

Server Setup continued - Installation section

CENTOS

First update the repositories using “**sudo yum update**” and it will ask if it is okay after telling you the size, say yes. Wait until you see this message

```
Complete!  
gabrielmor@localhost:~$ █
```

After to install Tmux use the “**sudo dnf install tmux**” command, confirm by typing y and wait until this message (type tmux after the complete message to confirm if you wish)

```
Complete!  
gabrielmor@localhost:~$ █
```

After to install Emacs use the “**sudo dnf install emacs**” confirm by typing y and wait until you see this message (type emacs after the complete message to confirm if you wish)

```
Complete!  
gabrielmor@localhost:~$ █
```

Installing Fail2Ban is a little more complex, it is not available in the centOS repo, so you have to instal the extra packages with the “**sudo yum install epel-release**

```
gabrielmor@localhost:~$ sudo yum install epel-release  
[sudo] password for gabrielmor:  
Last metadata expiration check: 1:55:08 ago on Sun 26 Oct 2025 15:05:20 EDT.  
Dependencies resolved.  
=====  
 Package           Architecture      Version       Repository      Size  
=====  
 Installing:  
  epel-release     noarch          10-5.el10s    extras-common   18 k  
  
 Transaction Summary  
=====  
 Install  1 Package  
  
 Total download size: 18 k  
 Installed size: 25 k  
 Is this ok [y/N]: y█
```

After that wait until the complete message

```
Complete!  
gabrielmor@localhost:~$ █
```

After this install fail2ban by “**sudo yum install fail2ban**”

```
gabrielmor@localhost:~$ sudo yum install fail2ban
Extra Packages for Enterprise Linux 10 - x86_64
Last metadata expiration check: 0:00:01 ago on Sun 26 Oct 2025 17:03:51 EDT.
Dependencies resolved.
=====
Package           Architecture      Version            Repository      Size
=====
Installing:
  fail2ban          noarch        1.1.0-6.el10_0    epel           9.4 k
Installing dependencies:
  exim             x86_64        4.98.2-2.el10_1   epel           1.5 M
  fail2ban-firewalld  noarch        1.1.0-6.el10_0    epel           9.6 k
  fail2ban-selinux   noarch        1.1.0-6.el10_0    epel           31 k
  fail2ban-sendmail   noarch        1.1.0-6.el10_0    epel           12 k
  fail2ban-server    noarch        1.1.0-6.el10_0    epel           561 k
  libdb             x86_64        5.3.28-64.el10_0   epel           763 k
  libgsasl          x86_64        1.10.0-12.el10_1   epel           154 k
  libidn             x86_64        1.42-4.el10_0     epel           198 k
  libnsl2            x86_64        2.0.1-1.el10_0     epel           30 k
  libntlm            x86_64        1.8-1.el10_0      epel           32 k
  libopendmarc       x86_64        1.4.2-33.el10_2    epel           31 k
  libspf2            x86_64        1.2.11-16.20210922git4915c308.el10_0  epel           68 k
Installing weak dependencies:
  publicsuffix-list  noarch        20240107-5.el10      appstream      88 k
=====
Transaction Summary
=====
Install  14 Packages

Total download size: 3.4 M
Installed size: 10 M
Is this ok [y/N]:
```

After that wait until the Complete! Message

Complete!

```
gabrielmor@localhost:~$
```

To enable fail2ban run the command “**sudo systemctl enable –now fail2ban**”

```
gabrielmor@localhost:~$ sudo systemctl enable --now fail2ban
Created symlink '/etc/systemd/system/multi-user.target.wants/fail2ban.service' → '/usr/lib/systemd/system/fail2ban.service'
```

To open fail2ban and inspect fail2ban run the “**`sudo nano /etc/fail2ban/jail.conf`**” command

```
#  
# WARNING: heavily refactored in 0.9.0 release. Please review and  
#           customize settings for your setup.  
#  
# Changes: in most of the cases you should not modify this  
#           file, but provide customizations in jail.local file,  
#           or separate .conf files under jail.d/ directory, e.g.:  
#  
# HOW TO ACTIVATE JAILS:  
#  
# YOU SHOULD NOT MODIFY THIS FILE.  
#  
# It will probably be overwritten or improved in a distribution update.  
#  
# Provide customizations in a jail.local file or a jail.d/customisation.local.  
# For example to change the default bantime for all jails and to enable the  
# ssh-iptables jail the following (uncommented) would appear in the .local file.  
# See man 5 jail.conf for details.  
#  
# [DEFAULT]  
# bantime = 1h  
#  
# [sshd]  
# enabled = true  
#  
# See jail.conf(5) man page for more information  
  
# Comments: use '#' for comment lines and ';' (following a space) for inline comments
```

To use fail2ban to protect against a ssh log in run “**`sudo nano /etc/fail2ban/jail.local`**” and enter this for after 10 unsuccessful password entries to ban the user for 5 mins.

```
[sshd]  
enabled = true  
port = ssh  
filter = sshd  
logpath = /var/log/secure  
maxretry = 10  
bantime = 300
```

To download cowsay use ther “**`sudo yum install cowsay -y`**” command

```
gabrielmor@localhost:~$ sudo yum install cowsay -y  
Last metadata expiration check: 0:11:25 ago on Sun 26 Oct 2025 17:03:51 EDT.  
Dependencies resolved.  
=====  
 Package          Architecture      Version       Repository      Size  
=====  
 Installing:  
  cowsay          noarch          3.8.4-3.el10_2      epel           45 k  
  
Transaction Summary  
=====  
Install 1 Package  
  
Total download size: 45 k  
Installed size: 80 k  
Downloading Packages:  
cowsay-3.8.4-3.el10_2.noarch.rpm                                         8.3 kB/s | 45 kB   00:05  
----  
Total                                         7.5 kB/s | 45 kB   00:06  
  
Running transaction check  
Transaction check succeeded.  
Running transaction test  
Transaction test succeeded.  
Running transaction  
  Preparing          :                                                 1/1  
  Installing         : cowsay-3.8.4-3.el10_2.noarch                         1/1  
  Running scriptlet: cowsay-3.8.4-3.el10_2.noarch                         1/1  
  
Installed:  
  cowsay-3.8.4-3.el10_2.noarch  
  
Complete!
```

To download lolcat you will need to install snapd since it is a part of that package, to do so use the “**sudo dnf install snapd**”

```
gabrielmor@localhost:~$ sudo dnf install snapd
Last metadata expiration check: 0:23:19 ago on Sun 26 Oct 2025 17:03:51 EDT.
Dependencies resolved.
=====
Package           Architecture      Version       Repository     Size
=====
Installing:
snapd            x86_64          2.71-0.el10_2   epel          18 M
Installing dependencies:
snap-confine     x86_64          2.71-0.el10_2   epel          3.0 M
snapd-selinux    noarch          2.71-0.el10_2   epel          97 k
xdelta           x86_64          3.1.0-22.el10_0 epel          92 k
Transaction Summary
=====
Install 4 Packages

Total download size: 21 M
Installed size: 69 M
Is this ok [y/N]:
```

After that enable it with “**sudo systemctl enable –now snapd.socket**” and then “**sudo ln -s /var/lib/snapd/snap /snap**”

After that install lolcat with the “**sudo snap install lolcat**”

```
gabrielmor@localhost:~$ sudo snap install lolcat
2025-10-26T17:29:23-04:00 INFO Waiting for automatic snapd restart...
lolcat 100.0.1 from moe (busyloop) installed
```

And then test both by using **cowsay “MOO” | lolcat** and you should get this

```
gabrielmor@localhost:~$ cowsay "MOO" | lolcat
```



Now to update Vi to Vim run “**sudo dnf update -y**”

```
gabrielmor@localhost:~$ sudo dnf update -y
[sudo] password for gabrielmor:
Last metadata expiration check: 0:38:12 ago on Sun 26 Oct 2025 17:03:51 EDT.
Dependencies resolved.
=====
Package           Architecture   Version      Repository    Size
=====
Upgrading:
epel-release     noarch        10-6.el10_0  epel          18 k

Transaction Summary
=====
Upgrade 1 Package

Total download size: 18 k
Downloading Packages:
epel-release-10-6.el10_0.noarch.rpm           40 kB/s | 18 kB   00:00
Total                                         22 kB/s | 18 kB   00:00

Preparing          : 1/1
Upgrading         : epel-release-10-6.el10_0.noarch 1/2
Running scriptlet: epel-release-10-6.el10_0.noarch 1/2
Cleanup           : epel-release-10-5.el10s.noarch 2/2
Running scriptlet: epel-release-10-5.el10s.noarch 2/2

Upgraded:
epel-release-10-6.el10_0.noarch

Complete!
```

After install vim using “**sudo install vim**”

Verify the download by typing **vim** and getting this screen

```
VIM - Vi IMproved

version 9.1.83
by Bram Moolenaar et al.
Modified by <bugzilla@redhat.com>
Vim is open source and freely distributable

      Help poor children in Uganda!
type :help icef<Enter>      for information

type :q<Enter>            to exit
type :help<Enter> or <F1> for on-line help
type :help version9<Enter> for version info
```