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# DarkOwl Vision User Interface Guide

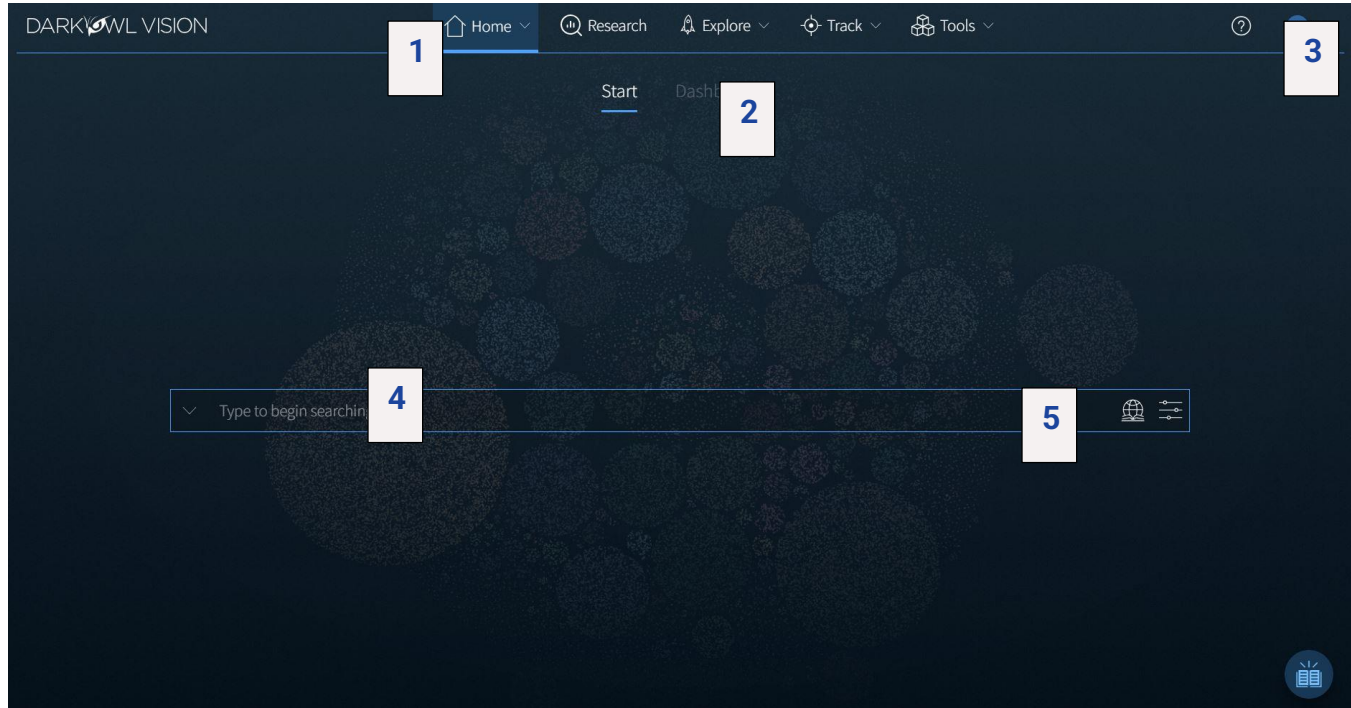
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## Getting Started

DarkOwl Vision's user-friendly User Interface has tools that enable analysts to effectively search, monitor, and receive alerts when leaked data appears on the darknet.

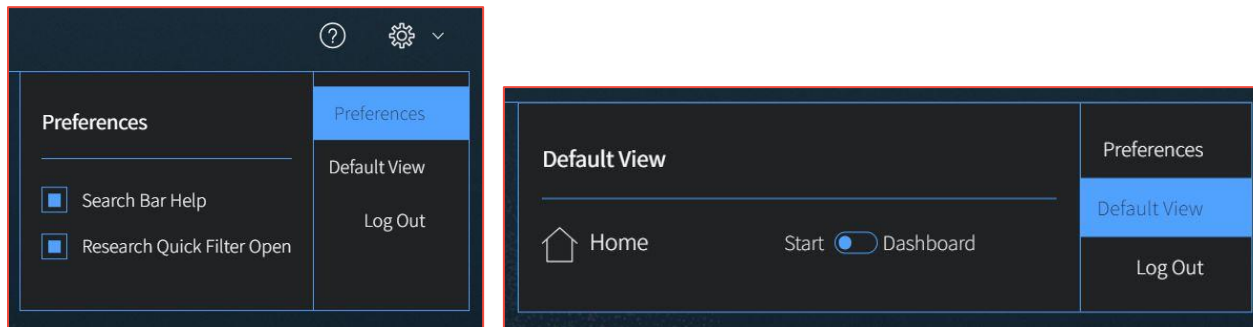


|                                       |   |
|---------------------------------------|---|
| 1. <b>Navigation Menu (see below)</b> | Navigate to <b>Research</b> to view search results; <b>Track</b> Alerts & DARKINT Exposure; <b>Explore</b> actors, entities, and leaks; manage <b>Tools</b> including Saved Searches and Search Blocks. |
| 2. <b>Start / Dashboard Toggle</b>    | Section navigation to individual pages: toggle between simple search view or your Dashboard elements.   |
| 3. <b>Help &amp; Account Options</b>  | A quick link to Help resources; manage Preferences (Search Bar Hints, Quick Filter), Default View, or logout.   |
| 4. <b>Search Bar</b>                  | Type to begin searching or click on the arrow to open the Search Tools menu.  |
| 5. <b>Filters Menu</b>                | Create a targeted and effective search using filters, dates, and advanced options.  |

|  |  |   |  |   |
|--|--|---|--|---|
|  Home ▾ |  Research |  Explore ▾ |  Track ▾ |  Tools ▾ |
| <b>Start / Dashboard</b> pages   | <b>Research</b> (search results) page  | <b>Actor / Entity / Leak</b> pages  | <b>Alerts / Exposure</b> pages   | <b>Saved Searches / Search Blocks</b> pages   |

## Preferences and Default View

Click on the **Gear** icon in the upper right corner to select Preferences to receive Search Bar Help prompts or to toggle the Quick Filter menu (in the Research section) on or off. The Default View allows you to select which landing page on which you prefer to start after log in.

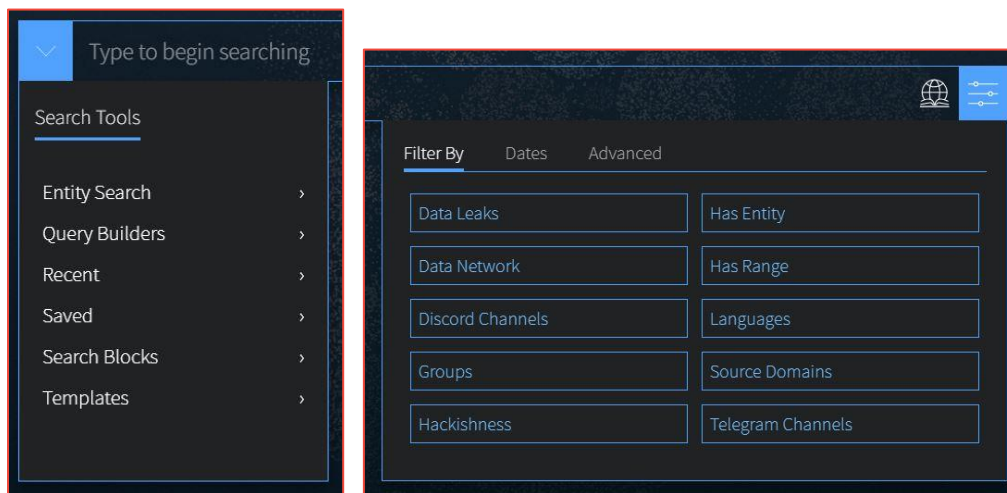


## Searching

### Using the Search Bar

1. The search bar works like most search engines; simply type words, phrases, numbers, or characters. The Search Techniques section goes into more detail and options for searching, but here a few quick start tips:
  - Use Boolean operators when searching more than one keyword. More Information: [Searching with Booleans](#).
  - Use straight quotations ("**Jane Doe**") to send the query as one phrase, Jane Doe.
  - Use the **exact:** search operator (**exact:fullz**) to prevent word stemming, and search for exact matches of that term. See: Stemming and Searching for Exact Terms.
2. Use the left drop-down menu to open **Search Tools**, which include these options:
  - **Entity Search:** the best way to search for Emails, CVEs, Credit Cards, Cryptocurrency Addresses, IP Addresses, and Social Security Numbers.
  - **Query Builder:** a helper for search variations or advanced formatting for commonly search items.
  - **Search Blocks:** Pre-populated keyword as well as any custom search blocks that you create, are accessible from this menu for easy access.
  - **Templates:** pre-populated search templates to help you get started quickly.
3. Once you've started searching, **Recent Searches** and **Saved Searches** will also appear in the Search Tools menu, for easy access.
4. Click on the **right Lexicon icon** to open the Lexicon and filter to (or exclude) darknet sites of interest. More information is provided in this section: [Lexicon](#).

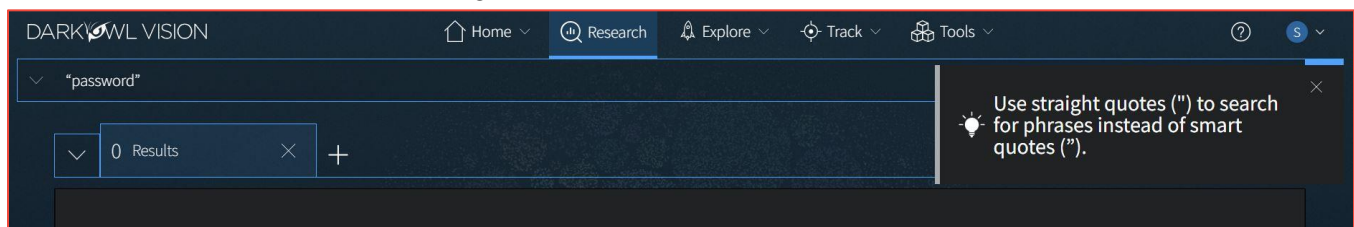
5. Click on the **right Filter icon** to open the Filter menu. More information about these is provided in this section: [Filters, Dates, Advanced Search Options](#).
6. **Guidelines for using multiple search components (Filters, Lexicon entries, and free text) in the same search.** Using multiple *different* search components AND together; using multiple of the *same* search component (but different values) OR together:
  - Lexicon Market, Lexicon Forum in same search—OR
  - Search Bar Free Text and Lexicon Paste in the same search—AND
  - Network (Tor), Network (Discord) in the same search—OR
  - Entity Search, Search Bar Free Text in the same search—AND



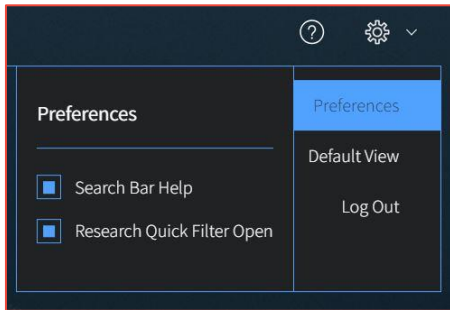
Search Tools drop-down menu (left); Search Bar Filter menu (right)

## Search Bar Help

Search tips will appear in the upper right corner when a search could be optimized or includes a character the field doesn't recognize.



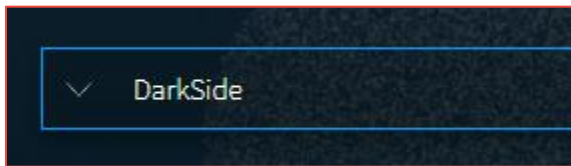
You can turn this feature off by clicking on your name in the upper right corner, selecting Preferences in the drop-down menu, and unchecking the toggle for Search Bar Help.



## Search Techniques

### Single Terms

To find any document with a specific keyword, simply put that keyword into the search bar:



### Phrase Searching

To find two or more keywords in a specific order, place the keywords within double quotes:

- "AES 256"

Without the double quotes, the search would be sent as: *AES OR 256*. This OR search is an inclusive search and may return results that only include the term AES, that only include the term 256, that include both terms but not next to each other, and that include both terms next to each other.

### Boolean Searching

Use Boolean operators **AND**, **OR**, and **NOT** to specify inclusions, alternate terms, or exclusions. (You can substitute AND, OR, and NOT with **&&**, **||**, and **!** respectively.) Keywords and field searches can be separated by any of the above in order to fine-tune your results.

- **drugs OR crime** – find documents with either 'drugs' or 'crime'
- **drugs AND crime** – find documents with both 'drugs' and 'crime'
- **DarkOwl AND (hack OR ddos OR 0day)** – find documents with DarkOwl and any one of three hacking keywords

*Note: Boolean operators must be in all caps. If they aren't in all caps, DarkOwl Vision will consider the word "and", "or", etc as keywords.*

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### Using Subqueries/Boolean Order of Operations

You can group together phrases to form subqueries, using parentheses ( ) to indicate each clause. This is especially important when both ANDs and ORs are used, to designate the correct order of operations for your subqueries.

- **DarkOwl AND (drugs OR crime)** – find documents with DarkOwl plus one of either drugs or crime
- **("AES-256" OR "AES 256") AND ("RSA-4096" OR "RSA 4096")** – find documents with one of AES-256 or AES 256 plus one of RSA-4096 or RSA 4096

### Stemming and Searching for Exact Terms

DarkOwl Vision supports a process called stemming, which tries to reduce a word to an approximation of its stem or root form. Usually, terms are stemmed to plural/singular versions or different tenses. This means that searching will return matches on related forms of a word, unless you specify otherwise:

- **Hack** may return **Hacked, Hacker, Hacking**, in addition to **Hack**

When you want to search for a specific term, including special characters and punctuation, use the **exact:** operator to prevent word stemming:

- **exact:hack** – will return only documents containing the word hack

### Excluding Items from a Search

Keywords can be excluded in multiple ways:

- Using the NOT Boolean operator
- Prefacing the term with a hyphen (-)
- Prefacing the term with an exclamation mark (!)

For example, the three searches below are equivalent and will find documents that contain 'DarkOwl' but not 'drugs'. Note that when excluding a keyword via hyphen or exclamation mark, it must be placed directly before the keyword with no space in between.

**(DarkOwl NOT drugs)** is the same as **(DarkOwl -drugs)** is the same as **(DarkOwl !drugs)**

You can also exclude values in other fields in the same way:

- DarkOwl NOT domain:drugs.onion
- DarkOwl -domain:drugs.onion
- DarkOwl !domain:drugs.onion

### Searching for Entities in the Search Bar

When searching for specific entities, such as an email address or credit card number, directly in the search bar, we recommend searching with the appropriate operator. The Search Tools (in the drop-down on the left-side of the search bar) are a shortcut and automatically convert your query to the correct syntax.

- email:first.last@company.com
- ccn:111111111111111111
- cryptocurrency:15ivMrk8VzaK9TEN85XYssVbU3Yd6tLzb9
- cve:cve-2022-12345
- ipAddress:127.0.0.1\24
- ssn:123-45-6789

When searching for multiple entities, use the search operator and a Boolean OR, as follows:

- email:(first.last@company.com OR last.first@company.com)
- ccn:(111111111111111111 OR 22222222222222222222)
- cve:(2022 OR cve-2021-12345)

### Searching for both Keywords and Entities in the Search Bar

When searching for both keywords and specific entities (such as an email address or credit card number) directly in the search bar, use the following format:

- ("First Last" OR Nickname) AND email:first.last@company.com

### Using Wildcards

Wildcards (\* or ?) are currently allowed in limited usage, in the middle or end of terms only. An asterisk (\*) is used to find zero or more unknown characters; a question mark (?) is used to find any one unknown character. Examples:

- **dar\*** – will find "dar", "dart", "darkowl", "daredevil", etc
- **d?rk** – will find "dark", "dork", "dirk", etc; will not find "drk" (however, d\*rk would)

*Note: DarkOwl Vision does not support leading wildcards. In other words, a search term cannot begin with either one of the wildcard characters.*

### Using Proximity Searches

You can find words near to each other by using quotations and selecting a maximum distance allowed: "**password hack**"~2. The maximum distance supported is 9.



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### Using Pattern Matching / Regular Expressions

Lucene-based regular expressions are allowed and should be wrapped by forward slashes (/). Not all functionality you may be familiar with may be supported. Additionally:

- **These queries may time out**, particularly when searching for a high volume of unknown characters. Regex searching is computationally heavy and will result in slower, less performant searches.

To use a regular expression in Vision, place the expression between two forward slash characters:

- `/r[0-9a-zA-Z]{24,34}/` – to find results matching the pattern of a Ripple cryptocurrency address (which starts with 'r', then has anywhere between 24 to 34 alphanumeric characters)

*Note: Not all regex functionality you may be used to is supported by our system.*

### Using Special Characters

The following characters are reserved:

`+ - = && || > < ! ( ) { } [ ] ^ " ~ * ? : \ /`

If any of the above characters are in a keyword or phrase being searched, you can escape the character with a backslash: \. For example, to search for mentions of a URL within a document, such as `https://darkowl.com/darkint-blog`, you must escape the colon, forward slashes, and hyphen, otherwise the search will return an error.

You can perform this search multiple ways:

- Escaping the special characters: `https:\\\\darkowl.com\\darkint-blog`
- Putting the whole keyword in quotes: `"https://darkowl.com/darkint-blog"`

Without escaping the special characters, this search will be interpreted as:

1. Searching within a field called 'https' (which doesn't exist)
2. An empty regular expression (`//` signifies the start and end of a regex with no content)
3. The keyword 'darkowl.com'
4. The start of a regular expression starting with 'darkint-blog'
5. No end to the regular expression (will return an error)

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### Field Searching (Search Operators for Metadata)

Every search performed will look in one or more fields for the keyword(s) being searched. By default, the search bar will search both the 'title' and 'body' fields of documents. This means that results will be returned if the keywords you're looking for are found in either the body of the document or the title (or both). This means:

- A search of **the word 'drugs' in the search bar** is the same as
- **title:drugs OR body:drugs.**

Most searches will not require specifying a field name, since title and body are automatically searched. However, other metadata fields can be searched, including specifying only the title or body field, for example:

- title:alphabay
- hackishness:1
- domain:drugs.onion

The list of metadata fields is below. When searching within these fields, type the following search operators in the search bar, and then the query content:

- inUrl:
- contentType:
- headers.server:
- headers.last-modified:
- title: (to search within this field exclusively)
- body: (to search within this field exclusively)
- domain:
- leak:
- network:
- hackishness:

Multiple values within the same field can be searched in a number of ways. The following examples are equivalent:

- **domain:(drugs.onion OR crime.onion)** is the same as
- **domain:drugs.onion OR domain:crime.onion**

You can also look for phrases within specific fields using double quotes:

- **title:"Forum rules"**

Subqueries within fields are supported:

- **title:(darkowl AND (drugs OR crime))**

*Note: when searching using fields, there should not be a space after the ':' character.*

#### Field Searching (Search Operators for Chat Networks)

There are several search operators that can help you filter to content from Discord or Telegram servers, channels, and users.

- The **telegram:** operator filters to channels, IDs, or users from Telegram.
- The **discord:** operator filters to servers, channels, IDs, or users from Discord.
- The **user:** operator filters to usernames or user IDs from either Telegram or Discord.
- *To exclude telegram, discord, or user operators:* preface the search operator with a hyphen: **-telegram:"EVILX.su Leaks Chat"**

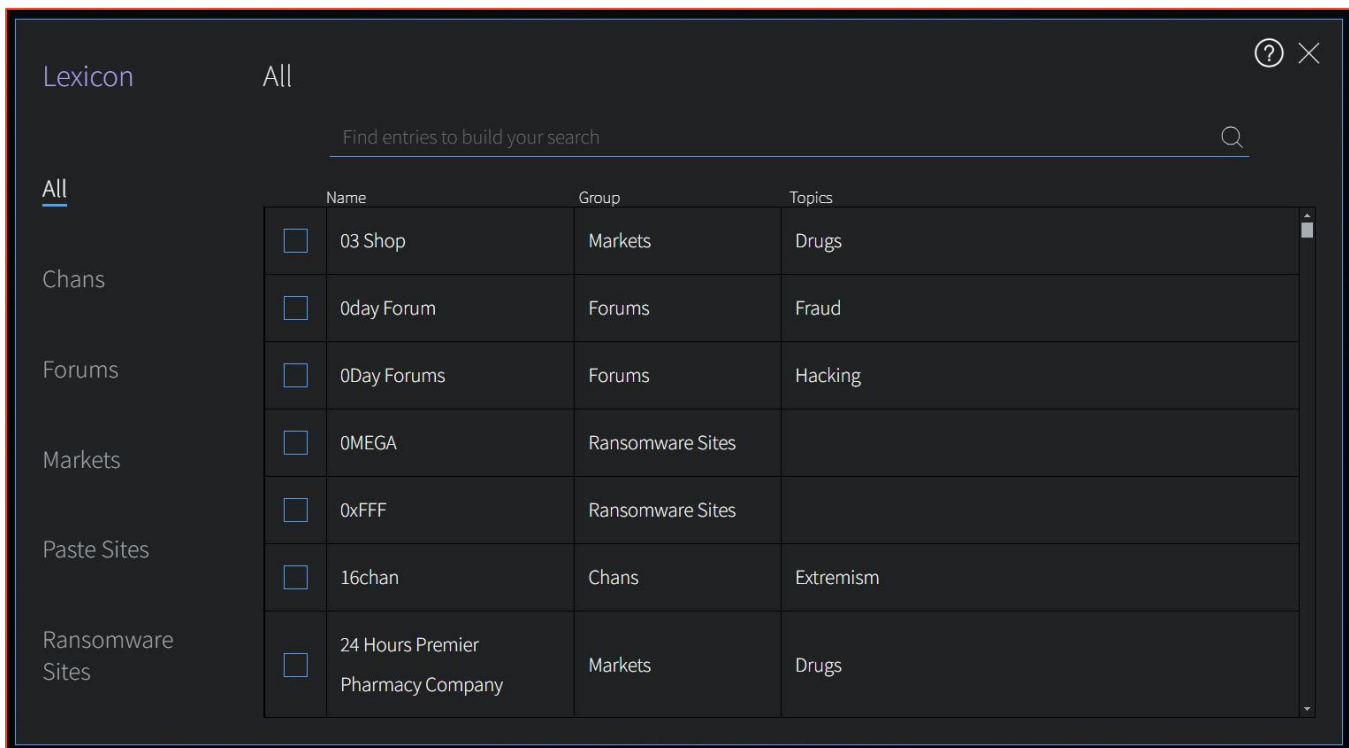
Several examples are presented below:

| Search   | Description   |
|--|---|
| telegram:"Чат Военкоров Русской Весны"                       | Search for content from this Telegram channel (quotations are used as it has spaces in its name)              |
| telegram:" <b>DEMON HUB 1</b> 🤩 ~ # <b>THEDEMONNETWORK</b> " | Search for content from this Telegram channel (note quotations for spaces and special characters)             |
| telegram:lapsus*   | Search for content from any Telegram channel or username that starts with the characters <i>lapsus</i>        |
| telegram:"-1001228309110"                                    | Search for content from the Telegram channel with this channel ID. Include the - prefix with straight quotes. |
| discord:"HELLU!"   | Search for content from this Discord server   |
| discord:funny-sb   | Search for content from this Discord channel  |
| discord:tylerdurdan710                                       | Search for content associated with username (Discord only)  |
| user:tylerdurdan710  | Search for content associated with this username on either Discord or Telegram                                |

## Lexicon

DarkOwl Vision's Lexicon is an easy-to-use tool intended to help you find interesting content from hacking forums, marketplaces, and other darknet sites. While not an exhaustive list of sites in our data, it's a good place to get started. Make a suggestion at any time for sites you'd like us to add at: <https://www.darkowl.com/lexicon>.

Click on the **right Lexicon icon** on the Search Bar to open the Lexicon. To find an entry in the Lexicon, start typing to filter through all entries, or select a Group from the left and scroll through the section. The search field will search all columns (Name, Group, Topics).



Clicking once next to your desired entry(ies) will immediately add the entry(ies) to the search bar. **Click once to include, click twice to exclude.**



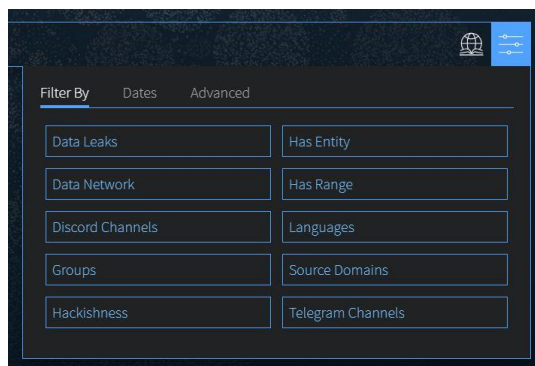
Click the > icon, or anywhere outside of the modal, to go back to the Search Bar. In the screenshot below, we've selected Dread and Exploit.in forums, which will filter results to content from only those two forums. You can run the search with just the Lexicon entries, or add more keywords to your search.



### Groups You'll Find in the Lexicon

| Section                 | Filter            | Description   |
|-------------------------|-------------------|---|
| <b>Chans</b>            | Filter:<br>Domain | A chan imageboard is considered a type of bulletin-board-like forum that revolves around the posting of images, often alongside text and discussion. Read more about <a href="#">Chans here</a> .                           |
| <b>Forums</b>           | Filter:<br>Domain | Forums are online places where people discuss specific topic threads; some require authentication to access.  |
| <b>Markets</b>          | Filter:<br>Domain | Markets include both small vendor shops to big-name marketplaces; some require authentication to access. Some marketplaces have previously been taken down by law enforcement, though we may still have historical content. |
| <b>Paste Sites</b>      | Filter:<br>Domain | Paste sites are online temporary content-hosting applications that allows for users to share text online anonymously.   |
| <b>Ransomware Sites</b> | Filter:<br>Domain | Ransomware sites are domains administered by ransomware groups. It is common for these groups to post their victims, and data stolen from their victims, on these sites.  |

### Filters, Dates, and Advanced Search Options



Refine your search using the Filters icon on the right side of the search bar. This includes three tabs for:

#### Filters

#### Dates

#### Advanced options

#### Data Leaks

Filter or exclude content from any known data leaks or breaches. **Click the box next to the desired option.** To find individual leaks, see the [Leak Explore](#) section or the Lexicon.

- For free text searching, type `leak:leakname` in the search bar
- Prefix with - to exclude, i.e. `-leak:leakname` in the search bar

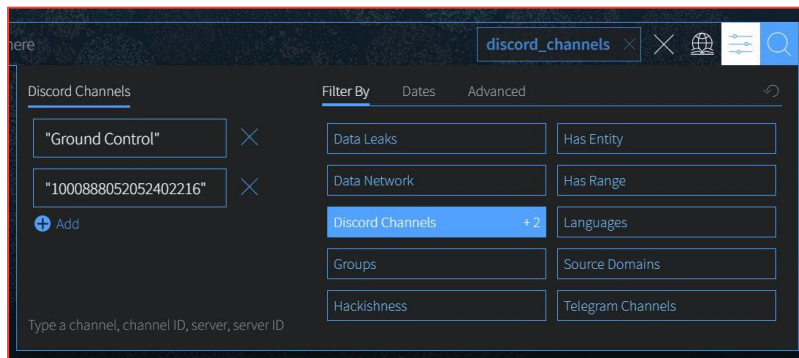
#### Data Network

Filter to content from a particular DarkOwl data collection network. Options include: Discord, FTP, I2P, IRC, Onion, OpenNIC, Telegram, Zeronet. **Click once to include, click twice to exclude.** More information: [Data Networks](#).

- For free text searching, type *network:networkname* in the search bar
- Prefix with - to exclude, i.e. *-network:networkname* in the search bar

### Discord Channels

Filter to content from one or more specific Discord channels or servers. Click the **Add** button, and then type either one channel name, channel ID, server name, or server ID in the box. You'll note that quotation marks are automatically applied when you start typing. You can add up to 10 channels or servers per query. You can remove previously-entered channels or servers by clicking the X next to the channel or server to remove.



- For free text searching:
  - To filter to one channel or server: Type ***discord:"Ground Control"*** in the search bar
  - To filter to one channel ID or server ID: Type ***discord:"757762132962967624"*** in the search bar
  - To filter to multiple channels/IDs: Type ***discord:("757762132962967624" OR "Ground Control")***
  - To exclude discord channels or servers (free text searching only): preface the search operator with a hyphen: ***-discord:"Ground Control"***

### Groups

Groups are combined filters that narrow your search to specific categories; **click to include:**

- **Authenticated Sites:** Filter to content from sites requiring credentials or other challenges.
- **Blogs:** Filter to content from sites identified as blogs.
- **Chans:** Filter to content from a curated set of chan/imageboard forums selected by our analysts.
- **Darknet:** Filter to content from the Tor, I2P, and Zeronet darknets.
- **Forums:** Filter to content from sites identified as forums.

- **Forum Posts:** Filter to content specifically from forum posts (the **Forums** group will also include content from forum sites that may not be posts such as member profile pages, etc).
- **Markets:** Filter to content from sites identified as darknet marketplaces or vendor shops.
- **Ransomware:** Filter to content from known ransomware sites.
- **Paste Sites:** Filter to content from a curated set of paste sites.

### Hackishness

Hackishness assigns a rating to every piece of content collected, indicating the likelihood to which the information could be used for criminal activity. The lower bound of hackishness is .01 and the upper bound is 1.0; the UI shows these as percentages on search results. You can quickly filter to results with hackishness by **using the slider** on the Hackishness filter to select a desired hackishness threshold.

You can also filter to hackish results using hackishness: in the search bar, which supports searching as range. This means, you can narrow down to values between two parameters, inclusive or exclusive, for example:

- **hackishness:[.01 TO 1]**
- **hackishness:{.01 TO 1}**

Note the '[' and '{' characters used above. In Lucene range queries, '[' and ']' are inclusive so the first query above would return values from .01 to 1, including both .01 and 1. The second example would return values from .01 to 1 not including .01 or 1. '[' and '{' can be combined:

- **hackishness:{.5 TO 1]** (this will find values greater than .5 and up to and including 1)

### Has Entity (Credit Cards, Cryptocurrencies, CVEs, Email, IPs, Social Security Numbers)

Filter to content that have at least one selected Entity. **Click next to the Entity name to select.**

### Has Range (Credit Cards, Cryptocurrencies, CVEs, Email, IPs, Social Security Numbers)

Filter to content that have a certain number of selected Entities. This filter is helpful in finding "dumps," as many threat actors will post multiple instances of PII on a singular site or document. **Type values next to a selected Entity:** Enter a lower bound (minimum 1), upper bound (maximum 999999), or use both fields to form a range (50 to 1000).

### Language

Filter to content in a particular language. Languages are detected by DarkOwl Vision at the time of ingestion, using natural language processing. **Click once to include.**

- For free text searching, type *language:languagevalue* in the search bar

### Source Domains

Filter to content from one or more domains, or exclude a particular domain by typing a hyphen in front of the domain. Type only the domain portion in the filter box (example: **arch3rsecgjqcmjb.onion**; no need for the www or http:// prefix). Be sure to remove any trailing slashes or paths from the domain.

- For free text searching, type *domain:domain.onion* in the search bar
- Prefix with - to exclude, i.e. *-domain:domain.onion* in the search bar

### Telegram Channels

Filter to content from one or more specific Telegram channels. Click the **Add** button, and then type either one channel name or one channel ID in the box. You'll note that quotation marks are automatically applied when you start typing. You can add up to 10 channels per query. You can remove previously-entered channels by clicking the X next to the channel to remove.

*Note: when typing a channel ID, use the hyphen prefix, i.e. -1001556588508.*

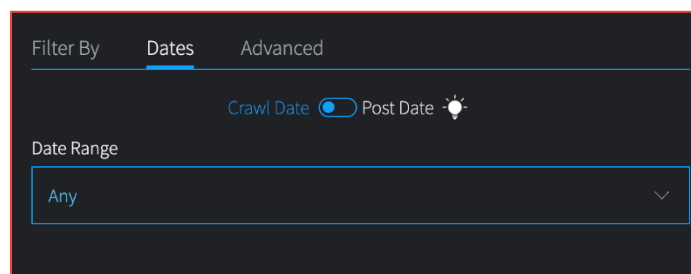
- For free text searching:
  - To filter to one channel: Type **telegram:"EVILX.su Leaks Chat"** in the search bar
  - To filter to one channel ID: Type **telegram:"-1001556588508"** in the search bar
  - To filter to multiple channels/IDs: Type **telegram:("-1001556588508" OR "EVILX.su Leaks Chat")**
  - To exclude telegram channels (free text searching only): preface the search operator with a hyphen: **-telegram:"EVILX.su Leaks Chat"**

### Dates

Use the drop-down to quickly select a time range for search results, or select Custom to choose a specific start/end date.

Use the toggle to choose between filtering by **Crawl Date** or **Post Date**:

- **Crawl Date:** Filters to any content that DarkOwl collected between the specified dates.
- **Post Date:** Filters to any content that was posted between the specified dates. Filtering by Post Date will filter to results where the post date is known. Other search results will be excluded.





Dates can be searched in the search bar as a range using the following date format: YYYY-MM-DDTHH-MM-SSZ:

- **crawlDate:[2021-07-01T00:00:00Z TO 2021-07-10T23:59:59Z]**
- **published:[2021-07-01T00:00:00Z TO 2021-07-10T23:59:59Z]**

As the Date filter supports range searching, you can narrow down to values between two parameters, inclusive or exclusive, as discussed in the hackishness section. In Lucene range queries, '[' and ']' are inclusive, and '{' and '}' are exclusive.

[Advanced Options \(Sort By, Show Similar, Empty Bodies\)](#)

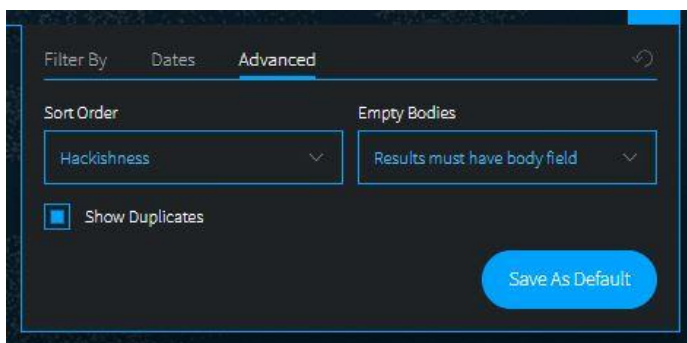
Use Advanced Options to select a Sort option, or to show all results (including duplicates).

- **Sort options.** Use the drop-down to sort your results by **Relevance** (*default*), **Hackishness**, **Crawl Date**, or **Post Date**.

*Note: Sorting by Post Date will filter to results where the post date is known. Other search results may be excluded.*

- **De-duplicate your results.** You can choose to de-duplicate your result sets (*default*) or see all results, including similar results. The default is to de-duplicate result sets; you can toggle this on or off.
- **Empty bodies.** Our collection includes documents collected that do not contain any text characters; text content is stored in the Body field. Use the drop-down to select one:
  - **Any document** (documents can include text in the body, or no text in the body)
  - **Results must have body field** (*default*) (to only return documents that had text content on them)
  - **Results must not have body** (to see only documents without text)

You can personalize your experience and change the above defaults. When you select a new option in any of the above settings, a button will appear to **Save as Default**. Clicking to save will remember these settings for future searches.



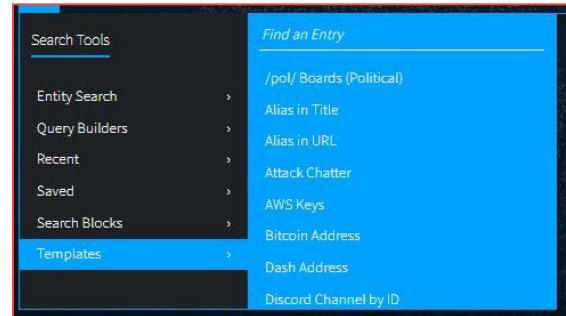
## Search Tools

The Search Tools menu includes tools to help you create effective searches, including Entity Search, the DARKINT Lexicon, Query Builders, Search Blocks, and Templates. Once active, your Recent Searches and Saved Searches will also appear in this menu for easy access.

### Templates

Search **Templates** are a great way to get started searching our data. This list includes many example searches to help find information of interest. Click on an item in the list to populate it in the search bar

*Note: where indicated, replace the text with your information as appropriate (for example, when "organization.com" appears in the template).*



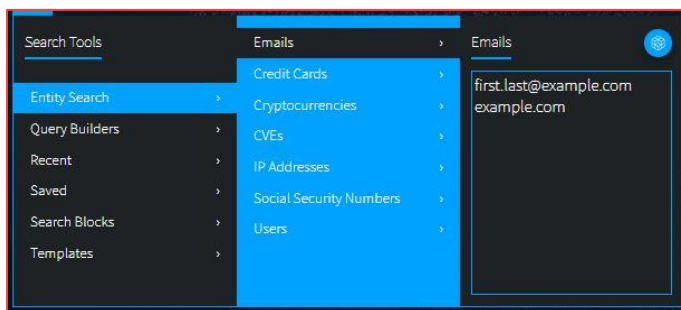
**Start typing in the Find an Entry field to filter the list quickly.**

### Entity Search

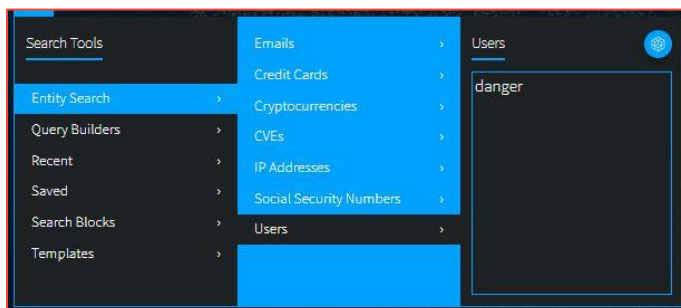
**Entity Search** is the best way to search within our indexed document content for Emails, Cryptocurrency, Credit Cards, IP Addresses, and Social Security Numbers. Additionally, all Entity Searches can easily become [Search Blocks](#), with Set Up Monitors options, by clicking on the Search Block icon on the upper right.

You can enter one or more values in each builder, using space, comma, or semi-colon between values. Pressing Enter will execute the search.

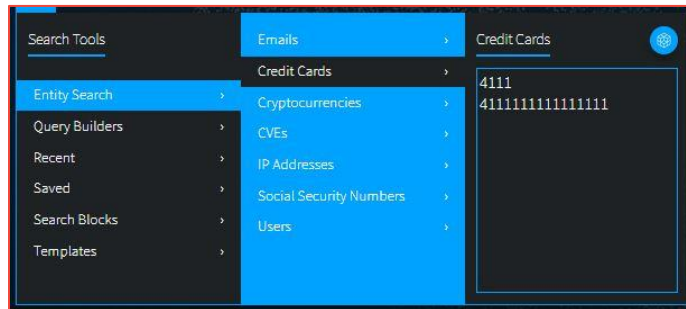
- **Emails** supports searching for individual addresses, domains, or subdomains.



- **Users** supports searching for usernames across Discord, Telegram, and Forum sources.



- **Credit Cards** supports searching for individual addresses or BINs.



- **Cryptocurrencies** supports searching for the following types: *Bitcoin, Ethereum, Monero, Litecoin, Dash, ZCash*. The types have been validated by DarkOwl Vision. Cryptocurrency wallet types not in this list can continue to be found with regular expressions.
- **CVEs** supports searching for the following formats:
  - By full CVE-ID, i.e. *CVE-2022-12345* (finds specific known CVE)
  - By CVE-ID, i.e. *2022-12345* (finds specific known CVE, without the CVE prefix)
  - By Year only, i.e. *2022* (finds all CVEs from that year)
- **IP Addresses** supports searching for the following formats: *IPv4, IPv6/IPv6 compressed, and CIDR ranges for both IPv4 and IPv6*. Note: *When we find and extract IP addresses in the text of a document, we store them as an IP address object rather than a string (all of our other tokenized entities are strings). This allows for more search flexibility, such as searching for CIDR ranges. However, since the IP address being searched is not a string/text, they are not able to be highlighted when searching this way.*
- **Social Security Numbers** supports the following format: *123-45-6789* (with hyphens).

## Query Builders

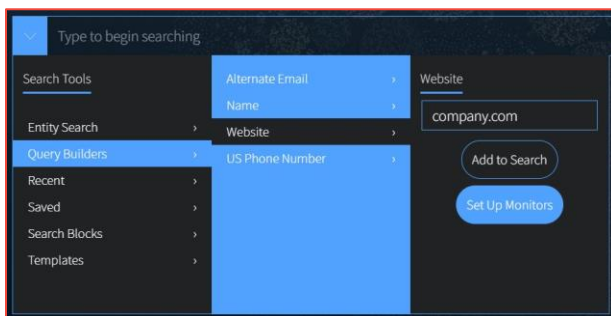
**Query Builders** help you format commonly searched items that either require special formatting or work best when submitted with variations, in order to make the most inclusive search to find the best results. Once you've selected the type of builder (see descriptions below) and input text in the appropriate field(s), you can either **Add to Search**, or **Set Up Monitors**.

### Types of Query Builders

- **Alternate Email:** When searching for email addresses a threat actor may be using with another provider, a trailing wildcard can be a helpful search. For example, entering the prefix of Conti44 in the Query Builder will find results for *conti44[at]hotmail.com, conti44[at]hotmail.il, conti44[at]tutonota.com*, and so forth. These may be potential associated or alternate email addresses run by the same person or group.

- **Names:** When searching for first and last names, we recommend using a proximity search, with up to 2 words as a distance. This can help find variations such as "last, first" or "first middle last" (even when the middle name is unknown).
- **Websites:** When searching for domain/URL mentions within the body of a document, we recommend this format to find variations that start with https://, or www, or any path. *Note: This is the most ideal way to search for domain mentions in our dataset.*
- When searching for phone numbers, we recommend preparing a query without spaces **US Phone Numbers:** and with spaces between number groups. (We recommend preparing searches the same way for any phone numbers; i.e. 1234567889 OR "123 456 7889").

Clicking **Add to Search** will format the query and place it in the search bar. You can continue to add filters, date ranges, or other advanced options before submitting the search.



### Set Up Monitors

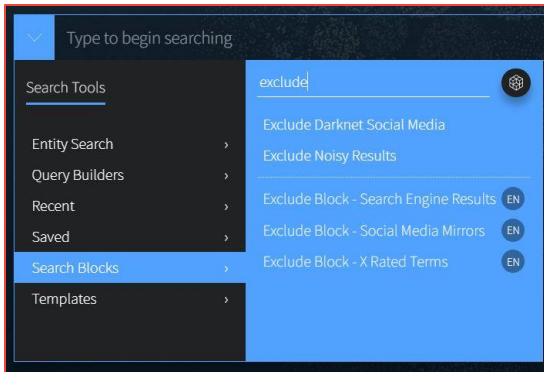
Clicking **Set Up Monitors** (from Query Builders or Entity Search Blocks) will prompt you to select pre-built searches that will automatically save and start monitoring, notifying you when new results are found. Choose the searches you'd like to create and click Confirm.

*Note: You can change any of the default settings by clicking the Edit icon by the search name.*

### Search Blocks

**Search Blocks** are reusable search components and appear in Search Tools for quick access. Use Search Blocks to create lists of commonly searched items, such as a list of company names, IPs, or domains; or create any query string that you'd like to use across multiple searches.

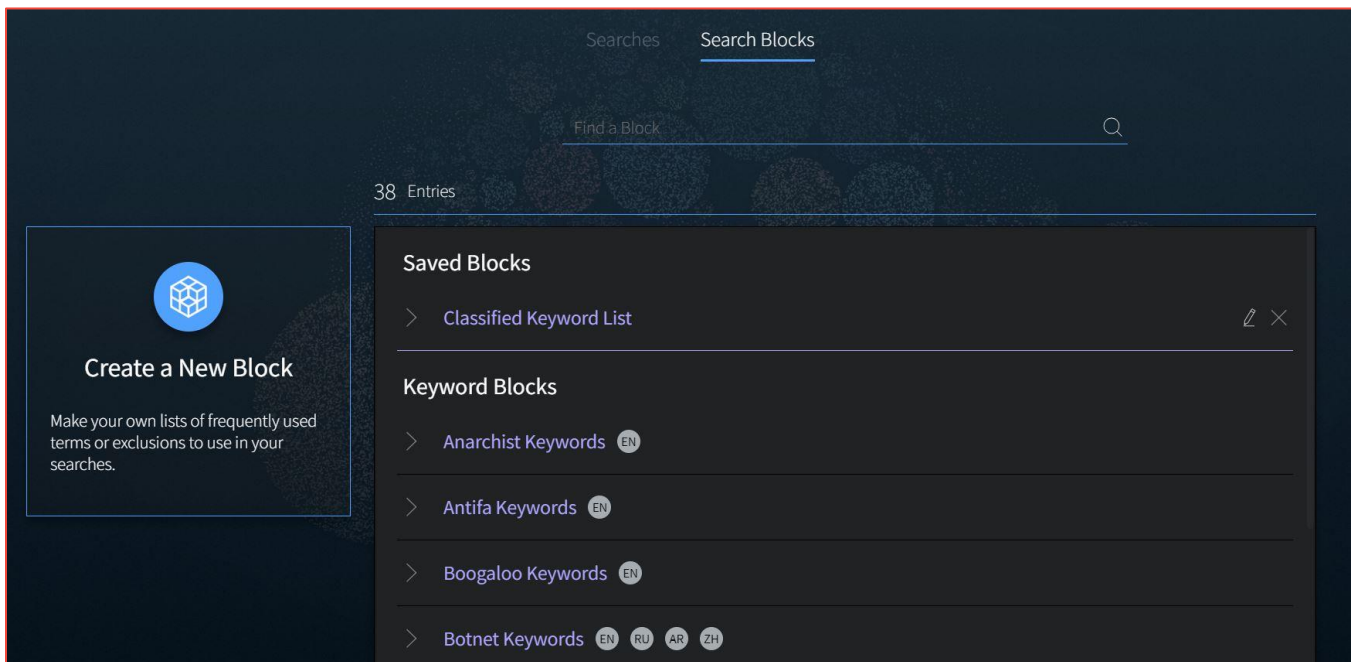
- You can use the same block in multiple searches, which can help save you time when you are building queries that have similar elements.
- When you update a block, all searches that use that block are automatically updated to use the new block content.



Initially you'll see a list of pre-built blocks in the Search Tools list and Search Block page, which were created by DarkOwl analysts. After you create your own search blocks, they will appear at the top of the list. Begin typing in the Find an Entry field to filter the list.

You can make search blocks in a few different ways:

1. Select **Create a New Block** on the Tools: Search Blocks page.
2. On the Search Blocks page, click on the Edit icon next to a pre-built block. Make modifications and save as a new block.
3. When you are in the Entity Search, click on the block icon to convert into a new block. In addition to creating a new Search Block, Entity Search Blocks also allow you to **Set Up Monitors**.

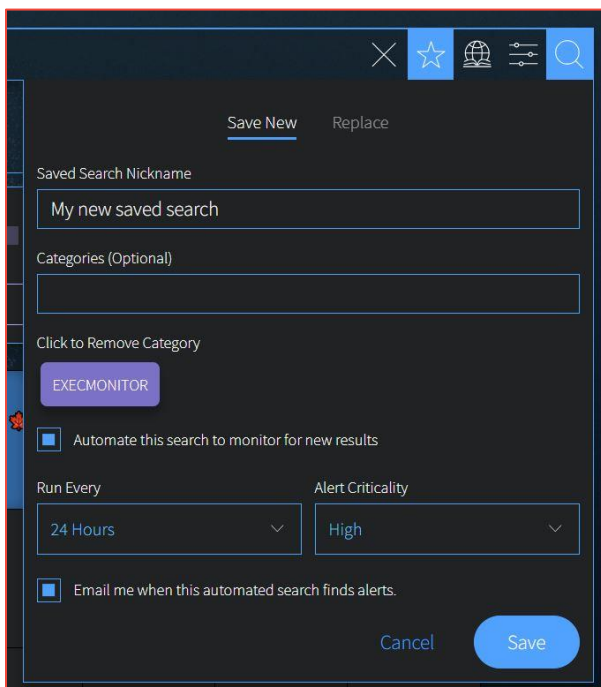


## Saving Searches

A **Saved Search** is simply a query you'd like to run again in the future. Once saved, you can find this list of searches on the Search Tools menu. Additionally, you can **Automate this search** to apply monitoring functionality, which runs the search for you on a cadence you choose, generating **Alerts** on your dashboard if hits are found. After you run a query, the **Save Search icon** (star icon) will appear on the right side of the search bar.

Selecting that icon will open a form:

- Add a **Saved Search Nickname**.
- Add **Categories**, if desired. Categories can help you sort your searches and alerts.
- Click **Automate this search**, if you'd like to apply monitoring. If this is selected, additional options for Frequency, Criticality, and Email Notifications will appear.
- Click **Save** when complete.



The screenshot shows a dark-themed 'Save New' form. At the top, there are icons for close, star, globe, and search. Below the icons are two tabs: 'Save New' (selected) and 'Replace'. The form contains the following fields and options:

- Saved Search Nickname:** A text input field containing 'My new saved search'.
- Categories (Optional):** An empty text input field.
- Click to Remove Category:** A purple button labeled 'EXECMONITOR'.
- Automate this search to monitor for new results:** A checked checkbox.
- Run Every:** A dropdown menu showing '24 Hours'.
- Alert Criticality:** A dropdown menu showing 'High'.
- Email me when this automated search finds alerts:** A checked checkbox.
- Buttons:** 'Cancel' and 'Save' buttons at the bottom right.

## Search Results (Research)

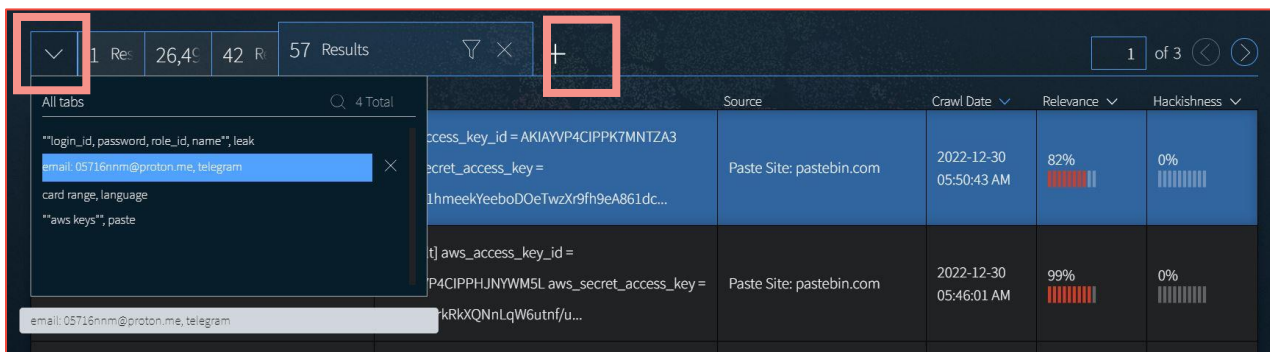
DarkOwl Vision collection activities are automated and continuous 24/7/365, collecting content from millions of websites daily in 52 languages. Our collection includes Tor, I2P, Zeronet darknets; encrypted chat servers, channels, and groups; certain deep web sites with transitory information, such as paste sites, forums, and FTP content; as well as high-interest closed access surface websites. Collectively, we refer to this as DARKINT™, or darknet intelligence.

Our indexed document collection, which are the results you receive after doing a search in the Research section, is processed into the following field categories:

|                         |  |
|-------------------------|--|
| <b>Body field</b>       | The raw text collected from the webpage/record/target.   |
| <b>Metadata fields</b>  | Fields we collect along with the body, if available, such as: domain, network, headers, leak information. Click on the Metadata and Leak view switches in Search Results to see this information.  |
| <b>Mined fields</b>     | Tokenized entities we mine out of the body of the result, which are currently Entities (emails, credit cards, cryptocurrencies, cves, ip addresses, ssns) and Chat-related information (users, user IDs, servers, channels, channel IDs).<br><br>Entities and Chat Users appear as individual View Switches in Search Results, if present in the body. |
| <b>Processed fields</b> | Information we apply to a result from our natural language processing or machine learning, such as hackishness or language detection.  |

## Search Tabs

You can have multiple searches open, to allow for pivoting and further investigation. Click on the (+) icon to start a new search. You can go back to previous searches and results by either clicking on a specific Result tab, or using the left tab dropdown menu. You can have up to ten search inquiries open simultaneously.



### Search Result Viewer

After running a search, your result list will appear on the Research page. The list displays a summary including the title and excerpt of the result (around the first keyword match, if applicable), where the result was found, crawl date, hackishness, and relevance of the result.

Click in the Title or Excerpt columns to open the full Result Detail; click on the X to close.

### Keyboard Shortcuts

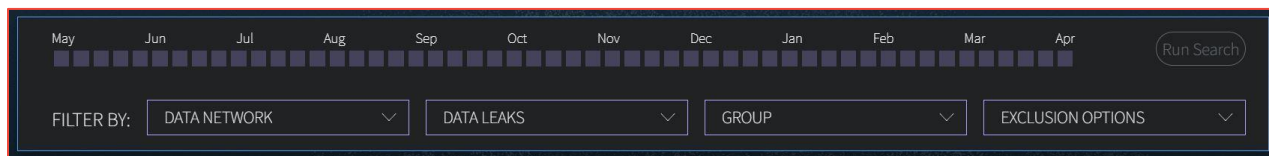
Navigate through Search Results using these keyboard shortcuts:

| Key | Description        | Key | Description        |
|-----|--------------------|-----|--------------------|
| k   | next result        | ;   | toggle detail pane |
| i   | previous result    | o   | next page          |
| l   | next highlight     | u   | previous page      |
| j   | previous highlight |     |                    |

### Quick Filtering

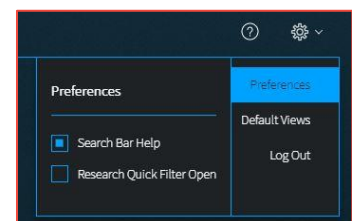
The quick filter menu includes some of our most frequently used filters, as well as a crawl date bar, and can help refine your result set. Once selected, filters will appear in the search bar.

Click the **Run Search** button to see a new result list.



- **Crawl Date Slider.** Select a Crawl Date range within the last year, by clicking on a box to start, sliding over the date period, and clicking on an end box.
- **Filter by Data Network.** Click once to select a network; click twice to exclude a network.
- **Filter by Data Leak.** Click the box next to the option to see results from Data Leaks, or exclude results from Data Leaks.
- **Filter by Groups.** Click once to select a group; click twice to exclude a group.
- **Exclusion Options.** Click the box next to the desired option. You can add the Hackishness filter (exclude results with 0% hackishness), or select various Exclusion Search Blocks, to reduce noise in result sets.

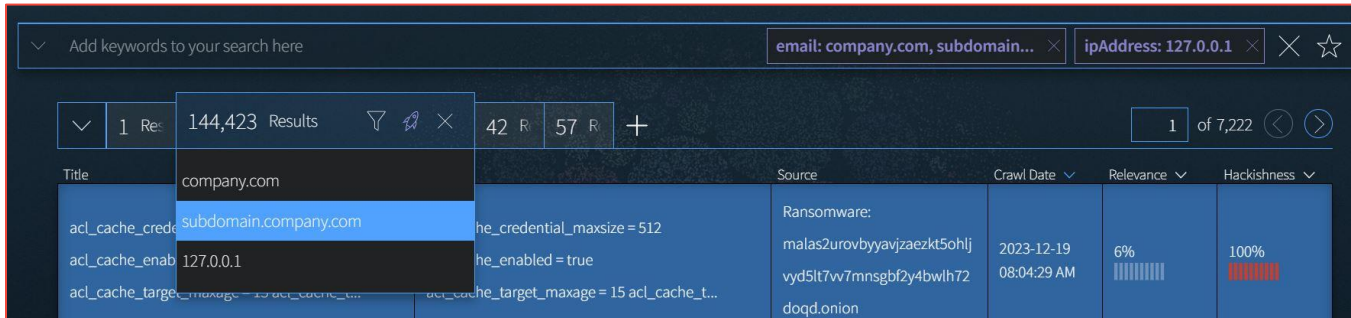
*Note: The quick filter menu is open on the Research page by default, to help you easily work through result sets. However, this setting can be adjusted in the Preferences menu.*





## Pivot to Entity Explore

If your search included an Email, Credit Card, Cryptocurrency, or IP Address Entity Search tile, the Explore icon will appear next to the Quick Filter icon. You can use this icon to look up any of the values in the Explore: Entity section. Click the icon, then select one of the values from the drop-down.



## Viewing Individual Result Detail

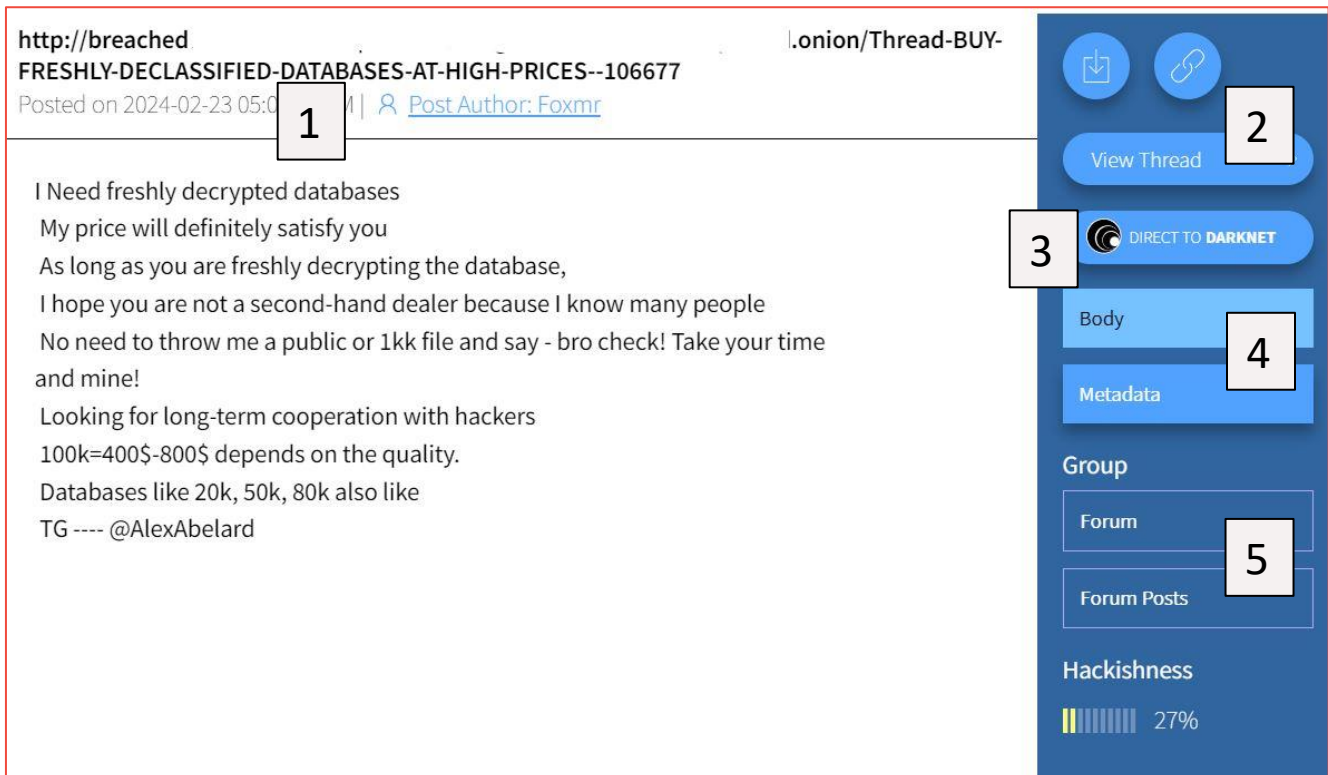
Results from our index include the following elements, referenced on the screenshots below:

1. **Source** of the result and either **Crawl Date** (when we added it to our data collection) or **Post Date** (date of the forum post). Additionally, you may see these options:
  - a. If a result is a forum post, a **Post Author** will be present. You can click on this button to open a new search tab to search for other posts by the same author.
  - b. If a URL has special characters or emojis, a **Decode URL** button will be present to toggle to the decoded version, which can assist users who have the proper sandboxed environments in viewing the original source. DarkOwl Vision stores URLs in their encoded form. Once a URL is decoded, you can toggle back to the encoded version by clicking **Encode URL**.



2. Result actions you can take.
  - a. Options to **Download** the result (.txt) or get a **Link** to return to this result later.
  - b. If a search result is a forum post, you can click **View Thread** to reconstruct the posts into the original thread. See the [View Thread](#) section.
3. If enabled for your account, you will see the **Direct to Darknet** button on eligible documents. See the [Direct to Darknet](#) section.

4. The right side will contain various [View Switches](#) to see the result, metadata, tokenized fields, and enrichment:
    - a. The **Body** is the content of the result.
    - b. **Metadata** includes where and when the result was collected. Clicking on the icon next to URI will allow you to copy the URL in a defanged format.
- URI: https://forum. 240354/ [copy icon]
- c. If present in the Body, additional view switches will show Lists of Entities within the result (**Emails, Cards, Cryptocurrencies, CVEs, IP addresses, SSNs**).
  - d. A **Chat Users** view switch will be present if the result is from Telegram or Discord with Usernames and User IDs found in the result. (The lower screenshot shows this switch active.)
  - e. [Leak Context](#) or [Site Context](#) buttons may also be present, depending on the type of search result.
5. A **Group** heading will be present if the result is from one of these types of sites: Chan, Forum, Forum Post, Market, Paste, or Ransomware. Additionally, *Authenticated Site* will be present if the site required special access, such as a login or other challenge.



https://telegram.me/  
Crawled on 2023-11-13 09:56:46 AM

Find an Entry

| Username   | User ID    |     |
|------------|------------|-----|
| DrWebBot   | 161163358  | ... |
| Ju1cy_LuCy | 6205236132 | ... |

Body

Metadata

Chat Users 4 +2

Hackishness

||||||| 0%

[View Thread](#)

If a search result is a forum post, you can reconstruct the original thread. Clicking on **View Thread** from a forum post search result will open up a new modal which will display the thread post-by-post in chronological order. Once in the thread view, you can paginate through the thread (if there are multiple pages) and/or change the sort direction. Clicking on the three-dot menu includes options to see post metadata, or search for all posts from that user.

**Thread: DBS bank - 13GB Transactional Database**

avatar\_air BreachForums (2023) Started on April 05, 2024 11:29 PM

16 Posts ↑↓ Oldest first

**Mitrich** April 06, 2024 - 1:49:00 AM  
sample please. what is inside?

---

**maybes0me1** April 06, 2024 - 1:55:00 AM  
Thank you so much man This forum account is currently banned. Ban Length: (1d, 18h, 27m remaining)  
Ban Reason: Spamming.

---

**vulture** April 06, 2024 - 2:17:00 AM  
Do provide sample also on your post itself.

**avatar\_air, Mitrich, maybes0me1, vulture, Shinichi, Addka72424, sunj9710, Ledgerbydat, abase, BurkeVan, niuj76809, cuong89bkb, orb1t, jester9999,**

**Mitrich** April 06, 2024 - 1:49:00 AM  
sample please. what is inside?

View Post Metadata

Search all posts by this user

### Direct to Darknet

For eligible documents, clicking **Direct to Darknet** from a search result or thread view will launch a secure sandbox environment which will take you to the original source of that document. Eligible documents include any live Onion V3 domain or clearnet domain from a DarkOwl Vision Search result. Direct to Darknet leverages the best-in-class Silo web isolation platform from Authentic8.

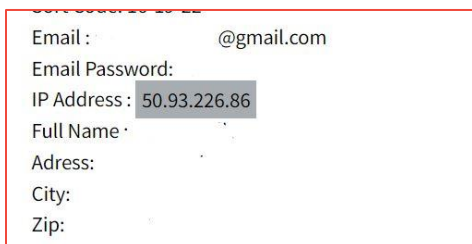
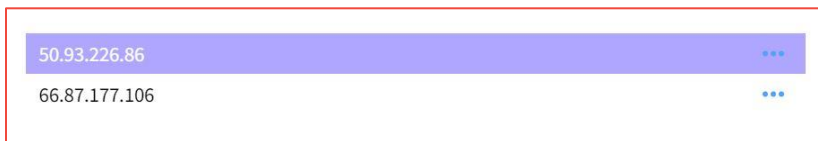
You can safely interact with the site content, such as to solve a captcha; downloading files from the darknet site is not supported. Some sites may require credentials; you can use your own established credentials to safely interact with the site content. Browsing is domain-locked to the site accessed from the search result. For more information, see our [FAQ document](#).

*Note: A site may not be active or online at the time you try to access it. The search result from DarkOwl Vision is persistent as it is stored by DarkOwl.*

*Note: If you use pop-up blockers, be sure to allow pop-ups from darkowl.com.*

### View Switch Actions

The View Switch for Entities (**Emails, Cards, Cryptocurrencies, CVEs, IP addresses, SSNs**) or **Chat Users** will show you a list of the items that appear within the Body of the search result. You can click directly on an item to jump to where that item is located in the Body.



*Clicking on the IP address will bring you to that location in the search result.*

Some of the View Switches include additional pivoting actions.

- For **Chat Users**, you will see a menu that allows you to quickly search for the User ID or Username. Searching for the User ID can help you find alternate usernames.
- For **CVEs**, you will see a menu that allows you to pivot to **See in Mitre**. This will open a new browser tab and read more about the CVE from Mitre's cve.org website.
- For **Emails, Cards, Cryptocurrency, and IP Addresses**, you will see a menu that allows you to quickly look up that item in Entity Explore.

| Username        | User ID    |
|-----------------|------------|
| DRTELEGRAMMM    | 6204389858 |
| emalaelama      |            |
| Free_LTC_Legit  |            |
| ghadamghadam888 |            |
| khatarekoshki   |            |
| Koshaiiio       | 2076202260 |

Find an Entry 🔍

Rolexyzentld@gmail.com ⋮

Search in Entity Explore 🚀

See in document

### Site Context

If a search result is from a ransomware site, an additional **Site Context** View Switch will appear below the Metadata View Switch. Site Context is information from the DarkOwl analyst team that gives additional enrichment such as the Site Name and any aliases, and may include relevant dates, cipher information, and more. Where available, options to pivot to Actor Explore, or to pivot to search associated Telegram channels will be present.

**http://3slz** .onion/  
Crawled on 2022-04-27 10:15:23 AM

---

**Site Context**

---

|                          |                                     |
|--------------------------|-------------------------------------|
| <b>Site Name</b>         | STORMOUS                            |
| <b>Aliases</b>           | STORMOUS                            |
| <b>First Active</b>      | 2021-12-01                          |
| <b>Context Actors</b>    | <a href="#">Stormous</a> 🚀          |
| <b>Telegram Channels</b> | <a href="#">STORMOUS Ransomware</a> |
| <b>Ciphers</b>           | AES+RSA                             |

📄
🔗

🌐 DIRECT TO DARKNET

Body

Metadata

Site Context

Group

Ransomware

**Hackishness**  
||||||| 0%

### Leak Context

If a search result is from a data leak, an additional **Leak Context** View Switch will appear below the Metadata View Switch. Leak Context is information from the DarkOwl analyst team that gives additional enrichment regarding the leak, and may include relevant dates, content information, and target information.

**Data Leak: naz.api**  
Crawled on 2024-01-30 08:26:08 PM

---

**Leak Context**

---

**Name** naz.api

---

**Description** The naz.api leak was made available on BreachForums, on January 15, 2024. According to the post, it is a 35 GB collection of public URLs, usernames and passwords. The post also notes that it was originally on xkey.info but was taken down for allegedly not being the real naz.api leak.

Analyst Note: naz.api is one of the largest credential stuffing lists originally posted in September 9, 2023 by 0x64. According to that post, the database was created by extracting data from stealer logs, and contains over 1 billion unique records of saved logins and passwords in users' browsers. The post also notes that the original naz.api dataset was donated to 0t.rocks.

|                             |   |
|-----------------------------|---|
| <b>Content Categories</b>   | Credit cards, Emails, Credentials   |
| <b>Content Specifics</b>    | Email addresses, Account information, User accounts, Device information, Passwords, IP addresses, Credit card numbers |
| <b>Associations</b>         | 2023, BreachForums, StealerLogs   |
| <b>Actor</b>                | emo   |
| <b>Host</b>                 | i.suffer.rip  |
| <b>Original Post URL</b>    | http://breached.d.onion/T   |
| <b>Post Location Type</b>   | Forum   |
| <b>Post Vision ID</b>       | <a href="#">a03b3f9362fbd7ba5032400315640c6cc19fb804</a>  |
| <b>Associated URLs</b>      | http://breached.d.onion/T   |
| <b>Leak Classifications</b> | StealerLogs   |
| <b>Leak Size Records</b>    | 1 Billion Records   |
| <b>Leak Size Advertised</b> | 35 GB   |
| <b>For Sale</b>             | false   |
| <b>Date Available</b>       | 2023-11-02  |

Some of the actions you can take include:

- Click **Search for Filetree** to locate and review the leak's filetree document(s) (if filetree is available). The filetree will provide a list of all of the files that were available in the leak, including files that were not indexed by DarkOwl Vision. This can help you review for non-text content that might be relevant to your investigation.
- Click **Download Context** the leak content (.txt) to include in reports or briefings, is available in active client accounts.
- Click on the **Vision Document ID** link to open the Vision document to see the original post in a new search tab. This can help investigate the source of the leak further.

The following table provides a description of fields that may appear in Leak Context. *Note: not all fields may be available or known for all leaks. Additional fields may be added in the future.*

|                       |  |
|-----------------------|--|
| <b>Name</b>           | Name of the leak.  |
| <b>Description</b>    | A short description about the nature of the leak.                      |
| <b>Date Available</b> | Date the data was made available on the darknet or internet, if known. |
| <b>Date Breached</b>  | Date of the leak incident or ransomware attack, if known.              |

|                                  |  |
|----------------------------------|--|
| <b>Content Categories</b>        | High-level categories or types of content contained in this data leak. Content Category examples include: combolist, credentials, documents, messages, PII, stealerlogs, etc.  |
| <b>Content Specifics</b>         | More granular information about the compromised data in this leak. Content Specifics examples include: dates of birth, email addresses, financial documents, internal documents, ip addresses, legal documents, plaintext passwords, phone numbers, physical addresses, profile information, usernames, etc. |
| <b>Password Format</b>           | Format of passwords found in the leak, if applicable, such as: plaintext, hashed, none, both.  |
| <b>Password Hash Formats</b>     | If the leak contains hashed passwords, this field will display what hashing algorithm is used, if known. Examples: MD5, SHA1, etc.   |
| <b>Associations</b>              | Any entity (site, organization, country, year, etc) that is associated with the data leak. Values in this field are searchable with the leak: operator.  |
| <b>Actors</b>                    | Username(s) of the original poster or actor responsible or otherwise involved in leaking the data. Values in this field are searchable with the leak: operator.  |
| <b>Attack Types</b>              | The type of attack that resulted in the data leak.   |
| <b>Targets</b>                   | The target organization or company where the data originated, if known. This is generally the name of the organization(s) attacked. If known, this field will optionally return Target Name, Target Domain, Target Description, and/or Target Country.   |
| <b>Countries</b>                 | Country associated with the leak; for leaks related to a country without an organization Target.   |
| <b>Hosts</b>                     | Site name(s) on which the original data was hosted. Values in this field are searchable with the leak: operator.   |
| <b>Download Locations</b>        | The URL where the leak was downloaded.   |
| <b>Original Post URL</b>         | The URL of the post in which the leak was initially shared.  |
| <b>Original Telegram Channel</b> | The Telegram Channel ID in which the leak was initial shared.  |
| <b>Post Location Type</b>        | A classification of the location on which the leak was initially shared. Examples include: forum, leak site, marketplace, messaging platform, telegram, torrent, etc.  |

---

|                             |   |
|-----------------------------|---|
| <b>Post Vision ID</b>       | The document ID of the original post in the DarkOwl Vision index, if known.   |
| <b>Associated URLs</b>      | Any additional URLs that may be associated with this leak.  |
| <b>Leak Classifications</b> | A classification of the nature of the leak. Examples include: Combolist, Cyberwar, Politically Motivated, Ransomware, Stealerlogs, etc.   |
| <b>Leak Size Records</b>    | The total number of records contained in the leak.  |
| <b>Leak Size Actual</b>     | The actual size of the leak, once downloaded.   |
| <b>Leak Size Advertised</b> | The advertised size of the leak, from the original post.  |
| <b>Completeness</b>         | In some cases, partial or sample data is leaked by an actor. This field will display <i>Partial</i> if it is known that the leak dataset is not complete.   |
| <b>For Sale?</b>            | <p>In some cases, leak data is offered for sale prior to being released on the darknet by an actor. This field indicates whether the leak content was ever offered for sale, if known.</p> <p><i>Note: DarkOwl adheres to a strict collections policy guided by CCIPS best practices, and we do not purchase leak data or facilitate criminal activity.</i></p> |
| <b>Filetree</b>             | The name of the filetree document in DarkOwl Vision. Values in this field are searchable with the leak: operator.   |
| <b>Public Reporting</b>     | Any URLs, dates, or notes related to public reporting about this leak.  |
| <b>Media Reporting</b>      | Any URLs, dates, or notes related to media reporting about this leak.   |



## Explore: Actor

The **Actor Explore** page provides analyst-curated information about Threat Actors. Our actor database focuses on state-sponsored actors, actors focusing on cybercrime, ransomware groups, access brokers, exploit brokers and buyers, or critical infrastructure attackers. The actor information will continue to grow as we add more content and hear from our customers. If you know of a new threat actor that should be included – please let us know!

To get started, navigate to the Explore section, and select Actor from the top menu. This will bring you to a landing page of Actor baseball cards.

- Use the < > icons to page through the list.
- Use the left filter options to sort the list.
- Click on a baseball card, or search for an actor (by name or alias) using the lookup bar at the top, to go to the actor’s detail page.

The screenshot displays the 'Actor Explore' page with the following details:

- Page Header:** 'Actor' and 'Entity' tabs, '307 Actors' count, search bar 'Find an Actor Name or Alias', and 'Compare' dropdown.
- Filters (View Actors By):**
  - Origin: All
  - Sophistication: All
  - Specialization: All
  - Sort By: Alphanumerical
  - Sort Direction: Ascending
- Actor Cards:**
  - HisExcellency-:** Intermediate Sophistication, Unknown Origin, <1 Years Active, FIRST SEEN Feb 14, 2022 (Active), ALIASES -HisExcellency-, SPECIALIZATION Hacktivist.
  - 000:** Advanced Sophistication, Unknown Origin, 3 Years Active, FIRST SEEN Nov 3, 2017 (Active), ALIASES 000, SPECIALIZATION Cyber Crime.
  - 0xCee:** Advanced Sophistication, Unknown Origin, 1 Years Active, FIRST SEEN Jun 23, 2022 (Active), ALIASES c0xeeC, 0xCee, 0x\_dump, SPECIALIZATION Initial Access Broker.

Once you select an actor, you will go to that actor’s detail page, opened to the Dossier.

An actor entry may include the following tabs: **Dossier**, **Darknet Fingerprint**, **Targets**, **Tools**, or **CVEs**. Click on the name of the tab to navigate to that section; continue reading for more detail about the information contained within each tab.

Information included within the **Dossier** page may include any of the following:

|                       |  |
|-----------------------|--|
| <b>Aliases</b>        | All Aliases by which the Actor is known. Click on an Alias to search within Vision for matches.  |
| <b>Origin</b>         | The country in which the Actor operates, if known.   |
| <b>First Seen</b>     | The date the Actor was first known to be active.   |
| <b>Last Seen</b>      | The date the Actor was last known to be active.  |
| <b>Sophistication</b> | The level of sophistication at which the Actor operates, using STIX Threat Actor Sophistication Vocabulary: <i>none, minimal, intermediate, advanced, expert, innovator, strategic</i> . |
| <b>Specialization</b> | A categorization of the type of activity or area in which the Actor is known to participate. These values may include: <i>Cyber Crime, Data Exfiltration,</i>                            |

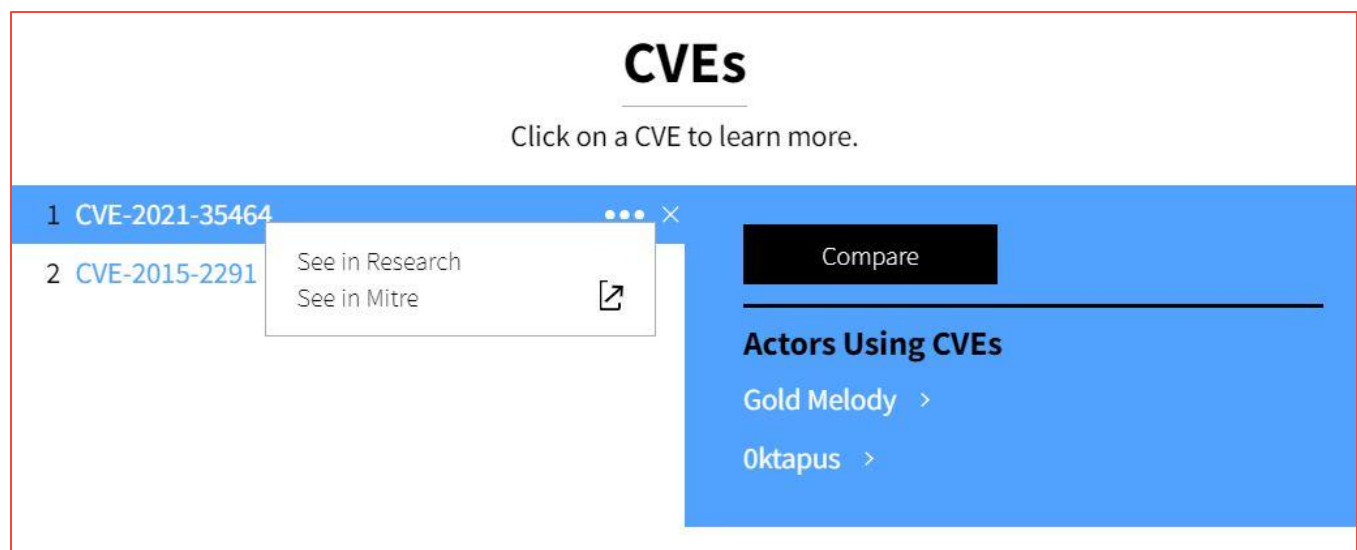
|                               |   |
|-------------------------------|---|
|                               | <i>Espionage, Exploit Developer, Exploit Seller, Financial Crime, Hacker, Hactivist, ICS Attacks, Initial Access Broker, Intellectual Theft, Phishing, Ransomware, Social Engineering.</i>  |
| <b>Size</b>                   | Identification of whether the Actor is an individual entity, a group, or unknown size.  |
| <b>Key Points</b>             | A brief narrative description. This section may also include may any known <b>Law Enforcement Activity</b> , if applicable.   |
| <b>Stix Threat Actor Type</b> | A categorization of the type of Actor, using STIX Threat Actor Type vocabulary: <i>activist, competitor, crime-syndicate, criminal, hacker, insider-accidental, insider-disgruntled, nation-state, sensationalist, spy, terrorist.</i>  |
| <b>Contact Details</b>        | <ul style="list-style-type: none"> <li>• <b>Email</b> addresses that have been associated with the Actor.</li> <li>• <b>Tox</b> IDs that have been associated with the Actor. Tox is a peer-to-peer instant messaging platform.</li> <li>• <b>Jabber</b> addresses that have been associated with the Actor. Jabber uses the XMPP protocol.</li> <li>• <b>Telegram accounts</b> that have been associated with the Actor.</li> <li>• <b>Discord accounts</b> that have been associated with the Actor.</li> </ul> |
| <b>Cryptocurrency</b>         | <b>Bitcoin, Ethereum, or Monero</b> wallets that have been associated with the Actor.   |

Information included within the **Darknet Footprint** tab may include any of the following:

|                   |  |
|-------------------|--|
| <b>Operations</b> | <p>Places on the darknet or messaging platforms that are known to be run by the actor. Click on the <b>Search</b> button to begin researching within a channel or domain.</p> <ul style="list-style-type: none"> <li>• <b>Channels:</b> Telegram or Discord channels the Actor is known to operate or administer.</li> <li>• <b>Domains:</b> Darknet or other websites the Actor is known to operate or administer.</li> </ul> |
| <b>Data Leaks</b> | Data leaks or breaches within the DarkOwl Vision dataset the Actor is known to have leaked. Click on the <b>Search</b> button to begin researching within a data leak.   |
| <b>Presence</b>   | A list of Forums and/or Markets on which the Actor has been observed.  |

Information included within the **Targets**, **Tools**, and **CVEs** pages includes:

|                |   |
|----------------|---|
| <b>Targets</b> | Industries and Organizations (or type of organizations) the Actor is known to have previously attacked. Clicking on a target will show other Actors in our database that have targeted the same industry or organization.   |
| <b>Tools</b>   | A list of known software Tools the Actor has used to carry out attacks. Clicking on a tool will show other Actors in our database that have used the same tool, and have an option to <b>Compare</b> them. The Compare functionality will show the timelines of each actor, as well as collisions in profile data.  |
| <b>CVEs</b>    | <p>A list of known CVEs (Common Vulnerabilities and Exposures) the Actor has used to carry out attacks. Clicking on a CVE will show other Actors in our database that have exploited the same CVE, and have the option to <b>Compare</b> them.</p> <p>Additionally, you can use the three dot drop-down menu to:</p> <ul style="list-style-type: none"> <li>• <b>Search in Vision</b> to begin researching a CVE within the DarkOwl Vision dataset.</li> <li>• <b>See in Mitre</b> to open a new browser tab and read more about the CVE from Mitre’s cve.org website.</li> </ul> |



## Explore: Entity

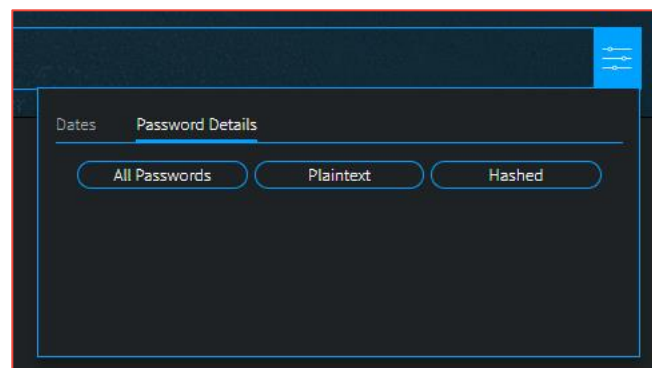
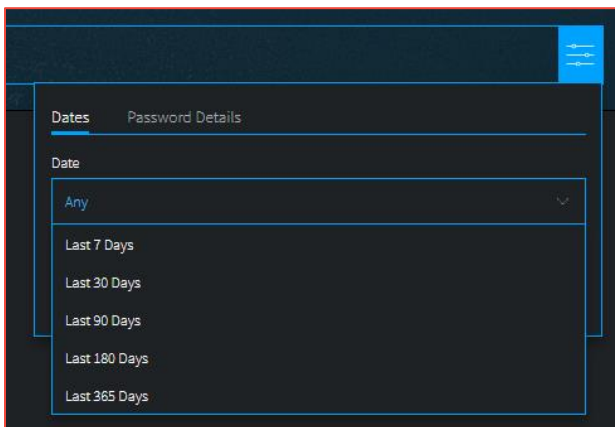
The **Entity Explore** page allows you to look up six Entity types (**Email Domain, Email Address, Credit Card, Bank Identification Number, IP Address, or Cryptocurrency**) and view information about that entity in our overall dataset.

To get started, use the drop-down to select a type of Entity, and then type the specific value in the look up bar. You can decide to click the search icon at this point, or you can use the Filter menu to apply additional parameters before you submit the query.



All entity types have Filter options to select a date range; some types have additional options.

| Entity Type                                | Filter Option  |
|--|--|
| Bank Identification Number and Credit Card | Card Details: Filter to cards that were found with a CVV, with an Exp Date, or Both CVV and Exp Date |
| Email Address and Email Domain             | Password Options: Filter to emails that were found with Plaintext or Hashed passwords                |



Once you do a look up, you will see the first page of results. *If there are more results, the left arrow will be active; click the left arrow to see the previous page.* The screen will display several sections:

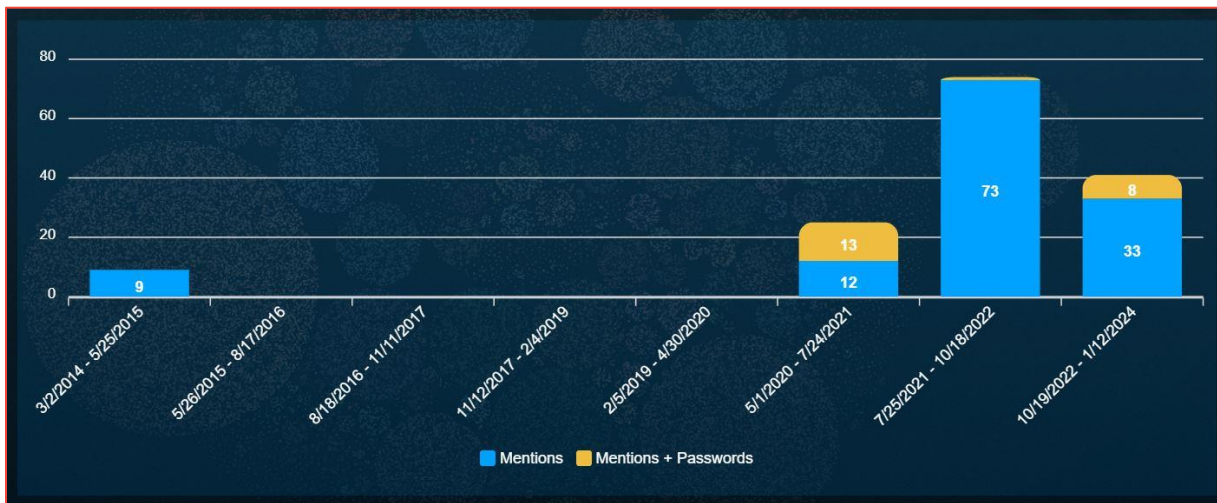
- Date Range, Total and Unique results found during Date Range
- Timeline of result set found during Date Range
- Summary information for the result set
- Itemized entity result list

## Timeline

The **Timeline** will plot mentions of that entity found in our dataset over time. BIN, Credit Card, Email Address, and Email Domain display Stacked Bars, to indicate whether the entity was a 'mention only' (blue) or a 'mention + details' or 'mention + password' (yellow).

- **For BINs and Credit Cards**, the yellow part of the bar indicates the card was found with either a CVV or expiration date.
- **For Email Addresses and Email Domains**, the yellow part of the bar indicates the email address was found with a password (either plaintext or hashed).

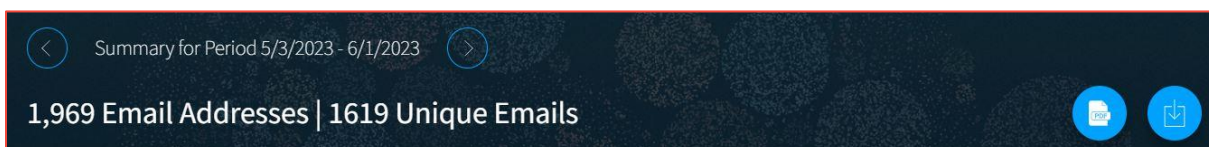
If there are more than one page of results, you can use the left Arrow action button to see previous results. *If the left Arrow is not active, there are no additional results.*



You can click on any of the bars on the Timeline to filter to that result set. You'll note when you do, the bottom of the page updates its information for just that result set shown. Click the Clear Filter button to reset to the original result set at any time.

## Action Buttons

- **Left Arrow:** See the previous page (reporting period) of results; *if this arrow is not active, it means there are no additional results*
- **Right Arrow:** See the next page (reporting period) of results
- **Download PDF:** Download a PDF report of the reporting period results
- **Download CSV:** Download a list of results (*available in active client accounts*)
- **Reset:** Clears any filters selected and shows all results within the reporting period



### Summary Information

This section will show boxes with various result set facets. Most items in these boxes act as can be selected as filters, to narrow your result set list below. Note: if there are more than 10 items, you can scroll to see the full list. All entity types will show the following summaries:

- **Sources:** The breakdown of results found within each network and/or data leak content.

Some types have additional summaries, as indicated below.

- **Card Details:** (BIN and Credit Cards) Shows the breakdown of unexpired cards, cards with cvv and/or exp date, and cards without details.
- **Data Leaks:** (Email Address and Email Domain) Shows the breakdown of emails found by individual data leak.
- **Password Details:** (Email Address and Email Domain) Shows the breakdown of emails found with plaintext password, with hashed password, and without password.
- **Password List:** (Email Address) Shows a list of all plaintext passwords in the result set.

| Password Details         |       | Data Leaks                         |   | Sources            |       |
|--------------------------|-------|------------------------------------|---|--------------------|-------|
| With Plaintext Passwords | 294   | 250k USA SSN with Bank Information | 9 | Data Leaks         | 2,034 |
| With Hashed Passwords    | 0     | 2896 LOGS REDLINE STEALER          | 5 | Cleartnet/Deep Web | 2     |
| Without Passwords        | 1,744 | 600 Dumps - 145Gb / 2022-2023      | 2 | Onion              | 2     |
|                          |       | 929K ComboList                     | 6 |                    |       |
|                          |       | Blueocean                          | 2 |                    |       |

### Entity Result List

This is a list of itemized results, based on any filters you have applied. You can click on the `See Full Result` icon to go to the Research section to see the whole page from our indexed document collection.

| Crawl Date | Email             | Password   | Type  | See Full Result |
|------------|-------------------|------------|-------|-----------------|
| 1/12/2024  | ukoken@CISCO.COM  | [REDACTED] | plain |                 |
| 1/12/2024  | lstrike@cisco.com | [REDACTED] | plain |                 |
| 1/12/2024  | abansal@cisco.com | [REDACTED] | plain |                 |

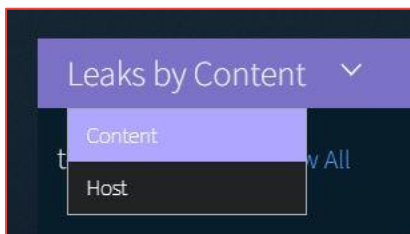
## Explore: Leak

The **Leak Explore** page allows you to search for and view analyst-curated information about the data leaks or breaches included in the DarkOwl Vision dataset. To get started looking up leaks, you can start typing in the Search Bar, or you can use the Filter options on the left to View Leaks by Attack Type, Content, or Countries.

### All Leaks

The charts at the top of the page provide information about the leak dataset overall, including the volume of leaks, recently added leaks, leaks by country, and leaks by content. Clicking on **View All Charts** will bring you to an expanded visualization section showing *Leaks by Content*, *Leaks by Host*, and *Leaks by Country*.

- Use the drop-down to change the time period shown in the charts.
- Toggle between *Leaks by Content* and *Leaks by Host*, by selecting the drop-down on the top chart.



### Individual Leaks

Clicking on an individual leak on the table will bring you to the detail page for that leak. This provides information from the DarkOwl analyst team that gives additional enrichment regarding the leak, and may include relevant dates, content information, and target information. It includes the same fields as the Leak Context feature, which is available on leak search results. Individual leaks also include actions, which include:

- Viewing the filetree in the Research section, if available
- Viewing the data in the Research section
- Downloading the Leak Context for this leak
- Clipping a link to this leak entry
- Pivoting to the Actor Explore page, if an Actor entry is available
- Pivoting to the original post or Telegram channel, if available



## HostAfrica.co.za

Names
Email addresses
Account information
User accounts
Phone numbers

IP addresses
Company Names

HostAfrica

ZA - South Africa

Medusa Team,  
zxcv16

Jan 19,  
2024

### Summary

View File Tree
View Leak Data
📄
🔗

**Date Added:** 2024-01-19 | **Date Breached:** 2023-05-23 | **Date Available:** 2023-09-10

**Associations:** Medusa 2023 OSINT without borders South Africa HostAfrica Nulled Ransomware hostafrika.co.za

Data purported to be from Host Africa was posted on Nulled, a hacking forum, on September 10th, 2023. According to the post, HostAfrica is a data service provider headquartered in Cape Town, South Africa. Data exposed includes names, company names, email addresses, and other associated account information. Analyst Note: A high level review of the data indicates that the leak also includes customer information from Kenya, Mozambique, Tanzania, and Uganda. Analyst Note 2: The password for the file is listed as OSINT\_without\_borders, indicating the source of the leak is the OSINT without borders team. This team is known to announce content from the Medusa Ransomware Group. Review of the Medusa Blog resulted in a victim page for HostAfrica from May 13, 2023, supporting this data leak is a repost from the original ransomware victim page on the Medusa Blog.

**Country**  
 ZA - South Africa

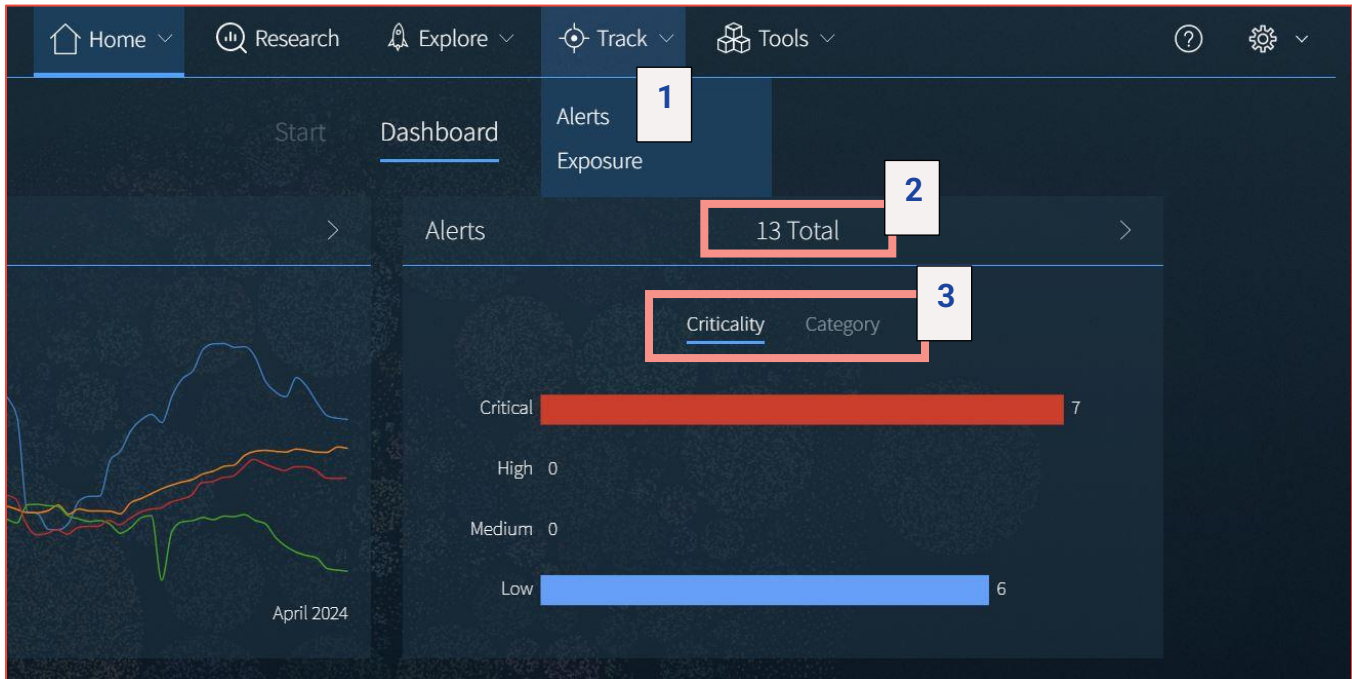
**Actors**  
 Medusa Team , zxcv16

**Attack Type**  
 Ransomware

**Hosts**  
 PixelDrain.com

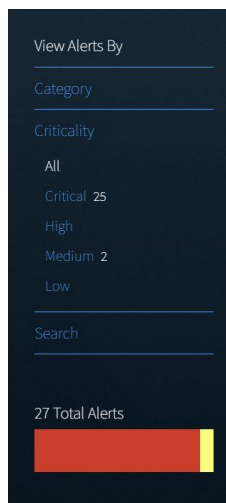
## Track: Your Alerts

Access your **Track: Alerts** page from the top navigation (1), or the Alerts widget on the Dashboard. Alerts are results found by your automated saved searches. Your Alerts dashboard will display the total number of active Critical, High, Medium, and Low results (2). If you have created categories, you can toggle the view to display by Criticality or Category (3).



### Alerts Page and Viewing Alerts

The Alerts page will display your result list. Each entry will include an excerpt from the result (around the first keyword match, if applicable), the location where the result was found, the Saved Search name, the Alert date, hackishness, and relevance of the result.

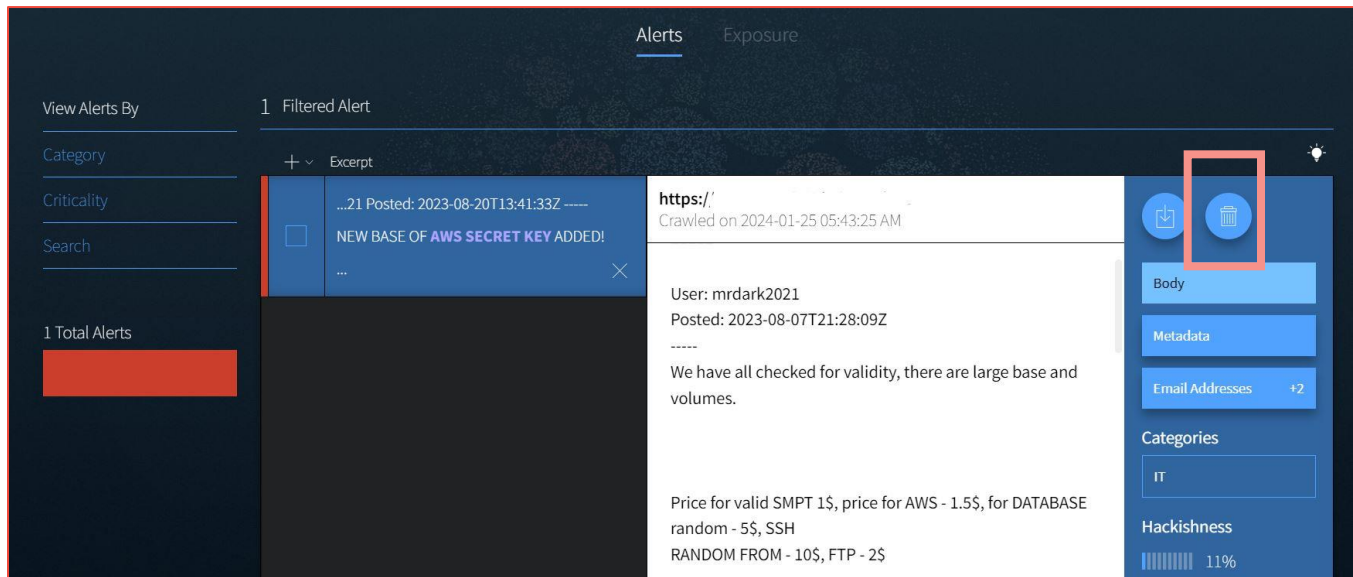


Use the Filter By menu on the left to view Alerts **by Category**, **by Criticality**, or **by Search Name**.

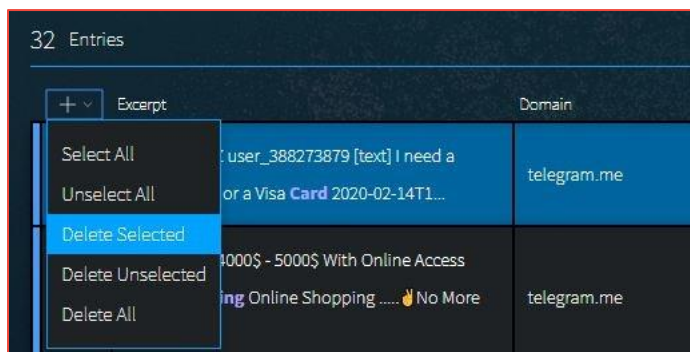
## Deleting Alerts

Once alerts are reviewed and no longer needed, you can delete them from your result set. You can delete alerts in several ways:

- **Delete an individual alert** from the Result detail: Click the **Trash icon** in the upper right corner of the alert result, then confirming on the modal.



- **Delete Selected alerts** (one or more): Check the boxes in the Alert list next to the alerts you want to delete. Then use the Action drop-down list and choose *Deleted Selected*.



*Note: You may experience a browser delay when deleting multiple alerts, or alerts large in size.*

- **Delete Unselected alerts** (one or more): Check the box next to the alerts you want to keep. Then use the Action drop-down list and choose *Deleted Unselected*.
- **Delete All alerts** (bulk), using the Action drop-down list, and confirming on the modal.

## Track: Your DARKINT Exposure Scores

**DARKINT Exposure** tracks your organization's DARKINT score over time, based on the quantity, quality, and freshness of exposed data. Scores are generated with privacy-compliant data points, requiring only a website and email domain to calculate. Increasing scores may correlate to heightened risk profiles. Tracking scores over time, changes can indicate progress in hardening security, or alert to the presence of breaches or data leaks.

Access your **DARKINT Exposure** page from the Track menu, or from the Dashboard widget.

### The DARKINT Score Formula

The algorithm focuses on specific DARKINT sources for unique matches on an organization's website and email domains, and adjust the results based on hackishness. Hackishness is the most critical input to the score, as it eliminates uninteresting content hits. We find it critical to differentiate between overall hits and hackish hits; simply because a piece of information is found on the darknet does not necessarily make it problematic to an organization.

Recent results within the last 90 days are given the most weight, as recent breaches or data leaks containing an organization's proprietary information are often more useful to hackers, and potentially haven't yet been mitigated. *Note: Scores are logarithmic, meaning every point reflects almost triple the profile of a single point less.*

$$\text{DARKINT SCORE} = H_{90}(\ln \text{RDS} + \ln \text{RTS}) + H_{\text{ATR}}(\ln \text{ATR})$$

- H90 = Hackishness of last 90 days results
- HATR = Hackishness of all time Data Leak results
- RDS = # results from Darknet Sites
- RTS = # results from Transitory Sites
- ATR = # results from all time Data Leak results

### Setting Up a Score

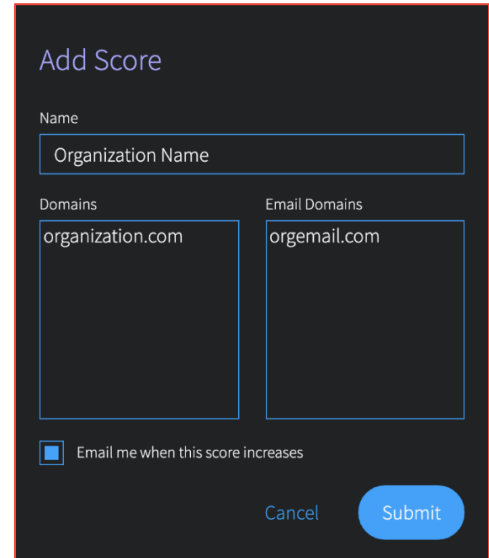


Create a score by clicking on the **+** icon on the left side of the table.

In the Add Score modal:

1. Type the Name that will be displayed in your score list.
2. Add one or more domains and subdomains, if any.
3. Add one or more email domains and subdomains. Only the domain portion is required; the @ symbol is not necessary.
4. If desired, check the box to receive email notifications when your score increases.
5. Click Submit.

At initial setup, scores will be generated for the previous month, and will continue to generate weekly.



The 'Add Score' modal form is displayed on a dark background. It features a title 'Add Score' at the top left. Below the title is a 'Name' field with a text input containing 'Organization Name'. Underneath are two columns: 'Domains' with a text input containing 'organization.com', and 'Email Domains' with a text input containing 'orgemail.com'. At the bottom left, there is a checked checkbox labeled 'Email me when this score increases'. At the bottom right, there are two buttons: 'Cancel' and 'Submit'.

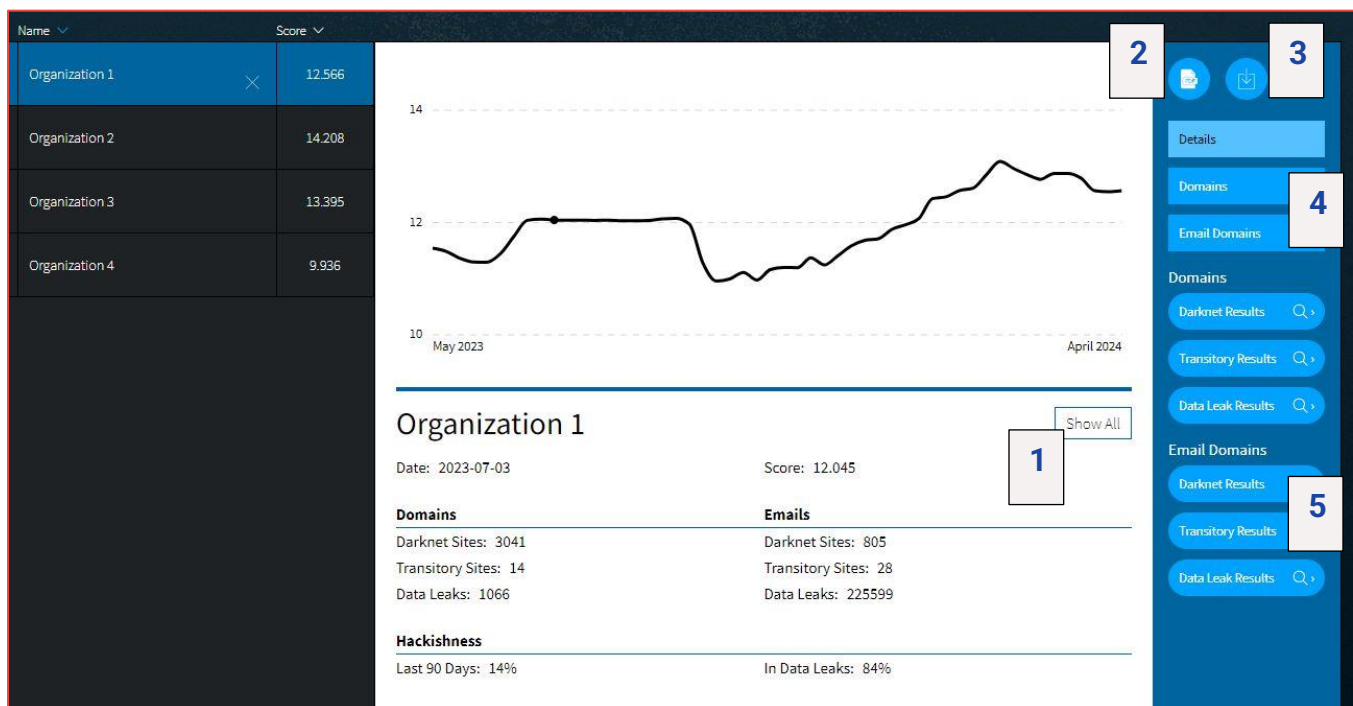
### Viewing Scores

Once you have set up scores, you will see them in the main table. For each score, the main table displays the current score, when it was last run, the change from the previous score run, as well as a trend line. Click on any row in the table see details for that entry.

| + ▾                      | Name ▾         | Score ▾ | Change   | Trend  | Last Run   |
|--------------------------|----------------|---------|----------|--|------------|
| <input type="checkbox"/> | Organization 1 | 4.770   | ▼ -0.026 |  | 2021-11-12 |
| <input type="checkbox"/> | Organization 2 | 5.051   | ▲ 0.257  |  | 2021-11-12 |

Within the score detail view, hovering over the different points on the visualization will display the score inputs below the visualization.

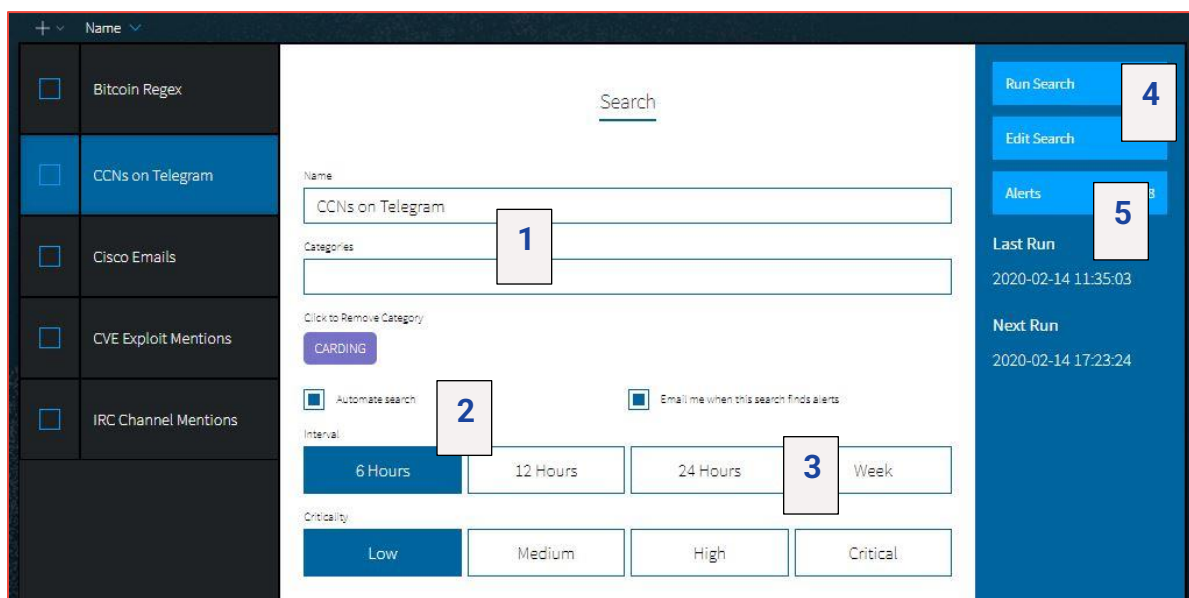
1. Select the **Show All** button to compare the current organization with others that are set up.
2. Click the **Report** icon to generate a PDF Exposure Score Report.
3. Click the **Download** icon to download a CSV of all the scores and associated inputs that were generated for this organization.
4. Click the *Domain* and *Email Domain* buttons to see the inputs used in the formula.
5. Click the search buttons below Domains or Email Domains to see the underlying results that generated the score.



## Tools: Saved Searches

Access your **Saved Searches** page from the Tools menu. Click on a Name to open the Search Detail. Here, you can:

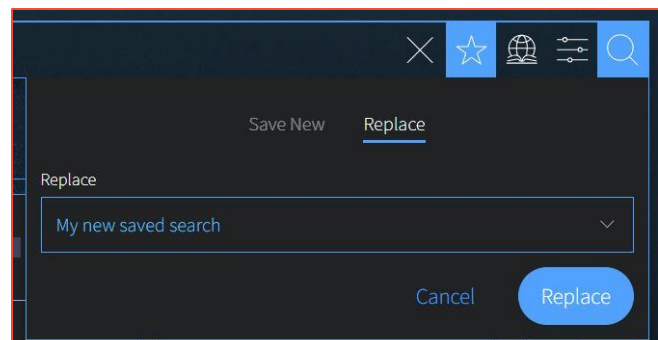
1. Change the name or categories associated with the search
2. Enable/disable automated searching
3. Adjust the run frequency or desired criticality of Alerts from the search
4. Run the search, or make edits to the search (see next section: Editing a Saved Search)
5. View Alerts from the search (if any)



### Editing a Saved Search

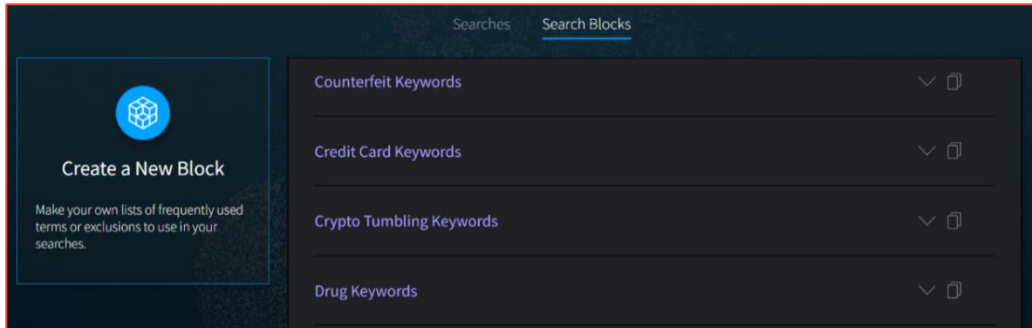
From the Saved Searches page, choose the search you'd like to adjust, then click **Edit Search**. This will bring you to the Research page, with your current search pre-populated in the search bar. From here, you can make changes to your search, updating filters, adding keywords, etc. Once you have made adjustments, run the search.

The **Saved Search icon** (star icon) will appear, this time with a Replace option for the search you're updating. Click **Replace** to confirm.



## Tools: Search Blocks

This page allows you to manage your Search Blocks library. Pre-built blocks include curated keyword lists, as well as blocks that help you exclude terms; any of these pre-built blocks can be modified to make a new customized Search Block with terms you select.



### Creating a Search Block

1. Click **Create a New Block**.

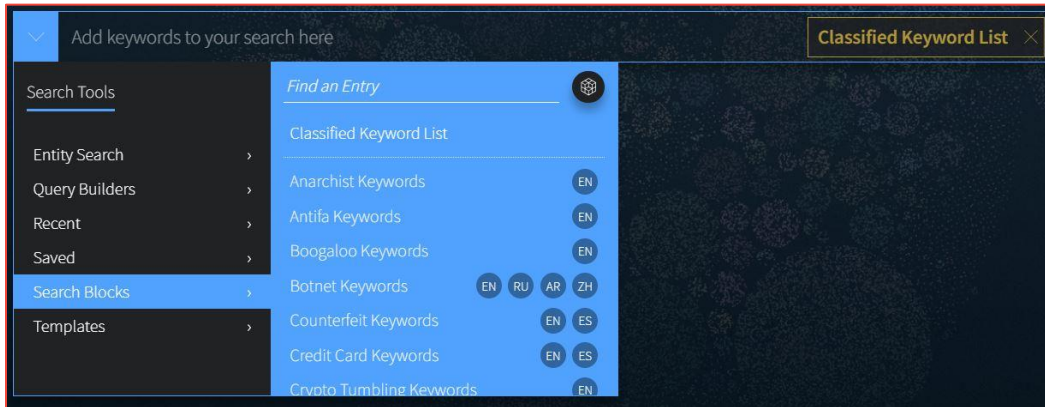
2. Open the Select a Block Type drop-down, and choose one of:

- **Free Text** accepts the same inputs and formatting (Booleans, operators, etc) as accepted on the search bar. Credit Cards can be lists of individual credit card numbers or BINs. When entering BINs, use a trailing wildcard after the first six numerical digits.
- **Cryptocurrencies** can be lists of cryptocurrency wallet addresses. Supported types include Bitcoin, Ethereum, Monero, Litecoin, Dash, ZCash.
- **CVEs** can be lists of full CVE-ID numbers, CVE-ID numbers, or CVE years.
- **Emails** can be lists of email addresses, email domains (without the @ portion), or email subdomains.
- **IPs** can be lists of IP addresses. We support the following types: IPv4, IPv6/IPv6 compressed, CIDR ranges for both IPv4 and IPv6.
- **Social Security Numbers** should be input using hyphens (i.e. 123-45-6789).
- **Source Domains** allow you to filter or exclude content that was collected from selected domains. *Note: Use the Free Text Block Type to search for domain mentions on documents.*



3. Next, input your desired Block Content.
4. Finally, give the Block a Nickname and click **Submit**.

Once created, your block will now be accessible through the **Search Tools > Search Blocks**. Click on the block to add it to your query on the search bar.



### Managing Search Blocks

- **Viewing the Content of a Search Block:** On the Search Blocks page, use the arrow to show/hide your search block content.
- **Copying and Modifying a Pre-built Search Block:** On the Search Blocks page, click the Copy icon next to the desired block. Make your revisions directly in the Block Content field, update the Block Nickname, and click Submit. This block will now appear as a new block.
- **Editing a Search Block:** On the Search Blocks page, click the Edit icon next to the desired block. Make your revisions and click Submit. If this block is used in automated searches, the next time the search runs, it will use the new block content you've specified.
- **Deleting a Search Block:** On the Search Blocks page, click the Delete icon next to the desired block. If this block is not used in any current searches, click Delete to confirm. If this block is used in saved searches, you will be prompted to go to the Saved Searches page to edit these searches to remove the block(s). Otherwise, click Delete Block and Searches to confirm.