

Workshop

Building an Event Sourced System
with Event Modeling and CQRS

Workshop Overview

- Event Modeling
- CQRS
- Event Sourcing
- Model->Code->Model Lifecycle

Event Modeling

Event Storming

Tool to gain shared understanding if the problem space and/or solution space.

Flavours:

- Big Picture (problem space)
- **Process Modeling (solution space)**
- Software Modeling (solution space)

Process Modeling with stickies



Event Sourcing

Model the things we care about (behaviour) - *stop CRUD!*

Events are first class citizens (`UserWasRegistered({lastname: "Gemmell"})`)

Stored in an append-only database (past events are immutable)

Event Store is source of truth

State is generated by “playing back” events

How do you query an Event Store?

E.g. `SELECT * FROM users WHERE lastname = "Gemmell";`

CQRS

Command Query Responsibility Segregation

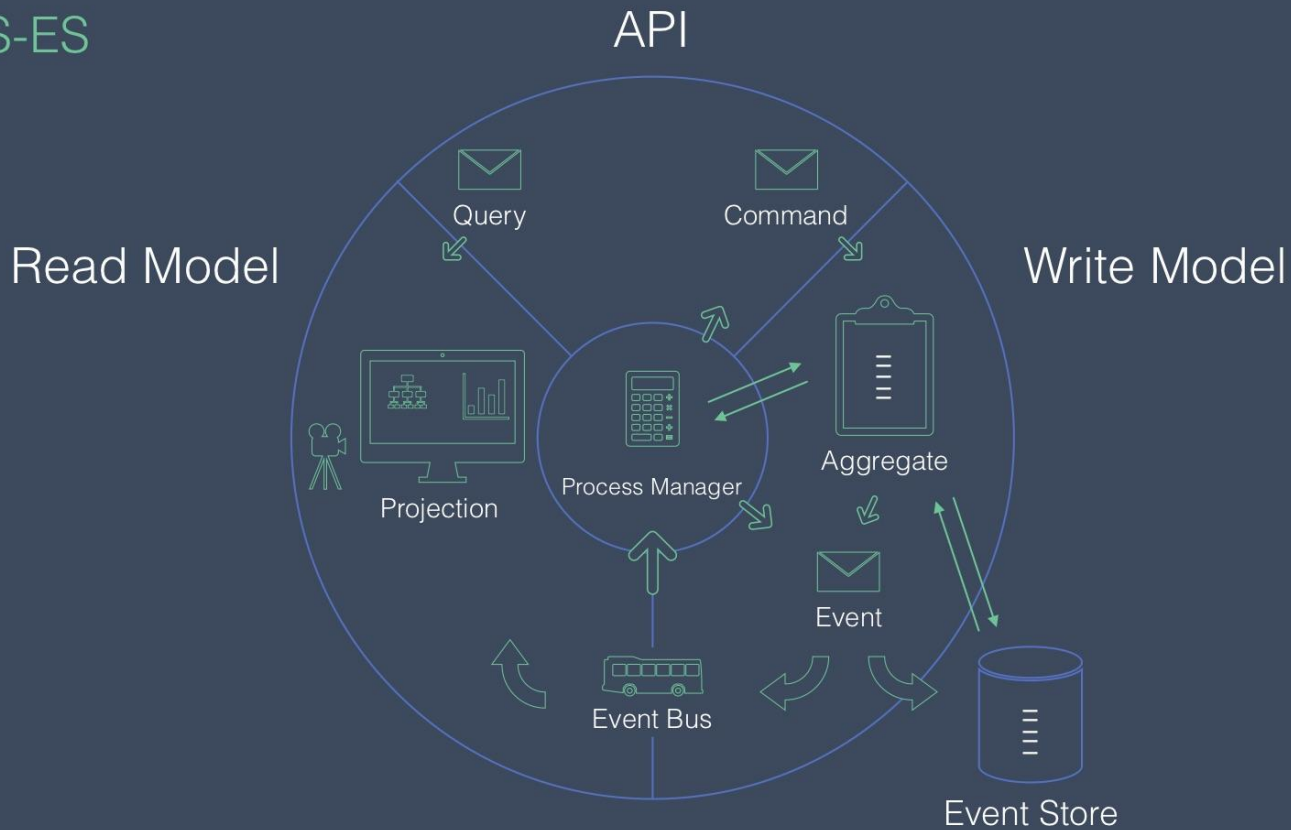
Write Model

Read Models

Optimize for both

Solves the Event Sourcing query problem via projections

CQRS-ES

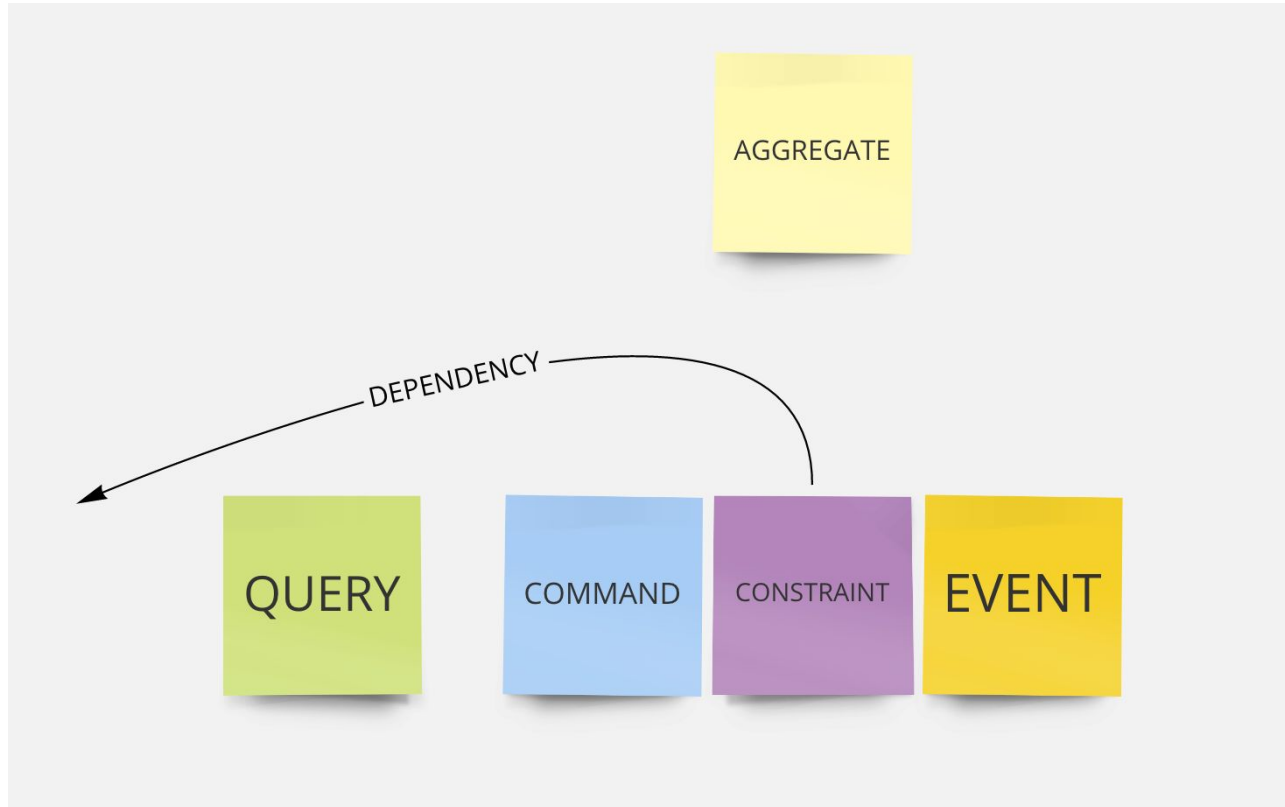


Interactive Time!

Practice Event Modeling



Process Modeling



Behavio(u)r Driven Development

Model behaviour with Commands and Events

Tests are easy!

Gherkin

BDD + TDD = Bestest Driven Development™

- Model behaviour
- Write your tests
- Make the tests pass by implementing the code
- ...
- Profit

Interactive Time!

Bestest Driven Development™

Wrap Up

Bestest Driven Development™

- Model Behaviour (problem space -> solution space)
- Involve experts (collaborate)
- CQRS + ES (solution architecture)
- Easy to write tests
- Easy to understand code
- Change isn't scary anymore

Questions?

Feedback welcome!

alex.gemmell@patientpop.com

