Golang

Learn Go

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IAM and Collaboration Space

Presentation

Presentation

- Presentation
  - History
  - Language
  - Inspiration
- Learning Slides
  - Cherry picked from tour
- Workshop
  - installation
  - tour.golang.org

Quick History

Creators: Rob Pike, Ken Thompson, Robert Griesemer

Creators saw the spec for C++11 and thought that things were getting more complex to use, rather than simpler. Too many features lead to confusion, and difficulty to write/maintain.

Go is simple

https://en.wikipedia.org/wiki/Go_(programming_language)

Hello World

```go
package main

import "fmt"

func main(){
    fmt.Println("Hello World")
}
```

https://play.golang.org/

Language

What do you look for in a language

- Speed?
- Memory Usage?
- Scale?
- Concurrency?
- Maintainability/Community?

Language - Speed

Is not an interpreted/JIT language, compiles to binary (fast)

Falls about in the class of Java speed

C < Golang/Java < Python/Ruby/JS

http://www.cuelogic.com/blog/a-battle-of-trios-python-vs-ruby-vs-golang/
https://www.reddit.com/r/golang/comments/2r1ybd/speed_of_go_compared_to_java_and_python/
http://benchmarksgame.alioth.debian.org/u64q/go.html
http://www.techempower.com/benchmarks/

Language - Memory

Garbage Collected, but very lightweight initial memory footprint

Language - Scale

“Go is an answer to problems of scale at Google.”

Runs download.google.com

The language itself was designed for large distributed teams

https://talks.golang.org/2015/go-for-java-programmers.slide#6
http://marcio.io/2015/07/handling-1-million-requests-per-minute-with-golang/

Language - Concurrency

Go was built for concurrent applications, has primitives built in like lightweight routines, channels (unix pipes), select statement

Concurrency is not parallelism: https://www.youtube.com/watch?v=cN_DpYBzKso

Language - Maintainability

Consistent formatting

Less lines of code (from java)

Community - Go’s founders are more the benevolent dictator type, and the community is active and helpful

http://tech.t9i.in/2013/01/why-program-in-go/
https://splice.com/blog/golang-improved-simplicity-reduced-maintenance/

Who Uses Go?

Apcera, Bitbucket, bitly, Canonical, CloudFlare, Core OS, Digital Ocean, Docker, Dropbox, Facebook, Getty Images, GitHub, Heroku, Iron.io, Kubernetes, Medium, MongoDB services, Mozilla services, New York Times, pool.ntp.org, Secret, SmugMug, SoundCloud, Stripe, Square, Thomson Reuters, Tumblr, …

Very popular in the devops space at the moment

https://talks.golang.org/2015/go-for-java-programmers.slide#11

My Examples

Share: https://github.com/murphysean/share

Websocket: https://github.com/murphysean/gdg-go-websocket

Movie Night: https://github.com/murphysean/movie-night

Open Source Examples

Camlistore: https://camlistore.org/

Caley Graph DB: https://github.com/cayleygraph/cayley

Caddy: https://caddyserver.com/

Etcd: https://github.com/coreos/etcd

Google Drive Client Linux: https://github.com/google/skicka https://github.com/odeke-em/drive

Present Tour

Introducing ‘present’

https://godoc.org/golang.org/x/tools/cmd/present

https://godoc.org/golang.org/x/tools/present

https://talks.golang.org/

Web Tour

Visit https://tour.golang.org

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

Install

https://golang.org/doc/install