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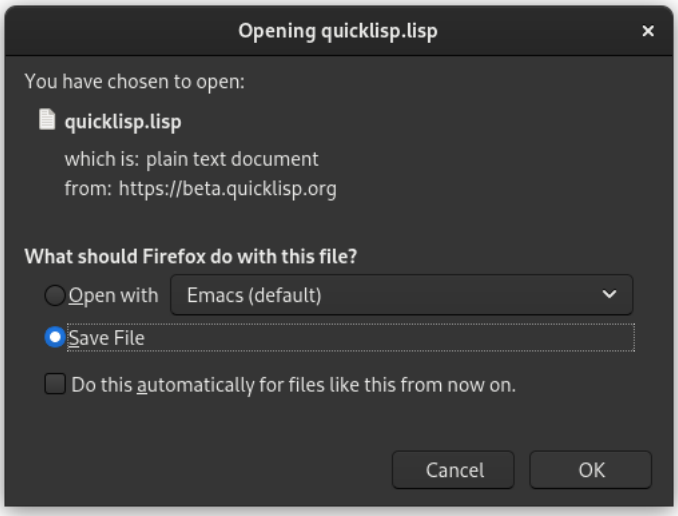
How to add Maxima CAS Kernel on Jupyter lab on Fedora Linux OS

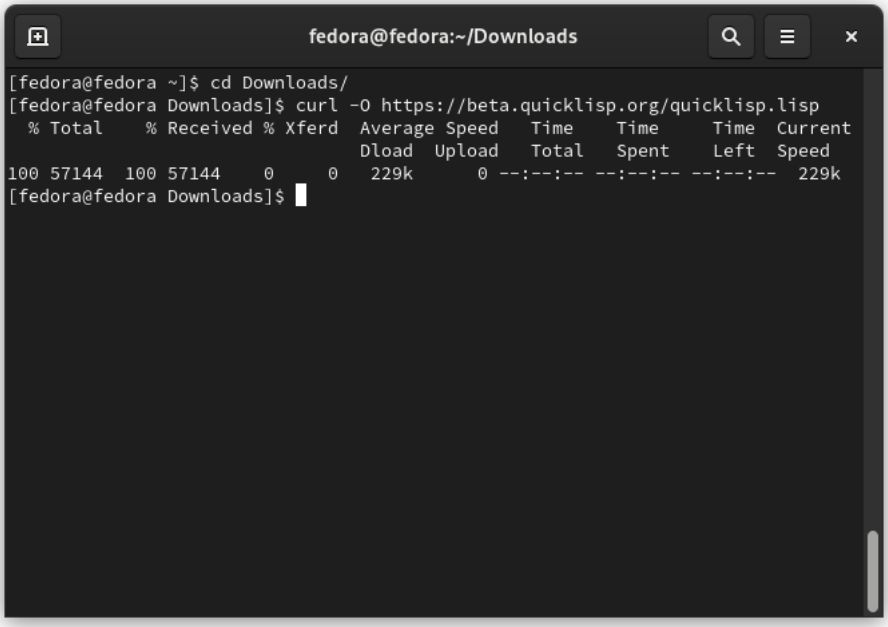
- Fedora 34

1. Go to https://www.quicklisp.org/beta/ download the file and follow the installation instructions of the website.

2. Go to *Downloads* folder and follow the steps.



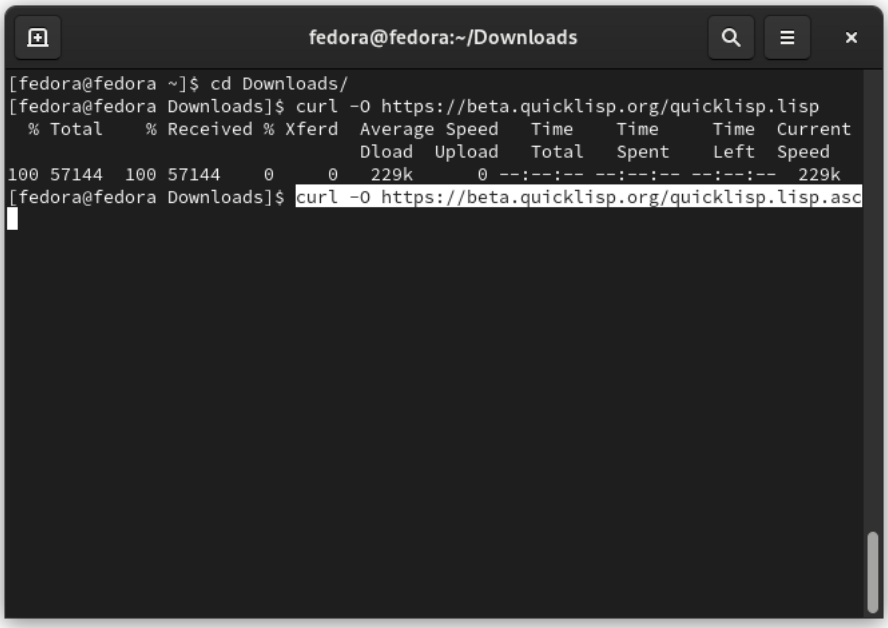
1.



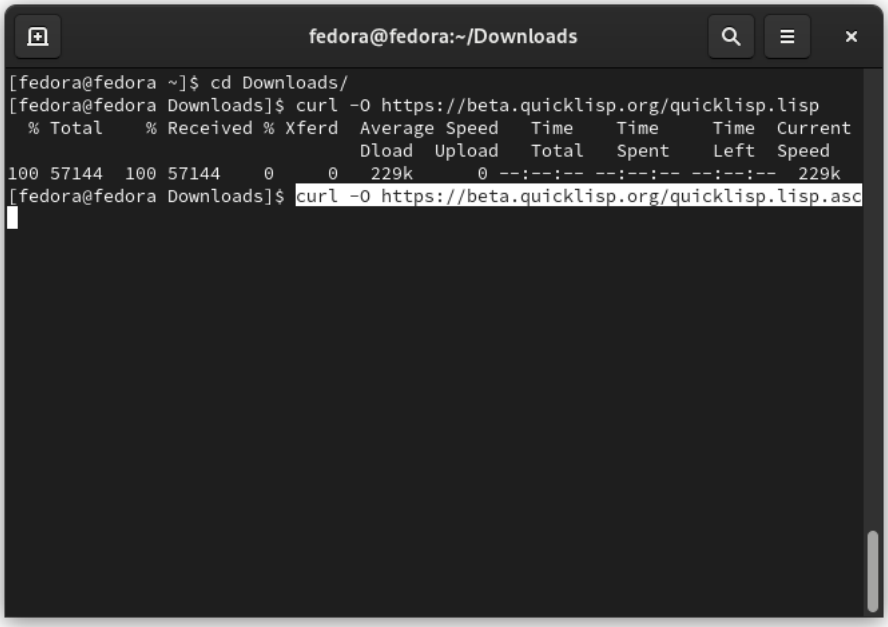
2.

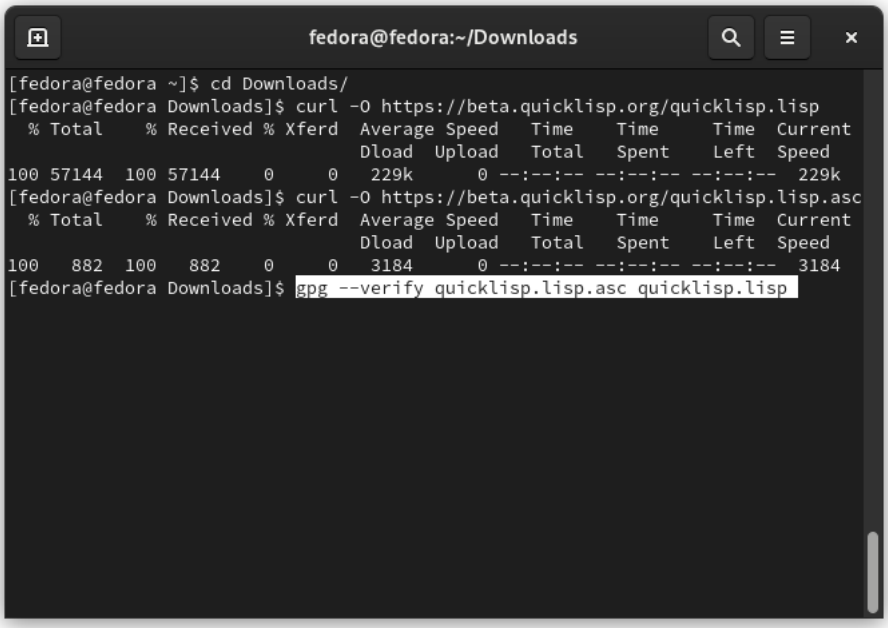
[1]Email: npoulios@econ.uoa.gr, nikolaspoulios@gmail.com

3.

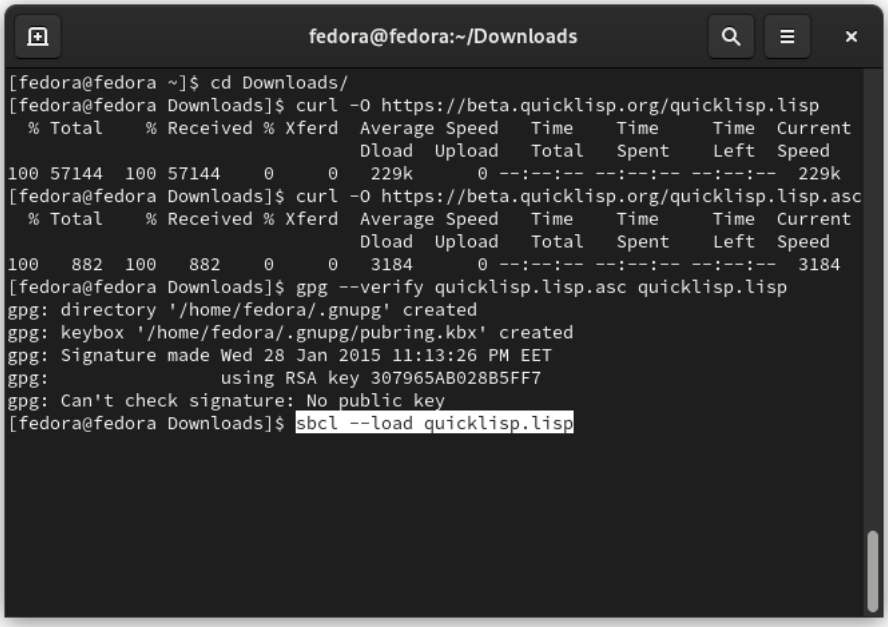

fedora@fedora:~/Downloads
[fedora@fedora ~]$ cd Downloads/
[fedora@fedora Downloads]$ curl -O https://beta.quicklisp.org/quicklisp.lisp
  % Total   % Received % Xferd Average Speed   Time   Time   Time Current
                                 Dload Upload   Total   Spent   Left Speed
100 57144 100 57144   0   0   229k   0 --:--:-- --:--:-- --:--:-- 229k
[fedora@fedora Downloads]$ curl -O https://beta.quicklisp.org/quicklisp.lisp.asc

4.


fedora@fedora:~/Downloads
[fedora@fedora ~]$ cd Downloads/
[fedora@fedora Downloads]$ curl -O https://beta.quicklisp.org/quicklisp.lisp
  % Total   % Received % Xferd Average Speed   Time   Time   Time Current
                                 Dload Upload   Total   Spent   Left Speed
100 57144 100 57144   0   0   229k   0 --:--:-- --:--:-- --:--:-- 229k
[fedora@fedora Downloads]$ curl -O https://beta.quicklisp.org/quicklisp.lisp.asc

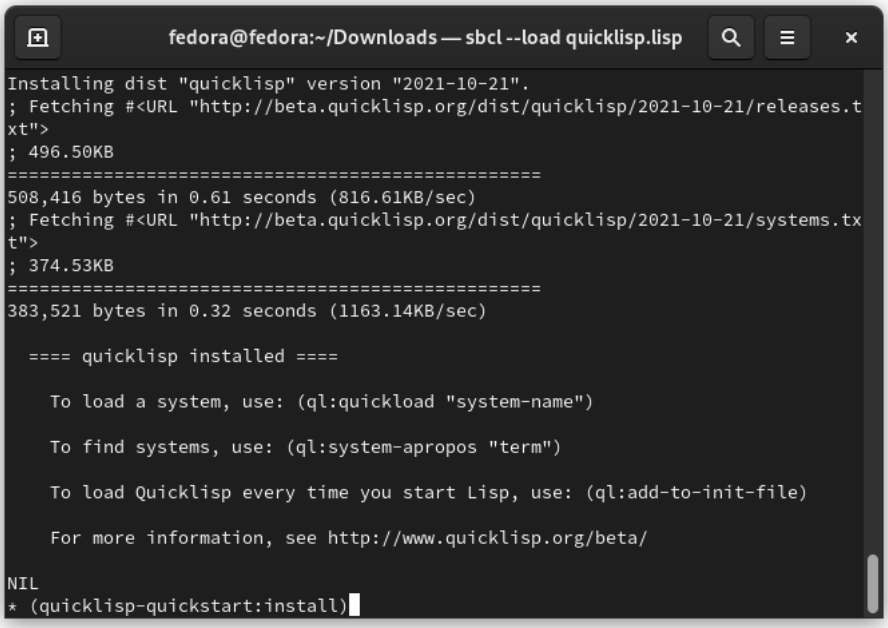

fedora@fedora:~/Downloads
[fedora@fedora ~]$ cd Downloads/
[fedora@fedora Downloads]$ curl -O https://beta.quicklisp.org/quicklisp.lisp
  % Total   % Received % Xferd Average Speed   Time   Time   Time Current
                                 Dload Upload   Total   Spent   Left Speed
100 57144 100 57144   0   0   229k   0 --:--:-- --:--:-- --:--:-- 229k
[fedora@fedora Downloads]$ curl -O https://beta.quicklisp.org/quicklisp.lisp.asc
  % Total   % Received % Xferd Average Speed   Time   Time   Time Current
                                 Dload Upload   Total   Spent   Left Speed
100   882 100   882   0   0   3184   0 --:--:-- --:--:-- --:--:-- 3184
[fedora@fedora Downloads]$ gpg --verify quicklisp.lisp.asc quicklisp.lisp

5.

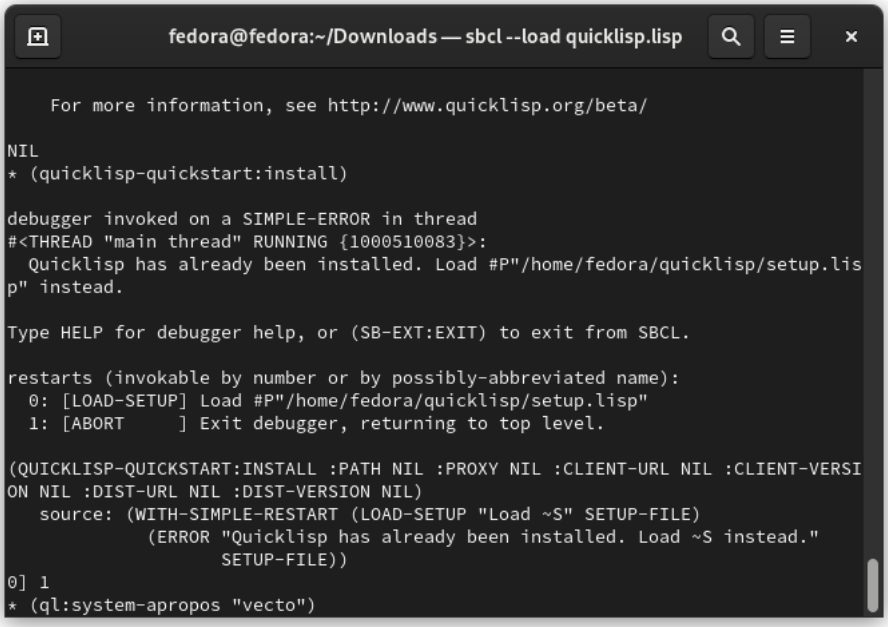

fedora@fedora:~/Downloads
[fedora@fedora ~]$ cd Downloads/
[fedora@fedora Downloads]$ curl -O https://beta.quicklisp.org/quicklisp.lisp
  % Total   % Received % Xferd Average Speed   Time   Time   Time Current
                                 Dload Upload   Total   Spent   Left Speed
100 57144 100 57144   0   0   229k   0 --:--:-- --:--:-- --:--:-- 229k
[fedora@fedora Downloads]$ curl -O https://beta.quicklisp.org/quicklisp.lisp.asc
  % Total   % Received % Xferd Average Speed   Time   Time   Time Current
                                 Dload Upload   Total   Spent   Left Speed
100   882 100   882   0   0   3184   0 --:--:-- --:--:-- --:--:-- 3184
[fedora@fedora Downloads]$ gpg --verify quicklisp.lisp.asc quicklisp.lisp
gpg: directory '/home/fedora/.gnupg' created
gpg: keybox '/home/fedora/.gnupg/pubring.kbx' created
gpg: Signature made Wed 28 Jan 2015 11:13:26 PM EET
gpg: using RSA key 307965AB028B5FF7
gpg: Can't check signature: No public key
[fedora@fedora Downloads]$ sbcl --load quicklisp.lisp

6.

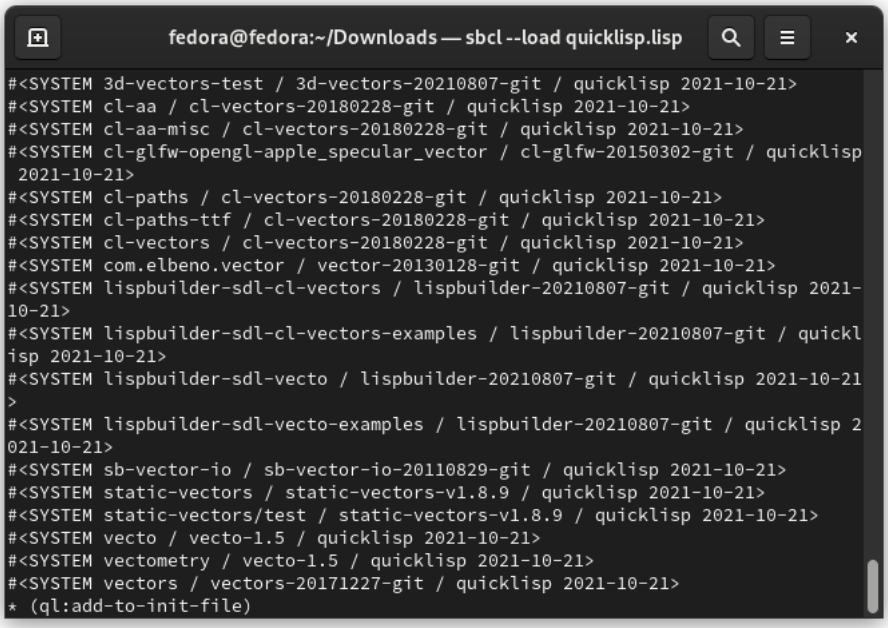
7.


fedora@fedora:~/Downloads — sbcl --load quicklisp.lisp
Installing dist "quicklisp" version "2021-10-21".
; Fetching #<URL "http://beta.quicklisp.org/dist/quicklisp/2021-10-21/releases.t
xt">
; 496.50KB
==
508,416 bytes in 0.61 seconds (816.61KB/sec)
; Fetching #<URL "http://beta.quicklisp.org/dist/quicklisp/2021-10-21/systems.tx
t">
; 374.53KB
==
383,521 bytes in 0.32 seconds (1163.14KB/sec)
==== quicklisp installed ====
To load a system, use: (ql:quickload "system-name")
To find systems, use: (ql:system-apropos "term")
To load Quicklisp every time you start Lisp, use: (ql:add-to-init-file)
For more information, see http://www.quicklisp.org/beta/
NIL
* (quicklisp-quickstart:install)

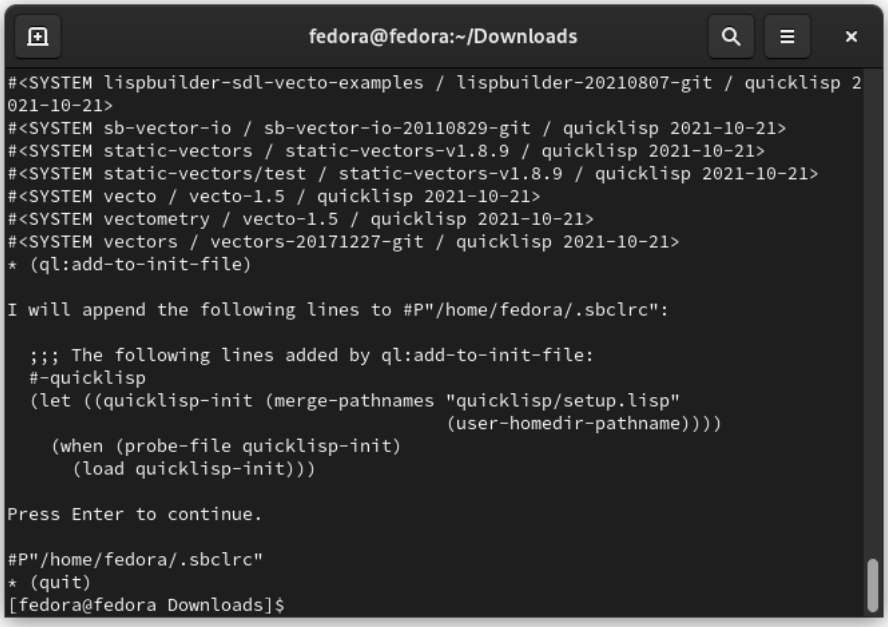
8.


fedora@fedora:~/Downloads — sbcl --load quicklisp.lisp
For more information, see http://www.quicklisp.org/beta/
NIL
* (quicklisp-quickstart:install)
debugger invoked on a SIMPLE-ERROR in thread
#<THREAD "main thread" RUNNING {1000510083}>:
Quicklisp has already been installed. Load #P"/home/fedora/quicklisp/setup.lis
p" instead.
Type HELP for debugger help, or (SB-EXT:EXIT) to exit from SBCL.
restarts (invokable by number or by possibly-abbreviated name):
0: [LOAD-SETUP] Load #P"/home/fedora/quicklisp/setup.lisp"
1: [ABORT] Exit debugger, returning to top level.
(QUICKLISP-QUICKSTART:INSTALL :PATH NIL :PROXY NIL :CLIENT-URL NIL :CLIENT-VERSI
ON NIL :DIST-URL NIL :DIST-VERSION NIL)
source: (WITH-SIMPLE-RESTART (LOAD-SETUP "Load ~S" SETUP-FILE)
(ERROR "Quicklisp has already been installed. Load ~S instead."
SETUP-FILE))
0] 1
* (ql:system-apropos "vecto")

9.


fedora@fedora:~/Downloads — sbcl --load quicklisp.lisp
#<SYSTEM 3d-vectors-test / 3d-vectors-20210807-git / quicklisp 2021-10-21>
#<SYSTEM cl-aa / cl-vectors-20180228-git / quicklisp 2021-10-21>
#<SYSTEM cl-aa-misc / cl-vectors-20180228-git / quicklisp 2021-10-21>
#<SYSTEM cl-glfw-opengl-apple_specular_vector / cl-glfw-20150302-git / quicklisp 2021-10-21>
#<SYSTEM cl-paths / cl-vectors-20180228-git / quicklisp 2021-10-21>
#<SYSTEM cl-paths-ttf / cl-vectors-20180228-git / quicklisp 2021-10-21>
#<SYSTEM cl-vectors / cl-vectors-20180228-git / quicklisp 2021-10-21>
#<SYSTEM com.elbeno.vector / vector-20130128-git / quicklisp 2021-10-21>
#<SYSTEM lispbuilder-sdl-cl-vectors / lispbuilder-20210807-git / quicklisp 2021-10-21>
#<SYSTEM lispbuilder-sdl-cl-vectors-examples / lispbuilder-20210807-git / quicklisp 2021-10-21>
#<SYSTEM lispbuilder-sdl-vecto / lispbuilder-20210807-git / quicklisp 2021-10-21>
#<SYSTEM lispbuilder-sdl-vecto-examples / lispbuilder-20210807-git / quicklisp 2021-10-21>
#<SYSTEM sb-vector-io / sb-vector-io-20110829-git / quicklisp 2021-10-21>
#<SYSTEM static-vectors / static-vectors-v1.8.9 / quicklisp 2021-10-21>
#<SYSTEM static-vectors/test / static-vectors-v1.8.9 / quicklisp 2021-10-21>
#<SYSTEM vecto / vecto-1.5 / quicklisp 2021-10-21>
#<SYSTEM vectometry / vecto-1.5 / quicklisp 2021-10-21>
#<SYSTEM vectors / vectors-20171227-git / quicklisp 2021-10-21>
* (ql:add-to-init-file)

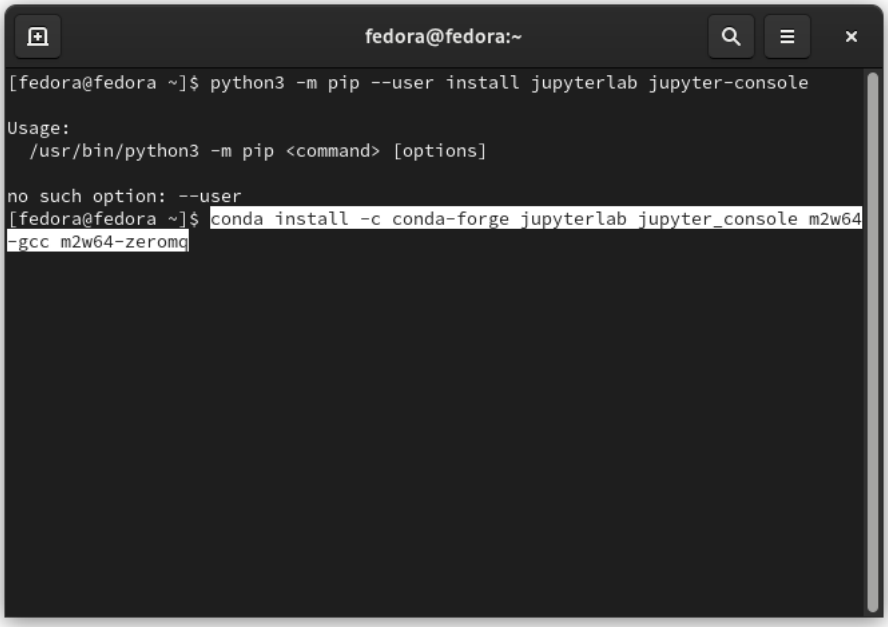
10.


fedora@fedora:~/Downloads
#<SYSTEM lispbuilder-sdl-vecto-examples / lispbuilder-20210807-git / quicklisp 2021-10-21>
#<SYSTEM sb-vector-io / sb-vector-io-20110829-git / quicklisp 2021-10-21>
#<SYSTEM static-vectors / static-vectors-v1.8.9 / quicklisp 2021-10-21>
#<SYSTEM static-vectors/test / static-vectors-v1.8.9 / quicklisp 2021-10-21>
#<SYSTEM vecto / vecto-1.5 / quicklisp 2021-10-21>
#<SYSTEM vectometry / vecto-1.5 / quicklisp 2021-10-21>
#<SYSTEM vectors / vectors-20171227-git / quicklisp 2021-10-21>
* (ql:add-to-init-file)
I will append the following lines to #P"/home/fedora/.sbclrc":
;;; The following lines added by ql:add-to-init-file:
#-quicklisp
(let ((quicklisp-init (merge-pathnames "quicklisp/setup.lisp"
(user-homedir-pathname))))
(when (probe-file quicklisp-init)
(load quicklisp-init)))
Press Enter to continue.
#P"/home/fedora/.sbclrc"
* (quit)
[fedora@fedora Downloads]$

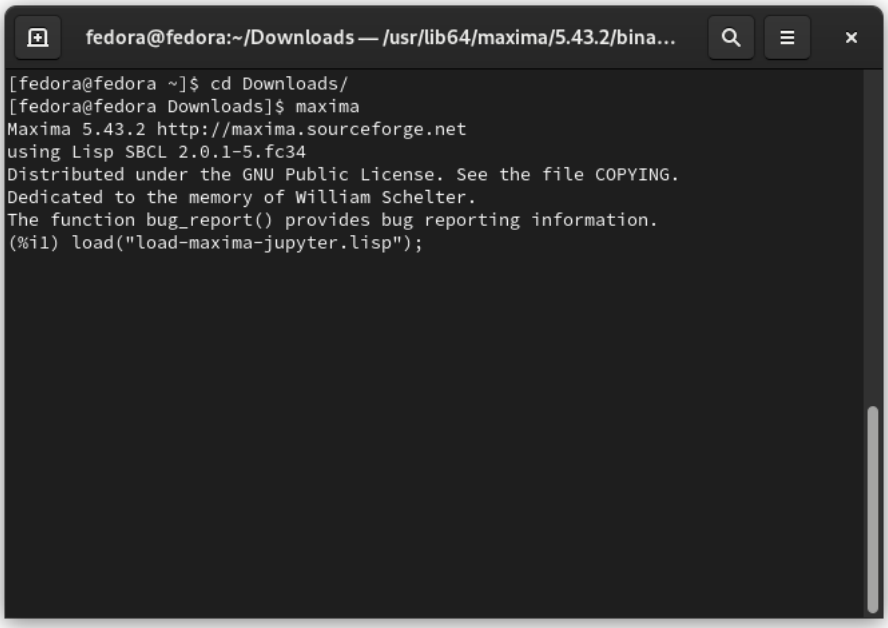
11.


fedora@fedora:~
[fedora@fedora ~]$ python3 -m pip --user install jupyterlab jupyter-console

12.


fedora@fedora:~
[fedora@fedora ~]$ python3 -m pip --user install jupyterlab jupyter-console
Usage:
/usr/bin/python3 -m pip <command> [options]
no such option: --user
[fedora@fedora ~]$ conda install -c conda-forge jupyterlab jupyter_console m2w64
-gcc m2w64-zeromq

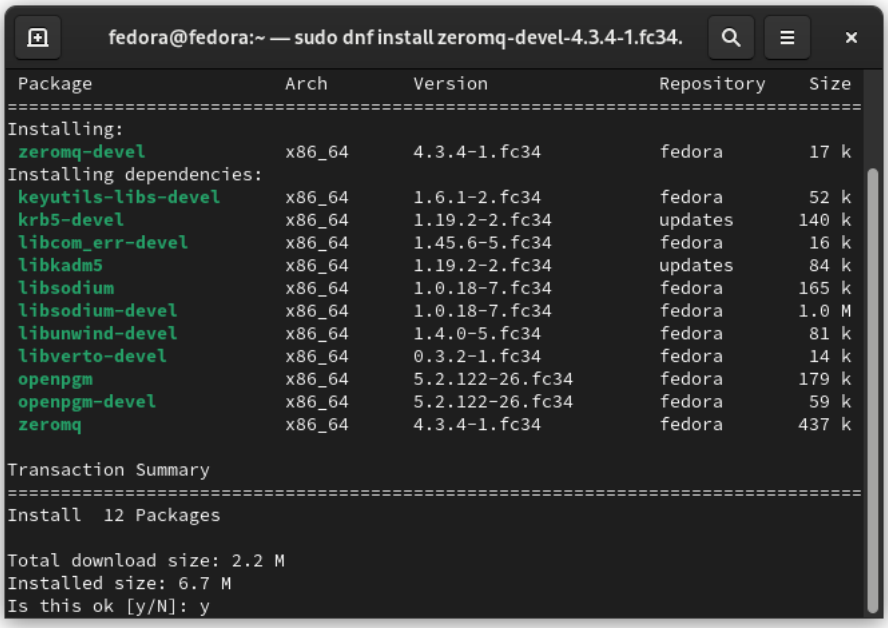
13.


fedora@fedora:~/Downloads — /usr/lib64/maxima/5.43.2/bina...
[fedora@fedora ~]$ cd Downloads/
[fedora@fedora Downloads]$ maxima
Maxima 5.43.2 http://maxima.sourceforge.net
using Lisp SBCL 2.0.1-5.fc34
Distributed under the GNU Public License. See the file COPYING.
Dedicated to the memory of William Schelter.
The function bug_report() provides bug reporting information.
(%i1) load("load-maxima-jupyter.lisp");

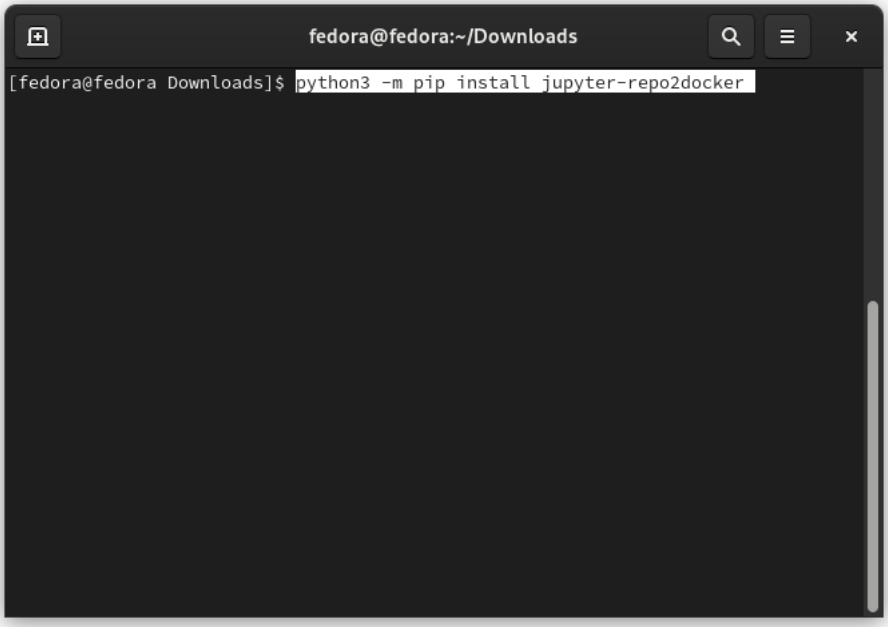
14.


fedora@fedora:~
[fedora@fedora ~]$ sudo dnf install zeromq-devel-4.3.4-1.fc34.

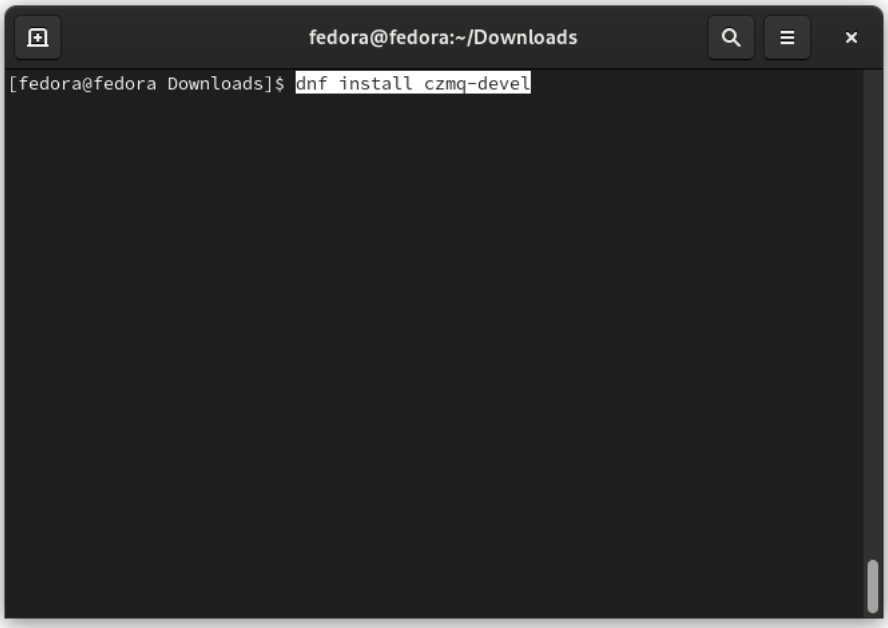
15.


fedora@fedora:~ — sudo dnf install zeromq-devel-4.3.4-1.fc34.
Package Arch Version Repository Size
Installing:
zeromq-devel x86_64 4.3.4-1.fc34 fedora 17 k
Installing dependencies:
keyutils-libs-devel x86_64 1.6.1-2.fc34 fedora 52 k
krb5-devel x86_64 1.19.2-2.fc34 updates 140 k
libcom_err-devel x86_64 1.45.6-5.fc34 fedora 16 k
libkadm5 x86_64 1.19.2-2.fc34 updates 84 k
libsodium x86_64 1.0.18-7.fc34 fedora 165 k
libsodium-devel x86_64 1.0.18-7.fc34 fedora 1.0 M
libunwind-devel x86_64 1.4.0-5.fc34 fedora 81 k
libverto-devel x86_64 0.3.2-1.fc34 fedora 14 k
openpgm x86_64 5.2.122-26.fc34 fedora 179 k
openpgm-devel x86_64 5.2.122-26.fc34 fedora 59 k
zeromq x86_64 4.3.4-1.fc34 fedora 437 k
Transaction Summary
Install 12 Packages
Total download size: 2.2 M
Installed size: 6.7 M
Is this ok [y/N]: y

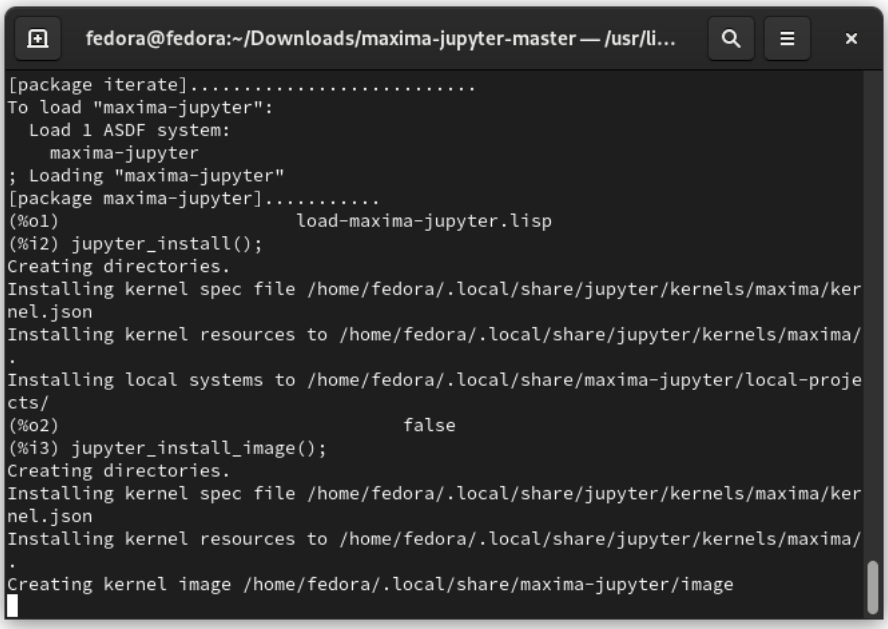
16.


fedora@fedora:~/Downloads
[fedora@fedora Downloads]$ python3 -m pip install jupyter-repo2docker

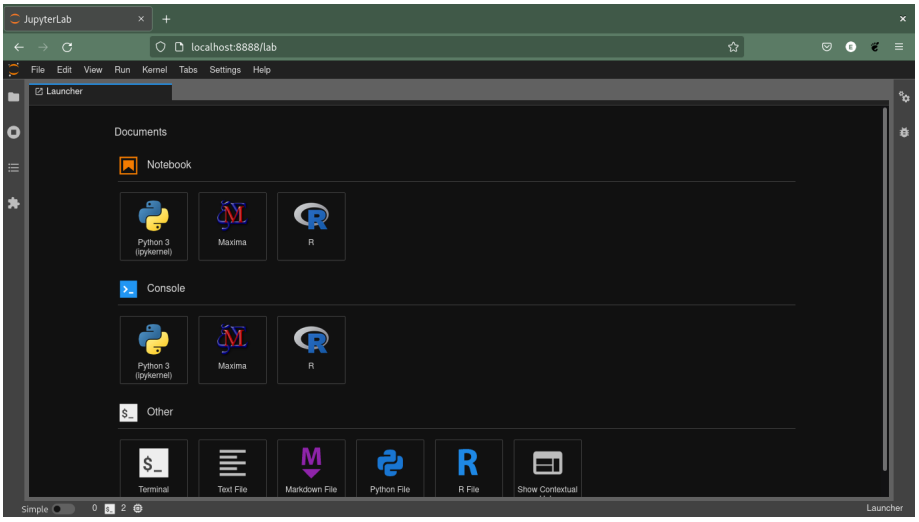
17.

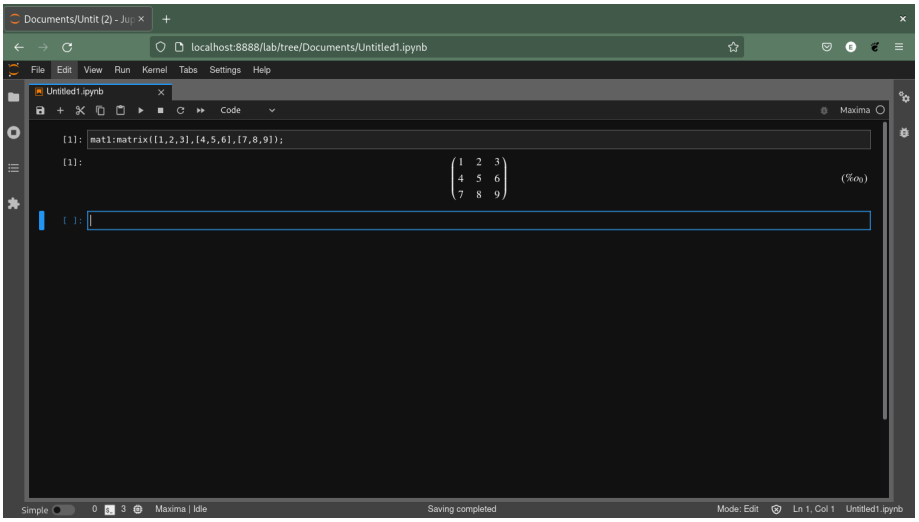

fedora@fedora:~/Downloads
[fedora@fedora Downloads]$ dnf install czmq-devel

18.


fedora@fedora:~/Downloads/maxima-jupyter-master — /usr/li...
[package iterate].....................
To load "maxima-jupyter":
Load 1 ASDF system:
maxima-jupyter
; Loading "maxima-jupyter"
[package maxima-jupyter]..........
(%o1) load-maxima-jupyter.lisp
(%i2) jupyter_install();
Creating directories.
Installing kernel spec file /home/fedora/.local/share/jupyter/kernels/maxima/kernel.json
Installing kernel resources to /home/fedora/.local/share/jupyter/kernels/maxima/.
Installing local systems to /home/fedora/.local/share/maxima-jupyter/local-projects/
(%o2) false
(%i3) jupyter_install_image();
Creating directories.
Installing kernel spec file /home/fedora/.local/share/jupyter/kernels/maxima/kernel.json
Installing kernel resources to /home/fedora/.local/share/jupyter/kernels/maxima/.
Creating kernel image /home/fedora/.local/share/maxima-jupyter/image

19. 

20. 

21. 

Enjoy!