

# FOSS

**"Be open, and explore the source!"**



# Agenda

- What is kernel?
- What is Linux?
- History of Linux
- Why to use Linux?
- Real world applications of Linux
- Linux commands

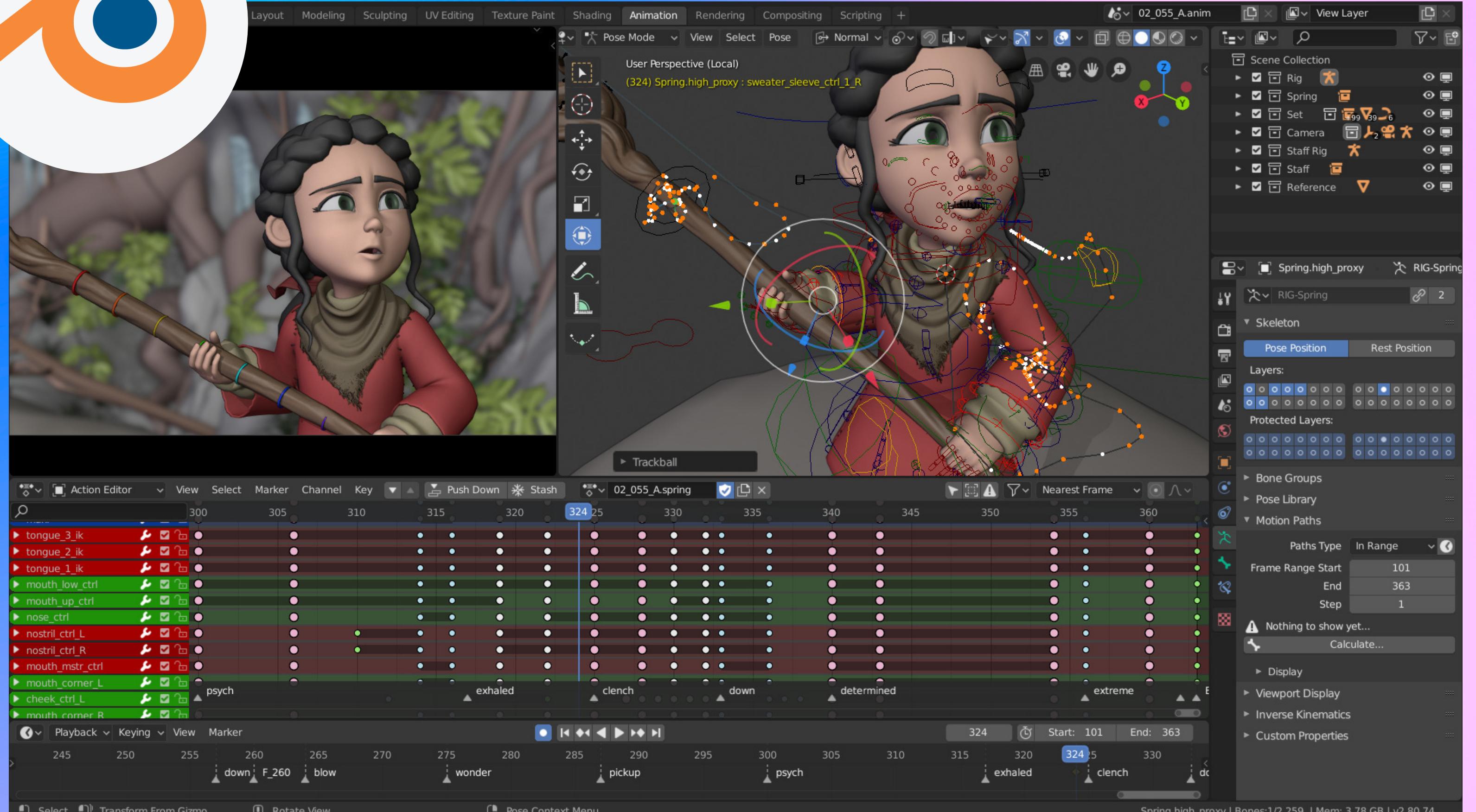


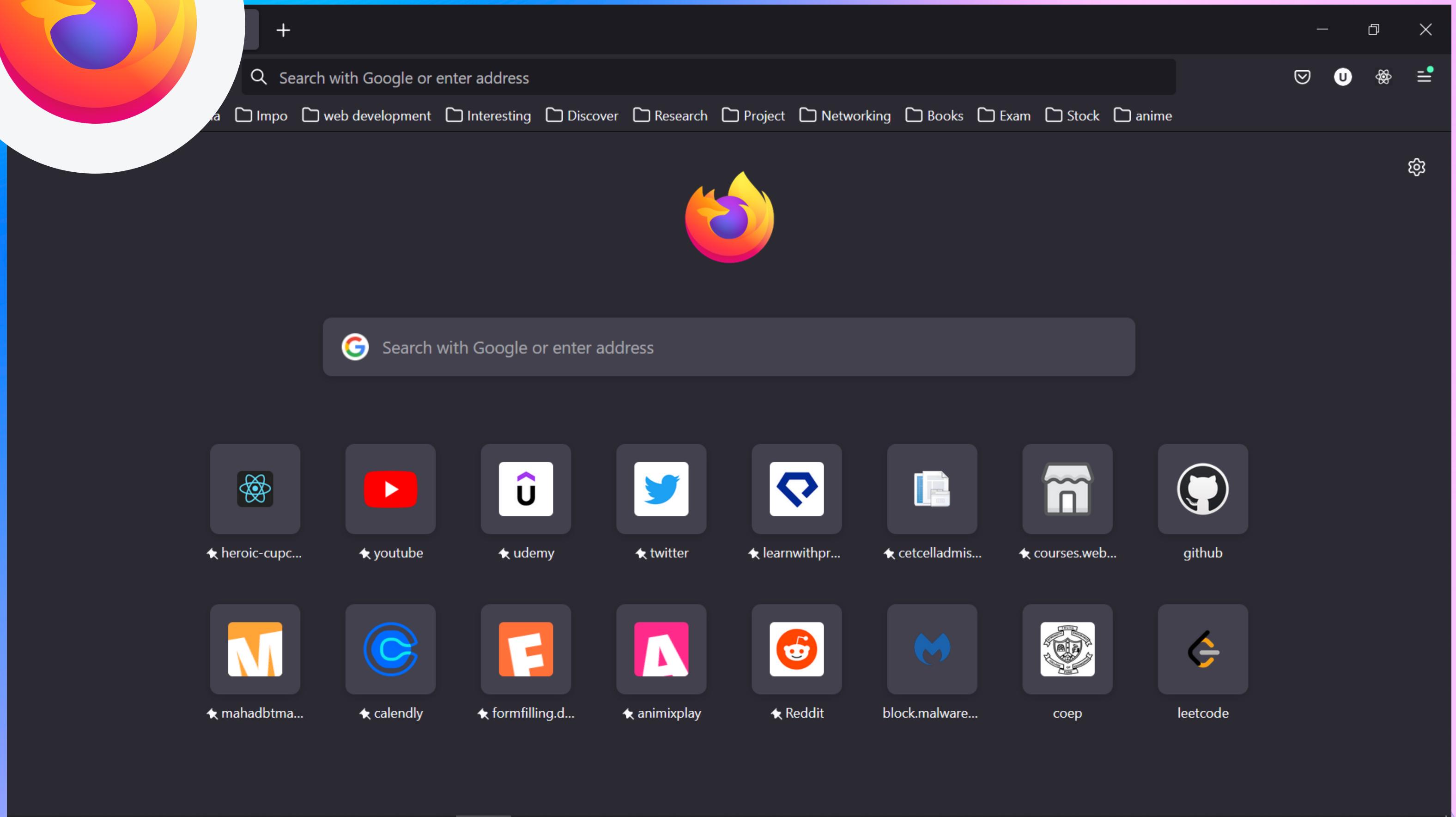
# Open Source

- A software development model
- The source code is freely available
- Can be viewed and modified by anyone



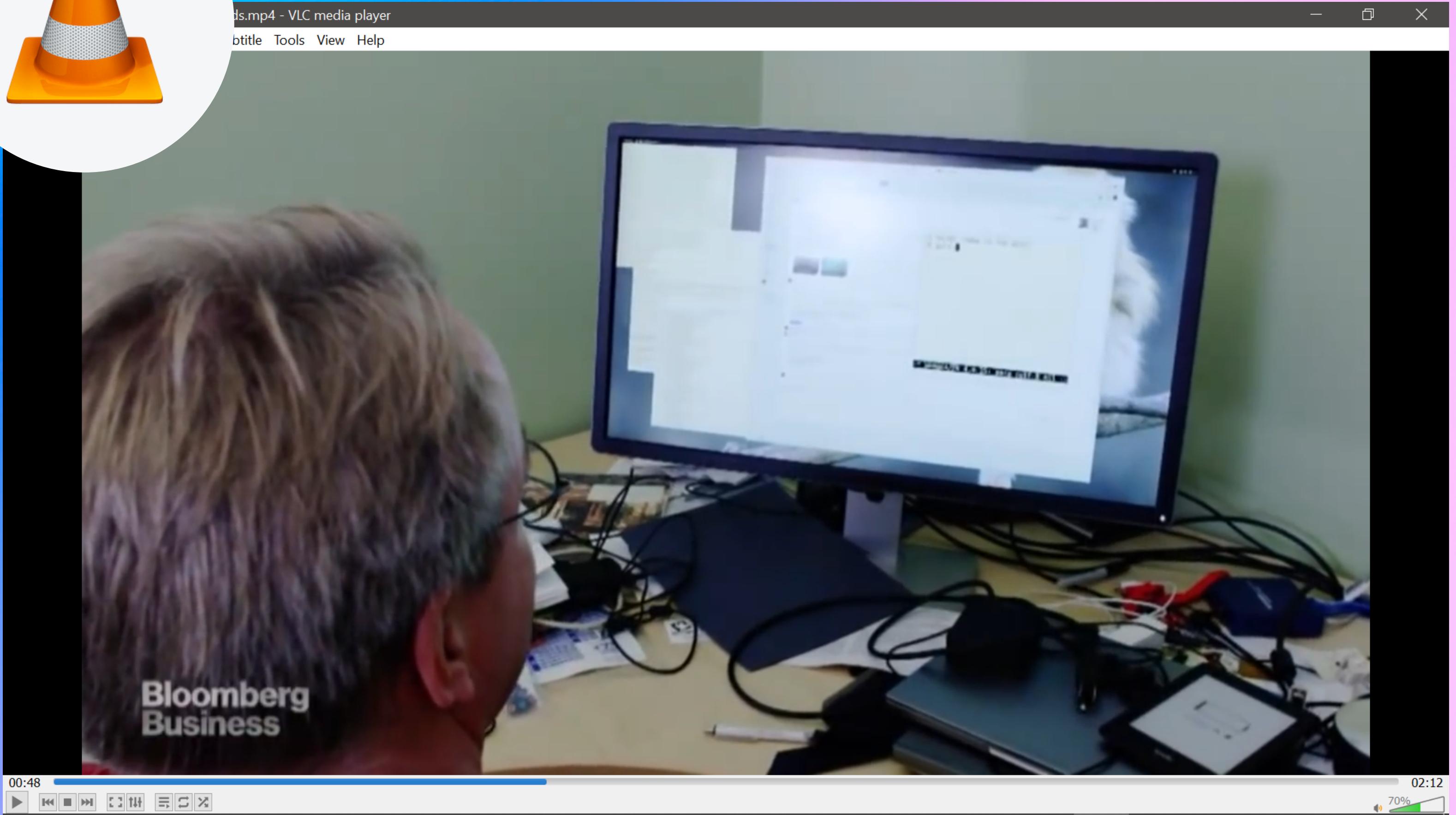
# Free & Open Source Softwares





A screenshot of a dark-themed Firefox browser window. The window title bar includes standard icons for minimize, maximize, and close, along with a search/address bar placeholder "Search with Google or enter address". Below the toolbar, a horizontal menu bar lists categories like "Impo", "web development", "Interesting", "Discover", "Research", "Project", "Networking", "Books", "Exam", "Stock", and "anime". A settings gear icon is located in the top right corner. The main content area displays the Firefox logo at the top center. Below it is a search bar with the same placeholder. A grid of 16 bookmarked sites is shown in two rows of eight:

★ heroic-cupc...	★ youtube	★ udemy	★ twitter	★ learnwithpr...	★ cetcelladmis...	★ courses.web...	github
★ mahadbtma...	★ calendly	★ formfilling.d...	★ animixplay	★ Reddit	block.malware...	coep	leetcode



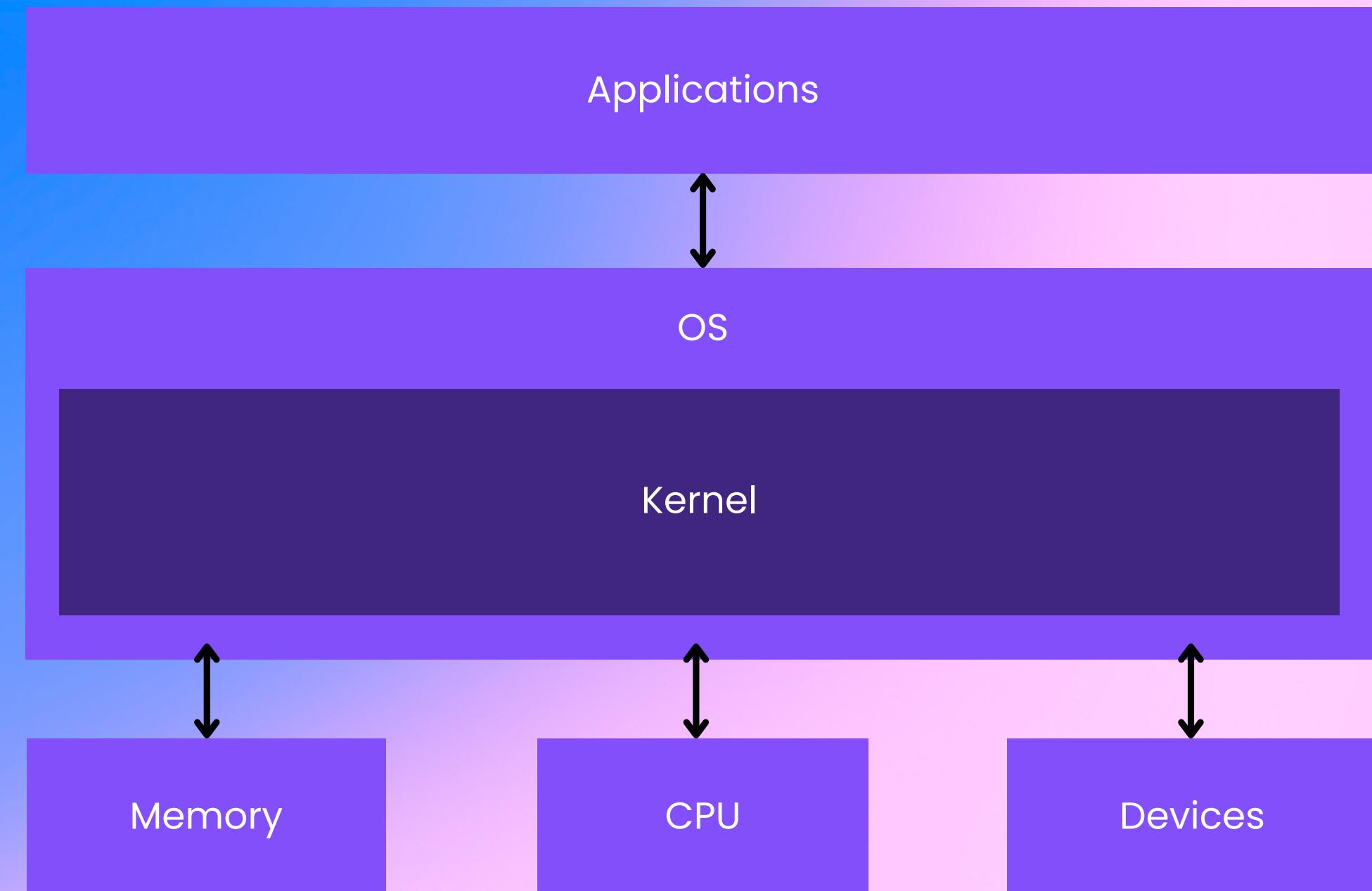


The image displays a grid of 14 screenshots of the WordPress Twenty Themes, arranged in three rows. The themes shown are:

- Twenty Twenty-One**: A light green theme featuring a large title "The works of Berthe Morisot, 1800s-era French painter".
- Twenty Eleven**: A dark theme with a metallic car wheel image.
- Twenty Fifteen**: A dark theme with a bridge over water image.
- Twenty Fourteen**: A dark theme with a woman's face and a pier image.
- Twenty Nineteen**: A dark theme with a calendar and a potted plant image.
- Twenty Seventeen**: A light theme with a potted plant image.
- Twenty Sixteen**: A light theme with a sunset over water image.
- Twenty Ten**: A light theme with a path through trees image.
- Twenty Thirteen**: A light theme with orange and yellow abstract shapes.
- Twenty Twelve**: A light theme with a blue sky image.
- Twenty Twenty**: A light theme with the text "Welcome to the Swedish Museum of Modern Art".

The left side of the image shows a vertical sidebar of the WordPress dashboard, listing various site sections like Pages, Comments, Appearance, Themes, etc., with "Appearance" currently selected.

# Kernel v/s O.S



# What is Linux?

- Kernel
- GNU/Linux
  - GNU's Not Unix



# Why Linux?

- Security
- Customization
- No Rebooting
- Low Cost





Your PC ran into a problem and needs to restart. We're just collecting some error info, and then we'll restart for you.

20% complete



For more information about this issue and possible fixes, visit <https://www.windows.com/stopcode>

If you call a support person, give them this info:

Stop code: CRITICAL\_PROCESS\_DIED

# History Of Linux



# Linus Torvalds



# Linux Distros



# Ubuntu

- Good for beginner
- Mostly used for personal computer
- Can also be used in
  - servers
  - work



# Ubuntu



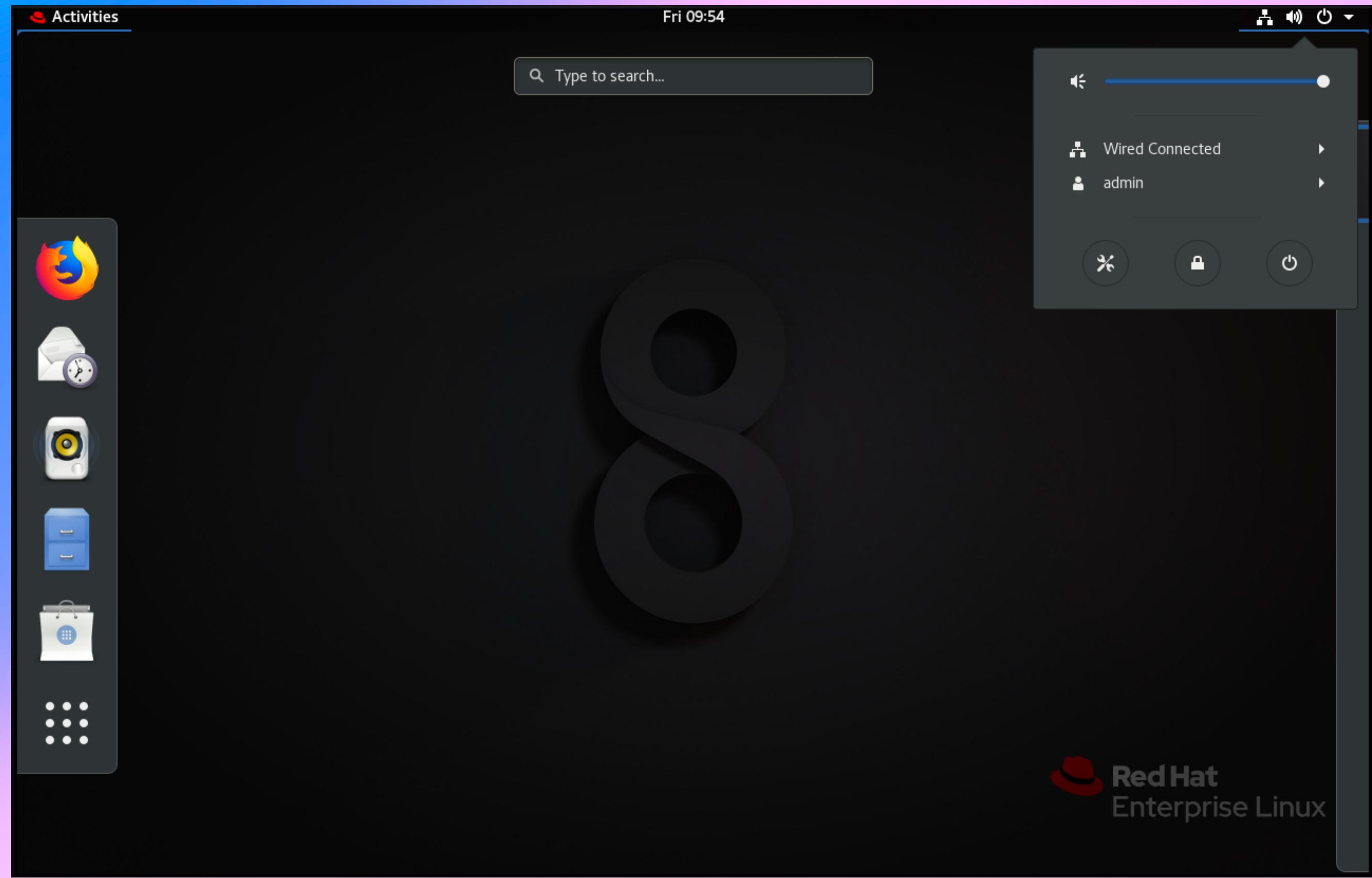
# RHEL

- Stands for Red Hat Enterprise Linux
- Primarily used for cloud computing
- Free to download
- Subscription for support is paid





# RHEL

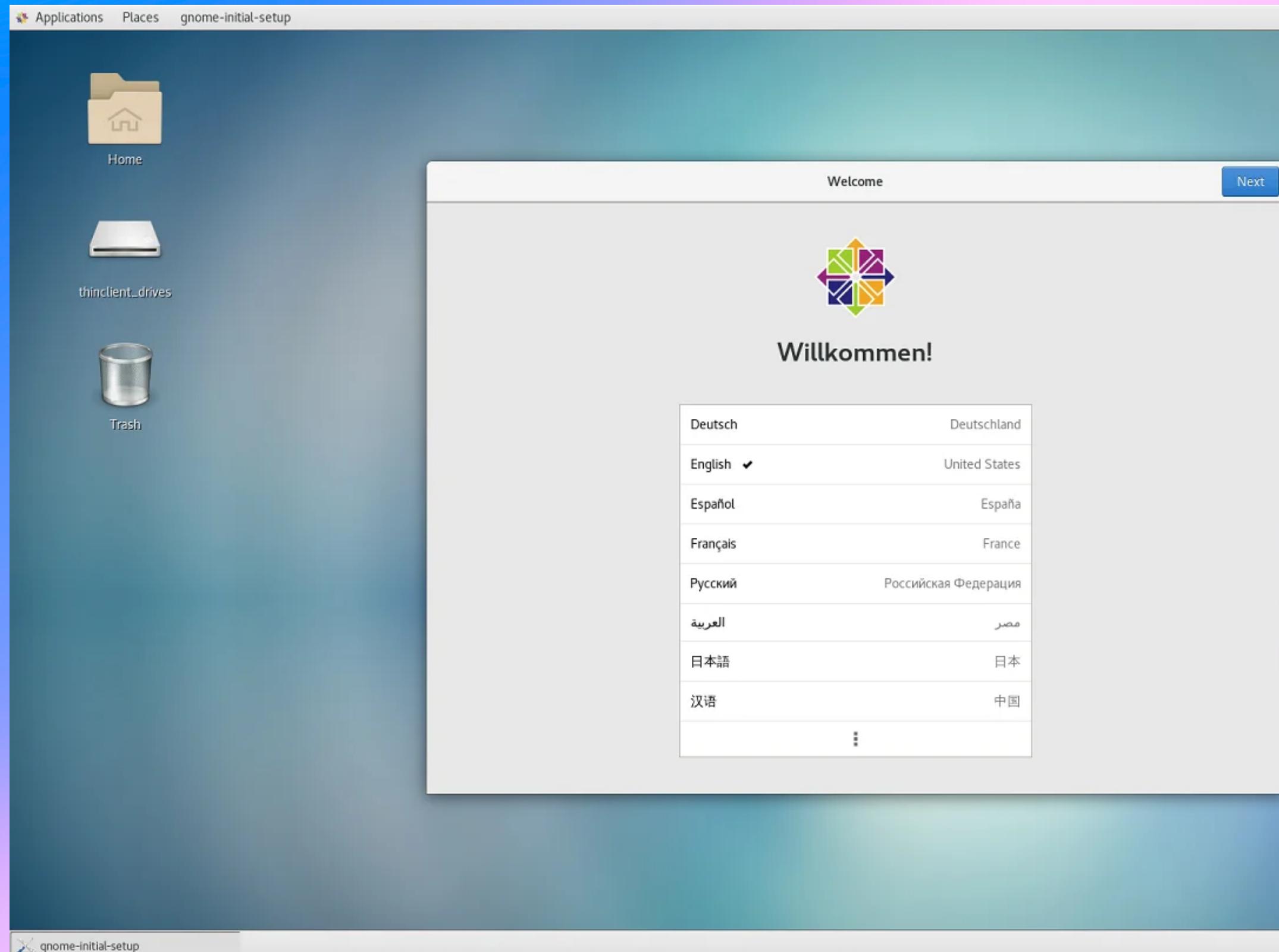


# CentOS

- Free version of RHEL
- Used to replicate RHEL server setup



# CentOS

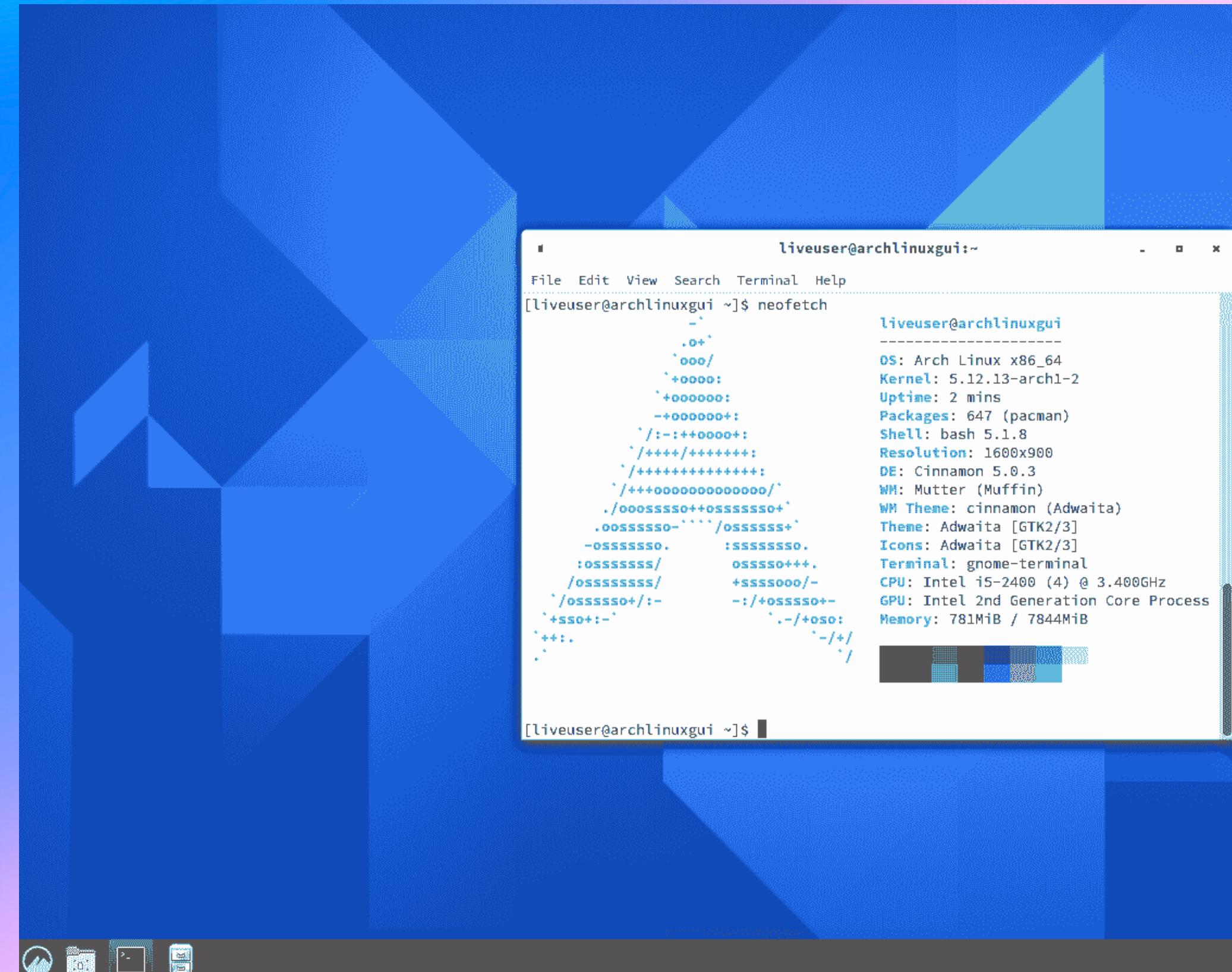


# Arch Linux

- Not preferred for beginners
- The user has control over most of the things in the system



# Arch Linux



# Kali Linux

- Comes with preinstalled tools which are used in cyber security



# Kali Linux



# Applications of Linux

- Servers
- Super Computers
- IOTs
- Surveillance Cameras  
and Electronic Locks







## ls (List)



ls dir\_name



ls WLUG



ls -a WLUG

- Used to list the contents inside the directory.



ls -l WLUG



ls -lh WLUG



## cd (Change Directory)



cd directoryName



cd pathToDirectory



cd ..

- Used to change the directory.



cd ~



cd /



## mkdir (Make Directory)



mkdir directoryName



mkdir WLUG



mkdir -v WLUG

- Used to create a directory



mkdir -p directories



mkdir dir1 dir2 dir3



## rmdir (Remove Directory)



```
rmdir dir_name
```



```
rmdir WLUG
```



```
rmdir WLUG/dir1
```

- Used to remove empty directories.



```
rmdir -p WLUG/dir1/dir
```



```
rmdir -vp WLUG/dir1/dir2
```



rm (Remove)



rm filename



rm participants.txt



rm -r WLUG

- Used to remove files or directories.



rm -r \*



rm -i participants.txt



echo



```
echo [option] [string]
```



```
echo "Hello"
```



```
echo -e "hello,\n users"
```

- Used to print the string.



```
echo "Hello" > file.txt
```



```
echo "World" >> file.txt
```



touch

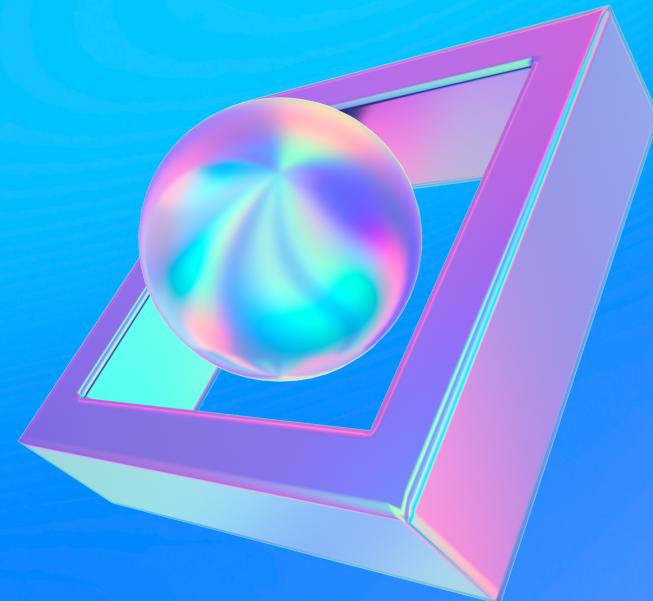


touch[option][string]

- Used to create files without content.



touch WCE.txt



touch test.txt test1.txt





## man (Manual Page)



man[options][commandName]



man ls



man -f intro

- User Manual of any command.
- -w returns the location.
- -f displays the available section.



man 6 intro



man -w intro



cat



cat > wlug.txt



cat > cs.txt



cat wce.txt cs.txt > new

- Create Files with contents
- View Contents of File
- Concatenate multiple files



nano



nano fileName



Alt+U: undo action



ctrl+A: go to first line

- Command Line Text Editor.
- **ctrl+x:** To exit from the editor.
- **ctrl+o:** To save the file.



ctrl+E: go to last line



ctrl+U: paste



## apt (advanced packaging tool)



sudo apt update



sudo apt install <p>



sudo apt remove <p>

- Used to install packages
- Needs privileges to install packages



sudo apt install libaa-bin



sudo apt install cmatrix



## Some more examples of Packages



```
sudo apt install espeak
```



```
espeak "Hello Users"
```



```
espeak -f file_name
```



```
sudo apt install x11-apps
```



```
sudo apt install fortune
```



```
sudo apt install oneko
```



# Thank You!

