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mongoDB





mongoDB

Not
Only SQL

- Написана на C++
- Документоориентированная БД



mongoDB

Not
Only SQL



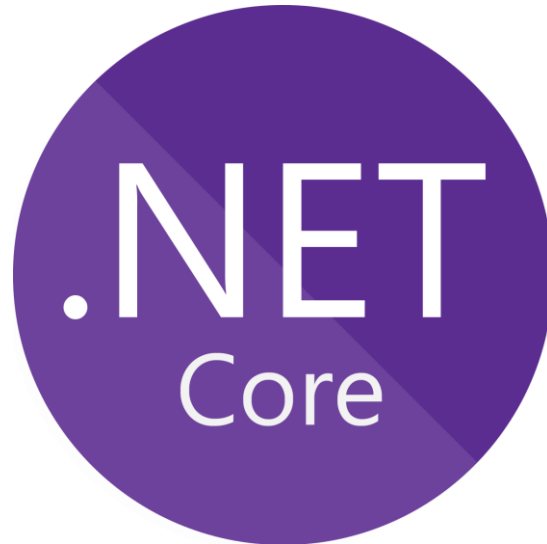
n баз данных

n коллекций

n любых
документов



mongoDB





Поддержка двух форматов хранения JSON, JSONB

- JSON – быстрая вставка, медленное чтение



Поддержка двух форматов хранения JSON, JSONB

- JSON – быстрая вставка, медленное чтение
- JSONB – медленная вставка, индексируемость, внутренние функции для работы с документом



Binary JSON поддерживаются основные типы данных:

- массивы
- объекты
- целые числа, массивы и объекты неизвестной длины или размера
- потоковая передача данных

9 КРУГОВ АДА MONGODB

ПРОДАТЬ ТЕХНОЛОГИЮ АРХИТЕКТОРУ

ПОБОРОТЬ ЖЕЛАНИЕ ИСПОЛЬЗОВАТЬ
ТЕХНОЛОГИЮ ВЕЗДЕ

ПРОСТОТА ИСПОЛЬЗОВАНИЯ

ОШИБКИ НОВИЧКА

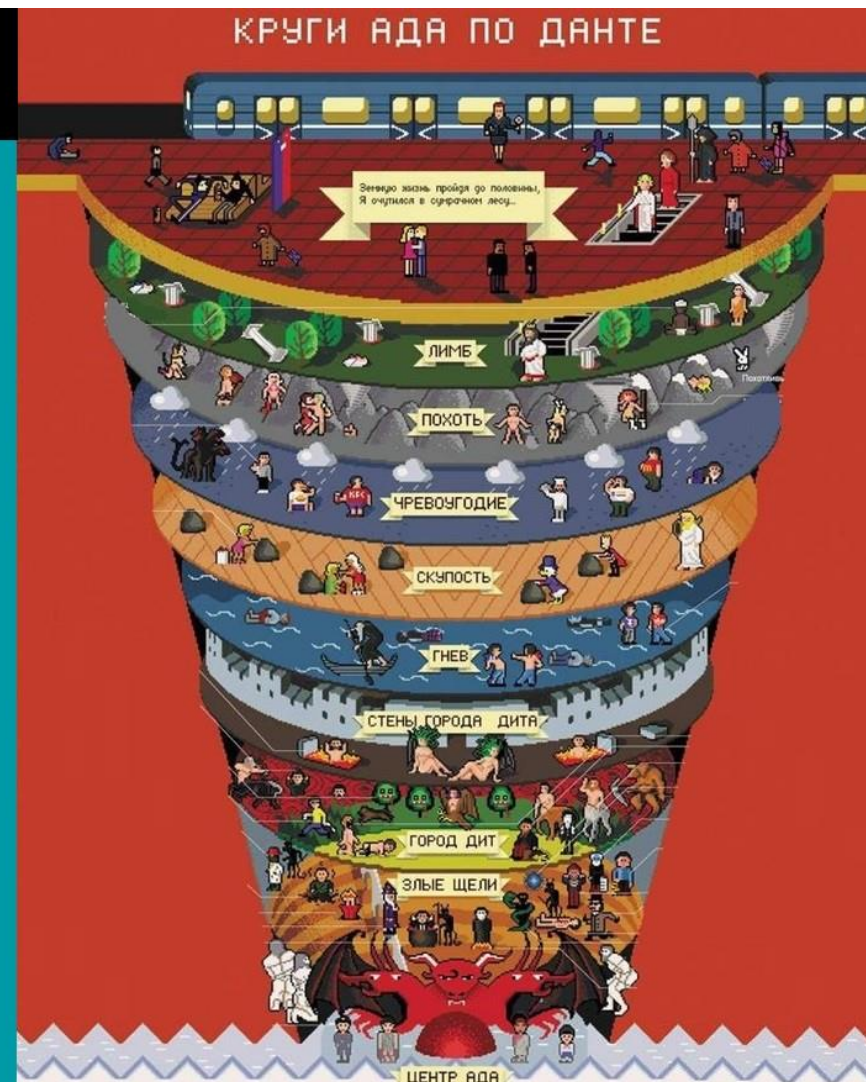
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ТРУДНОСТИ ПРОЕКТИРОВАНИЯ

MONGO... CLIENT

КАК С ЭТИМ РАБОТАТЬ?













ВЛОЖЕННЫЕ ДОКУМЕНТЫ

Плюсы для MongoDB:

- сохранение за 1 операцию
- поиск возвращает корневой документ

Плюсы для PG:

- большой объем хранения json \jsonb

Method	Mean	Error	StdDev
MongoSelect	43.67 ms	2.113 ms	3.435 ms
PostgresSelect	65.12 ms	6.453 ms	15.657 ms

ДОКУМЕНТЫ СО ССЫЛКОЙ

Плюсы для MongoDB:

- простое добавление зависимости
- поиск возвращает `_id` всех зависимостей
- просто сделать связь многие-ко-многим (микросекунды)

Method	Mean	Error	StdDev
MongoSelectUserByUserName	843.2 us	14.45 us	21.18 us
PostgresSelectUserByUserName	3,136.4 us	216.99 us	311.20 us
MongoSelectCommentsByUserName	11,112.4 us	756.00 us	1,108.14 us
PostgresSelectCommentsByUserName	462,410.4 us	17,378.27 us	24,923.40 us
PostgresSelectCommentsByUserName2	79,333.7 us	11,560.26 us	17,302.86 us

- **REPLICATION**
- **SHARDING**

ЛИЦЕНЗИРОВАНИЕ

- ранее GNU AGPL (СУБД)
- Server Side Public License
- есть платная поддержка

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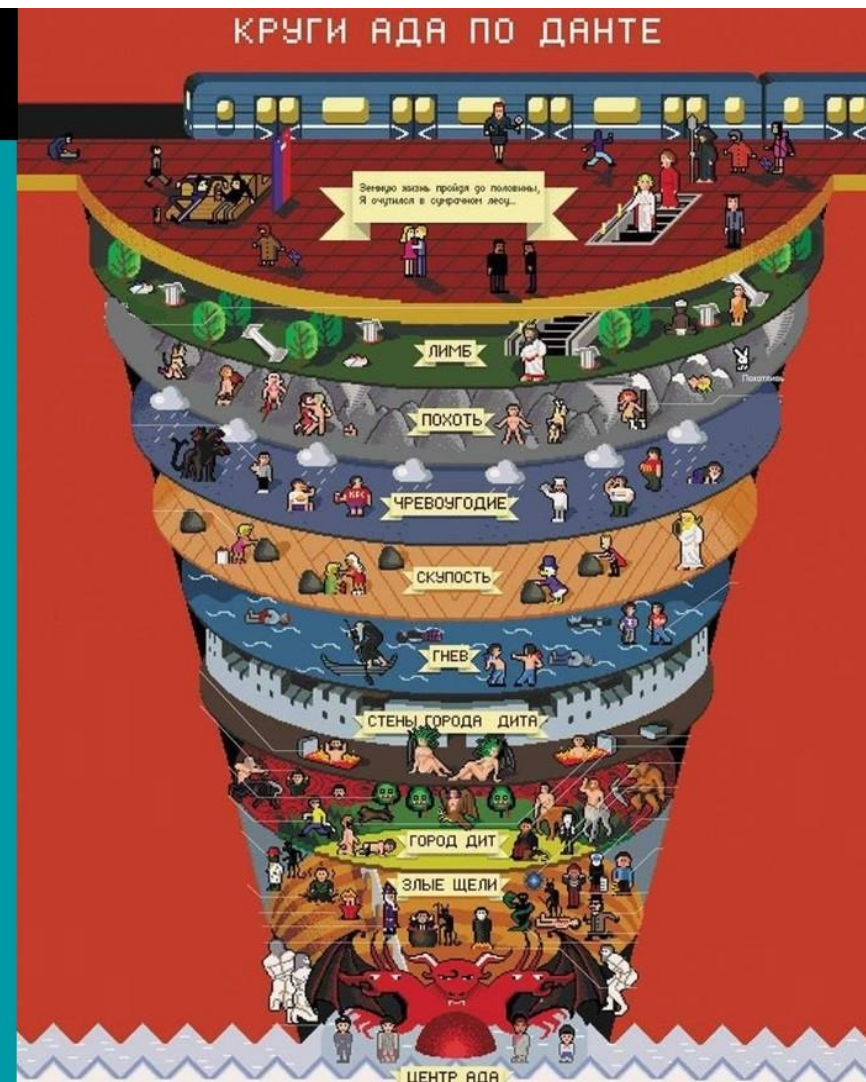
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ETL



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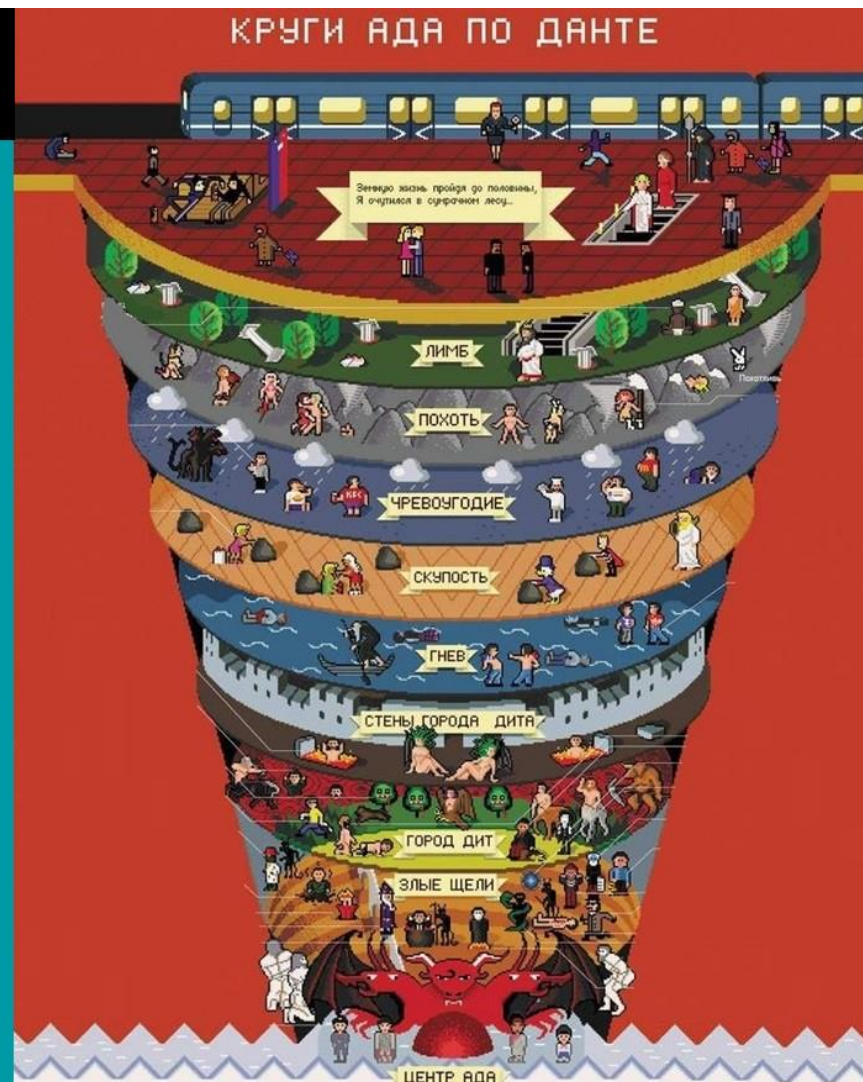
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LIVE CODING

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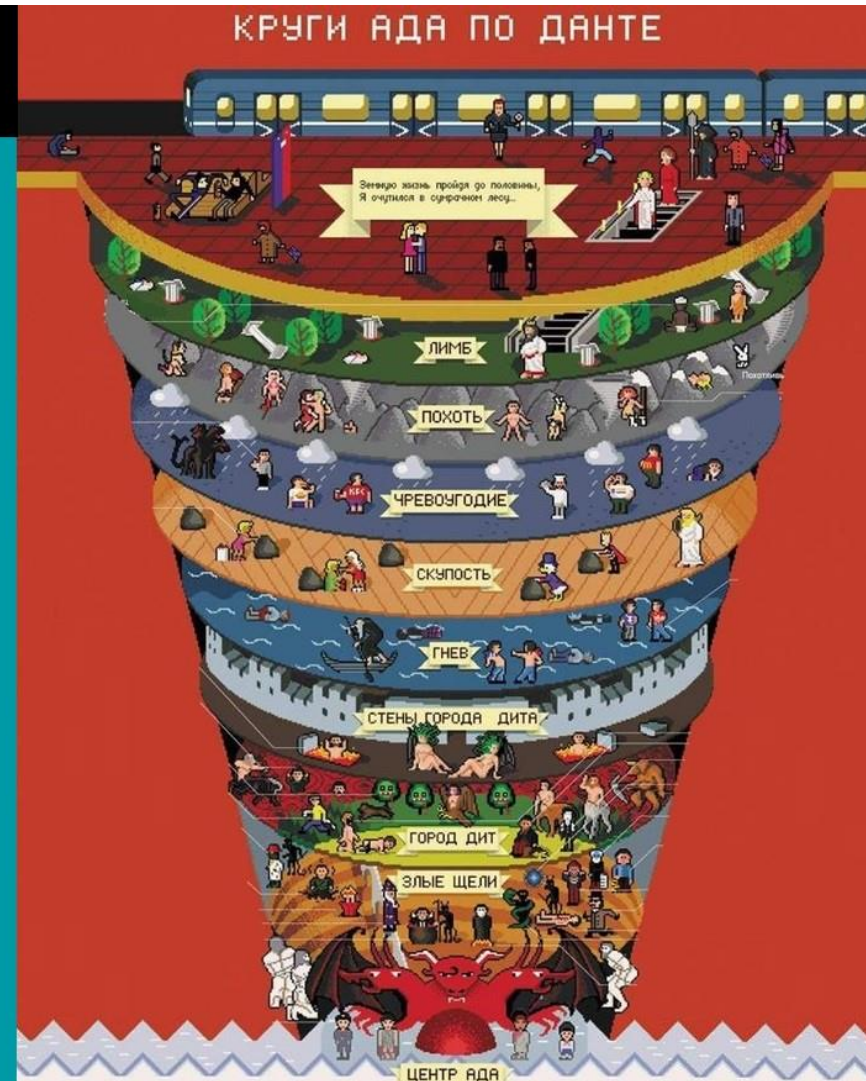
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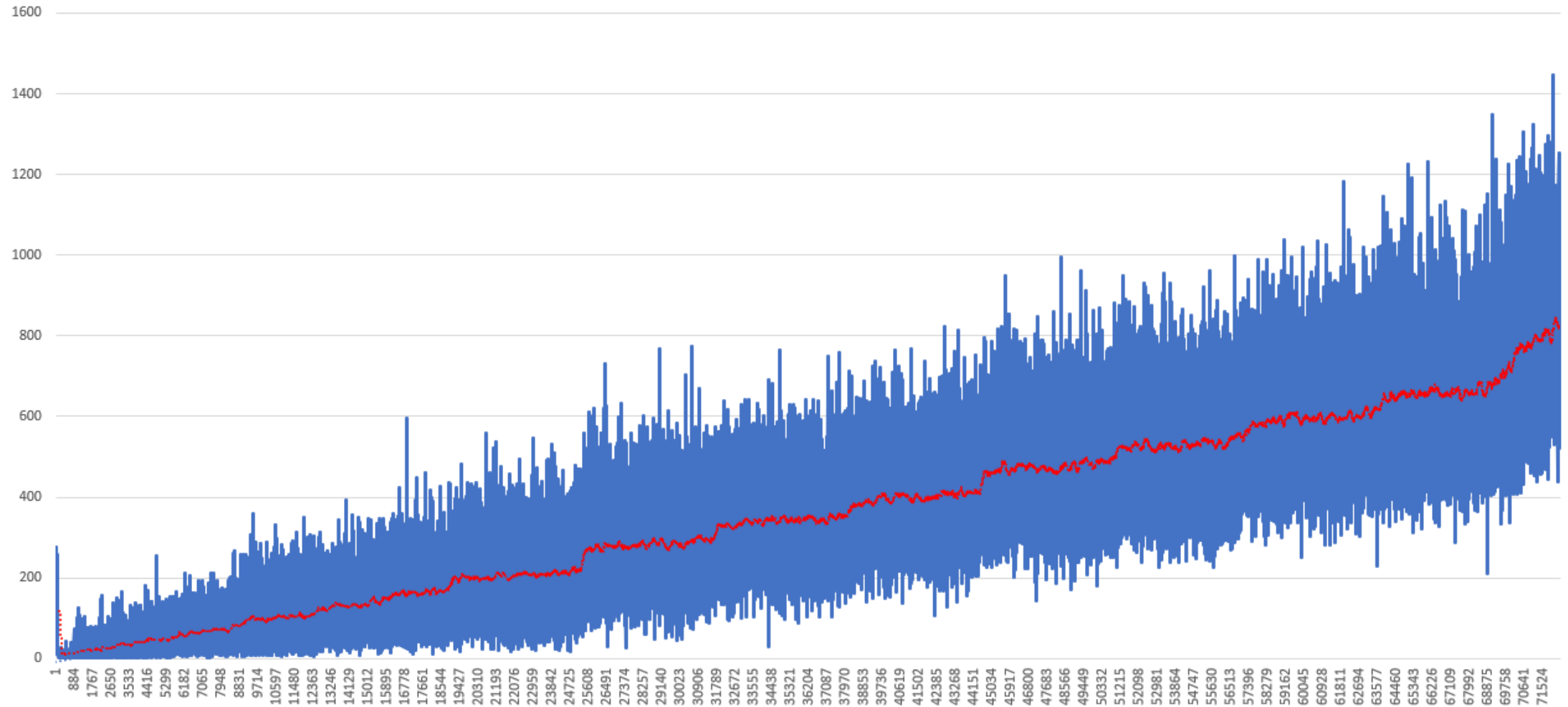
ТРУДНОСТИ ПРОЕКТИРОВАНИЯ

MONGO... CLIENT

КАК С ЭТИМ РАБОТАТЬ?



Время выполнения запроса



НИКАКОГО ВОЛШЕБСТВА НЕ СУЩЕСТВУЕТ



9 КРУГОВ АДА MONGODB

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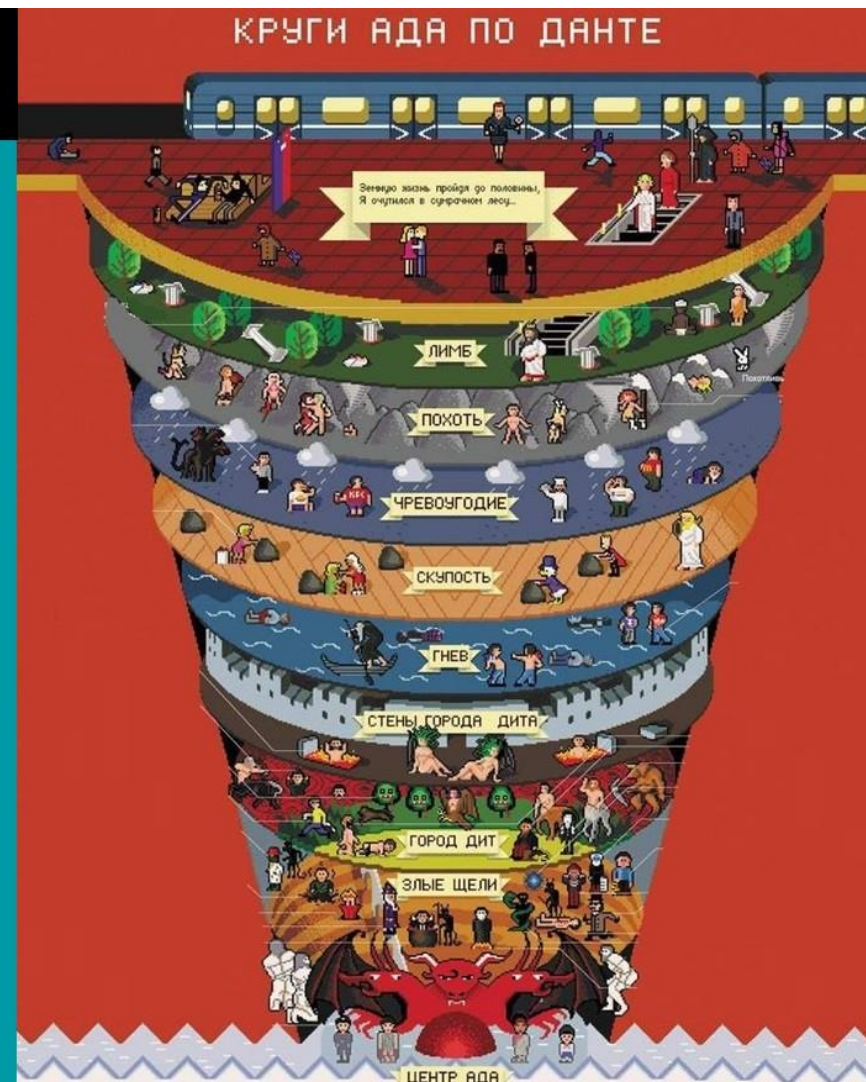
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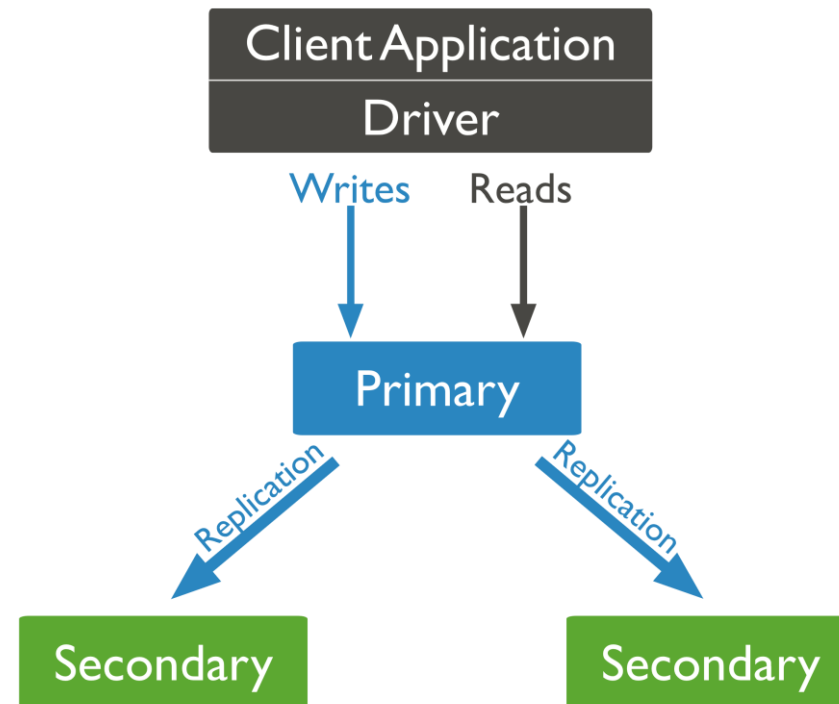
ТРУДНОСТИ ПРОЕКТИРОВАНИЯ

MONGO... CLIENT

КАК С ЭТИМ РАБОТАТЬ?



REPLICASET



```
version: "3.1"
```

```
services:
```

```
  mongo1:
```

```
    container_name: mongo_rs1
```

```
    image: mongo:4.2.3
```

```
    ports:
```

```
      - 27018:27017
```

```
    restart: always
```

```
    entrypoint: ["/usr/bin/mongod", "--bind_ip_all", "--replSet", "rs0"]
```

```
  mongo2:
```

```
    container_name: mongo_rs2
```

```
    image: mongo:4.2.3
```

```
    ports:
```

```
      - 27019:27017
```

```
    restart: always
```

```
    entrypoint: ["/usr/bin/mongod", "--bind_ip_all", "--replSet", "rs0"]
```

```
  mongo3:
```

```
    container_name: mongo_rs3
```

```
    image: mongo:4.2.3
```

```
    ports:
```

```
      - 27020:27017
```

```
    restart: always
```

```
    entrypoint: ["/usr/bin/mongod", "--bind_ip_all", "--replSet", "rs0"]
```

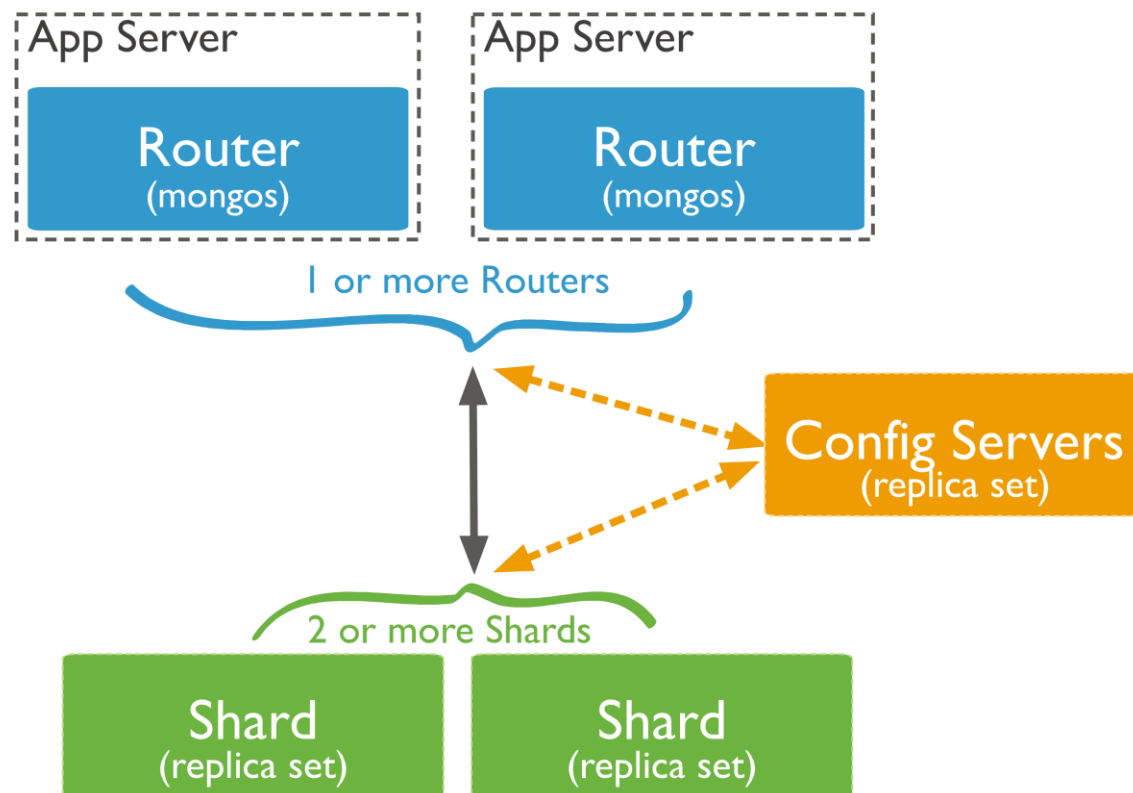
```
rs.initiate(  
  {  
    _id : 'rs0',  
    members: [  
      { _id : 0, host : "host1:27018" },  
      { _id : 1, host : "host1:27019" },  
      { _id : 2, host : "host1:27020" }  
    ]  
  }  
)
```

WRITE CONCERN

in-memory — **on-disk**

on Primary — **on Secondary**

SHARDED CLUSTER



```
version: '3.1'
services:
```

Router

```
router:
  image: mongo:4.2.3
  restart: always
  container_name: router
  command: mongos --port 27117
            --configdb rs-config-server/${SERVER1}:27118,${SERVER2}:27118,${SERVER3}:27118
            --bind_ip_all
  network_mode: "host"
```

Config Servers

```
configsvr01:
  image: mongo:4.2.3
  restart: always
  container_name: mongo-config
  command: mongod --port 27118 --configsvr --replSet rs-config-server
  network_mode: "host"
```

Shards

shard01:

```
image: mongo:4.2.3
restart: always
container_name: shard-01-node
command: mongod --port 27119 --shardsvr --replSet rs-shard-01
network_mode: "host"
```

shard02:

```
image: mongo:4.2.3
restart: always
container_name: shard-02-node
command: mongod --port 27120 --shardsvr --replSet rs-shard-02
network_mode: "host"
```

shard03:

```
image: mongo:4.2.3
restart: always
container_name: shard-03-node
command: mongod --port 27121 --shardsvr --replSet rs-shard-03
network_mode: "host"
```

```
rs.initiate(  
  {  
    _id: "rs-config-server",  
    configsvr: true,  
    version: 1,  
    members: [  
      { _id: 0, host : "host1:27118" },  
      { _id: 1, host : "host2:27118" },  
      { _id: 2, host : "host3:27118" }  
    ]  
  }  
)
```

```
sh.addShard("rs-shard-01/host1:27119")  
sh.addShard("rs-shard-01/host2:27119")  
sh.addShard("rs-shard-01/host3:27119")
```

```
sh.addShard("rs-shard-02/host1:27120")  
sh.addShard("rs-shard-02/host2:27120")  
sh.addShard("rs-shard-02/host3:27120")
```

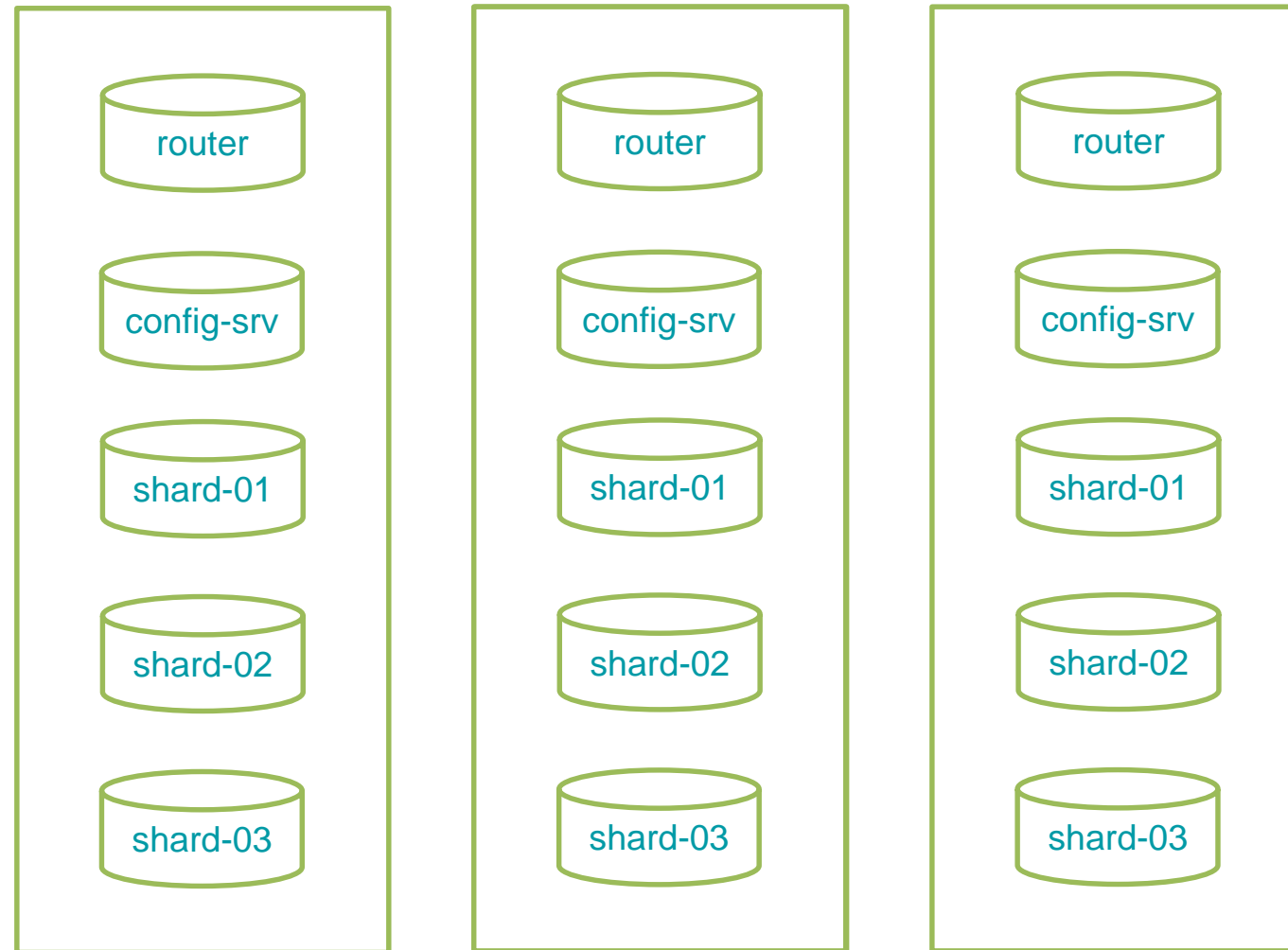
```
sh.addShard("rs-shard-03/host1:27121")  
sh.addShard("rs-shard-03/host2:27121")  
sh.addShard("rs-shard-03/host3:27121")
```

```
rs.initiate(  
  {  
    _id: "rs-shard-01",  
    version: 1,  
    members: [  
      { _id: 0, host : "host1:27119" },  
      { _id: 1, host : "host2:27119" },  
      { _id: 2, host : "host3:27119" }  
    ]  
  }  
)
```

```
rs.initiate(  
  {  
    _id: "rs-shard-02",  
    version: 1,  
    members: [  
      { _id: 0, host : "host1:27120" },  
      { _id: 1, host : "host2:27120" },  
      { _id: 2, host : "host3:27120" }  
    ]  
  }  
)
```

```
rs.initiate(  
  {  
    _id: "rs-shard-03",  
    version: 1,  
    members: [  
      { _id: 0, host : "host1:27121" },  
      { _id: 1, host : "host2:27121" },  
      { _id: 2, host : "host3:27121" }  
    ]  
  }  
)
```

ГНЕВ И ЛЕНЬ



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ОШИБКИ НОВИЧКА

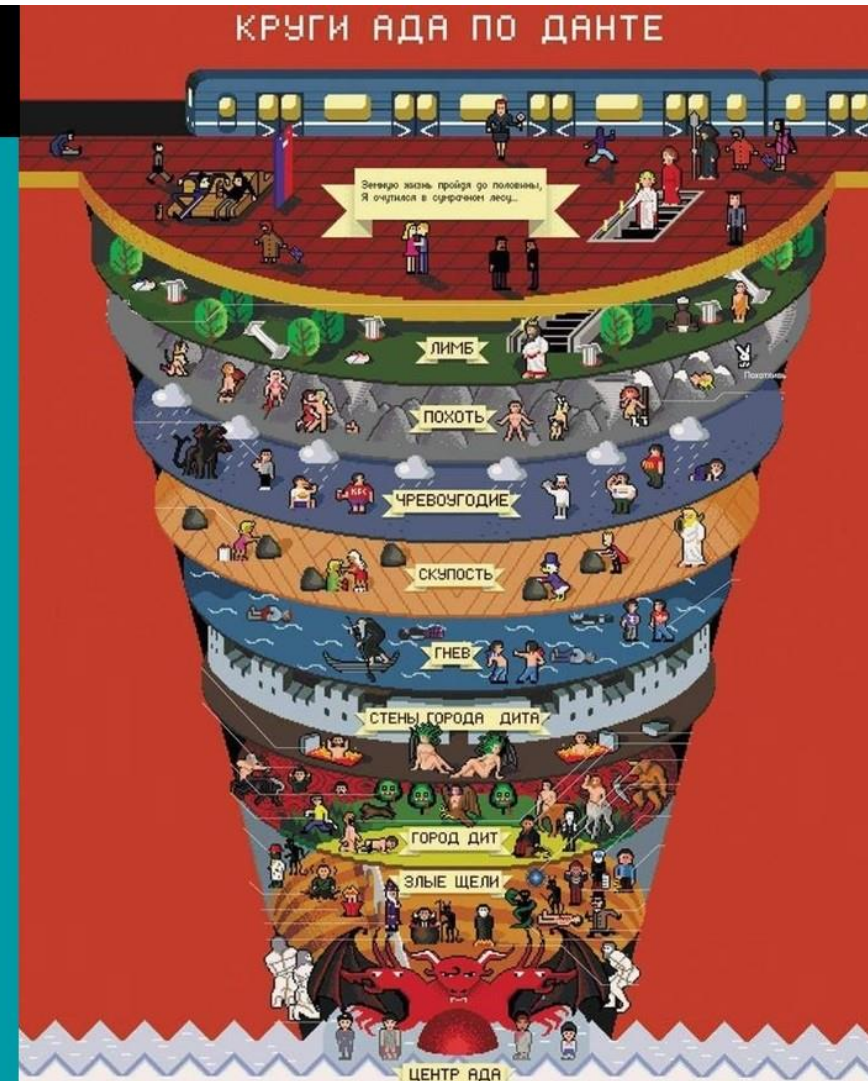
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MONGO... CLIENT

КАК С ЭТИМ РАБОТАТЬ?



COLLECTION != TABLE

РЕЛЯЦИОННЫЙ ПОДХОД

clients	
id	clientId

ur				
id	name	ogrn	kpp	phone

fiz					
id	First Name	Last Name	inn	passport	phone

```
SELECT
    phone
FROM clients AS cl
INNER JOIN (
    SELECT id, phone FROM ur
    UNION
    SELECT id, phone FROM fiz
) AS obj
ON cl.clientId = obj.id
WHERE 1 = 1
AND cl.id = 1
```

НЕРЕЛЯЦИОННЫЙ ПОДХОД

```
{  
  "id": "1",  
  "type": "ur",  
  "name": "name",  
  "documents": {  
    "ogrn": "000",  
    "oktp": "000",  
    "kpp": "000"  
  },  
  "phone": "000"  
}
```

```
{  
  "id": "1",  
  "type": "fiz",  
  "name": {  
    "firstName": "FirstName",  
    "lastName": "LastName",  
  },  
  "documents": {  
    "inn": "000",  
    "passport": "000"  
  },  
  "phone": "000"  
}
```

НЕРЕЛЯЦИОННЫЙ ПОДХОД

```
{  
  "id": "1",  
  "type": "ur",  
  "name": "name",  
  "documents": {  
    "ogrn": "000",  
    "oktp": "000",  
    "kpp": "000"  
  },  
  "phone": "000"  
}
```

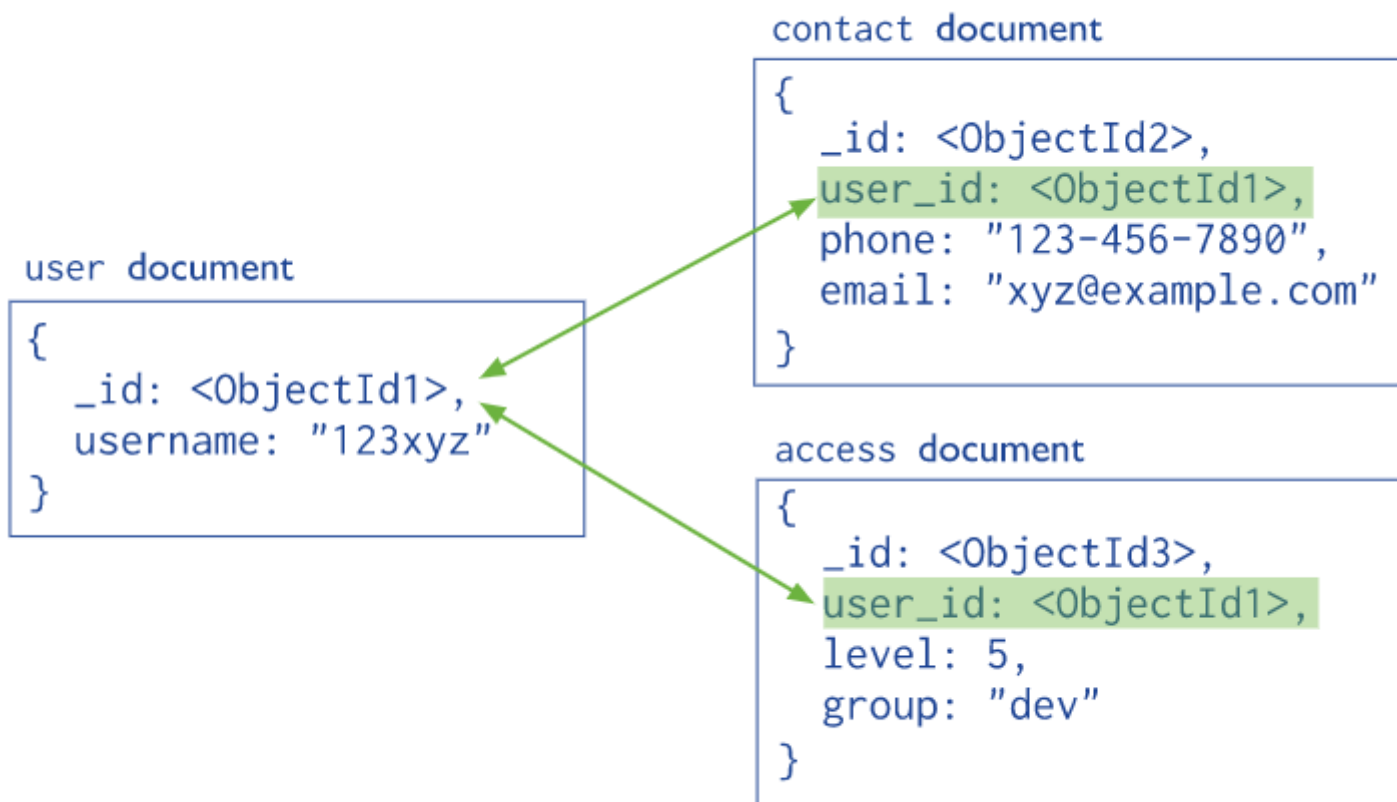
```
{  
  "id": "1",  
  "type": "fiz",  
  "name": {  
    "firstName": "FirstName",  
    "lastName": "LastName",  
  },  
  "documents": {  
    "inn": "000",  
    "passport": "000"  
  },  
  "phone": "000"  
}
```

```
db.clients.find({_id: 1});
```

```
{
  _id: <ObjectId1>,
  username: "123xyz",
  contact: {
    phone: "123-456-7890",
    email: "xyz@example.com"
  },
  access: {
    level: 5,
    group: "dev"
  }
}
```

Embedded sub-document

Embedded sub-document



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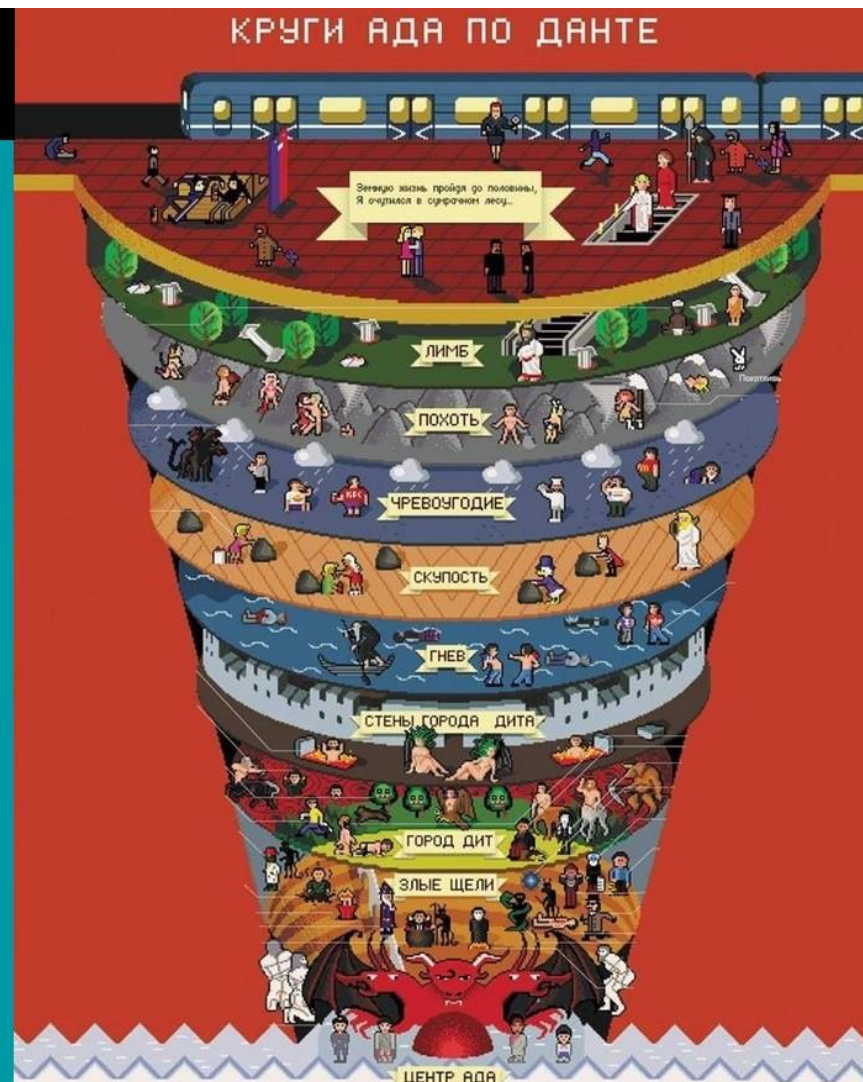
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КАК С ЭТИМ РАБОТАТЬ?



НАСИЛЬНИКИ И УБИЙЦЫ

- **16 MB per document**
- **100 lvl**
- **have no more than 64 indexes**
- **max 50 nodes on cluster**

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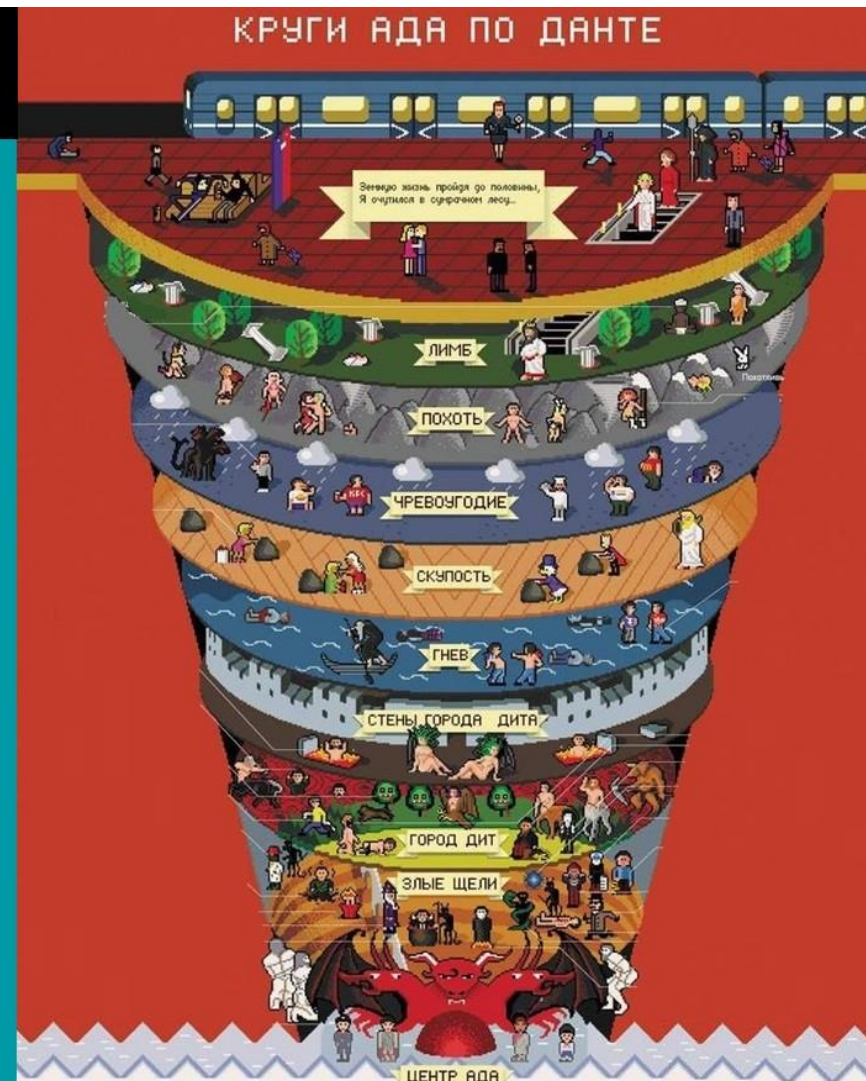
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MONGO... CLIENT

КАК С ЭТИМ РАБОТАТЬ?



```
root@mongo-standalone:/# mongo
MongoDB shell version v4.2.3
connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("1e0eb67a-941b-4e5f-8587-1e53e9450a95") }
MongoDB server version: 4.2.3
Welcome to the MongoDB shell.
For interactive help, type "help".
For more comprehensive documentation, see
  http://docs.mongodb.org/
Questions? Try the support group
  http://groups.google.com/group/mongodb-user
Server has startup warnings:
2020-03-04T12:26:10.033+0000 I STORAGE [initandlisten]
2020-03-04T12:26:10.033+0000 I STORAGE [initandlisten] ** WARNING: Using the XFS filesystem is strongly recommended with the WiredTiger storage engine
2020-03-04T12:26:10.034+0000 I STORAGE [initandlisten] ** See http://dochub.mongodb.org/core/prodnotes-filesystem
2020-03-04T12:26:11.101+0000 I CONTROL [initandlisten]
2020-03-04T12:26:11.101+0000 I CONTROL [initandlisten] ** WARNING: Access control is not enabled for the database.
2020-03-04T12:26:11.101+0000 I CONTROL [initandlisten] ** Read and write access to data and configuration is unrestricted.
2020-03-04T12:26:11.101+0000 I CONTROL [initandlisten]
---
Enable MongoDB's free cloud-based monitoring service, which will then receive and display
metrics about your deployment (disk utilization, CPU, operation statistics, etc).

The monitoring data will be available on a MongoDB website with a unique URL accessible to you
and anyone you share the URL with. MongoDB may use this information to make product
improvements and to suggest MongoDB products and deployment options to you.

To enable free monitoring, run the following command: db.enableFreeMonitoring()
To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
---
```

ОБМАНУВШИЕ НЕДОВЕРИВШИХСЯ

```
db.users.insertOne(  ← collection
{
  name: "sue",        ← field: value
  age: 26,             ← field: value
  status: "pending"   ← field: value } document
})
```

ОБМАНУВШИЕ НЕДОВЕРИВШИХСЯ

```
db.users.insertOne(  ← collection
  {
    name: "sue",      ← field: value
    age: 26,           ← field: value
    status: "pending" ← field: value } document
  )
```

```
db.users.updateMany(  ← collection
  { age: { $lt: 18 } }, ← update filter
  { $set: { status: "reject" } } ← update action
)
```

ОБМАНУВШИЕ НЕДОВЕРИВШИХСЯ

```
db.users.insertOne(
  {
    name: "sue",
    age: 26,
    status: "pending"
  }
)
```

← collection

← field: value

← field: value

← field: value } document

```
db.users.updateMany(
  { age: { $lt: 18 } },
  { $set: { status: "reject" } }
)
```

← collection

← update filter

← update action

```
db.users.find(
  { age: { $gt: 18 } },
  { name: 1, address: 1 }
).limit(5)
```

← collection

← query criteria

← projection

← cursor modifier

ОБМАНУВШИЕ НЕДОВЕРИВШИХСЯ

```
db.users.insertOne(
  {
    name: "sue",
    age: 26,
    status: "pending"
  }
)
```

← collection

← field: value } document

← field: value

← field: value

```
db.users.updateMany(
  { age: { $lt: 18 } },
  { $set: { status: "reject" } }
)
```

← collection

← update filter

← update action

```
db.users.find(
  { age: { $gt: 18 } },
  { name: 1, address: 1 }
).limit(5)
```

← collection

← query criteria

← projection

← cursor modifier

```
db.users.deleteMany(
  { status: "reject" }
)
```

← collection

← delete filter



MongoDB.Bson by: craiggwilson rstam vincentkam

↓ 19 238 414 total downloads | ⌚ last updated 24 days ago | 📦 Latest version: 2.10.2 | 🔗 mongodb mongo nosql bson
MongoDB's Official Bson Library.



MongoDB.Driver by: craiggwilson rstam vincentkam

↓ 18 046 837 total downloads | ⌚ last updated 24 days ago | 📦 Latest version: 2.10.2 | 🔗 mongodb mongo nosql
Official .NET driver for MongoDB.



MongoDB.Driver.Core by: craiggwilson rstam vincentkam

↓ 18 170 455 total downloads | ⌚ last updated 24 days ago | 📦 Latest version: 2.10.2 | 🔗 mongodb mongo nosql
Core Component of the Official MongoDB .NET Driver.



MongoDB.Driver.GridFS by: craiggwilson rstam vincentkam

↓ 1 080 376 total downloads | ⌚ last updated 24 days ago | 📦 Latest version: 2.10.2 | 🔗 mongodb mongo nosql gridfs
GridFS Component of the Official MongoDB .NET Driver.



MongoDB.Libmongocrypt by: vincentkam

↓ 621 667 total downloads | ⌚ last updated 4 months ago | 📦 Latest version: 1.0.0 | 🔗 mongodb mongo nosql
Libmongocrypt wrapper for the .NET driver.

```
public sealed class ConnectionManager : IConnectionManager
{
    public Dictionary<string, IMongoDatabase> Databases = new Dictionary<string, IMongoDatabase>();
    private readonly IMongoClient _client;

    public ConnectionManager(string connectionString)
    {
        var mongoClientSettings = MongoClientSettings.FromUrl(new MongoUrl(connectionString));
        _client = new MongoClient(mongoClientSettings);
    }

    public IMongoDatabase GetDatabase(string dbName)
    {
        if (Databases.TryGetValue(dbName, out var db)) return db;

        db = _client.GetDatabase(dbName);
        Databases.Add(dbName, db);

        return db;
    }
}
```

```
FilterDefinition<BsonDocument> filter = "{ x: 1 }";  
FilterDefinition<BsonDocument> filter = new BsonDocument("x", 1);  
  
var filter = Builders<BsonDocument>.Filter.Eq("i", 71);  
var filter = Builders<BsonDocument>.Filter.Gt("i", 50);  
  
var filterBuilder = Builders<BsonDocument>.Filter;  
var filter = filterBuilder.Gt("i", 50) & filterBuilder.Lte("i", 100);
```

СЕРИАЛИЗАЦИЯ

- **ToBsonDocument()** и **ToJson()**
- **Атрибуты**
- **Конвенции**

```
public enum GuidRepresentation
{
    /// <summary>
    /// The representation for Guids is unspecified, so conversion between
    /// Guids and Bson binary data is not possible.
    /// </summary>
    Unspecified = 0,
    /// <summary>
    /// Use the new standard representation for Guids (binary subtype 4 with bytes in network byte order).
    /// </summary>
    Standard,
    /// <summary>
    /// Use the representation used by older versions of the C# driver
    /// (including most community provided C# drivers).
    /// </summary>
    CSharpLegacy,
    /// <summary>
    /// Use the representation used by older versions of the Java driver.
    /// </summary>
    JavaLegacy,
    /// <summary>
    /// Use the representation used by older versions of the Python driver.
    /// </summary>
    PythonLegacy
}
```

```
BsonDefaults.GuidRepresentation = GuidRepresentation.Standard;
```

... И СНОВА СЕРИАЛИЗАЦИЯ



C# Driver / CSHARP-2602

JsonOutputMode.Shell should output NumberInt(12345) for int32 types

Details

Description

I'm trying to convert a BsonDocument to a JSON string that MongoDB can correctly interpret. I'm not getting the expected results. Here's my sample code to reproduce the issue:

```
public static void Main()
{
    var json = "{ \"myinteger\" : 12345 }";
    var bsonDocument = BsonDocument.Parse(json);
    if (!bsonDocument["myinteger"].IsInt32)
        throw new ApplicationException("myInteger element is not an int32");
    var settings = new JsonSerializerSettings { OutputMode = JsonOutputMode.Shell };
    var mainJson = bsonDocument.ToJson(settings);
}
```

This is just a very small part of the code that is trying to generate MongoDB commands to update a MongoDB database. What I get stored in mainJson is this:

```
{ "myinteger" : 12345 }
```

What I expected is this:

```
{ "myinteger" : NumberInt(12345) }
```

Notice that NumberInt is missing.

This is a critical difference because MongoDB will interpret the first as a floating point number and store it as a floating point number when doing a \$set, but will correctly interpret the second as an int32 and store it as an int32 when doing a \$set.

I'm using the latest official MongoDB C# NuGet driver, version 2.8.0. Is it possible I've found a bug in ToJson() or am I just missing something?

ТРАНЗАКЦИИ

- **v 4.0** – распределенные транзакции в replica set
- **v 4.2** – ACID транзакции


```
var sessionOptions = new ClientSessionOptions
{
    DefaultTransactionOptions = new TransactionOptions(
        readConcern: new Optional<ReadConcern>(ReadConcern.Local),
        writeConcern: new Optional<WriteConcern>(WriteConcern.WMajority))
};
using var session = await _mongoConnectionManager.StartSession(sessionOptions);
session.StartTransaction(transactionOptions);
// var result = do some work with mongo db using the session;
if (result.Succeeded) await session.CommitTransactionAsync();
```

```
using (var session = await client.StartSessionAsync())
{
    try
    {
        // execute async operations using the session
    }
    catch
    {
        // now Dispose on the session has nothing to do and won't block
        await session.AbortTransactionAsync();
        throw;
    }
    await session.CommitTransactionAsync();
}
```

Кто будет читать документацию?

CSHARP-2822: StartTransaction throws for Standalone and Unknown servers #389

Open tmasternak wants to merge 1 commit into mongodb:master from tmasternak:master

Conversation 0 Commits 1 Checks 0 Files changed 2 +15 -2

Changes from all commits File filter... Jump to... Review changes

CSHARP-2822: StartTransaction throws for Standalone and Unknown servers

tmasternak committed on 28 Oct 2019 commit d578adadec47ac83adb01450713e47604e806f83

```
src/MongoDB.Driver.Core/Core/Bindings/CoreSession.cs
@@ -458,7 +458,13 @@ private void EnsureTransactionsAreSupported()
458
459     foreach (var connectedDataBearingServer in connectedDataBearingServers)
460     {
461         - if (connectedDataBearingServer.Type == ServerType.ShardRouter)
462         + var serverType = connectedDataBearingServer.Type;
463         + if (serverType == ServerType.Standalone || serverType == ServerType.Unknown)
464         + {
465         +     throw new NotSupportedException("Transactions are supported only in sharded cluster of replica set deployments.");
466         + }
467         + else if (serverType == ServerType.ShardRouter)
468         {
469             Feature.ShardedTransactions.ThrowIfNotSupported(connectedDataBearingServer.Version);
470         }
```

9 КРУГОВ АДА MONGODB

ПРОДАТЬ ТЕХНОЛОГИЮ АРХИТЕКТОРУ

ПОБОРОТЬ ЖЕЛАНИЕ ИСПОЛЬЗОВАТЬ
ТЕХНОЛОГИЮ ВЕЗДЕ

ПРОСТОТА ИСПОЛЬЗОВАНИЯ

ОШИБКИ НОВИЧКА

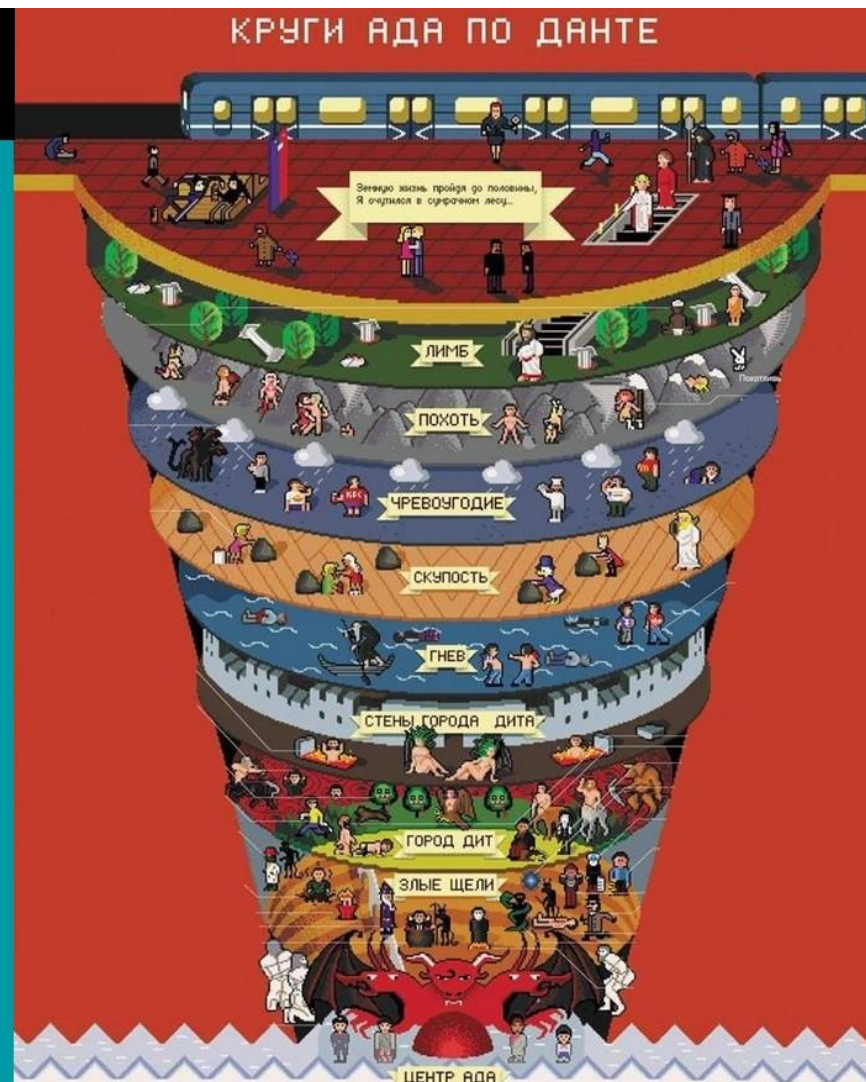
DEPLOY ИЛИ ВОЗВРАЩЕНИЕ К МАНУАЛАМ

РЕЛЯЦИОННОЕ МЫШЛЕНИЕ И ЕГО ПОСЛЕДСТВИЯ

ТРУДНОСТИ ПРОЕКТИРОВАНИЯ

MONGO... CLIENT

КАК С ЭТИМ РАБОТАТЬ?



КАК С ЭТИМ РАБОТАТЬ?

- **Mongo Compass**
- **Robo3T**

Local

4 DBS

2 COLLECTIONS

☆ FAVORITE

HOST

localhost:27017

CLUSTER

Standalone

EDITION

MongoDB 4.2.3 Community

Filter your data

> admin

> config

> local

+

Databases Performance

CREATE DATABASE

Database Name ^	Storage Size	Collections	Indexes	
admin	4.1KB	0	1	
config	4.1KB	0	2	
local	4.1KB	1	1	

Local

4 DBS 2 COLLECTIONS

☆ FAVORITE

HOST

localhost:27017

CLUSTER

Standalone

EDITION

MongoDB 4.2.3 Community

Q Filter your data

> admin

> config

▼ local

startup_log ...

local.startup_log

Documents

local.startup_log

Documents

Aggregations

Schema

Explain Plan

Indexes

Validation

FILTER

OPTIONS

FIND

RESET

...

ADD DATA



VIEW



Displaying documents 1 - 1 of 1



REFRESH

```
{
  "_id": "mongo-standalone-1583922448949",
  "hostname": "mongo-standalone",
  "startTime": 2020-03-11T10:27:28.000+00:00,
  "startTimeLocal": "Wed Mar 11 10:27:28.949",
  "cmdLine": Object,
  "net": Object,
  "bindIp": "",
  "pid": 1,
  "buildInfo": Object,
  "version": "4.2.3",
  "gitVersion": "6874650b362138df74be53d366bbefc321ea32d4",
  "modules": Array,
  "allocator": "tcmalloc",
  "javascriptEngine": "mozjs",
  "sysInfo": "deprecated",
  "versionArray": Array,
  "openssl": Object,
  "buildEnvironment": Object,
  "distmod": "ubuntu1804",
  "distarch": "x86_64",
  "cc": "/opt/mongodbtoolchain/v3/bin/gcc: gcc (GCC) 8.2.0",
  "ccflags": "-fno-omit-frame-pointer -fno-strict-aliasing -ggdb -pthread -Wall -Wsi...",
  "cxx": "/opt/mongodbtoolchain/v3/bin/g++: g++ (GCC) 8.2.0",
  "cxxflags": "-Woverloaded-virtual -Wno-maybe-uninitialized -fsized-deallocation -st...",
  "linkflags": "-pthread -Wl,-z,now -rdynamic -Wl,--fatal-warnings -fstack-protector-s...",
  "target_arch": "x86_64",
  "target_os": "linux",
  "bits": 64,
  "debug": false,
  "maxBsonObjectSize": 16777216,
  "storageEngines": Array
}
```

Local

4 DBS 2 COLLECTIONS

☆ FAVORITE

HOST
localhost:27017

CLUSTER
Standalone

EDITION
MongoDB 4.2.3 Community

Q Filter your data

- > admin
- > config
- > local
- startup_log

local.startup_log Explain Plan

local.startup_log

DOCUMENTS 1 TOTAL SIZE 1.5KB AVG. SIZE 1.5KB INDEXES 1 TOTAL SIZE 20.0KB AVG. SIZE 20.0KB

Documents Aggregations Schema **Explain Plan** Indexes Validation

FILTER [{"buildinfo.buildEnvironment.distmod":"ubuntu1804"}]

OPTIONS

EXPLAIN

RESET

...

VIEW DETAILS AS VISUAL TREE RAW JSON

Query Performance Summary

Documents Returned: 1

Actual Query Execution Time (ms): 0

Index Keys Examined: 0

Sorted in Memory: no

Documents Examined: 1

No index available for this query.

COLLSCAN

nReturned: 1

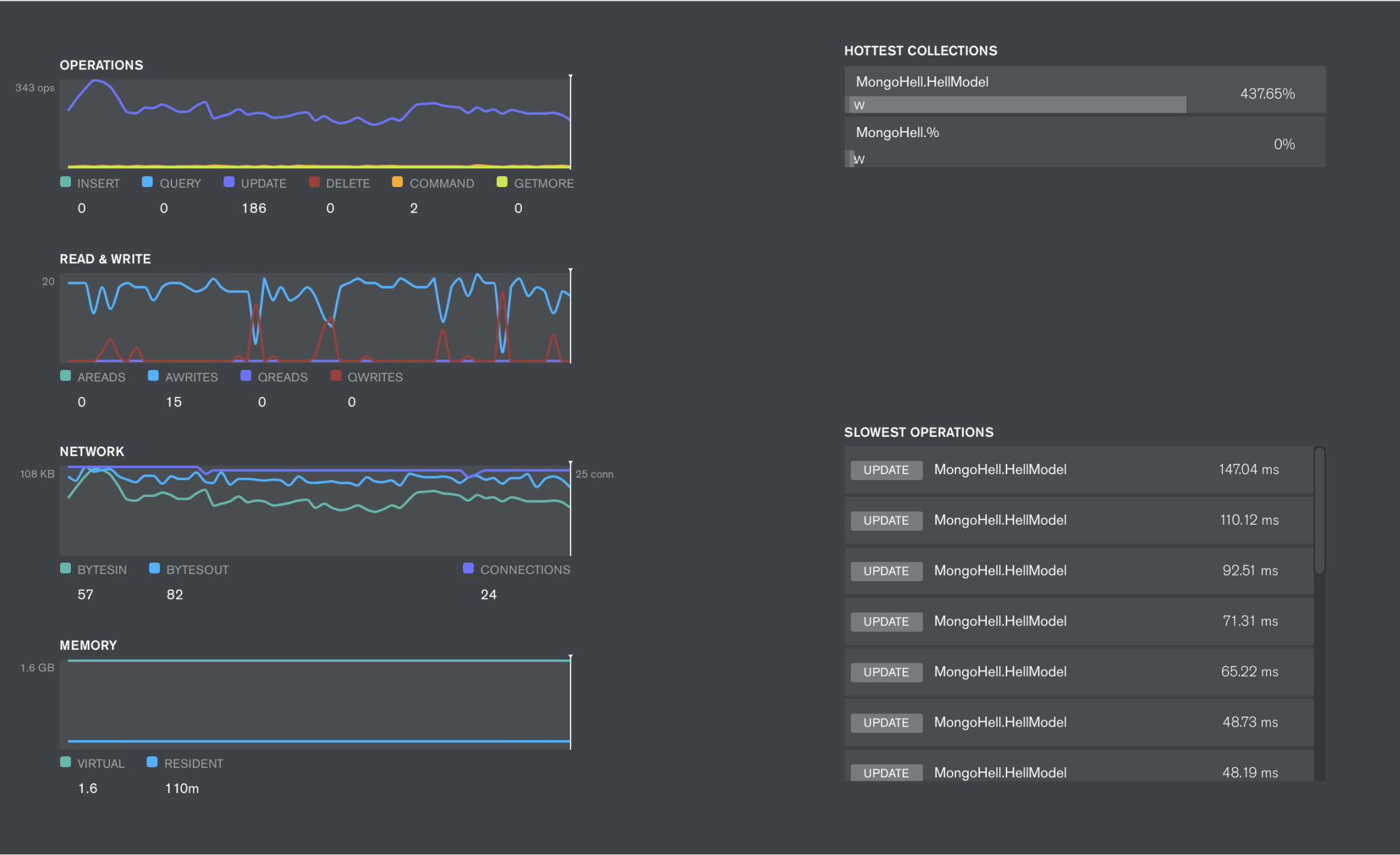
Execution Time:



Documents Examined: 1

DETAILS

```
{
  "stage": "COLLSCAN",
  "filter": {
    "buildinfo.buildEnvironment.distmod": {
      "$eq": "ubuntu1804"
    }
  },
  "nReturned": 1,
  "executionTimeMillisEstimate": 0,
  "works": 3,
  "advanced": 1,
  "needTime": 1,
  "needYield": 0,
  "saveState": 0,
  "restoreState": 0,
  "isEOF": 1,
  "direction": "forward",
  "docsExamined": 1
}
```

Robo 3T - 1.3

FileViewOptionsWindowHelp

New Connection (3)

System

admin

Collections

Functions

Users

local

Collections (1)

startup_log

Functions

Users

config

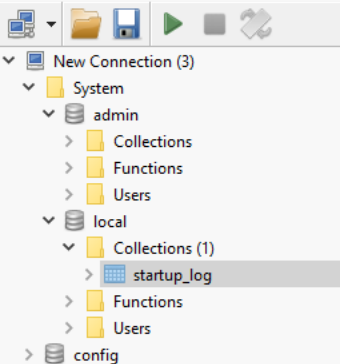
db.getCollection('startup_log').find({})

startup_log0.003 sec.

050

Key	Value	Type
(1) mongo-standalone-1583922448949	{ 7 fields }	Object
_id	mongo-standalone-1583922448949	String
hostname	mongo-standalone	String
startTime	2020-03-11 10:27:28.000Z	Date
startTimeLocal	Wed Mar 11 10:27:28.949	String
cmdLine	{ 1 field }	Object
net	{ 1 field }	Object
bindIp	*	String
pid	1	Int64
buildinfo	{ 13 fields }	Object
version	4.2.3	String
gitVersion	6874650b362138df74be53d366bbefc321ea32d4	String
modules	[0 elements]	Array
allocator	tcmalloc	String
javascriptEngine	mozjs	String
sysInfo	deprecated	String
versionArray	[4 elements]	Array
openssl	{ 2 fields }	Object
buildEnvironment	{ 9 fields }	Object
distmod	ubuntu1804	String
distarch	x86_64	String
cc	/opt/mongodbtoolchain/v3/bin/gcc: gcc (GCC) 8.2.0	String
ccflags	-fno-omit-frame-pointer -fno-strict-aliasing -ggdb -pthread -Wall -Wsign-compare -Wno-unknown-...	String
cxx	/opt/mongodbtoolchain/v3/bin/g++: g++ (GCC) 8.2.0	String
cxxflags	-Woverloaded-virtual -Wno-maybe-uninitialized -fsized-deallocation -std=c++17	String
linkflags	-pthread -Wl,-z,now -rdynamic -Wl,--fatal-warnings -fstack-protector-strong -fuse-lld=gold -Wl,--bui...	String
target_arch	x86_64	String
target_os	linux	String
bits	64	Int32
debug	false	Boolean
maxBsonObjectSize	16777216	Int32
storageEngines	[4 elements]	Array

Logs



db.getCollection("startup_log").find({})

startup_log 0.003 sec.

Key	Value
(1) mongo-standalone-1583922448949	{ 7 fields }
_id	mongo-standalone-1583922448949
hostname	mongo-standalone
startTime	2020-03-11 10:27:28.000Z
startTimeLocal	Wed Mar 11 10:27:28.949
cmdLine	{ 1 field }
net	{ 1 field }
bindIp	*
pid	1
buildinfo	{ 13 fields }
version	4.2.3
gitVersion	6874650b362138df74be53d366bfe321ea32d4
modules	[0 elements]
allocator	tcmmalloc
javascriptEngine	mozjs
sysInfo	deprecated
versionArray	[4 elements]
openssl	{ 2 fields }
buildEnvironment	{ 9 fields }
distmod	ubuntu1804
distarch	x86_64
cc	/opt/mongodbtoolchain/v3/bin/gcc: gcc (GCC) 8.2.0,
cflags	-fno-omit-frame-pointer -fno-strict-aliasing -ggdb -pthread -Wall -Wsign-compare
cxx	/opt/mongodbtoolchain/v3/bin/g++: g++ (GCC) 8.2.0,
cxxflags	-Wno-overloaded-virtual -Wno-maybe-uninitialized -fsized-deallocation -std=c++17,
linkflags	-pthread -Wl,-z,now -rdynamic -Wl,--fatal-warnings -fstack-protector-strong
target_arch	x86_64
target_os	linux
bits	64
debug	false
maxBsonObjectSize	16777216
storageEngines	[4 elements]

```
{
  "_id" : "mongo-standalone-1583922448949",
  "hostname" : "mongo-standalone",
  "startTime" : ISODate("2020-03-11T10:27:28.000Z"),
  "startTimeLocal" : "Wed Mar 11 10:27:28.949",
  "cmdLine" : {
    "net" : {
      "bindIp" : "*"
    }
  },
  "pid" : NumberLong(1),
  "buildinfo" : {
    "version" : "4.2.3",
    "gitVersion" : "6874650b362138df74be53d366bfe321ea32d4",
    "modules" : [],
    "allocator" : "tcmmalloc",
    "javascriptEngine" : "mozjs",
    "sysInfo" : "deprecated",
    "versionArray" : [
      4,
      2,
      3,
      0
    ],
    "openssl" : {
      "running" : "OpenSSL 1.1.1 11 Sep 2018",
      "compiled" : "OpenSSL 1.1.1 11 Sep 2018"
    },
    "buildEnvironment" : {
      "distmod" : "ubuntu1804",
      "distarch" : "x86_64",
      "cc" : "/opt/mongodbtoolchain/v3/bin/gcc: gcc (GCC) 8.2.0",
      "cflags" : "-fno-omit-frame-pointer -fno-strict-aliasing -ggdb -pthread -Wall -Wsign-compare -Wno-unknown-pragmas -Wno-invalid-pch -Werror -O2 -Wno-unused-local-typedefs -Wno-unused-function -Wno-deprecated-declarations -Wno-unused-const-variable -Wno-unused-but-set-variable -Wno-missing-braces -fstack-protector-strong -fno-builtin-memcmp",
      "cxx" : "/opt/mongodbtoolchain/v3/bin/g++: g++ (GCC) 8.2.0",
      "cxxflags" : "-Wno-overloaded-virtual -Wno-maybe-uninitialized -fsized-deallocation -std=c++17",
      "linkflags" : "-pthread -Wl,-z,now -rdynamic -Wl,--fatal-warnings -fstack-protector-strong -fuse-lld=gold -Wl,--build-id -Wl,--hash-style=gnu -Wl,-z,now-execstack -Wl,--warn-execstack -Wl,-z,relro",
      "target_arch" : "x86_64",
      "target_os" : "linux"
    },
    "bits" : 64,
    "debug" : false,
    "maxBsonObjectSize" : 16777216,
    "storageEngines" : [
      "biggie",
      "devnull",
      "ephemeralForTest",
      "wiredTiger"
    ]
  },
}
```

ДОРОГА В РАЙ

- **Отказоустойчивость**
- **Производительность**
- **Хорошая (иногда) документированность**

Q&A

MongoDB:

<https://en.wikipedia.org/wiki/MongoDB>

<https://jira.mongodb.org/>

<https://github.com/mongodb/>

<https://docs.mongodb.com/>

<https://www.mongodb.com/>

Доклад:

<https://github.com/daredever/MongoHell/>



@rowcount



@daredever