

Search in Liferay 7

HARNESSING THE POWER OF SEARCH

Fabio Pezzutto, Architect at SMC

You Know, for Search...

About 3,990,000 results (0.30 seconds)

Liferay - Enterprise open source portal and collaboration ...

www.liferay.com/ ▾ Liferay ▾

Liferay Portal is the leading open source portal for the enterprise, offering content management, collaboration, and social out-of-the-box.

Results from.liferay.com



Liferay Portal

An overview of the Portal, Content, and Collaboration features and ...

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About Us

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Forums

Liferay Portal and additional project community forums. Ask ...

Wiki

Welcome to the Liferay Wiki Guide, an online collection of Liferay ...

Portal Features

A basic overview of Liferay Portal features and functions.

Liferay - Wikipedia, the free encyclopedia

<https://en.wikipedia.org/wiki/Liferay> ▾ Wikipedia ▾

Liferay Portal is a free and open source enterprise portal software product. Distributed under the GNU Lesser General Public License and optional commercial ...

Developer(s): Liferay Inc

License: LGPL License, and proprietary

Stable release: 6.2.3 (6.2 GA4) / April 17, ...

Operating system: Cross-platform

Liferay Portal | SourceForge.net

sourceforge.net/projects/lportal/ ▾

★★★★★ Rating: 4.5 - 93 votes - Free - BSD, Linux, Mac OS, Windows

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1-16 of 78 results for "liferay"

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Using Liferay Portal 6.2 Jan 22, 2015

by Sezov, Jr., Richard

Paperback

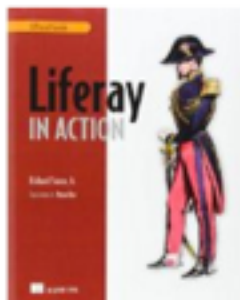
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by Rich Sezov

Paperback

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Liferay Portal 6.2 Enterprise Intranets Aug 28, 2015

by Navin Agarwal

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★★★★★ 2

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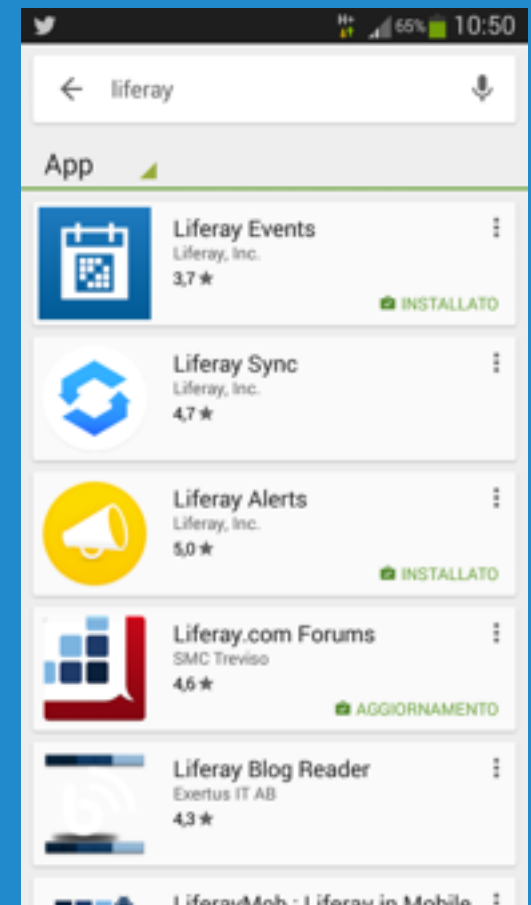
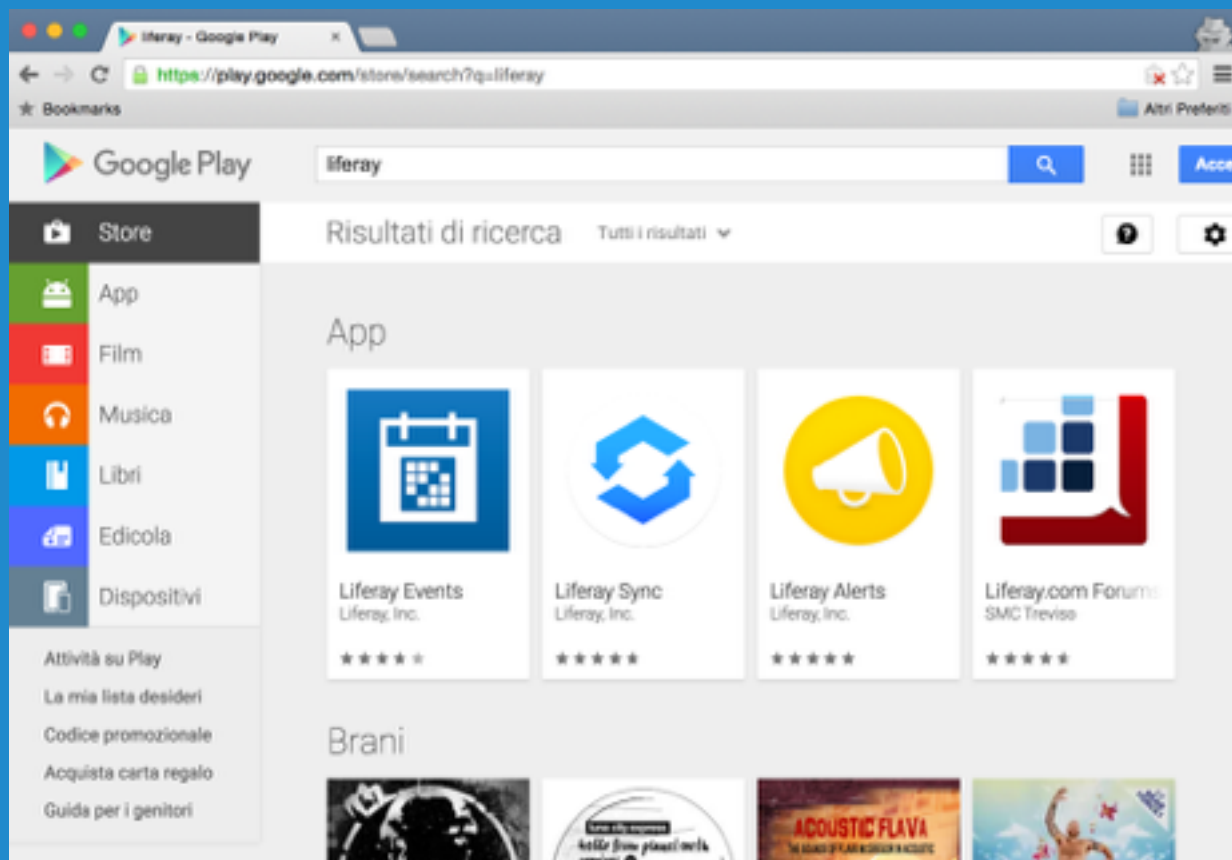
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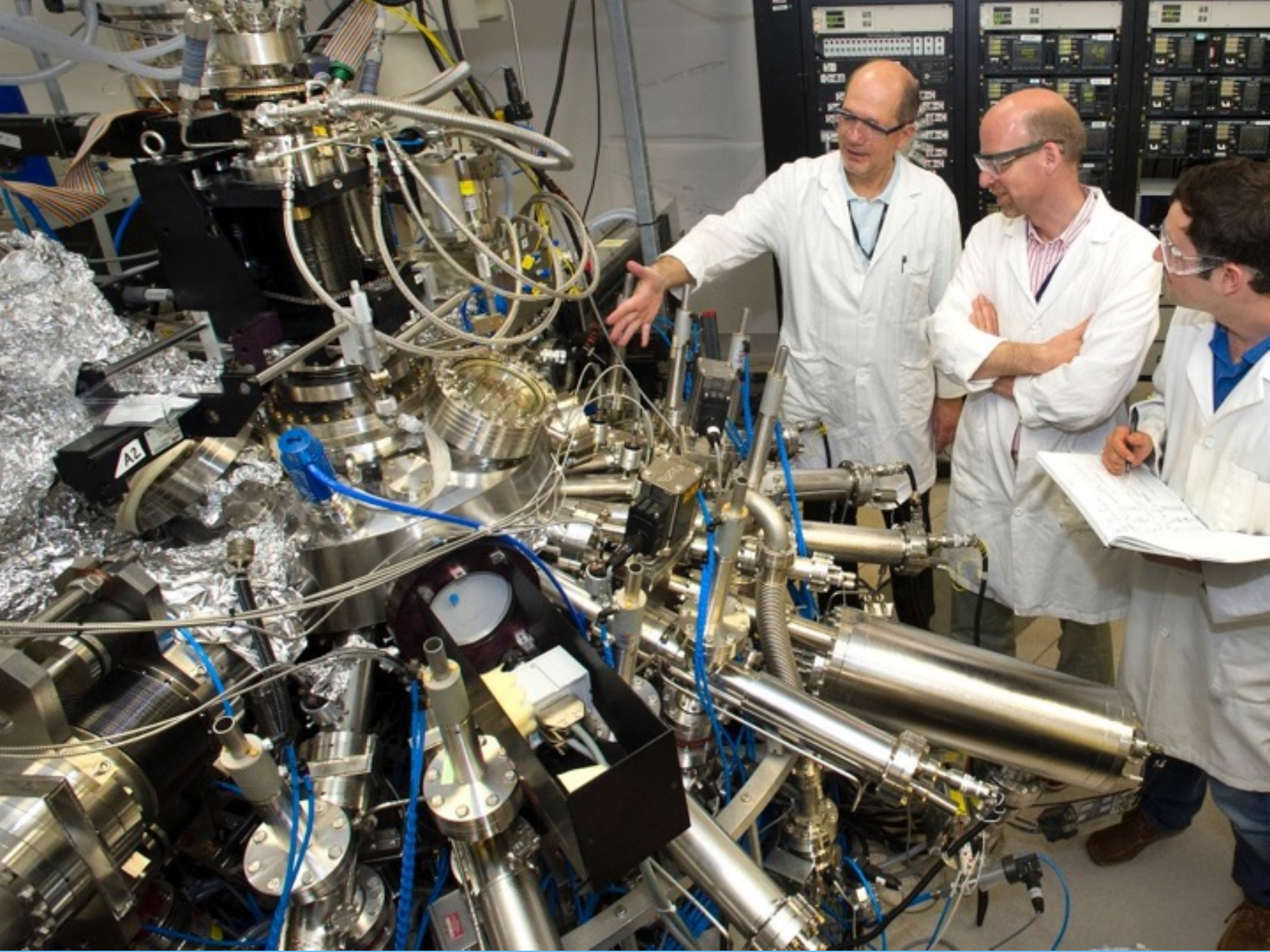
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Liferay 6.x Portal Enterprise Intranets Cookbook May 30, 2015

by Piotr Filipowicz and Katarzyna Ziolkowska



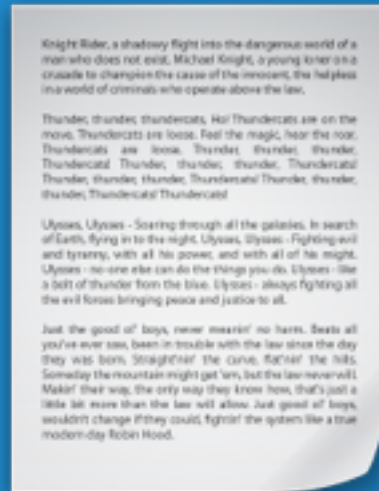
Come funziona...



INDEX



DOCUMENT



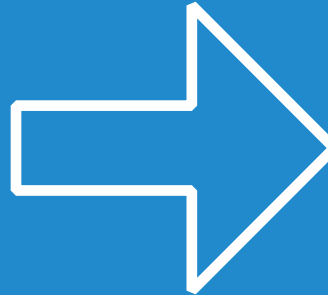
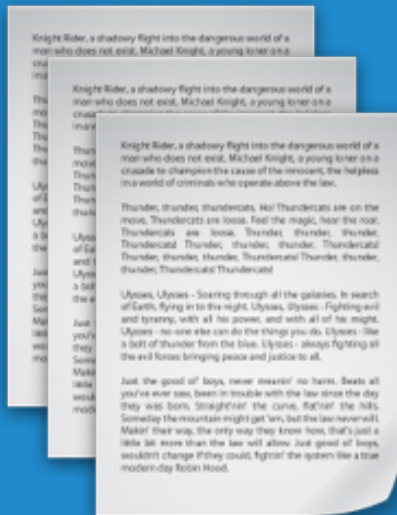
- FIELD 1 { "type": "string", "a

- FIELD 2 { "type": "date", "ana

- FIELD 3 { "type": "long", "ana

- FIELD 1 { "type": "string", "a

INDEXING



SPEED AND PRECISION

- Velocità
 - inverted index
- Precisione
 - relevance!
 - ranking
 - punteggio in base al matching dei campi
 - boosting

Search in Liferay 7

SEARCH IN LIFERAY 6

- Lucene come search engine embedded
- Clustering tramite dump e restore dell'indice
- Plugin per Solr 3 o 4 esterno

Lucene



NEW IN LIFERAY 7

- ◉ Elasticsearch come search engine embedded
- ◉ Search engine remoti: Solr e Elasticsearch
- ◉ Solr 5.x e SolrCloud
- ◉ Modularità
- ◉ Queries, Filters, Boosting, Geolocation
- ◉ Clustering demandato al search engine
- ◉ Componenti extra:
 - ◉ Kibana
 - ◉ Marvel
 - ◉ Shield



MODULARITY

- OSGi
- Il search engine di default diventa un plugin
- Possibilità di attivare nuovi search engine
- Punti di estensione:
 - Configurazioni dei nodi
 - Configurazione degli indici
 - Definizione mapping

QUERIES AND FILTERS

TermQuery / TermFilter

```
"term" : { "locale" : "it_IT" }
```

WildcardQuery

```
"wildcard" : { "company" : "L*ray" }
```

TermRangeQuery / RangeTermFilter

```
"range" : {  
  "age" : { "gte" : 8, "lte" : 42 }  
}
```

StringQuery

```
"query_string": { "query":  
  "(content:this OR name:this) AND  
(content:that OR name:that)" }
```

BooleanQuery / BooleanFilter

```
"bool" : {  
  "must" : {  
    "term" : { "locale" : "it_IT" }  
  },  
  "must_not" : {  
    "range" : {  
      "age" : { "from" : 8, "to" : 42 }  
    }  
  },  
  "should" : [  
    {  
      "wildcard" : { "company" : "L*ray" }  
    },  
    {  
      "term" : { "product" : "Portal" }  
    }  
  ]  
}
```

NEW QUERIES

MatchQuery

```
"match" : {
  "subject" : {
    "query" : "Liferay Portal",
    "type" : "phrase"
  }
}
```

MoreLikeThisQuery

```
"more_like_this" : {
  "fields" : ["title", "content"],
  "like_text" : "Search In Liferay 7",
  "min_term_freq" : 1, "max_query_terms" : 12
}
```

FuzzyQuery

```
"fuzzy" : {
  "user" : {
    "value" : "ed",
    "fuzziness" : 2,
    "max_expansions": 100
  }
}
```

DisMaxQuery

```
"dis_max" : {
  "tie_breaker" : 0.7,
  "queries" : [
    { "term" : { "age" : 34 } },
    { "term" : { "age" : 35 } }
  ]
}
```

MatchAllQuery / MatchAllFilter

```
"match_all" : {
  "boost" : 1.2
}
```

MultiMatchQuery

```
"multi_match" : {
  "query": "Enterprise. Open Source. For Life"
  "type":
  "fields": ["title", "title.original"]
}
```

NEW FILTERS

TermsFilter

```
"terms" : {  
  "locale" : ["de_DE", "it_IT", "en_CA"]  
}
```

PrefixFilter

```
"prefix" : { "product" : "life" }
```

ExistsFilter

```
"exists" : { "field" : "emailAddress" }
```

MissingFilter

```
"missing" : { "field" : "emailAddress" }
```

QueryFilter

```
"fquery" : {  
  "query" : {  
    "bool" : {  
      "must" : [  
        {  
          "wildcard" : {  
            "company" : "L*ray" }  
          }, {  
            "term" : { "product" : "Portal" }  
          }  
        ]  
      }  
    },  
    "_cache" : true  
  }  
}
```

AND MORE...

- ◉ Geolocation
 - ◉ GeoDistanceFilter
 - ◉ GeoDistanceRangeFilter
 - ◉ GeoBoundingBoxFilter
 - ◉ GeoPolygonFilter
- ◉ Aggregations
 - ◉ topHits
 - ◉ ExtendsStats
- ◉ Boosting

GeoBoundingBoxFilter

```
"geo_bounding_box" : {  
  "pin.location" : {  
    "top_left" : {  
      "lat" : 40.73,  
      "lon" : -74.1  
    },  
    "bottom_right" : {  
      "lat" : 40.01,  
      "lon" : -71.12  
    }  
  }  
}
```

BOOSTING

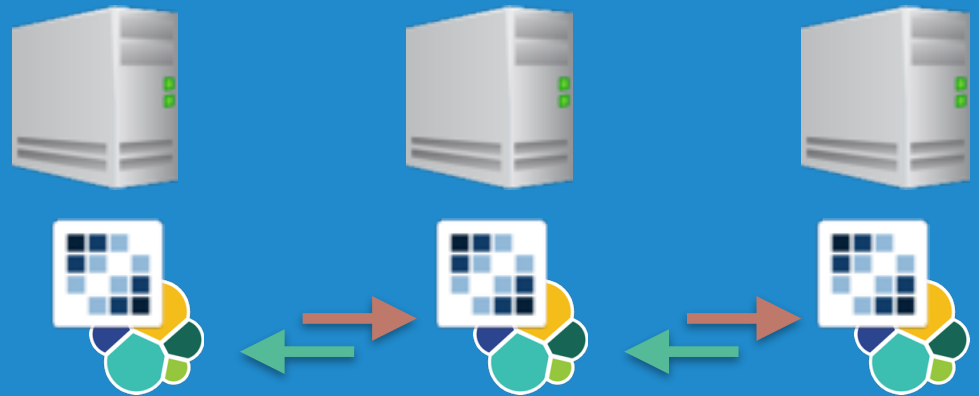


QUERY TIME BOOSTING

```
should": [ {  
  "match": {  
    "title": {  
      "query": "Liferay Portal",  
      "boost": 2  
    }  
  }  
},  
{  
  "multi_match": {  
    "query": "Liferay Portal",  
    "fields": ["content", "abstract^1.5"],  
    "analyzer": "autocomplete"  
  }  
}  
}
```

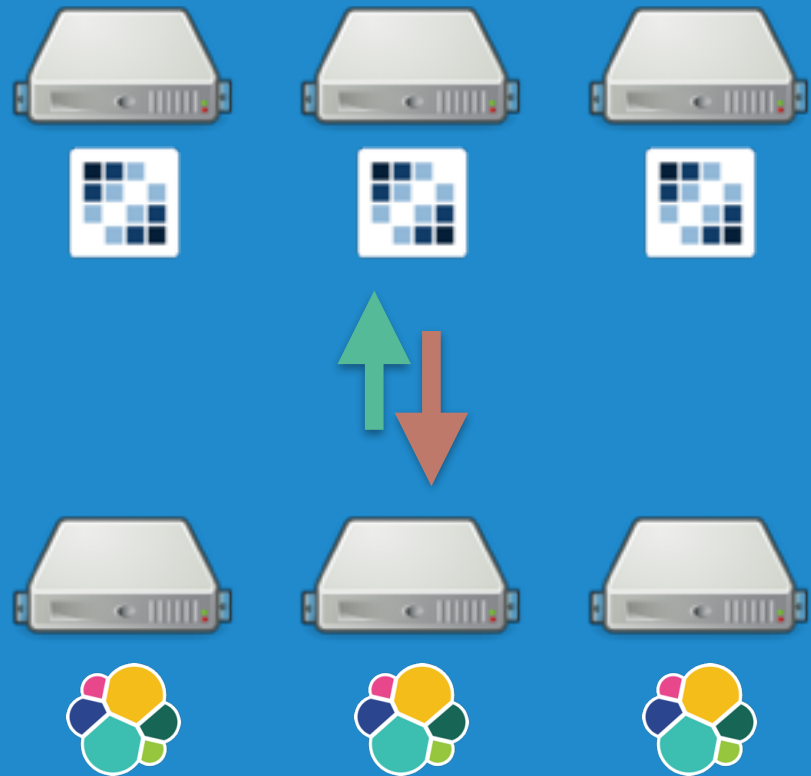
IN DEVELOPMENT

- Stessa JVM del portale
- elasticsearch.jar
- dimensionamento legato a quello del portale



IN PRODUCTION

- Configurazione di:
 - cluster name
 - transport address
 - etc



Elasticsearch



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elastic

WHY ELASTICSEARCH?

- ◉ Clustering nativo
- ◉ Multi-tenancy
- ◉ Basato su Lucene
- ◉ Semplice
- ◉ Ricca documentazione
- ◉ Open Source
- ◉ Completamente REST
- ◉ Ricche API java, python, ruby, etc.
- ◉ Supporto da elastic
- ◉ Tools di monitoring: Marvel



Worldwide ▾

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Web Search ▾

Compare Search terms ▾

elasticsearch

Search term

+ Add term

Interest over time ?

☒ News headlines ☐ Forecast ?



Regional interest ?

ANALYSIS

“Analysis is a process that consists of the following:

First, tokenizing a block of text into individual terms suitable for use in an inverted index. Then normalizing these terms into a standard form to improve their ‘searchability’, or recall”

Le componenti di un Analyzer sono:

- Character filter: converte i caratteri prima dei passarli al tokenizer
- Tokenizer: divide il testo in singoli blocchi di testo (termini)
- Token filter: ogni termine viene elaborato dai filtri che possono modificarli, cancellarli o aggiungerne di nuovi

CREATING A INDEX

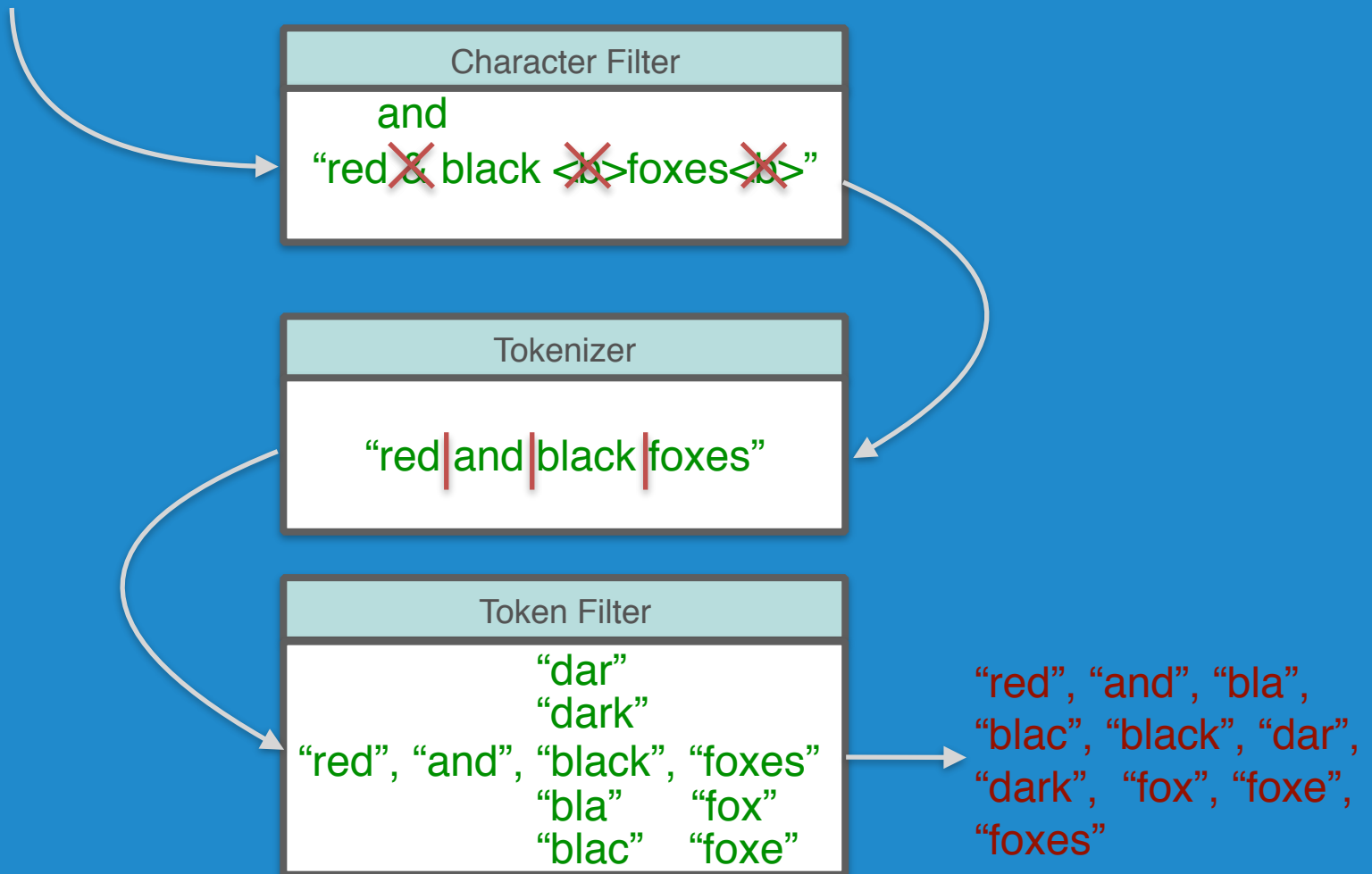
```
PUT /lris
{
  "settings": {
    "number_of_shards": 2,
    "analysis": {
      "filter": {
        "autocomplete_filter": {
          "type": "edge_ngram",
          "min_gram": 3,
          "max_gram": 20
        }
      },
      "char_filter": {
        "and_mapping" : {
          "type" : "mapping",
          "mappings" : ["&=>and"]
        }
      },
      "analyzer": {
        "autocomplete": {
          "type": "custom",
          "char_filter" : ["and_mapping"],
          "tokenizer": "standard",
          "filter": [
            "lowercase", "standard", "autocomplete_filter"
          ]
        }
      }
    }
  }
}
```

MAPPING

```
PUT /lris/_mapping/account/  
{  
  "account": {  
    "properties": {  
      "ssn": {  
        "type": "string",  
        "index": "not_analyzed"  
      },  
      "name": {  
        "type": "string",  
        "analyzer": "autocomplete"  
      },  
      "address": {  
        "type": "string",  
        "analyzer": "autocomplete"  
      }  
    }  
  }  
}
```

ANALYSIS

“red & black foxes”



ANALYSIS

“dark fox”

	<i>dark</i>	<i>fox</i>
<i>red</i>		
<i>and</i>		
<i>bla</i>		
<i>blac</i>		
<i>black</i>		
<i>dar</i>		
<i>dark</i>	×	
<i>fox</i>		×
<i>foxes</i>		

Demo...

SHIELD

- Protegge gli indici tramite autenticazione
- Comunicazione nel cluster cifrata SSL/TSL
- Restringe l'accesso in base all'IP
- Disponibile per EE



MARVEL

Clusters Overview Indices Nodes III

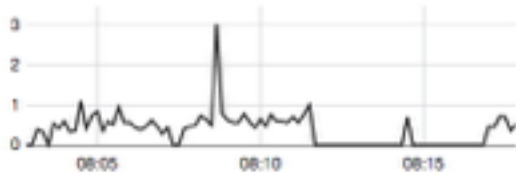
5 seconds Last 15 minutes

Cluster: elastic-web-qa Status: Green Nodes: 3 Indices: 9 Memory: 269MB / 3GB Total Shards: 18 Unassigned Shards: 0 Documents: 320.5k Data: 333.4MB Uptime: 16 hours Version: 2.0.0

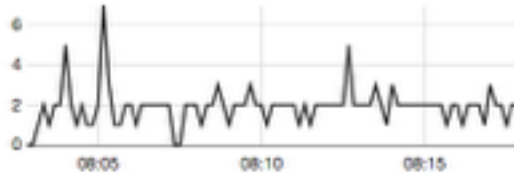
Wild Child

127.0.0.1:9300 Documents: 66.2k Data: 20.1MB Free Disk Space: 26.1GB Indices: 6 Total Shards: 6

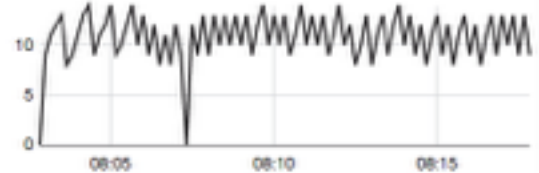
Search Latency: 0.524 ms



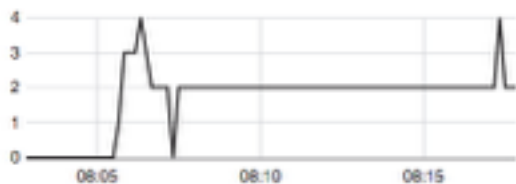
Indexing Latency: 2 ms



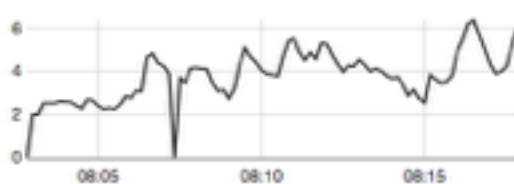
JVM Heap Usage: 9 %



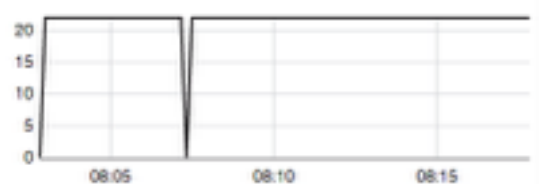
CPU Utilization: 2 %



System Load Average: 5.985



Segment Count: 22

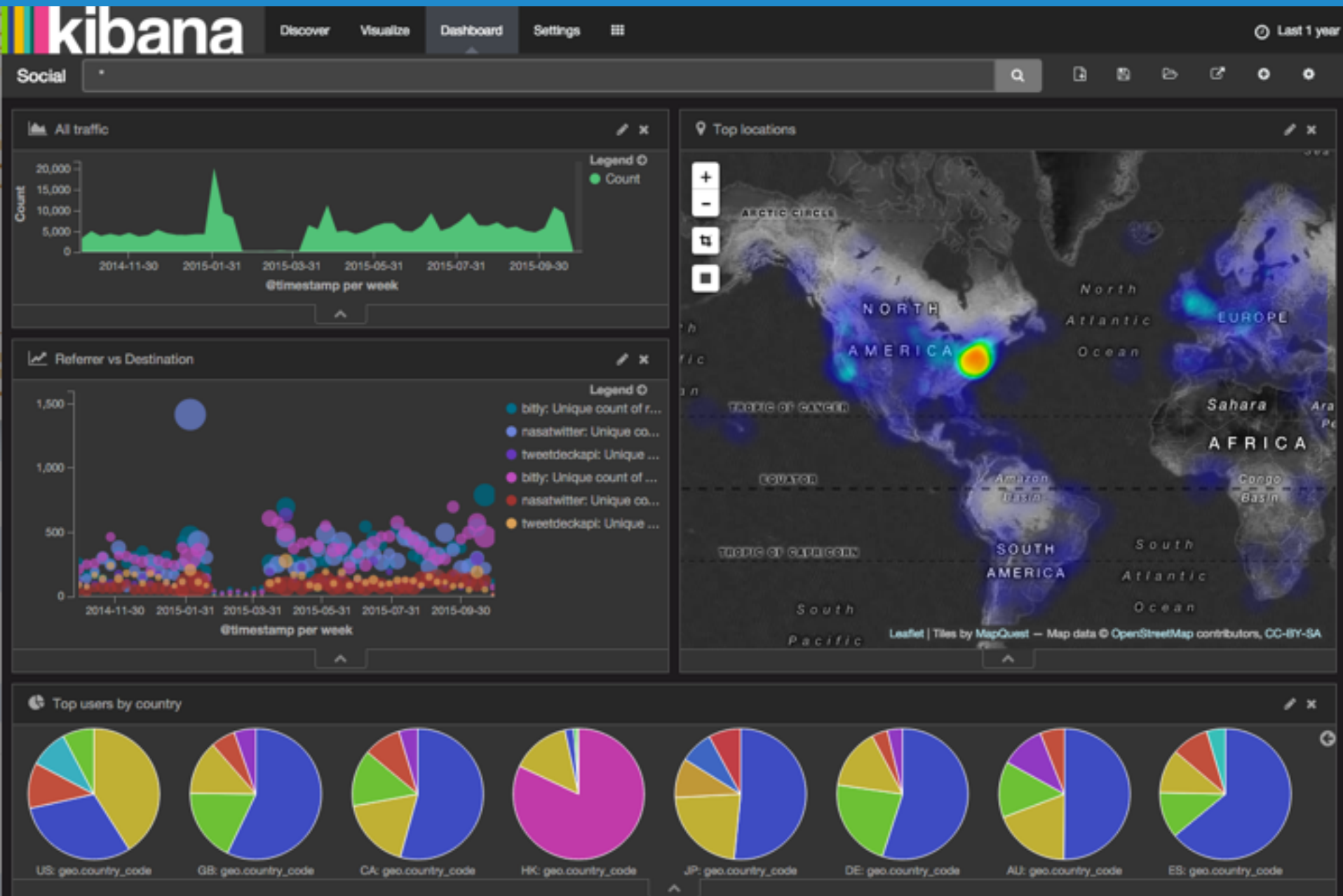


Shard Legend Primary Replica Relocating Initializing Unassigned Primary Unassigned Replica

Indices

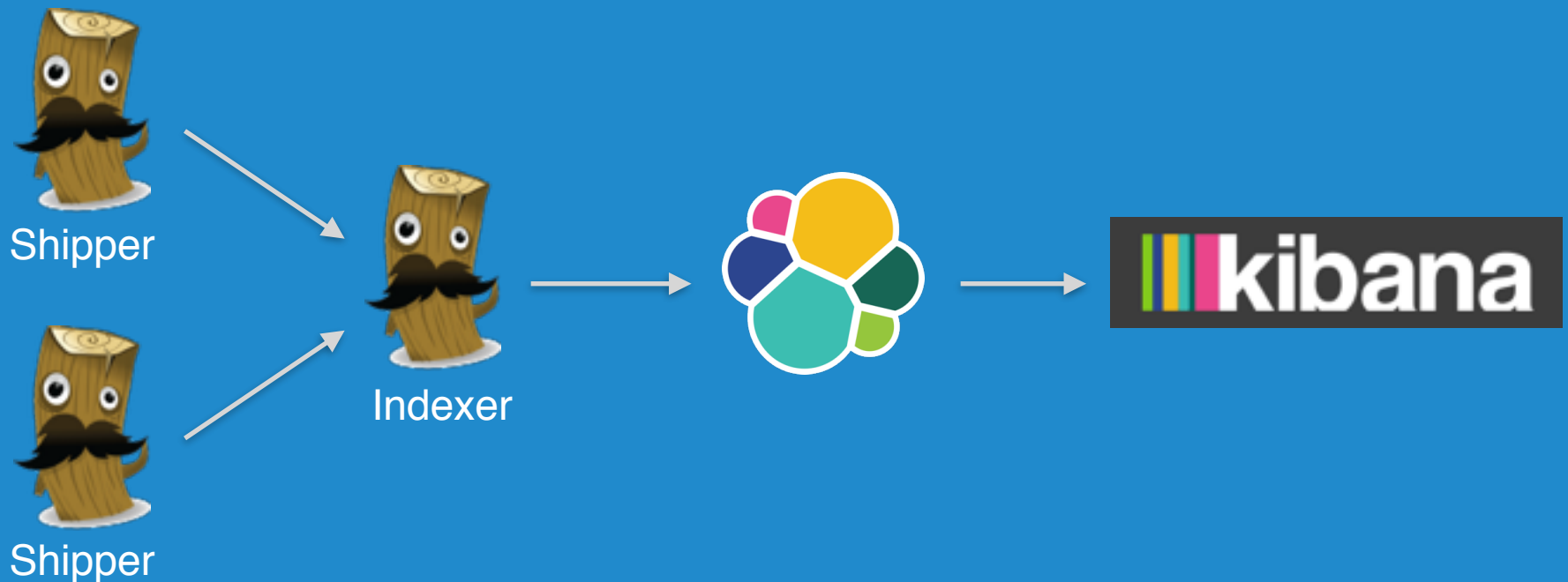
.marvel-es-2015.10.23 0 .marvel-es-2015.10.24 0 .marvel-es-2015.10.25 0 .marvel-es-2015.10.26 0 .marvel-es-2015.10.27 0 .marvel-es-data 0

KIBANA



LKS

- ◉ LogStash per raccogliere e indicizzare i dati
- ◉ Elasticsearch come indice
- ◉ Kibana per visualizzazione





Q&A?



Community Excellence Award 2015

For outstanding contributions to the Liferay Community



@deksterdotfa



@fabiopezzutto

Grazie :-)

Fabio Pezzutto, SMC

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