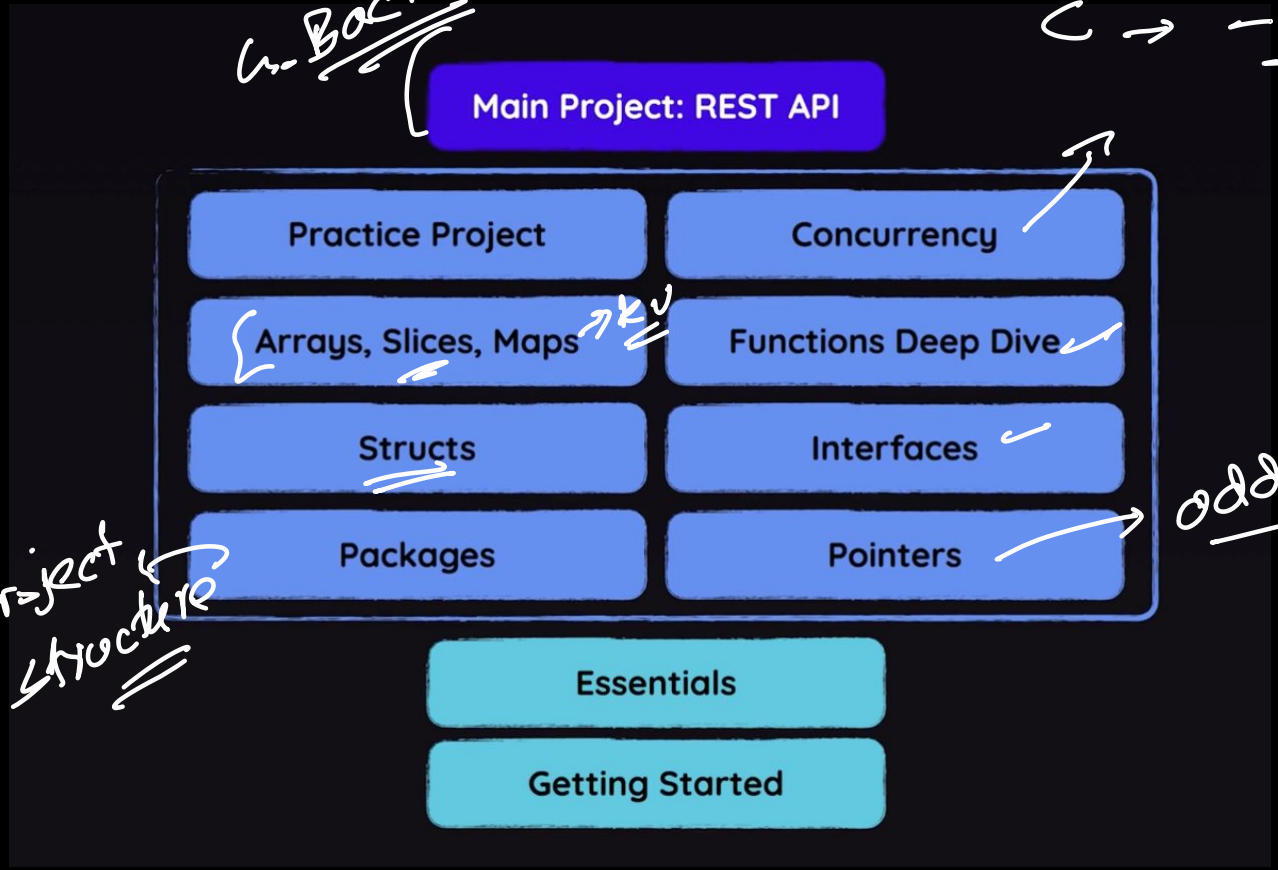
Golang

By Harshit Batra

About this course



How to get the most out of this course?

- Do not overlook Syntax
- Complete Golang LearningPath
- Use Code attachments
- Contact :
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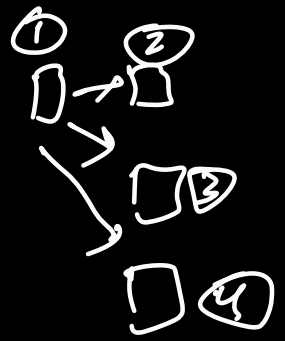
  - +91-7701809516

https://www.codechef.com/learn/course/polaris-golang4

Go Introduction



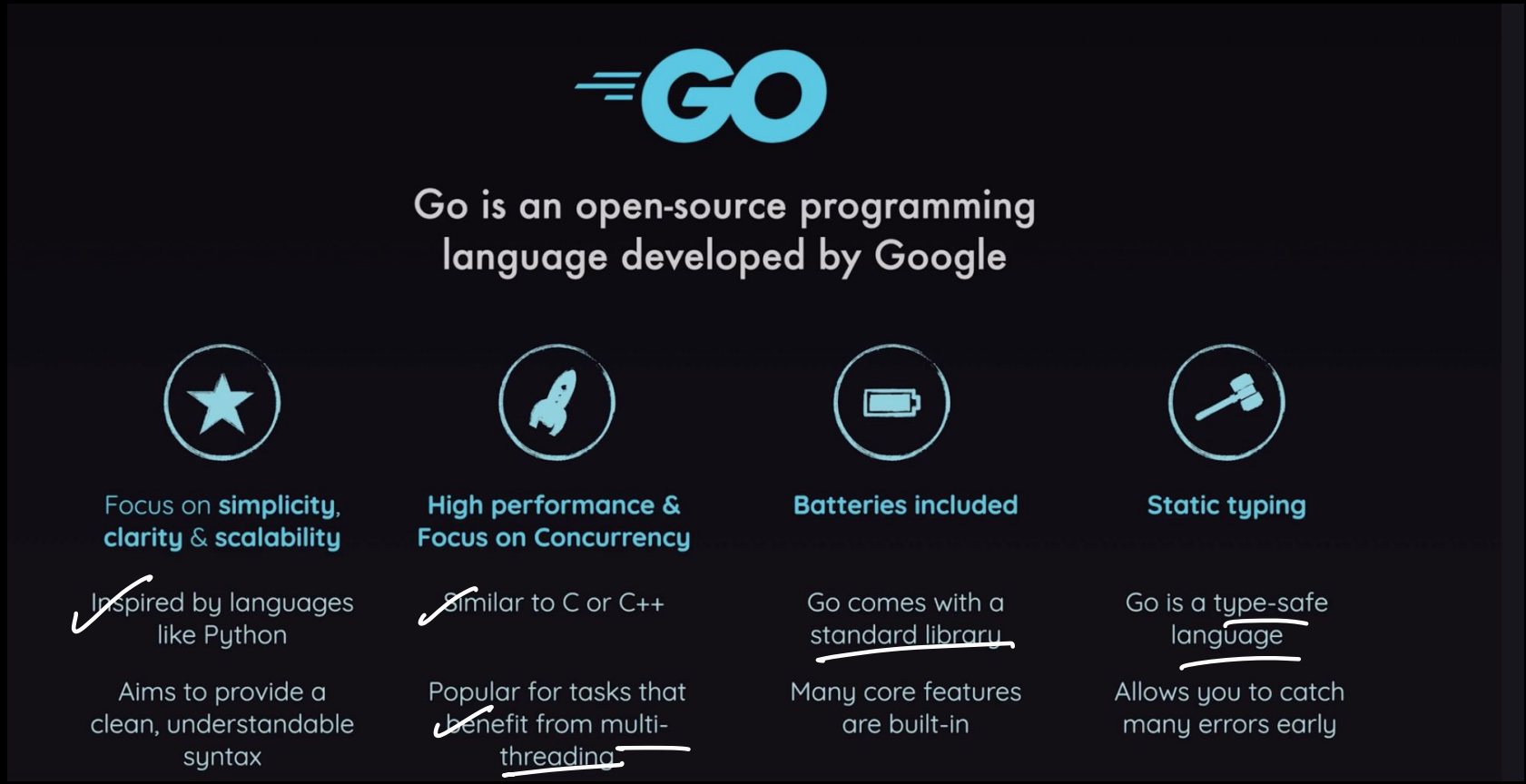
- *C++ (1979), Java (1995), Go (2007)*
- Why Go?
  - *Problems with C++*
    - Dependency Bloat
    - Complexity of C++ and Java
    - Complicated Concurrency
  - *Why not Java*
    - Slow startup (because of JVM)
    - Too verbose
    - Complicated Concurrency

#include < >

What is Go?

- Go is an open-source, statically typed programming language developed at Google in 2007 to improve programming productivity
- Created by
  - *Rob Pike*
  - *Ken Thompson*
  - *Robert Griesemer*
- Ideal for:
  - *scalable backend services,*
  - *cloud-native applications,*
  - *networking tools, and*
  - *DevOps infrastructure.*

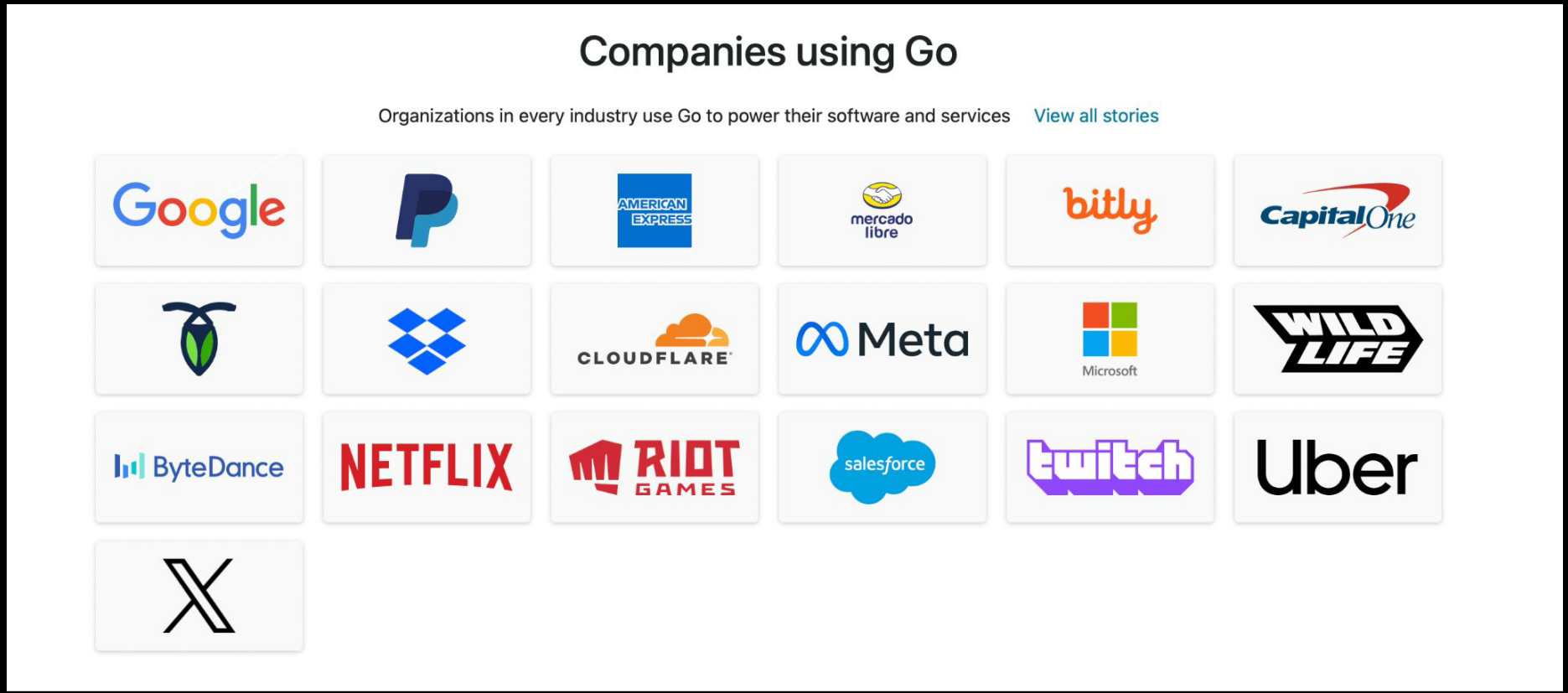
Features of Go



Features of Go

- Fast Compilation
- Simple Syntax
- Built-in concurrency
- strong standard library
- statically typed

State of Go


Companies using Go
Organizations in every industry use Go to power their software and services
View all stories
Google
AMERICAN EXPRESS
mercado libre
bitly
CapitalOne
CLOUDFLARE
Meta
Microsoft
WILD LIFE
ByteDance
NETFLIX
RIOT GAMES
salesforce
twitch
Uber

State of Go

- 2007: Go Designed, exclusive for Google
- 2009: public announcement
- 2012: Stable release Go 1.0

Cloud era : Go becomes the language of Cloud era

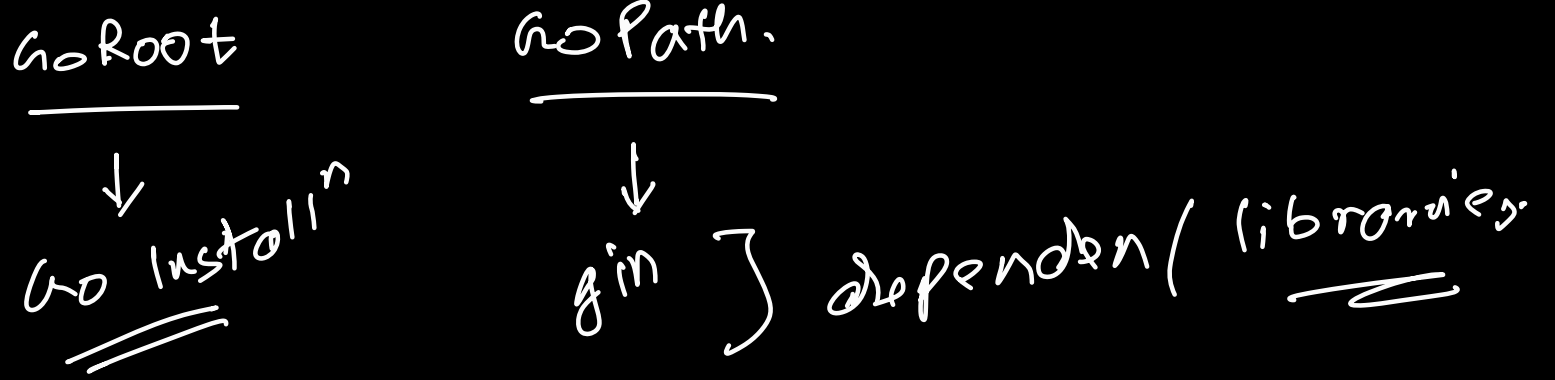
- 2013: Docker
- 2014: Kubernetes

https://go.dev/blog/survey2025

https://blog.jetbrains.com/go/2021/02/03/the-state-of-go/

Go vs java vs Node.js

- Java has JVM overheads
- Node.js has event-loop not suitable for CPU intensive tasks

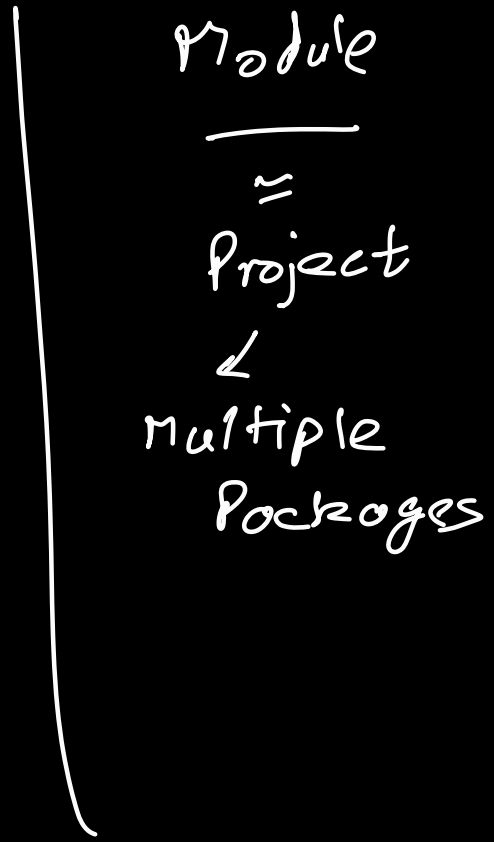


Go setup

- GOPATH
- GOROOT

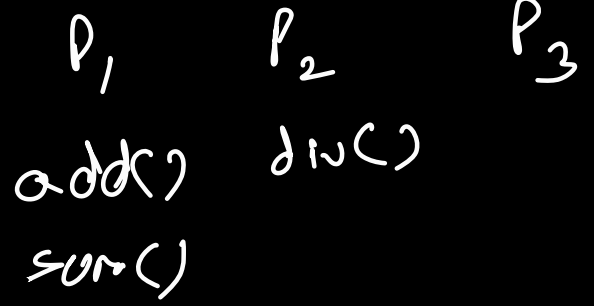
First Go Program

- Print Hello World!
- Go run
- Go build



Package

Go Module & Package



- What is Module?
  - Module is a collection of Go packages
  - Module = Entire Project
- What is Package?
  - Package is a collection of Go files (.go) in the same folder
  - Package = Folder

Interview Questions

- What is special about Package main?
- What is special about Func main?
- Can you run program without main()?
- Can you have multiple main() functions?

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