Cheerlights – Part 2

Using Python to Retrieve Current Cheerlights Color

What is Cheerlights?

- “CheerLights is an “Internet of Things” project created by Hans Scharler that allows people’s lights all across the world to synchronize to one color set by Twitter.” http://www.cheerlights.com/
- The current cheerlights color can be accessed (as a text file) at http://api.thingspeak.com/channels/1417/field/1/last.txt

Share your Internet Connection

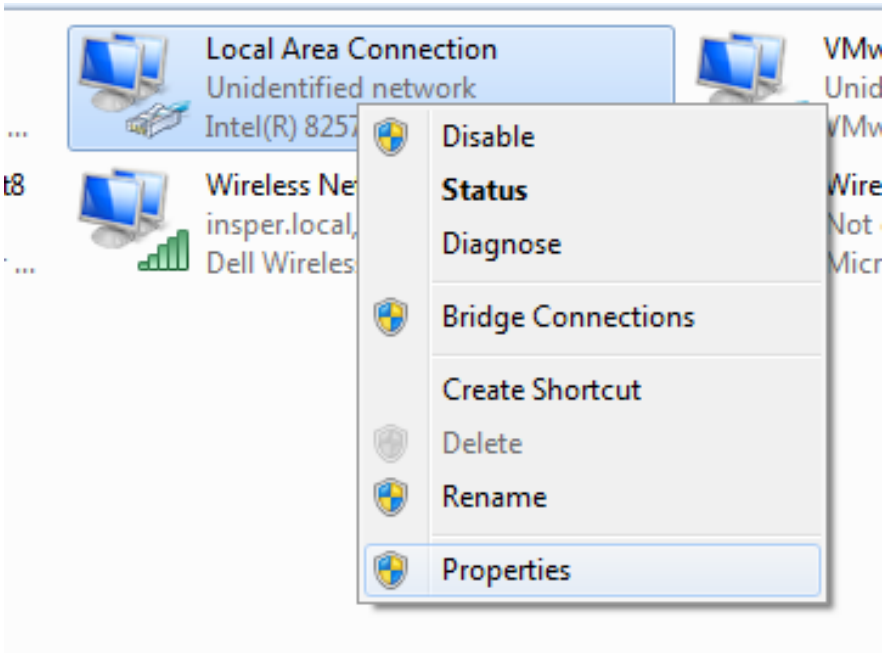
- Connect the Galileo to your laptop via ethernet
- Open Network Connections by clicking the **Start** button , and then clicking **Control Panel**. In the search box, type **adapter**, and then, under Network and Sharing Center, click **View network connections**.

Share your Internet Connection

- Right-click the connection that you want to share, and then click **Properties**. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.
- Click the **Sharing** tab, and then select the "*Allow other network users to connect through this computer's Internet connection"* check box.
- In the dropdown menu for "*Select a private network connection*", select **Local Area Connection**

Find the Ethernet IP address

- In the Network Connections window, right-click your ethernet (Local Area Connection) and click **Properties**



Find the Ethernet IP address

- In the **Properties** window, scroll down to **Internet Protocol Version 4 (TCP/IPv4)** and double-click it
- Note the IP address listed

Configure the Galileo Internet

- In your Linux shell, type **`ifconfig`** and look for the hostname. It will likely start with an “e” for ethernet, like “eth0” or “enp0s20f6”
- Type **`ifconfig [hostname] down`**, ie:

  `ifconfig eth0 down`
- Choose a new IP address for your Galileo that is the same as the one you saw on Windows but with the last number changed
  - If my Windows ethernet IP was 192.168.137.1, I would pick 192.168.137.2

Configure the Galileo Internet

- Type **`ifconfig [hostname] [new IP address]`**, ie:

  `ifconfig eth0 192.168.137.2`
- Test the connection by typing

  `ping www.google.com`
- If it responds, you're done! If you get an error that looks like *Name or service not known error*, try replacing the words www.google.com with its IP address: 186.215.155.55
- If that works, follow the next slide instructions

Resolve the Namespace

- Find the file *resolv.conf* in the Setup folder and transfer it to Linux in Windows Command:

  pscp –scp ./resolv.conf@[IP HERE]:/home/root

- In the Linux shell, make sure you're in the */home/root* directory then type

  mv resolv.conf /etc

- This should fix your namespace problems, now try pinging www.google.com

Transfer the File to Linux

- Open a **Windows Command Prompt** and use **`cd`** to navigate to the directory containing the *cheerlights.py* file
- Find the Galileo's IP address by typing **`ifconfig`** in the command line window.
- Transfer your file to the Galileo by typing

```
pscp –scp ./cheerlights.py root@[IP HERE]:/home/root
```

Run the Python file

- Run the file from the Linux shell with the command:

  ```
  python cheerlights.py
  ```

- It should start printing the current cheerlights color to command line
- If you have a twitter, you can tweet @cheerlights with a new color to see the output change
- Allowed colors: red, green, blue, cyan, white, warmwhite, purple, magenta, yellow, orange, pink, oldlace