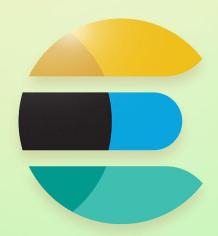
Searching multiple fields









How the query works

translated into

Original query

```
GET /products/_search
{
   "query": {
      "multi_match": {
         "query": "vegetable",
         "fields": ["name", "description"]
      }
   }
}
```

```
GET /products/_search
{
    "query": {
        "match": {
            "name": "vegetable"
        }
    }
}
```

```
GET /products/_search
{
    "query": {
        "match": {
            "description": "vegetable"
        }
    }
}
```



Default relevance scoring

Original query

```
GET /products/_search
{
   "query": {
        "multi_match": {
            "query": "vegetable broth",
            "fields": ["name", "description"]
        }
}
```

```
translated into
```

```
GET /products/_search
{
    "query": {
        "match": {
            "name": "vegetable broth"
        }
    }
}
```

```
GET /products/_search
{
   "query": {
      "match": {
        "description": "vegetable broth"
      }
   }
}
```

```
{
  "name": "Vegetable Broth", 12.698752
  "description": "Can be used to make vegetable soup." 8.510115
}

{
  "name": "Vegetable Soup (Spicy)", 10.623691
  "description": "Spicy stuff. Careful!" N/A
}
```

sorted by the highest relevance scores

"name": "Vegetable Spinach Lasagne", 9.9819723
"description": "Spinach is very healthy." N/A



Specifying a tie breaker

- By default, one field is used for calculating a document's relevance score
- We can "reward" documents where multiple fields match with the

tie breaker parameter

Each matching field affects the relevance score



Specifying a tie breaker

```
GET /products/_search
{
    "query": {
        "multi_match": {
            "query": "vegetable broth",
            "fields": ["name", "description"],
            "tie_breaker": 0.3
        }
    }
}
```

```
"name": "Vegetable Broth", 12.698752
"description": "Can be used to make vegetable soup." 8.510115
}
```

Score calculation



Specifying a tie breaker

```
GET /products/_search
{
    "query": {
        "multi_match": {
            "query": "vegetable broth",
            "fields": ["name", "description", "tags", "ingredients"],
            "tie_breaker": 0.3
        }
    }
}
```

```
"name": "Vegetable Broth", 12.698752

"description": "Can be used to make vegetable soup." 8.510115

"tags": ["Broth", "Cooking"], 11.671279

"ingredients": ["Water", "Carrot", "Celery", "Onion", "Salt"] N/A
}
```

Relevance score



Lecture summary

- The multi_match query performs full text searches on multiple fields
 - A document matches if at least one field is matched
- Individual fields can be relevance boosted by modifying the field name (^)
- Internally, Elasticsearch rewrites the query to simplify things for us
- By default, the best matching field's relevance score is used for the document
 - Can be configured with the type parameter (see attached link)
- A tie breaker can be added to factor in every matching field's relevance score