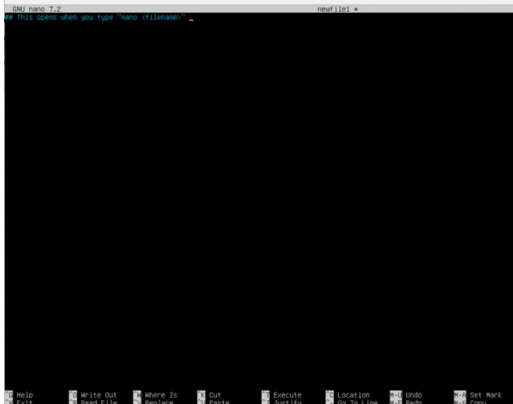
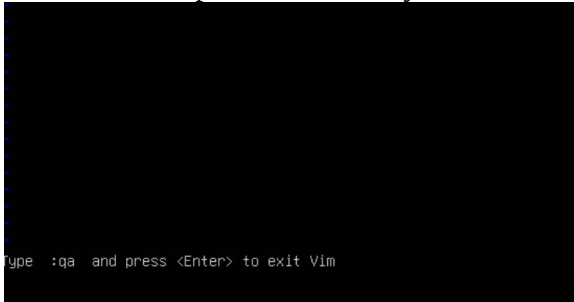


Linux Quick References


Pwd	<pre>gs11@hatchS1:~\$ pwd /home/gs11 gs11@hatchS1:~\$</pre> <p>Current location</p>
ls	<p>Shows contents of current directory</p> <pre>gs11@hatchS1:~\$ ls backups Documents incremental_backup.sh index.html script.js styles.css test2.txt test3.txt gs11@hatchS1:~\$</pre>
Cd <directory name>	<p>Change directory</p> <pre>gs11@hatchS1:~\$ cd Documents gs11@hatchS1:~/Documents\$ gs11@hatchS1:~/Documents\$</pre>
Sudo	<p>Super User do (what's next)</p>
Touch <filename>	<p>Creates a file, updates timestamps of existing file</p> <pre>gs11@hatchS1:~\$ sudo touch index.html [sudo] password for gs11:</pre>
Nano <filename>	<p>Create file & opens it in nano for you to edit</p> 
Vi <filename>	<p>Create file & opens it in Vi for you to edit</p>  <p>type :qa and press <Enter> to exit Vim</p>

<p>Mv <filename> <destinationDirectory></p>	<p>Move file to...</p> <pre>gs11@hatchS1:~\$ gs11@hatchS1:~\$ mv index.html documents gs11@hatchS1:~\$</pre>
<p>Cp <filename> <destinationDirectory> <newFilename></p>	<p>Copy file to...</p> <pre>gs11@hatchS1:~\$ gs11@hatchS1:~\$ cp newfile1 documents cp: cannot create regular file 'documents': Permission denied gs11@hatchS1:~\$ gs11@hatchS1:~\$ gs11@hatchS1:~\$ gs11@hatchS1:~\$ gs11@hatchS1:~\$ sudo cp newfile1 documents gs11@hatchS1:~\$</pre>
<p>History</p>	<p>Lists recent commands</p> <pre>388 sudo ./backup_documents.sh 390 ./backup_documents.sh 391 sudo nano backup_documents.sh 392 ./backup_documents.sh 393 sudo nano backup_documents.sh 394 ./backup_documents.sh 395 sudo nano backup_documents.sh 396 ./backup_documents.sh 397 ./incremental_backup.sh 398 sudo nano incremental_backup.sh 399 ./incremental_backup.sh 400 crontab -e 401 grep CRON /var/log/syslog 402 grep CRON /var/log/syslog grep backup.sh 403 grep CRON /var/log/syslog 404 cat /etc/crontab 405 cat /etc/cron.daily/ 406 cat /etc/cron.weekly/ 407 Pwd 408 pwd 409 ls 410 Cd 411 cd 412 cd <home> 413 cd documentns 414 cd documents 415 cd Documents 416 cd 417 cd Documents 418 cd 419 Touch index.html 420 Sudo touch index.html 421 sudo touch index.html 422 nano newfile1 423 VI Newfile1 424 vi file 425 mv index.html documents 426 cp script.js documents 427 ls 428 cp newfile1 documents 429 sudo cp newfile1 documents 430 History 431 history gs11@hatchS1:~\$ _</pre>
<p>Ls-l</p>	<p>Show contents, additional info</p> <pre>gs11@hatchS1:~\$ ls -l total 28 -rwxrwxr-x 1 gs11 gs11 2394 Mar 27 21:37 backup_documents.sh lrwxrwxr-x 2 gs11 gs11 4096 Mar 27 21:39 backups lrwxrwxr-x 2 gs11 gs11 4096 Mar 27 21:37 Backups -rw-r--r-- 1 root root 47 Apr 10 22:34 documents lrwxr-xr-x 2 root root 4096 Mar 20 18:14 Documents -rwxr-xr-x 1 root root 1801 Mar 27 21:39 incremental_backup.sh -rw-rw-r-- 1 gs11 gs11 47 Apr 10 22:30 newfile1 -rw-r--r-- 1 root root 0 Feb 11 22:39 script.js -rw-r--r-- 1 root root 0 Feb 11 22:39 styles.css -rw-rw-r-- 1 gs11 gs11 0 Mar 20 18:14 test2.txt -rw-rw-r-- 1 gs11 gs11 0 Mar 20 18:14 test3.txt gs11@hatchS1:~\$</pre>

<p>ip a</p>	<p>Shows all network interfaces, IP addresses, link status, MAC addresses, and more</p> <pre>gs11@hatchS1:~\$ ip a 1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000 link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00 inet 127.0.0.1/8 scope host lo valid_lft forever preferred_lft forever inet6 ::1/128 scope host noprefixroute valid_lft forever preferred_lft forever 2: enp2s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000 link/ether 00:0c:29:ea:00:03 brd ff:ff:ff:ff:ff:ff inet 172.16.21.131/24 metric 100 brd 172.16.21.255 scope global dynamic enp2s0 valid_lft 1130sec preferred_lft 1130sec inet6 fe80::20c:29ff:feea:0003/64 scope link valid_lft forever preferred_lft forever 3: enp26s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000 link/ether 00:0c:29:ea:00:00 brd ff:ff:ff:ff:ff:ff inet 172.2.0.1/24 brd 172.2.0.255 scope global enp26s0 valid_lft forever preferred_lft forever inet6 fe80::20c:29ff:feea:000d/64 scope link valid_lft forever preferred_lft forever gs11@hatchS1:~\$</pre>
<p>ip r</p>	<p>Displays the routing table, including the default gateway</p> <pre>gs11@hatchS1:~\$ ip r default via 172.16.21.2 dev enp2s0 proto dhcp src 172.16.21.131 metric 100 172.2.0.0/24 dev enp26s0 proto kernel scope link src 172.2.0.1 172.16.21.0/24 dev enp2s0 proto kernel scope link src 172.16.21.131 metric 100 172.16.21.2 dev enp2s0 proto dhcp scope link src 172.16.21.131 metric 100 gs11@hatchS1:~\$ _</pre>
<p>ip -br a</p>	<p>Provides a brief, human-readable summary of addresses</p> <pre>gs11@hatchS1:~\$ ip -br a lo UNKNOWN 127.0.0.1/8 ::1/128 enp2s0 UP 172.16.21.131/24 metric 100 fe80::20c:29ff:feea:0003/64 enp26s0 UP 172.2.0.1/24 fe80::20c:29ff:feea:000d/64 gs11@hatchS1:~\$</pre>
<p>Sudo ip address add n.n.n.n/n dev <portname></p>	<p>Config ip address</p> <pre>gs11@hatchS1:~\$ gs11@hatchS1:~\$ Sudo ip address add x.x.x.x/xx dev <portname></pre>
<p>172.2.0.1, -- 172.28.120.190 / 20</p>	<p>Linux Server</p>
<p>172.28.120.180 / 20</p>	<p>Windows Server</p>
<p>172.2.100.1</p>	<p>Workstation</p>
<p>Sudo nano /etc/netplan/50-cloud-init.yaml</p>	<p>Navigates to the permanent netplan editor.</p> <pre>network: version: 2 renderer: networkd ethernets: enp2s0: dhcp4: true enp26s0: dhcp4: no nameservers: search: [Hatch.open] addresses: [172.2.100.1] addresses: - 172.2.0.1/24</pre>

<p>Adduser <username></p>	<p>Creates a user account</p> <pre> gs11@hatchS1:~\$ sudo adduser testaccount info: Adding user `testaccount' ... info: Selecting UID/GID from range 1000 to 59999 ... info: Adding new group `testaccount' (1007) ... info: Adding new user `testaccount' (1007) with group `testaccount (1007)' ... info: Creating home directory `/home/testaccount' ... info: Copying files from `/etc/skel' ... New password: Retype new password: passwd: password updated successfully Changing the user information for testaccount Enter the new value, or press ENTER for the default Full Name []: Room Number []: Work Phone []: Home Phone []: Other []: Is the information correct? [Y/n] info: Adding new user `testaccount' to supplemental / extra groups `users' ... info: Adding user `testaccount' to group `users' ... gs11@hatchS1:~\$ </pre>
<p>Useradd <username></p>	<p>Creates user account, but no prompts for password and additional info. It doesn't create a home directory either.</p> <pre> gs11@hatchS1:~\$ gs11@hatchS1:~\$ gs11@hatchS1:~\$ sudo useradd testaccount2 gs11@hatchS1:~\$ _ </pre>
<p>Logout</p>	<p>Logs out</p>
<p>Sudo usermod -aG sudo <username></p>	<p>Designate someone as a super user (sudo)</p> <pre> gs11@hatchS1:~\$ gs11@hatchS1:~\$ sudo usermod -aG sudo testaccount [sudo] password for gs11: gs11@hatchS1:~\$ _ </pre>
<p>Sudo -u <username> <command></p>	<p>Run sudo as someone else</p> <pre> gs11@hatchS1:~\$ gs11@hatchS1:~\$ sudo -u testaccount ip a 1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000 link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00 inet 127.0.0.1/8 scope host lo valid_lft forever preferred_lft forever inet6 ::1/128 scope host noprefixroute valid_lft forever preferred_lft forever 2: enp2s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000 link/ether 00:0c:29:ea:80:0d brd ff:ff:ff:ff:ff:ff inet 172.16.21.131/24 metric 100 brd 172.16.21.255 scope global dynamic enp2s0 valid_lft 1477sec preferred_lft 1477sec inet6 fe80::20c:29ff:feea:800d/64 scope link valid_lft forever preferred_lft forever 3: enp2s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000 link/ether 00:0c:29:ea:80:0d brd ff:ff:ff:ff:ff:ff inet 172.2.0.1/24 brd 172.2.0.255 scope global enp2s0 valid_lft forever preferred_lft forever inet6 fe80::20c:29ff:feea:800d/64 scope link valid_lft forever preferred_lft forever gs11@hatchS1:~\$ </pre>
<p>Getent group sudo</p>	<p>Get members of the sudo group</p> <pre> gs11@hatchS1:~\$ gs11@hatchS1:~\$ getent group sudo sudo:x:27:gs11,ottoserver,testaccount gs11@hatchS1:~\$ </pre>
<p>Getent group <groupname></p>	<p>Get members of a specific group</p> <pre> gs11@hatchS1:~\$ getent group users users:x:100:ottoserver,bubblefrog,testaccount gs11@hatchS1:~\$ _ </pre>

<p>Su</p>	<p>Switch user</p> <pre>gs11@hatchS1:~\$ su bubblefrog Password: bubblefrog@hatchS1:/home/gs11\$ _</pre>
<p>Chown <newowner> <filename></p>	<p>Change ownership *Owner set takes precedence</p> <pre>gs11@hatchS1:~\$ chown testaccount newfile1 chown: changing ownership of 'newfile1': Operation not permitted gs11@hatchS1:~\$ gs11@hatchS1:~\$ gs11@hatchS1:~\$ sudo chown testaccount newfile1 gs11@hatchS1:~\$ _</pre>
<p>Chmod <permissions> <filename></p> <p>Chmod 777 filename.sh</p>	<p>Change permissions</p> <p>R = 4, W= 2, X = 1</p> <p>1st batch = owner, 2nd batch = group, last batch = everyone else</p> <pre>gs11@hatchS1:~\$ gs11@hatchS1:~\$ sudo chmod 777 newfile1 gs11@hatchS1:~\$ gs11@hatchS1:~\$ _</pre>
<p>Chmod <permissions> <filename></p> <p>Chmod rwxr-xr—filename.sh</p> <p>Chmod u+x filename.sh</p> <p>Chmod g-w filename.sh</p> <p>Chmod a+r filename.sh</p>	<p>Change permissions</p> <p>-rwxrwxrwx</p> <p>u = owner</p> <p>g = group</p> <p>o = others</p> <p>a = all</p> <pre>gs11@hatchS1:~\$ gs11@hatchS1:~\$ sudo chmod -rwxrwxrwx newfile1 chmod: newfile1: new permissions are ----w--w-, not ----- (arg: 4) _</pre>
<p>Sudo chmod o-x /usr/bin/passwd</p>	<p>Password command non-executable for everyone but root</p> <pre>gs11@hatchS1:~\$ sudo chmod o-x /usr/bin/passwd gs11@hatchS1:~\$</pre>
<p>Sudo passwd -l <username></p>	<p>Adds an ! to encrypted password to make it impossible to log in</p> <pre>gs11@hatchS1:~\$ sudo passwd -l testaccount passwd: password changed. gs11@hatchS1:~\$</pre>
<p>Sudo change -E 0 <username></p>	<p>Sets expiry to epoch, which effectively disables the account</p> <pre>gs11@hatchS1:~\$ sudo change -E 0 testaccount gs11@hatchS1:~\$ gs11@hatchS1:~\$</pre>

<p>Passwd -n <days> <username></p> <p>Passwd -n 1 ottoserver</p>	<p>Minimum password age</p> <pre>gs11@hatchS1:~\$ sudo passwd -n 1 bubblefrog passwd: password changed. gs11@hatchS1:~\$</pre> <p>← that's an example of what it looks like</p>
<p>Chage -l <username></p>	<p>Lists all expiration settings</p> <pre>gs11@hatchS1:~\$ sudo chage -l testaccount Last password change : Apr 10, 2026 Password expires : never Password inactive : never Account expires : Jan 01, 1970 Minimum number of days between password change : 0 Maximum number of days between password change : 99999 Number of days of warning before password expires : 7 gs11@hatchS1:~\$</pre>
<p>Chage -E <date><username></p>	<p>Change expiration date</p> <pre>gs11@hatchS1:~\$ sudo chage -E 2000-01-01 testaccount gs11@hatchS1:~\$ gs11@hatchS1:~\$ sudo chage -l testaccount Last password change : Apr 10, 2026 Password expires : never Password inactive : never Account expires : Jan 01, 2000 gs11@hatchS1:~\$</pre>
<p>Chage -d <daysTilForcePwdChange> <username></p> <p>Chage -d 0 ottoserver Chage -d 90 ottoserver</p>	<p>Basically, Max password age Days until force password change</p> <pre>gs11@hatchS1:~\$ sudo chage -d 90 bubblefrog gs11@hatchS1:~\$ gs11@hatchS1:~\$</pre> <p>← Force to change pwd at next login ← Forced to change pwd in 90 days</p>
<p>Passwd -x <days><username></p> <p>Passwd -x 90 ottoserver</p>	<p>Maximum password age</p> <pre>gs11@hatchS1:~\$ sudo passwd -x 90 gs11 passwd: password changed. gs11@hatchS1:~\$</pre> <p>← Password expires in 90 days</p>
<p>Dpkg-reconfigure console-setup</p>	<p>Make linux server text larger</p> <p>Prompt 1: enter Prompt 2: enter Prompt 3: enter (or experiment) Prompt 4: terminusBold Prompt 5: 16x32</p> 

Usermod -L <username>	Lock account <pre>gs11@hatchS1:~\$ sudo usermod -L bubblefrog gs11@hatchS1:~\$ gs11@hatchS1:~\$ _</pre>
Usermod -U <username>	Unlock account <pre>gs11@hatchS1:~\$ sudo usermod -U bubblefrog gs11@hatchS1:~\$ gs11@hatchS1:~\$</pre>
Chage -m <days><username>	Minimum password age <pre>gs11@hatchS1:~\$ sudo chage -m 40 testaccount gs11@hatchS1:~\$ gs11@hatchS1:~\$</pre>
Chage -M <days><username>	Maximum password age <pre>gs11@hatchS1:~\$ sudo chage -M 7000 testaccount gs11@hatchS1:~\$ gs11@hatchS1:~\$ gs11@hatchS1:~\$</pre>
Cat <filename>	Displays contents of a file <pre>gs11@hatchS1:~\$ gs11@hatchS1:~\$ sudo cat newfile1 ## This opens when you type "nano <filename>" gs11@hatchS1:~\$</pre>
Head <filename>	Shows first 10 lines of a file <pre>gs11@hatchS1:~\$ sudo head incremental_backup.sh #!/bin/bash #Incremental Backup Script # Variables SOURCE_DIR="\$HOME/Documents" # Source directory BACKUP_DIR="\$HOME/backups" # Backup location SNAPSHOT_FILE="\$BACKUP_DIR/snapshot.txt" # Same snapshot file gs11@hatchS1:~\$</pre>
Tail <filename>	Shows last 10 lines of a file <pre>gs11@hatchS1:~\$ sudo tail incremental_backup.sh if [\$? -eq 0]; then echo "Incremental backup completed: \$BACKUP_FILE" # Check if the tar command succeeded else echo "Incremental backup failed." # Confirm success and show filename exit 1 # Notify user of failure fi # Exit script with error status exit 0 # Exit script successfully gs11@hatchS1:~\$</pre>
Clear	Clears terminal screen <pre>gs11@hatchS1:~\$</pre>

Echo "text"	<p>Prints text to terminal</p> <pre>gs11@hatchS1:~\$ echo "Hey linux quick ref" Hey linux quick ref gs11@hatchS1:~\$ _</pre>
Echo "text" > file.txt	<p>Writes text to a file (overwrites)</p> <pre>gs11@hatchS1:~\$ echo "What's up guys" > testfile1 gs11@hatchS1:~\$</pre>
Echo "text" >> file.txt	<p>Appends text to a file</p> <pre>gs11@hatchS1:~\$ echo "Hi there" >> testfile2 gs11@hatchS1:~\$ sudo cat testfile2 Hi there gs11@hatchS1:~\$ _</pre>
Rm <filename>	<p>Deletes a file</p> <pre>gs11@hatchS1:~\$ rm testfile2 gs11@hatchS1:~\$ cat testfile2 cat: testfile2: No such file or directory gs11@hatchS1:~\$</pre>
Rm -r <directory>	<p>Deletes a directory and its contents</p> <pre>gs11@hatchS1:~\$ rm -r documents rm: remove write-protected regular file 'documents'? gs11@hatchS1:~\$ _</pre>
Mkdir <directory>	<p>Creates a directory</p> <pre>gs11@hatchS1:~\$ mkdir New Directory! gs11@hatchS1:~\$</pre>
Rmdir <directory>	<p>Removes empty directory</p> <pre>gs11@hatchS1:~\$ rmdir New Directory! gs11@hatchS1:~\$</pre>
Grep "text" <filename>	<p>Search for text inside file</p> <pre>gs11@hatchS1:~\$ grep "snap" incremental_backup.sh SNAPSHOT_FILE="\$BACKUP_DIR/snapshot.txt" # Same snapshot file # Ensure snapshot exists (required for incremental backups) if [-f "\$SNAPSHOT_FILE"]; then # Check if snapshot file does NOT exist echo "Error: No snapshot file found. Run full backup first." # Notify User of missing snapshot gs11@hatchS1:~\$ _</pre>

<p>Grep -r "text" .</p>	<p>Search recursively in directory (searches through commands you have previously input by keyword)</p> <pre> bash_history:sudo ./backup_documents.sh bash_history:./backup_documents.sh bash_history:sudo nano backup_documents.sh bash_history:./backup_documents.sh bash_history:sudo nano backup_documents.sh bash_history:./backup_documents.sh bash_history:sudo nano backup_documents.sh bash_history:./backup_documents.sh bash_history:./incremental_backup.sh bash_history:sudo nano incremental_backup.sh bash_history:./incremental_backup.sh bash_history:grep CRON /var/log/syslog grep backup.sh grep: newfile1: Permission denied </pre>
<p>Wc -l <filename></p>	<p>Counts lines in a file</p> <pre> gs11@hatchS1:~\$ gs11@hatchS1:~\$ wc -l incremental_backup.sh 45 incremental_backup.sh gs11@hatchS1:~\$ _ </pre>
<p>Sort <filename></p>	<p>Sorts file contents</p> <pre> gs11@hatchS1:~\$ gs11@hatchS1:~\$ sort testfile1 What's up guys gs11@hatchS1:~\$ _ </pre>
<p>Df -h</p>	<p>Shows disk space usage</p> <pre> gs11@hatchS1:~\$ df -h Filesystem Size Used Avail Use% Mounted on tmpfs 391M 1.3M 389M 1% /run efivarfs 256K 37K 220K 15% /sys/firmware/efi/efivars /dev/mapper/ubuntu--vg-ubuntu--lv 9.8G 4.5G 4.8G 49% / tmpfs 2.0G 0 2.0G 0% /dev/shm tmpfs 5.0M 0 5.0M 0% /run/lock /dev/nvme0n1p2 1.7G 197M 1.4G 13% /boot /dev/nvme0n1p1 952M 6.4M 945M 1% /boot/efi tmpfs 391M 20K 391M 1% /run/user/1000 gs11@hatchS1:~\$ _ </pre>
<p>Du -sh <directory></p>	<p>Shows size of directory</p> <pre> gs11@hatchS1:~\$ du -sh Documents 4.0K Documents gs11@hatchS1:~\$ _ </pre>
<p>Free -h</p>	<p>Shows memory usage</p> <pre> gs11@hatchS1:~\$ gs11@hatchS1:~\$ free -h total used free shared buff/cache available Mem: 3.8Gi 454Mi 2.8Gi 3.9Mi 720Mi 3.4Gi Swap: 0B 0B 0B gs11@hatchS1:~\$ _ </pre>

Top

Real-time system processes

```
top - 00:30:04 up 34 min, 1 user, load average: 0.00, 0.01, 0.00
Tasks: 173 total, 1 running, 172 sleeping, 0 stopped, 0 zombie
xcpu(s): 0.2 us, 0.2 sy, 0.0 ni, 99.7 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 3901.8 total, 2908.4 free, 454.1 used, 721.0 buff/cache
MiB Swap: 0.0 total, 0.0 free, 0.0 used, 3447.7 avail Mem
```

PID	USER	PR	NI	VRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
719	root	20	0	249576	8516	7064	S	0.3	0.2	0:03.63	vmtoolsd
8116	gs11	20	0	11800	5568	3996	R	0.3	0.1	0:00.03	top
1	root	20	0	22080	12540	8676	S	0.0	0.3	0:00.49	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
3	root	20	0	0	0	0	S	0.0	0.0	0:00.00	pool_workqueue_release
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-rcu_g
5	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-rcu_p
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-slib_
7	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-nets
8	root	20	0	0	0	0	I	0.0	0.0	0:05.22	kuoerker/0:0H-events
10	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/0:0H-events_highpri1
12	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-mm_pe
13	root	20	0	0	0	0	I	0.0	0.0	0:00.00	rcu_tasks_kthreadd
14	root	20	0	0	0	0	I	0.0	0.0	0:00.00	rcu_tasks_rude_kthreadd
15	root	20	0	0	0	0	I	0.0	0.0	0:00.00	rcu_tasks_trace_kthreadd
16	root	20	0	0	0	0	S	0.0	0.0	0:00.09	ksoftirqd/0
17	root	20	0	0	0	0	I	0.0	0.0	0:00.09	rcu_preempt
18	root	rt	0	0	0	0	S	0.0	0.0	0:00.01	migration/0
19	root	-51	0	0	0	0	S	0.0	0.0	0:00.00	idle_inject/0
20	root	20	0	0	0	0	S	0.0	0.0	0:00.00	cpuhp/0
21	root	20	0	0	0	0	S	0.0	0.0	0:00.00	cpuhp/1
22	root	-51	0	0	0	0	S	0.0	0.0	0:00.00	idle_inject/1
23	root	rt	0	0	0	0	S	0.0	0.0	0:00.01	migration/1
24	root	20	0	0	0	0	S	0.0	0.0	0:00.02	ksoftirqd/1
26	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/1:0H-events_highpri1
27	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kdevtmpfs
28	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-inet_
29	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kauditd
30	root	20	0	0	0	0	S	0.0	0.0	0:00.00	khungtaskd
32	root	20	0	0	0	0	S	0.0	0.0	0:00.00	oom_reaper
33	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-write
34	root	20	0	0	0	0	S	0.0	0.0	0:00.12	kcompactd
35	root	25	5	0	0	0	S	0.0	0.0	0:00.00	ksmd
37	root	39	19	0	0	0	S	0.0	0.0	0:00.00	khugepaged
38	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-kinte
39	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-kbloc
40	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-blkcg
41	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-tpm_d
42	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-ata_s
43	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-md
44	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-md_bi
45	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-edac-
46	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kuoerker/R-devfr

Htop

Better version of top (if installed)

```
0% Tasks: 29, 33 thr, 145 kthr, 1 running
1% Load average: 0.00 0.01 0.00
Mem: | 284M / 3.81G | Uptime: 00:34:55
Swap: | 0K / 0K |
```

PID	USER	PRI	NI	VRT	RES	SHR	S	%CPU	%MEM	TIME+	Command
719	root	20	0	2378	8516	7064	S	0.3	0.2	0:03.59	/usr/bin/vmtoolsd
8128	gs11	20	0	8612	4496	3172	R	0.7	0.1	0:00.06	htop
1	root	20	0	22080	12540	8676	S	0.0	0.3	0:00.50	/sbin/init
469	root	19	-1	83132	16556	15376	S	0.0	0.4	0:00.16	/usr/lib/systemd/systemd-journald
468	root	RT	0	2838	26232	7448	S	0.0	0.7	0:00.09	/sbin/multipathd -d -s
469	root	20	0	2838	26232	7448	S	0.0	0.7	0:00.00	/sbin/multipathd -d -s
470	root	RT	0	2838	26232	7448	S	0.0	0.7	0:00.00	/sbin/multipathd -d -s
471	root	RT	0	2838	26232	7448	S	0.0	0.7	0:00.00	/sbin/multipathd -d -s
472	root	RT	0	2838	26232	7448	S	0.0	0.7	0:00.00	/sbin/multipathd -d -s
473	root	RT	0	2838	26232	7448	S	0.0	0.7	0:00.28	/sbin/multipathd -d -s
474	root	RT	0	2838	26232	7448	S	0.0	0.7	0:00.00	/sbin/multipathd -d -s
477	root	20	0	23984	8188	4540	S	0.0	0.2	0:00.05	/usr/lib/systemd/systemd-udev
655	systemd-res	20	0	18720	6024	3672	S	0.0	0.2	0:00.04	/usr/lib/systemd/systemd-networkd
694	systemd-res	20	0	21496	12452	10196	S	0.0	0.3	0:00.04	/usr/lib/systemd/systemd-resolved
642	systemd-ti	20	0	90760	7192	6260	S	0.0	0.2	0:00.05	/usr/lib/systemd/systemd-timesyncd
692	systemd-ti	20	0	90760	7192	6260	S	0.0	0.2	0:00.00	/usr/lib/systemd/systemd-timesyncd
718	root	20	0	53216	11400	3684	S	0.0	0.3	0:00.00	/usr/bin/NetworkService
752	networkd	20	0	10084	4844	5924	S	0.0	0.1	0:00.07	dbus-daemon --system --address=systemd: --nofork
796	root	20	0	2378	8516	7064	S	0.0	0.2	0:00.00	/usr/bin/vmtoolsd
806	polkitd	20	0	3018	7460	6564	S	0.0	0.2	0:00.01	/usr/lib/polkit-1/polkitd --no-debug
810	root	20	0	2378	8516	7064	S	0.0	0.2	0:00.11	/usr/bin/vmtoolsd
811	root	20	0	2378	8516	7064	S	0.0	0.2	0:00.00	/usr/bin/vmtoolsd
896	root	20	0	17916	7940	6860	S	0.0	0.2	0:00.03	/usr/lib/systemd/systemd-logind
918	root	20	0	4618	12748	10540	S	0.0	0.3	0:00.04	/usr/libexec/udisks2/udisksd
921	syslog	20	0	2178	5540	3796	S	0.0	0.1	0:00.00	/usr/sbin/rsyslogd -n -iNONE
973	root	20	0	4618	12748	10540	S	0.0	0.3	0:00.05	/usr/libexec/udisks2/udisksd
977	root	20	0	4618	12748	10540	S	0.0	0.3	0:00.00	/usr/libexec/udisks2/udisksd
982	root	20	0	4618	12748	10540	S	0.0	0.3	0:00.00	/usr/libexec/udisks2/udisksd
1083	syslog	20	0	2178	5540	3796	S	0.0	0.1	0:00.00	/usr/sbin/rsyslogd -n -iNONE
1084	syslog	20	0	2178	5540	3796	S	0.0	0.1	0:00.00	/usr/sbin/rsyslogd -n -iNONE
1085	syslog	20	0	2178	5540	3796	S	0.0	0.1	0:00.00	/usr/sbin/rsyslogd -n -iNONE
1111	root	20	0	1078	22160	12804	S	0.0	0.6	0:00.04	/usr/bin/python3 /usr/share/unattended-upgrades/ubuntu
1119	polkitd	20	0	3018	7460	6564	S	0.0	0.2	0:00.07	/usr/lib/polkit-1/polkitd --no-debug
1120	polkitd	20	0	3018	7460	6564	S	0.0	0.2	0:00.00	/usr/lib/polkit-1/polkitd --no-debug
1123	polkitd	20	0	3018	7460	6564	S	0.0	0.2	0:00.00	/usr/lib/polkit-1/polkitd --no-debug
1144	root	20	0	4618	12748	10540	S	0.0	0.3	0:00.00	/usr/libexec/udisks2/udisksd
1153	root	20	0	3178	11968	9984	S	0.0	0.3	0:00.03	/usr/sbin/ModemManager
1154	root	20	0	4618	12748	10540	S	0.0	0.3	0:00.00	/usr/libexec/udisks2/udisksd
1162	root	20	0	3178	11968	9984	S	0.0	0.3	0:00.00	/usr/sbin/ModemManager
1172	root	20	0	3178	11968	9984	S	0.0	0.3	0:00.00	/usr/sbin/ModemManager
1178	root	20	0	3178	11968	9984	S	0.0	0.3	0:00.00	/usr/sbin/ModemManager

Wget <url>

Download file from internet

```
gs11@hatchS1:~$ wget google.com
--2026-04-11 00:32:05-- http://google.com/
Resolving google.com (google.com)... 172.217.75.102
Connecting to google.com (google.com)[172.217.75.102]:80... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: http://www.google.com/ [following]
--2026-04-11 00:32:06-- http://www.google.com/
Resolving www.google.com (www.google.com)... 142.251.155.119
Connecting to www.google.com (www.google.com)[142.251.155.119]:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'index.html'

index.html [ <->
2026-04-11 00:32:06 (1.32 MB/s) - 'index.html' saved [79280]

gs11@hatchS1:~$
```

Curl <url>	Fetch data from URL <pre>gs11@hatchS1:~\$ curl google.com <HTML><HEAD><meta http-equiv="content-type" content="text/html;charset=utf-8"> <TITLE>301 Moved</TITLE></HEAD><BODY> <H1>301 Moved</H1> The document has moved here. </BODY></HTML> gs11@hatchS1:~\$</pre>
Ping <ip/hostname>	Check network connectivity <pre>gs11@hatchS1:~\$ ping 1.1.1.1 PING 1.1.1.1 (1.1.1.1) 56(84) bytes of data. 64 bytes from 1.1.1.1: icmp_seq=1 ttl=128 time=11.5 ms 64 bytes from 1.1.1.1: icmp_seq=2 ttl=128 time=8.97 ms 64 bytes from 1.1.1.1: icmp_seq=3 ttl=128 time=11.9 ms ^C --- 1.1.1.1 ping statistics --- 3 packets transmitted, 3 received, 0% packet loss, time 2000ms rtt min/avg/max/mdev = 8.974/10.802/11.933/1.304 ms gs11@hatchS1:~\$</pre>
Ss -tuln	Shows open ports <pre>gs11@hatchS1:~\$ ss -tuln Netid State Recv-Q Send-Q Local Address:Port udp UNCONN 0 0 127.0.0.53:53 udp UNCONN 0 0 172.16.21.131:enp2s0:68 tcp LISTEN 0 4096 0.0.0.0:22 tcp LISTEN 0 4096 127.0.0.53:53 tcp LISTEN 0 80 127.0.0.1:3306 tcp LISTEN 0 4096 127.0.0.54:53 tcp LISTEN 0 511 *:80 tcp LISTEN 0 4096 [::]:22 gs11@hatchS1:~\$</pre>
Shutdown now	Shuts down system immediately
Reboot	Restarts system
Whoami	Shows current user <pre>gs11@hatchS1:~\$ whoami gs11 gs11@hatchS1:~\$</pre>
Uptime	Shows how long system has been running <pre>gs11@hatchS1:~\$ uptime 00:34:25 up 38 min, 1 user, load average: 0.00, 0.00, 0.00 gs11@hatchS1:~\$</pre>