

Event Sourcing

From The Ground Up

Ravi Selker & Sebastiaan Zeeff

EuroPython 2024





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Sopra Steria / Ordina Pythoneers
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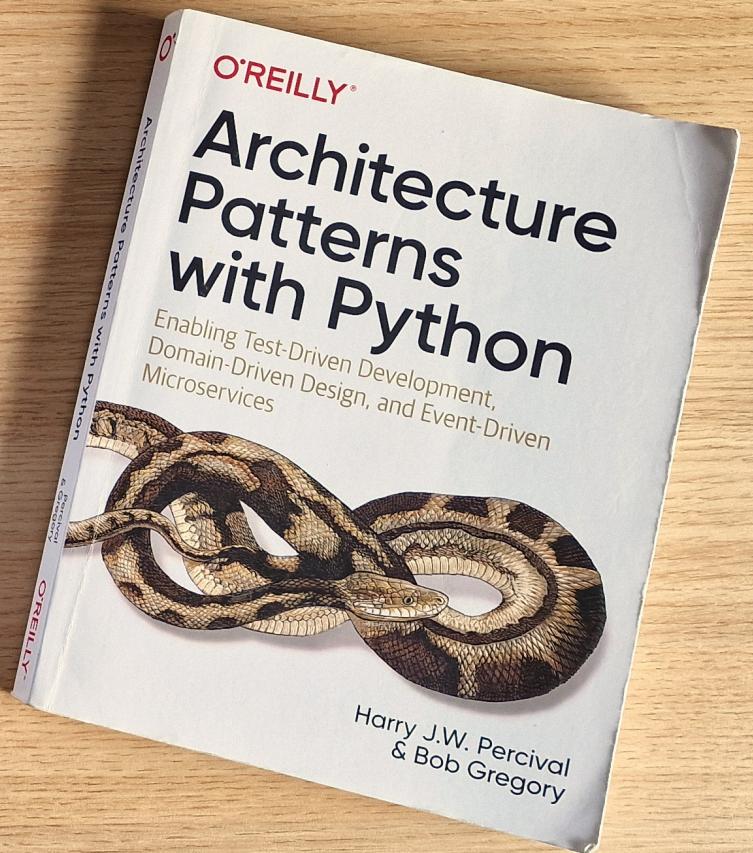
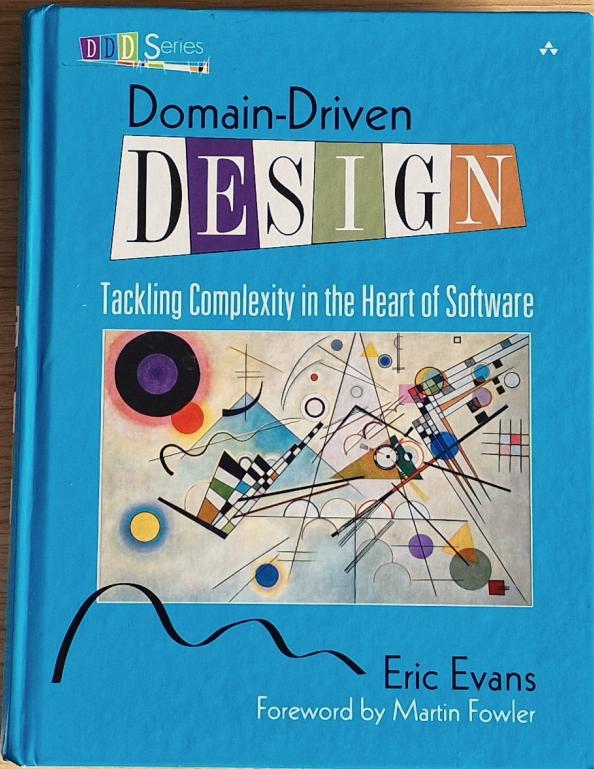
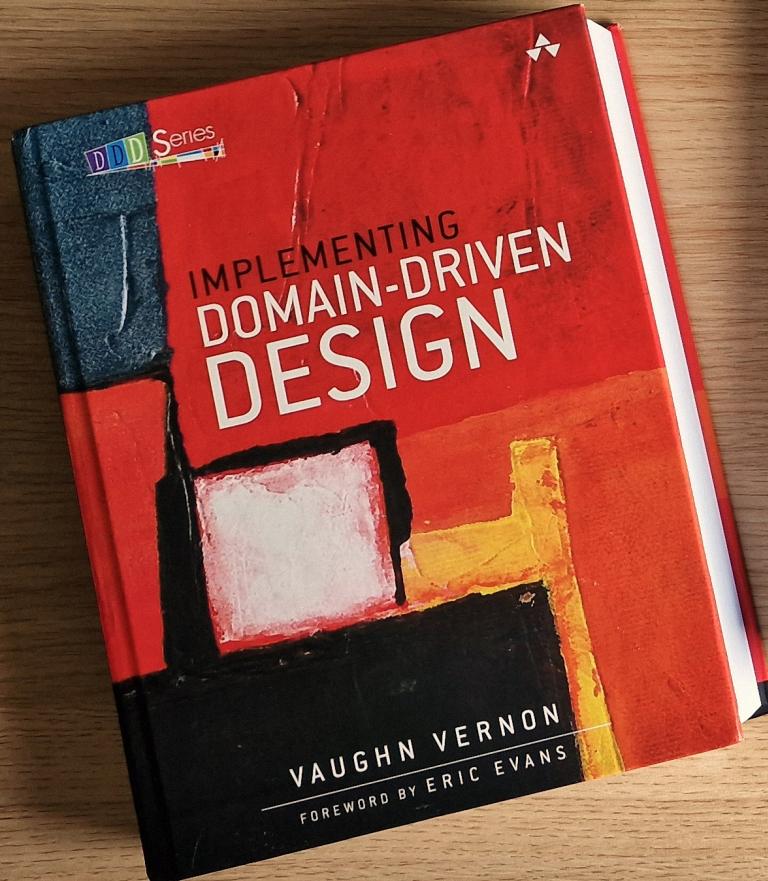
Sebastiaan Zeeff

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 Pythoneers
 ORDINA

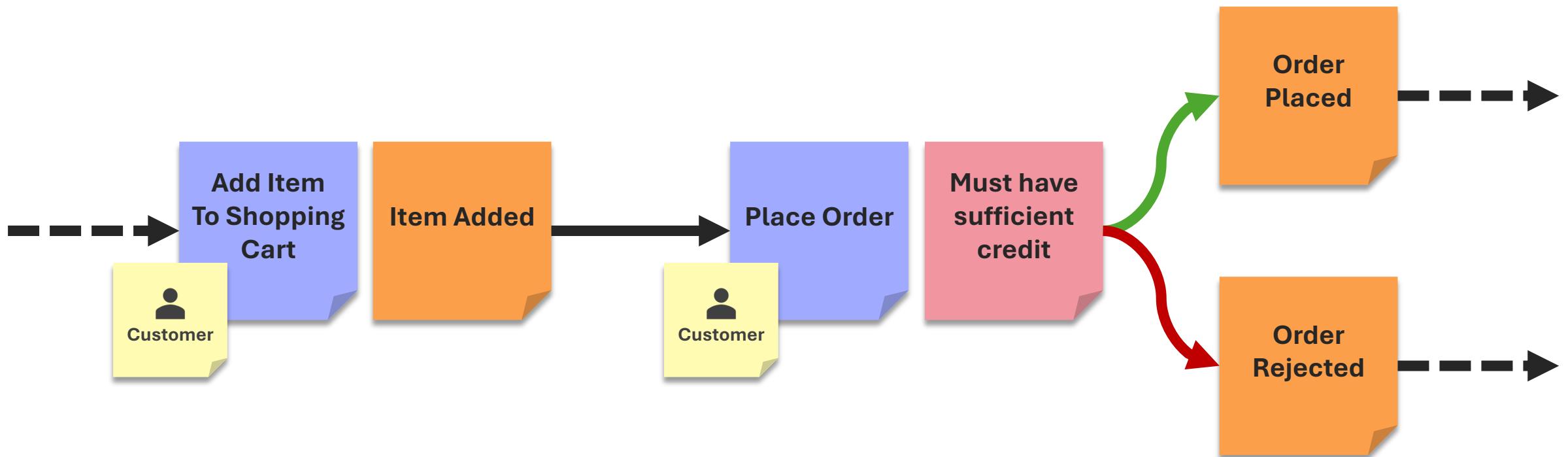
Domain-Driven Design



Domain Model

```
1 @attrs.define
2 class Order:
3     id: OrderId
4     order_lines: list[LineItem]
5
6     def add_order_line(self, sku: str, price: float, quantity: int) -> None:
7         line_item = LineItem(sku=sku, price=price, quantity=quantity)
8         self.order_lines.append(line_item)
9
10    def remove_order_line(self, item_id: str) -> None:
11        ...
```

Events & State



From The Ground Up

- We're not going to use packages for the event-sourcing logic
 - No magic abstractions that hide the principles and techniques
- We will use packages for other things
 - E.g., we will use the EventStoreDB-client for persistence logic
- The focus of the tutorial is Event Sourcing
 - Other parts of the app provide support, but may be (over-)simplified

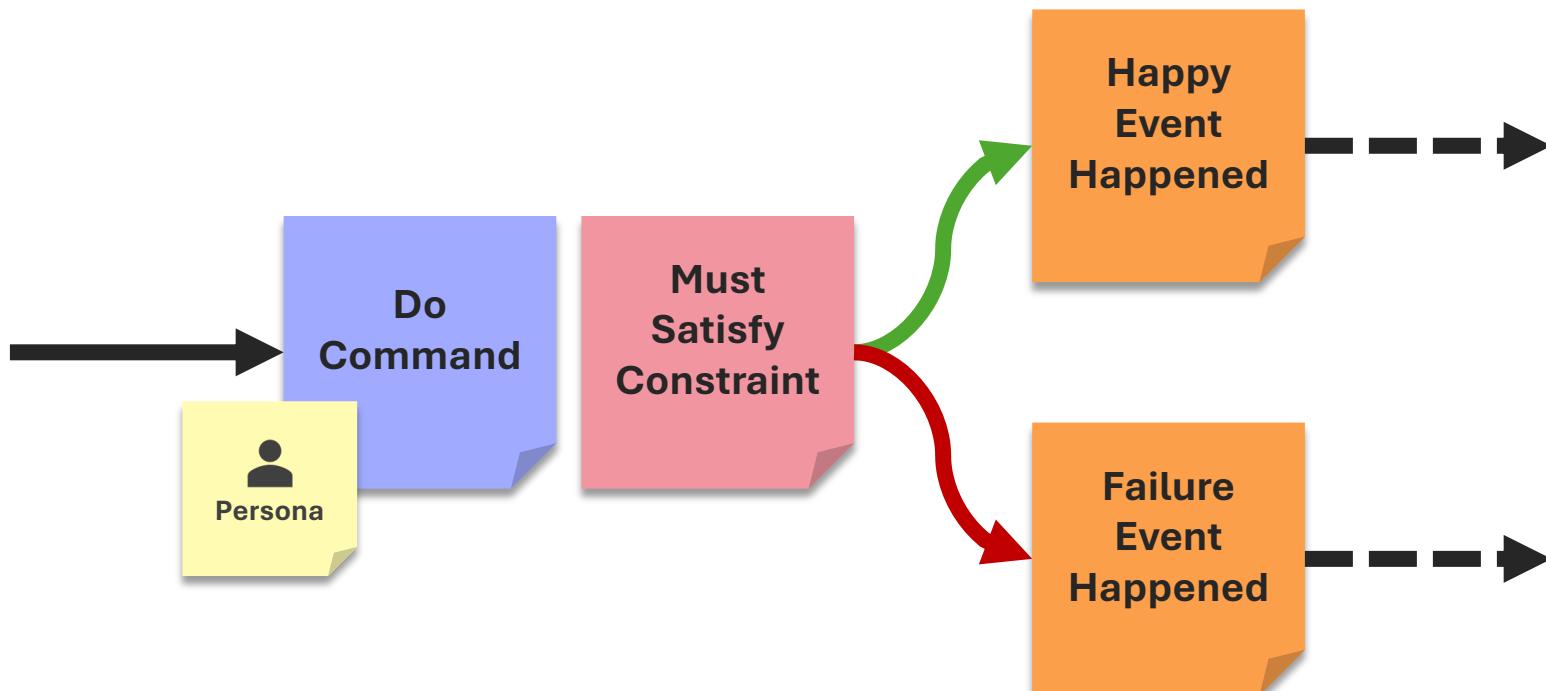


Time	Duration	Topic
09:30 – 09:45	15 min.	Introduction
09:45 – 10:15	30 min.	Event Storming (simplified)
10:15 – 10:50	35 min.	Exercise 1: Starting The Game
10:50 – 11:00	10 min.	Discussion Exercise 1 + Questions

11:00 – Coffee Break (15 min.)

11:15 – 11:50	35 min.	Exercise 2: Playing The Game
11:50 – 12:00	10 min.	Solution Exercise 2 & Introduction Exercise 3
12:00 – 12:30	30 min.	Exercise 3: Persisting The Game
12:30 – 12:45	15 min.	Solution Exercise 3 + Closing Discussion

Event Storming



Exercise Repository

- URL: <https://github.com/Ordina-Group/python-event-sourcing-tutorial>
- The README contains information about setting up the project
- The **exercises/** directory contains the exercises
- There's a git branch for each exercise to provide a common starting point
- There's a solution branch for each exercise with an example solution
 - We kindly ask you to attempt the exercises without looking at our solution... 😊

Exercise 1: Starting The Game

- Switch to branch **01-exercise-start-game**
- Follow the exercise at **exercises/exercise-01-start-game.md**
- We'll discuss our solution at **10:50**
- **Feel free to ask questions**



Coffee Break until 11:15

Exercise 2: Playing The Game

- Switch to branch **02-exercise-play-the-game**
- Follow the exercise at **exercises/exercise-02-play-the-game.md**
- We'll discuss our solution at **11:50**
- **Feel free to ask questions**

Exercise 3: Persisting Events

- Switch to branch **03-exercise-persisting-the-events**
- Follow the exercise at **exercises/exercise-03-persisting-the-events.md**
- We'll discuss our solution at **12:30**
- **Feel free to ask questions**

Closing Discussion

- When to use Event Sourcing?
- Snapshots
- Command Query Responsibility Segregation
- Mind Your Concurrency
- Event Sourcing Python Package: <https://pypi.org/project/eventsourcing/>

First Edition

PyCon NL

When?

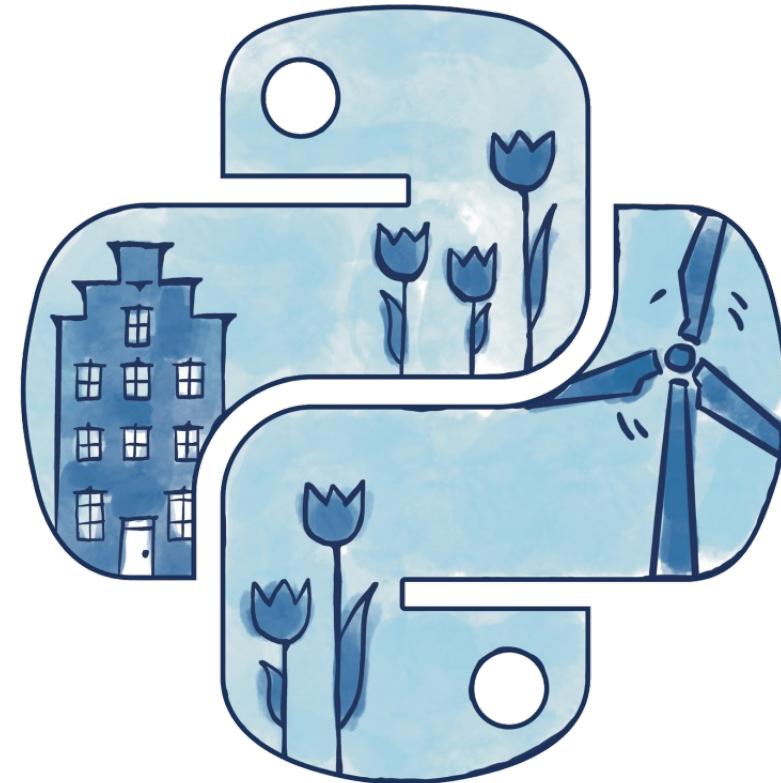
October 10th, 2024

Where?

Utrecht, The Netherlands

Call for Proposals?

Closing July 31st



<https://pycon-nl.org>

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