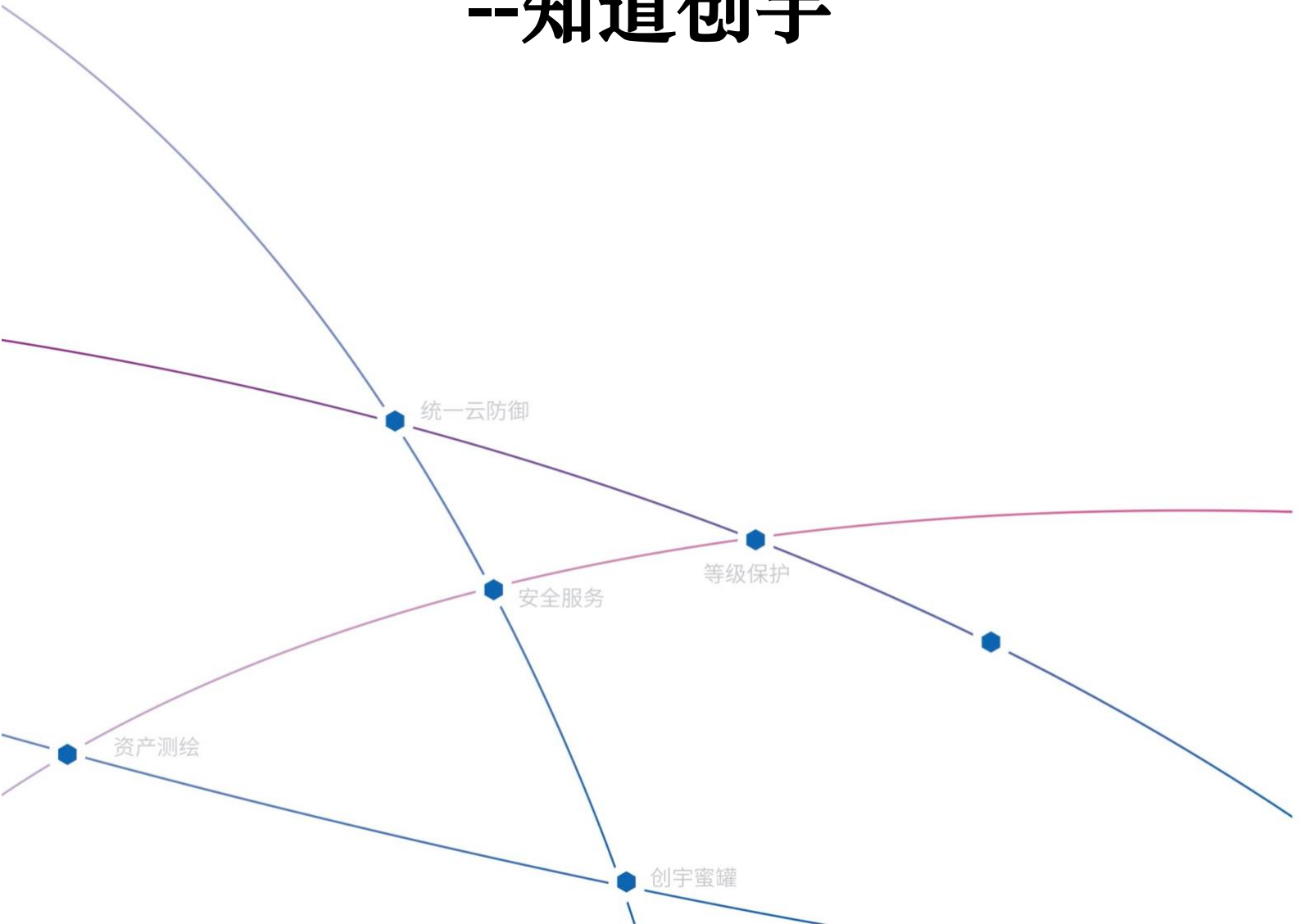




FoFa 使用手册

--知道创宇



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1. 介绍

随着网络安全的普及，黑客的攻击手段也日新月异，越来越多的企业对网络安全产品与服务的需求有了新的变化。那么，在险象丛生的互联网世界之中企业如何能够更加有效的保护自己的网络空间资产呢？FOFA 给出了相应的解决方案。与传统扫描相比，企业更需要一款能够根据特征、检索条件迅速进行全网资产匹配的搜索引擎。“佛法无边”通常比喻神通广大，无所不能，企业用户终于可以安心的“抱佛脚”了，FOFA 可以迅速进行网站资产匹配，加快后续工作进程，如漏洞影响范围分析，应用分布统计，应用流行度排名统计等。

1.1. 什么是 FOFA

FOFA (网络空间资产检索系统) 是世界上数据覆盖更完整的 IT 设备搜索引擎，拥有全球联网 IT 设备更全的 DNA 信息。探索全球互联网的资产信息，进行资产及漏洞影响范围分析、应用分布统计、应用流行度态势感知等。

1.2. 什么是 F 币

F 币，全称 FOFA 币，是由 FOFA 推出的一种虚拟货币。通常它的兑价是 1F 币=10 人民币，用于下载数据一般都是 1F 币=30 元，充值 6 个以上（含 6 个）是 6.7 折，充值 20 个以上（含 20 个）是 5 折。

它可以用来下载数据 :10000 条数据/1F 币 ;也可以调用 API 查询数据 :10000 条数据/1F 币。

1.3. 什么时候能用到 FOFA

- 我想知道我司产品在互联网的部署情况？
- 如何获取一个根域名所有子域名网站？如何根据 IP 确认企业？
- 如何根据一个子域名网站找到跟他在一个 IP 的其他网站？
- 全网漏洞扫描，一个新的漏洞全网的影响范围。

1.4. FOFA 具备哪些优势

- 包括标签在内的 HTML 代码级全文索引和检索，其检索内容更丰富，效果更快速、更精准。
- 预置超过 50000 条产品特征规则，且用户可以随时自行动态增加，灵活度更高。
- 深厚的全网数据积累，同高效的数据检索技术，快速提高用户的网络资产发现能力。
- 实际应用场景中稳定运行超过 4 年，成功部署于各类企业用户的生产环境中，发挥重要作用。

1.5. 会员权益

成为 FOFA 会员可免费查询海量的数据，并拥有稳定的数据资源及丰富的 API 接口，目前 FOFA 会员分普通会员和高级会员，是终身会员。各等级会员区分如下：

https://fofa.so/static_pages/vip。

FoFA API 会员 三 登录

选择一个会员以开始使用FoFA

特权与功能	企业会员 立即加入	高级会员 立即加入	普通会员 立即加入	注册用户 立即加入
网站查询数据量	10,000条	10,000条	10,000条	50条
API查询数据	免费前100,000条/次	免费前10000条/次	免费前100条/次	1F币 (最多10,000条) /次
数据存储时长	30天	14天	7天	—
数据获取				
获取IP标签接口	✓	—	—	—
获取structinfo数据	✓	—	—	—
一键排除干扰数据	✓	✓	—	—
证书有效性提取验证	✓	✓	●	●
蜜罐数据提取及分析	✓	—	—	—
仿冒/欺诈数据提取及分析	✓	—	—	—
查询语法				
自定义语法查询	✓	●	●	●
正则表达式语法查询	✓	●	—	—
精准匹配icon	✓	●	—	—
模糊匹配icon	✓	—	—	—

2. 查询语法

FOFA 作为一个搜索引擎，我们要熟悉它的查询语法，类似 google 语法，FOFA 的语法也是简单易懂，主要分为检索字段以及运算符，所有的查询语句都是由这两种元素组成的。

直接输入查询语句，将从标题，html 内容，http 头信息，url 字段中搜索

2.1. 从标题中搜索“北京”

title="beijing"

The screenshot shows the FoFa search engine interface. The search bar contains the query `title="beijing"`. The search results are displayed in a grid format. The first result is for the URL `https://210.177.205.85`, which is identified as `Beijing Kerry Centre`. The details for this result include the IP address `210.177.205.85`, ASN `4515`, organization `HKT Limited`, and date `2021-06-14`. The HTTP status is `HTTP/1.1 200 OK`. The second result is for the URL `mail.sinohosting.net`, which is identified as `International Web Hosting Solutions in China: Shanghai, Hangzhou, Suzhou, Beijing, Guangzhou, Hong Kong | S`. The details for this result include the IP address `172.164.115.149`, ASN `63949`, organization `Linode, LLC`, and date `2021-06-14`. The HTTP status is `HTTP/1.1 200 OK`. The sidebar on the left shows various filters such as '类型分布', '年份', '国家/地区排名', '端口排名', and 'Server排名'. The main results area also shows a world map and a list of results with their respective details.

2.2. 从 http 头中搜索“elastic”

header="elastic"

The screenshot shows the FoFa search interface with the query 'header="elastic"'. The search results are displayed in a grid format, showing various IP addresses and their associated HTTP headers. The search results are filtered by type (websites), year (2021, 2020), and country/region (USA, China, Germany, Russia, France). The search results are sorted by IP address, and the top results are displayed. The search results include the following information:

- sd-152320.dedibox.fr**: 301 Moved Permanently, 51.159.28.95, France / Paris, ASN: 12876, Organization: Online S.a.s., dedibox.fr, 2021-06-14, nginx.
- 47.106.65.0-9801**: 47.106.65.0, China, ASN: 37963, Organization: Hangzhou Alibaba Advertising Co.,Ltd., 2021-06-14, Jetty(8.1.19.v20160209).
- https://159.65.112.52**: 159.65.112.52, Germany / Frankfurt am Main, ASN: 14061, Organization: DIGITALOCEAN-ASN, 2021-06-14, nginx/1.18.0.
- https://www.sec-wiki.com**: 148.129.76.197, China / Beijing, ASN: 45102, Organization: Alibaba (US) Technology Co., Ltd., sec-wiki.com, 2021-06-14, nginx/1.10.3 (Ubuntu).
- https://103.139.213.203**: 103.139.213.203, China / Beijing, ASN: 4847, Organization: China Networks Inter-Exchange, 2021-06-14, nginx.
- https://1.117.166.190**: 1.117.166.190, Organization: Com, 2021-06-14, Apache.

2.3. 从 html 正文中搜索“网络空间测绘”

body="网络空间测绘"

The screenshot shows the FoFa search interface with the query 'body="网络空间测绘"'. The search results are displayed in a grid format, showing various IP addresses and their associated HTML content. The search results are filtered by type (websites), year (2021, 2020), and country/region (China, USA, Japan, UK). The search results are sorted by IP address, and the top results are displayed. The search results include the following information:

- https://www.sec-wiki.com**: 148.129.76.197, China / Beijing, ASN: 45102, Organization: Alibaba (US) Technology Co., Ltd., sec-wiki.com, 2021-06-14, nginx/1.10.3 (Ubuntu).
- https://103.139.213.203**: 103.139.213.203, China / Beijing, ASN: 4847, Organization: China Networks Inter-Exchange, 2021-06-14, nginx.
- https://1.117.166.190**: 1.117.166.190, Organization: Com, 2021-06-14, Apache.

2.4. 搜索根域名带有 qq.com 的网站

domain="qq.com"

The screenshot shows the FoFa search interface with the query 'domain="qq.com"'. The search results are displayed in a dark theme. On the left, there is a sidebar with filters for '类型分布' (Type Distribution), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main content area shows a list of results, including 'mma.qq.com' and 'https://upwen.ke.qq.com'. Each result includes a preview of the website's content and technical details like HTTP status, connection type, and server information.

2.5. 查找备案号为“京 ICP 证 030173 号”的网站

icp="京 ICP 证 030173 号"

The screenshot shows the FoFa search interface with the query 'icp="京 ICP 证 030173 号"'. The search results are displayed in a dark theme. On the left, there is a sidebar with filters for '类型分布' (Type Distribution), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main content area shows a list of results, including 'https://144.34.240.239' and 'https://182.61.62.13'. Each result includes a preview of the website's content and technical details like HTTP status, connection type, and server information.

2.6. 查找网站正文中包含 js/jquery.js 的资产

js_name="js/jquery.js"

The screenshot shows the FoFa search results for the query `js_name="js/jquery.js"`. The search bar at the top contains the query. Below it, the results summary indicates 213,228 matches. The results are displayed in a table-like format with columns for website names, IP addresses, and technical details. The first result is `https://sp.guanghongjs.com` with IP `115.29.160.98`. Other results include `ticket.votre.co.jp` and `www.escribanlapadilla.com.ar`. The interface also features a sidebar with filters for country/region and a world map.

2.7. 查找 js 源码与之匹配的资产

js_md5="82ac3f14327a8b7ba49baa208d4eaa15"

The screenshot shows the FoFa search results for the query `js_md5="82ac3f14327a8b7ba49baa208d4eaa15"`. The search bar at the top contains the query. Below it, the results summary indicates 8,730 matches. The results are displayed in a table-like format with columns for website names, IP addresses, and technical details. The first result is `106.87.1.76-8088` with IP `106.87.1.76`. Other results include `60.10.61.71-89` and `14.107.158.168-8088`. The interface also features a sidebar with filters for country/region and a world map.

2.8. 搜索使用此 icon 的资产。

icon_hash="-247388890"

The screenshot shows the FoFa search interface with the query `icon_hash="-247388890"`. The search results are as follows:

类型分布	3 条匹配结果 (3 条独立IP), 33 ms, 关键词搜索。
网站	3
年份	2021: 3
国家/地区排名	中国: 3
端口排名	443: 2, 80: 1
Server排名	Tengine: 1, nginx/1.16.1: 1, nginx/1.17.3 + Phusion Passenger 6.0.4: 1
网站标题排名	北京伊康信安科技: 1, 网络安全空间搜索引擎, 网络安全空间搜索...: 1

Key results include:

- `https://classic.fofa.so` (IP: 106.75.109.221, ASN: 4908, Organization: China Unicom Beijing Province Network)
- `https://fofa.so` (IP: 125.76.247.217, ASN: 4835, Organization: China Telecom (Group))

2.9. 从 url 中搜索".gov.cn"

host=".gov.cn"

The screenshot shows the FoFa search interface with the query `host=".gov.cn"`. The search results are as follows:

类型分布	54,692 条匹配结果 (17,427 条独立IP), 33 ms, 关键词搜索。
网站	54,692
年份	2021: 33,888, 2020: 20,804
国家/地区排名	中国: 47,793, 南非: 3,085, 美国: 2,670, 中国香港特别行政区: 906, 印度: 78
端口排名	80: 48,368, 443: 3,964, 8080: 247, 8081: 142, 81: 76
Server排名	nginx: 14,890, Apache: 2,919

Key results include:

- `https://gxgz.qinghai.gov.cn:6199` (IP: 118.213.59.250, ASN: 4134, Organization: qinghai.gov.cn)
- `xining.pbc.gov.cn` (IP: 122.190.204.104, ASN: 4837, Organization: CHINA UNICOM China169 Backbone)
- `gxgz.qinghai.gov.cn` (IP: 118.213.59.250, ASN: 4134, Organization: 中国 / Xining)

2.12. 查询 IP 为“220.181.111.1”的 C 网段资产

ip="220.181.111.1/24"

The screenshot shows the FoFa search results for the query `ip="220.181.111.1/24"`. The search returned 616 results. The left sidebar shows filters for type distribution (websites: 313, protocols: 303), years (2021: 612, 2020: 4), and country/region (China: 616). A world map highlights China. Below the map are port and server name rankings. The main results list shows three entries for IP ranges 220.181.111.128, 220.181.111.87, and 220.181.111.172, all identified as belonging to China (AS: 23724, Organization: IDC, China Telecommunications Corporation). The right side of the interface displays detailed information for each IP, including versions (41, 40, 39, 38, 37, 35) and protocols (QUIC, UDP).

2.13. 查询服务器状态为“402”的资产

status_code="402"

The screenshot shows the FoFa search results for the query `status_code="402"`. The search returned 8,522 results. The left sidebar shows filters for type distribution (websites: 8,522), years (2021: 6,107, 2020: 2,415), and country/region (USA: 2,631, Russia: 882, Germany: 874, France: 801, China: 689). A world map highlights the USA, Germany, France, and China. Below the map are port and server name rankings. The main results list shows three entries for URLs `https://15.236.30.117`, `https://117.27.230.84`, and `1.116.73.87:8002`. The right side of the interface displays detailed information for each result, including HTTP status codes (HTTP/1.1 402) and connection details.

2.14. 查询 quic 协议资产

protocol="quic"

The screenshot shows the FoFA search interface with the query `protocol="quic"`. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (73,979 results), '年份' (2021: 63,854; 2020: 10,125), '国家/地区排名' (China: 71,211; USA: 443; etc.), '端口排名' (80: 52,853; 443: 21,122; etc.), and '协议排名' (quic: 73,979). The main content area shows three IP addresses: `125.115.23.170`, `125.115.23.139`, and `61.147.112.244`. Each IP entry includes details like 'Versions: 50,46,44,43,39', 'QUIC Protocol', and 'Organization: CHINANET JiangSu YangZhou IDC network'.

2.15. 搜索指定国家(编码)的资产。

country="CN"

The screenshot shows the FoFA search interface with the query `country="CN"`. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (290,146,631 results), '年份' (2021: 161,445,326; 2020: 128,701,305), '国家/地区排名' (China: 217,914,121; etc.), '端口排名' (80: 34,555,351; 443: 15,243,090; etc.), and 'Server排名' (nginx: 27,330,341; Apache: 4,800,815). The main content area shows three IP addresses: `https://xn--mtsp1cry4f.top`, `185.135.78.200`, and `154.92.153.3`. Each IP entry includes details like 'HTTP/1.1 301 Moved Permanently', 'SSH-2.0-OpenSSH_7.4', and 'Organization: Shenzhen Tencent Computer Systems Company Limited'.

2.16. 搜索指定行政区的资产。

region="Xinjiang"

The screenshot shows the FoFa search interface with the query 'region="Xinjiang"'. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Type Distribution), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main content area shows search statistics: '46,089 条匹配结果 (22,539 条独立IP), 32 ms, 关键词搜索。' Below this, there are three IP address entries with their respective details:

- 124.88.70.199**: 5061 unknown. Details: 124.88.70.199, 中国 / Ürümqi, ASN: 4837, 组织: CHINA UNICOM China169 Backbone, 2021-06-14. Network diagram shows a path through w110v03v03v00v02v02.
- 124.88.116.46**: 7547 http. Details: 124.88.116.46, 中国 / Ürümqi, ASN: 4837, 组织: CHINA UNICOM China169 Backbone, 2021-06-14. HTTP response: HTTP/1.1 200 OK, Server: RQ/Device 10.x, Content-Type: text/xml; charset=utf-8, Content-Length: 0, Connection: close.
- 113.234.144.156**: 5678 unknown. Details: 113.234.144.156, 中国 / Baoshu, ASN: 4837, 组织: CHINA UNICOM China169 Backbone, 2021-06-14. Network diagram shows a path through v00v00v00{ "RPCMethod": "prainstall", }.

2.17. 搜索指定城市的资产。

city="Kunming"

The screenshot shows the FoFa search interface with the query 'city="Kunming"'. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Type Distribution), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main content area shows search statistics: '1,148,916 条匹配结果 (357,242 条独立IP), 30 ms, 关键词搜索。' Below this, there are three IP address entries with their respective details:

- 116.249.119.255**: 179 http. Details: 116.249.119.255, 中国 / Kunming, ASN: 4134, 组织: Chinanet, 2021-06-14. BGP Message: Type: 3, Major error Code: 6, Minor error Code: 5.
- 116.249.88.31:9999**: 9999. Details: 116.249.88.31, 中国 / Kunming, ASN: 4134, 组织: Chinanet, 2021-06-14. Microsoft-HTTPAPI/2.0. HTTP response: HTTP/1.1 302 Found, Connection: close, Transfer-Encoding: chunked, Date: Mon, 14 Jun 2021 10:55:20 GMT, Location: http://116.249.88.26:9999/metadata, Server: Microsoft-HTTPAPI/2.0.
- 14.205.40.7**: 8200 http. Details: 14.205.40.7, 中国 / Kunming, ASN: 4837, 组织: CHINA UNICOM China169 Backbone, 2021-06-14. HTTP response: HTTP/1.1 400 Bad Request, Server: nginx, Date: Mon, 14 Jun 2021 10:55:25 GMT, Content-Type: text/html, Content-Length: 2362, Connection: close.

2.18. 搜索证书(https 或者 imaps 等)中带有 baidu 的资产。

cert="baidu"

The screenshot shows the FoFA search interface with the query 'cert="baidu"'. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Type Distribution) showing 84,436 results, '年份' (Year) with 2021 having 70,270 results and 2020 having 14,166, and '国家/地区排名' (Country/Region Ranking) with China at 79,655. A world map is also visible. The main content area shows three search results for IP addresses: 119.63.197.171 (Bad Gateway), 112.30.205.56 (Forbidden), and 112.30.205.53 (Forbidden). Each result includes details like the organization (Baidu, Inc.), server type (Apache), and certificate information.

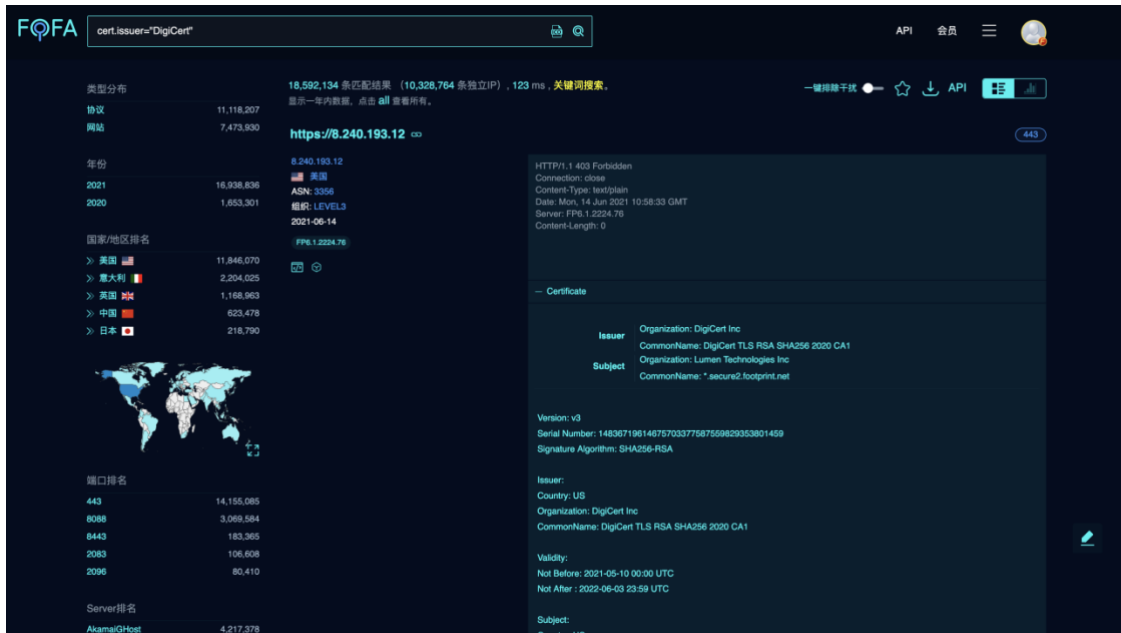
2.19. 搜索证书持有者是 Oracle Corporation 的资产

cert.subject="Oracle Corporation"

The screenshot shows the FoFA search interface with the query 'cert.subject="Oracle Corporation"'. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Type Distribution) showing 528,572 results, '年份' (Year) with 2021 having 498,217 results and 2020 having 30,355, and '国家/地区排名' (Country/Region Ranking) with the USA at 441,000. A world map is also visible. The main content area shows one search result for IP address 138.1.54.52 (Forbidden), which is issued by DigiCert Inc. for Oracle Corporation. The certificate details include the issuer, subject, version, serial number, and validity dates.

2.20. 搜索证书颁发者为 DigiCert Inc 的资产

cert.issuer="DigiCert"

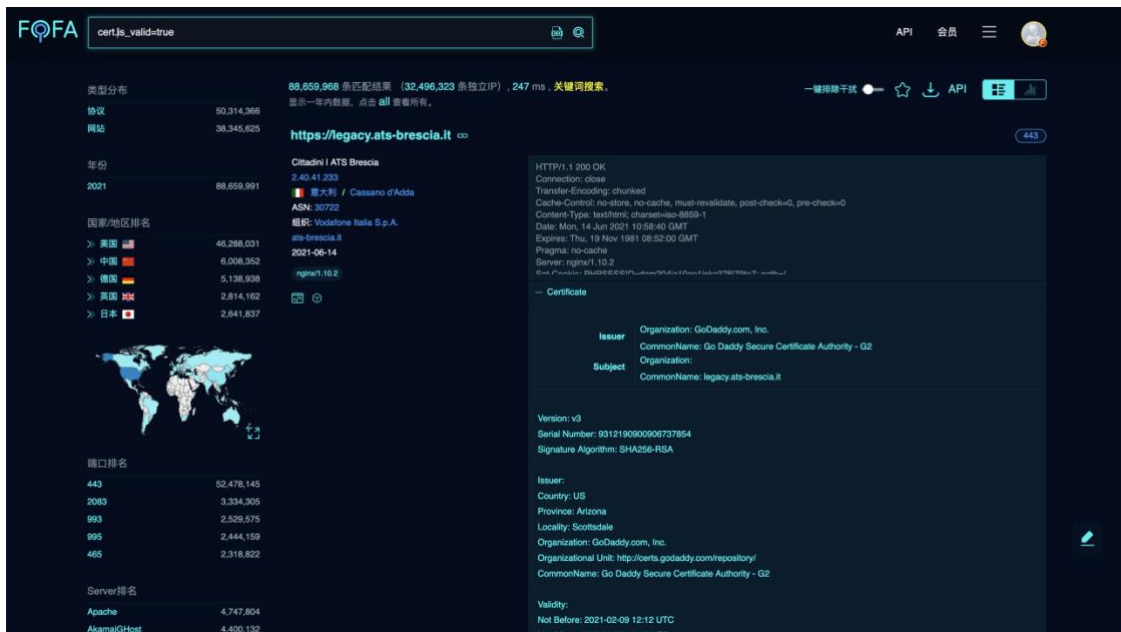


The screenshot shows the FoFA search interface with the query `cert.issuer="DigiCert"`. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Distribution by Type), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main content area shows a list of results for the URL `https://8.240.193.12`. The details for this result include the HTTP status (1.403 Forbidden), connection information, and a certificate. The certificate details are as follows:

Version:	v3
Serial Number:	14836719614675703377587559829353801459
Signature Algorithm:	SHA256-RSA
Issuer:	Organization: DigiCert Inc Country: US Organization: DigiCert Inc CommonName: DigiCert TLS RSA SHA256 2020 CA1
Subject:	Organization: Lumen Technologies Inc CommonName: *.secure2.footprint.net
Validity:	Not Before: 2021-05-10 00:00 UTC Not After: 2022-08-03 23:59 UTC

2.21. 验证证书是否有效，true 有效，false 无效

cert.is_valid=true



The screenshot shows the FoFA search interface with the query `cert.is_valid=true`. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Distribution by Type), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main content area shows a list of results for the URL `https://legacy.ats-brescia.it`. The details for this result include the HTTP status (1.200 OK), connection information, and a certificate. The certificate details are as follows:

Version:	v3
Serial Number:	9312190900906737854
Signature Algorithm:	SHA256-RSA
Issuer:	Organization: GoDaddy.com, Inc. CommonName: Go Daddy Secure Certificate Authority - G2
Subject:	Organization: legacy.ats-brescia.it CommonName: legacy.ats-brescia.it
Validity:	Not Before: 2021-02-09 12:12 UTC Not After: 2023-02-09 12:12 UTC

2.22. 搜索 FTP 协议中带有 users 文本的资产。

banner=users && protocol=ftp

The screenshot shows the FoFa search interface with the query `banner="users" && protocol="ftp"`. The results are categorized by type, year, country, and port. The top result is for IP `85.62.92.28`, which is associated with the organization `Orange Espagne SA`. A preview of the banner text is shown: `421 10 users (the maximum) are already logged in, sorry`. Other results include IP `187.85.73.113` (Porta 80 - Servicos em Internet Ltda) with banner `220-NOTICE TO USERS`, and IP `221.154.169.123` (Korea Telecom) with banner `421 Too many users connected.`

2.23. 搜索所有协议资产，支持 subdomain 和 service 两种

type=service

The screenshot shows the FoFa search interface with the query `type="service"`. The results are categorized by type, year, country, and port. The top result is for IP `95.142.40.19`, which is associated with the organization `EuroByte LLC`. A preview of the banner text is shown: `100000 v4 TCP(111), 100000 v3 TCP(111), 100000 v2 TCP(111), 100000 v4 UDP(111), 100000 v3 UDP(111), 100000 v2 UDP(111)`. Other results include IP `84.18.212.131` (catalyst2 Services Limited) with banner `HTTP/1.0 200 OK`, and IP `179.51.195.71` with banner `HTTP/1.0 302 Found`.

2.24. 搜索 CentOS 资产。

os="centos"

The screenshot shows the FoFa search interface with the query 'os=centos'. The search results are displayed in a dark theme. On the left, there is a sidebar with filters for '类型分布' (Distribution), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main area shows a list of search results, including IP addresses, domain names, and server information. The first result is 'https://69.10.180.64' with a status of '401 Unauthorized'. The second result is '18.133.67.16' with a status of 'Apache HTTP Server Test Page powered by CentOS'. The third result is '104.227.198.139' with a status of 'HTTP/1.1 200 OK'. The interface also includes a search bar at the top, a navigation menu, and a footer with 'API' and '会员' options.

2.25. 搜索 IIS 10 服务器。

server=="Microsoft-IIS/10"

The screenshot shows the FoFa search interface with the query 'server=="Microsoft-IIS/10"'. The search results are displayed in a dark theme. On the left, there is a sidebar with filters for '类型分布' (Distribution), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main area shows a list of search results, including IP addresses, domain names, and server information. The first result is '185.45.113.22' with a status of '403 Forbidden'. The second result is 'https://185.21.224.21' with a status of '301 Moved Permanently'. The third result is 'front-liner.com' with a status of 'IIS Windows Server'. The interface also includes a search bar at the top, a navigation menu, and a footer with 'API' and '会员' options.

2.26. 搜索 Microsoft-Exchange 设备

app="Microsoft-Exchange"

The screenshot shows the FoFa search interface with the query 'app=Microsoft-Exchange'. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Distribution by Type), '年份' (Year), '国家和地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main area shows search results for IP addresses, including '72.80.58.90' and '76.12.226.41'. Each result includes details like location, ASN, and organization. On the right, there are HTTP response snippets for each IP, showing status codes like '200 OK' and '404 Not Found'.

2.27. 时间范围段搜索

after="2021" && before="2021-06-01"

The screenshot shows the FoFa search interface with the query 'after="2021" && before="2021-06-01"'. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Distribution by Type), '年份' (Year), '国家和地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main area shows search results for IP addresses, including '86.183.96.173:1027', '221.232.53.45:8081', and '18.228.236.137:8000'. Each result includes details like location, ASN, and organization. On the right, there are HTTP response snippets for each IP, showing status codes like '404 Not Found', '403 Forbidden', and '500 Internal Server Error'.

2.28. 搜索指定 asn 的资产。

asn="19551"

The screenshot shows the FoFa search interface with the query 'asn="19551"'. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Distribution by Type), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main content area shows a list of IP addresses and their associated metadata, including ASN (19551), organization (INCAPSULA), and creation date (2021-06-14). Three sample HTTP responses are shown on the right, all indicating 'HTTP/1.1 503 Service Unavailable'.

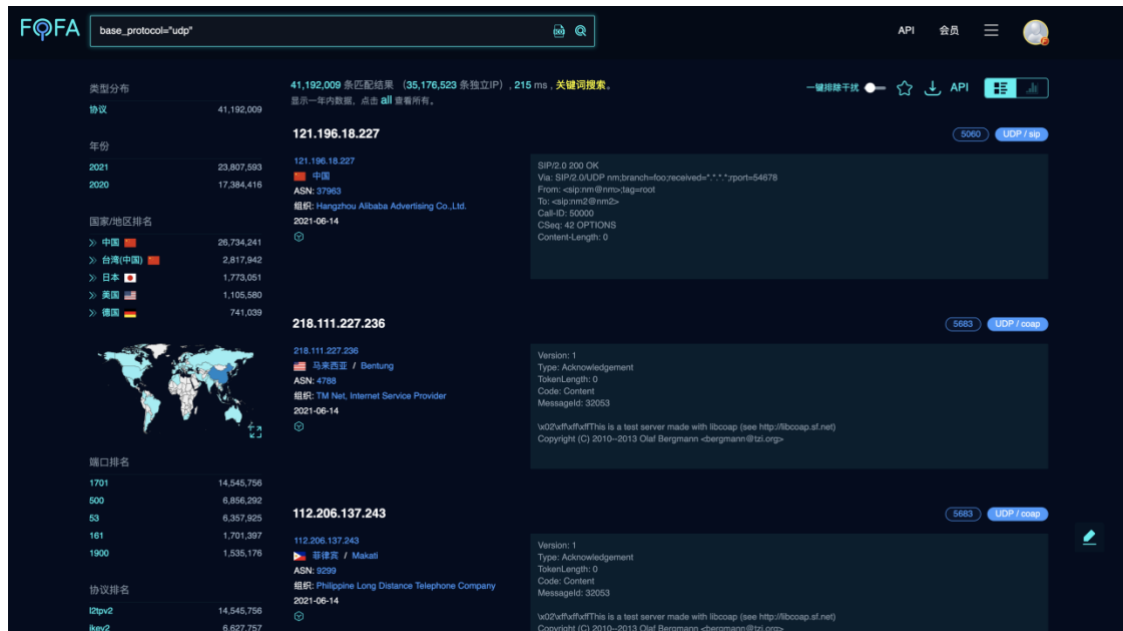
2.29. 搜索指定 org(组织)的资产。

org="Amazon.com, Inc."

The screenshot shows the FoFa search interface with the query 'org="Amazon.com, Inc."'. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Distribution by Type), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main content area shows a list of IP addresses and their associated metadata, including ASN (16509), organization (Amazon.com, Inc.), and creation date (2020-06-23). Three sample responses are shown on the right, including an SSH connection and an HTTP 200 OK response from an Apache server.

2.30. 搜索指定 udp 协议的资产。

base_protocol="udp"

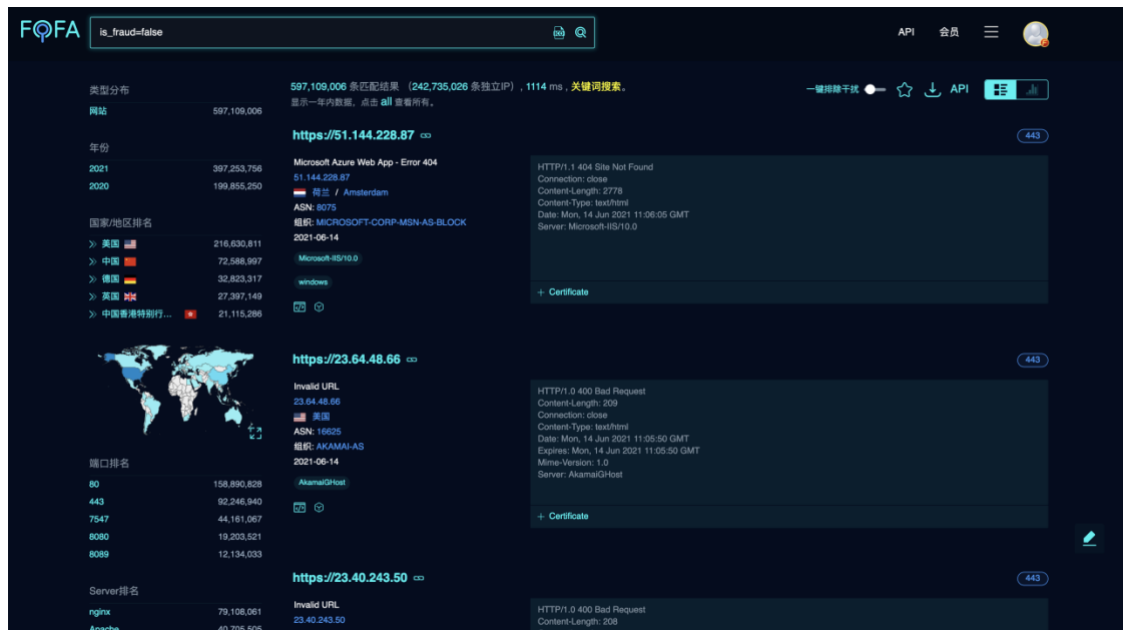


The screenshot shows the FoFa search interface with the query `base_protocol="udp"`. The search results are displayed in a grid format, showing various IP addresses and their associated metadata. The left sidebar contains filters for '类型分布' (Distribution by Type), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and '协议排名' (Protocol Ranking). The main content area shows three search results:

- 121.196.18.227**: 41,192,009 matching results (35,176,523 unique IPs), 215 ms. Metadata includes: 中国, ASN: 37963, 组织: Hengzhou Alibaba Advertising Co., Ltd., 2021-06-14. The associated SIP/2.0 200 OK response is visible.
- 218.111.227.236**: 5683 matching results. Metadata includes: 马来西亚 / Bentung, ASN: 4788, 组织: TM Net, Internet Service Provider, 2021-06-14. The associated Version: 1 response is visible.
- 112.206.137.243**: 5683 matching results. Metadata includes: 菲律宾 / Makati, ASN: 9299, 组织: Philippine Long Distance Telephone Company, 2021-06-14. The associated Version: 1 response is visible.

2.31. 排除仿冒/欺诈数据

is_fraud=false



The screenshot shows the FoFa search interface with the query `is_fraud=false`. The search results are displayed in a grid format, showing various IP addresses and their associated metadata. The left sidebar contains filters for '类型分布' (Distribution by Type), '年份' (Year), '国家/地区排名' (Country/Region Ranking), '端口排名' (Port Ranking), and 'Server排名' (Server Ranking). The main content area shows three search results:

- https://51.144.228.87**: 597,109,006 matching results (242,735,026 unique IPs), 1114 ms. Metadata includes: 荷兰 / Amsterdam, ASN: 8075, 组织: MICROSOFT-CORP-MSN-AS-BLOCK, 2021-06-14. The associated HTTP/1.1 404 Site Not Found response is visible.
- https://23.64.48.66**: 443 matching results. Metadata includes: 美国, ASN: 16805, 组织: AKAMAI-AS, 2021-06-14. The associated HTTP/1.1 400 Bad Request response is visible.
- https://23.40.243.50**: 443 matching results. Metadata includes: 美国, ASN: 16805, 组织: AKAMAI-AS, 2021-06-14. The associated HTTP/1.1 400 Bad Request response is visible.

2.34. 搜索域名的资产

is_domain=true

The screenshot shows the FoFa search interface with the query 'is_domain=true'. The search results are displayed in a dark theme. On the left, there are filters for '类型分布' (Distribution by Type) showing 103,323,278 websites, '年份' (Year) with counts for 2021 and 2020, '国家/地区排名' (Country/Region Ranking) with a world map, and '端口排名' (Port Ranking) and 'Server排名' (Server Ranking). The main area shows three search results:

- www.unicolmayor.edu.co**: Info: UNIVERSIDAD COLEGIO MAYOR DE CUNDINAMARCA, Bogota, ASN: 18747, 2021-06-14. HTTP/1.1 200 OK, Apache server.
- 128-232-224-157.vss.cloud.cam.ac.uk**: Info: cam.ac.uk, nginx/1.10.3, 2021-06-14. HTTP/1.1 200 OK, nginx server.
- https://www.janine-bedlinen.com**: Info: Halberstadt, 2021-06-14. HTTP/1.1 301 Moved Permanently, Apache server.

2.35. 查询开放端口数量等于"6"的资产

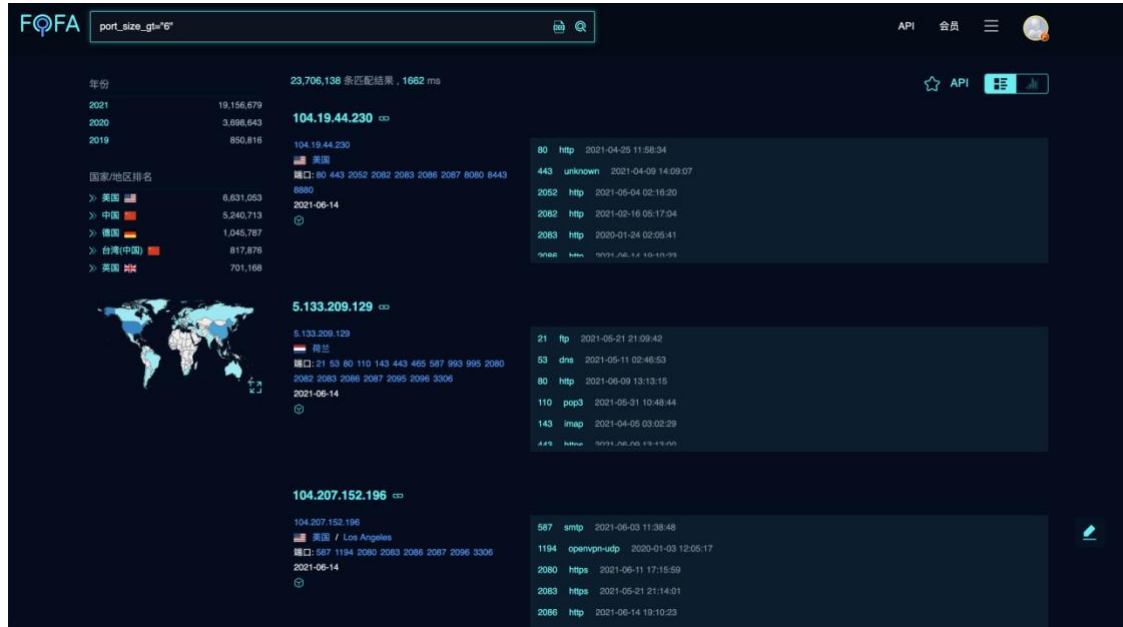
port_size="6"

The screenshot shows the FoFa search interface with the query 'port_size="6"'. The search results are displayed in a dark theme. On the left, there are filters for '年份' (Year) with counts for 2021, 2020, and 2019, '国家/地区排名' (Country/Region Ranking) with a world map, and '端口排名' (Port Ranking). The main area shows three search results:

- 209.97.143.1**: Info: London, 2021-06-14. Ports: 22, 80, 443, 3000, 4000, 4369. 22 ssh, 80 http, 443 https, 3000 http, 4000 http.
- 94.142.246.70**: Info: 荷兰, 2021-06-14. Ports: 22, 80, 111, 143, 443, 993. 22 ssh, 80 http, 111 portmap, 143 imap, 443 https.
- 128.199.192.23**: Info: Singapore, 2021-06-14. Ports: 22, 80, 443, 485, 8000, 8089. 22 ssh, 80 http, 443 https, 485 smtp, 8000 https.

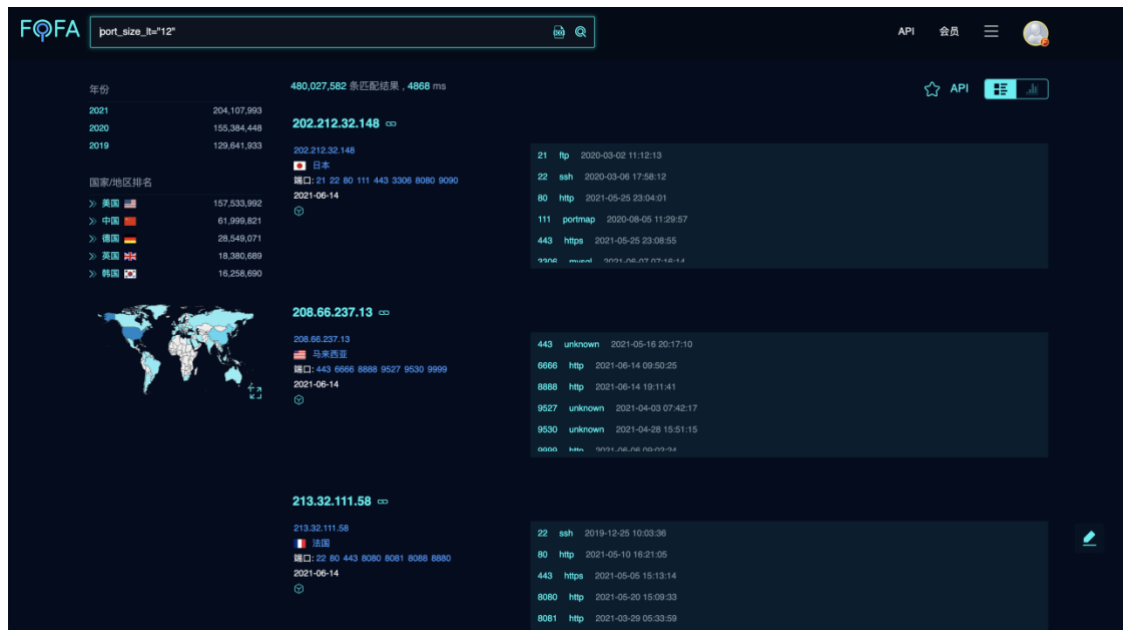
2.36. 查询开放端口数量大于"6"的资产

port_size_gt="6"



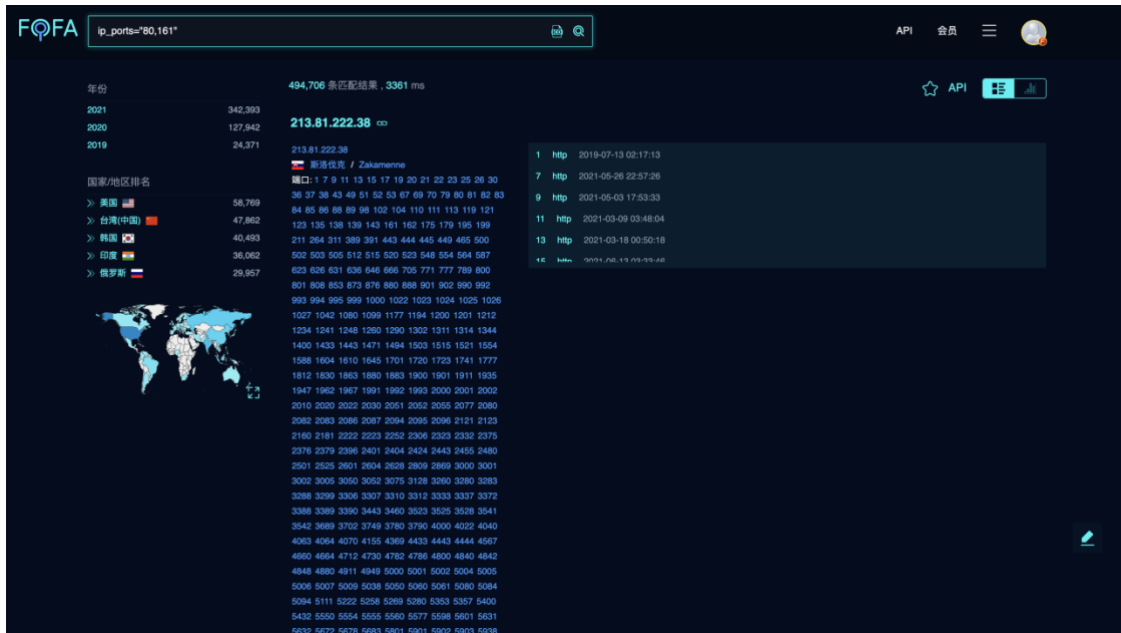
2.37. 查询开放端口数量小于"12"的资产

port_size_lt="12"



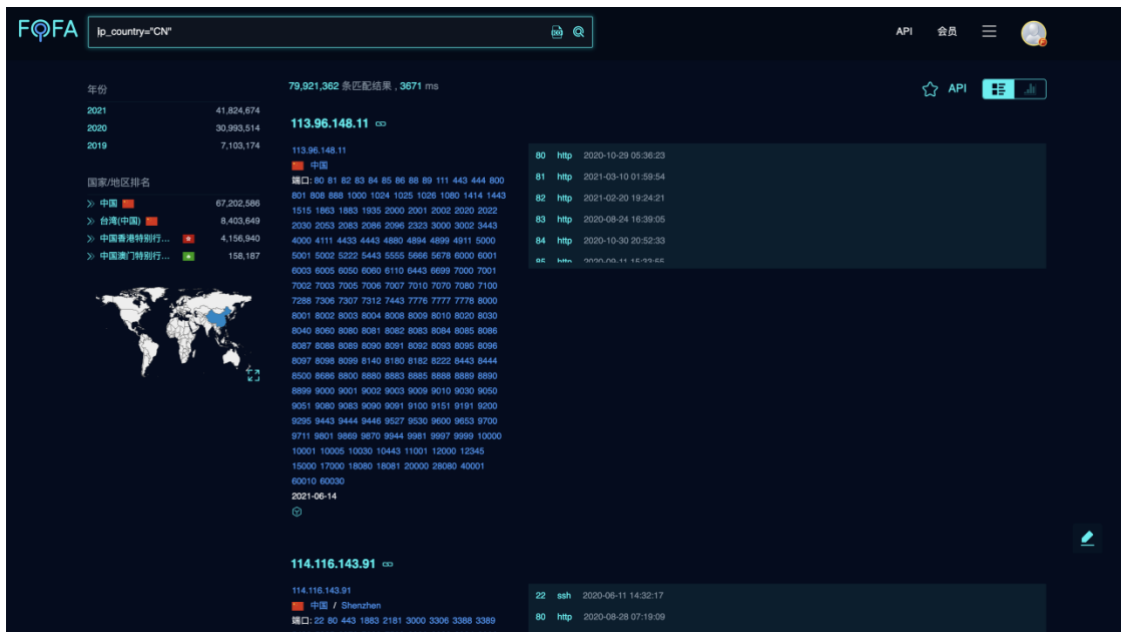
2.38. 搜索同时开放 80 和 161 端口的 ip

ip_ports="80,161"



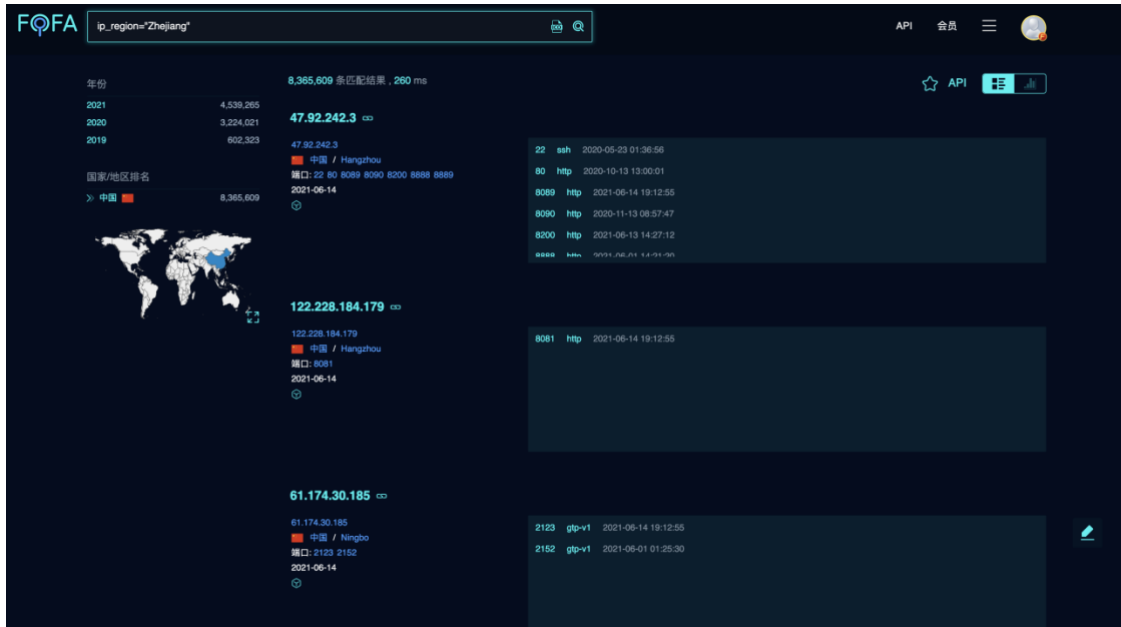
2.39. 搜索中国的 ip 资产(以 ip 为单位的资产数据)。

ip_country="CN"



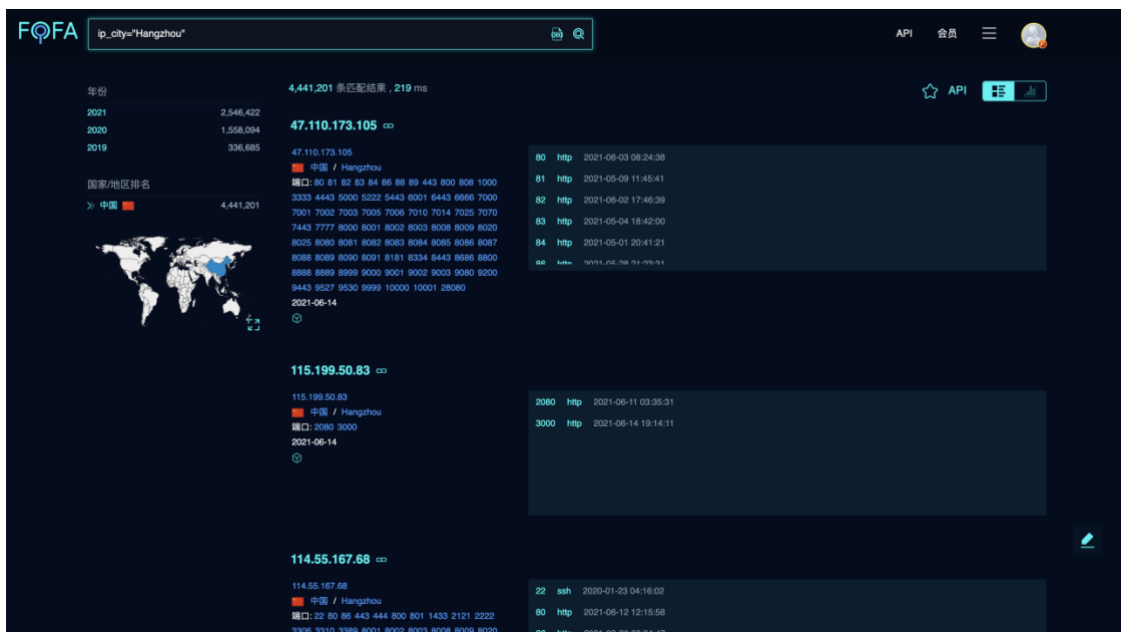
2.40. 搜索指定行政区的 ip 资产(以 ip 为单位的资产数据)。

ip_region="Zhejiang"



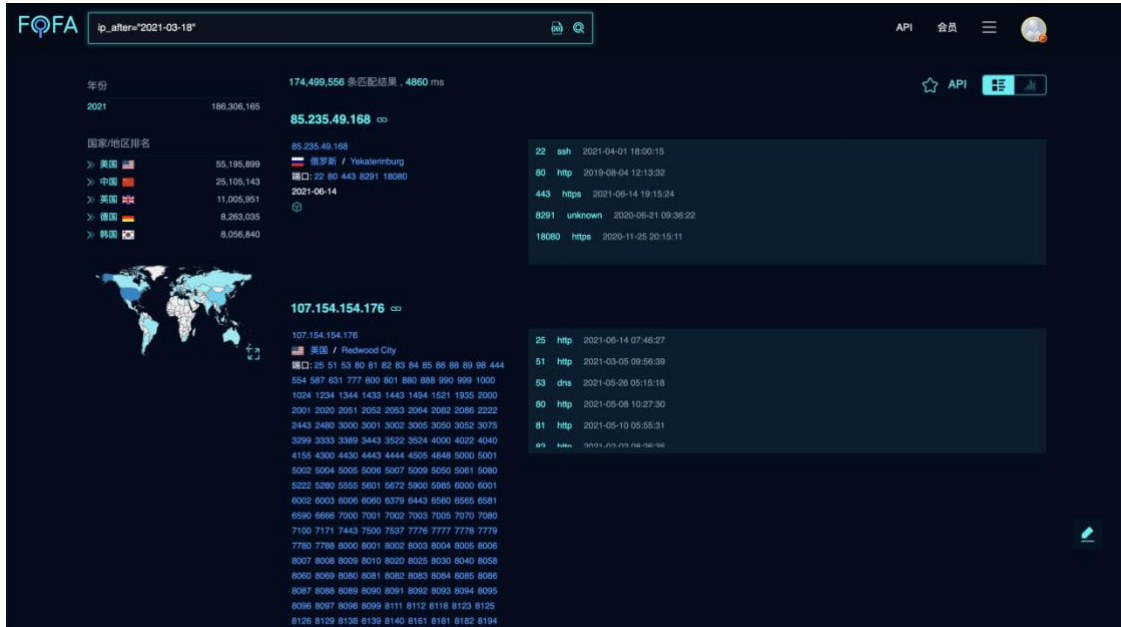
2.41. 搜索指定城市的 ip 资产(以 ip 为单位的资产数据)。

ip_city="Hangzhou"



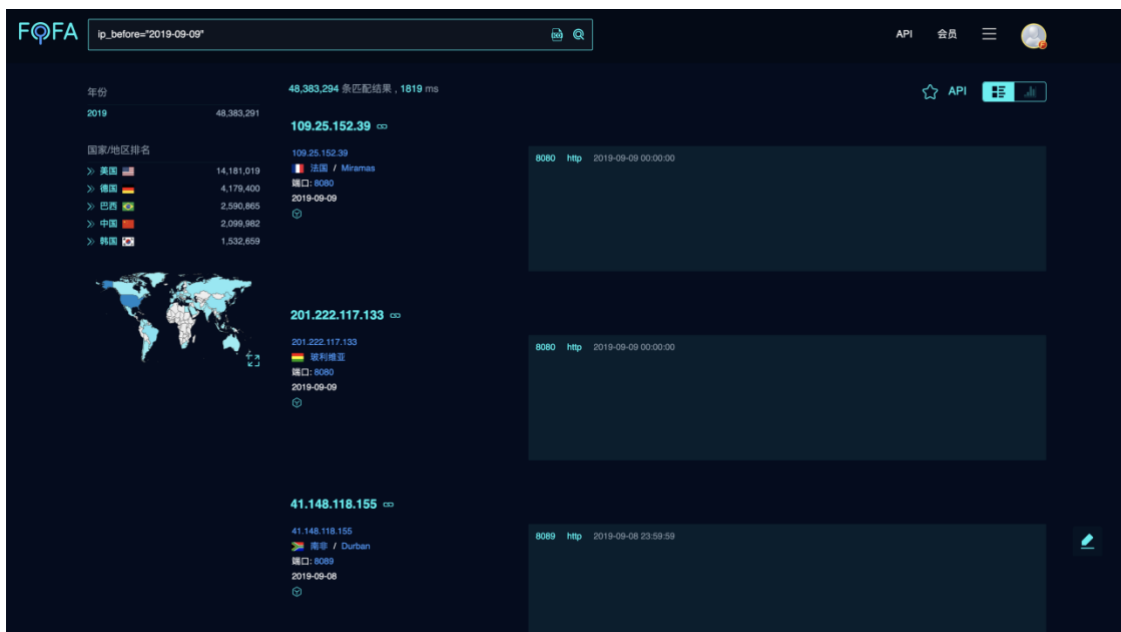
2.42. 搜索 2021-03-18 以后的 ip 资产(以 ip 为单位的资产数据)。

ip_after="2021-03-18"



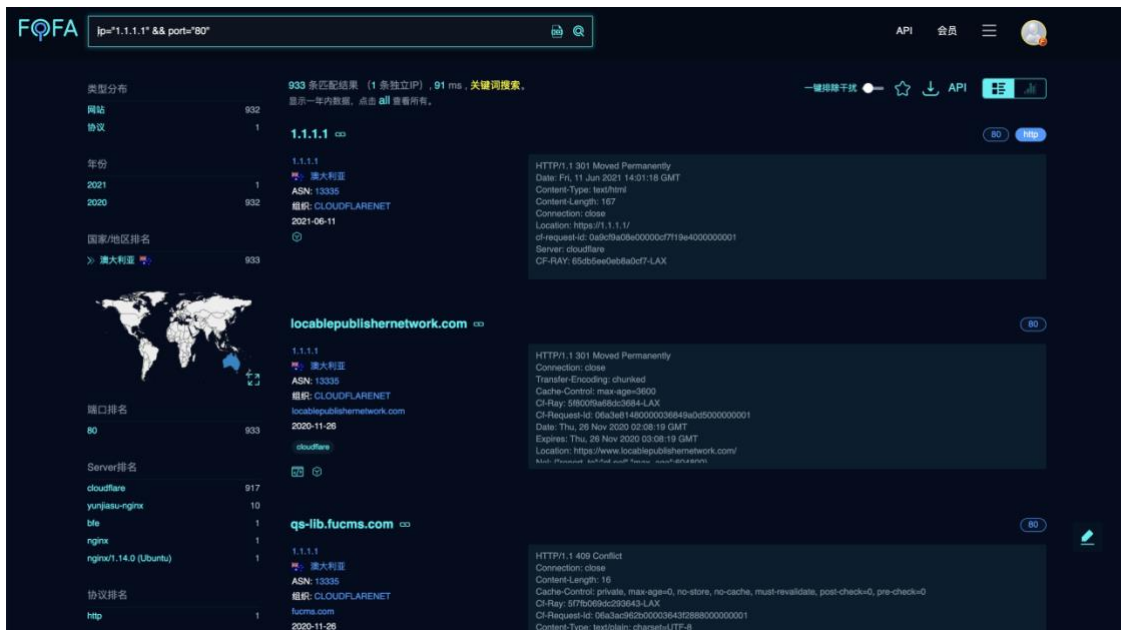
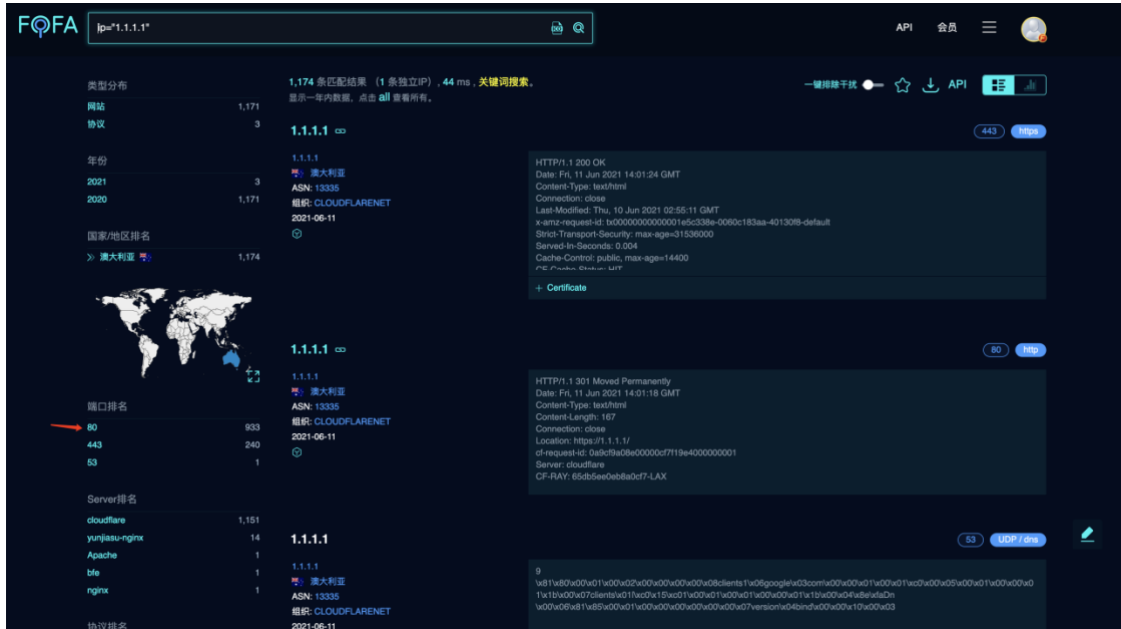
2.43. 搜索 2019-09-09 以前的 ip 资产(以 ip 为单位的资产数据)。

ip_before="2019-09-09"



2.44. 注释

查询过程中，可通过点击左侧栏中的分类进行辅助查询，会自动构建对应的查询语句。



3. 高级搜索

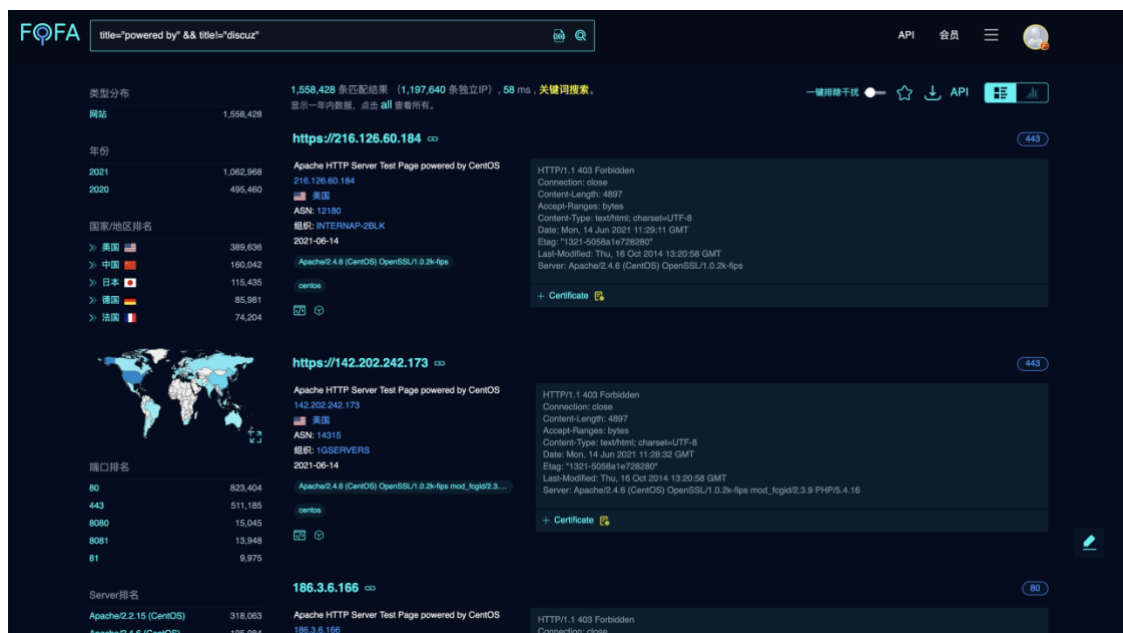
3.1. 逻辑运算符

如果查询表达式有多个与或关系，尽量在外面用 () 包含起来

逻辑运算符	说明	其他
&&	与	同时满足
	或	满足其中一个
!=	非	不等于
==	等	全等

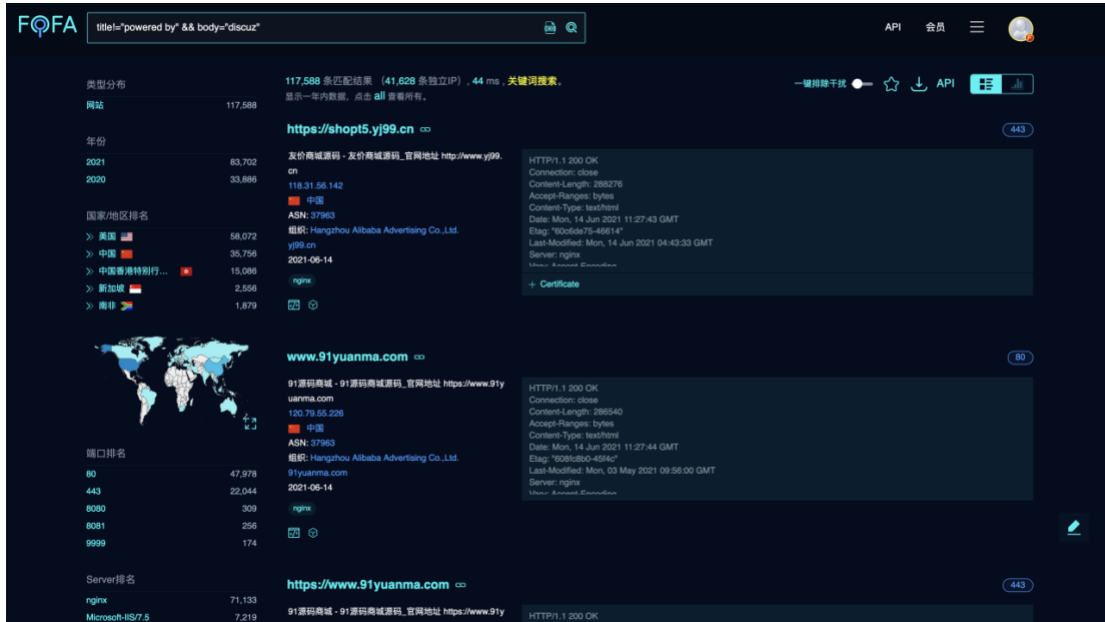
3.2. 标题中包含 powered by 且标题中不包含 discuz

title="powered by" && title!=discuz



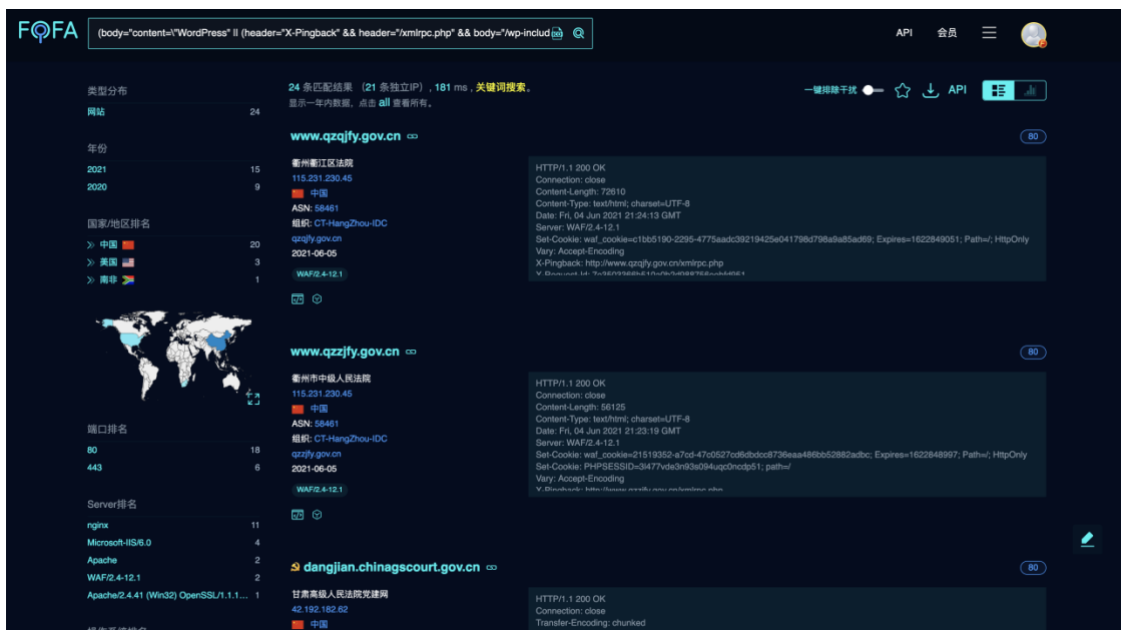
3.3. 标题中不包含 powered by 且 html 正文中包含 discuz

title!="powered by" && body=discuz



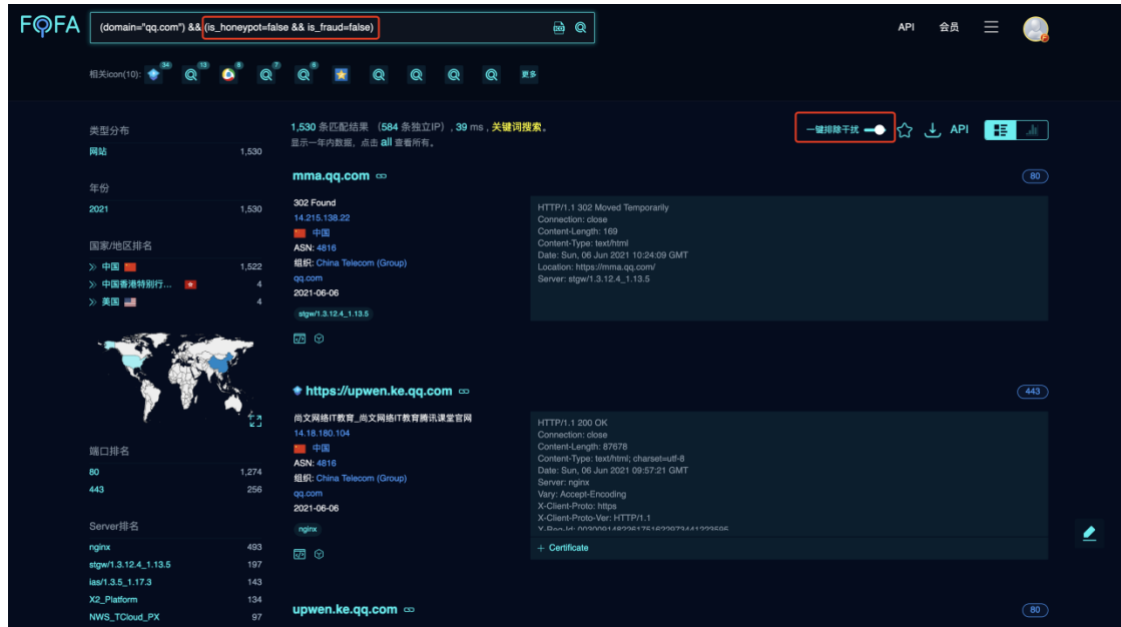
3.4. 寻找 Wordpress 搭建的站点且从 url 中搜索 ".gov.cn"

(body="content=\"WordPress\" || (header=\"X-Pingback\" && header=\"/xmlrpc.php\" && body=\"/wp-includes/\")) && host=\"gov.cn\"



3.5. 排除干扰

使用规则 `is_honeypot=false && is_fraud=false` 可排除排除仿冒/欺诈数据和蜜罐数据。



4. 规则专题

<https://fofa.so/subject>



5. 规则列表

FOFA 可以从不同维度搜索网络组件，例如地区，端口号，网络服务，操作系统，网络协议等等。目前 FOFA 支持了多个网络组件的指纹识别，包括建站模块、分享模块、各种开发框架、安全监测平台、项目管理系统、企业管理系统、视频监控系统、站长平台、电商系统、广告联盟、前端库、路由器、SSL 证书、服务器管理系统、CDN、Web 服务器、WAF、CMS 等等。

<https://fofa.so/library>



其他类型	212750	Web服务器	41795	路由器	11454	打印或复印机	6482	视频监控	6005	交换机	4954	邮件系统	4307
GPSweb		Oracle-Sun-ONE-Web-Server		百为路由		HP-打印机		EdmiWebVideo		Alcatel_Lucent-Optimswitch		FangMail	
AD_RS设备		zend-Server		Ruijie-NBR路由器		Canon-打印或复印机		Techbridge-视频监控		CISCO-xSeries		Tencent-企业邮箱	
TCH协议		Microsoft-IS		Mikro-Tik-Router		brother-Printer		HIKVISION-视频监控		HUAWEI-交换机		eYou-邮件系统	
Microsoft-MS-Authn-Via		NGINX		ZTE-路由器		DELL-Printer		EyerFocus-ECOR		HP-ProCurve-Switch		网易-企业邮箱	
wspix		APACHE-Tomcat		JCG-无线路由器		EPSON-Printer		OnSSI-Video_Clients		CISCO-switch		TurboMail	
P3p-Enabled		APACHE-Web-Server		D_Link-Wireless-Router		HP-OfficeJet-Printer		esgleeyesctv		ZTE-交换机		阿里巴巴-万网企业云邮箱	
X-72e-Nobolan-Transfer		Alibaba-Tengine		COMMSCOPE-Ruckus-Wireless		HP-LaserJet-Printer		DASAN-视频监控		CISCO-Catalyst交换机		btmail	
Adblock		IBM-HTTP-Server		HUAWEI-Router		EWS-NICS打印机		HIKVISION-VMS		H3C-全系列产品		Coremail-邮件系统	
Alternate-Protocol		GSE		LINKSYS-SPA-Configuration		RICOH-Network-Printer		Canon-网络摄像头		DELL-EMC-DS交换机		Microsoft-Exchange	
unbouncepages		LITESPEED-服务器		ASUS-RT-AC86U		SAMSUNG-激光打印机		NetDvrV3		H3C-交换机		zimbra-邮件系统	

6. API

通过 API 可快速从网站中获取数据，便于进行程序间的自动化查询、处理功能，进行进一步的业务分析，

所有调用都需要提供身份信息，主要是 email 和 key，email 主要是注册和登陆时填写的 email，key 需要用户到个人中心获取 32 位的 hash 值，即为 APIKEY。



将上面的两个信息填入 api 接口中，即可获取 json 格式的数据：

```
echo 'domain="fofa.so" | base64 - | xargs -I{} curl "https://fofa.so/api/v1/search/all?email=${FOFA_EMAIL}&key=${FOFA_KEY}&qbase64={}'

# 正确返回结果
{
  "mode": "extended",
  "error": null,
  "query": "domain=\"nosec.org\"",
  "page": 1,
  "size": 6,
  "results": [
    [
      "https://i.nosec.org"
    ],
    [
      "https://nosec.org"
    ],
    [
      "down3.nosec.org"
    ],
    [
      "www.nosec.org"
    ],
    [
      "nosec.org"
    ],
    [
      "cdn.nosec.org"
    ]
  ]
}

#错误返回
#服务器异常
{"errmsg":"Internal Server Error!","error":true}
#币不足
{"errmsg":"FOFA coin is not enough!","error":true}
#结果窗口过大
{"errmsg":"Result window is too large, page must be less than or equal to...","error":true}

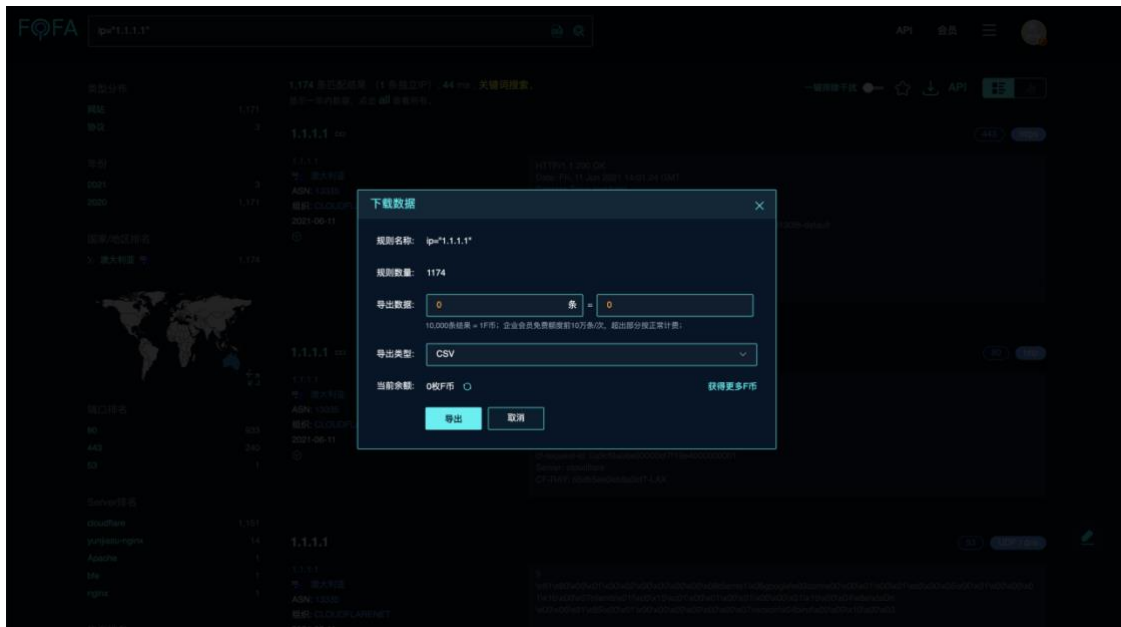
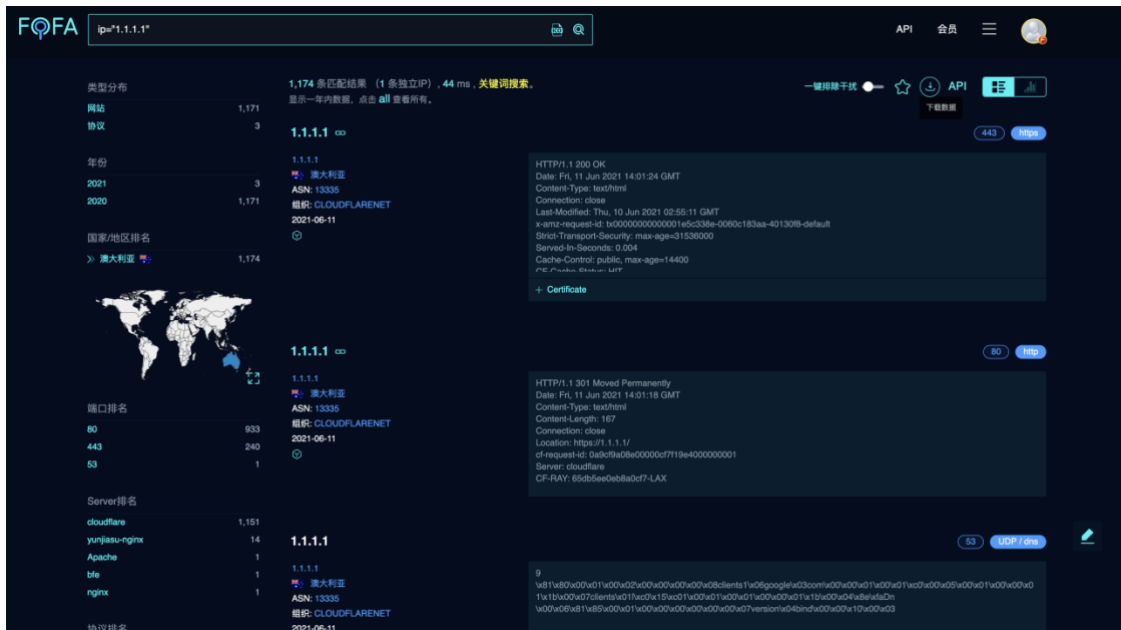
{
  "error": true,
  "errmsg": "401 Unauthorized, make sure email and apikey is correct."
}
```

具体的使用如下：

<https://fofa.so/staticpages/apihelp>

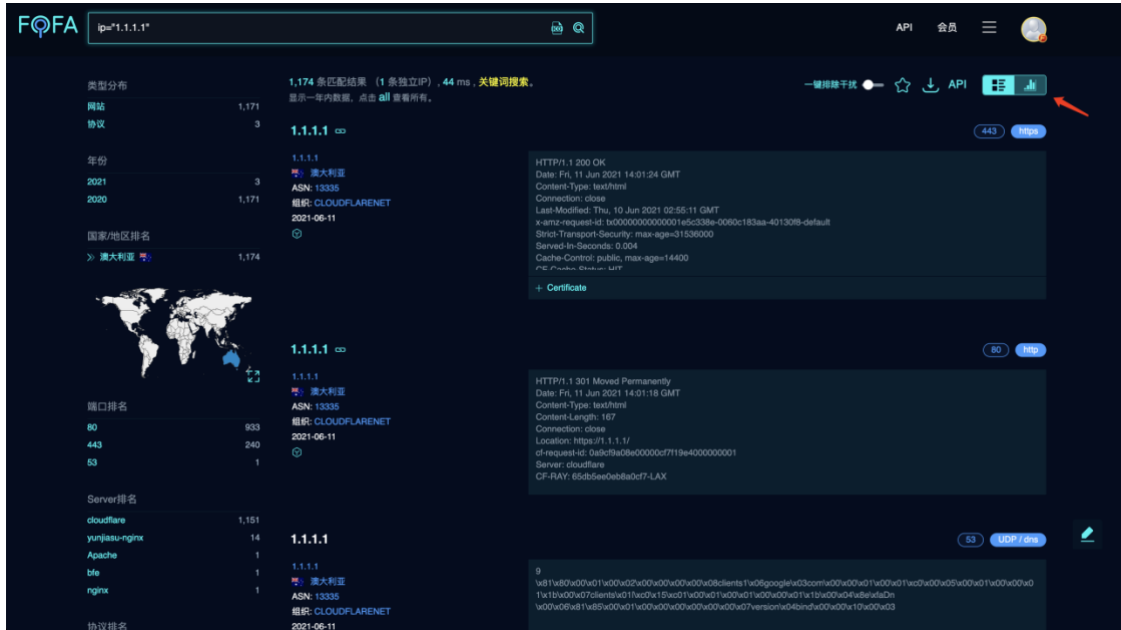
7. 下载功能

搜索到结果之后可在右侧选择下载功能，可下载搜索到的所有数据，下载的格式支持 CSV，JSON 格式，方便程序调用进行全网扫描。



8. 数据统计

查询出的结果可通过图表的形式进行数据统计。



9. 问题列表

9.1. icon_hash 语法怎么使用

使用方法①：已有 icon 文件时，通过在首页搜索框内上传 icon 搜索；

使用方法②：已知 iconhash 时直接使用 iconhash="" 语法搜索；

使用方法③：已知域名时，使用 domain="" 语法，系统会展示对应的 icon，点击即可进行搜索；

9.2. port_size 语法怎么使用

该语法仅限高级会员、企业会员使用。

通过 port_size="" 语法，可以查询开放端口数量等于某数的资产；

通过 portsizegt="" 语法，可以查询开放端口数量大于某数的资产；

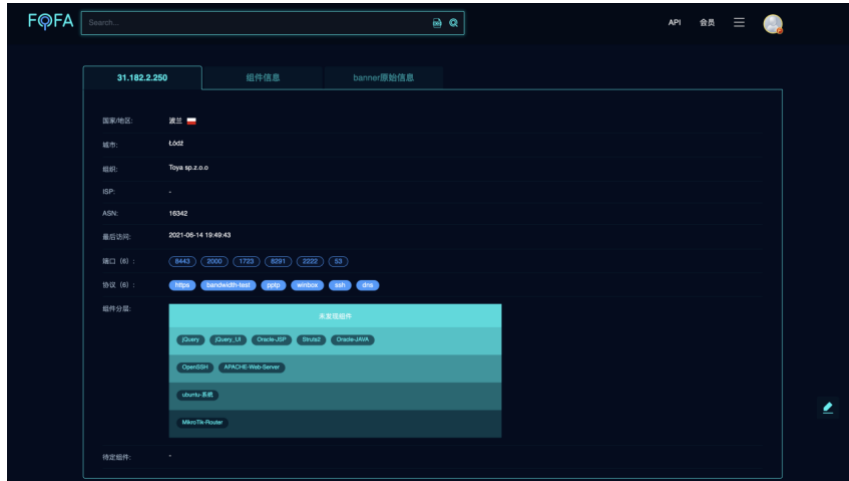
通过 portsize<="" 语法，可以查询开放端口数量小于某数的资产；

9.3. API 可以获取哪些字段？

host, title, ip, domain, port, country, province, city, countryname, header, server, protocol, banner, cert, isp, asnumber, as_organization, latitude, longitude, lastupdatetime 等。

9.4. 能显示独立 ip 吗？

支持，前往该 IP 的聚合页查看。



9.5. 同 IP 数据重复

FOFA 的资产是以 ip 和端口为单位，不是以 ip 为单位。所有存在同 IP 不同端口的数据。

9.6. 同端口数据重复

端口数据分协议数据和网站数据。协议数据有协议等信息，网站数据有网站正文信息。

9.7. 为何有的协议不支持跳转？

只有 https 及 http 协议支持跳转。

9.8. 是否可以识别组件的版本？

公网暴露的信息中若存在版本特征，则可识别。

9.9. API 接口调用查询的时间选项，有很多是以前的信息

搜索语法增加时间限制。

9.10. IP 可以搜索到，Body 中的内容搜索不到？

英文中的.://_等未做分词，搜索整体才能搜到，搜索一部分搜不到。

9.11. title 支持模糊查询吗？

单等号搜索为包含关系，双等号搜索为绝对相同关系。

10. Fofa 采集工具

10.1. fofa_viewer

https://github.com/wgpsec/fofa_viewer

多标签式查询结果展示

丰富的右键菜单

支持查询结果导出

支持手动修改查询最大条数，方便非高级会员使用(修改 config.properties 中的 maxSize 即可)

支持证书转换 将证书序列填写入启动页框内可转换，再使用 cert="计算出来的值" 语法进行查询

支持输入智能提示

支持 fofa 的一键排除干扰（蜜罐）功能。（注：需要高级会员才能使用，使用时会在 tab 页标记(*)）



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威胁情报

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