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Global Knowledge®

# Angular Advanced
# @ngrx/store – Store DevTools

Peter Kassenaar –
info@kassenaar.com

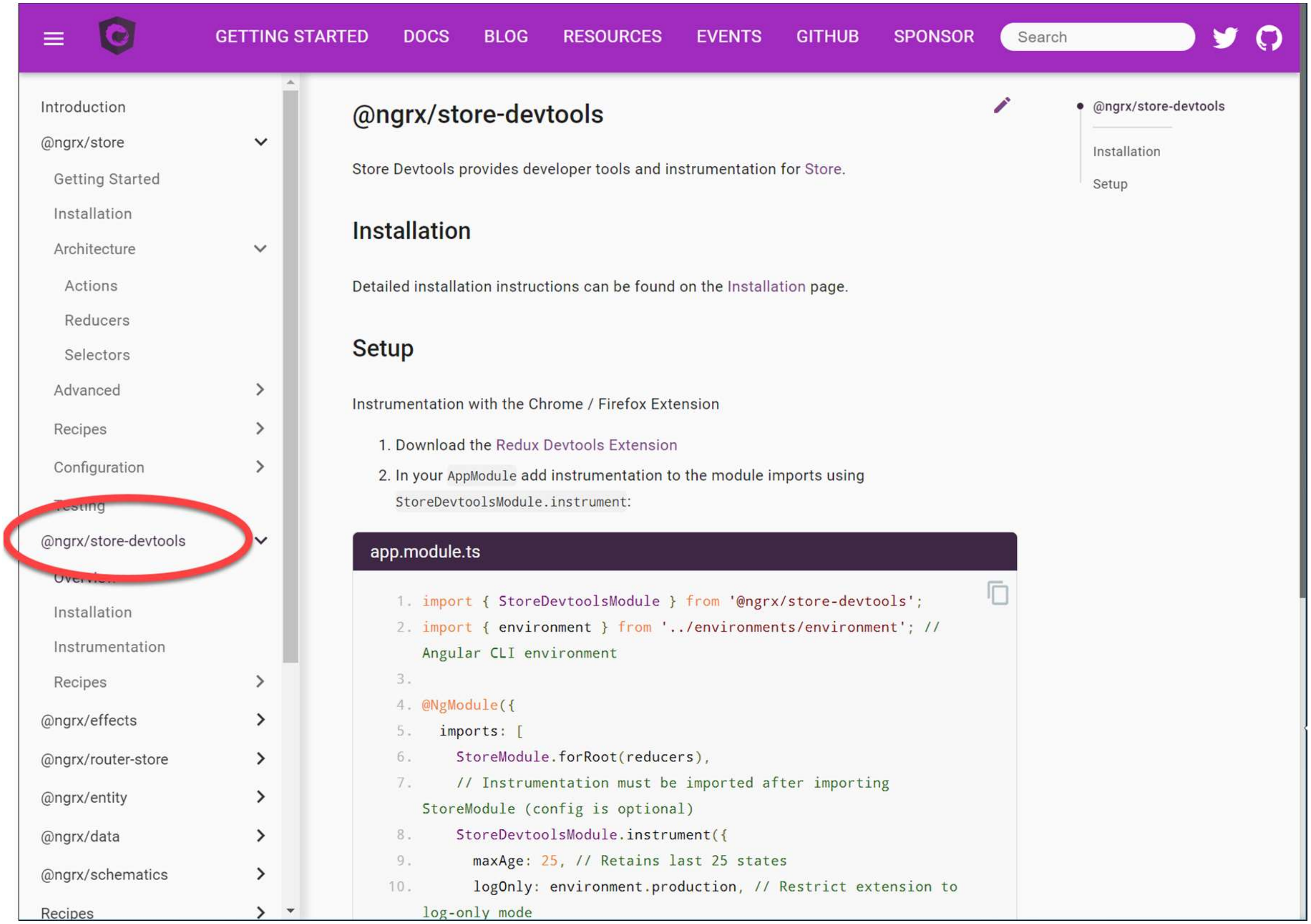
# Reactive Angular with RxJS
# @ngrx/store – Store DevTools

Peter Kassenaar –
info@kassenaar.com

# What is @ngrx/store-devtools?

- Analyzing, inspection and debugging your State Management Store
- Time Travelling options

https://ngrx.io/guide/store-devtools



# @ngrx/store-devtools

Store Devtools provides developer tools and instrumentation for Store.

## Installation

Detailed installation instructions can be found on the Installation page.

## Setup

Instrumentation with the Chrome / Firefox Extension

1. Download the Redux Devtools Extension
2. In your `AppModule` add instrumentation to the module imports using `StoreDevtoolsModule.instrument`:

app.module.ts

```
import { StoreDevtoolsModule } from '@ngrx/store-devtools';
import { environment } from '../environments/environment'; // Angular CLI environment

@NgModule({
  imports: [
    StoreModule.forRoot(reducers),
    // Instrumentation must be imported after importing StoreModule (config is optional)
    StoreDevtoolsModule.instrument({
      maxAge: 25, // Retains last 25 states
      logOnly: environment.production, // Restrict extension to log-only mode
```

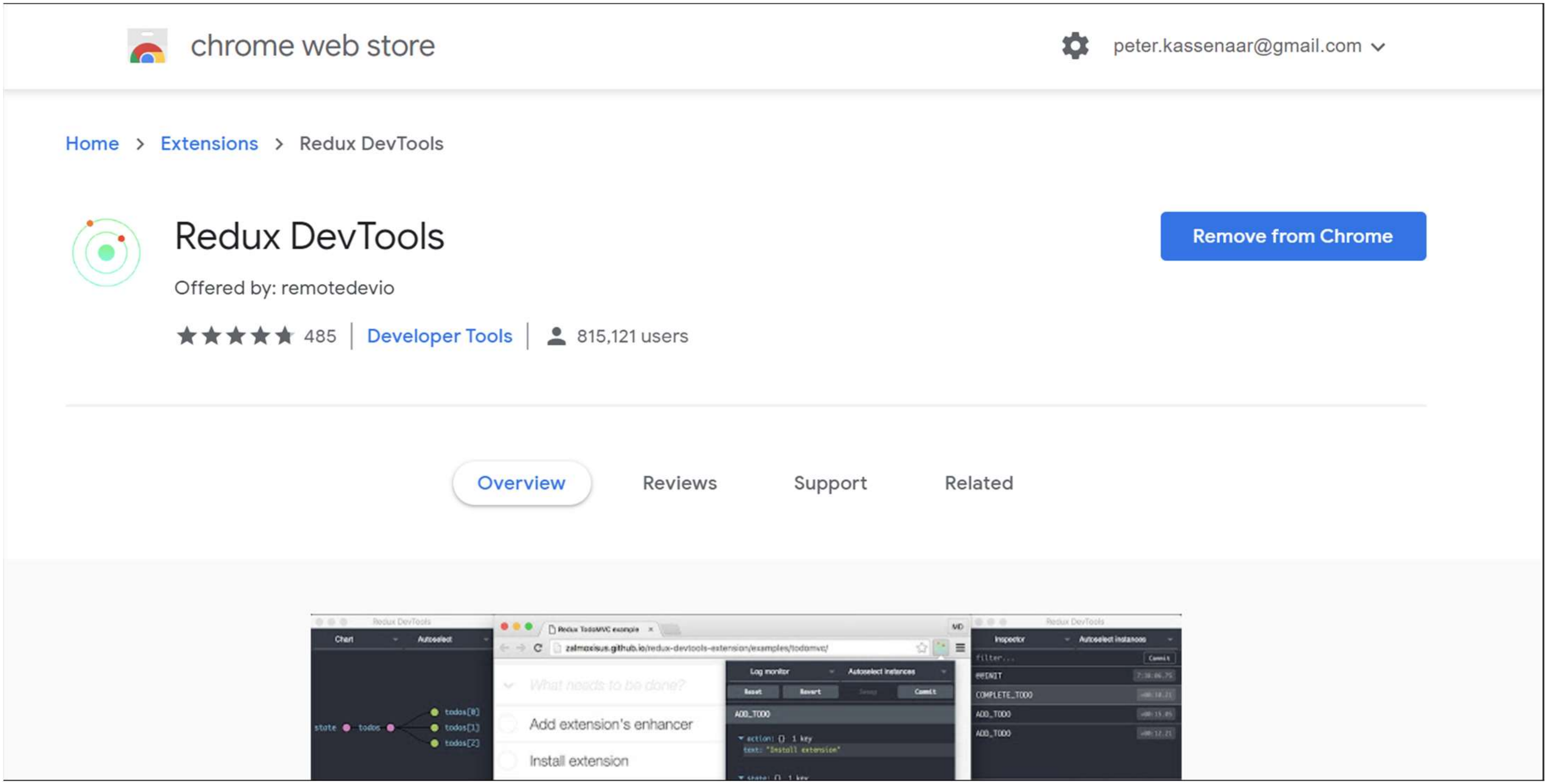
# Two Parts

*1.Chrome/Firefox Extension/Add-On*

*2. Installation in your project*

# 1. Install in Chrome

One-time installation of Redux DevTools Extension



chrome web store

peter.kassenaar@gmail.com

Home > Extensions > Redux DevTools

Redux DevTools

Offered by: remotedevio

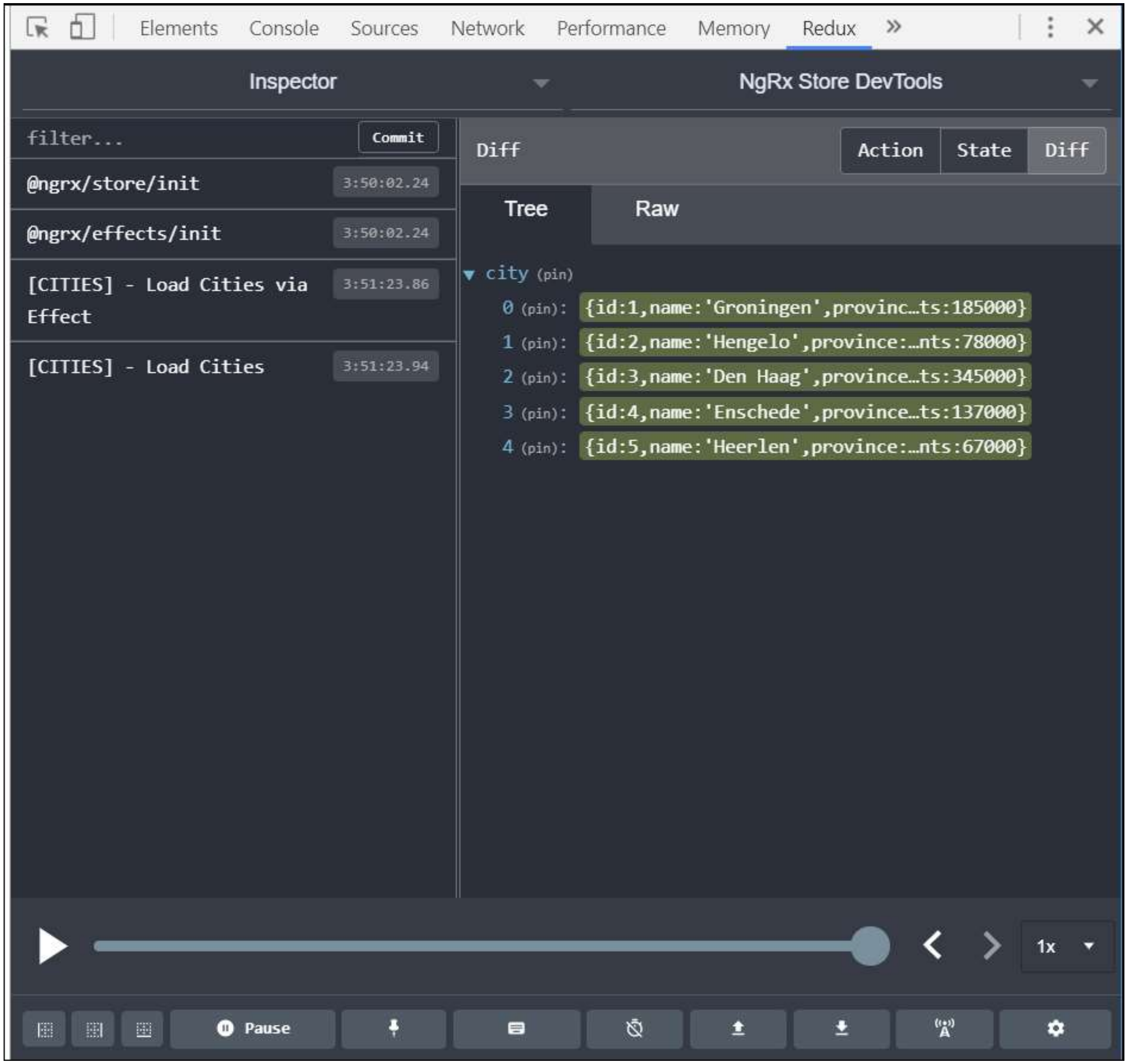
★★★★★ 485 | Developer Tools | 815,121 users

Remove from Chrome

Overview Reviews Support Related

https://chrome.google.com/webstore/detail/redux-devtools/lmhkpmbekcpmknklioeibfkpmmfibljd?hl=en

# Chrome Extension

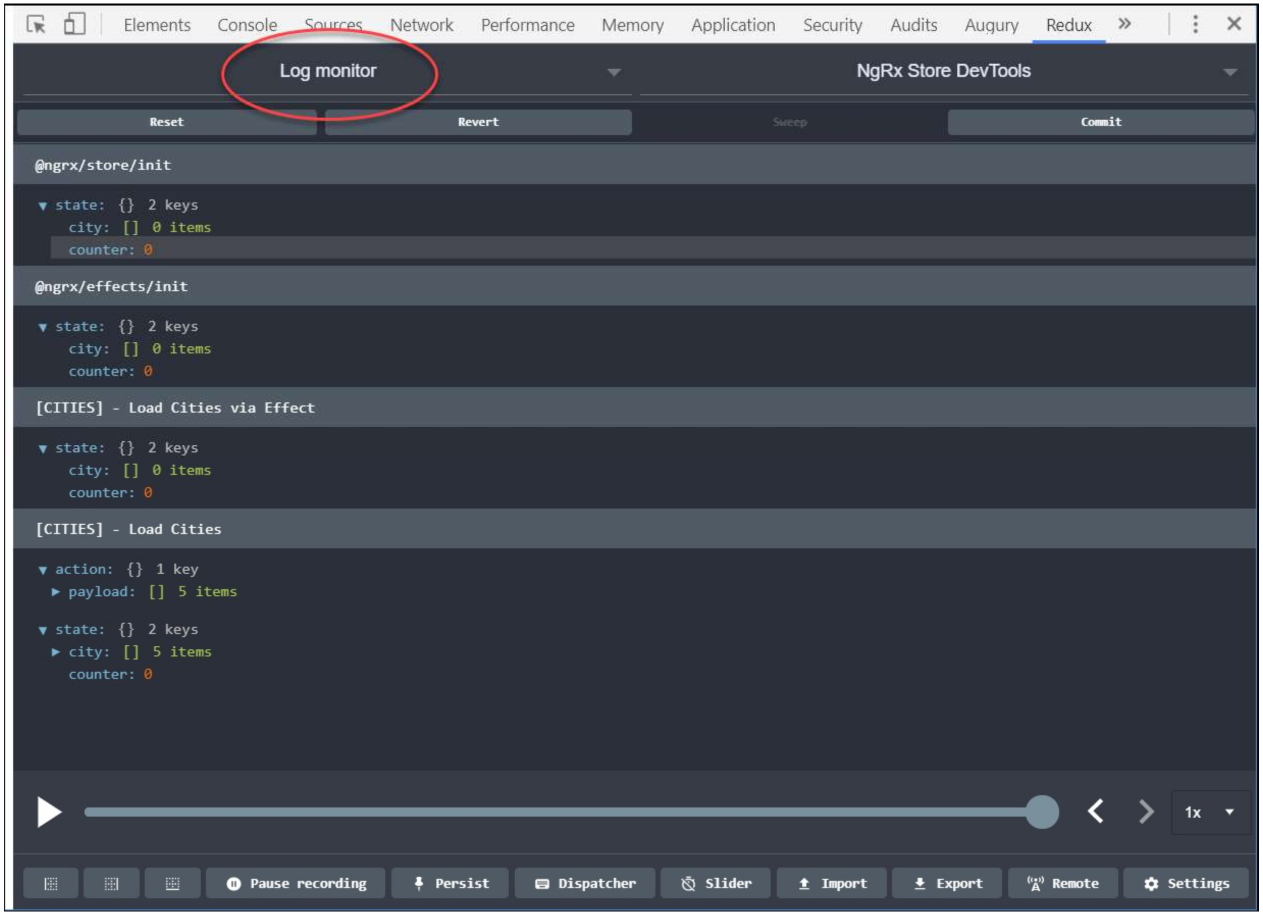


```
@ngrx/store/init                    3:50:02.24
@ngrx/effects/init                  3:50:02.24
[CITIES] - Load Cities via          3:51:23.86
Effect
[CITIES] - Load Cities              3:51:23.94
```

```
▼ city (pin)
   0 (pin): {id:1,name:'Groningen',provinc…ts:185000}
   1 (pin): {id:2,name:'Hengelo',province:…nts:78000}
   2 (pin): {id:3,name:'Den Haag',province…ts:345000}
   3 (pin): {id:4,name:'Enschede',province…ts:137000}
   4 (pin): {id:5,name:'Heerlen',province:…nts:67000}
```

# Options

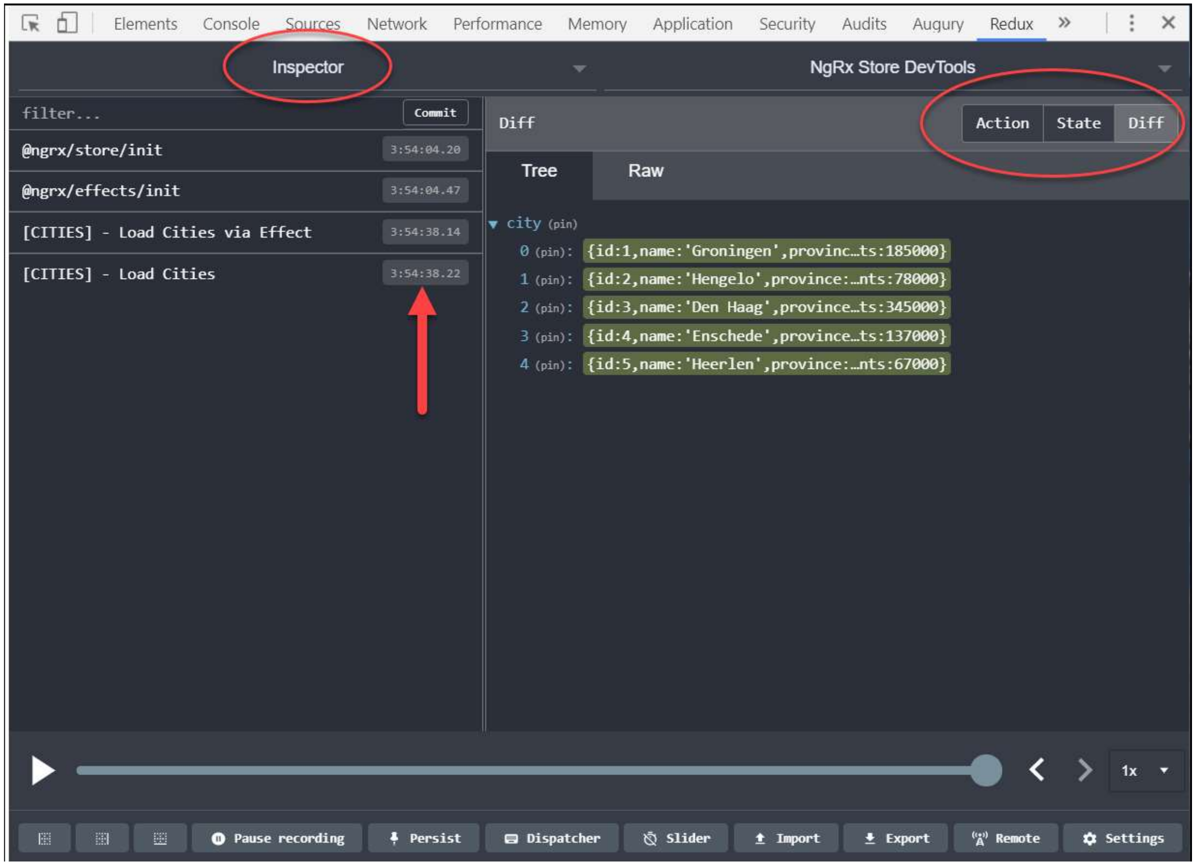
- Log Monitor
  - Log actions from/to the store and see changes in Real Time
  - Reset/Revert actions



```
@ngrx/store/init

▼ state: {} 2 keys
    city: [] 0 items
    counter: 0

@ngrx/effects/init

▼ state: {} 2 keys
    city: [] 0 items
    counter: 0

[CITIES] - Load Cities via Effect

▼ state: {} 2 keys
    city: [] 0 items
    counter: 0

[CITIES] - Load Cities

▼ action: {} 1 key
  ▶ payload: [] 5 items

▼ state: {} 2 keys
  ▶ city: [] 5 items
    counter: 0
```

# Inspector

- Filter Actions
- Jump/Skip actions
- Inspect `Action`, `State` or `Diff` compared to previous State

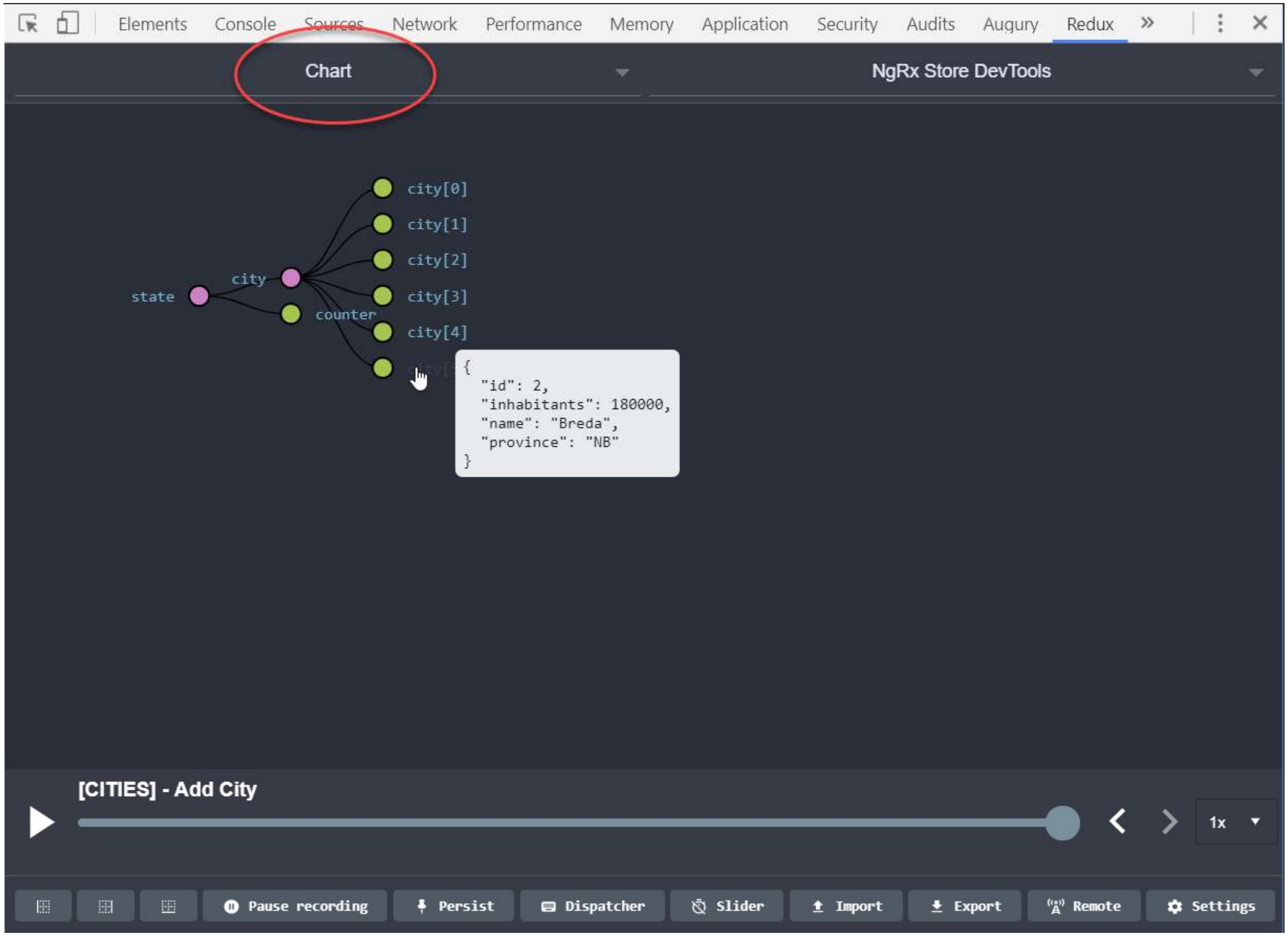


```
@ngrx/store/init                        3:54:04.20
@ngrx/effects/init                      3:54:04.47
[CITIES] - Load Cities via Effect       3:54:38.14
[CITIES] - Load Cities                  3:54:38.22
```

```
▼ city (pin)
   0 (pin): {id:1,name:'Groningen',provinc…ts:185000}
   1 (pin): {id:2,name:'Hengelo',province:…nts:78000}
   2 (pin): {id:3,name:'Den Haag',province…ts:345000}
   3 (pin): {id:4,name:'Enschede',province…ts:137000}
   4 (pin): {id:5,name:'Heerlen',province:…nts:67000}
```

# Chart

- Inspect flowchart of Actions, flow of data through the Store

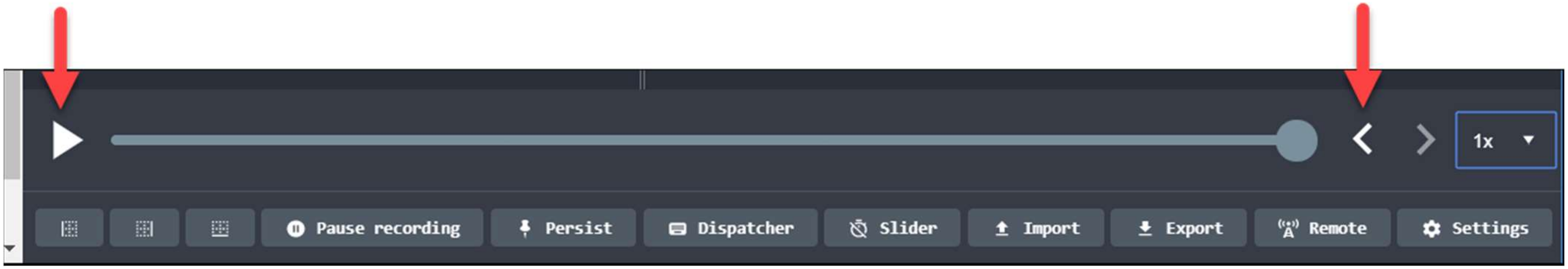


```
{
  "id": 2,
  "inhabitants": 180000,
  "name": "Breda",
  "province": "NB"
}
```

[CITIES] - Add City

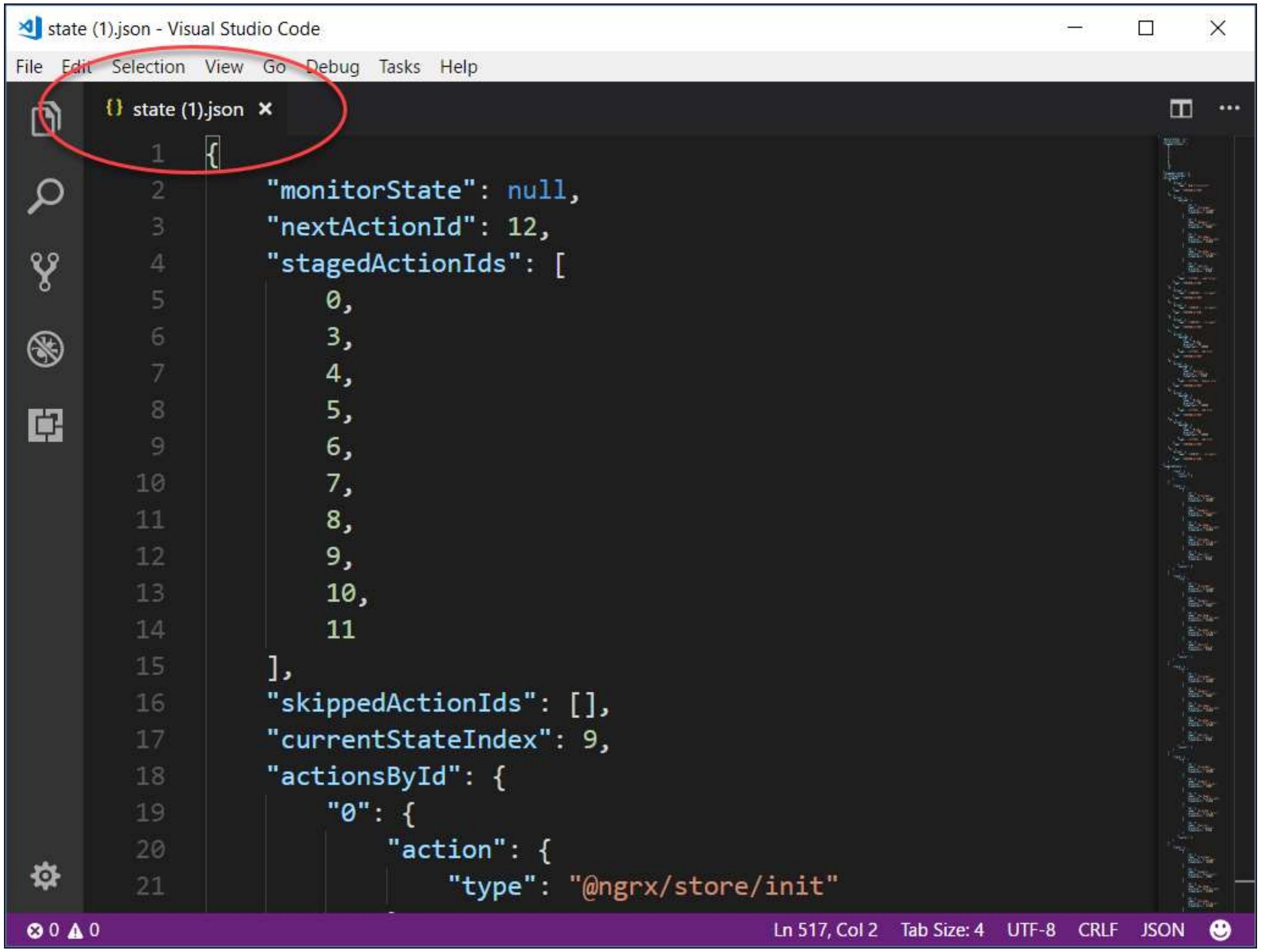
# Slider

- (Re)play various actions and see changes in app and in state
- Jump to begin/end of timeline



# Import/export State

- Save State changes to .json-file and import them to replay steps



state (1).json - Visual Studio Code
File Edit Selection View Go Debug Tasks Help
{} state (1).json ×
⊗ 0 ⚠ 0
Ln 517, Col 2 Tab Size: 4 UTF-8 CRLF JSON ☺

```
{
    "monitorState": null,
    "nextActionId": 12,
    "stagedActionIds": [
        0,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        10,
        11
    ],
    "skippedActionIds": [],
    "currentStateIndex": 9,
    "actionsById": {
        "0": {
            "action": {
                "type": "@ngrx/store/init"
```

# 2. Installation

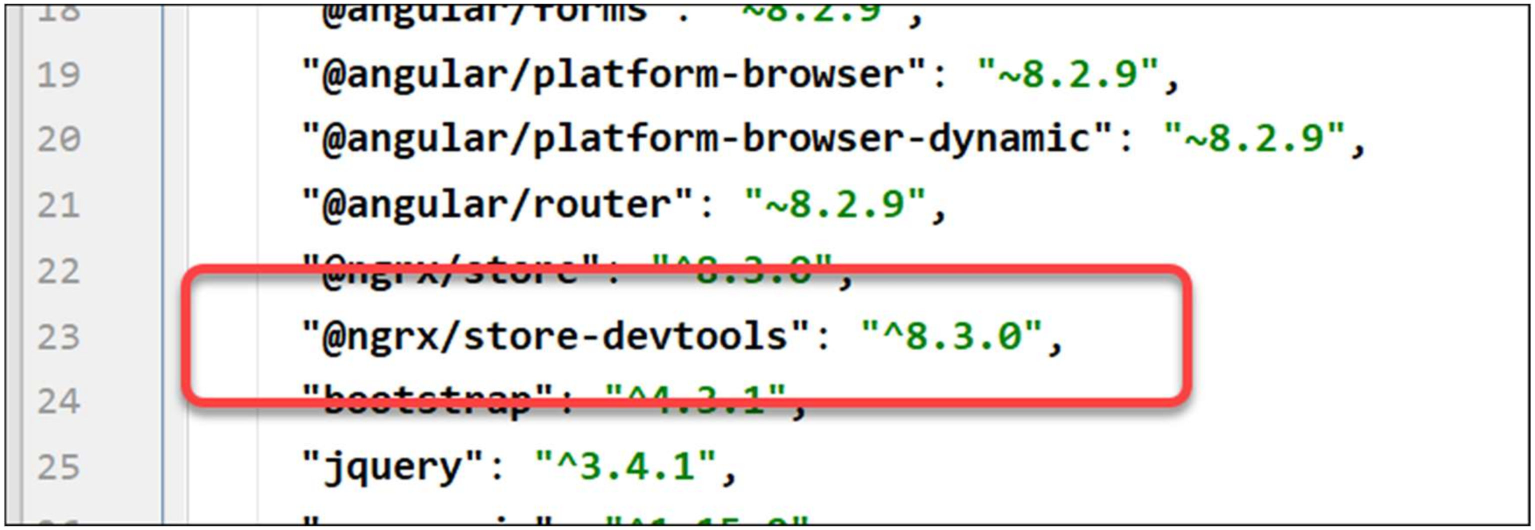
Install in Google Chrome *and* in project

# Installation in Project

```
npm install @ngrx/store-devtools --save
```

OR:

```
ng add @ngrx/store-devtools
```



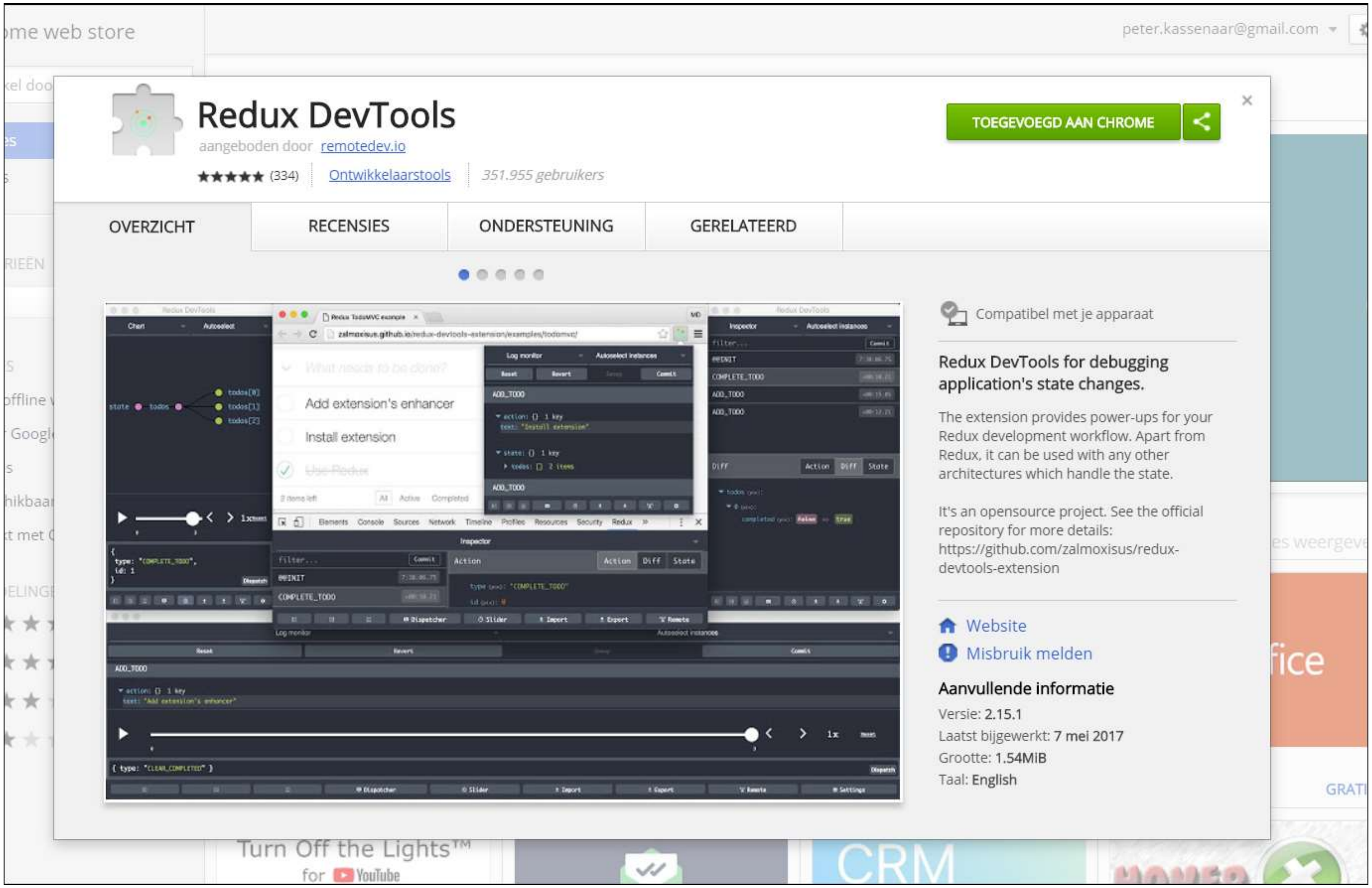
```
    "@angular/forms": "~8.2.9",
    "@angular/platform-browser": "~8.2.9",
    "@angular/platform-browser-dynamic": "~8.2.9",
    "@angular/router": "~8.2.9",
    "@ngrx/store": "^8.3.0",
    "@ngrx/store-devtools": "^8.3.0",
    "bootstrap": "^4.3.1",
    "jquery": "^3.4.1",
```

# Installation in app.module.ts

```
// app.module.ts
import {StoreDevtoolsModule} from '@ngrx/store-devtools';

@NgModule({
   …
   imports      : [
      …
      StoreDevtoolsModule.instrument({
            maxAge: 10}) // Redux Devtools debugging in Chrome
   ],
})
export class AppModule {
}
```

# Install Redux DevTools

- Add from `chrome://extensions`



Redux DevTools

aangeboden door remotedev.io

★★★★★ (334) | Ontwikkelaarstools | 351.955 gebruikers

Compatibel met je apparaat

Redux DevTools for debugging application's state changes.

The extension provides power-ups for your Redux development workflow. Apart from Redux, it can be used with any other architectures which handle the state.

It's an opensource project. See the official repository for more details: https://github.com/zalmoxisus/redux-devtools-extension

Aanvullende informatie

Versie: 2.15.1

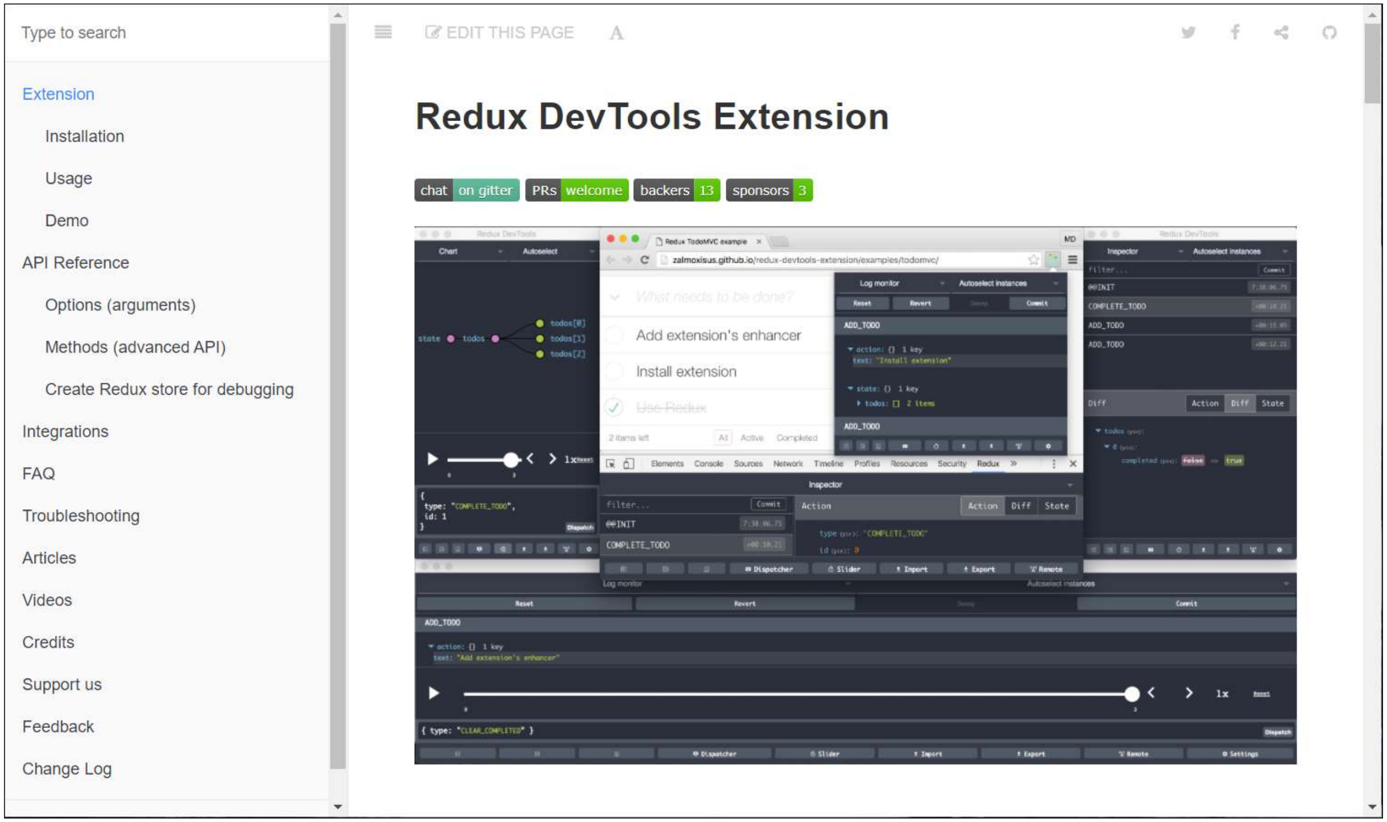
Laatst bijgewerkt: 7 mei 2017

Grootte: 1.54MiB

Taal: English

# More info

- http://extension.remotedev.io/
- NOT specific to Angular – to be used with all Redux-like stores!



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## Redux DevTools Extension

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What needs to be done?

Add extension's enhancer

Install extension

~~Use Redux~~

# Workshop

- Use your own project, or start from one of the Store projects, for example `/200-ngrx-simple-store`
- Add Redux DevTools extension to Chrome (one-off action)
- Add `@ngrx/store-devtools` to current project via `npm` or `ng add`
- Activate devtools in `app.module.ts`
- Experiment with different views
  - Log Monitor
  - Inspector
  - Chart
- Export a State Tree to `.json` file, reload the project and import it again. See how this works