Installed Applications (WHITE SCREEN=CentOS BLACK SCREEN=Fedora)
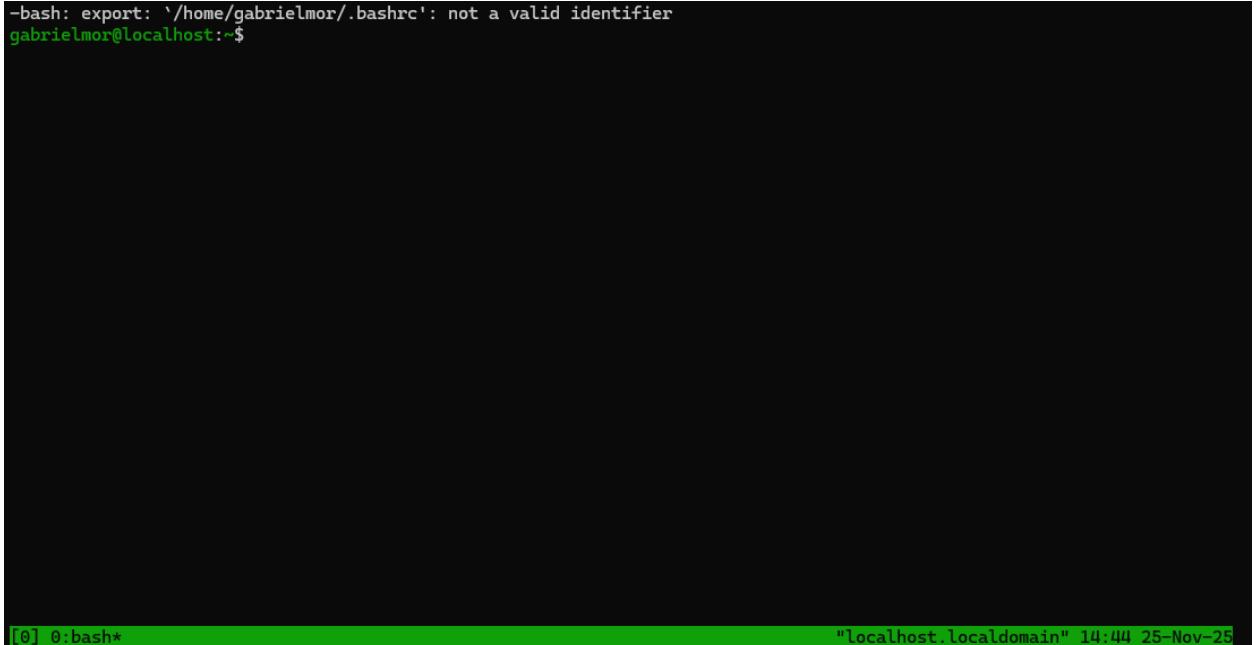
TMUX to verify - **use tmux -V**

```
gabrielmor@localhost:~$ tmux -V
tmux next-3.4
```

```
gabe@localhost:~$ tmux -V
tmux 3.5a
```

To use tmux you need to put **tmux** into terminal and you will get this screen

```
-bash: export: '/home/gabrielmor/.bashrc': not a valid identifier
gabrielmor@localhost:~$



















[0] 0:bash*                                          "localhost.localdomain" 14:44 25-Nov-25
```

```
^[]11;rgb:0c0c/0c0c/0c0c^[\gabe@localhost:~$ 11;rgb:0c0c/0c0c/0c0c


















[0] 0:bash*                                          "localhost.localdomain" 14:53 25-Nov-
```
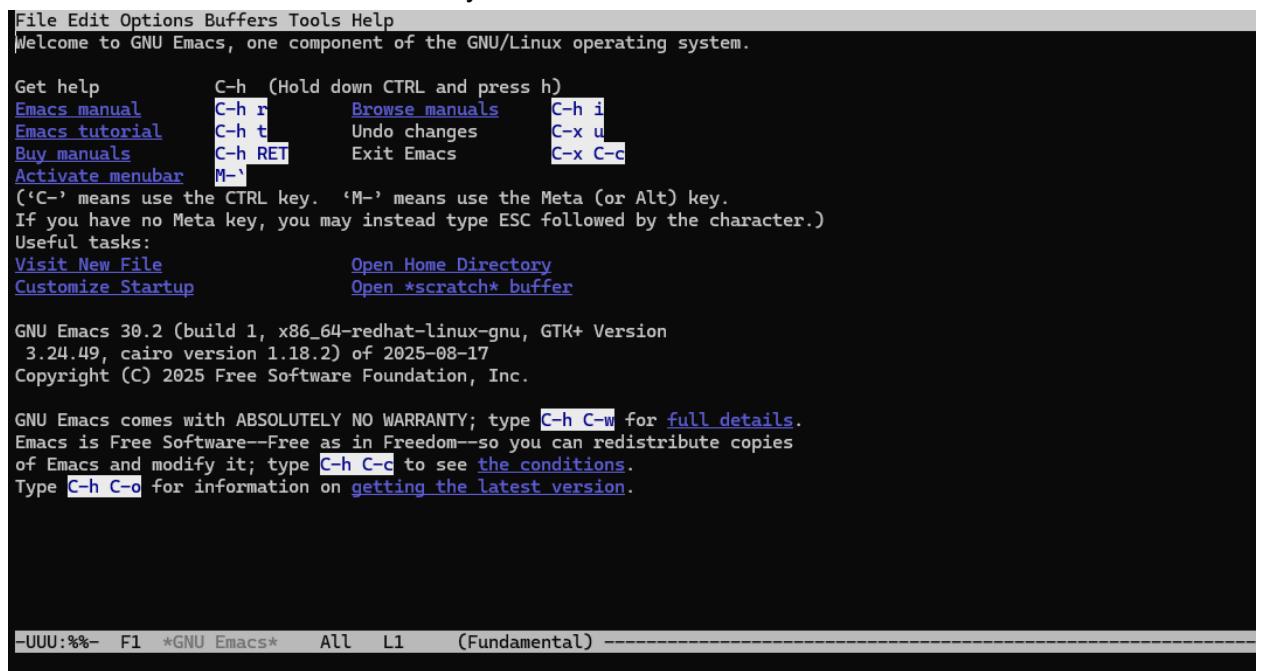
USing Tmux you are able to to have more than one windows of terminal open at the same time, to open a new window simply just click **ctrl+b & then click c** and to switchen in between each windows use **ctrl+b and click n** and to exit Tmux simply do **ctrl+d**

EMACS to verify use **emacs –version**

```
gabrielmor@localhost:-$ emacs --version
GNU Emacs 29.4
Copyright (C) 2024 Free Software Foundation, Inc.
GNU Emacs comes with ABSOLUTELY NO WARRANTY.
You may redistribute copies of GNU Emacs
under the terms of the GNU General Public License.
For more information about these matters, see the file named COPYING.
```

```
gabe@localhost:~$ emacs --version
GNU Emacs 30.2
Copyright (C) 2025 Free Software Foundation, Inc.
GNU Emacs comes with ABSOLUTELY NO WARRANTY.
You may redistribute copies of GNU Emacs
under the terms of the GNU General Public License.
For more information about these matters, see the file named COPYING.
```

To enter emacs use the command **emacs** and you will be presented with this screen, emacs is used as a text editor and using the commands listed below you can modify text and got through the tutorial and manual. To exit use **ctrl+z** and you will be exited out of this screen

```
File Edit Options Buffers Tools Help
Welcome to GNU Emacs, one component of the GNU/Linux operating system.

Get help           C-h  (Hold down CTRL and press h)
Emacs manual       C-h r        Browse manuals      C-h i
Emacs tutorial     C-h t        Undo changes        C-x u
Buy manuals        C-h RET      Exit Emacs          C-x C-c
Activate menubar   M-`
('C-' means use the CTRL key.  'M-' means use the Meta (or Alt) key.
If you have no Meta key, you may instead type ESC followed by the character.)
Useful tasks:
Visit New File                  Open Home Directory
Customize Startup               Open *scratch* buffer

GNU Emacs 30.2 (build 1, x86_64-redhat-linux-gnu, GTK+ Version
 3.24.49, cairo version 1.18.2) of 2025-08-17
Copyright (C) 2025 Free Software Foundation, Inc.

GNU Emacs comes with ABSOLUTELY NO WARRANTY; type C-h C-w for full details.
Emacs is Free Software--Free as in Freedom--so you can redistribute copies
of Emacs and modify it; type C-h C-c to see the conditions.
Type C-h C-o for information on getting the latest version.




-UUU:%%-  F1  *GNU Emacs*    All   L1    (Fundamental) ---------------------------------
```

Fail2ban to verify use **sudo systemctl status fail2ban**
(USAGE OF FAIL2BAN IN EACH INSTALLATION DOCS)

```
gabrielmor@localhost:~$ sudo systemctl status fail2ban
[sudo] password for gabrielmor:
● fail2ban.service - Fail2Ban Service
     Loaded: loaded (/usr/lib/systemd/system/fail2ban.service; enabled; preset: disabled)
     Active: active (running) since Sun 2025-10-26 17:05:40 EDT; 50min ago
```

```
gabe@localhost:~$ sudo systemctl status fail2ban
[sudo] password for gabe:
● fail2ban.service - Fail2Ban Service
     Loaded: loaded (/usr/lib/systemd/system/fail2ban.service; enabled; preset: disabled)
    Drop-In: /usr/lib/systemd/system/service.d
             └─10-timeout-abort.conf
     Active: active (running) since Mon 2025-10-27 16:20:47 EDT; 15min ago
```

Cowsay- to verify and test use **cowsay "moo"** and **"cowsay –version"**

```
gabrielmor@localhost:~$ cowsay "moo"
 -----
< moo >
 -----
        \   ^__^
         \  (oo)_____
            (__)\       )\/\
                ||----w |
                ||     ||
```

```
gabe@localhost:~$ cowsay --version
/usr/bin/cowsay version 3.8.4 calling Getopt::Std::getopts (version 1.14),
running under Perl version 5.40.3.
gabe@localhost:~$ cowsay "moo"
 _____
< moo >
 -----
        \   ^__^
         \  (oo)_____
            (__)\       )\/\
                ||----w |
                ||     ||
```

Snapd- to verify use **systemctl status snapd.socket**

```
gabrielmor@localhost:~$ systemctl status snapd.socket
● snapd.socket - Socket activation for snappy daemon
     Loaded: loaded (/usr/lib/systemd/system/snapd.socket; enabled; preset: enabled)
     Active: active (running) since Sun 2025-10-26 17:27:45 EDT; 22h ago
```

Lolcat to use and verify **echo "test" | lolcat** and **lolcat –version**

```
gabrielmor@localhost:~$ echo "test" | lolcat
test
```

```
gabe@localhost:~$ lolcat --version
lolcat version 1.5, (c) 2024 jaseg
gabe@localhost:~$ echo "test" | lolcat
test
gabe@localhost:~$
```

```
gabrielmor@localhost:~/Downloads$ echo "test" | lolcat
test
```

Vim- to verify use **vim –version**

```
gabrielmor@localhost:~$ vim --version
VIM - Vi IMproved 9.1 (2024 Jan 02, compiled Jan 27 2025 00:00:00)
Included patches: 1-83
Modified by <bugzilla@redhat.com>
Compiled by <bugzilla@redhat.com>
Huge version without GUI.  Features included (+) or not (-):
+acl                +file_in_path      +mouse_urxvt       -tag_any_white
+arabic             +find_in_path      +mouse_xterm       -tcl
+autocmd            +float             +multi_byte        +termguicolors
+autochdir          +folding           +multi_lang        +terminal
-autoservername     -footer            -mzscheme          +terminfo
-balloon_eval       +fork()            +netbeans_intg     +termresponse
+balloon_eval_term  +gettext           +num64             +textobjects
-browse             -hangul_input      +packages          +textprop
++builtin_terms     +iconv             +path_extra        +timers
+byte_offset        +insert_expand     +perl/dyn          +title
+channel            +ipv6              +persistent_undo   -toolbar
+cindent            +job               +popupwin          +user_commands
-clientserver       +jumplist          +postscript        +vartabs
-clipboard          +keymap            +printer           +vertsplit
+cmdline_compl      +lambda            +profile           +vim9script
+cmdline_hist       +langmap           -python            +viminfo
+cmdline_info       +libcall           +python3/dyn       +virtualedit
+comments           +linebreak         +quickfix          +visual
+conceal            +lispindent        +reltime           +visualextra
+cryptv             +listcmds          +rightleft         +vreplace
+cscope             +localmap          +ruby/dyn          +wildignore
+cursorbind         +lua/dyn           +scrollbind        +wildmenu
+cursorshape        +menu              +signs             +windows
+dialog_con         +mksession         +smartindent       +writebackup
+diff               +modify_fname      -sodium            -X11
+digraphs           +mouse             -sound             +xattr
-dnd                -mouseshape        +spell             -xfontset
-ebcdic             +mouse_dec         +startuptime       -xim
+emacs_tags         -mouse_gpm         +statusline        -xpm
+eval               -mouse_jsbterm     -sun_workshop      -xsmp
+ex_extra           +mouse_netterm     +syntax            -xterm_clipboard
+extra_search       +mouse_sgr         +tag_binary        -xterm_save
-farsi              -mouse_sysmouse    -tag_old_static
```

Vim –version

```
+cindent           +modify_fname        +termguicolors
+clientserver      +mouse               +terminal
-clipboard         -mouseshape          +terminfo
+cmdline_compl     +mouse_dec           +termresponse
+cmdline_hist      +mouse_gpm           +textobjects
+cmdline_info      -mouse_jsbterm       +textprop
+comments          +mouse_netterm       +timers
+conceal           +mouse_sgr           +title
+cryptv            -mouse_sysmouse      -toolbar
+cscope            +mouse_urxvt         +user_commands
+cursorbind        +mouse_xterm         +vartabs
+cursorshape       +multi_byte          +vertsplit
+dialog_con        +multi_lang          +vim9script
+diff              -mzscheme            +viminfo
+digraphs          +netbeans_intg       +virtualedit
-dnd               +num64               +visual
-ebcdic            +packages            +visualextra
+emacs_tags        +path_extra          +vreplace
+eval              +perl/dyn            -wayland
+ex_extra          +persistent_undo     -wayland_clipboard
+extra_search      +popupwin            -wayland_focus_steal
-farsi             +postscript          +wildignore
+file_in_path      +printer             +wildmenu
+find_in_path      +profile             +windows
+float             -python              +writebackup
+folding           +python3/dyn-stable  -X11
-footer            +quickfix            +xattr
+fork()            +reltime             -xfontset
+gettext           +rightleft           -xim
-hangul_input      +ruby/dyn            -xpm
+iconv             +scrollbind          -xsmp
+insert_expand     +signs               -xterm_clipboard
+ipv6              +smartindent         -xterm_save
+job               +socketserver
+jumplist          +sodium
   system vimrc file: "/etc/vimrc"
     user vimrc file: "$HOME/.vimrc"
 2nd user vimrc file: "~/.vim/vimrc"
 3rd user vimrc file: "~/.config/vim/vimrc"
      user exrc file: "$HOME/.exrc"
       defaults file: "$VIMRUNTIME/defaults.vim"
  fall-back for $VIM: "/usr/share/vim"
Compilation: gcc -c -I. -Iproto -DHAVE_CONFIG_H -O2 -flto=auto -ffat-lto-objects -fexceptions -g -grecord-gcc-switches -pipe -W
ror=format-security -Wp,-D_GLIBCXX_ASSERTIONS -specs=/usr/lib/rpm/redhat/redhat-hardened-cc1 -fstack-protector-strong -specs=/u
cc1 -m64 -march=x86-64 -mtune=generic -fasynchronous-unwind-tables -fstack-clash-protection -fcf-protection -mtls-dialect=gnu2
-leaf-frame-pointer -D_GNU_SOURCE -D_FILE_OFFSET_BITS=64 -std=c17 -DSYS_VIMRC_FILE=/etc/vimrc -D_REENTRANT -U_FORTIFY_SOURCE -D
Linking: gcc -Wl,--enable-new-dtags -Wl,-z,relro -Wl,--as-needed -Wl,-z,pack-relative-relocs -Wl,-z,now -Wl,--build-id=sha1 -Wl
pack-relative-relocs -Wl,-z,now -specs=/usr/lib/rpm/redhat/redhat-hardened-ld -specs=/usr/lib/rpm/redhat/redhat-annobin-cc1 -Wl
rpm/redhat/redhat-package-notes -L/usr/local/lib -o vim -lm -lselinux -lncurses -lsodium -lacl -lattr -lgpm
gabe@localhost:~$ _
```

To use this use the **vim** and foran example for the .txt use **vim.txt** command and this will open a text document and simply pressing the letter **i** will allow you to insert text of choice

```
hello this is a test
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
-- INSERT --                                    1,21          All
```

```
hello this is a test on fedora
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
-- INSERT --                                                    1,31          All
```

after this to save the file and leave vim click **esc** and type **wq!** And press **enter** and you will see
this screen

```
gabrielmor@localhost:~/Downloads$ vim vim.txt
gabrielmor@localhost:~/Downloads$ cat vim.txt
hello this is a test
```

```
gabe@localhost:~$ vim vim.txt
gabe@localhost:~$ cat vim.txt
hello this is a test on fedora
```

To find these use:

Tmux: **whereis tmux**

Emacs: **whereis emacs**

Fail2ban: **whereis fail2ban**

Cowsay: **where is cowsay**

Lolcat: **where is lolcat**

Vim: **whereis vim**