

datascience vm 32 bits

Llibreries i programes de la màquina virtual del curs

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1.1. Linux

Lubuntu GNU/Linux 16.04 (32 bits).

[http://cloud.seeds4c.org/lubuntu_1604_32bit_v04_30Gb.ova^{\[1\]}](http://cloud.seeds4c.org/lubuntu_1604_32bit_v04_30Gb.ova) (7 Gb)

Cal importar l'arxiu .ova a una instal.lació de VirtualBox del teu ordinador, que a més tingui el "VirtualBox Guest Additions".

Pots descarregar-lo de:

[https://www.virtualbox.org/wiki/Downloads^{\[2\]}](https://www.virtualbox.org/wiki/Downloads)

Usuari de sistema: **datascience**

Contrasenya: **datascience**

La distribució Base és un Lubuntu 16.04 (32 bits), per facilitar que sigui més fàcil d'emprar per tots els alumnes, independentment dels portàtils que portin.

1.2. Repositoris

```
sudo add-apt-repository -y ppa:marutter/rrutter # per a paquets d'r i dependències de sistema  
sudo add-apt-repository -y ppa:nilarimogard/webupd8 # per a launchpadd-getkeys i altres  
sudo add-apt-repository -y ppa:utappia/stable # per a ucaresystem-core  
sudo add-apt-repository -y ppa:webupd8team/java # per a java propietari (on calgui)  
sudo add-apt-repository -y ppa:ubuntugis/ubuntugis-unstable # per a paquets d'analisi geoespacial
```

Other general packages installed:

```
sudo apt install -y curl htop mc kupfer parcelite git cups-pdf bleachbit gitcola
```

1.3. R 3.4.x

- RStudio (versió "Server" via navegador atès que des d'Ubuntu 16.04 ja no fan la versió de 32 bits de l'RStudio) Desktop (rstudio-1.1.442-i386.deb), que en teoria és per a versions anteriors d'Ubuntu, però sembla funcionar sense problemes amb Ubuntu 16.04 també.

Comandes i paquets lubuntu 16.04:

```
sudo apt-get install -y r-recommended r-cran-xml libgraphviz-dev libcairo2-dev r-cran-cairodevice freeglut3 freeglut3-dev r-cran-rglpk r-cran-rgl r-cran-misc3d libx11-dev libxt-dev libcurl4-gnutls-dev libxml2-dev r-cran-xml libgraphviz-dev libcairo2-dev bwidget tk-table libv8-dev r-cran-rjava libmpfr-dev libc6 libssl-dev texlive-latex-extra texlive-lang-spanish libx11-dev libxml2-dev libxml2:i386 libxt-dev r-cran-misc3d subversion git texmaker tk-dev unaccent xvfb libgdal1-dev libproj-dev r-cran-rmysql libmagick++-dev r-cran-rcolorbrewer r-cran-doparallel libssh2-1-dev ucaresystem-core libudunits2-dev gigolo filezilla
sudo R CMD javareconf
```

Paquets de CRAN: posar dins de la comanda:

```
library(devtools); install_version("pacman", version = "0.4.1"); require("pacman")
p_load("tidyverse", "caTools", "bitops", "httpuv", "devtools", "rpivotTable", "DT",
"shiny", "magick", "rvg", "addinslist", "ff", "sparklyr", "data.table", "rio",
"rpivotGadget", "radiant", "CRANsearcher", "regexplain", "rJava", "knitr",
"rmarkdown", "webshot", "magick", "rsvg", "sf", "leaflet", "htmlwidgets")
```

Rstudio Addins: rpivotGadget, radiant, CRANsearcher, regexplain

Latex

- TexStudio

Paquets lubuntu 16.04: texstudio

1.4. Python 3.7.x

Anaconda3

```
curl -O https://repo.continuum.io/archive/Anaconda3-2018.12-Linux-x86.sh  
bash Anaconda3-2018.12-Linux-x86.sh
```

Anaconda is installed at:

/home/datascience/anaconda3/

- Libraries: Numpy, Pandas, Matplotlib, Seaborn, Sci-kit Learn

Paquets lubuntu 16.04:

```
sudo apt install -y python-numpy python-pandas python-matplotlib python-seaborn  
ipython-notebook ipython-doc
```

Anconda:

<https://www.digitalocean.com/community/tutorials/how-to-install-the-anaconda-python-distribution-on-ubuntu-16-04>^[3]

Tensorflow:

<https://www.digitalocean.com/community/tutorials/how-to-install-and-use-tensorflow-on-ubuntu-16-04>^[4]

Ni s'instal.la: potser per que és una màquina virtual de 32 bits?. Missatge d'error:

```
datascience@dspc:~$ mkdir ~/tf-demo  
datascience@dspc:~$ cd tf-demo/  
datascience@dspc:~/tf-demo$ python3 -m venv tensorflow-dev  
datascience@dspc:~/tf-demo$ source tensorflow-dev/bin/activate  
(tensorflow-dev) datascience@dspc:~/tf-demo$ pip3 install --upgrade tensorflow  
Collecting tensorflow  
  Could not find a version that satisfies the requirement tensorflow (from  
  versions: )  
No matching distribution found for tensorflow
```

1.5. Bases de dades

- Cassandra DataBase (Es necessària la Java 8 virtual Machine - guies complertes:
 - <https://www.digitalocean.com/community/tutorials/how-to-install-cassandra-and-run-a-single-node-cluster-on-ubuntu-14-04>^[5]
 - <https://www.rosehosting.com/blog/how-to-install-apache-cassandra-on-ubuntu-16-04/>^[6]
- Cassandra Driver for Python Guía: (<https://datastax.github.io/python-driver/installation.html>^[7])
- MongoDB (guia d'instalació per a Linux-Ubuntu) :
<https://docs.mongodb.com/manual/tutorial/install-mongodb-enterprise-on-ubuntu/>^[8]
 - Per a provar si funciona es pot fer al cmd "mongod" que inicialitzarà la DB
- Instalació de paquets de Python per a connectar-se amb MongoDB (la versió de la guia que hi ha al link facilitat ja serveix per al Python 3.6) :
<http://api.mongodb.com/python/current/installation.html>^[9]

Alias names for this page:

datascience vm | datascience ova | datascience2019vm | 2020 datascience vm 32 bits

^[1] http://cloud.seed4c.org/lubuntu_1604_32bit_v04_30Gb.ova

^[2] <https://www.virtualbox.org/wiki/Downloads>

^[3] <https://www.digitalocean.com/community/tutorials/how-to-install-the-anaconda-python-distribution-on-ubuntu-16-04>

^[4] <https://www.digitalocean.com/community/tutorials/how-to-install-and-use-tensorflow-on-ubuntu-16-04>

^[5] <https://www.digitalocean.com/community/tutorials/how-to-install-cassandra-and-run-a-single-node-cluster-on-ubuntu-14-04>

^[6] <https://www.rosehosting.com/blog/how-to-install-apache-cassandra-on-ubuntu-16-04/>

^[7] <https://datastax.github.io/python-driver/installation.html>

^[8] <https://docs.mongodb.com/manual/tutorial/install-mongodb-enterprise-on-ubuntu/>

^[9] <http://api.mongodb.com/python/current/installation.html>