My Ubuntu bash Setup and Ricing

Here is my configuration for the Linux UBUNTU terminal.

Take it as a **backup** and easy way to transition from one PC or VM to another.

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What does ricing mean?

In the context of terminal configuration, ricing refers to the practice of customizing and beautifying the appearance and functionality of the terminal and other elements of the desktop environment.

The term originally comes from the custom car culture, where rice was used to describe modifying cars with flashy but often unnecessary features.

In the tech world, ricing has been adopted to describe the process of making a system look aesthetically pleasing and unique.

Installing commands

X Do not execute the commands below as a script

Some may expect user input.

 \triangle The installation might end with an error, so take them **individually** and analyze the reusult.

Task apt apt-get snap dpkg

Task	apt	apt-get		snap	dpk	(g
Install Package Manager	Pre-installed	Pre-installed		sudo apt install snapd	Pre	-installed
Update Package Manager	sudo apt update	sudo apt-get update		sudo snap refresh		lo apt late
Update All Packages	sudo apt upgrade	sudo apt-get upgrade		sudo snap refresh		lo apt grade
Install a Package	sudo apt install <package></package>	sudo apt-get install <package></package>		sudo snap install <package></package>		lo dpkg -i ackage>.deb
List All Packages	apt list installed	apt-get list		snap list	dpk	kglist.
Get Version		apt-cache po <package></package>	olicy	snap info <package></package>		kg -s nckage>
Delete a Package	sudo apt remove <package></package>	sudo apt-get remove <pack< th=""><th></th><th>sudo snap remove <package></package></th><th></th><th>lo dpkg -r uckage></th></pack<>		sudo snap remove <package></package>		lo dpkg -r uckage>
Task	cargo		pip/	pip3		npm
Install Package Manager	<pre>sudo apt install cargo or curlproto '=https'tlsv1.2 - sSf https://sh.rustup.rs \ sh</pre>		<pre>sudo apt install python-pip (for pip), sudo apt install python3-pip (for pip3)</pre>			sudo apt install npm
Update Package Manager	cargo install-update -a		Not applicable (managed by Python installer)		npm install -g npm@latest	
Update All Packages	cargo install-upo	date -a	inst	listoutdated+ allupgrade kage>	pip	npm update -g
Install a Package	cargo install <pa< th=""><th>ackage></th><th>(pip f</th><th>install <package: 2),="" <package="" all="" or="" pip3="" python=""> (pip on 3)</package:></th><th></th><th>npm install <package></package></th></pa<>	ackage>	(pip f	install <package: 2),="" <package="" all="" or="" pip3="" python=""> (pip on 3)</package:>		npm install <package></package>
List All Packages	cargo install	list	pip	list or pip3 list		npm list - g depth=0

Task	cargo	pip/pip3	npm
Get Version of a Package	cargo search <package> or cargo version</package>	pip show <package> or pip3 show <package></package></package>	npm list <package> -g</package>
Delete a Package	cargo uninstall <package></package>	<pre>pip uninstall <package> or pip3 uninstall <package></package></package></pre>	npm uninstall -g <package></package>

```
sudo apt update
sudo apt install snapd
sudo apt install google-chrome-stable
sudo apt install xfce4-terminal # terminal emulator (for background
image)
# Please see oficial Cargo Rust installation:
curl --proto '=https' --tlsv1.2 -sSf https://sh.rustup.rs | sh
source $HOME/.cargo/env # place it in ~/.bashrc
sudo apt install ripgrep
cargo install ripgrep # cargo alternative (will install `rg` command)
sudo apt install locate
sudo apt install fd-find
sudo apt install fzf
                         # fuzzy finder
sudo apt install cmatrix
sudo apt install htop  # process viewer
sudo apt install bpytop
                        # resource monitor that shows usage and stats
# downloading instructions for multiple OS: https://snapcraft.io/zellij
# downloading instructions for Ubuntu:
https://snapcraft.io/install/zellij/ubuntu
sudo snap install zellij --classic
                                                # a better TMUX
# cargo install zellij
                                                # alternative
sudo apt install nano
                                                 # text editor
sudo snap install helix --classic
                                                 # modal text editor
# cargo install helix
                                                # alternative
```

```
sudo snap install code --classic
                                                   # VS Code IDE
sudo snap install intellij-idea-ultimate --classic # IDE for Java, Scala
sudo snap install rustrover --classic
                                                  # IDE for Rust
sudo snap install clion --classic
                                                  # IDE for C/C++
sudo snap install onefetch # info about GIT REPO
sudo apt-get install neofetch
                                                  # info about OS distro
sudo apt install fd-find
                                                  # better find command
# downloading instructions: https://github.com/cowboy8625/rusty-rain.git
# A HTTP Test Tool: https://hurl.dev/player.html?id=hurl&speed=3
cargo install hurl
cargo install rusty-rain
                                                   # a CMatrix clone in
Rust
sudo apt install exa
                                                  # a modern replacement
for ls
# Advice: place in `~/.bashrc`: alias lsc=exa
cargo install lsd
                                                   # colorfull ls
cargo install bat
                                                   # collor appealing cat
                                                   # code statistics
cargo install tokei
sudo apt install colortest
sudo snap install discord
sudo snapp install spotify
git config --user.name='TrifanBogdan24'
git config --user.email='' # my email
```

☐ Configuration File (~/.bashrc)

In order for the following changes to be persistent over time (restarting the terminal) the modifications are made in a configuration file, saved locally, on the disk.

```
In my case, ~/.bashrc.
```

In this file, the PS1 environment variable and some suggestive aliases are set.

Each time a bash terminal is opened, all these instructions are executed, and the **aliases** will be accessible in every such terminal session.

```
$ nano -l ~/.bashrc
```

Copy and paste the following code at the end of the configuration file:

```
# at the end of `~/.bashrc`:
# token for committing to my private repos
export GITHUB_TOKEN='my token' # personal, sensitive info
alias github_token="echo $GITHUB_TOKEN"
alias chrome='google-chrome &> /dev/null &'
alias youtube='open https://www.youtube.com/ &> /dev/null' # opens
YouTube in web browser
alias chatgpt='open https://chatgpt.com/ &> /dev/null'
                                                                   # opens
ChatGpt in web browser
alias periodic-table='npx periodic-table-cli'
alias world-map='telnet mapscii.me'
alias recent-files='ls -ltrh'
alias cmd-help='compgen -c | fzf | xargs man'
alias ascii_colors='colortest-16b'
alias hacking-terminal='docker run --rm -it bcbcarl/hollywood'
`CTRL-C` and `exit` to stop
                                           # escapes anotether alias
alias git_reset_last_commit="git reset --hard \$(git log | grep 'commit'
awk 'NR==1 {print $2}')"
alias git_delete_last_commit="git reset --soft HEAD~1 && git push -f
origin"
git_rename_last_commit() {
    # `$1` = arg 1 = new commit message
    git commit --ammend -m $1
    git push -f origin
}
# opens IDEs in current directory
```

```
alias vscode='code .'
alias open-rustrover='rustrover . &> /dev/null &'
alias open-intellij='intellij-idea-ultimate . &> /dev/null &'
alias open-clion='clion . &> /dev/null &'
alias ip='ip -c' # colored command
# colored manual page
man() {
    LESS_TERMCAP_mb=$'\e[1;34m'
    LESS_TERMCAP_md=$'\e[1;32m'
    LESS_TERMCAP_so=$'\e[1;33m'
    LESS_TERMCAP_us=$'\e[1;4;31m'\
    LESS_TERMCAP_me=$'\e[0m'
    LESS_TERMCAP_se=$'\e[0m'
    LESS_TERMCAP_ue=$'\e[0m'
    command man "$@"
}
# for PS1 prompt variable
# get current branch in git repo
function parse_git_branch() {
    BRANCH=\$(git branch 2> /dev/null | sed -e '/^[^*]/d' -e 's/* \
(.*\)/\1/')
    if [ ! "${BRANCH}" == "" ]; then
        STAT=$(parse_git_dirty)
        if [ "${BRANCH}" == "master" ]; then
            echo -e "[\e[32mgit: master${STAT}\e[0m]"
        elif [ "${BRANCH}" == "main" ]; then
            echo -e "[\e[32mgit: main${STAT}\e[0m]"
        else
            echo "[git: ${BRANCH}${STAT}]"
        fi
    else
        echo ""
    fi
}
# for PS1 prompt variable
# get current status of git repo
function parse_git_dirty {
    status=`git status 2>&1 | tee`
    dirty=`echo -n "${status}" 2> /dev/null | grep "modified:" &>
/dev/null; echo "$?"`
    untracked=`echo -n "${status}" 2> /dev/null | grep "Untracked files" &>
/dev/null; echo "$?"`
    ahead=`echo -n "${status}" 2> /dev/null | grep "Your branch is ahead
```

```
of" &> /dev/null; echo "$?"`
          newfile=`echo -n "${status}" 2> /dev/null | grep "new file:" &>
/dev/null; echo "$?"`
         renamed=`echo -n "${status}" 2> /dev/null | grep "renamed:" &>
/dev/null; echo "$?"`
         deleted=`echo -n "${status}" 2> /dev/null | grep "deleted:" &>
/dev/null; echo "$?"`
         bits=''
         if [ "${renamed}" == "0" ]; then
                   bits=">${bits}"
         fi
         if [ "${ahead}" == "0" ]; then
                   bits="*${bits}"
         fi
         if [ "${newfile}" == "0" ]; then
                  bits="+${bits}"
         fi
         if [ "${untracked}" == "0" ]; then
                  bits="?${bits}"
         fi
         if [ "${deleted}" == "0" ]; then
                  bits="x${bits}"
         fi
         if [ "${dirty}" == "0" ]; then
                   bits="!${bits}"
         fi
         if [ ! "${bits}" == "" ]; then
                   echo " ${bits}"
         else
                   echo ""
         fi
}
# daca nu iti place cum arata terminalul, comenteaza linia de mai jos
\# PS1='\\[\e[1;39m\](\e[0;0m\]\[\e[1;34m\]\u\[\e[0;0m\]\[\e[1;39m\]]@\]
[\e[0m\]\[\e[1;34m\]\h\[\e[1;39m\]\]\] \[\e[1;39m\]\] \[\e[1;39m
[\e[1;96m\]\w\[\e[0m\]\\[\e[0m\]\]\]
[\e[1;96m\]$\[\e[0m\] '
# without GIT REPO
 \# PS1='\\[\e[1;39m\](\e[0;0m\]\[\e[1;34m\]\u\[\e[0;0m\]\])[\e[1;39m\]]_{\endalign{center} } \label{eq:ps1} 
[\e[0m\]\[\e[1;34m\]\h\[\e[1;39m\]\]\] \[\e[1;39m\]\] \[\e[1;39m\]\] \[\e[1;39m\]\] \[\e[1;39m\]\] \]
[\e[1;39m\]\w\[\e[0m\]\\]\e[0m\]\]
[\e[1;39m\] \[\e[0m\] \s(date "+%T") \n\
[\e[1;96m\]$\[\e[0m\] '
# info about GIT REPO
PS1='\\[\e[1;39m\](\e[0;0m\]\[\e[1;34m\]\u\[\e[0;0m\]\[\e[1;39m\]](\e[1;39m\])]
```

```
$ source ~/.bashrc
$ reset
```

Basic Terminal Customizations

- : Teminal -> Three Horizontal Bars -> Preferences -> Unnamed -> Colors -> Background -> #0D0324
- : Terminal -> Three Horizontal Bars -> Preferences -> Unnamed -> Text -> Cursor shape -> I Beam
- : Terminal -> Three Horizontal Bars -> Preferences -> Unnamed -> Text -> Cursor blinking -> Enable

Nerd Fonts

Fonts: https://www.nerdfonts.com/font-downloads

Also see: https://www.nerdfonts.com/

```
$ cd ~/Downloads/
$ mkdir nerd-fonts-helper-dir

$ touch nerd_font_downloader.sh
$ chmod +x nerd_font_downloader.sh
$ nano -l nerd_font_downloader.sh # text editor
```

```
$ # it might not work (be aware of the versions of the fonts)
$ ./nerd_font_downloader.sh https://github.com/ryanoasis/nerd-
fonts/releases/download/v3.2.1/InconsolataGo.zip
```

Script to install a single nerd font, being given an URL: scripts/download_nerd_font.sh

Script to install all single nerd fonts: scripts/install all nerd fonts.sh

My favourite Nerd Fonts:

- OxProto Nerd Font
- 3270 Nerd Font
- CommitMono Nerd Font
- JetBrainsMono Nerd Font
- M+ Nerd Font
- RobotoMono Nerd Font
- Ubuntu Nerd Font
- UbuntuMono Nerd Font
- UbuntuSans Nerd Font
- VictorMono Nerd Font

Setting Nerd Fonts

1. In Ubuntu terminal: : Terminal -> Three Horizontal Bars -> Preferences -> Text -> Check the box for Custom font and search for a **Nerd font**

2. In VS Code terminal: ②: Open VS Code -> CTRL , -> Search for terminal integrated font -> type a **Nerd font** (some might not work well)

Configurable Terminal Prompt (oh my posh)

```
$ curl -s https://ohmyposh.dev/install.sh | sudo bash -s
$ mkdir -p ~/.poshthemes
```

All these themes work only in Nerd Fonts

You have to set **terminal's font** for each IDE you use.

Some fonts migth not work well in IDEs.

Installing all oh my posh themes: scripts/install_all_prompt_themes.sh

My favourite themes:

Setting alias for favourite color themes: cripts/alias_fav_posh_themes.sh

For persistance, place the code in ~/.bashrc and use the following command: source ~/.bashrc

atomic

```
# Installing the theme
wget https://raw.githubusercontent.com/JanDeDobbeleer/oh-my-
posh/main/themes/atomic.omp.json -0 ~/.poshthemes/atomic.omp.json

# Setting the prompt
eval "$(oh-my-posh init bash --config ~/.poshthemes/atomic.omp.json)"
```

• blue-owl

```
# Installing the theme
wget https://raw.githubusercontent.com/JanDeDobbeleer/oh-my-
posh/main/themes/blue-owl.omp.json -0 ~/.poshthemes/blue-owl.omp.json
# Setting the prompt
eval "$(oh-my-posh init bash --config ~/.poshthemes/blue-owl.omp.json)"
```

blueish

```
# Installing the theme
wget https://raw.githubusercontent.com/JanDeDobbeleer/oh-my-
posh/main/themes/blueish.omp.json -0 ~/.poshthemes/blueish.omp.json
# Setting the prompt
eval "$(oh-my-posh init bash --config ~/.poshthemes/blueish.omp.json)"
```

clean-detailed

```
# Installing the theme
wget https://raw.githubusercontent.com/JanDeDobbeleer/oh-my-
posh/main/themes/clean-detailed.omp.json -0 ~/.poshthemes/clean-
detailed.omp.json

# Setting the prompt
eval "$(oh-my-posh init bash --config ~/.poshthemes/clean-
detailed.omp.json)"
```

kali

```
# Installing the theme
wget https://raw.githubusercontent.com/JanDeDobbeleer/oh-my-
posh/main/themes/kali.omp.json -0 ~/.poshthemes/kali.omp.json

# Setting the prompt
eval "$(oh-my-posh init bash --config ~/.poshthemes/kali.omp.json)"
```

• powerlevel10k_modern



```
# Installing the theme
wget https://raw.githubusercontent.com/JanDeDobbeleer/oh-my-
posh/main/themes/powerlevel10k_modern.omp.json -0
~/.poshthemes/powerlevel10k_modern.omp.json

# Setting the prompt
eval "$(oh-my-posh init bash --config
~/.poshthemes/powerlevel10k_modern.omp.json)"
```

• powerlevel10k_rainbow

```
# Installing the theme
wget https://raw.githubusercontent.com/JanDeDobbeleer/oh-my-
posh/main/themes/powerlevel10k_rainbow.omp.json -0
~/.poshthemes/powerlevel10k_rainbow.omp.json

eval "$(oh-my-posh init bash --config
~/.poshthemes/powerlevel10k_rainbow.omp.json)"
```

quick-term

```
Tunner > ... > oh-my-posh > oh-my-posh > website > P main • > Ø ~1 > ohmyposh.dev by SokLay
```

```
# Installing the theme
wget https://raw.githubusercontent.com/JanDeDobbeleer/oh-my-
posh/main/themes/quick-term.omp.json -0 ~/.poshthemes/quick-term.omp.json

# Setting the prompt
eval "$(oh-my-posh init bash --config ~/.poshthemes/quick-term.omp.json)"
```

I find quick-term to be the most suitable for me.

So, the line eval "\$(oh-my-posh init bash --config ~/.poshthemes/quick-term.omp.json)" will be inluded at the end of the configuration file ~/.bashrc

Xfce Terminal Emulator

★ Instalilling a Terminal Emulator (Xfce)

For this task, we will use a Terminal Emulator, since the built-in console does not support background images.

Show applications (a square of 9 dots in right lower corner) -> search for Ubuntu Software -> start typing Xfce Terminal -> install Terminal Emulator.

Alternative shell command:

Terminal Emulator that enables setting a background image
sudo apt install xfce4-terminal

Xfce command for creating a new window/tab:

- New window: xfce4-terminal
- New tab: xfce4-terminal --tab (in an existing window, otherwise it creates a window with two tabs)

```
xfce4-terminal & # new window
xfce4-terminal --tab & # new tab inside of window
```

Basic setup for Xfce Terminal

```
☼ Xfce Terminal -> Edit -> Preferences... -> Cursor shape -> I - Beam
```

- ☼ Xfce Terminal -> Edit -> Preferences... -> Cursor shape -> check ☑ Cursor blinks box
- ☼ Xfce Terminal -> Edit -> Preferences... -> Cursor shape -> check ☑ Automatically copy selection to clipboard box
- ☼ Xfce Terminal -> Edit -> Preferences... -> Cursor shape -> check ☐ Show unsafe paste dialog box

Setting the background image in Xfce Terminal

Open Xfce Terminal -> Bar -> Edit -> Preferences . . . -> Appearance -> Background -> select Background image and provide a path to the File: field.

Also, in order for the prompt to work, set a Nerd Font

DNS (Domain Name Server)

What is DNS

DNS is an Internet protocol that maps URLs (Uniform Resource Locators) or domain names to IP addresses. This process in essential because while humans find it easier to remember and use domain names, like www.example.com, computers and network devices use IP addresses (like 192.0.2.1 to identify each other on the internet).

Useful links:

- Known DNS providers: https://adguard-dns.io/kb/general/dns-providers/
- DNS filtering: https://adguard-dns.io/kb/general/dns-filtering/

I use the following DNS IPs: 94.140.14.15 and 94.140.15.16

Setting DNS

Using the GUI of Ubuntu: https://phoenixnap.com/kb/ubuntu-dns-nameservers

I don't recommend the above link, but it's just in case.

Let's be professional and use the terminal 🚳 🖳 🖳 .

```
$ cat /etc/resolv.conf
# This is /run/systemd/resolve/stub-resolv.conf managed by man:systemd-
resolved(8).
# Do not edit.
# This file might be symlinked as /etc/resolv.conf. If you're looking at
# /etc/resolv.conf and seeing this text, you have followed the symlink.
# This is a dynamic resolv.conf file for connecting local clients to the
# internal DNS stub resolver of systemd-resolved. This file lists all
# configured search domains.
# Run "resolvectl status" to see details about the uplink DNS servers
# currently in use.
# Third party programs should typically not access this file directly, but
# through the symlink at /etc/resolv.conf. To manage man:resolv.conf(5) in
# different way, replace this symlink by a static file or a different
symlink.
#
# See man:systemd-resolved.service(8) for details about the supported modes
# operation for /etc/resolv.conf.
nameserver 127.0.0.53
options edns0 trust-ad
search .
```

 \bigcirc Notice that /etc/resolv.conf is a **symbolic link** to another configuration file, **in this case**, /run/systemd/resolve/stub-resolv.conf

Also notice the comment # Do not edit

Since /etc/resolv.conf is managed by systemd-resolved and is **symlinked** to /run/systemd/resolve/stub-resolv.conf, the DNS configuration must be updated using the systemd-resolved **configuration file**.

```
$ sudo nano -l /etc/systemd/resolved.conf
```

Uncomment and **set** the DNS and FallbackDNS lines with desired DNS servers. For example:

```
[Resolve]
DNS=94.140.14.15 94.140.15.16
FallbackDNS=8.8.8.8 8.8.4.4 1.1.1.1 1.0.0.1
```

An alternative to resolvect | status could be resolvect | dns:

```
$ resolvectl dns
Global: 94.140.14.15 94.140.15.16
Link 2 (enp1s0): 94.140.14.15 94.140.15.16
Link 3 (wlp2s0): 8.8.8.8 1.1.1.1
Link 4 (docker0):
```

The FallbackDNS entries are optional and will be used if the primary DNS servers are unreachable.

!∆ Troubleshooting DNS configuration

If there are errors at setting **global** DNS configure the **interfaces**, otherwise skip this part.

If it appears that the DNS setting for specific network interfaces (enp1s0 and wlp2s0) might not be using the global DNS server, here is the solution:

1. Step 1: Clear Link-Specific DNS Settings

```
$ sudo resolvectl dns enp1s0 94.140.14.15 94.140.15.16
$ sudo resolvectl dns wlp2s0 94.140.14.15 94.140.15.16
```

2. Step 2: Verify the DNS Configuration

```
$ resolvectl status
```

3. Step 3: Update Network Manager Configuration (if applicable)

If you're using NetworkManager, it might override systemd-resolved settings. You can update the DNS configuration in NetworkManager.

```
$ sudo nano /etc/NetworkManager/NetworkManager.conf
```

Add the following lines (if not already present):

```
[main]
dns=systemd-resolved
```

Restart NetworkManager:

```
$ sudo systemctl restart NetworkManager
```

4. Step 4: Ensure /etc/resolv.conf is Symlinked Correctly

```
sudo ln -sf /run/systemd/resolve/stub-resolv.conf /etc/resolv.conf
```

5. Step 5: Recheck the Status

```
$ resolvectl status
```

Turinstalling Utilities

Deleting a command is as simple as installing it, the only difference in the one-liner is a word specified to the package manager.

remove will take place of install argument.

```
rustup self uninstall # uninstall cargo
sudo apt remove xfce4-terminal
sudo apt remove cmatrix
sudo snap remove code
sudo snap remove intellij-idea-ultimate
sudo snap remove rustrover
sudo snap remove clion
sudo apt remove nano
sudo snap remove helix
# cargo uninstall helix # if installed with cargo
sudo snap remove zellij
# cargo uninstall zellij
                             # if installed with cargo
                             # rg command
cargo uninstall ripgrep
sudo apt remove fd-find
```

```
sudo snap remove onefetch
sudo apt-get remove neofetch

sudo snap remove discord
sudo snap remove spotify

sudo snap remove exa

cargo remove hurl
cargo uninstall bat
cargo uninstall lsd
cargo uninstall rusty-rain
cargo uninstall tokei

# unsetting git info
git config --global --unset user.name
git config --global --unset user.email
```