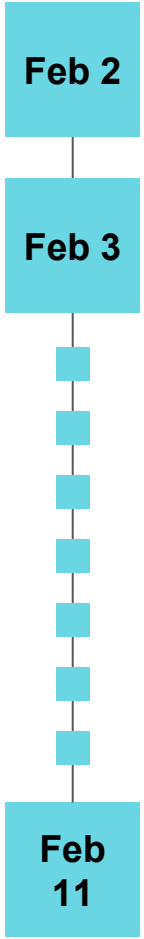
Report from FOSDEM and GopherCon Israel

Taavi Kivisik

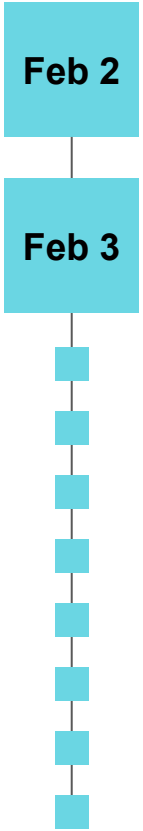
Golang Amsterdam Meetup
Feb 21, 2019



FOSDEM

Free and Open Source
Developers' European Meeting

Brussels, February 2-3, 2019



What is FOSDEM?

- FOSDEM 2019 - 19th
- 730 speakers
- 776 events
- 62 tracks
- Largest Hall - 1415 seats
- Go devroom - 446 seats
- Official number
  - 8000+ participants

Feb 2

Feb 3

- .NET and TypeScript
- Ada
- BSD
- Blockchain and Crypto Currencies
- CAD and Open Hardware
- Collaborative Information and Content Management Applications
- Community devroom
- Containers
- DNS
- Decentralized Internet and Privacy
- Distributions
- Free Java
- Free Software Radio
- Free Tools and Editors
- Geospatial
- Go
- Graph Processing
- Graphics
- HPC, Big Data and Data Science
- Hardware Enablement
- Infra Management
- Javascript
- LLVM
- Legal and Policy Issues
- ML on Code
- Microkernels and Component-based OS
- Minimalistic Languages
- Monitoring and Observability
- Mozilla
- MySQL, MariaDB and Friends
- Open Document Editors
- Open Media
- Open Source Design
- PHP & Friends
- PostgreSQL
- Python
- Quantum Computing
- RISC-V
- Real Time Communications (RTC)
- Retrocomputing
- Rust
- Search
- Security
- Software Defined Networking
- Software Defined Storage
- Tool the Docs
- Virtualization and IaaS

Feb 2

Feb 3

Special Recommendations 1

Event	Speakers	Start	End
Saturday			
The State of Go *What's new since Go 1.10*	Francesc Campoy	10:30	11:00
Building modern desktop apps in Go	Serge Zaitsev	11:00	11:30
How to write a reverse-proxy with Go in 25 minutes	Julien Salleyron	11:30	12:00
Git database with bitmap index	Kuba Podgórski	12:00	12:30
Hands on debugging with Delve	Derek Parker	12:30	13:00
Designing Command-Line Tools People Love	Carolyn Van Slyck	13:00	13:30
Go containers? Go serverless? *A cloud native journey*	Michael Hausenblas	13:30	14:00
gRPC, Protobufs and Go... OH MY! *An introduction to building client/server systems with gRPC*	John Griffith	14:00	14:30
AI image search with Go & Tensorflow *Integrate the advances of AI in your Go apps*	Gildas Chabot	14:30	15:00

Feb 2

Feb 3

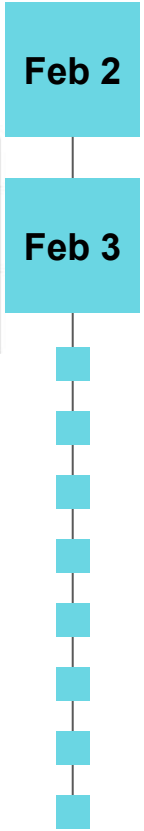
Use **Named Fields**

Event	Speakers	Start	End
Saturday			
The State of Go *What's new since Go 1.10*	Francesc Campoy	10:30	11:00

```
type A struct {
        a string
    }
```

⇒ b is added ⇒

```
type A struct {
        a string
        b string
    }
```



Use **Named Fields**

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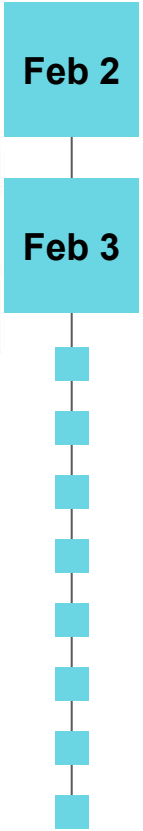



```
type A struct {
        a string
    }
```

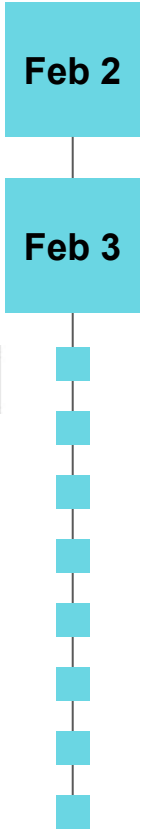
⇒ b is added ⇒

```
type A struct {
        a string
        b string
    }
```

a := A{**a:** “named”}
Will survive

a := A{“anonymous”}
Will fail

Look Into **Lorca** for Desktop Apps



Building modern desktop apps in Go	Serge Zaitsev	11:00	11:30

Lorca (Chrome in AppMode)

Or

WebView

Not

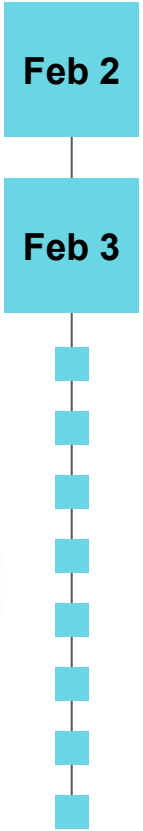
Electron

Pick a **Grammar** for your CLI

subject verb noun

go get github.com/golang/example/hello

Designing Command-Line Tools People Love		Carolyn Van Slyck	13:00	13:30



Special Recommendations 2

When and How to use CGo *Or, Foreign Functions for Fun and Profit*	Liz Frost	15:00	15:30	Feb 2
Building a Hardware MIDI Player *Exploration of Linux's System Interfaces*	Terin Stock	15:30	16:00	Feb 3
Parallel programming in Go for performance with the Pargo library	Pascal Costanza	16:00	16:30	
The clusterfuck hidden in the Kubernetes code base *and the brilliant refactoring techniques developed to fix it*	Kris Nova	16:30	17:00	
Embedded with Go: from an AWK prototype to a gokrazy appliance *How to build a self-contained toy for young children to give them control over their music and rhymes*	Anisse Astier	17:00	17:30	
Tuning Go GC Parameters	Bryan Boreham	17:30	18:00	
How Kubernetes used gRPC to encrypt secrets with an external Key Management Service	Rita Zhang	18:00	18:30	
Go Lightning Talks *Come speak!*		18:30	19:00	

- Videos - https://fosdem.org/2019/schedule/events/ (search ‘Go devroom’)

Parallel programming with Pargo library

Feb 2

Feb 3

Parallel programming in Go for performance with the Pargo library	Pascal Costanza	16:00	16:30

Concurrency != Parallelism

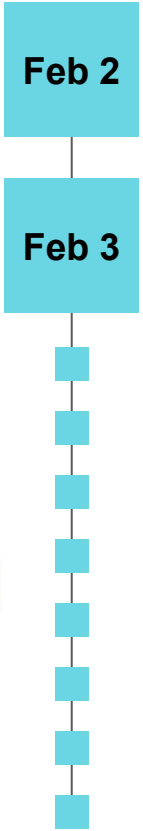
Concurrency	Parallelism
Solve selling plane seats	Only needed for performance

Go Garbage Collector Tuning

One parameter

$ GOGC=100 # default

Tuning Go GC Parameters	Bryan Boreham	17:30	18:00



Go Garbage Collector Tuning

One parameter

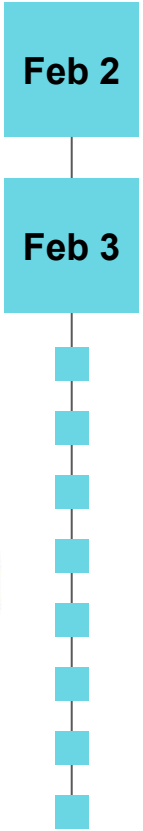
$ GOGC=100 # default

Let “MemUsage” be memory usage after garbage collection

Then GOGC=100 means that the next garbage collection happens at

MemUsage + 100% MemUsage

Tuning Go GC Parameters	Bryan Boreham	17:30	18:00



Go Garbage Collector Tuning

One parameter

$ GOGC=200

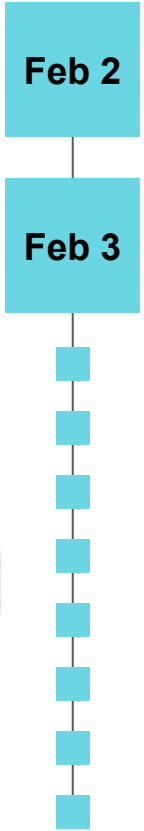
More memory is used before Garbage Collection

$ GOGC=50

Less memory is used before Garbage Collection

Tuning Go GC Parameters	Bryan Boreham	17:30	18:00

There is also a max time between garbage collection - 2 minutes.

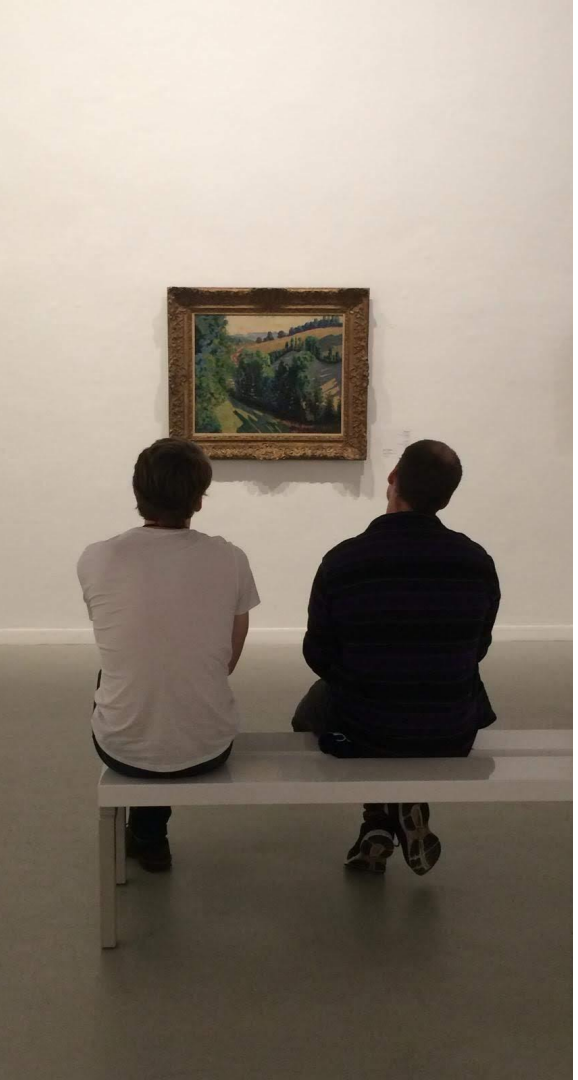


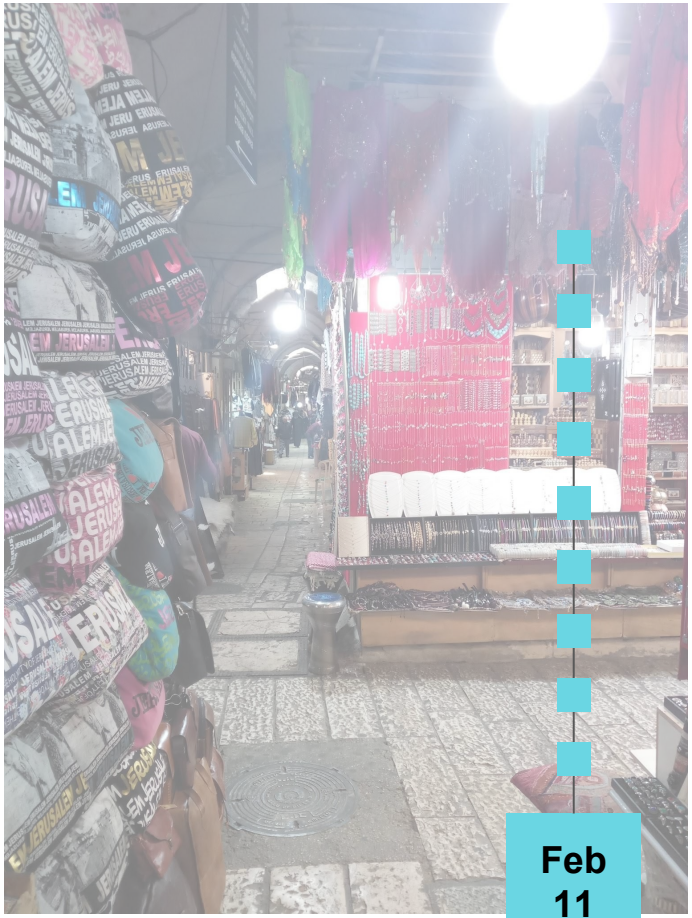
GopherCon Israel

Tel Aviv
February 11, 2019

Feb
11

Feb
11





Feb
11

Feb
11

Special Recommendations

Keynote	Francesc Campoy link
Going Infinite, handling 1 millions websockets connections in Go	Eran Yanay link
Break	
Refactoring to modules: why and how – all you need to know in an hour	Baruch Sadogursky & Eyal Ben Moshe
The garbage collector	Maya Rosecrance
Lunch	
Keynote	Natalie Pistunovich link
Go Secrets & Gotchas	Yarel Maman
Break	
The art of writing idiomatic test code	Liron Levin
Functional Design in Go	Boaz Shuster
Break	
Debug a Go Application running on Kubernetes cluster	Alexei Ledenev
go defer	Eldad Marciano

Feb 11

A comparable type

```
contract comparable(v T) {
    var b bool = v < v
}

func Max(type T comparable)(vs []T) T { … }


Max([]int)([]int{1, 3, 2})                    // 3
Max([]string)([]string{"a", "c", "b"})        // "c"
```

Feb 11

Going Infinite, handling 1 millions websockets connections in Go	**Eran Yanay**	link

$ ulimit -aH # open file limit **4096**

Feb 11

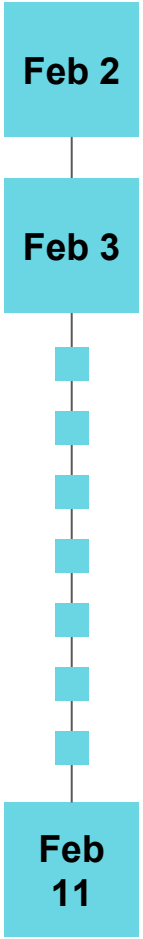
Going Infinite, handling 1 millions websockets connections in Go	Eran Yanay	link

$ ulimit -aH

open file limit **4096**
websocket optimization
epoll
nf_conntrack file (connections)

Feb 11

defer() in a **for loop** is naughty

Taavi Kivisik

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