

Installation of Miniconda3, Berryconda3 and Jupyter for RPi

Conda

Conda is an open source package management system and environment management system that runs on Windows, macOS and Linux. Conda quickly installs, runs and updates packages and their dependencies. Conda easily creates, saves, loads and switches between environments on your local computer. It was created for Python programs, but it can package and distribute software for any language.

Conda as a package manager helps you find and install packages. The conda package and environment manager is included in all versions of Anaconda and Miniconda.

Anaconda

Anaconda is a full distribution of the central software in the PyData ecosystem, and includes Python itself along with the binaries for several hundred third-party open-source projects. Miniconda is essentially an installer for an empty conda environment, containing only Conda, its dependencies, and Python

Miniconda

Miniconda is a free minimal installer for conda. It is a small, bootstrap version of Anaconda that includes only conda, Python, the packages they depend on, and a small number of other useful packages, including pip, zlib and a few others.

Installation Procedure:

```
$wget http://repo.continuum.io/miniconda/Miniconda3-latest-Linux-armv7l.sh
$sudo md5sum Miniconda3-latest-Linux-armv7l.sh
$sudo /bin/bash Miniconda3-latest-Linux-armv7l.sh
```

Accept the license agreement with yes

When asked, change the install location: /home/pi/miniconda3

Do you wish the installer to prepend the Miniconda3 install location to PATH in your /root/.bashrc ? No

Now add the install path to the PATH variable:

```
sudo nano /home/pi/.bashrc
```

Go to the end of the file .bashrc and add the following line:

```
export PATH="/home/pi/miniconda3/bin:$PATH"
```

Save the file and exit.

To test if the installation was successful, open a new terminal and enter

\$conda

If you see a list with commands you are ready to go

Berryconda3

Berryconda is a conda based Python distribution for the Raspberry Pi. With it, you can install and manage a scientific or Pydata stack on your Raspberry Pi using conda, a package and environment management system.

Installation Procedure:

Then download berryconda

<https://github.com/jjhelmus/berryconda>

The download file look like

Berryconda3-2.0.0-Linux-armv7l.sh

\$sudo chmod -R 777 Berryconda3-2.0.0-Linux-armv7l.sh

\$sudo ./Berryconda3-2.0.0-Linux-armv7l.sh

\$conda config --add channels rpi

Only now I was able to install Python 3.5 or 3.6 without the need for compiling it myself:

\$conda install python=3.5

\$conda install python=3.6

This commands are optional

(Afterwards I was able to create environments with the added Python version, e.g. with Python 3.5:

\$conda create --name py35 python=3.5

The new environment "py35" can now be activated:

\$source activate py35)

we need to install Python Libraries

NumPy

Top-most: array, arange, reshape, shape

Pandas

Top-most: DataFrame, groupby, apply, loc, reset_index

Matplotlib

Top-most: plot, show, figure, subplots

Seaborn

Top-most: show, DataFrame, plots, subplots

Scikit-Learn

Top-most: fit, fit_transform, predict, array

Libraries installation:

```
conda install pandas
conda install numpy
conda install matplotlib
conda install scikit-learn
conda install seaborn
```

Jupyter-notebook:

What is Jupyter in Python?

The Jupyter Notebook is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text. Uses include: data cleaning and transformation, numerical simulation, statistical modeling, data visualization, machine learning, and much more

Installation Procedure:

\$conda install jupyter

To start a web application ,open the terminal type jupyter-notebook

\$jupyter-notebook

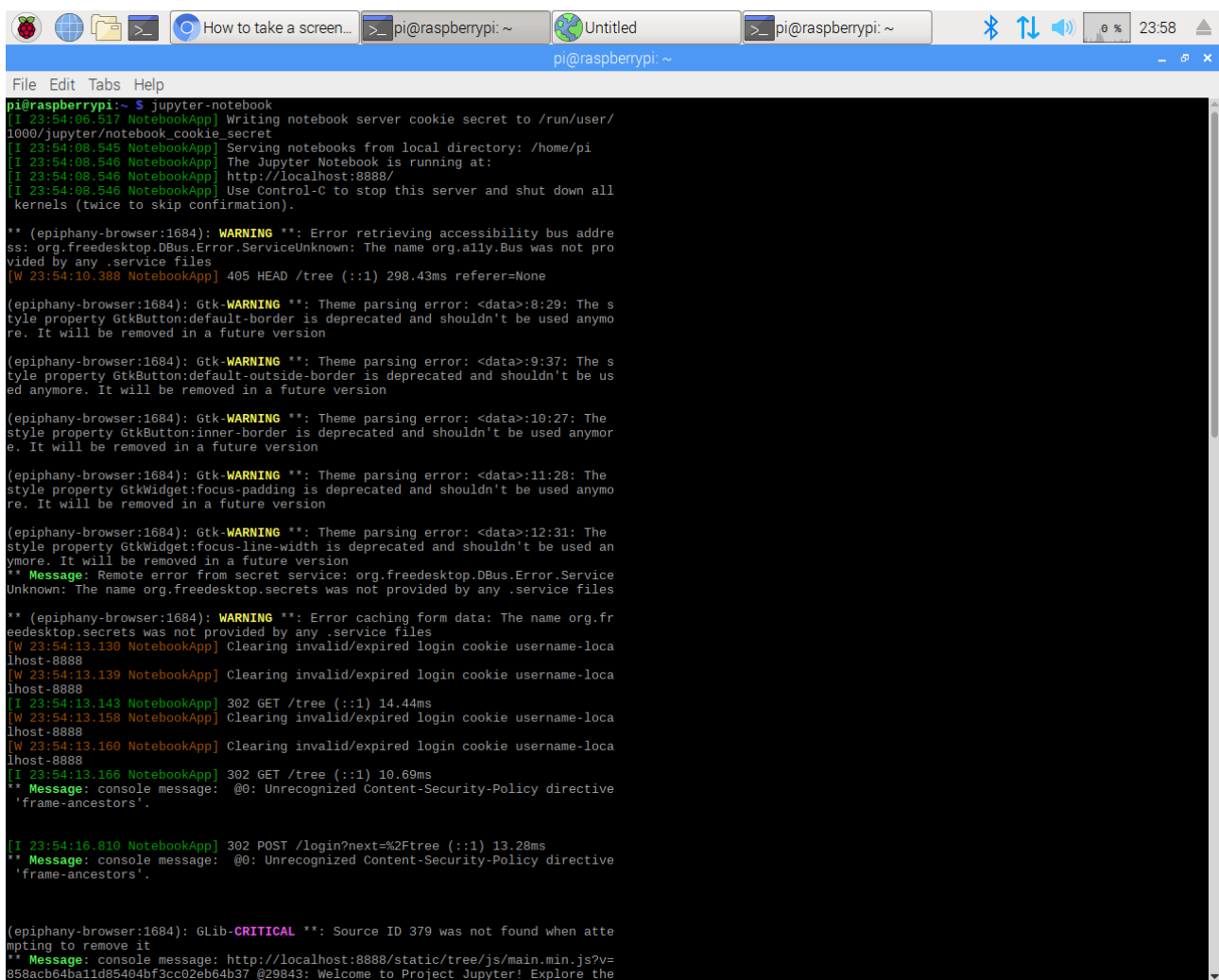
if ask for the password or token (copy the first token generated in server in terminal)

or

follow the comands to reset jupyter password

\$jupyter notebook --generate-config

\$jupyter notebook password



```
pi@raspberrypi:~$ jupyter-notebook
[I 23:54:06.517 NotebookApp] Writing notebook server cookie secret to /run/user/1000/jupyter/notebook_cookie_secret
[I 23:54:08.545 NotebookApp] Serving notebooks from local directory: /home/pi
[I 23:54:08.546 NotebookApp] The Jupyter Notebook is running at:
[I 23:54:08.546 NotebookApp] http://localhost:8888/
[I 23:54:08.546 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).

** (epiphany-browser:1684): WARNING **: Error retrieving accessibility bus address: org.freedesktop.DBus.Error.ServiceUnknown: The name org.ally.Bus was not provided by any .service files
[W 23:54:10.388 NotebookApp] 405 HEAD /tree (::1) 298.43ms referer=None

(epiphany-browser:1684): Gtk-WARNING **: Theme parsing error: <data>:8:29: The style property GtkButton:default-border is deprecated and shouldn't be used anymore. It will be removed in a future version

(epiphany-browser:1684): Gtk-WARNING **: Theme parsing error: <data>:9:37: The style property GtkButton:default-outside-border is deprecated and shouldn't be used anymore. It will be removed in a future version

(epiphany-browser:1684): Gtk-WARNING **: Theme parsing error: <data>:10:27: The style property GtkButton:inner-border is deprecated and shouldn't be used anymore. It will be removed in a future version

(epiphany-browser:1684): Gtk-WARNING **: Theme parsing error: <data>:11:28: The style property GtkWidget:focus-padding is deprecated and shouldn't be used anymore. It will be removed in a future version

(epiphany-browser:1684): Gtk-WARNING **: Theme parsing error: <data>:12:31: The style property GtkWidget:focus-line-width is deprecated and shouldn't be used anymore. It will be removed in a future version
** Message: Remote error from secret service: org.freedesktop.DBus.Error.ServiceUnknown: The name org.freedesktop.secrets was not provided by any .service files

** (epiphany-browser:1684): WARNING **: Error caching form data: The name org.freedesktop.secrets was not provided by any .service files
[W 23:54:13.130 NotebookApp] Clearing invalid/expired login cookie username-localhost-8888
[W 23:54:13.139 NotebookApp] Clearing invalid/expired login cookie username-localhost-8888
[I 23:54:13.143 NotebookApp] 302 GET /tree (::1) 14.44ms
[W 23:54:13.158 NotebookApp] Clearing invalid/expired login cookie username-localhost-8888
[W 23:54:13.160 NotebookApp] Clearing invalid/expired login cookie username-localhost-8888
[I 23:54:13.166 NotebookApp] 302 GET /tree (::1) 10.69ms
** Message: console message: @0: Unrecognized Content-Security-Policy directive 'frame-ancestors'.

[I 23:54:16.810 NotebookApp] 302 POST /login?next=%2Ftree (::1) 13.28ms
** Message: console message: @0: Unrecognized Content-Security-Policy directive 'frame-ancestors'.

(epiphany-browser:1684): GLib-CRITICAL **: Source ID 379 was not found when attempting to remove it
** Message: console message: http://localhost:8888/static/tree/js/main.min.js?v=858acb64ba1d8540bf3cc02eb64b37_029843: Welcome to Project Jupyter! Explore the
```



How to take ...

pi@raspberr...

Home

Untitled 1 - Li...

pi@raspberr...


pi



12 % 23:56


Home

< > http://localhost:8888/tree














 Quit Logout

Files Running Clusters

Select items to perform actions on them. Upload New Refresh

☐ 0  /

Name Last Modified File size

<input type="checkbox"/>  Arduino	24 minutes ago	
<input type="checkbox"/>  arduino-1.8.9	2 years ago	
<input type="checkbox"/>  berryconda3	a day ago	
<input type="checkbox"/>  Desktop	24 minutes ago	
<input type="checkbox"/>  Documents	2 years ago	
<input type="checkbox"/>  Downloads	24 minutes ago	
<input type="checkbox"/>  MagPi	2 years ago	
<input type="checkbox"/>  miniconda3	3 days ago	
<input type="checkbox"/>  Music	2 years ago	
<input type="checkbox"/>  Pictures	2 years ago	
<input type="checkbox"/>  Public	2 years ago	
<input type="checkbox"/>  Templates	2 years ago	
<input type="checkbox"/>  Videos	2 years ago	

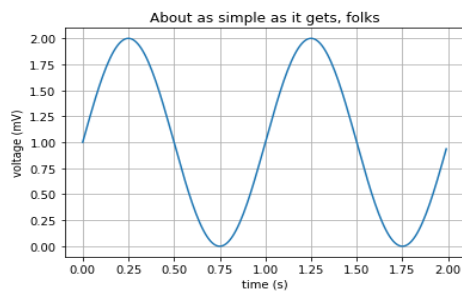
```
In [1]: import numpy as np
a=np.array([1,2,3])
print(a)
```

```
[1 2 3]
```

```
In [3]: import matplotlib.pyplot as plt
import numpy as np

t = np.arange(0.0, 2.0, 0.01)
s = 1 + np.sin(2*np.pi*t)
plt.plot(t, s)

plt.xlabel('time (s)')
plt.ylabel('voltage (mV)')
plt.title('About as simple as it gets, folks')
plt.grid(True)
plt.savefig("test.png")
plt.show()
```



```
In [4]: import pandas as pd
df=pd.DataFrame()
print(df)
```

```
Empty DataFrame
Columns: []
Index: []
```

```
In [ ]: import matplotlib.pyplot as plt
import seaborn as sns

sns.distplot([0, 1, 2, 3, 4, 5])

plt.show()
```