Linux Getting Started

Methodologies and Practices

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Outline

- What is Linux
- How to play with Linux
- What's inside the Books
- Methodologies
- Practice and Practice
- Shell and Makefile
- Revisited

What is Linux

- Actually just an **OS Kernel**
- Always refered as **GNU/Linux**(See https://www.gnu.org/gnu/linux-and-gnu.html)
- Open Source Unix? (Not accurate, cause Unix is a brand now and has its own specification called **Single Unix Specification**, see more **reference/LSB 简介 .pdf**)
- An OS who has boosted the **Server Macket(LAMP for example)**
- Has lots of distros(See http://www.distrowatch.com)
- For Linux Detailed Intro, see:

  reference/linux/linux 趣话 .pdf

How to play with Linux

- **Install** one distro(Debian, Centos, SUSE, Ubuntu, Mint, Arch, Gentoo, etc)
- Get familiar with the **terminal**, the **shell** and the **desktop** Environment(KDE, GNOME, etc)
- Use Linux for your **daily job** and as your **development platform**
- Write your own **Linux applications** and share it to others freely
- Look into the **kernel** and do something really cool:-)
- `**man**` will be your best friend ever!
- See another slide for warming up:

  reference/linux/linuxgettingstarted-slideshare.pdf

What's inside the Books - Beginner

- Linux Pocket Guide(2nd Edition)
- Linux in a Nutshell(6th Edition)
- Running Linux(5th Edition)
- The Linux Command Line(aka TLCL)

What's inside the Books - Developer

- Advanced Linux Programming
- The Art of UNIX Programming
- Advanced Programming in the Unix Environment

What's inside the Books - Next

- LFS (Linux From Scratch)
- Linux Device Drivers
- Understanding the Linux Kernel
- Professional Linux Kernel Architecture
- Linux Kernel Development

Methodologies

- **Use** it before getting to know it
- Get a **quick overview** of your Linux Distro
- **Solve problems** using Linux
- Look inside **what is really happening**
- Figure out **How it works**
- **Help others** to get started just as you did!

Middle Break

Questions???

Practice and Practice

- Why? **Practice** makes perfect things and a good Linux user.
- Practice what? Basic Linux **Commands**, using the powerful **utilities**(find, grep, diff, sed, awk, make, etc), Boost your terminal and **shell**, try to develop an **application**, make your best to get a better **kernel** or write a good **driver** if you can...
- How to? **Never** leave your eyes off your screen and your fingers off your keyboard:-)

Shell

- Interface Between Users and OS(Kernel)
- An Interpreter which is actually a normal application
- A powerful script language
- Many choices(Bash, Csh, Ksh, Zsh, etc)
- See:

  reference/shell/bash-columbia_university.ppt

  reference/shell/bash-pgming.ppt

  reference/shell/Bash Shell 编程 .pdf

Makefile

- Makefile is just a shell script that will be interpreted by **make**
- **Make** is a tool aiming to automatically build and manage your projects
- Lab Time: **Makefiles by example**
- Beyond make: **Autotools**(autoconf, automake)
- See:

  reference/makefile/ 跟我一起写 Makefile.pdf

  reference/autotools/Autotools_ a practitioner's guide to Autoconf, Automake and Libtool

Revisited

- Linux overview(History, commands and books)
- Shell Scripting(Use Bash specifically)
- Makefiles howto and Autotools getting started
- Linux is just there, go get it if you like!

The End

Thank You!