

How to get noForth in the MSP-EXP430FR59xx Experimenter's boards? (Linux)

What's needed?

- MSP-EXP430FR5969 or MSP430FR5994 board
- Flash programmer (mspdebug and libmsp430)

How to get *mspdebug*

mspdebug comes with most Linux Distributions and can be installed with the distributions package manager. On Debian based systems

sudo apt-get install mspdebug

will do it.

How to get *libmsp430*

The libmsp430 from TI is required and is not part of mspdebug. It can be taken from the *Energia IDE* distribution (should work for all debian based systems):

- 1. Download the energia archive (for ubuntu) from http://energia.nu/download/.
- 2. Open the archive with the archive manager of your distribution, extract the file libmsp430.so fro /energia-.../hardware/tools/msp430/bin/ to the /tmp directory of your PC.
- 3. With admin rights change ownership and access rights of the file and move it to /usr/local/lib:

```
sudo chown root:root /tmp/libmsp430.so
sudo chmod a-x /tmp/libmsp430.so
sudo mv -n /tmp/libmsp430.so /usr/local/lib/
```

What to do?

- 1. Connect the board. Two serial devices named ttyACMx will be created for the board. The first or for the programmer, the second for the MSP430FR59xx.
- 2. If a modem manager is installed on your system, wait a short time to let the modem manager fin that the connected device is not a modem.
- 3. Start mspdebug with the tilib driver

```
mspdebug tilib
```

If mspdebug responds with the message

```
FET firmware update is required.

Re-run with --allow-fw-update to perform a firmware update.

tilib: device initialization failed
```

enter

```
mspdebug tilib --allow-fw-update
```

and wait until the update is done.

4. Enter the programmer command(s)

```
erase all
prog <intelhex.a43>
exit
```

5. Connect your terminal to noForth using the second of the two ttyACM devices. You can enter dmesg | grep ttyACM to see what devices were created.

(Manfred Mahlow, 16apr2016 updated by W.O. 22febr2017)