

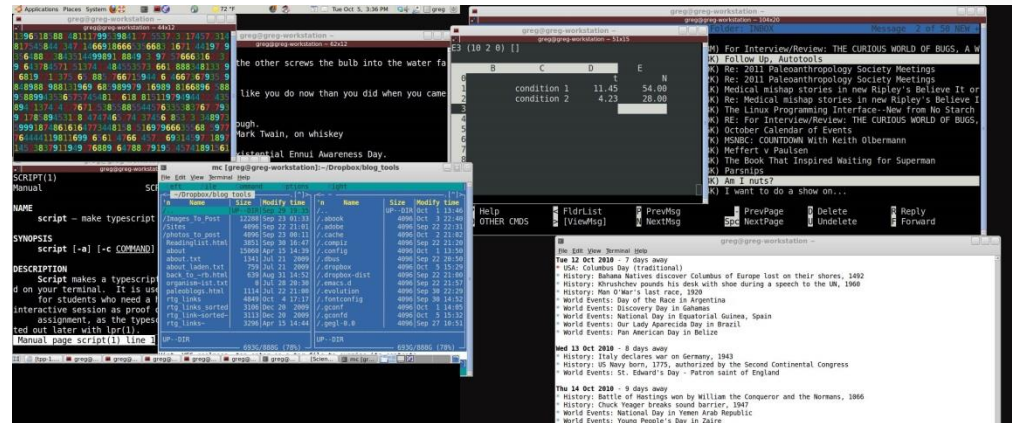


Linux For Embedded Systems

For Arabs

Course 102: Understanding Linux

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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

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=PLWXRxAk4bUzcpsyP9PsKmtXzVDHVOOGsi>
- There are No programming skills required for this course...

Access of Linux



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



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



```
Virtual PC (Linux)
[root@rzeman-ipc rzeman]# ifconfig eth0
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
          IPX/Broadcast 002.2  addr:904513C9:0050F4005246
          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:0x1000

[root@rzeman-ipc rzeman]# mount
/dev/hda1 on / type ext2 (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
/proc on /proc type proc (rw)
none on /NetWare type nwand (automounter)

[root@rzeman-ipc rzeman]# df
Filesystem            1k-blocks      Used Available Use% Mounted on
/dev/hda1              468387      175896    268301   40% /
[root@rzeman-ipc rzeman]# free
              total        used         free       shared    buffers     cached
Mem:           76280       57928        18352           8932        18724        30764
-/+ buffers/cache:      8440         67840
Swap:          40316           964         39352

[root@rzeman-ipc rzeman]#
```

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....

Besides....



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



Course Contents

Course Contents



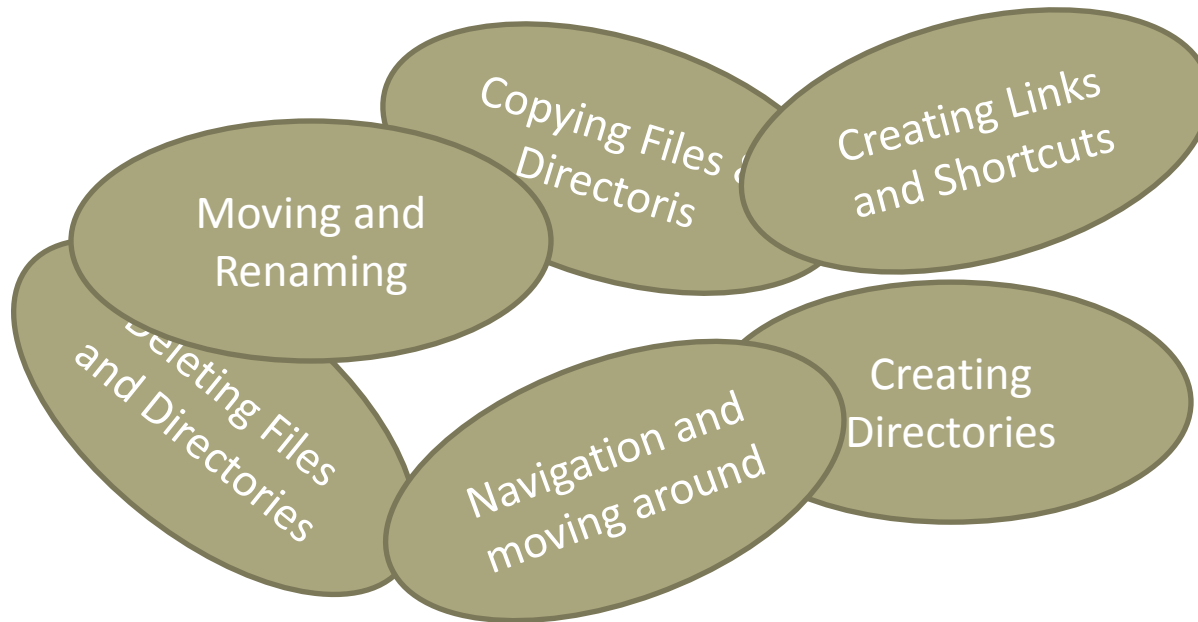
Unwrapping Linux

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Basic Concepts and Commands

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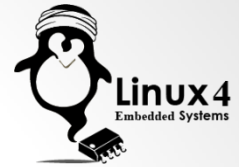
Basic Concepts and Commands

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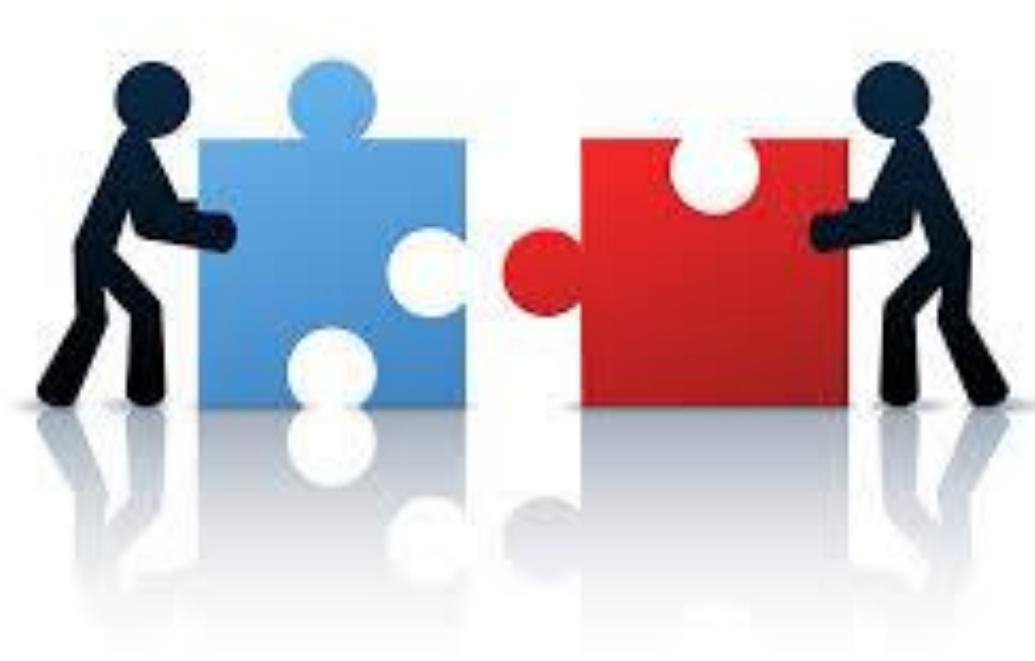
Seeking Help

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Learning about the Shell

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Composite Commands

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Basic Text Handling

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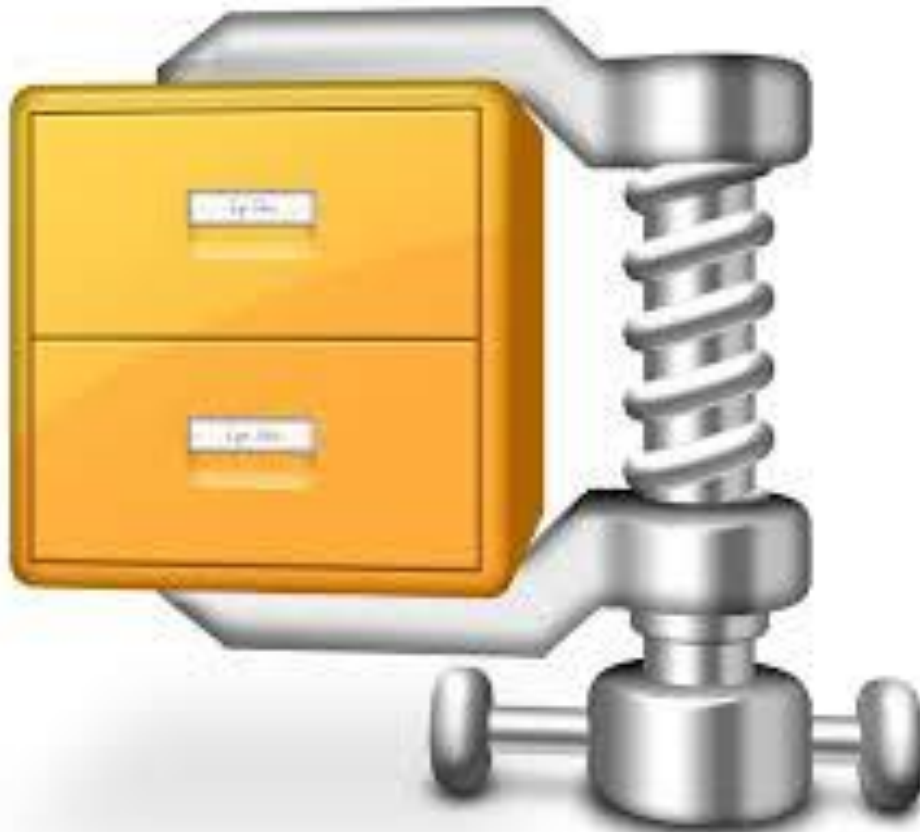
Environment Variables

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Searching for Files

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Archiving & File Compression

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Users & Permissions

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Process Management

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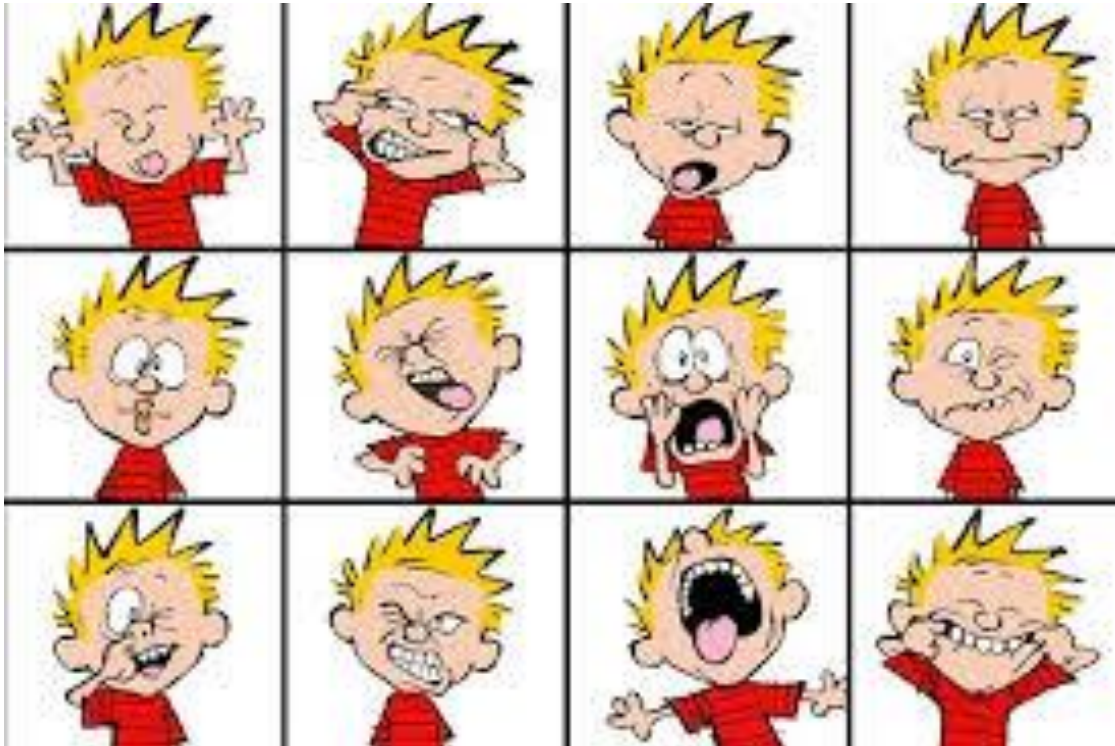
Sending Signals

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Package Management

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Regular Expressions

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Networking

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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



Linux 4

Embedded Systems

<http://Linux4EmbeddedSystems.com>