

Updated on 16/05/2023

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## ReasonML training

1 day (7 hours)

### Presentation

ReasonML is a powerful typing system that will reduce bugs and increase the maintainability and refactorability of your code.

Reason's syntax is similar to that of JavaScript and C, and it's a programming language powered by the powerful OCaml typing system.

The benefits of using ReasonML include simple syntax, a straightforward Inference-style sound typing system and prototyping as fast as a dynamically typed language.

This ReasonML training course will teach you what Reason is, how the language works with React, how to define entities, how to interoperate with JavaScript and how to develop a design system.

As with all our programs, our training is based on the latest version, [ReasonML 0.9](#).

### Objectives

- Understand the 3 pillars of functional programming: typing, immutability and pure function
- Create a fully functional Front ReasonML project

### Target audience

Web developers

### Prerequisites

## Our ReasonML training program

### FUNDAMENTALS

- Using the type system to describe the business
- Writing type-safe code
- Mastery of JS / Reason interoperability
- Mastery of function composition, higher-order functions and curryfication
- Design system development with ReasonML

### REASON-ML

- Explanation of bsconfig.json
- What is bucklescript?
- Pipe first - pipe last
- Function "auto curry
- Operator infix

### ENTITY DEFINITIONS

- Use variants, records and tuples to create business entities
  - Means of transport
  - Lines
  - Price
  - Units of measurement, etc.
- ADT and completeness
- New types, putting an end to string-oriented programming
- Module signatures and encapsulation
- Practical workshop: Creating type-safe price/unit conversion functions with phantom types and creating TDDs with bs-jes

### INTEROPERABILITY JS <-> REASON

- Using GenType
- Javascript package binding
- Encoding/decoding for JS objects
- Creation of type-safe and ergonomic interfaces for standard JS libraries
- Hands-on workshop: writing a storybook interface, creating a Javascript-ready package with generated Typescript typing and using decco to encode/decode.

### DEVELOPMENT OF A DESIGN SYSTEM

- Reason / Storybook integration
- Using bs-css
- Type-safe theme management
- Hands-on workshop: addition of background management in the design system, a new text style and a new theme

## Companies concerned

This course is aimed at companies, large or small, wishing to train their teams in a new, advanced computer technology.

## Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

## Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

## Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

## Sanction

A certificate will be issued to each trainee who completes the course.