

Error "protoc-gen-go: program not found or is not executable"

Asked 3 years, 5 months ago Modified 2 months ago Viewed 117k times



I am trying to build a sample application with Go [gRPC](#), but I am unable to generate the code using "protoc"

68



I have installed the required libraries and Go packages using:



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



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

I have tried setting the path as well, but no luck.

Sample "proto" file:

```
syntax = "proto3";

package greet;
option go_package="greetpb";

service GreetService{}
```

Error message:

```
"protoc-gen-go: program not found or is not executable
--go_out: protoc-gen-go: Plugin failed with status code 1."
```

[go](#) [protocol-buffers](#) [grpc](#) [proto](#) [protoc](#)

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edited Apr 11, 2022 at 22:33



[Peter Mortensen](#)

30.9k 21 104 125

asked Aug 28, 2019 at 22:39



[Mayank Gupta](#)

1,489 1 12 19

Can you add the exact command you are executing? – [Jory Geerts](#) Aug 29, 2019 at 14:37

"protoc greet/greetpb/greet.proto --go_out=plugins=grpc:." Folder structure: greet->greetpb->greet.proto file – [Mayank Gupta](#) Aug 29, 2019 at 17:02

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@ArifMustafa This solved my issue well. Thanks. – [Aditya Goel](#) Mar 18, 2022 at 6:46

Sorted by:

Highest score (default)

18 Answers



[Tannisha Hill](#) indicated that the following package had to be added:

42

```
sudo apt install protobuf-compiler
```



In my case, I also had to add this one:



```
sudo apt install golang-goprotobuf-dev
```

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edited Apr 11, 2022 at 22:20

answered Jun 27, 2020 at 16:53



[Peter Mortensen](#)

30.9k 21 104 125



[Panchove](#)

431 4 4

module github.com/golang/protobuf is deprecated: Use the "google.golang.org/protobuf" module instead – [shanwije](#) Jan 11, 2022 at 12:30

- 1 On what system and distribution (incl. versions)? Was it [Ubuntu 20.04](#) (Focal Fossa)? Or something else? – [Peter Mortensen](#) Mar 8, 2022 at 0:43



I resolved it by following these steps:

38

Install the Go library using:



```
go get -u github.com/golang/protobuf/{proto,protoc-gen-go}
```



1. Run `vim ~/.bash_profile`

2. Add:



```
export GO_PATH=~/.go
export PATH=$PATH:$GO_PATH/bin
```

3. Run `source ~/.bash_profile`


Reference: [Unable to build protobuf to go endpoint](#)

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- 1 As an aside, you really should be using `.bashrc` instead of `.bash_profile` – user11751463 Aug 30, 2019 at 17:48

- @SoumasishGoswami can you explain why use `.bashrc` instead of `.bash_profile`? – Joel Guerra Mar 20, 2020 at 21:44

- 1 @TannishaHill `.bash_profile` or better yet `.profile` is preferable for env vars which you export because it is usually only executed once, by login shells. `.bashrc` is executed by all interactive shells, so you end up just blithely reexporting the env vars everytime you manually launch a child shell. – papiro Jun 9, 2021 at 0:35 

- 1 go: module github.com/golang/protobuf is deprecated: Use the "google.golang.org/protobuf" module instead. go get: installing executables with 'go get' in module mode is deprecated. – Ed Randall Jun 7, 2022 at 17:35



There are two ways to install the protobuf compiler. If you're on Ubuntu you can use this:

33

```
sudo apt install protobuf-compiler
```



Then of course there's the standard way:



```
go get -u github.com/golang/protobuf/{proto,protoc-gen-go}
```

Here forward it's just adding the path. Assuming when you installed Go you did this,

```
echo 'export GOPATH=$HOME/Go' >> $HOME/.bashrc
source $HOME/.bashrc
```

Now you can just extend this:

```
echo 'export PATH=$PATH:$GOPATH/bin' >> $HOME/.bashrc
source $HOME/.bashrc
```

Strangely `protoc` can't expand `~`.

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edited Mar 8, 2022 at 0:39

answered Aug 30, 2019 at 17:46



Peter Mortensen

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user11751463

'go get' is no longer supported outside a module. To build and install a command, use 'go install' with a version Here is a sample command to use: `go install`

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Starting in Go 1.17, installing executables with `go get` is deprecated. `go install` may be used instead.

~/.bashrc

```
export GOPATH=$HOME/go
export PATH=$PATH:$GOPATH/bin
```

Install

```
go install google.golang.org/protobuf/cmd/protoc-gen-go@latest
```

go: downloading google.golang.org/protobuf v1.27.1

```
go install google.golang.org/grpc/cmd/protoc-gen-go-grpc@latest
```

go: downloading google.golang.org/grpc/cmd/protoc-gen-go-grpc v1.2.0

go: downloading google.golang.org/grpc v1.44.0

file.go

```
protoc --go-grpc_out=. *.proto
```

Environment

- [Apple M1 Pro](#)
- Go version go1.17.8 darwin/arm64

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edited Apr 11, 2022 at 22:32

answered Mar 9, 2022 at 10:24



Peter Mortensen

30.9k 21 104 125



rbento

8,740 3 59 58

- 2 In my case, it worked when I added this part `export GOPATH=$HOME/go export PATH=$PATH:$GOPATH/bin` to `~/.bash_profile` – [Ahmed Mozaly](#) Mar 13, 2022 at 14:55

This probably isn't what most people want. Since most people are now using `go mod`, the appropriate

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From the [GitHub repository](#), this solution has worked for me.



The Go version is *go version go1.14.1 Linux/amd64*

14

Add this to `.bashrc` and source it.



```
export GOROOT=/usr/local/go
export GOPATH=$HOME/go
export GOBIN=$GOPATH/bin
export PATH=$PATH:$GOROOT:$GOPATH:$GOBIN
```

Ref.: [protoc-gen-go: program not found or is not executable #795](#)

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edited Mar 8, 2022 at 0:42

answered Apr 7, 2020 at 14:20



Peter Mortensen

30.9k 21 104 125



Krishnadas PC

5,571 2 52 49



Also try the official solution from [grpc.io documentation](#).

10

Go plugins for the protocol compiler:



Install the protocol compiler plugins for Go using the following commands:



```
export GO111MODULE=on # Enable module mode

go get google.golang.org/protobuf/cmd/protoc-gen-go \
      google.golang.org/grpc/cmd/protoc-gen-go-grpc
```

Update your PATH so that the protoc compiler can find the plugins:

```
export PATH="$PATH:$(go env GOPATH)/bin"
```

This worked for me.

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edited Mar 8, 2022 at 0:50

answered Jan 16, 2021 at 3:25



Peter Mortensen

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Yrineu Rodrigues

1,228 14 12



Make sure your GOBIN is set in the `PATH` variable. Otherwise, you may encounter this problem. Check `GOBIN` path by running `go env` and confirm `GOBIN` is not empty.

9

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edited Apr 10, 2021 at 15:46

answered Jun 23, 2020 at 11:37

Sathishkumar
Rakkiyasamy

3,376 2 33 33

Exactly, as the [docs](#) state: "Set the \$GOBIN environment variable to change the installation location. It must be in your \$PATH for the protocol buffer compiler to find it." – [nichoio](#) Sep 5, 2021 at 12:04

Use `go get` to download the following packages:

7

```
go get google.golang.org/protobuf/cmd/protoc-gen-go
go get google.golang.org/grpc/cmd/protoc-gen-go-grpc
```



For *setting* `GOPATH` and `GOROOT`, follow the below procedure:



But, first, run `go env`.

If you see that the Go is not installed, you can install it via [Homebrew](#). If you see the output, then your Go is installed. It shows you all the environments that are set and are not.

If you see empty for `GOPATH`:

Create any directory anywhere on your computer for Go projects in my case:

`~/GO_PROJECTS` then `export GOPATH=~/GO_PROJECTS`.

If you see empty for `GOROOT`:

Run `which go` (on my computer: `/usr/local/bin/go`) then *edit* your `~/.zshrc` file to add the following line export like this `export GOROOT=/usr/local/go`.

You can also edit your `~/.zshrc` file to add the following line to set up the `GOPATH` and `GOROOT`:

If you have installed Go from the original pkg, download from <https://golang.org/doc/install>.

```
export GOPATH=$HOME/dev/go-workspace
export GOROOT=/usr/local/go
export PATH=$PATH:$GOPATH/bin
export PATH=$PATH:$GOROOT/bin
```

If you have installed Go using Homebrew.

```
export GOPATH=$HOME/dev/go-workspace
```

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edited Mar 8, 2022 at 0:58

answered May 6, 2021 at 13:20



Peter Mortensen

30.9k 21 104 125



Rajiv Singh

1,991 2 11 30

But only on Mac (since [Homebrew](#) is mentioned)? What version of macOS was it tried on?
– Peter Mortensen Mar 8, 2022 at 0:49



3



I tried multiple solutions, but at the end I found out that Go environment variables are the actual culprits for this.

If you are on Linux, add these variables in your [.bashrc](#) or [.bash_profile](#) file.



```
export GOROOT=/usr/local/go
export GOPATH=$HOME/go
export GOBIN=$GOPATH/bin
export PATH=$PATH:$GOROOT:$GOPATH:$GOBIN
```

And don't forget to source it after editing (e.g., `$source ~/.bashrc`).

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edited Mar 8, 2022 at 1:15

answered Jul 16, 2021 at 22:07



Peter Mortensen

30.9k 21 104 125



USMAN FAZIL

709 5 11

1 Worked for me once I had added `/home/username/go` and `/home/username/go/bin` to `PATH` (Go 1.16). It did not seem to make a difference whether env variables `$GOPATH` and `$GOBIN` are set or not (someone correct me if I'm wrong). – nichoio Sep 5, 2021 at 11:55



Step 1:

2



```
sudo apt install protobuf-compiler
```



Step 2:

```
go install google.golang.org/protobuf/cmd/protoc-gen-go@v1.26
```

Step 3:

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edited Mar 8, 2022 at 1:16

answered Dec 19, 2021 at 10:15



Peter Mortensen

30.9k 21 104 125



Алексей Огородников

51 1



Many of the other responses address path issues, but if it's not installed, you can install it using the following command:

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```
go install google.golang.org/grpc/cmd/protoc-gen-go-grpc
```



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edited Mar 8, 2022 at 0:40

answered Dec 10, 2020 at 20:59



Peter Mortensen

30.9k 21 104 125



Andy

61 3



When you run `go get -u github.com/golang/protobuf/protoc-gen-go` in [Visual Studio Code](#) terminal, and if Visual Studio Code doesn't find `$GOPATH` and `$GOBIN`, it will install the package at the default user's home directory `/home/$username/go{bin}`

1



The solution is to move all files in the `bin` and `pkg` folders to your current `go` path (`/usr/local/go{bin}`). The `go` path is the one which contains the `go` file in the `bin` folder. And add this line to the end of the [.bashrc file](#):



```
export GOPATH=/usr/local/go:$PATH
export GOBIN=/usr/local/go/bin:$PATH
```

Then reboot the computer.

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edited Mar 8, 2022 at 0:56

answered Mar 5, 2021 at 5:35



Peter Mortensen

30.9k 21 104 125



ThogTq

11 2



NB: Switch to root privileges on your terminal and follow these steps. This got me out of the ditch

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1. git clone <https://github.com/micro/protoc-gen-micro>
`/usr/local/go/bin/src/github.com/micro/protoc-gen-micro`
2. `cd src/github.com/micro/protoc-gen-micro`
3. `go build`



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In case someone is facing the same issue nowadays.

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Install the Go library using



```
go get -u github.com/golang/protobuf/{proto,protoc-gen-go}
```



Make sure the GOPATH variable is set. In my case I created a folder called gocode, but if your code is located in another folder you have to change it.

```
export GOPATH=$HOME/gocode
export Path=$Path:$GOPATH/bin
```

After following these steps, I found another error protoc-gen-go failed :: The import path must contain at least one forward slash (/) character. To solve this, change the path in the option

```
syntax = "proto3";

package greet;

option go_package="./greet/greetpb";

service GreetService{}
```

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edited Apr 11, 2022 at 22:34



Peter Mortensen

30.9k 21 104 125

answered May 18, 2021 at 17:04



Jorge Arguedas Arrieta

131 1 9



After installing Go, use go get to download the following packages:

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\$ go get google.golang.org/protobuf/cmd/protoc-gen-go



\$ go get google.golang.org/grpc/cmd/protoc-gen-go-grpc



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answered Jun 10, 2022 at 18:39



rajkabbur

167 3



The reason you are seeing this message is because Go cannot reach the executable. Go

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```
echo $PATH
```

Inspect the result to see if ~/go/bin is in your path.

If not, let's add it to our path:

```
export PATH=$PATH:/$GO_PATH/bin
```

Everything should work now if protoc-gen-go is installed.

If not, install protoc-gen-go.

```
go install google.golang.org/protobuf/cmd/protoc-gen-go@latest
```

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answered Aug 16, 2022 at 1:50



Quan Truong

188 2 11



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None of above works for me. It turns out you have to go to this [page](#) and download the suitable file for your platform at unzip it into your GOPATH. For example this protoc-21.5-osx-x86_64.zip for Intel macOS or this one for linux 64 bit protoc-21.5-linux-x86_64.zip



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answered Aug 27, 2022 at 13:01



Dat TT

2,722 2 16 18



0

It's worked for me:

check protoc-gen-go install on your system if it's not installed then install it on your system. For mac *



```
brew install protoc-gen-go
```

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edited Oct 8, 2022 at 16:10



Javad

1,983 3 12 21

answered Oct 3, 2022 at 10:19



Muzakir uddin

1 1

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