

ROI RPi4

Downloaded May 2021 Raspberry PI OS image

Flashed to 32GB EVO sd card

Boot

Tick use English language Next

New password Next

Set Up Screen tick this screen shows a black border Next

Select wifi Skip (cabled)

Update software Skip

Setup Complete Restart

In terminal

Sudo raspi-config Interface options enable SSH and VNC

```
sudo apt-get update
```

```
sudo apt-get full-upgrade
```

```
sudo reboot
```

```
sudo apt-get install python3-pip
```

```
sudo pip3 install setuptools
```

```
sudo apt install libffi-dev
```

```
sudo pip3 install cffi
```

```
pip3 install jupyterlab
```

```
mkdir Developer
```

```
pip3 install jupyter-core==4.6.1
```

```
pip3 install traitlets==5.0
```

```
pip3 install jupyterlab
```

```
Added export PATH=/home/pi/.local/bin:PATH to .bashrc
```

```
~/.bashrc
```

```
jupyter lab - - notebook-dir=~/.Developer
```

```
sudo nano /etc/systemd/system/jupyter.service
```

```
[Unit]
```

```
Description=Jupyter Lab
```

```
[Service]
```

```
Type=simple
```

```
PIDFile=/run/jupyter.pid
```

```
ExecStart=/bin/bash -c "/home/pi/.local/bin/jupyter-lab --ip="0.0.0.0" --
```

```
no-browser --notebook-dir=/home/pi/Developer"
```

```
User=pi
```

```
Group=pi
```

```
WorkingDirectory=/home/pi/Developer
```

```
Restart=always
```

```
RestartSec=10
[Install]
WantedBy=multi-user.target
```

```
sudo systemctl enable jupyter.service
sudo systemctl daemon-reload
sudo systemctl start jupyter.service
sudo reboot
sudo systemctl status jupyter.service
jupyter notebook --generate-config
jupyter notebook password
```

```
sudo apt-get install libatlas-base-dev
sudo apt-get install liblzma-dev
sudo apt-get install gfortran
sudo apt-get install libjpeg-dev
Pip3 install sympy pandas plotly bokeh scipy seaborn statsmodels scikit-learn
```

```
sudo apt-get install octave
sudo apt-get install gnuplot
```

```
sudo apt-get install scilab
```

```
sudo apt install r-base
R
install.packages('IRkernel')
yes
yes
IRkernel::installspec()
quit()
```

```
From julialang.org/downloads downloaded 32bit ARMv7 hardfloat of v1.6.1
Unzipped tar to /home/pi/julia
In -s /home/pi/julia/julia-1.6.1/bin/julia /home/pi/.local/bin/julia
using Pkg
Pkg.add("IJulia")
exit()
```

```
pip3 install octave-kernel
```

```
pip3 install scilab-kernel
```

```
sudo apt install code
```

```
sudo apt-get install rclone
```

```
From nodejs.org downloaded node v16.4.2 armv7  
Extracted to /home/pi/node  
ln -s /home/pi/node/bin/node /home/pi/.local/bin/node  
jupyter lab build
```

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```
sudo pip3 install jupyterlab-git  
jupyter lab build not worked - 2 machines 1 login ?
```

```
sudo pip3 install google-api-python-client  
sudo pip3 install gdrivefs  
gdfstool auth_automatic  
login to google drive account  
sudo mkdir /mnt/gdrivefs  
sudo chmod 777 /mnt/gdrivefs  
ln -s /mnt/gdrivefs /home/pi/GoogleDrive  
gdfs /home/pi/.gdfs/creds /mnt/gdrivefs
```

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```
sudo rm /usr/bin/node  
sudo ln -s /home/pi/.local/bin/node /usr/bin/node  
pip3 install ipywidgets  
Installed Ipywidgets jupyter notebook extension enables sliders etc
```

```
pip3 install ipympl  
pip3 install matplotlib==3.3.1  
Installed jupyter-matplotlib extension enables matplotlib animation
```