

# 3 - [Hands-On] gRPC Project Overview & Setup

## Go Dependencies Setup

```
1 $ go get -u google.golang.org/grpc
```

```
1 $ go get -u github.com/golang/protobuf/protoc-gen-go
```

## Code Generation Test

/src/calculator

/src/greet

src/greet/greetpb/greet.proto

```
1 syntax = "proto3";
2
3 package greet;
4 option go_package = "greetpb";
5
6 service GreetService {}
```

/src/generate.sh

```
1 $ protoc greet/greetpb/greet.proto --go_out=plugins=grpc:.
```

## Server Setup Boilerplate Code

### gRPC Server Setup

- Let's setup a gRPC Server with no service on it
- We'll see how to properly start & stop the Server on a defined [port](#)
- The point of this lecture is just to be done with "boilerplate code"

/src/greet/greet\_server/server.go

```
1 package main
2
3 import (
4     "fmt"
5     "log"
6     "net"
7
```

```

8     "github.com/gRPC-go-microservices/src/greet/greetpb"
9     "google.golang.org/grpc"
10 )
11
12 type server struct{}
13
14 func main() {
15     fmt.Println("Hello world!")
16
17     // listener
18     // 50051 is the default port number for gRPC
19     lis, err := net.Listen("tcp", "0.0.0.0:50051")
20     if err != nil {
21         log.Fatalf("Failed to listen: %v", err)
22     }
23
24     // create grpc server
25     s := grpc.NewServer()
26     greetpb.RegisterGreetServiceServer(s, &server{})
27
28     // bind the server to the port
29     if err := s.Serve(lis); err != nil {
30         log.Fatalf("failed to serve: %v", err)
31     }
32 }

```

## Client Setup Boilerplate Code

### gRPC Client Setup

- Let's setup a gRPC Client that connects to our Server
- We'll see how to properly start & stop the Client
- The point of this lecture is just to be done with "boilerplate code"

/src/greet/greet/greet\_client/client.go

```

1 package main
2
3 import (
4     "fmt"
5     "log"
6
7     "github.com/gRPC-go-microservices/src/greet/greetpb"
8     "google.golang.org/grpc"
9 )
10
11 func main() {
12     fmt.Println("Hello I'm a client")
13
14     // by default gRPC has SSL, for now, without this
15     conn, err := grpc.Dial("localhost:500051", grpc.WithInsecure())
16     if err != nil {
17         log.Fatalf("could not connect: %v", err)
18     }

```

```
19
20 // defer means defer this statement at the very end of this function
21 defer conn.Close()
22
23 // create a new client
24 c := greetpb.NewGreetServiceClient(conn)
25 fmt.Printf("Created client: %f", c)
26 }
```

