Bash Shell Interface for I2C

On the kernel level, I2C communication is handled by the `i2c-dev` kernel driver. On the lowest level, the bus is seen as a file and using a file descriptor one can read from it or write to it. The shell interface is a set of compiled programs that wrap this functionality for specific uses at a higher level. The intended use is interactive debugging to see if something works or not. For programmatic use it's better to take a look at the C API for C/C++ and the smbus2 library for Python.

These programs are part of the `i2c-tools` package that usually comes preinstalled in most Linux distributions.

i2cdetect

Detects I2C chips. Use: `i2cdetect [options] i2cbus [first_addr last_addr]`. Special flags that don't require a given i2cbus are `-V` that prints the current version and `-l`.

- `i2cdetect -l` to list busses. To access each buss you have to used it's number (`i2c-{NUM}`) or the full string name.
- `-q` and `-r` options are to use quick write and receive byte commands for probing. They can corrupt certain IC chips.
- `-F` displays the list of functionalities available on the bus.

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Last update: **2026/10/09 10:40**