

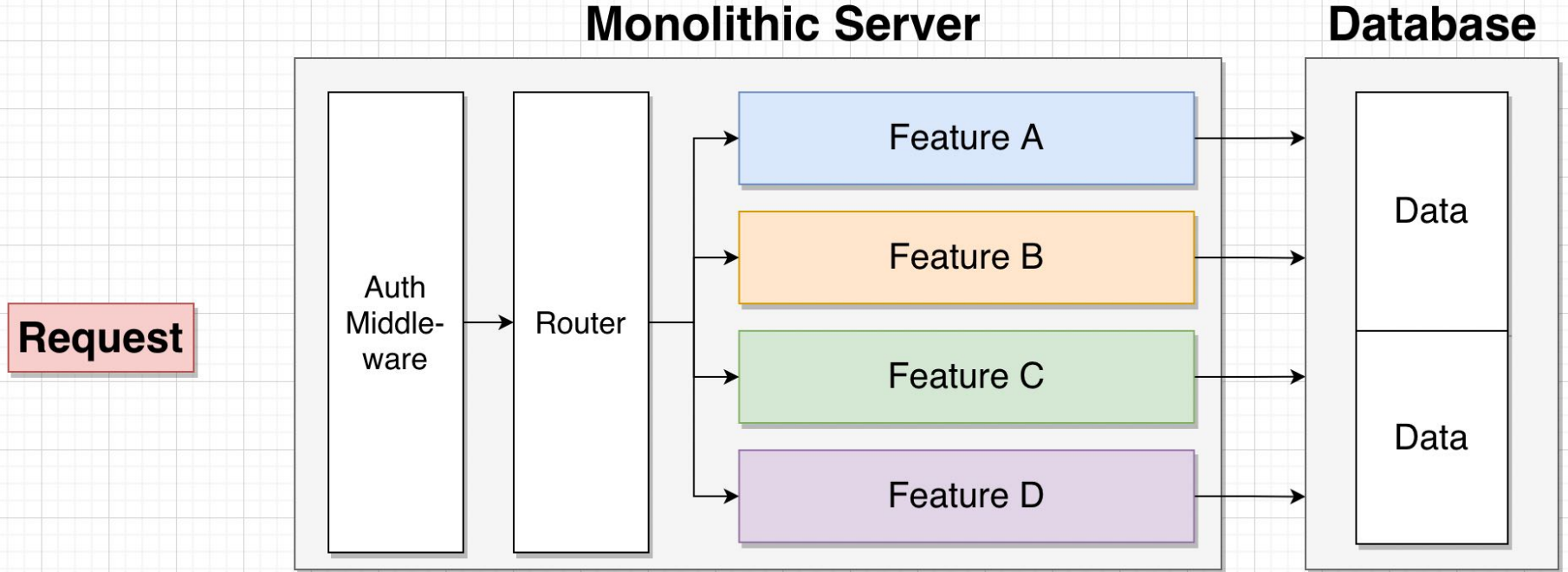
Microservices

Yet another introduction

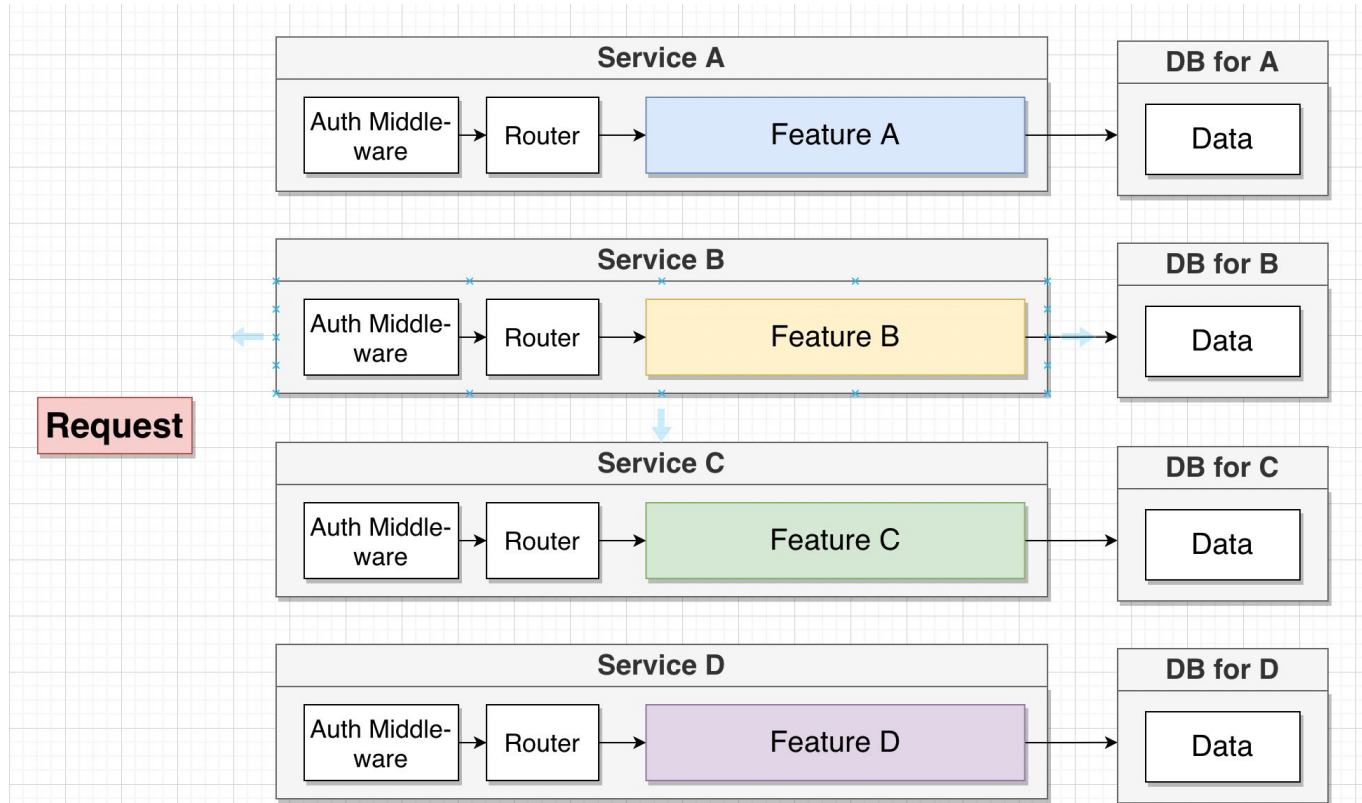
Timeline

- **Overview of Microservice architecture**
- The first implementation of microservices application
- Pros and Cons of Microservice architecture

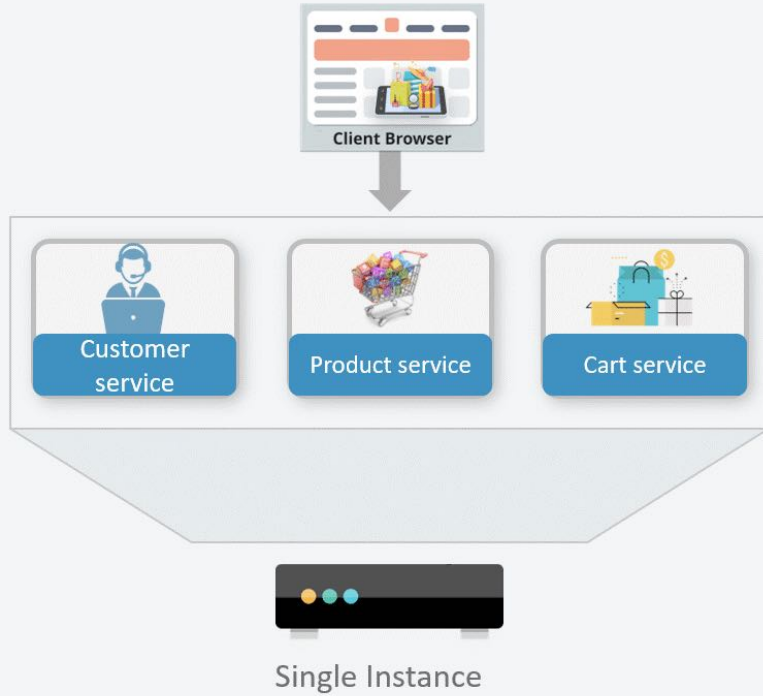
Monolithic architecture



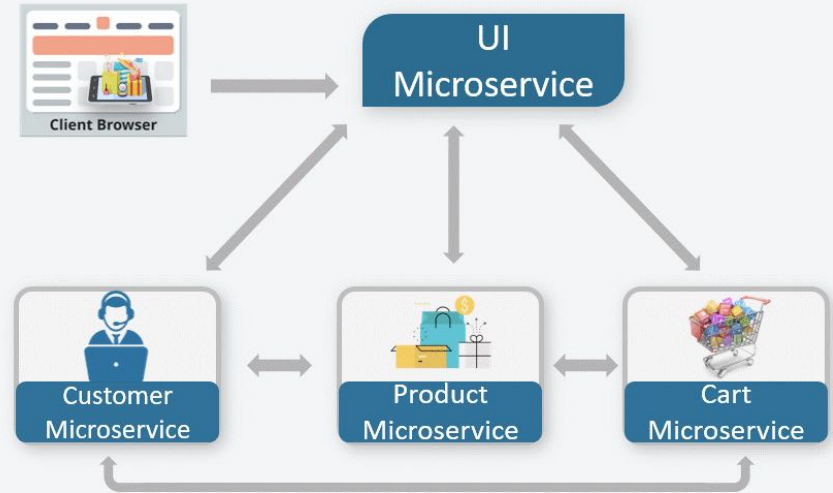
Microservices architecture

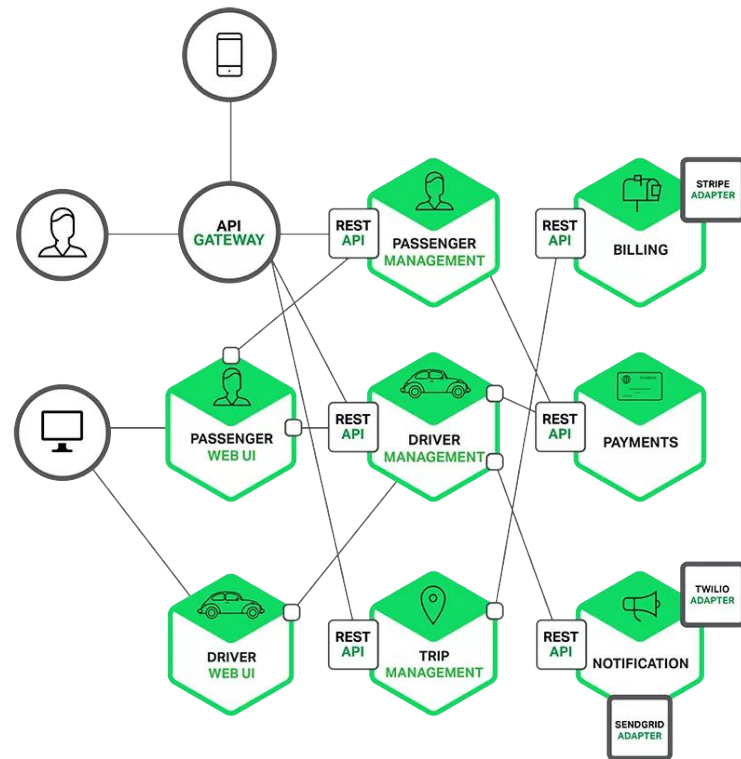
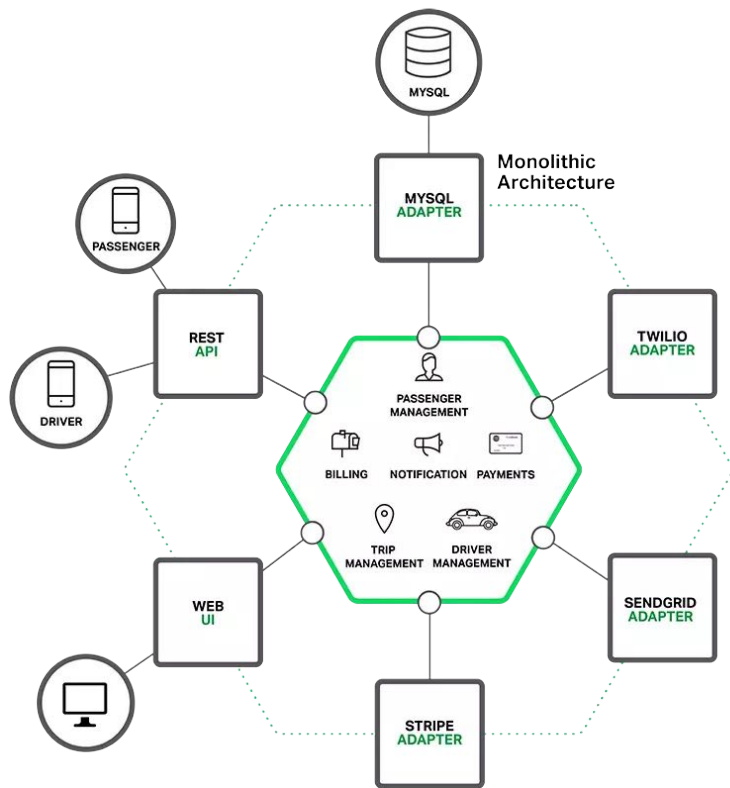


Monolithic Architecture



Microservice Architecture





Timeline

- Overview of Microservice architecture
- **The first implementation of microservices application**
- Pros and Cons of Microservice architecture

Our first application

Page 1

← → ↺ https://www.draw.io

GitTixSign UpSign In

Tickets For Sale
[Basketball Game - \\$20](#)
[Classical Concert - \\$100](#)
[Rock Concert - \\$100](#)
[Football Game - \\$40](#)

Page 1

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GitTixSign UpSign In

Sign Up
Email

Password

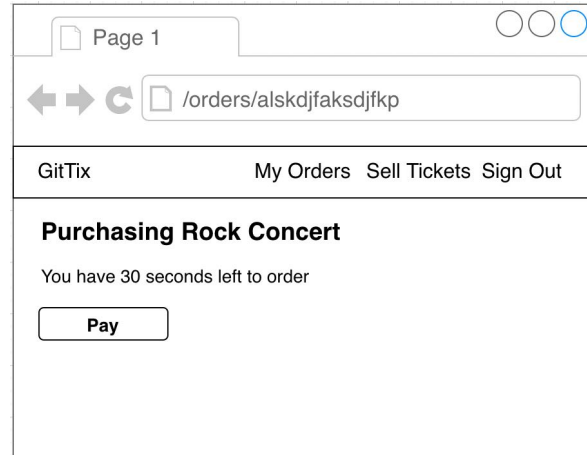
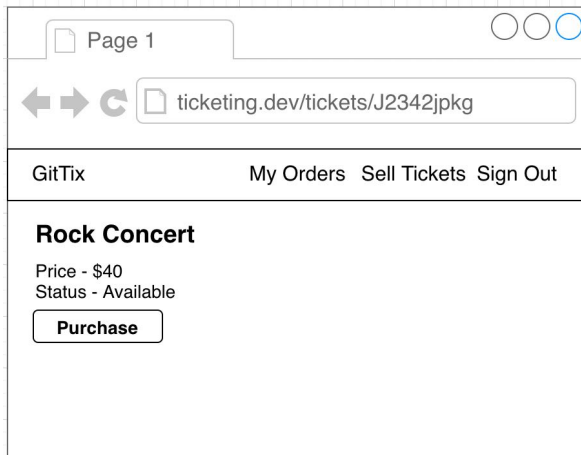
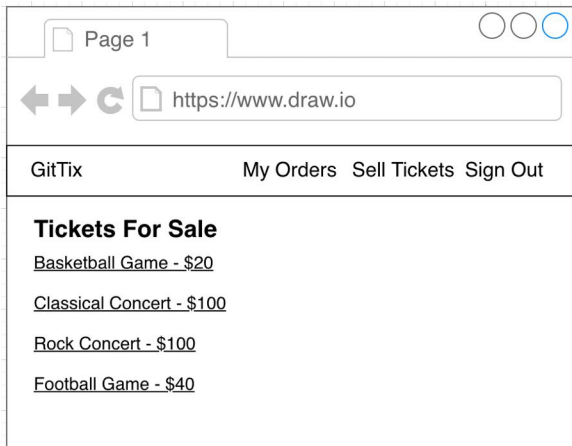
Page 1

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Password



Our first application

Page 1

← → ↺

/orders/alskdjfkdsjfkp

GitTixMy OrdersSell TicketsSign Out

Purchasing Rock Concert

You have 30 seconds left to order

Pay

Page 1

← → ↺

https://www.draw.io

GitTixMy OrdersSell TicketsSign Out

Purchasing F

You have 30 seconds

Pay

Credit Card

Expiration

Submit

Page 1

← → ↺

/tickets/new

GitTixMy OrdersSell TicketsSign Out

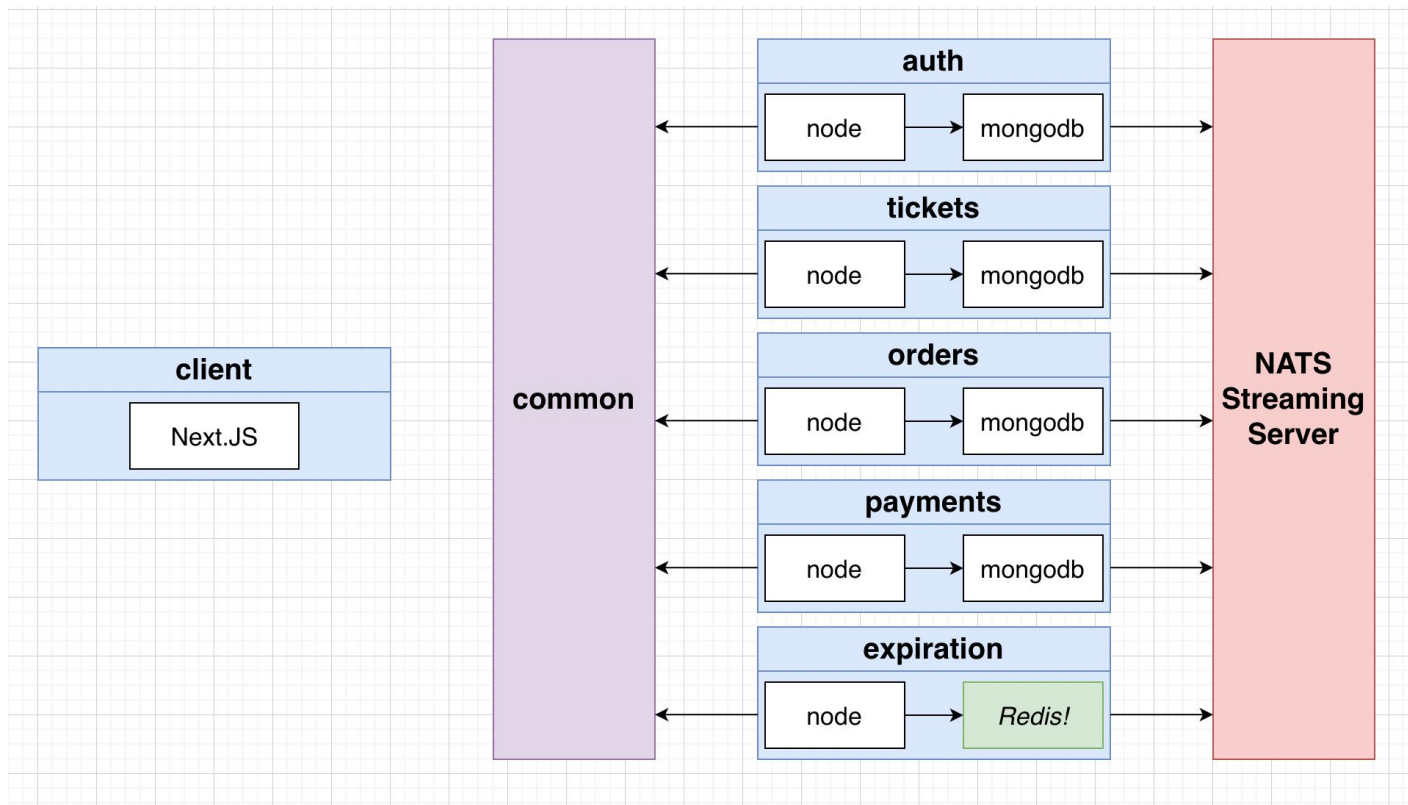
Create a Ticket

Title

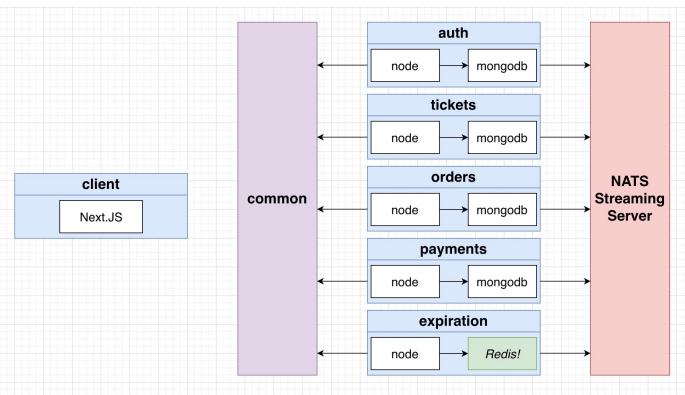
Price

Submit

The architecture



The architecture



Services

auth

Everything related to user
signup/signin/signout

tickets

Ticket creation/editing. Knows whether a
ticket can be updated

orders

Order creation/editing

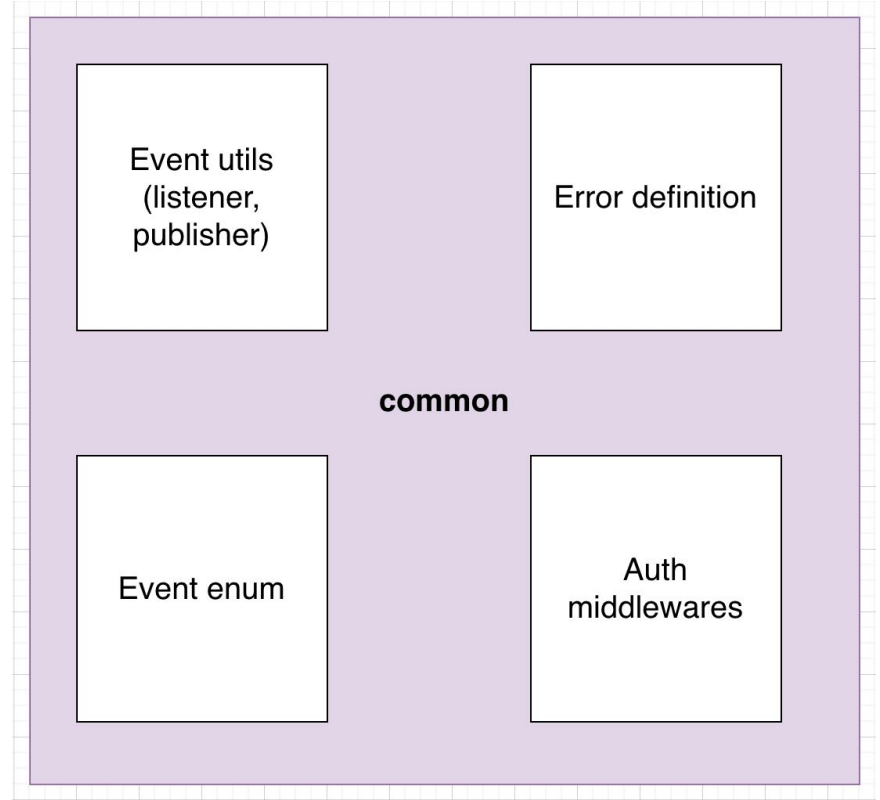
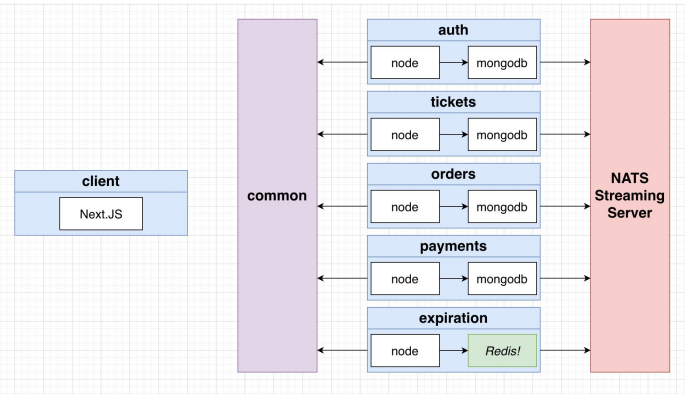
expiration

Watches for orders to be created,
cancels them after 15 minutes

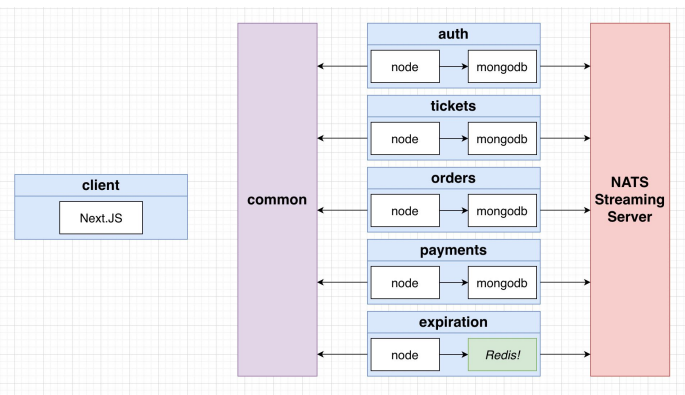
payments

Handles credit card payments. Cancels orders if
payments fails, completes if payment succeeds

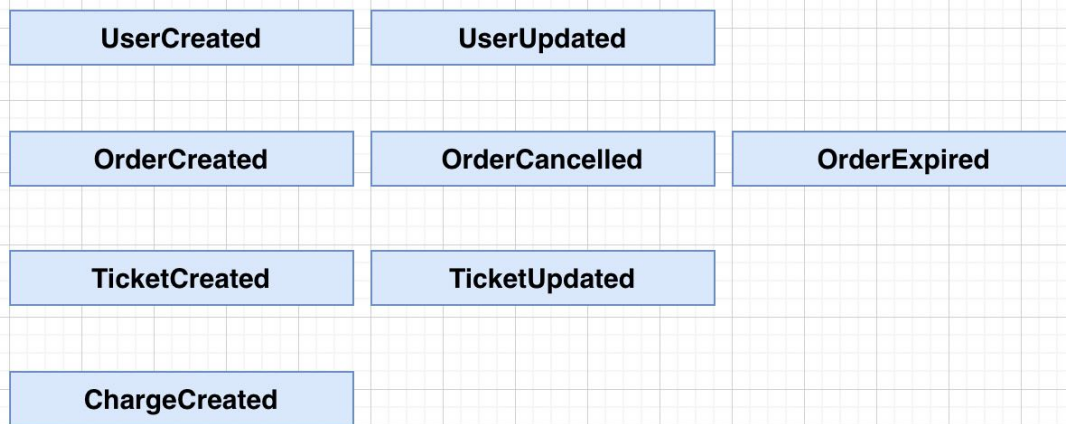
The architecture



The architecture

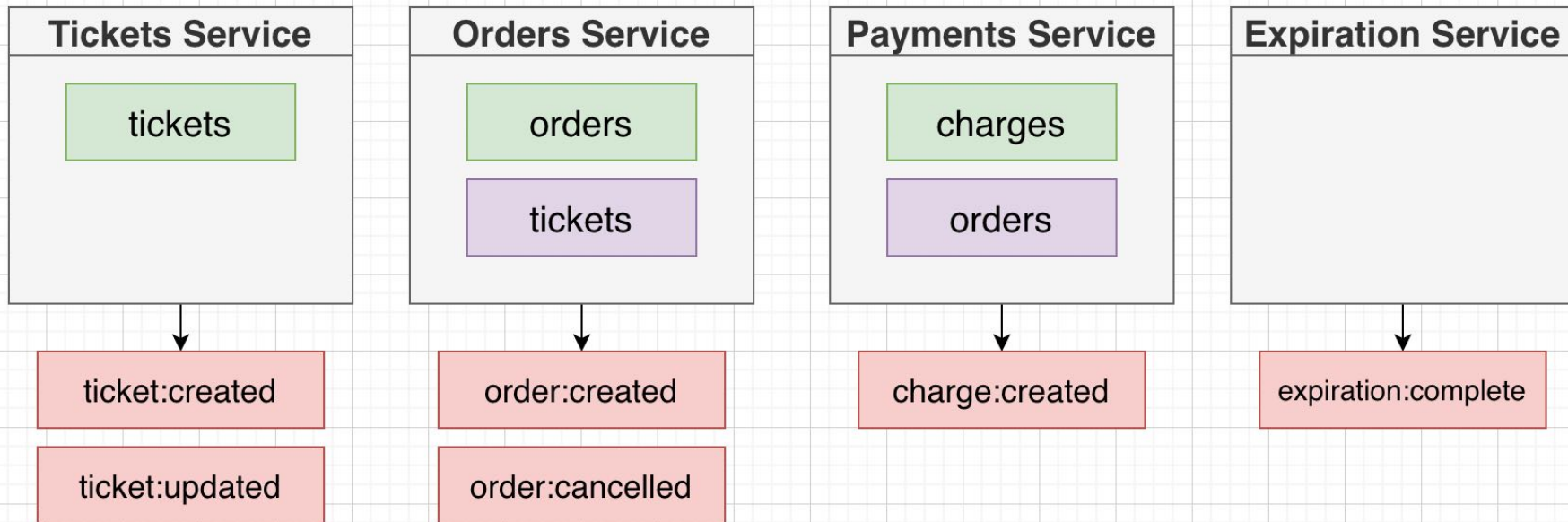


Events



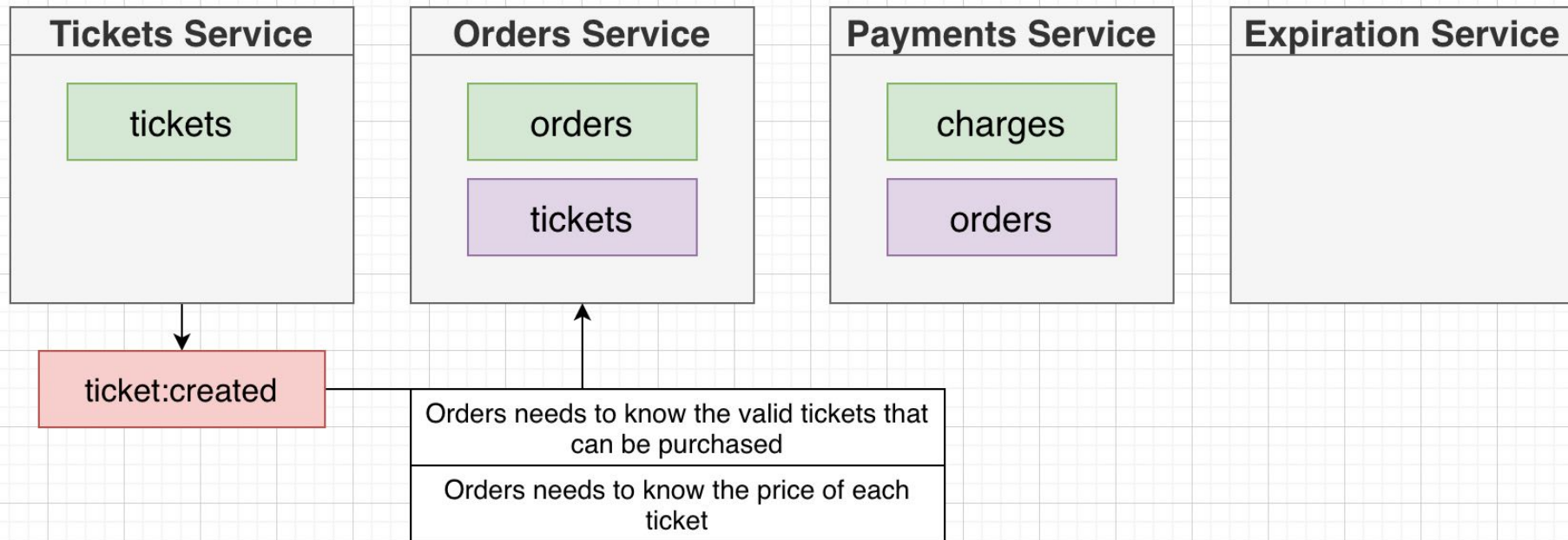
The architecture

Events Published by Each Service



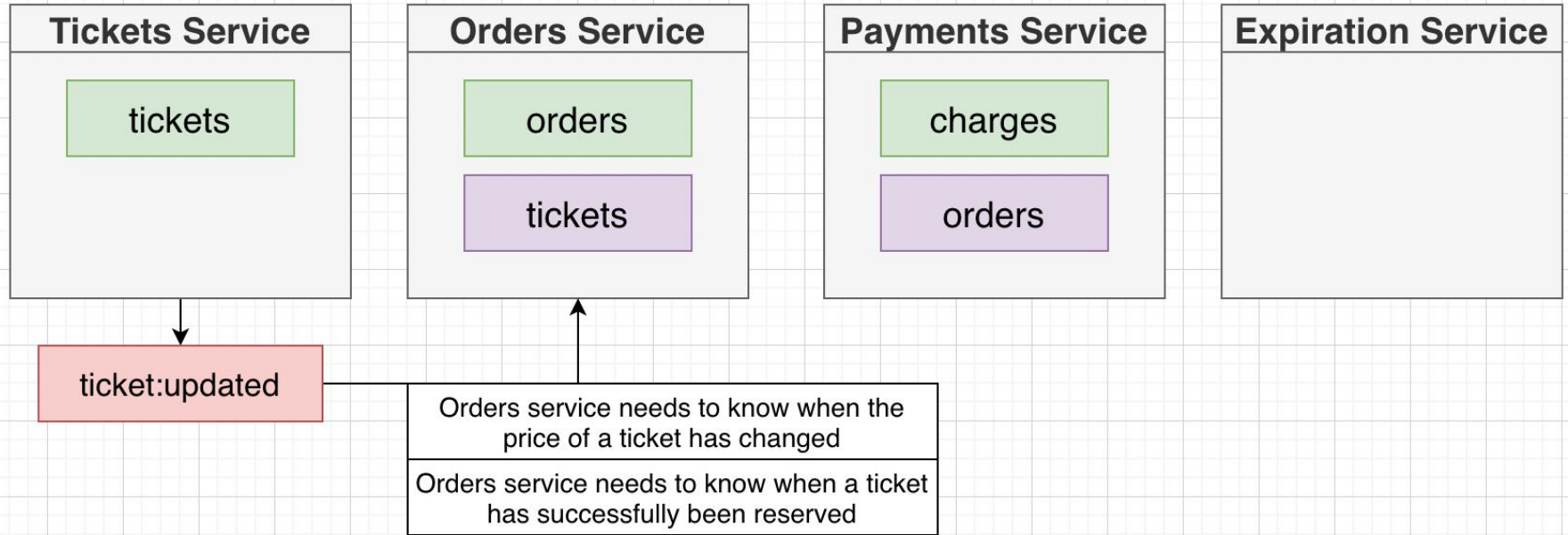
The architecture

Events Published by Each Service



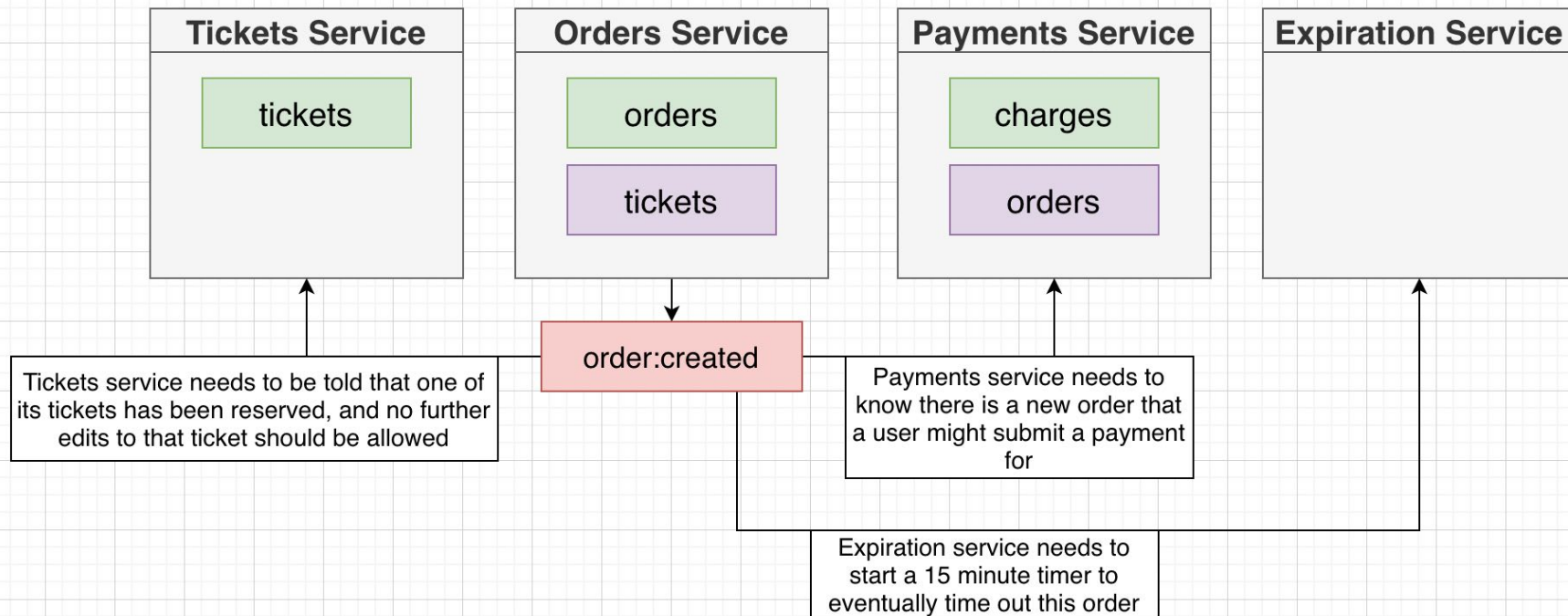
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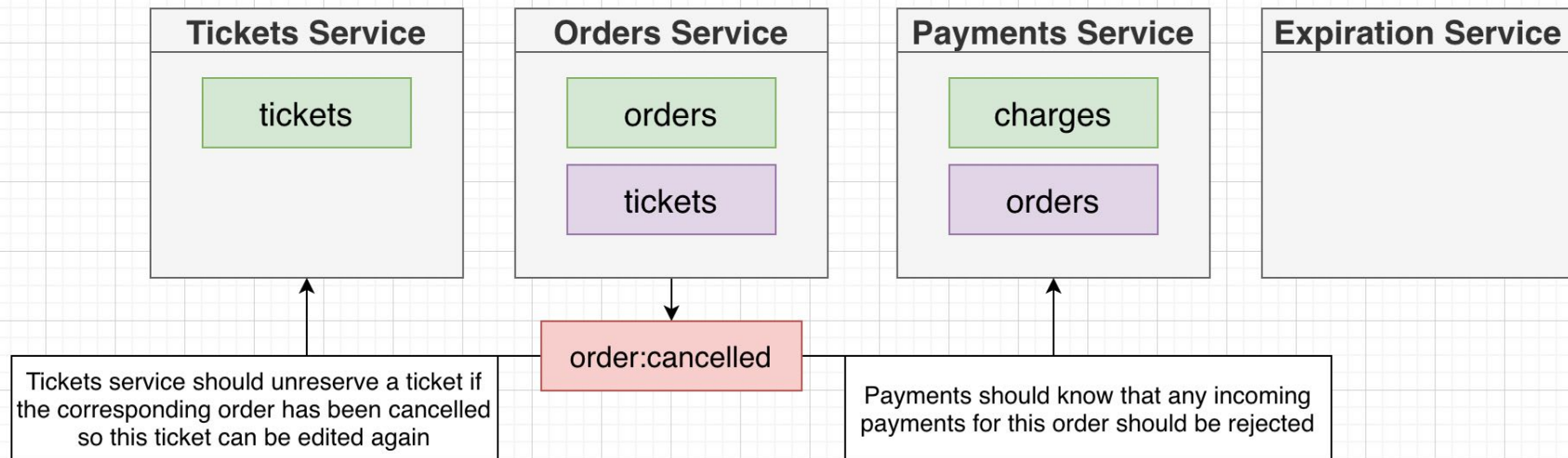
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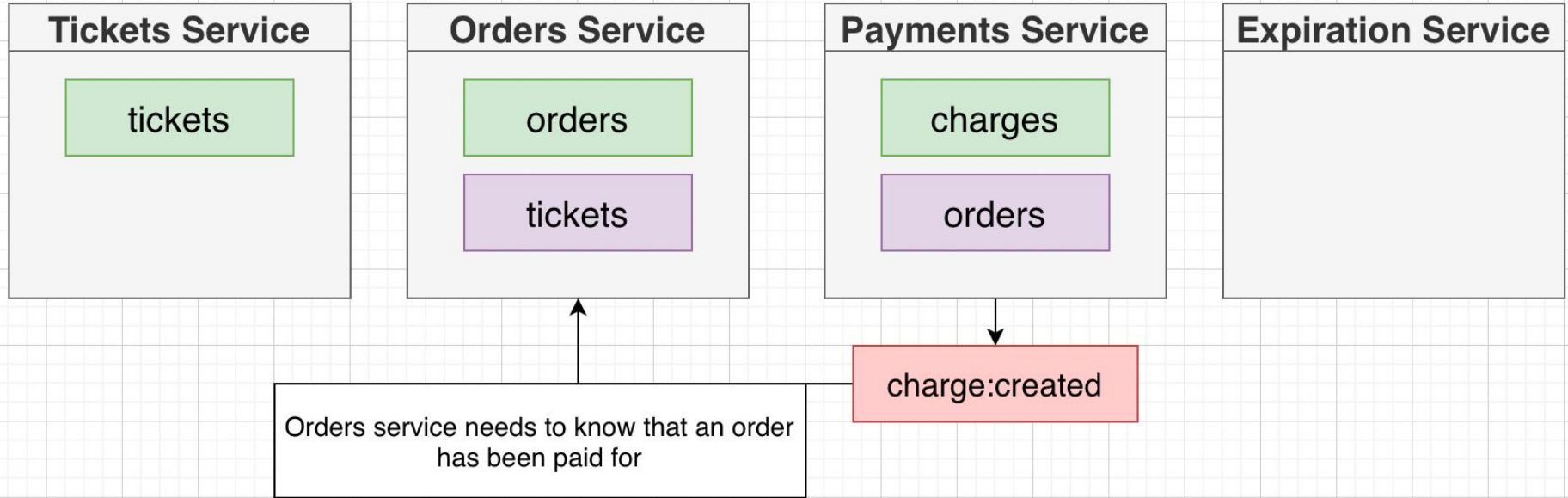
The architecture

Events Published by Each Service



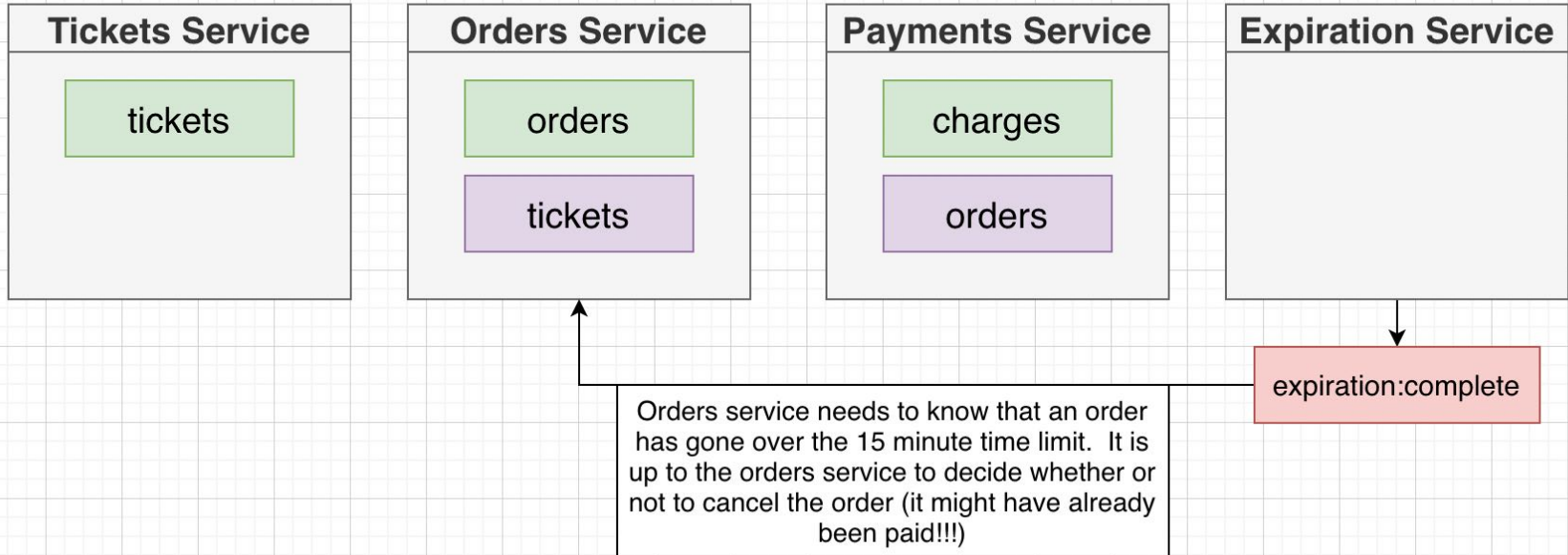
The architecture

Events Published by Each Service



The architecture

Events Published by Each Service



Timeline

- Overview of Microservice architecture
- The first implementation of microservices application
- **Pros and Cons of Microservice architecture**

Strengths of the Microservice Architecture

- Independent components
- Easier understanding
- Better scalability

Weaknesses of the Microservice Architecture

- Extra complexity
- System distribution
- Cross-cutting concerns
- Testing and debugging

Choosing a monolithic architecture

- Small team
- A simple application
- No microservices expertise
- Quick launch

Choosing a microservices architecture

- Microservices expertise
- A complex and scalable application
- Enough engineering skills

Decide your application architecture

- Microservices expertise
- A complex and scalable application
- Enough engineering skills
- Small team
- A simple application
- No microservices expertise
- Quick launch

Microservices

Monolith

Timeline

- **Overview of Microservice architecture**
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- **Pros and Cons of Microservice architecture**

Where to go from here?

Where to go from here?

Courses

Course #1 Mastering the art of Microservices Architecture

This crash course is a part of an 8 crash course series called ""Complete Guide To Creating Scalable Backend Infrastructures". The intro to complete series c...

 https://www.youtube.com/playlist?list=PLZBNtT95PIW3BPNYF5pYOi4MJjg_boXCG



Microservices with Node JS and React

Build, deploy, and scale an E-Commerce app using Microservices built with Node, React, Docker and Kubernetes

 <https://www.udemy.com/course/microservices-with-node-js-and-react/>



Where to go from here?

Articles

Microservices vs Monolith: which architecture is the best choice for your business?

Having come into light just a few years ago, microservices are an accelerating trend these days. Indeed, microservices approach offers tangible benefits including an increase in scalability, flexibility, agility, and other

N <https://www.n-ix.com/microservices-vs-monolith-which-architecture-best-choice-your-business/>



So you want to learn Microservices?

Brace yourself, wall of text is coming. Microservices architecture is a never ending story. It took me a couple of years to collect so many resources about microservices. Now sharing the learning resources with you. Also

DEV <https://dev.to/kgoralski/deep-dive-into-microservices-architecture-h54>



Where to go from here?

Books

Building Event-Driven Microservices

Organizations today often struggle to balance business requirements with ever-increasing volumes of data. Additionally, the demand for leveraging large-scale, real-time data is growing rapidly among the most competitive

 <https://www.oreilly.com/library/view/building-event-driven-microservices/9781492057888/>



Where to go from here?

Websites

What are microservices?

Microservices – also known as the microservice architecture – is an architectural style that structures an application as a collection of loosely coupled services, which implement business capabilities. The microservice

<https://microservices.io>



InfoQ: Software Development News, Trends & Best Practices

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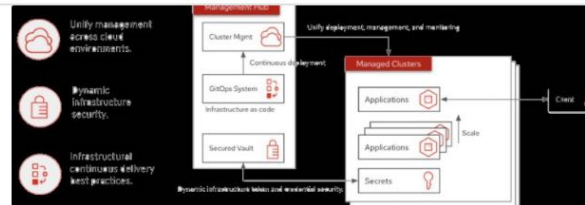
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References

- Udemy - Stephen Grider - Microservices with Node JS and React
- nx.com - Romana Gnatyk - Microservices vs Monolith: which architecture is the best choice for your business?