

Learning Jasmine Marbles Basics



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Module Overview



Marble Diagrams

Jasmine Marbles Library

Set up Test Project

Marble Syntaxes



Marble Diagrams



“A picture is worth ten thousand words”

Fred R. Barnard





Observable Sequences and their values
can be visually drawn by Marble
Diagrams over timeline



Timeline



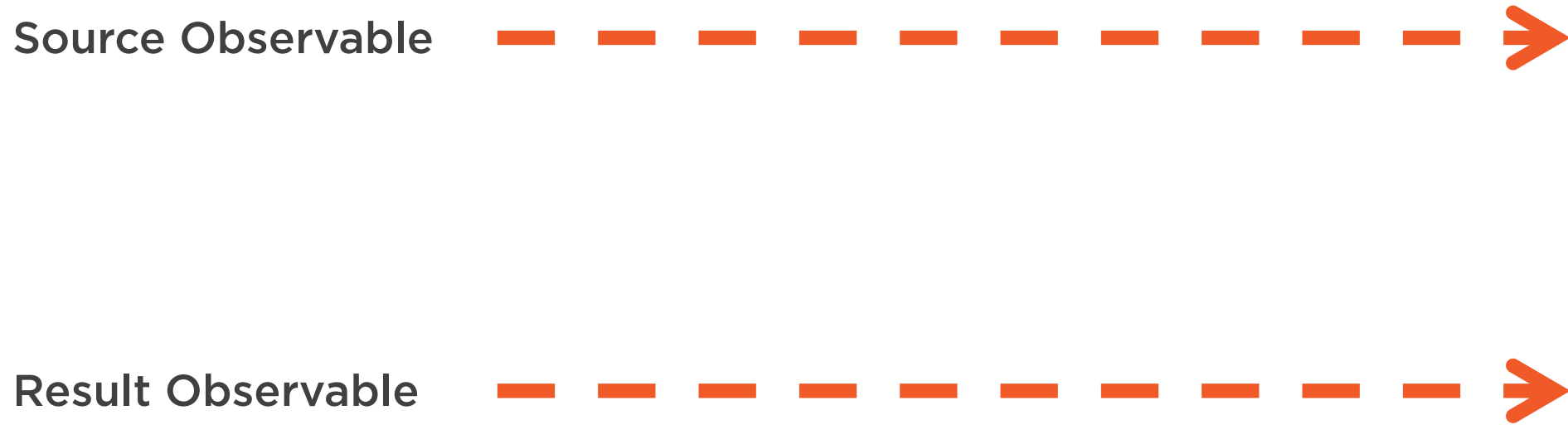
List of Events

Labeled with Events

Linear Scale



Timeline in RxJS



Marble Diagram Symbols



Marble

Value emitted by
Observable



Complete

Completion of
sequence



Error

Error in sequence

Observing Maggie Timeline



2018 born

3rd week open her eyes and ears

8th week puppy teeth

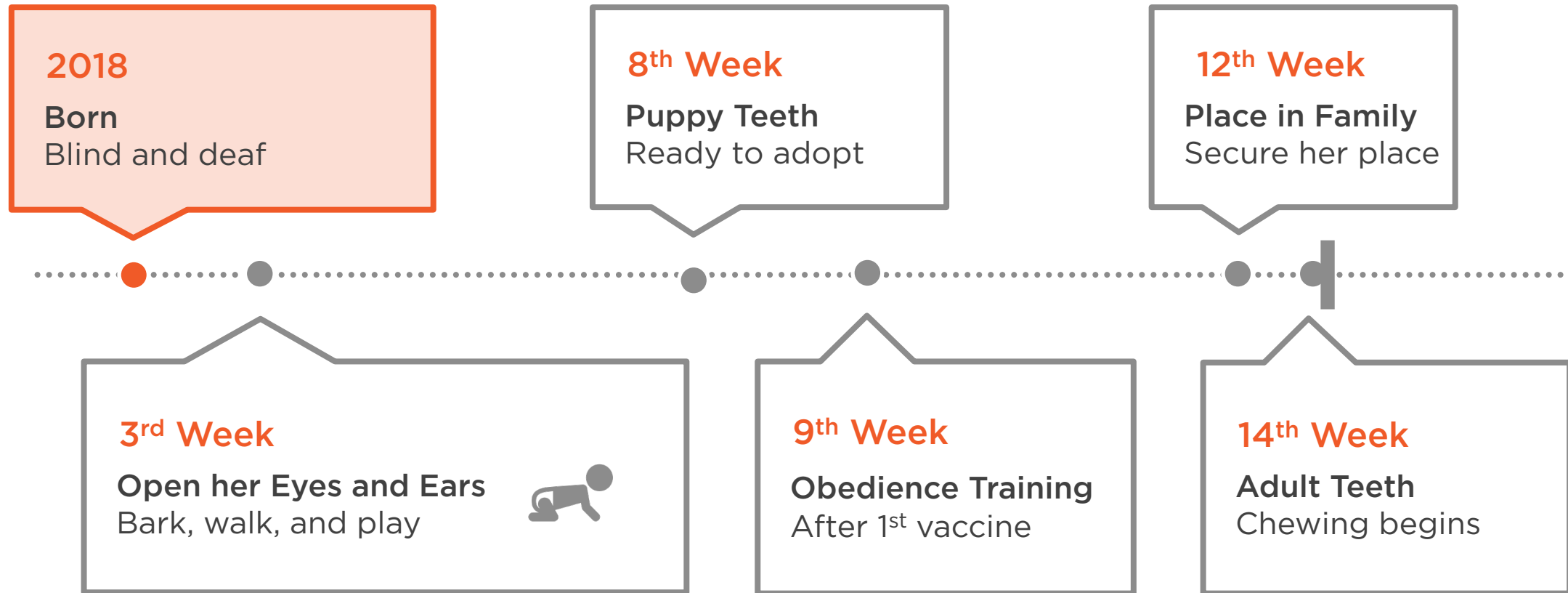
9th week obedience training

12th week place in family

14th week adult teeth



Maggie Timeline of Events



Emit 3 Values and Complete



Emit 2 Values and Error



Jasmine Marbles



Jasmine Marbles

It is a node package that integrates with RxJS Scheduler and allows us to assert the behavior of observables and operators synchronously



<https://www.npmjs.com/package/jasmine-marbles>





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jasmine-marbles

0.4.0 • Public • Published a month ago

Readme

1 Dependencies

3 Dependents

7 V

jasmine-marbles

Marble testing helpers for RxJS and Jasmine

Helpful Links

- [Marble Syntax](#)
- [Providing Mock Actions for testing ngrx Actions with jasmine-marbles](#)

install

```
> npm i jasmine-marbles
```

± weekly downloads

39,518

version

0.4.0

license

MIT




```
npm i -d jasmine-marbles
```

Installing Jasmine Marbles

By running above script install jasmine marbles on dev dependencies



Why Jasmine Marbles

Visual Testing

Synchronous
Testing

Supports Jasmine
Framework

Mocks
Observables

Virtual Time

Custom Matcher



Methods of Jasmine Marbles

hot

cold

toBeObservable

toHaveSubscriptions



Set up Your Test Project



Steps to Set up Demo App

Select An Editor

Install Node

Download Demo
App GitHub



Selecting Editor



Visual Studio Code

Sublime Text

Atom Editor

WebStorm

Visual Studio

VS Code

The image shows the Visual Studio Code website and a screenshot of the code editor interface. The website header includes navigation links for Docs, Updates, Blog, Community, Extensions, and FAQ, along with a Search Docs button and a Download button. A banner for Version 1.28 is displayed. The main content area features the text "Code editing. Redefined." and "Free. Open source. Runs everywhere." with a "Download for Windows" button and a link to "Other platforms and Insiders Edition". The code editor screenshot shows the Extensions sidebar with a list of popular extensions like C#, Python, and Go. The main editor area displays a TypeScript file named app.ts with code for a web server using Express and TypeScript. A tooltip for the normalizePort function is visible.

Visual Studio Code

Docs Updates Blog Community Extensions FAQ

Search Docs

Download

Version 1.28 is now available! Read about the new features and fixes from September.

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By using VS Code, you agree to its license and privacy statement.

File Edit View Goto Help

EXTENSIONS

- @popular
- C# 1.2.2 356K ★★★★★
C# for Visual Studio Code (p...
Microsoft **Install**
- Python 0... 211K ★★★★★
Linting, Debugging (multi-t...
Don Jayamanne **Install**
- Debugger for Chrome 148
Debug your JavaScript code...
Microsoft JS Diagno... **Install**
- C/C++ 0.7... 143K ★★★★★
Complete C/C++ language ...
Microsoft **Install**
- Go 0.6.39 99K ★★★★★
Rich Go language support f...
lukehoban **Install**
- ESLint 0.10... 88K ★★★★★
Integrates ESLint into VS Co...
Dirk Baeumer **Install**

app.ts

```
1 import app from './app';
2 import debugModule = require('debug');
3 import http = require('http');
4
5 const debug = debugModule('node-express-typescript:server');
6
7 // Get port from environment and store in Express.
8 const port = normalizePort(process.env.PORT || '3000');
9 app.set('port', port);
10
11 // create
12 const server = export
13 server.listen
14 server.on
15 server.on
16
17 /**
18  * Normal
19  */
20 function normalizePort(val: any): number|string|boolean {
21   let port = parseInt(val, 10);
22 }
```

package.json

README.md

Ln 9, Col 21 Spaces: 2 UTF-8 LF TypeScript

Learning More



Pluralsight


- Visual Studio Code by John Papa

<https://app.pluralsight.com/library/courses/visual-studio-code/table-of-contents>



Installing Node

[←](#) [→](#) [↻](#) <https://nodejs.org/en/download/>



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Downloads


Latest LTS Version: **8.12.0** (includes npm 6.4.1)


Download the Node.js source code or a pre-built installer for your platform, and start developing today.

LTS
Recommended For Most Users

Current
Latest Features


Windows Installer
node-v8.12.0-x86.msi


macOS Installer
node-v8.12.0.pkg


Source Code
node-v8.12.0.tar.gz

Windows Installer (.msi)	32-bit	64-bit
Windows Binary (.zip)	32-bit	64-bit
macOS Installer (.pkg)	64-bit	
macOS Binary (.tar.gz)	64-bit	



```
npm install npm -g
```

Updating npm

By running above script we update npm



[https://github.com/roopkt/
UnitTesting-RxJS-Marble-
Diagrams](https://github.com/roopkt/UnitTesting-RxJS-Marble-Diagrams)



GitHub Repository



GitHub, Inc. [US] | <https://github.com/roopkt/UnitTesting-RxJS-Marble-Diagrams>



Sample Angular application used in the "Unit Testing RxJS with Marble Diagrams" course.

2 commits

1 branch

0 releases

1 contributor

Branch: master

New pull request

Find file

Clone or download



roopkt adding projects

Latest commit e9ed9df on Nov 1

UM-Final

adding projects

a month ago

UM-Start

adding projects

a month ago

.gitignore

adding projects

a month ago

README.md

first commit

a month ago

README.md

Unit Testing RxJS with Marble Diagrams

Materials for the "Unit Testing RxJS with Marble Diagrams" course on Pluralsight.

UM-Start: The starter files set up for use in VSCode, WebStorm, or other editors. Use this to code along with the course.
(Updated for Angular version 6 or higher)

UM-Final: The completed files. Use this to see the completed solution from the course. (Updated for Angular version 6 or higher)



GitHub Repository

[Code](#) [Issues 0](#) [Pull requests 0](#) [Projects 0](#) [Wiki](#) [Insights](#) [Settings](#)

Releases

Tags

Draft a new release

Latest release

1

21039ba

UM-Start

Edit

roopkt released this 4 minutes ago

Assets 2

Source code (zip)

Source code (tar.gz)

Please use this release in order to code along with pluralsight course as a starter project. I have upgraded the Angular to version 7.

Once cloned at your local box go to the UM-Start and run `npm i` then run `npm start` to see application and run `npm test` to see test cases running in watch mode.



Demo



Setup Project



Marble Syntax



Time Frame

Moves from left to right

Starts with 0 frame

Each frame is counted as 10 frames

One frame is 10 milliseconds of time

Maximum 740 frames



Frame Count

0 10 20 30 40



Time Elapsed in Milliseconds

10 20 30 40 50



Marble Syntax



Time, each frame represents 10 milliseconds of time



The successful completion of an observable



An error terminating the observable



Marble Syntax

^

Subscription point to the hot observable

!

Unsubscription point at which a subscription is unsubscribed

a

Any character value being emitted by the producer



Marble Syntax

()

Emit a single grouped value on same time frame



“ | ”

EMPTY

emits no items but terminates normally



“-” or “----”

NEVER

emits no items and does not terminate



Demo



Writing First Test



Summary



Marble Diagrams

Jasmine Marbles Node Package

Set up Demo Testing Project

Marble Testing Syntaxes

- Wrote First Unit Test

