Copy a file or directory
<pre> allen@allen-VMware-Virtual-Platform: ~/Music allen@allen-VMware-Virtual-Platform: ~/Desktop\$ ls test_txt allen@allen-VMware-Virtual-Platform: ~/Desktop\$ cp test_txt /home/allen/Music/ allen@allen-VMware-Virtual-Platform: ~/Desktop\$ cd /home/allen/Music/ allen@allen-VMware-Virtual-Platform: ~/Music\$ ls test_txt allen@allen-VMware-Virtual-Platform: ~/Music\$ </pre>	
mv [Source file/directory] [Target path]	Move files/directories
<pre> allen@allen-VMware-Virtual-Platform: ~/Pictures allen@allen-VMware-Virtual-Platform: ~/Desktop\$ ls test_txt allen@allen-VMware-Virtual-Platform: ~/Desktop\$ mv test_txt /home/allen/Pictures/ allen@allen-VMware-Virtual-Platform: ~/Desktop\$ ls allen@allen-VMware-Virtual-Platform: ~/Desktop\$ cd /home/allen/Pictures/ allen@allen-VMware-Virtual-Platform: ~/Pictures\$ ls test_txt allen@allen-VMware-Virtual-Platform: ~/Pictures\$ </pre>	

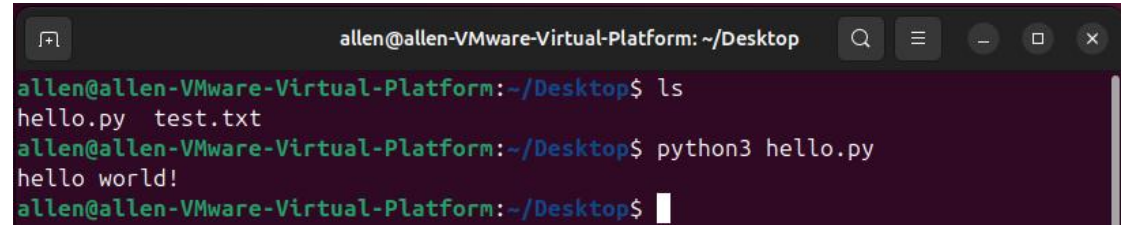
## 2. File content viewing

cat [filename]	View the contents of the file directly in the command window (text content cannot be modified)
<pre> allen@allen-VMware-Virtual-Platform: ~/Desktop allen@allen-VMware-Virtual-Platform: ~/Desktop\$ cat test.txt elecrow  good  crowpi2  Merry Christmas! allen@allen-VMware-Virtual-Platform: ~/Desktop\$ </pre>	

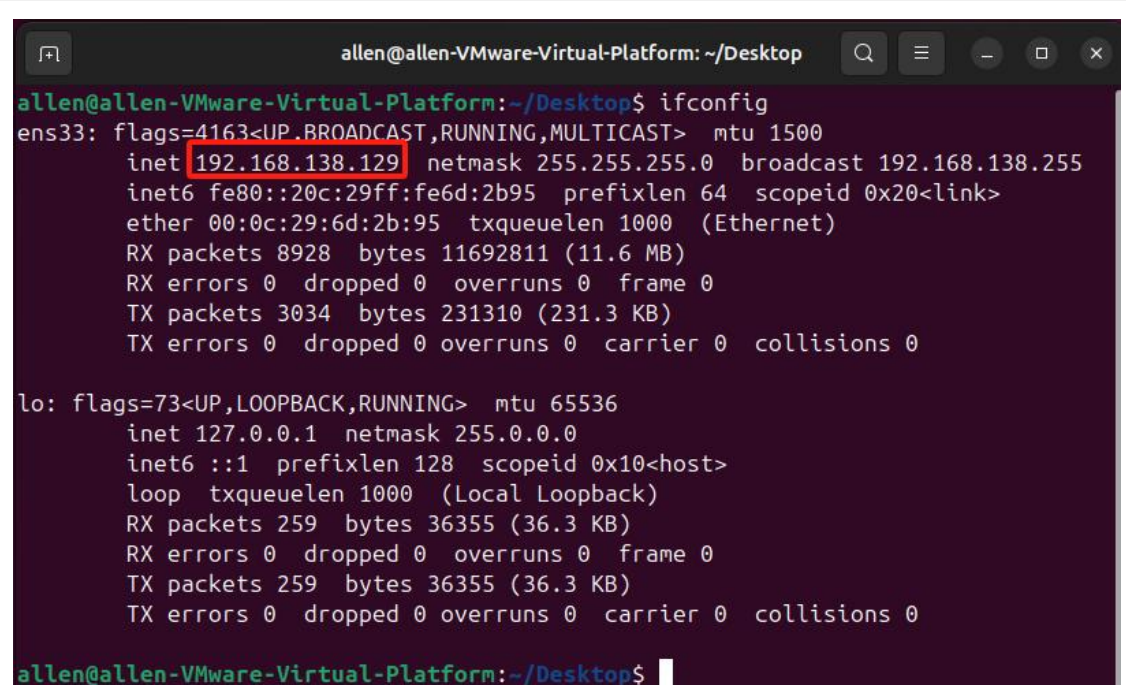
gedit [filename]	Open a file with a text editor (text content can be modified)
<pre> allen@allen-VMware-Virtual-Platform: ~/Desktop allen@allen-VMware-Virtual-Platform: ~/Desktop\$ gedit test.txt </pre> 	



### 3. Execute files on the shell

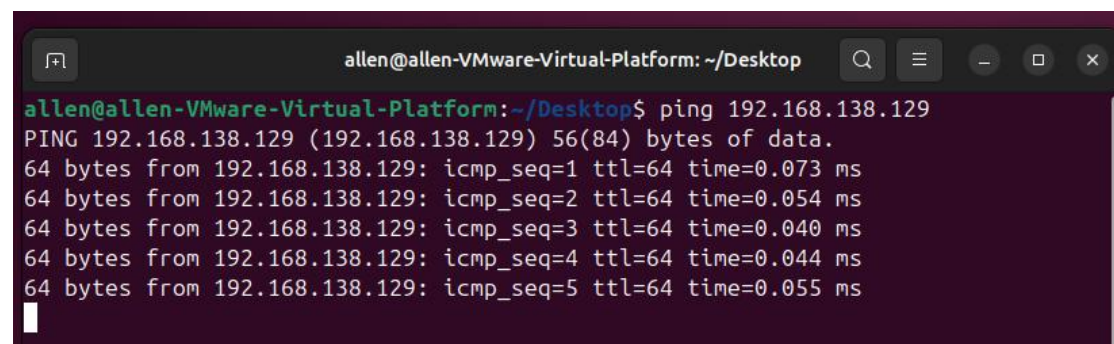
python [filename]	Execute python files using python commands
 <pre>allen@allen-VMware-Virtual-Platform: ~/Desktop allen@allen-VMware-Virtual-Platform:~/Desktop\$ ls hello.py  test.txt allen@allen-VMware-Virtual-Platform:~/Desktop\$ python3 hello.py hello world! allen@allen-VMware-Virtual-Platform:~/Desktop\$</pre>	

### 4. Perform network operations

ifconfig	Viewing Network Configuration
 <pre>allen@allen-VMware-Virtual-Platform: ~/Desktop allen@allen-VMware-Virtual-Platform:~/Desktop\$ ifconfig ens33: flags=4163&lt;UP,BROADCAST,RUNNING,MULTICAST&gt;  mtu 1500     inet 192.168.138.129 netmask 255.255.255.0  broadcast 192.168.138.255     inet6 fe80::20c:29ff:fe6d:2b95 prefixlen 64  scopeid 0x20&lt;link&gt;     ether 00:0c:29:6d:2b:95  txqueuelen 1000  (Ethernet)     RX packets 8928  bytes 11692811 (11.6 MB)     RX errors 0  dropped 0  overruns 0  frame 0     TX packets 3034  bytes 231310 (231.3 KB)     TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0  lo: flags=73&lt;UP,LOOPBACK,RUNNING&gt;  mtu 65536     inet 127.0.0.1  netmask 255.0.0.0     inet6 ::1  prefixlen 128  scopeid 0x10&lt;host&gt;     loop txqueuelen 1000  (Local Loopback)     RX packets 259  bytes 36355 (36.3 KB)     RX errors 0  dropped 0  overruns 0  frame 0     TX packets 259  bytes 36355 (36.3 KB)     TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0  allen@allen-VMware-Virtual-Platform:~/Desktop\$</pre>	

ping [ip address]

Check the network connectivity



A terminal window titled "allen@allen-VMware-Virtual-Platform: ~/Desktop" with standard window controls. The terminal shows a successful ping command to 192.168.138.129. The output indicates that 56(84) bytes of data were sent and received in five consecutive attempts, with response times ranging from 0.040 ms to 0.073 ms.

```
allen@allen-VMware-Virtual-Platform:~/Desktop$ ping 192.168.138.129
PING 192.168.138.129 (192.168.138.129) 56(84) bytes of data.
64 bytes from 192.168.138.129: icmp_seq=1 ttl=64 time=0.073 ms
64 bytes from 192.168.138.129: icmp_seq=2 ttl=64 time=0.054 ms
64 bytes from 192.168.138.129: icmp_seq=3 ttl=64 time=0.040 ms
64 bytes from 192.168.138.129: icmp_seq=4 ttl=64 time=0.044 ms
64 bytes from 192.168.138.129: icmp_seq=5 ttl=64 time=0.055 ms

```