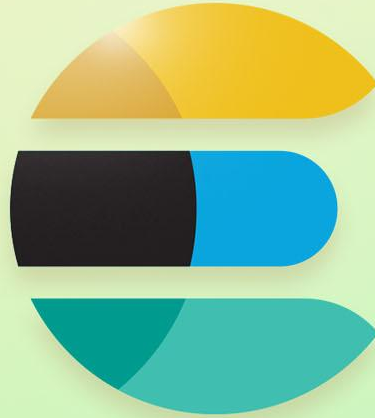


# Phrase searches



### Query #1

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



### Query #2

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



### Query #3

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



### Document #1

```
{
  "name": "Fanta Zero",
  "description": "Like the regular Fanta, but with zero sugar!"
}
```

## Query

```
GET /products/_search
{
  "query": {
    "match_phrase": {
      "description": "Complete Guide to Elasticsearch"
    }
  }
}
```



```
["complete", "guide", "to", "elasticsearch"]
```

✗

```
{
  "description": "Very useful and complete
guide! Great introduction to Elasticsearch!"
}
```

✗

```
{
  "description": "Learn Elasticsearch with this
complete guide!"
}
```

✗

```
{
  "description": "Guide to Elasticsearch
(complete)"
}
```

✓

```
{
  "description": "What a great and complete
guide to Elasticsearch! Good stuff!"
}
```

✓

```
{
  "description": "Complete Guide - to
Elasticsearch"
}
```

```
{  
  "description": "Learn Elasticsearch with this complete guide!"  
}
```



["learn", "elasticsearch", "with", "this", "complete", "guide"]  
1 2 3 4 5 6

```
{  
  "description": "Complete Guide - to Elasticsearch"  
}
```



["complete", "guide", "to", "elasticsearch"]  
1 2 3 4

## Inverted index

TERM	DOCUMENT #1	DOCUMENT #2
"complete"	X (5)	X (1)
"elasticsearch"	X (2)	X (4)
"guide"	X (6)	X (2)
"learn"	X (1)	
"this"	X (4)	
"to"		X (3)
"with"	X (3)	

## Query

```
GET /products/_search
{
  "query": {
    "match_phrase": {
      "description": "Elasticsearch guide"
    }
  }
}
```



["elasticsearch", "guide"]

## Inverted index

TERM	DOCUMENT #1	DOCUMENT #2
"complete"	X (5)	X (1)
"elasticsearch"	X (2)	X (4)
"guide"	X (6)	X (2)
"learn"	X (1)	
"this"	X (4)	
"to"		X (3)
"with"	X (3)	

## Document #1

```
{
  "description": "Learn Elasticsearch with this complete guide!"
}
```

2

6

elasticsearch guide  
2 6

## Document #2

```
{
  "description": "Complete Guide - to Elasticsearch"
}
```

2

4

elasticsearch guide  
4 2

## Query

```
GET /products/_search
{
  "query": {
    "match_phrase": {
      "description": "Elasticsearch guide"
    }
  }
}
```



["elasticsearch", "guide"]

## Inverted index

TERM	DOCUMENT #1	DOCUMENT #2
"complete"	X (5)	X (1)
"elasticsearch"	X (2)	X (4)
"guide"	X (6)	X (2)
"learn"	X (1)	
"this"	X (4)	
"to"		X (3)
"with"	X (3)	

## Document #1

```
{
  "description": "Learn Elasticsearch with this complete guide!"
}
```

2

6

1    2    3    4    5    6

\_\_\_\_\_ elasticsearch \_\_\_\_\_ guide

## Document #2

```
{
  "description": "Complete Guide - to Elasticsearch"
}
```

2

4

1    2    3    4

\_\_\_\_\_ guide \_\_\_\_\_ elasticsearch

## Document #1

```
{
  "description": "Very useful and complete guide!
  Great introduction to Elasticsearch!"
}
```

```
["very", "useful", "and", "complete", "guide", "great",
 1         2         3         4         5         6
"introduction", "to", "elasticsearch"]
 7         8         9
```

## Document #2

```
{
  "description": "What a great and complete guide to
  Elasticsearch! Good stuff!"
}
```

```
["what", "a", "great", "and", "complete", "guide",
 1         2         3         4         5         6
"to", "elasticsearch", "good", "stuff"]
 7         8         9        10
```

## Inverted index

TERM	DOCUMENT #1	DOCUMENT #2
"a"		X (2)
"and"	X (3)	X (4)
"complete"	X (4)	X (5)
"elasticsearch"	X (9)	X (8)
"good"		X (9)
"great"	X (6)	X (3)
"guide"	X (5)	X (6)
"introduction"	X (7)	
"stuff"		X (10)
"to"	X (8)	X (7)
"useful"	X (2)	
"very"	X (1)	
"what"		X (1)

## Query

```
GET /products/_search
{
  "query": {
    "match_phrase": {
      "description": "guide to elasticsearch"
    }
  }
}
```



```
["guide", "to", "elasticsearch"]
```

## Document #1

```
{
  "description": "Very useful and complete guide!
  Great introduction to Elasticsearch!"
}
```

1 2 3 4 guide 5 6 7 to elasticsearch 8 9



## Document #2

```
{
  "description": "What a great and complete guide to
  Elasticsearch! Good stuff!"
}
```

1 2 3 4 5 guide to elasticsearch 6 7 8 9



## Inverted index

TERM	DOCUMENT #1	DOCUMENT #2
"a"		X (2)
"and"	X (3)	X (4)
"complete"	X (4)	X (5)
"elasticsearch"	X (9)	X (8)
"good"		X (9)
"great"	X (6)	X (3)
"guide"	X (5)	X (6)
"introduction"	X (7)	
"stuff"		X (10)
"to"	X (8)	X (7)
"useful"	X (2)	
"very"	X (1)	
"what"		X (1)

## Query

```
GET /products/_search
{
  "query": {
    "match_phrase": {
      "description": "guide to elasticsearch"
    }
  }
}
```



["guide", "to", "elasticsearch"]



# Lecture summary

- The `match_phrase` query is similar to the `match` query in some ways
- For the `match_phrase` query, the position (and thereby order) of terms matters
- Terms must appear in the correct order and with no other terms in-between
- The `standard` analyzer's tokenizer outputs term positions that are stored within the field's inverted index
  - These positions are then used for phrase searches (among others)