Applied Math, Life, Germany

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Contents

Introduction

add the reasons you started to write this book:-)

Unix, Linux, POSIX, and Beyond

Nowadays an applied mathematicians must utilize a computer in order to handle their workflow. Computers must have an operating system(OS) and that is set in the stone. As to what OS is optimal, there are no clear answers obviously. Every OS has its pros and cons. I adopted the Unix-like(Unix, Linux, POSIX) OSs for now as I meticulously observed my mentors during my college years and still continue to do so. This chapter tries to help you determine whether you would benefit from those OSs too and if yes formulate a guideline for its learning process.

Unix or not to Unix!

For now Unix is only a name and not a verb therefore making the heading a failed attempt at making a witty remark. I however, hope that it someday makes its way to the standard dictionaries as a verb like grep or google. During my BSc, MSc, PhD years I observed my mentors and tried to have the same hardware, OS and softwares as a ay of minimizing the initial overhead of having a working workflow for my computing.

BSc Years

I would say that in my BSc years there were only a handful of people that used Unix-like systems. My trust in them however were so solid that I decided to follow their footsteps instead of the more popular windows pathway. Here is a list and a short description of the nature of their computing works:

- Mir Abbas Jalali: Mechanical engineer professor but an applied mathematician at heart mostly doing complex physics simulation. Needed fast, high-performance low-level code(C, Fortran) to perform his computer experiments. Joined the CUDA party really fast back in 2010. Had an Apple, MacBook Pro with Darwin on top as the OS. Was willing to do cluster computing and parallelization if deemed worthy monstrous computations done.
- Saeed Rezaei: A linguist professor that needed a lightweight with a lasting battery daily driver to be able always on the move. Being able to edit essays in different file formats like Markdown, TEX. He wanted to stuff to work out of the box.

MSc Years

- Benjamin Berkels: double commander…jupyter notebook…math vs low level code…SSH…seminar…recording lecture videos..
- Paolo Bientinesi: low level programmerr…architecture aware software…SSH only…reallly realllyy big computing on monsterous machines…
- Goerg May: mathematician…lectures…integrity of the ipad macos…SSH code…

PhD Year

add stufff

Make a Choice

So look around and see if you make the same choice as I did…

If not to Unix!

It might happen depending on the nature of your computing…then you can skippp the rest of the chapter and carry one with the rest of the book…

General/Offline/Classic Style

- LPI Linux Essentials pdf
- LPI Web Development Essentials pdf
- LPI LPIC-1 Exam 101 pdf
- LPI LPIC-1 Exam 101 pdf
- The LPIC2 Exam Prep pdf
- Practical LPIC-3 300 Link

Details/Online/Wiki Style

- Arch Wiki Link

Important Books/Pdfs/Links

- USB flash installation medium Link
- SSH Key Generation Link
- Linux from Scratch Link
- Filesystem Hierarchy Standard pdf
- DistroWatch Link

Historical/Cultural References

- Unix: A History and a Memoir by Brian Kernighan Link
- Just for Fun by Linus Torvalds Link
- Free Software, Free Society by Richard M. Stallman pdf
- Open Sources by Legends of Open Source pdf
- Open Sources 2.0 by Legends of Open Source Link

My Horsemen of the Apocalypse

- Hardware: Apple
- An Online Linux Terminal Emulator: JSLinux
- Hypervisor: VirtualBox, UTM
- OS: Darwin
- Package Manager: brew
- Terminal Emulator: kitty or Alacritty
- Interactive Shell: zsh Scripting Shell: bash
- Zsh Configuration Framework: ohmyzsh
- Terminal Text Editor: vim GUI Text Editor: Visual Studio Code
- Terminal Multiplexer: tmux
- Modern Linux Tools: Modern Linux

Installation

This is the installation chapter.

For further information, check the Introduction chapter.

For further information, check the this chapter.

For further information, check the this chapter's subsection section.

First

This is the first subsection. Please, admire the gloriousnes of Figure 1.
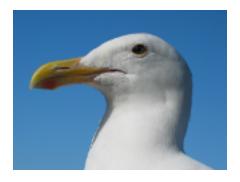

Figure 1: A cool seagull.

Second

This is the second subsection.

Please, check First subsection.

Please, check this subsection.

Please, check Table 1.

Table 1: This is an example table.

Index	Name
0	AAA
1	BBB
…	…

Third

Formula example: $\mu = \sum_{i=0}^{N} \frac{x_i}{N}$

Now, full size:

$$\mu = \sum_{i=0}^{N} \frac{x_i}{N}$$

And a code sample:

```ruby
def hello_world
  puts "hello world!"
end
```

```
hello_world
```

Check these unicode characters: æß¢ð€đŋµ

Abbreviations and Acronymsi

- ASCII: American Standard Code for Information Interchange
-

References(Websites)

Unix, Linux, POSIX

- https://www.lpi.org/
- https://learning.lpi.org/en/learning-materials/learning-materials/
- https://wiki.archlinux.org/
- https://git-scm.com/
- https://about.gitlab.com/
- https://github.com/
- https://www.linuxfromscratch.org/
- https://distrowatch.com/

My Horsemen of the Apocalypse

- Hardware: Apple
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References(Books)

Unix, Linux, POSIX, and Beyond

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- LPI LPIC-1 Exam 101 pdf
- The LPIC2 Exam Prep pdf
- Practical LPIC-3 300 Link
- Pro GIT pdf

Calculus

- Calculus With Applications by Peter D. Lax , Maria Shea Terrell Link
- Multivariable Calculus with Applications by Peter D. Lax , Maria Shea Terrell Link