

# Elasticsearch

**Elasticsearch** is a search server/engine based on **Apache Lucene**. It provides a multi-node distributed full-text search engine with an HTTP web interface and sophisticated RESTful API. Elasticsearch is developed in Java and is released as open source under the terms of the Apache License.

There are several types of nodes in **Elasticsearch** architecture:

- **Master-eligible node** – eligible to be elected as Master node, which controls the cluster.
- **Data node** – holds data and performs data related operations such as search, and aggregations
- **Client node** – acts as a “router” forwarding cluster-level requests to the master node and data-related requests (such as search) to the data nodes
- **Tribe node** special type of client node that can connect to multiple clusters and perform data-related operations across clusters

## Environment used:

- **master:** IP: 10.10.40.201
- **slave2:** IP: 10.10.40.202

## Steps of Installation:

1. Install Oracle Java on all nodes.
2. Install Elasticsearch engine on all nodes

### 2.1 Master node:

1. Download tar file from <https://www.elastic.co/downloads/elasticsearch>
2. Untar it.
3. run > gedit elasticsearch-5.2.0/config/elasticsearch.yml
4. Add following code:

```
cluster.name: ELK_BDCOE

node.name: master

node.master: true

node.data: true

network.host: ["master", "localhost"]

discovery.zen.ping.unicast.hosts: ["master", "slave2"]

discovery.zen.minimum_master_nodes: 1
```

5. If x-pack is installed then following code into elasticsearch.yml

```
xpack.security.enabled: false
```

## 2.2 Data node:

1. Download tar file from <https://www.elastic.co/downloads/elasticsearch>

2. Untar it.

3. run > gedit elasticsearch-5.2.0/config/elasticsearch.yml

4. Add following code:

```
cluster.name: ELK_BDCOE
node.name: slave2
node.master: false
node.data: true

network.host: ["slave2", "localhost"]

discovery.zen.ping.unicast.hosts: ["master", "slave2"]

discovery.zen.minimum_master_nodes: 1
```

5. If x-pack is installed then following code into elasticsearch.yml

```
xpack.security.enabled: false
```

## 3. Configure Elasticsearch on each node

### 3.1 Configure Master node:

1. Run> sudo gedit /etc/hosts

2. Add into hosts file

```
10.10.40.201    master
10.10.40.202    slave2

127.0.0.1      localhost
```

### 3.2 Configure Data node

1. Run> sudo gedit /etc/hosts

2. Add into hosts file

```
10.10.40.201    master
10.10.40.202    slave2

127.0.0.1      localhost
```

## **4. Running Elasticsearch**

### **4.1 Master node:**

```
Run> sudo sysctl -w vm.max_map_count=262144  
Run> ./bin/elasticsearch
```

### **4.2 Data node:**

```
Run> sudo sysctl -w vm.max_map_count=262144  
Run> ./bin/elasticsearch
```

**REF:** <http://www.tuxfixer.com/install-and-configure-elasticsearch-cluster-on-centos-7-nodes/>