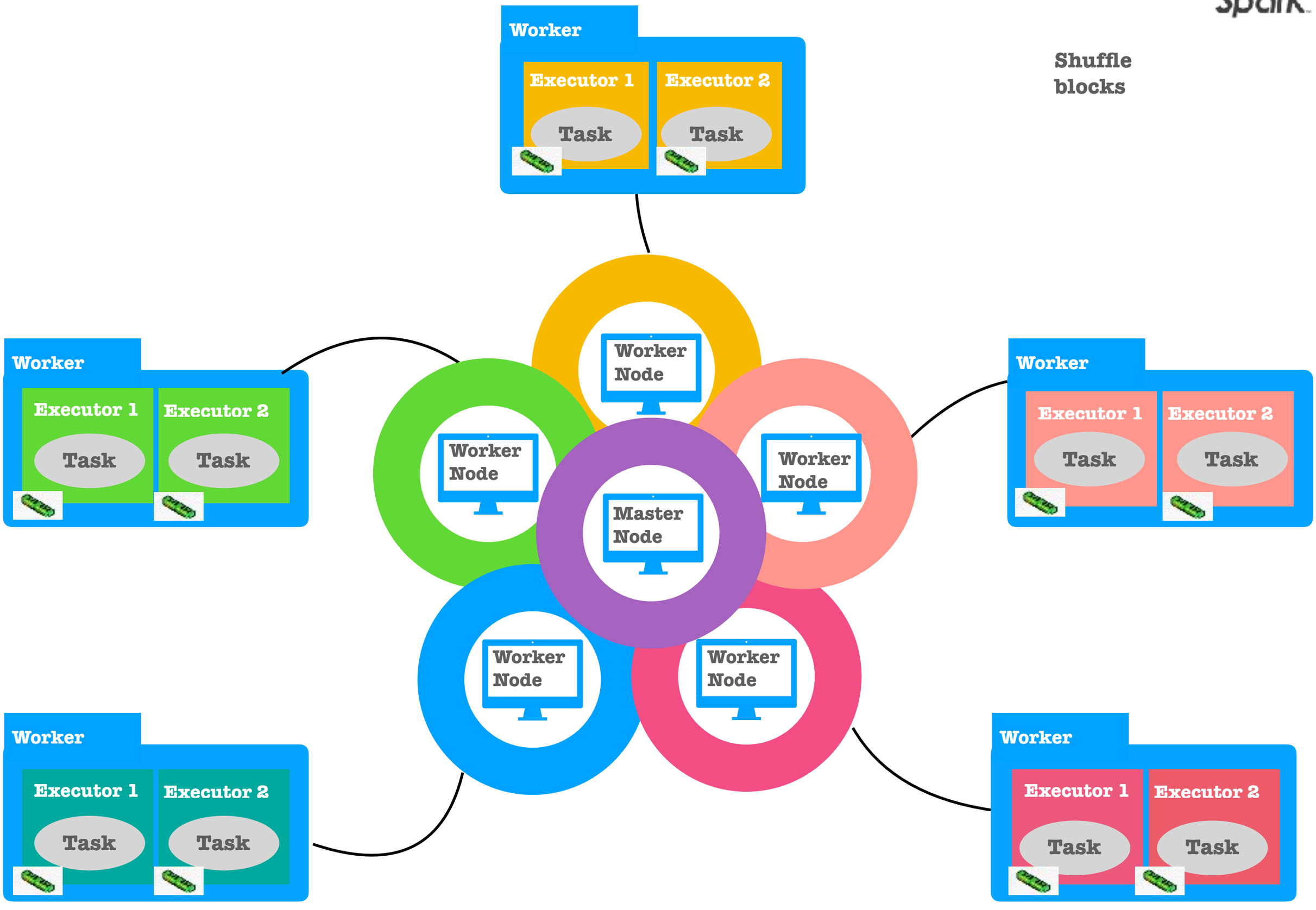
elasticsearch

Looking back

Shuffle blocks



Topics

1. What is elastic search ?
2. Why elastic search ?
3. Advantages of elastic search
4. How the data is stored ?
5. Why elastic search is soo quick in search?

1 What is elastic search

- Real time distributed and analytics engine
- Open source developed in java
- Elastic search is based on the Lucene engine on top of which we have rest interface.
- Support for full text search

2 Why elastic search

- Let you perform and combine many types of searches like structured, unstructured etc
- You can analyse billions of log lines easily
- Provide aggregations which help you zoom out to explore trends and patterns in your data
- Basic search engine

3 Advantages of elastic search

Scalability

Really Fast

Multilingual

Document Oriented

Autocompletion & Instant Search

Schema Free

4 Architecture

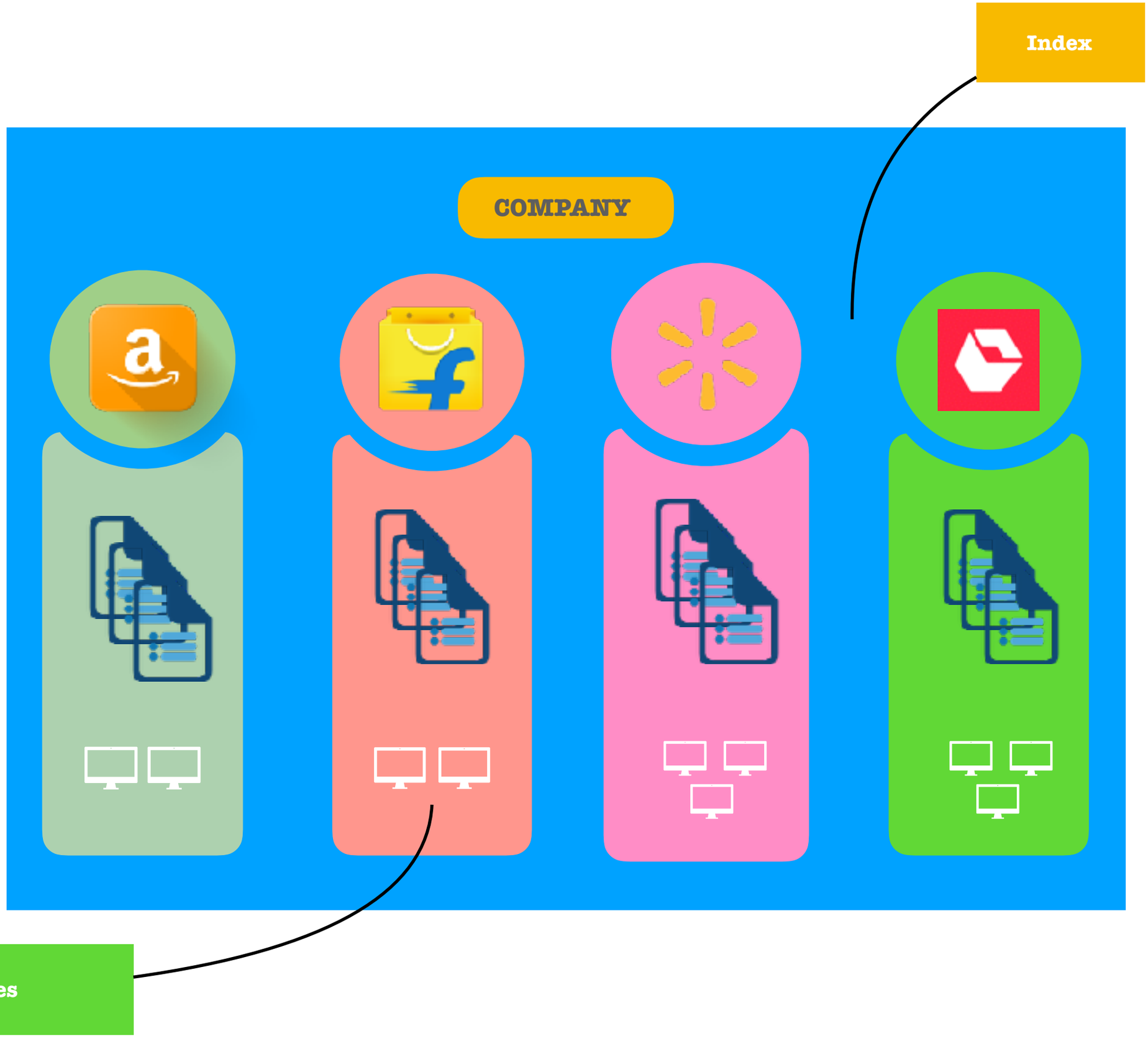
Cluster

A cluster is a collection of one or more nodes that together holds the entire data. It provides federated indexing and search capabilities across all nodes and is identified by a unique name (by default it is '***elasticsearch***')

Node

A node is a single server which is a part of cluster, stores data and participates in the cluster's indexing and search capabilities

5 How the data is stored?

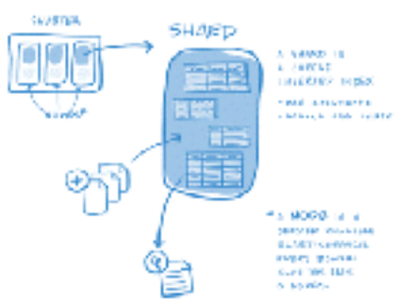


Index

An index is a collection of documents with similar characteristics and is identified by a name. This name is used to refer to the index while performing indexing, search, update, and delete operations against the documents in it.

Type

A type is a logical category/ partition of an index whose semantics is completely. It is defined for documents that have a set of common fields. You can define more than one type in your index



Shard

A **shard** is an unbreakable entity in **Elasticsearch**, in the sense that a **shard** can only stay on one machine (Node). An index which is a group of **shards** can spread across multiple machines(ES nodes) but **shards** can not.

5 Why elastic search is soo quick in search?

Node 1

1: Winter is coming.
2: Ours is the fury.
3: The choice is yours.

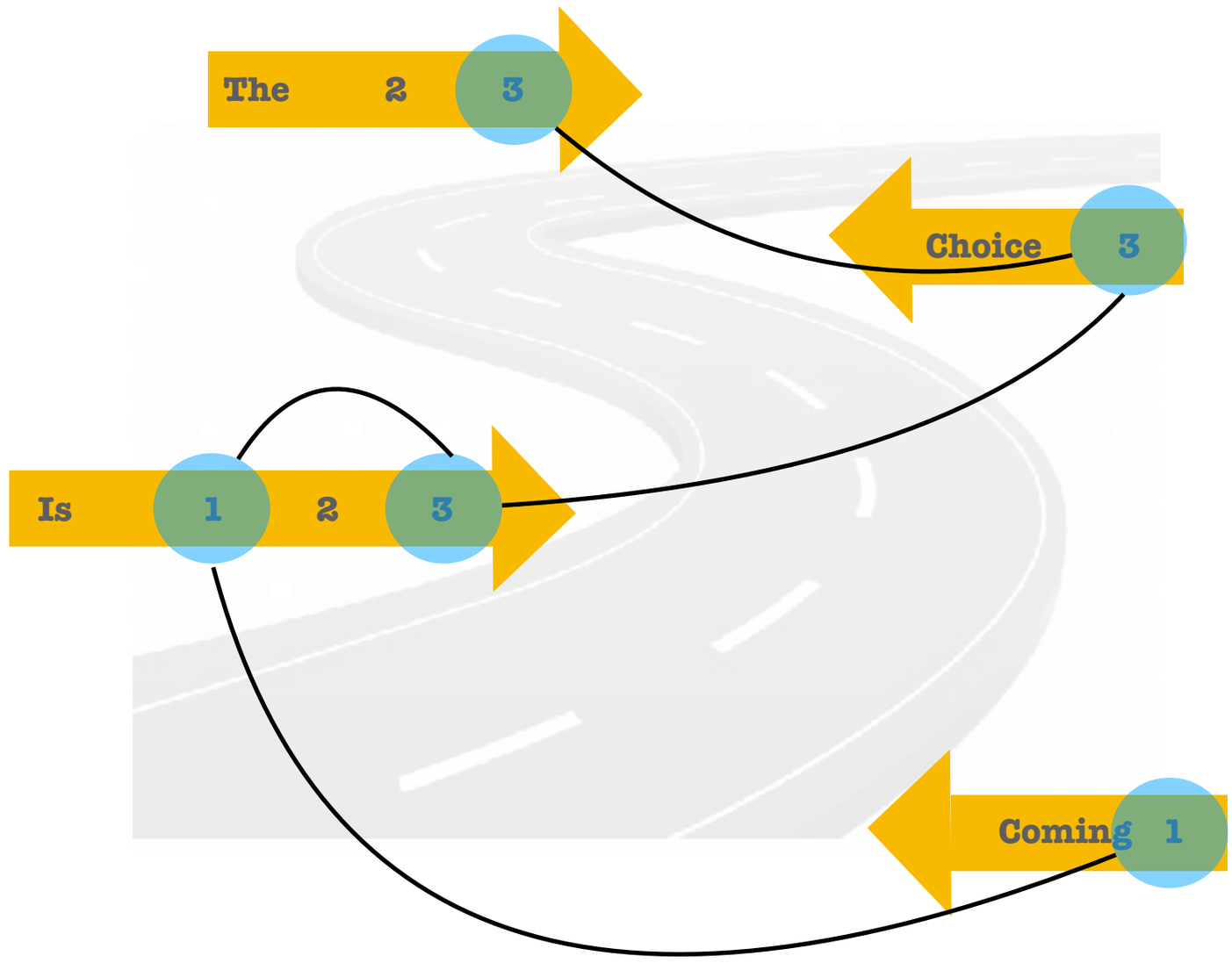
term	freq
choice	1
coming	1
fury	1
is	3
ours	1
the	2
winter	1
yours	1

Dictionary

term	documents
choice	3
coming	1
fury	2
is	1, 2, 3
ours	2
the	2, 3
winter	1
yours	3

Postings

The choice is coming



Documents: 1,3

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coming	1
fury	2
is	1, 2, 3
ours	2
the	2, 3
winter	1
yours	3

Postings

Documents: 1,3

Node 2

1: Winter is coming.
2: Ours is the fury.
3: The choice is yours.

term	freq
choice	1
coming	1
fury	1
is	3
ours	1
the	2
winter	1
yours	1

Dictionary

term	documents
choice	3
coming	1
fury	2
is	1, 2, 3
ours	2
the	2, 3
winter	1
yours	3

Postings

Documents: 2

Node 3

1: Winter is coming.
2: Ours is the fury.
3: The choice is yours.

term	freq
choice	1
coming	1
fury	1
is	3
ours	1
the	2
winter	1
yours	1

Dictionary

term	documents
choice	3
coming	1
fury	2
is	1, 2, 3
ours	2
the	2, 3
winter	1
yours	3

Postings

Documents: 1

Summary

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