



TDC ONLINE 2020 São Paulo 27/08

— Escalando um **App Go**
usando **Serverless** e **Kafka**



[@jeffotoni](#)

[Jefferson Otoni](#)

<http://s3wf.com>



TDC
ONLINE



ROCK N ROLL

desafios



Altamente
escalável

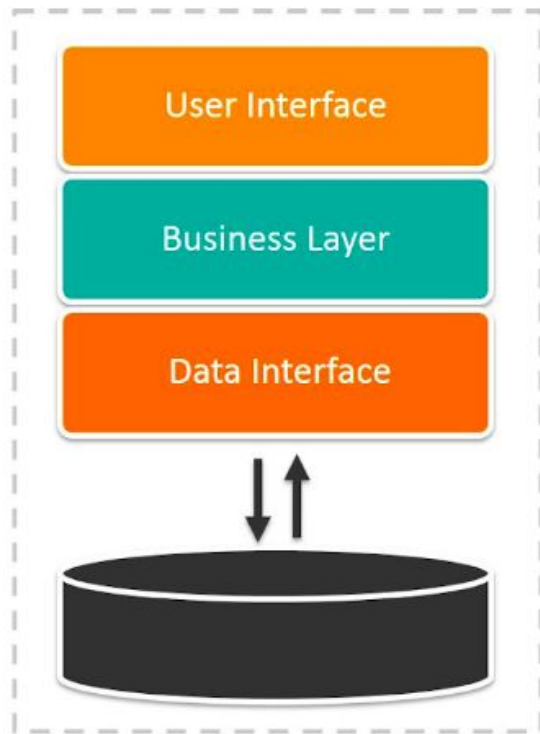
Resiliente

Fácil de
implementar

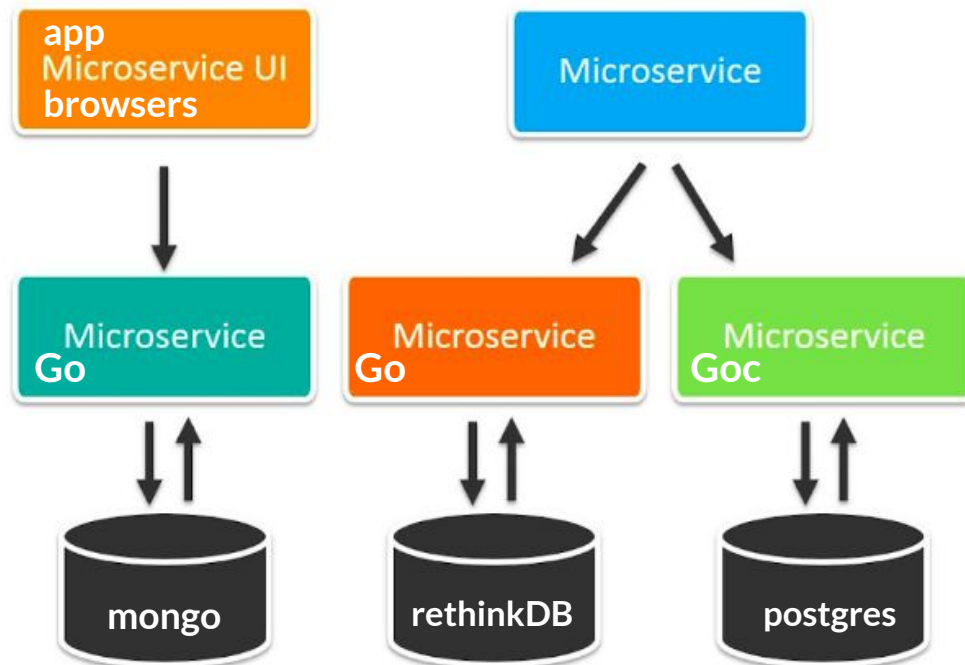




Monolithic Architecture

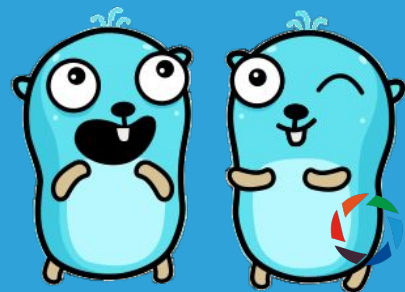


Microservices Architecture





nossa arquitetura s3shop



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Nome Completo

Seguinte



Revise sua compra

Detalhes do envio



Itapagipe, 44545454

- Belo Horizonte, MG - CEP 31110590
jefferson 3199999999

[Editar ou escolher outro](#)

Detalhes dos produtos

Chegará quinta-feira, 27 de Agosto



Camisa Docker Go
Cor: Branco Tamanho: M



Camisa Docker Go
Cor: Branco Tamanho: M

Detalhes do pagamento



Visa **** 4387
Até 12x sem juros

[Alterar](#)

Resumo da compra

Produtos (2)



Camisa Docker Go
Cor: Branco Tamanho: M

R\$ 70⁰⁰

Camisa Zombie Go
Cor: Branco Tamanho: M

R\$ 140⁰⁰

Endereço

jefferson

Itapagipe, 44545454
CEP 31110590, Concórdia - Belo Horizonte/MG

Envio

Normal

Chegará entre 2 e 8 de Setembro

Grátis

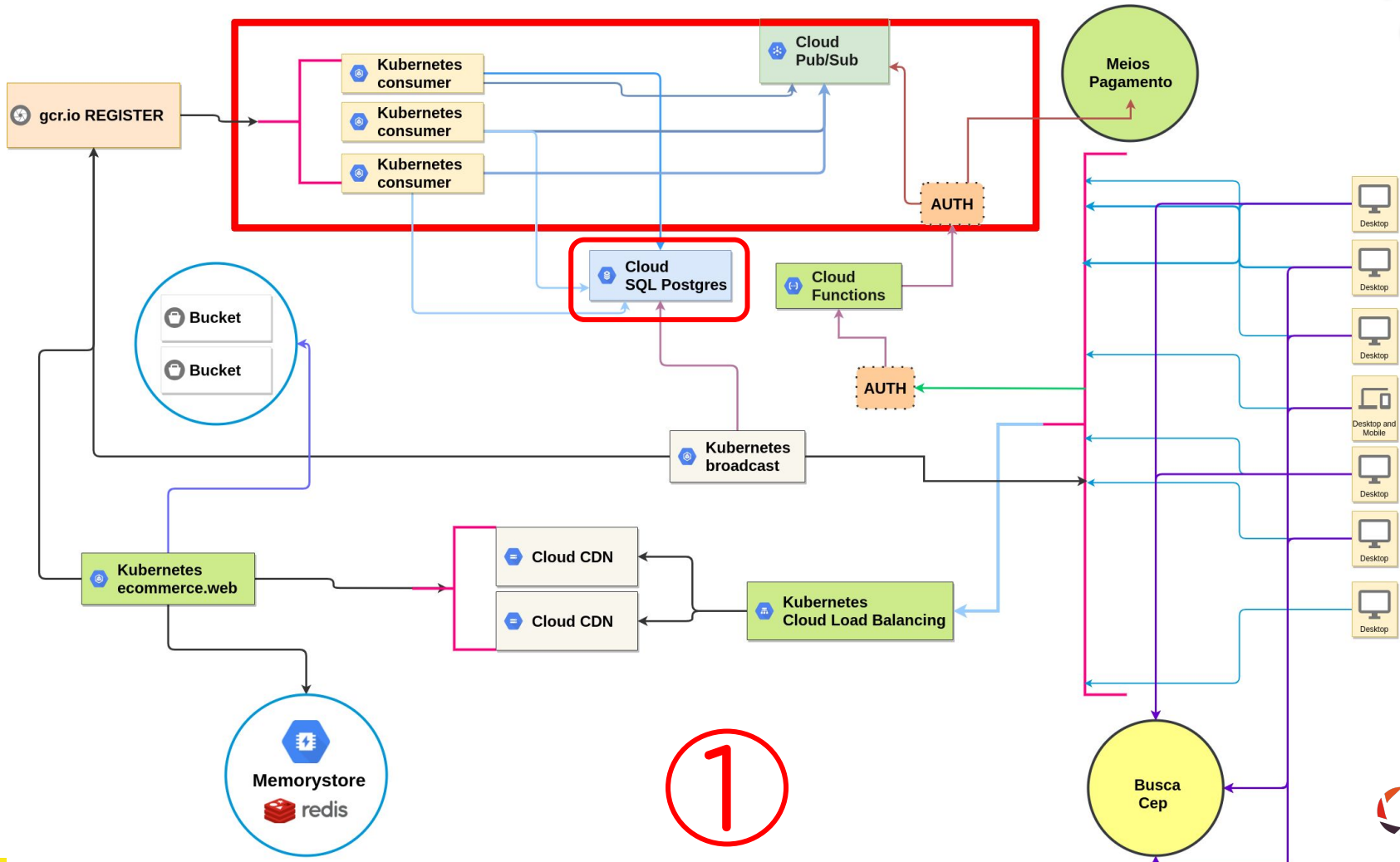
Total

R\$ 210⁰⁰[Confirmar e comprar](#)

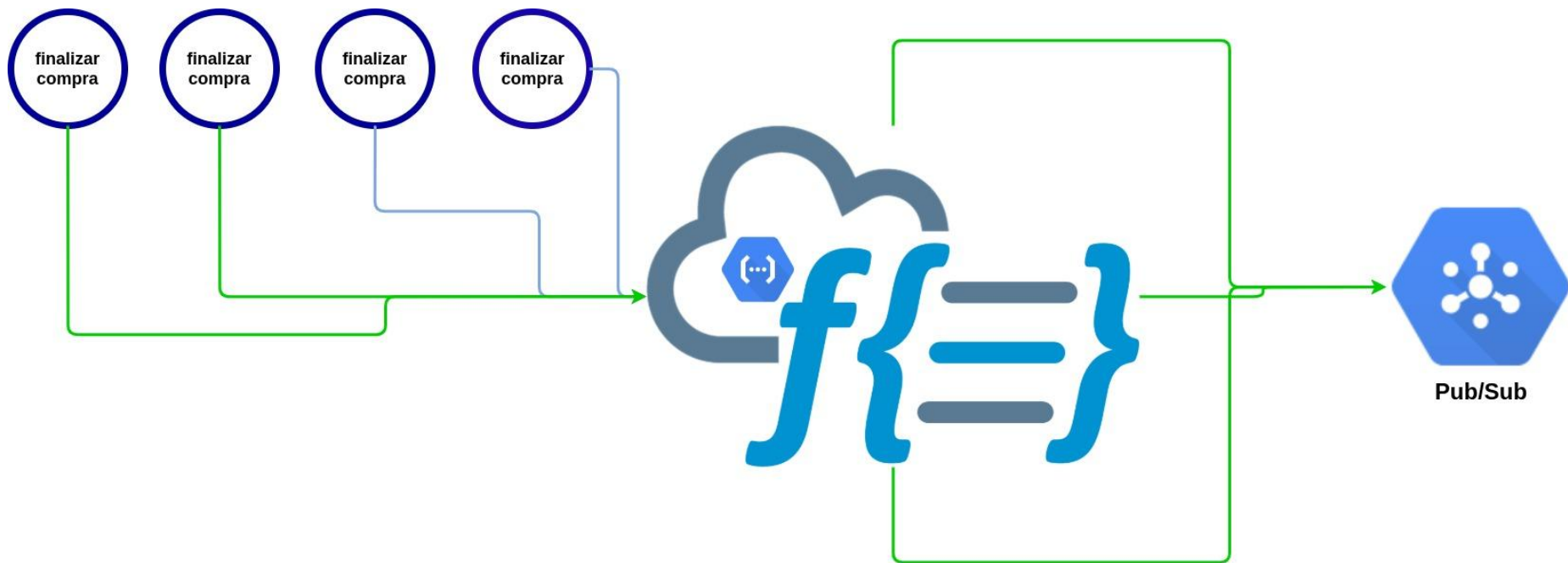


modelo 1





- Desktop
- Desktop
- Desktop
- Desktop and Mobile
- Desktop
- Desktop
- Desktop



1



Pub/Sub

sucesso

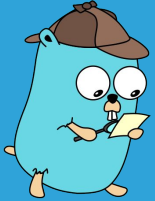
meio Pagamento

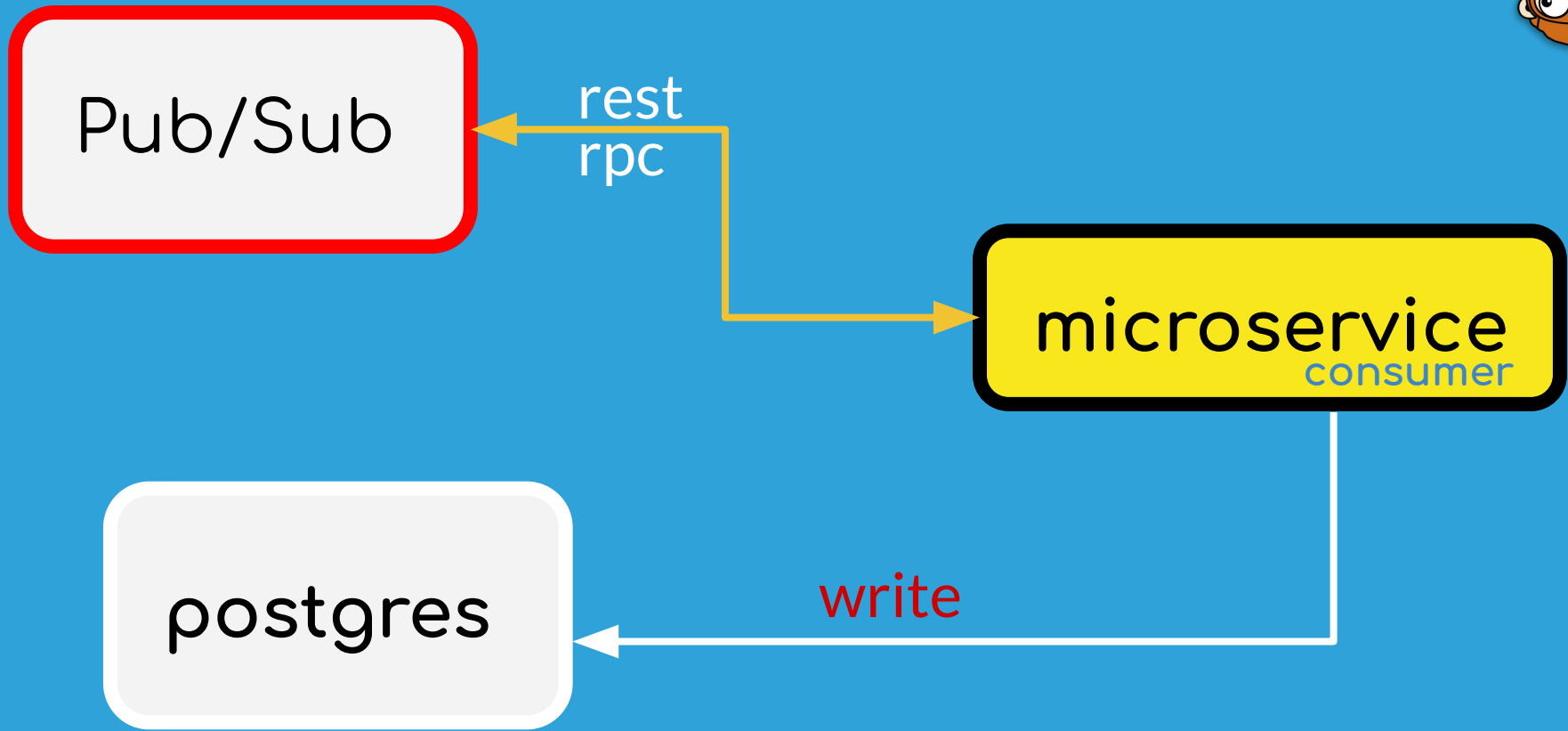
Cloud Function

Cloud Function

Cloud Function

Cloud Function







Pub/Sub

kubemq.io

RabbitMQ

Sqs



consumer



```
sub := client.Subscription(subscript)
err = sub.Receive(ctx, func(ctx context.Context, m *pubsub.Message) {
    var pp models.PostPedido
    err := json.Unmarshal(m.Data, &pp)
    if err != nil {
        log.Println("error unmarshal:", err)
        return
    }

    err = rped.AddPedido(pp) ←
    if err != nil {
        //fmt.Println(string(m.Data))
        log.Println("Error AddPedido:", err)
        return
    }
    println("save db e ack queue...")
    m.Ack()
})
```

Cloud function



```
if !SendMeioPagamento() {
    w.WriteHeader(400)
    w.Write([]byte(Concat(`{"msg":"Error ao tentar validar seu pagamento!"}`)))
    return
}

id, err := Publish(string(b)) ←
if err != nil {
    w.WriteHeader(400)
    errs := strings.Replace(err.Error(), `"` , `", -1)
    w.Write([]byte(Concat(`{"msg":"Error ao enviar para fila:`, errs, `"}`)))
    return
}

w.WriteHeader(200)
w.Write([]byte(Concat(`{"idpedido":`, p.PedidoID, `","idfila":`, id, `"}`)))
}
```

Cloud function



```
client, err := pubsub.NewClient(ctx, projectID)
if err != nil {
    log.Printf("Error NewClient:%s", err.Error())
    return "", err
}

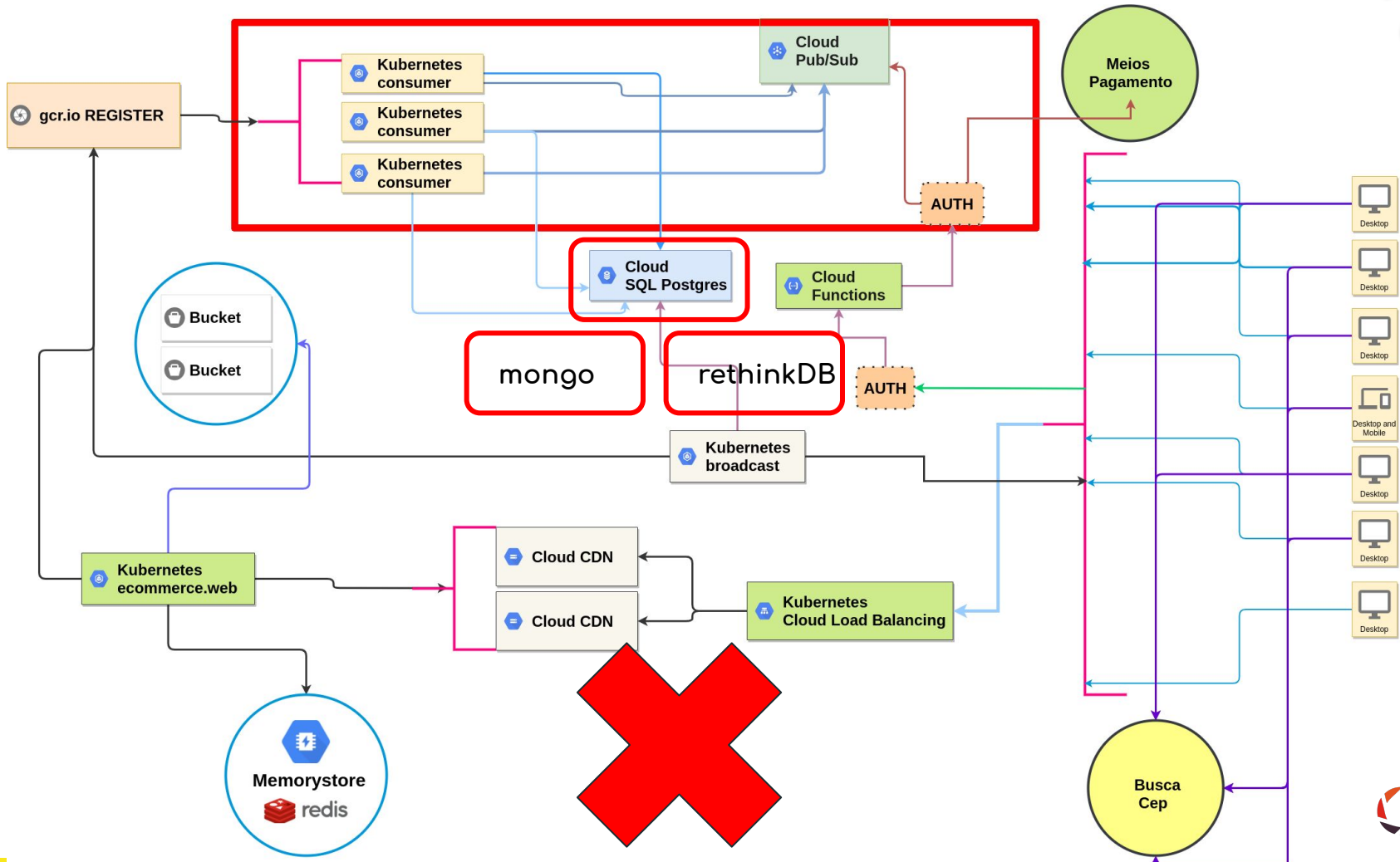
topic := client.Topic(nameTopic)
defer topic.Stop()

res := topic.Publish(ctx, &pubsub.Message{
    Data: []byte(msg)},
)
```




novo Cenário





nossos BDs



—
postgres

Redis

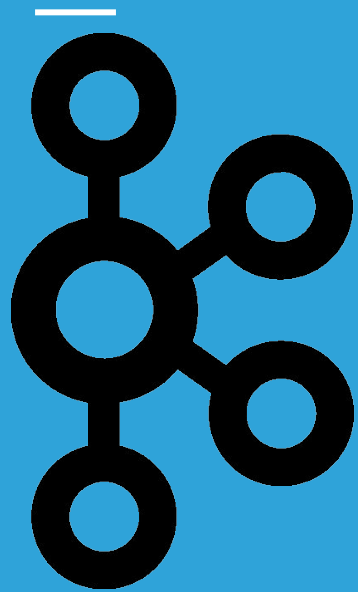
Spanner

BigQuery

mongo

RethinkDB

Solução 2



kafka



Web



Custom apps



Microservices



Monitoring



Analytics



Apache Kafka



App



Twitter



No SQL



Oracle



SFDC



Data
warehouse

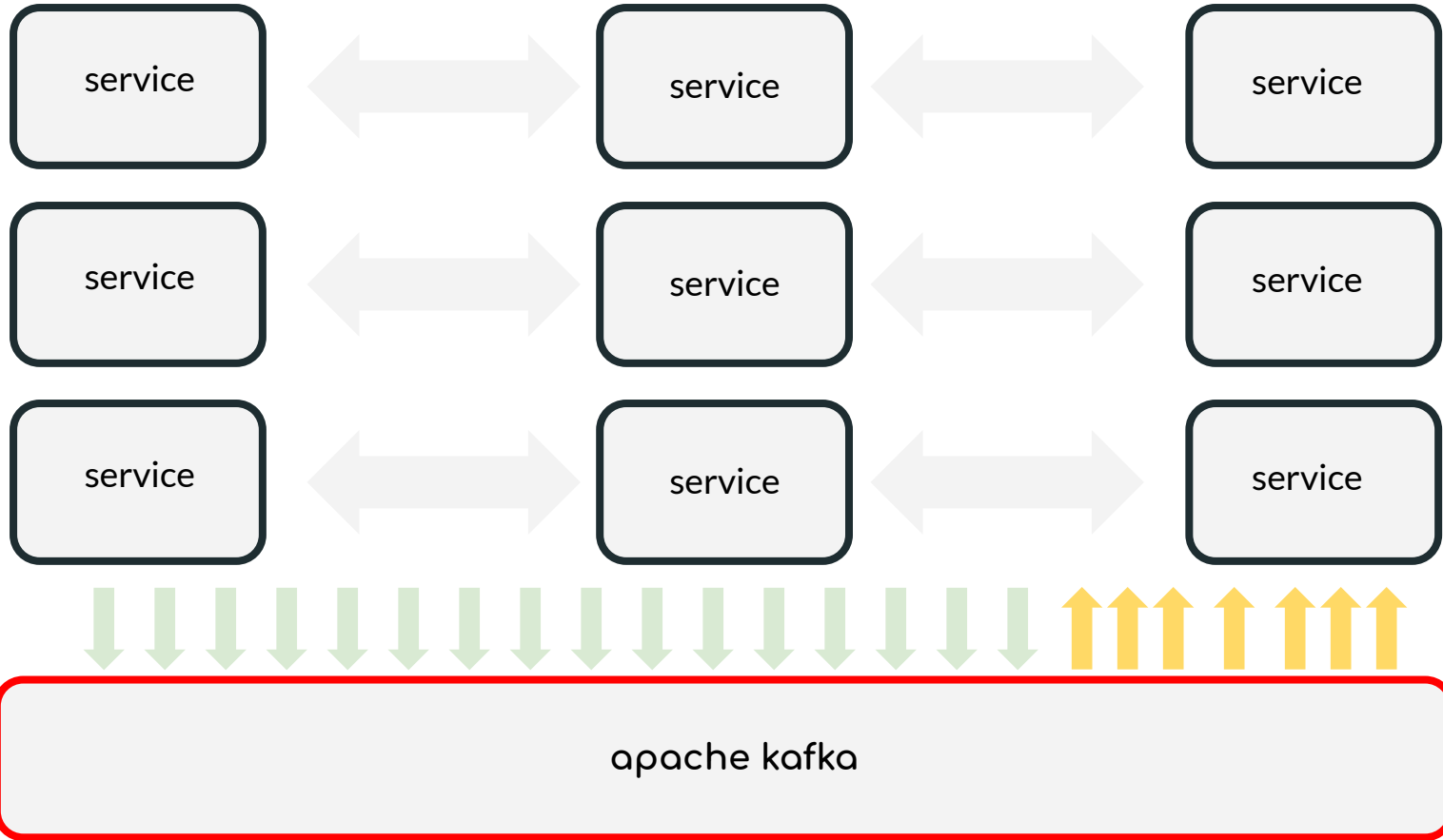


Data
warehouse



any sink/
source

any sink/
source





possível solução



Event Streams



possível solução



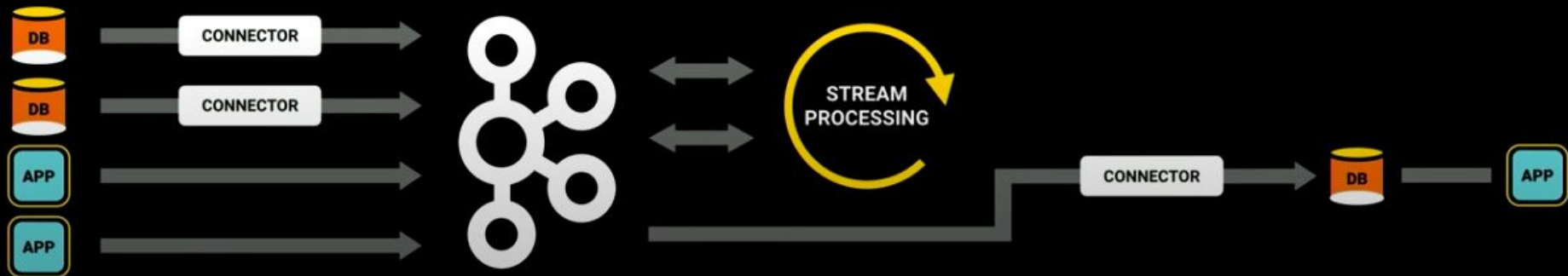


possível solução





possível solução





Kafka producer

```
writer := newKafkaWriter(kafkaURL, topic)
defer writer.Close()
fmt.Println("Go Start Producing ... !!")
for i := 0; ; i++ {
    //uuid := fmt.Sprint(uuid.New())
    //msgJson := `{"uuid":"` + uuid + `", "key":` + strconv.Itoa(i) + `,"msg":success",
    msg := kafka.Message{
        Key:    []byte("46ff1869-9817-4429-97db-9c3d1ff2ca9b"),
        Value: []byte("null"),
    }
    err := writer.WriteMessages(context.Background(), msg)
    if err != nil {
        fmt.Println(err)
    }
    fmt.Println("Key-", i)
    time.Sleep(time.Millisecond * 300)
}
```



Kafka consumer

```
ticker := time.NewTicker(300 * time.Millisecond)
done := make(chan bool)
go func() {
    fmt.Println("start consuming ... !!")
    for {

        select {
        case <-done:
            return
        case t := <-ticker.C:
            fmt.Println("consumer: ", t.Format("2006-01-02 15:04:05"))
            m, err := reader.ReadMessage(context.Background())
            if err != nil {
                log.Fatalln(err)
            }
            fmt.Printf("message at topic:%v partition:%v offset:%v %s = %s\n", m.Topic, m.Partition,

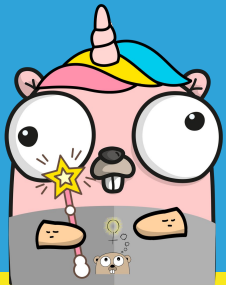
```

time.Sleep(1000000 * time.Second)





Por quê usar Go?



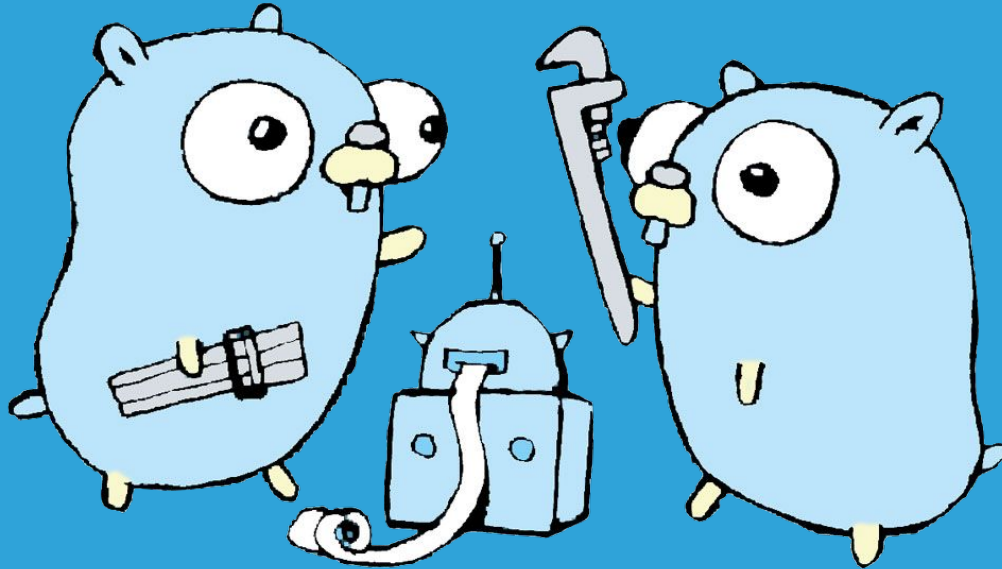
25 Keywords



| | | | | |
|----------|-------------|--------|-----------|--------|
| break | default | func | interface | select |
| case | defer | go | map | struct |
| chan | else | goto | package | switch |
| const | fallthrough | if | range | type |
| continue | for | import | return | var |



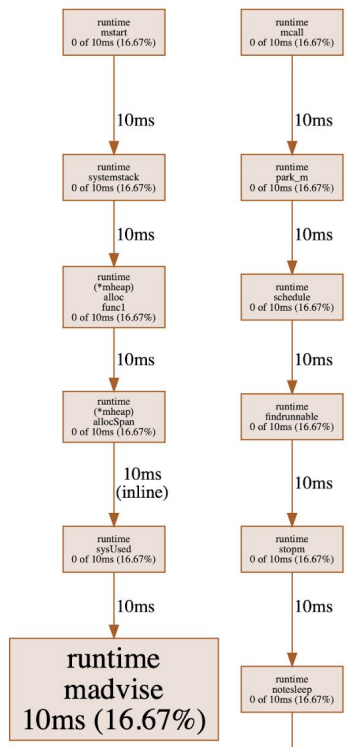
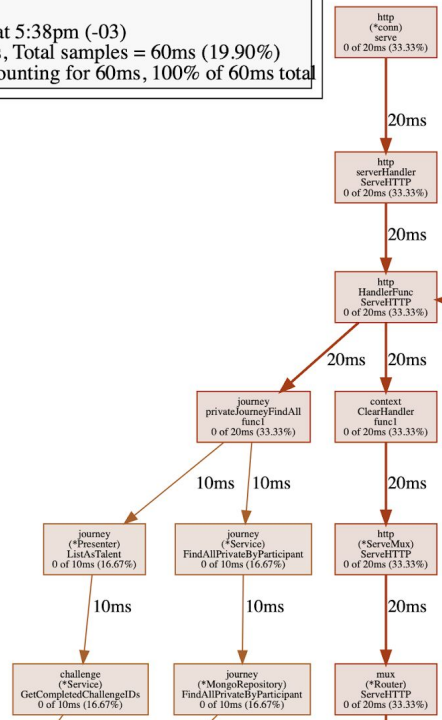
Goroutines

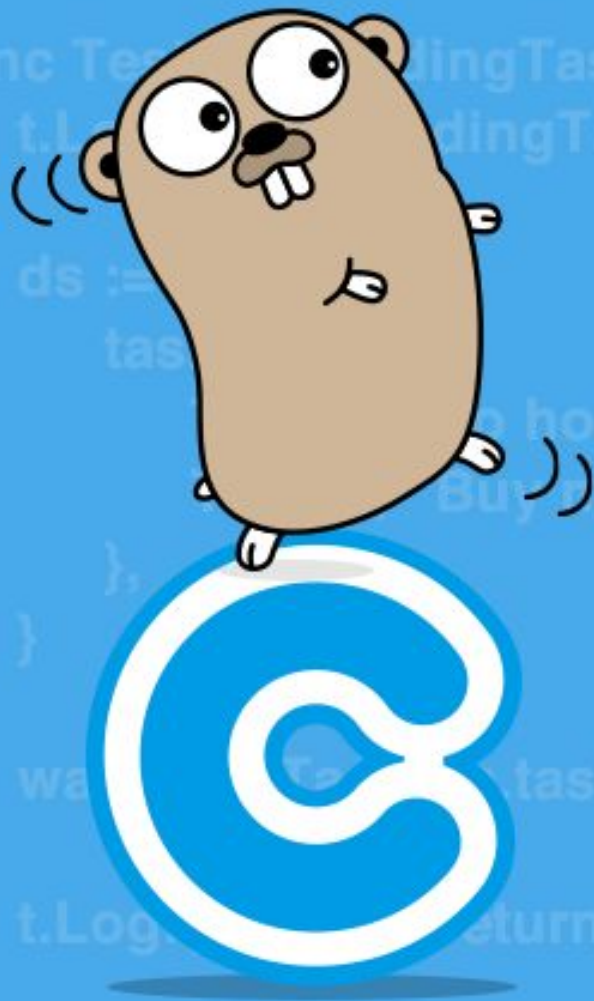




File: api
 Type: cpu
 Time: Apr 7, 2020 at 5:38pm (-03)
 Duration: 301.45ms, Total samples = 60ms (19.90%)
 Showing nodes accounting for 60ms, 100% of 60ms total

Pprof Profiling Go





Test Driven Development in Go

```
func Test...ingTasks(t *testing.T) {  
    t.L...ingTasks")  
    ds :=  
    tas  
    "house"  
    BuyMilk, false),  
},  
}  
wa... tasks[1])  
t.Log... return the tasks which need to be comp
```

<https://golang.org/pkg/testing>



@jefftoni



- Gophers ▾
- jeffotoni
- All unread
- Threads
- Mentions & reactions
- Drafts
- Saved items
- Channel browser
- People
- Apps
- Files
- Show less
- Channels
- # 7masters
- # announcements
- # aws
- # belo Horizonte
- # brasil
- # brazil
- # buffalo
- # general
- # go-kit
- # go-united-organizacao
- # gophercon-brazil
- # gotimefm
- # jobs-remote
- # meetupbrasil
- # saopaulo

#general ☆

45,318 | 20 | Need help with Go? You're in the right place! | Co

POSTING EFFORTS.

Posted in #general Today at 10:10 AM View message

Peter Hellberg 10:11 AM
Ah, I missed those when searching on GitHub 🙄
Ok, those you can access with [go-github](#) for example

Luna Lovegood 10:11 AM
I would like to do similarly for one of my private packages, yes, have done this.
From my package too I would like to export

Peter Hellberg
Ok, those you can access with [go-github](#)

Posted in #general Today at 10:11 AM View message

Peter Hellberg 10:12 AM
As long as you name your variable with `github`

Luna Lovegood 10:12 AM
👍

Sean Liao 10:14 AM
@David Flower

Comunidade



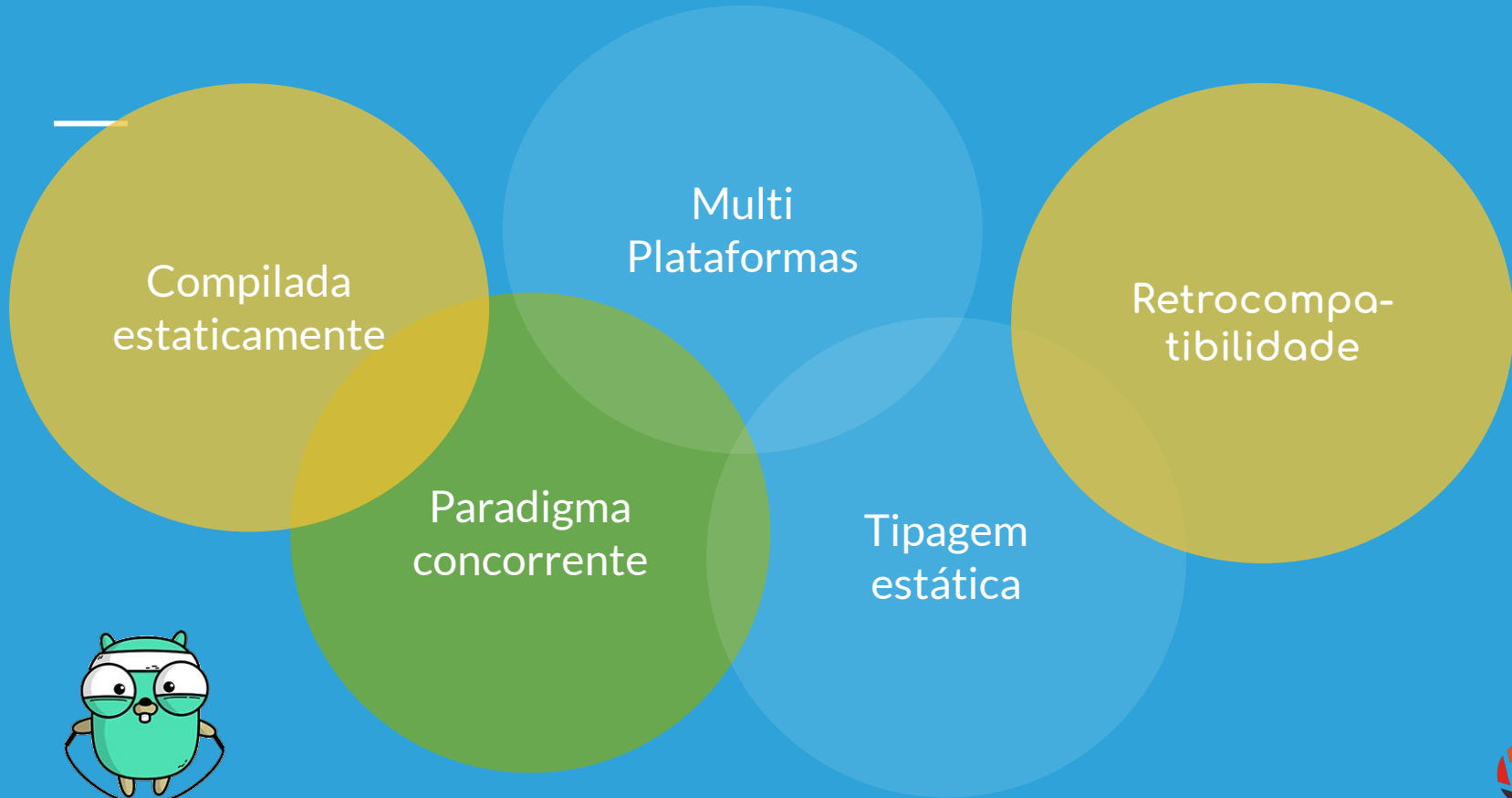
Telegram
https://t.me/go_br
https://t.me/go_bh
<https://t.me/golangcwb>

Slack
<https://gophers.slack.com>
(members >~45k)

GopherCon Brasil 2020
<https://2020.gopherconbr.org>

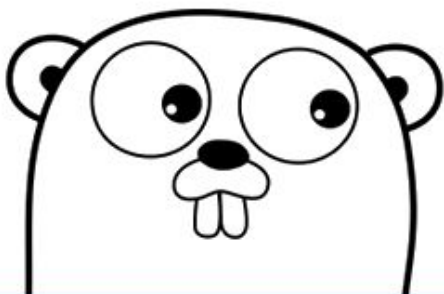
Wiki Conferencias
<https://github.com/golang/go/wiki/Conferences>

Meetup
<https://www.meetup.com/go-belo-horizonte>
<https://www.meetup.com/pt-BR/golangbr>
<https://www.meetup.com/pt-BR/Women-Who-Go-Sampa>
<https://www.meetup.com/pt-BR/Golang-Campinas/>
<https://www.meetup.com/pt-BR/golang-poa/>
<https://www.meetup.com/pt-BR/GolangCWB/>





Go is an open source programming language that makes it easy to build **simple, reliable, and efficient** software.



Download Go

Binary distributions available for Linux, macOS, Windows, and more.

Try Go

[Open in Playground](#) ↗

```
// You can edit this code!  
// Click here and start typing.  
package main  
  
import "fmt"  
  
func main() {  
    fmt.Println("Hello, 世界")  
}
```

Go > Criado Por

Robert Griesemer



Ken Thompson



Rob Pike



Hello, World!

Run

Share

Tour

<https://golang.org>

https://golang.org/doc/effective_go.html

<https://golang.org/ref/spec>

<https://golang.org/doc>

<https://tour.golang.org/welcome/1>



λ Thanks := &Obrigado{...}

Obrigado...



github.com/jeffotoni



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[linkedin.com/in/jeffotoni/](https://www.linkedin.com/in/jeffotoni/)



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<https://t.me/awsbrasil>



<https://t.me/devopsbh>

