elasticsearch

for developer

Life on Cluster

02_cluster.txt

SPRINT3R

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Single node

master
data

Create index for single node

```
PUT /blog
{
  "settings": {
    "number_of_shards": 3,
    "number_of_replicas": 0
  }
}
```

Cluster health

GET _cluster/health

n Nodes

NODE 1

master

data

NODE 2

master

data

Distributed data

Distributed data

Cluster health

GET _cluster/health


```
{
    "cluster_name": "kaidee",
    "status": "green",
    "timed_out": false,
    "number_of_nodes": 2,
    "number_of_data_nodes": 2,
    "active_primary_shards": 3,
    "active_shards": 3,
    "relocating_shards": 0,
    "initializing_shards": 0,
    "unassigned_shards": 0,
    "number_of_pending_tasks": 0
}
```

Replica = 1

NODE 1

master

data

NODE 2

master

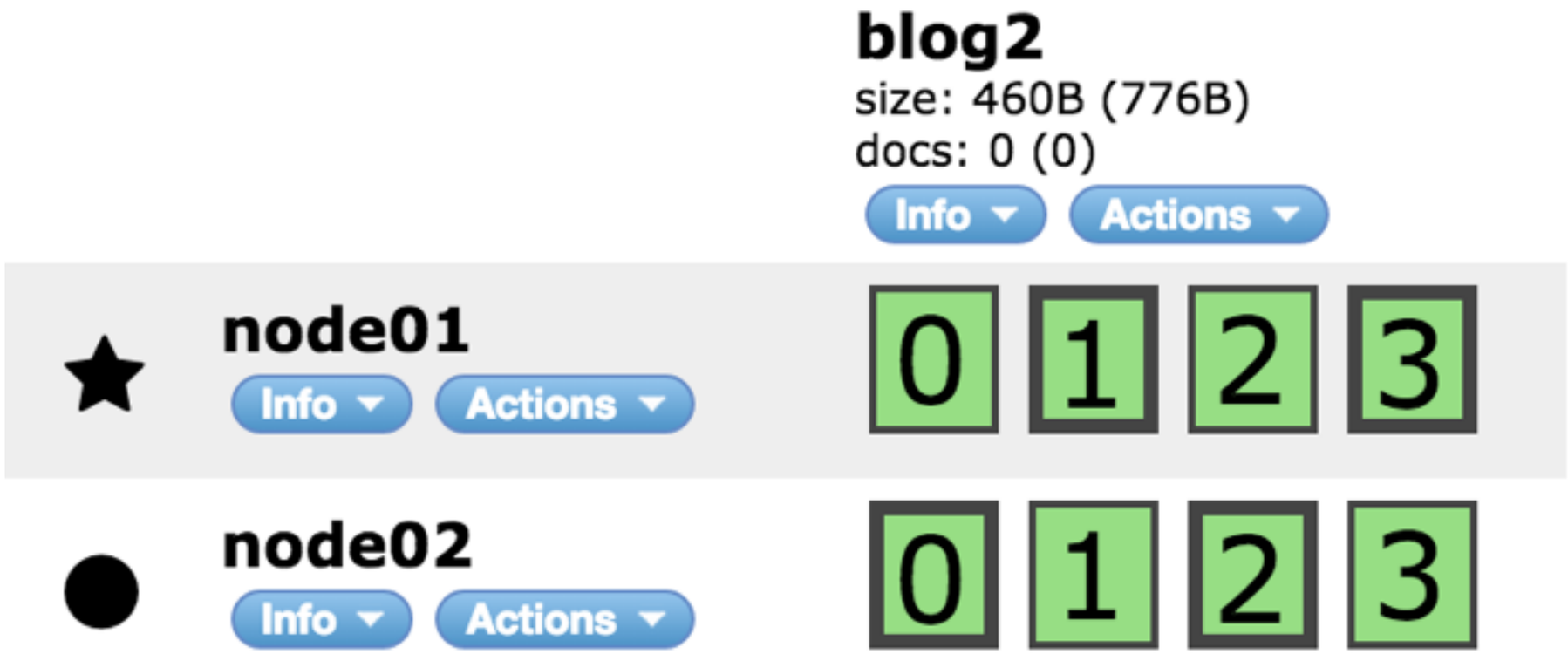
data

Replicate data

Create index for replica

```
PUT /blog2
{
  "settings": {
    "number_of_shards": 4,
    "number_of_replicas": 1
  }
}
```

Replicate data



Node with single responsibility

NODE 1

master

NODE 2

data

NODE 3

query

Create index

```
PUT /blog3
{
  "settings": {
    "number_of_shards": 4,
    "number_of_replicas": 1
  }
}
```

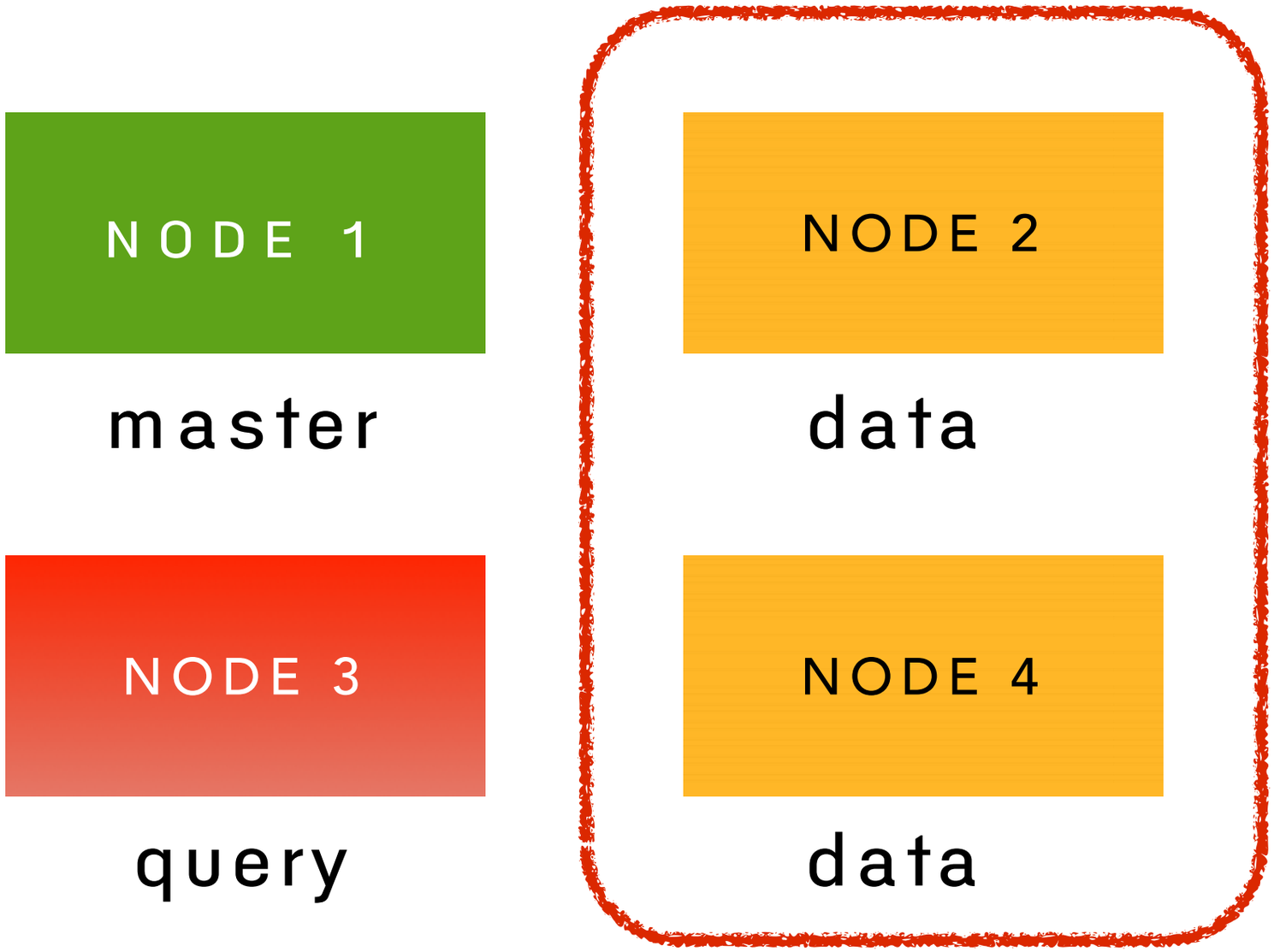
Replicate data

Cluster health

GET _cluster/health


```
{
    "cluster_name": "kaidee",
    "status": "yellow",
    "timed_out": false,
    "number_of_nodes": 3,
    "number_of_data_nodes": 1,
    "active_primary_shards": 4,
    "active_shards": 4,
    "relocating_shards": 0,
    "initializing_shards": 0,
    "unassigned_shards": 4,
    "number_of_pending_tasks": 0
}
```

Add data node



Replicate data

Cluster health

GET _cluster/health


```
{
    "cluster_name": "kaidee",
    "status": "green",
    "timed_out": false,
    "number_of_nodes": 4,
    "number_of_data_nodes": 2,
    "active_primary_shards": 4,
    "active_shards": 8,
    "relocating_shards": 0,
    "initializing_shards": 0,
    "unassigned_shards": 0,
    "number_of_pending_tasks": 0
}
```

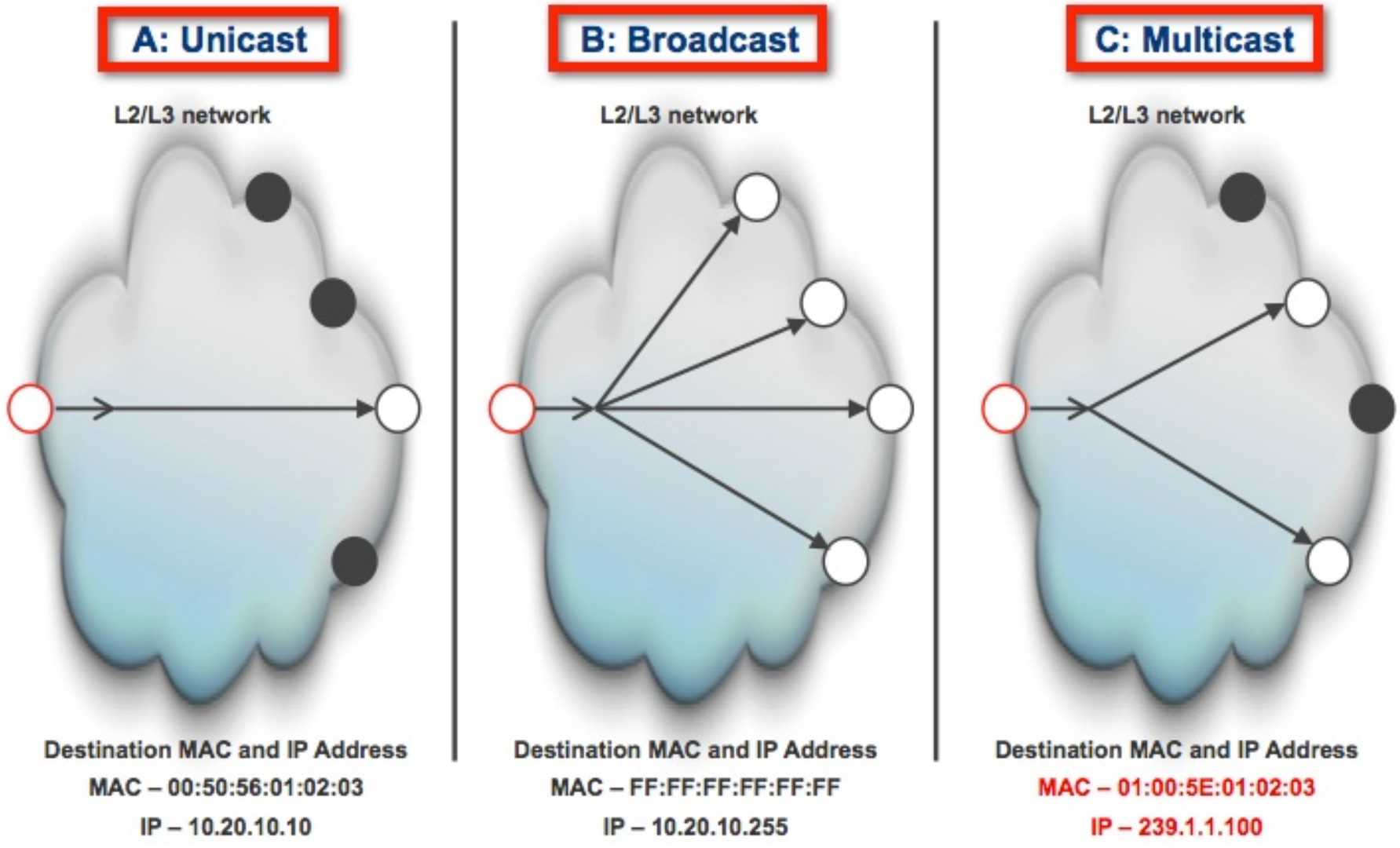
Zen Discovery

Multicast

Unicast

http://www.elastic.co/guide/en/elasticsearch/reference/current/modules-discovery-zen.html

Multicast vs Unicast



Use unicast

#elasticsearch.yml

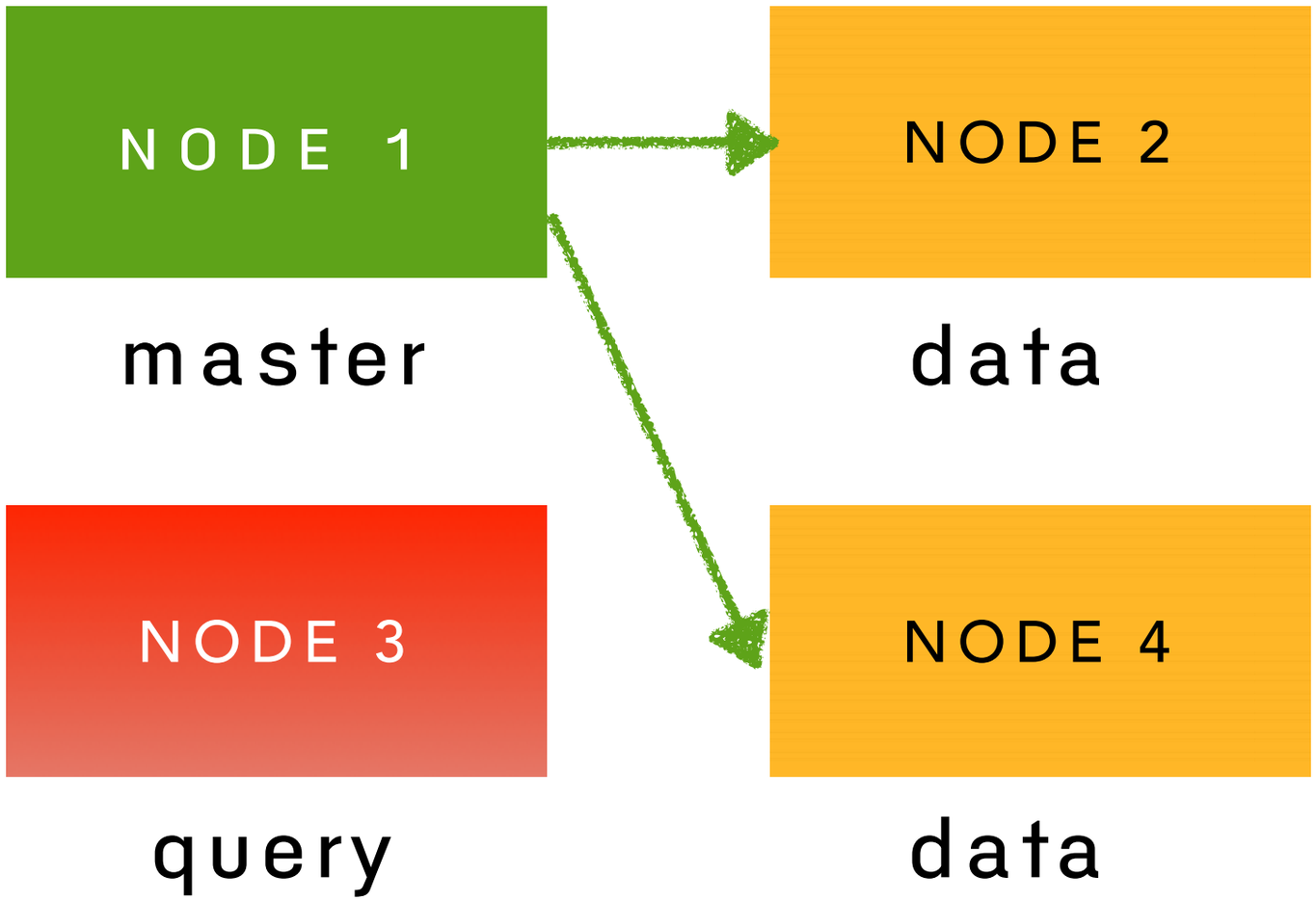
cluster.name: kaidee

discovery.zen.ping.multicast.enabled: false

discovery.zen.ping.unicast.hosts: ["node02:9201",

"node04:9203"]

Unicast

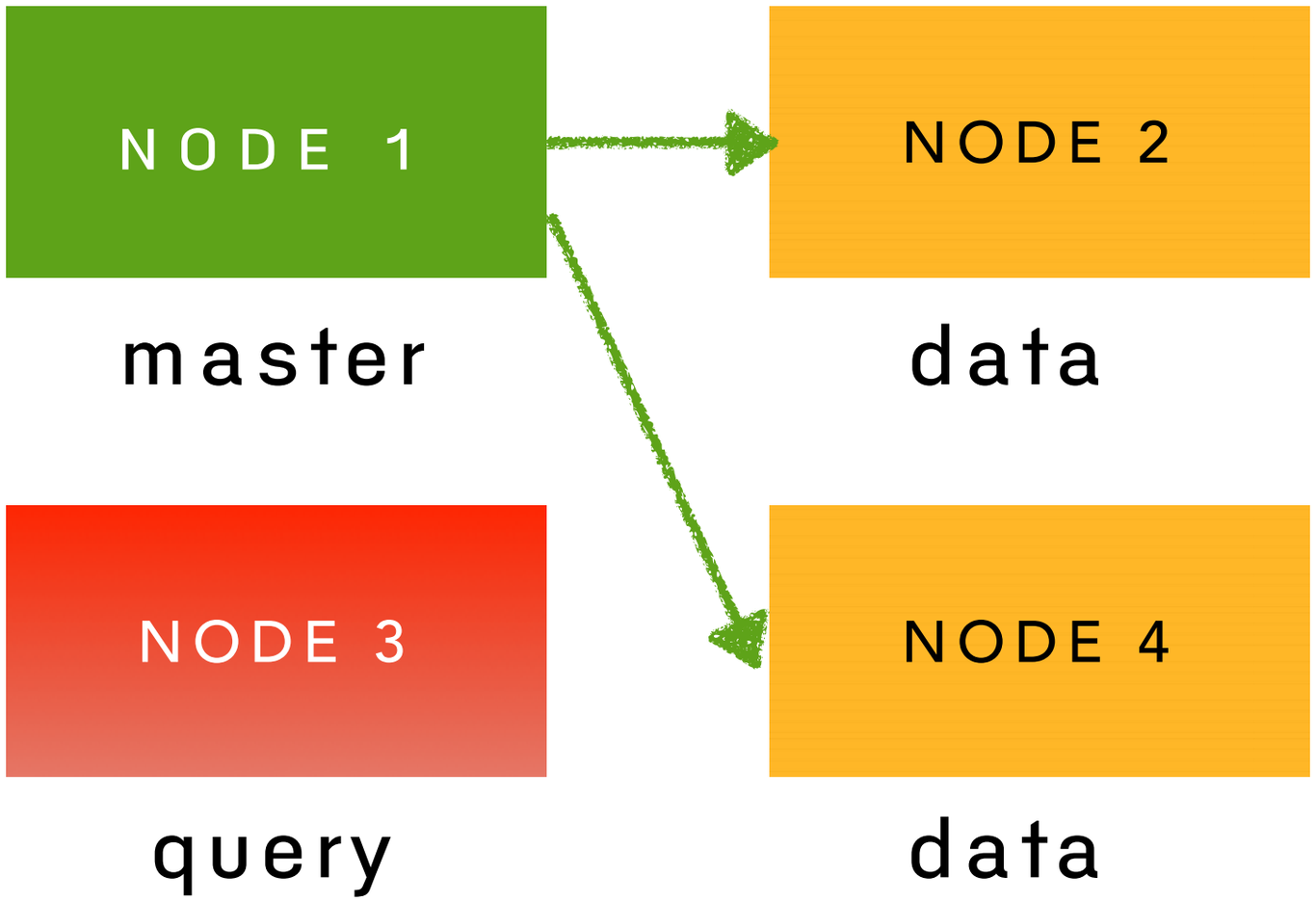


Master election

MINIMUM MASTER NODE >= TOTAL NODE / 2

Topology

4 / 2 = 2



Minimum master node

#elasticsearch.yml

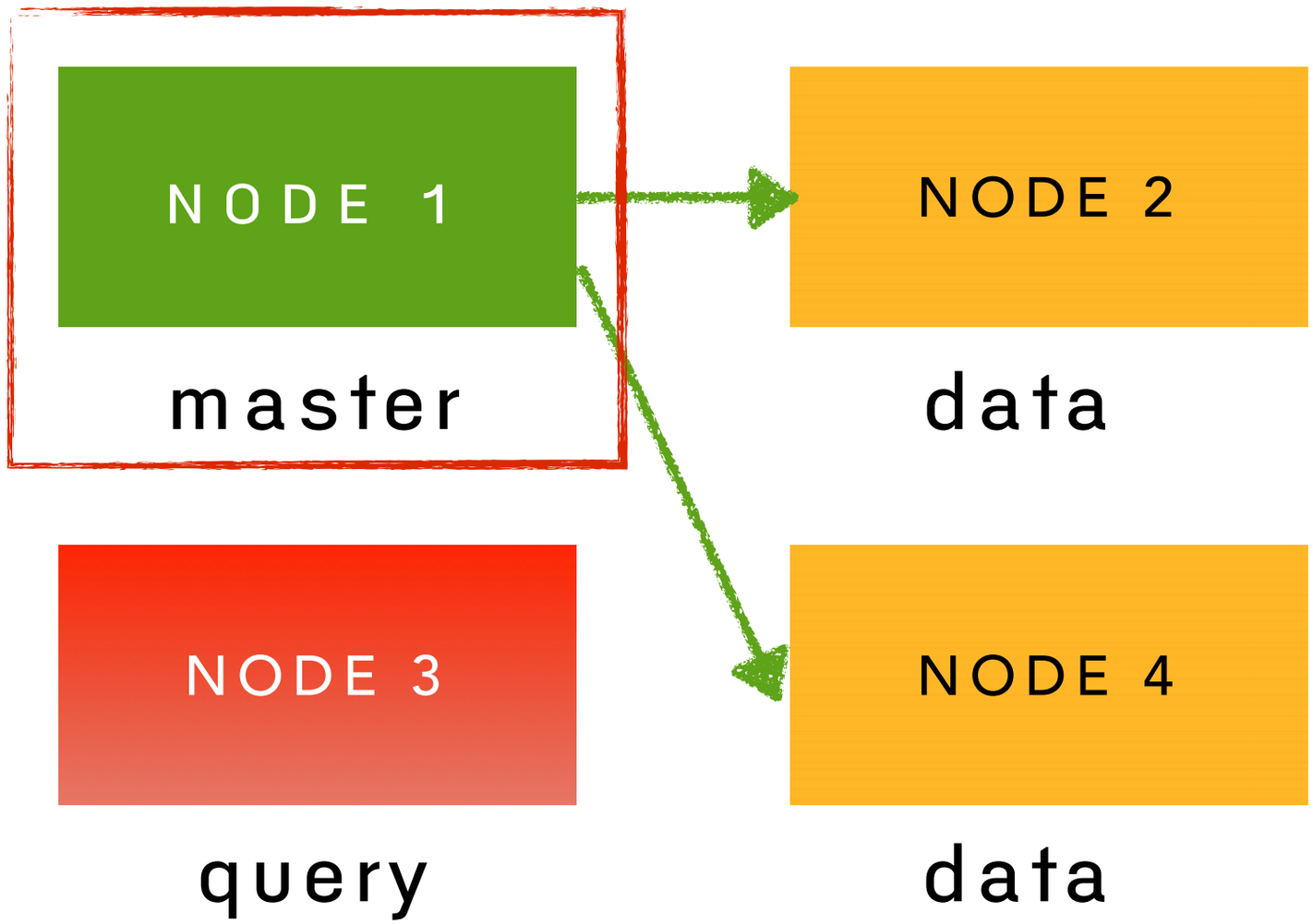
cluster.name: kaidee

discovery.zen.ping.multicast.enabled: false

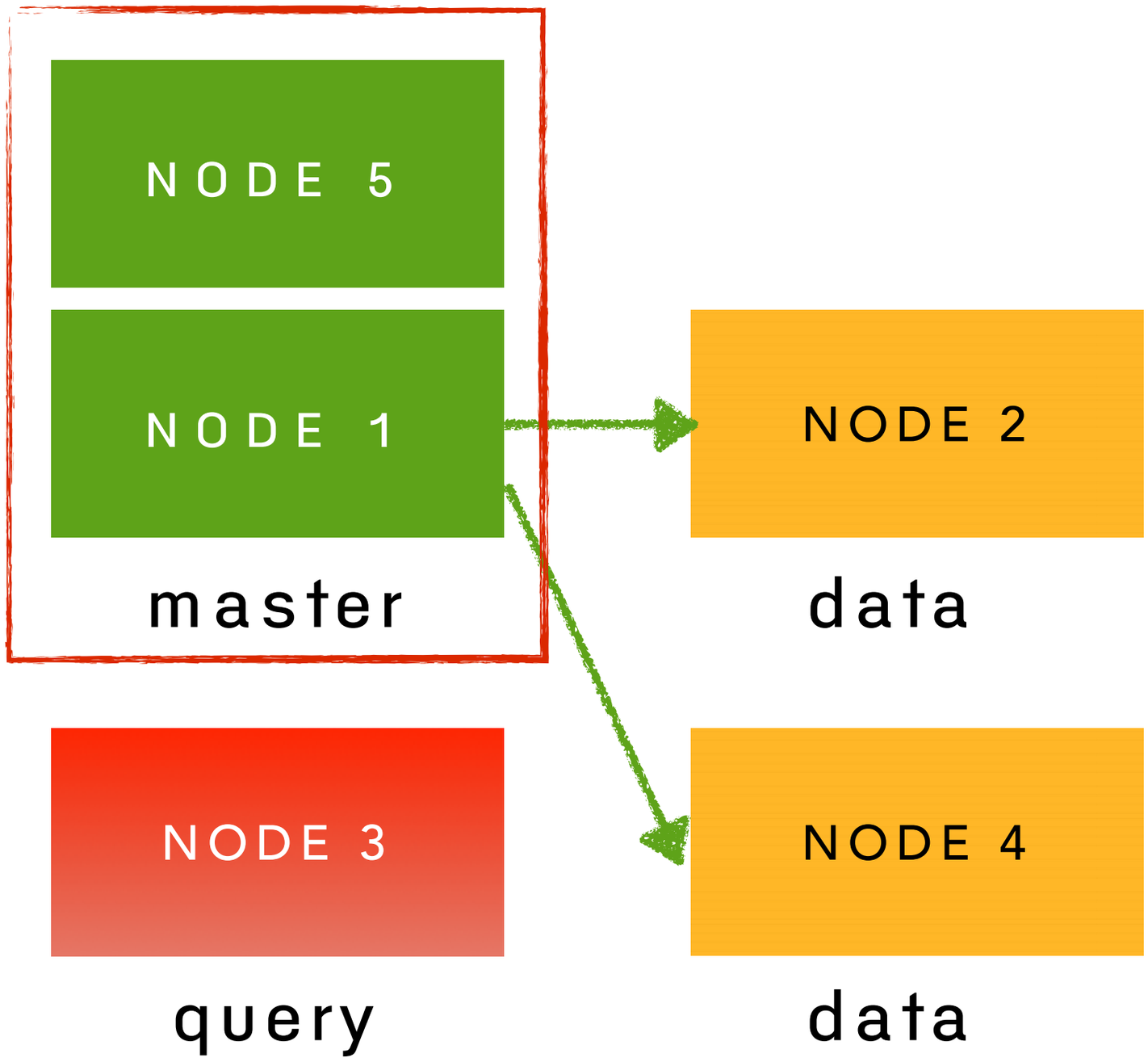
discovery.zen.ping.unicast.hosts: ["node02:9201",
“node04:9203"]

discovery.zen.minimum_master_nodes: 2

Not valid ?



Add master node



Restart node in cluster

อย่า shutdown หรือ stop service

Restart node in cluster

Need rolling restart node by node

http://www.elastic.co/guide/en/elasticsearch/reference/1.5/modules-cluster.html

Step by step

1. Stop rebalance for this node

```
PUT _cluster/settings
{
   "transient": {
      "cluster.routing.allocation.enable": "none"
   }
}
```

Step by step

2. Shutdown node

Step by step

3. Restart node to join in cluster

Step by step

4. Enable rebalance

```
PUT _cluster/settings
{
   "transient": {
      "cluster.routing.allocation.enable": "all"
   }
}
```