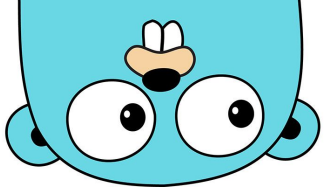
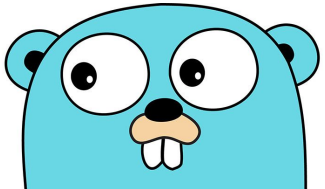


Start Your Programming Journey with Go!

Radical Rakhman Wahid & Amir Muhammad Hakim

Go Programming Course #1
October 18th 2020 / Rabbi'ul Awwal 1st 1442




Enter Full Screen
GOPHER 1
GO
GOPHER 45
GOPHER 6
GOPHER 100
GOPHER 93
GOPHER 88
I ♥ GO
GOPHER 76
GOPHER 4
GOPHER 52
GOPHER 42
Mute
Start Video
Invite
Manage Participants
Polls
Share Screen
Chat

Bahasan hari ini

Untuk apa Go dibuat?

Fitur-fitur Go

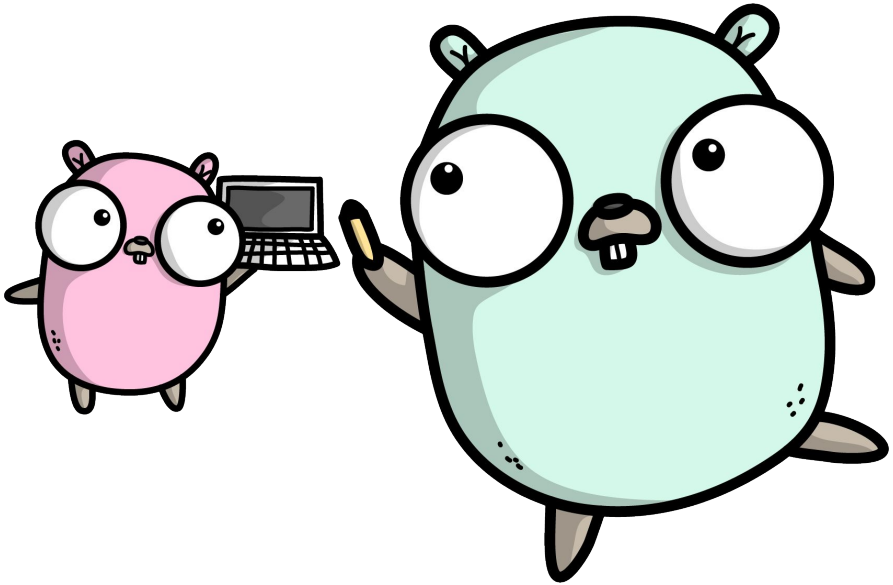
Go di lingkungan pengembangan *software*

Eksistensi Go pada perusahaan-perusahaan teknologi di Indonesia

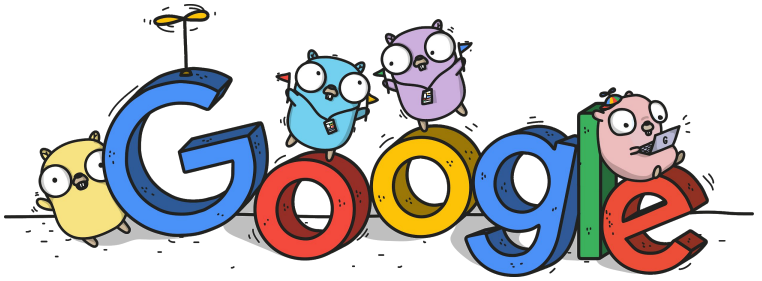
Dukungan komunitas terhadap Go

Tanya jawab

Praktek!



Untuk apa Go dibuat?



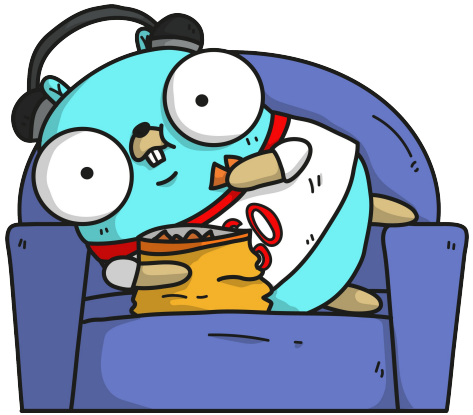
"*Clean procedural language designed for **scalable cloud software***" (Rob Pike)

"*...in order to build **simple**, **reliable**, and **efficient** software*" (golang.org)

Belum adanya (fitur pada) bahasa pemrograman seperti C/C++, C#, Python, Java dll. yang dapat bekerja dengan baik pada sistem yang *multi core* (pada tahun 2006, dimana *dual core processor* pertama kali dirilis). Karena bahasa pemrograman pada saat itu didesain untuk menangani 1 *core processor* saja sehingga Go datang untuk memanfaatkan secara maksimal performa dari komputer *multi core processor*.

Cepat selayaknya C/C++ dengan keterbacaan kode seperti Python (opini pribadi).

Fitur-fitur Go



Sebagian besar sama seperti bahasa pemrograman pada umumnya

Is Go an object-oriented language?

Yes and no. Although Go has types and methods and allows an object-oriented style of programming, there is no type hierarchy. The concept of “interface” in Go provides a different approach that we believe is easy to use and in some ways more general. There are also ways to embed types in other types to provide something analogous—but not identical—to subclassing. Moreover, methods in Go are more general than in C++ or Java: they can be defined for any sort of data, even built-in types such as plain, “unboxed” integers. They are not restricted to structs (classes).

Also, the lack of a type hierarchy makes “objects” in Go feel much more lightweight than in languages such as C++ or Java.

golang.org/doc/faq#Is_Go_an_object-oriented_language

Statically typed

```
var x int = 3
var hello string = “Hello”

hello = 2 → Error!
```

Type safe!

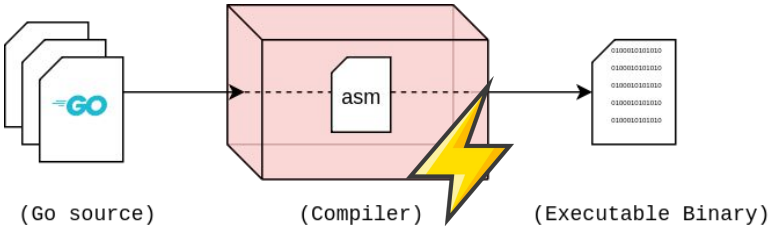
Automatic type inference

```
x := 3
hello := "Hello"

hello = 2 → Error!
```

Simple + Type safe

Fast compiled & Produces binary executables (Fast runtime)



Garbage collector

Frees developers from having to manually release memory

Standard library

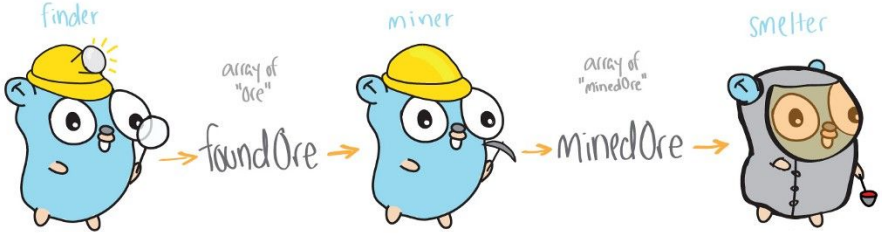
Strong built-in libraries & production ready

Cross Platform

Runs on linux/mac/windows & currently has experimental mobile support

Built-in concurrency

Making progress on more than one task simultaneously (w/ Goroutines & Channels)



**Semua goroutine bekerja dalam waktu yang bersamaan & saling ngasih tahu satu sama lain via channel*

Konkurensi != Paralelisme

Agar lebih mudah memahami kita buat studi kasus sederhana yang terdiri dari mahasiswa, tugas skripsi'nya, dan penjual nasi goreng.

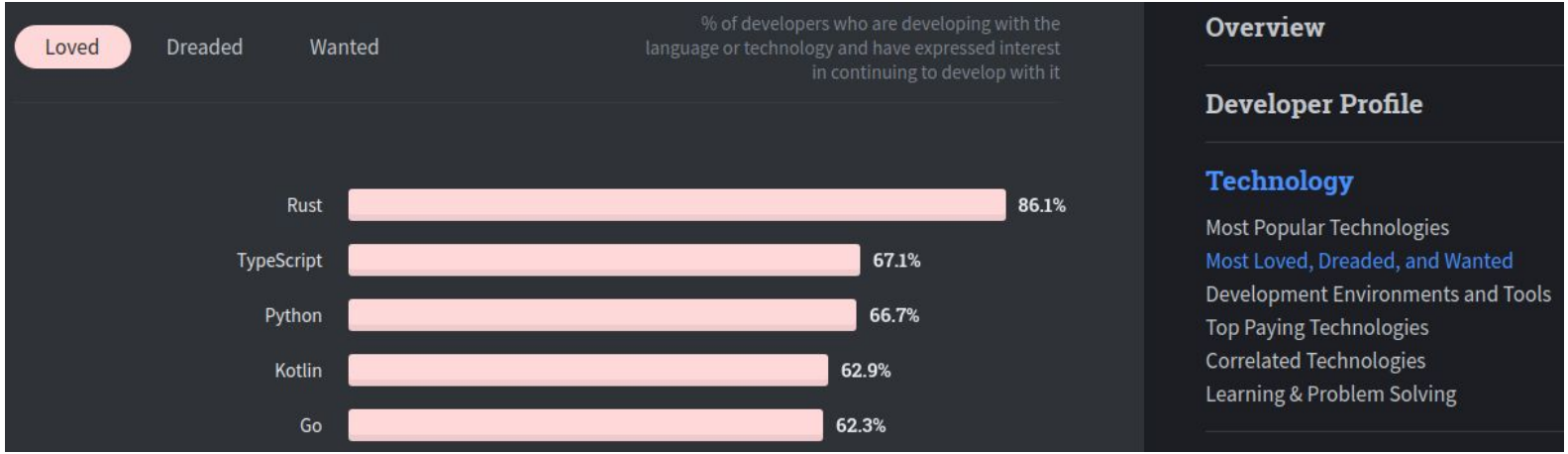
Sekuensial : mahasiswa menyelesaikan tugas skripsi dulu baru kemudian beli nasi goreng (atau dibalik)

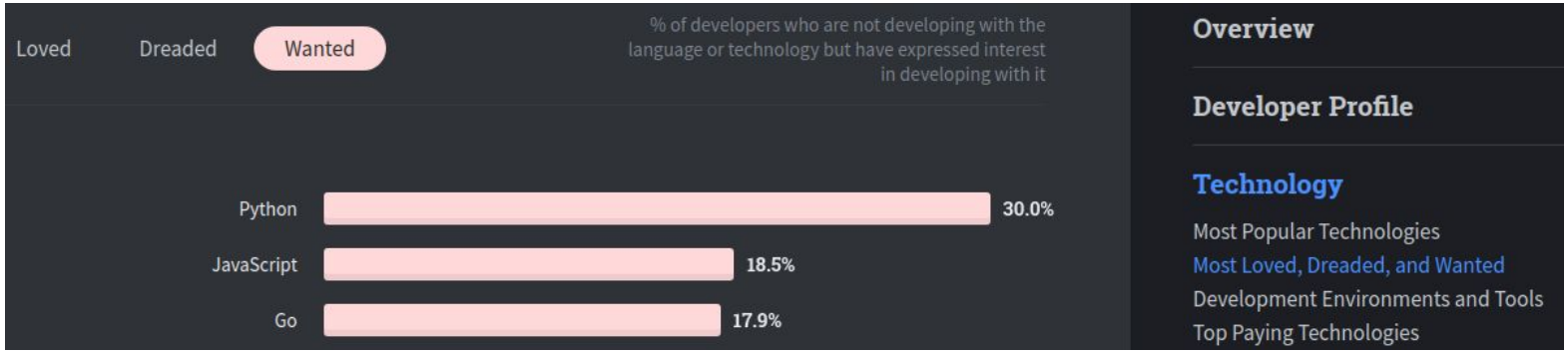
Paralelisme : mahasiswa menyelesaikan tugas dibarengi dengan teman'nya yang berbaik hati memesankan nasi goreng untuk si mahasiswa

Konkurensi : mahasiswa mengerjakan tugas di tempat penjual nasi goreng saat penjual nasi goreng sedang memasak

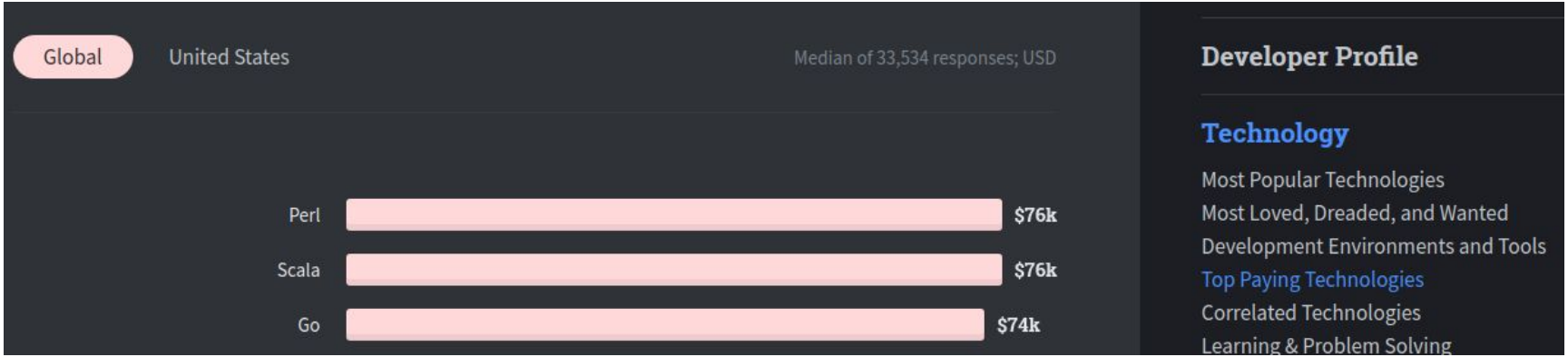
Go di lingkungan pengembangan *software*

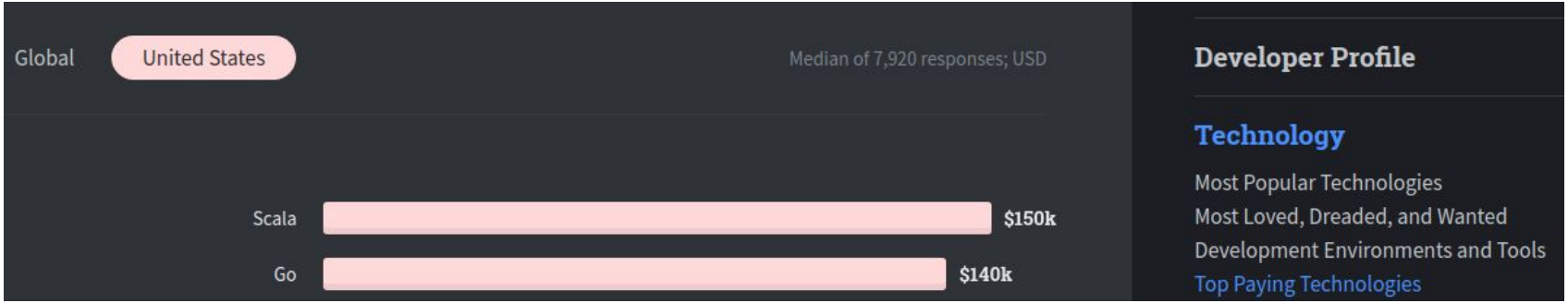
- Distributed system / Networking
- Cloud (Backend services)
- Web development
- Open source projects
- Scripting (CLI apps)
- System programming
- Desktop application
- Mobile (Experimental)





https://insights.stackoverflow.com/survey/2020#most-loved-dreaded-and-wanted





https://insights.stackoverflow.com/survey/2020#top-paying-technologies

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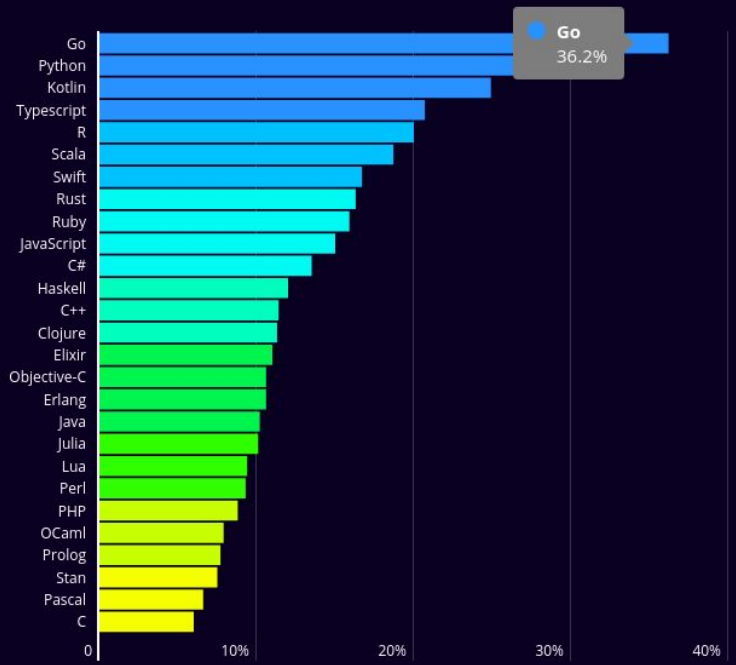
INTRO LEARNING SKILLS TOOLS WORK

Go is the #1 language developers want to learn

For the third year running, Go is the #1 language developers want to learn next.

Developed by Google, Go has seen increasing popularity since its invention in 2009, due in part to the visibility of its creators. As we noted in our 2018 report, it's not the first time tech giants like Google have driven language adoption: Twitter similarly boosted Scala when it outgrew Ruby on Rails, as Apple did for Swift when it moved away from Objective-C.

And slowly but surely, developers are learning Go. It inched up to the 12th best known language for 2020, up from 13th in 2018.



https://research.hackerrank.com/developer-skills/2020

CHANGE IN PROGRAMMING LANGUAGE USE, 2018-2019

01	Dart	532%
02	Rust	235%
03	HCL	213%
04	Kotlin	182%
05	TypeScript	161%
06	PowerShell	154%
07	Apex	154%
08	Python	151%
09	Assembly	149%
10	Go	147%

Fastest growing languages

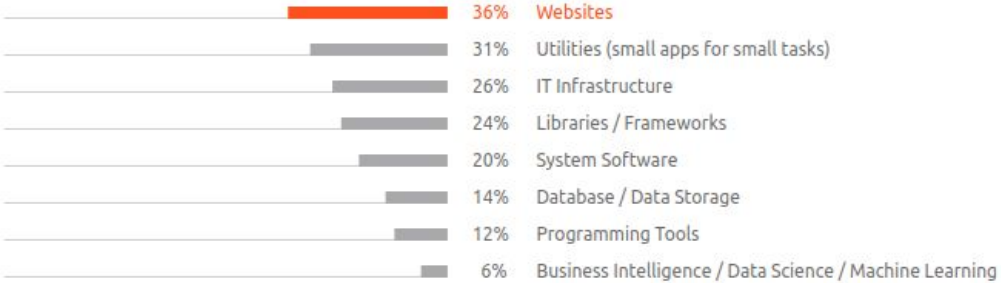
With Flutter in our trending repositories, it's not surprising that Dart gained contributors this year. We also saw trends toward statically typed languages focused on type safety and interoperability: the Rust, Kotlin, and TypeScript communities are still growing fast.*

https://octoverse.github.com/

71%

of Go developers develop microservices, making Go the second most popular language for this purpose, after Scala.

What types of software do you develop with Go?



All results

The three most common uses for Go appear to be websites, utilities, and IT infrastructure.

DevOps and Infrastructure development are some of the most popular uses for Go. Therefore, it comes as no surprise that 80% of Go developers are involved in these activities, with 36% of them considering it to be one of their key responsibilities, while only 57% of developers in general associate themselves with infrastructure development.

Go developers are intensive Docker users. 84% claim to use it, which is 20 percentage points higher than the percentage of Docker users among the general developer population.

https://www.jetbrains.com/lp/devecosystem-2020/go/

Development tools yang dibuat dengan Go

dan lain-lain...

Eksistensi Go pada perusahaan-perusahaan teknologi di Indonesia

https://github.com/golang/go/wiki/GoUsers#indonesia

Dukungan komunitas pemrogram Go

Golang Indonesia := https://t.me/golangID

Gopher Conference - Konferensi Internasional Bahasa Pemrograman Go

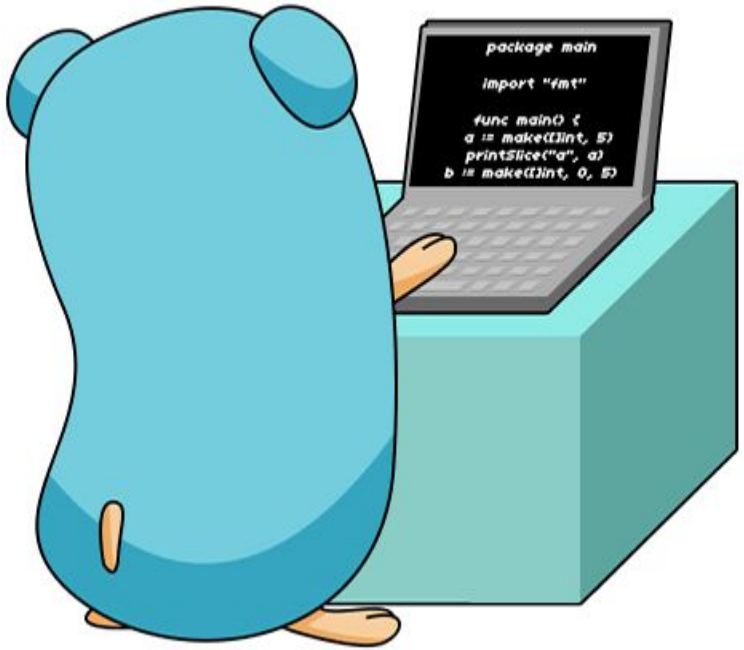
https://github.com/golang/go/wiki/Conferences

GopherCon Vietnam 2019

GopherCon TW 2020

GopherCon Sg 2020

Kuy praktek!



Materi praktek pertemuan pertama :

Package and Hello world (http)!

Values

Variables and Data Types

Simple Input/Output

Constants

For (looping)