IT-309

EXPERIMENT-4 REPORT

Indian Institute of Information Technology, Vadodara

Group-1

Contents

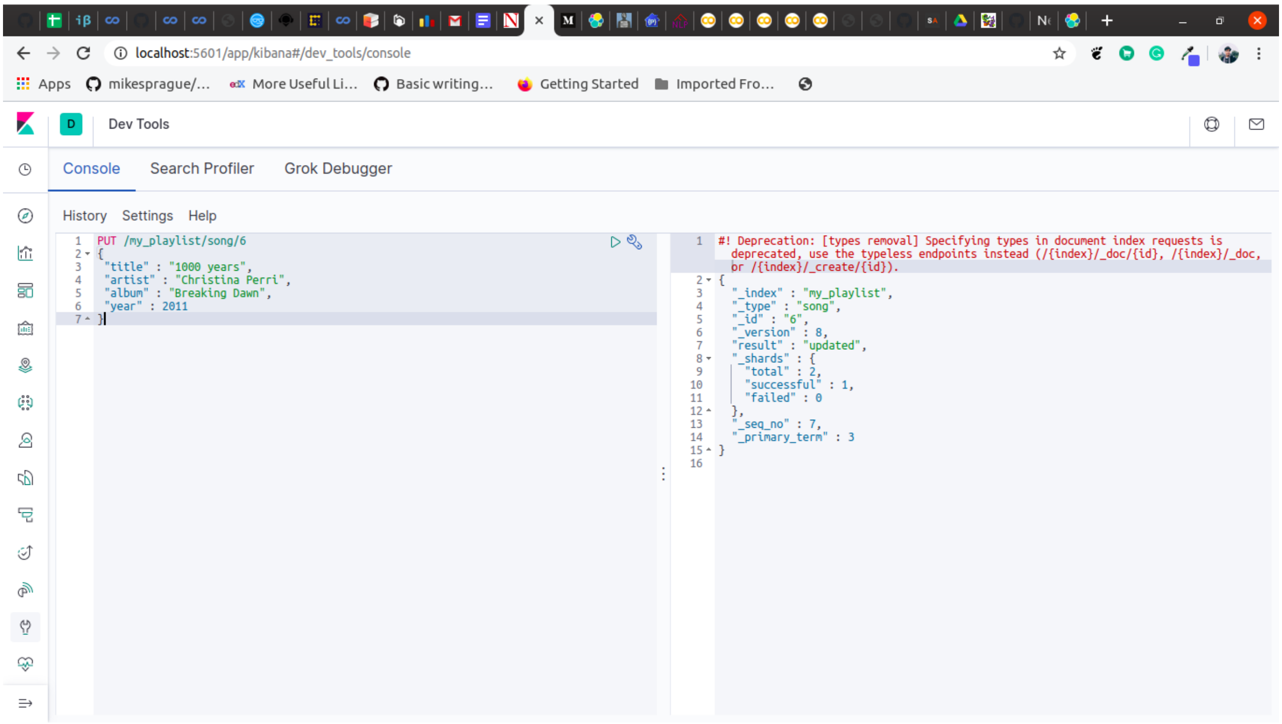
0.1 Elasticsearch And Kibana

- Elasticsearch: It is open source search engine based on the Lucene library and is highly scalable.
- Elasticsearch takes in unstructured data from different locations, stores and indexes it according to user-specified mapping and makes it searchable.
- Kibana: It is an open source data visualization web interface for Elasticsearch
- The data used here is demo data of bank accounts in JSON available at elastic.io

0.2 Results

Results for some of the queries are shown below:

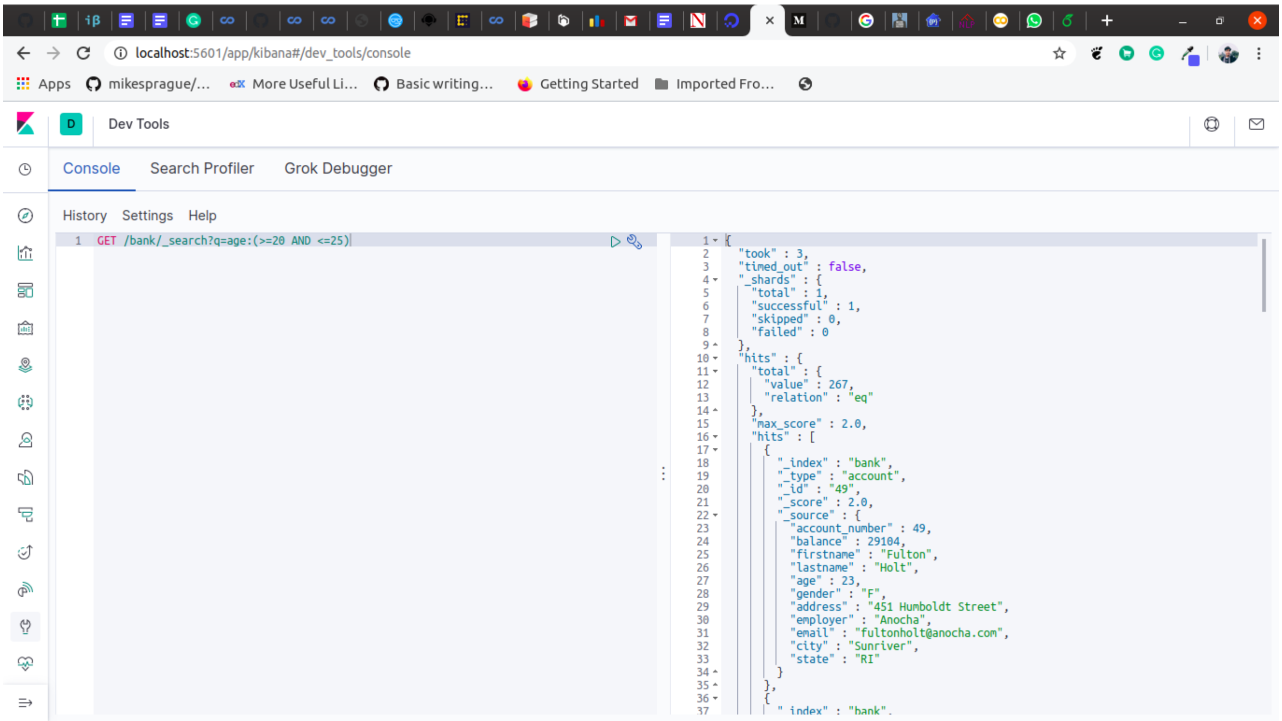
- PUT REQUEST



```
PUT /my_playlist/song/6
{
 "title" : "1000 years",
 "artist" : "Christina Perri",
 "album" : "Breaking Dawn",
 "year" : 2011
}
```

```
#! Deprecation: [types removal] Specifying types in document index requests is
  deprecated, use the typeless endpoints instead (/{index}/_doc/{id}, /{index}/_doc,
  or /{index}/_create/{id}).
{
  "_index" : "my_playlist",
  "_type" : "song",
  "_id" : "6",
  "_version" : 8,
  "result" : "updated",
  "_shards" : {
    "total" : 2,
    "successful" : 1,
    "failed" : 0
  },
  "_seq_no" : 7,
  "_primary_term" : 3
}
```

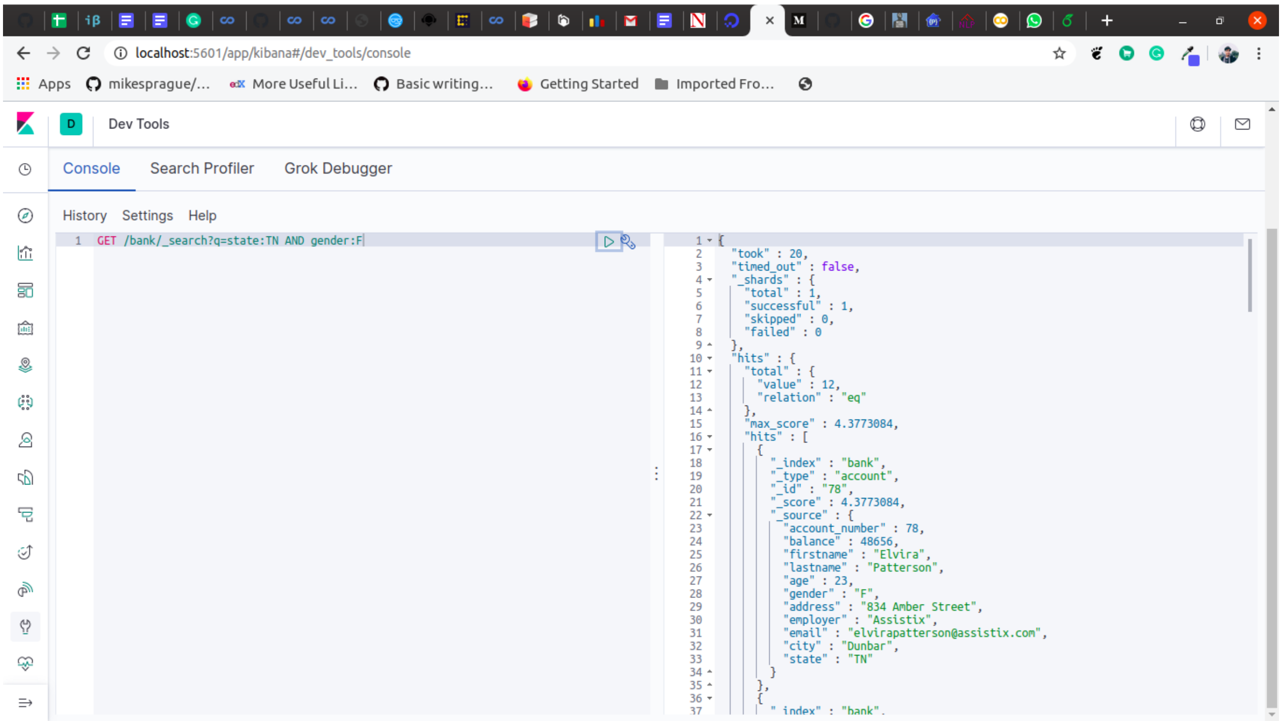
- Query1: "Age>=20 AND <=25"



```
GET /bank/_search?q=age:(>=20 AND <=25)
```

```
{
  "took" : 3,
  "timed_out" : false,
  "_shards" : {
    "total" : 1,
    "successful" : 1,
    "skipped" : 0,
    "failed" : 0
  },
  "hits" : {
    "total" : {
      "value" : 267,
      "relation" : "eq"
    },
    "max_score" : 2.0,
    "hits" : [
      {
        "_index" : "bank",
        "_type" : "account",
        "_id" : "49",
        "_score" : 2.0,
        "_source" : {
          "account_number" : 49,
          "balance" : 29104,
          "firstname" : "Fulton",
          "lastname" : "Holt",
          "age" : 23,
          "gender" : "F",
          "address" : "451 Humboldt Street",
          "employer" : "Anocha",
          "email" : "fultonholt@anocha.com",
          "city" : "Sunriver",
          "state" : "RI"
        }
      },
      {
        "_index" : "bank",
```

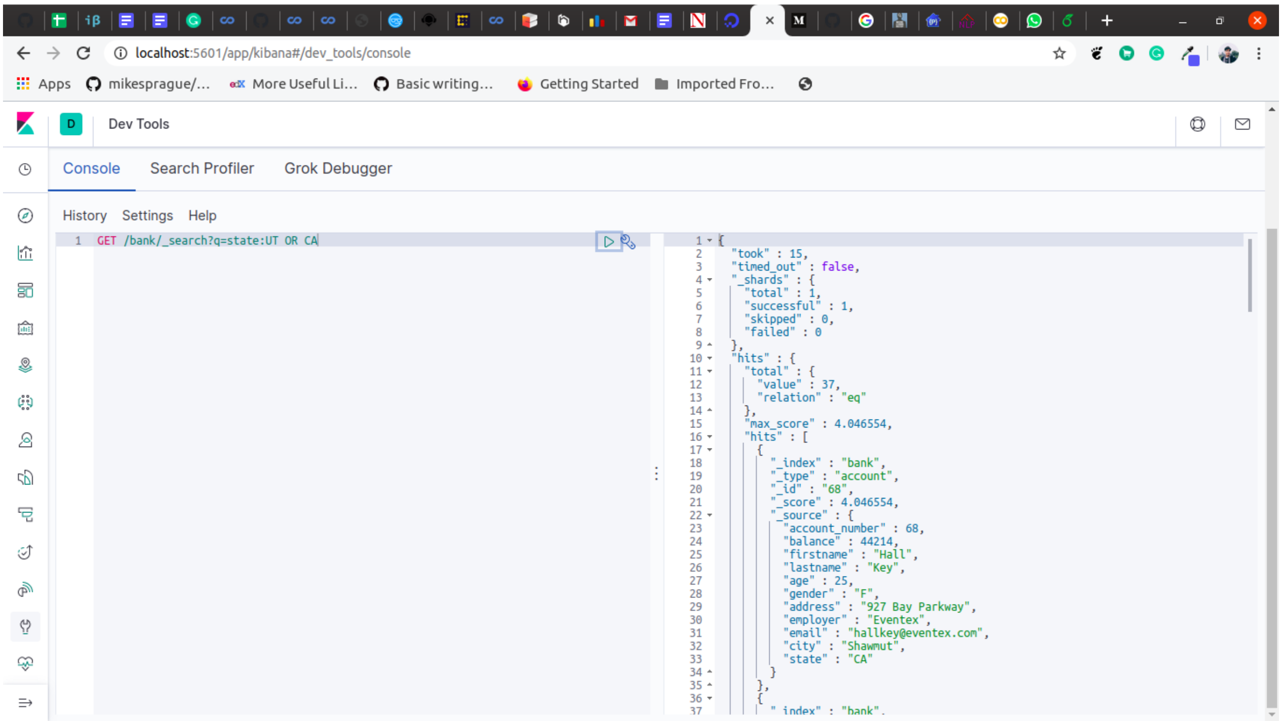
- Query2: "state: TN AND gender:F"



```
GET /bank/_search?q=state:TN AND gender:F
```

```
{
  "took" : 20,
  "timed_out" : false,
  "_shards" : {
    "total" : 1,
    "successful" : 1,
    "skipped" : 0,
    "failed" : 0
  },
  "hits" : {
    "total" : {
      "value" : 12,
      "relation" : "eq"
    },
    "max_score" : 4.3773084,
    "hits" : [
      {
        "_index" : "bank",
        "_type" : "account",
        "_id" : "78",
        "_score" : 4.3773084,
        "_source" : {
          "account_number" : 78,
          "balance" : 48656,
          "firstname" : "Elvira",
          "lastname" : "Patterson",
          "age" : 23,
          "gender" : "F",
          "address" : "834 Amber Street",
          "employer" : "Assistix",
          "email" : "elvirapatterson@assistix.com",
          "city" : "Dunbar",
          "state" : "TN"
        }
      },
      {
        "_index" : "bank",
```

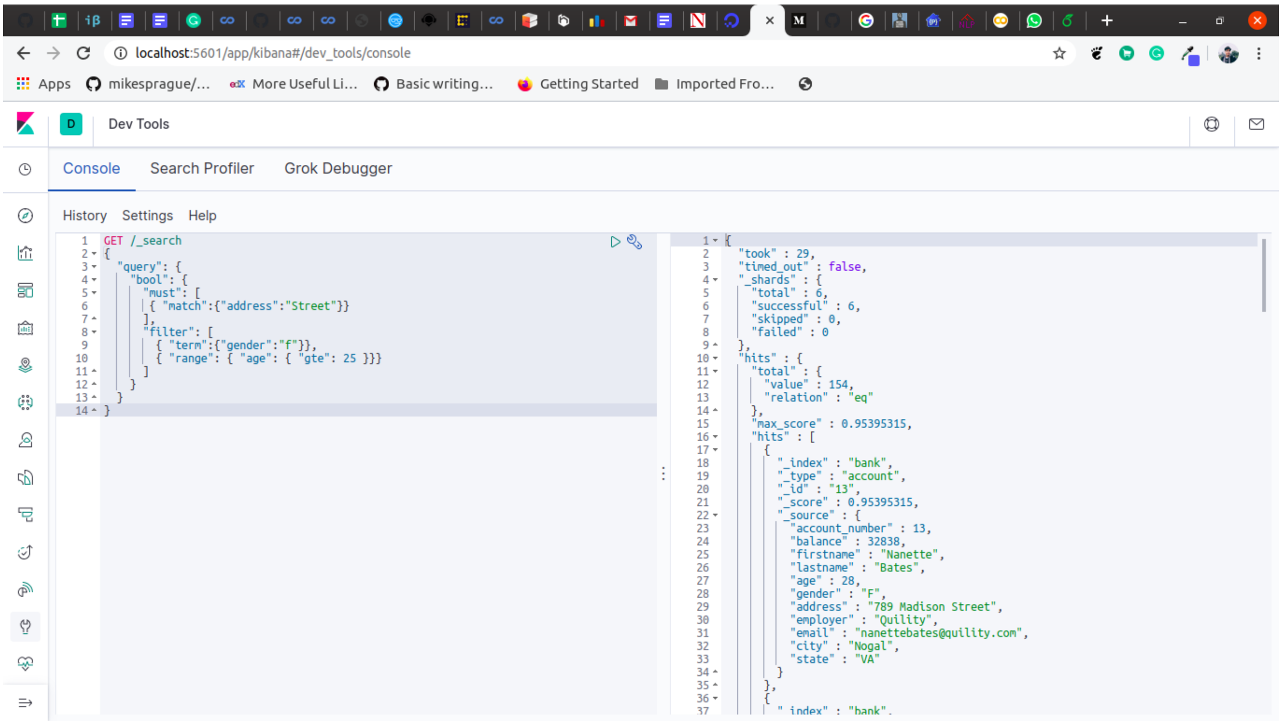
- Query3: "state: UT OR CA"



```
GET /bank/_search?q=state:UT OR CA
```

```
{
  "took" : 15,
  "timed_out" : false,
  "_shards" : {
    "total" : 1,
    "successful" : 1,
    "skipped" : 0,
    "failed" : 0
  },
  "hits" : {
    "total" : {
      "value" : 37,
      "relation" : "eq"
    },
    "max_score" : 4.046554,
    "hits" : [
      {
        "_index" : "bank",
        "_type" : "account",
        "_id" : "68",
        "_score" : 4.046554,
        "_source" : {
          "account_number" : 68,
          "balance" : 44214,
          "firstname" : "Hall",
          "lastname" : "Key",
          "age" : 25,
          "gender" : "F",
          "address" : "927 Bay Parkway",
          "employer" : "Eventex",
          "email" : "hallkey@eventex.com",
          "city" : "Shawmut",
          "state" : "CA"
        }
      },
      {
        "_index" : "bank",
```

- Example of QueryDSL



```
GET /_search
{
  "query": {
    "bool": {
      "must": [
       { "match":{"address":"Street"}}
      ],
      "filter": [
        { "term":{"gender":"f"}},
        { "range": { "age": { "gte": 25 }}}
      ]
    }
  }
}
```

```
{
  "took" : 29,
  "timed_out" : false,
  "_shards" : {
    "total" : 6,
    "successful" : 6,
    "skipped" : 0,
    "failed" : 0
  },
  "hits" : {
    "total" : {
      "value" : 154,
      "relation" : "eq"
    },
    "max_score" : 0.95395315,
    "hits" : [
      {
        "_index" : "bank",
        "_type" : "account",
        "_id" : "13",
        "_score" : 0.95395315,
        "_source" : {
          "account_number" : 13,
          "balance" : 32838,
          "firstname" : "Nanette",
          "lastname" : "Bates",
          "age" : 28,
          "gender" : "F",
          "address" : "789 Madison Street",
          "employer" : "Quility",
          "email" : "nanettebates@quility.com",
          "city" : "Nogal",
          "state" : "VA"
        }
      },
      {
        "_index" : "bank",
```