

Typesense integration for Plone

A new fulltext search solution for Plone 6

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typesense|

~~Products.TextIndexNG3~~



Searching for a decent replacement...

- High-quality search results (customizable ranking)
- easy to integrate, easy to maintain
- decent technology (JSON, REST)
- fault-tolerant search with decent features
- search across multiple site or multiple data sources (federated search)

So what is Typesense?

- a new fault-tolerant, full text search solution
- faceted search
- fast user feedback (search-as-you-type)
- quality search results based on decent ranking
- very easy to maintain
- completely open-source
- *like* collective.solr + eea.facetedsearch combined



Typo Tolerance

Spelling Mistakes? Not a problem. Typesense automatically tries to correct typos.



Multi-tenant API Keys

Store multiple users' data in a single index, create API keys for each user that restrict access to just their data.



Geo Search

Search & sort results within a certain distance from a latitude/longitude or within a polygon region.



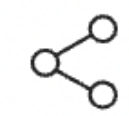
Tunable Ranking

Tailor your results to perfection via flexible and fast query-time sorting.



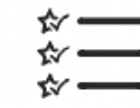
Dynamic Sorting

Sort records on the fly by any fields in your document. For eg: sort by price, sort by popularity, etc. No duplicate indices needed.



Federated Search

Search one or more collections in a single query. Eg: search for both products and brands, given a single search query.



Result Pinning

Pin specific records in a particular position to feature or merchandize them.



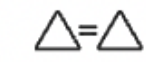
Grouping & Distinct

Provide more variety in your results by grouping results. Eg: combine all color variations of a shirt into a single result.



Easy High Availability

Build a resilient production-grade search service, with a few simple steps.



Synonyms

Show results for pants when users search for trousers, or vice-versa, when you define them as synonyms.



Filtering & Faceting

Only fetch records that match a given filter. Aggregate field values and get counts, min, max and avg of values across records.



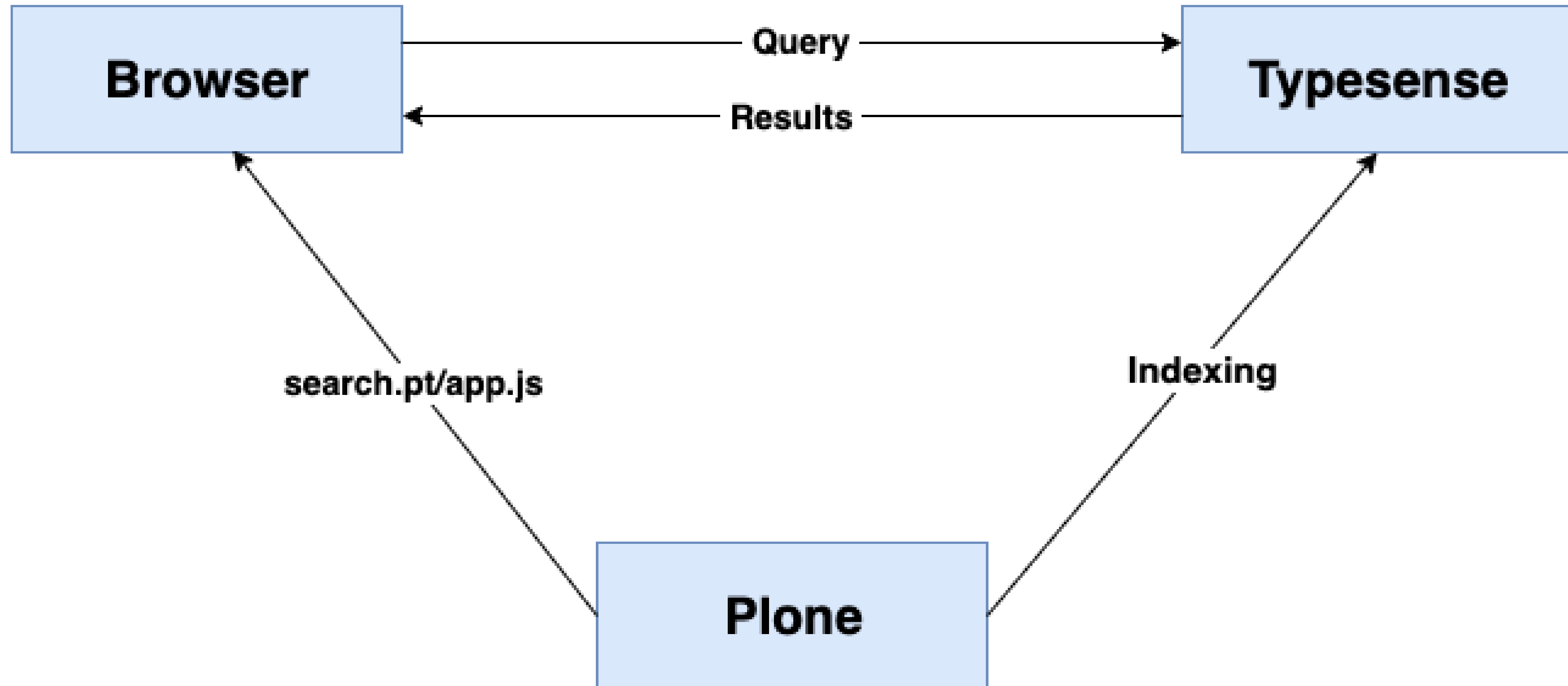
Easy Version Upgrades

Replace the binary, and restart the process. Typesense will automatically re-index your data in the new version.

A quick demo

Plone 6.0.0b3
25.000 content objects

Plone and Typesense control flow



Declarative search template

```
8
9  <h1 class="documentFirstHeading">Typesense Search</h1>
10
11  <div class="container">
12    <div class="search-panel">
13      <div class="search-panel__filters">
14        <div class="refinement-label" i18n:translate="">Portal Type</div>
15        <div id="portal-type"></div>
16        <br/>
17        <div class="refinement-label" i18n:translate="">Review state</div>
18        <div id="review-state"></div>
19        <br/>
20        <div class="refinement-label" i18n:translate="">Language</div>
21        <div id="language"></div>
22        <br/>
23        <div class="refinement-label" i18n:translate="">Subject</div>
24        <div id="subject"></div>
25        <br/>
26      </div>
27
28      <div class="search-panel__results">
29        <div id="searchbox"></div>
30        <div id="search-control">
31          <div id="stats"></div>
32          <div id="hits-per-page"></div>
33          <div id="pagination"></div>
34        </div>
35        <div id="hits"></div>
36      </div>
37    </div>
38  </div>
```

- Rich set of widgets:
 - search form
 - facets
 - search results
 - suppl. information
 - many others

app.js for configuration and widgets

```
124 instantsearch.widgets.refinementList({
125   container: '#review-state',
126   attribute: 'review_state',
127 },),
128 instantsearch.widgets.refinementList({
129   container: '#portal-type',
130   attribute: 'portal_type',
131   showMore: false
132 },),
133 instantsearch.widgets.refinementList({
134   container: '#subject',
135   attribute: 'subject',
136 },),
137 instantsearch.widgets.refinementList({
138   container: '#language',
139   attribute: 'language',
140 },),
```

```
142 instantsearch.widgets.stats({
143   container: '#stats',
144   templates: {
145     text: `
146     {{#hasNoResults}}No hits{{/hasNoResults}}
147     {{#hasOneResult}}1 hit{{/hasOneResult}}
148     {{#hasManyResults}}{{#helpers.formatNumber}}{{nbHits}}{{/helpers.formatNumber}} hits {{/hasManyResults}}
149     found in {{processingTimeMS}} ms
150   `,
151   },
152   cssClasses: {
153     text: 'small',
154   },
155 },),
```

- every widget is configured through JS
- assignment to a slot via element #ID
- all widget are very configurable and customizable

```
73 search.addWidgets([
74   instantsearch.widgets.searchBox({
75     container: '#searchbox',
76     showSubmit: false,
77     showReset: false,
78     placeholder: 'Search for... ',
79     autofocus: false,
80     searchAsYouType: true,
81     showLoadingIndicator: true,
82     cssClasses: {
83       input: 'form-control form-control-sm border border-light text-dark',
84       loadingIcon: 'stroke-primary',
85     },
86   }),
87   instantsearch.widgets.configure({
88     hitsPerPage: 10,
89   }),
```

Deployment options

- **On-Premise or private cloud:**

- single-binary

```
export TYPESENSE_API_KEY=xyz
mkdir /tmp/typesense-data
./typesense-server --data-dir=/tmp/typesense-data --api-key=$TYPESENSE_API_KEY --enable-cors
```

- using Docker

```
docker run -p 8108:8108 -v /tmp/data:/data typesense/typesense --data-dir /data
--api-key=some_api_key --search-only-api-key=some_search_api_key --enable-cors
```

- **Typesense Cloud:**

- paid SaaS

zopyx.typesense

<https://github.com/zopyx/zopyx.typesense>

Video from World Plone Day 2022: <https://shorturl.at/qPYZ5>

