#### **Download Virtual Box:**

#### https://www.virtualbox.org/wiki/Downloads



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# VirtualBox

## **Download VirtualBox**

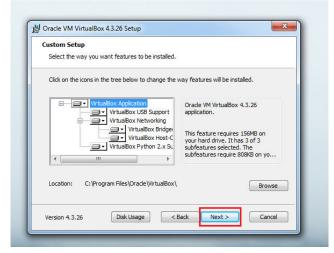
Here, you will find links to VirtualBox binaries and its source code.

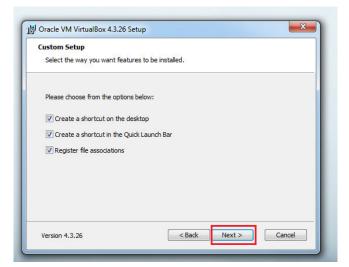
#### VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

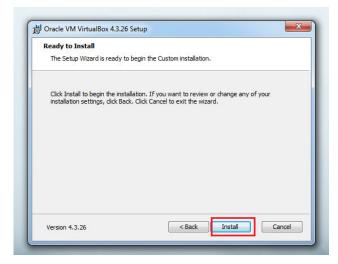
- VirtualBox platform packages. The binaries are released under the terms of the GPL version 2.
  - VirtualBox 4.3.26 for Windows hosts ⇔x86/amd64
     VirtualBox 4.3.26 for OS X hosts ⇔x86/amd64
  - VirtualBox 4.3.26 for Linux hosts
     VirtualBox 4.3.26 for Linux hosts
  - VirtualBox 4.3.26 for Solaris hosts 🕀 amd64
- VirtualBox 4.3.26 Oracle VM VirtualBox Extension Pack ⇒All supported platforms Support for USB 2.0 devices, VirtualBox RDP and PXE boot for Intel cards. See this chapter from the User Manual Evaluation License (PUEL). Please install the extension pack with the same version as your installed version of VirtualBox! If you are using VirtualBox 4.2.28, please download the extension pack ⇔here. If you are using VirtualBox 4.1.36, please download the extension pack ⇔here. If you are using VirtualBox 4.0.28, please download the extension pack ⇔here.
- VirtualBox 4.3.26 Software Developer Kit (SDK) ⇒ All platforms





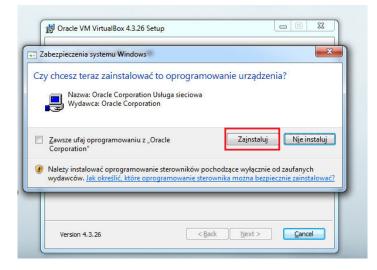






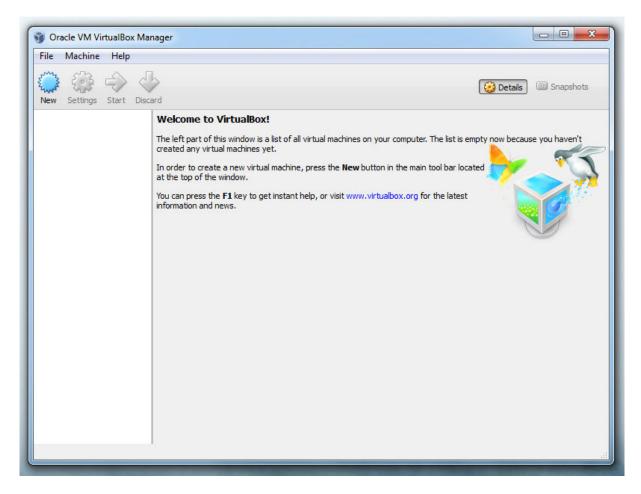
| Oracle VM VirtualBox 4.3                            | .26  |
|---|--|
| Please wait while the Setu<br>take several minutes. | up Wizard installs Oracle VM VirtualBox 4.3.26. This may |
| Status:   |  |
| -   |  |
|   |  |
|   |  |
|   |  |
|   |  |

X times in your local system language:



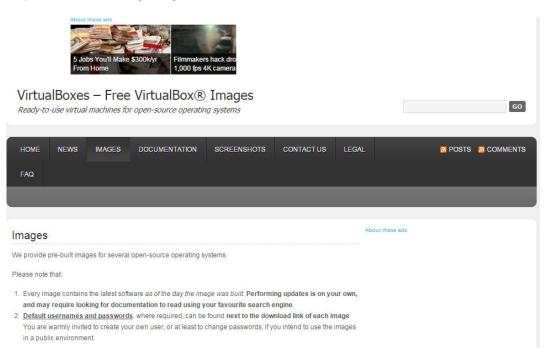


And you have the virtual box installed:



Prepared images for virtual box:

http://virtualboxes.org/images/



## Scroll down to get

GNU/Linux (GNU userland tools running on top of the Linux kernel)

- Archlinux (website).
- · CentOS (website): the installation is done from the DVD, with default parameters set
- Damn Small Linux (website): the installation is done from the CD, with default parameters set.
- Debian (website): the installation has been done from the netinstall ISO image for the x86 architecture.
- DeLi Linux (website).
- Dreamlinux: the installation has been done from the CD, with default parameters set.
- Fedora (website).
- Fluxbuntu (website): the installation is done from the CD, with default parameters set.
- . Gentoo (website): the installation is done from the ISO image, then customized .
- gNewSense (website): the installation is done from the CD, with default parameters set.
- gOS (website).
- Kubuntu (website): the installation is done from the CD, with default parameters set.
- . LinuxMint (website): the installation is done from the CD, with default parameter set.
- Lubuntu (website): the installation is done from the CD, with default parameter set.
- Mandriva (website): the installation is done from the CD, with default parameters set.
- Manjaro (website): the installation is done from the CD, with default parameters set.
- Moblin 2 (website): the installation is done from the .img/.iso file provided by the project.
- moonOS (website).
- OpenSUSE (website).
- PCLinuxOS (website).
- Puppy Linux (website).
- Sidux (website).
- Slackware (website): the installation has been done from the first CD, selecting the bare minimum disk sets.
- SliTaz (website)
- Tiny Core Linux (website)
- TinyMe (website)
- Ubuntu (website): the installation is done from the CD, with default parameters set.
- Ubuntu Server (website): the installation is done from the CD.
- Ubuntu Studio (website): the installation is done from the CD, with default parameters set
- Xubuntu (website): the installation is done from the CD, with default parameters set.
- VectorLinux (website): the installation is done from the CD, with default parameters set.
- Zenwalk (website): the installation is done from the Standard Edition CD, with default parameters set.

| 14. | Ubuntu Linux 11.10 x86  |
|-----|---|
|     | Size (compressed/uncompressed): 608 MB/2.9 GB   |
|     | Link: http://sourceforge.net/projects/virtualboximage/files/Ubuntu%20Linux/11.10/ubuntu_11.10-  |
|     | x86.7z/download   |
|     | Active user account(s) (username/password): ubuntu/reverse  |
|     | Notes: Guest Additions installed; Unity works in VirtualBox 4.1.4 with GA installed and 3d enabled  |
| 15. | Ubuntu Linux 12.04 x86  |
|     | Size (compressed/uncompressed): 769 MB/3.2 GB   |
|     | Link: http://sourceforge.net/projects/virtualboximage/files/Ubuntu%20Linux/12.04/ubuntu_12.04-x86.7z  |
|     | Active user account(s) (username/password): ubuntu/reverse  |
|     | Notes: Guest Additions NOTinstalled; tip: set Video RAM 64MB minimum  |
|     |   |
| 16. | Ubuntu Linux 12.10 x86  |
| 16. | Ubuntu Linux 12.10 x86<br>Size (compressed/uncompressed): 613 MB/3.0 GB   |
| 16. |   |
| 16. | Size (compressed/uncompressed): 613 MB/3.0 GB   |
| 16. | Size (compressed/uncompressed): 613 MB/3.0 GB<br>Link: http://sourceforge.net/projects/virtualboximage/files/Ubuntu%20Linux/12.10/ubuntu-12.10-desktop-i386.7z  |
|     | Size (compressed/uncompressed): 613 MB/3.0 GB<br>Link: http://sourceforge.net/projects/virtualboximage/files/Ubuntu%20Linux/12.10/ubuntu-12.10-desktop-i386.7z<br>Active user account(s) (username/password): ubuntu/reverse  |
|     | Size (compressed/uncompressed): 613 MB/3.0 GB<br>Link: http://sourceforge.net/projects/virtualboximage/files/Ubuntu%20Linux/12.10/ubuntu-12.10-desktop-i386.7z<br>Active user account(s) (username/password): ubuntu/reverse<br>Notes: Guest Additions installed  |
|     | Size (compressed/uncompressed): 613 MB/3.0 GB<br>Link: http://sourceforge.net/projects/virtualboximage/files/Ubuntu%20Linux/12.10/ubuntu-12.10-desktop-i386.7z<br>Active user account(s) (username/password): ubuntu/reverse<br>Notes: Guest Additions installed<br>Ubuntu Linux 13.04 x86                                  |
|     | Size (compressed/uncompressed): 613 MB/3.0 GB<br>Link: http://sourceforge.net/projects/virtualboximage/files/Ubuntu%20Linux/12.10/ubuntu-12.10-desktop-i386.7z<br>Active user account(s) (username/password): ubuntu/reverse<br>Notes: Guest Additions installed<br>Ubuntu Linux 13.04 x86<br>Size: 1.2 GB                  |
|     | Size (compressed/uncompressed): 613 MB/3.0 GB<br>Link: http://sourceforge.net/projects/virtualboximage/files/Ubuntu%20Linux/12.10/ubuntu-12.10-desktop-i386.7z<br>Active user account(s) (username/password): ubuntu/reverse<br>Notes: Guest Additions installed<br>Ubuntu Linux 13.04 x86<br>Size: 1.2 GB<br>Link: Torrent |

## Download and unzip



|      | ? ×   |
|------|---|
| G    | Create Virtual Machine  |
| Na   | ame and operating system  |
| typ  | ease choose a descriptive name for the new virtual machine and select the<br>pe of operating system you intend to install on it. The name you choose will<br>used throughout VirtualBox to identify this machine. |
| Na   | ame: MUMPS  |
| т    | īype: Linux 🔹 💕   |
| Vers | sion: Ubuntu (64 bit)   |
|      |   |
|      |   |
|      |   |
|      |   |
|      | Hide Description Next Cancel  |

| Memory size      | mory (RAM) in megabytes to be allocated to the |
|------------------|--|
| virtual machine. |  |
|                  | 512 🖈  |
| 4 MB             | 8192 MB  |
|                  |  |



Select the downloaded virtual hard drive file

| )rganizuj 👻 Nowy folder |                                     |                                      |                           |                         | II • 🔟 🌘                           |
|-------------------------|-------------------------------------|--------------------------------------|---------------------------|-------------------------|------------------------------------|
|                         | Biblioteka Dokumenty<br>virtual_box |                                      |                           |                         | Rozmieść według: Folder 🔻          |
| 🚺 Pobrane               | Nazwa                               | Data modyfikacji<br>2012-10-23 08:33 | Typ<br>Virtual Disk Image | Rozmiar<br>3 115 092 KB |                                    |
| Nazwa pl                | iku:                                |                                      |                           | •                       | All virtual hard drive files (*.vm |



| Oracle VM VirtualBox Ma   | nager  |                       |
|---------------------------|--|-----------------------|
| <u>File Machine H</u> elp |  |                       |
| New Settings Start Disc   | ard  | 设 Details 💿 Snapshots |
| MUMPS                     | 📃 General  | Preview               |
| Powered Off               | Name: MUMPS<br>Operating System: Ubuntu (64 bit)   |                       |
|                           | System   |                       |
|                           | Base Memory: 512 MB<br>Boot Order: Floppy, CD/DVD, Hard Disk<br>Acceleration: VT-x/AMD-V, Nested Paging                        | MUMPS                 |
|                           |  | E                     |
|                           | Display  |                       |
|                           | Video Memory: 12 MB<br>Remote Desktop Server: Disabled<br>Video Capture: Disabled  |                       |
|                           | Storage  |                       |
|                           | Controller: IDE<br>IDE Secondary Master: [CD/DVD] Empty<br>Controller: SATA<br>SATA Port 0: ubuntu-9.10.vdi (Normal, 10,00 GB) |                       |
|                           | Audio  |                       |
|                           | Host Driver: Windows DirectSound<br>Controller: ICH AC97   |                       |
|                           | · ·  | $\prec$ .             |
|                           |  |                       |

You can run the virtual machine now

| ile <u>M</u> achine <u>H</u> elp |  |                         |
|----------------------------------|--|-------------------------|
| lew Settings Start               |  | 🤪 Details 🛛 💿 Snapshots |
| MUMPS                            | 📃 General  | Preview                 |
| Powered Off                      | Name: MUMPS<br>Operating System: Ubuntu (64 bit)   |                         |
|                                  | System   |                         |
|                                  | Base Memory: 512 MB<br>Boot Order: Floppy, CD/DVD, Hard Disk<br>Acceleration: VT-x/AMD-V, Nested Paging                        | MUMPS                   |
|                                  | Display  |                         |
|                                  | Video Memory: 12 MB<br>Remote Desktop Server: Disabled<br>Video Capture: Disabled  |                         |
|                                  | Storage  |                         |
|                                  | Controller: IDE<br>IDE Secondary Master: [CD/DVD] Empty<br>Controller: SATA<br>SATA Port 0: ubuntu-9.10.vdi (Normal, 10,00 GB) |                         |
|                                  | Audio  |                         |
|                                  | Host Driver: Windows DirectSound<br>Controller: ICH AC97   |                         |
|                                  |  |                         |

Login as

Ubuntu

password: reverse

| JalBox |   |        |      |   |    |      |    |             |        |      |
|--------|---|--------|------|---|----|------|----|-------------|--------|------|
|        |   |        |      |   | •  | 📟 it | †Ļ | <b>(</b> () | 2:00 A | AM C |
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| ubuntu | u |        |      |   |    |      |    |             |        |      |
| •••••  | • |        |      | > | 1  |      |    |             |        |      |
| Guest  |   | 22     |      |   | IJ |      |    |             |        |      |
|        | _ | ubuntu | <br> |   |    |      |    |             |        |      |

You need to fill the MUMPS Download request

| MUMPS [Running] - Oracle VM VirtualBox  |  |  |
|---|--|--|
| Machine View Devices Help               |  |  |
| Ubuntu Desktop                          |  | <b>(</b> )) 2:06 AM <b>₹</b>   |
| → C numps-solver.org                    |  | ¥ 8  |
| IUMPS: a MUltifrontal Massively Paralle | el sparse direct Solver  |  |
|   | MUMPS DOWNLOAD PAGE<br>OF CONTENTS<br>Conditions of use<br>Download request submission | Home<br>Documentation<br>Download<br>Credits<br>FAQ<br>Applications<br>Links |
| -                                       | <u>History / Changelog</u>   | Latest release:<br>5.0.0   |

After you fill the download request they will send the link to MUMPS:

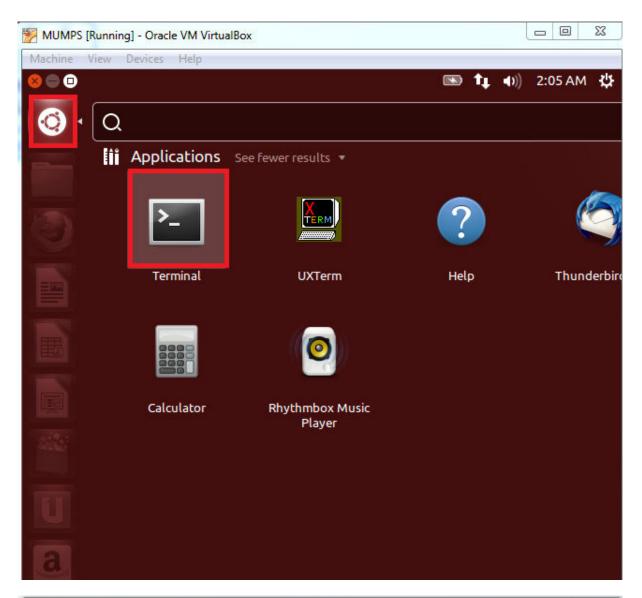
http://mumps.enseeiht.fr/MUMPS\_5.0.0.tar.gz

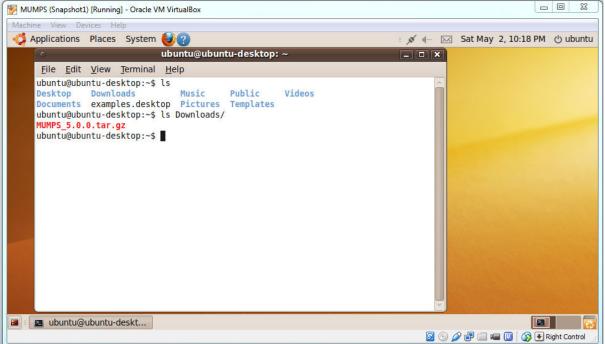
We need to download it into the virtual machine using FireFox

| MUMPS (Snapshot1) [Running] - Oracle VM VirtualBox                                    |                                   |                          |                     | . o X    |
|---|-----------------------------------|--------------------------|---------------------|----------|
| Machine View Devices Help   |                                   |                          |                     |          |
| 🐗 Applications Places System 🕹 🕐  |                                   | = 💉 🗤 🖂                  | Sat May 2, 10:15 PM | ් ubuntu |
| <ul> <li>Poparcie dla kandydatów: Co wyn</li> </ul>                                   | ika z sondaży prezydenckich?      | - Polska - Newsweek.pl · | - Mozilla Firefox   | _ • ×    |
| <u>F</u> ile <u>E</u> dit <u>V</u> iew Hi <u>s</u> tory <u>B</u> ookmarks <u>T</u> oo | ls <u>H</u> elp                   |                          |                     |          |
| 🖕 🖒 🗸 🥑 😣 🍙 💽 http://mum  | ps.enseeiht.fr/MUMPS_5.0.0.tar.gz | •                        | 🗸 😽 Google          | 0        |
| ि Most Visited ✓ 👔 Getting Started 🔊 Lates  | st Headlines∨                     |                          |                     |          |



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|--|------------|
| MUMPS_5.0.0.tar.gz<br>2.9 MB — enseeiht.fr | 10:17 PM   |
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|  |            |
| <mark>₫ <u>C</u>lear List</mark> Search    |            |





```
ubuntu@ubuntu-desktop:~$ ls
         Downloads
                                   Public
                                             Videos
Desktop
                          Music
Documents examples.desktop Pictures Templates
ubuntu@ubuntu-desktop:~$ ls Downloads/
MUMPS 5.0.0.tar.gz
ubuntu@ubuntu-desktop:~$ mkdir libraries
ubuntu@ubuntu-desktop:~$ cd libraries/
ubuntu@ubuntu-desktop:~/libraries$ cp ../Downloads/MUMPS 5.0.0.tar.gz .
ubuntu@ubuntu-desktop:~/libraries$ gunzip MUMPS 5.0.0.tar.gz
ubuntu@ubuntu-desktop:~/libraries$ ls
MUMPS 5.0.0.tar
ubuntu@ubuntu-desktop:~/libraries$ tar -x -f MUMPS 5.0.0.tar
ubuntu@ubuntu-desktop:~/libraries$ ls
MUMPS 5.0.0 MUMPS 5.0.0.tar
ubuntu@ubuntu-desktop:~/libraries$ cd MUMPS 5.0.0/
ubuntu@ubuntu-desktop:~/libraries/MUMPS 5.0.0$ ls
ChangeLog examples lib
                           Makefile PORD
                                           src
CREDITS
          include
                   libseq
                           Make.inc README VERSION
doc
          INSTALL
                  LICENSE MATLAB
                                    SCILAB
ubuntu@ubuntu-desktop:~/libraries/MUMPS 5.0.0$ make d
Makefile:37: Makefile.inc: No such file or directory
# BEFORE COMPILING MUMPS, YOU SHOULD HAVE AN APPROPRIATE FILE
# Makefile.inc AVALAIBLE. PLEASE LOOK IN THE DIRECTORY ./Make.inc FOR
# EXAMPLES OF Makefile.inc FILES, AT Make.inc/Makefile.inc.generic
# IN CASE YOU NEED TO BUILD A NEW ONE AND READ THE MAIN README FILE
make: *** [Makefile.inc] Error 1
ubuntu@ubuntu-desktop:~/libraries/MUMPS 5.0.0$ ls Make.inc
Makefile.debian.PAR
                       Makefile.INTEL.PAR Makefile.SP.PAR
Makefile.debian.SE0
                       Makefile.INTEL.SEQ Makefile.SP.SEQ
                       Makefile.NEC.PAR
Makefile.FREEBSD10.PAR
                                         Makefile.SUN.PAR
Makefile.FREEBSD10.SE0
                       Makefile.NEC.SE0
                                         Makefile.SUN.SE0
Makefile.G95.PAR
                       Makefile.SGI.PAR
                                         Makefile.WIN.MS-G95.SEQ
```

Makefile.SGI.SE0

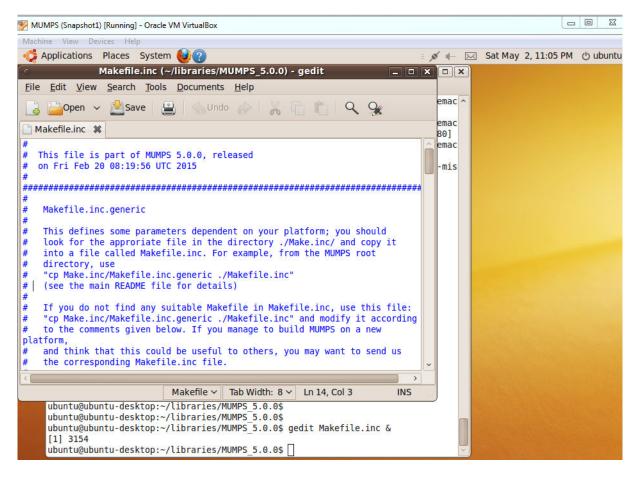
Makefile.SP64.PAR

Makefile.WIN.MS-Intel.SEQ

Makefile.G95.SE0

Makefile.inc.generic

Makefile.inc.generic.SEQ Makefile.SP64.SEQ



We need to install gfortran

sudo-apt get update

sudo-apt install gfortran

In case of problems with downloading packages, you may need to update

sudo su

(password reverse)

gedit /etc/apt/sources.list

And add at the beginning



set mirros to main server (Utilities  $\rightarrow$  Software Sorces)

|                                     | Other Software     | opuates      | Addiencication    | Additional Drivers |   |
|-------------------------------------|--------------------|--------------|-------------------|--------------------|---|
| Downloadable fro                    | om the Internet    |              |                   |                    |   |
| 🗹 Canonical-sup                     | ported free and    | open-sour    | ce software (mair | 1)                 |   |
| 🗹 Community-m                       | naintained free a  | nd open-so   | urce software (ur | niverse)           |   |
| 🕑 Proprietary d                     | rivers for devices | s (restricte | d)                |                    |   |
| Software rest                       | ricted by copyrid  | ght or legal | issues (multivers | e)                 |   |
| 13 C                                | , , , ,            |              |                   |                    |   |
| Source code                         |                    |              |                   |                    |   |
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| Source code Download from:          | Main server        |              |                   |                    | • |
| Download from:                      |                    |              |                   |                    | ¥ |
| Download from:<br>nstallable from C | CD-ROM/DVD         | , insert the | medium into the   | drive.             | • |
| Download from:<br>nstallable from C | CD-ROM/DVD         | , insert the | medium into the   | drive.             | • |

then repeat

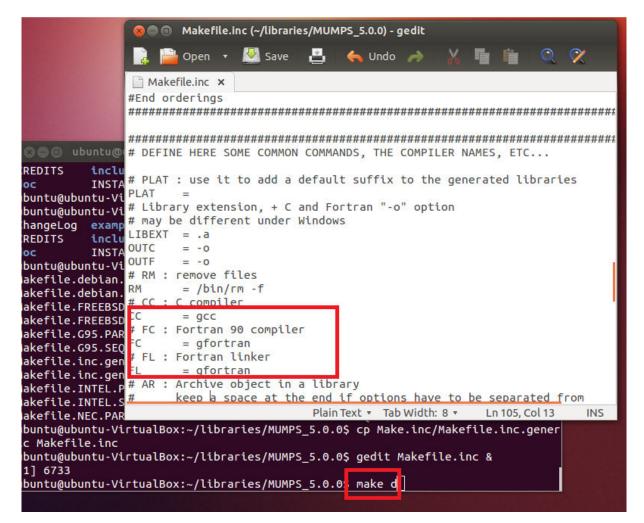
sudo apt-get update

sudo apt-get install gfortran

cd ~/libraries/MUMPS\_5.0.0

#### cp Make.inc/Makefile.inc.generic Makefile.inc

#### gedit Makefile.inc



```
😑 💿 ubuntu@ubuntu-VirtualBox: ~/libraries/MUMPS_5.0.0
make[3]: *** [mumps_static_mapping.o] Error 1
make[3]: Leaving directory `/home/ubuntu/libraries/MUMPS_5.0.0/src'
make[2]: *** [d] Error 2
make[2]: Leaving directory `/home/ubuntu/libraries/MUMPS_5.0.0/src'
make[1]: *** [mumps_lib] Error 2
make[1]: Leaving directory `/home/ubuntu/libraries/MUMPS_5.0.0'
make: *** [d] Error 2
ubuntu@ubuntu-VirtualBox:~/libraries/MUMPS_5.0.0$ ls
ChangeLog examples lib
                              Makefile
                                             Make.inc README VERSION
CREDITS
           include
                     libsea
                              Makefile.inc
                                             MATLAB
                                                        SCILAB
doc
           INSTALL
                     LICENSE Makefile.inc~ PORD
                                                        SFC
ubuntu@ubuntu-VirtualBox:~/libraries/MUMPS_5.0.0$ ls lib
libpord.a
ubuntu@ubuntu-VirtualBox:~/libraries/MUMPS_5.0.0$ libseq
libseq: command not found
ubuntu@ubuntu-VirtualBox:~/libraries/MUMPS_5.0.0$ ls libseq
elapse.c elapse.h Makefile mpic.c mpi.f mpif.h mpi.h README
ubuntu@ubuntu-VirtualBox:~/libraries/MUMPS_5.0.0$ make d
make ARITH=d mumps_lib
make[1]: Entering directory `/home/ubuntu/libraries/MUMPS_5.0.0'
(cd src ; make d)
make[2]: Entering directory `/home/ubuntu/libraries/MUMPS_5.0.0/src'
make ARITH=d mumps_lib
make[3]: Entering directory `/home/ubuntu/libraries/MUMPS_5.0.0/src'
gfortran -O -I/usr/include  -Dpord -I. -I../include -c mumps_static_mapping.F -o
mumps_static_mapping.o
mumps_static_mapping.F:4130: Error: Can't open included file 'mpif.h'
make[3]: *** [mumps_static_mapping.o] Error 1
make[3]: Leaving directory `/home/ubuntu/libraries/MUMPS_5.0.0/src'
make[2]: *** [d] Error 2
make[2]: Leaving directory `/home/ubuntu/libraries/MUMPS_5.0.0/src'
make[1]: *** [mumps_lib] Error 2
make[1]: Leaving directory `/home/ubuntu/libraries/MUMPS_5.0.0'
make: *** [d] Error 2
ubuntu@ubuntu-VirtualBox:~/libraries/MUMPS_5.0.0$
```

```
🗋 Makefile.inc 🗙
# FORTRAN/C COMPATIBILITY:
# Use:
     -DAdd_ if your Fortran compiler adds an underscore at the end
#
#
               of symbols,
      -DAdd__ if your Fortran compiler adds 2 underscores,
#
#
      -DUPPER if your Fortran compiler uses uppercase symbols
#
#
      leave empty if your Fortran compiler does not change the symbols.
#
#
CDEFS = -DAdd_
#COMPILER OPTIONS
OPTF
       = -0
OPTC
       = -0 -I.
OPTL
       = -0
# CHOOSE BETWEEN USING THE SEQUENTIAL OR THE PARALLEL VERSION.
#Sequential:
INCS = $(INCSEQ)
LIBS = $(LIBSEQ)
LIBSEQNEEDED = libseqneeded
#Parallel:
\#INCS = (INCPAR)
#LIBS = $(LIBPAR)
#LIBSEQNEEDED =
Saving file '/home/ubuntu/librari... Plain Text 🔻 Tab Width: 8 🔹 🛛 Ln 157, Col 1
                                                                      INS
```

make d

```
😰 🗐 🔲 ubuntu@ubuntu-VirtualBox: ~/libraries/MUMPS_5.0.0
a - dfac_scalings.o
a - dfac_determinant.o
a - dfac_scalings_simScaleAbs.o
a - dfac_scalings_simScale_util.o
a - dfac_sol_pool.o
a - dfac_type3_symmetrize.o
a - dini defaults.o
a - dmumps_c.o
a - dmumps_driver.o
a - dmumps_f77.o
a - dmumps iXamax.o
a - dana mtrans.o
a - dooc_panel_piv.o
a - drank_revealing.o
a - dsol_aux.o
a - dsol bwd aux.o
a - dsol bwd.o
a - dsol_c.o
a - dsol_fwd_aux.o
a - dsol_fwd.o
a - dsol_matvec.o
a - dsol_root_parallel.o
a - dtools.o
a - dtype3_root.o
a - dmumps_restart.o
ranlib ../lib/libdmumps.a
make[3]: Leaving directory `/home/ubuntu/libraries/MUMPS_5.0.0/src'
make[2]: Leaving directory `/home/ubuntu/libraries/MUMPS_5.0.0/src'
make[1]: Leaving directory `/home/ubuntu/libraries/MUMPS_5.0.0'
ubuntu@ubuntu-VirtualBox:~/libraries/MUMPS_5.0.0$ ls lib
libdmumps.a libmumps_common.a libpord.a
ubuntu@ubuntu-VirtualBox:~/libraries/MUMPS_5.0.0$ ls libseq
elapse.c elapse.o Makefile
elapse.h libmpiseq.a mpic.c
                            Makefile mpic.o mpif.h mpi.o
                                       mpi.f mpi.h
                                                            README
ubuntu@ubuntu-VirtualBox:~/libraries/MUMPS_5.0.0$
```