



elasticsearch  
for developer

# CRUD operation

book\_02.txt

# การจัดการข้อมูล

- Indexing document
- Retrieve document
- Check existing document
- Update document
- Partial update document
- Delete document

# Elasticsearch

โดยปกติทุกๆ field จะถูก indexed เสมอ

# Document

Top-level ของ object (JSON)

# Document metadata

- `_index`
- `_type`
- `_id`

```
"hits": [  
  {  
    "_index": "store",  
    "_type": "book",  
    "_id": "2",  
    "_score": 0.058131136,  
    "_source": {  
      "title": "Clean Code: A Handbook of Agile
```

# Compare with RDBMS

DATABASE

TABLE

ROW

COLUMN

INDEX

TYPE

DOCUMENT

FIELD

# Indexing document

กำหนด ID เอง

**PUT** /{index}/{type}/{id}

# Indexing document

สร้าง ID แบบอัตโนมัติ

**POST** /{index}/{type}/

```
"hits": [  
  {  
    "_index": "store",  
    "_type": "book",  
    "_id": "AUrnsc0Ny8oVZ-EGkX9f",  
    "_score": 1,  
    "_source": {  
      "title": "The Great Gatsby",  
      "author": "F. Scott Fitzgerald",  
      "year": 1925  
    }  
  }  
]
```

UUID



# Retrieve document

**GET** /{index}/{type}/{id}

# Retrieve document

ถ้าต้องการข้อมูลบางส่วนล่ะ

**GET** /store/book/1?\_source=title,description

```
{
  "_index": "store",
  "_type": "book",
  "_id": "1",
  "_version": 2,
  "found": true,
  "_source": {
    "title": "Elasticsearch: The Definitive Guide",
    "description": "A Distributed Real-Time Search and Analytics Engine"
  }
}
```

# Check existing document

ตรวจสอบว่ามี document หรือไม่

**curl -i -XHEAD http://localhost:9200/store/book/1**

```
somkiatpui:elasticsearch-1.4.2 somkiat$ curl -i -XHEAD http://localhost:9200/store/book/1
HTTP/1.1 200 OK
Content-Type: text/plain; charset=UTF-8
Content-Length: 0
```

```
somkiatpui:elasticsearch-1.4.2 somkiat$ curl -i -XHEAD http://localhost:9200/store/book/100
HTTP/1.1 404 Not Found
Content-Type: text/plain; charset=UTF-8
Content-Length: 0
```

# Update document

ทำการแก้ไขข้อมูลทั้ง document

**PUT** /store/book/123

```
{  
  "title" : "Update",  
  "author_name" : ["user1", "user2"],  
  "tag" : ["update", "book"]  
}
```

versioning

```
{  
  "_index": "store",  
  "_type": "book",  
  "_id": "1",  
  "_version": 8,  
  "created": false  
}
```

# Partial update document

ทำการแก้ไขข้อมูลบาง fields

**POST** /store/book/1/\_update

```
{  
  "doc" : {  
    "title" : "partial update",  
    "tag" : [ "test", "computer" ],  
    "views": 0  
  }  
}
```

result

```
{  
  "_index": "store",  
  "_type": "book",  
  "_id": "1",  
  "_version": 11  
}
```

# Partial update document

ทำการดูรายละเอียด

GET /store/book/1

```

{
  "found": true,
  "_source": {
    "title": "partial update",
    "author_name": [
      "Clinton Gormley",
      "Zachary Tong"
    ],
    "tag": [
      "test",
      "computer"
    ],
    "isbn-13": "978-1449358549",
    "isbn-10": "1449358543",
    "price": 44.3,
    "page": 724,
    "description": "A Distributed Real-Time Search and Analytics
    RESTful search engine built on top of Apache Lucene. Each chapter i
    tackles a particular facet of Elasticsearch with separate sections
    more advanced programmers. If you're a beginner, advanced technique
    required reading, but you can revisit them once you have a solid un
    the basics.",
    "views": 0
  }
}
```

# Partial update document

แก้ไขด้วย Script ให้เพิ่ม tag ของหนังสือ

**POST** /store/book/1/\_update

```
{  
  "script": "ctx._source.tag+=new_tag",  
  "params": {  
    "new_tag": "search"  
  }  
}
```

# Partial update document

แก้ไขด้วย Script ให้เพิ่มค่าจำนวน page ของหนังสือ

**POST /store/book/1/\_update**

{

**"script" : "ctx.\_source.page+=1"**

}



# ERROR !!

**Groovy** dynamic scripting off by default from v1.4.3

```
{
  "error": {
    "root_cause": [
      {
        "type": "remote_transport_exception",
        "reason": "[ElectroCute][127.0.0.1:9300][indices:data/write/update[s]]"
      }
    ],
    "type": "illegal_argument_exception",
    "reason": "failed to execute script",
    "caused_by": {
      "type": "script_exception",
      "reason": "scripts of type [inline], operation [update] and lang [groovy] are disabled"
    }
  },
  "status": 400
}
```

# Enable script for update

**/config/elasticsearch.yml**

**script.update: on**

**Restart elasticsearch server !!**

# Partial update document

แก้ไขด้วย Script ให้เพิ่มค่าจำนวน views ของหนังสือ

**POST** /store/book/1/\_update

{

    "script" : "ctx.\_source.view+=1"

}

# ERROR !!

## Field views ไม่มีนะ

```
{
  "error": {
    "root_cause": [
      {
        "type": "remote_transport_exception",
        "reason": "[0celot][127.0.0.1:9300][indices:data/write/update[s]]"
      }
    ],
    "type": "illegal_argument_exception",
    "reason": "failed to execute script",
    "caused_by": {
      "type": "groovy_script_execution_exception",
      "reason": "failed to run inline script [ctx._source.views+=1] using lang [groovy]",
      "caused_by": {
        "type": "null_pointer_exception",
        "reason": "Cannot execute null+null"
      }
    }
  },
  "status": 400
}
```

# Partial update document

ถ้าบาง document ไม่มี views ล่ะ ?

**POST** /store/book/1/\_update

```
{  
  "script": "if (!ctx._source.views)  
    {ctx._source.views = 1};  
    ctx._source.views += views",  
  "params": {  
    "views": 5  
  }  
}
```

# Delete document

**DELETE** /store/book/123

First

```
{  
  "found": true,  
  "_index": "store",  
  "_type": "book",  
  "_id": "123",  
  "_version": 3  
}
```

Second

```
{  
  "found": false,  
  "_index": "store",  
  "_type": "book",  
  "_id": "123",  
  "_version": 1  
}
```

# Delete by query

**DELETE** /store/book/\_query

```
{  
  "query": {  
    "term": {  
      "tag": "elasticsearch"  
    }  
  }  
}
```

# Delete by query

**DELETE /k/\_query**

{

"qu

"

}

}

}

**REMOVED**



# Plug-in :: delete by query

`$bin/plugin install delete-by-query`

```
-> Installing delete-by-query...  
Trying https://download.elastic.co/elastic  
/2.1.1/delete-by-query-2.1.1.zip ...  
Downloading ..DONE  
Verifying https://download.elastic.co/elas  
ery/2.1.1/delete-by-query-2.1.1.zip checks  
Downloading .DONE  
Installed delete-by-query into /Users/somk  
.1/plugins/delete-by-query
```

**Restart elasticsearch server !!**

<https://www.elastic.co/guide/en/elasticsearch/plugins/2.1/plugins-delete-by-query.html>

# Delete by query

**DELETE** /store/book/\_query

```
{  
  "query": {  
    "term": {  
      "tag": "elasticsearch"  
    }  
  }  
}
```