

GoFramegsel

gsel

LeastConnection	
Random	
RoundRobin	
Weight	Weight

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HTTP

server.go

```
package main

import (
    "github.com/gogf/gf/contrib/registry/etcd/v2"
    "github.com/gogf/gf/v2/frame/g"
    "github.com/gogf/gf/v2/net/ghttp"
    "github.com/gogf/gf/v2/net/gsvc"
)

func main() {
    gsvc.SetRegistry(etcd.New(`127.0.0.1:2379`))

    s := g.Server(`hello.svc`)
    s.BindHandler("/", func(r *ghttp.Request) {
        g.Log().Info(r.Context(), `request received`)
        r.Response.Write(`Hello world`)
    })
    s.Run()
}
```

client.go

gsel.SetBuilder(gsel.NewBuilderRoundRobin())

```

package main

import (
    "github.com/gogf/gf/contrib/registry/etcd/v2"
    "github.com/gogf/gf/v2/frame/g"
    "github.com/gogf/gf/v2/net/gsel"
    "github.com/gogf/gf/v2/net/gsvc"
    "github.com/gogf/gf/v2/os/gctx"
)

func main() {
    gsvc.SetRegistry(etcd.New(`127.0.0.1:2379`))
    gsel.SetBuilder(gsel.NewBuilderRoundRobin())

    for i := 0; i < 10; i++ {
        ctx := gctx.New()
        res := g.Client().GetContent(ctx, `http://hello.svc/`)
        g.Log().Info(ctx, res)
    }
}

```

server1

```

$ go run server.go
2023-03-15 21:24:08.413 [INFO] pid[10219]: http server started listening
on [:63956]
2023-03-15 21:24:08.413 [INFO] openapi specification is disabled
2023-03-15 21:24:08.413 [DEBU] service register: &{Head: Deployment:
Namespace: Name:hello.svc Version: Endpoints:10.35.12.81:63956 Metadata:map
[insecure:true protocol:http]}
2023-03-15 21:24:08.455 [DEBU] etcd put success with key "/service/default
/default/hello.svc/latest/10.35.12.81:63956", value "{"insecure":true,"
protocol":"http"}", lease "7587869265945813020"

  SERVER   | DOMAIN | ADDRESS | METHOD | ROUTE
  |
  |          HANDLER
MIDDLEWARE
-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
hello.svc | default | :63956  | ALL   | /      | main.main.
func1
-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
hello.svc | default | :63956  | ALL   | /*     | github.com/gogf/gf/v2
/net/ghttp.internalMiddlewareServerTracing | GLOBAL MIDDLEWARE
-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----

2023-03-15 21:24:18.357 [INFO] {e05b6049859a4c17d1de5d62eafa5a5f} request
received
2023-03-15 21:24:18.358 [INFO] {785e9349859a4c17d3de5d62049e5b51} request
received
2023-03-15 21:24:18.360 [INFO] {7076ab49859a4c17d5de5d62aaa64c85} request
received
2023-03-15 21:24:18.360 [INFO] {205fb849859a4c17d7de5d62cb2590f4} request
received
2023-03-15 21:24:18.361 [INFO] {885fc349859a4c17d9de5d6235937e31} request
received

```

server2

```
$ go run server.go
2023-03-15 21:24:10.769 [INFO] pid[10242]: http server started listening
on [:63964]
2023-03-15 21:24:10.770 [INFO] openapi specification is disabled
2023-03-15 21:24:10.770 [DEBU] service register: &{Head: Deployment:
Namespace: Name:hello.svc Version: Endpoints:10.35.12.81:63964 Metadata:map
[insecure:true protocol:http]}
2023-03-15 21:24:10.812 [DEBU] etcd put success with key "/service/default
/default/hello.svc/latest/10.35.12.81:63964", value "{\"insecure\":true,\"
protocol\":\"http\"}", lease "7587869265945813023"

  SERVER   | DOMAIN   | ADDRESS | METHOD | ROUTE
|
|          |           |          |        |
MIDDLEWARE
|-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
|
| hello.svc | default | :63964 | ALL   | /      | main.main.
func1      |
|-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
|
| hello.svc | default | :63964 | ALL   | /*     | github.com/gogf/gf/v2
/net/ghttp.internalMiddlewareServerTracing | GLOBAL MIDDLEWARE
|-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----
|-----|-----|-----|-----|-----

2023-03-15 21:24:18.357 [INFO] {602d8749859a4c17d2de5d62d515e464} request
received
2023-03-15 21:24:18.359 [INFO] {e0ed9b49859a4c17d4de5d628284ae62} request
received
2023-03-15 21:24:18.360 [INFO] {e0e0b249859a4c17d6de5d62beda3001} request
received
2023-03-15 21:24:18.361 [INFO] {7087bd49859a4c17d8de5d62f892e8aa} request
received
2023-03-15 21:24:18.361 [INFO] {e8aec849859a4c17dade5d6247101836} request
received
```

```
$ go run client.go
2023-03-15 21:24:18.357 [INFO] {e05b6049859a4c17d1de5d62eafa5a5f} Hello
world
2023-03-15 21:24:18.358 [INFO] {602d8749859a4c17d2de5d62d515e464} Hello
world
2023-03-15 21:24:18.358 [INFO] {785e9349859a4c17d3de5d62049e5b51} Hello
world
2023-03-15 21:24:18.359 [INFO] {e0ed9b49859a4c17d4de5d628284ae62} Hello
world
2023-03-15 21:24:18.360 [INFO] {7076ab49859a4c17d5de5d62aaa64c85} Hello
world
2023-03-15 21:24:18.360 [INFO] {e0e0b249859a4c17d6de5d62beda3001} Hello
world
2023-03-15 21:24:18.360 [INFO] {205fb849859a4c17d7de5d62cb2590f4} Hello
world
2023-03-15 21:24:18.361 [INFO] {7087bd49859a4c17d8de5d62f892e8aa} Hello
world
2023-03-15 21:24:18.361 [INFO] {885fc349859a4c17d9de5d6235937e31} Hello
world
2023-03-15 21:24:18.361 [INFO] {e8aec849859a4c17dade5d6247101836} Hello
world
```

GRPC

server.go

```

package main

import (
    "github.com/gogf/gf/contrib/rpc/grpcx/v2"
    "github.com/gogf/gf/example/rpc/grpcx/balancer/controller"
)

func main() {
    s := grpcx.Server.New()
    controller.Register(s)
    s.Run()
}

```

client.go

```

package main

import (
    "context"

    "github.com/gogf/gf/contrib/rpc/grpcx/v2"
    "github.com/gogf/gf/example/rpc/grpcx/balancer/protobuf"
    "github.com/gogf/gf/v2/frame/g"
    "github.com/gogf/gf/v2/os/gctx"
)

func main() {
    var (
        ctx    context.Context
        conn   = grpcx.Client.MustNewGrpcClientConn("demo", grpcx.
Balancer.WithRandom())
        client = protobuf.NewGreeterClient(conn)
    )
    for i := 0; i < 10; i++ {
        ctx = gctx.New()
        res, err := client.SayHello(ctx, &protobuf.HelloRequest
{Name: "World"})
        if err != nil {
            g.Log().Error(ctx, err)
            return
        }
        g.Log().Debug(ctx, "Response:", res.Message)
    }
}

```

grpcx.Balancer.WithRandom()server.goclient.go

server1

```

$ go run server.go
2023-03-15 19:50:44.801 [DEBU] set default registry using file registry as
no custom registry set
2023-03-15 19:50:44.802 [DEBU] service register: &{Head: Deployment:
Namespace: Name:demo Version: Endpoints:10.35.12.81:53962 Metadata:map
[protocol:grpc]}
2023-03-15 19:50:44.802 [INFO] pid[89290]: grpc server started listening
on [:53962]
2023-03-15 19:50:57.282 {7025612f6d954c17c5f335051bf10899} /protobuf.
Greeter/SayHello, 0.003ms, name:"World", message:"Hello World"
2023-03-15 19:50:57.283 {60567c2f6d954c17c7f335052ce05185} /protobuf.
Greeter/SayHello, 0.002ms, name:"World", message:"Hello World"
2023-03-15 19:50:57.285 {f8d09b2f6d954c17ccf33505dffa4ea} /protobuf.
Greeter/SayHello, 0.002ms, name:"World", message:"Hello World"
2023-03-15 19:50:57.287 {f0fab02f6d954c17cdf33505438b2c80} /protobuf.
Greeter/SayHello, 0.001ms, name:"World", message:"Hello World"

```

server2

```
$ go run server.go
2023-03-15 19:50:51.720 [DEBU] set default registry using file registry as
no custom registry set
2023-03-15 19:50:51.721 [DEBU] service register: &{Head: Deployment:
Namespace: Name:demo Version: Endpoints:10.35.12.81:53973 Metadata:map
[protocol:grpc]}
2023-03-15 19:50:51.722 [INFO] pid[89351]: grpc server started listening
on [:53973]
2023-03-15 19:50:57.280 {b89a0d2f6d954c17c4f33505a046817c} /protobuf.
Greeter/SayHello, 0.002ms, name:"World", message:"Hello World"
2023-03-15 19:50:57.282 {28bf732f6d954c17c6f33505adedff5f} /protobuf.
Greeter/SayHello, 0.002ms, name:"World", message:"Hello World"
2023-03-15 19:50:57.283 {9876832f6d954c17c8f3350580ed535b} /protobuf.
Greeter/SayHello, 0.002ms, name:"World", message:"Hello World"
2023-03-15 19:50:57.284 {684e8b2f6d954c17c9f33505d56e4b05} /protobuf.
Greeter/SayHello, 0.001ms, name:"World", message:"Hello World"
2023-03-15 19:50:57.284 {c045912f6d954c17caf3350599006197} /protobuf.
Greeter/SayHello, 0.001ms, name:"World", message:"Hello World"
2023-03-15 19:50:57.284 {500a972f6d954c17cbf33505252b0e01} /protobuf.
Greeter/SayHello, 0.001ms, name:"World", message:"Hello World"
```

```
$ go run client.go
2023-03-15 19:50:57.278 [DEBU] client conn updated with addresses
[{"Addr":"10.35.12.81:53962","ServerName":"demo","Attributes":{},"
BalancerAttributes":null,"Type":0,"Metadata":null},{ "Addr":"10.35.12.81:
53973","ServerName":"demo","Attributes":{},"BalancerAttributes":null,"
Type":0,"Metadata":null}]
2023-03-15 19:50:57.281 [DEBU] {b89a0d2f6d954c17c4f33505a046817c}
Response: Hello World
2023-03-15 19:50:57.282 [DEBU] {7025612f6d954c17c5f335051bf10899}
Response: Hello World
2023-03-15 19:50:57.282 [DEBU] {28bf732f6d954c17c6f33505adedff5f}
Response: Hello World
2023-03-15 19:50:57.283 [DEBU] {60567c2f6d954c17c7f335052ce05185}
Response: Hello World
2023-03-15 19:50:57.283 [DEBU] {9876832f6d954c17c8f3350580ed535b}
Response: Hello World
2023-03-15 19:50:57.284 [DEBU] {684e8b2f6d954c17c9f33505d56e4b05}
Response: Hello World
2023-03-15 19:50:57.284 [DEBU] {c045912f6d954c17caf3350599006197}
Response: Hello World
2023-03-15 19:50:57.285 [DEBU] {500a972f6d954c17cbf33505252b0e01}
Response: Hello World
2023-03-15 19:50:57.286 [DEBU] {f8d09b2f6d954c17ccf33505dff1a4ea}
Response: Hello World
2023-03-15 19:50:57.287 [DEBU] {f0fab02f6d954c17cdf33505438b2c80}
Response: Hello World
```

