

JavaCro24

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**Insane fast CRUD-Backend-Services
with Java & EclipseStore**

What is the best car?



It depends...





What do you need?

A woman with dark curly hair is sitting at a desk in a library, looking at her smartphone. She is wearing a white turtleneck and black boots. The desk has several books on it. On either side of the desk are long rows of wooden bookshelves filled with books. The lighting is soft and focused on the woman. The background shows a window with a painting of a cityscape.

What is the best database for Java?




A green off-road vehicle, possibly a Land Rover, is stuck in a muddy, overgrown path. The vehicle is partially submerged in mud and is surrounded by dense green foliage. The scene is dimly lit, with a bright light source creating a lens flare effect on the right side of the vehicle. The overall mood is one of being stuck or lost in a difficult situation.

**Java has no native
database incarnation.**

...no roads to happiness...

Let's talk about the 3 pains:

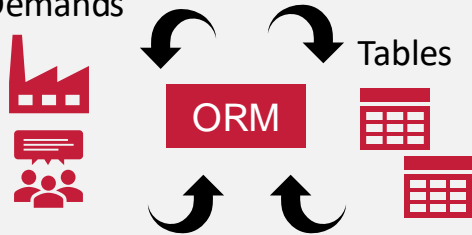


-  **Modelling**
-  **Data Types**
-  **Queries**

MODELLING PAINS: Java and ALL Database systems are incompatible

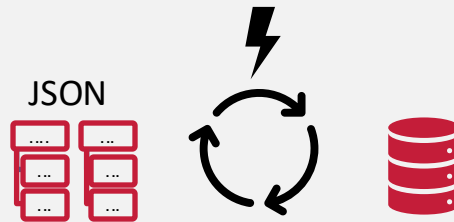
Force Business in 2-dim model

Business Demands



Business doesn't speak relational

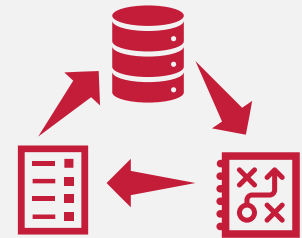
Pain with JSON modeling



JSON doesn't speak Business

Developers get stuck with data

data creation

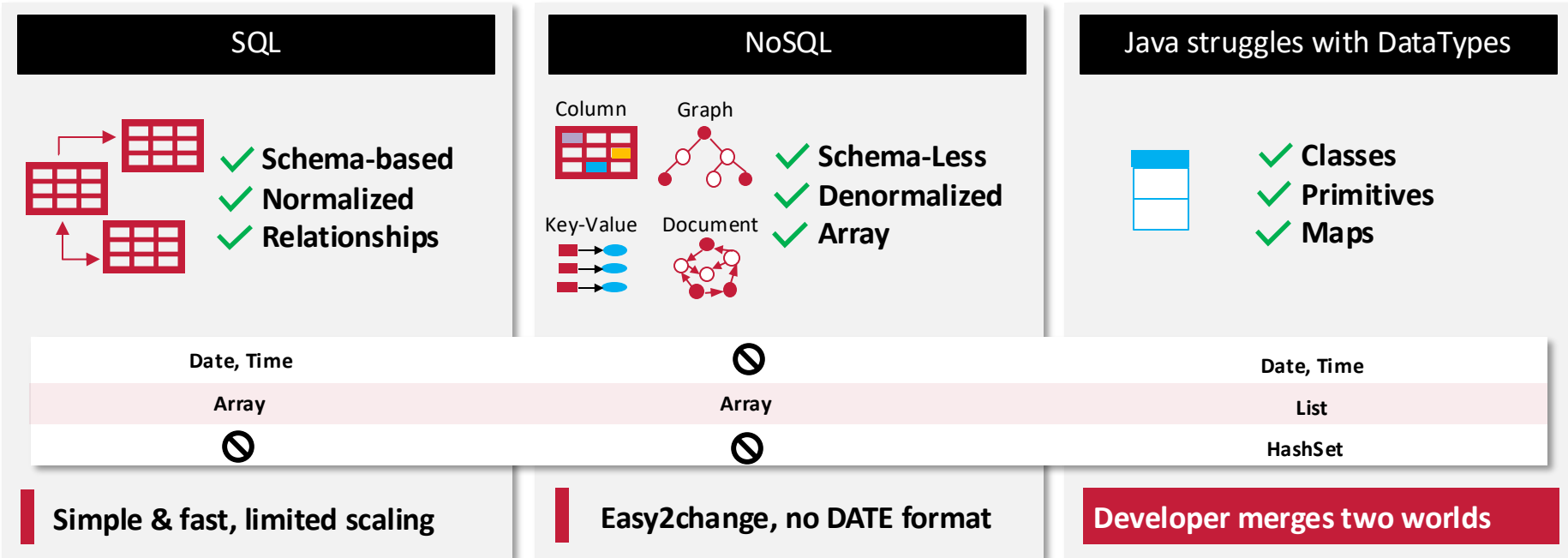


selection +
transaction

manipulation

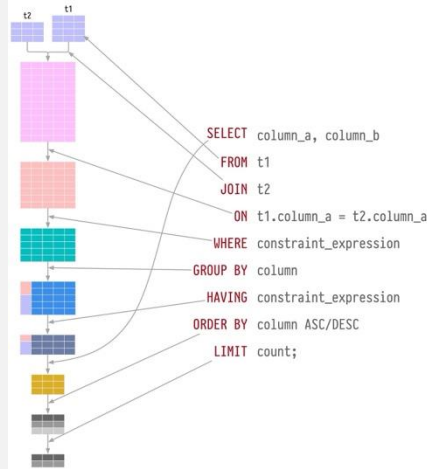
Fake it, till it works

DataType PAIN: Java and Databases Data Types are not identical



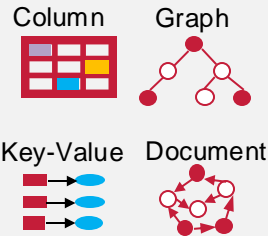
Queries PAIN: Finding and parsing objects in Java is different in comparison to Databases

SQL



Dedicated Query language

NoSQL (JSON)



```
>db.transport.find({$and:
[{'Max_speed':{'gt':200}},{'Brand:
{'$eq':'BMW'}}]}.sort())
```

Multiple Query methods

Java struggles with Queries

Navigation through object tree
using Java

```
list.stream()
.filter(e -> e.equals("foo"))
.findFirst();
```

Data changes through direct **object**
manipulation

```
customer.setEmail("miroslav.gr
gic@og-cs.com");
```

Use Java methods on Objects!

A glowing lightbulb is centered within a large, hand-drawn thought bubble on a dark chalkboard background. The text 'How to find the right database?' is written in white, bold, sans-serif font across the middle of the lightbulb and thought bubble. Several smaller, empty thought bubbles are scattered around the main one. A vertical red bar is visible on the far left edge of the image.

How to find the right database?



**„Start with the
customer and work
backwards to the
technology.“**


- Steve Jobs

Domain Driven Design works

The customer knows its business and describes it his way.



DDD supports us to stay in customer's wording/domain/world.

A sunset over the ocean with a red vertical bar on the left side. The sun is a bright yellow circle in the upper right, casting a glow over the water. The water is dark blue with white-capped waves in the foreground. The sky transitions from orange near the horizon to a pale yellow at the top.

Make architecture decision as late as possible.

EclipseStore



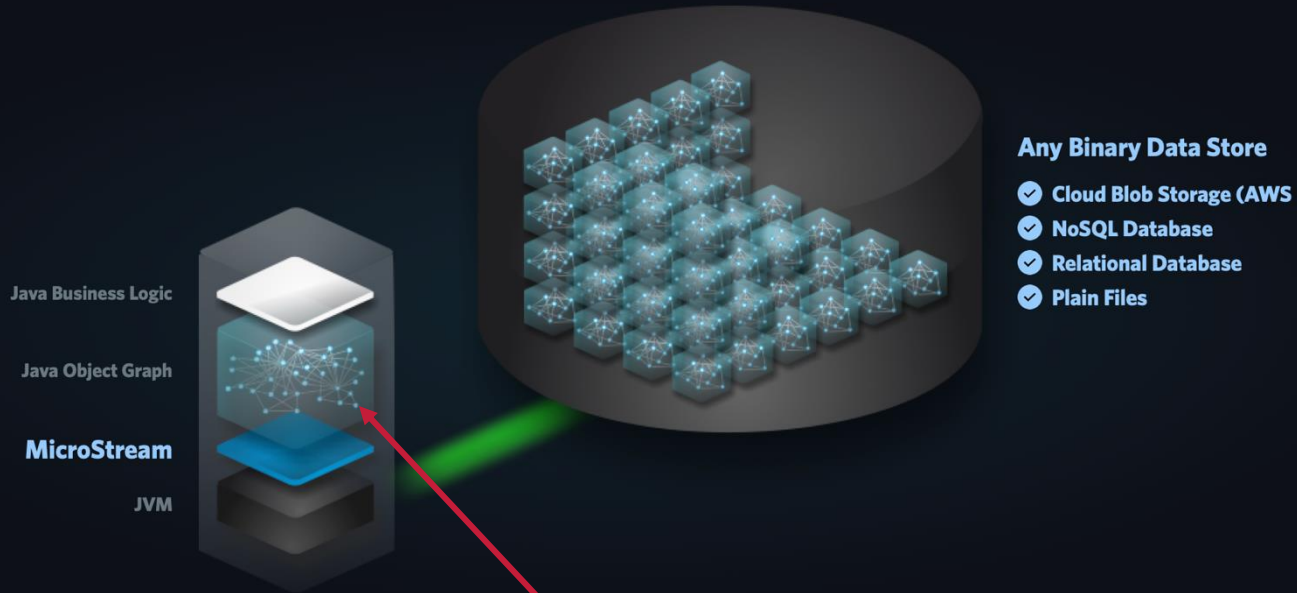
EclipseStore

A Persistence Framework for Java.

Database included!

Java Objects in Object Graphs.

A schematic view of the Framework



The Object Graph is kept In-Memory!

Advantages of the EclipseStore



- ✓ **Large Queries take ms -> 1000x faster**
- ✓ **Cloud cost reduction - Blob Storage!**
- ✓ **Higher Productivity as Java Native**



Let's (look into) code

Summary

We can model. It feels natural and like real world.

**We do best Java, not SQL. We can filter, sort, map, ...using
Vanilla Java.**

We can test every business case in unit tests.

EclipseStore topics to know

Framework knowledge required

Lazy/Eager processing

Segmentation of databases files

Clustering requires licensed version

A scenic sunset over a rocky coastline. The sky is filled with dark, dramatic clouds, some of which are illuminated from below by the setting sun, creating a mix of deep blues, purples, and oranges. The sun is low on the horizon, its golden light reflecting on the calm water. In the foreground, large, dark, jagged rocks protrude from the water, leading the eye towards the horizon. The overall mood is serene and majestic. The text "What is the best island?" is centered in a large, white, sans-serif font.

What is the best island?

Go out into the world and
preach, preach, preach...

ROVINJ



<https://og-cs.hr/miroslav-grgic/>

