Router Installation
& Hello World
Project 2

• Part 1
  • Configure router
  • Configure cross-compilation env

• Part 2
  • Write a web-server to run on the router

• Part 3
  • Collect stats on the router and display via web-server from Part 2
Project 2, Part 1
Overview

- Router installation
- Router configuration
- Compiling/Running Hello World
The Router

- **Hardware**
  - Linksys WRT54GL v1.1
  - 4MB Flash, 16MB RAM
  - Broadcom 5352 @ 200MHz

- **Software**
  - OpenWRT, Kamikaze 7.09, Linux 2.4
  - Buildroot X-compilation environment
Router Installation via Linksys web GUI (demo)

1. Plug in power cable and turn on the router

2. Connect a port from 1-4 on the router to a computer using included ethernet cable

3. Configure computer with a DHCP address (if doesn’t work, try a static IP address between 192.168.1.2 and 192.168.1.254, gateway and DNS is not required).
Router Installation via Linksys web GUI contd.

4. Download [http://tinyurl.com/yr5hf6](http://tinyurl.com/yr5hf6) to computer


6. Upload openwrt-wrt54g-2.4-squashfs.bin from step 4

7. **Wait** until the firmware is uploaded and the router restarts
1. telnet to 192.168.1.1
2. run passwd to configure the root’s passwd
3. ssh root@192.168.1.1 with passwd from step 2
4. For cable modem config see http://tinyurl.com/2v3bx6
Compiling and Running Hello World (demo)

1. Use compiler binaries from the following location on attu: /homes/iws/ivan/bin
2. e.g. /homes/iws/ivan/bin/gcc hello.c -o hello
3. scp hello root@192.168.1.1:~/
4. ssh root@192.168.1.1
5. Once you are on the router, run: ./hello
Hand in

• Via catalyst, submit output of `uname -a`

• Due on Friday, October 24th
Further Reading

• More Install information:
  • http://wiki.openwrt.org/OpenWrtDocs/Hardware/Linksys/WRT54GL
  • http://wiki.openwrt.org/InstallingWrt54gl

• Cross-compilation environment setup:
  • http://downloads.openwrt.org/docs/buildroot-documentation.html