RPi3 System

Assign	
Date	
Priority	
Project	Neutron Generator Maintenance and Control
Status	Information

- useful commands
  - ▼ Upgrade
    - Run

```
sudo apt update
sudo apt -y dist-upgrade
```

  - ▼ Set date

```
sudo crontab  -e
```

    - add

```
0 5 * * 1 date -s "$(wget -qSO- --max-redirect=0 google.com 2>&1 | grep Date: | cut -d' ' -f5-8)Z"

sudo date -s "$(wget -qSO- --max-redirect=0 google.com 2>&1 | grep Date: | cut -d' ' -f5-8)Z"
```

  - ▼ Install anaconda
    - Install

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

    - edit bashrc if necessary
      export PATH="/home/pi/miniconda3/bin:$PATH"

```
source ~/.bashrc
```

  - ▼ Install packages (pandas, numpy, pymysel, pyserial)
    -

```
conda config --add channels rpi
conda config --add channels conda-forge
conda create --name py3.5 python=3.5 -y
source activate py3.5
conda install numpy pandas -y
conda install -c rpi python-dateutil=2.6.0 -y
conda install -c rpi pytz=2016.* -y
conda install -c rpi sqlalchemy=1.2.* -y

conda install -c tballance pyserial=3.2.1 -y
python3 -m pip install PyMySQL
```

  - ▼ Backup SD card to LTH_Neutimag
    - ▼ backup for RPi3-0

```
sudo mkdir /mnt/backup_to_LTH/
```

```
sudo chown pi:pi -R /mnt/backup_to_LTH/
```

- add to sudo nano /etc/fstab

```
//fs03/LTH_Neutimag/hkromer/08_Data/backup_Rpi/twofast-Rpi3-0 /mnt/backup_to_LTH/ cifs defaults,uid=pi,gid=pi,u
```

Backup

```
sudo mount -a
sudo dd if=/dev/mmcblk0 of=/mnt/backup_to_LTH/2020-01-22.img bs=1M
```

▼ backup for RPi3-3

```
sudo mkdir /mnt/backup_to_LTH/
```

```
sudo chown pi:pi -R /mnt/backup_to_LTH/
```

- add to sudo nan/codeo /etc/fstab

```
//fs03/LTH_Neutimag/hkromer/08_Data/backup_Rpi/twofast-Rpi3-3 /mnt/backup_to_LTH/ cifs defaults,uid=pi,gid=pi,u
```

CHANGE THE DATE

```
sudo mount -a
sudo dd if=/dev/mmcblk0 of=/mnt/backup_to_LTH/2019-06-28.img bs=1M
```

▼ backup for RPi3-4

```
sudo mkdir /mnt/backup_to_LTH/
```

```
sudo chown pi:pi -R /mnt/backup_to_LTH/
```

- add to sudo nano /etc/fstab

```
//fs03/LTH_Neutimag/hkromer/08_Data/backup_Rpi/twofast-Rpi3-4 /mnt/backup_to_LTH/ cifs defaults,uid=pi,gid=pi,u
```

Change the date

```
sudo mount -a
sudo dd if=/dev/mmcblk0 of=/mnt/backup_to_LTH/2019-06-28.img bs=1M
```

▼ backup for RPi3-5

```
sudo mkdir /mnt/backup_to_LTH/
```

```
sudo chown pi:pi -R /mnt/backup_to_LTH/
```

- add to sudo nano /etc/fstab

```
//fs03/LTH_Neutimag/hkromer/08_Data/backup_Rpi/twofast-Rpi3-5 /mnt/backup_to_LTH/ cifs defaults,uid=pi,gid=pi,u
```

Backup

```
sudo mount -a
sudo dd if=/dev/mmcblk0 of=/mnt/backup_to_LTH/2019-06-28.img bs=1M
```

list of RPi clients

Hostname	Location	Connected to	Purpose
twofast-rpi3-0	Control room, next to LabView readout	Arduino (HBoxUno, HBoxDue)	Hosts the database, records dose and HV
twofast-rpi3-1	MIA	?	?
twofast-rpi3-2	MIA	?	?
twofast-rpi3-3	Control room in BBox	Arduino (BBox)	Reads the pressure signals
twofast-rpi3-4	Bunker, BROOKS box	Arduino (flow_meter)	Reading and control of mass flow meter (BROOKS)
twofast-rpi3-5	Bunker, Microwave control box	Microwave generator (via Serial)	Reading and control of microwave generator
twofast-rpi3-6	Bunker, Sensirion air temperature	Nothing	Measure temperature and humidity of air leaving target
twofast-rpi3-7		Arduino, that to Grove sensor	Water sensor
twofast-rpi3-8	Near chillers	Arduino that reads voltage behind mouser resistors	Target HV measurement
pi-neutimag-due4	reference detectors below pump	4 of Roberts detectors	neutron ambient dose normalization user: pi pw: raspberry
Untitled			
Untitled			