How to obtain the source code:

git clone https://gitfront.io/r/0x03ff/a3rsyAbsJqcX/go-server.git

How to achieve the web server now:

go build -o ./bin/main ./cmd/ && sudo setcap 'cap_net_bind_service=+ep' ./bin/main && ./bin/main

How to setup the environment:

sudo apt update
sudo apt install snapd -y

sudo apt install git -y

sudo snap install go --classic

sudo snap install code --classic

sudo snap install zaproxy --classic

sudo snap install docker

mkdir ~/Development

cd ~/Development/

git clone https://gitfront.io/r/0x03ff/a3rsyAbsJqcX/go-server.git

cd ~/Development/go-server/

sudo docker compose -f 'docker-compose.yml' up -d --build

go build -o ~/Development/go-server/bin/main ~/Development/go-server/cmd/main.go

sudo setcap 'cap_net_bind_service=+ep' ~/Development/go-server/bin/main

~/Development/go-server/bin/main

To stop the web server:

Ctrl + c

How to use the slowloris: It is the python code that better set up the virtual python environment.

sudo apt update

sudo apt install python3.12-venv -y

mkdir ~/Development/venv/

cd ~/Development/venv/

#if you have error, use this

#python -m venv venv

python3 -m venv venv

#Then active the environment:

source venv/bin/activate

#Download the slowloris:

pip install  slowloris

# Verify installation
pip list | grep slowloris

#Preform the attack:

slowloris 127.0.0.1 --https -p 443 --sleeptime 5 -s 10000

#Deactivating When Done.  Ctrl + c

Deactivate

**Set up the web server:**

You must manually register with the account name: tempuser, other part is not that matter, but consider the password and recover are: comp4334password / comp4334recover

You must try login with the account, if the login page show error: Fail to generate the token

Stop the web server

Go to the :

📦 cmd
 ┣ 📂 api
.....
 ┗ 📜 main.go <--

Manually set the drop_flag to true

Restart the web server, due to the database do not having the key that insert into database.

Such that drop the database and restart the initialization database process.

How to brute-force attack:

role-A

```
└ comp4334-role-a
|  ├ comp4334-role-A
|  |  ├ Session.session.tmp
|  |  ├ .DS_Store
|  |  ├ Session.session <-- zap import session
|  |  ├ Session.session.data
|  |  ├ Session.session.lck
|  |  ├ Session.session.log
|  |  ├ Session.session.properties
|  |  └ Session.session.script
|  ├ files
|  |  ├ README.txt
|  |  ├ fuzz_payloads.txt <-- the brute-force attack payload
|  |  └ payload_generater.py <-- generate the brute-force attack payload

|  └ capture.sh
...
venv
|  |  ├ venv
|  |  |  ├ bin
|  |  |  |  ├ Activate.ps1
|  |  |  |  ├ activate
|  |  |  |  ├ activate.csh
|  |  |  |  ├ activate.fish
|  |  |  |  ├ pip
|  |  |  |  ├ pip3
```

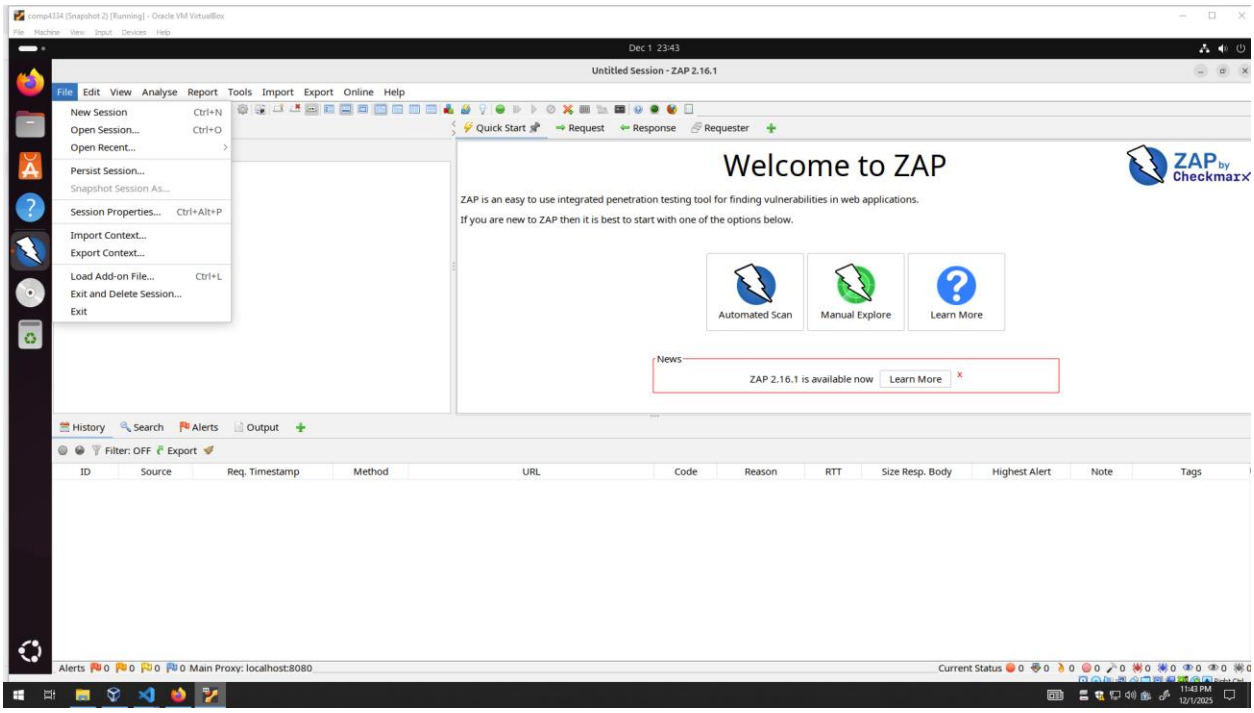
```
┃ ┃ ┃ ┃ ┣ 📜 pip3.12
┃ ┃ ┃ ┃ ┣ 📜 python
┃ ┃ ┃ ┃ ┣ 📜 python3
┃ ┃ ┃ ┃ ┣ 📜 python3.12
┃ ┃ ┃ ┃ ┗ 📜 slowloris
```

Further instruction will be provided if that possible

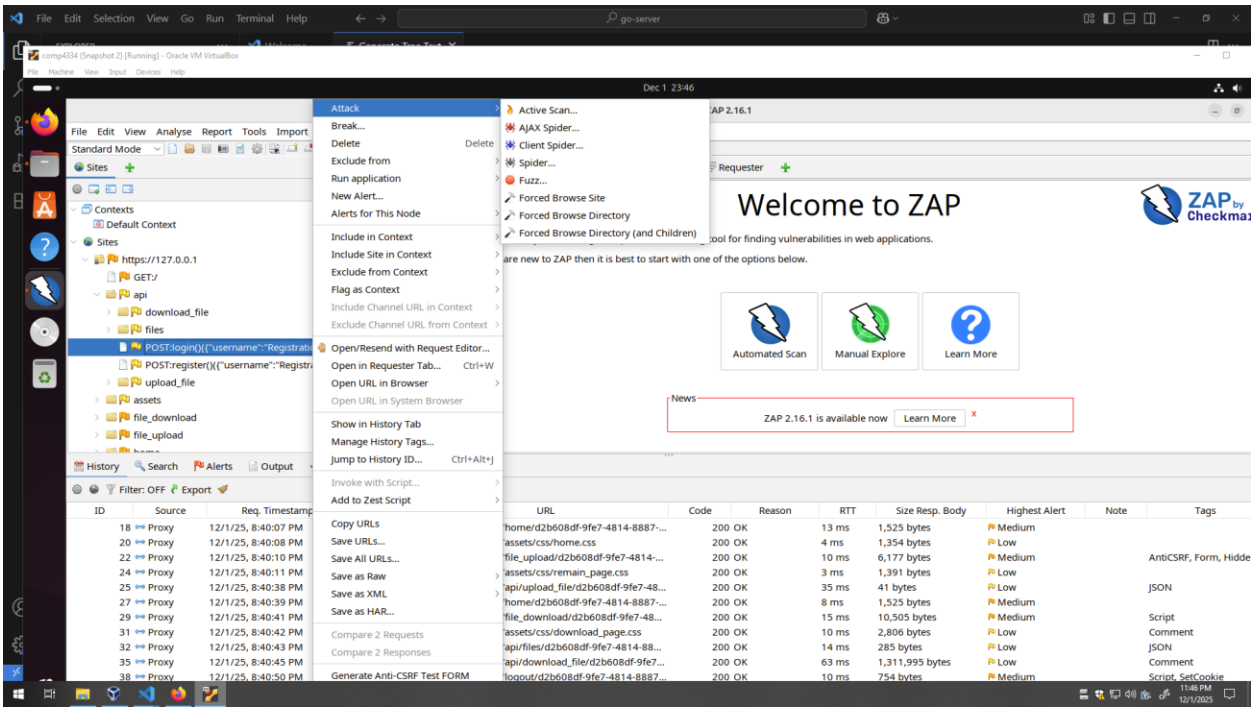
Open the zap:

Import the session:

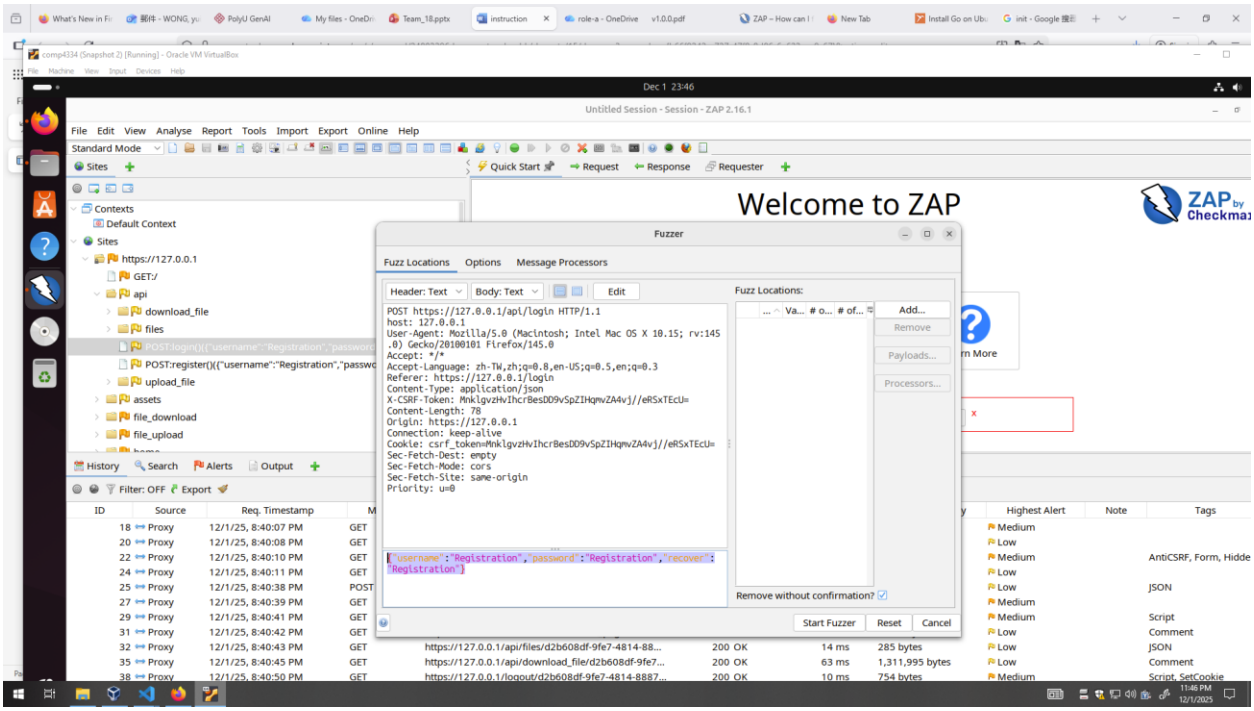
File -> open the session , choose the session



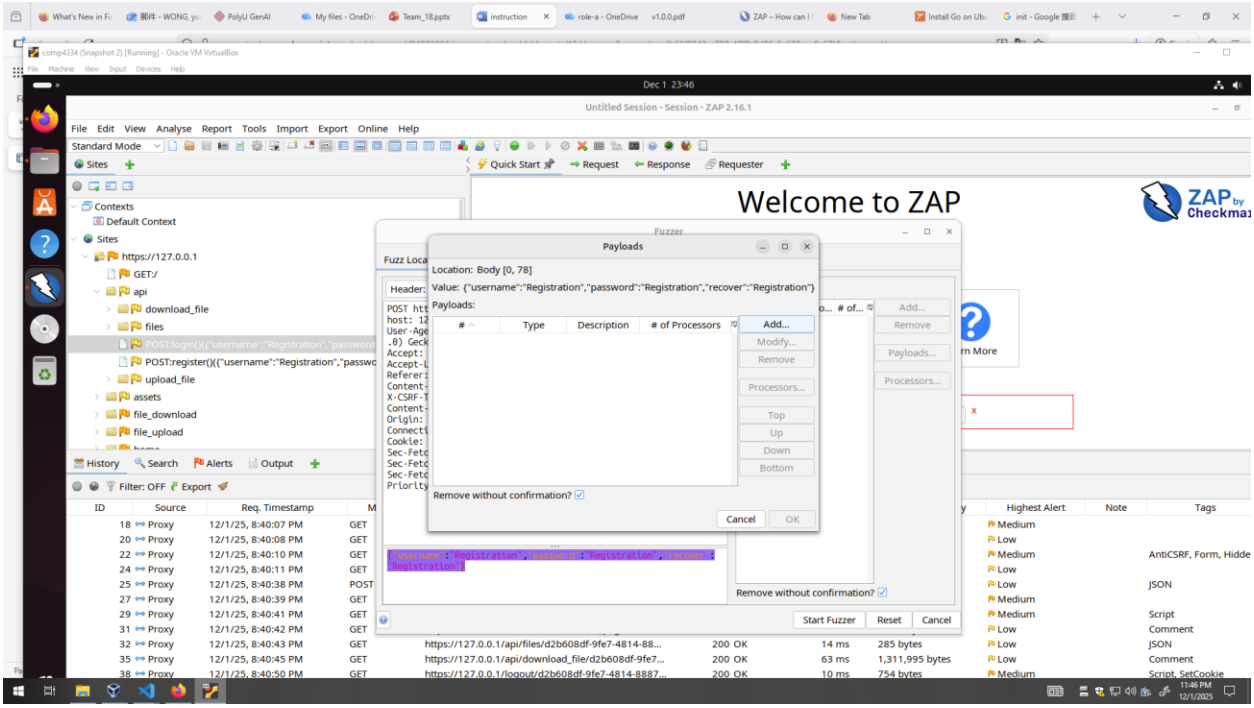

Choose the fuzz:


Attack
Active Scan...
AJAX Spider...
Client Spider...
Spider...
Fuzz...
Forced Browse Site
Forced Browse Directory
Forced Browse Directory (and Children)
Welcome to ZAP
Automated Scan
Manual Explore
Learn More
ZAP 2.16.1 is available now
Learn More

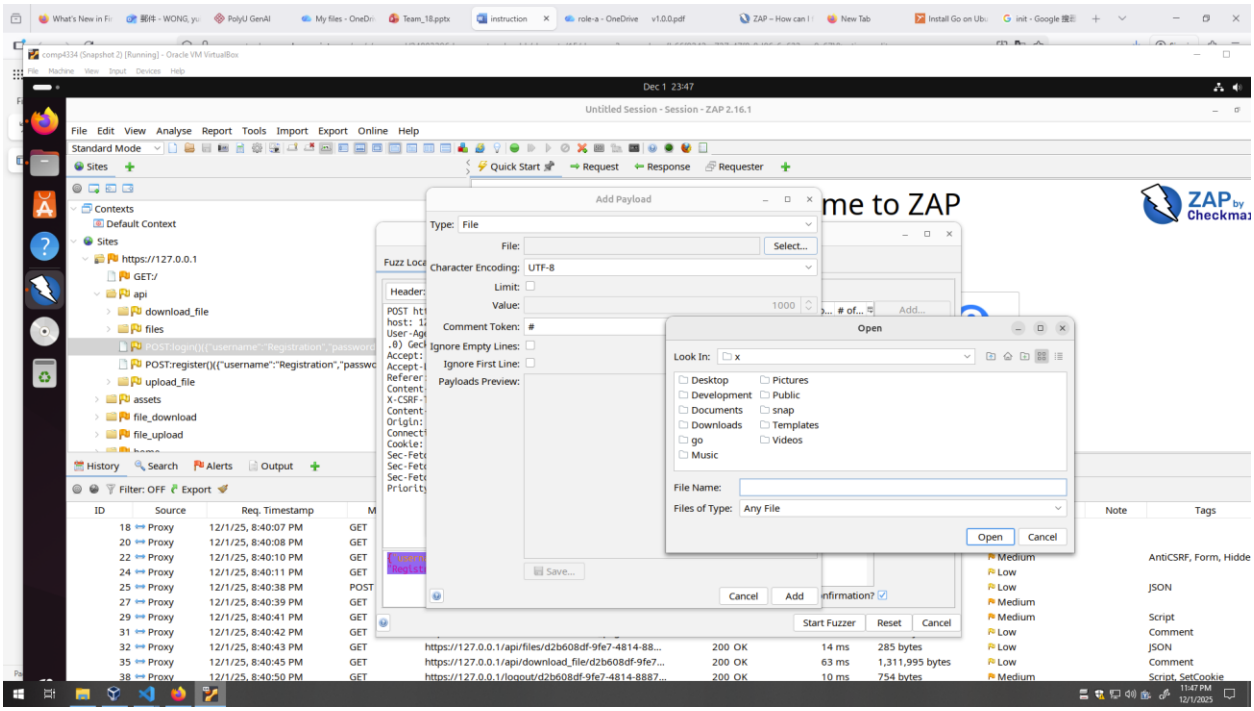
,


Fuzzer
Fuzz Locations
Options
Message Processors
Welcome to ZAP

, add

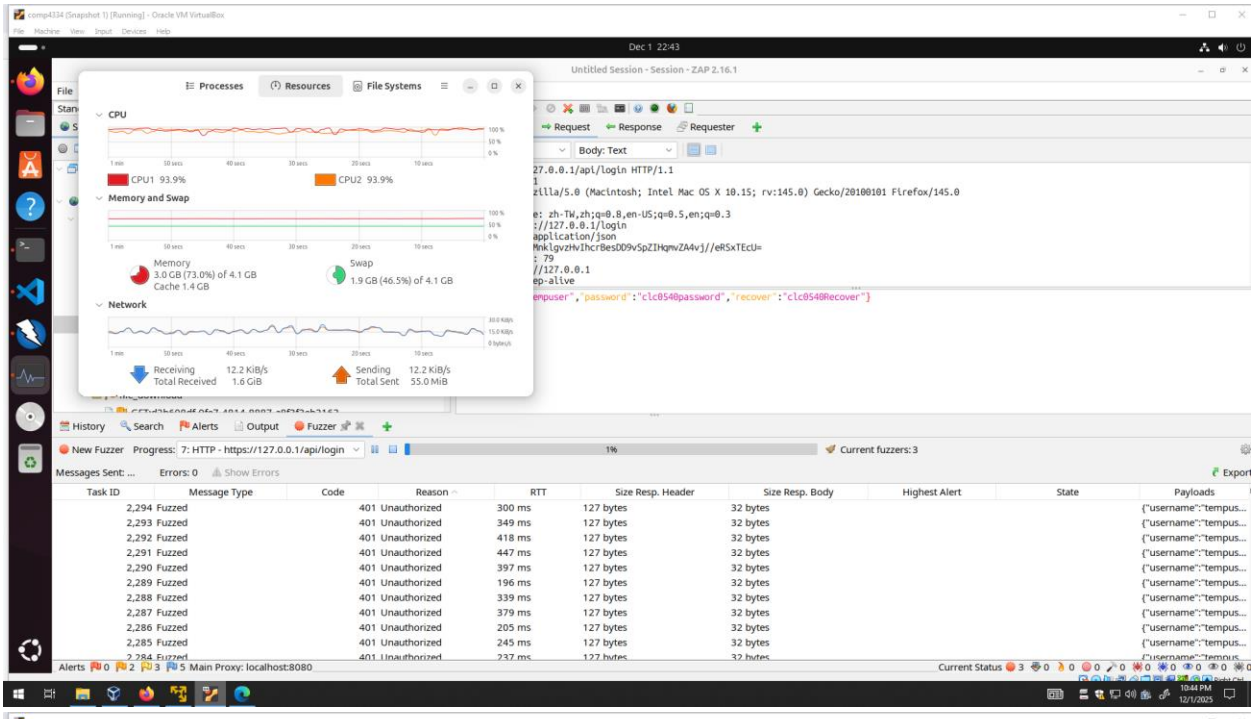


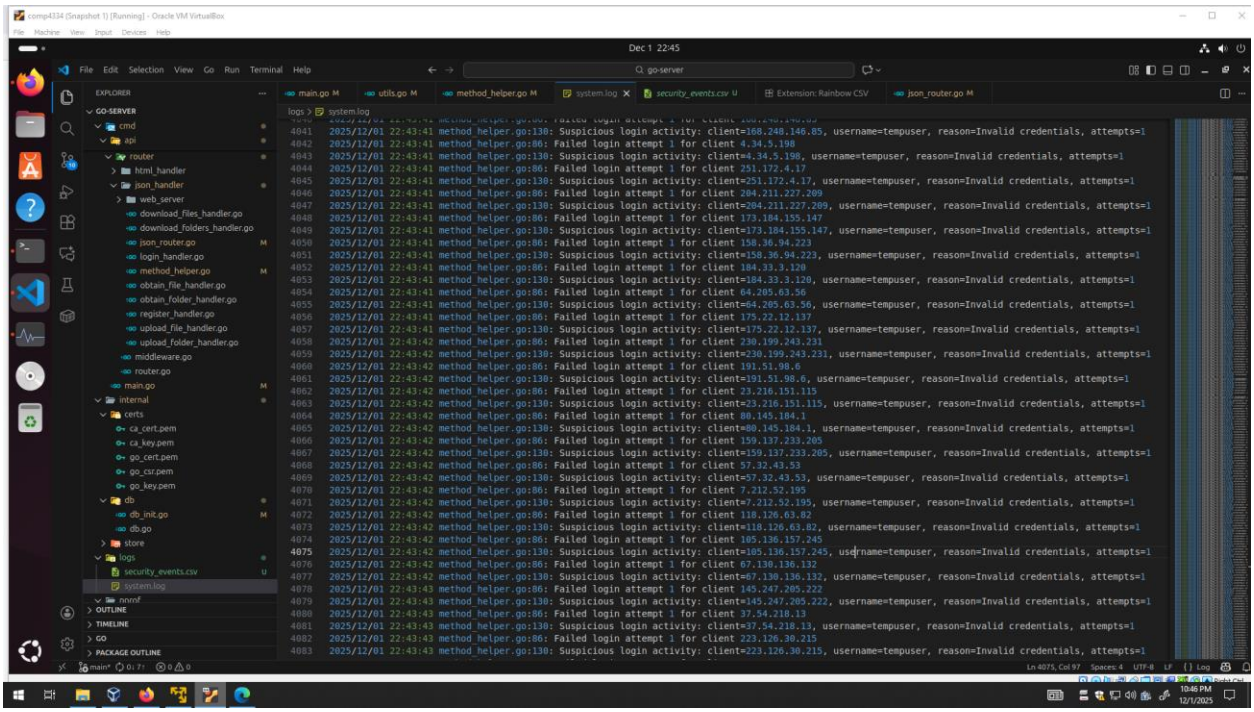

, import the txt payload file

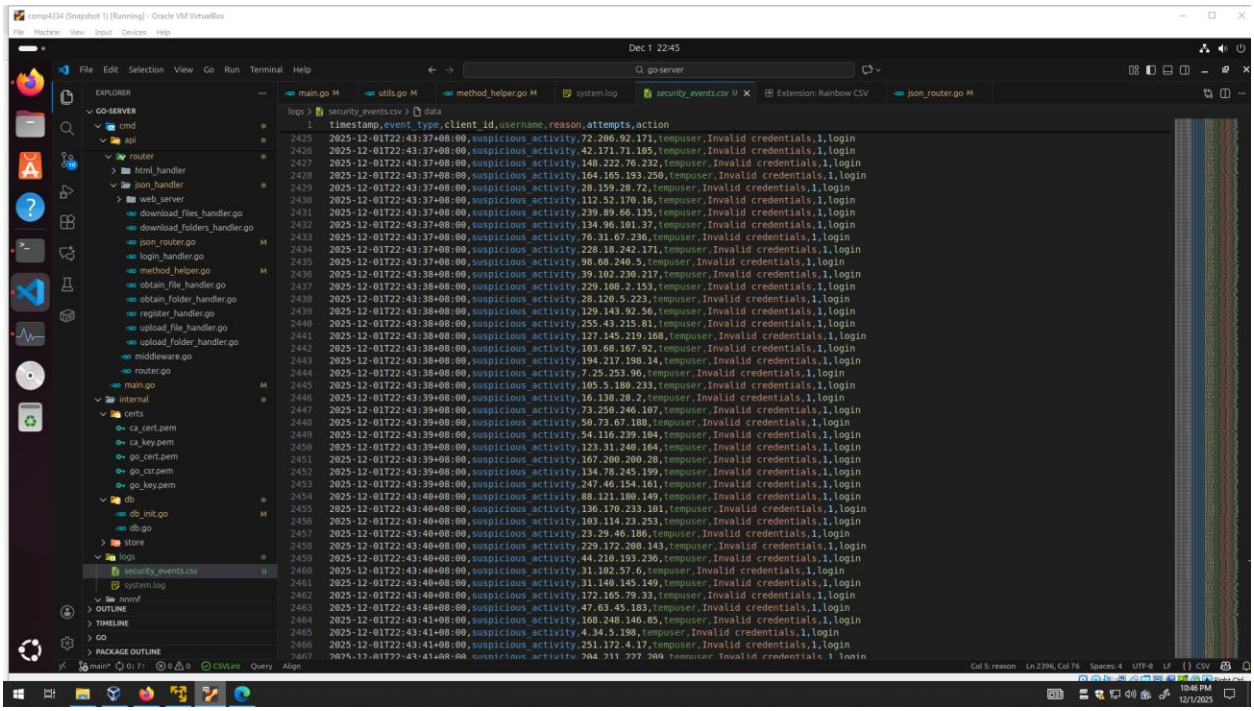



, start the fuzzer, done

result


Dec 1 22:43
Untitled Session - Session - ZAP 2.16.1
Processes
Resources
File Systems
CPU
CPU1 93.9%
CPU2 93.9%
Memory and Swap
Memory
3.0 GB (73.0%) of 4.1 GB
Cache 1.4 GB
Swap
1.9 GB (46.5%) of 4.1 GB
Network
Receiving
12.2 KiB/s
Total Received
1.6 GiB
Sending
12.2 KiB/s
Total Sent
55.0 MiB
Request
Response
Requester
Body: Text
History
Search
Alerts
Output
Fuzzer
New Fuzzer
Progress: 7: HTTP - https://127.0.0.1/api/login
1%
Current fuzzers: 3
Messages Sent: ...
Errors: 0
Show Errors
Export
Task ID
Message Type
Code
Reason
RTT
Size Resp. Header
Size Resp. Body
Highest Alert
State
Payloads
2,294 Fuzzed 401 Unauthorized 300 ms 127 bytes 32 bytes
2,293 Fuzzed 401 Unauthorized 349 ms 127 bytes 32 bytes
2,292 Fuzzed 401 Unauthorized 418 ms 127 bytes 32 bytes
2,291 Fuzzed 401 Unauthorized 447 ms 127 bytes 32 bytes
2,290 Fuzzed 401 Unauthorized 397 ms 127 bytes 32 bytes
2,289 Fuzzed 401 Unauthorized 196 ms 127 bytes 32 bytes
2,288 Fuzzed 401 Unauthorized 339 ms 127 bytes 32 bytes
2,287 Fuzzed 401 Unauthorized 379 ms 127 bytes 32 bytes
2,286 Fuzzed 401 Unauthorized 205 ms 127 bytes 32 bytes
2,285 Fuzzed 401 Unauthorized 245 ms 127 bytes 32 bytes
Alerts
Main Proxy: localhost:8080
Current Status


Dec 1 22:45
go-server
GO-SERVER
cmd
api
router
html_handler
json_handler
web_server
download_files_handler.go
download_folders_handler.go
json_router.go
login_handler.go
method_helper.go
obtain_file_handler.go
obtain_folder_handler.go
register_handler.go
upload_file_handler.go
upload_folder_handler.go
middleware.go
router.go
main.go
internal
certs
ca_cert.pem
ca_key.pem
go_cert.pem
go_csr.pem
go_key.pem
db
db_init.go
db.go
store
logs
security_events.csv
system.log
OUTLINE
TIMELINE
GO
PACKAGE OUTLINE
2025/12/01 22:43:41 method_helper.go:130: Suspicious login activity: client=168.248.146.85, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:41 method_helper.go:86: Failed login attempt 1 for client 4.34.5.198
2025/12/01 22:43:41 method_helper.go:130: Suspicious login activity: client=4.34.5.198, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:41 method_helper.go:86: Failed login attempt 1 for client 251.172.4.17
2025/12/01 22:43:41 method_helper.go:130: Suspicious login activity: client=251.172.4.17, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:41 method_helper.go:86: Failed login attempt 1 for client 204.211.227.209
2025/12/01 22:43:41 method_helper.go:130: Suspicious login activity: client=204.211.227.209, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:41 method_helper.go:86: Failed login attempt 1 for client 173.184.155.147
2025/12/01 22:43:41 method_helper.go:130: Suspicious login activity: client=173.184.155.147, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:41 method_helper.go:86: Failed login attempt 1 for client 158.36.94.223
2025/12/01 22:43:41 method_helper.go:130: Suspicious login activity: client=158.36.94.223, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:41 method_helper.go:86: Failed login attempt 1 for client 184.33.3.120
2025/12/01 22:43:41 method_helper.go:130: Suspicious login activity: client=184.33.3.120, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:41 method_helper.go:86: Failed login attempt 1 for client 64.205.63.56
2025/12/01 22:43:41 method_helper.go:130: Suspicious login activity: client=64.205.63.56, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:41 method_helper.go:86: Failed login attempt 1 for client 175.22.12.137
2025/12/01 22:43:41 method_helper.go:130: Suspicious login activity: client=175.22.12.137, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:42 method_helper.go:86: Failed login attempt 1 for client 230.199.243.231
2025/12/01 22:43:42 method_helper.go:130: Suspicious login activity: client=230.199.243.231, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:42 method_helper.go:86: Failed login attempt 1 for client 191.51.98.6
2025/12/01 22:43:42 method_helper.go:130: Suspicious login activity: client=191.51.98.6, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:42 method_helper.go:86: Failed login attempt 1 for client 23.216.151.115
2025/12/01 22:43:42 method_helper.go:130: Suspicious login activity: client=23.216.151.115, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:42 method_helper.go:86: Failed login attempt 1 for client 80.145.184.1
2025/12/01 22:43:42 method_helper.go:130: Suspicious login activity: client=80.145.184.1, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:42 method_helper.go:86: Failed login attempt 1 for client 159.137.233.205
2025/12/01 22:43:42 method_helper.go:130: Suspicious login activity: client=159.137.233.205, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:42 method_helper.go:86: Failed login attempt 1 for client 57.32.43.53
2025/12/01 22:43:42 method_helper.go:130: Suspicious login activity: client=57.32.43.53, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:42 method_helper.go:86: Failed login attempt 1 for client 7.212.52.195
2025/12/01 22:43:42 method_helper.go:130: Suspicious login activity: client=7.212.52.195, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:42 method_helper.go:86: Failed login attempt 1 for client 118.126.63.82
2025/12/01 22:43:42 method_helper.go:130: Suspicious login activity: client=118.126.63.82, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:42 method_helper.go:86: Failed login attempt 1 for client 105.136.157.245
2025/12/01 22:43:42 method_helper.go:130: Suspicious login activity: client=105.136.157.245, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:42 method_helper.go:86: Failed login attempt 1 for client 67.130.136.132
2025/12/01 22:43:42 method_helper.go:130: Suspicious login activity: client=67.130.136.132, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:43 method_helper.go:86: Failed login attempt 1 for client 145.247.205.222
2025/12/01 22:43:43 method_helper.go:130: Suspicious login activity: client=145.247.205.222, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:43 method_helper.go:86: Failed login attempt 1 for client 37.54.218.13
2025/12/01 22:43:43 method_helper.go:130: Suspicious login activity: client=37.54.218.13, username=tempuser, reason=Invalid credentials, attempts=1
2025/12/01 22:43:43 method_helper.go:86: Failed login attempt 1 for client 223.126.30.215
2025/12/01 22:43:43 method_helper.go:130: Suspicious login activity: client=223.126.30.215, username=tempuser, reason=Invalid credentials, attempts=1




analyze the data: pprof –base / pprof –pdf cpu *.pprof > cpu_report.pdf

sudo apt install graphviz -y

go install github.com/google/pprof@latest

Go tool pprof -top cpu *.pprof

pprof -http=:6060 cpu_ *.pprof