

```

devuser@9e9b502b14ed: ~
Selecting previously unselected package libnl-3-200:amd64.
(Reading database ... 10071 files and directories currently installed.)
Preparing to unpack .../libnl-3-200_3.7.0-0.3build1.1_amd64.deb ...
Unpacking libnl-3-200:amd64 (3.7.0-0.3build1.1) ...
Selecting previously unselected package libnl-genl-3-200:amd64.
Preparing to unpack .../libnl-genl-3-200_3.7.0-0.3build1.1_amd64.deb ...
Unpacking libnl-genl-3-200:amd64 (3.7.0-0.3build1.1) ...
Selecting previously unselected package htop.
Preparing to unpack .../htop_3.3.0-4build1_amd64.deb ...
Unpacking htop (3.3.0-4build1) ...
Setting up libnl-3-200:amd64 (3.7.0-0.3build1.1) ...
Setting up libnl-genl-3-200:amd64 (3.7.0-0.3build1.1) ...
Setting up htop (3.3.0-4build1) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
root@9e9b502b14ed:~# htop
root@9e9b502b14ed:~# sudo apt remove htop -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libnl-3-200 libnl-genl-3-200
Use 'sudo apt autoremove' to remove them.
The following packages will be REMOVED:
  htop
0 upgraded, 0 newly installed, 1 to remove and 20 not upgraded.
After this operation, 434 kB disk space will be freed.
(Reading database ... 10095 files and directories currently installed.)
Removing htop (3.3.0-4build1) ...
root@9e9b502b14ed:~# htop
bash: /usr/bin/htop: No such file or directory
root@9e9b502b14ed:~# su - devuser
devuser@9e9b502b14ed:~$ sleep 1000 &
[1] 3638
devuser@9e9b502b14ed:~$ ps aux | grep "sleep 1000"
devuser  3638  0.0  0.0   3124  1172 pts/1    S   13:15   0:00 sleep 1000
devuser  3640  0.0  0.0   4088  1940 pts/1    S+  13:15   0:00 grep --color=auto sleep 1000
devuser@9e9b502b14ed:~$ kill 3638
devuser@9e9b502b14ed:~$ ps aux | grep "sleep 1000"
devuser  3642  0.0  0.0   4088  1924 pts/1    S+  13:18   0:00 grep --color=auto sleep 1000
[1]+  Terminated                  sleep 1000
devuser@9e9b502b14ed:~$

```

```
root@9e9b502b14ed: ~  
The following NEW packages will be installed:  
  htop libnl-3-200 libnl-genl-3-200  
0 upgraded, 3 newly installed, 0 to remove and 20 not upgraded.  
Need to get 238 kB of archives.  
After this operation, 665 kB of additional disk space will be used.  
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libnl-3-200 amd64 3.7.0-0.3build1.1 [55.7 kB]  
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libnl-genl-3-200 amd64 3.7.0-0.3build1.1 [12.2 kB]  
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 htop amd64 3.3.0-4build1 [171 kB]  
Fetched 238 kB in 1s (195 kB/s)  
debconf: delaying package configuration, since apt-utils is not installed  
Selecting previously unselected package libnl-3-200:amd64.  
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Preparing to unpack .../libnl-3-200_3.7.0-0.3build1.1_amd64.deb ...  
Unpacking libnl-3-200:amd64 (3.7.0-0.3build1.1) ...  
Selecting previously unselected package libnl-genl-3-200:amd64.  
Preparing to unpack .../libnl-genl-3-200_3.7.0-0.3build1.1_amd64.deb ...  
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Processing triggers for libc-bin (2.39-0ubuntu8.3) ...  
root@9e9b502b14ed:~# htop  
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Building dependency tree... Done  
Reading state information... Done  
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After this operation, 434 kB disk space will be freed.  
(Reading database ... 10095 files and directories currently installed.)  
Removing htop (3.3.0-4build1) ...  
root@9e9b502b14ed:~# htop  
bash: /usr/bin/htop: No such file or directory  
root@9e9b502b14ed:~# |
```

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The following NEW packages will be installed:  
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Setting up libnl-genl-3-200:amd64 (3.7.0-0.3build1.1) ...  
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root@9e9b502b14ed:~# htop  
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Removing htop (3.3.0-4build1) ...  
root@9e9b502b14ed:~# |
```



```
root@9e9b502b14ed: ~  
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
20 packages can be upgraded. Run 'apt list --upgradable' to see them.  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following additional packages will be installed:  
  libnl-3-200 libnl-genl-3-200  
Suggested packages:  
  lm-sensors lsof strace  
The following NEW packages will be installed:  
  htop libnl-3-200 libnl-genl-3-200  
0 upgraded, 3 newly installed, 0 to remove and 20 not upgraded.  
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Setting up htop (3.3.0-4build1) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...  
root@9e9b502b14ed:~# htop  
root@9e9b502b14ed:~#
```

0[
1[
2[
3[
Mem[|||||||
Swp[

0.0%]
0.0%]
0.0%]
0.0%]
604M/3.76G
0K/1.00G

4[
5[
6[
7[
Tasks: 3, 0 thr, 0 kthr; 1 running
Load average: 0.04 0.01 0.00
Uptime: 00:48:25

0.0%]
0.0%]
0.0%]
0.0%]

Main I/O

PID	USER	PRI	NI	VIRT	RES	SHR	S	CPU%	MEM%	TIME+	Command
1	root	20	0	4588	3756	3260	S	0.0	0.1	0:00.05	/bin/bash
10	root	20	0	4588	3952	3324	S	0.0	0.1	0:00.05	/bin/bash
3613	root	20	0	5248	3864	2948	R	0.0	0.1	0:00.02	htop

F1Help

F2Setup

F3Search

F4Filter

F5Tree

F6SortBy

F7Nice -

F8Nice +

F9Kill

F10Quit

31°C
Partly sunny

Search

ENG
INTL

13:43
03-04-2025

```
root@9e9b502b14ed: ~  
root@9e9b502b14ed:~# sudo apt update && sudo apt install htop -y  
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
20 packages can be upgraded. Run 'apt list --upgradable' to see them.  
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The following additional packages will be installed:  
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Suggested packages:  
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The following NEW packages will be installed:  
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Setting up htop (3.3.0-4build1) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...  
root@9e9b502b14ed:~#
```



```
devuser@9e9b502b14ed: ~  
devuser@9e9b502b14ed:~$ nano ~/projects/hello.sh  
devuser@9e9b502b14ed:~$ chmod +x ~/projects/hello.sh  
devuser@9e9b502b14ed:~$ crontab -e  
no crontab for devuser - using an empty one  
crontab: installing new crontab  
devuser@9e9b502b14ed:~$ cat ~/projects/hello_output.txt  
cat: /home/devuser/projects/hello_output.txt: No such file or directory  
devuser@9e9b502b14ed:~$ crontab -e  
No modification made  
devuser@9e9b502b14ed:~$ cat ~/projects/hello_output.txt  
cat: /home/devuser/projects/hello_output.txt: No such file or directory  
devuser@9e9b502b14ed:~$ crontab -l  
# Edit this file to introduce tasks to be run by cron.  
#  
# Each task to run has to be defined through a single line  
# indicating with different fields when the task will be run  
# and what command to run for the task  
#  
# To define the time you can provide concrete values for  
# minute (m), hour (h), day of month (dom), month (mon),  
# and day of week (dow) or use '*' in these fields (for 'any').  
#  
# Notice that tasks will be started based on the cron's system  
# daemon's notion of time and timezones.  
#  
# Output of the crontab jobs (including errors) is sent through  
# email to the user the crontab file belongs to (unless redirected).  
#  
# For example, you can run a backup of all your user accounts  
# at 5 a.m every week with:  
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/  
#  
# For more information see the manual pages of crontab(5) and cron(8)  
#  
# m h dom mon dow  command  
* * * * * /home/devuser/projects/hello.sh  
devuser@9e9b502b14ed:~$ grep CRON /var/log/syslog  
grep: /var/log/syslog: No such file or directory  
devuser@9e9b502b14ed:~$ ls  
projects  
devuser@9e9b502b14ed:~$ journalctl -u cron --no-pager --since "1 min ago"
```



```
devuser@9e9b502b14ed: ~  
no crontab for devuser - using an empty one  
crontab: installing new crontab  
devuser@9e9b502b14ed:~$ cat ~/projects/hello_output.txt  
cat: /home/devuser/projects/hello_output.txt: No such file or directory  
devuser@9e9b502b14ed:~$ crontab -e  
No modification made  
devuser@9e9b502b14ed:~$ cat ~/projects/hello_output.txt  
cat: /home/devuser/projects/hello_output.txt: No such file or directory  
devuser@9e9b502b14ed:~$ crontab -l  
# Edit this file to introduce tasks to be run by cron.  
#  
# Each task to run has to be defined through a single line  
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# and day of week (dow) or use '*' in these fields (for 'any').  
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# Notice that tasks will be started based on the cron's system  
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# Output of the crontab jobs (including errors) is sent through  
# email to the user the crontab file belongs to (unless redirected).  
#  
# For example, you can run a backup of all your user accounts  
# at 5 a.m every week with:  
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/  
#  
# For more information see the manual pages of crontab(5) and cron(8)  
#  
# m h dom mon dow   command  
* * * * * /home/devuser/projects/hello.sh  
devuser@9e9b502b14ed:~$ grep CRON /var/log/syslog  
grep: /var/log/syslog: No such file or directory  
devuser@9e9b502b14ed:~$ ls  
projects  
devuser@9e9b502b14ed:~$ journalctl -u cron --no-pager --since "1 min ago"  
No journal files were found.  
-- No entries --  
devuser@9e9b502b14ed:~$ |
```

```
devuser@9e9b502b14ed: ~  
deepak  
C:\Users\Deepa>docker exec -it deepak /bin/bash  
root@9e9b502b14ed:/# su ubuntu  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
ubuntu@9e9b502b14ed:/$ cd ~  
ubuntu@9e9b502b14ed:~$ sudo useradd -m -d /home/devuser -s /bin/bash -c "Developer User" devuser  
[sudo] password for ubuntu:  
Sorry, try again.  
[sudo] password for ubuntu:  
Sorry, try again.  
[sudo] password for ubuntu:  
sudo: 3 incorrect password attempts  
ubuntu@9e9b502b14ed:~$ exit  
exit  
root@9e9b502b14ed:/# cd ~  
root@9e9b502b14ed:~# sudo useradd -m -d /home/devuser -s /bin/bash -c "Developer User" devuser  
root@9e9b502b14ed:~# sudo groupadd developers  
root@9e9b502b14ed:~# sudo usermod -aG developers devuser  
root@9e9b502b14ed:~# id devuser  
uid=1001(devuser) gid=1001(devuser) groups=1001(devuser),1002(developers)  
root@9e9b502b14ed:~# groups devuser  
devuser : devuser developers  
root@9e9b502b14ed:~# getent group developers  
developers:x:1002:devuser  
root@9e9b502b14ed:~# su - devuser  
devuser@9e9b502b14ed:~$ mkdir ~/projects  
devuser@9e9b502b14ed:~$ chmod 770 ~/projects  
devuser@9e9b502b14ed:~$ ls -ld ~/projects  
drwxrwx--- 2 devuser devuser 4096 Apr  3 12:52 /home/devuser/projects  
devuser@9e9b502b14ed:~$ su - devuser  
Password:  
su: Authentication failure  
devuser@9e9b502b14ed:~$ nano ~/projects/hello.sh  
devuser@9e9b502b14ed:~$ nano ~/projects/hello.sh  
devuser@9e9b502b14ed:~$ chmod +x ~/projects/hello.sh  
devuser@9e9b502b14ed:~$ crontab -e  
-bash: crontab: command not found  
devuser@9e9b502b14ed:~$ |
```

```
#!/bin/bash
echo "Hello, World!" >> ~/projects/hello_output.txt
```

Help **Write Out** **Where Is** **Cut** **[Read 2 lines]** **Location** **Undo** **Set Mark** **To Bracket**
Exit **Read File** **Replace** **Paste** **Execute** **Go To Line** **Redo** **Copy** **Where Was**
^G **^O** **^W** **^K** **^T** **^C** **M-U** **M-A** **M-]**
^X **^R** **^N** **^U** **^J** **^/_** **M-E** **M-6** **^Q**

Microsoft Windows [Version 10.0.26100.3476]
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C:\Users\Deepa>docker start deepak
deepak

C:\Users\Deepa>docker exec -it deepak /bin/bash
root@9e9b502b14ed:/# su ubuntu
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

```
ubuntu@9e9b502b14ed:/# cd ~
ubuntu@9e9b502b14ed:~$ sudo useradd -m -d /home/devuser -s /bin/bash -c "Developer User" devuser
[sudo] password for ubuntu:
Sorry, try again.
[sudo] password for ubuntu:
Sorry, try again.
[sudo] password for ubuntu:
sudo: 3 incorrect password attempts
ubuntu@9e9b502b14ed:~$ exit
exit
root@9e9b502b14ed:/# cd ~
root@9e9b502b14ed:~# sudo useradd -m -d /home/devuser -s /bin/bash -c "Developer User" devuser
root@9e9b502b14ed:~# sudo groupadd developers
root@9e9b502b14ed:~# sudo usermod -aG developers devuser
root@9e9b502b14ed:~# id devuser
uid=1001(devuser) gid=1001(devuser) groups=1001(devuser),1002(developers)
root@9e9b502b14ed:~# groups devuser
devuser : devuser developers
root@9e9b502b14ed:~# getent group developers
developers:x:1002:devuser
root@9e9b502b14ed:~# su - devuser
devuser@9e9b502b14ed:~$ mkdir ~/projects
devuser@9e9b502b14ed:~$ chmod 770 ~/projects
devuser@9e9b502b14ed:~$ ls -ld ~/projects
drwxrwx--- 2 devuser devuser 4096 Apr  3 12:52 /home/devuser/projects
devuser@9e9b502b14ed:~$
```

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deepak

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root@9e9b502b14ed:~# sudo groupadd developers
root@9e9b502b14ed:~# sudo usermod -aG developers devuser
root@9e9b502b14ed:~# id devuser
uid=1001(devuser) gid=1001(devuser) groups=1001(devuser),1002(developers)
root@9e9b502b14ed:~# groups devuser
devuser : devuser developers
root@9e9b502b14ed:~# getent group developers
developers:x:1002:devuser
root@9e9b502b14ed:~#
```