

Miles Ogrady

Continue setup

1. Check your repositories that are included by default on both servers, find out how you'd go about adding a repository, (both official and PPA) and make sure you can install programs.

Ubuntu:

Use `*grep ^deb /etc/apt/sources.list*` to show repos

```
miles@ubuntu:~$ grep ^deb /etc/apt/sources.list*
/etc/apt/sources.list:deb http://us.archive.ubuntu.com/ubuntu jammy main restricted
/etc/apt/sources.list:deb http://us.archive.ubuntu.com/ubuntu jammy-updates main restricted
/etc/apt/sources.list:deb http://us.archive.ubuntu.com/ubuntu jammy universe
/etc/apt/sources.list:deb http://us.archive.ubuntu.com/ubuntu jammy-updates universe
/etc/apt/sources.list:deb http://us.archive.ubuntu.com/ubuntu jammy multiverse
/etc/apt/sources.list:deb http://us.archive.ubuntu.com/ubuntu jammy-updates multiverse
/etc/apt/sources.list:deb http://us.archive.ubuntu.com/ubuntu jammy-backports main restricted universe multiverse
/etc/apt/sources.list:deb http://us.archive.ubuntu.com/ubuntu jammy-security main restricted
/etc/apt/sources.list:deb http://us.archive.ubuntu.com/ubuntu jammy-security universe
/etc/apt/sources.list:deb http://us.archive.ubuntu.com/ubuntu jammy-security multiverse
/etc/apt/sources.list:deb http://archive.ubuntu.com/ubuntu/ jammy main restricted
/etc/apt/sources.list:deb http://archive.ubuntu.com/ubuntu/ jammy-updates main restricted
/etc/apt/sources.list:deb http://archive.ubuntu.com/ubuntu/ jammy universe
/etc/apt/sources.list:deb http://archive.ubuntu.com/ubuntu/ jammy-updates universe
/etc/apt/sources.list:deb http://archive.ubuntu.com/ubuntu/ jammy multiverse
/etc/apt/sources.list:deb http://archive.ubuntu.com/ubuntu/ jammy-updates multiverse
/etc/apt/sources.list:deb http://archive.ubuntu.com/ubuntu/ jammy-backports main restricted universe multiverse
/etc/apt/sources.list:deb http://security.ubuntu.com/ubuntu/ jammy-security main restricted
/etc/apt/sources.list:deb http://security.ubuntu.com/ubuntu/ jammy-security universe
/etc/apt/sources.list:deb http://security.ubuntu.com/ubuntu/ jammy-security multiverse
grep: /etc/apt/sources.list.d: Is a directory
miles@ubuntu:~$ _
```

centOS:

Use `*yum repolist*` to show repos.

```
[miles@localhost ~]$ yum repolist
repo id                repo name
appstream               CentOS Stream 8 - AppStream
baseos                  CentOS Stream 8 - BaseOS
extras                  CentOS Stream 8 - Extras
extras-common           CentOS Stream 8 - Extras common packages
[miles@localhost ~]$ _
```

2. Install Tmux, emacs, and Fail2Ban. Make sure you look through the Fail2Ban settings as you do the install.

Ubuntu:

Emacs: to install emacs on ubuntu enter `*sudo apt-get install emacs*`

```
Setting up gsettings-desktop-schemas (42.0-1ubuntu1) ...
Setting up gtk-update-icon-cache (3.24.33-1ubuntu2) ...
Setting up libm17n-0:amd64 (1.8.0-4) ...
Setting up librsvg2-2:amd64 (2.52.5+dfsg-3) ...
Setting up librsvg2-common:amd64 (2.52.5+dfsg-3) ...
Setting up libgdk-pixbuf2.0-bin (2.42.8+dfsg-1ubuntu0.2) ...
Setting up adwaita-icon-theme (41.0-1ubuntu1) ...
update-alternatives: using /usr/share/icons/Adwaita/cursor.theme to provide /usr/share/icons/default/index.theme (x-cursor-theme) in auto mode
Setting up humanity-icon-theme (0.6.16) ...
Setting up ubuntu-mono (20.10-0ubuntu2) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for install-info (6.8-4build1) ...
Processing triggers for libglib2.0-0:amd64 (2.72.1-1) ...
Setting up libgtk-3-0:amd64 (3.24.33-1ubuntu2) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Setting up libgtk-3-bin (3.24.33-1ubuntu2) ...
Setting up emacs-gtk (1:27.1+1-3ubuntu5) ...
update-alternatives: using /usr/bin/emacs-gtk to provide /usr/bin/emacs (emacs) in auto mode
Install emacs-common for emacs
emacs-common: Handling install of emacs flavor emacs
Setting up at-spi2-core (2.44.0-3) ...
Setting up emacs (1:27.1+1-3ubuntu5) ...
Processing triggers for libgdk-pixbuf-2.0-0:amd64 (2.42.8+dfsg-1ubuntu0.2) ...
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.
miles@ubuntu-server:~$ _
```

Tmux: to install tmux on ubuntu use `*sudo apt-get install tmux*`

```
miles@ubuntu-server:~$ sudo apt-get install tmux
[sudo] password for miles:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
tmux is already the newest version (3.2a-4build1).
tmux set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 48 not upgraded.
miles@ubuntu-server:~$
```

Fail2Ban: to install Fail2Ban on ubuntu enter `*sudo apt-get install fail2ban*`

```
The following NEW packages will be installed:
  fail2ban python3-pyinotify whois
0 upgraded, 3 newly installed, 0 to remove and 48 not upgraded.
Need to get 473 kB of archives.
After this operation, 2,486 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://us.archive.ubuntu.com/ubuntu jammy/universe amd64 fail2ban all 0.11.2-6 [394 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu jammy/main amd64 python3-pyinotify all 0.9.6-1.3 [24.8 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu jammy/main amd64 whois amd64 5.5.13 [53.4 kB]
Fetched 473 kB in 0s (2,284 kB/s)
Selecting previously unselected package fail2ban.
(Reading database ... 93239 files and directories currently installed.)
Preparing to unpack .../fail2ban_0.11.2-6_all.deb ...
Unpacking fail2ban (0.11.2-6) ...
Selecting previously unselected package python3-pyinotify.
Preparing to unpack .../python3-pyinotify_0.9.6-1.3_all.deb ...
Unpacking python3-pyinotify (0.9.6-1.3) ...
Selecting previously unselected package whois.
Preparing to unpack .../whois_5.5.13_amd64.deb ...
Unpacking whois (5.5.13) ...
Setting up whois (5.5.13) ...
Setting up fail2ban (0.11.2-6) ...
Setting up python3-pyinotify (0.9.6-1.3) ...
Processing triggers for man-db (2.10.2-1) ...
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.
miles@ubuntuuserver:~$ _
```

Fail2Ban Settings

```

# Option: pidfile
# Notes.: Set the PID file. This is used to store the process ID of the
#         fail2ban server.
# Values: [ FILE ] Default: /var/run/fail2ban/fail2ban.pid
#
pidfile = /var/run/fail2ban/fail2ban.pid

# Options: dbfile
# Notes.: Set the file for the fail2ban persistent data to be stored.
#         A value of ":memory:" means database is only stored in memory
#         and data is lost when fail2ban is stopped.
#         A value of "None" disables the database.
# Values: [ None :memory: FILE ] Default: /var/lib/fail2ban/fail2ban.sqlite3
dbfile = /var/lib/fail2ban/fail2ban.sqlite3

# Options: dbpurgeage
# Notes.: Sets age at which bans should be purged from the database
# Values: [ SECONDS ] Default: 86400 (24hours)
dbpurgeage = 1d

# Options: dbmaxmatches
# Notes.: Number of matches stored in database per ticket (resolvable via
#         tags <ipmatches>/<ipjailmatches> in actions)
# Values: [ INT ] Default: 10
dbmaxmatches = 10

[Definition]

[Thread]

# Options: stacksize
# Notes.: Specifies the stack size (in KiB) to be used for subsequently created threads,
#         and must be 0 or a positive integer value of at least 32.
# Values: [ SIZE ] Default: 0 (use platform or configured default)
#stacksize = 0
miles@ubuntuuserver:~$

```

centOS:

Emacs: to install emacs on CentOS use `*sudo yum install emacs*`

```

hyphen-2.8.8-9.el8.x86_64
jasper-libs-2.0.14-5.el8.x86_64
lame-libs-3.100-6.el8.x86_64
libXaw-1.0.13-10.el8.x86_64
libXdamage-1.1.4-14.el8.x86_64
libXpm-3.5.12-8.el8.x86_64
libXtst-1.2.3-7.el8.x86_64
libasyncns-0.8-14.el8.x86_64
libavc1394-0.5.4-7.el8.x86_64
libdv-1.0.0-27.el8.x86_64
libdvdrread-5.0.3-9.el8.x86_64
libglvnd-egl-1:1.3.4-1.el8.x86_64
libglvnd-opengl-1:1.3.4-1.el8.x86_64
liblockfile-1.14-2.el8.x86_64
libogg-2:1.3.2-10.el8.x86_64
libraw1394-2.1.2-5.el8.x86_64
libshout-2.2.2-19.el8.x86_64
libsrtp-1.5.4-8.el8.x86_64
libtheora-1:1.1.1-21.el8.x86_64
libv4l-1.14.2-3.el8.x86_64
libvorbis-1:1.3.6-2.el8.x86_64
libwayland-client-1.21.0-1.el8.x86_64
libwayland-egl-1.21.0-1.el8.x86_64
libwebp-1.0.0-5.el8.x86_64
m17n-lib-1.8.0-2.el8.x86_64
mesa-libgbm-22.1.5-2.el8.x86_64
openjpeg2-2.4.0-5.el8.x86_64
orc-0.4.28-3.el8.x86_64
pulseaudio-libs-14.0-4.el8.x86_64
soundtouch-2.0.0-3.el8.x86_64
taglib-1.11.1-8.el8.x86_64
wavpack-5.1.0-16.el8.x86_64
webkit2gtk3-jsc-2.36.7-1.el8.x86_64
woff2-1.0.2-5.el8.x86_64
iso-codes-3.79-2.el8.noarch
jbigkit-libs-2.1-14.el8.x86_64
lcms2-2.9-2.el8.x86_64
libXcomposite-0.4.4-14.el8.x86_64
libXmu-1.1.3-1.el8.x86_64
libXt-1.1.5-12.el8.x86_64
libXv-1.0.11-7.el8.x86_64
libatomic-8.5.0-17.el8.x86_64
libdatrie-0.2.9-7.el8.x86_64
libdvdnav-5.0.3-8.el8.x86_64
libepoxy-1.5.8-1.el8.x86_64
libglvnd-gles-1:1.3.4-1.el8.x86_64
libiec61883-1.2.0-18.el8.x86_64
libnotify-0.7.7-6.el8.x86_64
libotf-0.9.13-11.el8.x86_64
librsync-2.4.2-7-4.el8.x86_64
libsndfile-1.0.28-12.el8.x86_64
libthai-0.1.27-2.el8.x86_64
libtiff-4.0.9-23.el8.x86_64
libvisual-1:0.4.0-25.el8.x86_64
libvpx-1.7.0-8.el8.x86_64
libwayland-cursor-1.21.0-1.el8.x86_64
libwayland-server-1.21.0-1.el8.x86_64
m17n-db-1.8.0-3.el8.noarch
mesa-libEGL-22.1.5-2.el8.x86_64
mpg123-libs-1.25.10-2.el8.x86_64
opus-1.3-0.4.beta.el8.x86_64
pango-1.42.4-8.el8.x86_64
rest-0.8.1-2.el8.x86_64
speex-1.2.0-1.el8.x86_64
twolame-libs-0.3.13-12.el8.x86_64
webkit2gtk3-2.36.7-1.el8.x86_64
webrtc-audio-processing-0.3-10.el8.x86_64
xml-common-0.6.3-50.el8.noarch

```

Complete!
[miles@localhost ~]\$

Tmux: to install tmux on CentOS use `*sudo yum install tmux*`

```

[miles@localhost ~]$ sudo yum install tmux
[sudo] password for miles:
Sorry, try again.
[sudo] password for miles:
Last metadata expiration check: 0:47:15 ago on Tue 06 Dec 2022 10:53:15 AM EST.
Package tmux-2.7-1.el8.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[miles@localhost ~]$ _

```

Fail2Ban: to install Fail2Ban on CentOS first install EPEL by entering `*sudo yum install epel-release*` then use `*sudo yum install fail2ban*`

```

Is this ok [y/N]: y
Key imported successfully
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing : 1/1
  Installing : python36-3.6.8-38.module_el8.5.0+895+a459eca8.x86_64 1/8
Running scriptlet: python36-3.6.8-38.module_el8.5.0+895+a459eca8.x86_64 1/8
  Installing : python3-pip-9.0.3-22.el8.noarch 2/8
  Installing : fail2ban-server-0.11.2-1.el8.noarch 3/8
Running scriptlet: fail2ban-server-0.11.2-1.el8.noarch 3/8
  Installing : fail2ban-firewalld-0.11.2-1.el8.noarch 4/8
  Installing : libesmtplib-1.0.6-18.el8.x86_64 5/8
  Installing : esmtplib-1.2-15.el8.x86_64 6/8
Running scriptlet: esmtplib-1.2-15.el8.x86_64 6/8
  Installing : fail2ban-sendmail-0.11.2-1.el8.noarch 7/8
  Installing : fail2ban-0.11.2-1.el8.noarch 8/8
Running scriptlet: fail2ban-0.11.2-1.el8.noarch 8/8
  Verifying : python3-pip-9.0.3-22.el8.noarch 1/8
  Verifying : python36-3.6.8-38.module_el8.5.0+895+a459eca8.x86_64 2/8
  Verifying : esmtplib-1.2-15.el8.x86_64 3/8
  Verifying : fail2ban-0.11.2-1.el8.noarch 4/8
  Verifying : fail2ban-firewalld-0.11.2-1.el8.noarch 5/8
  Verifying : fail2ban-sendmail-0.11.2-1.el8.noarch 6/8
  Verifying : fail2ban-server-0.11.2-1.el8.noarch 7/8
  Verifying : libesmtplib-1.0.6-18.el8.x86_64 8/8

Installed:
  esmtplib-1.2-15.el8.x86_64          fail2ban-0.11.2-1.el8.noarch
  fail2ban-firewalld-0.11.2-1.el8.noarch fail2ban-sendmail-0.11.2-1.el8.noarch
  fail2ban-server-0.11.2-1.el8.noarch libesmtplib-1.0.6-18.el8.x86_64
  python3-pip-9.0.3-22.el8.noarch    python36-3.6.8-38.module_el8.5.0+895+a459eca8.x86_64

Complete!
[miles@localhost ~]$

```

3. Just for fun, install cowsay and lolcat. (Yes I know these are silly, the point is that i know they aren't there already.)

Ubuntu:

Cowsay:

Install coway by entering `*sudo apt-get install cowsay`

```

miles@ubuntuserver:~$ sudo apt-get install cowsay
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
  filters cowsay-off
The following NEW packages will be installed:
  cowsay
0 upgraded, 1 newly installed, 0 to remove and 48 not upgraded.
Need to get 18.6 kB of archives.
After this operation, 93.2 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu jammy/universe amd64 cowsay all 3.03+dfsg2-8 [18.6 kB]
Fetched 18.6 kB in 0s (177 kB/s)
Selecting previously unselected package cowsay.
(Reading database ... 93708 files and directories currently installed.)
Preparing to unpack .../cowsay_3.03+dfsg2-8_all.deb ...
Unpacking cowsay (3.03+dfsg2-8) ...
Setting up cowsay (3.03+dfsg2-8) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning linux images...

```

I also installed fortune which outputed a quote in the cows text bubble.

```

miles@ubuntuserver:~$ fortune | cowsay
-----
/ You worry too much about your job. Stop \
\ it. You are not paid enough to worry.  /
-----
      \      ^__^
       (oo)\_______
          (__)\       )\/\
              ||----w |
              ||     ||
miles@ubuntuserver:~$ _

```

lolcat:

To install lolcat first install ruby by entering `sudo apt-get install ruby`, then enter `sudo apt-get install lolcat`

```
Unpacking ruby-paint (2.2.0-1) ...
Selecting previously unselected package lolcat.
Preparing to unpack .../16-lolcat_100.0.1-3_all.deb ...
Unpacking lolcat (100.0.1-3) ...
Setting up javascript-common (11+nmu1) ...
Setting up fonts-lato (2.0-2.1) ...
Setting up unzip (6.0-26ubuntu3.1) ...
Setting up rubygems-integration (1.18) ...
Setting up ruby-paint (2.2.0-1) ...
Setting up zip (3.0-12build2) ...
Setting up ruby-optimist (3.0.0-2) ...
Setting up ruby-net-telnet (0.1.1-2) ...
Setting up ruby-webrick (1.7.0-3) ...
Setting up libjs-jquery (3.6.0+dfsg+~3.5.13-1) ...
Setting up ruby-xmlrpc (0.3.2-1ubuntu0.1) ...
Setting up rake (13.0.6-2) ...
Setting up libruby3.0:amd64 (3.0.2-7ubuntu2.2) ...
Setting up ruby-rubygems (3.3.5-2) ...
Setting up ruby3.0 (3.0.2-7ubuntu2.2) ...
Setting up ruby (1:3.0~exp1) ...
Setting up lolcat (100.0.1-3) ...
Processing triggers for fontconfig (2.13.1-4.2ubuntu5) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning linux images...
Cleaning up temporary space to keep the data...
```

One of the things you can do with lolcat.

```
miles@ubuntuserver:~$ echo miles | lolcat
miles
miles@ubuntuserver:~$ _
```

centOS:

Cowsay:

Install coway by entering `*sudo yum install cowsay*`


```

[miles@localhost ~]$ sudo yum install cowsay
[sudo] password for miles:
Last metadata expiration check: 0:13:45 ago on Tue 06 Dec 2022 11:52:44 AM EST.
Dependencies resolved.
=====
Package                Architecture          Version               Repository            Size
=====
Installing:
cowsay                 noarch                3.04-16.el8           epel                   47 k
Transaction Summary
=====
Install 1 Package

Total download size: 47 k
Installed size: 77 k
Is this ok [y/N]: y
Downloading Packages:
cowsay-3.04-16.el8.noarch.rpm                106 kB/s | 47 kB      00:00
-----
Total                                         72 kB/s | 47 kB      00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing      :                                1/1
  Installing     : cowsay-3.04-16.el8.noarch      1/1
  Running scriptlet: cowsay-3.04-16.el8.noarch    1/1
  Verifying      : cowsay-3.04-16.el8.noarch      1/1

Installed:
cowsay-3.04-16.el8.noarch

Complete!
[miles@localhost ~]$ _

```

lolcat:

First you want to install ruby by entering `*yum install ruby*`, then use `*wget` <https://github.com/busyloop/lolcat/archive/master.zip> then enter `*unzip master.zip*`, then enter `*cd lolcat-master/bin*` then enter `*gem install lolcat*`

```

inflating: lolcat-master/README.md
extracting: lolcat-master/Rakefile
creating: lolcat-master/ass/
inflating: lolcat-master/ass/nom.jpg
inflating: lolcat-master/ass/screenshot.png
creating: lolcat-master/bin/
inflating: lolcat-master/bin/lolcat
creating: lolcat-master/lib/
inflating: lolcat-master/lib/lolcat.rb
creating: lolcat-master/lib/lolcat/
inflating: lolcat-master/lib/lolcat/cat.rb
inflating: lolcat-master/lib/lolcat/lol.rb
extracting: lolcat-master/lib/lolcat/version.rb
inflating: lolcat-master/lolcat.gemspec
creating: lolcat-master/man/
inflating: lolcat-master/man/lolcat.6
[miles@localhost ~]$ cd lolcat-master/bin
[miles@localhost bin]$ gem install lolcat
Fetching: manpages-0.6.1.gem (100%)
Successfully installed manpages-0.6.1
Fetching: optimist-3.0.1.gem (100%)
Successfully installed optimist-3.0.1
Fetching: paint-2.3.0.gem (100%)
Successfully installed paint-2.3.0
Fetching: lolcat-100.0.1.gem (100%)
Successfully installed lolcat-100.0.1
Parsing documentation for manpages-0.6.1
Installing ri documentation for manpages-0.6.1
Parsing documentation for optimist-3.0.1
Installing ri documentation for optimist-3.0.1
Parsing documentation for paint-2.3.0
Installing ri documentation for paint-2.3.0
Parsing documentation for lolcat-100.0.1
Installing ri documentation for lolcat-100.0.1
Done installing documentation for manpages, optimist, paint, lolcat after 0 seconds
4 gems installed
[miles@localhost bin]$ _

```

```

[miles@localhost bin]$ lolcat -h

Usage: lolcat [OPTION]... [FILE]...

Concatenate FILE(s), or standard input, to standard output.
With no FILE, or when FILE is -, read standard input.

  -p, --spread=<f>      Rainbow spread (default: 3.0)
  -F, --freq=<f>        Rainbow frequency (default: 0.1)
  -S, --seed=<i>        Rainbow seed, 0 = random (default: 0)
  -a, --animate         Enable psychedelics
  -d, --duration=<i>    Animation duration (default: 12)
  -s, --speed=<f>       Animation speed (default: 20.0)
  -i, --invert          Invert fg and bg
  -t, --truecolor       24-bit (truecolor)
  -f, --force           Force color even when stdout is not a tty
  -v, --version         Print version and exit
  -h, --help           Show this message

Examples:
  lolcat f - g          Output f's contents, then stdin, then g's contents.
  lolcat                Copy standard input to standard output.
  fortune | lolcat      Display a rainbow cookie.

Report lolcat bugs to <https://github.com/busyloop/lolcat/issues>
lolcat home page: <https://github.com/busyloop/lolcat/>
Report lolcat translation bugs to <http://speaklolcat.com/>

[miles@localhost bin]$ _

```

4. Update VI to vim, update your servers if it's needed.

Ubuntu:

Install vim on ubuntu with `*sudo apt-get install vim*`. I already have it installed.

```
miles@ubuntuserver:~$ sudo apt-get install vim
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
vim is already the newest version (2:8.2.3995-1ubuntu2.1).
vim set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 48 not upgraded.
miles@ubuntuserver:~$ _
```

centOS:

Install vim by entering `*sudo yum vim*`. I already have it installed.

```
[miles@localhost bin]$ sudo yum update vim*
[sudol password for miles:
Last metadata expiration check: 2:03:41 ago on Tue 06 Dec 2022 11:52:44 AM EST.
Dependencies resolved.
Nothing to do.
Complete!
[miles@localhost bin]$ _
```

References:

<https://www.tecmint.com/lolcat-command-to-output-rainbow-of-colors-in-linux-terminal/>

<https://upcloud.com/resources/tutorials/install-fail2ban-centos>