[hands@terminal session4]$

- Environment variables , shell scripting , dotfiles
- Troubleshooting techniques
- wine/bottles/proton
- Build a career on Linux

[hands@terminal env vars]$

Definition :

Environment variables are variables that can hold a value like in programming , but environment variables can be accessed by all the programs on the system

[hands@terminal env vars]$

examples :

$HOME

$PATH

$DISPLAY

$APPDIR

[hands@terminal shell scripting]$

Definition :

Shell scripting is writing programs for automating tasks using the bash scripting language .

A shell script can have logic , variables and make use of standard terminal commands .

A shell script file extension is .sh .

To run a shell script you either need to make it executable or run it with bash .

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example

nano mkmacvm.sh

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Linux runs EFL files (Executable Linkable File) and windows runs .exe files (EXEcutable) which are very similar except for some small differences .

The main reason Linux can't run .exe out of the box is that exe files depend on libraries and system calls that are windows only

A compatibility layer is a runtime that contains the needed libraries to run some OS executable files on another OS

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So , what is wine ?

Wine stands for (wine is not emulator)

Wine is a compatibility layer that allows running windows executables on UNIX like operating systems including Linux , BSD , macOS , android "kind of :-/"

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Emulator vs compatibility layer :

An emulator works by running the hardware of the emulated machine in software and sometime needs to emulate the whole operating system which cause it to be slow and consume a lot of resources and that's why a modern machine can struggle in running some retro games.

Some known emulators :

PPSSPP , PCSX2 , YUZU , DOLPHIN , RPCS3 , QEMU

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a compatibility layer does not emulate the hardware , so it only works of the hardware it's running on is compatible with the target hardware of the executable file , that's why compatibility layers are much faster than emulators and can give a native performance or better sometimes , and that's why wine on android can't run anything

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What is proton

Proton is a fork of wine made by valve (the company that makes steam) optimized for running windows games on Linux (no mac or android support)

Proton offers a better game compatibility compared to wine and have support for anti cheat (so you don't get banned if you use it online) and comes with some libraries that you have to install manually on wine like DXVK

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How to use wine and proton :

[hands@terminal troubleshooting]$

What is troubleshooting ?

- Troubleshooting is finding the reason of some problem that's happening on a system and figuring out how to fix it

- Troubleshooting is the most important skill for being a system admin

- Troubleshooting is not a science , it's an art

[hands@terminal troubleshooting]$

troubleshooting techniques

Read the error message (sometimes it contain a solution)

Read the logs , logs are the files that a program may store it's history in , reading the logs can give a clue where the problem is (journalctl)

Know what part of the system have the issue (like if you have a GRUB issue , don't waste your time looking for the root of the problem in something else like systemd)

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let's troubleshoot something ;-)

[hands@terminal troubleshooting]$

let's troubleshoot something ;-) , your exam maybe ?

[hands@terminal getting professional with Linux]$

- IT certificates
- Who are red hat inc
- Who are compTIA

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Certificates for basic skills :

LFCS , Linux foundation certified sys admin
compTIA Linux+
RHCSA , red hat certified system administrator

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More advanced certificates :

RHCE red hat certified engineer

Red hat certified specialist in security : linux

Red hat certified specialist in Linux diagnostics and troubleshooting