Appendices

A User manual

Guidelines of how to use the application.

Requirements

1. WIMEA-ICT RSS2 application hex file.
2. RSS2 node.
3. Putty.
4. FTDI cable.
5. Cygwin/Linux.

Uploading WIMEA-ICT RSS2 application to RSS2 node

1. Open Cygwin or the Linux terminal.
2. Ensure that you are in the same directory with the hex file.
3. Connect the RSS2 node to the computer using an FTDI cable via the USB ports of the computer.
4. Check for the serial communication number via Device manager on windows or 'dmesg — grep tty' on Linux OS.
5. Enter the command **sudo avrdude -p m256rfr2 -c stk500v2 -P /dev/ttyUSB0 -b 38400 -e -U flash:w:wimea-ict.hex** to write the hex file to the RSS2 node. Replace '/dev/ttyUSB0' with serial communication number.

```
flavia@flavia-HP-ProBook-4540s~/Desktop/contiki/platform/avr-rss2/apps/wimea-ict-rss2$ avrdude -p m256rfr2 -c stk500v2 -P /dev/ttyU
SB2 -b 38400 -e -U flash:w:wimea-ict-rss2.hex

avrdude: AVR device initialized and ready to accept instructions

Reading | ################################################## | 100% 0.02s

avrdude: Device signature = 0x1ea802 (probably m256rfr2)
avrdude: erasing chip
avrdude: reading input file "wimea-ict-rss2.hex"
avrdude: input file wimea-ict-rss2.hex auto detected as Intel Hex
avrdude: writing flash (44468 bytes):

Writing | ################################################## | 100% 16.00s

avrdude: 44468 bytes of flash written
avrdude: verifying flash memory against wimea-ict-rss2.hex:
avrdude: load data flash data from input file wimea-ict-rss2.hex:
avrdude: input file wimea-ict-rss2.hex auto detected as Intel Hex
avrdude: input file wimea-ict-rss2.hex contains 44468 bytes
avrdude: reading on-chip flash data:

Reading | ################################################## | 100% 13.73s

avrdude: verifying ...
avrdude: 44468 bytes of flash verified

avrdude: safemode: Fuses OK (E:FE, H:98, L:46)

avrdude done.  Thank you.
```

Figure 6.1: Writing hex file to RSS2 node

6. Press the reset button on the RSS2 node and then Press Enter on the computer after a few seconds.

Configuring Putty

1. Open Putty. Enter the serial communication number in the serial line box and baud rate of 38400 as the Speed. The serial number can be obtained from step 4 in the section above.

2. Under Terminal category, enable 'Force on' for Line discipline options. This will echo the user input on the terminal.

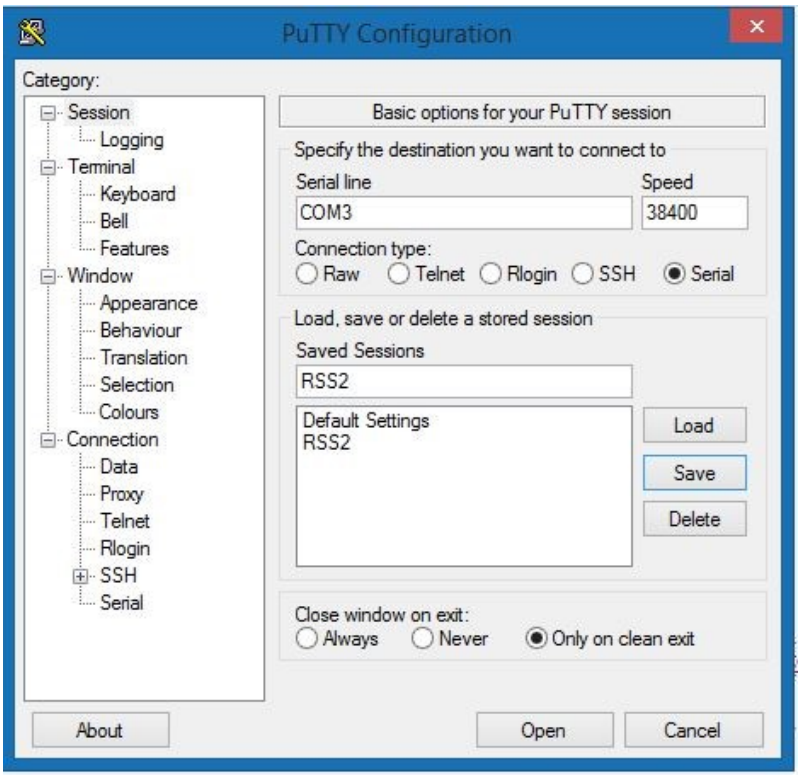

Figure 6.2: Configuring Putty

3. Click open. This will open the application in the Putty terminal.

Configure the node

1. Enter h.
2. Press Ctrl + j and Enter, which is the end of line signal. This will display the help menu showing the available commands and how to use them.
3. Set the different parameters as specified in the help menu.

Using the application

The user should Press Ctrl + j and Enter at the end of every input.