

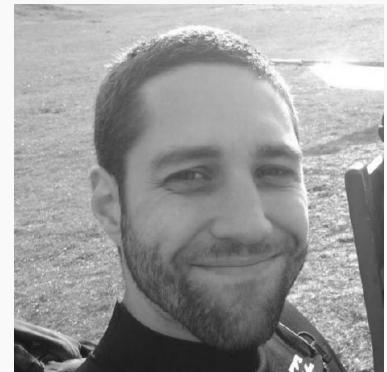
Rust Basel

Rust 101 @ BaselHack 2025



About Rust-Basel

- Non-profit swiss association
- Founded in March



What we do today

1. What makes the language great (tooling, ecosystem, community)
2. How you do things in Rust (branches, loops, classes etc.)
3. (optional) Open Challenge: (Advent of Code 2022)

Goal: You can write small programs

Some Prerequisites

Install Rust

```
curl --proto '=https' --tlsv1.2 -sSf https://sh.rustup.rs | sh
```

Cargo - the package manager

Let's create a rust project - and build a hello world

```
cargo new my_first_rust_project  
cd my_first_rust_project  
# Builds and runs the project  
cargo run  
# Just build the project  
cargo build
```

Ecosystem - project structure

your-project

```
└── src/  
    └── main.rs  
        └── (lib.rs)  
└── target/  
    └── /debug  
        └── <binary>  
└── Cargo.toml  
└── Cargo.lock
```

- **src**: Source files
- **target**: Binary files (libraries/executables)
- **Cargo.toml**: Meta info (dependencies, authors, licenses etc.)
- **Cargo.lock**: pinning dependencies to a specific version (hash)

Ecosystem - Where to find libs?

Libraries

- Crates.io
- lib.rs

Ecosystem - adding a library

```
cargo add serde -F derive  
cargo add serde_json  
cargo add --dev rstest
```

-F/-feature: libs come
with feature flags
--dev: dev/test
dependencies

Ecosystem - tooling

```
# build/runs your code  
cargo build/run (--release)  
# formats your code  
cargo fmt  
# lints your code  
cargo clippy  
# executes your tests  
cargo test  
# generates documentation  
for your crate  
cargo doc (--open)
```

```
# Updates the rust compiler  
rustup update  
# Install other toolchain  
(e.g. iOS on ARM64)  
rustup target add aarch64-  
apple-ios  
# To then build against  
that target  
cargo build --release --  
target aarch64-apple-ios
```

Second part of the workshop

<https://github.com/yguenduez/rust-101>



Third part of the workshop

Try to solve the first challenge of Advent-of-Code 2022, with the Rust basics you learned =).

<https://github.com/yguenduez/rust-101-aoc>

