Delve Go debugger

CONCEPTS

dlv debug and dlv test build with optimizations off; for dlv exec build with -gcflags="all=-N -l" yourself.

Launch debug, test, exec
↓ break + continue
Stopped goroutine, frame
↓ inspect
Inspect print, locals, stack
↓ next / step
Resume continue, restart

Enter repeats the last command; short aliases: b, c, n, s, so, p, bt, grs, bp.

Pass program arguments after --, e.g. dlv debug -- -port 8080.

START A SESSION

dlv debug [*<pkg>*]
Build and debug a main package

dlv debug -- *<args>*
Debug with program arguments

dlv test [*<pkg>*]
Build and debug a test binary

dlv test -- -test.run *<TestName>*
Debug a single test

dlv exec *<binary>* -- *<args>*
Debug a prebuilt binary

go build -gcflags="all=-N -l" -o *<bin>*
Build a debug-friendly binary

dlv attach *<pid>*
Attach to a running process

dlv core *<binary>* *<core>*
Examine a core dump

dlv debug --build-flags="-tags=*<tag>*"
Pass flags to go build

dlv trace *<regex>*
Log calls of matching functions

REMOTE AND HEADLESS

dlv debug --headless --listen=:2345
Run only the debug server

REMOTE AND HEADLESS (cont.)

dlv connect *<host>*:*<port>*
Attach the terminal client

--accept-multiclient
Let clients connect and reconnect

exit -c
Resume target, then disconnect

BREAKPOINTS

break *<func>*
Break at a function (b)

break *<file>*:*<line>*
Break at a line

break *<loc>* if *<cond>*
Break when a condition holds

breakpoints
List breakpoints (bp)

clear *<id>*
Delete one breakpoint

clearall [*<loc>*]
Delete all (or matching) breakpoints

toggle *<id>*
Disable or enable a breakpoint

condition *<id>* *<expr>*
Add a condition later (cond)

watch -w *<expr>*
Stop when memory is written

trace *<loc>*
Tracepoint: log a hit, keep running

RUN CONTROL

continue
Run to the next breakpoint (c)

next
Step over the next line (n)

step
Step into calls (s)

stepout
Run until the function returns (so)

continue *<loc>*
Run to a location

restart
Restart with the same arguments (r)

RUN CONTROL (cont.)

rebuild
Rebuild the binary and restart

exit
Quit the debugger (q)

INSPECT DATA

print *<expr>*
Evaluate an expression (p)

locals
Show local variables

args
Show function arguments

vars *<regex>*
Show matching package variables

display -a *<expr>*
Print on every stop

set *<var>* = *<value>*
Change a variable

config max-string-len *<n>*
Show longer strings

GOROUTINES

goroutines
List goroutines (grs)

goroutine *<id>*
Switch to a goroutine (gr)

goroutine *<id>* stack
Run a command on a goroutine

goroutines -t
List with stack traces

STACK AND SOURCE

stack
Show the call stack (bt)

up / down
Move one frame up / down

frame *<n>*
Select a frame

frame *<n>* locals
Run a command in a frame

stack -full
Stack with locals and arguments

list
Show source around current line (l)

list *<loc>*
Show source at a location