

# Week 0

## Setting Up



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- What the hell is a shell?
  - I want one
- Getting into a shell
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  - WSL or Virtual Machines?
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  - Networking Commands
    - nc, ssh, ping, wget, curl
- Tools to pre install
  - ghidra, gdb, r2, tmux, pwntools



# > Terminal

“It’s where things happen”

-Ravi



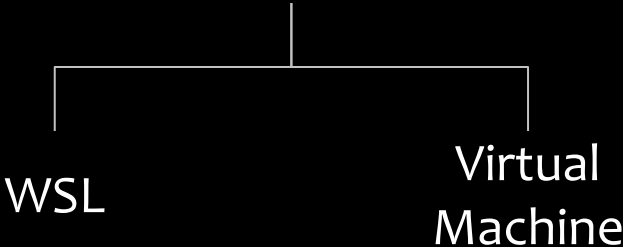
```
→ CSAW2020 ls
bard          grid          kui_blox1_sol.png
bard.hop      grid_solve.py libc-2.27.so
ezbreezy     krakme.exe   solve_ezbreezy.py
→ CSAW2020
```

```
mark@linux-desktop: ~
File Edit View Search Terminal Help
mark@linux-desktop:~$
```

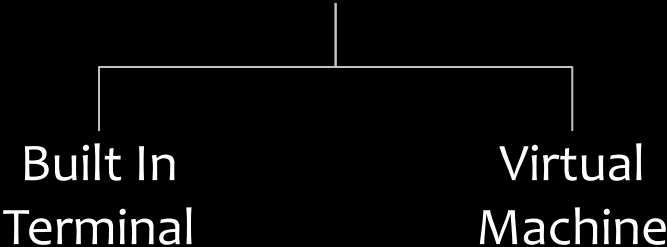
```
tquig@THOMAS-PC: ~
tquig@THOMAS-PC:~$
```



# Windows



# MacOS



# Linux



You're good to go



# Windows

- Windows Subsystem for Linux
- Virtual Machine

# MacOS

- Built In Terminal
- Virtual Machine



# Windows Subsystem for Linux

Yeah that one

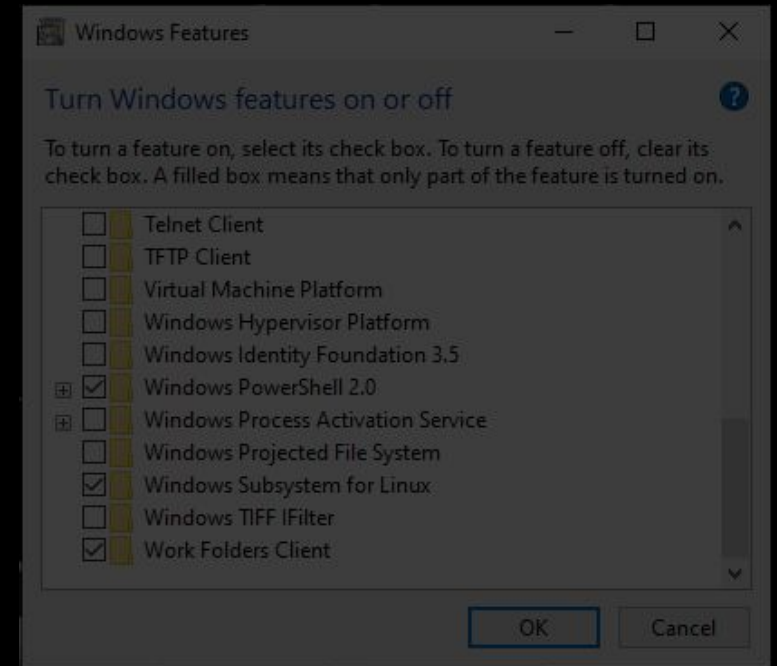
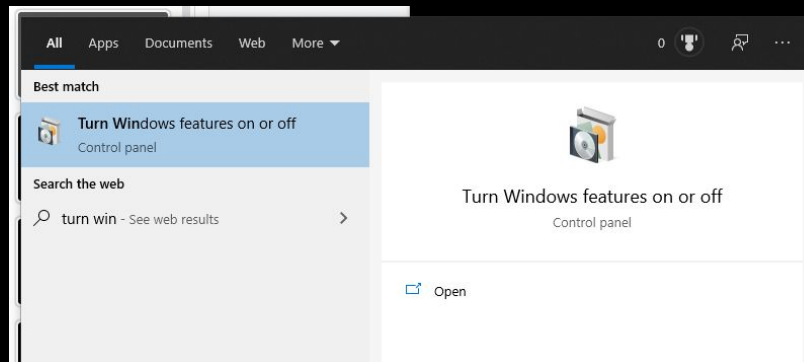




# Windows Subsystem for Linux



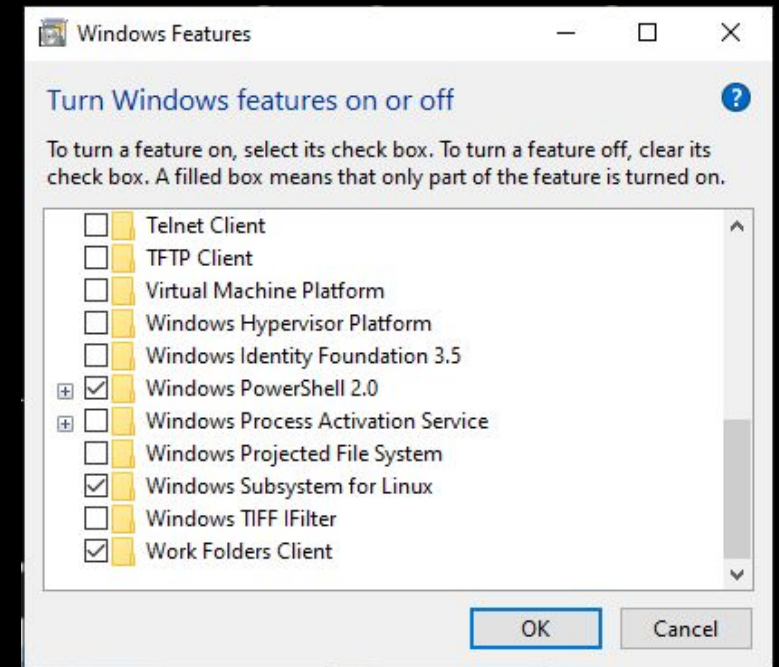
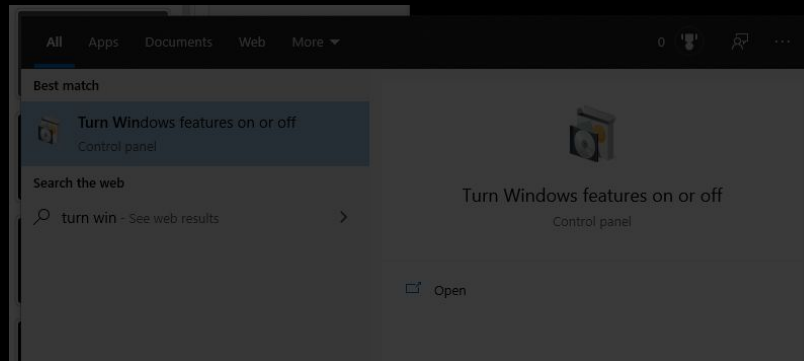
Search "Turn Windows features on or off"



# Windows Subsystem for Linux



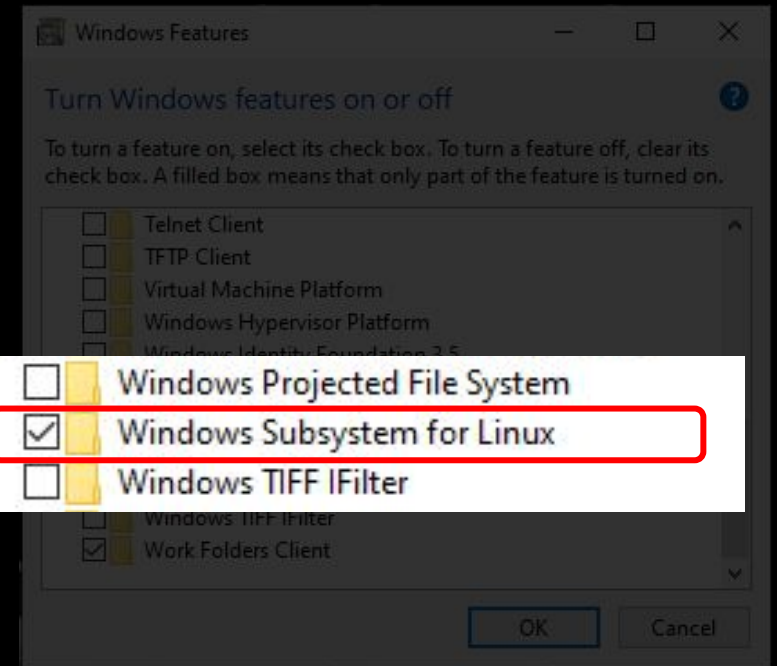
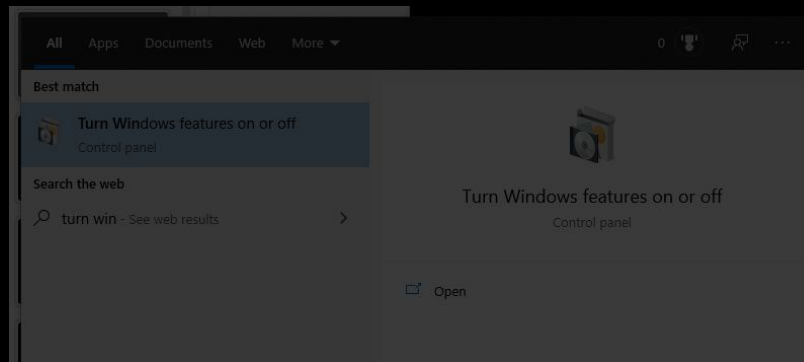
Search "Turn Windows features on or off"



# Windows Subsystem for Linux



Search "Turn Windows features on or off"



Restart!



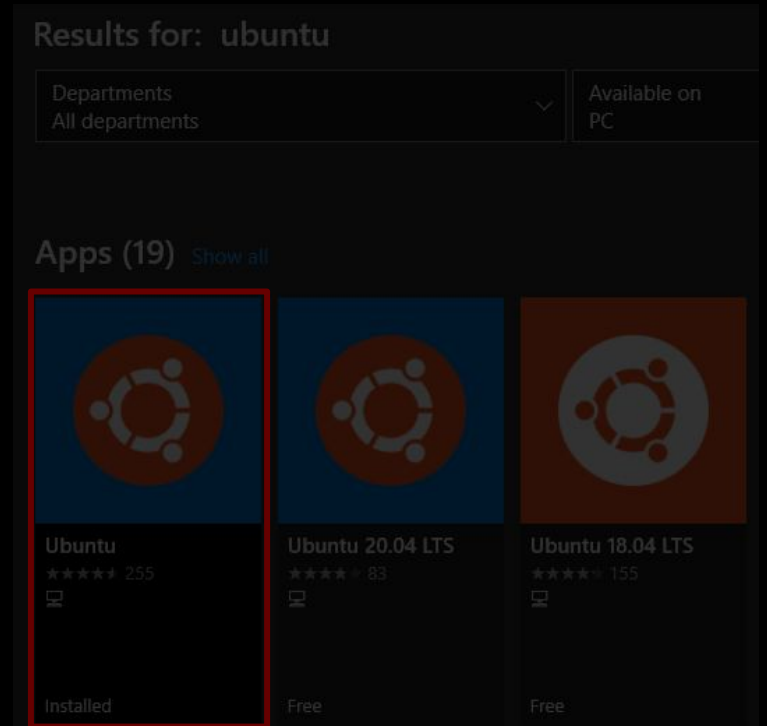
Go set this up!



# Getting A Terminal

Open the  
Microsoft Store

Search "Ubuntu"



# Getting A Terminal


Open the  
Microsoft Store

Search "Ubuntu"

Results for: ubuntu

Departments: All departments Available on PC

Apps (19) [Show all](#)

 <b>Ubuntu</b> ★★★★★ 255 📱 Installed	 <b>Ubuntu 20.04 LTS</b> ★★★★★ 83 📱 Free	 <b>Ubuntu 18.04 LTS</b> ★★★★★ 155 📱 Free
---	---	--



# Set a 'root' user

Select a username and password for your administrative user.

```
hayden@T470s ~  
Installing, this may take a few minutes...  
Please create a default UNIX user account. The username does not need to match your Windows username.  
For more information visit: https://aka.ms/wslusers  
Enter new UNIX username: hayden  
Enter new UNIX password:  
Retype new UNIX password:  
passwd: password updated successfully  
Installation successful!  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
hayden@T470s:~$
```





# macOS Terminal

Command  
+ Space



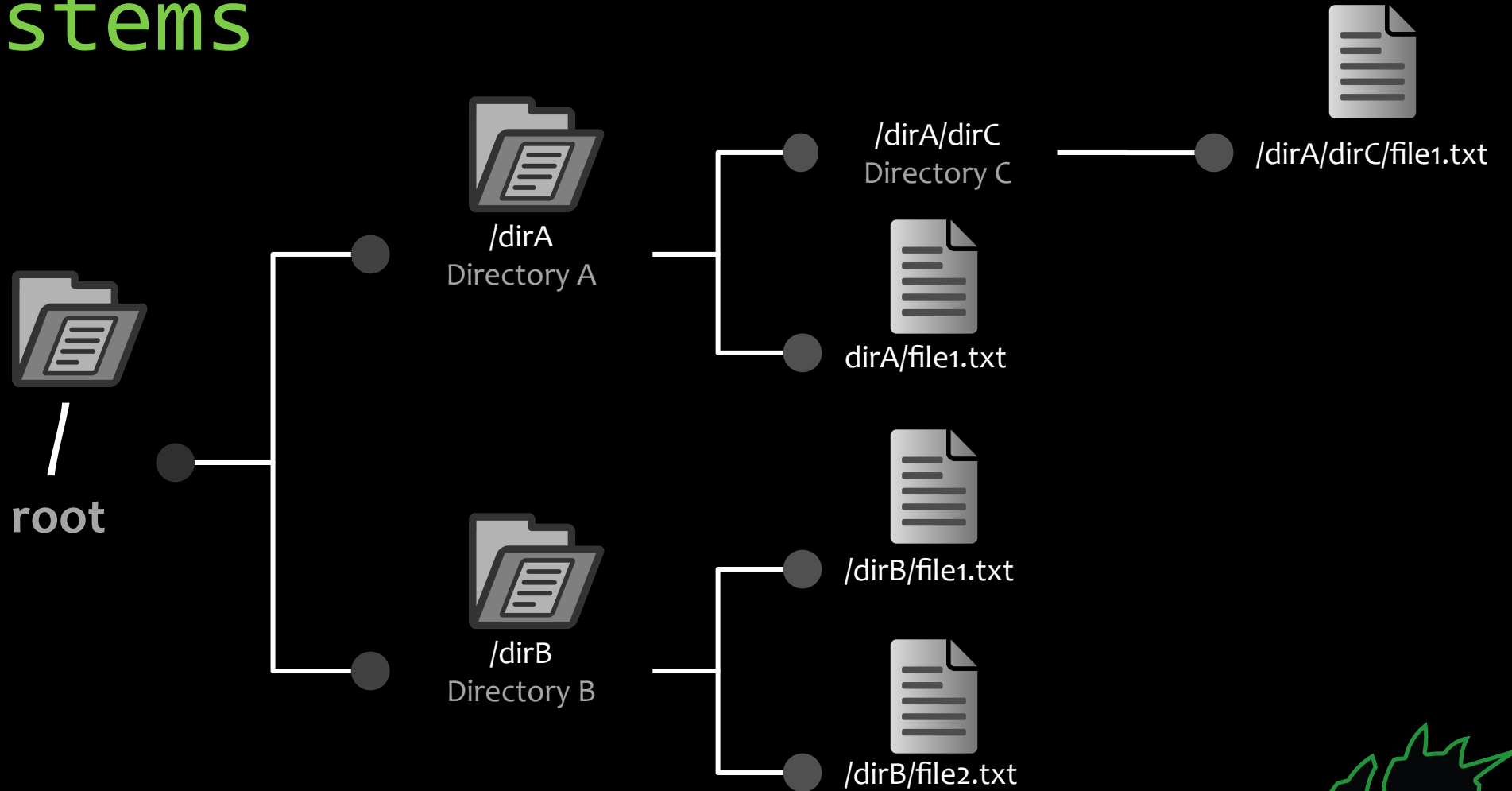
Search "Terminal"



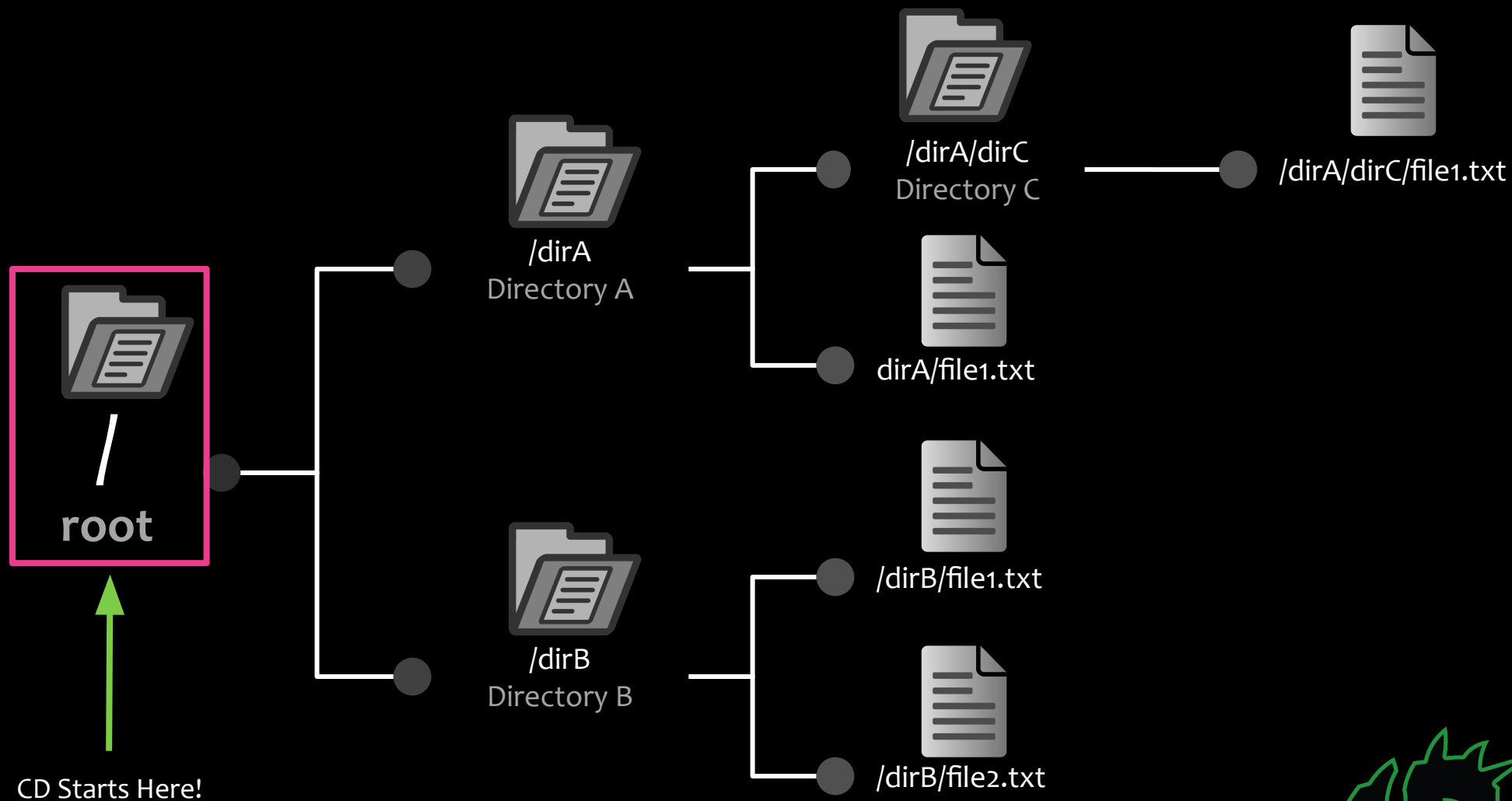
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→ CSAW2020
```



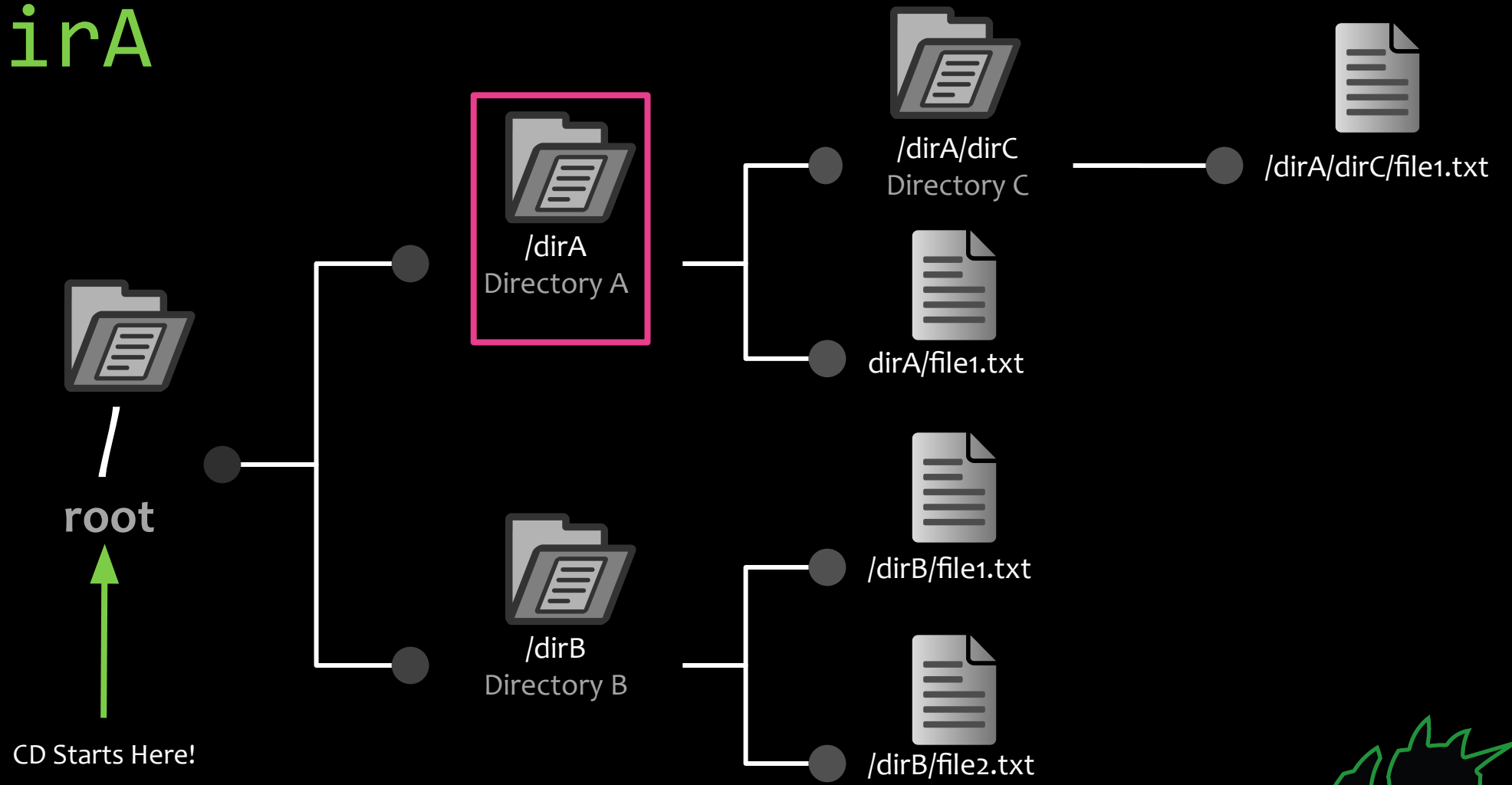
# Filesystems



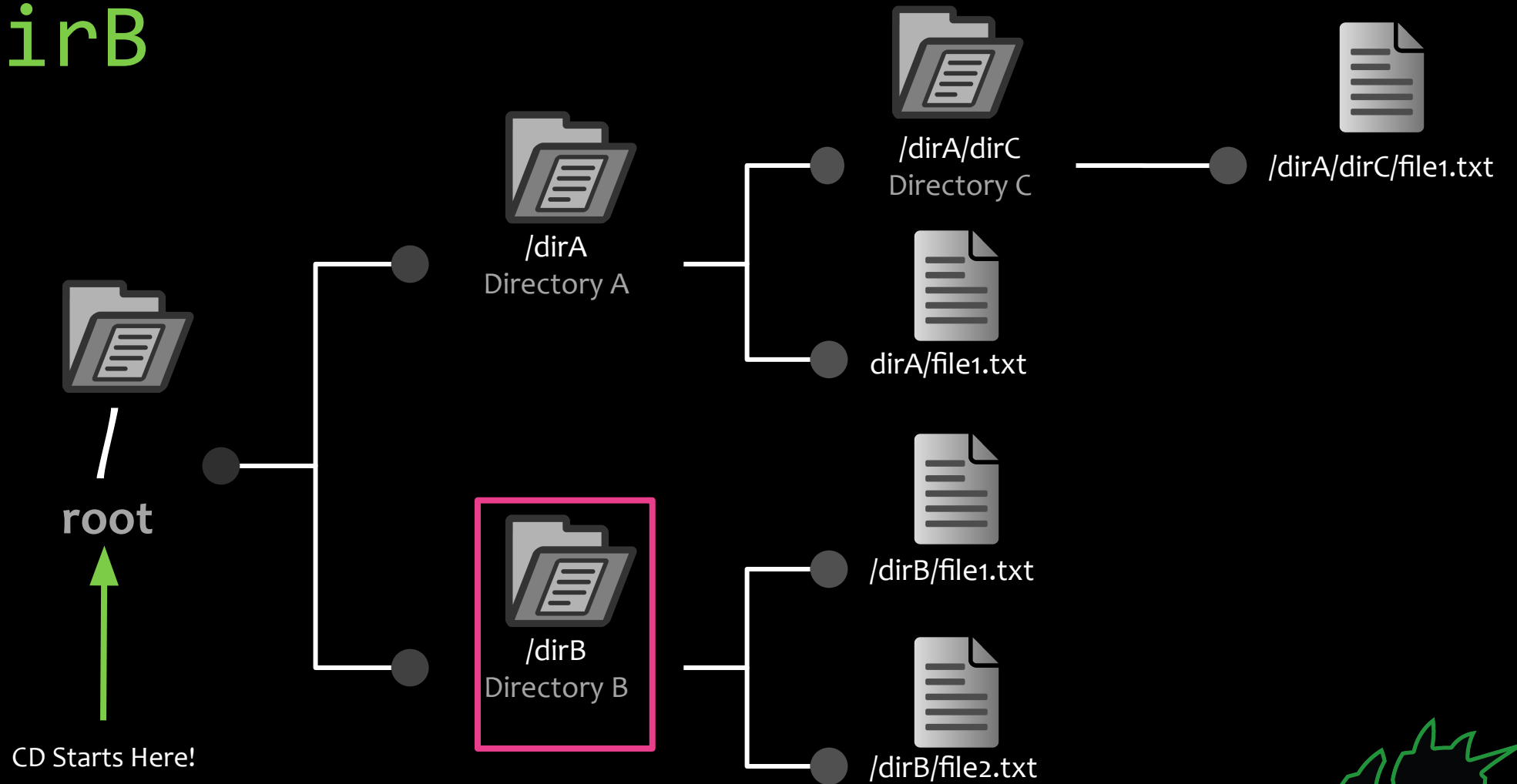
cd /



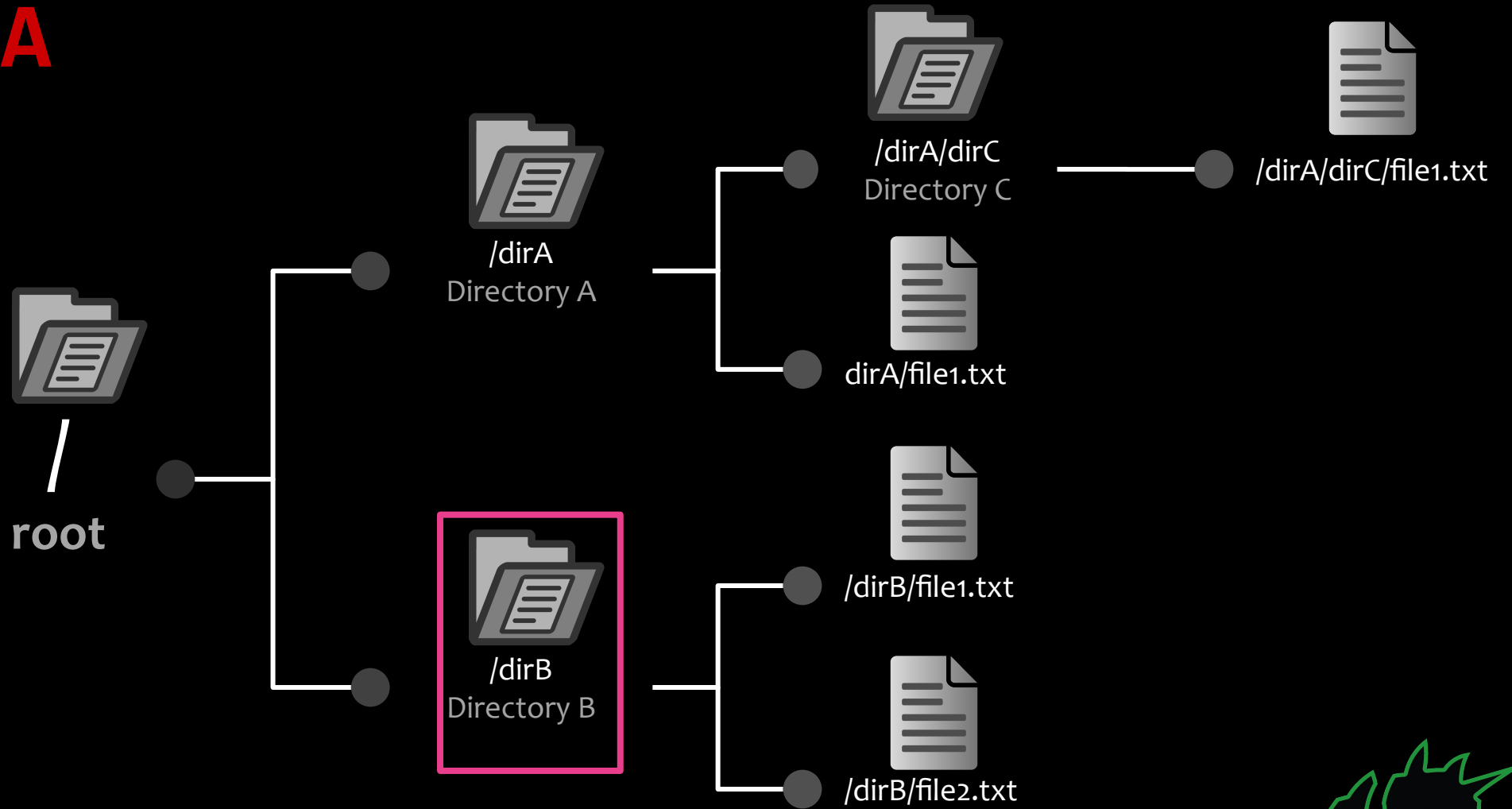
# cd /dirA



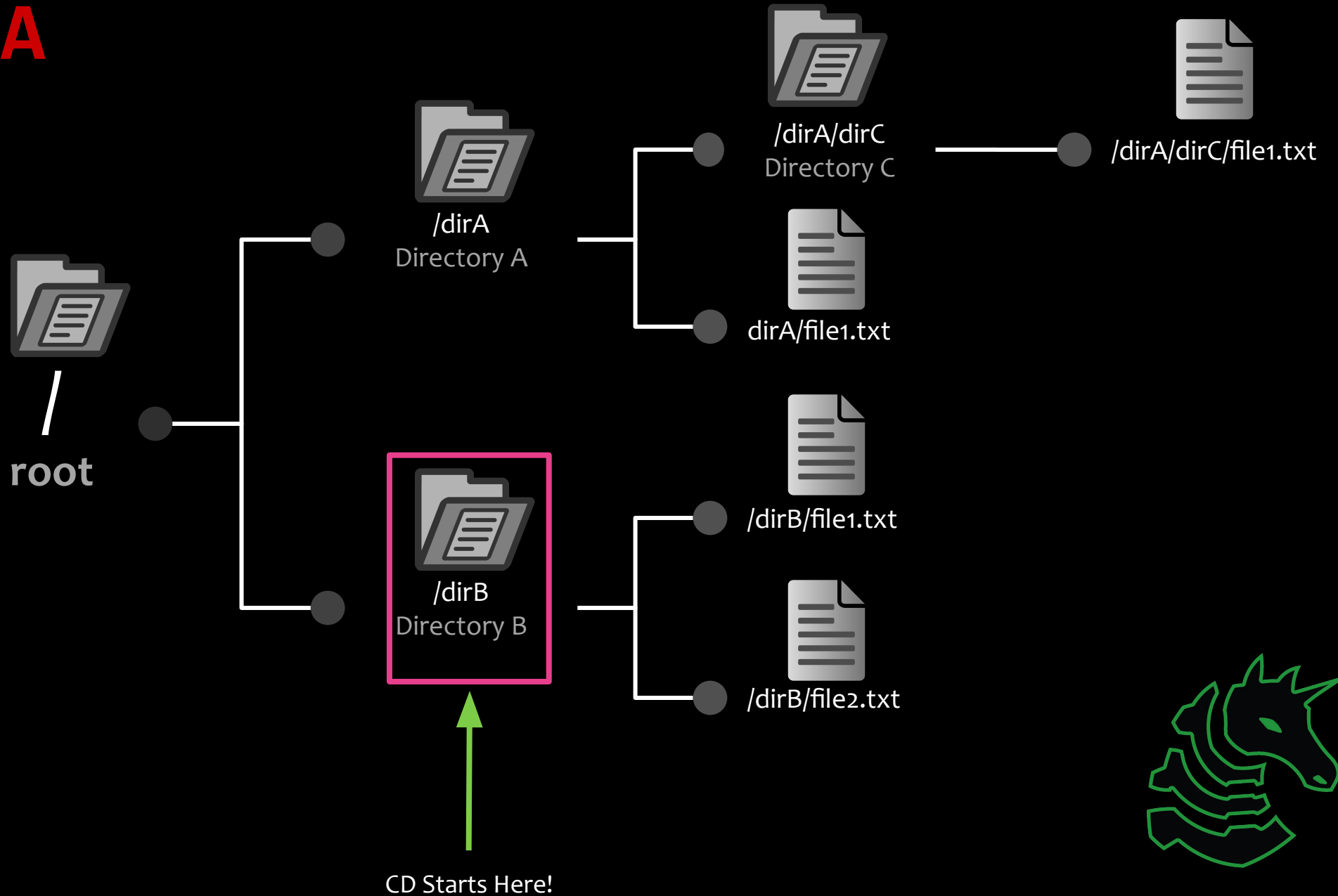
# cd /dirB



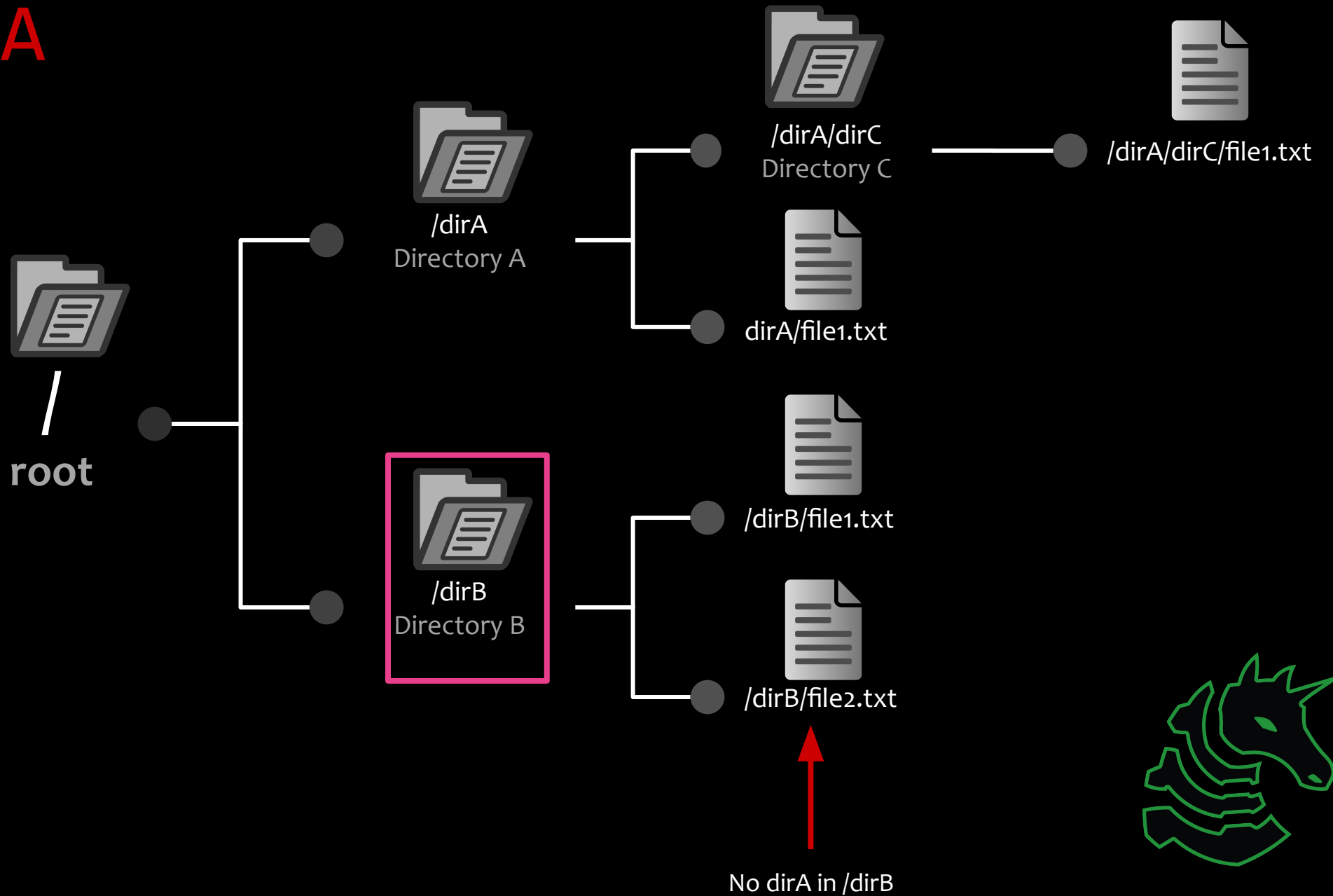
# cd dirA



# cd dirA

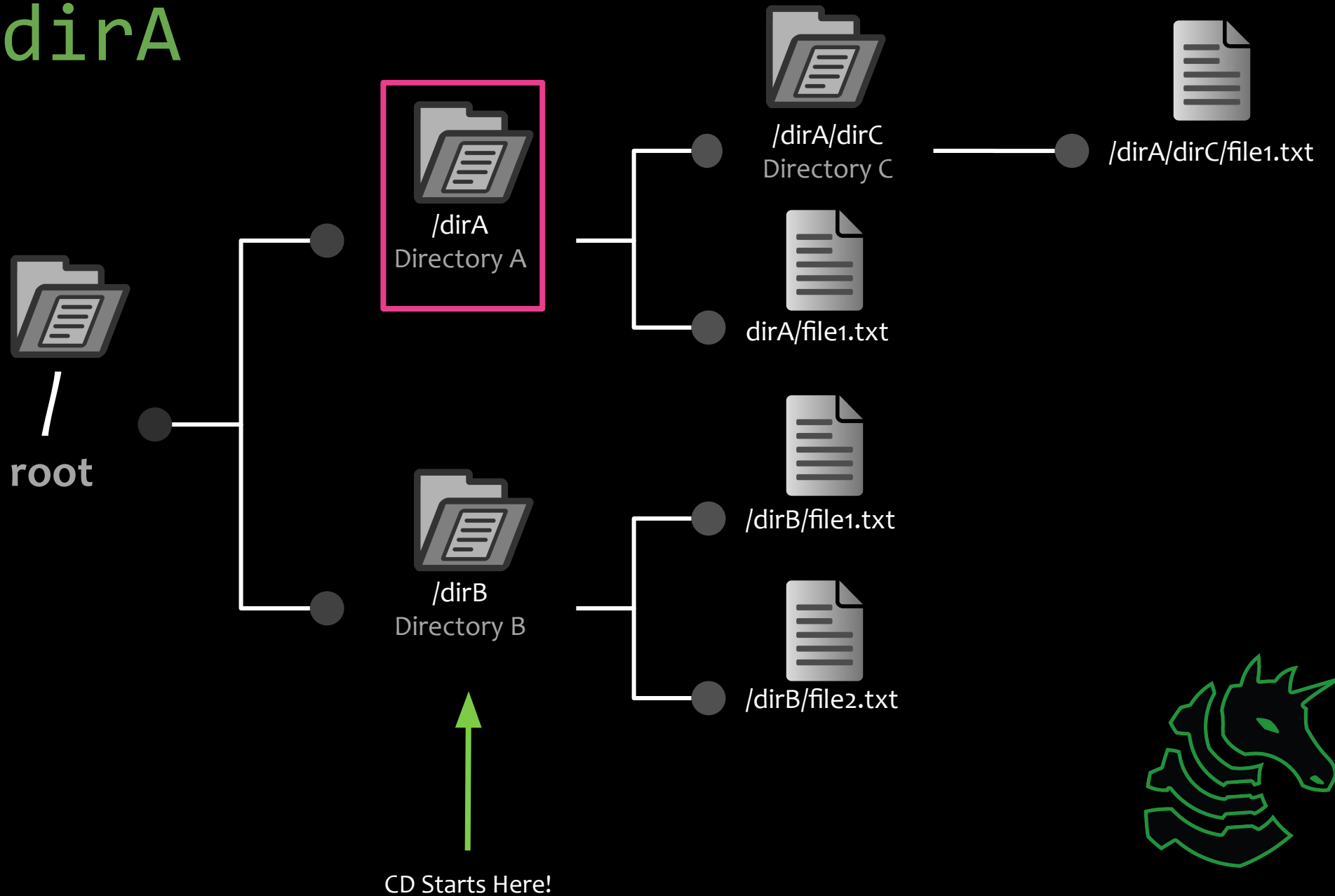


cd dirA

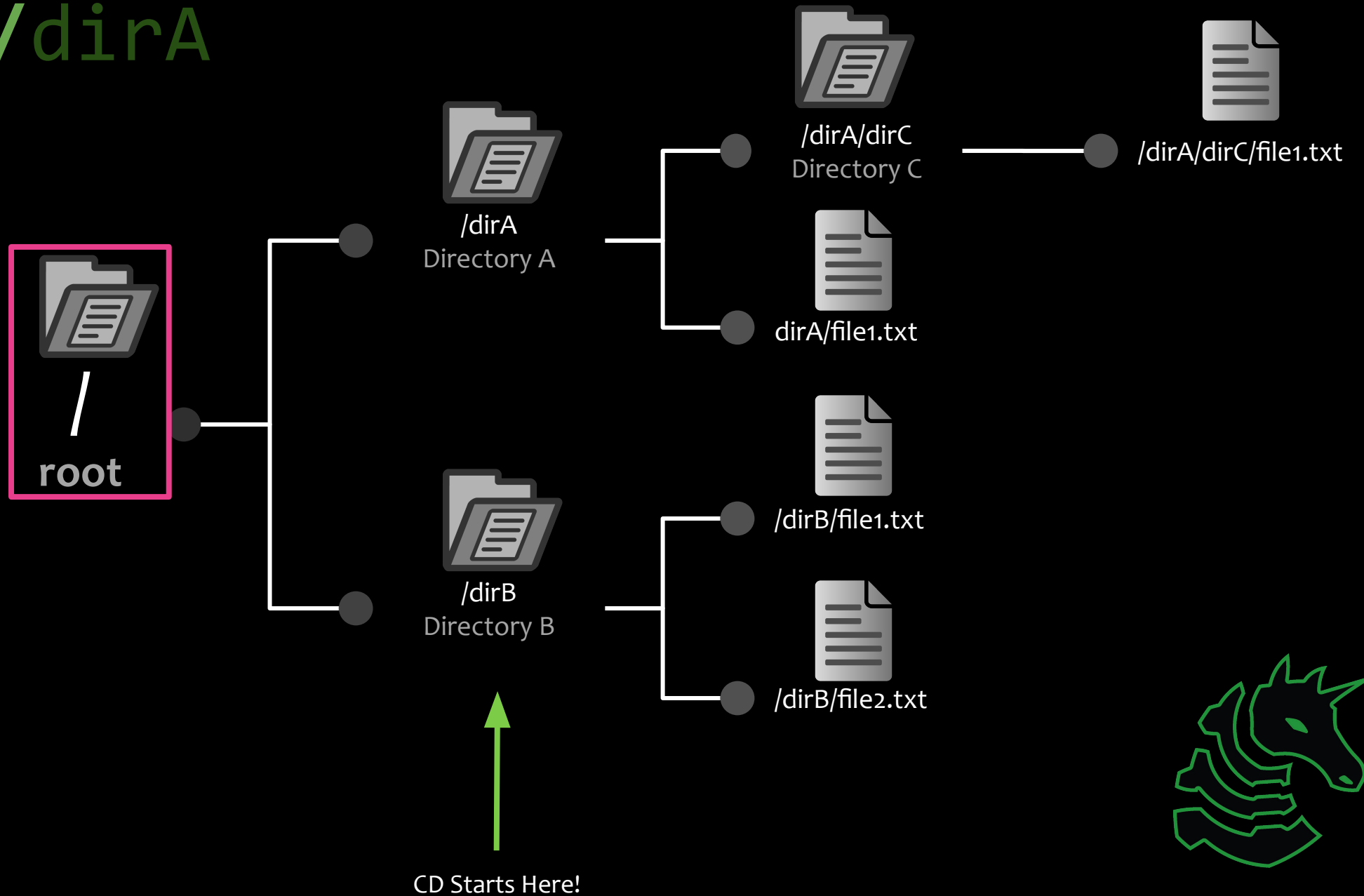




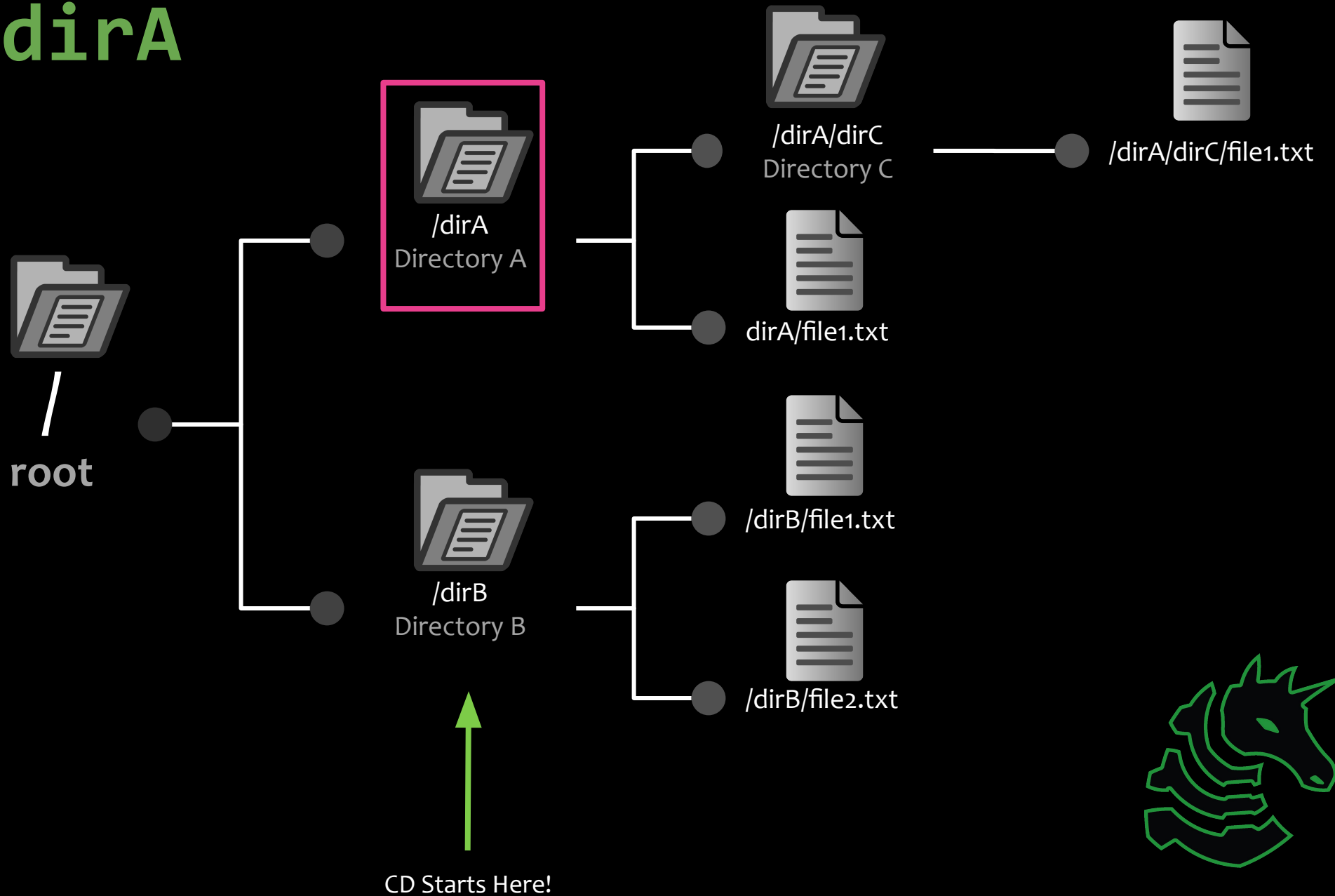
```
cd ../dirA
```



```
cd ../dirA
```

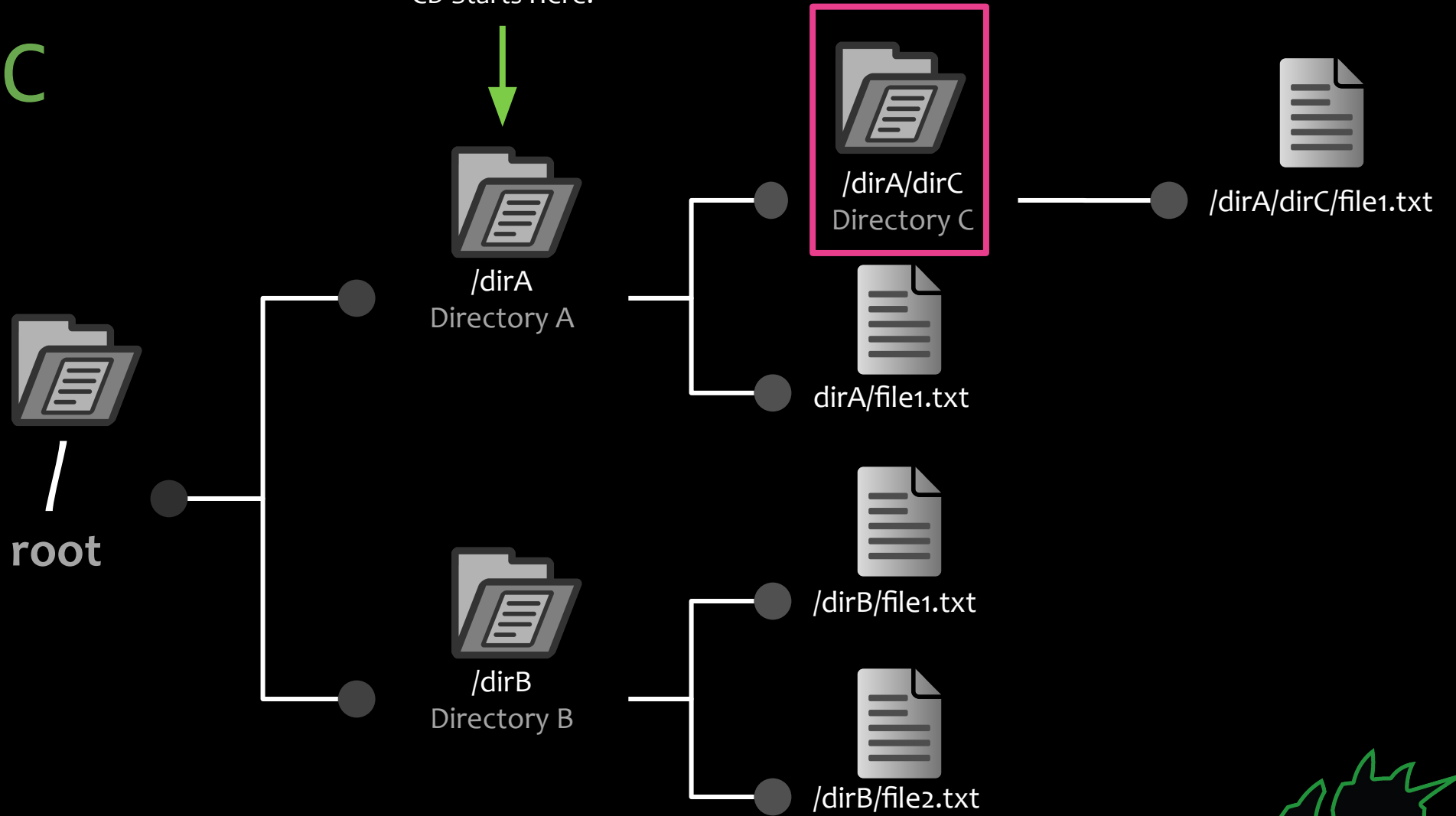


`cd ../dirA`



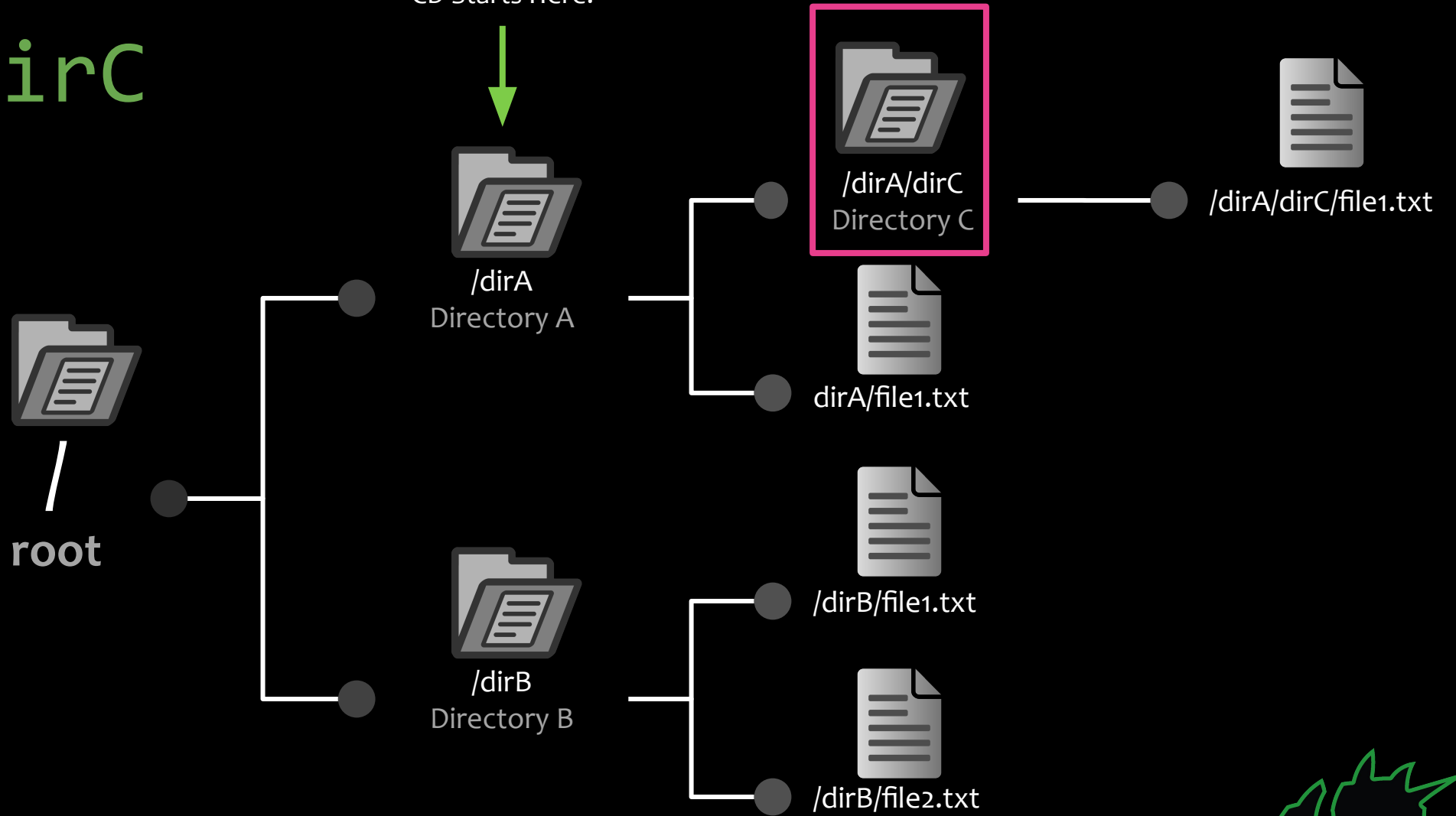
cd dirC

CD Starts Here!



```
cd ../dirC
```

CD Starts Here!



`./dirC == dirC`



# Paths

## Absolute Path (/dirA/dirC/file1.txt)

The full path that always starts at root (/)

## Relative Path (file1.txt)

Relative to where your terminal currently is



# Useful Commands - Filesystem

`ls` : list all files in your current directory (do 'man ls' for the manual, this applies with many commands)

`cd [directory]` : changes your current directory to *directory* (relative or absolute path)

`mv [source] [dest]` : renames file from *source* to *dest*, if *dest* is a directory, move *source*

`rm [file]` : removes *file*, **NOT REVERSIBLE**

`cat [file]` : prints the contents of *file*. (Sometimes it prints gibberish, think about why that might happen)

`./file` : executes whatever is at *file*





# Useful Commands - Networking

`nc ip <port>`: netcat, connect to `ip` on port `port`. (First Command - netcat)

`ssh user@ip`: secure remote shell, run an instance of terminal as `user` at `ip`. Often a server. (Pwnyserver)

`ping ip`: see if a `ip` is up, but could be firewalled (Windows by default)

`curl url`: network access tool that is mainly used to access websites (mainly what you will be using it for)

`wget url`: Simplified curl that downloads the file with relevant name



# Networking Fundamentals

`nc -l <port>` : open a network socket to listen on port `<port>`

`nc ip <port>` : open a connection to `ip` on port `<port>`

Ports - communication endpoints.



# Next Steps

## Bandit

```
ssh bandit0@bandit.labs.overthewire.org -p 2220
```



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# Next Week

## Thursday: SIGPwny Tutorial!

- Compressed Version of Info Session + this meeting!
- Social event afterwards (food!)

## Weekend Seminar: Important Terminal Commands

- grep, file, xxd, find, nmap, tmux, vim, r2, gdb
- All of which will be valuable during CTF (and all the time)

