Houches 2011 :
First cluster in « Les Houches »

ÉCOLE **NORMALE** **SUP**ÉRIEURE **DE** LYON

What you will « see »
... you will not necessary...

- VirtualBox
  - « network edition »
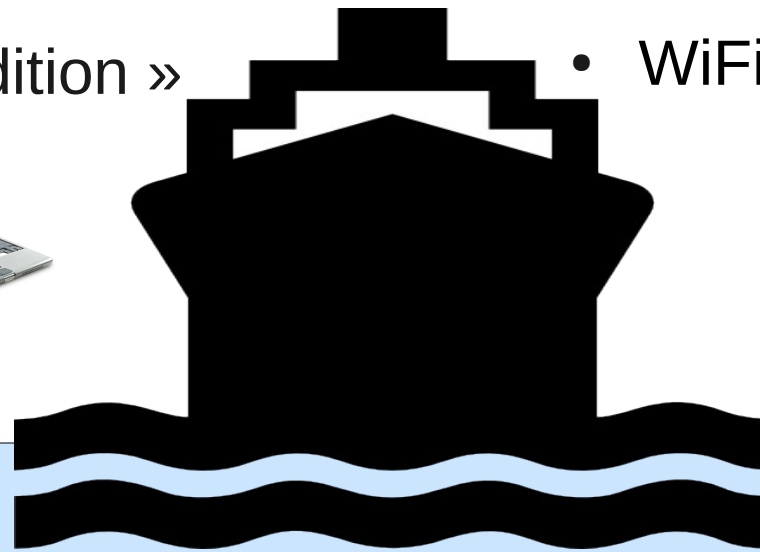 - « standalone edition »
- Laptop Loan

- A 16 nodes cluster
- Forge
- WiFi 3 « hot spots »

- Gateway masquerading
- DNS/DHCP
- Ldap
- TFTP/NFSroot/NFS

- HTTP/HTTPS/FTP/SMB
- OpenVPN
- Shaper
- Switches GE

What you MUST know about local & distant networks

- Internet connection in « Les Houches » is slow
  - 2 Mb/s for all staff/lecturers/participants : < 100 KB/s
  - Staff need at least 1 Mb/s for financial applications
  - Traffic shaping organized :
    - 1 Mb/s between 8h and 18h
    - 2Mb/s between 18h and 8h
- Local network :
  - Small rooms & poster room : 1Gb/s (936 Mb/s in real)
  - Bibliothèque : 100 Mb/s (85 Mb/s in real)
  - Amphitheater : 100 Mb/s (96 Mb/s in real)

VirtualBox StandAlone Edition What's Inside

- Debian Squeeze 32 bits 6.0.4 with Linux 3.2

- Embedded Scientific software :

  - Science-chemistry : 46 packages

  - Science-numerical-computation : 14 packages

  - Science-physics : 23 packages

- Third party software :

  - Siesta

  - ABinit
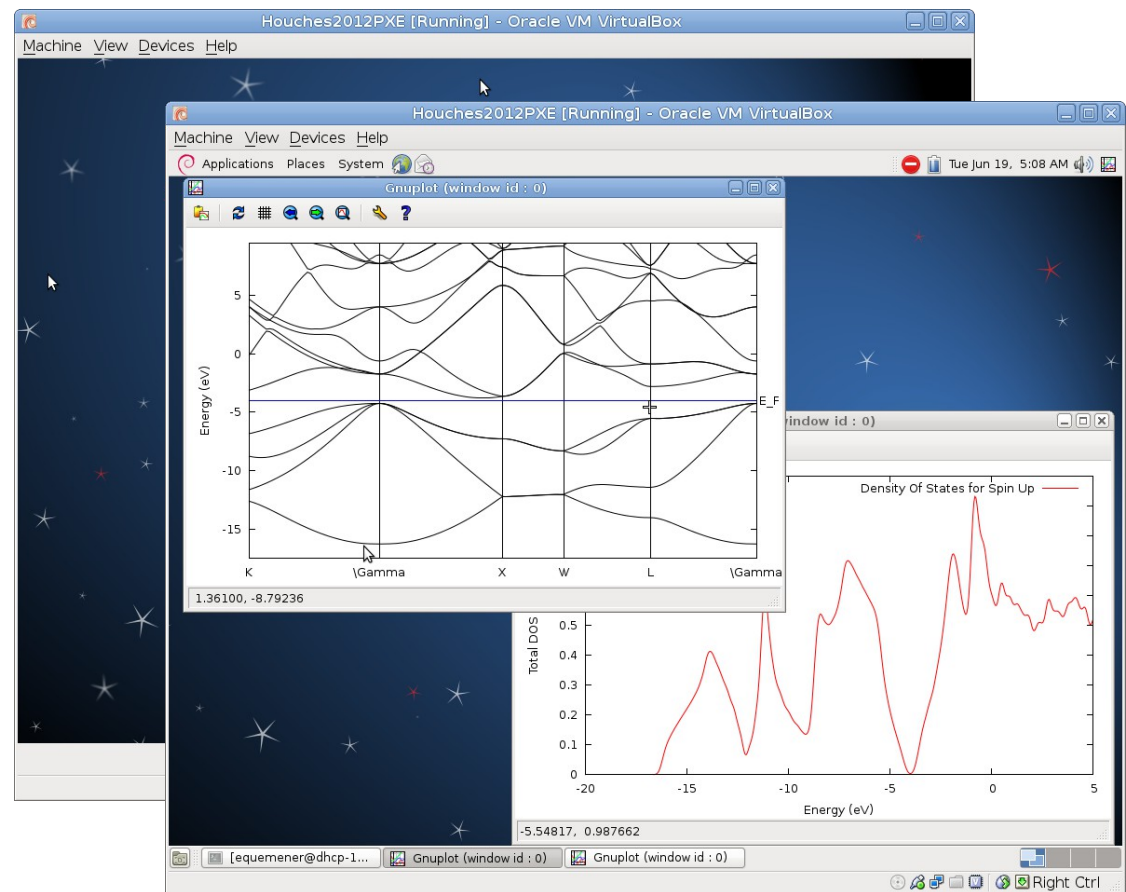
  - Quantum Expresso

  - BigDFT
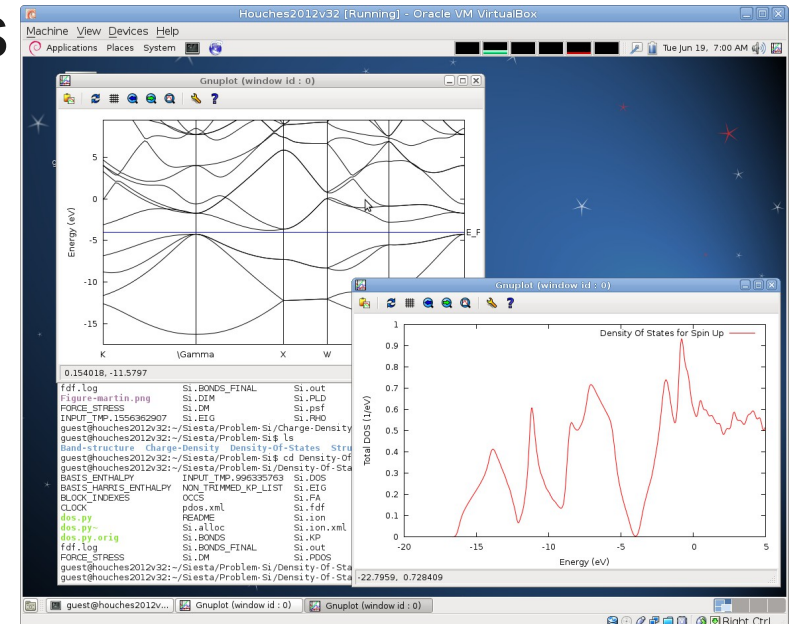
VirtualBox StandAlone Edition Installation & Use

- Choose & Download VirtualBox:
  - http://houches2012.no-ip.org/VirtualBox/software/Downloads.html
- Download Extra Pack from Oracle (not necessary but...)
  - http://houches2012.no-ip.org/VirtualBox/software/Oracle_VM_VirtualBox_Extension_Pack-4.1.16-78094.vbox-extpack
- Download VirtualBox appliance : HTTP/FTP/SMB
  - http://houches2012.no-ip.org/VirtualBox/Houches2012v32.ova
- Launch VirtualBox
- Import Appliance
- Choose only « Reinitialize the MAC address »
- Edit Appliance
- Clic on « Network », check and clic « OK »
- Launch Appliance
- Select your keyboard (default is french)
- Enjoy !

VirtualBox Network Edition
What's Inside

- Debian Squeeze 32 bits 6.0.4 with Linux 3.2

- All Debian Scientific software: 15 Gb of archives

- Third party software:

  - Siesta

  - ABinit

  - Quantum Expresso

  - BigDFT

VirtualBox Network Edition Installation & Use

- Choose & Download VirtualBox:

    - http://houches2012.no-ip.org/VirtualBox/software/Downloads.html

- Download Extra Pack from Oracle (not necessary but...)

    - http://houches2012.no-ip.org/VirtualBox/software/Oracle_VM_VirtualBox_Extension_Pack-4.1.16-78094.vbox-extpack

- Download VirtualBox appliance : HTTP/FTP/SMB

    - houches2012.no-ip.org/VirtualBox/Houches2012PXE.ova

- Launch VirtualBox

- Import Appliance

- Choose only « Reinitialize the MAC address »

- Edit Appliance

- Select « Network », check and clic « OK »

- Connect by **wire** your machine on network (switch provided)

- Launch Appliance

- Connect with login & password provided

- Enjoy !

Laptop Loan Use

- Informations about Hardware & Software

  - Laptop are very old and well used : 2005 buyed !
    - Pentium 4M@1.3GHz, 1 GB of RAM, diskless
  - Same configuration as VirtualBox Network Edition
    - All Debian Science & Third party DFT software

- Operations

  - Connect power supply (batteries are dead!)

  - Connect by **wire** your machine on network

  - Launch Laptop

 - Connect with login & password provided

  - Enjoy !

Wifi access

- Our own WiFi infrastructure

- Three new ESSID

  - H2012AMPHI in Amphitheater

    - Bad news : injector seems to be dead

  - H2012SALLES in Poster Room

  - H2012BIBLI in Bibliotheque

- Shared Key

  - HOUCHE2012DFT

- Why : being in same well controlled network...

Specific Forge Provided !
http://houches2012.no-ip.org

- A forge with courses

- Direct access to

  - VirtualBox software

  - VirtualBox appliances

    - Standalone Edition

    - Network Edition

  - Change your password

  - Download AC for HTTPS
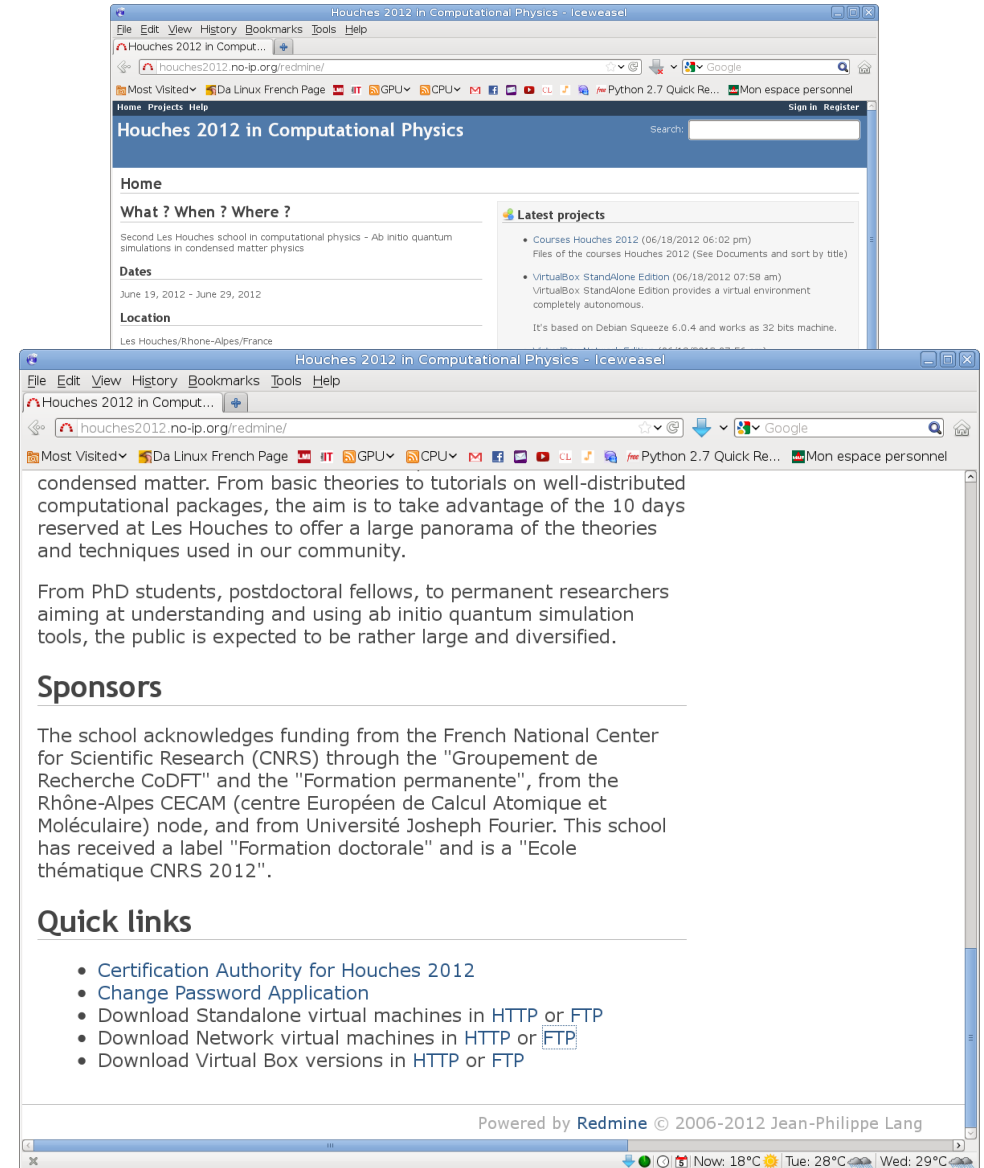
Tiny Cluster provided

- A cluster in ENS-Lyon
  - Located in PSMN
  - Administrated by CBP
- 16 nodes with 8 cores
- Direct access to nodes
  - x41-1 to x41-16

Questions ?

- Who needs a laptop ?

- Who has 10 Gb for standalone edition ?

- Who has 12 Kb for network edition ?

- Who has any extra questions ?

I'm french : if questions, speak slowly !