

# System Properties Comparison Elasticsearch vs. MongoDB













DB [db-engines.com/en/system/Elasticsearch;MongoDB](https://db-engines.com/en/system/Elasticsearch;MongoDB)






## > Elasticsearch vs. MongoDB

Editorial information provided by DB-Engines

Name	Elasticsearch <u>X</u> exclude from comparison	MongoDB <u>X</u> exclude from comparison
Description	A distributed, RESTful modern search and analytics engine based on <a href="#">Apache Lucene</a> ⓘ Elasticsearch lets you perform and combine many types of searches such as structured, unstructured, geo, and metric	One of the most popular document stores
Primary database model	<a href="#">Search engine</a>	<a href="#">Document store</a>
Secondary database models	<a href="#">Document store</a>	
	<b>Score</b> 150.17	<b>Score</b> 412.09
	<b>Rank</b> #7 <b>Overall</b>	<b>Rank</b> #5 <b>Overall</b>
	#1 <a href="#">Search engines</a>	#1 <a href="#">Document stores</a>
Website	<a href="http://www.elastic.co/products/elasticsearch">www.elastic.co/products/elasticsearch</a>	<a href="http://www.mongodb.com">www.mongodb.com</a>
Technical documentation	<a href="http://www.elastic.co/guide/en/elasticsearch/reference/current/index.html">www.elastic.co/guide/en/elasticsearch/reference/current/index.html</a>	<a href="http://docs.mongodb.com/manual">docs.mongodb.com/manual</a>
Developer	Elastic	MongoDB, Inc
Initial release	2010	2009
Current release	7.3.0, August 2019	4.0.10, May 2019
License ⓘ Commercial or Open Source	Open Source ⓘ Apache Version 2; Elastic License	Open Source ⓘ MongoDB Inc.'s Server Side Public License v1. Prior versions were published under GNU AGPL v3.0. Commercial licenses are also available.

Cloud-based only  Only available as a cloud service	no	no  MongoDB available as DBaaS (MongoDB Atlas)
DBaaS offerings (sponsored links)   Database as a Service  Providers of DBaaS offerings, please <a href="#">contact us</a> to be listed.	<a href="#">Elasticsearch Service on Elastic Cloud</a> : Try out the official hosted Elasticsearch and Kibana offering available on AWS and GCP that's powered by the creators of Elasticsearch.	<a href="#">MongoDB Atlas</a> : Deploy a fully managed cloud database in minutes.
Implementation language	Java	C++
Server operating systems	All OS with a Java VM	Linux OS X Solaris Windows
Data scheme	schema-free  Flexible type definitions. Once a type is defined, it is persistent	schema-free  Although schema-free, documents of the same collection often follow the same structure. Optionally impose all or part of a schema by defining a JSON schema.
Typing  predefined data types such as float or date	yes	yes  string, integer, double, decimal, boolean, date, object_id, geospatial
XML support  Some form of processing data in XML format, e.g. support for XML data structures, and/or support for XPath, XQuery or XSLT.	no	
Secondary indexes	yes  All search fields are automatically indexed	yes
SQL  Support of SQL	SQL-like query language	Read-only SQL queries via the MongoDB Connector for BI
APIs and other access methods	Java API RESTful HTTP/JSON API	proprietary protocol using JSON

Supported programming languages	.Net Groovy Java JavaScript Perl PHP Python Ruby <u>Community Contributed Clients</u>	Actionscript  unofficial driver C C# C++ Clojure  unofficial driver ColdFusion  unofficial driver D  unofficial driver Dart  unofficial driver Delphi  unofficial driver Erlang Go  unofficial driver Groovy  unofficial driver Haskell Java JavaScript Lisp  unofficial driver Lua  unofficial driver MatLab  unofficial driver Perl PHP PowerShell  unofficial driver Prolog  unofficial driver Python R  unofficial driver Ruby Scala Smalltalk  unofficial driver
Server-side scripts  Stored procedures	yes	JavaScript
Triggers	yes  by using the 'percolation' feature	no
Partitioning methods  Methods for storing different data on different nodes	Sharding	Sharding
Replication methods  Methods for redundantly storing data on multiple nodes	yes	Master-slave replication
MapReduce  Offers an API for user-defined Map/Reduce methods	ES-Hadoop Connector	yes

Consistency concepts  Methods to ensure consistency in a distributed system	Eventual Consistency  Synchronous doc based replication. Get by ID may show delays up to 1 sec. Configurable write consistency: one, quorum, all	Eventual Consistency Immediate Consistency  can be individually decided for each write operation
Foreign keys  Referential integrity	no	no  typically not used, however similar functionality with DBRef possible
Transaction concepts  Support to ensure data integrity after non-atomic manipulations of data	no	Multi-document ACID Transactions with snapshot isolation
Concurrency  Support for concurrent manipulation of data	yes	yes
Durability  Support for making data persistent	yes	yes  optional
In-memory capabilities  Is there an option to define some or all structures to be held in-memory only.	<u>Memcached</u> and <u>Redis</u> integration	yes  In-memory storage engine introduced with MongoDB version 3.2
User concepts  Access control		Access rights for users and roles
More information provided by the system vendor		
	Elasticsearch	MongoDB
Specific characteristics	Elasticsearch is a highly scalable open source full-text search and analytics engine.... <a href="#">» more</a>	MongoDB is the next-generation database that helps businesses transform their industries... <a href="#">» more</a>
Competitive advantages	Open source, real-time index, search and analysis, horizontally scalable, distributed,... <a href="#">» more</a>	By offering the best of traditional databases as well as the flexibility, scale,... <a href="#">» more</a>
Typical application scenarios	<a href="#">» more</a>	Internet of Things (Bosch, Silver Spring Networks) Mobile (The Weather Channel, ADP,... <a href="#">» more</a>

Key customers	<a href="#">» more</a>	ADP, Adobe, Amadeus, AstraZeneca, Barclays, BBVA, Bond, Bosch, Cisco, CERN, City... <a href="#">» more</a>
Market metrics	More than 250 million cumulative downloads More than 100,000 community members in... <a href="#">» more</a>	40 million downloads (growing at 30 thousand downloads per day). 6,600+ customers.... <a href="#">» more</a>
Licensing and pricing models	The Elastic Stack (Elasticsearch, Kibana, Beats, and Logstash) is free and open source... <a href="#">» more</a>	MongoDB database server: Free Software Foundation's GNU AGPL v3.0. Commercial licenses... <a href="#">» more</a>
Related products and services		

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## 3rd parties

Elastic Cloud: Try the official hosted Elasticsearch.

[» more](#)

Dremio: Analyze your data with standard SQL and any BI tool. Accelerate your queries up to 1,000x.

[» more](#)

Knowi: Build MongoDB Reports and Data Visualizations in Minutes with Native Integration

[» more](#)

DBHawk: Powerful web-based MongoDB GUI. Connect securely to on-premise MongoDB or MongoDB on the Cloud, Atlas or mLab.

[» more](#)

Dremio: Analyze your data with standard SQL and any BI tool. Accelerate your queries up to 1,000x.

[» more](#)

CData: Connect to Big Data & NoSQL through standard Drivers.

[» more](#)

ScaleGrid: Deploy, monitor, backup and scale MongoDB in the cloud with the #1 Database-as-a-Service (DBaaS) platform.

[» more](#)

Navicat for MongoDB gives you a highly effective GUI interface for MongoDB database management, administration and development.

[» more](#)

Studio 3T: The world's favorite IDE for working with MongoDB

[» more](#)

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We invite representatives of vendors of related products to [contact us](#) for presenting information about their offerings here.

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## More resources

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Elasticsearch

MongoDB

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DB-Engines blog posts	<a href="#"><u>PostgreSQL is the DBMS of the Year 2017</u></a> 2 January 2018, Paul Andlinger, Matthias Gelbmann	<a href="#"><u>PostgreSQL is the DBMS of the Year 2018</u></a> 2 January 2019, Paul Andlinger, Matthias Gelbmann
	<a href="#"><u>Elasticsearch moved into the top 10 most popular database management systems</u></a> 3 July 2017, Matthias Gelbmann	<a href="#"><u>PostgreSQL moves up one rank at the expense of MongoDB</u></a> 1 September 2016, Paul Andlinger
	<a href="#"><u>MySQL, PostgreSQL and Redis are the winners of the March ranking</u></a> 2 March 2016, Paul Andlinger	<a href="#"><u>Oracle is the DBMS of the Year</u></a> 5 January 2016, Paul Andlinger, Matthias Gelbmann
	<a href="#"><u>show all</u></a>	<a href="#"><u>show all</u></a>
Recent citations in the news	<a href="#"><u>Review: Elasticsearch 7 soars with SQL search optimizations</u></a> 2 October 2019, InfoWorld	<a href="#"><u>Percona packages PostgreSQL alongside existing MySQL and MongoDB products</u></a> 1 October 2019, The Register
	<a href="#"><u>AWS faces Elasticsearch lawsuit for trademark infringement</u></a> 1 October 2019, TechTarget	<a href="#"><u>MongoDB Management Talks Growth Drivers, Operating Margin, and More</u></a> 18 September 2019, The Motley Fool
	<a href="#"><u>Elastic Extends Elasticsearch to Microsoft Azure</u></a> 6 September 2019, Database Trends and Applications	<a href="#"><u>MongoDB cloud chief explains the value add that Atlas brings for modern data companies</u></a> 26 September 2019, Diginomica
	<a href="#"><u>Elastic releases Elasticsearch Service on Azure</u></a> 5 September 2019, Help Net Security	<a href="#"><u>MongoDB Doubles Down on Sales</u></a> 6 September 2019, Motley Fool
	<a href="#"><u>The Warehouse Chooses Elastic's Elasticsearch Service to Boost Consumer Loyalty</u></a> 18 September 2019, Yahoo Finance	<a href="#"><u>MongoDB, Inc. Announces Second Quarter Fiscal 2020 Financial Results</u></a> 4 September 2019, Yahoo Finance

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Job opportunities

DevOps Engineer

Upland Software, Remote

DevOps Engineer

Upland Software, Boulder, CO

DevOps Engineer w/ELK Stack

Perito Systems, Washington, DC

Cloud DevOps & Infrastructure

Engineer -1251824

Cisco Careers, San Jose, CA

DevOps/Cloud Engineer

Sierra Nevada Corporation, Herndon,  
VA

Entry-Level Full Stack Developer

IBM, San Jose, CA

NoSQL Database Administrator

Hewlett Packard Enterprise,  
Houston, TX

Database Administrator

Duke Careers, Durham, NC

Database Administrator

StayWell Company, LLC, United  
States

Database Administrator

Billtrust, Lawrenceville, NJ

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