

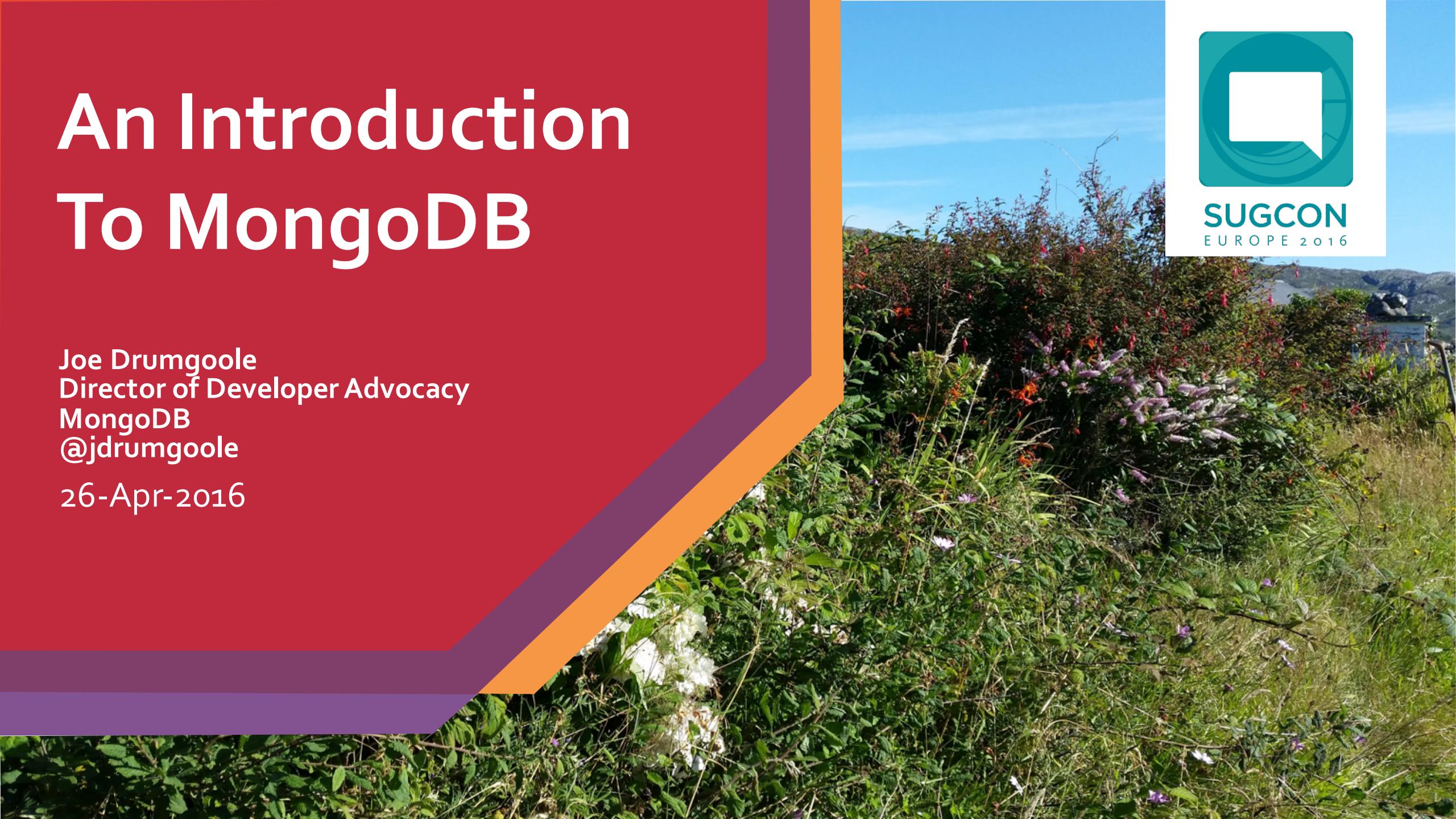
An Introduction To MongoDB

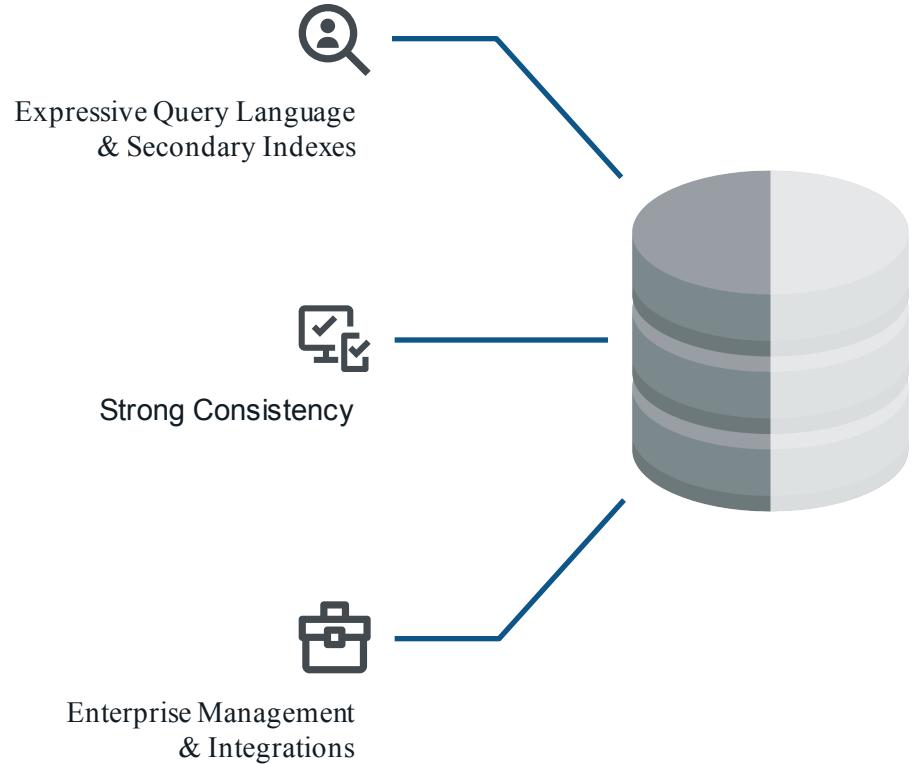
Joe Drumgoole
Director of Developer Advocacy
MongoDB
[@jdrumgoole](https://twitter.com/jdrumgoole)

26-Apr-2016



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Data

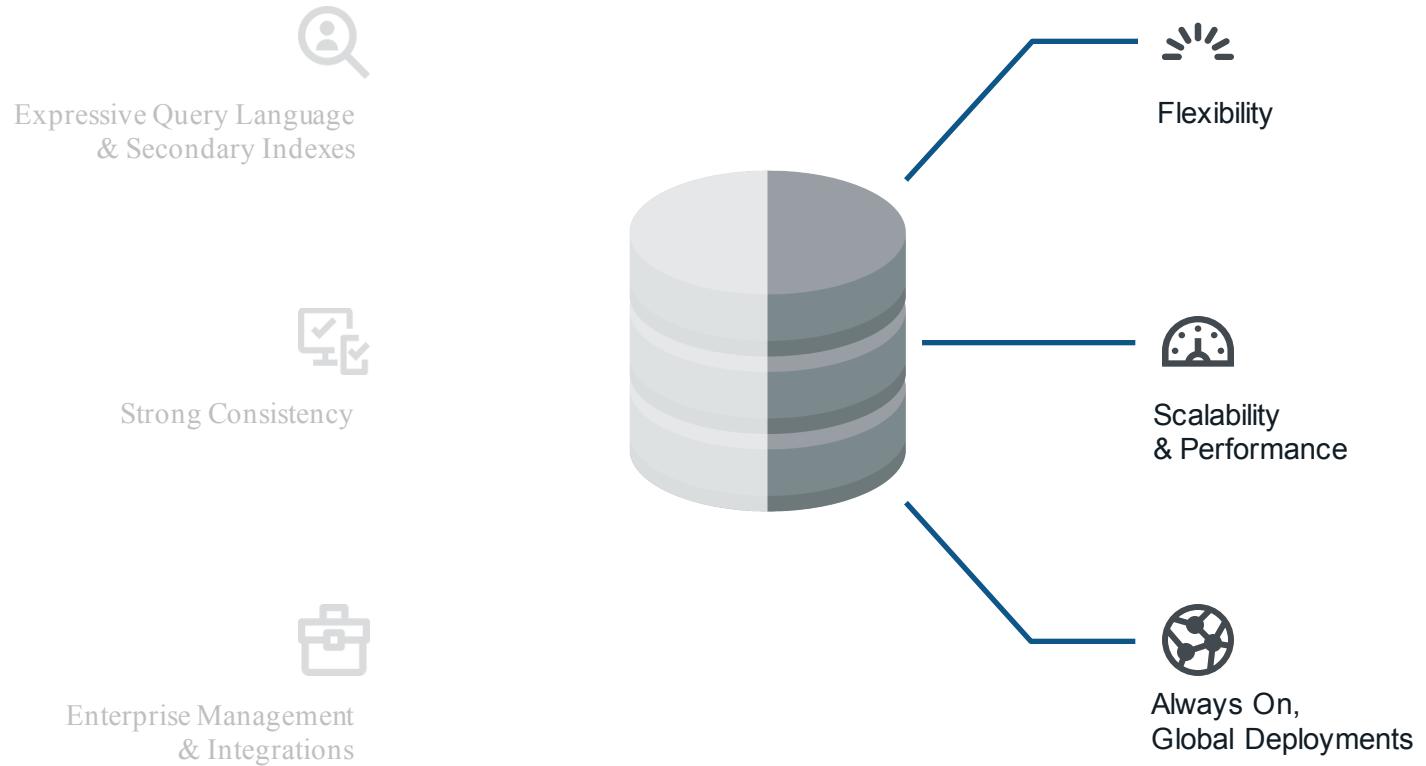
Risk

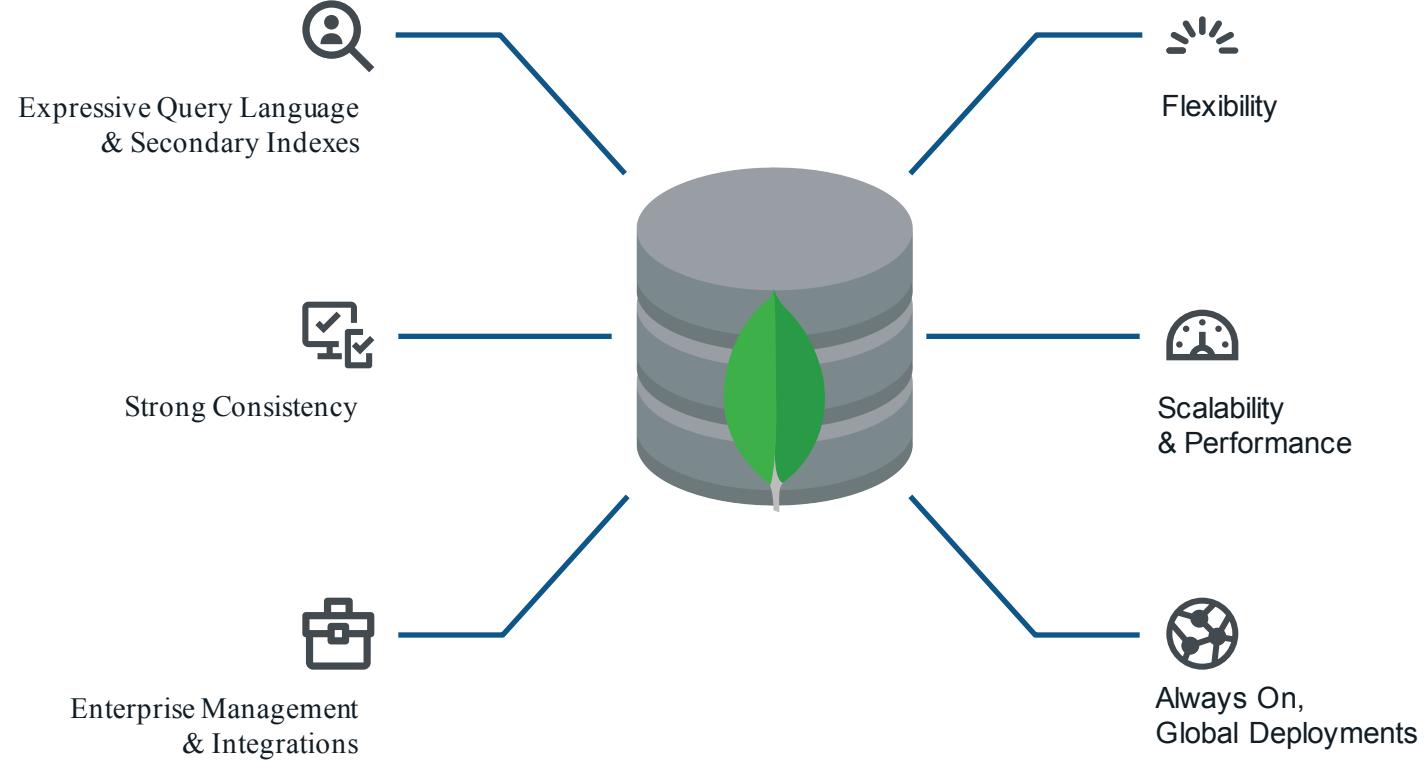


Time

Cost







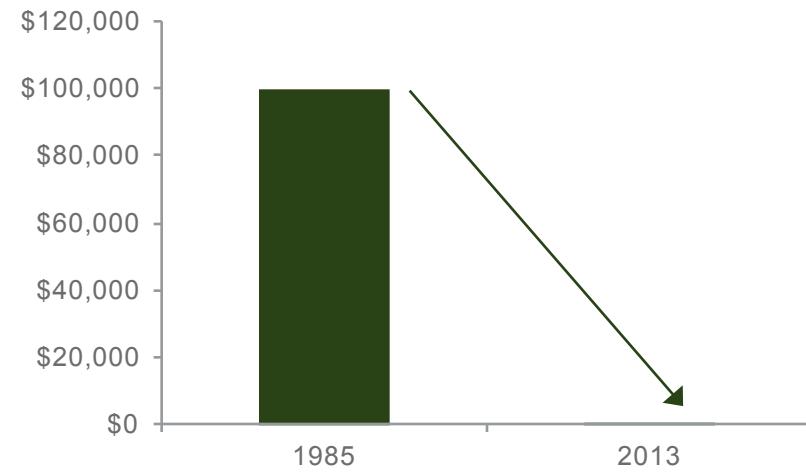
Flexible Data Model



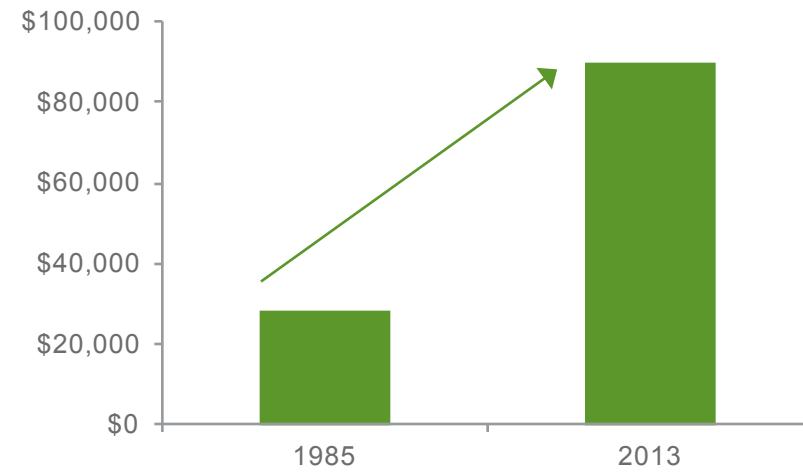
Developer Costs on The Rise

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Storage Cost per GB



Developer Salary



Document Model with Flexible Schema

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RDBMS

PERSON			
Pers_ID	Surname	First_Name	City
0	Miller	Paul	London
1	Ortega	Alvaro	Valencia
2	Huber	Urs	Zurich
3	Blanc	Gaston	Paris
4	Bertolini	Fabrizio	Rome

CAR				
Car_ID	Model	Year	Value	Pers_ID
101	Bently	1973	100000	0
102	Rolls Royce	1965	330000	0
103	Peugeot	1993	500	3
104	Ferrari	2005	150000	4
105	Renault	1998	2000	3
106	Renault	2001	7000	3
107	Smart	1999	2000	2

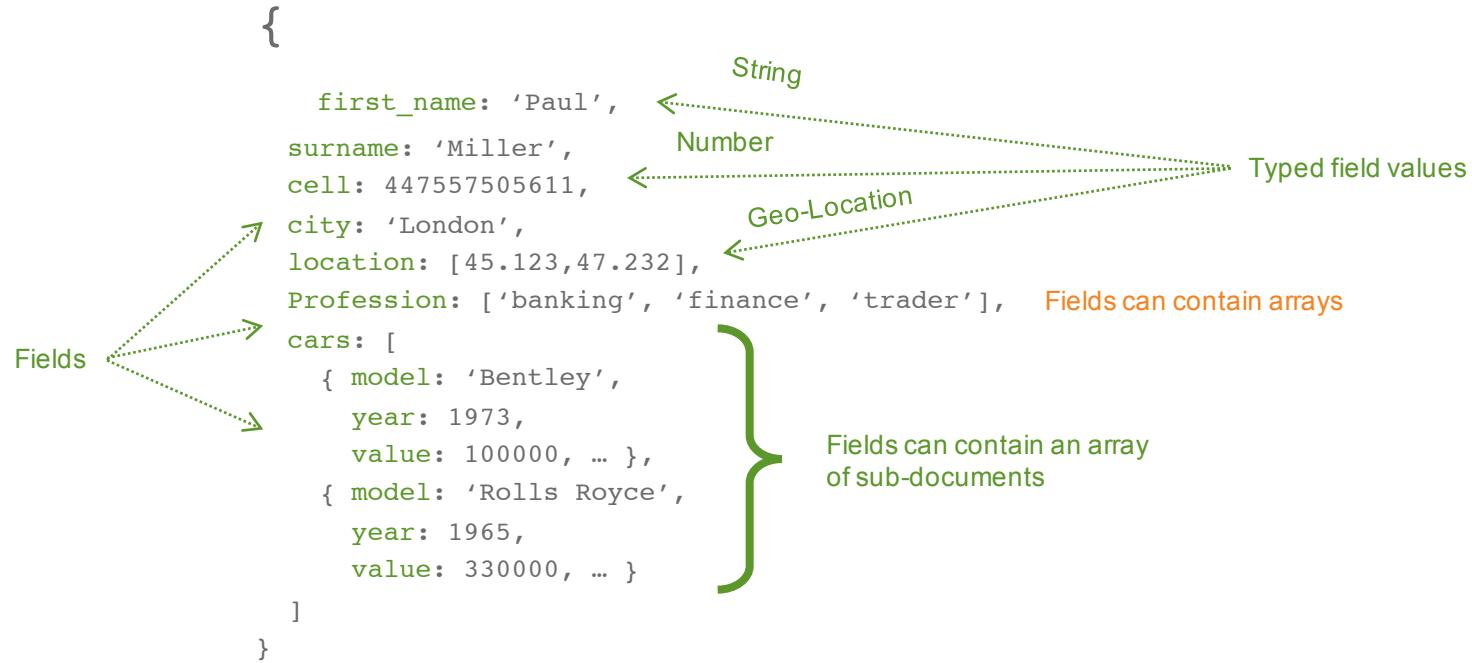


MongoDB

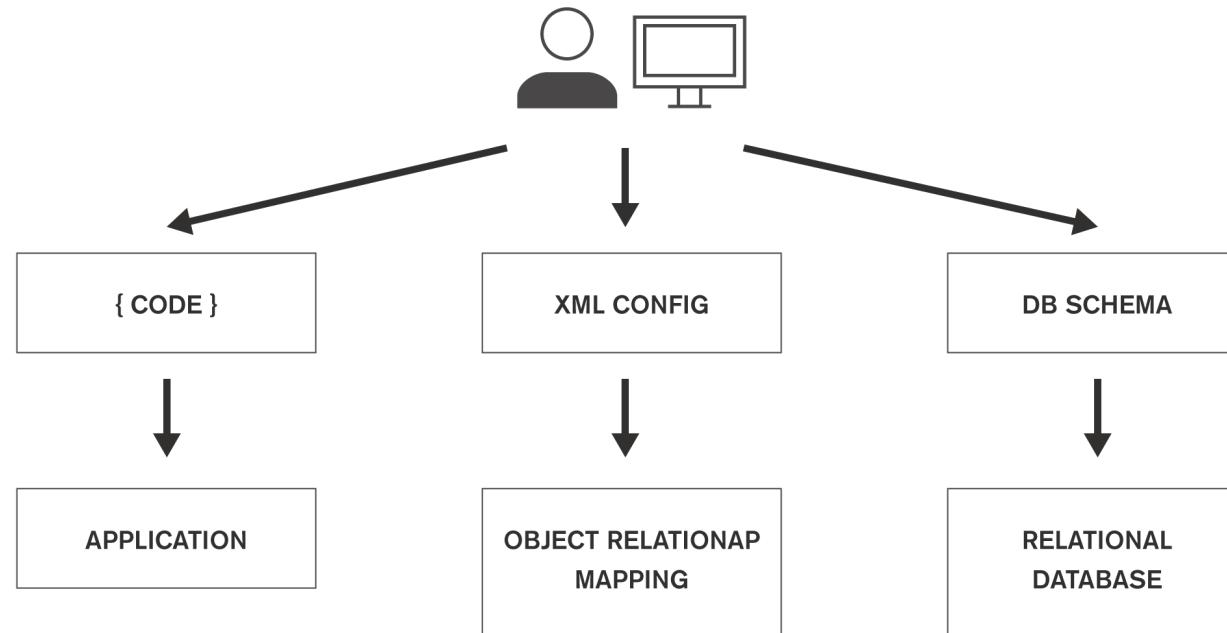
```
{  
  first_name: 'Paul',  
  surname: 'Miller',  
  city: 'London',  
  location: [45.123,47.232],  
  cars: [  
    { model: 'Bentley',  
      year: 1973,  
      value: 100000, ... },  
    { model: 'Rolls Royce',  
      year: 1965,  
      value: 330000, ... }  
  ]  
}
```

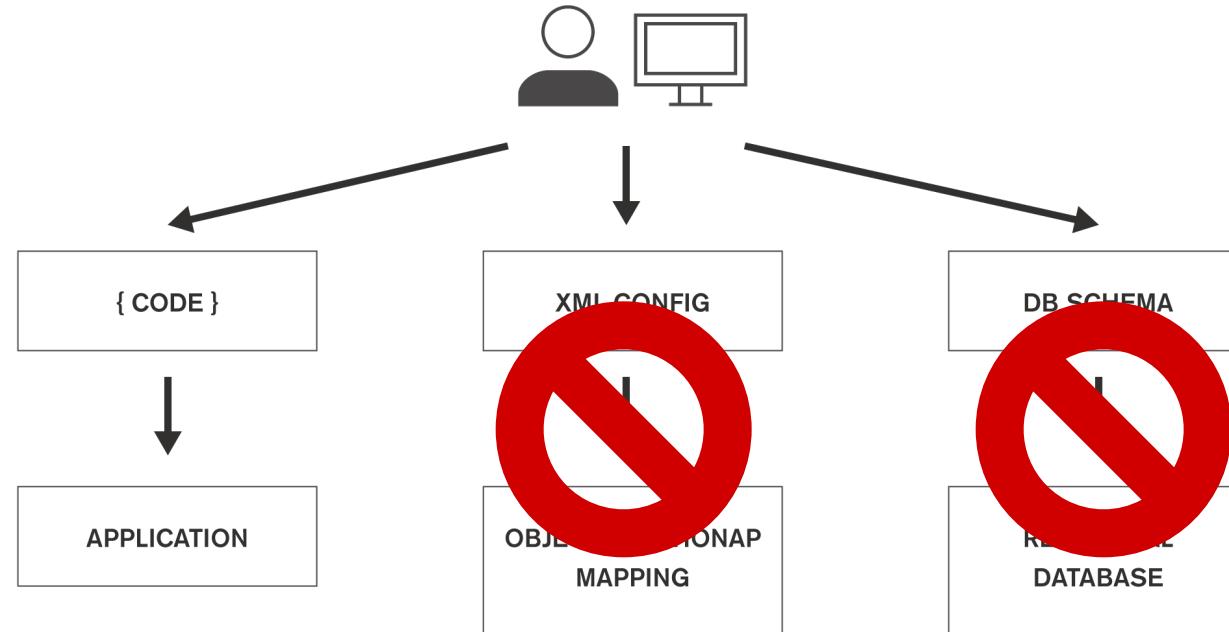
Documents are Rich Typed Data Structures

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Development – The Past



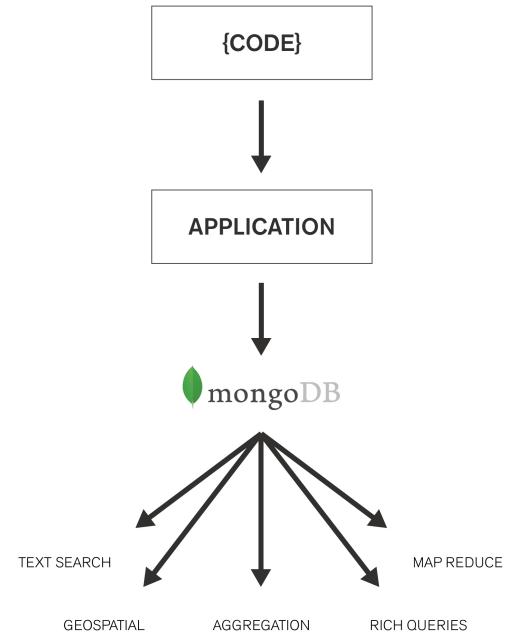


MongoDB – A General Purpose Database

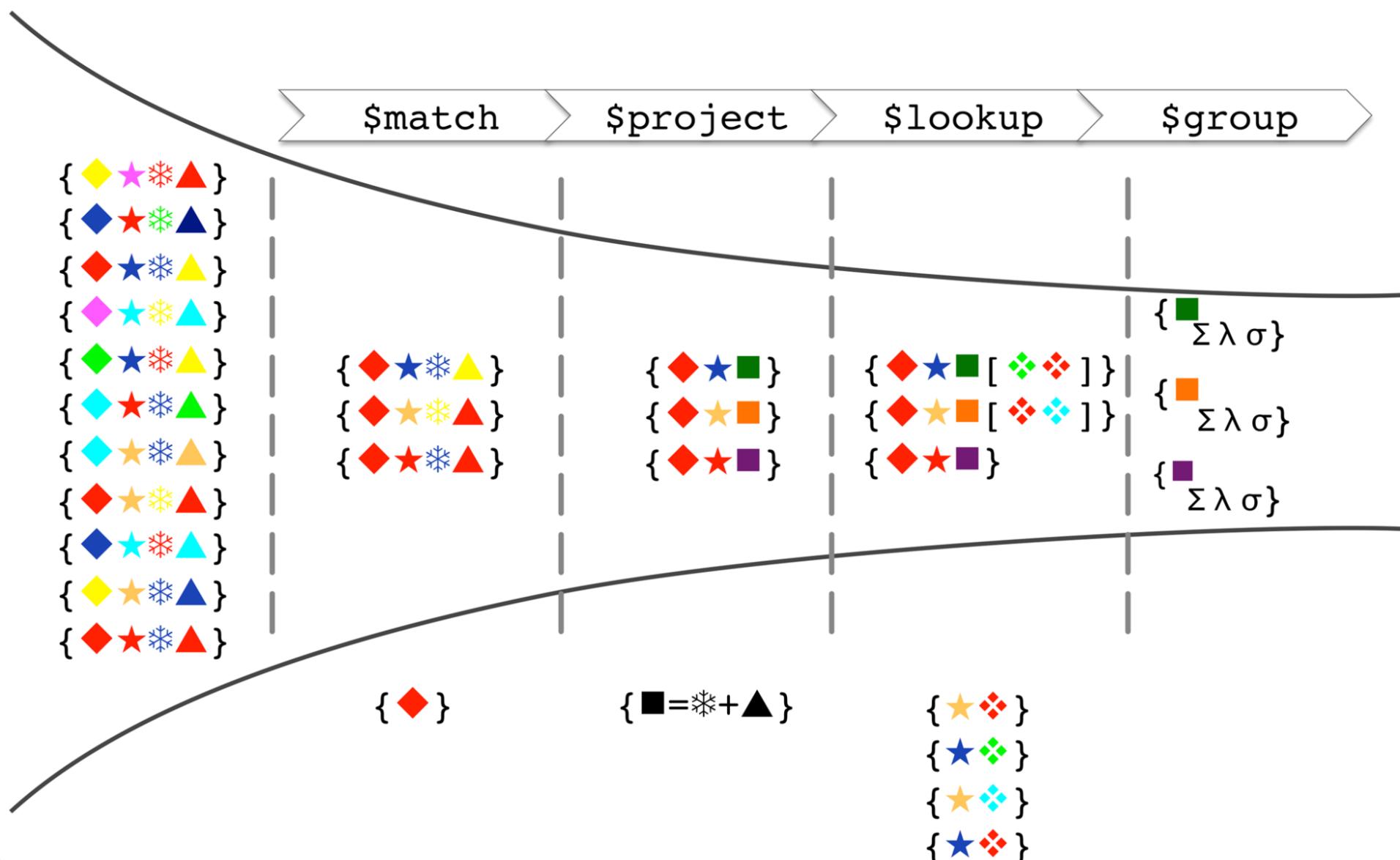
MongoDB is Full Featured

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Rich Queries	<ul style="list-style-type: none">• Find Paul's cars• Find everybody in London with a car between 1970 and 1980
Geospatial	<ul style="list-style-type: none">• Find all of the car owners within 5km of Trafalgar Sq.
Text Search	<ul style="list-style-type: none">• Find all the cars described as having leather seats
Aggregation	<ul style="list-style-type: none">• Calculate the average value of Paul's car collection
Map Reduce	<ul style="list-style-type: none">• What is the ownership pattern of colors by geography over time (is purple trending in China?)



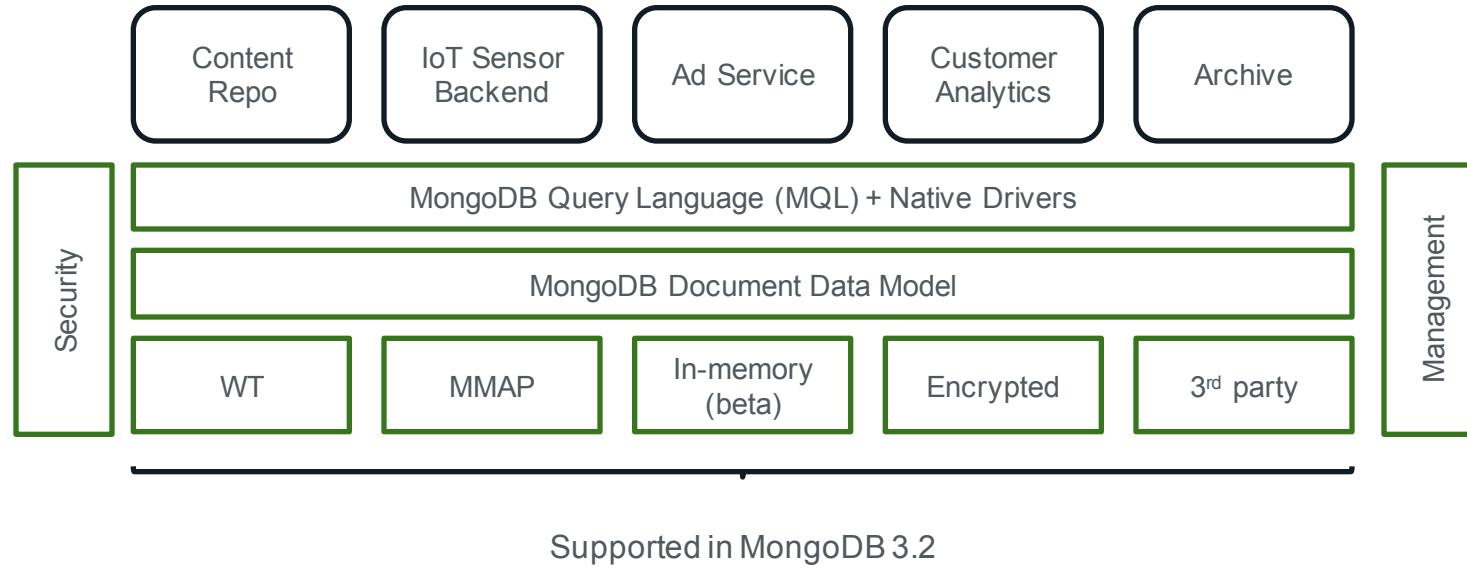
Aggregation – An Analytics Framework



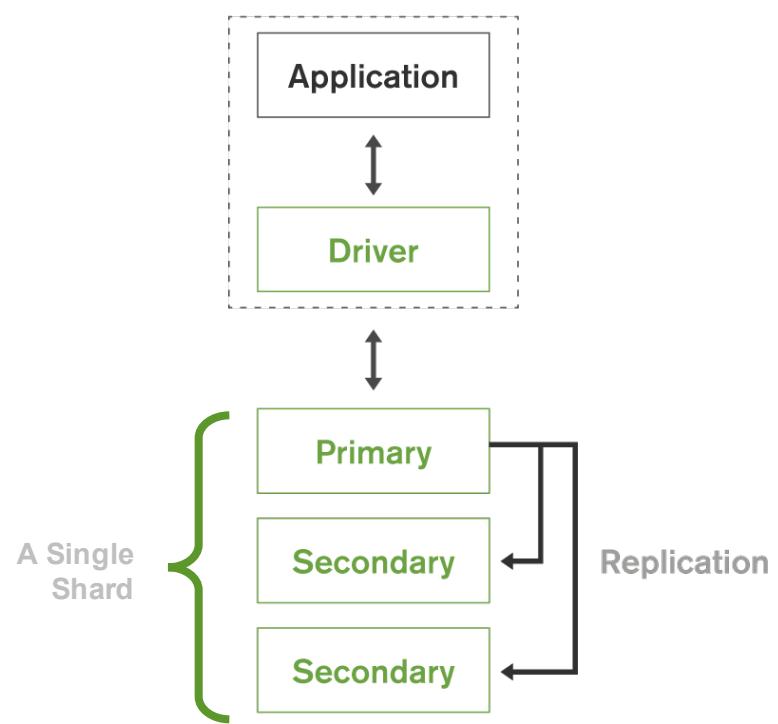




Multi-Modal

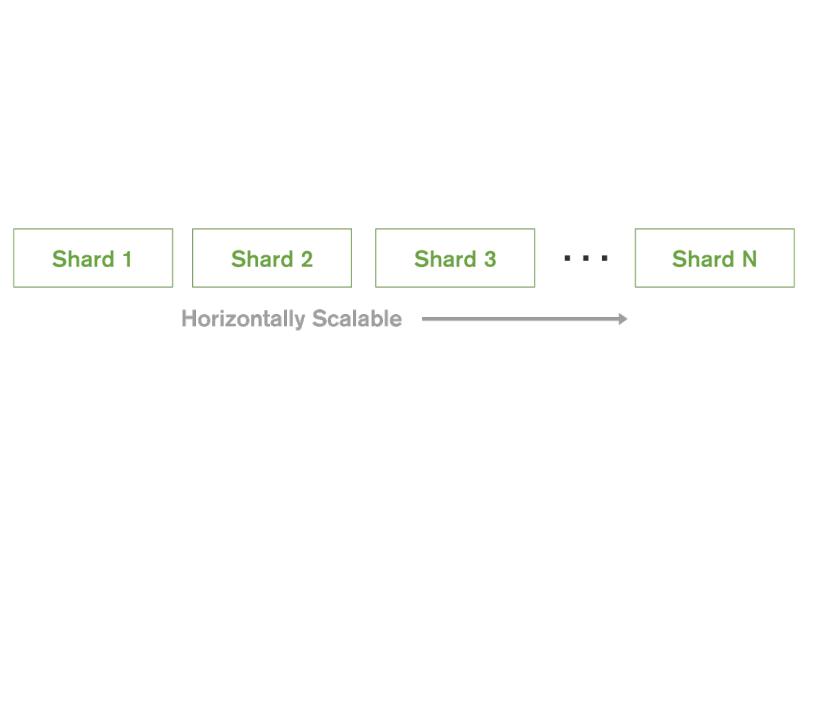


High Availability

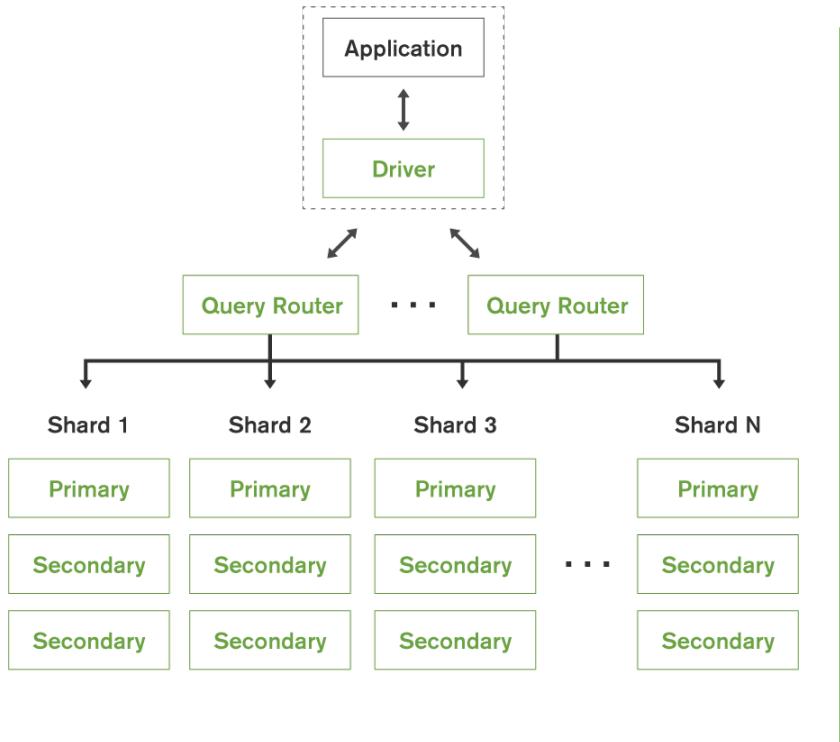


- Replica set – 2 to 50 copies
- Makes up a self-healing ‘shard’
- Data center aware
- Addresses:
 - High availability
 - Data durability, consistency
 - Maintenance (e.g., HW swaps)
 - Disaster Recovery

Elastic Scalability



- **Increase or decrease** capacity as you go
- Automatic load balancing
- Three types of sharding
 - Hash-based
 - Range-based
 - Tag-aware

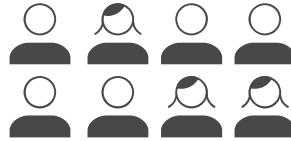


- Multiple query optimization models
- Each of the sharding options are appropriate for different apps / use cases

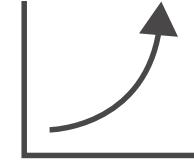
The Company and The Community

About MongoDB Inc.

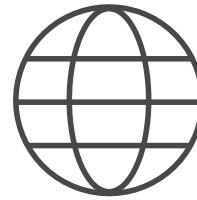
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500+ employees



2,500+ customers



13 offices around the world



Over \$311 million in funding

10,000,000+

MongoDB Downloads

300,000+

Online Education Registrants

40,000+

MongoDB Cloud Manager Users

35,000+

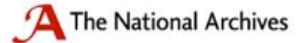
MongoDB User Group Members

1,000+

Technology and Services Partners

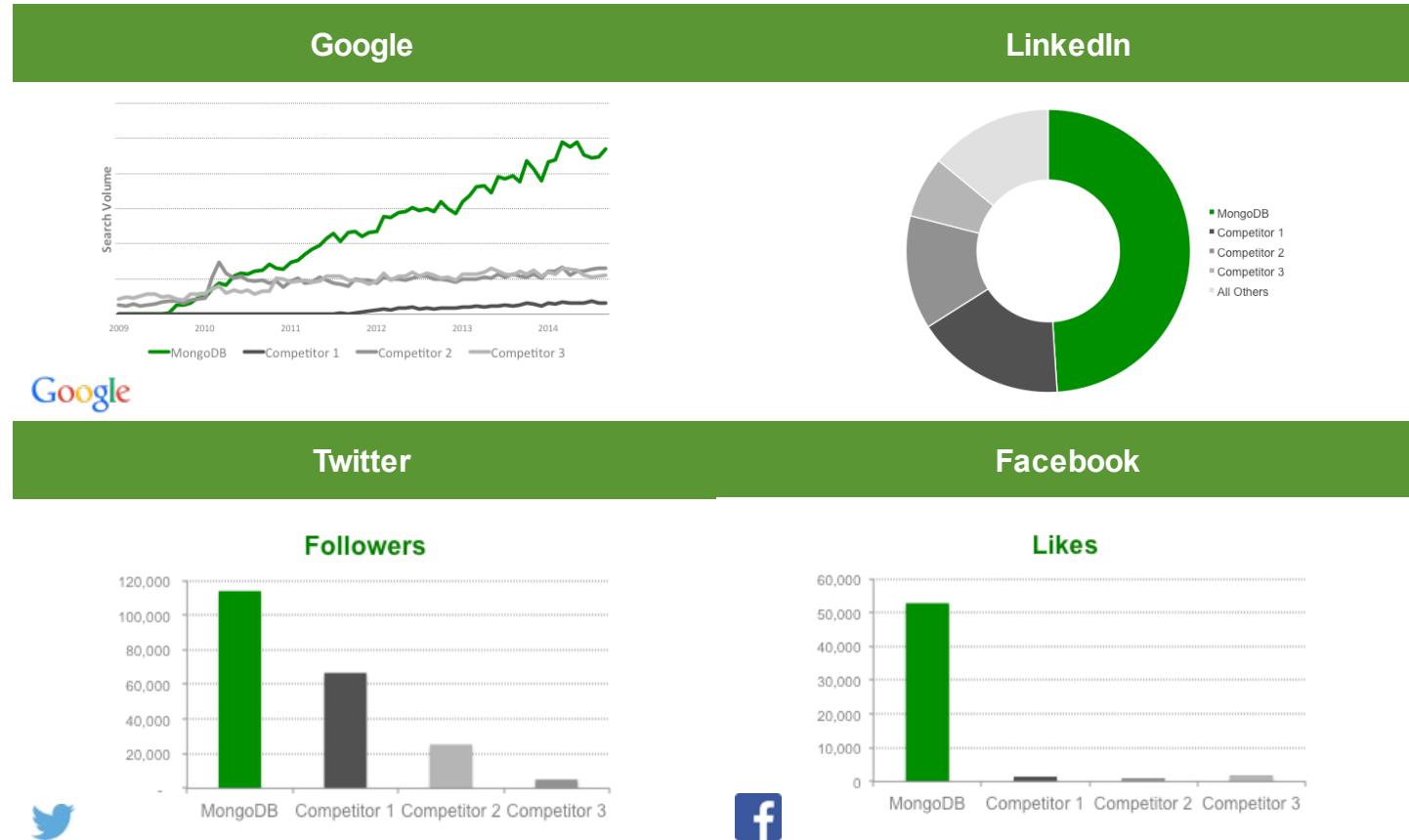
2,000+

Customers Across All Industries

Single View	Internet of Things	Mobile	Real-Time Analytics
   	   	   	   
Catalog	Personalization	Content Management	
   	   	   	

Fastest Growing Database

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4th Most Popular Database

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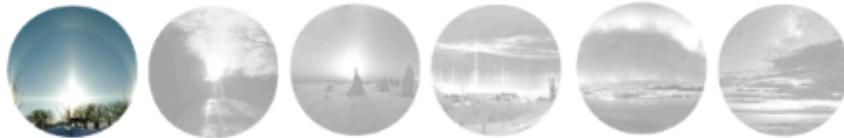
<i>Only non-relational in the top 5; 2.5x ahead of nearest NoSQL Competitor</i>				
RANK	DBMS	MODEL	SCORE	GROWTH (20 MO)
1.	Oracle	Relational DBMS	1,442	-5%
2.	MySQL	Relational DBMS	1,294	2%
3.	Microsoft SQL Server	Relational DBMS	1,131	-10%
4.	MongoDB	Document Store	277	172%
5.	PostgreSQL	Relational DBMS	273	40%
6.	DB2	Relational DBMS	201	11%
7.	Microsoft Access	Relational DBMS	146	-26%
8.	Cassandra	Wide Column	107	87%
9.	SQLite	Relational DBMS	105	19%

Source: [DB-engines database popularity rankings; May 2015](#)

Back to Basics Webinar 1: Introduction to NoSQL

Thursday, May 5, 2016

14:00 BST | 15:00 CEST | 18:30 IST



This is the first webinar of a **Back to Basics series** that will introduce you to the MongoDB database, what it is, why you would use it, and what you would use it for.

In this first session we will talk about:

- The background to NoSQL
- What has driven the demand for NoSQL databases

[View the full agenda](#) | [View the speakers](#)

Register Now

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Business phone:

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Company:



Thank you!

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