

项目简介

此项目分为代理节点和共识节点两部分。代理节点部分负责接收前端发送的请求，通过代理节点向共识节点发送请求消息，共识节点处理完成后向代理节点返回，代理节点向前端返回共识结果。

请求方式

本项目基于HTTP协议提供客户端注册、协商会话密钥功能。

项目部署

本项目目前全部集成在Ubuntu 18，操作系统中需安装openssl 1.1.1，支持JDK 1.8。



ca



ip.json



node-1.0-
jar-with-
depende...



service-
1.00.jar

ca目录下存储CA中心相关文件和server文件夹，server文件夹中存储注册方的证书等文件。

ip.json 是存储代理节点和共识节点ip地址、端口和序列号。

service-1.00.jar为代理节点模块程序

node-1.0-jar-with-dependencies.jar为共识模块程序

API使用

请求示例详情见最后

- 注册

注册通过发送GET请求

```
public RespBean register(String ip);
```

请求参数说明：

名称	类型	说明
ip	String	唯一识别地址

返回值RespBean类说明：

名称	类型	说明
code	int	请求结果状态码
msg	String	状态码说明
result	String	返回证书的公钥和hash

- 请求会话密钥

协商会话密钥通过使用POST请求，并且携带注册时返回的result

```
public RespBean getKey(String data);
```

请求参数说明：

名称	类型	说明
data	String	注册返回的公钥和hash

返回值RespBean类说明：

名称	类型	说明
code	int	请求结果状态码
msg	String	状态码说明
result	String	会话密钥

- 更新会话密钥

将旧的会话密钥用POST请求发送，获取新的会话密钥

名称	类型	说明
data	string	通信双方唯一识别地址和会话密钥

使用步骤

1.启动代理节点

```
java -jar service-1.00.jar
```

注意: 代理节点service-1.00.jar 启动位置要和CA、ip.config在同一目录下。


```
~/home/nata/Desktop/test$ java -jar node-1.0-jar-with-dependencies.jar 3
/home/nata/Desktop/test
[cc.weno.config.StartConfig]-[INFO] 第3个节点节点信息:Node(isRun=false, viewOk=false, publicKey=MIGFMA0GCSqGSIb3DQEBQQUAAAGNADCB1QKbGQDhRcadShedFwEu3cvTrdg8LAwwV9aGLzoJ46j1L5Ksmw
kvP7w5P5vN5L5VGRWDL5FWmaUJ3zWlofLIRToYdBSAMw7QkTLkYBNdzXZOPncMUPABpOZLFFsV1IY6KX58jNNqJ1zQrYcQvvrMy0I879ud5yrC4Mud59RS5GmpjXsawIDAQAB, privateKey=MIICdWIBADANBgkqhkiG9w0BAQEFAASCAmEw
g3JDAEAAoGBAOfXoNKF590KXAS4QlY90t2DyIDBZX1oaVngajQoWkqybcS8/vdk/L1ZKVjPFY0V1VaZphqLcNh+IhFDh3iA2dtCROKRJw13PFK4+Zwx5kDyK5SkuXUhpjofnyM02rXOVCtgKpw+sZ74gHvZ53nK5Lgy4NL1FiaaNe
xRagBAAECyB83SAmj+44L790v9Q0hZNFdJehY79CLeFwK1SKVHVkTKwSachD+3psShpCkX3qJveZhrX0I4xYcyDmEChfJzs3z68vnlShY8V4pozLum80umfB8VtFAJ01V6x9gEP9w5SChS92Mk37geTEZ1LUVdF+Inpgk5tmB
hUQ3BPZ2MuyayQm3JhENTpmY51LEhzxwK8pDpc/7zh3K3QoD5Gzka92LQNBnQDNhYLFdU551FaygUzQ2oKCFQ0QDQTECvD5y8i53bhw4qdYvTt44v4b7Qm3rv9Chq3npnD05w1CTEL5UzEgPZAMK5abx7WpfTPsLxbnQydtN
AKAdoqVpfbjvRaQTVaGBKkVg4g84nyRPaopox1BXCCu5aEBGUERJ2oCMYU/18XTr3xdT3nvtvHHQ7HfRAKAE548hr5j6wDwPBDXqJ3nqHtSdeUFTLLJn9f6EQANf97KMF590enR22534FJ8x86wGqU1Eun14q00MD1HKDQJ3BA
Mx/NM1FU/P890yLMu+XlQgJ4AB1WTSaeAKVqUL3NFUD1L2nekY/KYqQLeffrCAmcwms5MB/Adurn48WH0M=, bf=0)
[cc.weno.config.StartConfig]-[INFO] lp_json文件数量5
[cc.weno.config.StartConfig]-[INFO] 内存地址4

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t-io site      | https://www.t-io.org
t-io on gitee  | https://gitee.com/tywo45/t-io
t-io on github | https://github.com/tywo45/t-io
t-io version   | 3.5.0.v20191228-RELEASE
-----
TioConfig name | 服务端
Started at     | 2022-06-28 02:19:40
Listen on     | 127.0.0.1:8083
Main class    | Main
JVM start time | 512ms
Tio start time | 21ms
Pid           | 11564
-----

[cc.weno.config.StartConfig]-[INFO] 节点3尝试连接NodeBasicInfo(address=NodeAddress(ip=127.0.0.1, port=8080), index=0)
[cc.weno.config.StartConfig]-[INFO] 节点3尝试连接NodeBasicInfo(address=NodeAddress(ip=127.0.0.1, port=8081), index=1)
[cc.weno.p2p.client.P2PClientListener]-[WARN] 节点3连接服务端127.0.0.1:8080失败
[cc.weno.config.StartConfig]-[INFO] 节点3尝试连接NodeBasicInfo(address=NodeAddress(ip=127.0.0.1, port=8082), index=2)
[cc.weno.p2p.client.P2PClientListener]-[INFO] 节点server:127.0.0.1:8081, client:127.0.0.1:56774连接服务端成功
[cc.weno.config.StartConfig]-[INFO] 节点3尝试连接NodeBasicInfo(address=NodeAddress(ip=127.0.0.1, port=8083), index=3)
[cc.weno.p2p.client.P2PClientListener]-[INFO] 节点server:127.0.0.1:8082, client:127.0.0.1:53916连接服务端成功
[cc.weno.config.StartConfig]-[INFO] client链接服务端的数量4
[cc.weno.p2p.client.P2PClientListener]-[INFO] 节点server:127.0.0.1:8083, client:127.0.0.1:58360连接服务端成功
[cc.weno.util.Pbft]-[WARN] 区块链中的节点小于4
[cc.weno.util.clientUtil]-[INFO] 广播消息: PbftMsg(msgType=6, node=3, toNodes=-1, time=1656407980500, body={"bf":0,"index":3,"lp":"127.0.0.1","port":8083,"publicKey":"MIGFMA0GCSqGSIb3DQEBQQUAAAGNADCB1QKbGQDhRcadShedFwEu3cvTrdg8LAwwV9aGLzoJ46j1L5KsmwkvP7w5P5vN5L5VGRWDL5FWmaUJ3zWlofLIRToYdBSAMw7QkTLkYBNdzXZOPncMUPABpOZLFFsV1IY6KX58jNNqJ1zQrYcQvvrMy0I879ud5yrC4Mud59RS5GmpjXsawIDAQAB"}, isOk=false, viewNum=0, id=cc8f6644-6c72-42eb-b015-84aee3b68330, sign=null)
^["A]
```

```
~/home/nata/Desktop/test$ java -jar node-1.0-jar-with-dependencies.jar 4
/home/nata/Desktop/test
[cc.weno.config.StartConfig]-[INFO] 第4个节点节点信息:Node(isRun=false, viewOk=false, publicKey=MIGFMA0GCSqGSIb3DQEBQQUAAAGNADCB1QKbGQD8KhqJuoL2EVpbm9FmDzh8AQUTUoc+vD7CndVyzgd47289g
cThunderbirdMail_FeHLQLQcdns/pEHGMovXLv+Fxoto0/7/f1xyCfZ21u4c227hJUB8bwHwJ0JIXPhu8v5YnxY6zonBnJ1n3A1uYnmPHrBLMF8gyYKqCTR5uLRclQIDAQAB, privateKey=MIICdWIBADANBgkqhkiG9w0BAQEFAASCAmAw
g3CAGeAAoGBAQwQCGO5AVNRWLuF8WYPAHQBCSNRBz68PsI1XLOB1rvbz2A5ozvzhZHBb50bGfIV4ctAu032ez+3SEYz59cu/4WbCl07/v98JHIIXNnW7hzbucGNTxvTD5aPQkhc9a7y/nLE3Lr0LcGcnHfcdW5ley8BesEx/yD31RAJNHh6JF
VvAgBAAECyYAOq5U3xSLJnv1P7CxtfFHQW8BLhsb99kQecXFv63xSLfZD/hvwuAt187/1pZps5mCvmzjCkZAKN5VLTh141W71tAtL4ouIHz1J8PdmOcfTzon/7ZT1D4rHmSW5a45mL4pQ5SVYRhoP1K1fBT2EyclKu+CXDoxwXWHLF
EUQ3BPAPCGd15xK0qlKwTz2LUG7T11BwMkL4u1v1JcEtZQbq82kafHqHsPobARALZubRqPjnbkq87h3CcyYHkQQ080LRElTr4r-QPULOERuL1JeoQTE1Z3SDUupZDZY90Vdo09nPCk1r06o0F2MgD1DZ/F521o3BfAg544Cb9H
AKAqXNRC0Uek8ZD0rhgRFP09ukngJUMSRHTetCbcf1Idb+ohkDZauD708py1z0Qp7F09Ec3hACV5b+foU1M2MdAKEAUmfk8kZCHjK6kxkqXvurMNMNrFNf313r11BNW4K1yrTh5I0e4FwGL9H4XmWJA6o7VY6QCTjqsqHCA8INI+hwJAE
GKX3Jguyppmx24Ag+MbZu0/VL0Mx96hwhZC/GyzRegol2+16Tn2rXkt18jaxFNkqN3ppMkbbkNkxk83eA==, bf=0)
[cc.weno.config.StartConfig]-[INFO] lp_json文件数量5
[cc.weno.config.StartConfig]-[INFO] 内存地址5

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t-io site      | https://www.t-io.org
t-io on gitee  | https://gitee.com/tywo45/t-io
t-io on github | https://github.com/tywo45/t-io
t-io version   | 3.5.0.v20191228-RELEASE
-----
TioConfig name | 服务端
Started at     | 2022-06-28 02:20:40
Listen on     | 127.0.0.1:8084
Main class    | Main
JVM start time | 520ms
Tio start time | 22ms
Pid           | 11671
-----

[cc.weno.config.StartConfig]-[INFO] 节点4尝试连接NodeBasicInfo(address=NodeAddress(ip=127.0.0.1, port=8080), index=0)
[cc.weno.p2p.client.P2PClientListener]-[WARN] 节点4连接服务端127.0.0.1:8080失败
[cc.weno.config.StartConfig]-[INFO] 节点4尝试连接NodeBasicInfo(address=NodeAddress(ip=127.0.0.1, port=8081), index=1)
[cc.weno.p2p.client.P2PClientListener]-[INFO] 节点server:127.0.0.1:8081, client:127.0.0.1:56776连接服务端成功
[cc.weno.config.StartConfig]-[INFO] 节点4尝试连接NodeBasicInfo(address=NodeAddress(ip=127.0.0.1, port=8082), index=2)
[cc.weno.config.StartConfig]-[INFO] 节点4尝试连接NodeBasicInfo(address=NodeAddress(ip=127.0.0.1, port=8083), index=3)
[cc.weno.p2p.client.P2PClientListener]-[INFO] 节点server:127.0.0.1:8082, client:127.0.0.1:53920连接服务端成功
[cc.weno.config.StartConfig]-[INFO] 节点4尝试连接NodeBasicInfo(address=NodeAddress(ip=127.0.0.1, port=8084), index=4)
[cc.weno.p2p.client.P2PClientListener]-[INFO] 节点server:127.0.0.1:8083, client:127.0.0.1:58360连接服务端成功
[cc.weno.config.StartConfig]-[INFO] client链接服务端的数量5
[cc.weno.p2p.client.P2PClientListener]-[INFO] 节点server:127.0.0.1:8084, client:127.0.0.1:55174连接服务端成功
[cc.weno.util.clientUtil]-[INFO] 广播消息: PbftMsg(msgType=6, node=4, toNodes=-1, time=1656408040699, body={"bf":0,"index":4,"lp":"127.0.0.1","port":8084,"publicKey":"MIGFMA0GCSqGSIb3DQEBQQUAAAGNADCB1QKbGQD8KhqJuoL2EVpbm9FmDzh8AQUTUoc+vD7CndVyzgd47289gQaGdc4x9UJjmxnyFeHLQLQcdns/pEHGMovXLv+Fxoto0/7/f1xyCfZ21u4c227hJUB8bwHwJ0JIXPhu8v5YnxY6zonBnJ1n3A1uYnmPHrBLMF8gyYKqCTR5uLRclQIDAQAB"}, isOk=false, viewNum=0, id=ca73b3e-a541-4419-873a-84c833978147, sign=null)
[cc.weno.util.Pbft]-[INFO] 节点开始进行view同步操作
[cc.weno.util.Pbft]-[INFO] 节点向代理节点请求view
```

3.请求注册url

127.0.0.1

GET

http://192.168.198.128:8888/test/register?ip=127.0.0.1

Send

Params

AuthorizationHeaders (6)BodyPre-request ScriptTestsSettings

Query Params

	KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/>	ip	127.0.0.1	
	Key	Value	Description

Body

Cookies

Headers (5)

Test Results

Status: 200 OKTime: 55 msSize: 706 BSave Response

PrettyRawPreviewVisualizeJSON

```
1
2
3
4
5
{"code": 200,
"msg": "成功",
"result": "
{
  \"hash\": \"f65c603f2a95e758ead78f64d25603543e18a5055f75f9930be72e81e812be49a45e02fec62905a102657a05ccba041364367baa81cea037ef8846527faff6cc72ab61ca64988740e4de2e10a059f815f83208ad07366503d3048bc3ca330d8ac7f9e600a5292863a3ae764b2b75d237944d6ff3f082678023f9f2e916e851\",
  \"pubKey\": \"MIGFMA0GCSqGSIb3DQEBQQUAAAGNADCB1QKbGQDcmwZT08M0GmYalUdAJka051Y3x5eYkChzR7f4ZdX40AVKcbXcpsqVhDE/Q5pV83uHXDGs71cdnuu45hk7c04J0cv3Z8hfzX51cPkSf54nahQIMV7f0+XUSGq4K0UHQ05opdfhXzuUryOU4LCC6E1b10ByUcITvgRma9WZ7KSQIDAQAB\"
}
```

127.0.0.2

GET

http://192.168.198.128:8888/test/register?ip=127.0.0.2

Send

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

Query Params

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> ip	127.0.0.2	
Key	Value	Description

Body

Cookies

Headers (5)

Test Results

Status: 200 OK Time: 47 ms Size: 706 B Save Response

Pretty

Raw

Preview

Visualize

JSON

```
1 {
2   "code": 200,
3   "msg": "成功",
4   "result": "
5     {\\"hash\\":\\"7FE516B35493C1438076A708DA75E4430FA71FA28E3A11129FACB92BF0E43E6B53E816F6E61ACAB6D3CCD75C9E50EEE167A41936DAD692FBF1D624BC1F470782C47E29D59C4AA10E0E3F80FF078498D49B3597B7DFB5315BCF072B279A186546CD594567FEE0F2048A975B7F2785F2901633186F97E6F169A74C2DD52A8B038\\",\\"pubKey\\":\\"MIGfMA0GCsqG5Ib3DQEBQUAAAGNADCB1QK8gQC7BYU0a+AC8mvGUJ9soWVtp5gRZ4xVI3Fk57R7D8KNzyvJNC570mx1vxQ6tKmHixALAWmIdu1tzt/5d18sze3ASVY20MA5+JL+DUm0U/EhgYHFYKXzqJx6yNrEU9fsGEkyjhdscY3ox7ayj11M4E4ee1LoK75ZoAK8Dn7YjYgm5wIDAQAB\\"}"
```

4.请求会话密钥

POST

http://192.168.198.128:8888/test/getKey

Send

Save

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

Cookies

Code

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

JSON

Beautify

1

{

"srcip": "127.0.0.1", "dstip": "127.0.0.2", "data": "[

{\\"hash\\":\\"65C603F2A95E758EAD78F64D2560354C3E18A5D55F75F993D8E72E81E812BE494A5E02FEC62905A102657A05CCBA041364367BAA81CEA037EFB846527FAF6CC72AB61CA6498874DE40E2E10A059FB15FB33208AAD703665D3034BBC5ECA330D8AC7FE96D0A5292863A3AE764B2B75D237944DE6FF3F0B2670023F9F2E916E851\\",\\"pubKey\\":\\"MIGfMA0GCsqG5Ib3DQEBQUAAAGNADCB1QK8gQCnw2T08M0GUmYaUdA/ka051YJsXeYkCnzR7F4zdX40AVKcbXcpsqvNde/Q6pV83uHXDGs71c0dmu4Shk7c04jQcv328hfzxX51cpk5F54rahQIMV7f0+XUSGqK4OUHQ5opdfhXzuOryOU4LCc6E1bIOByLcvITvgRmaR9WZRSQIDAQAB\\"},

{\\"hash\\":\\"7FE516B35493C1438076A708DA75E4430FA71FA28E3A11129FACB92BF0E43E6B53E816F6E61ACAB6D3CCD75C9E50EEE167A41936DAD692FBF1D624BC1F470782C47E29D59C4AA10E0E3F80FF078498D49B3597B7DFB5315BCF072B279A106546CD594567FEE0F2048A975B7F2785F2901633186F97E6F169A74C2DD52A8B038\\",\\"pubKey\\":\\"MIGfMA0GCsqG5Ib3DQEBQUAAAGNADCB1QK8gQC7BYU0a+AC8mvGUJ9soWVtp5gRZ4xVI3Fk57R7D8KNzyvJNC570mx1vxQ6tKmHixALAWmIdu1tzt/5d18sze3ASVY20MA5+JL+DUm0U/EhgYHFYKXzqJx6yNrEU9fsGEkyjhdscY3ox7ayj11M4E4ee1LoK75ZoAK8Dn7YjYgm5wIDAQAB\\"}

]"

2

}

Body

Cookies

Headers (5)

Test Results

Status: 200 OK Time: 553 ms Size: 235 B Save Response

Pretty

Raw

Preview

Visualize

JSON

```
1 {
2   "code": 200,
3   "msg": "成功",
4   "result": "1679091c5a880faf6fb5e6087eb1b2dc"
5 }
```

5.更新会话密钥

POST

http://192.168.198.128:8888/test/update

Send

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

JSON

1

{

"srcip": "127.0.0.1", "dstip": "127.0.0.2", "key": "1679091c5a880faf6fb5e6087eb1b2dc"

2

}

Body

Cookies

Headers (5)

Test Results

Status: 200 OK Time: 26 ms Size: 235 B Save

Pretty

Raw

Preview

Visualize

JSON

```
1 {
2   "code": 200,
3   "msg": "成功",
4   "result": "1b91489ff8ef8c0e93ea3f9444a9cc9a"
5 }
```

6.动态更改共识节点属性

在终端输入0/1更改共识节点属性。0代表正常节点，1代表恶意节点。

```
/home/nata/Desktop/test java -jar node-1.0-jar-with-dependencies.jar 1
[cc.weno.config.StartConfig]-[INFO] 第1个node节点信息:Node{isRun=false, viewOK=false, publicKey=MIGfMA0GC5qG5Ib3DQEBQUAA4GNADCB1QKgBQCjoxdkoviy/Clgkz2Z5MB18q1hzqyflwB/GRLJf8K90DfyfY
a4kscHl2H+syYdtEXyoyf7LCnz4kwrdsUmntB5CTyGRyVfon9tN2Nr30XHVH9XGbwYo50hZARQLUshpI10Ejocyuz8YRMqK/IDW4Y1lULWUWPYLA3ABvyIjgVqkxIDAQAQ, privateKey=MIICdWIBADANBgkqhkiG9w0BAQEFAASCAMewg
g3JdgEAAQGBAKQJEOS1/XL8QCTP2LwXyYwH0rJ+XVH0Zes1/Qr04N/39hr15xwL2Bsz2h2BRf17XUUKP1TBf13Rae0WkJP1ZF19+1f203Y2VfReeBf1c2x8lhkgfHBFALSyckggASNS2KSxhEyor8gnbhjWVS3ZRY/K1DcAG/LUN0hr
GTAgMBAAECgY8hGRnLEb1l0W4cqETyxMH44QUMTNzeRVhqNHPMR0sy8/jIysaSw3j33LErLDXX1DxyKPGdPFEBrhgQn16qP5qLNSV5/9aUJRnJ97Yr39ceBQ7xI/R+f3jpt8ChwM8PQLPzzLESBto5s0WwXoojqkHwM2JhQA8AV86GRcqM
mwQJBAQ2Hx/5mEs2XXARceJ9Bn7b2MG9Ye+Kau/aQj/LQzPwfaLD56hNXLJloekHgvrf5LCRUssysMj/XOK0d07PSM2UCQCCw62N4+P0qKBSc5o0QsCeJs9LXQ55vL19WpWExxSu/ExgI28ysvGvjx91/oc0A1Vbkgc1hGFPsFA+AL1FoPWKn
AKeAqXR0NEccG9UE7yFCTCIjWDb1/r14Bhq3L3cu7VHX0bm0/LJn3LRPXShX7XfTWSBAsVBMDHV9RgBD0xHHTg36YQJAFJ2eRQGDascLYHME18kr0NM680EsU7dZJC1W3Sjnt30ELnI/MgBlsWQlnZJyasLLHwdnguc2RuMoLLfms5qSQ3BA
OL0u5cx5lNy0EpFY7G3ldzTyj81MlI20avBFqPpsTlev50Xw/LDMY5aX7gsEpIILFpgn4630QrXj0gt/DynAU=, bf=0)
[cc.weno.config.StartConfig]-[INFO] lp.json文件数量5
[cc.weno.config.StartConfig]-[INFO] 内存地址2

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| t-io site | https://www.t-io.org |
| t-io on gltee | https://gltee.com/tywo45/t-io |
| t-io on github | https://github.com/tywo45/t-io |
| t-io version | 3.5.0.v20191228-RELEASE |
|-----|
| TIoConfig name | 服务端 |
| Started at | 2022-06-28 02:47:27 |
| Listen on | 127.0.0.1:8081 |
| Main Class | Main |
| Jvm start time | 565ms |
| Tio start time | 23ms |
| Pid | 13184 |
|-----|

[cc.weno.config.StartConfig]-[INFO] 节点1尝试连接NodeBasicInfo(address=NodeAddress(lp=127.0.0.1, port=8080), index=0)
[cc.weno.config.StartConfig]-[INFO] 节点1尝试连接NodeBasicInfo(address=NodeAddress(lp=127.0.0.1, port=8081), index=1)
[cc.weno.p2p.client.P2PClientListener]-[WARN] 结点1连接服务端127.0.0.1:8080失败
[cc.weno.config.StartConfig]-[INFO] client链接服务端的数量2
[cc.weno.p2p.client.P2PClientListener]-[INFO] 结点server:127.0.0.1:8081, client:127.0.0.1:56788连接服务端成功
[cc.weno.util.Pbft]-[WARN] 区块链中的节点小于4
[cc.weno.util.clientUtil]-[INFO] 广播ip消息:PbftMsg(msgType=6, node=1, toNode=-1, time=1656409647798, body={"bf":0,"index":1,"lp":"127.0.0.1","port":8081,"publicKey":"MIGfMA0GC5qG5Ib3DQEBQUAA4GNADCB1QKgBQCjoxdkoviy/Clgkz2Z5MB18q1hzqyflwB/GRLJf8K90DfyfYVaKscHl2H+syYdtEXyoyf7LCnz4kwrdsUmntB5CTyGRyVfon9tN2Nr30XHVH9XGbwYo50hZARQLUshpI10Ejocyuz8YRMqK/IDW4Y1lULWUWPYLA3ABvyIjgVqkxIDAQAQ"}, isOk=false, viewNum=, id=f43a4f5-a5e0-471d-a91c-b203673c8904, sign=null)
0
[cc.weno.config.StartConfig]-[INFO] 节点已被设置为正常节点
1
[cc.weno.config.StartConfig]-[INFO] 节点已被设置为恶意节点
2
```