Gleam Typed BEAM and JS language

CONCEPTS

Gleam compiles to Erlang (BEAM) or JavaScript. The target comes from gleam.toml, else Erlang, and --target overrides it.

src/*.gleam your modules
↓ `gleam build`
build/ BEAM files or JS
↓ `gleam run`
main() entry point
From source to running code

Tests live in test/ and gleam test runs main in <package>_test; dev code goes in dev/ with gleam dev.

Dependencies are in gleam.toml; manifest.toml is the resolved lock file, so commit it for applications.

PROJECTS

`gleam new <dir>`
Create a new package

`gleam new <dir> --skip-git`
Skip .git and .github

`gleam run`
Compile and run main

`gleam run --target javascript`
Run on the JS target

`gleam run --runtime <rt>`
JS runtime: nodejs, deno or bun

`gleam shell`
Erlang REPL with your code loaded

`gleam clean`
Delete the build directory

BUILD & CHECK

`gleam build`
Compile package and dependencies

`gleam build --target <t>`
Pick erlang or javascript

`gleam build --warnings-as-errors`
Fail on any warning

`gleam check`
Type-check without code generation

BUILD & CHECK (cont.)

`gleam export erlang-shipment`
Directory with bytecode and start script

TEST & FORMAT

`gleam test`
Run main of <package>_test

`gleam test --target <t>`
Test on one target

`gleam format`
Format the project

`gleam format <path>...`
Format given files or dirs

`gleam format --check`
Fail if a file is unformatted

DEPENDENCIES

`gleam add <pkg>`
Add latest compatible version

`gleam add <pkg>@<version>`
Pin a major or full version

`gleam add --dev <pkg>`
Add as a dev dependency

`gleam remove <pkg>`
Remove a dependency

`gleam deps download`
Fetch deps, write manifest.toml

`gleam deps list`
List all dependency versions

`gleam deps outdated`
Show dependencies behind latest

`gleam deps update [<pkg>...]`
Upgrade within gleam.toml limits

`gleam update`
Alias for deps update

SYNTAX BASICS

`let x = 1`
Immutable binding

`const limit = 10`
Top-level constant

`x |> f |> g`
Pipe into the first argument

`case v { 0 -> a  _ -> b }`
Exhaustive pattern match

`[first, ..rest]`
List pattern or prepend

SYNTAX BASICS (cont.)

`"pre" <> rest`
String prefix pattern, concat

`pub type T { A(n: Int)  B }`
Custom type with variants

`Person(..p, age: 30)`
Record update

`fn f(x: Int, add n: Int) -> Int`
Labelled argument

`use x <- result.try(f())`
Flatten callbacks

`Ok(v) / Error(e)`
Result variants

`Some(v) / None`
Option, from gleam/option

`import gleam/io.{println}`
Import module and items

`let assert Ok(v) = r`
Crash if the pattern fails

`todo as "msg"`
Placeholder that crashes if run

`assert a == b`
Boolean check, used in tests

`echo value`
Print a debug value

PUBLISHING & DOCS

`gleam docs build --open`
Build HTML docs and open them

`gleam publish`
Publish the package to Hex

`gleam hex authenticate`
Log in to Hex

RECIPES

Start a project and add libraries

```
gleam new app && cd app
gleam add gleam_stdlib gleam_json
gleam add --dev gleeunit
gleam test
```

HELP

`gleam help`
List all commands

`gleam help <command>`
Help for one command

`gleam --version`
Print the compiler version