



# Introduction to Elasticsearch 2

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2021.06.30



# Agen da

1. Install Elasticsearch

2. Install Kibana

3. Bulk insert

The background is a solid teal color. There are four white horizontal bars of varying lengths. Two bars are on the left side, and two are on the right side. A small red dot is positioned at the end of the second bar from the left, and another red dot is positioned at the start of the second bar from the right.

# Notice

# Environment

2021/06

OS : Windows 10 Pro

Env: Java 8

Elastic: Elasticsearch 7.13  
Kibana 7.13





# Install Elasticsearch

## Download Elasticsearch

Version: 7.13.2

Release date: June 15, 2021

License: [Elastic License 2.0](#)

Downloads:

<a href="#">WINDOWS</a> <a href="#">sha</a> <a href="#">asc</a>	<a href="#">MACOS</a> <a href="#">sha</a> <a href="#">asc</a>
<a href="#">LINUX X86_64</a> <a href="#">sha</a> <a href="#">asc</a>	<a href="#">LINUX AARCH64</a> <a href="#">sha</a> <a href="#">asc</a>
<a href="#">DEB X86_64</a> <a href="#">sha</a> <a href="#">asc</a>	<a href="#">DEB AARCH64</a> <a href="#">sha</a> <a href="#">asc</a>
<a href="#">RPM X86_64</a> <a href="#">sha</a> <a href="#">asc</a>	<a href="#">RPM AARCH64</a> <a href="#">sha</a> <a href="#">asc</a>
<a href="#">MSI (BETA)</a> <a href="#">sha</a> <a href="#">asc</a>	

Package Managers: Install with [yum](#), [dnf](#), or [zypper](#)

Install with [apt-get](#)

Install with [homebrew](#)

Containers: Run with [Docker](#)

Notes: Running on Kubernetes? Try [Elastic Cloud on Kubernetes](#) or the Elasticsearch [Helm Chart](#).

This default distribution is governed by the Elastic License, and includes the [full set of free features](#).

View the detailed release notes [here](#).

Not the version you're looking for? View [past releases](#).

The distribution that's not bundled with a JDK is available [here](#).

Information about third-party dependencies and links to any

### Downloads:

<a href="#">WINDOWS</a>	<a href="#">sha</a>	<a href="#">asc</a>
<a href="#">LINUX X86_64</a>	<a href="#">sha</a>	<a href="#">asc</a>
<a href="#">DEB X86_64</a>	<a href="#">sha</a>	<a href="#">asc</a>
<a href="#">RPM X86_64</a>	<a href="#">sha</a>	<a href="#">asc</a>

<https://www.elastic.co/jp/downloads/elasticsearch>





elasticsearch-7.13.2....zip



```
C:\Program Files  
└─Elastic  
    └─elasticsearch-7.13.2
```

環境変数名の編集



C:\Program Files\Elastic\elasticsearch-7.13.2\bin

新規(N)

編集(E)

参照(B)...

削除(D)

Path/of/Elasticsearch/bin



Elasticsearch

0

3

```
PowerShell
PS C:\Users\s1270232> elasticsearch
"warning: usage of JAVA_HOME is deprecated, use ES_JAVA_HOME"
Future versions of Elasticsearch will require Java 11; your Java version from [C:\Program Files\Java\jdk1.8.0_161\jre] does not meet this requirement. Consider switching to a distribution of Elasticsearch with a bundled JDK. If you are already using a distribution with a bundled JDK, ensure the JAVA_HOME environment variable is not set.
Future versions of Elasticsearch will require Java 11; your Java version from [C:\Program Files\Java\jdk1.8.0_161\jre] does not meet this requirement. Consider switching to a distribution of Elasticsearch with a bundled JDK. If you are already using a distribution with a bundled JDK, ensure the JAVA_HOME environment variable is not set.
```

Terminal

elasticsearch

```
{
  "name" : "DESKTOP-GG7N096",
  "cluster_name" : "elasticsearch",
  "cluster_uuid" : "38yv9CHVRsiVEVafITgj8w",
  "version" : {
    "number" : "7.13.2",
    "build_flavor" : "default",
    "build_type" : "zip",
    "build_hash" : "4d960a0733be83dd2543ca018aa4ddc42e956800",
    "build_date" : "2021-06-10T21:01:55.251515791Z",
    "build_snapshot" : false,
    "lucene_version" : "8.8.2",
    "minimum_wire_compatibility_version" : "6.8.0",
    "minimum_index_compatibility_version" : "6.0.0-beta1"
  },
  "tagline" : "You Know, for Search"
}
```

<https://localhost:9200>



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# Install Kibana

Downloads:

 [WINDOWS](#) [sha](#) [asc](#)

 [LINUX 64-BIT](#) [sha](#) [asc](#)

 [RPM AARCH64](#) [sha](#) [asc](#)

 [DEB AARCH64](#) [sha](#) [asc](#)









製品 導入事例 リソース Elasticについて 料金 お問い合わせ ログイン 無料

## Download Kibana

Want it hosted? Deploy on Elastic Cloud. [Get Started »](#)

Version: 7.13.2  
Release date: June 15, 2021  
License: [Elastic License 2.0](#)

Downloads:

 <a href="#">WINDOWS</a> <a href="#">sha</a> <a href="#">asc</a>	 <a href="#">MAC</a> <a href="#">sha</a> <a href="#">asc</a>
 <a href="#">LINUX 64-BIT</a> <a href="#">sha</a> <a href="#">asc</a>	 <a href="#">RPM 64-BIT</a> <a href="#">sha</a> <a href="#">asc</a>
 <a href="#">RPM AARCH64</a> <a href="#">sha</a> <a href="#">asc</a>	 <a href="#">DEB 64-BIT</a> <a href="#">sha</a> <a href="#">asc</a>
 <a href="#">DEB AARCH64</a> <a href="#">sha</a> <a href="#">asc</a>	 <a href="#">LINUX AARCH64</a> <a href="#">sha</a> <a href="#">asc</a>

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View the detailed release notes [here](#).  
Not the version you're looking for? View [past releases](#).

<https://www.elastic.co/jp/downloads/kibana>



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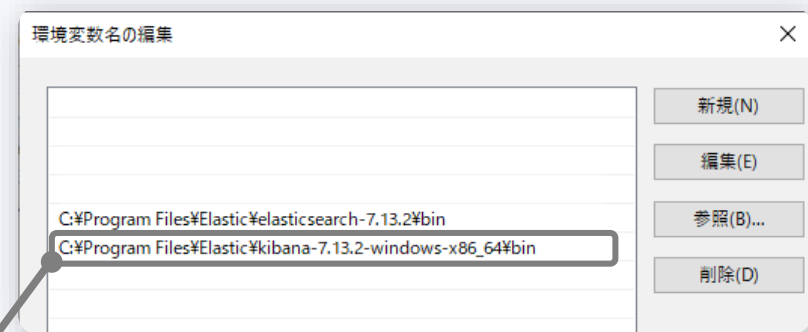
```
C:\Program Files
└─Elastic
   └─elasticsearch-7.13.2
      └─kibana-7.13.2-windows-x86_64
```



kibana-7.13.2-wind....zip



Path/of/kibana/bin



Elasticsearch

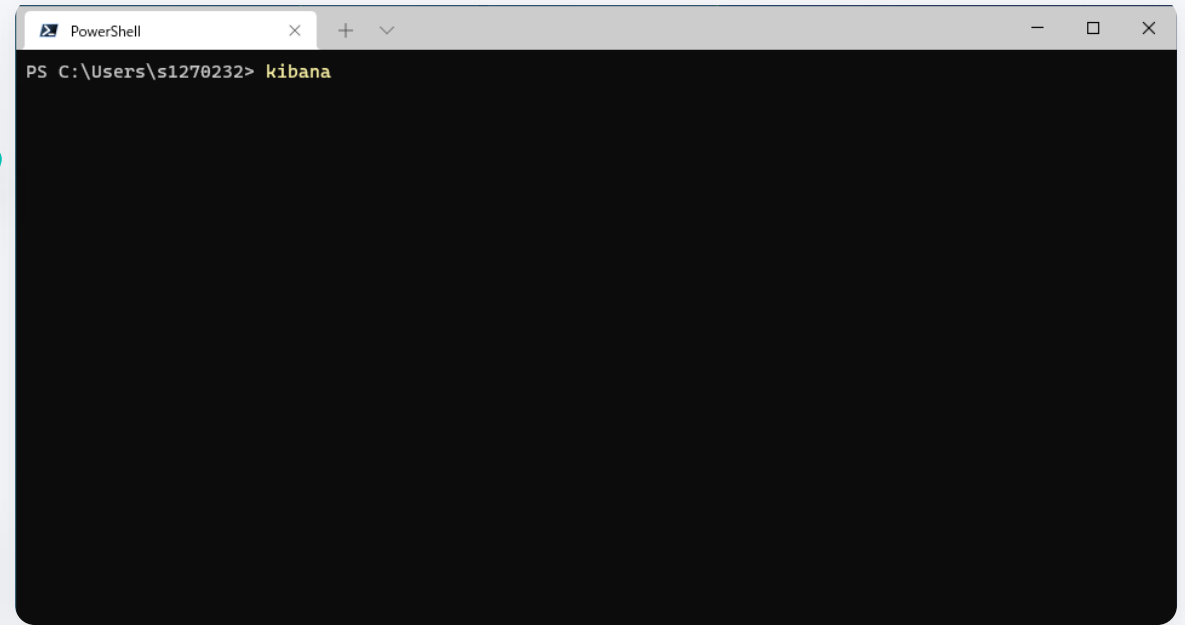
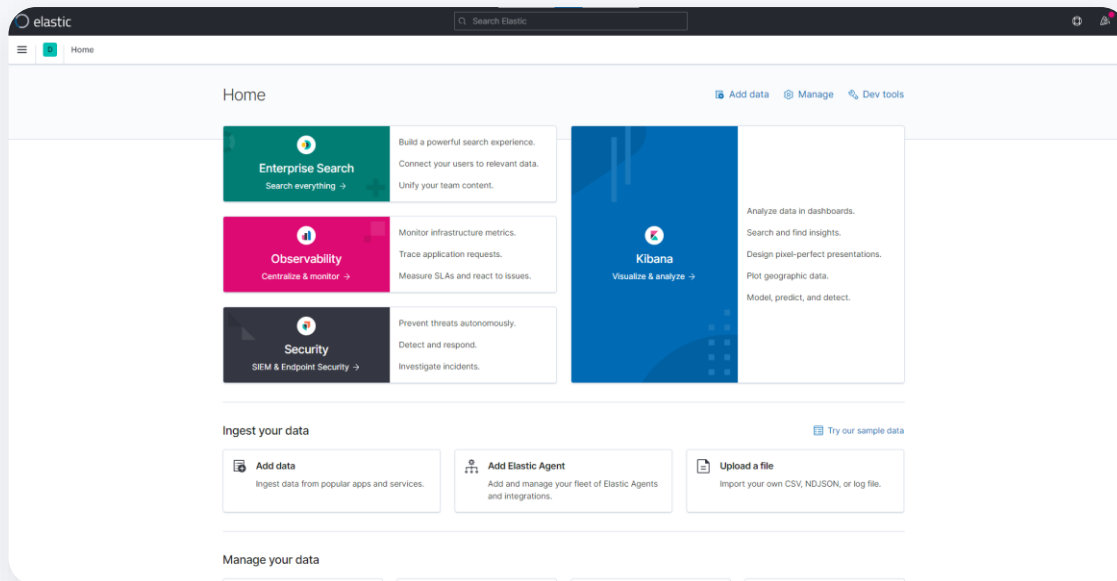
0

7

Terminal

kibana

After running Elasticsearch!



<https://localhost:5601>





# Bulk Insert

# How to Insert

## Use official API

- Index API
- Bulk API

→ Support only  
Special Json Format

## Use outer client

### Official

- |              |          |
|--------------|----------|
| - Java       | - Python |
| - JavaScript | - Ruby   |
| - Go         | - Perl   |
| - .NET       | - eland  |
| - PHP        | - Rust   |

# Bulk API

Insert / Delete multiple data  
in a single call

```
{ "index" : { "_index" : "test", "_id" : "2" } }  
{ "field1" : "value1" }  
{ "delete" : { "_index" : "test", "_id" : "2" } }  
{ "create" : { "_index" : "test", "_id" : "3" } }  
{ "field1" : "value3" }  
{ "update" : { "_id" : "1", "_index" : "test" } }  
{ "doc" : { "field2" : "value2" } }
```

# Bulk API

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in a single call

```
{ "index" : { "_index" : "test", "_id" : "2" } }  
{ "field1" : "value1" }  
{ "delete" : { "_index" : "test", "_id" : "2" } }  
{ "create" : { "_index" : "test", "_id" : "3" } }  
{ "field1" : "value3" }  
{ "update" : { "_id" : "1", "_index" : "test" } }  
{ "doc" : { "field2" : "value2" } }
```



# Sed

Text edit command

e.g.

- Insert characters on a particular line
- Replace all characters
- Delete specific sentence

# Sed

Text edit command

e.g.

- Insert characters on a particular line
- Replace all characters
- Delete specific sentence

source.csv

```
1,1101010,Point(141.3532777 43.06225480000001),札幌市  
2,1101020,Point(141.3252375 43.0396273),札幌市
```

```
3,1101520,Point(141.3532777 43.06225480000001),札幌市
```

```
4,1101540,Point(141.3445286 43.0409769),札幌市
```

```
sed '/^$/d' source.csv
```

```
1,1101010,Point(141.3532777 43.06225480000001),札幌市  
2,1101020,Point(141.3252375 43.0396273),札幌市  
3,1101520,Point(141.3532777 43.06225480000001),札幌市  
4,1101540,Point(141.3445286 43.0409769),札幌市
```

The image features a solid dark blue background. In the upper left, there are two horizontal white bars of different lengths, with a small red dot positioned to the right of the longer bar. In the lower right, there are two more horizontal white bars, with a small red dot positioned to the left of the longer bar. The word "Demo" is centered in the middle of the image in a white, sans-serif font.

# Demo

# Demo

## Data

新型コロナウイルス(COVID-19)感染症の対応について | 内閣官房新型コロナウイルス感染症対策推進室

(<https://corona.go.jp/dashboard/>)

### Covid19JapanAll.json

```
1  {"date": "2021-06-26", "name_jp": "北海道", "npatients": "41216"}
2  {"date": "2021-06-26", "name_jp": "青森県", "npatients": "2476"}
3  {"date": "2021-06-26", "name_jp": "岩手県", "npatients": "1659"}
4  {"date": "2021-06-26", "name_jp": "宮城県", "npatients": "9104"}
5  {"date": "2021-06-26", "name_jp": "秋田県", "npatients": "825"}
6  {"date": "2021-06-26", "name_jp": "山形県", "npatients": "2020"}
7  {"date": "2021-06-26", "name_jp": "福島県", "npatients": "4840"}
8  {"date": "2021-06-26", "name_jp": "茨城県", "npatients": "10440"}
9  {"date": "2021-06-26", "name_jp": "栃木県", "npatients": "6939"}
10 {"date": "2021-06-26", "name_jp": "群馬県", "npatients": "8022"}
11 {"date": "2021-06-26", "name_jp": "埼玉県", "npatients": "46100"}
```

# Demo

## Convert

```
sed -i 's/^/&{"index": {}}\n/g' Covid19JapanAll.json
```

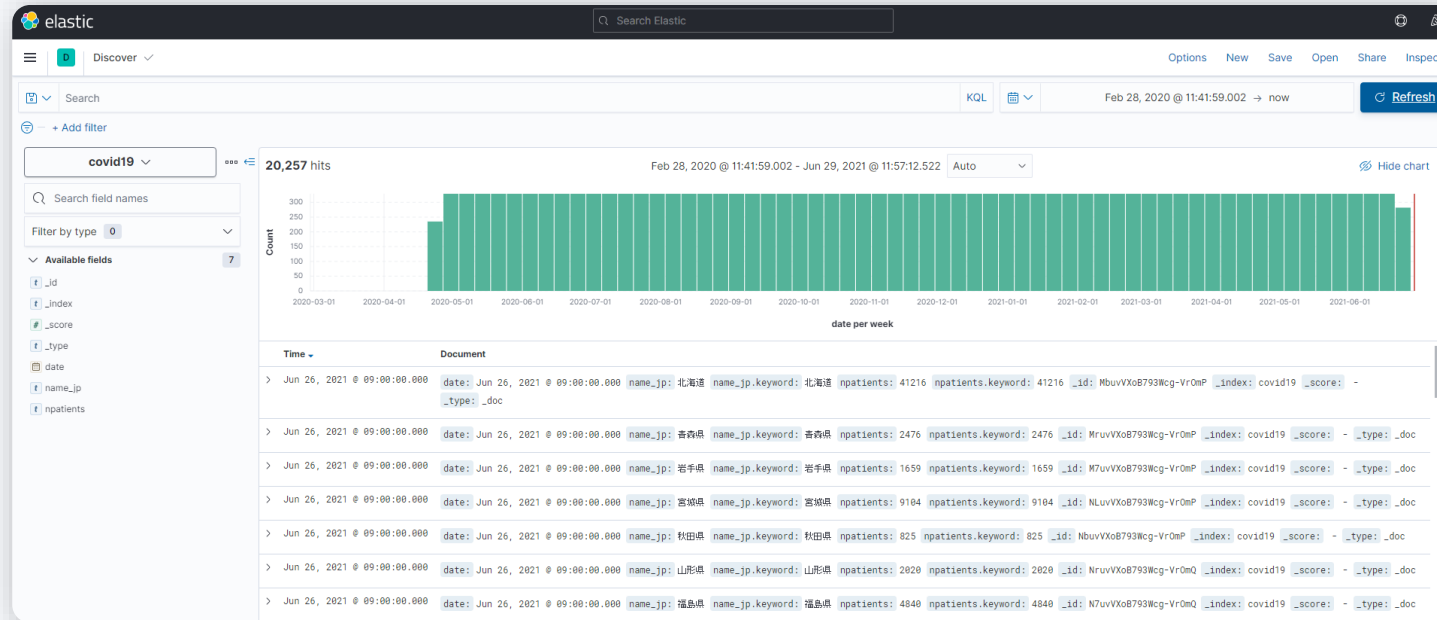
Covid19JapanAll.json

```
1  {"index": {}}
2  {"date": "2021-06-26", "name_jp": "北海道", "npatients": "41216"}
3  {"index": {}}
4  {"date": "2021-06-26", "name_jp": "青森県", "npatients": "2476"}
5  {"index": {}}
6  {"date": "2021-06-26", "name_jp": "岩手県", "npatients": "1659"}
7  {"index": {}}
8  {"date": "2021-06-26", "name_jp": "宮城県", "npatients": "9104"}
9  {"index": {}}
10 {"date": "2021-06-26", "name_jp": "秋田県", "npatients": "825"}
```

# Demo

## Insert by Bulk API

```
curl -H 'Content-Type:application/json' -XPUT 'localhost:9200/covid19/_bulk?pretty&refresh' -d '@Covid19JapanAll.json'
```



# References

- Installing Elasticsearch | Elasticsearch Guide [7.13] | Elastic  
(<https://www.elastic.co/guide/en/elasticsearch/reference/current/install-elasticsearch.html>)
- 新型コロナウイルス(COVID-19)感染症の対応について | 内閣官房新型コロナウイルス感染症対策推進室  
(<https://corona.go.jp/dashboard/>)
- curlのオプション--data, --data-binary, --data-raw, --data-urlencodeの違い – Qiita  
(<https://qiita.com/aosho235/items/d89bb027db0c5662d8c5>)



# Thank you!

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