rustup Rust toolchain manager

CONCEPTS

rustup is a toolchain multiplexer: rustc and cargo in ~/.cargo/bin are proxies that forward to the active toolchain.

Channel stable / beta / nightly
↓ `install`
Toolchain channel + date + host
↓ `component add`
Components clippy, rustfmt, ...
↓ `target add`
Targets std per platform

Which toolchain wins (first match)

Source	Example
1. +toolchain argument	`cargo +beta`
2. env RUSTUP_TOOLCHAIN	`=beta`
3. directory override	`override set 1.80`
4. rust-toolchain.toml	`channel = ...`
5. default	`default stable`

INSTALL & UPDATE

`rustup update`
Update installed toolchains and rustup

TOOLCHAINS

`rustup toolchain install` *`<toolchain>`*
Install a toolchain

`rustup toolchain list`
List installed toolchains

`rustup toolchain uninstall` *`<toolchain>`*
Remove a toolchain

`rustup toolchain install` *`<toolchain>`* **`--profile minimal`**
Install without docs and extras

`rustup toolchain install 1.80`
Install a specific version

DEFAULT & OVERRIDES

`rustup default` *`<toolchain>`*
Set the global default toolchain

DEFAULT & OVERRIDES (cont.)

`rustup override set` *`<toolchain>`*
Pin a toolchain for this directory

`rustup override unset`
Remove this directory's override

`rustup show`
Active toolchain, installed ones, why

For teams, commit a rust-toolchain.toml instead of using overrides: it travels with the repo.

RUN WITH A TOOLCHAIN

`cargo +`*`<toolchain>`* *`<command>`*
Run cargo with another toolchain once

`rustup run` *`<toolchain>`* *`<command>`*
Run any command in a toolchain

COMPONENTS

`rustup component list`
Available and installed components

`rustup component add` *`<component>`*
Add a component

`rustup component add rust-src`
Std source for IDEs and build-std

TARGETS

`rustup target list`
All available targets

`rustup target add` *`<target>`*
Install std for a target

`cargo build --target` *`<target>`*
Build for that target

PIN A PROJECT

rust-toolchain.toml

```
[toolchain]
channel = "1.80"
components = ["rustfmt", "clippy"]
targets = ["wasm32-unknown-unknown"]
profile = "minimal"
```