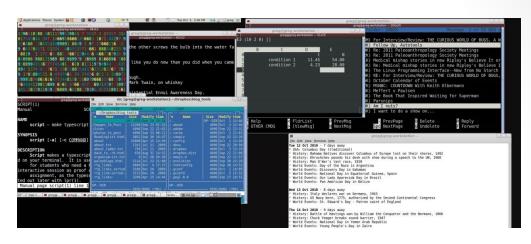


Linux For Embedded Systems

For Frabs

Course 102: Understanding Linux

Ahmed ElArabawy



Lecture 1: Course Overview

This Course



- In this course we will learn about Linux and its command line interface (CLI)
- This course targets developers,
 - Some parts are going to be dealt with in depth
 - Some parts are going to be left out
- Still, this course should also be useful to people who wants to be Linux Users

Linux 4 Embedded Systems

Course Pre-requisites

- This course require,
 - Basic knowledge of what Linux is
 - Have Linux installed on your computer (this is a hands-on course)
 - We will be using Ubuntu distribution
- It is highly recommended to watch the lectures of the course "101: Introduction to Embedded Linux" in this course track before starting this course

https://www.youtube.com/playlist?list=PLWXRxAK4bUzcpkyP9PsKmtXzVDHVOOGsi

There are <u>No programming skills</u> required for this course...





- Using a Graphical User Interface
 - Similar to use of Windows



- Using the Command Line Interface
 - Looks like DOS, but with much more features !!!!



```
upc rzemanl# ifconfig eth0
         Link encap:Ethernet HWaddr 00:50:E4:00:52:46
         inet addr:192.168.1.253 Bcast:192.168.1.255 Mask:255.255.255.0
         UP BROADCAST NOTRAILERS RUNNING MULTICAST MTU: 1500 Metric:1
         RX packets:2015 errors:0 dropped:0 overruns:0 frame:0
         TX packets:396 errors:0 dropped:0 overruns:0 carrier:0
         collisions:0 txqueuelen:100
         Interrupt:11 Base address:0x1080
[root@rzeman-vpc rzeman]# mount
deu/hda1 on / type ext2 (rw)
eupts on /deu/pts type deupts (rw,gid=5,mode=620)
proc on /proc type proc (rw)
 one on /NetWare type nwamd (automounter)
                                  Used Available Usez Mounted on
                       468387
                                175896
                                 67840
root@rzeman-upc rzeman]#
Full Screen Eject Floppy   Eject CD   Folders
```



Why Learn About CLI

- Is this a set back from using GUI's (like windows)?
- Answer is NO
- With CLI,
 - More Control, do things you can never reach with GUI
 - Faster, one command can do the effect of several menus, and mouse clicks
 - Enable automation and scripting

GUI makes easy tasks easier....
But CLI makes difficult tasks possible



And it is Cooler too....



When was the last time that you saw a hacker in a movie clicking on icons, and filling a dialog box....





We are going to work with embedded systems
CLI is all what we have





Course Contents







Unwrapping Linux



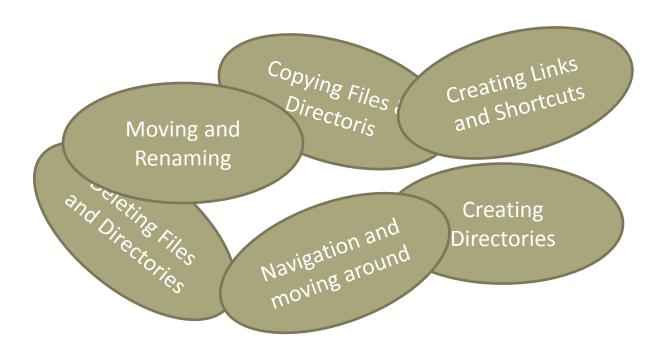




Basic Concepts and Commands







Basic Concepts and Commands







Seeking Help

Course Contents

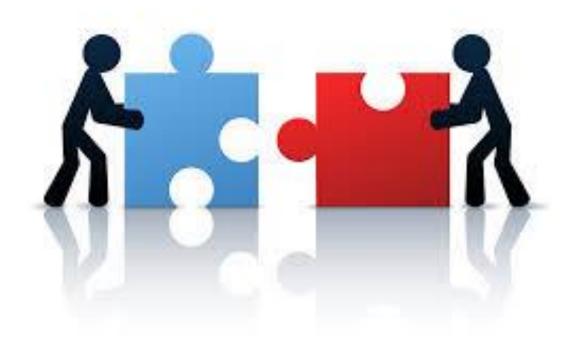




Learning about the Shell







Composite Commands







Basic Text Handling







Environment Variables



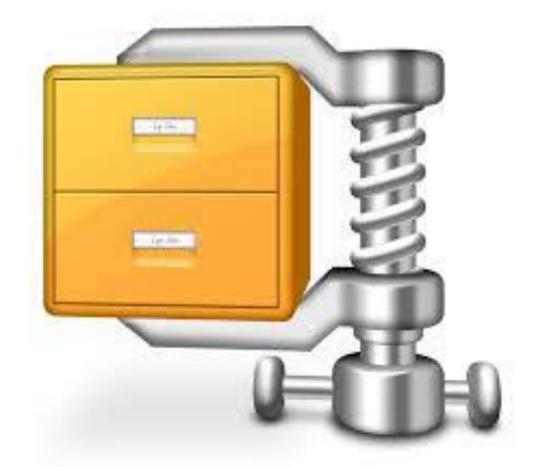




Searching for Files







Archiving & File Compression







Users & Permissions







Process Management







Sending Signals

Course Contents

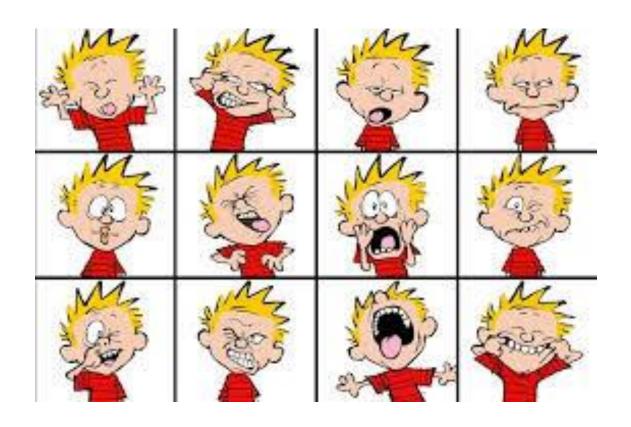




Package Management







Regular Expressions







Networking







FileSystems



Course Logistics

Course Logistics



- The Lectures are going to be hands-on, I expect you to pause and try things yourself
- I will be referring to some reading material related to the lecture topic, I would expect you to read it, and keep it for future reference
- During some lectures we will have quick quizzes, you will need to try it before you move on
- There will be some exercises that will be posted after each lecture

