

HashAgile

Task 2 :Elasticsearch using SpringBoot .

Created a index for the Employee dataset.

Coding:

```
Employee.java
1 package com.Hashagile.Task2.repo;
2
3 import org.springframework.data.elasticsearch.repository.ElasticsearchRepository;
4
5 public interface EmployeeRepository extends ElasticsearchRepository<Employee, String> {
6 }
7
8 }
9

EmployeeRepository.java
1 package com.Hashagile.Task2.repo;
2
3 import org.springframework.data.elasticsearch.repository.ElasticsearchRepository;
4
5 public interface EmployeeRepository extends ElasticsearchRepository<Employee, String> {
6 }
7
8 }
9

EmployeeService.java
1 package com.Hashagile.Task2.service;
2
3
4
5 import org.springframework.beans.factory.annotation.Autowired;
6
7
8 @Service
9 public class EmployeeService {
10
11     @Autowired
12     private EmployeeRepository employeeRepository;
13
14     public Iterable<Employee> getEmployee()
15     {
16         return employeeRepository.findAll();
17     }
18
19     public Employee insertEmp(Employee employee)
20     {
21         return employeeRepository.save(employee);
22     }
23
24     public Employee updateEmp(Employee employee, String id)
25     {
26         Employee emp = employeeRepository.findById(id).get();
27         emp.setAge(employee.getAge());
28         return emp;
29     }
30
31     public void deleteEmp(String id)
32     {
33         employeeRepository.deleteById(id);
34     }
35
36 }
37
38
39

EmployeeController.java
1 package com.Hashagile.Task2.controller;
2
3 import org.springframework.beans.factory.annotation.Autowired;
4 import org.springframework.web.bind.annotation.DeleteMapping;
5 import org.springframework.web.bind.annotation.GetMapping;
6 import org.springframework.web.bind.annotation.PathVariable;
7 import org.springframework.web.bind.annotation.PostMapping;
8 import org.springframework.web.bind.annotation.RequestBody;
9 import org.springframework.web.bind.annotation.RequestMapping;
10 import org.springframework.web.bind.annotation.RestController;
11
12 @RestController
13 @RequestMapping("/Hashagile")
14 public class EmployeeController {
15
16     @Autowired
17     private EmployeeService employeeService;
18
19     @GetMapping("/findAll")
20     public Iterable<Employee> findall()
21     {
22         return employeeService.getEmployee();
23     }
24
25     @PostMapping("/insert")
26     public Employee insertEmp(@RequestBody Employee employee)
27     {
28         return employeeService.insertEmp(employee);
29     }
30
31     @DeleteMapping("/delete/{id}")
32     public void deleteEmployee(@PathVariable String id) {
33         employeeService.deleteEmp(id);
34     }
35
36 }
37
38
39
```

ElasticSearch running in console:

```
[2024-10-03T00:46:06,580][INFO ][o.e.t.n.NettyAllocator ] [HPVICTUSMK] creating NettyAllocator with the following configs: [name=elasticsearch_configured, chunk_size=1mb, suggested_max_allocation_size=1mb, factors={es.unsafe.use_netty_default_chunk_and_page_size=false, glibc_enabled=true, glibc_region_size=4mb}]
[2024-10-03T00:46:06,643][INFO ][o.e.d.DiscoveryModule ] [HPVICTUSMK] using discovery type [multi-node] and seed hosts providers [settings]
[2024-10-03T00:46:07,922][INFO ][o.e.n.Node ] [HPVICTUSMK] initialized
[2024-10-03T00:46:07,922][INFO ][o.e.n.Node ] [HPVICTUSMK] starting ...
[2024-10-03T00:46:07,963][INFO ][o.e.x.s.c.f.PersistentCache] [HPVICTUSMK] persistent cache index loaded
[2024-10-03T00:46:07,964][INFO ][o.e.x.d.l.DeprecationIndexingComponent] [HPVICTUSMK] deprecation component started
[2024-10-03T00:46:08,078][INFO ][o.e.t.TransportService ] [HPVICTUSMK] publish_address {127.0.0.1:9300}, bound_addresses {[::]:9300}, {127.0.0.1:9300}
[2024-10-03T00:46:08,424][WARN ][o.e.c.c.ClusterBootstrapService] [HPVICTUSMK] this node is locked into cluster UUID [slrpNWywQ5mjhlwSHnn7w] but [cluster.initial_master_nodes] is set to [HPVICTUSMK]; remove this setting to avoid possible data loss caused by subsequent cluster bootstrap attempts; for further information see https://www.elastic.co/guide/en/elasticsearch/reference/8.15/important-settings.html#initial_master_nodes
[2024-10-03T00:46:08,533][INFO ][o.e.c.s.MasterService ] [HPVICTUSMK] elected-as-master ([1] nodes joined in term 5)[_FINISH_ELECTION_, {HPVICTUSMK}{jETDbkzzTIuNtX6k8QbFyA}{I2k7-Xf-TuOtd7905M--Qg}{HPVICTUSMK}{127.0.0.1}{127.0.0.1:9300}{cdfhilmrstw}{8.15.2}{7000099-8512000} completing election], term: 5, version: 77, delta: master node changed [previous [], current [{HPVICTUSMK}{jETDbkzzTIuNtX6k8QbFyA}{I2k7-Xf-TuOtd7905M--Qg}{HPVICTUSMK}{127.0.0.1}{127.0.0.1:9300}{cdfhilmrstw}{8.15.2}{7000099-8512000}}]
[2024-10-03T00:46:08,624][INFO ][o.e.c.s.ClusterApplierService] [HPVICTUSMK] master node changed {previous [], current [{HPVICTUSMK}{jETDbkzzTIuNtX6k8QbFyA}{I2k7-Xf-TuOtd7905M--Qg}{HPVICTUSMK}{127.0.0.1}{127.0.0.1:9300}{cdfhilmrstw}{8.15.2}{7000099-8512000}}}, term: 5, version: 77, reason: Publication{term=5, version=77}
[2024-10-03T00:46:08,662][INFO ][o.e.c.c.NodeJoinExecutor ] [HPVICTUSMK] node-join: [{HPVICTUSMK}{jETDbkzzTIuNtX6k8QbFyA}{I2k7-Xf-TuOtd7905M--Qg}{HPVICTUSMK}{127.0.0.1}{127.0.0.1:9300}{cdfhilmrstw}{8.15.2}{7000099-8512000}] with reason [completing election]
[2024-10-03T00:46:08,662][INFO ][o.e.h.AbstractHttpServerTransport] [HPVICTUSMK] publish_address {192.168.127.151:9200}, bound_addresses {[::]:9200}
[2024-10-03T00:46:08,682][INFO ][o.e.n.Node ] [HPVICTUSMK] started {HPVICTUSMK}{jETDbkzzTIuNtX6k8QbFyA}{I2k7-Xf-TuOtd7905M--Qg}{HPVICTUSMK}{127.0.0.1}{127.0.0.1:9300}{cdfhilmrstw}{8.15.2}{7000099-8512000}[ml.config_version=12.0.0, ml.max_jvm_size=3942645760, ml.allocated_processors_double=12.0, ml.allocated_processors=12, ml.machine_memory=7884570624, transform.config.version=10.0.0, xpack.installed=true]
[2024-10-03T00:46:09,194][INFO ][o.e.l.ClusterStateLicenseService] [HPVICTUSMK] license [acfa4677f-ab9a-40fc-b041-32fc01ff1f3d] mode [basic] - valid
[2024-10-03T00:46:09,194][INFO ][o.e.c.f.AbstractFileWatchingService] [HPVICTUSMK] starting file watcher ...
[2024-10-03T00:46:09,208][INFO ][o.e.g.GatewayService ] [HPVICTUSMK] file settings service up and running [tid=91]
[2024-10-03T00:46:09,208][INFO ][o.e.g.GatewayService ] [HPVICTUSMK] recovered [2] indices into cluster_state
[2024-10-03T00:46:09,210][INFO ][o.e.s.FileSettingsService] [HPVICTUSMK] setting file [C:\elasticsearch-8.15.2\config\operator\settings.json] not found, initializing [file_settings] as empty
[2024-10-03T00:46:09,588][INFO ][o.e.h.n.s.HealthNodeTaskExecutor] [HPVICTUSMK] Node [{HPVICTUSMK}{jETDbkzzTIuNtX6k8QbFyA}] is selected as the current health node.
[2024-10-03T00:46:09,620][INFO ][o.e.c.r.a.AllocationService] [HPVICTUSMK] current.health="YELLOW" message="Cluster health status changed from [RED] to [YELLOW] (reason: [shards started [[employees][0], [.security-7][0]]])." previous.health="RED" reason="shards started [[employees][0], [.security-7][0]]"
```

Console:



:: Spring Boot :: (v3.3.4)

```
2024-10-03T01:12:59.750+05:30 INFO 24380 --- [Task2] [main] com.Hashagile.Task2.Task2Application : Starting Task2Application using Java 22.0.2 with PID 24380 (C:\Users\sivam\OneDrive\Desktop)
2024-10-03T01:12:59.762+05:30 INFO 24380 --- [Task2] [main] com.Hashagile.Task2.Task2Application : No active profile set, falling back to 1 default profile: "default"
2024-10-03T01:13:00.328+05:30 INFO 24380 --- [Task2] [main] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data Elasticsearch repositories in DEFAULT mode.
2024-10-03T01:13:00.387+05:30 INFO 24380 --- [Task2] [main] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 53 ms. Found 1 Elasticsearch repository interf.
2024-10-03T01:13:00.935+05:30 INFO 24380 --- [Task2] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 8080 (http)
2024-10-03T01:13:00.959+05:30 INFO 24380 --- [Task2] [main] o.apache.catalina.core.StandardEngine : Starting service [Tomcat]
2024-10-03T01:13:00.959+05:30 INFO 24380 --- [Task2] [main] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.30]
2024-10-03T01:13:01.018+05:30 INFO 24380 --- [Task2] [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2024-10-03T01:13:01.019+05:30 INFO 24380 --- [Task2] [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1215 ms
2024-10-03T01:13:01.901+05:30 INFO 24380 --- [Task2] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 8080 (http) with context path '/'
2024-10-03T01:13:01.909+05:30 INFO 24380 --- [Task2] [main] com.Hashagile.Task2.Task2Application : Started Task2Application in 2.593 seconds (process running for 3.017)
```

Get Method:

HTTP

http://localhost:8080/Hashagile/findAll

Save

Share

GET

http://localhost:8080/Hashagile/findAll

Send

ParamsAuthorizationHeaders (9)Body ●ScriptsSettings

BodyCookiesHeaders (5)Test Results

200 OK1395 ms1.63 KB

PrettyRawPreviewVisualizeJSON

```
1 {
2   "content": [
3     {
4       "id": "Rna1TpIBh01rQc5GKYC8",
5       "fullName": "John Doe",
6       "jobTitle": "Software Engineer",
7       "department": "IT",
8       "businessUnit": "Corporate",
9       "gender": "Male",
10      "ethnicity": "Caucasian",
11      "age": 30,
12      "hireDate": "2024-01-15",
13      "annualSalary": 75000.0,
14      "bonusPercentage": 10,
15      "country": "United States",
16      "city": "New York",
17      "exitDate": ""
18    },
19    {
20      "id": "SnanTpIBh01rQc5G5YA_",
21      "fullName": "John Doe",
22      "jobTitle": "Software Engineer",
23      "department": "IT",
24      "businessUnit": "Corporate",
25      "gender": "Male",
26      "ethnicity": "Caucasian",
27      "age": 30,
28      "hireDate": "2024-01-15",
29      "annualSalary": 75000.0,
30      "bonusPercentage": 10,
31      "country": "United States",
32      "city": "New York",
33      "exitDate": ""
34    }
35  ]
36 }
```

Post Method:

POST

http://localhost:8080/Hashagile/insert

Send

ParamsAuthorizationHeaders (9)Body ●ScriptsSettings

noneform-datax-www-form-urlencodedrawbinaryGraphQLJSON

Beautify

```
1 {
2   "id": "er2305",
3   "fullName": "Kai Le",
4   "jobTitle": "Controls Engineer",
5   "department": "Engineering",
6   "businessUnit": "Manufacturing",
7   "gender": "Male",
8   "ethnicity": "Asian",
9   "age": 47,
10  "hireDate": "02-05-2022",
11  "annualSalary": 92368,
12  "bonusPercentage": 0,
13  "country": "United States",
14  "city": "Columbus",
15  "exitDate": null
16 }
17
```

Search using Match query:

GET

http://localhost:9200/employees/_search

Send

Params

Authorization

Headers (9)

Body

Scripts

Settings

Cookies

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

JSON

Beautify

1

{

2

3

"query":{

4

"match":{

5

"gender":"Male"

6

}

7

}

ody

Cookies

Headers (4)

Test Results

200 OK

78 ms

613 B

Save Response

Pretty

Raw

Preview

Visualize

JSON

1

{

2

"took": 49,

3

"timed_out": false,

4

"_shards": {

5

"total": 1,

6

"successful": 1,

7

"skipped": 0,

8

"failed": 0

9

}

GET

http://localhost:9200/employees/_search

Params

Authorization

Headers (9)

Body

Scripts

Settings

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

JSON

1

{

2

3

"query":{

4

"match":{

5

"fullName":"John"

6

}

7

}

8

},

9

"hits": {

10

"total": {

11

"value": 4,

12

"relation": "eq"

13

},

14

"max_score": 0.10536051,

15

"hits": [

16

{

17

"_index": "employees",

18

"_id": "RnaITpIBh01rQc5GKYC8",

19

"_score": 0.10536051,

20

"_source": {

21

"_class": "com.Hashagile.Task2.model.Employee",

22

"fullName": "John Doe",

23

"jobTitle": "Software Engineer",

24

"department": "IT",

25

"businessUnit": "Corporate",

26

"gender": "Male",

27

"ethnicity": "Caucasian",

28

"age": 30,

29

"hireDate": "2024-01-15".

30

}

31

}

32

]

33

}

GET

http://localhost:9200/employees/_search

Send

ParamsAuthorizationHeaders (7)BodyScriptsSettings

Cookies

odyCookiesHeaders (4)Test Results

200 OK10 ms603 B

Save Response

PrettyRawPreviewVisualizeJSON

```
1 {
2   "took": 3,
3   "timed_out": false,
4   "_shards": {
5     "total": 1,
6     "successful": 1,
7     "skipped": 0,
8     "failed": 0
9   },
10  "hits": {
11    "total": {
12      "value": 4,
13      "relation": "eq"
14    },
15    "max_score": 1.0,
16    "hits": [
17      {
18        "_index": "employees",
19        "_id": "RnalTpIBh01rQc5GKYC8",
20        "_score": 1.0,
21        "_source": {
22          "name": "John Doe",
23          "age": 30,
24          "gender": "male",
25          "salary": 50000
26        }
27      }
28    ]
29  }
30 }
```

Find and replace...

http://localhost:9200/employees

Save

Share

GET

http://localhost:9200/employees/_search

Send

ParamsAuthorizationHeaders (7)BodyScriptsSettings

Cookies

BodyCookiesHeaders (4)Test Results

200 OK10 ms603 B

Save Response

PrettyRawPreviewVisualizeJSON

```
1 {
2   "took": 3,
3   "timed_out": false,
4   "_shards": {
5     "total": 1,
6     "successful": 1,
7     "skipped": 0,
8     "failed": 0
9   },
10  "hits": {
11    "total": {
12      "value": 4,
13      "relation": "eq"
14    },
15    "max_score": 1.0,
16    "hits": [
17      {
18        "_index": "employees",
19        "_id": "RnalTpIBh01rQc5GKYC8",
20        "_score": 1.0,
21        "_source": {
22          "name": "John Doe",
23          "age": 30,
24          "gender": "male",
25          "salary": 50000
26        }
27      }
28    ]
29  }
30 }
```