



### Search and beyond with Elasticsearch

Florian Loretan – Wunder Group

Horizons Track



search



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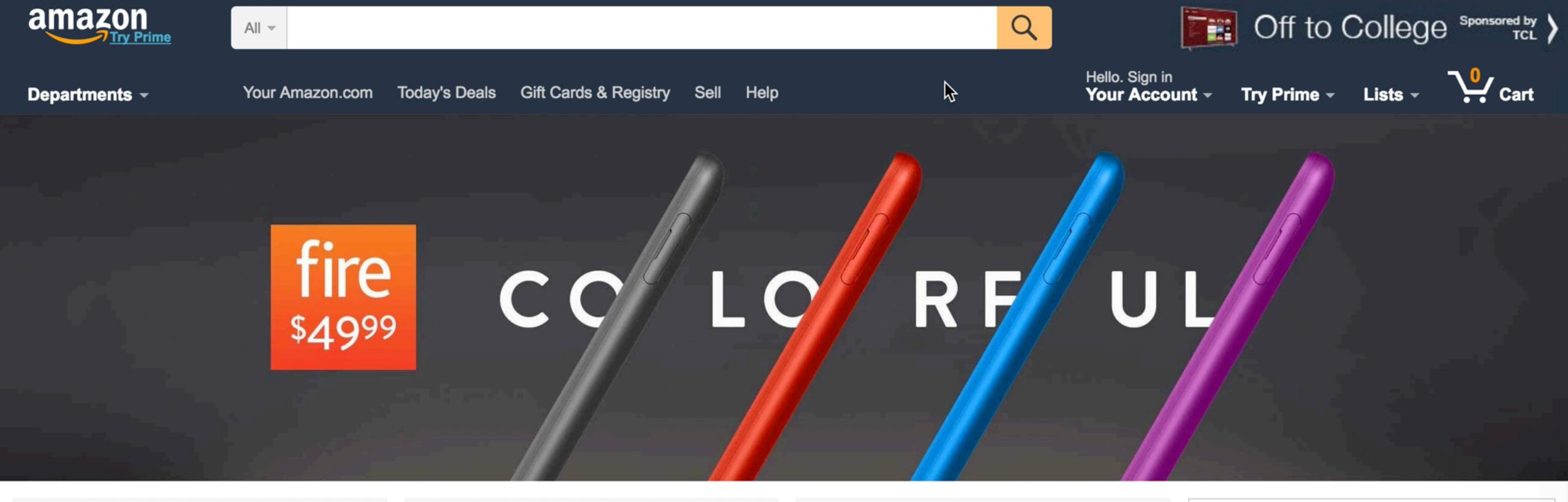


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### Popular departments





Kindle

Amazon Video





### The dress shop





Deal of the day

### $\bullet \bullet \bullet$

<

O. Search

### MAIN

- Browse
- <u>L</u> Activity
- ((•)) Radio

### YOUR MUSIC

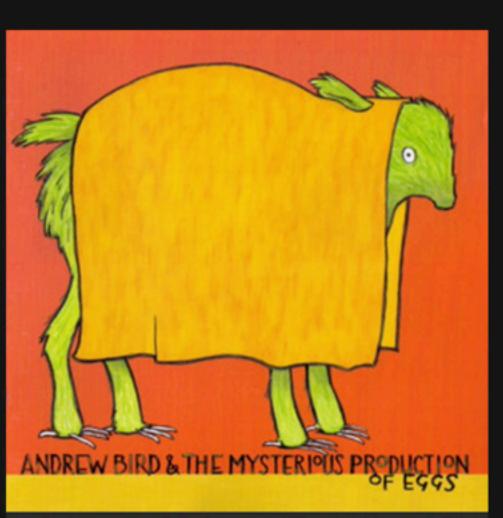
- Songs
- Albums
- **₄** Artists
- ((•)) Stations
- J Local Files





Never All The Luck In The World

### Sorted by Artist -

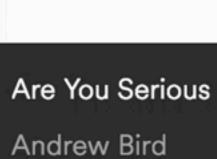


### Andrew Bird And The Misterious Production Of Eggs

Andrew Bird



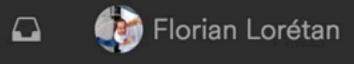




\$







### Filter: Saved Albums Only



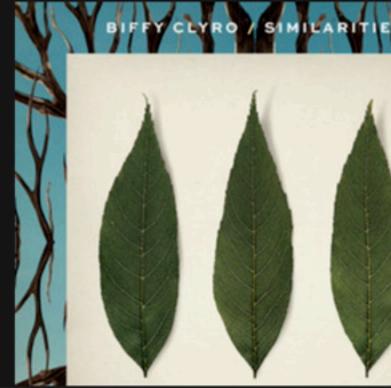
Singles 01-10

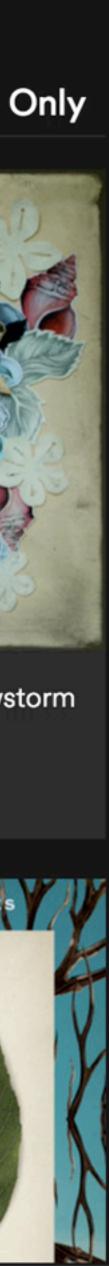
Athlete



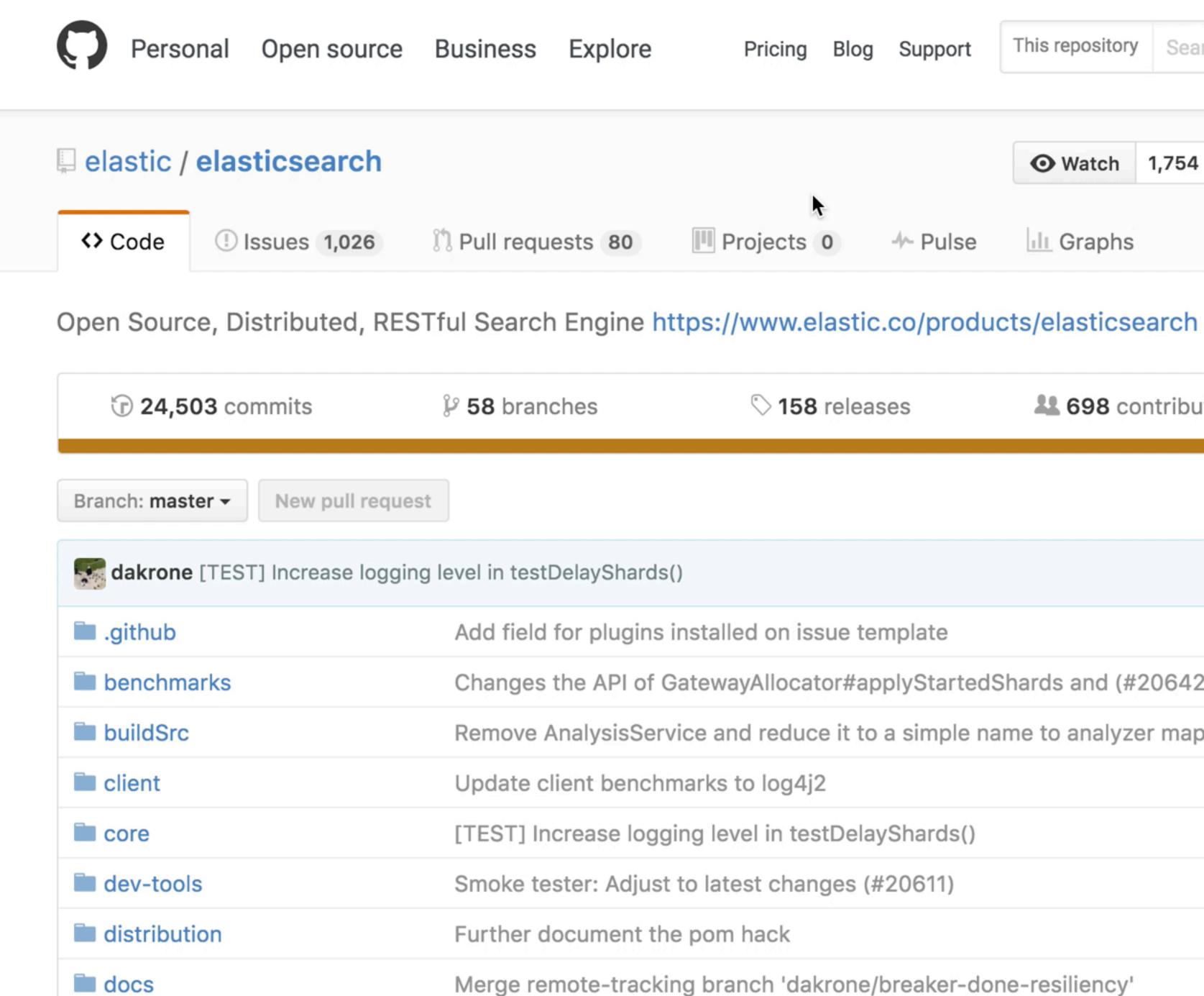
Last Smoke Before the Snowstorm Benjamin Francis Leftwich







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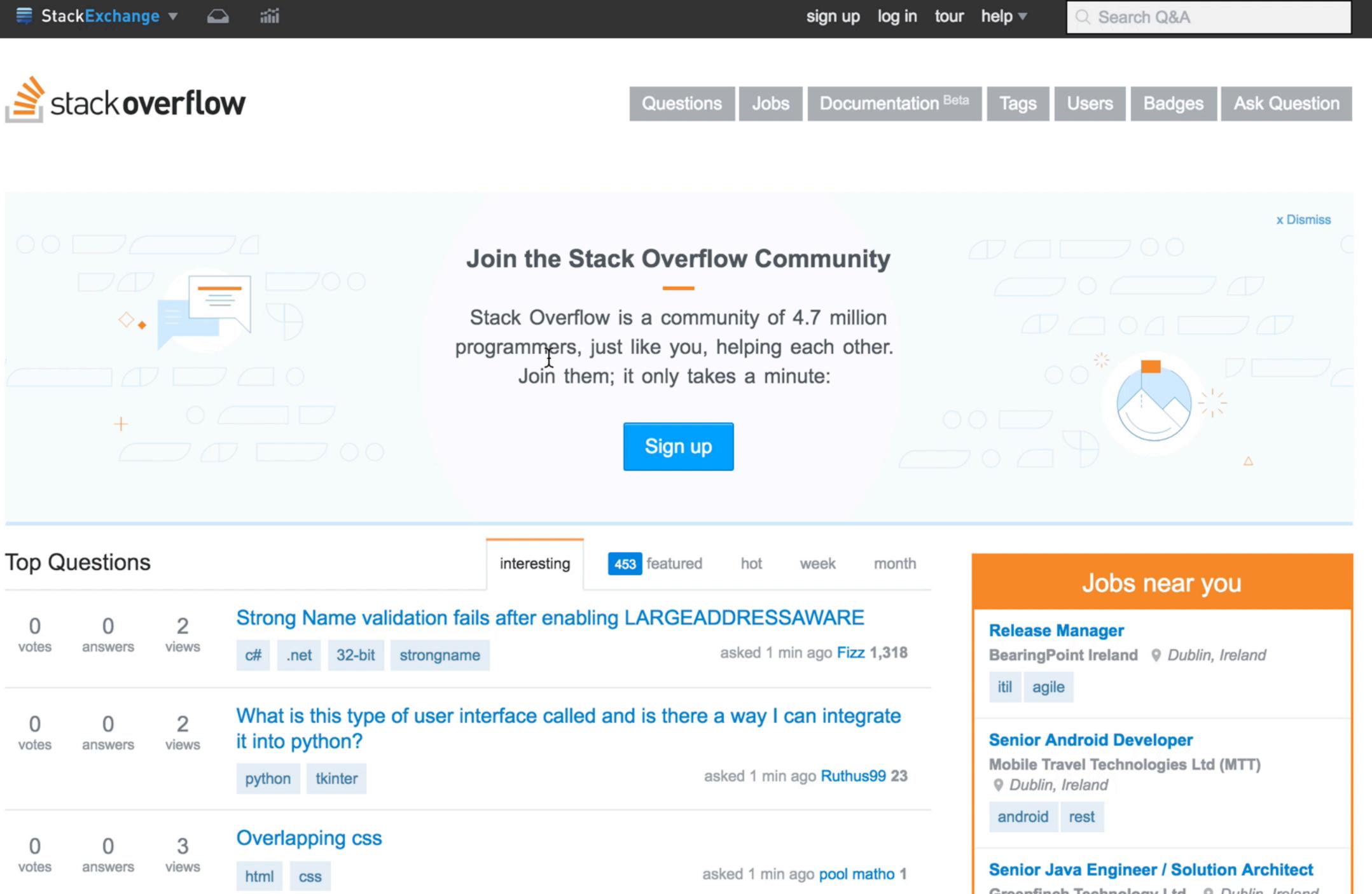


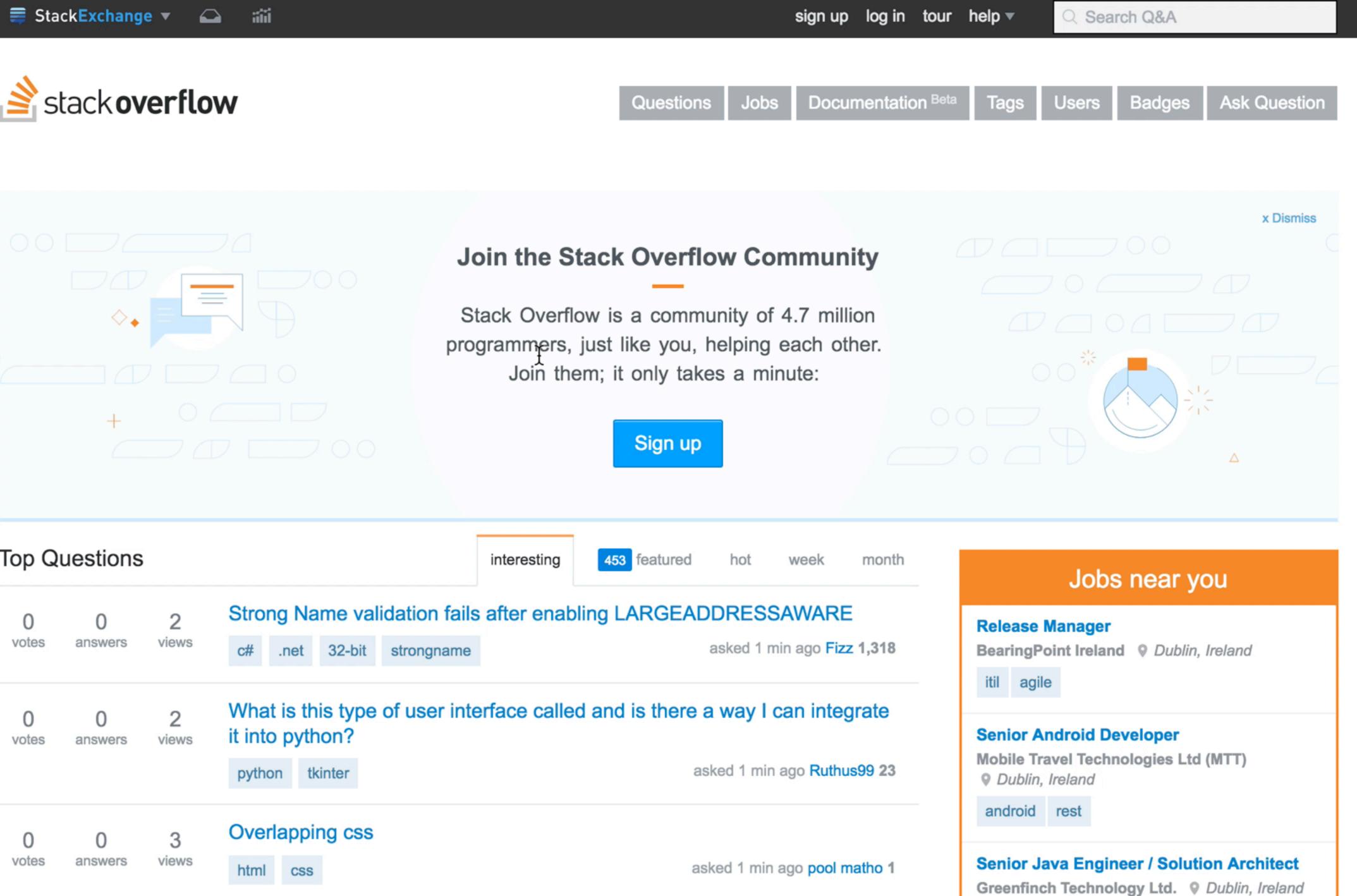
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		• Watch	1,754	🖈 Star	18,579	<b>%</b> Fork	6,320	
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> 158 releases	es 498 contributors		াঁুত Apache-2.0		
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on issue template			2 months ago		
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educe it to a simple nam	e to analyzer map		4 days ago		
og4j2			4 days ago		
in testDelayShards()			7 hours ago		
changes (#20611)			4 days ago		
ck			6 days ago		
h 'dakrone/breaker-done	-resiliency'		a day ago		











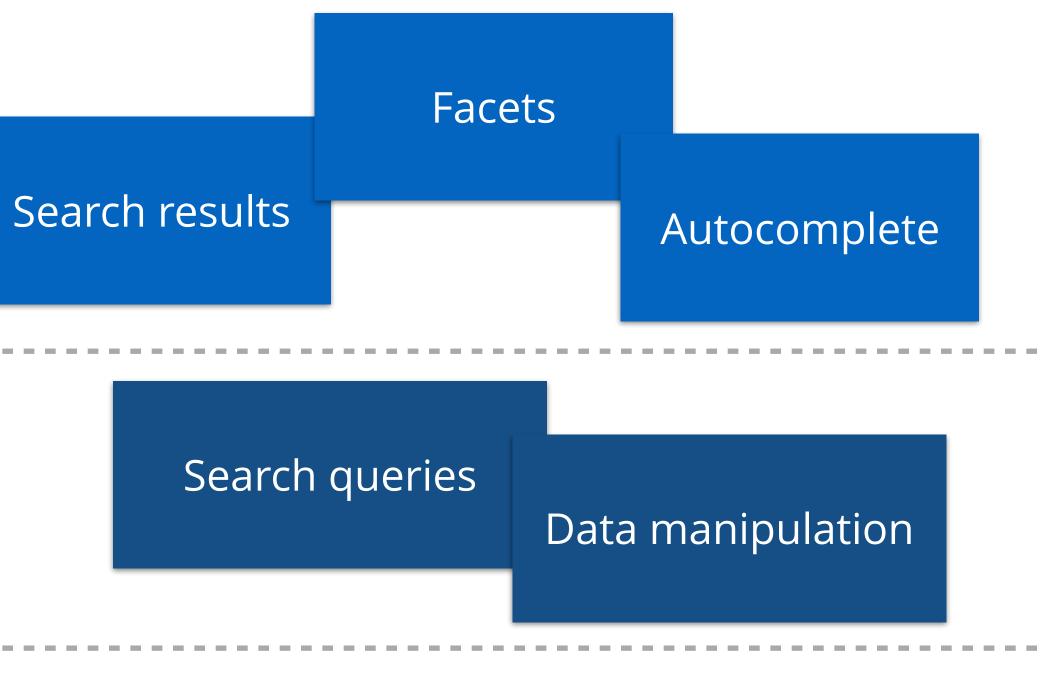




### Frontend

### Application

Storage



### Indexing



elasticsearch

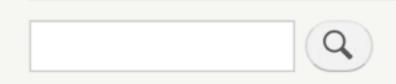




### **Drupal 8 Demo**

Home

### Search



### The Dubliners

Submitted by admin on Thu, 09/15/2016 - 15:09

**The Dubliners** were an **Irish folk** band founded in **Dublin** in 1962. The band started off as *The Ronnie Drew Ballad Group*, named in honour of its founding member; they subsequently renamed themselves as The Dubliners. The group line-up saw many changes over their fifty-year career.

Tags dubliners musicians



### Dublin

Submitted by second on Thu, 09/01/2016 - 13:50

Dublin (/'dʌblɨn/, Irish: Baile Átha Cliath [blʲaː'klʲiəh]) is the capital and largest city of Ireland.[8][9] Dublin is in the province of Leinst

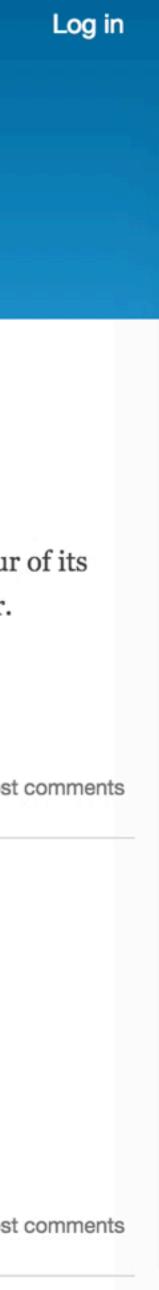
Tags dublin city

### DrupalCon Dublin

Submitted by admin on Mon 08/20/2016 12:22

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### Drupal

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- comment #4997 56 sec ago
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### node #2494 (blog) term #93

secundum. Saepius importunus jus. Immitto scisco cogo modo et. Conventio capto eum elit macto. Fere autem. Quadrum pagus wisi commodo jus.Loquor pecus. Sino haero dolore vulputate vulputate modo saepius cui oppeto venio.

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### \$ grep search CHANGELOG.txt

```
Drupal 8.0.0, 2015-11-19
Drupal 7.0, 2011-01-05
   * Added support for language-aware searches.
Drupal 5.0, 2007-01-15
   * Made it easy to investigate popular search terms.
Drupal 4.7.0, 2006-05-01
   * Made indexer smarter and more robust.
    * Added customizable result ranking.
Drupal 4.6.0, 2005-04-15
   * Added UTF-8 support to make it work with all languages.
   * Improved search indexing algorithm.
    * Improved search output.
    * Impose a throttle on indexing of large sites.
    * Added search block.
Drupal 4.4.0, 2004-04-01
- Improved the watchdog and search module to log search keys.
Drupal 4.2.0, 2003-08-01
Drupal 4.0.0, 2002-06-15
    * Improved the search system by making it context sensitive.
    * Added indexing.
Drupal 2.0.0, 2001-03-15
- Added "search infrastructure":
```

\* Added entity language variance support to search module. \* Search indexing and query preprocessors now get language information.

\* Added advanced search operators (phrase, node type, etc.).

\* Changed the search module to use implicit AND'ing instead of implicit OR'ing.

\* Improved search page and integrated search functionality in the administration pages.





### a place for friends

Home | Browse | Search | Invite | Film | Mail | Blog |

Blogs	Classifieds	Groups	Music
Comedy NEW!	Filmmakers	Movies	Scho
Chat Rooms	Games	Music	Video

MySpace Music

### MySpace Specials

		Help   SignUp
		The Web 💿 MySpace 🔍 Search
Favorites   Forum	Groups   Events   V	ideos   Music   Classifieds
c Videos ols os	Member Login E-Mail: Password:	
[more music]		Remember Me     LOGIN       SIGN UP!
		Forgot your password?
	<section-header></section-header>	<section-header><section-header><image/><image/><image/><image/><image/></section-header></section-header>
	Videos	[more videos]
	5) 23	» Watch It Now!



### Drupal 8 Demo

Home



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Submitted by admin on Thu, 09/15/2016 - 15:09

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Tags dublin city

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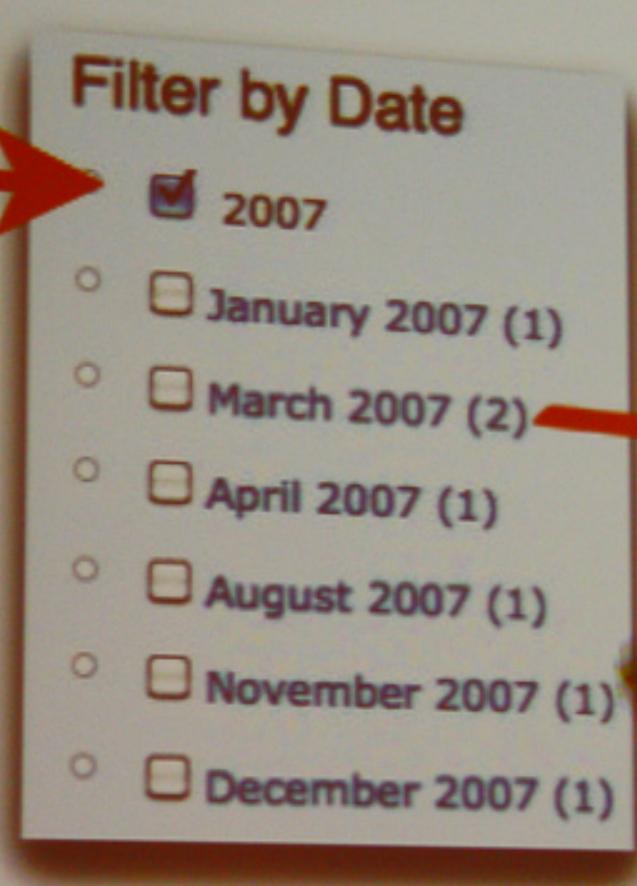
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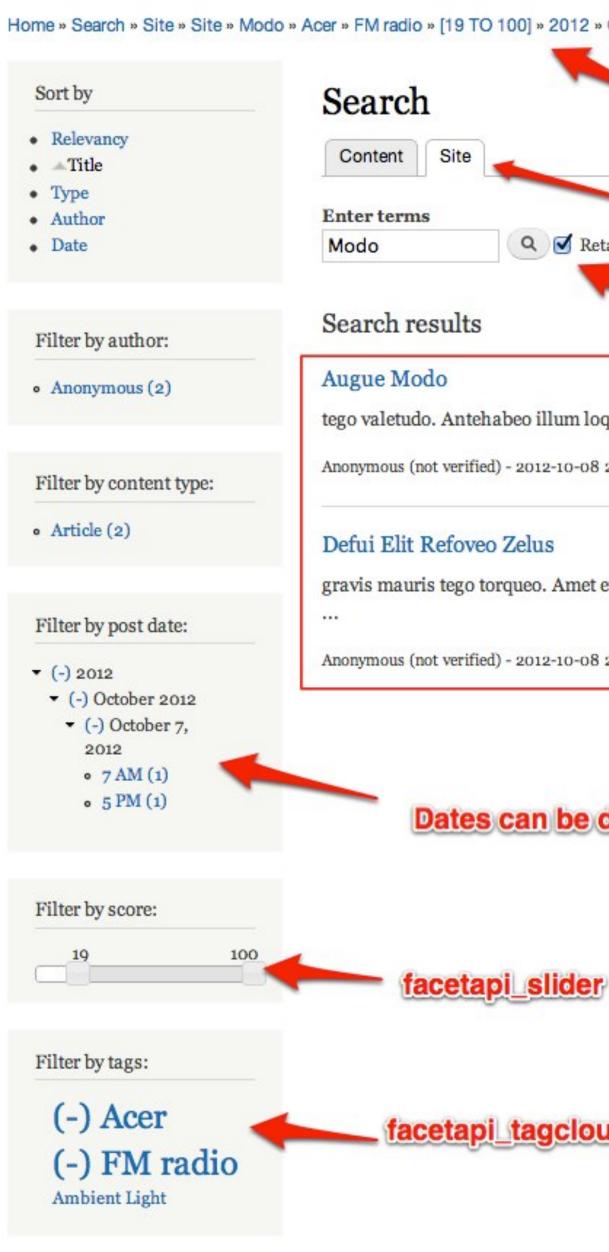








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» October 2012 » October 7, 2012				
Full customiza	able breadcrumbs			
Create multiple se	arch pages out of the box			
Retain current filters				
Retain filters	while searching new keywords			
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bud				

# 1. Fast

### 2. Text analysis

### **3.** Facets

4. Facets

5. Facets



Search API

### Cool views search

### Search: Fulltext search

macto imputo saluto

Apply

Title	Author	Content type	Date created	Comments	Relevance
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Duis	stunoveph	Review	2010-08-31	3	0.05652
Bene Persto Erat Quibus Molior Tamen	gugefruv	Review	2010-08-31	3	0.0557
Volutpat	tugatru	Review	2010-09-21	3	0.05485
Typicus	stunoveph	Review	2010-09-02	2	0.0507
Uxor Interdico Refero Enim	wuwume	Review	2010-09-15	2	0.05017
Commoveo Si lusto Ymo	clegulugothi	Review	2010-08-30	4	0.04976
Quae Pertineo Patria	gugefruv	Review	2010-09-16	4	0.046
Veniam Gravis	tugatru	Review	2010-09-26	2	0.046

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- (-) news writer
- authenticated user (14)
- vip (3)

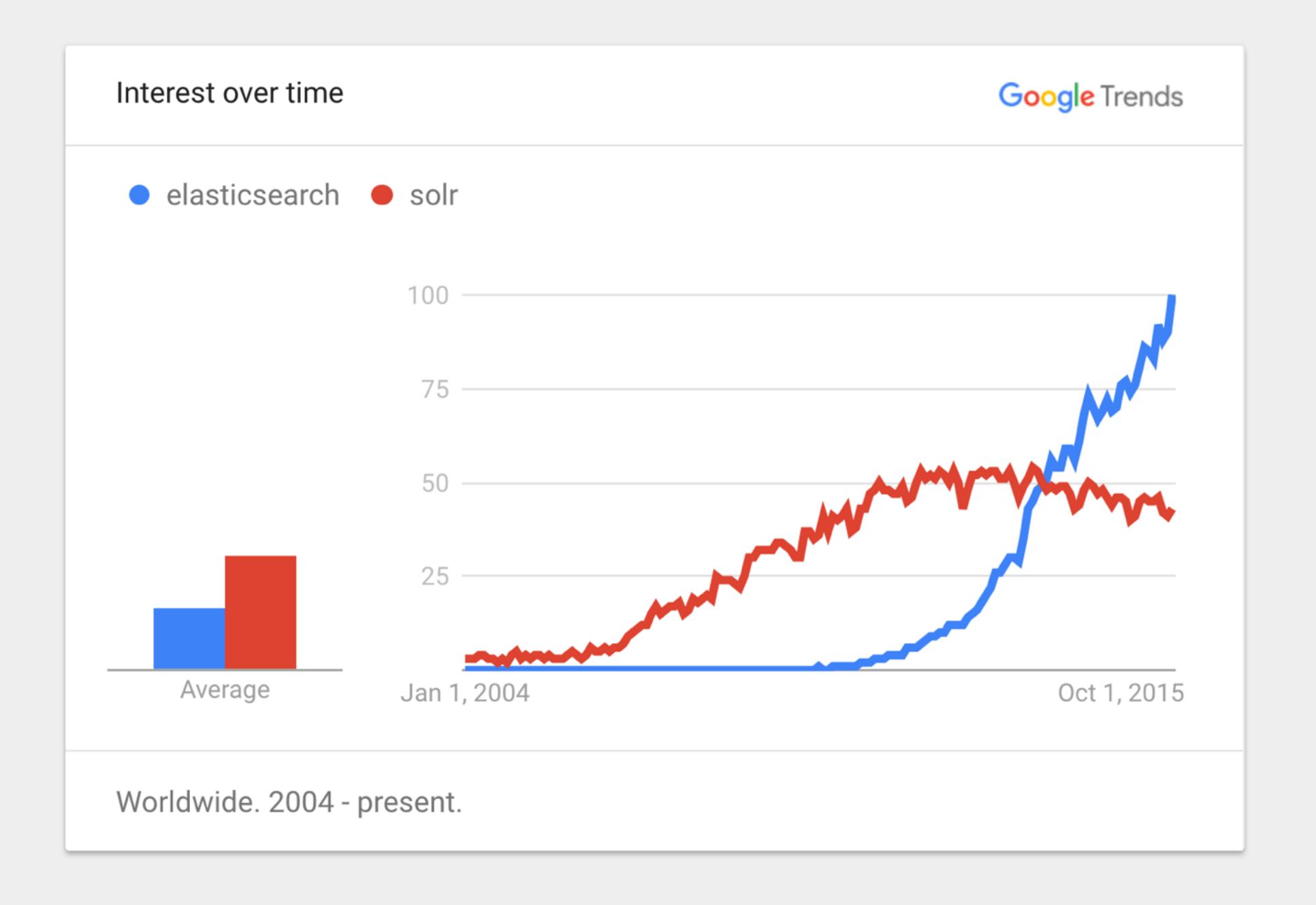
### Comment count

- 2 (5)
- 4(4)
- 3(4)

# 1. Abstraction of Solr 2. Configuration 3. Hard to customize



elasticsearch



### **Real-Time Data**

How long can you wait for insights on your fastmoving data? With Elasticsearch, all data is immediately made available for search and analytics.

### **Real-Time Advanced Analytics**

Combining the speed of search with the power of analytics changes your relationship with your data. Interactively search, discover, and analyze to gain insights that improve your products or streamline your business.

### **Massively Distributed**

Elasticsearch allows you to start small and scale horizontally as you grow. Simply add more nodes, and let the cluster automatically take advantage of

## Developer-Friendly, RESTful API

intranet

simple

search

powerful

(Icme)

### INFO PEOPLE NEWS PROJECTS

-

LATEST COMMENTS

### A possible new intranet! Great work! I was able to login and fill my profile fields!

A possible new intranet! Let's see if we want to use it.

### **TEST VIDEO HOME**



### **Read More**



LATEST UPDATE: FRIDAY 26.8. 06:20AM **Read more** 

### Acmetalk about the intra.

LATEST UPDATE: FRIDAY 26.8. 06:20AM on friday july 15th Read more

A possible new intranet! LATEST UPDATE: FRIDAY 5.8. 07:36AM **Read more** 

MARIO VERCELLOTTI



### Acme intranet at Drupalcamp Finland!

# installation

# \$ unzip elasticsearch-2.4.0.zip

\$ wget https://download.elastic.co/elasticsearch/

\$ ./elasticsearch/bin/elasticsearch



#### \$ composer require elasticsearch/elasticsearch:~2.0

indexing

```
/**
* Implements hook_entity_update().
*/
function mymodule_entity_update(EntityInterface $entity) {
  $client = \Elasticsearch\ClientBuilder::fromConfig([
    'hosts' => $this->config->get('hosts'),
  ]);
  $client->index([
    'index' => 'content',
    'type' => 'article',
    'id' => $entity->id(),
    'body' => $entity,
 ]);
}
```

```
{
 - nid: [
     - {
          value: "541"
   ],
 - uuid: [
     - {
          value: "84093f36-d1f8-46ca-8843-5e6d8fc7758b"
   ],
 - vid: [
     - {
          value: "542"
   ],
 - langcode: [
     - {
          value: "de"
   ],
 - type: [
    - {
          target_id: "article",
          target_type: "node_type",
          target_uuid: "a9ab9515-2840-46b7-9d26-b997a6b33f1f"
   ],
 - title: [
    - {
          value: "Lorem ipsum"
       }
   ],
 - uid: [
     - {
          target_id: "1",
          target_type: "user",
          target_uuid: "a5914f0b-c78a-4ecc-9b2a-0e423e6cb482",
```



```
{
    label: "Lorem ipsum",
    user: {
        id: 123,
            name: "John Smith"
        },
        image: "/sites/default/files/styles
}
```

image: "/sites/default/files/styles/thumbnail/public/image\_1234.jpg?itok=JDYnoJcJ"

# schema

```
$client->indices()->putMapping([
  'index' => 'content',
  'type' => 'article',
  'body' => [
    'properties' => [
      'created' => [
        'type' => 'date',
        'format' => 'epoch_second',
      ],
      'content' => [
        'type' => 'string',
        'analyzer' => 'english',
      ],
      'image_url' => [
        'type' => 'string',
        'index' => 'not_analyzed',
      ],
    ],
]);
```

searching

```
$result = $this->client->search([
  'index' => 'content,user',
  'body' => [
    'query' => [
      'multi_match' => [
        'query' => $input,
        'fuzziness' => 'AUTO',
        'prefix_length' => 1,
    ],
]);
```

'fields' => ['label^5', 'label.autocomplete'],

Ton	
Tony	
Tomi	
Jonny	

(Icme)

#### INFO PEOPLE NEWS PROJECTS

-

LATEST COMMENTS

#### A possible new intranet! Great work! I was able to login and fill my profile fields!

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#### **TEST VIDEO HOME**



#### **Read More**



LATEST UPDATE: FRIDAY 26.8. 06:20AM **Read more** 

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#### Acme intranet at Drupalcamp Finland!





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1 Ergebnisse für "L3412"

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35,6 x 16,9 mm, Inkjet, Farblaser, Laser s/w, Kopierer, wiederablösbar

Artikelnummer	L3412REV
Software Code	L34
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Q

Ideen & Inspirationen

V-25

3412

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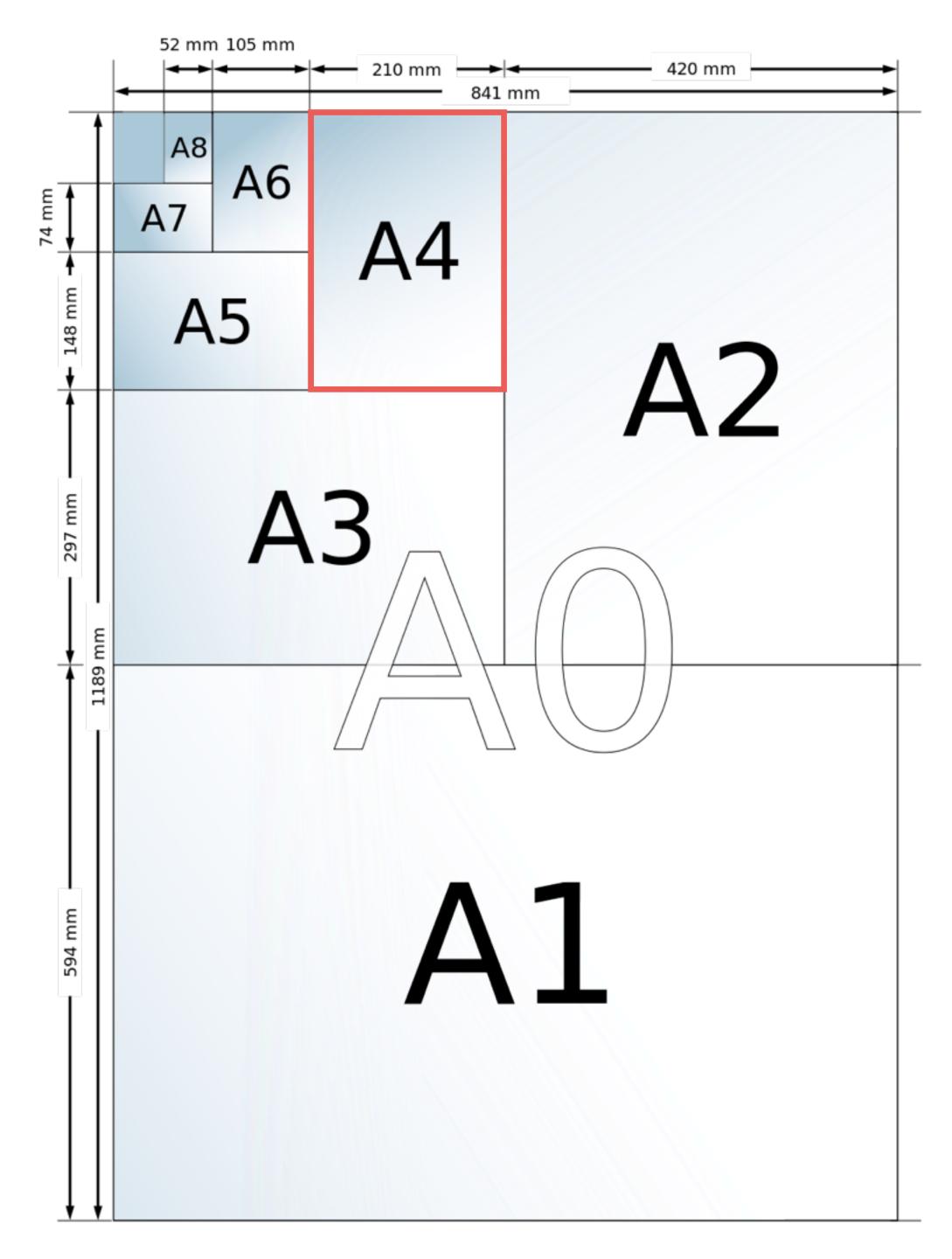
```
$search_query = [
  'index' => 'content-' . $langcode,
  'type' => 'product',
  'size' => 0,
  'body' =>
    'query' => [
     // Search query goes here, same as before.
    ],
    'aggs' => [
      'suggested_terms' => [
        'terms' => [
          'field' => 'suggestions.raw',
          'include' => [
            'pattern' => $input . '.*',
          ],
          'size' => 7,
        ],
      J,
    J,
];
```

// Use the raw term to preserve the original case.

'flags' => 'CANON\_EQ|CASE\_INSENSITIVE|UNICODE\_CASE',

```
foreach ($result['aggregations']['s
    $response[] = $bucket['key'];
}
```

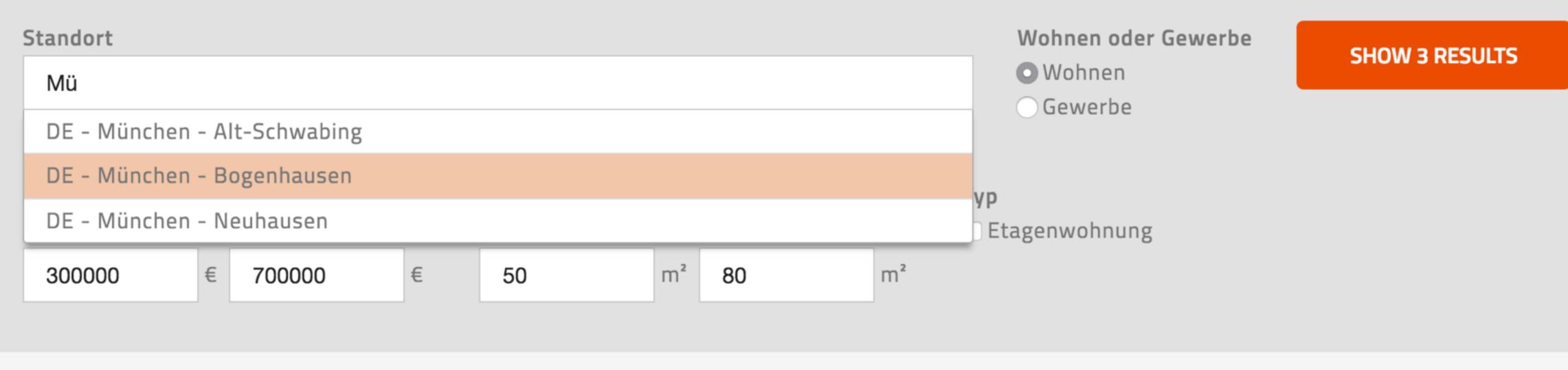
foreach (\$result['aggregations']['suggested\_terms']['buckets'] as \$bucket) {



```
$search_query = [
  'body' => [
    'query' => [
      'bool' => [
        'must' => [
          'match' => [
            'content' => $input
          ],
        ],
        'should' => [
          'term' =>
            'field_size' => 'DIN A4'
          ],
        ],
      ],
    ],
  」,
];
```

## Kauf

 $\equiv$ 



#### Suchergebnisse

Showing 7 results.

#### 3 Zimmer Wohnung in Neuhausen



Objektart:EtageWohnfläche ca.:72 mNutzfläche ca.:0 m²Grundstücksfläche ca.:0 m²

HINZUFÜGEN 🕂

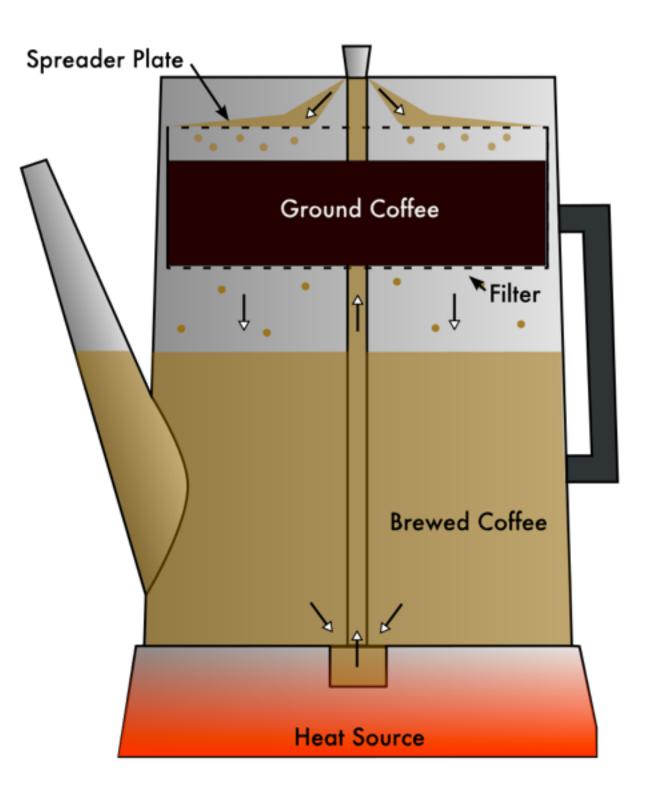
Etagenwohnung 72 m² 0 m² 0 m²

Provision (Kauf) 3,57%

Cost per m<sup>2</sup>







https://en.wikipedia.org/wiki/Coffee\_percolator





Docs

#### Elasticsearch Reference [2.4] » Search APIs » Percolator

« Understanding MultiTermQuery output

## Percolator

Traditionally you design documents based on your data, store them into an index, and then define queries via the search API in order to retrieve these documents. The percolator works in the opposite direction. First you store queries into an index and then, via the percolate API, you define documents in order to retrieve these queries.

The reason that queries can be stored comes from the fact that in Elasticsearch both documents and queries are defined in JSON. This allows you to embed queries into documents via the index API. Elasticsearch can extract the query from a document and make it available to the percolate API. Since documents are also defined as JSON, you can define a document in a request to the percolate API.

The percolator and most of its features work in realtime, so once a percolate query is indexed it can immediately be used in the percolate API.



Fields referred to in a percolator query must **already** exist in the mapping associated with the index used for percolation. There are two ways to make sure that a field mapping exist:



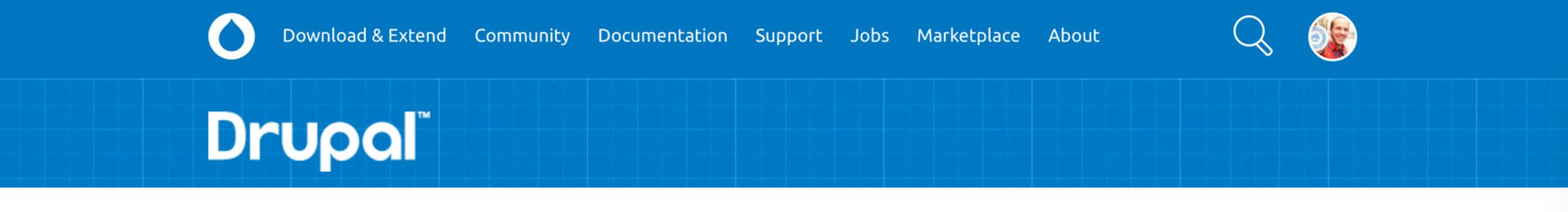


## Top Videos

#### Field stats API »

- Getting Started Scaling edit
  - Security





#### **Download & Extend**

Drupal Core

Distributions

Modules

Themes

#### Elasticsearch Helper



Version control Maintainers

Automated Testing

Posted by floretan on May 6, 2016 at 4:06pm

As the name indicates it, Elasticsearch Helper is a helper module to work with Elasticsearch on Drupal project.

Whereas modules like elasticsearch\_connector and other search\_api plugins try to abstract away the actual API of Elasticsearch, this module tries to embrace it instead. It provides some common tools on which to build your own integration.

The module defines an "ElasticsearchIndex" plugin type and a base implementation for you to extend. Unless you define your own plugin, this module will not do anything.

Supporting organizations: Wunder Group

**Project Information** 

Add Issues for Elasticsearch Helper to dashboard +

#### Maintainers for Elasticsearch Helper

floretan - 26 commits last: 2 months ago, first: 4 months ago

View all committers View commits

#### Issues for Elasticsearch Helper

To avoid duplicates, please search before submitting a new issue.

### https://www.drupal.org/project/elasticsearch\_helper

/\*\* \* @ElasticsearchIndex( \* id = "simple\_node\_index", \* label = @Translation("Simple Node Index"), \* indexName = "simple", \* typeName = "node", \* entityType = "node" \* \*/

}

#### class SimpleNodeIndex extends ElasticsearchIndexBase {



Accueil

#### 93 kots disponibles

#### ▲ Affiner la recherche

Trier par prix 🔻 🔺

Trier par superficie 🔻 🔺

Trier par date de modification 🔻 🔺



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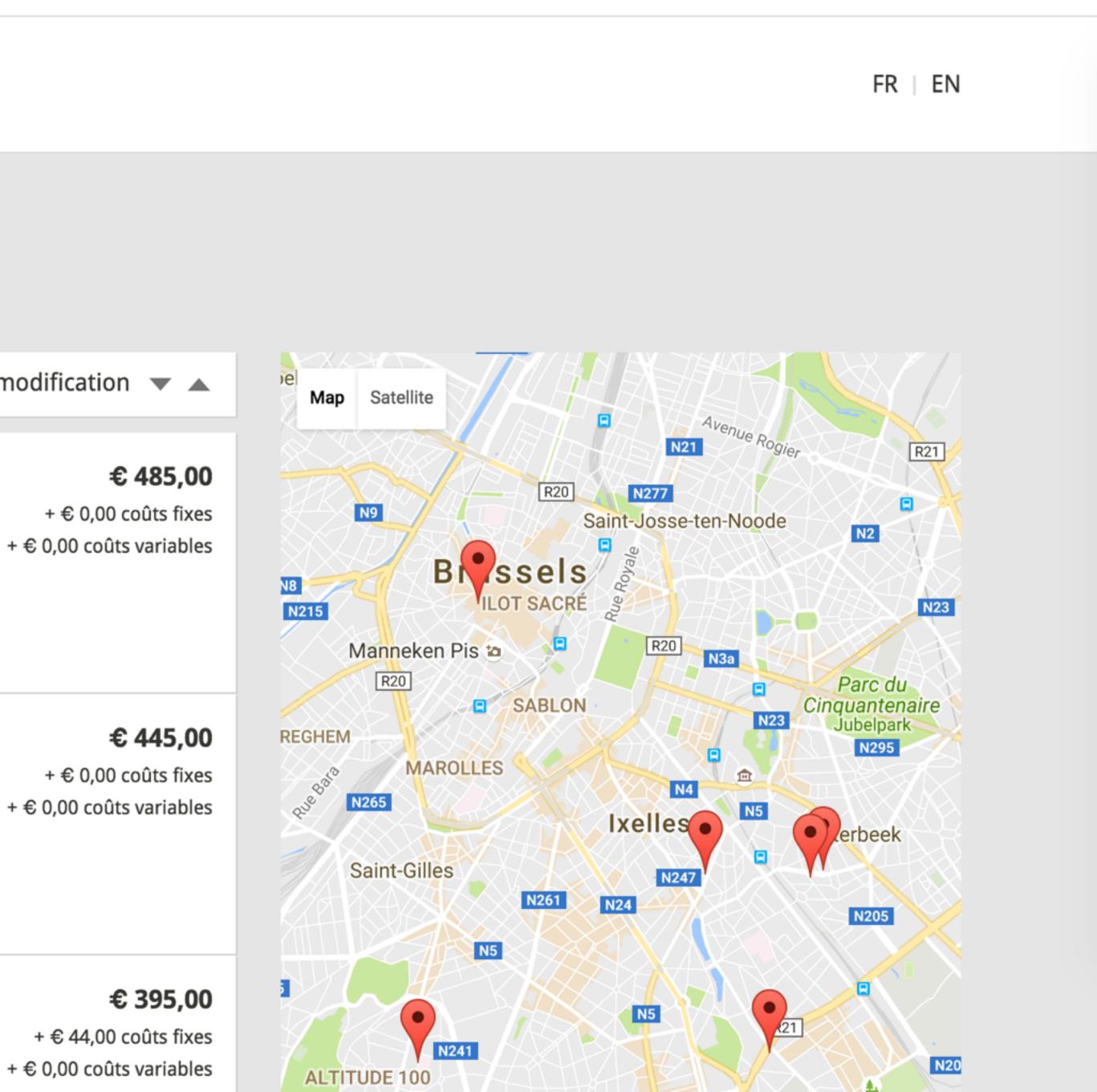
Disponible du 2016-09-01 au 2017-01-31

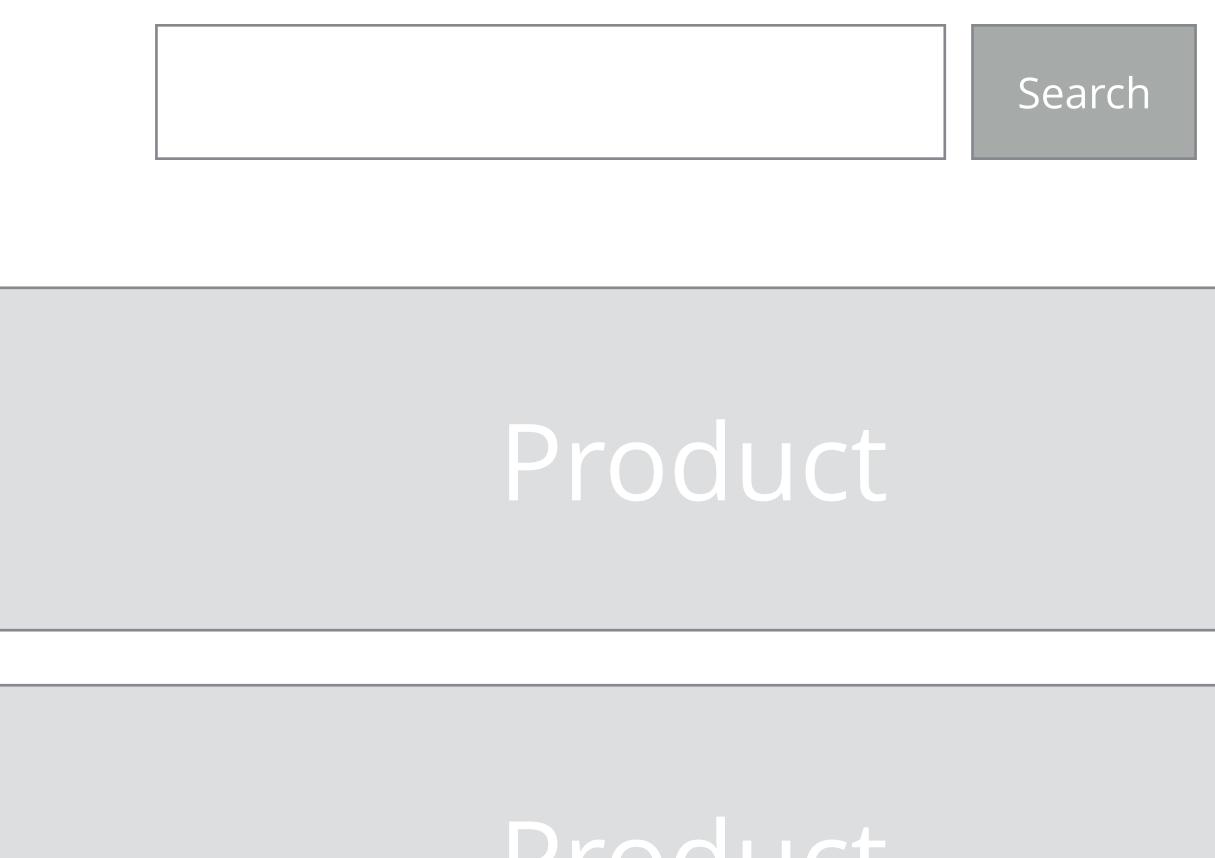


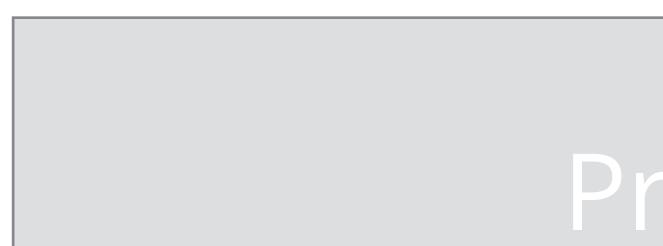
Boulevard Général Jacques 31, Kot 31-ES-01 10m<sup>2</sup> - 1050 Ixelles

Disponible du 2016-09-01 au 2017-08-31

Rue Scarron 48, Kot Studio 23m<sup>2</sup> - 1050 Ixelles







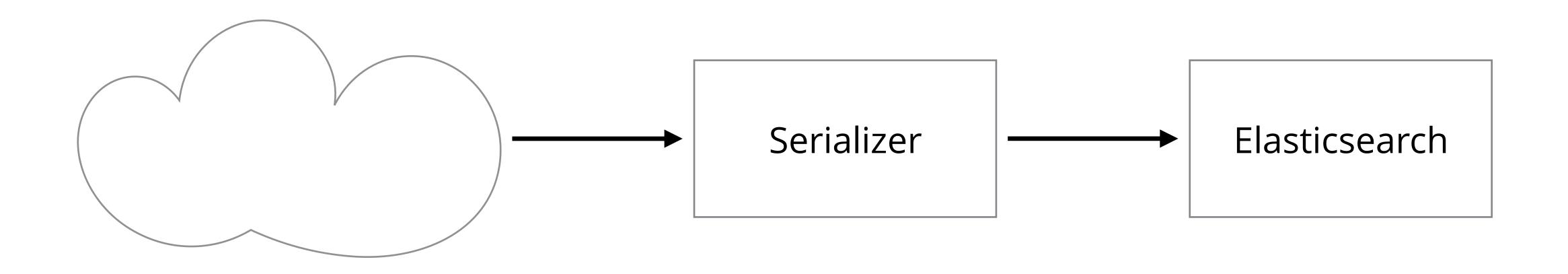
# Product

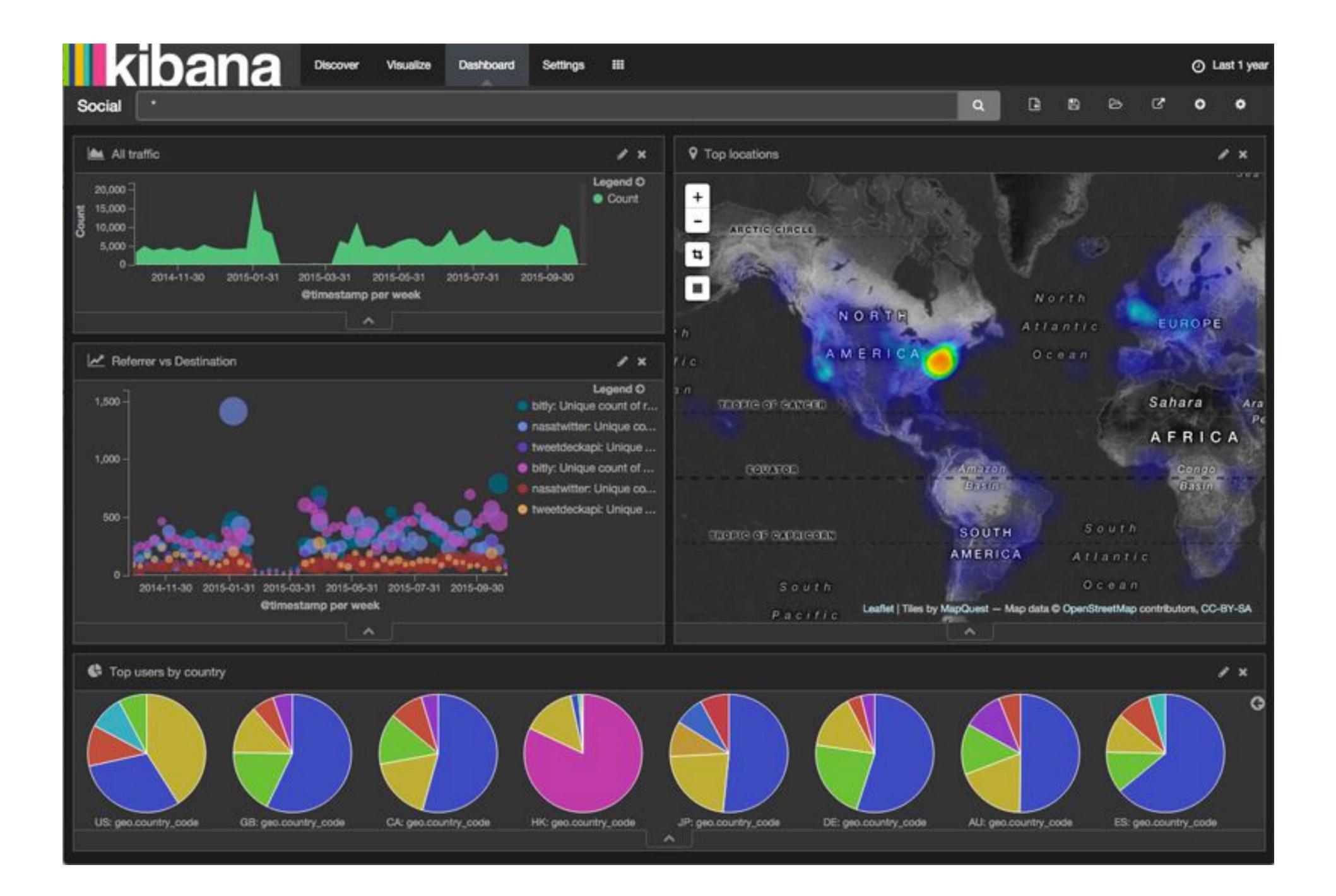
Product

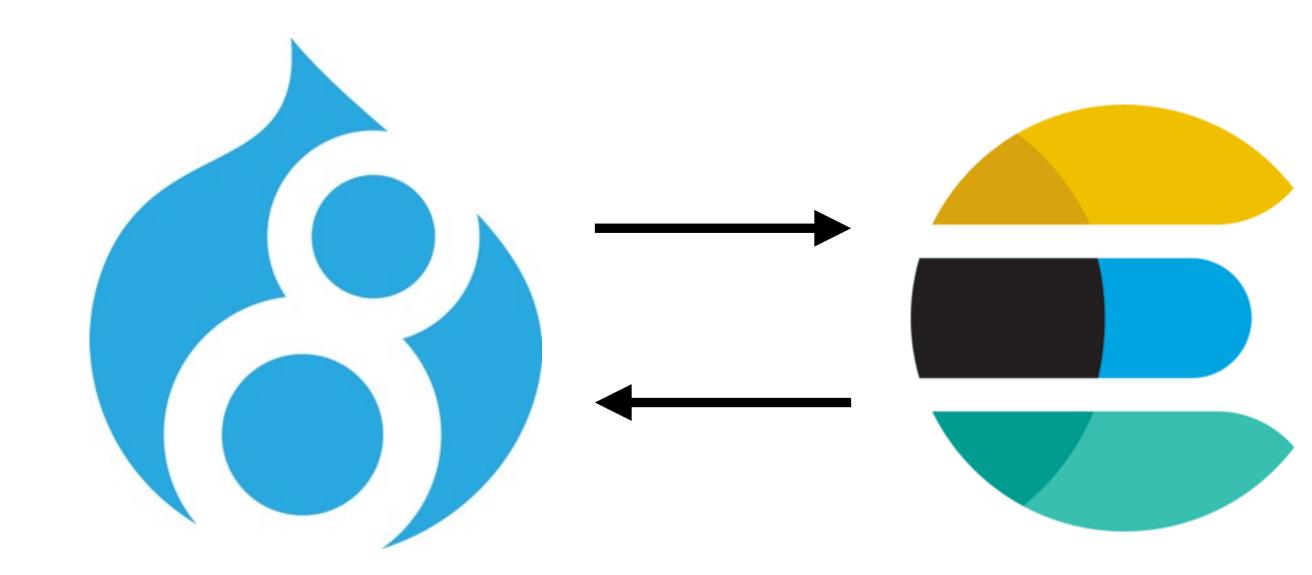
# SportScheck Wir machen Sport.

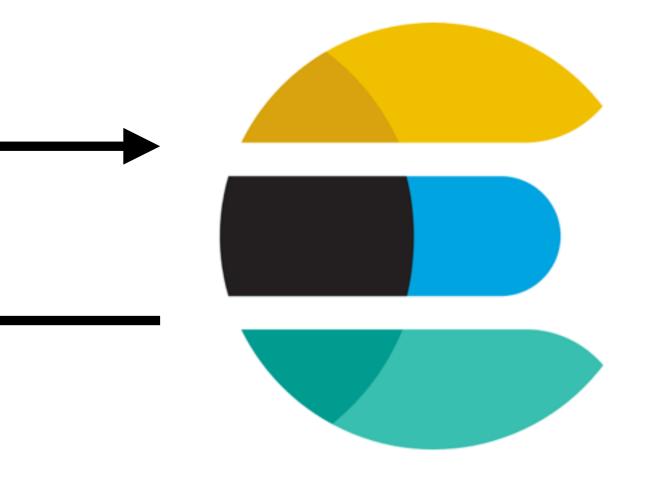
#### **Product categories**

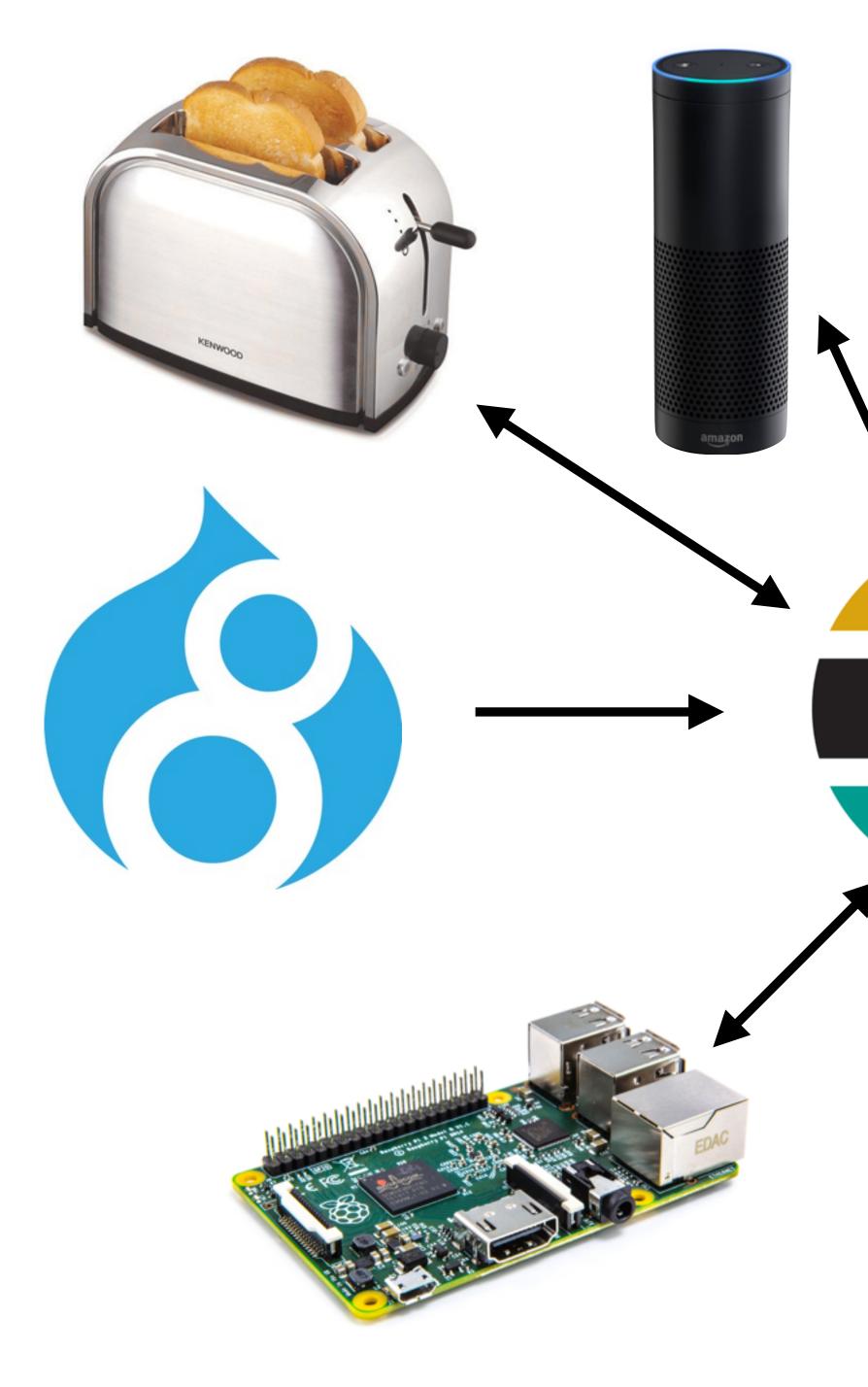
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## websites



# Summary

- If search matters, the details matter
- Elasticsearch has a really expressive API
- Elasticsearch is fun to work with

#### Vitalie Cracan David Park

## Marc Galang

## Yannick Leyendecker

## Mario Vercelloti

## Wouter Vanelslander

## Marcel Lambert

Pieter De Troyer

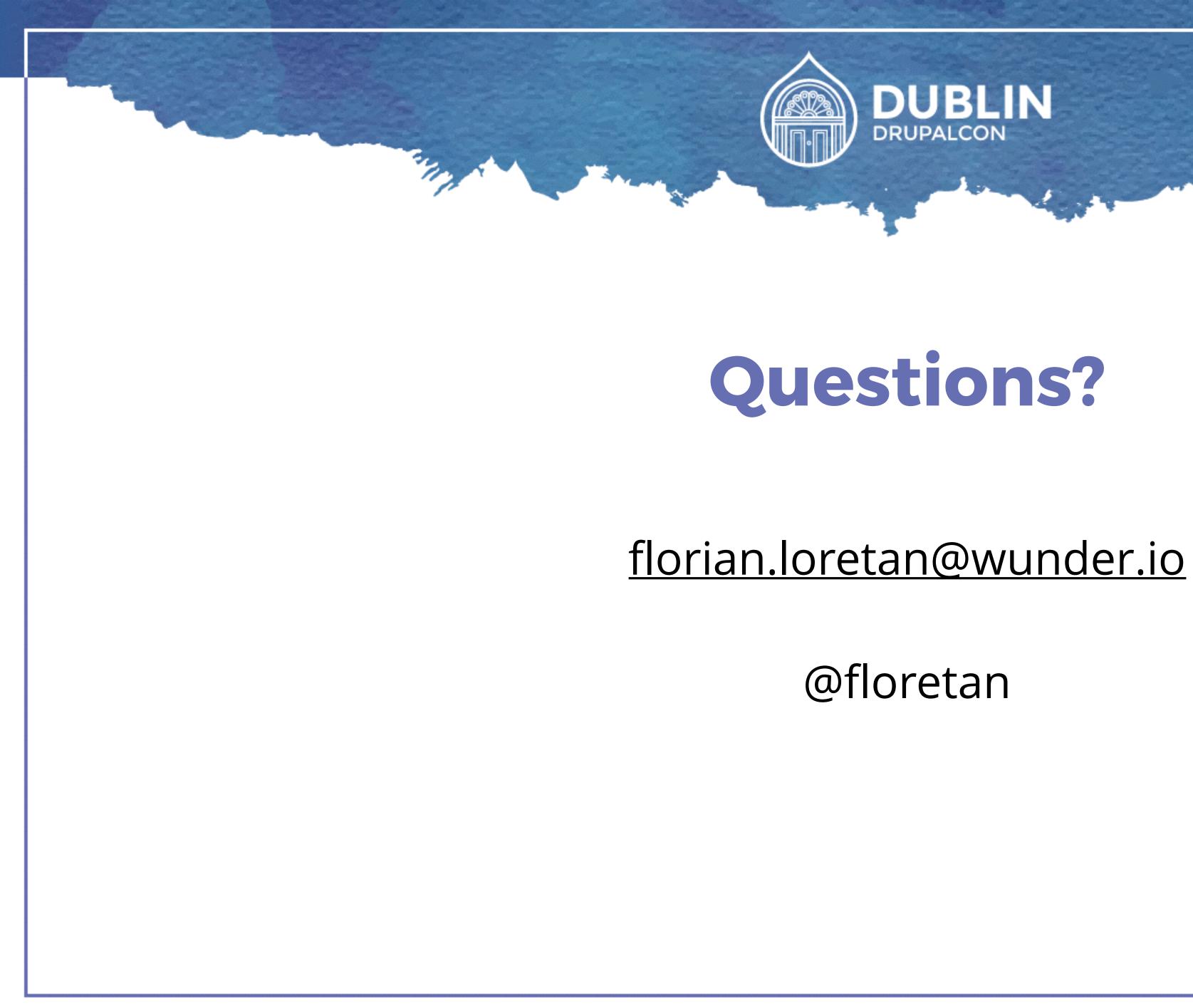
# Thanks

## Georg Oechsler

## Andreas Sahle

Marcus Exner

## Fredrik Lassen





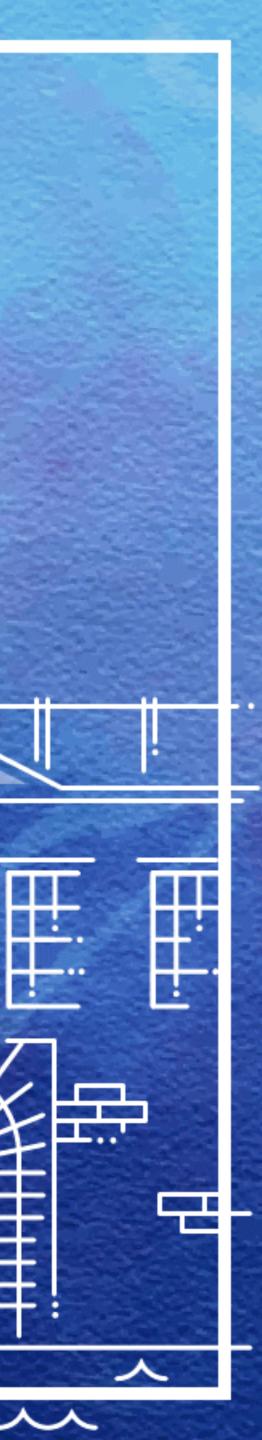


# WHAT DID YOU THINK? **Evaluate This Session**

## events.drupal.org/dublin2016/schedule



## THANK YOU!



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