datascience vm 32 bits

Llibreries i programes de la màquina virtual del curs

- 1.1. Linux
- 1.2. Repositoris
- 1.3. R 3.4.x
- 1.4. Python 3.7.x
- 1.5. Bases de dades

1.1. Linux

Lubuntu GNU/Linux 16.04 (32 bits).

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

Cal importar l'arxiu .owa 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]

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
```

```
oracle-java8-set-default
```

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/`

- Llibreries: 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
```

```
(tensorflow-dev) datascience@dspc:~/tf-demo$
```

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 (guía d'instalanció 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 guía 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.seeds4c.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