



elasticsearch
for developer

Aggregation

book_07.txt

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James Turnbull

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Avg. Customer Review

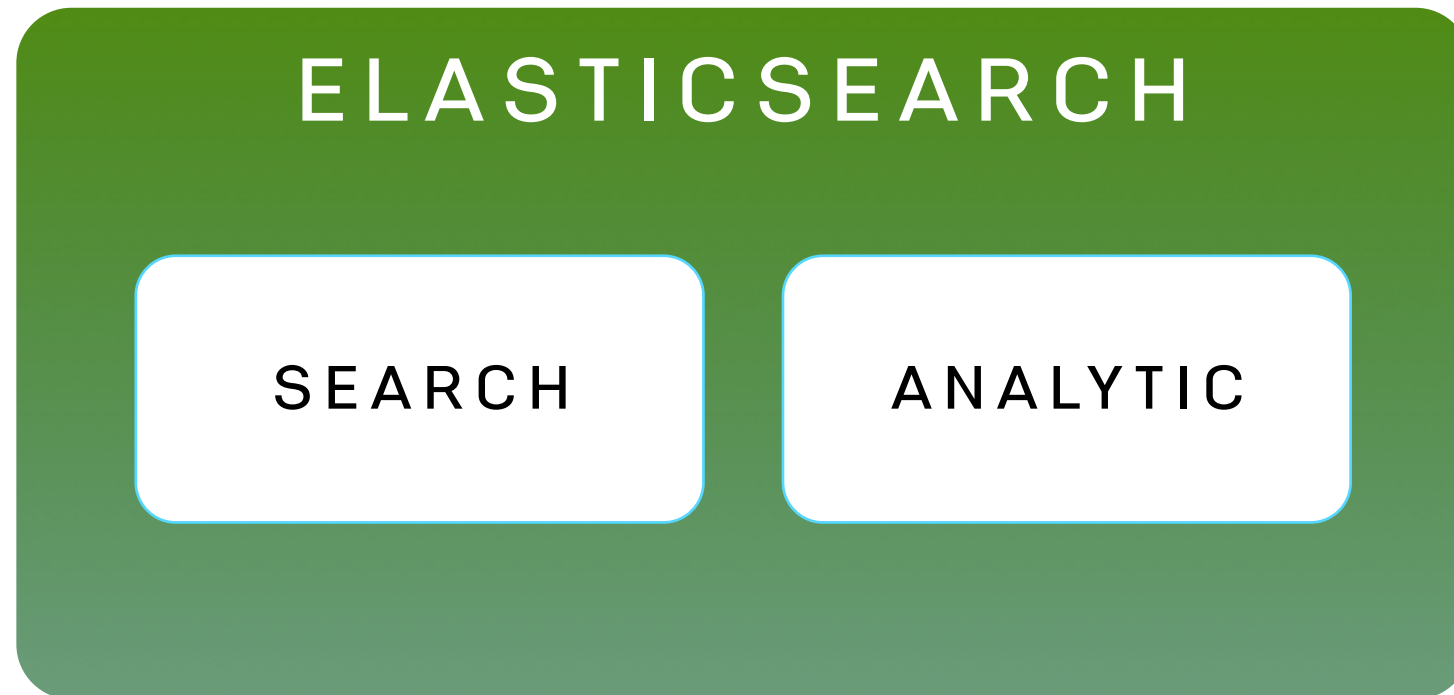
- ★★★★★ & Up (2)
- ★★★★☆ & Up (2)
- ★★★☆☆ & Up (2)
- ★★☆☆☆ & Up (2)

Condition

- Collectible
- New (51)
- Used (37)

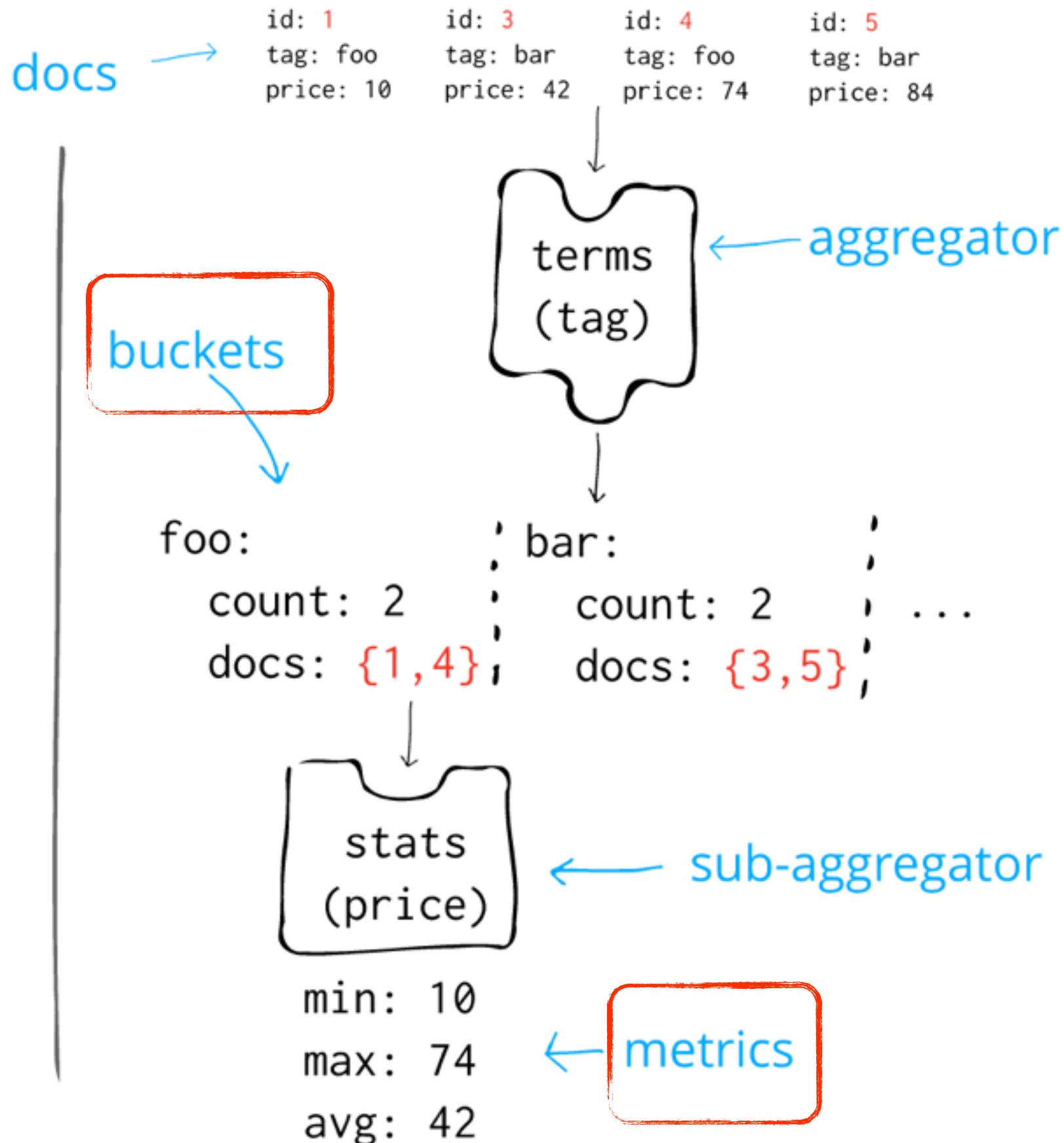
SELECT count(data)
FROM table
GROUP BY data

Intro to Aggregation



Intro to Aggregation





<https://www.found.no/foundation/elasticsearch-aggregations/>

Structure of Aggregation

ใช้ชื่อว่า aggs

```
"aggregations" : {  
  "<aggregation_name>" : {  
    "<aggregation_type>" : {  
      <aggregation_body>  
    }  
    [, "aggregations" : { [<sub_aggregation>]+ } ]?  
  }  
  [, "<aggregation_name_2>" : { ... } ]*  
}
```

<http://www.elasticsearch.org/guide/en/elasticsearch/reference/current/search-aggregations.html>

Aggregation types

min

max

avg

sum

stat

terms

significant terms

filter

filters

missing

range

date range

ipv4 range

histogram

date histogram

geo

Count by category

GET /store/book/_search

```
{
```

```
  "aggs": {
```

```
    "all_book_title": {
```

```
      "terms": {
```

```
        "field": "category"
```

```
      }
```

```
    }
```

```
  }
```

```
}
```

aggregation name

aggregation type

aggregation body

Result

```
"aggregations": {  
  "all_book_title": {  
    "doc_count_error_upper_bound": 0,  
    "sum_other_doc_count": 0,  
    "buckets": [  
      {  
        "key": "computer",  
        "doc_count": 5  
      },  
      {  
        "key": "technology",  
        "doc_count": 5  
      },  
      {  
        "key": "online",  
        "doc_count": 3  
      },  
      {  
        "key": "searching",  
        "doc_count": 3  
      },  
      {  
        "key": "java",  
        "doc_count": 2  
      },  
      {  
        "key": "programming",  
        "doc_count": 2  
      }  
    ]  
  }  
}
```

ยาวมากๆ ลดได้ไหม ?

Count by category

GET /store/book/_search?search_type=count

```
{  
  "aggs": {  
    "all_book_title": {  
      "terms": {  
        "field": "category"  
      }  
    }  
  }  
}
```

Count by category + Price

GET /store/book/_search?search_type=count

```
{  
  "aggs": {  
    "all_book_title": {  
      "terms": {  
        "field": "category"  
      }  
    },  
    "price_stat": {  
      "stats": {  
        "field": "price"  
      }  
    }  
  }  
}
```

Result

```
"aggregations": {  
  "all_book_title": {  
    "doc_count_error_upper_bound": 0,  
    "sum_other_doc_count": 0,  
    "buckets": [  
      {  
        "key": "computer",  
        "doc_count": 5  
      },  
      {  
        "key": "technology",  
        "doc_count": 5  
      },  
      {  
        "key": "online",  
        "doc_count": 3  
      },  
      {  
        "key": "searching",  
        "doc_count": 3  
      },  
      {  
        "key": "java",  
        "doc_count": 2  
      },  
      {  
        "key": "programming",  
        "doc_count": 2  
      }  
    ]  
  }  
}
```

ปัญหาคืออะไร ?

Workshop

แก้ไขอย่างไรดี ?

```
{
  "aggregations": {
    "all_book_title": {
      "doc_count_error_upper_bound": 0,
      "sum_other_doc_count": 0,
      "buckets": [
        {
          "key": "Computer & Technology",
          "doc_count": 5
        },
        {
          "key": "Online Searching",
          "doc_count": 3
        },
        {
          "key": "Java Programming",
          "doc_count": 2
        }
      ]
    }
  }
}
```

การแก้ไข :: แก้ไข mapping

```
PUT /store/_mapping/book
{
  "properties" : {
    "category" : {
      "type" : "string",
      "index": "not_analyzed"
    }
  }
}
```

Try again

```
{
  "aggregations": {
    "all_book_title": {
      "doc_count_error_upper_bound": 0,
      "sum_other_doc_count": 0,
      "buckets": [
        {
          "key": "Computer & Technology",
          "doc_count": 5
        },
        {
          "key": "Online Searching",
          "doc_count": 3
        },
        {
          "key": "Java Programming",
          "doc_count": 2
        }
      ]
    }
  }
}
```


Workshop

ถ้าต้องการค้นหาคำว่า computer ด้วยล่ะ ?

```
"hits": {  
  "total": 0,  
  "max_score": null,  
  "hits": []  
},  
"aggregations": {  
  "number_of_book": {  
    "doc_count_error_upper_bound": 0,  
    "sum_other_doc_count": 0,  
    "buckets": []  
  }  
}
```

ไม่พบข้อมูลเลย !!

แก้ไข mapping ด้วย Multi-fields

PUT /store/_mapping/book

```
{  
  "properties" : {  
    "category" : {  
      "type" : "string",  
      "fields": {  
        "raw" : {  
          "type": "string",  
          "index": "not_analyzed"  
        }  
      }  
    }  
  }  
}
```

Try again

```
"hits": {
  "total": 5,
  "max_score": 0.15342641,
  "hits": [
    {
      "_index": "store",
      "_type": "book",
      "_id": "4",
      "_score": 0.15342641,
      "fields": {
        "category": [
          "Computer & Technology",
          "Java Programming"
        ]
      }
    },
    {
      "_index": "store",
      "_type": "book",
```

```
"aggregations": {
  "all_book_title": {
    "doc_count_error_upper_bound": 0,
    "sum_other_doc_count": 0,
    "buckets": [
      {
        "key": "Computer & Technology",
        "doc_count": 5
      },
      {
        "key": "Online Searching",
        "doc_count": 3
      },
      {
        "key": "Java Programming",
        "doc_count": 2
      }
    ]
  }
}
```

Price range

The image shows a search results interface with four annotated components:

- Facets Component:** A sidebar on the left with a "Filter by" section. The "Price" filter is highlighted with a red dashed box and contains the following options:
 - Less than \$100 (26)
 - Between \$100 and \$200 (6)
 - \$ - \$
- Sort Component:** A dropdown menu labeled "Sort By:" with "High to Low" selected.
- Search Results Component:** A grid of product listings. Each listing includes a "Product Image" placeholder, the product name "Hermitage Collection Rockport T-shirt", and the price "\$39.00".
- Pagination Component:** A footer element showing the current page "1" in a red box, followed by "2" and a right arrow ">".

Price range

```
GET /store/book/_search?search_type=count
{
  "aggs": {
    "price_range": {
      "range": {
        "field": "price",
        "ranges": [
          { "from": 0, "to": 10 },
          { "from": 11, "to": 20},
          { "from": 21, "to": 50}
        ]
      }
    }
  }
}
```

Price range

```
PUT /store/_mapping/book
{
  "properties" : {
    "category" : {
      "type" : "string",
      "index": "not_analyzed"
    }
  }
}
```

<http://www.elasticsearch.org/guide/en/elasticsearch/guide/current/mapping-intro.html>

Workshop

เรียง category ตามจำนวนหนังสือจากน้อยไปมาก ?

```
"aggregations": {  
  "all_book_title": {  
    "doc_count_error_upper_bound": 0,  
    "sum_other_doc_count": 0,  
    "buckets": [  
      {  
        "key": "Java Programming",  
        "doc_count": 2  
      },  
      {  
        "key": "Online Searching",  
        "doc_count": 3  
      },  
      {  
        "key": "Computer & Technology",  
        "doc_count": 5  
      }  
    ]  
  }  
}
```

เรียงลำดับตามจำนวน

GET /store/book/_search?search_type=count

```
{  
  "aggs": {  
    "all_book_title": {  
      "terms": {  
        "field": "category",  
        "order": {  
          "_count": "asc"  
        }  
      }  
    }  
  }  
}
```


Workshop

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