

## Ubuntu Setup for Data Science - R, MySql, IPython, Git

### **Ubuntu commands to check version:**

- Check version of Ubuntu OS installed: `$lsb_release -a`
- Check 32/64 bit Ubuntu Installed: `$uname -a`

### **Ubuntu commands for updates:**

- Updates for Ubuntu: `$sudo apt-get update` # (updates list of available packages)
- Upgrades for Ubuntu: `$sudo apt-get upgrade` # (installs newer versions of packages)

### **Ubuntu commands to install Synaptic and other tools:**

- Support for Mp3/Flash/Video: `$sudo apt-get install ubuntu-restricted-extras`
- Synaptic Package Manager: `$sudo apt-get install synaptic`

### **Recommended Packages to Install via Synaptic Package Manager:**

- General:

chromium-browser  
vlc

- Git:

git  
git-gui

- R:

r-base  
r-base-core  
r-base-dev  
libzmq3 # package for R kernel  
libzmq3-dev # package for R kernel  
libjpeg62 #optional: development package for jpeg in R

- MySQL:

mysql-client  
mysql-server  
mysql-workbench

**Install R in Ubuntu via Terminal:**

-- Install R: `$sudo apt-get install littler`

**Update R using Synaptic:**

-- Open the link: <https://cran.r-project.org/bin/linux/ubuntu/README>

-- Check the Ubuntu Version and copy the correct deb path

-- Open the link: <https://cran.r-project.org/mirrors.html>

-- Replace the link in Step 2 with the mirror.

Examples for the above steps:

a. Example deb path => deb <https://<my.favorite.cran.mirror>/bin/linux/ubuntu wily/>

b. Example mirror path => <https://cran.rstudio.com/>

c. Example output link => deb <https://cran.rstudio.com//bin/linux/ubuntu wily/>

-- Open Synaptic -> Settings -> Repositories -> Other Software -> Add and Enter the output link formed above

-- Add the source, check mark the added source and click close

-- Reload and finish installation

-- To authenticate and Secure APT:

a. Go to the link: <https://cran.r-project.org/bin/linux/ubuntu/README>

b. Search for **Secure Apt** and add the key to the system via the terminal.

-- Restart the terminal

**Install R Studio:**

-- Website: <https://www.rstudio.com/products/rstudio/download/>

**Install Python v2.7, Anaconda and Jupyter:**

-- Anaconda Installer 32/64 bit for Python 2.7: <https://www.continuum.io/downloads>

-- Copy downloaded file to the desired directory and execute the command below via terminal:

`$bash Anaconda2-2.4.0-Linux-x86_64.sh`

-- Restart the terminal

-- Check python version: `$python --version`

-- Install jupyter via Anaconda: `$conda install jupyter`

-- Update Conda Installer: `$conda update conda`

-- Update Anaconda: `$conda update anaconda`

-- Check ipython notebook: `$ipython notebook`

-- Pymysql database connectors for python: `$conda install pymysql`

-- Update/Upgrade Ubuntu

**Install R Kernel in Jupiter:**

- Update/Upgrade Ubuntu and Anaconda
- Open R via Ubuntu terminal (type **R** in the terminal) and execute the following commands:

#1. Install New Packages:

```
install.packages(  
  c('rvmq','repr','IRkernel','IRdisplay'),  
  repos = c('http://irkernel.github.io/', getOption('repos'))  
)
```

#2. Install IR Kernel

```
IRkernel::installspec()
```

**Basic Conda Commands:**

- Conda version: **\$conda --version**
- Update Anaconda: **\$conda update anaconda**
- Update Conda Installer: **\$conda update conda**
- List all installed Conda packages: **\$conda list**
- Search for a package: **\$conda search packageName**
- Install Conda packages: **\$conda install packageName** or **\$pip install packageName**
- Remove installed Conda package: **\$conda remove packageName**

**Check command history:**

- Terminal command history from start till shutdown: **\$history > history.txt**
- View terminal history: **\$cat history.txt**