**Build Log**

**Streaming Video from Raspicam to web using UV4L Driver**

**Step 1: Material**

- Raspberry Pi or Odroid-W Running Raspbian

- Raspicam

- Router

- Ethernet Cable

**Step 2: Enable Raspicam**

Before starting to configure the Raspberry, you'll need to enable the Raspicam CSI port and expand the root filesystem.

First, connect the Raspicam and the Raspberry to a router using an Ethernet cable.

Then, power the Raspberry

Open the terminal and run:

$sudo raspi-config

Select "Enable Camera" and then "Enable"

Select "Expand Filesystem"

**Step 3: Installing Raspicam driver**

To install the uv4l driver, open the terminal and run the following commands:

$ wget http://www.linux-projects.org/listing/uv4l\_repo/lrkey.asc && sudo apt-key add ./lrkey.asc

Add the following line to the file /etc/apt/sources.list :

$sudo nano /etc/apt/sources.list

deb http://www.linux-projects.org/listing/uv4l\_repo/raspbian/ wheezy main

$ sudo apt-get update

$ sudo apt-get upgrade

$ sudo apt-get install uv4l uv4l-raspicam

$ sudo apt-get install uv4l-raspicam-extras

$ sudo apt-get install uv4l-server

$ sudo apt-get install uv4l-uvc

$ sudo apt-get install uv4l-xscreen

$ sudo apt-get install uv4l-mjpegstream

$ sudo reboot

Source: [http://www.linux-projects.org/modules/sections/ind…](http://www.linux-projects.org/modules/sections/index.php?op=viewarticle&artid=14)

**Step 4: Start the streaming server**

Open the terminal and run the following commands:

$sudo pkill uv4l (Optional)

$sudo uv4l -nopreview --auto-video\_nr --driver raspicam --encoding mjpeg --width 640 --height 480 --framerate 20 --server-option '--port=9090' --server-option '--max-queued-connections=30' --server-option '--max-streams=25' --server-option '--max-threads=29'

Notes:

The --port=9090 is the local IP port. You can use any port you like.

The --max-streams=25 is the maximum simultaneous streams.

**Step 5: Find Raspberry Pi local IP Address**

Open the terminal and run:

$ifconfig

Check and write down the inet addr at eth0

**Step 6: Configure your router**

- Open a Web browser

- Type your router ip address ( <http://192.168.1.1/>).

- Router login. If you're using Linksys router, the user and pass could be "admin"

- Port forward your Raspberry Pi IP address.

If your using Linksys router:

- Click "Application&Gamming" Tab

- Click "Simple Port Forwarding" Tab

- Configure the following parameters:

External Port: 9090 (Public IP port to reach your Raspberry stream)

\*Make sure your chosen port is Open with <http://mxtoolbox.com/PortScan.aspx>. If it's not, call your internet provider to open the port.

Internal Port: 9090 (Raspberry Pi streaming port)

Protocol: Both

To IP Address: 192.168.1.104 (Your local Raspberry Pi IP Address)

Enabled: checked

Resources

How to find your router IP address:[http://portforward.com/networking/routers\_ip\_addre...](http://portforward.com/networking/routers_ip_address.htm)

Port Forwarding: [http://setuprouter.com/router/cisco/linksys-e1200/...](http://setuprouter.com/router/cisco/linksys-e1200/port-forwarding.htm)

**Step 7: Final Test**

To see the streaming follow the next steps:

- Open a browser

- Type your Raspberry Pi IP follow by the external/public port (http://Your Raspberry Pi IP:9090/stream)