Equivalent Terms

SQL	ElasticSearch
Database	Index
Table	Type
Row	Document
Column	Field

Definitions (?)

Index	Collection of one or more shards
Shard	Apache Lucene Instance
Cluster	One or more nodes
Nodes	Server instances
Routing	A way to control what shard a document goes to (used for performance)
Segment	Internal lucene data block

Resilience & Scalability

Shard(s)	One Primary, N Replicas
Index	Made of one or more shards
Cluster	Made of one or more nodes
Nodes	A single server in a cluster
Shard	Logical partition of an index across the nodes in a cluster
Replica	Number of copies of the primary shards in a cluster
Total shards in cluster	= primary shards * (replica count + 1)
Shards per node	= Total shards in cluster / # of nodes

Things Handled By

ElasticSearch	Apache Lucene
Node management	Searching
Shard management	Indexing
Health monitoring	Stemming
Parallelizing Work	Serialized Workload

Parent-Child vs Nested

Sharding	Children reside in Parent's shard
Parent-Child	Cheap to update, slow to query
Nested	Cheap to query, slow to update

Crud Commands

PUT server/index/type/ID JSON	Creates doc from JSON using ID
POST server/index/type JSON	Creates doc from JSON and generates ID
POST server/index/type/ID/_update JSON	Updates part of the document matching on ID
GET server/index/type/ID	Retrieves doc matching ID
DELETE server/index/type/ID	Deletes doc matching ID

Search Commands

GET server/index/type/_search?q=XXX	Simple		Search index\type with query XXX
POST server/index/type/_search JSON	Complex		Search index\type with query in JSON

Big Ideas

Forward Index	Maps a document to a set of words
Inverted Index	Maps a word to a set of documents
Stemming	Converting a word to it's root, ie raining -> rain
Synonyms	Converts a word to an appropriate equivalent, ie Sunday -> weekend

Lucene uses an *Inverted Index* to find documents so quickly.
Lucene uses *stems* for it's indexes and search terms to increase hit ratio for searches.
Lucene uses *synonyms* to increase hit ratio for searches.

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