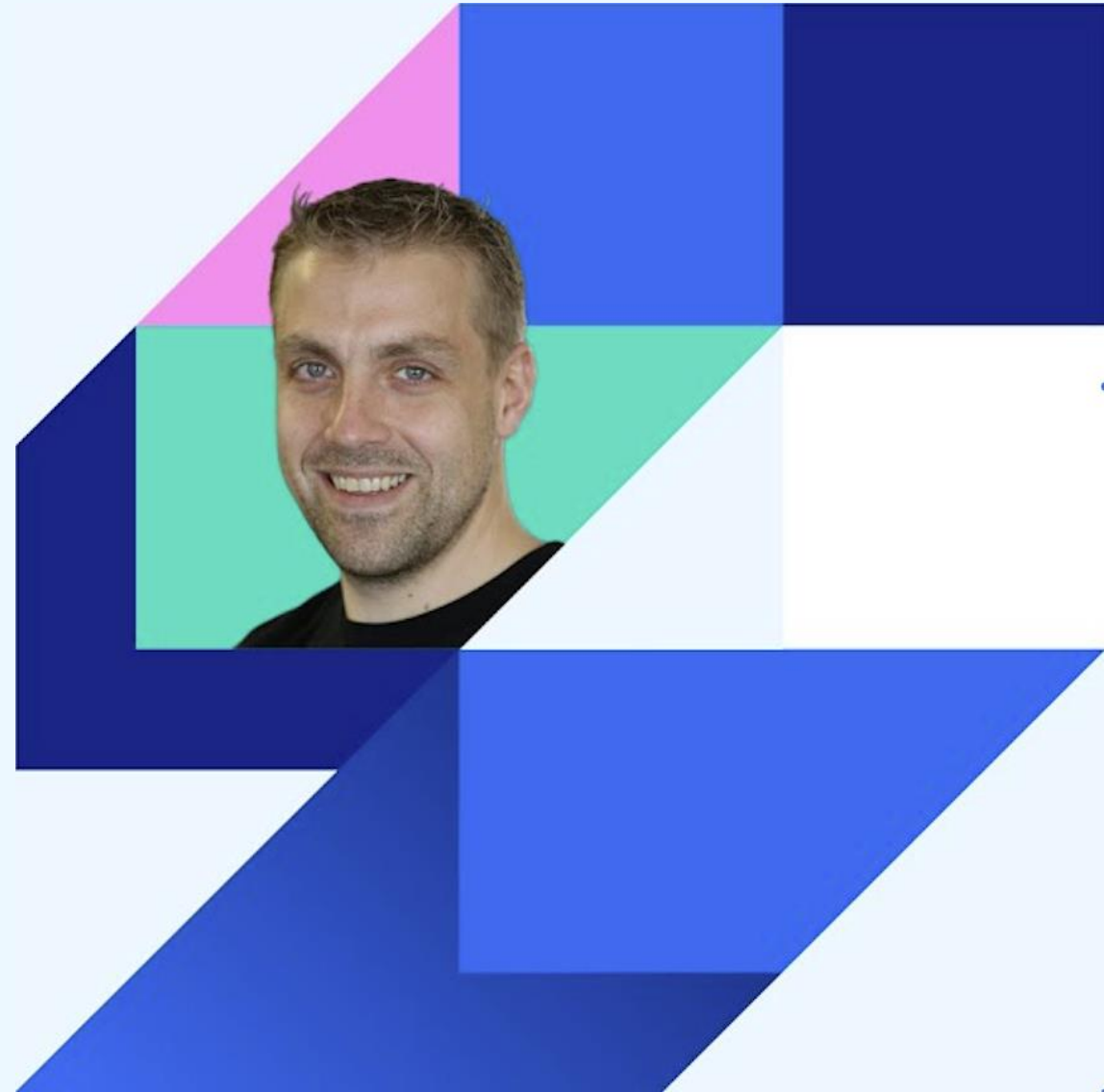


# Devtoberfest

● Frontend

## UI5 Freestyle: TypeScript E2E Development – from zero to hero in 1hr!

Peter Muessig, SAP



# Quick Intro to TypeScript

= JavaScript **plus types**

- Only at development/compile time
- **\*.d.ts** files: type information for JS libs
  - @types/openui5
  - @sapui5/types + @openui5/types
  - App code: ES6 classes + module imports
- Benefits:
  - Error messages while you code
  - Code completion
  - In-place API reference, navigation
  - Easier refactoring & maintenance

```
let someNumber: number;

let otherNumber = 1;

function square(x: number) {
    return x * x;
}

type Point = {
    x: number;
    y: number;
};
```

*...and more*

# What we will tackle today and what not?

## **Tackling**

- Creating freestyle UI5 TypeScript projects (app and UI library) from scratch using Easy UI5
- Learning the benefits of TypeScript (within UI5)
- Using a CAP server as integrated data source
- OData V4 declarative and imperative usage + bonus: Deferred Action Binding
- ECMAScript support caveats
- Consuming and using Thirdparty NPM packages incl. types
- Creating UI5 controls and elements
- Connecting your app with your library
- Testing with QUnit / OPA5 / wdi5

## **Not Tackling**

- Deep dive into the UI5 programming model features: <https://sap-samples.github.io/ui5-typescript-walkthrough/>
- Fiori elements & Fiori tools: <https://experience.sap.com/fiori-design-web/smart-templates/>
- SAP Business Application Studio (works also!)
- Overview on UI5 tooling ecosystem: <https://bestofui5.org/>
- NPM workspace setup: <https://docs.npmjs.com/cli/using-npm/workspaces>
- CAP server integration using cds-plugin-ui5: <https://www.npmjs.com/package/cds-plugin-ui5>
- Deployment

It's time for coding... ;-)

Easy-UI5

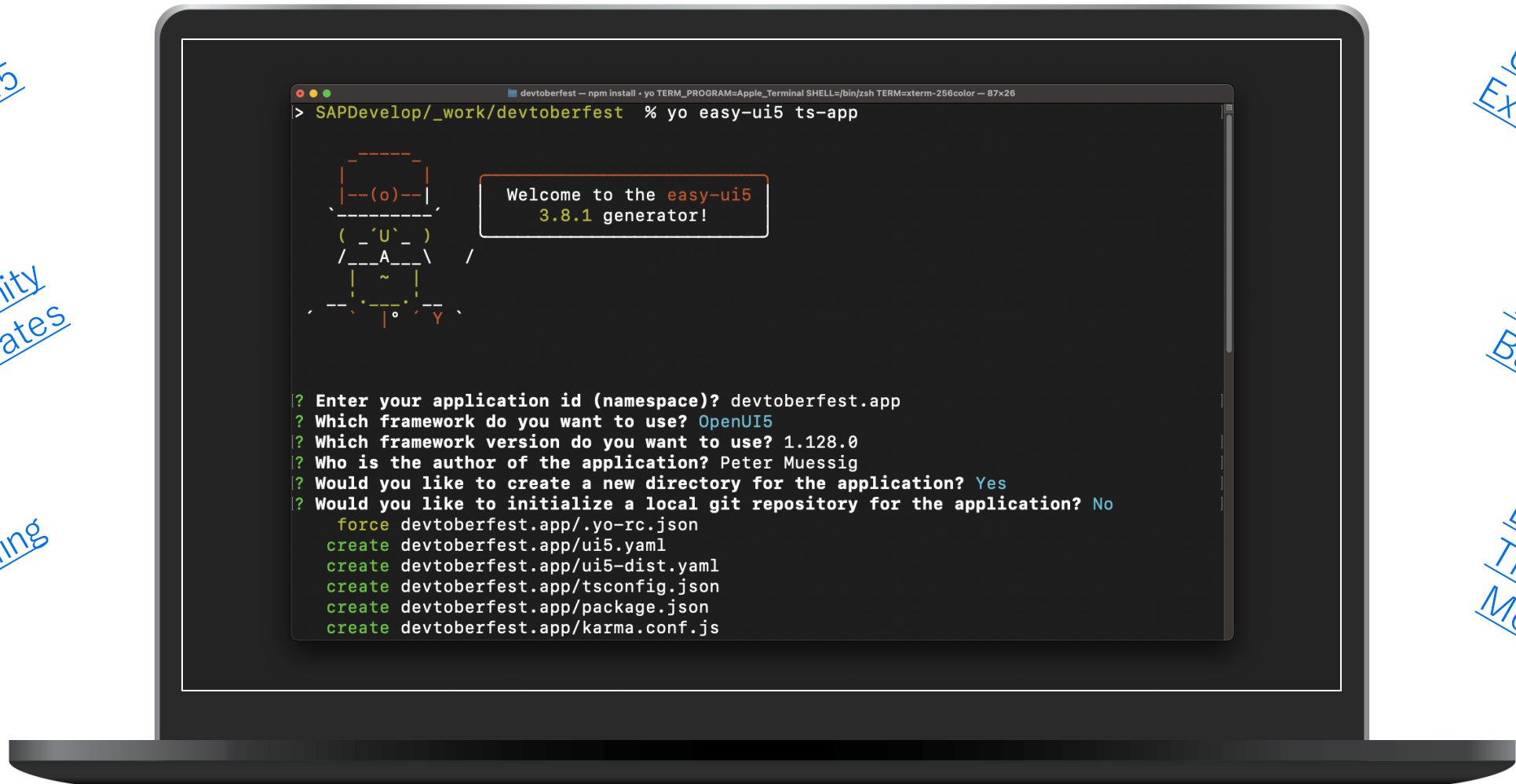
Community  
Templates

UI5 Tooling

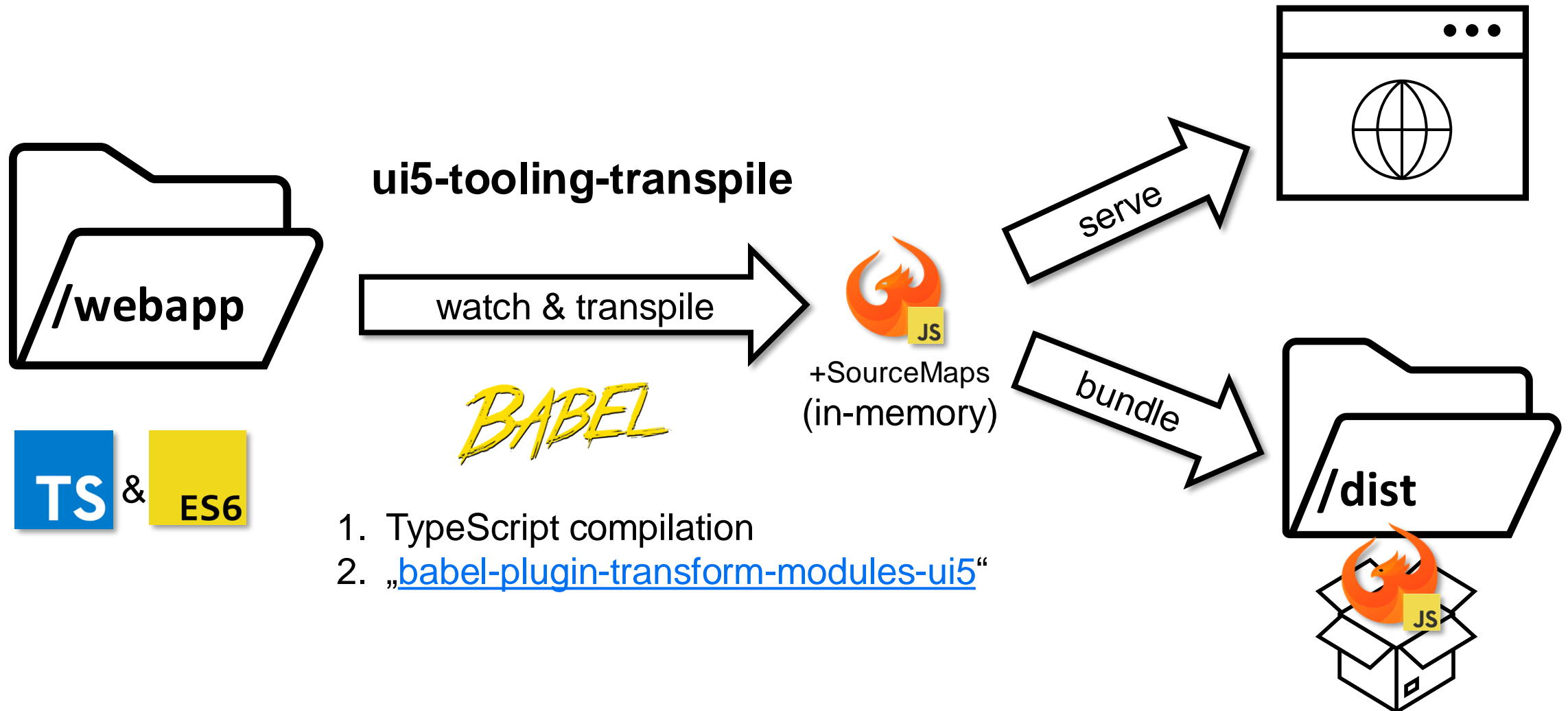
## UI5 Tooling Extensions

TypeScript,  
Babel, ...

# Babel Plugin Transform Modules



# TypeScript Tool Chain



It's time for coding... ;-)

Easy-UI5

Community  
Templates

UI5 Tooling

UI5 Tooling  
Extensions

TypeScript,  
Babel, ...

Babel Plugin  
Transform  
Modules

```
devtoberfest — npm install - yo TERM_PROGRAM=Apple_Terminal SHELL=/bin/zsh TERM=xterm-256color — 87x26
> SAPDevelop/_work/devtoberfest % yo easy-ui5 ts-app

  (o)
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  (U)
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  A
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  ~
  --
  |
  --

Welcome to the easy-ui5
3.8.1 generator!

? Enter your application id (namespace)? devtoberfest.app
? Which framework do you want to use? OpenUI5
? Which framework version do you want to use? 1.128.0
? Who is the author of the application? Peter Muessig
? Would you like to create a new directory for the application? Yes
? Would you like to initialize a local git repository for the application? No
  force devtoberfest.app/.yo-rc.json
  create devtoberfest.app/ui5.yaml
  create devtoberfest.app/ui5-dist.yaml
  create devtoberfest.app/tsconfig.json
  create devtoberfest.app/package.json
  create devtoberfest.app/karma.conf.js
```

# Source Code soon available on GitHub

Repository “will” contain:

- This presentation
- Final Source Code
- Instructions how to build, run and test the bookshop application
- Step-by-Step guide to replay today's UI5 freestyle TypeScript E2E journey

*Stay tuned, some finetuning needed before pushing the content...*

*Just “watch” or “star” it to get notified once the content is available!*



<https://github.com/peternuessig/devtoberfest2024-typescript-e2e>

# Learnings & Materials around TypeScript & UI5

TypeScript: <https://www.typescriptlang.org>

Central Entry Point for UI5 & TypeScript: <https://sap.github.io/ui5-typescript/>

UI5 TypeScript HelloWorld: <https://github.com/SAP-samples/ui5-typescript-helloworld> (+branches for different scenarios around Custom Control development, Testing, ...)

UI5 TypeScript Tutorial: <https://github.com/SAP-samples/ui5-typescript-tutorial/>

UI5 TypeScript Walkthrough: <https://sap-samples.github.io/ui5-typescript-walkthrough/>

Youtube Video “Learn App Development in UI5 with TypeScript”:  
<https://www.youtube.com/watch?v=CRKNliXZN6U> (related to the UI5 TypeScript Tutorial)



# Devtoberfest

/thank you



Contact information: