Nim Compiled, Python-like language

CONCEPTS

nim c builds a debug binary with checks on. Benchmark and ship with -d:release (or -d:danger).

Nim source app.nim
↓ nim c
Generated C in nimcache
↓ cc + ld
Binary app
↓ nim js
JavaScript app.js

Nim output defaults to the source name beside the file; nim r keeps the binary in nimcache.

COMPILE AND RUN

nim c *<file.nim>*
Compile with the C backend

nim c -r *<file.nim> <args>*
Compile, then run with args

nim r *<file.nim> <args>*
Compile to nimcache and run

nim c -d:release *<file.nim>*
Optimized release build

nim c -o:*<file>* *<file.nim>*
Set the output file name

nim c --outdir:*<dir>* *<file.nim>*
Set the output directory

nim cpp *<file.nim>*
Compile via C++

nim js *<file.nim>*
Compile to JavaScript

nim c -d:danger *<file.nim>*
Optimize, all runtime checks off

CHECKS AND FLAGS

nim check *<file.nim>*
Check syntax and types only

nim c -d:*<symbol>* *<file.nim>*
Define a symbol

nim c -d:*<symbol>*:*<val>* *<file.nim>*
Define a symbol with a value

nim c --threads:on *<file.nim>*
Enable threads

CHECKS AND FLAGS (cont.)

nim c --mm:*<orc|arc|refc>* *<file.nim>*
Pick memory management

nim c --path:*<dir>* *<file.nim>*
Add a module search path

nim c --hints:off *<file.nim>*
Silence hints

C TOOLCHAIN AND CROSS

nim c --cc:*<gcc|clang>* *<file.nim>*
Choose the C compiler

nim c --passC:*<flag>* *<file.nim>*
Pass a flag to the C compiler

nim c --passL:*<flag>* *<file.nim>*
Pass a flag to the linker

nim c --cpu:*<cpu>* **--os:***<os>* *<file.nim>*
Cross compile

CONFIGURATION

nim.cfg
Per-project switches, one per line

config.nims
NimScript project config

config.nims

```
switch("d", "release")
switch("mm", "orc")
switch("path", "$projectDir/src")
task build, "build app":
  exec "nim c -o:bin/app src/
app.nim"
```

Command-line switches win over config files; later configs override earlier ones.

NIMBLE PACKAGES

nimble init
Start a new package (wizard)

nimble build
Build the package binaries

nimble run *<bin> <args>*
Build and run a binary

nimble test
Run tests/t*.nim

NIMBLE PACKAGES (cont.)

nimble install
Install the package in this dir

nimble install *<pkg>*
Install a package

nimble install *<pkg>*@*<ver>*
Install a specific version

nimble install --depsOnly
Install only dependencies

nimble search *<term>*
Find packages by name or tag

nimble list -i
List installed packages

nimble refresh
Update the package list

nimble tasks
List custom tasks

nimble *<task>*
Run a task from the .nimble file

LOCAL WORKFLOW

nimble setup
Create nimble.paths for the project

nimble lock
Pin versions in nimble.lock

Commit nimble.lock; keep nimble.paths and nimble.develop out of git, they are machine-local.

PACKAGE FILE

mypkg.nimble

```
version     = "0.1.0"
author      = "Jane Doe"
description = "Small tool"
license     = "MIT"
srcDir      = "src"
bin         = @["mytool"]

requires "nim ≥ 2.0.0"
requires "jester ≥ 0.5.0"
```

LANGUAGE BASICS

Variables

```
let x = 1        # immutable
var y = 2        # mutable
const z = 3      # compile time
```

Procs

```
proc add(a, b: int): int =
  a + b

echo add(1, 2)
```