



Web Developer Conference 2013



SinglePage

Single Page Web Applications - Workshop

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Webentwickler

1. SPA

2. REST

3. NoSQL

N★SQL





kein relationales Datenmodell (kein SQL)

verteilte und horizontale Skalierbarkeit

schemafrei / schwache Schemarestriktionen

anderes Konsistenzmodelle

Schemafrei

kein ALTER TABLE

kein Wartungsfenster *

Datenversionierung im Code!

* morgens ausschlafen



Klassifizierung

Key-Value stores

Document stores ← MongoDB

Wide Column stores

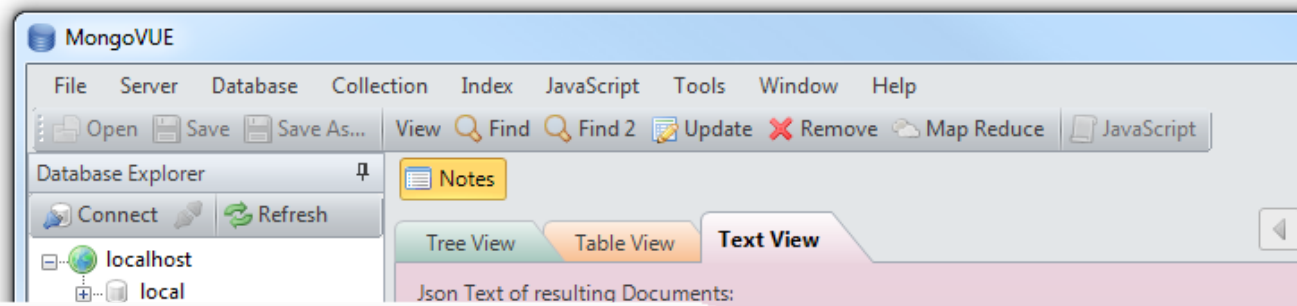
Graph-Datenbanken

und viele weitere

JSON

BSON { 01010100 11101011 10101110 01010101 }

<http://bsonspec.org>



Administrator: Windows PowerShell

```
PS C:\Users\Johannes> mongo
MongoDB shell version: 2.0.1
connecting to: test
> use WebNote
switched to db WebNote
> db.Notes.find(<< Title: /Test/i >>);
{ "_id" : ObjectId("4f253293ce3d26da8b48685b"), "Title" : "Testeintrag", "
Date("2012-01-10T23:00:00Z"), "Categories" : [ < "Name" : "Normal I
"Name" : "Private", "Color" : "gray" > ] }
{ "_id" : ObjectId("4f253293ce3d26da8b48685c"), "Title" : "Testeintrag 2",
Date("2012-01-11T23:00:00Z"), "Categories" : [ < "Name" : "High Importance
{ "_id" : ObjectId("4f253293ce3d26da8b48685d"), "Title" : "Testeintrag 3",
ISODate("2012-01-12T23:00:00Z"), "Categories" : [ < "Name" : "Private", "C
>
```

```
54f0fc5139df1fec8ebba"),
g",
ner Postit",
ed, 11 Jan 2012 00:00:00 GMT +01:00"),
Importance",
```

",

```
54f0fc5139df1fec8ebbb"),
g 2",
r Postit",
hu, 12 Jan 2012 00:00:00 GMT +01:00"),
portance",
```

CRUD – Create

In der Shell

```
> use webNote
> db.Notes.save(
  {
    Title: 'Mittag',
    Message: 'nicht vergessen'
  }
);
```

So funktioniert der Befehl

```
> db.Notes.save
```

CRUD – Read

Queries werden ebenso im Dokument-Stil spezifiziert

- › `db.Notes.find();`
- › `db.Notes.find({ Title: /Test/i });`
- › `db.Notes.find(
 { "Categories.Color": "red" }).limit(1);`

CRUD – Update

- > `db.Notes.update({Title: 'Test'},
{'$set': {Categories: []}});`
- > `db.Notes.update({Title: 'Test'},
{'$push': {
Categories:
{Color: 'Red'}
}
});`

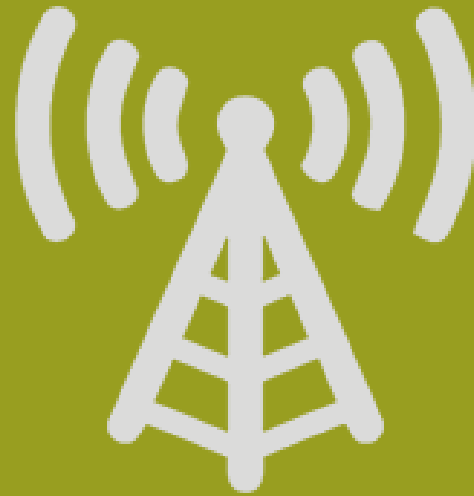
CRUD – Delete

- › `db.dropDatabase();`
- › `db.Notes.drop();`
- › `db.Notes.remove();`

One to Many

Embedded Array

```
blogs: {  
  author : "Johannes",  
  date : ISODate("2011-09-18T09:56:06.298Z"),  
  comments : [  
    {  
      author : "Klaus",  
      date : ISODate("2011-09-19T09:56:06.298Z"),  
      text : "toller Artikel"  
    }  
  ]  
}
```



REST

API-Anti Patterns

zu viel GET und POST

POST: `post.php?get=parameter`

DELETE

HTTP/1.1 200 (OK) mit einer Fehlermeldung

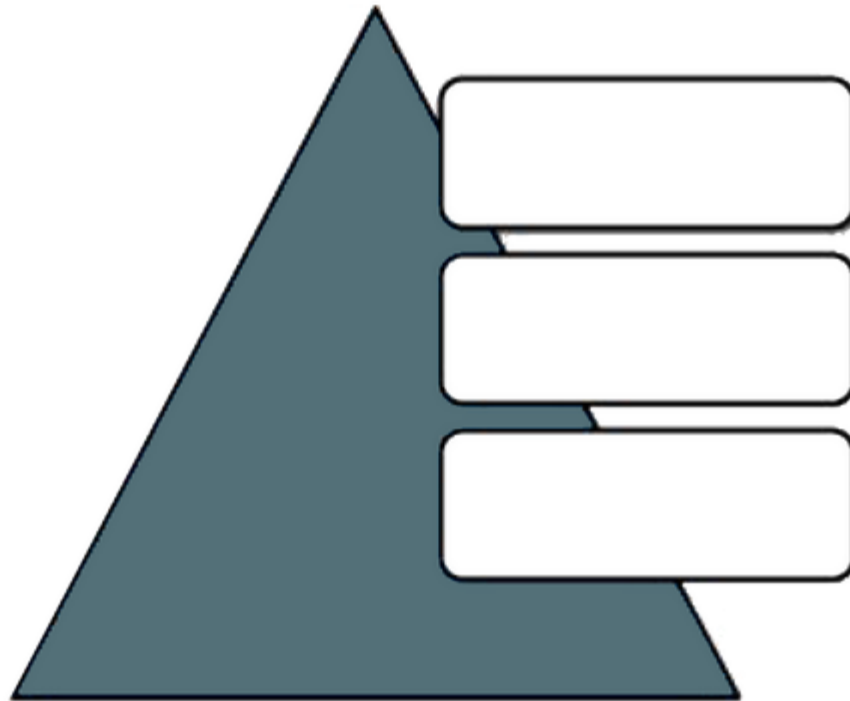
HTTP/1.1 500 Internal Server Error

kein hypermedia?

schlechte Dokumentation

Level 0: Pox

Richardson Maturity Model



Level 0: Pox

HTTP/1.1 200 OK

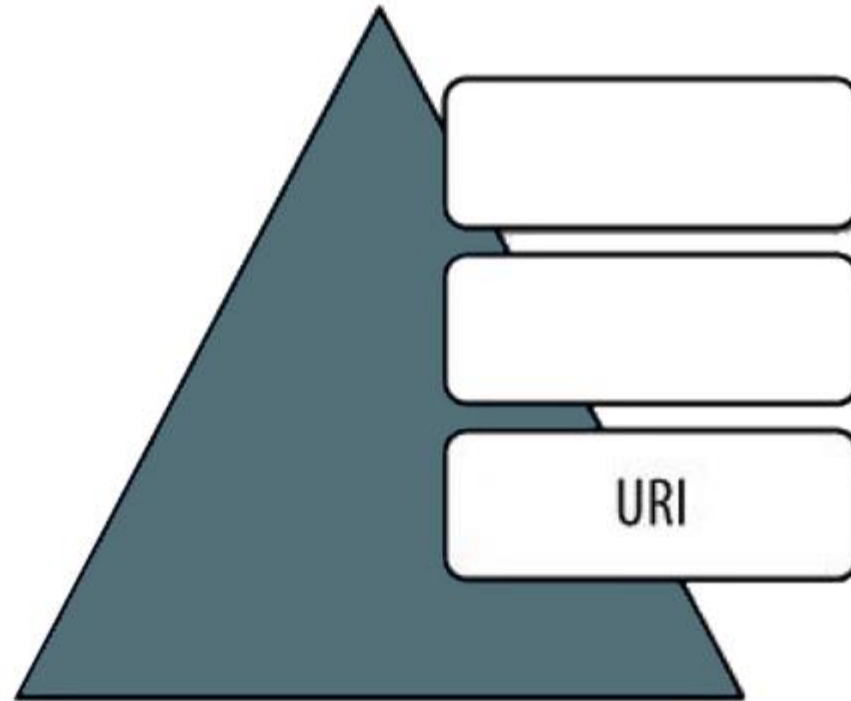
Content-Type: application/soap+xml; charset=utf-8

```
<soap:Envelope
xmlns:soap="http://www.w3.org/2001/12/soap-envelope"
soap:encodingStyle="http://www.w3.org/2001/12/soap-encoding">

  <soap:Body xmlns:m="http://www.example.org/stock">
    <m:GetStockPriceResponse>
      <m:Price>34.5</m:Price>
    </m:GetStockPriceResponse>
  </soap:Body>

</soap:Envelope>
```

Level 1: Uri

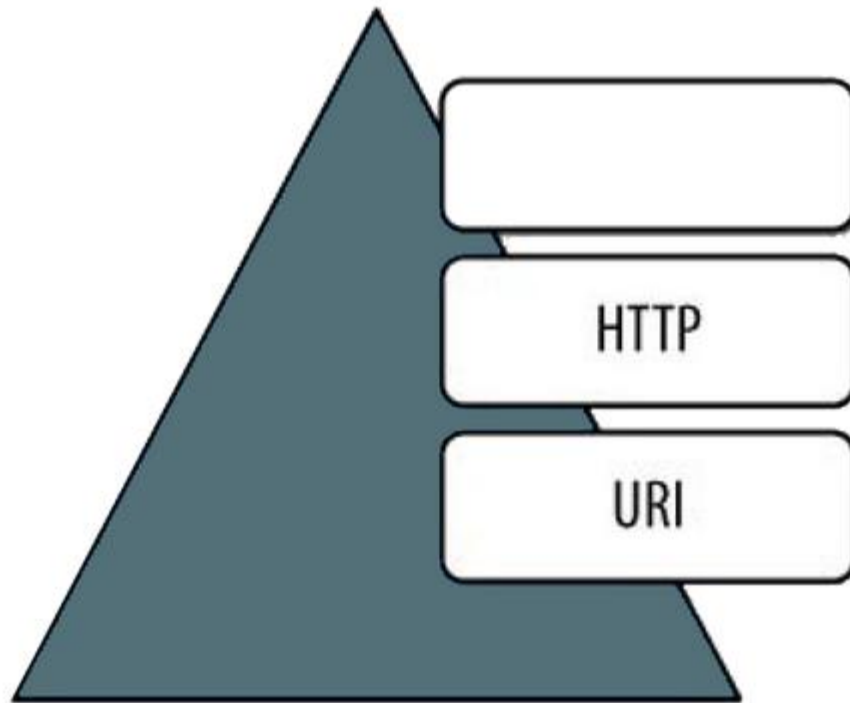


GET

/Home/GetAllNotes?limit=200
&search=test

Level 2: http

verbs & status codes



GET

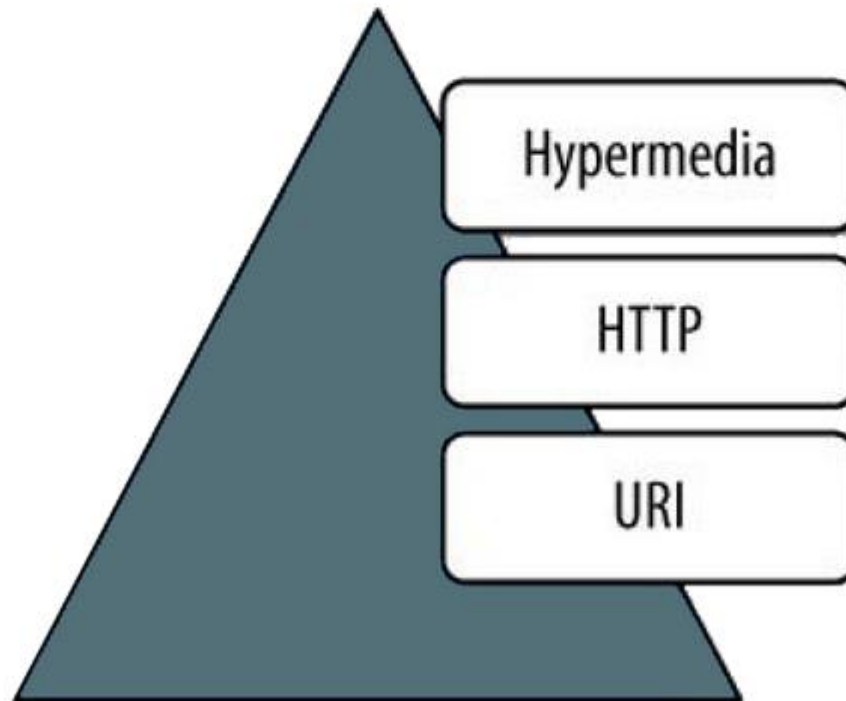
PUT

POST

DELETE

Level 3: hypermedia

Hypermedia As The Engine Of Application State





SinglePage



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FRAGEN?



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Vielen Dank!