

技术与架构介绍

广州脑洞智能科技有限公司



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我们用到的技术

前端

1. AngularJs
2. backbone.js

后端

1. node.js

数据库

1. redis
2. mongodb

服务器

1. haproxy
2. varnish



What's NodeJS

- 2009.5 Ryan Dahl 发布于GitHub,总排名#3
- 基于Google V8引擎的Web & Socket Server
- 使用javascript 编写服务端代码
- Single Thread,Event Driven,Non-blocking IO
- Light-weight,Scale-out,Cluster-enabled
- 接近70000NPM(Node Package Modules)
- 成熟的社区, 热情的贡献者,Full-Stack 呼声



But why node?

- node is fast
- node handles a lot of connection with very little resources
- You can develop your whole app with one language
- Easy to scale

starts > 2000 in github

Languages

JavaScript	1,341
Ruby	402
Objective-C	385
Python	343
Java	327
PHP	181
CSS	174
HTML	167
C	158
Go	89

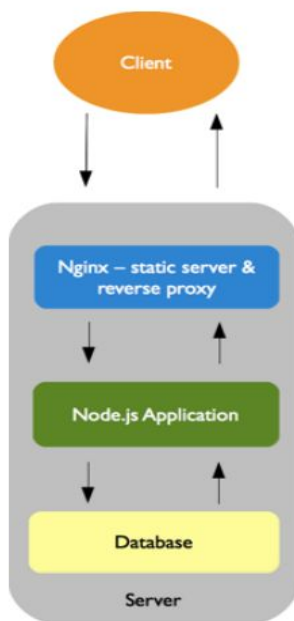


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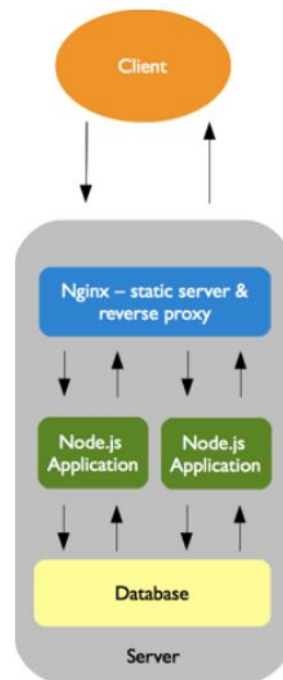
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Scaling node.js

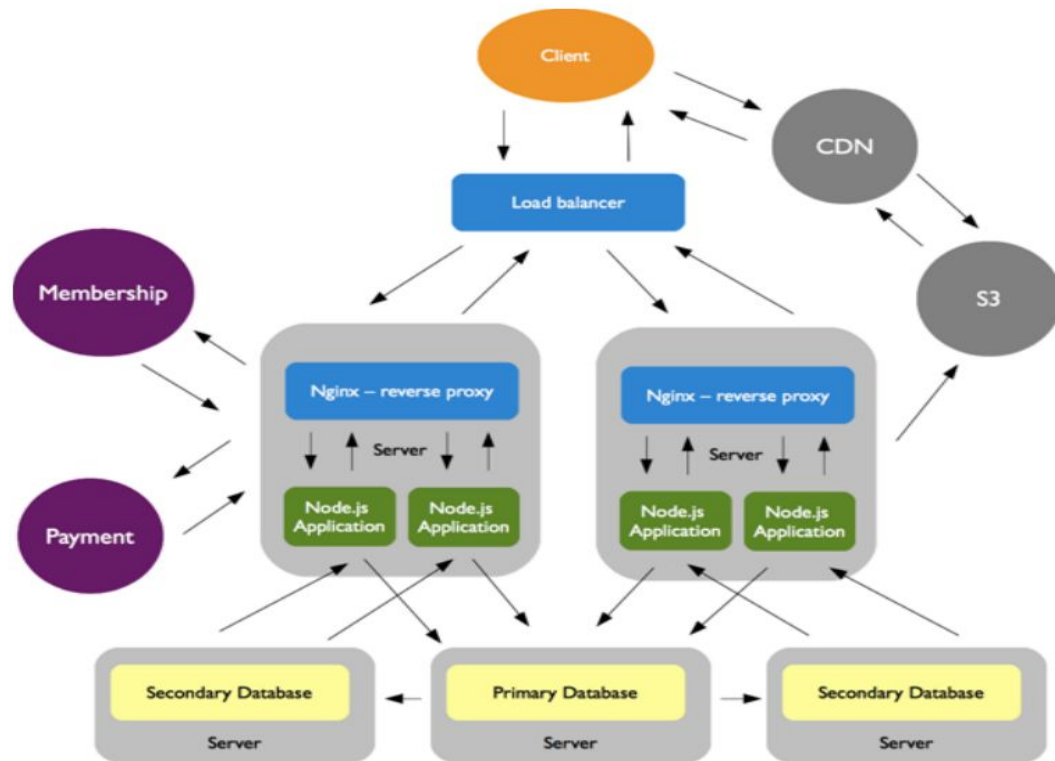
Start small with built-in static server, node.js app & database all on the same server.



Use nginx as static server for better performance



Scaling node.js(2)



Who are applying NodeJS(国外)

- LinkedIn
 - 2012.10将所有的移动服务从Ruby On Rails 迁移到nodejs
- eBay
 - 2012.3,在GitHub上发布[gl.io](#)框架
 - 2013.5发布第一个线上NodeJS项目
- Paypal
 - 2012.4使用NodeJS在6周内完成支付系统重写
 - 2013.1在GitHub上发布Kraken架构, 两年内将大规模使用
- Walmart
 - 2014年底电商平台全上nodejs
- Google,Yahoo,AWS



Who are applying NodeJS (国内)

- 淘宝
 - 淘宝指数, 数据魔方, 时光机
 - CNodejs 社区
- 网易
 - 2012.11在github上发布了 pomelo架构
- 腾讯
 - 开发了LivePool抓包和调试工具, 并在github上开源



Introduction mongodb

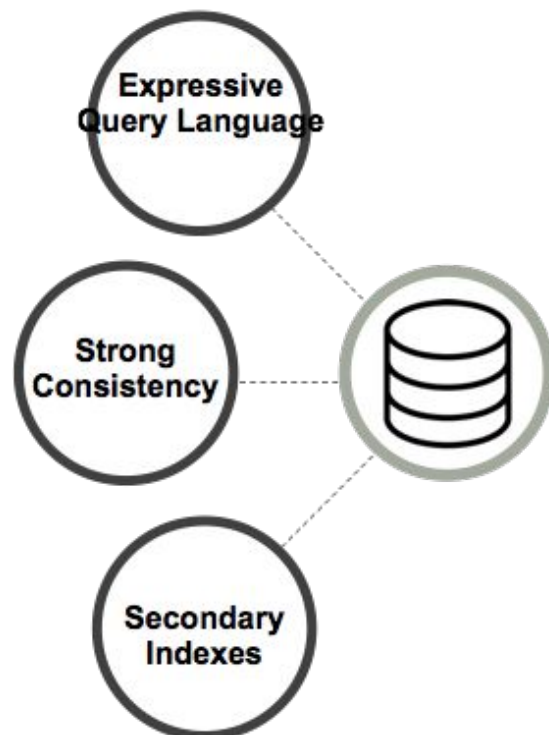
MongoDB (from "hu**mongous**", “巨大无比的, 极大的”) is an **open-source document** database, and the leading **NoSQL** database. Written in C++, MongoDB features:

- **Document-Oriented** Storage
- **Full Index** Support (Multikey, Geospatial, Text)
- **Replication** & High Availability
- Auto-**Sharding**
- Map/Reduce
- Professional Support by MongoDB

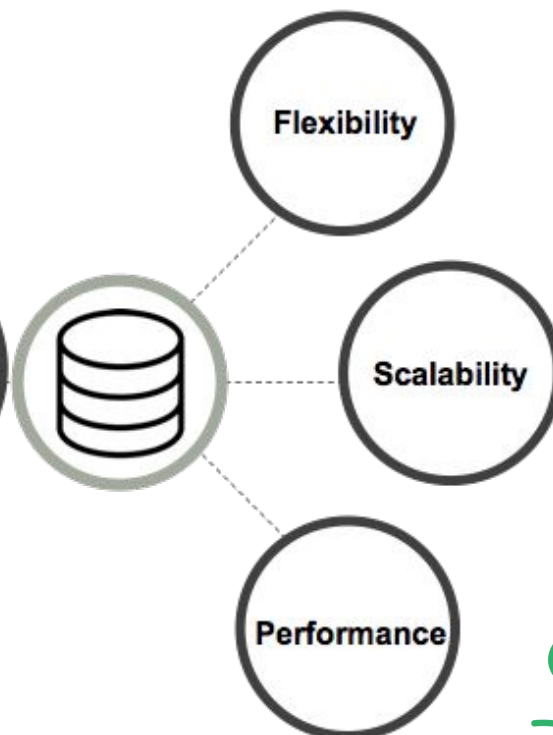


Relational + NoSQL

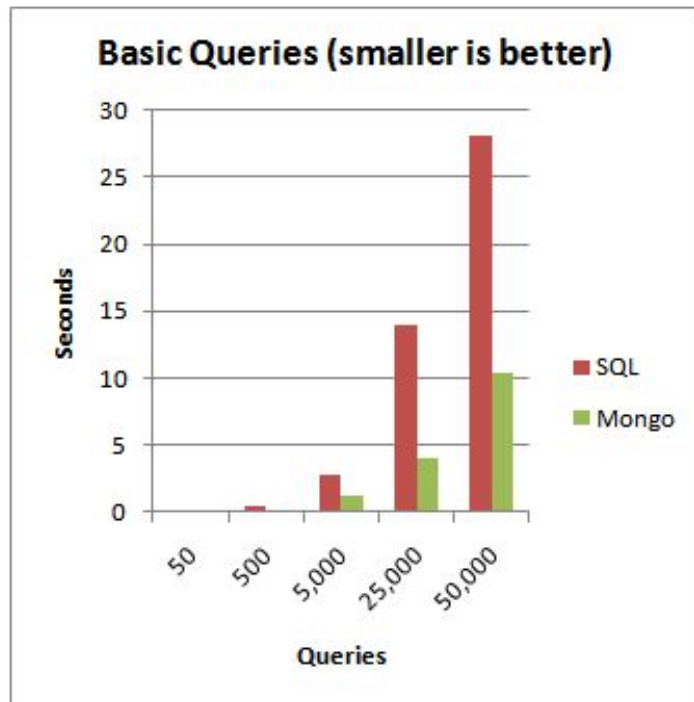
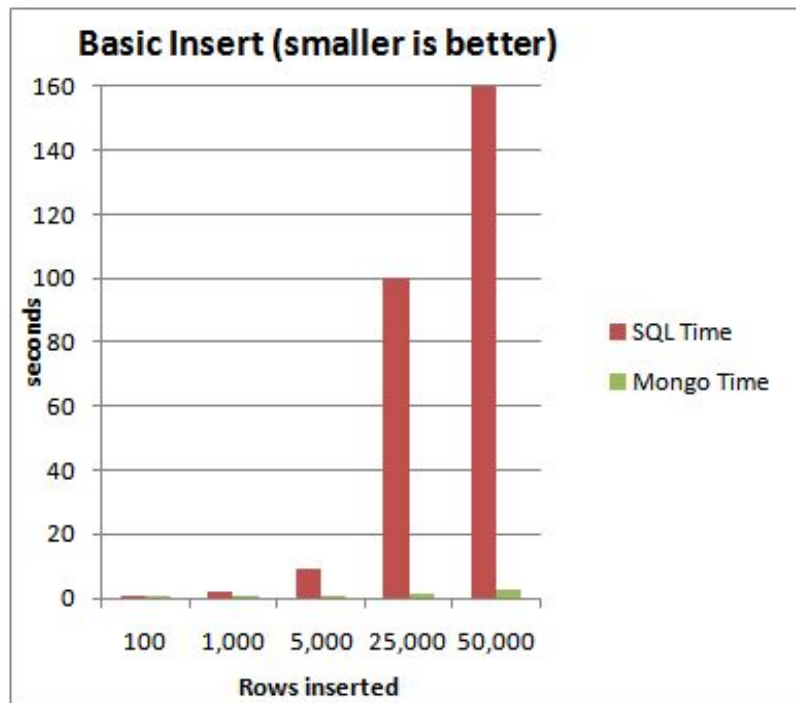
Relational



NoSQL



mongodb vs mysql



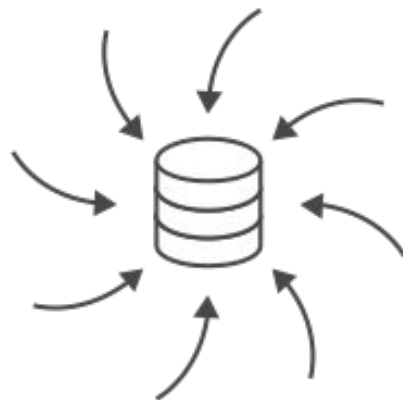
Factors Driving Modern Applications

Mobile

- 2 Billion smartphones by 2015
- Mobile now >50% internet use
- 26 Billion devices on IoT by 2020

Social

- 72% of internet use is social media
- 2 Billion active users monthly
- 93% of businesses use social media



Data

- 90% data created in last 2 years
- 80% enterprise data is unstructured
- Unstructured data growing 2X rate of structured data

Cloud

- Compute costs declining 33% YOY
- Storage costs declining 38% YOY
- Network costs declining 27% YOY



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Technical: Why MongoDB

- High performance (1000's – millions queries / sec) - reads & writes
- Need flexible schema, rich querying with any number of secondary indexes
- Need for replication across multiple data centers, even globally
- Need to deploy rapidly and scale on demand (start small and fast, grow easily)
- 99.999% availability
- Real time analysis in the database, under load
- Geospatial querying
- Processing in real time, not in batch
- Need to promote agile coding methodologies
- Deploy over commodity computing and storage architectures
- Point in Time recovery
- Need strong data consistency
- Advanced security



MongoDB Use Cases

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



mongodb + nodejs 应用架构

- meteor.js (realtime)
- express (simple mvc)
- sails.js (ruby on rails)
- loopback.io (full stack develop)



other

- redis (is an open source, advanced key-value cache and store)
- haproxy (a free, very fast and reliable solution offering high availability, load balancing, and proxying for TCP and HTTP-based applications)
- Varnish (is an HTTP accelerator)

项目应用

- 智能门锁(meteor.js)
- 天气美搭(nodejs+mongodb)
- 金融投资分析系统(sails.js+mongodb)
- 潮百搭女性购物社区



谢谢！



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