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Getting execution time with Cargo

1

I am pretty new to Rust and I want to time the execution of my program. I searched online, but found nothing so far. After running `cargo build`, my code is executed like this:

```
bling@bling ~/github/rust/hello_world [master *]
± % ./target/debug/hello_world
```

Does Cargo have a built in way to time the execution or do I need to use the command line?

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I don't think you can pass a flag to `cargo` directly to time the compilation step. The simplest way to do it is to use the `time` command line utility:

```
$ time ./target/debug/hello_world
./target/debug/hello_world  3.02s user 0.18s system 34% cpu 9.177 total
```

Cargo does have something similar: `cargo bench` allows you to write benchmarks for your program, although it is only available on nightly Rust. This gives you very specific reports about the speed of certain parts of your program. [The docs have more reading](#).

```
$ cargo bench
running 1 test
test bench_xor_1000_ints ... bench:        131 ns/iter (+/- 3)
```

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answered Nov 5, 2015 at 21:10

[Michael Eden](#)

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Cargo does not have a built in way to time things. You will want to use your operating systems mechanism. For example, on Linux or macOS, you can probably use `time` (I use [hyperfine](#) myself):

```
time ./target/debug/hello_world
```

Of special note is that you have a **debug** build. This **has no optimizations** and should not be used for profiling. Instead, you should build your code in release mode:

```
cargo build --release
```

and then execute the program in the `target/release` directory.

Also, you probably do not want to include the time for Cargo itself. That is, do **not** do either of these:

```
time cargo run
time cargo run --release
```

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edited Aug 22, 2022 at 18:41

answered Nov 5, 2015 at 21:10

Shepmaster

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It's not baked into Cargo, but hyperfine is written in Rust and is an alternative to time:

```
cargo install hyperfine
hyperfine ./target/debug/hello_world
```

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edited Aug 22, 2022 at 18:41

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