The Concept of Almin

Almin is a State management library for JavaScript

Almin features

- Scalable
    - Medium-small(1,000LOC) - Large(100,000LOC)
- Testable
    - Implement UseCase/Store/Domain as component
- Debuggable
    - Logger/DevTools/Performance monitoring
- Layered Architecture
    - DDD/CQRS

Different team structures imply different architectural decisions.

— Clean Architecture Robert C. Martin

The Concept of Almin

- Write **Your domain** in **Your code**
- Split up **Read stack** and **Write stack**
- **Unidirectional** data flow
- Prefer **Readable code** to **Writable code**
- **Monitor everything**

Write Your domain in Your code

- You can control domain layer
    - You can write **your domain** with **Pure JavaScript**
    - Your domain is **not need** to subclass of Almin things
- Almin support application layer
    - Application layer use your domain model
- If you stop to use almin, you **don't need to rewrite** your domain

Example: UseCase

Almin provice `UseCase` class that is a pert of application layer

```
import { UseCase } from "almin";
import yourDomain from "./your-domain";
export ApplicationUseCase extends UseCase {
    execute(){
        // Application Layer use your domain
        yourDomain.doSomething();
    }
}
```

Split up Read stack and Write stack

- In Flux/Redux
  - **Store** has **Application logic/state**(M) and **View state**(N)
  - The Complexity: **N × M** (multiplication)
- In Almin
  - **Domain** has **Application logic/state**(M) – Write state
  - **Store** has **View state**(N) - Read state
  - The Complexity: **N + M** (addition)

Related topic: Command Query Responsibility Segregation(CQRS)

Example: Repository

- Almin help to support **Repository** pattern
  - You can save your domain(application state) into the repository
- **Store** read **application state** from the **repository**
- **Store** convert the **application state** to **view state**

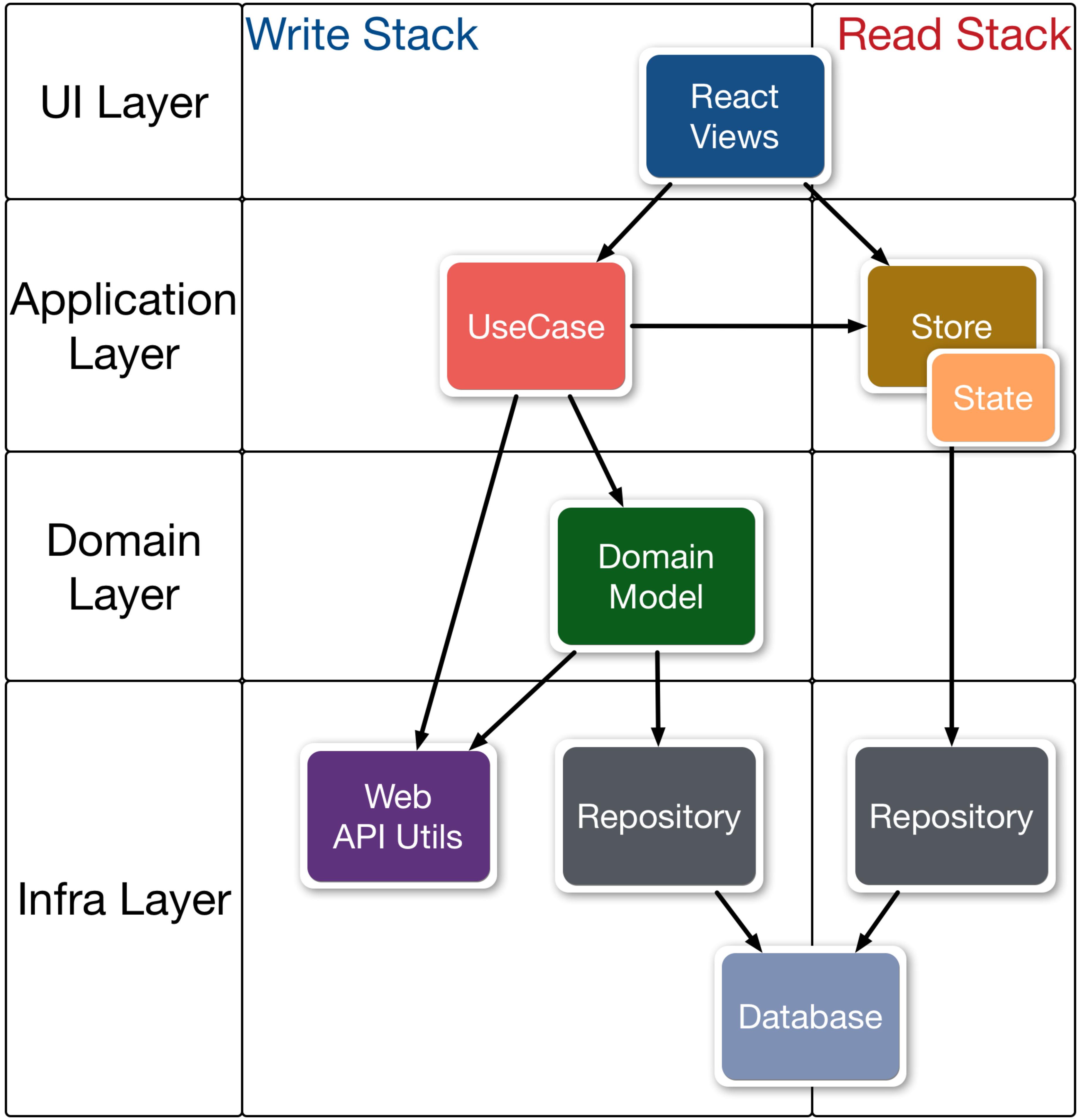
Realted topic: Model View ViewModel(MVVM), ViewModel

Unidirectional data flow

View -> UseCase -> Store ... -> View -> UseCase -> Store

- **UseCase** only report **success or failure** that is **Promise<void>**
- **UseCase** can write to **Store**, But can not read from Store
- **Store** does't know any **UseCase**
- **View** can not write state to **Store** directly
- **View** can execute any **UseCase**
- **View** can observe the change of **Store**

Related topic: Flux

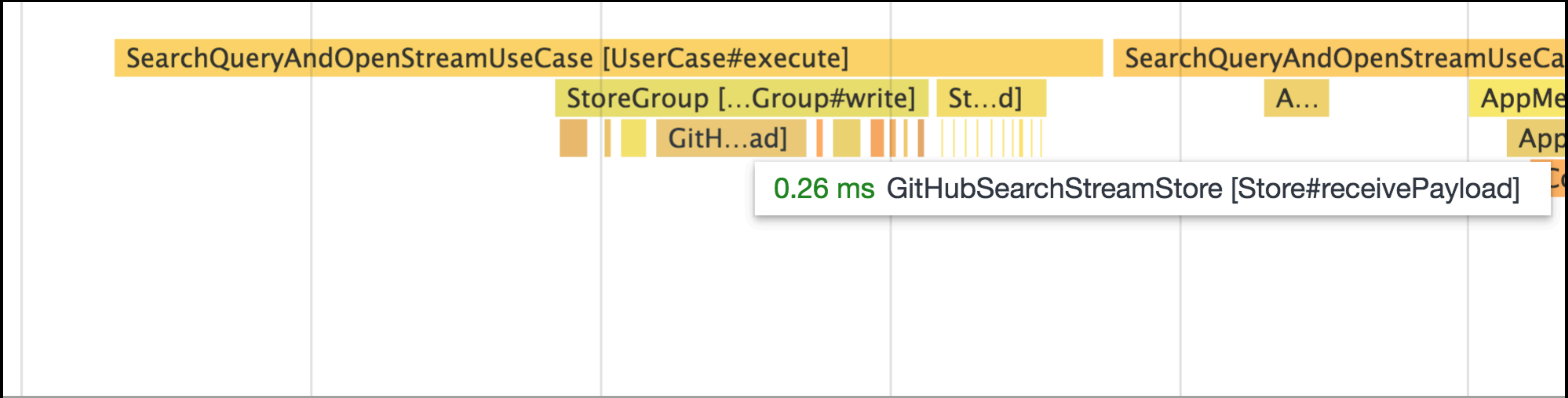

Write Stack
Read Stack
UI Layer
Application Layer
Domain Layer
Infra Layer
React Views
UseCase
Store
State
Domain Model
Web API Utils
Repository
Repository
Database

Prefer Readable code to Writable code

- Almin prefer **Explicit/Readable** code to **Implicit/Writable** code
- Almin support **TypeScript** language and Almin is **type-safe**
- Pros
    - No magic code
    - Just write and Just work
- Cons
    - Redundancy

Monitor everything

- You can observe life-cyle events of almin
- logging events that are changing of state etc..
- Integrate almin into DevTools
- Profiling performance of almin with other library
- Illustrate your UseCase diagram



SearchQueryAndOpenStreamUseCase [UserCase#execute]

SearchQueryAndOpenStreamUseCa

StoreGroup [...Group#write]

St...d]

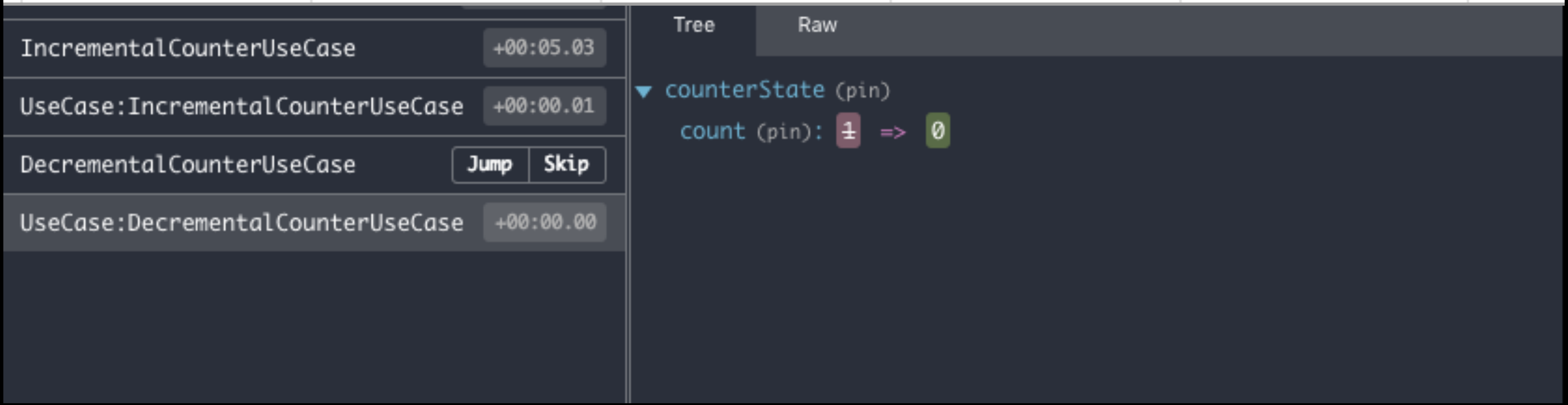
A...

AppMe

GitH...ad]

App

0.26 ms GitHubSearchStreamStore [Store#receivePayload]



IncrementalCounterUseCase	+00:05.03
UseCase:IncrementalCounterUseCase	+00:00.01
DecrementalCounterUseCase	Jump Skip
UseCase:DecrementalCounterUseCase	+00:00.00

Tree Raw

```
▼ counterState (pin)
    count (pin): ~~1~~ => 0
```

Conclusion

- 📦 Repo: almin/almin
- 📝 Document: https://almin.js.org
- 📜 Examples: almin/examples
- 🔗 Work with React, Vue etc...

Almin is for thinking code