




Large-Scale Semantic Code Search on the Web

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Elastic, Team Lead



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 神州数码
Digital China

金牌级赞助商  iData API

合作伙伴  开源中国
oschina.net

 掘金

 知乎

 IT大数据

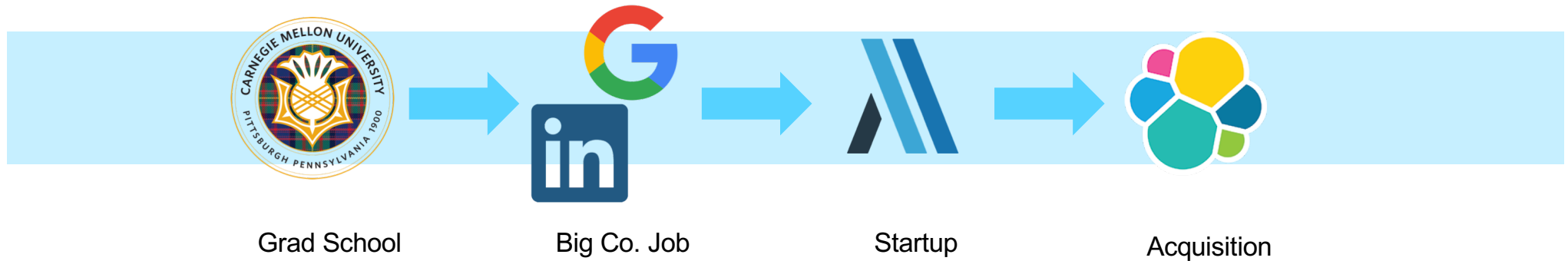
 otpub

 Broadview
www.broadview.com.cn

 百格活动
bagevent.com

 MAXHUB
高效会议平台

The Journey of Code Search Team





Given the pervasiveness of code search
in software development ... code search
tools have ... significant impact on
developers' overall practices and
performance

How Developers Search for Code: A Case Study
Google Research

But... I can already search code on GitHub!

Code340

Commits64

Issues172

Languages

Java	329
AsciiDoc	9
Markdown	1
XML	1

[Advanced search](#) [Cheat sheet](#)

340 code results in [elastic/elasticsearch](#) or view all results on GitHub

Sort: Best match

[docs/java-rest/high-level/query-builders.asciidoc](#)

AsciiDoc

Showing the top two matches Last indexed on Jun 25

4 This page lists all the available search queries with their corresponding

5 'QueryBuilder' class name and helper method name in the

6 'QueryBuilders' utility class.

7 :query-ref: {elasticsearch-javadoc}/org/elasticsearch/index/query

...

14 | Search Query | QueryBuilder

Class | Method in QueryBuilders

15 | {ref}/query-dsl-match-all-query.html[Match All] | {query-ref}/MatchAllQueryBuilder.html[MatchAllQueryBuilder] | {query-ref}/QueryBuilders.html#matchAllQuery--[QueryBuilders.matchAllQuery()]

[x-pack/plugin/ml/src/test/java/org/elasticsearch/xpack/ml/job/persistence/ResultsFilterBuilderTests.java](#)

Java

Showing the top two matches Last indexed on Jun 25

6 package org.elasticsearch.xpack.ml.job.persistence;

7

8 import org.elasticsearch.index.query.QueryBuilder;

9 import org.elasticsearch.index.query.QueryBuilders;

...

17 QueryBuilder fb = new ResultsFilterBuilder().build();

18

19 assertEquals(QueryBuilders.matchAllQuery().toString(), fb.toString());

[client/rest-high-level/src/test/java/org/elasticsearch/client/documentation/QueryDSLDocumentationTests.java](#)

Java

Showing the top three matches Last indexed on Jun 25

43 import static org.elasticsearch.index.query.QueryBuilders.boolQuery;

44 import static org.elasticsearch.index.query.QueryBuilders.boostingQuery;

How is Code Search Different from TF-IDF Search

- Source Code Over text content
 - `"/use Querybuilders class to create a query"` Vs `"Public Class Querybuilders"`
- Definition Over Reference
 - `"QueryBuilders qb = new Querybuilders()"` Vs `"Public Class Querybuilders"`
- Symbol Understanding
 - Search for `"org.elasticsearch.Querybuilders"`
- Advanced syntax
 - `"querybuilders type:class repo:github.com/elastic/elasticsearch"`

Code

dharmaswanStationmastersrc/componentsbutton.tsx

FileStructure

src

components

button

button.scss

button.tsx

index.d.ts

```
1 import React from 'react';
2 import PropTypes from 'prop-types';
3 import classNames from 'classnames';
4 import { EuiPropTypes } from '../utils';
5
6 import { isColorDark, hexToRgb } from '../services/color';
7 import { EuiKeyboardAccessible } from '../accessibility';
8
9 import {
10   ICON_TYPES,
11   EuiIcon,
12 } from './icon';
13
14 const colorToClassNameMap = {
15   default: 'euiBadge--default',
16   primary: 'euiBadge--primary',
17   secondary: 'euiBadge--secondary',
18   accent: 'euiBadge--accent',
19   warning: 'euiBadge--warning',
20   danger: 'euiBadge--danger',
21   hollow: 'euiBadge--hollow',
22 };
23
24 export const COLORS = Object.keys(colorToClassNameMap);
25
26 const iconSideToClassNameMap = {
27   left: '',
28   right: 'euiBadge--iconRight',
29 };
30
31 export const ICON_SIDES = Object.keys(iconSideToClassNameMap);
32
33 export const EuiBadge = ({
34   children,
35   color,
36   iconType,
37   iconSide,
```

Station

Search Settings

Symbols108 Results

util.SwanStation

dharmastations > src/main/java/org/stationUtils/SwanStation.java

interface Station {

dharmastations > src/main/java/org/stationUtils/SwanStation.java

SwanStation

dharmastations > src/main/java/org/stationUtils/SwanStation.java

View More

Repos2 Results

dharmastationMatrix

Last updated: Yesterday at 4:23pm

dharmastanStation

Last updated: Today at 1:08am

Files8 Results

dharmastationMatrix

Last updated: Yesterday at 4:23pm

dharmastanStation

Last updated: Today at 1:08am

dharmastanStation

Last updated: Today at 1:08am

dharmastanStation

Last updated: Today at 1:08am

View More

Press ↵ Return for Full Text Search

Project Settings

Re-index Project

Share project

queryBuilder

Search Settings

4 Repos

elastic/castro

3 Languages

Java

Showing 1 - 20 of 330 Results for 'queryBuilders'

elastic/elasticsearch

2 hits from server/src/main/java/org/elasticsearch/index/query/QueryBuilders.java

```
--
+ Utility class to create search queries
*/
public final class QueryBuilders {

    private QueryBuilders () {
    }
}
--
```

elastic/elasticsearch

19 hits from x-pack/plugin/ml/src/test/java/org/elasticsearch/xpack/ml/job/persistence/ResultsFilterBuilderTests.java

```
--
7
8 import org.elasticsearch.index.query.QueryBuilder;
9 import org.elasticsearch.index.query.QueryBuilders;
10 import org.elasticsearch.test.ESTestCase;
11 import org.elasticsearch.xpack.core.ml.job.results.Result;
12
13
14
15
16
17     QueryBuilder fb = new ResultsFilterBuilder().build();
18
19     assertEquals(QueryBuilders.matchAllQuery().toString(), fb.toString());
20 }
21
22
23 public void testBuild_GivenFilterInCtorButNoAdditionalFilters() {
24     QueryBuilder originalFilter = QueryBuilders.existsQuery("someField");
25     QueryBuilder fb = new ResultsFilterBuilder(originalFilter).build();
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Code340

Commits64

Issues172

Languages

Java329

AsciiDoc9

Markdown1

XML1

Advanced search

Cheat sheet

340 code results in [elastic/elasticsearch](#) or view [all results on GitHub](#)

Sort: Best match ▾

docs/java-rest/high-level/query-builders.asciidoc

AsciiDoc

Showing the top two matches Last indexed on Jun 25

4

This page lists all the available search queries with their corresponding 'QueryBuilder' class name and helper method name in the 'QueryBuilders' utility class.

5

6

7

:query-ref: {elasticsearch-javadoc}/org/elasticsearch/index/query

...

14

| Search Query | QueryBuilder

Class | Method in QueryBuilders

15

| {ref}/query-dsl-match-all-query.html[Match All] | {query-ref}/MatchAllQueryBuilder.html[MatchAllQueryBuilder] | {query-ref}/QueryBuilders.html#matchAllQuery---[QueryBuilders.matchAllQuery()]

x-pack/plugin/ml/src/test/java/org/elasticsearch/xpack/ml/job/persistence/ResultsFilterBuilderTests.java

Java

Showing the top two matches Last indexed on Jun 25

6

package org.elasticsearch.xpack.ml.job.persistence;

7

8

import org.elasticsearch.index.query.QueryBuilders;

9

import org.elasticsearch.index.query.QueryBuilders;

...

17

QueryBuilder fb = new ResultsFilterBuilder().build();

18

19

assertEquals(QueryBuilders.matchAllQuery().toString(), fb.toString());

client/rest-high-level/src/test/java/org/elasticsearch/client/documentation/QueryDSLDocumentationTests.java

Java

Showing the top three matches Last indexed on Jun 25

43

import static org.elasticsearch.index.query.QueryBuilders.boolQuery;

44

import static org.elasticsearch.index.query.QueryBuilders.boostingQuery;

Code Search Goes Beyond the Search Box

- Jump to the definition of a symbol
- Find all the references of a symbol
- List all the methods and member variables of a class

dharmaswanStation / master / src / components / button.tsx

FileStructure

src

components

button

button.scss

button.tsx

index.d.ts

1import React from 'react';

2import PropTypes from 'prop-types';

3import classNames from 'classnames';

4import { EuiPropTypes } from '../utils';

5

6import { isColorDark, hexToRgb } from '../../services/color';

7import { EuiKeyboardAccessible } from '../accessibility';

8

9import {

10 ICON_TYPES,

11 **EuiIcon**

12} from '../icon';

13

14const colorToClassNameMap = {

15 default: 'euiBadge--default',

16 primary: 'euiBadge--primary',

17 secondary: 'euiBadge--secondary',

18 accent: 'euiBadge--accent',

19 warning: 'euiBadge--warning',

20 danger: 'euiBadge--danger',

21 hollow: 'euiBadge--hollow',

22};

23

RawBlameHistory

EuiIcon (Class)

Referenced ByInherit

dharmaswanStation

src/components/button.tsx

9import {

10 ICON_TYPES,

11 EuiIcon

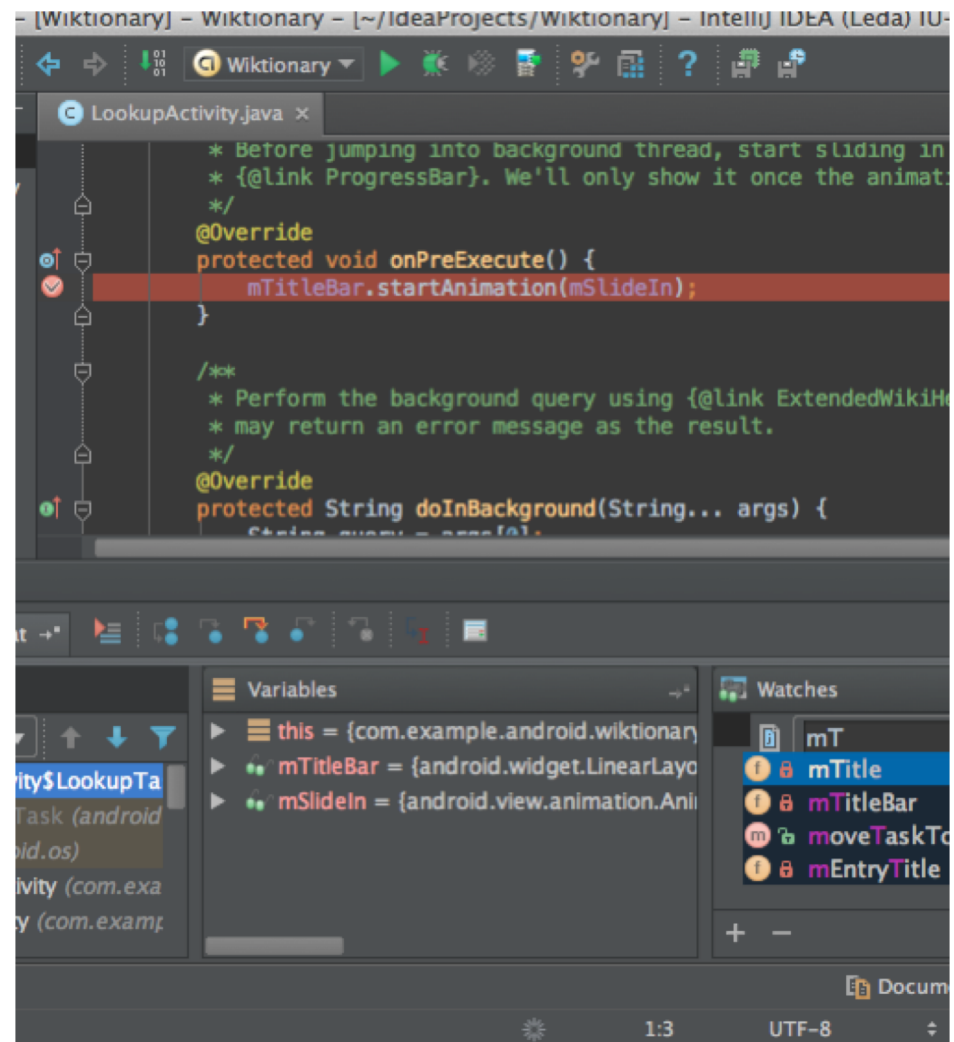
src/components/icon.tsx

4Class EuiIcon extends React.Component {

5 constructor(props) {

6 super(props);

But...
I can already
do all these
in my
favorite IDE!



Things Are Better in Browser

- What if it is a repo you don't actively work on?
- What if you want to share code snippet to your team via IM or email?
- What if there are 50 repos in your company? What about 500?
- What if you are not near your computer?
- What if it takes 30 min to setup a repo in IDE and you have 50 people in your team (and counting)

**And...
What if we
integrate it with
the rest of Kibana**



Link Production Insight to Source Code

- Click on a log to jump to source code
- Which lines of code are generating the most error logs?
- Which lines of code are causing the most delay?
- When an error occurred, overlay variable values that causes the error
- etc.

Thank You

And we really want to hear your voice: codesearch@elastic.co



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<https://elasticsearch.cn/>

