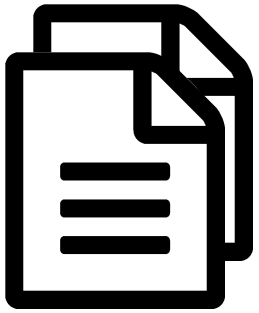
elasticsearch

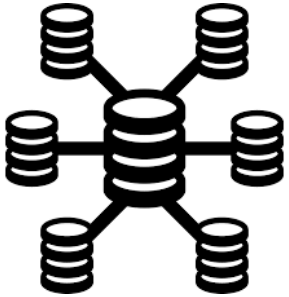
```
library(elastic)
```

I have no affiliation with either,
I’m just an excited user!

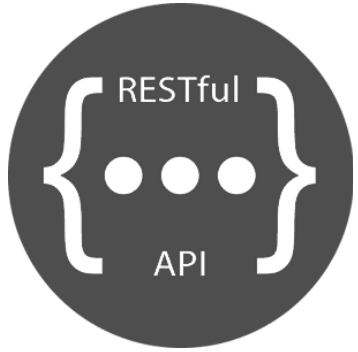
What is this elasticsearch?



Document database built for search

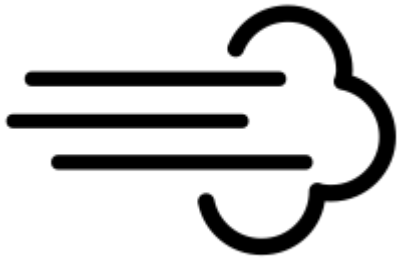


Distributed

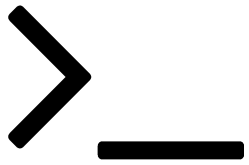


Centered around a RESTful API and Json

Why use elasticsearch?



It’s fast!!!

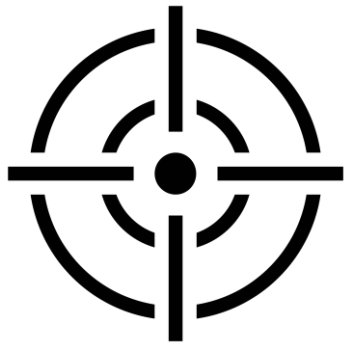


Lot’s of nifty functions

Open Source

Why NOT use elasticsearch?

no-SQL
not relationel-database
non-tabular



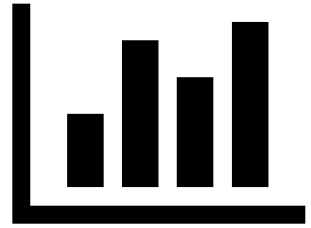
It’s built for speed
not total accuracy
(they say so, but never been a problem for me)

Can be a bit complex
nested lists etc.

What can elasticsearch be used for?

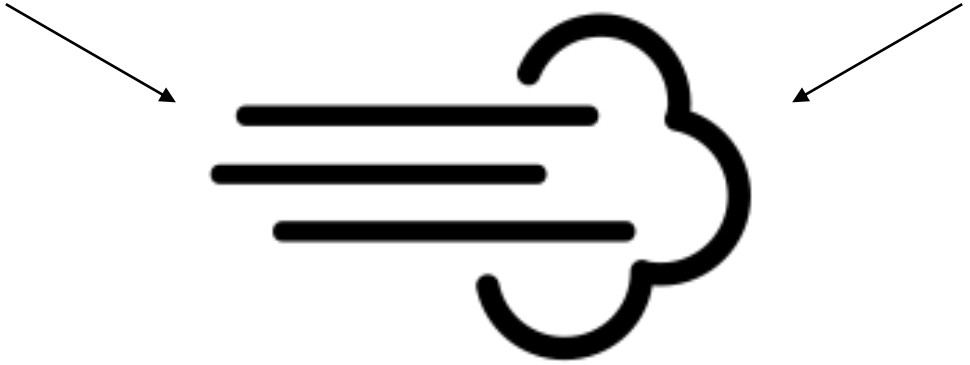
Search the world!

…in millions of text documents
…near a geolocation
…within a given timespan
…



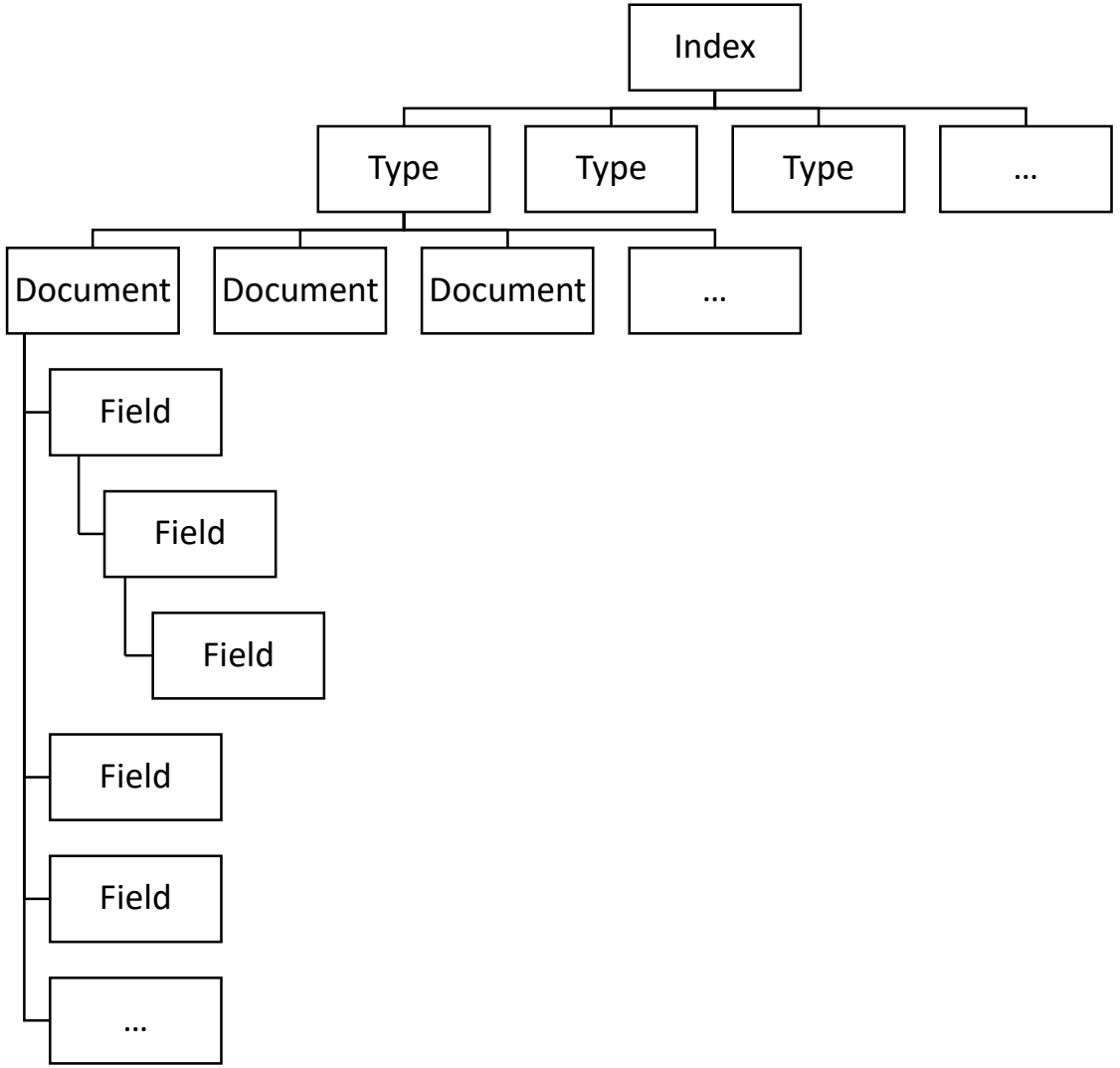
Analyze stuff

…text
…timeseries
…significant terms
…

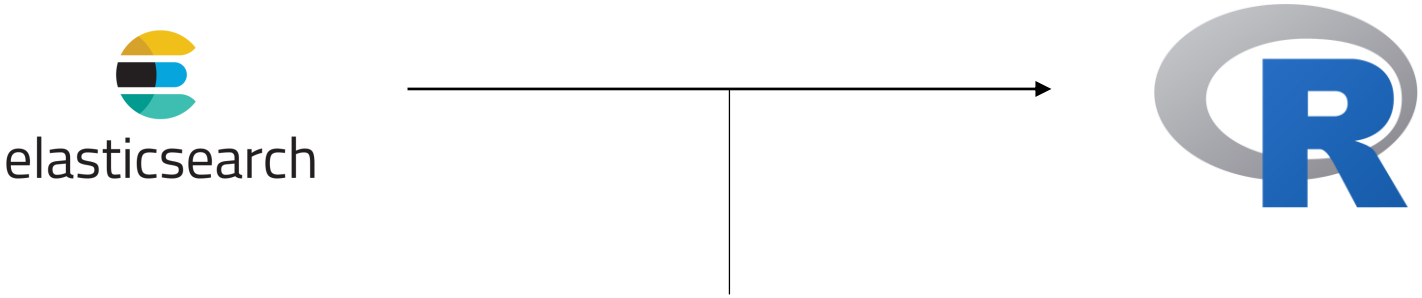


Fast…!

Basic concept



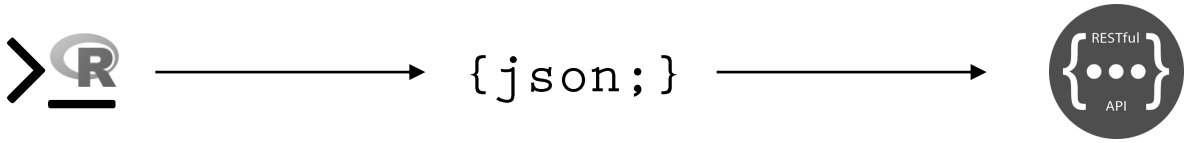
Pack it up!




```
library(elastic)
```

https://github.com/ropensci/elastic

https://cran.r-project.org/web/packages/elastic/index.html



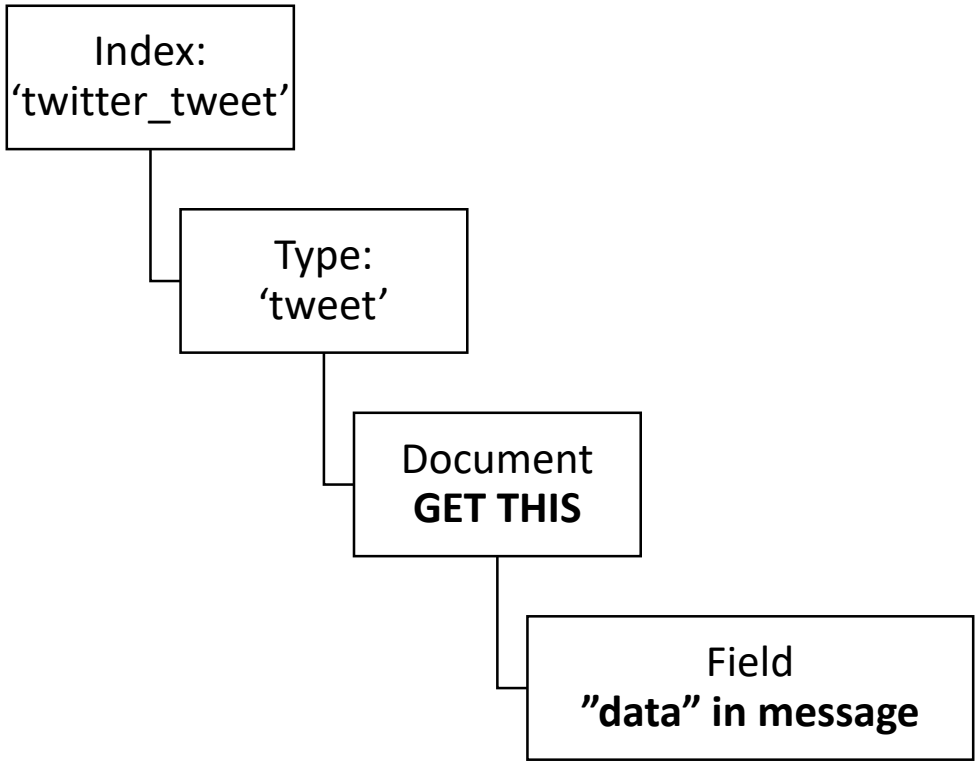
ShowTime

```
library(elastic)
```

```
elastic::connect(es_host = "127.0.0.1",
                 es_port = "9200")
```

Your in...

To do a search



To do a search

```
elastic::Search(index = "twitter_tweet",
                type = "tweet",
                q = "message:'data'",
                asdf = TRUE,
                size = 30)
```

≈ 0.55 sec.

Searched 3.573.908 documents

Return the top 30 out of 9829

What about aggregation?

Count no. of tweets pr. month

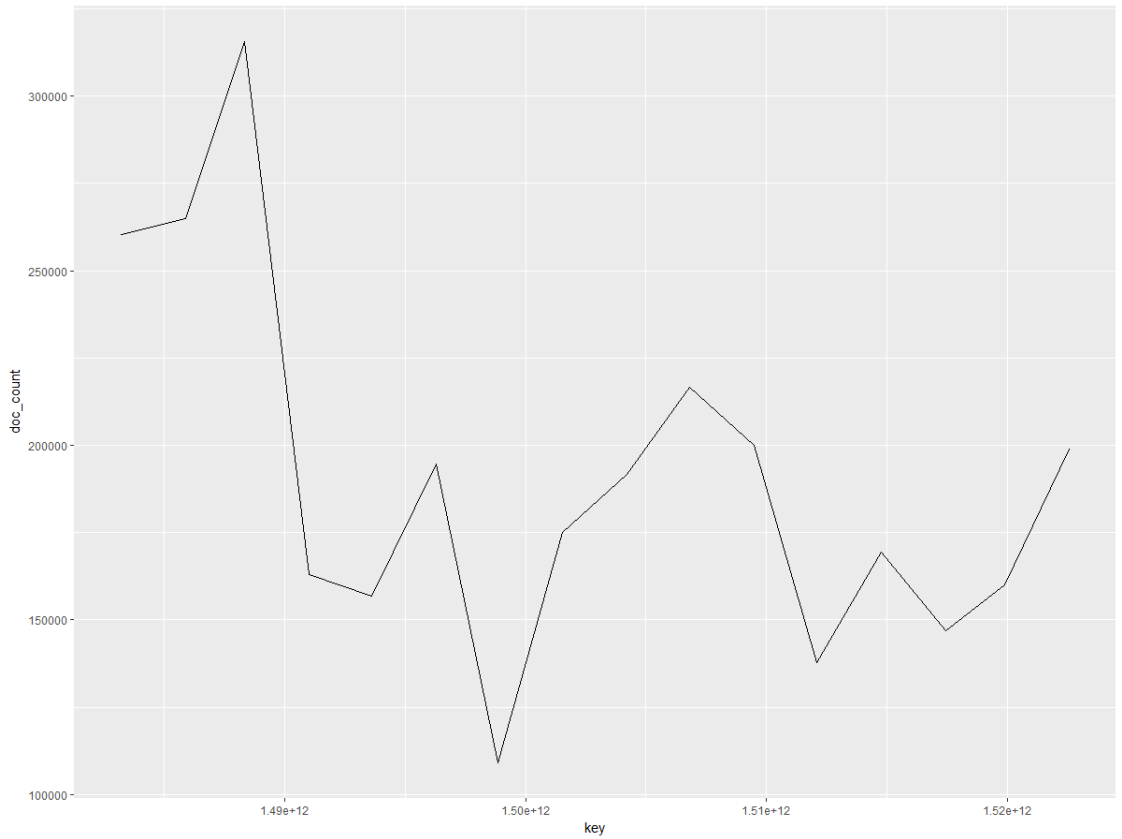
```
query <- list(
    aggregations = list(
        tweets_over_time = list(
            date_histogram = list(
                field = "created_time",
                interval = "month"
            )
        )
    )
)
```

```
ES_data <- elastic::Search(index = "twitter_tweet",
                           type = "tweet",
                           body = query,
                           asdf = TRUE,
                           size = 0)
```

What about aggregation?

```
library(ggplot2)

ggplot(data = ES_data$aggregations$tweets_over_time$buckets) +
  geom_line(aes(y = key, x = doc_count))
```



Combine search and aggregation

```
list(
  query = list(
    match = list(
      message = "data"
    )
  ),
  aggregations = list(
    tweets_over_time = list(
      date_histogram = list(
        field = "created_time",
        interval = "month"
      )
    )
  )
)
```

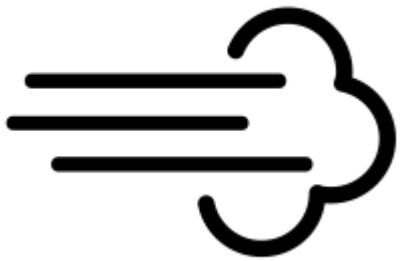
Significant Terms

```
list(
  query = list(
    match = list(
      message = "data"
    )
  ),
  aggregations = list(
    significant_Hashtags = list(
      significant_terms = list(
        field = "tags"
      )
    )
  )
)
```

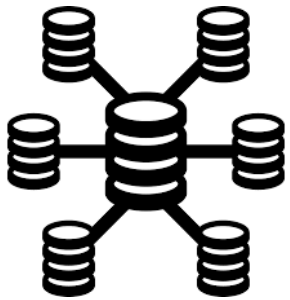
	key	doc_count	score	bg_count
1	data	456	18.0137084	467
2	Data	48	1.9420388	48
3	NOAA	72	1.9395971	108
4	emotionalagility	33	1.2957838	34
5	tråd	44	1.2620697	62
6	datajob	28	1.1328560	28
7	bigdata	102	1.0040346	416
8	CO2	75	0.7737221	292

...

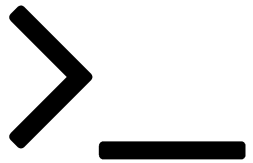
To sum up



It’s fast!!!



powerful



…and fairly simple to use