

HOW TO WRITE A CV



Leverage the NoSQL boom



Grails & MongoDB

GR8Conf US 2012

Andreas Arledal
Findout Technologies



```
// Feed your brain
gr8.technologies.each{
  yourBrain << it
}
```

Me

- ✚ CTO at FindOut Technologies - Sweden
- ✚ Groovy and Grails since 2008
- ✚ Non Java background
- ✚ @AndreasArledal

What we will cover

- ✚ Introduction to MongoDB
- ✚ Case study
- ✚ MongoDB with Grails
- ✚ Demo

NoSQL

Not Only SQL

Non Relational

~~NoSQL~~

Key Value
Store

Document
Store

~~Not Only SQL~~

Graph
database

~~More Relational~~

Object
database

NoSQL Store

Key Value

Not Only SQL

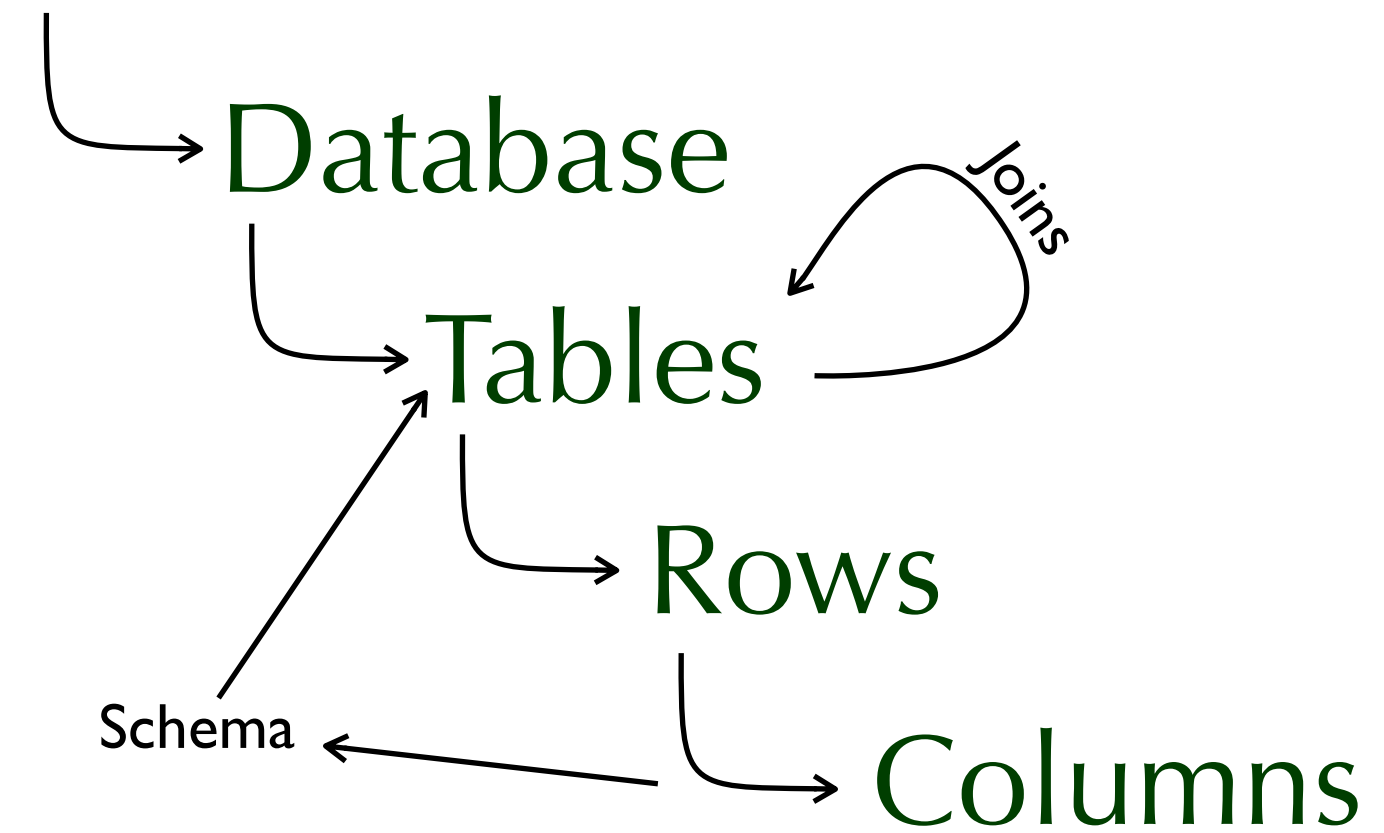
Document
Store

Graph
database

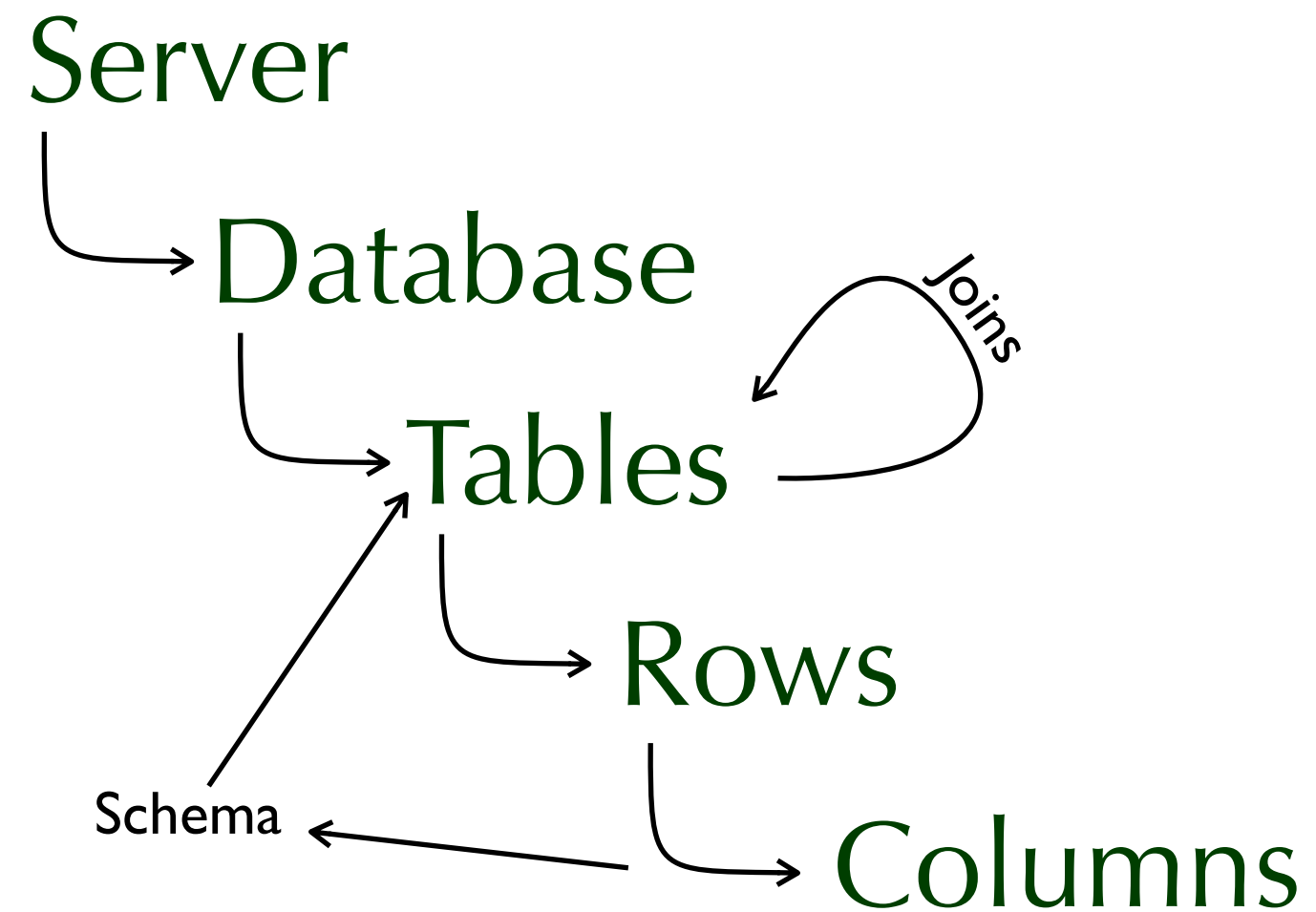
No.
Obj
database

RDBMS

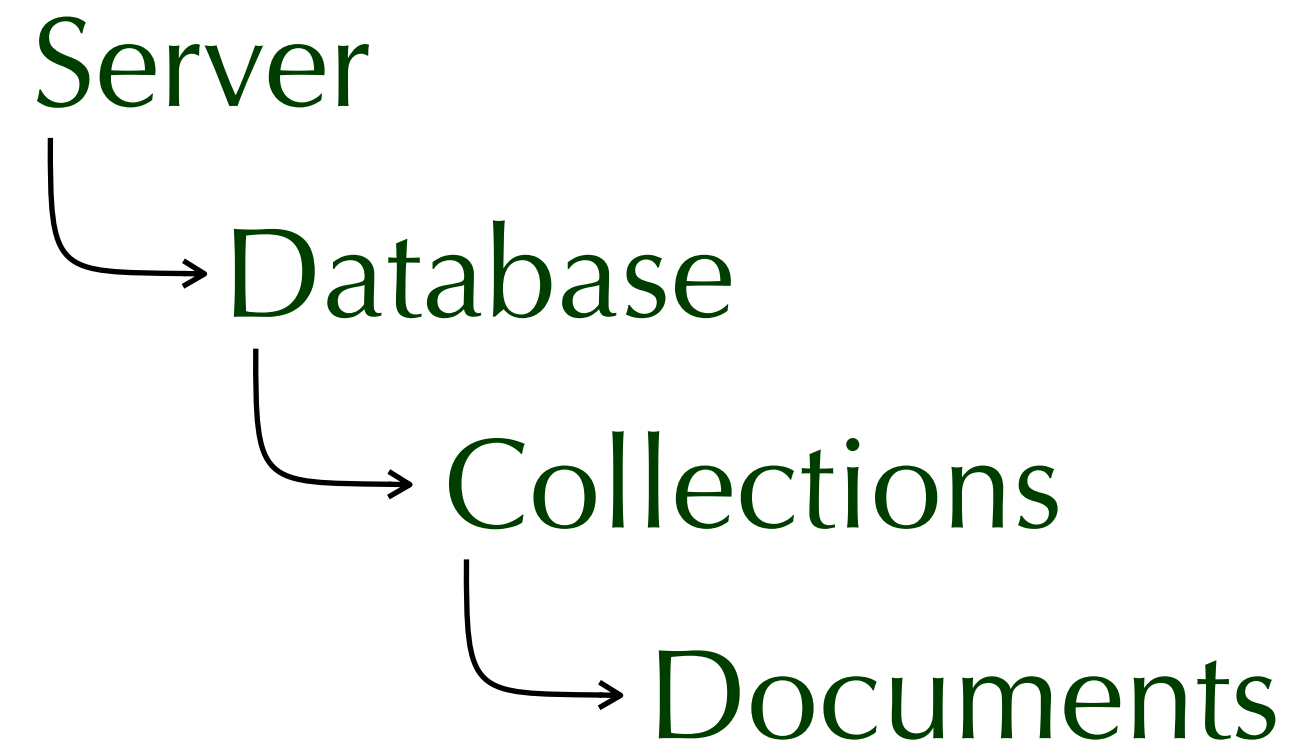
Server



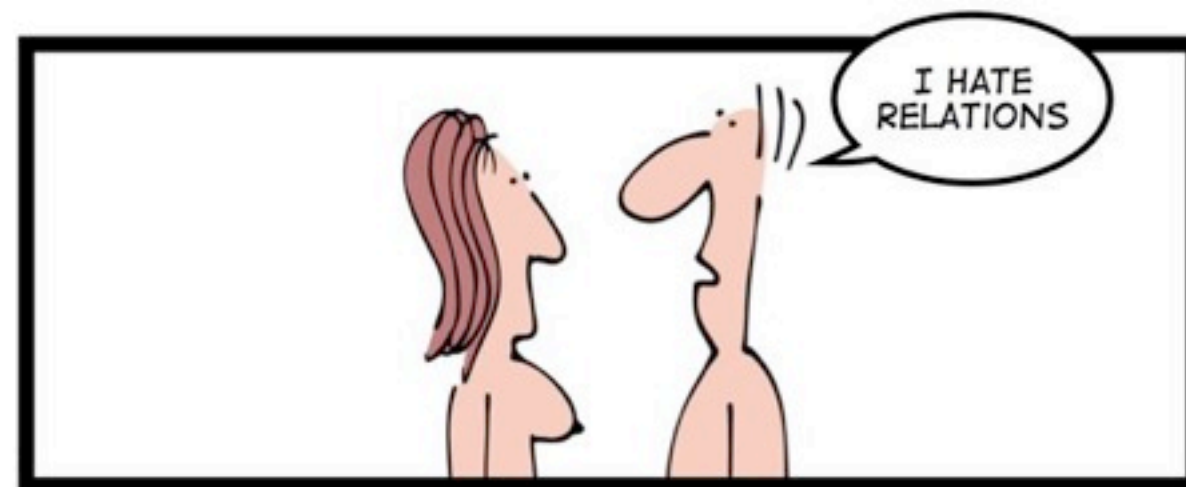
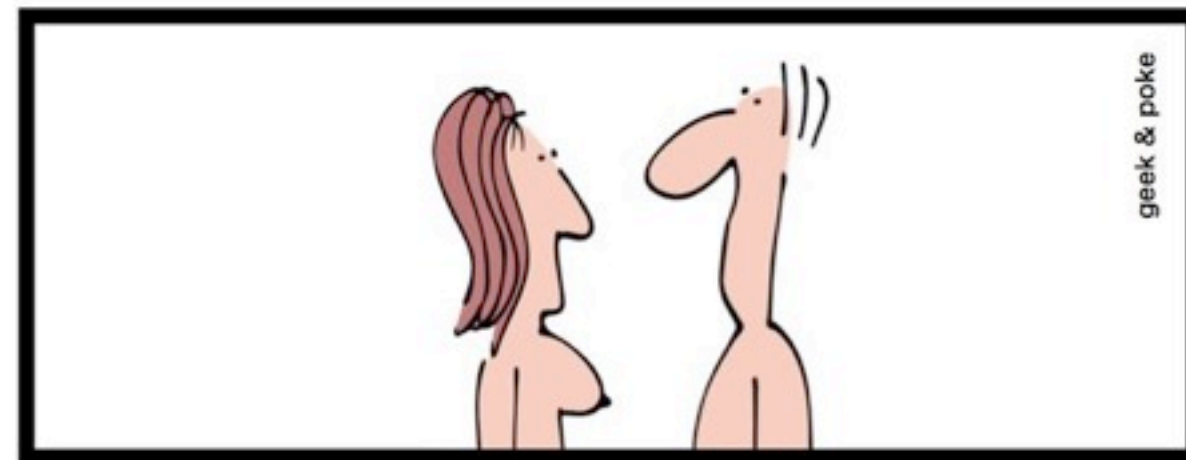
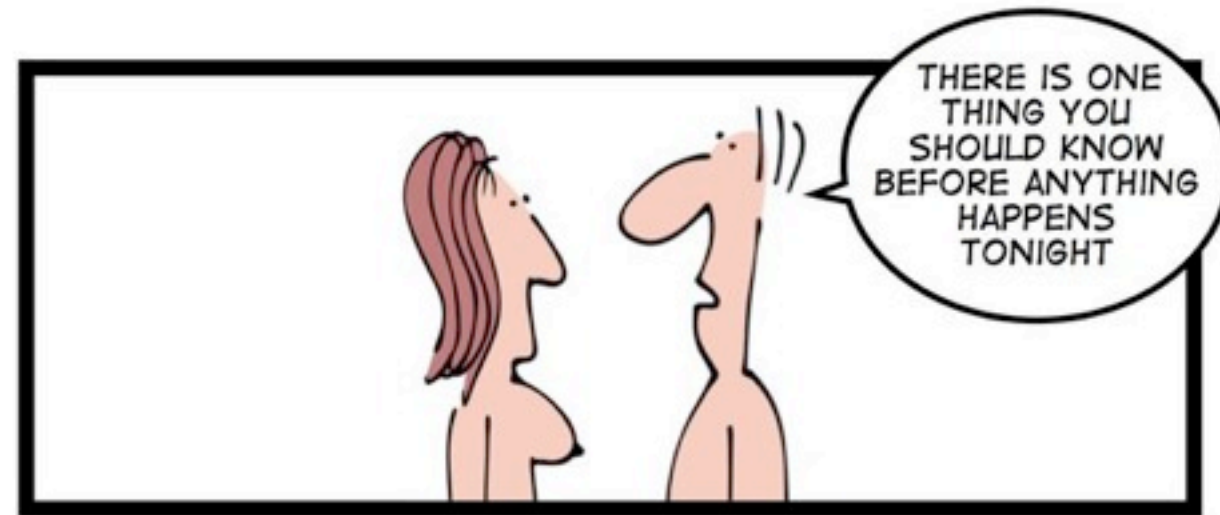
RDBMS



Document store



The Hard Life of a NoSQL Coder



Documents

- 🍃 Documents are structured (BSON)
- 🍃 The structure isn't predefined
- 🍃 They are type aware
- 🍃 Can contain lists
- 🍃 Can contain other documents
- 🍃 Can be indexed



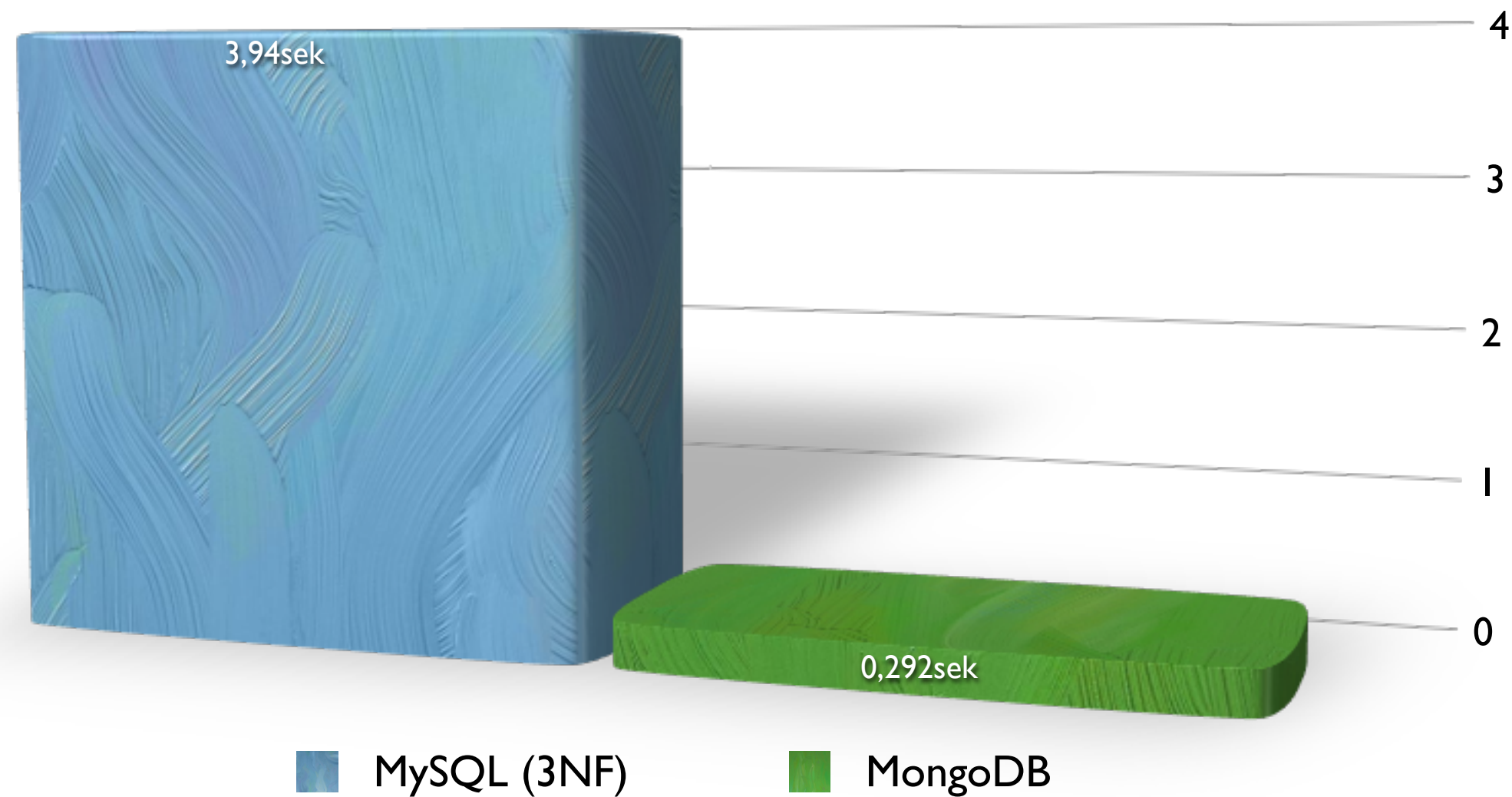
Why MongoDB

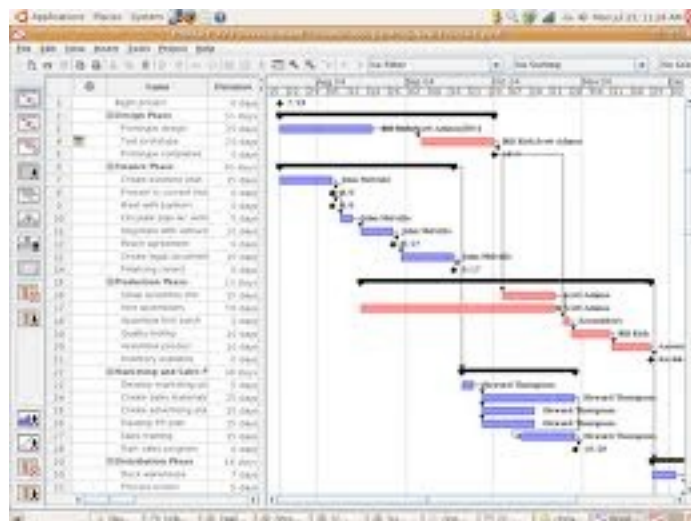
- 🌿 Performance
- 🌿 Horizontal scaling
- 🌿 Replication
- 🌿 File handling
- 🌿 Schema-less



Case study

Page load time for example page





Project

<150



Deliverables

<15



Milestones

<10



ChecklistItems



▲▲▲ = Commercial status ●●● = Operational status

Welcome, you're logged in as andreas.ariedal@find-out.se.
[Sign out!](#)
[Dashboard](#) [Customers](#) [User admin](#)

Customers -> ERICSSON MY-> Project - MOAT SARAWAK [MIRI] SWAP - ES & LM (Malaysia)

Project info Activities Contacts To bill () Invoice specifications

Key achievement

Planned activities

Risks

Comments

Add event

Add deliverable

Sort by: Planned start date

Search:

Name		Delivery type	PO Received	Delivery	Installed	Integration	Site Docs	ATP	SDD	Final Acceptance - SDD	COC	Invoiced	Pymt Received	PO to Subcon	Pymt to Subcon
Q00297 TG LOBANG - ID 2012-02-09 - 2012-05-14		Local Material	<input type="checkbox"/>	<input type="checkbox"/>	-	-	<input type="checkbox"/>	-	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q00319 PKN MARUDI - ID 2012-02-09 - 2012-05-14		Local Material	<input type="checkbox"/>	<input type="checkbox"/>	-	-	<input type="checkbox"/>	-	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q00321 TM MARUDI - ID 2012-02-09 - 2012-05-14		Local Material	<input type="checkbox"/>	<input type="checkbox"/>	-	-	<input type="checkbox"/>	-	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

```
{
  "_id" : ObjectId("4f30f9ce975a7edd2b2a827d"),
  "contract" : {
    "$ref" : "Contract",
    "$id" : ObjectId("4f30f7ef975a7edd2b2a6fac")
  },
  "name" : "2G RBS 6000 SERIES SURVEY",
  "deliverables" : [
    {
      "embeddedId" : ObjectId("4f30fa21975a7edd2b2a8497"),
      "name" : "D00094 PERINGAT",
      "deliveryTypes" : [
        {
          "deliveryType" : {
            "$ref" : "DeliveryType",
            "$id" : ObjectId("4f30f7ef975a7edd2b2a6fab")
          },
          "deliveryItems" : [
            {
              "embeddedId" : ObjectId("4f30fa21975a7edd00054a73"),
              "milestone" : {
                "$ref" : "Milestone",
                "$id" : ObjectId("4f2a19f3975ad3e6f4afe793")
              },
              "createdBy" : {
                "$ref" : "User",
                "$id" : "hana@southpac.com.my"
              },
              "status" : "Open",
              "commercial" : false,
              "type" : "task"
            }
          ]
        }
      ]
    }
  ]
}
```

Join

Join

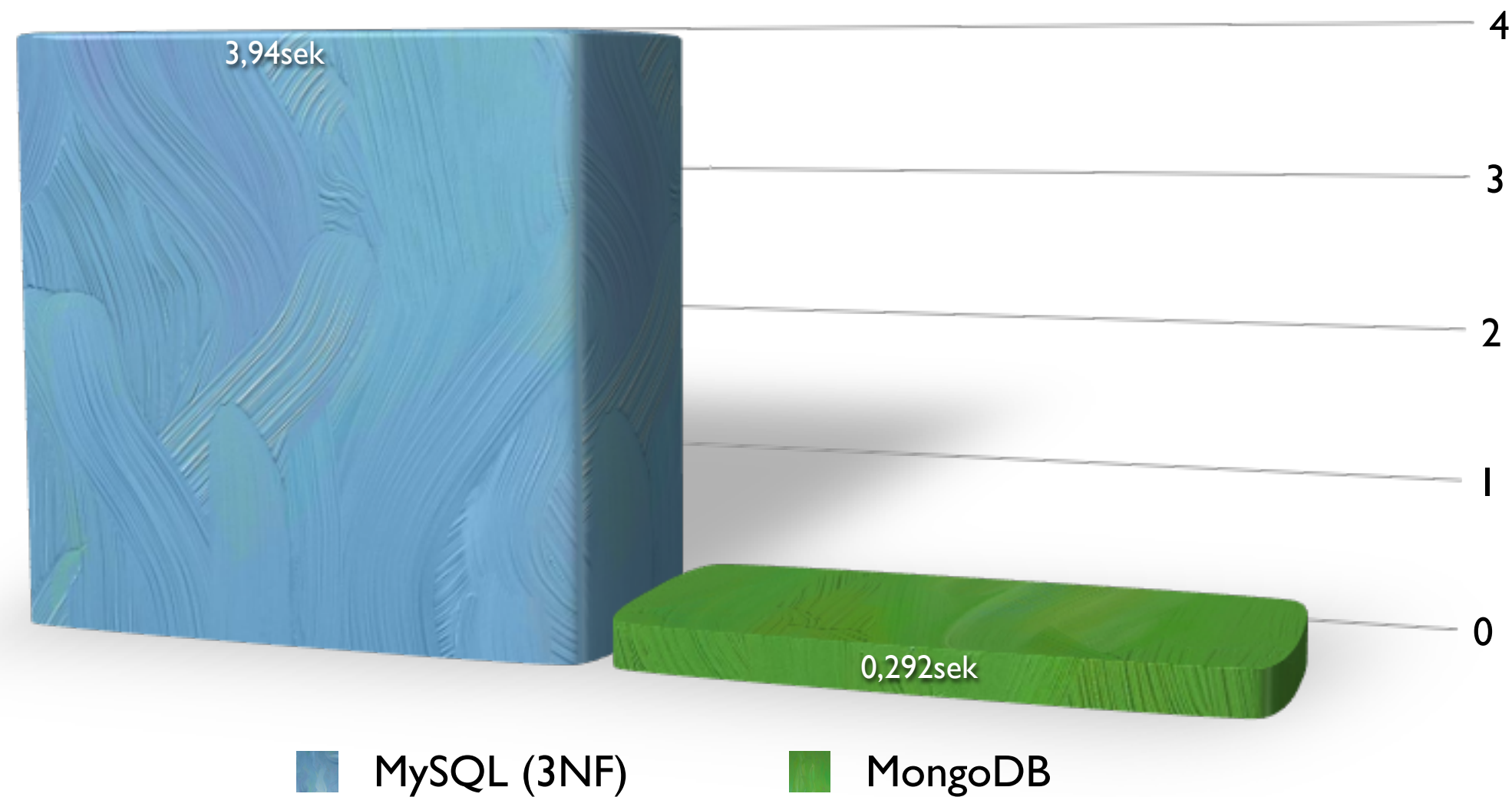
Join

Join

Join

Case study

Page load time for example page



grails + mongoDB = mongoDBGorm ?: morphia

MongoDB Gorm

- Official plugin
- Almost full GORM support
- Some transactional support
- Class reloading
- Low level API - GMongo
- Dynamic properties

Morphia

- Parts of GORM supported
- Annotations for mapping
- Some support for migrations
- No transactions
- No Class reloading

MongoDB Gorm

```
import groovy.transform.EqualsAndHashCode
import org.bson.types.ObjectId
```

```
@EqualsAndHashCode
class Building implements Serializable {
```

```
    static mapWith = 'mongo'
```

```
    static embedded = ['offices']
```

```
    ObjectId id
    String name
    List<Office> offices
```

Use ObjectId for Id:s since
sequences is bad for Sharding

```
}
```

Morphia

```
import groovy.transform.EqualsAndHashCode
import org.bson.types.ObjectId
```

```
@EqualsAndHashCode
```

```
@Entity
```

```
class Building implements Serializable {
```

```
    @Id ObjectId id
```

```
    String name
```

```
    @Embedded List<Office> offices
```

```
}
```

Embedded collections aren't reached as own collections (yet).

```
{
  "_id" : ObjectId("4f30f9ce975a7edd2b2a827d"),
  "contract" : {
    "$ref" : "Contract",
    "$id" : ObjectId("4f30f7ef975a7edd2b2a6fac")
  },
  "name" : "2G RBS 6000 SERIES SURVEY",
  "deliverables" : [
    {
      "embeddedId" : ObjectId("4f30fa21975a7edd2b2a8497"),
      "name" : "D00094 PERINGAT",
      "deliveryTypes" : [
        {
          "deliveryType" : {
            "$ref" : "DeliveryType",
            "$id" : ObjectId("4f30f7ef975a7edd2b2a6fab")
          },
          "deliveryItems" : [
            {
              "embeddedId" : ObjectId("4f30fa21975a7edd00054a73"),
              "milestone" : {
                "$ref" : "Milestone",
                "$id" : ObjectId("4f2a19f3975ad3e6f4afe793")
              },
              "createdBy" : {
                "$ref" : "User",
                "$id" : "hana@southpac.com.my"
              },
              "status" : "Open",
              "commercial" : false,
              "type" : "task"
            }
          ]
        }
      ]
    }
  ]
}
```

Demo



Grails & MongoDB

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```
// Feed your brain
gr8.technologies.each{
  yourBrain << it
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```