

Instructions on how to do Installs, Updates and Test Apps on Ubuntu Server

Installs

To install apps, use the following command **sudo apt install** followed by the app that you want to install. I'll provide some examples of recent apps that were installed and the times just for reference.

TMUX

Run **sudo apt install tmux** to start the install as shown below..

```
efelix@felixus:~$ sudo apt install tmux
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages will be upgraded:
  tmux
1 upgraded, 0 newly installed, 0 to remove and 35 not upgraded.
Need to get 480 kB of archives.
After this operation, 0 B of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu noble-updates/main amd64 tmux amd64 3.4-1ubuntu0.1
Fetched 480 kB in 3s (149 kB/s)
(Reading database ... 121878 files and directories currently installed.)
Preparing to unpack .../tmux_3.4-1ubuntu0.1_amd64.deb ...
Unpacking tmux (3.4-1ubuntu0.1) over (3.4-1build1) ...
Setting up tmux (3.4-1ubuntu0.1) ...
Processing triggers for debianutils (5.17build1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
```

I'm going to take note that I installed TMUX on 10/13/2024 8:47am

EMACS

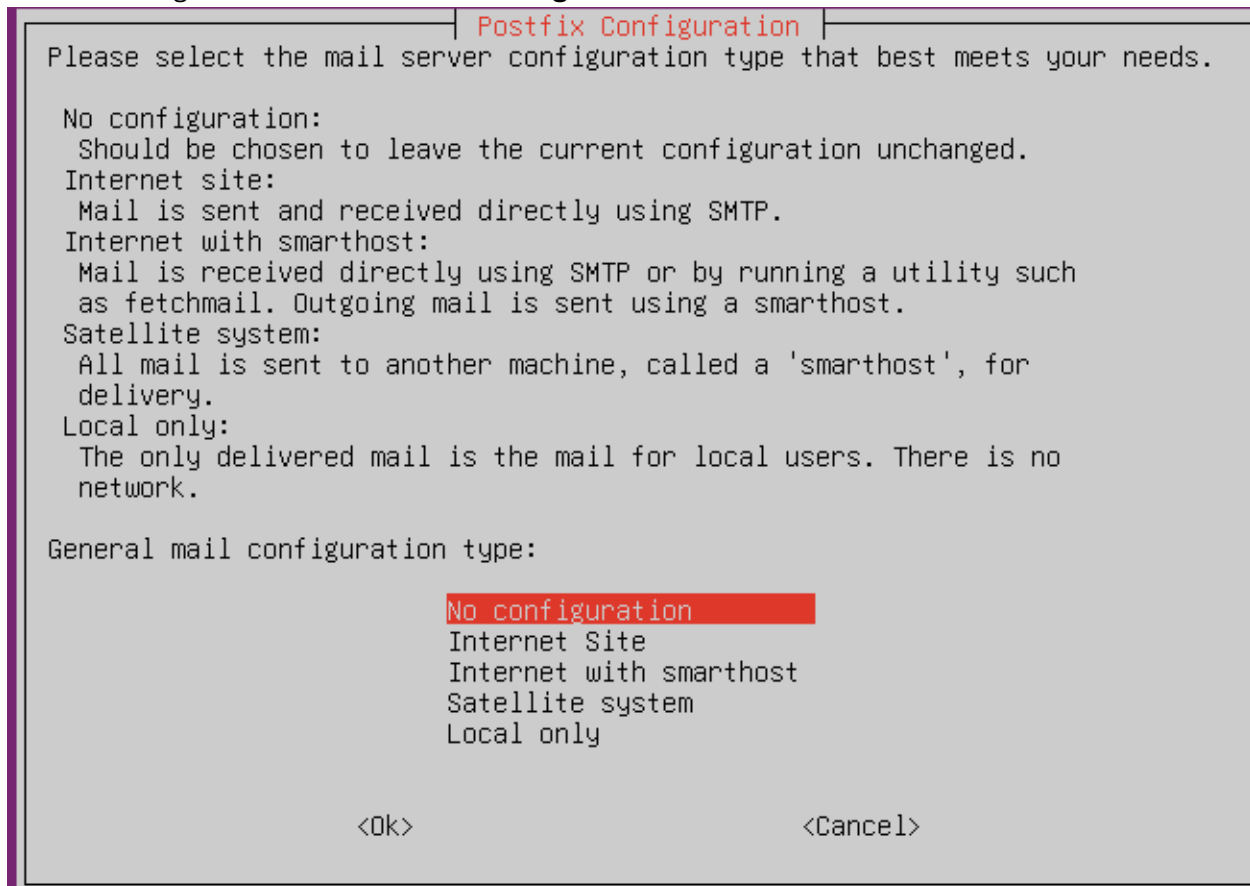
Run **sudo apt install emacs**

I'm going to take note that I installed EMACS on 10/13/2024 8:48am

FAIL2BAN

Run **sudo apt install fail2ban**

During installation I chose **No Configuration**.



I'm going to take note that I installed FAIL2BAN on 10/13/2024 8:49am

COWSAY

Run **sudo apt install cowsay**

I'm going to take note that I installed COWSAY on 10/13/2024 8:50am

LOLCAT

Run **sudo apt install lolcat**

I'm going to take note that I installed LOLCAT on 10/13/2024 8:51am

Repository

Checking Repository

Since we installed emacs (which is an editor) let's use it to check the repository for our server by typing **emacs /etc/apt/sources.list.d/ubuntu.sources** Results are as follows... You see two repositories. By using emacs we can modify as I will briefly explain further along.

```
File Edit Options Buffers Tools Help
Types: deb
URIs: http://us.archive.ubuntu.com/ubuntu/
Suites: noble noble-updates noble-backports
Components: main restricted universe multiverse
Signed-By: /usr/share/keyrings/ubuntu-archive-keyring.gpg

Types: deb
URIs: http://security.ubuntu.com/ubuntu/
Suites: noble-security
Components: main restricted universe multiverse
Signed-By: /usr/share/keyrings/ubuntu-archive-keyring.gpg
```

Add/Modifying Repository

While in the editor as shown as above you have the opportunity to change a url for instance for modify a repository. I'll show how to add one with the following image by showing an example of installing GIMP which is an image editing software by typing **sudo add-apt-repository ppa:otto-kesselgulasch/gimp**

```
Repository: 'Types: deb
URIs: https://ppa.launchpadcontent.net/otto-kesselgulasch/gimp/ubuntu/
Suites: noble
Components: main
'
Description:
Hi,

for personal reasons my PPA activities are dropped for the time being.
Sorry
Thorsten

Take a look: https://launchpad.net/~ubuntuhandbook1/+archive/ubuntu/gimp

This PPA is for Ubuntu >=18.04 and Linux Mint derivatives

Installing:
open a terminal and type:
sudo add-apt-repository ppa:otto-kesselgulasch/gimp
sudo apt-get update
sudo apt-get install gimp

Removing:
open a terminal and type:
sudo apt-get install ppa-purge
sudo ppa-purge ppa:otto-kesselgulasch/gimp

Many thanks to David Tschumperlé for his masterpiece called G'MIC.
http://gmic.eu/
Look for the gmic packages!

We should not forget the Gimp crew!
http://www.gimp.org/

And many, many thanks to http://siduction.org. They helped me on my first steps making the Gimp packages.

I promise as long as I live this PPA will never die and the most recent packages will for ever be. ;-)

Regards

Otto Meier

More info: https://launchpad.net/~otto-kesselgulasch/+archive/ubuntu/gimp
Adding repository.
Press [ENTER] to continue or Ctrl-c to cancel.
```

In the Installing section of the image, it explains what do after you install the repository. You want to update the repository by using the command **sudo apt-get update** Then actually install the app by typing **sudo apt-get install gimp**

For more information feel free to use the following resource

<https://serverspace.io/support/help/configure-repositories-on-ubuntu-20-04/>

Now let's check if the repositories have been updated by typing **sudo apt-add-repository --list** We don't need to edit the file that is why just want to just list it. As you see, gimp was added.

```
efelix@felixus:~$ sudo apt-add-repository --list
Types: deb
URIs: http://us.archive.ubuntu.com/ubuntu/
Suites: noble noble-updates noble-backports
Components: main restricted universe multiverse
Signed-By: /usr/share/keyrings/ubuntu-archive-keyring.gpg

Types: deb
URIs: http://security.ubuntu.com/ubuntu/
Suites: noble-security
Components: main restricted universe multiverse
Signed-By: /usr/share/keyrings/ubuntu-archive-keyring.gpg

Types: deb
URIs: https://ppa.launchpadcontent.net/otto-kesselgulasch/gimp/ubuntu/
Suites: noble
Components: main
Signed-By: -----BEGIN PGP PUBLIC KEY BLOCK-----

.mQINBGYzhfgBEAC4MPnfDPCJYqFMo5sW8YBPh89yB8ya9kuvbtnjnAFAJGEVTGxd
OPHB0rTFwRy2QGg32axgwZchFfN0dssNZ19ynwf+/US5upa9HRxH79JxXQH6Dx6a
EpecgTjBaVjHZwtZ9UGCBsGVs5BZYjSAyMu//c1FjtpTd0PkxkaeMBUTM90G30YH
bSA0r0i/3ckNkwWJ/yaCf7DXrXZ2lF4tpxLMLh9c0ylrDTV+fljqcix1PYVooz4J
6SV5hRlgpuEUHyolNdBkJQsEC7/2I/vb9HnmE0Y7h7Nc1N6H7Ghmf0Sk5XGbsNQ5
m7fXI0avBsJlxFvS5jb6IY2LB9yTgroEAny4IPczUjGYhFtEn+y5EplUa9mLPGS1
Xsbsbk0GJ/KCNBJUSM0W9AVBY/fN2eGz4tyhBxVlBxWu3lZJPceNVsEDEqJR0APA
1zSnuEXMQIhZmVzEd8B4dKDxWGC/rExGdDtWJ5TqQmGKWjzPN6Iw1glr/vUYXmxL
z7QkGVdXsPD4gLeMokqbEawgDK93FZ54rvIKNkVQQS8L40XvbPb0NbBvW53oRs3o
2cD74Xk5v8NlZU49urzy16KR0ZHVZn0pR55WM42z+kB2jVhQYKFQnQdM3gRgfnsM
LDUMrH8bG+g59ucs7BVQRLqwItWiuFkWxaBj+l1i+0bV2HtP5nBGvjbZlQARAQAB
tBtMYXVvY2hwYWQgUFBBIQZvcIBvdHRvMDYyMTYwJAK4EEwEKADgWIQSQxIPcnnxz
za9Nmoupzmr4pA0uUJCZjOF+AIBAwULCQgHAGYVCgkICwIEFgIDAQIeAQIXgAAK
CRCpzmzR4pA0u8BCD/96pf3uqXoDcdAdN5jEC98ZfCFhVBoMAD2rtEYQJkl0dz4g
wDqJjBlou+ANkS8xLeDChiVdTkL+LQJM/Yyu0t+o4vmRdYs0kohFSAukYIIRbVm
i/koXtukHfavbPt9yWFGu0ieEyBgwumwYR6TYvkXERDXejL40YGTyjb0YKcfGonu
SsDz0UMFQjX8c6TubHhpDpHmthBVn90IM5NlqNpAwZ1d5xbLQ0aYo2i+jpq002J5
8KGZqQI9W7W1x8An87LxL5LkQd07maxR4RTFiN198SoIYQ7arLRrTyy4MPeXPnNG
ms3nsLX9WF7VANPPRQAK22iKvzG5RG3/hQwxMSMWgemyH9sdD3YGxxaUGfDBT+e
mKT1rBRXzIAZ2lpaKvuVyHMY/GJvG43MmtKMuplMYl/YNQMXRSPc2Rswd7D9exMD
aJFb4mGCZ9RiLrGzXy55Pk+jZsN/lNwsEGVCDYRyCcnbUcprnaqZKL0V0XuxI46h
tCynkAkPkvsxhtFplhTkVe01tVK4+1e1SSBDsPl1W2ucx2yin9e+HGdySud0IItP
ejI7kpDuIofaWmcq5lAUlvTRFxPQqRk9QvzByEFxllN3abuyNMH0d8SRxjltRjwJ
Gt253XX3DytaIQnGxnshPRIb+20Lp32RWK5avQSSpMjwJqu6QJtVoeyNmECt7Q==
=zdpA
-----END PGP PUBLIC KEY BLOCK-----
```

Just as it was added, Gimp could be removed by typing **sudo add-apt-repository --remove cowppa:otto-kesselgulasch/gimp**

Testing Apps

Was asked to install VIM to replace VI as an editor but the server already had it after I ran **sudo apt install vim**

```
efelix@felixus:~$ sudo apt install vim
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
vim is already the newest version (2:9.1.0016-1ubuntu7.3).
vim set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 35 not upgraded.
efelix@felixus:~$ sudo update-alternatives --config editor
There are 5 choices for the alternative editor (providing /usr/bin/editor).

  Selection    Path                        Priority  Status
  ----
* 0            /bin/nano                   40       auto mode
  1            /bin/ed                     -100     manual mode
  2            /bin/nano                   40       manual mode
  3            /usr/bin/emacs              0        manual mode
  4            /usr/bin/vim.basic          30       manual mode
  5            /usr/bin/vim.tiny           15       manual mode

Press <enter> to keep the current choice[*], or type selection number:
```

As you could on Selection 3 emacs which we installed earlier shows up on the list. To see all the apps on the server run the command **sudo apt list --installed** but since it scrolls the entire list at once we will add | less after the command so we could see it a page at a time as shown below

sudo apt list --installed | more

```
cowsay/noble,now 3.03+dfsg2-8 all [installed]
cpio/noble,now 2.15+dfsg-1ubuntu2 amd64 [installed,automatic]
cpp-13-x86-64-linux-gnu/noble,now 13.2.0-23ubuntu4 amd64 [installed,automatic]
cpp-13/noble,now 13.2.0-23ubuntu4 amd64 [installed,automatic]
cpp-x86-64-linux-gnu/noble,now 4:13.2.0-7ubuntu1 amd64 [installed,automatic]
cpp/noble,now 4:13.2.0-7ubuntu1 amd64 [installed,automatic]
cron-daemon-common/noble,now 3.0pl1-184ubuntu2 all [installed,automatic]
cron/noble,now 3.0pl1-184ubuntu2 amd64 [installed,automatic]
cryptsetup-bin/noble,now 2:2.7.0-1ubuntu4 amd64 [installed,upgradable to: 2:2.7.0-1ubuntu4.1]

[1]+  Stopped                  sudo apt list --installed | less
efelix@felixus:~$
```

If you look at the top you see the COSWAY which we added earlier. Another way to make sure your apps are installed without going thru the whole list is by using | **grep cowsay** after the command as we are adding to the command and telling grep to just look for cowsay

```
efelix@felixus:~$ sudo apt list --installed | grep cowsay
[sudo] password for efelix:

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

cowsay/noble,now 3.03+dfsg2-8 all [installed]
```

COWSAY/LOLCAT

Now let's test the apps. We will test COWSAY AND LOLCAT together by using the pipe character.

```
efelix@felixus:~$ cowsay "Eliud, Testing 1-2-3" | lolcat
< Eliud, Testing 1-2-3 >
  \      ^__^
   (oo)\_______
      (__)\       )\/\
         ||----w |
         ||     ||
```

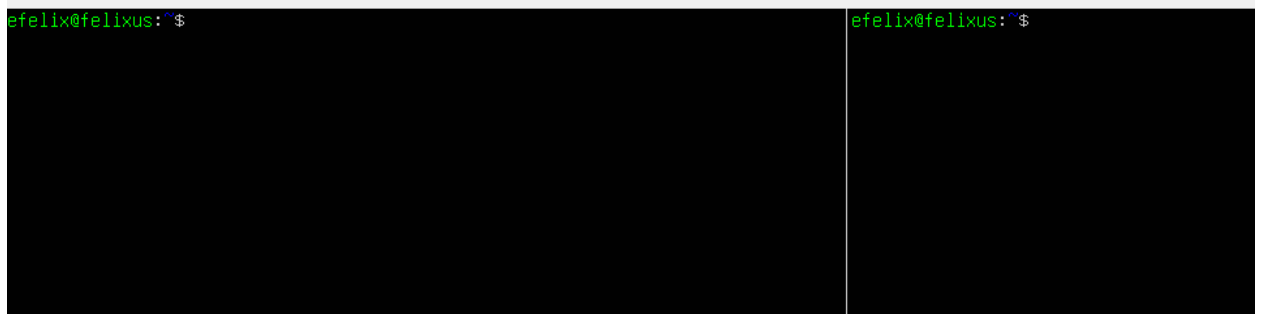
As you can see, we get the cow and the text from COWSAY. We get the color from LOLCAT

Once you run the command it goes back to the prompt, so it closes automatically.

TMUX

Just type **tmux** on the command line to open the program

Once open and let's say you want to split screens hold down **ctrl + b** and then **%** and you'd see...

The image shows a terminal window with a light gray title bar. The window is split vertically into two equal-sized panes. Both panes have a black background and show the prompt 'efelix@felixus:~\$' in green text at the top left. The panes are separated by a thin white vertical line.

To close the app type **tmux kill-session**

To see features watch this YouTube video <https://www.youtube.com/watch?v=Bfbfj04GDjg>

EMACS

Just type emacs and the name of the file that you want to create or modify. Press ctrl+c to exit

To see features watch this YouTube video

https://youtu.be/48JlgiBpw_I?si=BMmhwPzEDVXslwU5

Fail2Ban

Since it's a background service it should be running. You could confirm by typing in the following **sudo systemctl status fail2ban**

If it is not running type **sudo systemctl start fail2ban** to start the service.

To use it since we just emacs let's use that editor. First we want to copy the default configuration file to a local configuration file by typing the following **sudo cp /etc/fail2ban/jail.{conf,local}**

We edit it by typing **sudo emacs /etc/fail2ban/jail.local** and then close the editor as shown EMACS portion of these instructions.

To apply the changes type **sudo systemctl restart fail2ban**

To close Fail2ban type **sudo systemctl stop fail2ban**

To see features watch this YouTube video <https://youtu.be/D5PalxvN8Ns>