

# Searduino at Chalmers' GNU/Linux computers

Searduino is installed (version 0.9.94) and set up for you.

## Preparation

### Setup AVR tools

- Log in to a computer
- Add the following paths to the environment variable PATH
  - /chalmers/sw/unsup64/searduino-0.9.94/searduino/lib/
  - /chalmers/sw/unsup64/searduino-0.9.94/searduino/lib/avr/bin

You can do this by copy/paste these three lines to a shell/terminal:

```
export SPATH="/chalmers/sw/unsup64/searduino-0.9.94/searduino/"
echo "PATH=$SPATH/lib/::$SPATH" >> ~/.bashrc
echo "PATH=$SPATH/lib/avr/bin:$SPATH" >> ~/.bashrc
```

*Next time you log in (or start a shell) you will find the avr tools. To fix it in this session, simple type: . ~/.bashrc*

## Using searduino for the first time

### Create a new project

To create a new project, called **blinker**, you simply type:

```
searduino-builder --create blinker
```

*Note: A C file and a Makefile have been created for you in the ~/searduino/blinker*

### Run the project in the simulator

- Go to the directory:

```
cd ~/searduino/blinker
```

- Load the code in the simulator, using makefile

```
make sim-start
```

- Start the simulation

Click **Start** in the GUI.

### **Edit the code**

- Open the C file in your favorite editor (time to learn Emacs? :) ).

### **Normal use**

#### **Preparation**

- start the simulator in a terminal by typing `seardunio-jeardunio.sh`
- in the simulator open up the project you want to work on by clicking “Searduino -> Open Searduino Project”. Find the folder and click “Open”.
- fire up your favorite editor and open the C file of your project.

#### **Work flow**

- Edit the code
- Rebuild and run in the simulator by Clicking “Searduino -> Build for simulator” and click “Start”

### **Upload to Arduino board**

#### **Using the Simulator**

We’re assuming you have the Seardunio project loaded in the simulator.

- Plug in the Arduino UNO in to the computer using the USB cable
- In the Simulator, click “Board -> Uno”
- In the Simulator, click “Arduino -> Upload to Arduino board”

*Note: See Known bugs and limitations*

#### **Using the makefile**

- Plug in the Arduino UNO in to the computer using the USB cable
- Change the ARDUINO variable to “Uno” in the Makefile
- Type `make upload`

## **Known bugs and limitations**

- due to permission problem with the USB ports Searduino can currently not upload code to Arduino board (neither can the Arduino software).