

Etherbox: The novel

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Initial image + setup

Based on [2017-04-10-raspbian-jessie-lite.zip](#)

```
unzip -p 2017-04-10-raspbian-jessie-lite.zip | pv | sudo dd of=/dev/sdc bs=4M
```

SSH is no longer on by default! So need to connect with a screen first time and turn this on.

```
sudo raspi-config
```

Enable ssh under connectivity.

Bring the rest of the software up to date.

```
sudo apt-get update
sudo apt-get upgrade
```

Setup apache to serve the root with custom header + readme's

```
sudo apt-get install apache2
cd /etc/apache2/sites-available
sudo nano 000-default
```

```
ServerAdmin webmaster@localhost
# DocumentRoot /var/www/html
DocumentRoot /
<Directory />
    Options Indexes FollowSymLinks
    AllowOverride none
    Require all granted
</Directory>

HeaderName /home/pi/include/HEADER.shtml
ReadmeName README.html
```

NB: Sets the [HeaderName](#) and [ReadmeName](#) directives (part of mod_autoindex).

```
sudo service apache2 reload
```

droptoupload.cgi

```
sudo a2enmod cgi
sudo service apache2 restart
```

Placed 'droptoupload.cgi' in /usr/lib/cgi-bin and tried running it with:

```
./droptoupload.cgi
```

Like this is just outputs an HTML form. Looking at <http://etherbox.local/cgi-bin/droptoupload.cgi> should also display an upload form.

The HEADER.shtml includes a link to this cgi.

HEADER.shtml

```
<script src="/cgi-bin/droptoupload.cgi"></script>
<style>
body {
background: #38b8e9;
color: black;
}
a {
color: white;
}
#logo {
white-space: pre;
font-family: monospace;
}
</style>
<div class="links" style="margin-bottom: 1em">LOCAL:
<a href="/">&nbsp;&nbsp;&nbsp;/&nbsp;&nbsp;&nbsp;</a>
<a href="/home/pi/">home</a>
<a href="/home/pi/etherdump/">etherdump</a>
PUBLIC:
<a href="http://constantvzw.org/site/-The-Technogalactic-Software-Observatory-.html">constan
<a href="https://gitlab.constantvzw.org/observatory">gitlab</a>
</div>
<style>
.links {
font-family: monospace;
text-transform: uppercase;
</style>
<script>
```

```
document.addEventListener("DOMContentLoaded", function () {
  var p = document.querySelectorAll(".top"),
      t = document.getElementsByTagName("table")[0];
  for (var i=0, l=p.length; i<l; i++) {
    document.body.insertBefore(p[i], t);
  }
});
</script>
```

Better permissions with factl

[setfacl](#)

```
sudo addgroup pi www-data

sudo setfacl -Rm g:www-data:rwX /home/pi
sudo setfacl -d -Rm g:www-data:rwX /home/pi
```

Unfortunately, I had problems then with permissions on the .ssh folder (preventing keys to be used). To remove the fact on just this folder:

```
sudo chmod g-w /home/pi
```

Set up etherpad

And the version of “nodejs” is now 0.10.29~dfsg-2. So let’s try it with etherpad...

```
sudo apt-get install npm git

sudo ln -s /usr/bin/nodejs /usr/bin/node

cd /opt
sudo git clone https://github.com/ether/etherpad-lite.git
sudo mv etherpad-lite etherpad

# TODO: don't create home folder! ... find option
sudo adduser --system --home=/opt/etherpad --group etherpad
sudo chown -R etherpad:etherpad etherpad
```

Used password VJ.

Run etherpad for the first time as the etherpad user...

```
cd /opt/etherpad
sudo --user etherpad bin/run.sh
```

Following the first recipe on this page about [deploying etherpad as a systemd service](#)

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

```
[Unit]
Description=Etherpad-lite, the collaborative editor.
After=syslog.target network.target

[Service]
Type=simple
User=etherpad
Group=etherpad
WorkingDirectory=/opt/etherpad
ExecStart=/usr/bin/nodejs /opt/etherpad/node_modules/ep_etherpad-lite/node/server.js
Restart=always

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

After this,

```
sudo service etherpad start
```

Seems to work! Apparently it's the same as:

```
systemctl start etherpad-lite
```

And to start on boot:

```
systemctl enable etherpad-lite
```

etherdump

System wide installation of etherdump

Install deps:

```
sudo apt install python-pip python-dev
sudo pip install python-dateutil jinja2 html5lib
```

Install from repo:

```
git clone http://murtaugh@gitlab.constantvzw.org/aa/etherdump.git
cd etherdump
sudo python setup.py install
```

Setup the folder

```
cd /home/pi
mkdir etherdump
cd etherdump
etherdump init
```

Type in:

```
http://etherbox.local:9001/
```

And paste the API key. (Look at: <http://etherbox.local/opt/etherpad/APIKEY.txt>)

styles.css + versions.js

```
scp styles.css versions.js pi@etherbox.local:etherdump/lib
```

The URLs of these files are options to the etherdump pull command and should match.

etherdump.sh + cron

Make the script that runs automatically.

```
nano etherdump.sh
```

```
#!/bin/bash
# PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/local/games:/usr/g
cd /home/pi/etherdump
etherdump pull --all --pub /home/pi/etherdump --css lib/styles.css --script lib/versions.js
etherdump index *.meta.json > index.html
```

And set it to run every 5 minutes

```
crontab -e
```

```
PATH=/home/pi/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
# m h dom mon dow  command
*/5 * * * * /home/pi/etherdump.sh > /home/pi/cron.log.txt 2>&1
```

The PATH is important. It can also be in the etherdump.sh but basically should match what you see when you “echo \$PATH” (for the script to run in the same way as for the pi user).

Other software

```
sudo apt-get install emacs-nox screen pdftk pandoc texlive-latex-recommended texlive-fonts-recommended
sudo pip install csvkit
```

To install

- screen
- pandoc + latex
- pdftk
- csvkit

What about

- texlive-xetex texlive-luatex pandoc-citeproc etoolbox

The current version of pandoc in this raspbian is 1.12.4.2~dfsg-1+b3 We will use latex for PDF generation (via pandoc)

(which is way better than 1.9 of the previous raspbian, and even beats the instructions for compiling 1.11.1)

MORE

```
sudo apt-get install pandoc texlive-latex-recommended texlive-fonts-recommended
```

Was able to:

```
pandoc --from markdown hello.markdown -o hello.pdf
```

Access point

Taken from [this “ultimate” guide](#)

```
apt-get install dnsmasq wireless-tools hostapd

# the next wasn't necessary for jessie, but for completeness..
RPI3 broadcom chip
apt-get install firmware-brcm80211
rmmod brcmfmac
modprobe brcmfmac
```

Give fixed IP to wlan0 interface, edit `/etc/network/interfaces` switch off the built in stuff and add (section 2):

```
auto eth0
allow-hotplug eth0
iface etho inet dhcp

#####
# 1. ORIGINAL settings... use wpa_supplicant for client mode
#allow-hotplug wlan0
#iface wlan0 inet manual
#   wpa-conf /etc/wpa_supplicant/wpa_supplicant.conf
#
#####
# 2. Fixed IP address (for hotspot / hostapd)
auto wlan0
iface wlan0 inet static
address 10.9.8.7
netmask 255.255.255.0
#####
```

Replace `/etc/dnsmasq.conf` with:

```
interface=wlan0
dhcp-range=10.9.8.10,50.9.8.254,12h
address=#/10.9.8.7
no-resolv
```

Edit `/etc/hostapd/hostapd.conf` file (adjust depending on driver/hardware)

```
interface=wlan0
```



```
driver=nl80211
ssid=WiFeels
hw_mode=g
channel=6
```

Edit /etc/default/hostapd and add

```
DAEMON_CONF="/etc/hostapd/hostapd.conf"
```

Make hostapd start at boot

```
update-rc.d hostapd defaults
```

Reboot.

Makeserver + etherpad (experimental!)

Ingredients

- Etherdump's pad.html with links including LIVE EDIT URLs
- THIS should replace/complement makeserver's EDIT button

Key question: Makeserver as a separate view ?! (probably)

TRY as 2 separate things ... basically AS IS...

Install:

```
cd /home/pi/software
git clone http://murtaugh@gitlab.constantvzw.org/aa/makeserver.git
cd makeserver
git submodule init
git submodule update
sudo pip install twisted jinja2
```

BUGFIX with twisted / SSL issues:

```
sudo pip install twisted[tls]
```

DIDN'T FIX sudo pip install twisted==16.0.0

Seems to work!

TODO

- Why are the links hardcoded long form in etherdump index (fails then via makeserver based in home)?