

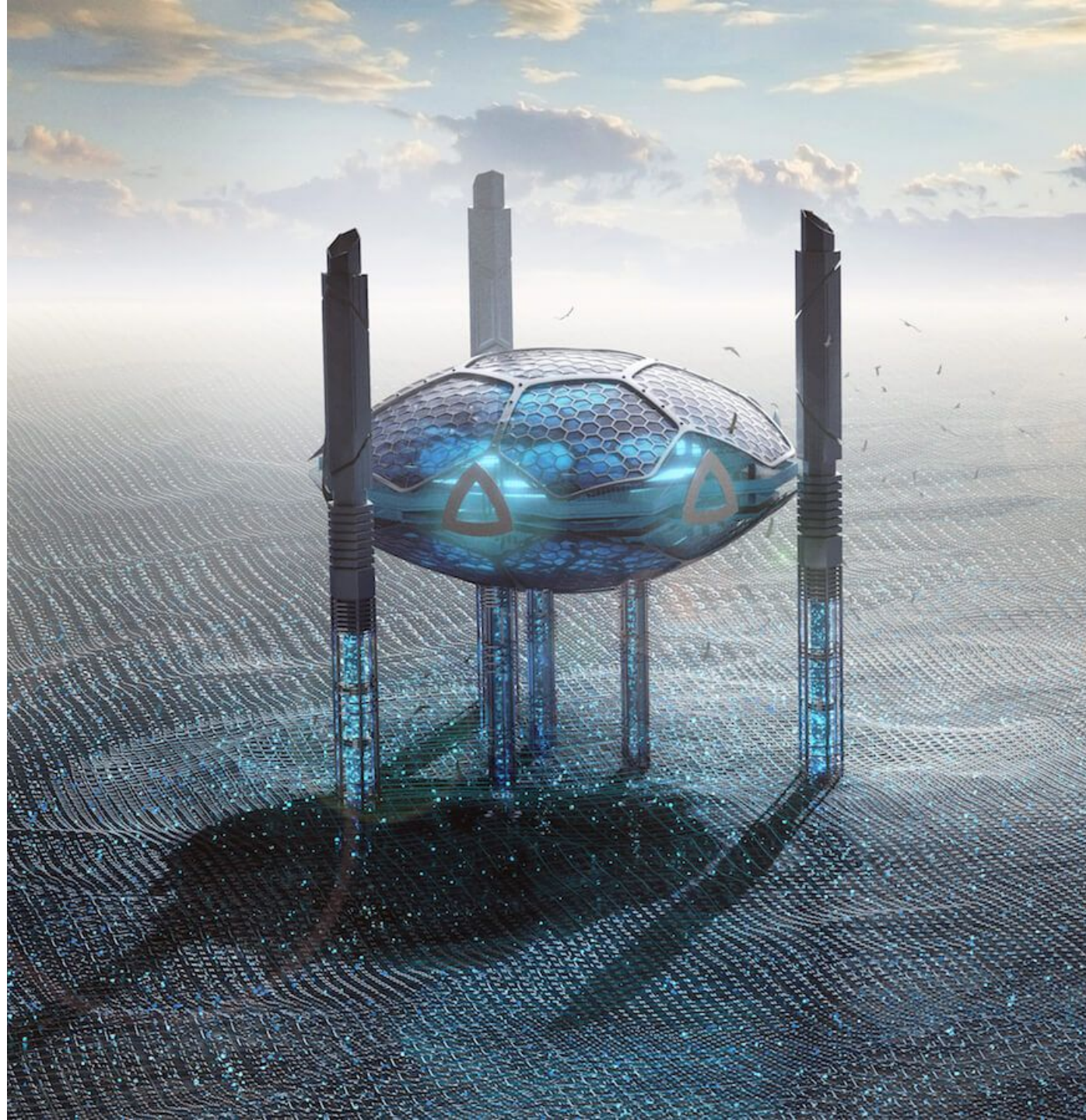


Implement Transactions Using Defer (Go)

Aman Mangal

Software Engineer

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01 // My Background



Software Engineer

zeotap

Apr 2017 – Present • 1 yr 1 mo

Bengaluru, Karnataka, India



Data Engineer

Lumiata

Nov 2016 – Jan 2017 • 3 mos

Mumbai Area, India

Scale the existing Spark cluster to thousands of nodes while adding features such as efficient job scheduling, quick setup for development and production environment, self healing, seamless upgrades.



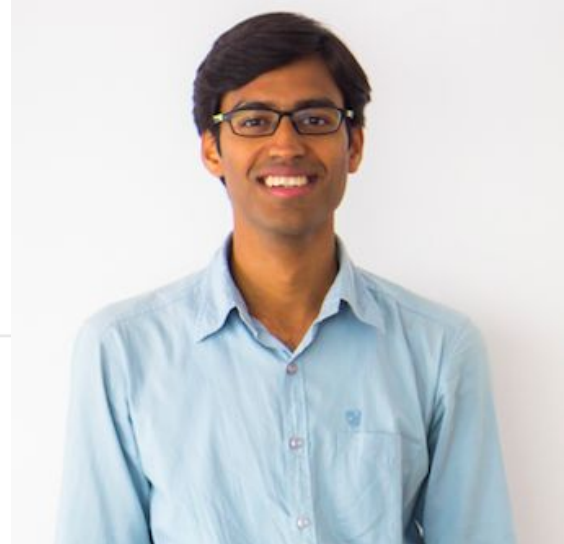
Member of Technical Staff Intern

ZeroStack

Jun 2016 – Sep 2016 • 4 mos

Mountain View, California

Added support for external storage in Zerostack as well as helped in designing architecture to add support for linux containers on top of Zerostack





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02 // What is Defer?

Defer in Golang

A defer statement defers the execution of a function until the surrounding function returns



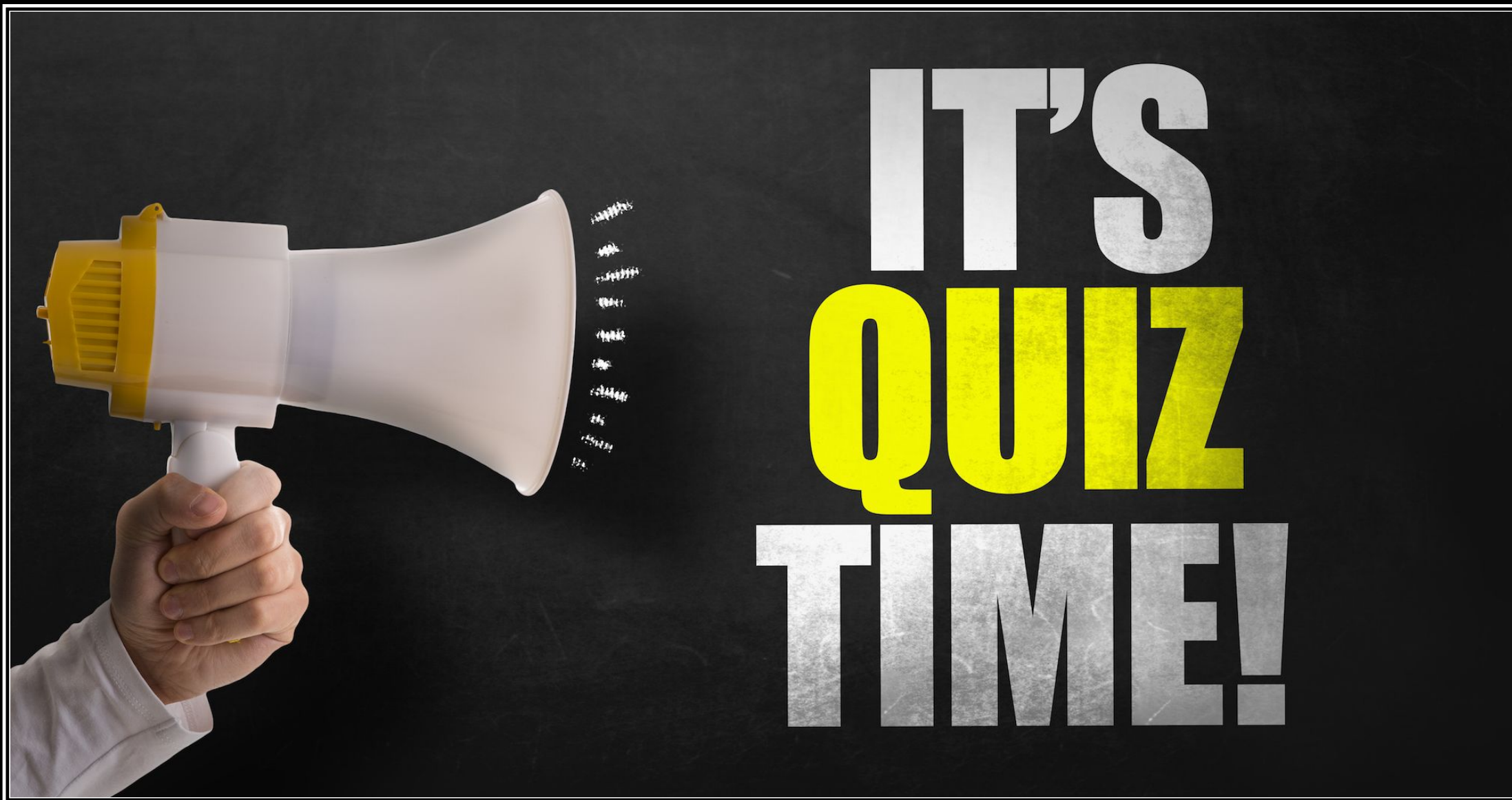
**KEEP
CALM
AND
QUEUE
UP**

03 // What can I do with it?

Use Case: Closing Resources (1)

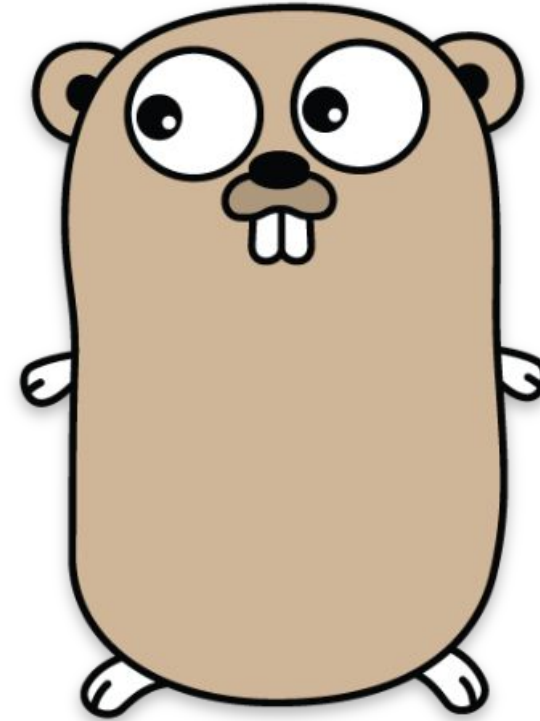
- While reading and writing to files
- Closing request in a web server
- Interacting with a database
- locking and unlocking mutex variables
- Golang Waitgroup
- Other specific use cases

Use Case: Recover from panic (2)



What will this print?

```
func release() func() {  
    return func() {fmt.Print("closed")}  
}  
  
func main() { defer release() }
```



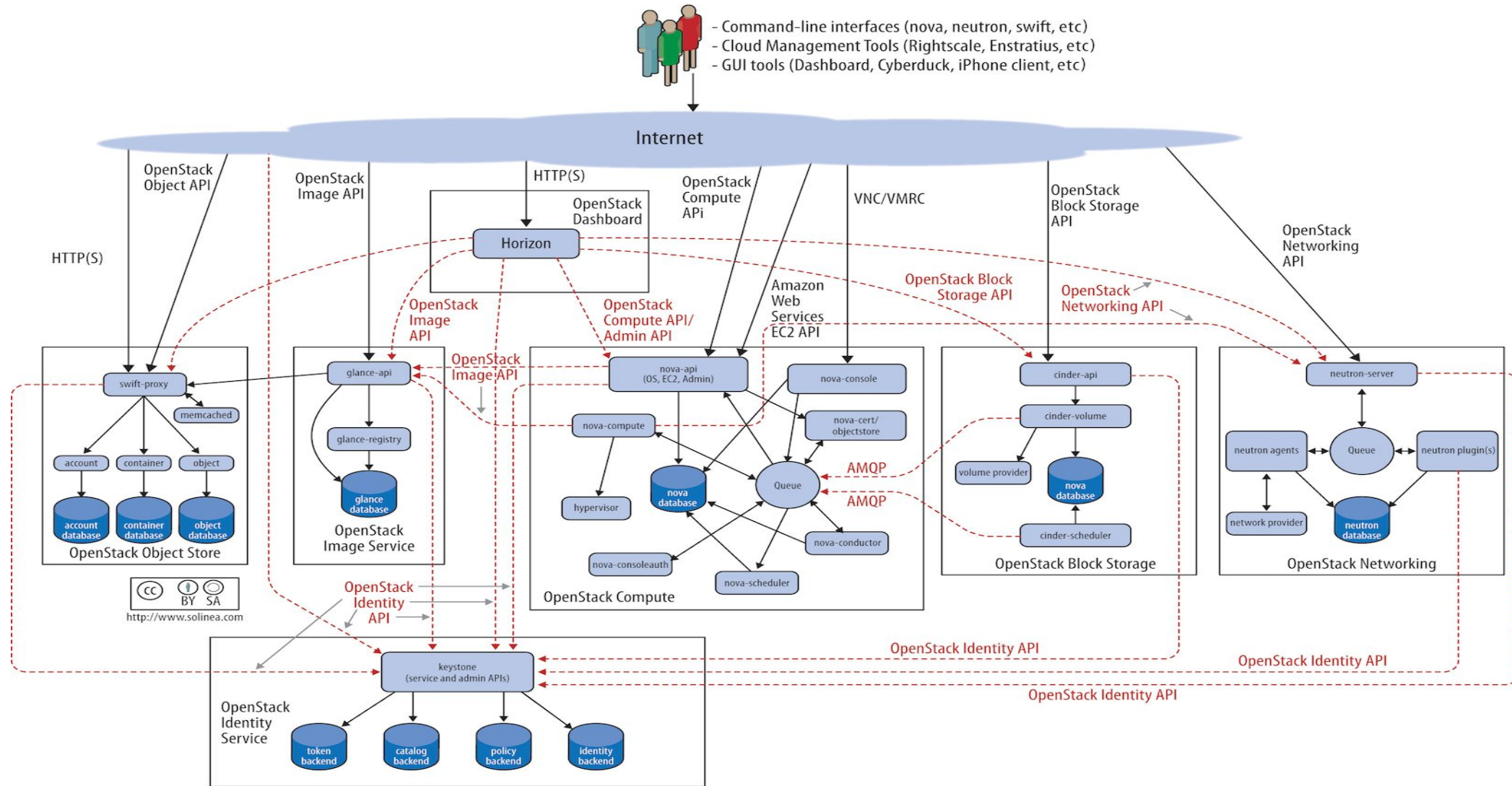
What this func returns?

```
func(i int) (n int) {  
    defer func(f func() int) {  
        n = f()  
    }(func() int {  
        return i  
    })  
    return  
}(4)
```

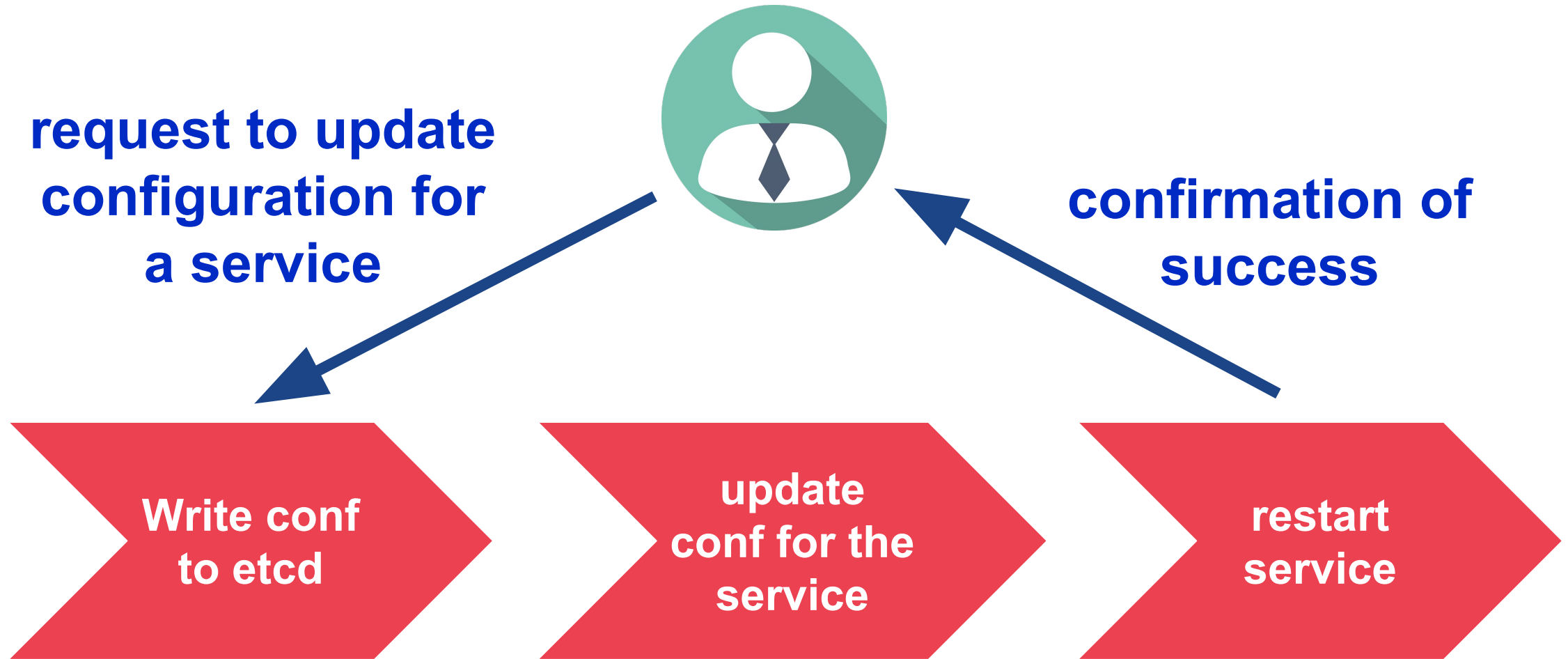


04 // Implement Transactions

Quick Intro to OpenStack



Example Transaction



Demo Time

But, there is a problem!

9564875564	54654240404	87459823654	89564875564	5465424040
2654895465	23421404359	85123030213	02654895465	2342140435
3025165465	78553402213	13311000011	13025165465	7855340221
6540215497	49758672464	25468952654	76540215497	4975867246
7654860216	97968652031	78021328503	87654860216	9796865203
4897564202	25679561203	57920045685	54897564202	2567956120
5465465460	26456530979	48314904153	15465465460	2645653097
165421565	86532031246	18946516746	21654621565	8653203124
021642587	546164517	4321543907	60546212	
610265219	0654525419	162645454	541031519	154575454
216554052	76501675425	62064075421	62165054052	7650167542
3245450154	34659782135	35656497652	13245450154	3465978213
4987984301	64023100002	31200124556	84987984301	6402310000
4568765435	13656462857	87976423120	24568765435	1365646285
1235435435	55645622256	31655976421	01235435435	5564562225
3021648576	79866566433	05234605242	43021648576	7986656643
3441100000	59823101346	59257561221	53441100000	5982310134

SYSTEM FAILURE

Resources

All the code is available at
<https://github.com/mangalaman93/defer>

THANK YOU