



Business Technology Group

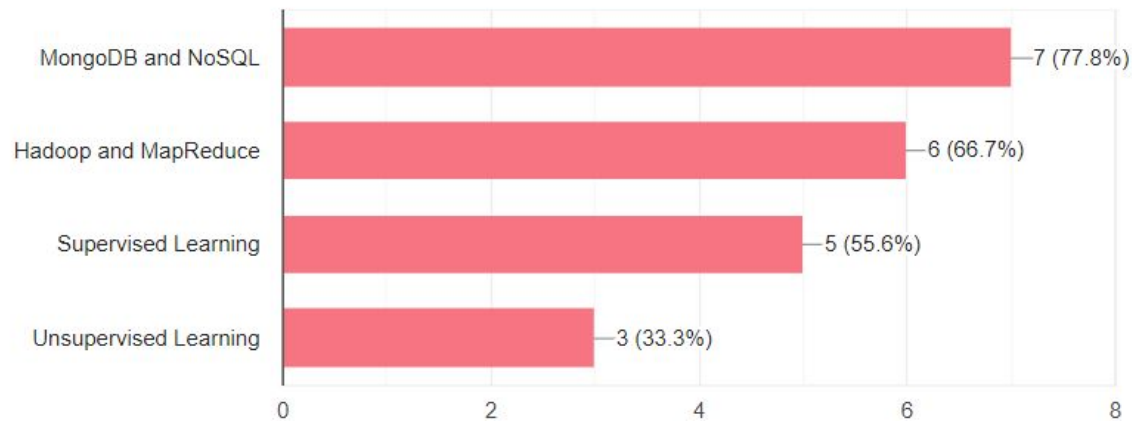
NoSQL with MongoDB
April 8th, 2019



Week 11

Which topic(s) are you most interested in learning about next?

9 responses



This Week in Business Technology

“The era of self-regulation for online companies is over.”

— Jeremy Wright, the U.K.’s digital secretary

TECH

Facebook, Google in Crosshairs of New U.K. Policy to Control Tech Giants

London's proposal for new social-media regulator is one of the broadest yet in a larger movement by countries to assert control over tech giants

By *Sam Schechner* and *Parmy Olson*

Updated April 8, 2019 5:29 a.m. ET

The U.K. government plans to create a regulatory body to force the removal of harmful content from the internet, one of the most far-reaching legislative proposals from a host of countries trying to put a tighter leash on global technology companies.

The U.K. proposal, disclosed in a policy paper published early Monday, aims to create a new legal obligation for companies including Facebook Inc. and Alphabet Inc.'s Google to take "reasonable and proportionate" action on a gamut of illegal or potentially harmful content published...

TO READ THE FULL STORY

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TECH

Facebook Looks to Build Underwater Ring Around Africa

Plans for undersea cable, dubbed 'Simba,' are aimed at lowering its bandwidth costs and strengthening link to African market

By *Drew FitzGerald*

April 7, 2019 11:00 a.m. ET

Facebook Inc. is circling Africa. Literally.

The company is in talks to develop an underwater data cable that would encircle the continent, according to people familiar with the plans, an effort aimed at driving down its bandwidth costs and making it easier for the social media giant to sign up more users.

The three-stage project, named...

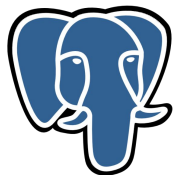
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NoSQL with MongoDB



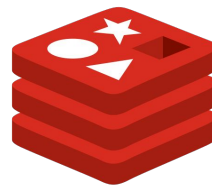
PostgreSQL



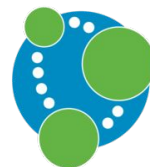
ORACLE®



mongoDB®



redis



neo4j

SQL

NoSQL

Why NoSQL?



- Availability



- Availability
- Scalability



- Availability
- Scalability
- Flexibility



Redis is an open source (BSD licensed), **in-memory data structure store**, used as a database, cache and message broker.

Redis has built-in replication, Lua scripting, LRU eviction, transactions and different levels of on-disk persistence, and provides high availability via Redis Sentinel and automatic partitioning with Redis Cluster.





Donald J. Trump ✓ @realDonaldTrump · 47m

Secretary of Homeland Security Kirstjen Nielsen will be leaving her position, and I would like to thank her for her service....



5.9K



6.4K



23.5K



Donald J. Trump ✓ @realDonaldTrump · 47m

....I am pleased to announce that Kevin McAleenan, the current U.S. Customs and Border Protection Commissioner, will become Acting Secretary for [@DHSgov](#). I have confidence that Kevin will do a great job!



3.2K



5.9K



21.4K



Very simply, a graph database is a database designed to **treat the relationships between data as equally important to the data itself.**

It is intended to hold data without constricting it to a pre-defined model.

Instead, the data is stored like we first draw it out – showing how each individual entity connects with or is related to others.





Craig Tutterow

Senior Data Scientist at LinkedIn

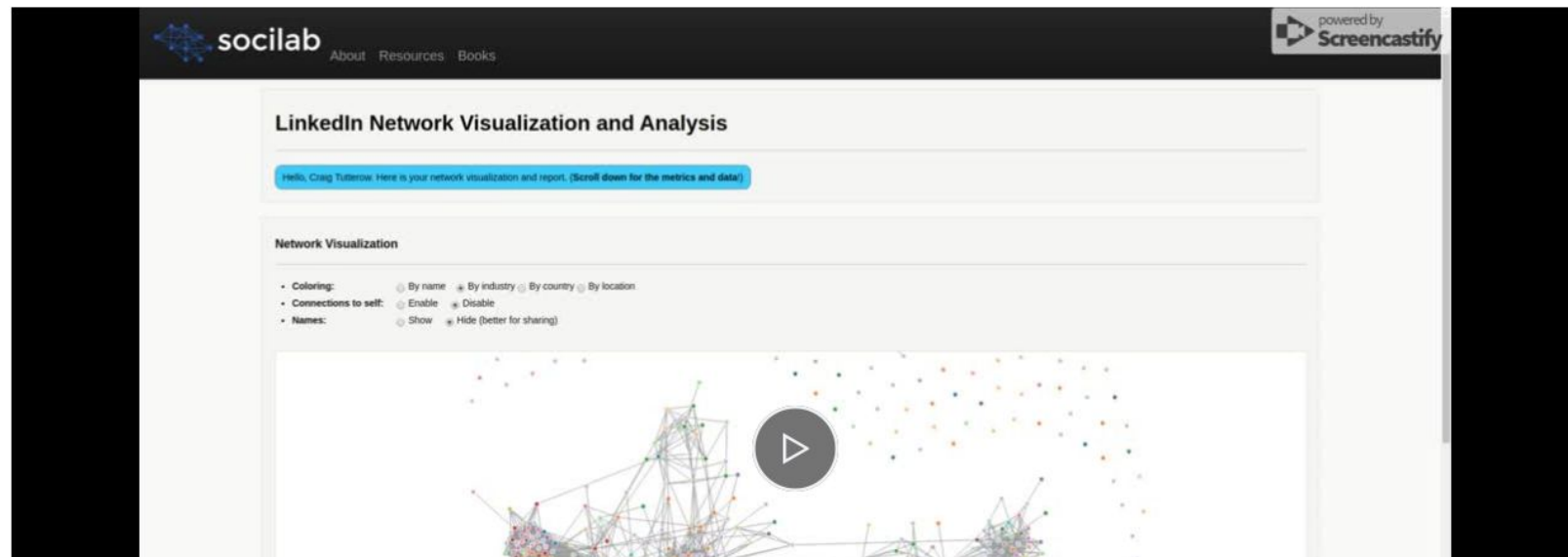
1mo · Edited



Farewell Socilab. 🙏 Thank you for your service. socilab.com was an educational site used to teach students about social capital by visualizing and analyzing their LinkedIn network in the browser. The site was scheduled to lose API access on May 1st. Due to technical changes happening to the API later today, the site will stop working earlier than I expected. Rather than implement a temporary fix, I've decided to bring the site to a close effective today. For now, I'd like to express my gratitude to the over 90k LinkedIn members who logged in and used the site, as well as everyone who contributed to it.

Social capital remains an important differentiator in the trajectory of careers and organizations. Researchers and educators will continue to advance and broaden our understanding of the many different ways to attain, use and share it.

My focus right now is on building data science tools and research partnerships that will enable us to develop and share many more insights using LinkedIn data.

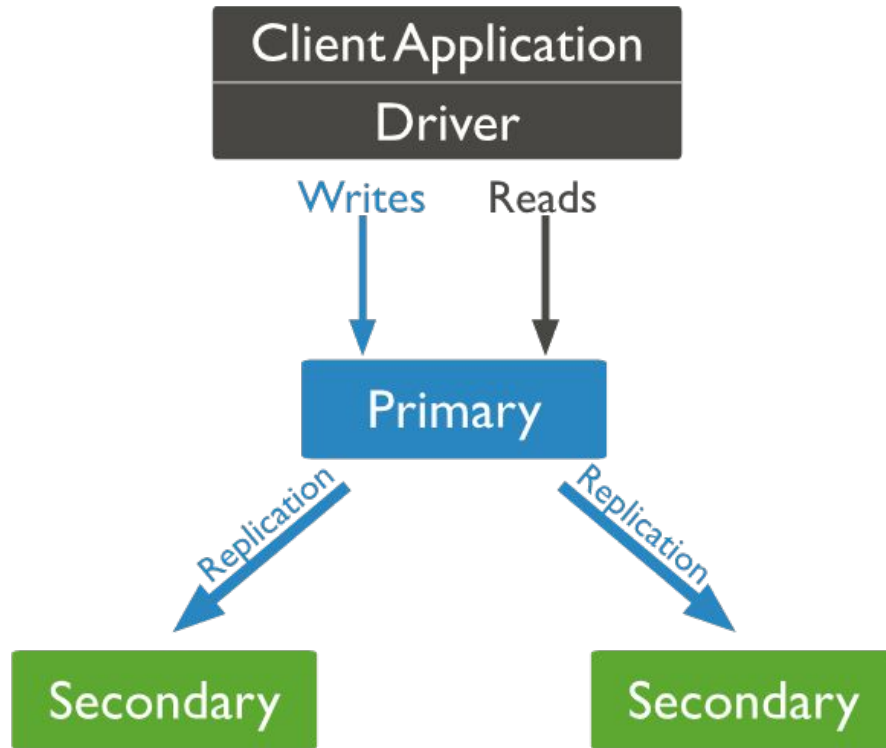


- Availability
- Scalability
- Flexibility



- **Availability**
- Scalability
- Flexibility

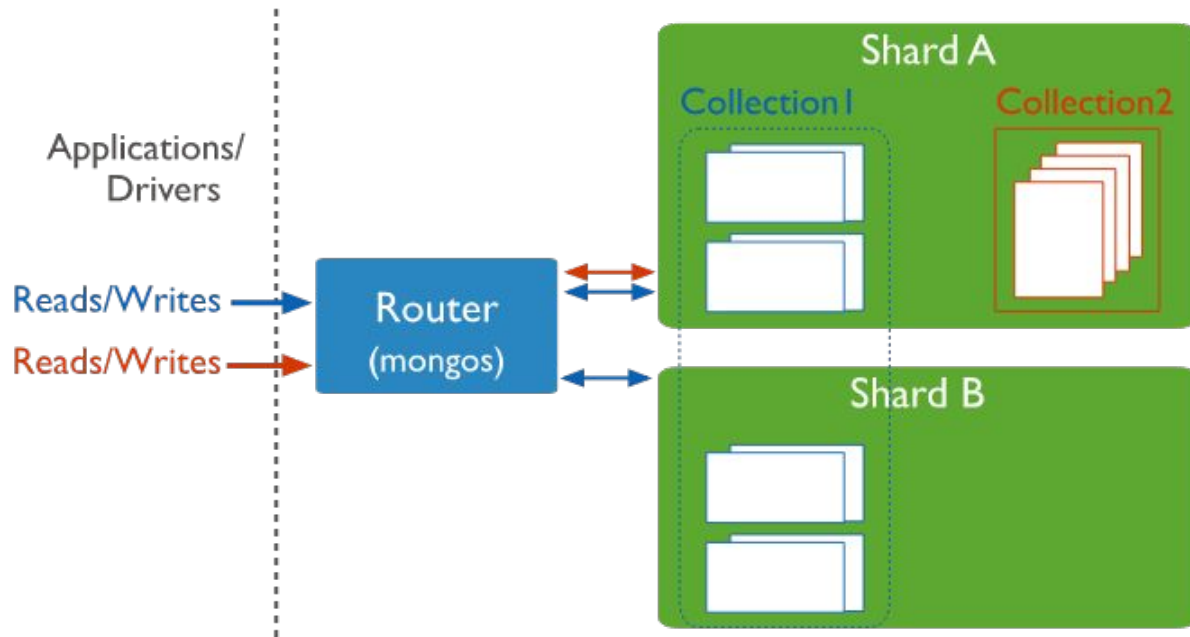




Availability

- Availability
- **Scalability**
- Flexibility





Scalability

- Availability
- Scalability
- **Flexibility**



Data Models: Relational to Document

Relational

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	Rom

Car:

Car_ID	Model	Year	Value	Pers_ID
101	Bentley	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

no relation



MongoDB Document

```
{
  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, ... }
  ]
}
```


- Availability
- Scalability
- **Flexibility**



- **Flexibility vs. Integrity**

NoSQL

SQL

Interactive Demo

tinyurl.com/mongodb-web-shell

tinyurl.com/btg-s19-nosql