

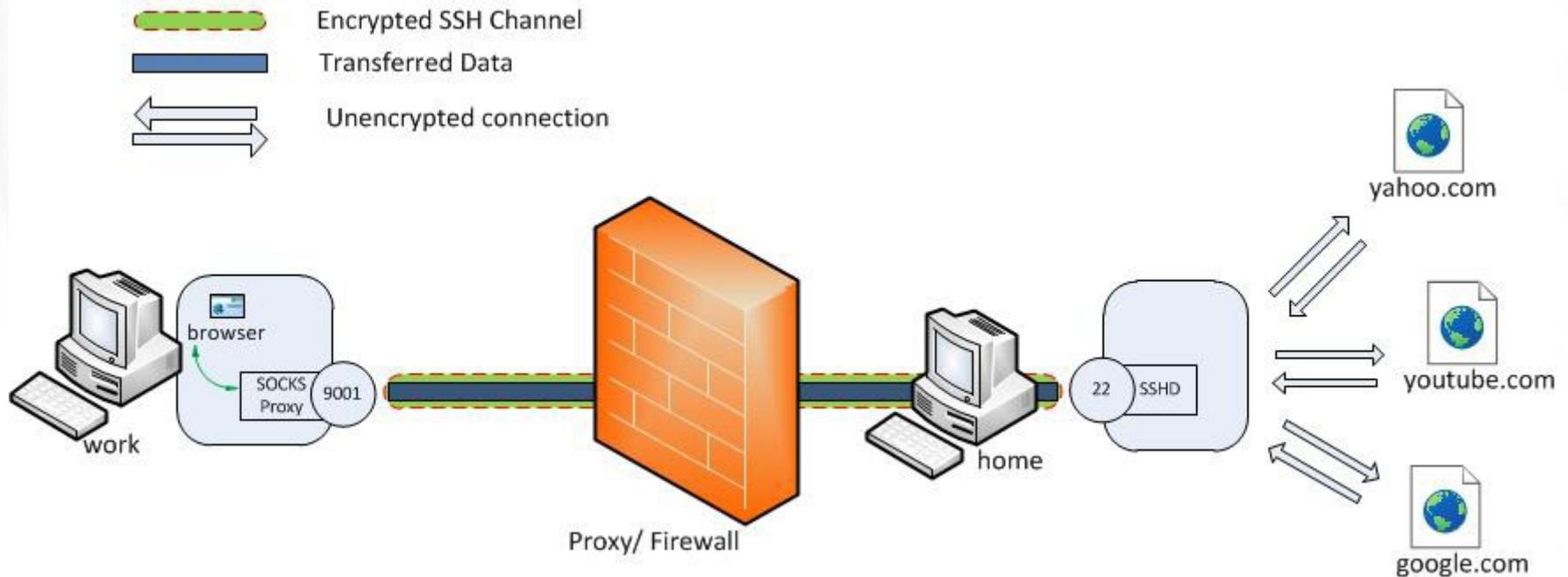
Personal VPN using SSH Dynamic Tunneling

Gary Meyer
Ed Wehner

SSH Dynamic Port Forwarding

- Dynamic port forwarding configures a local port for tunnelling data to multiple remote IP Addresses/Ports.
- The client application connecting to local port use the SOCKS protocol.
- The SOCKS proxy is located on the client side to specify where the traffic should be sent when it leaves the other end of the ssh tunnel.
- This technique is support with open/free software on virtually all platforms that supports ssh and fire-fox.

How it works



<http://chamibuddhika.wordpress.com/2012/03/21/ssh-tunnelling-explained/>

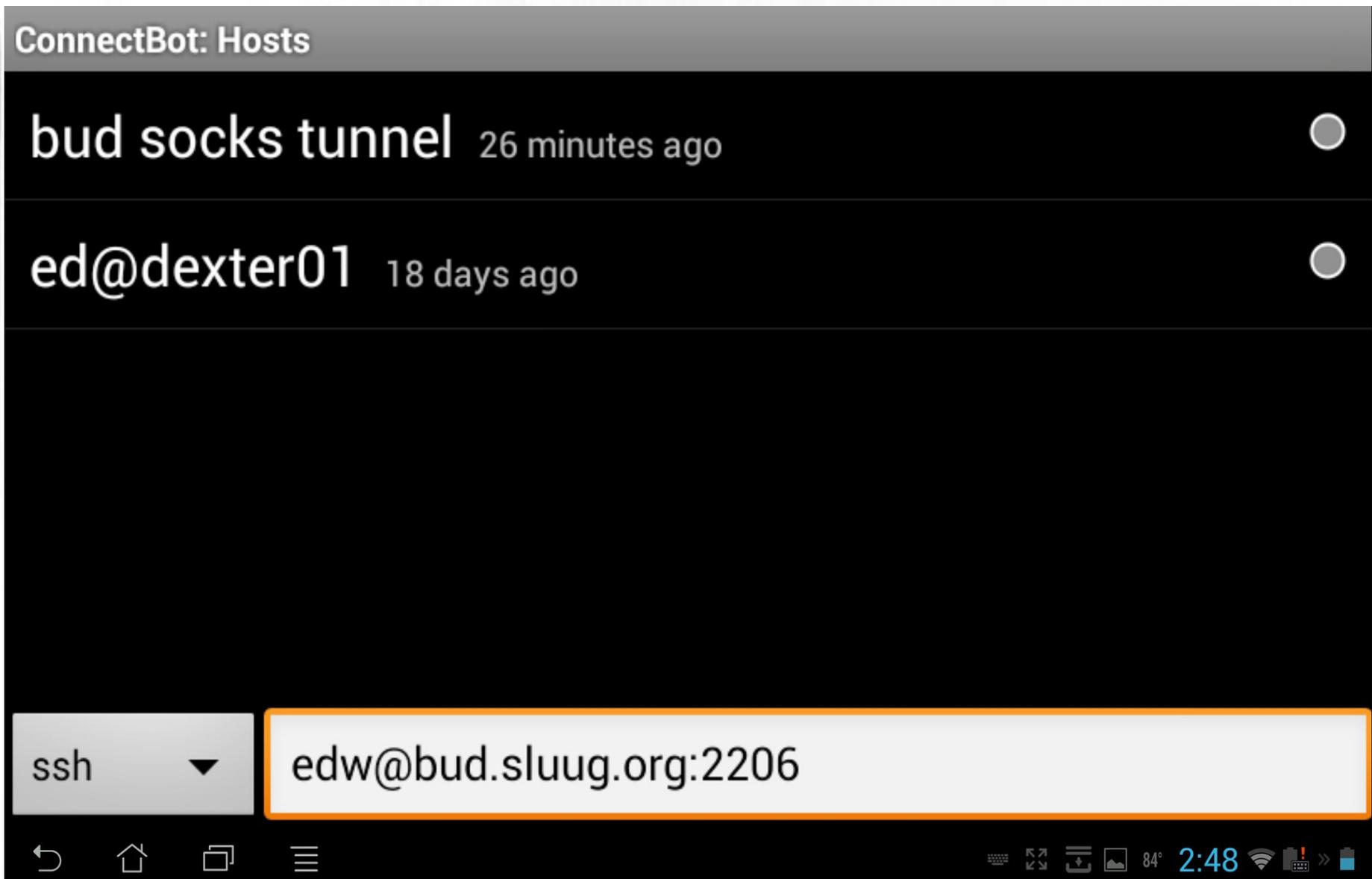
Android Example

- What you need:
 - ConnectBot – Google Play
 - Firefox – Google Play

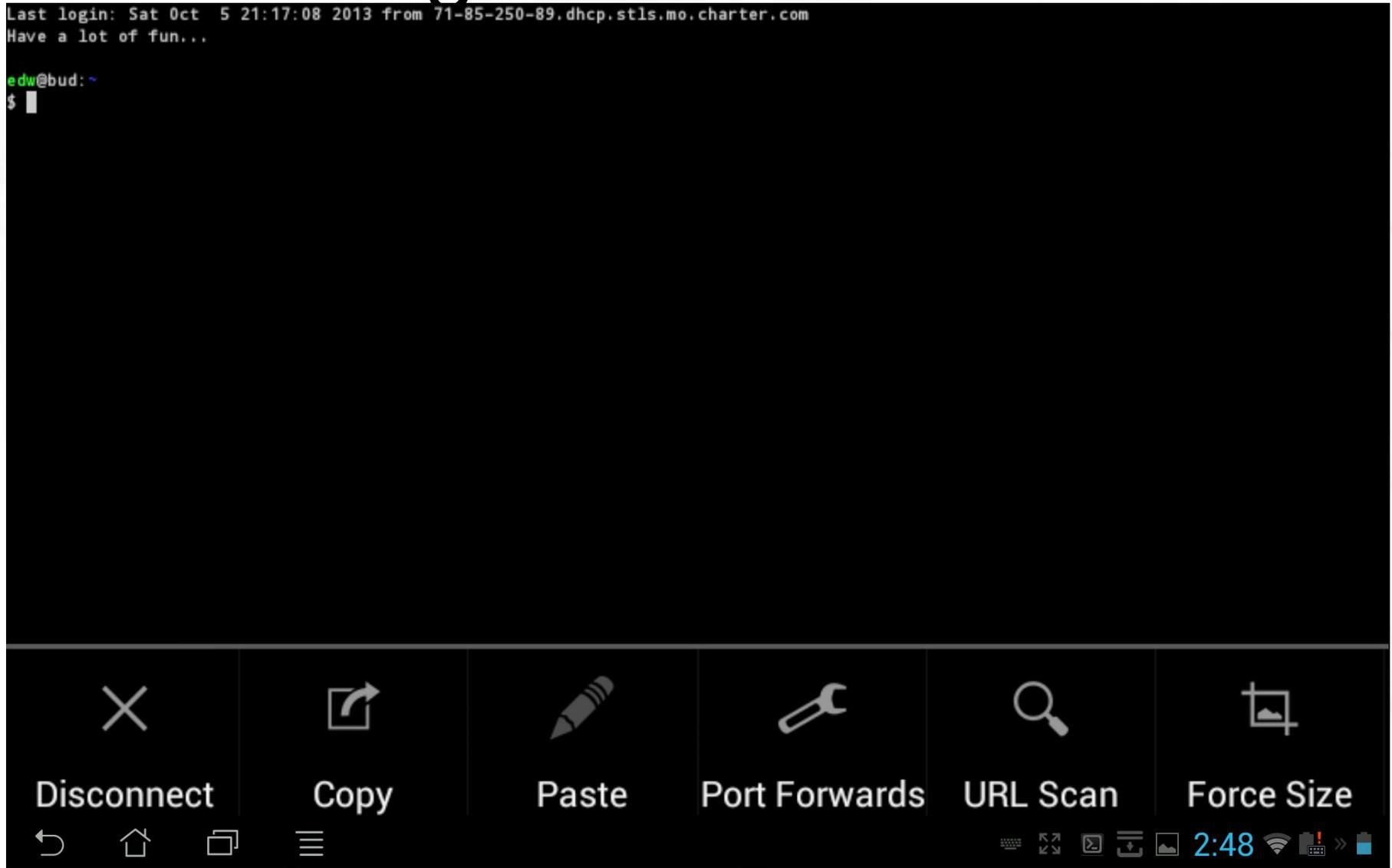
Android Setup

- Install ConnectBot & Firefox
- Configure a Dynamic Tunnel to your ssh server
 - Local port 8080
- Configure Firefox to use a socks proxy to localhost port 8080
- Configure Firefox for DNS Lookup through the proxy server
- Test your IP address

Configure ConnectBot

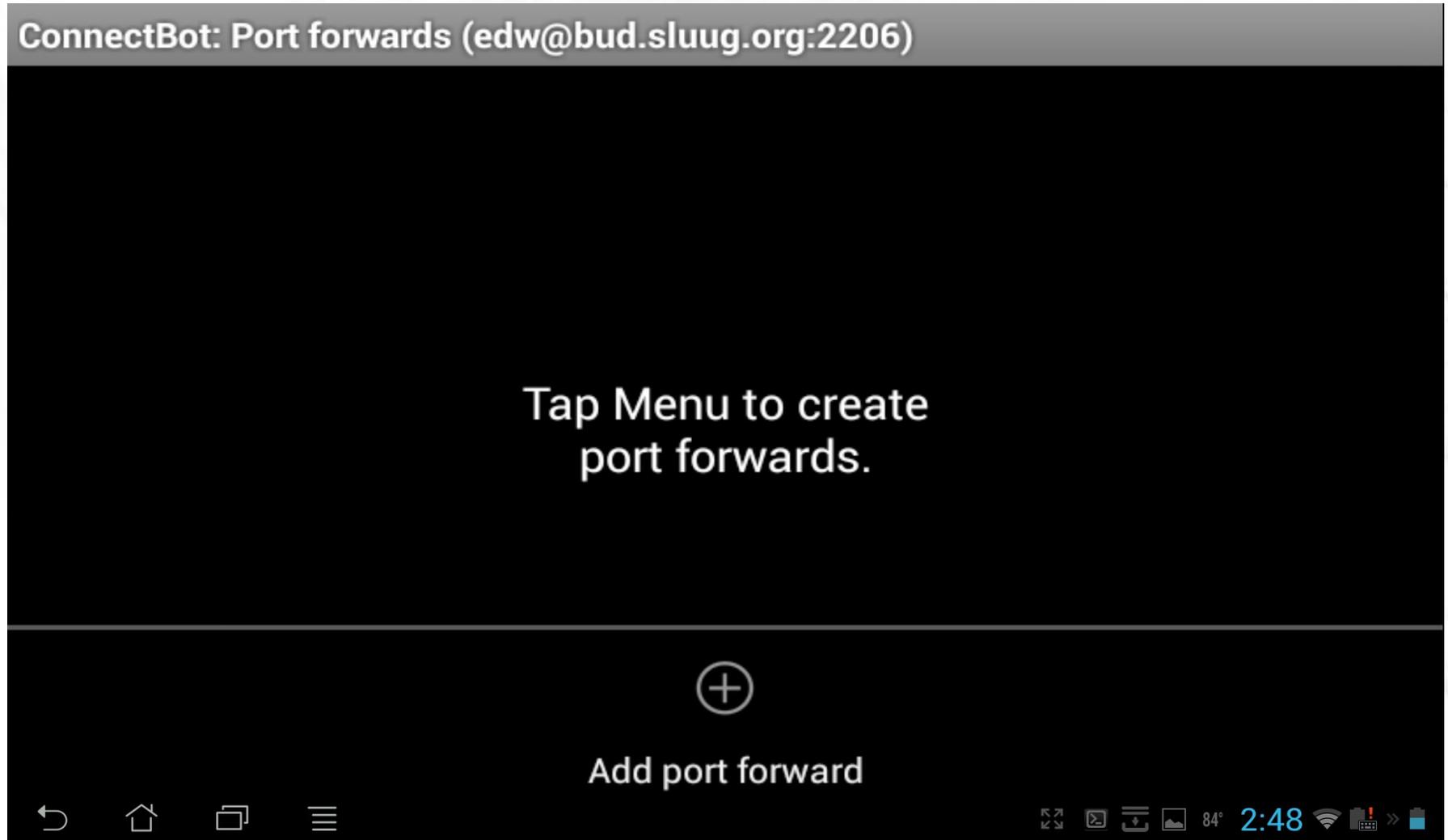


Configure ConnectBot



Menu

Configure ConnectBot



Menu

Configure ConnectBot

ConnectBot: Port forwards (edw@bud.sluug.org:2206)

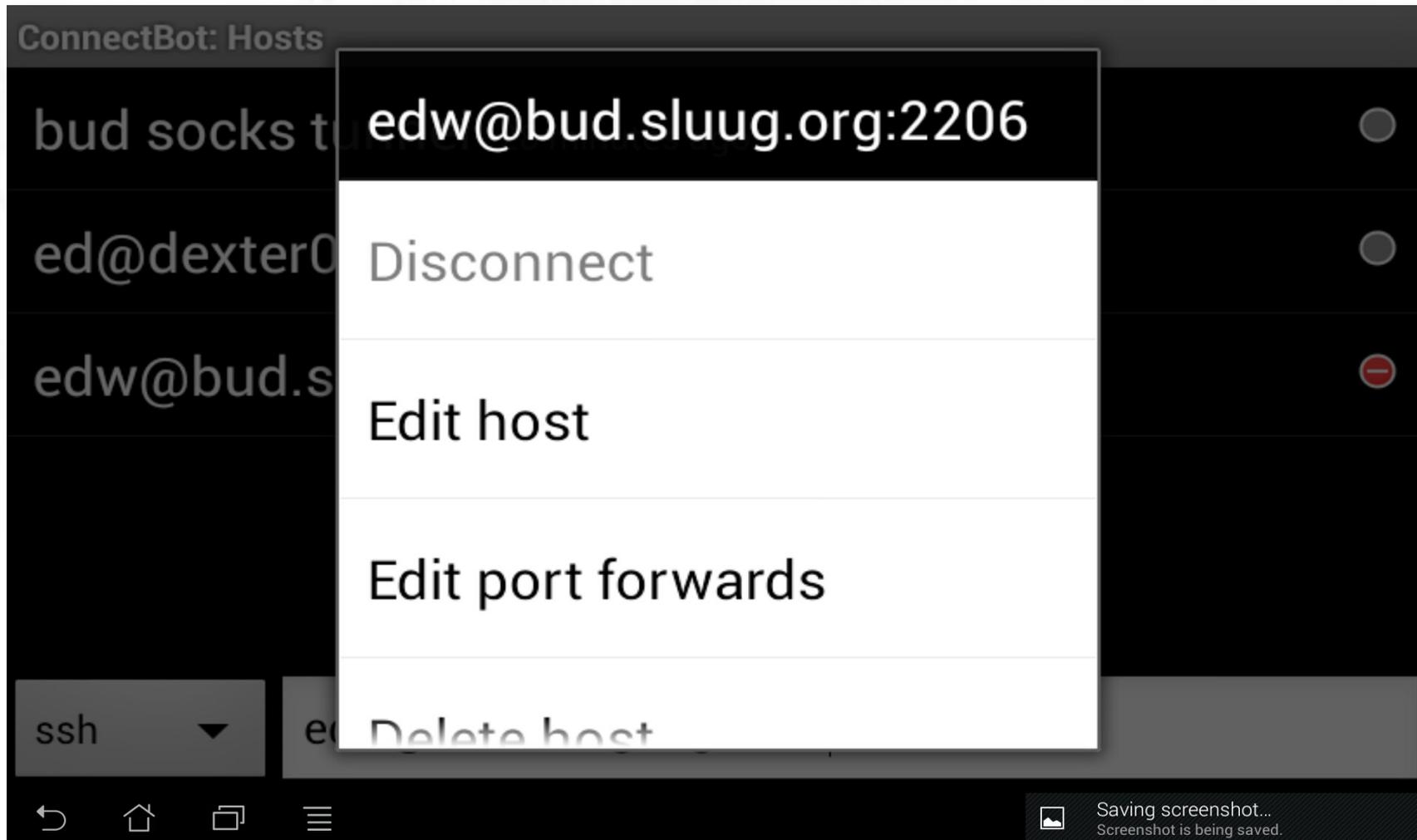
Nickname:

Type:

Source port:

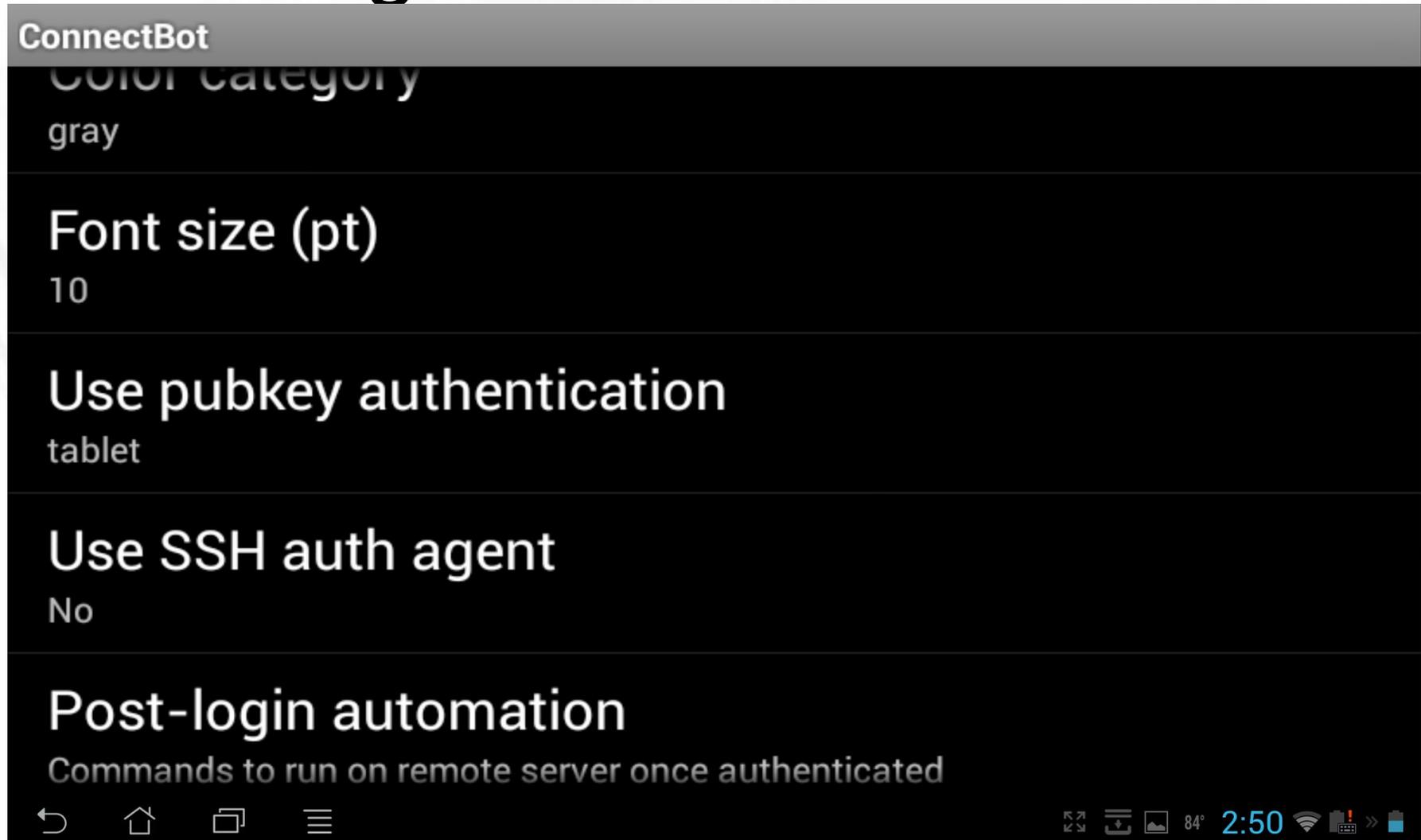
Destination:

Configure ConnectBot



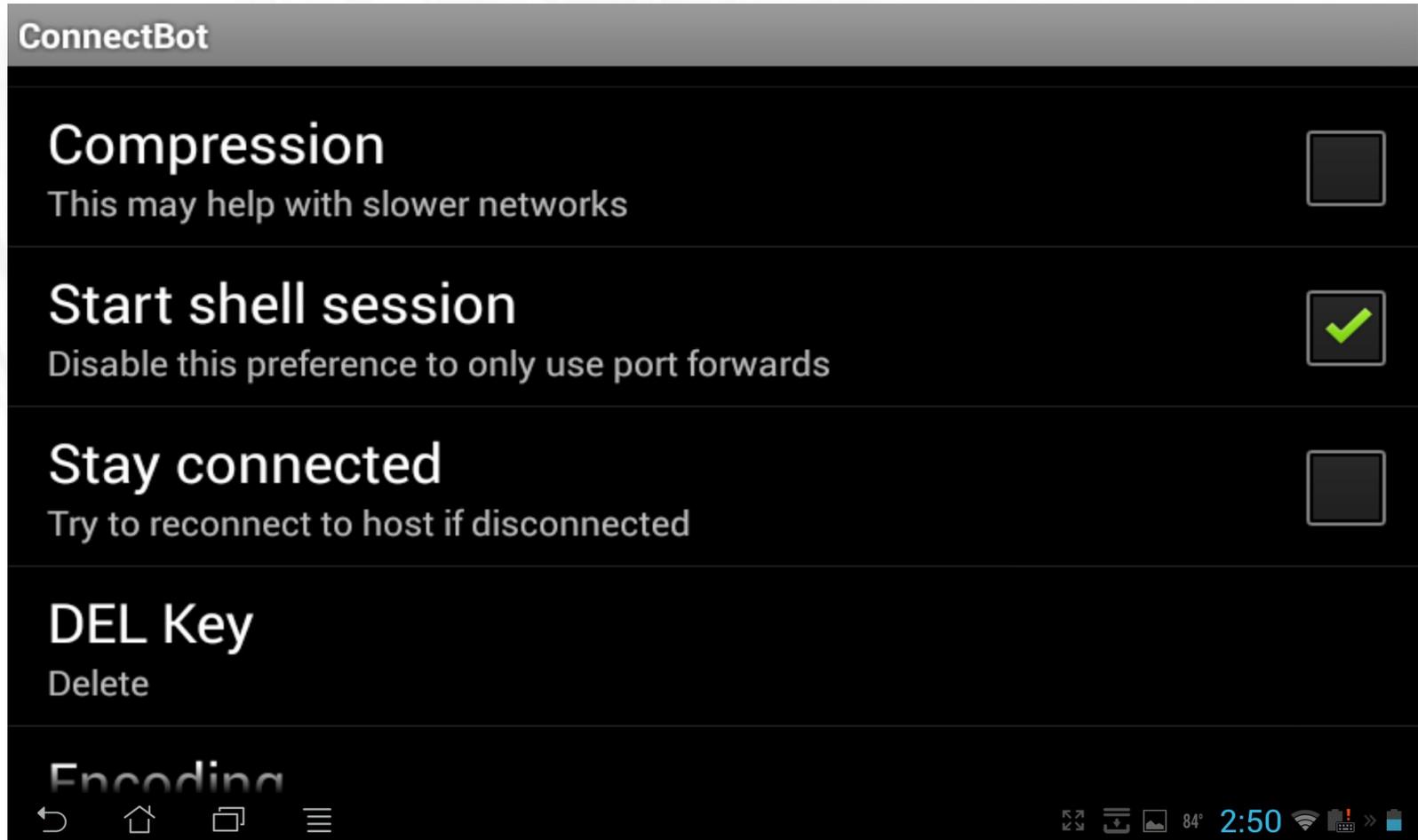
Long Press to Select Connection

Configure ConnectBot



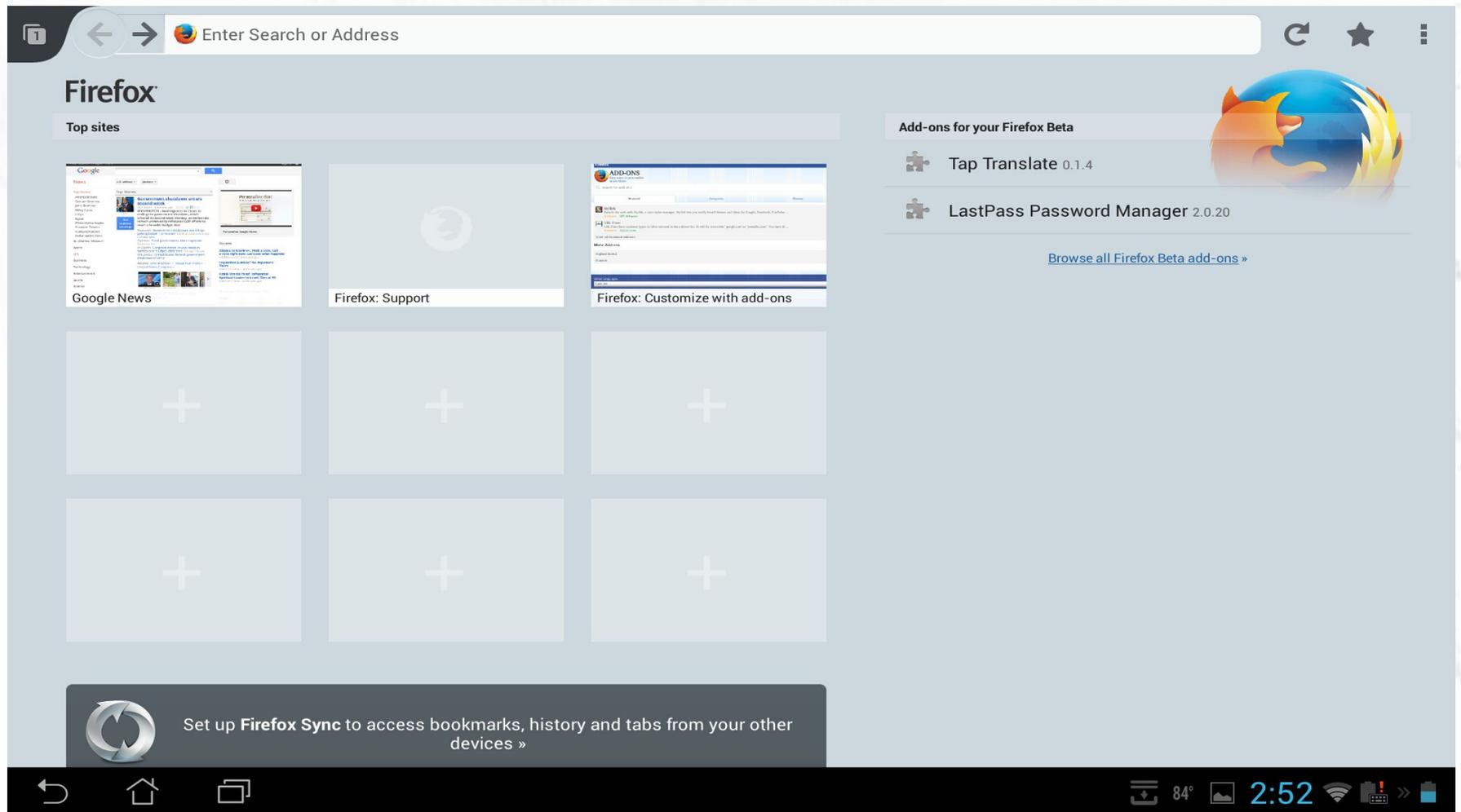
You can configure Pubkey authentication! Use Post-login automation to run a command on connect.

Configure ConnectBot



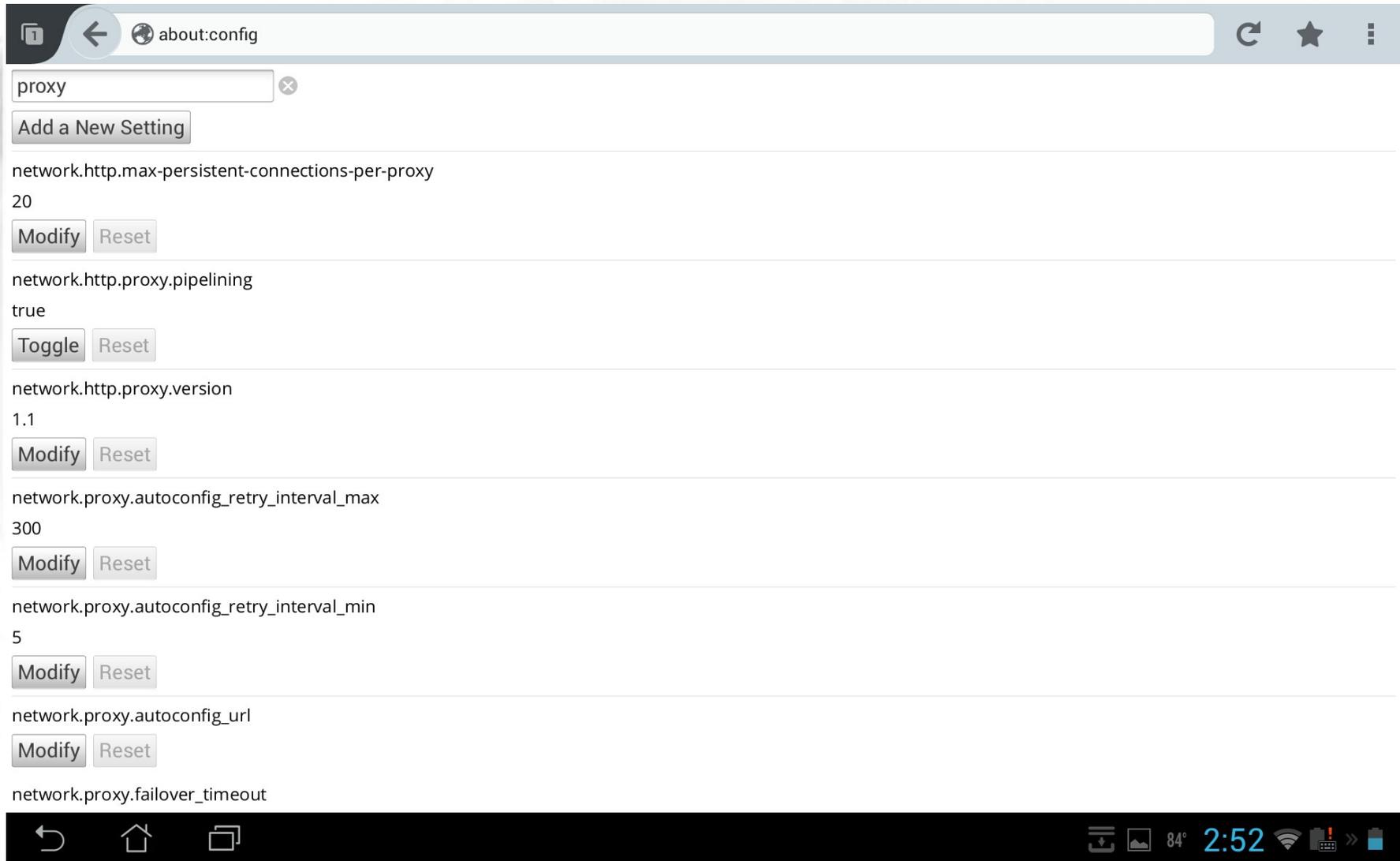
Remove Start Shell for Tunnel Only, Stay connected will retry if tunnel closes

Configure Firefox



There are no user settable proxy settings available with FF Android

Configure Firefox



The screenshot shows the Firefox browser's `about:config` page. The address bar contains `about:config`. A search box at the top left contains the text `proxy`. Below the search box is a button labeled "Add a New Setting". The main content area lists several proxy-related settings, each with a "Modify" or "Toggle" button and a "Reset" button. The settings are:

- `network.http.max-persistent-connections-per-proxy`: 20 (Modify, Reset)
- `network.http.proxy.pipelining`: true (Toggle, Reset)
- `network.http.proxy.version`: 1.1 (Modify, Reset)
- `network.proxy.autoconfig_retry_interval_max`: 300 (Modify, Reset)
- `network.proxy.autoconfig_retry_interval_min`: 5 (Modify, Reset)
- `network.proxy.autoconfig_url`: (Modify, Reset)
- `network.proxy.failover_timeout`: (Modify, Reset)

The bottom of the screenshot shows the Android system bar with navigation icons (back, home, recent apps), status icons (signal, Wi-Fi, battery), temperature (84°), and time (2:52).

FF supports proxy, but you have to set the values through `about:config`

Configure Firefox

Blank

network.proxy.http

Modify Reset

network.proxy.http_port

3128

Modify Reset

network.proxy.no_proxies_on

localhost, 127.0.0.1

Modify Reset

network.proxy.socks

localhost

Modify Reset

network.proxy.socks_port

8080

Modify Reset

network.proxy.socks_remote_dns

true

Toggle Reset

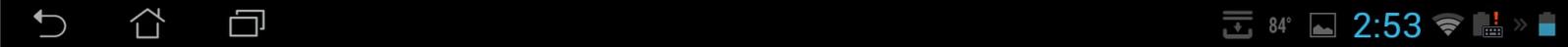
network.proxy.socks_version

5

Modify Reset

network.proxy.ssl

Modify Reset



Match Tunnel Port

Set True

Blank

FF supports proxy, but you have to set the values through about:config

Configure Firefox

localhost, 127.0.0.1

Modify Reset

network.proxy.socks

localhost

Modify Reset

network.proxy.socks_port

8080

Modify Reset

network.proxy.socks_remote_dns

true

Toggle Reset

network.proxy.socks_version

5

Modify Reset

network.proxy.ssl

Modify Reset

network.proxy.ssl_port

3128

Modify Reset

network.proxy.type

1

Modify Reset

Blank



Must be 1



0=none
1=Manual
5=System



FF supports proxy, but you have to set the values through about:config

Test your connection

The screenshot shows a mobile browser interface with a search bar containing the text "what is my ip". The search results are displayed below the search bar. The first result is a snippet stating "Your public IP address is 206.196.99.162 - Learn more". Below this, there are three search results from "What Is My IP" and "What Is My IP Address?". The first result is titled "What Is My IP @ | Shows Your IP Address." and includes the URL "www.whatismyip.com/". The second result is titled "What Is My IP Address? Lookup IP, Hide IP, Change IP, Trace IP and ..." and includes the URL "whatismyipaddress.com/". The third result is titled "IP Address Lookup - What Is My IP Address?" and includes the URL "whatismyipaddress.com/ip-lookup". To the right of the search results, there is a "Related searches" section with several suggestions: "what is my ip address and port", "what is my ip location", "speed test", "what is my ip speed", "what is my ip range", "what is my internal ip", "what is my router ip", and "what is my local ip". The browser's address bar shows "what is my ip - Google Search" and the mobile status bar at the bottom displays the time "2:55" and various system icons.

Your IP Address should be the address of your ssh server

Closing the Tunnel

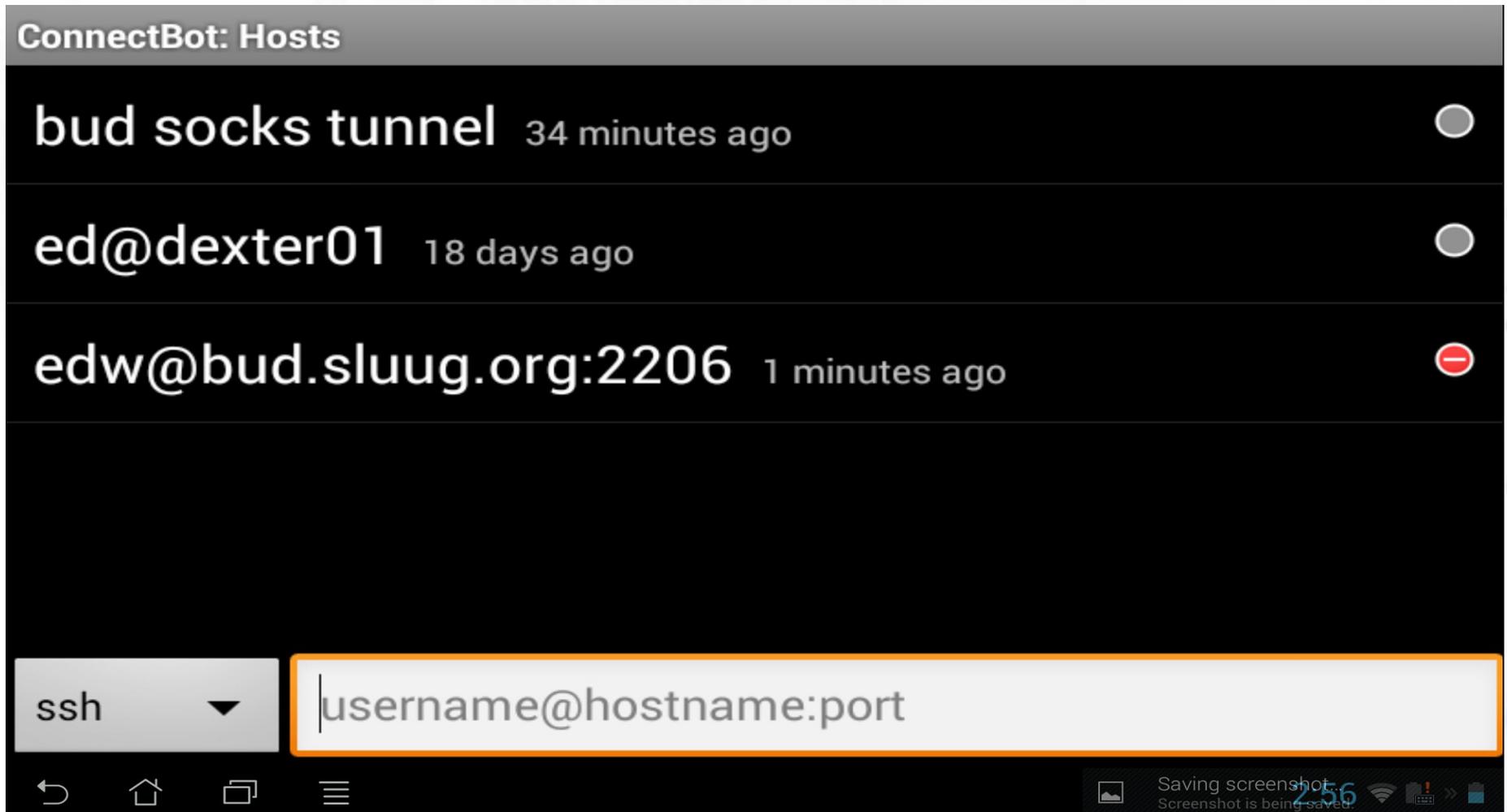
```
Last login: Mon Oct 7 14:48:26 2013 from 71-85-250-89.dhcp.stls.mo.charter.com
Have a lot of fun...

edw@bud: ~
$
```



Go back to ConnectBot and tap menu and disconnect.

Closing the Tunnel

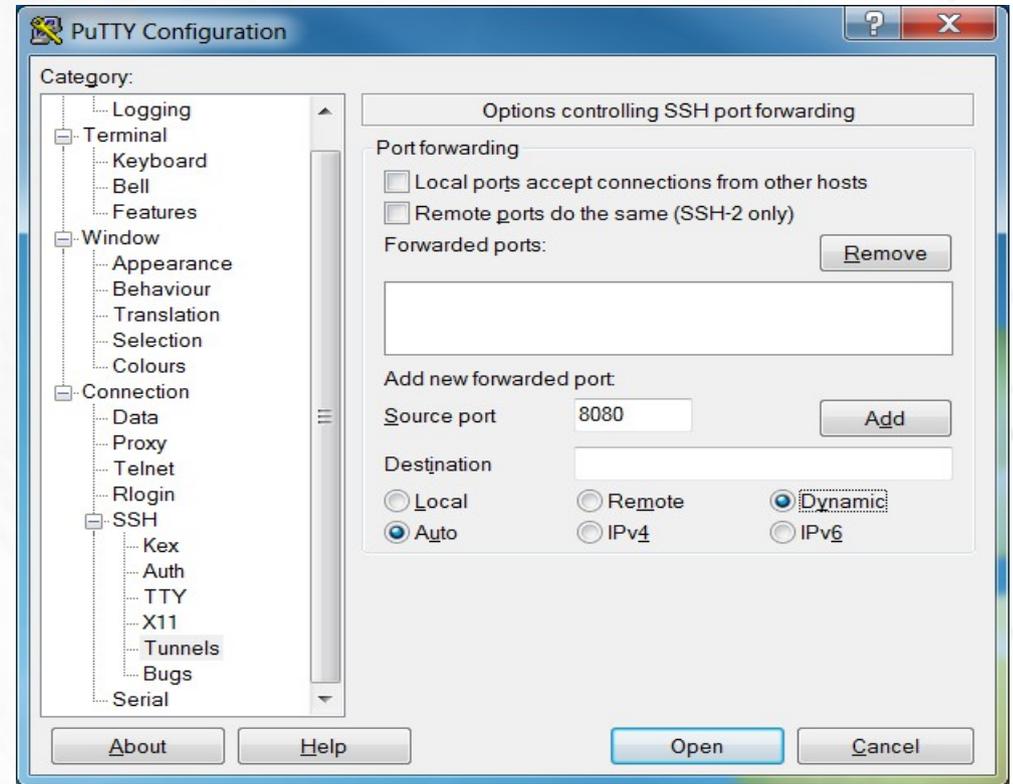
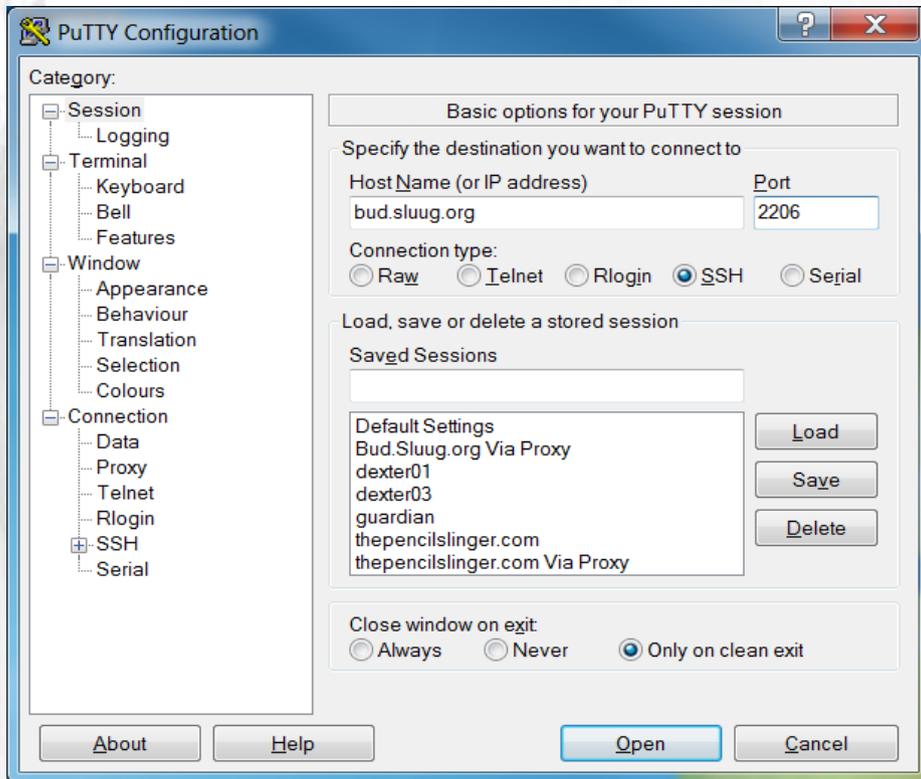


That's it!

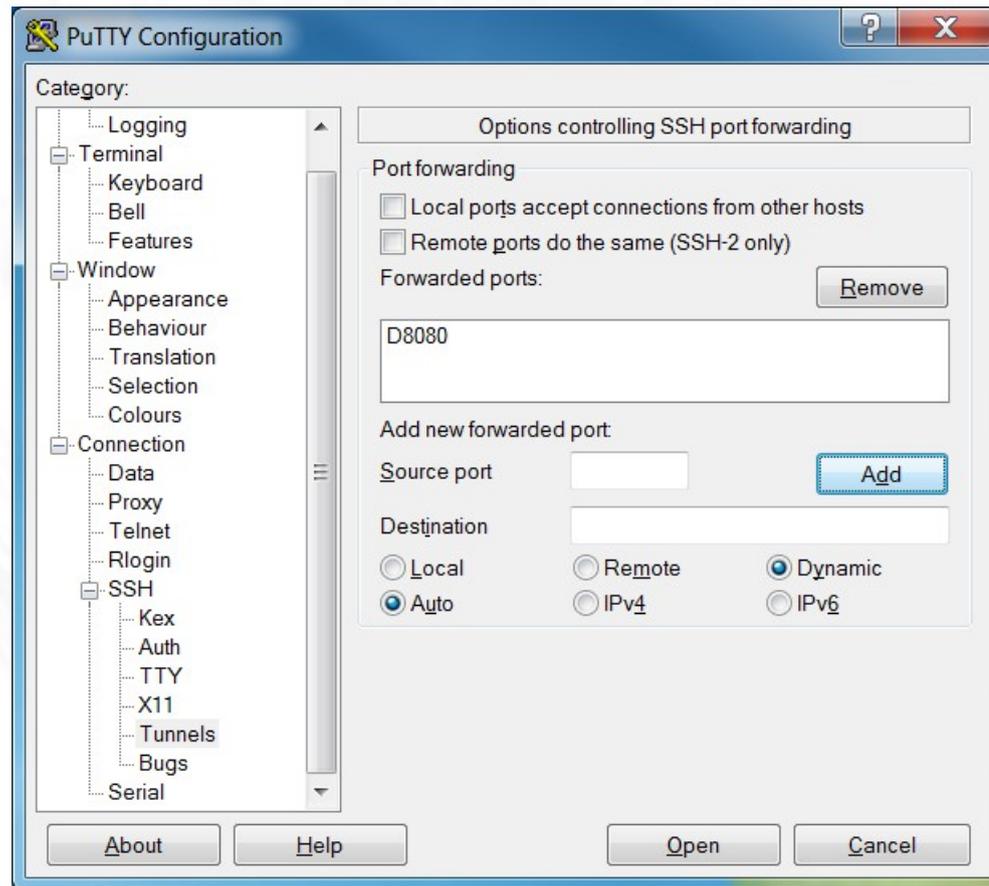
Windows Approach

- What you need
 - Putty
 - Firefox
- We will assume you already have these.

Configure PuTTY session

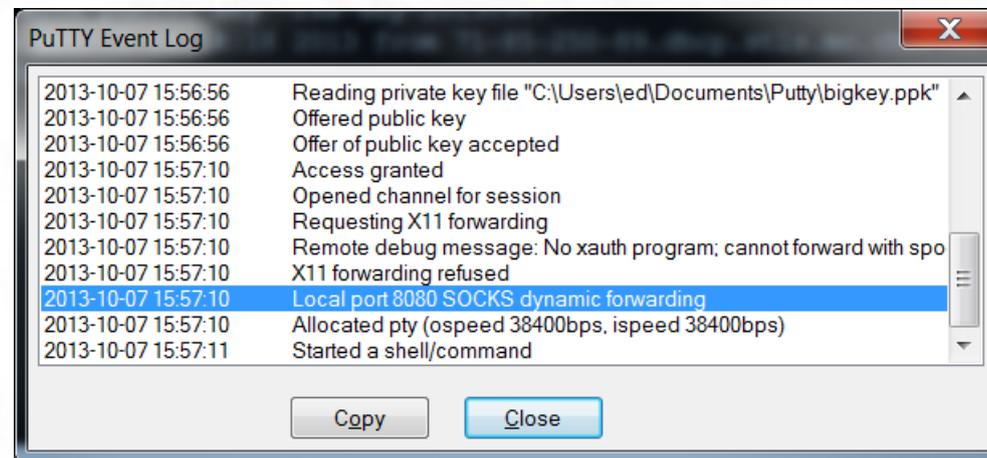


Port forward should look like this.

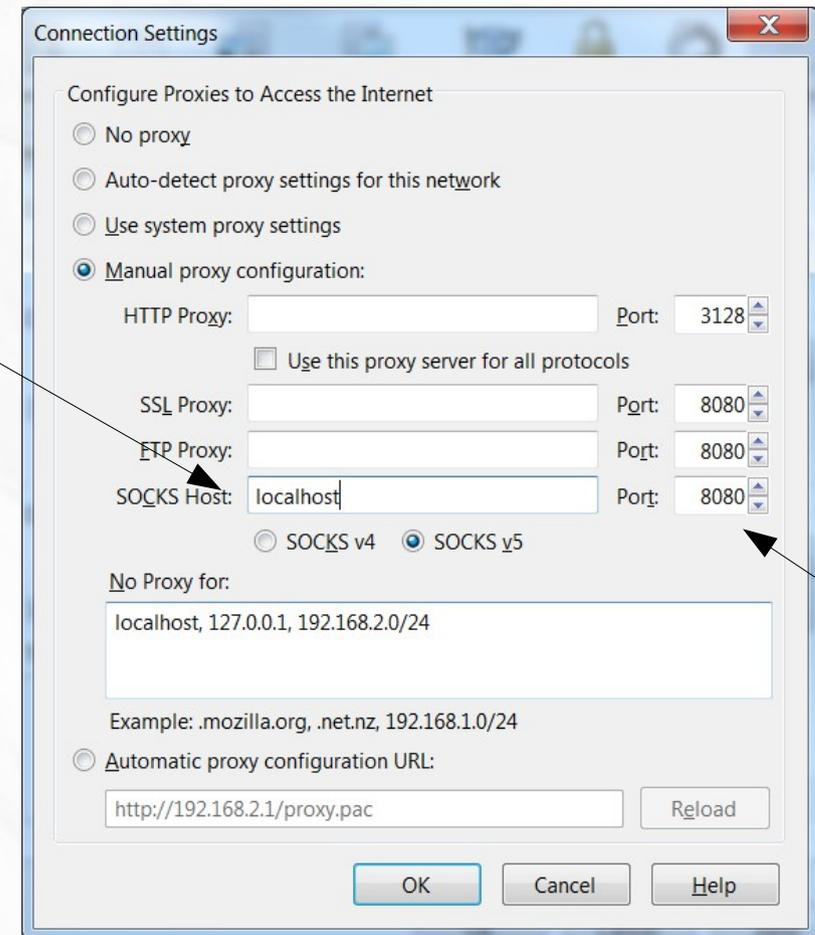
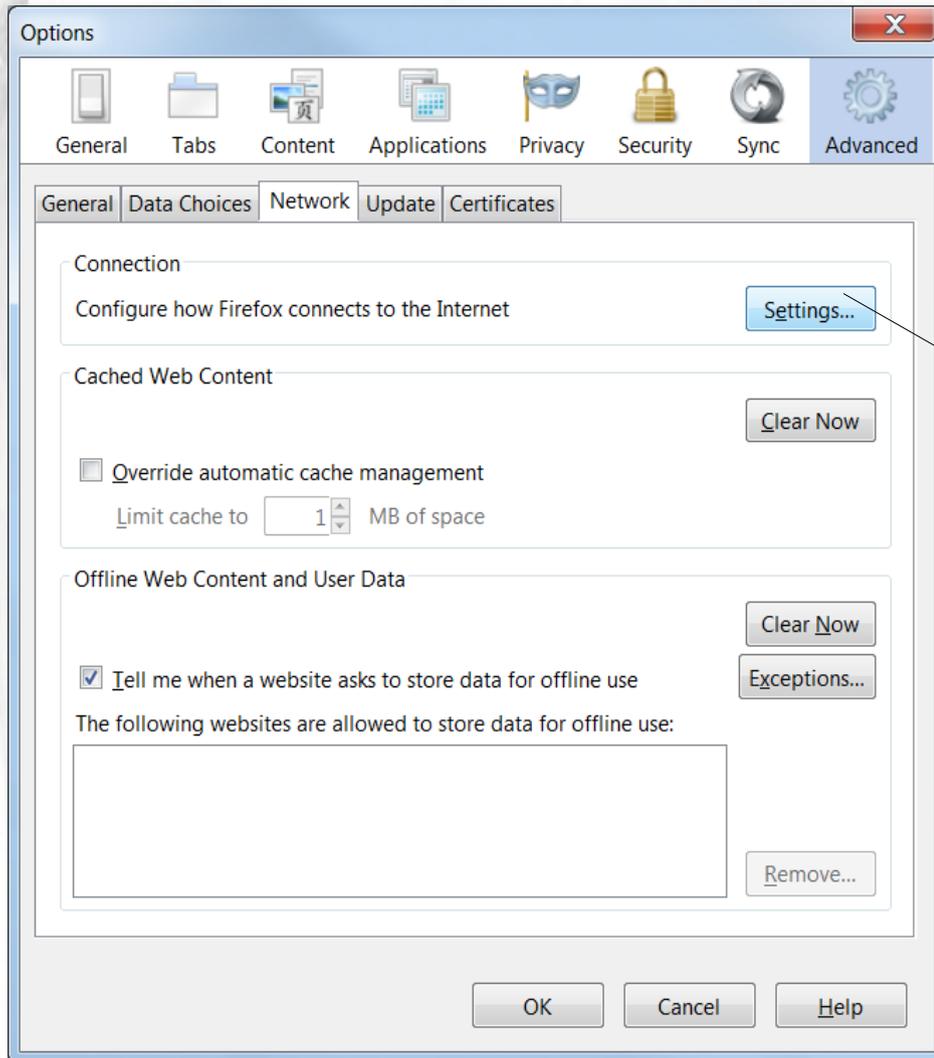


Make what ever other changes are needed for PuTTY and save sessions

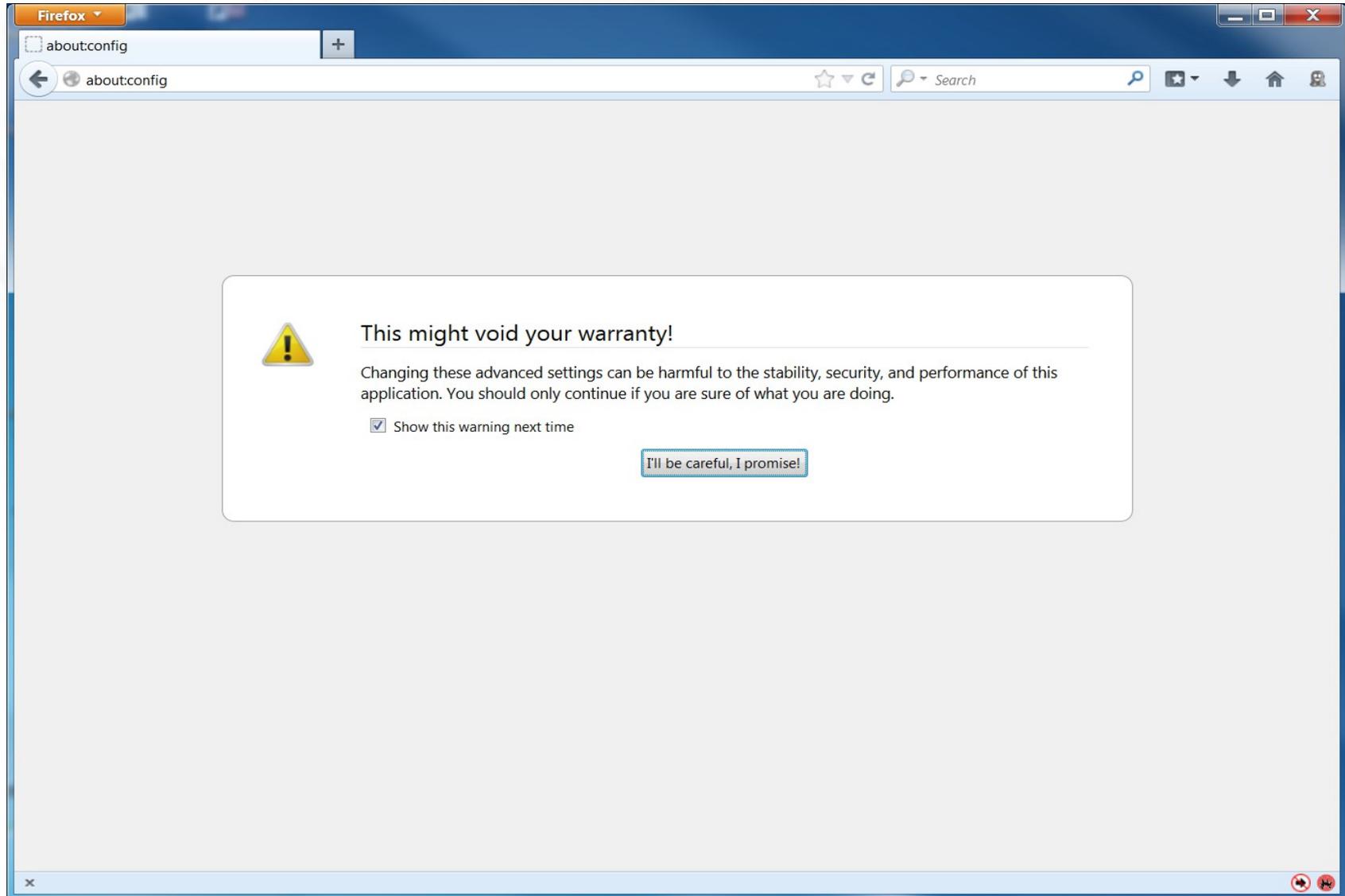
Check PuTTY Event Log



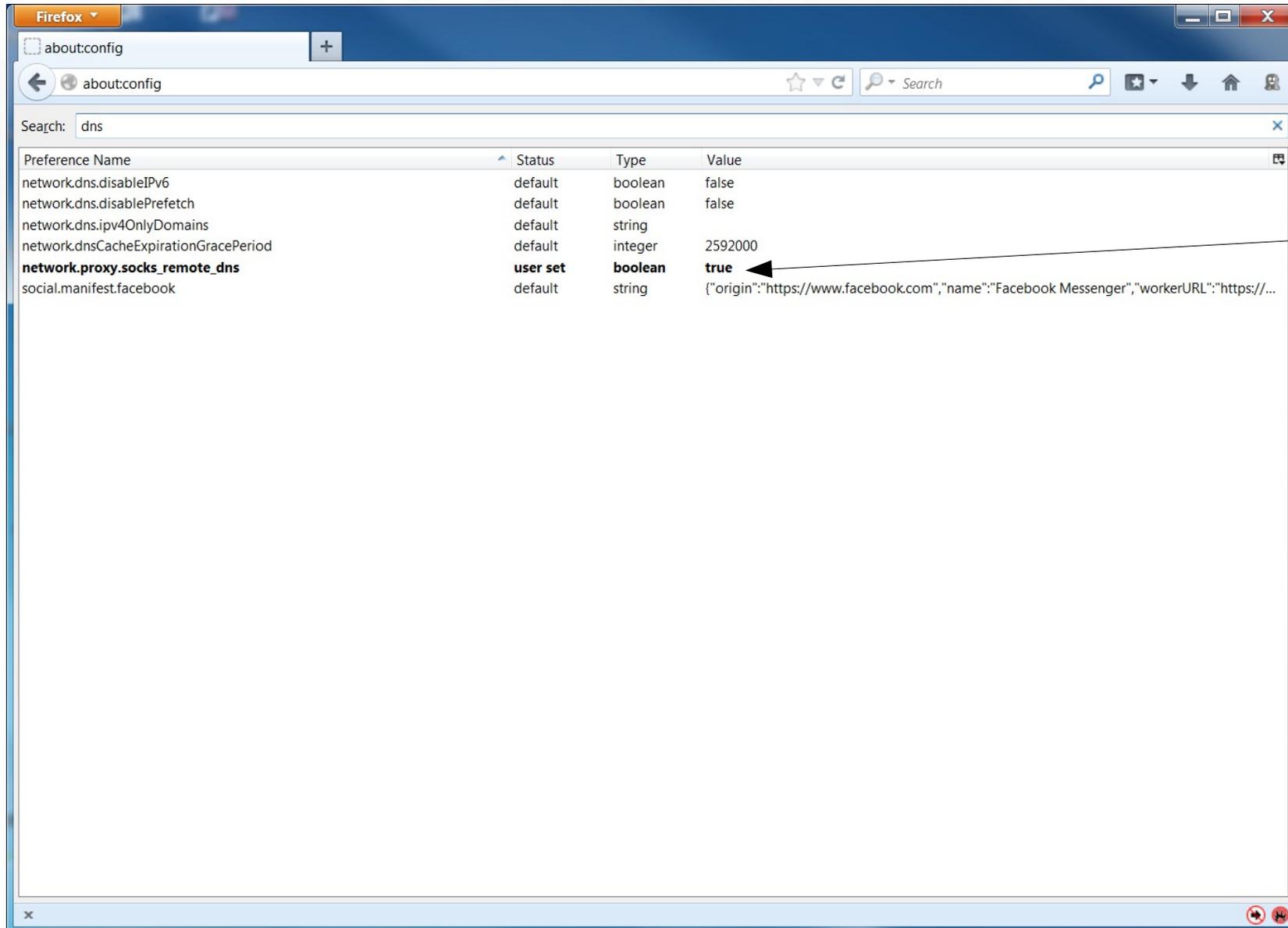
Configure Firefox to use local Socks Proxy



Set Firefox to use proxy for DNS



Set option to true



Right Click->
Toggle

Test your IP

Firefox

what is my ip - Google Search

https://www.google.com/#q=what+is+my+ip

Google

what is my ip

SIGN IN

Web Images Maps Shopping Applications More Search tools

About 451,000,000 results (0.15 seconds)

Your public IP address is **206.196.99.162** - [Learn more](#)

What Is My IP® | Shows Your IP Address.
www.whatismyip.com/
What Is My IP® - IP Address Lookup, Change IP, IP Whois Lookup, Internet Speed Test, Trace An Email, Host Name Lookup, User Agent, Server Headers ...
[IP Address Lookup - Internet Speed Test - How to Change Your IP Address - IP Tools](#)

What Is My IP Address? Lookup IP, Hide IP, Change IP, Trace IP and ...
whatismyipaddress.com/
IP address lookup, location, proxy detection, email tracing, IP hiding tips, blacklist check, speed test, and forums. Find, get, and show **my IP** address.
[IP Lookup - Blacklist Check - How do I change my IP address? - IP Address Tools](#)
2,475 people +1'd this

IP Address Lookup - What Is My IP Address?
whatismyipaddress.com/ip-lookup
Lookup details about an **IP** address including location, ISP, hostname, type, proxy, blacklist status and more. Trace, Track and Locate an **IP** address.

What's My IP Address? Networking Tools & More
www.whatsmyip.org/
Your **IP** Address plus Port Scanners, Traceroute, HTTP Compression Test, Ping, Whois, DNS, **IP** Geo Location, Password Generator and many more tools and ...

What's My IP

whatismyip

Recent posts

Thanks to user feedback, our homepage now shows more data about your IP. Let us know what you think. -Brian
Sep 17, 2013

Warnings!

- These settings ONLY affect Firefox!
- Add-ons, such as Flash may bypass proxy settings!
- Other apps will not know about the proxy and may bypass it entirely – leaving you defenseless.
- If you are rooted you can try tsocks to direct all traffic via socks. (I have never done this)
- For windows, there are several Socks Proxy Capture (SocksCap, WideCap, etc) to make non-socks apps socks compliant.