Tutors
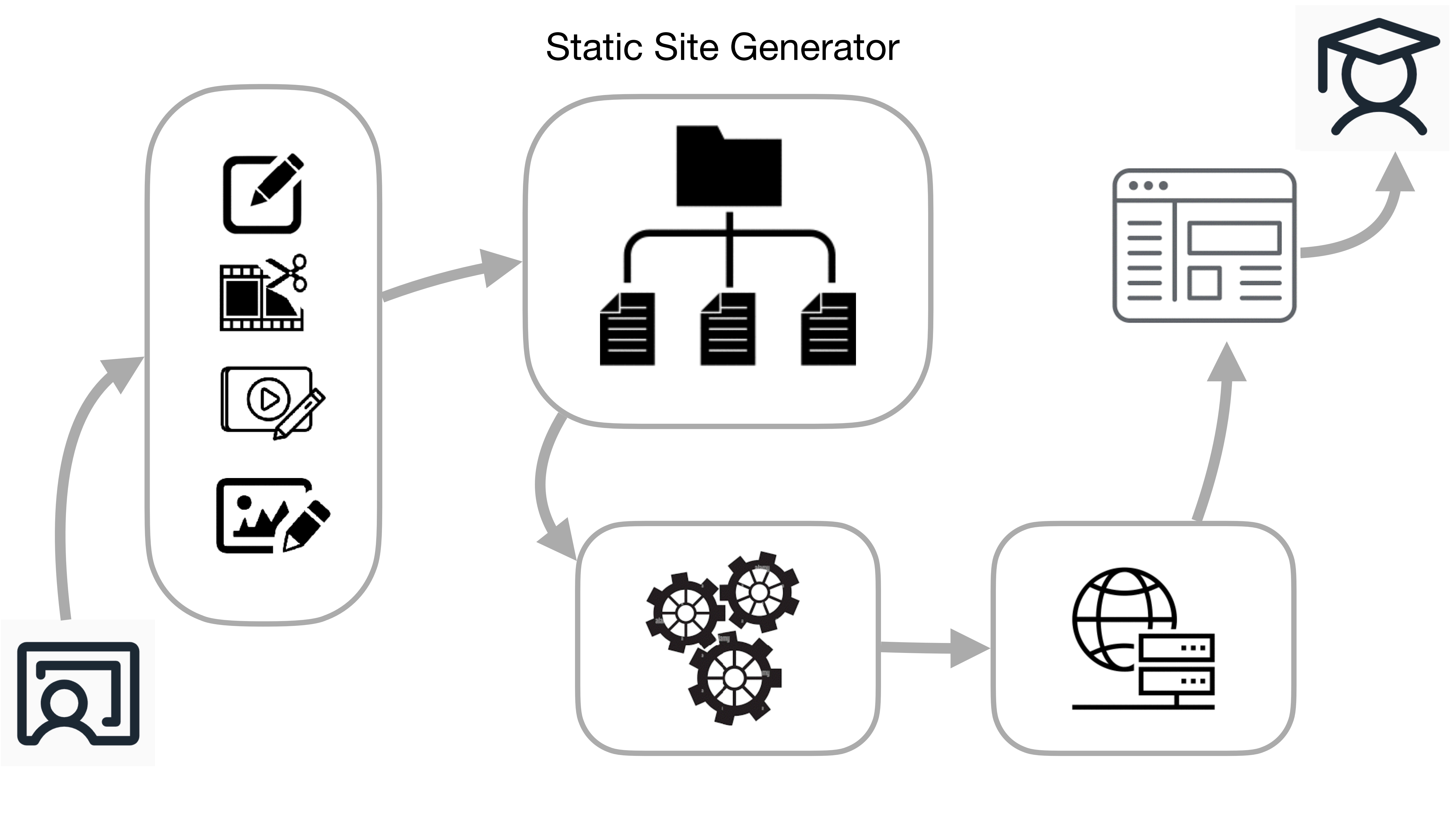
Open Web Learning Toolkit

The Educator Experience

The **Educator Experience** prioritises the creation of a **guided paths** through a curriculum via the creation of learning materials that are **autonomous**, **structurally aligned**, **composable**, **auditable**, **extensible**, **versioned** and **independent**.
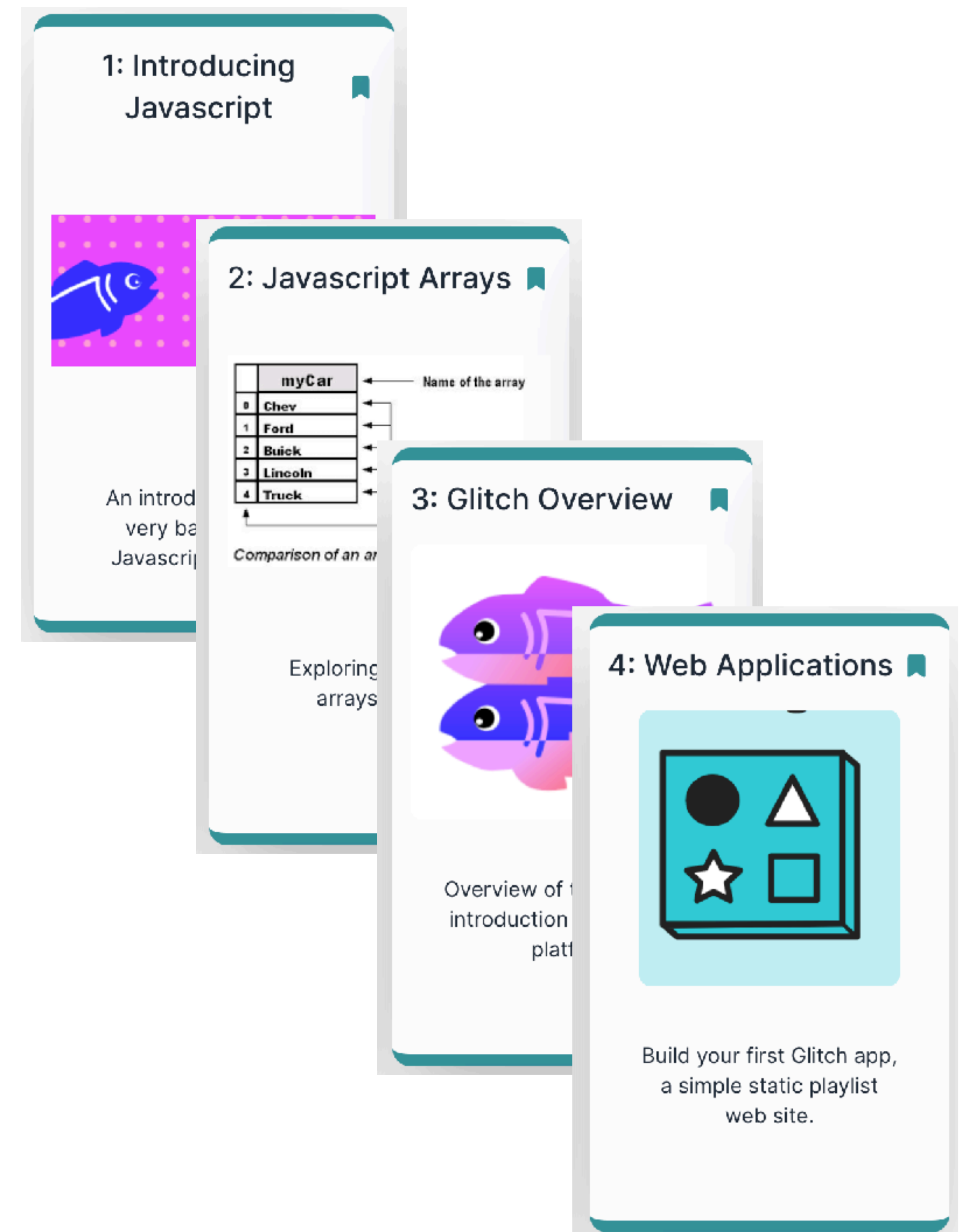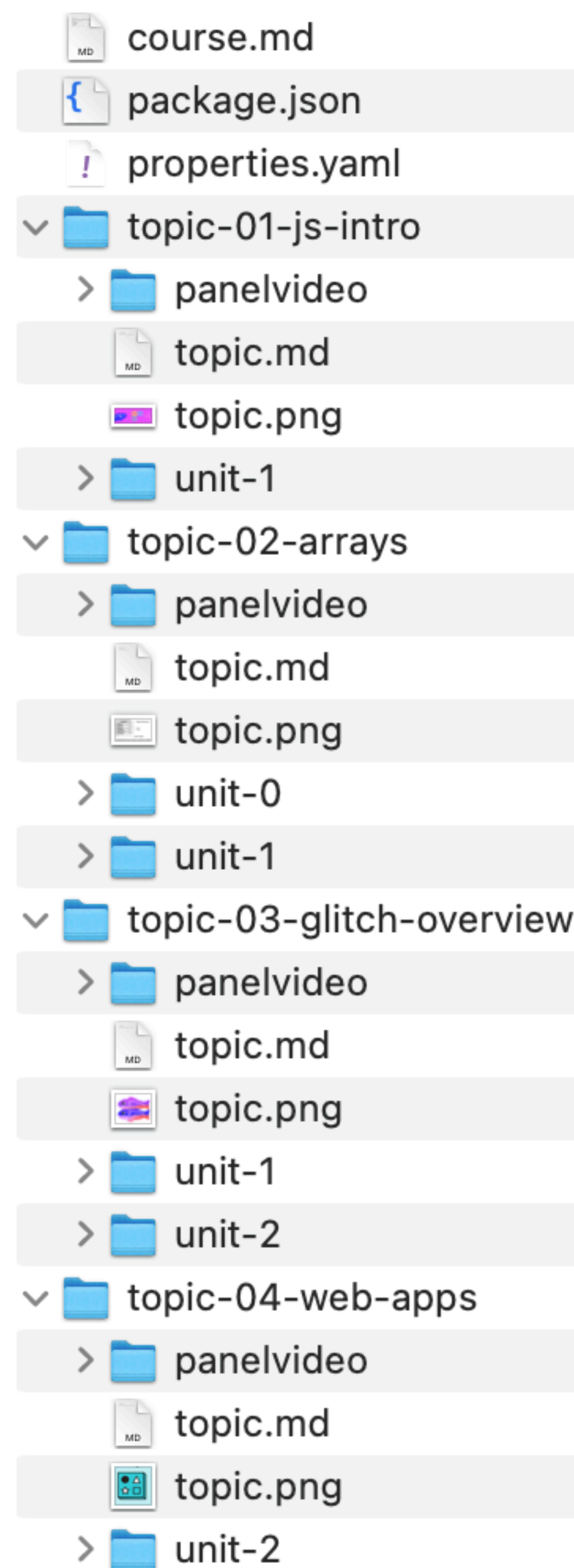
Static Site Generator

Semantic Naming

panelvideoXXX ->
Video

unit-XXX ->
related resources

topicXXX ->
topic

bookXXX ->
lab

talkXXX ->
pdf/slides

course.md
package.json
properties.yaml
topic-01-js-intro
  panelvideo
  topic.md
  topic.png
  unit-1
topic-02-arrays
  panelvideo
  topic.md
  topic.png
  unit-0
  unit-1
topic-03-glitch-overview
  panelvideo
  topic.md
  topic.png
  unit-1
  unit-2
topic-04-web-apps
  panelvideo
  topic.md
  topic.png
  unit-2

1: Introducing Javascript

An introd
very ba
Javascrip

2: Javascript Arrays

Comparison of an ar

Exploring
arrays

3: Glitch Overview

Overview of
introduction
platf

4: Web Applications

Build your first Glitch app,
a simple static playlist
web site.

2: Javascript Arrays 🔖

	myCar		Name of the array
0	Chev		
1	Ford		Data
2	Buick		
3	Lincoln		
4	Truck		
			Index number

Comparison of an array to a column of data

Exploring Javascript arrays in detail

- ▼ 📁 topic-02-arrays
  - ▼ 📁 panelvideo
    - 📄 panelvideo.md
    - 📄 videoid
  - 📄 topic.md
  - 🖼 topic.png
  - ▼ 📁 unit-0
    - ▶ 📁 talk-e-variables-objects
    - ▶ 📁 talk-f-methods-arrays
    - 📄 topic.md
  - ▼ 📁 unit-1
    - ▶ 📁 book-a-js-arrays
    - ▶ 📁 talk-a-arrays-basics
    - ▶ 📁 talk-b-array-methods
    - ▶ 📁 talk-c-array-iteration
    - ▶ 📁 talk-d-arrays-of-objects
    - 📄 topic.md

---

02 arrays

Higher Diploma in Computer Science

ICT Skills 1

Watch on ▶ YouTube

02: Javascript Arrays

Javascript Variables, Objects & Methods

Variables & Objects Review

Methods & Arrays Review

A concise tour of the structure of variables & objects in Javascript

A concise look at methods & Arrays

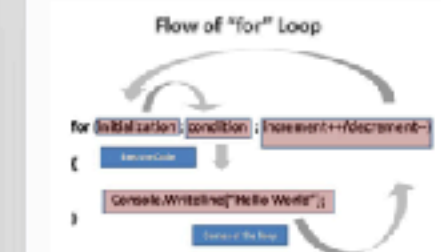**Javascript Arrays**

Arrays: Basics

Array Methods

Array Iteration

Flow of "for" Loop
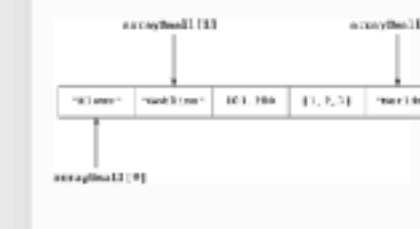
Creating, accessing, adding to and removing from arrays.

Exploring length, slice, concat, join, indexOf, lastIndexOf
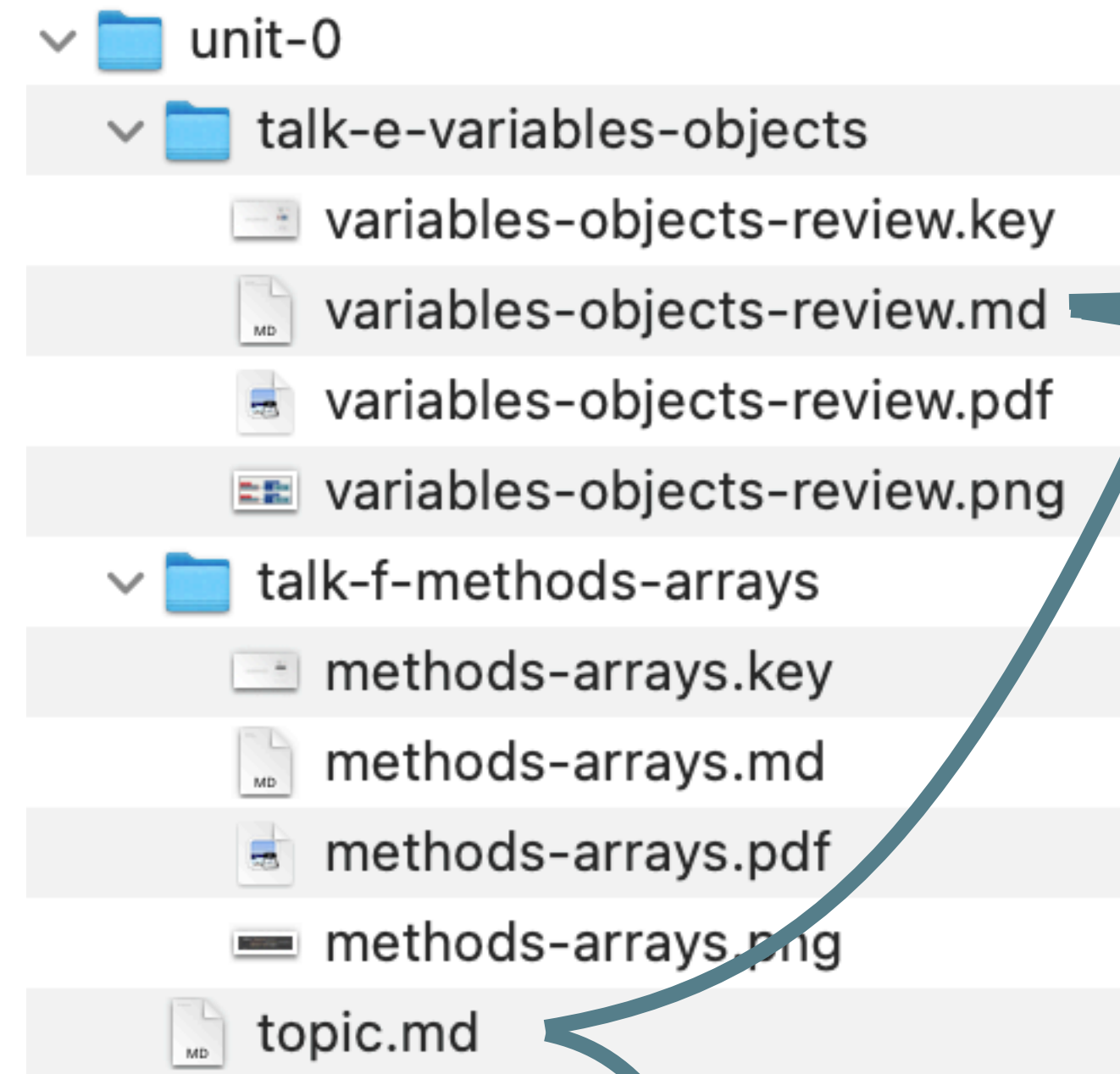
Using for, while and do-while to iterate over an array

Arrays of Objects

Lab-02 JS Arrays

Javascript Variables, Objects & Methods

Variables & Objects Review

A concise tour of the structure of variables & objects in Javascript

Methods & Arrays Review

```
meow: function () {
    console.log(this.sound);
    return this.age;
},
```

A concise look at methods & Arrays

Directory tree:

- unit-0
  - talk-e-variables-objects
    - variables-objects-review.key
    - variables-objects-review.md
    - variables-objects-review.pdf
    - variables-objects-review.png
  - talk-f-methods-arrays
    - methods-arrays.key
    - methods-arrays.md
    - methods-arrays.pdf
    - methods-arrays.png
  - topic.md

Variables & Objects Review

A concise tour of the structure of variables & objects in Javascript

variables-objects-review.md

Javascript Variables, Objects & Methods

topic.md

Talk structure


```
v 📁 talk-f-methods-arrays
    📄 methods-arrays.key
    📄 methods-arrays.md
    📄 methods-arrays.pdf
    📄 methods-arrays.png
```

Methods & Arrays
Review

```
meow: function () {
    console.log(this.sound);
    return this.age;
},
```

A concise look at methods
& Arrays
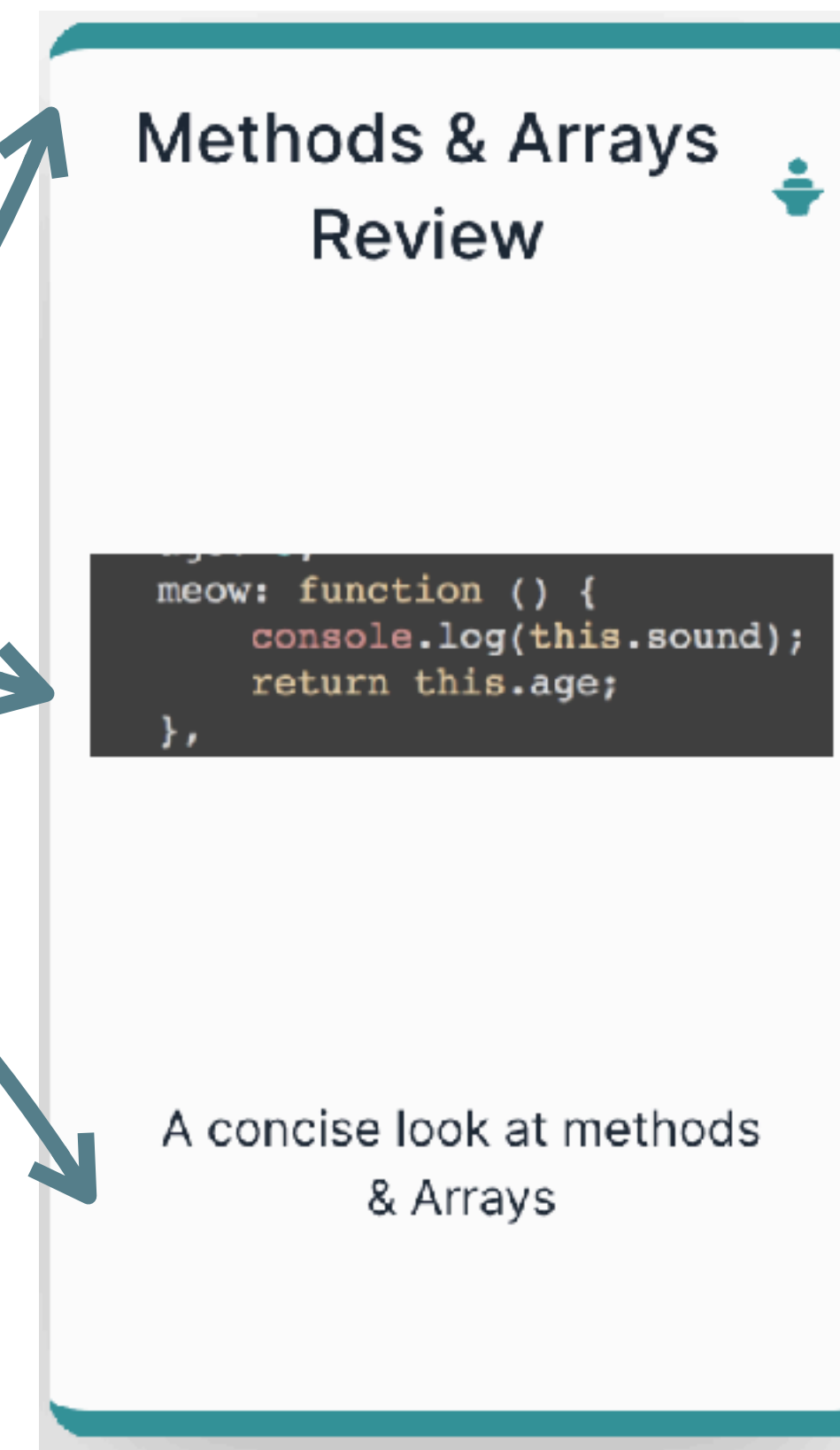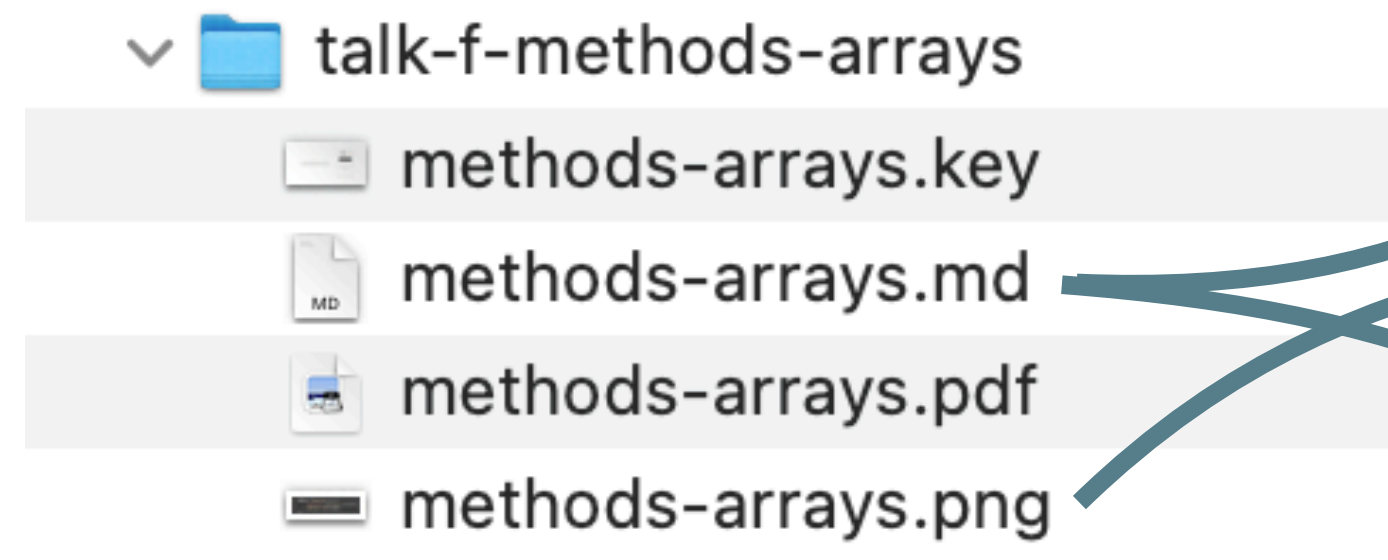
all files
same name

- image
- pdf
- markdown

Methods & Arrays Review

A concise look at methods &
Arrays

Lab structure
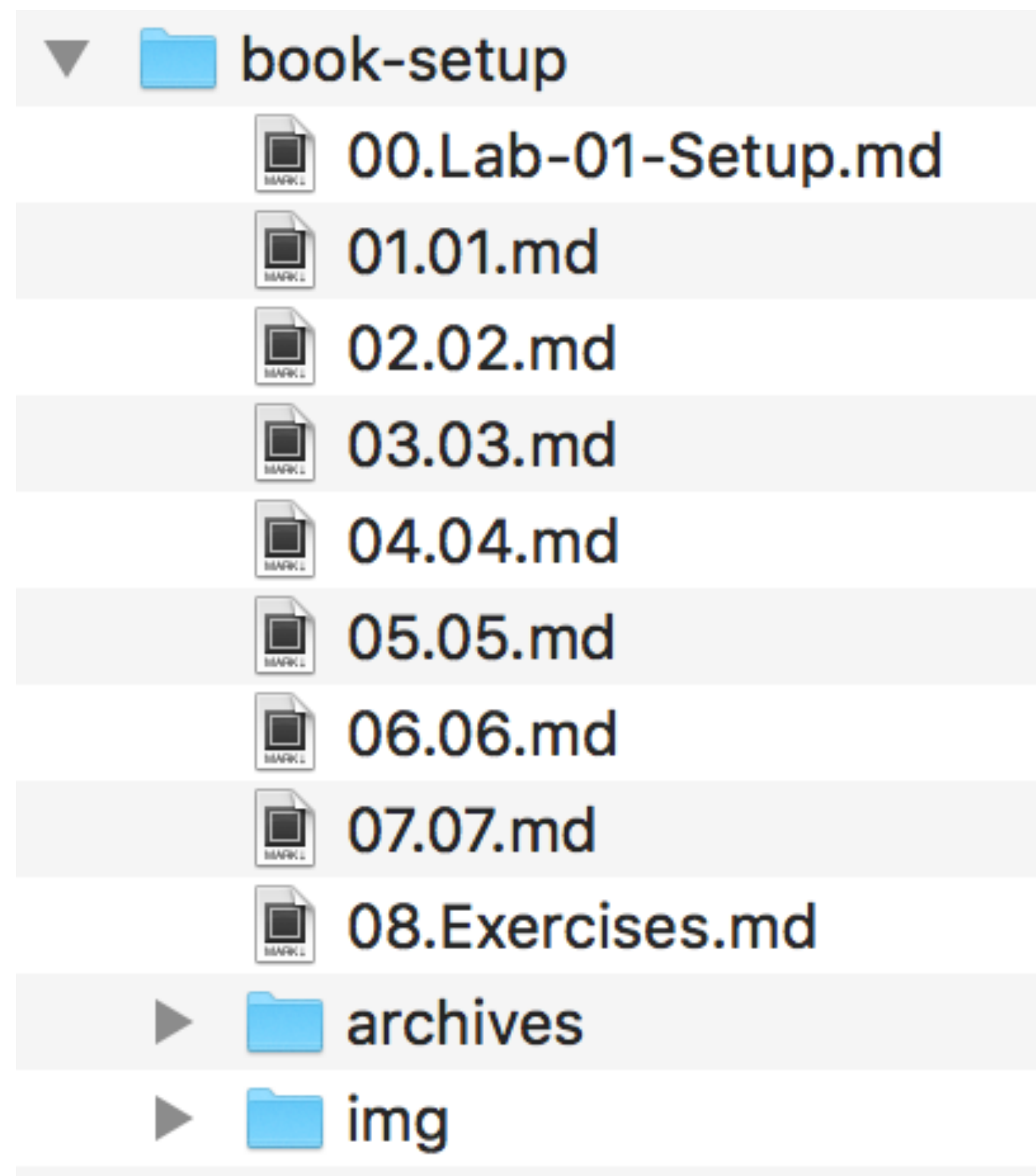
img
- images used in lab

archives
- zipped archive linked to in labs

One *md* file per step

Web Development II > 1: Introducing Javascript > Introducing Javascript > Lab-01 JS Intro

Objectives

Running Javascript

Variables

Primitive Data Types

Boolean Logic

Const, Let & Simple Objects

Objects with Functions

Chrome Debugger

Exercises

Solutions

Const, Let & Simple Objects

Const & Let

The variable statement declares a variable, optionally initializing it to a value.

var

```javascript
// String
var greeting = "hello";
// Number
var favoriteNum = 33;
```

const

The `const` statement is similar to the var statement, however, the value cannot be reassigned.

```javascript
// String
const greeting = 'hello';

// Number
const favoriteNum = 33;
```

So if we try this:

```javascript
favoriteNum = 23;
```

We will get an error. Try the above in the chrome console now and see what happens, see something like this:

```
Console
top                    ▼  ☐ Preserve log  ☑ Show all messages
> const favoriteNum = 33;
  favoriteNum = 23;
⊗ ▶ Uncaught SyntaxError: Identifier 'favoriteNum' has already been declared
       at <anonymous>:1:1
>
```

Const, Let & Simple Objects

Const & Let

The variable statement declares a variable, optionally initializing it to a value.

var

~~~javascript
// String
var greeting = "hello";
// Number
var favoriteNum = 33;
~~~

const

The `const` statement is similar to the var statement, however, the value cannot be redeclared or reassigned.

~~~javascript
// String
const greeting = 'hello';

// Number
const favoriteNum = 33;
~~~

Each Lab written in Markdown

2 Ways of Publishing a Module

Static/HTML

Dynamic/JSON

Static/HTML

Static/HTML

- Static Site

- Can be browsed offline (distribute zipped archive of course)

- Format 'frozen' at time of generation

- No analytics or presence features

Dynamic/JSON

- Dynamic Site

- Browser through the Tutors Reader app

- Continuously updated and enhanced

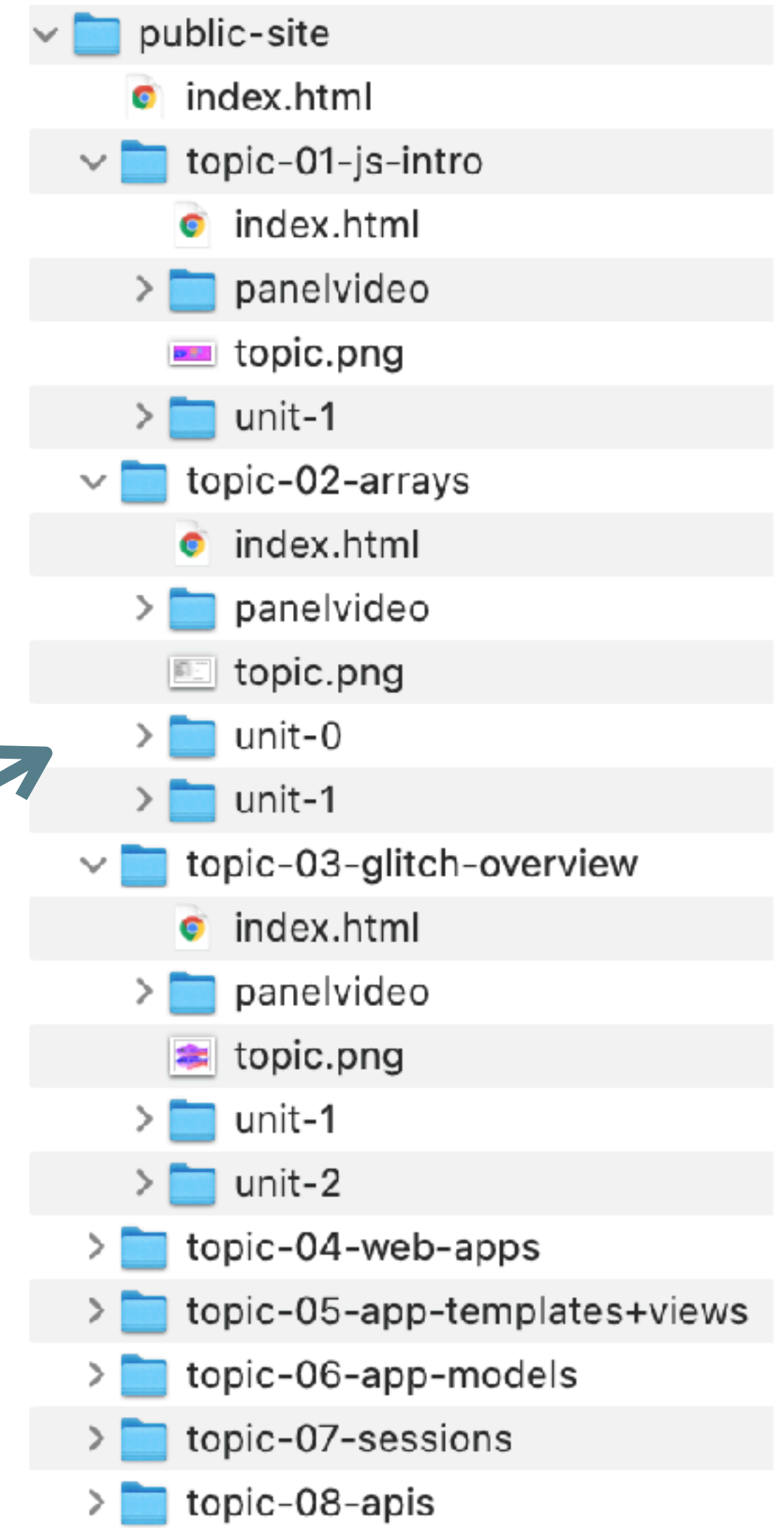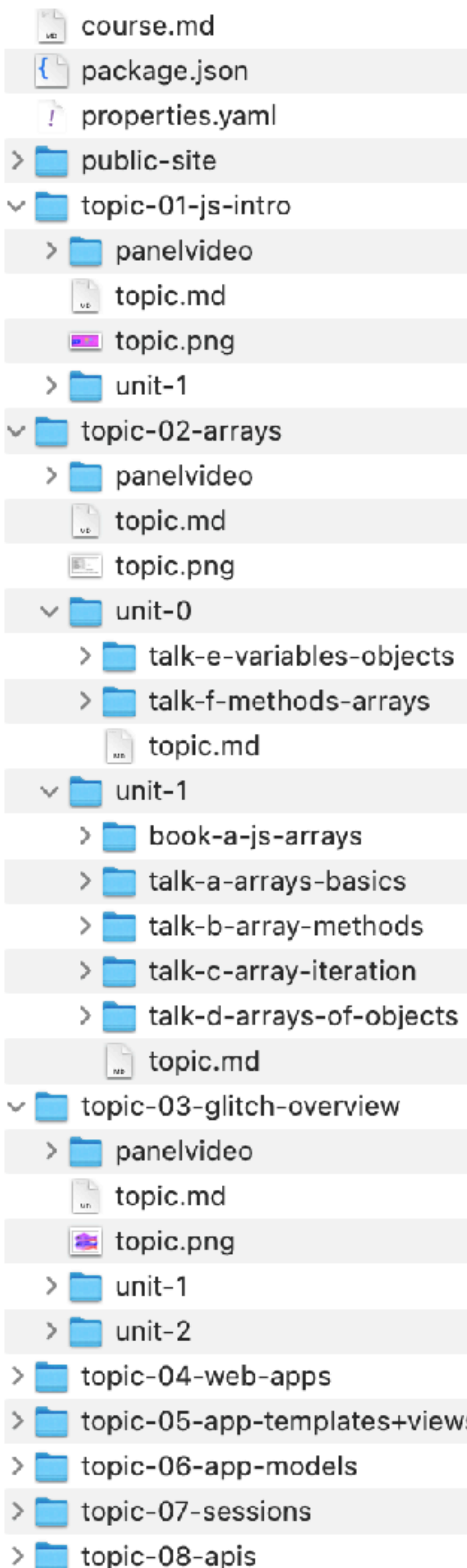- Included optional analytics or presence features
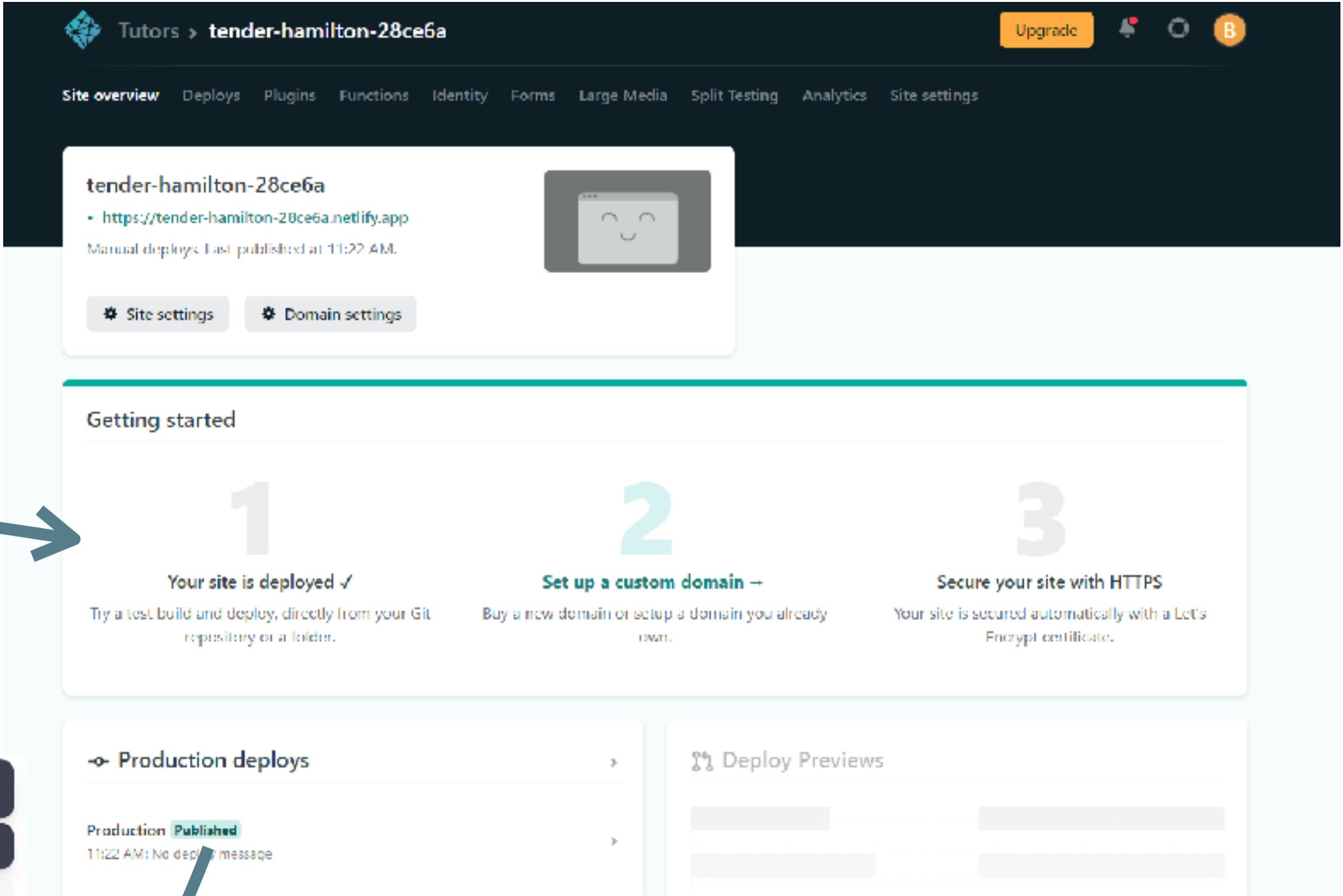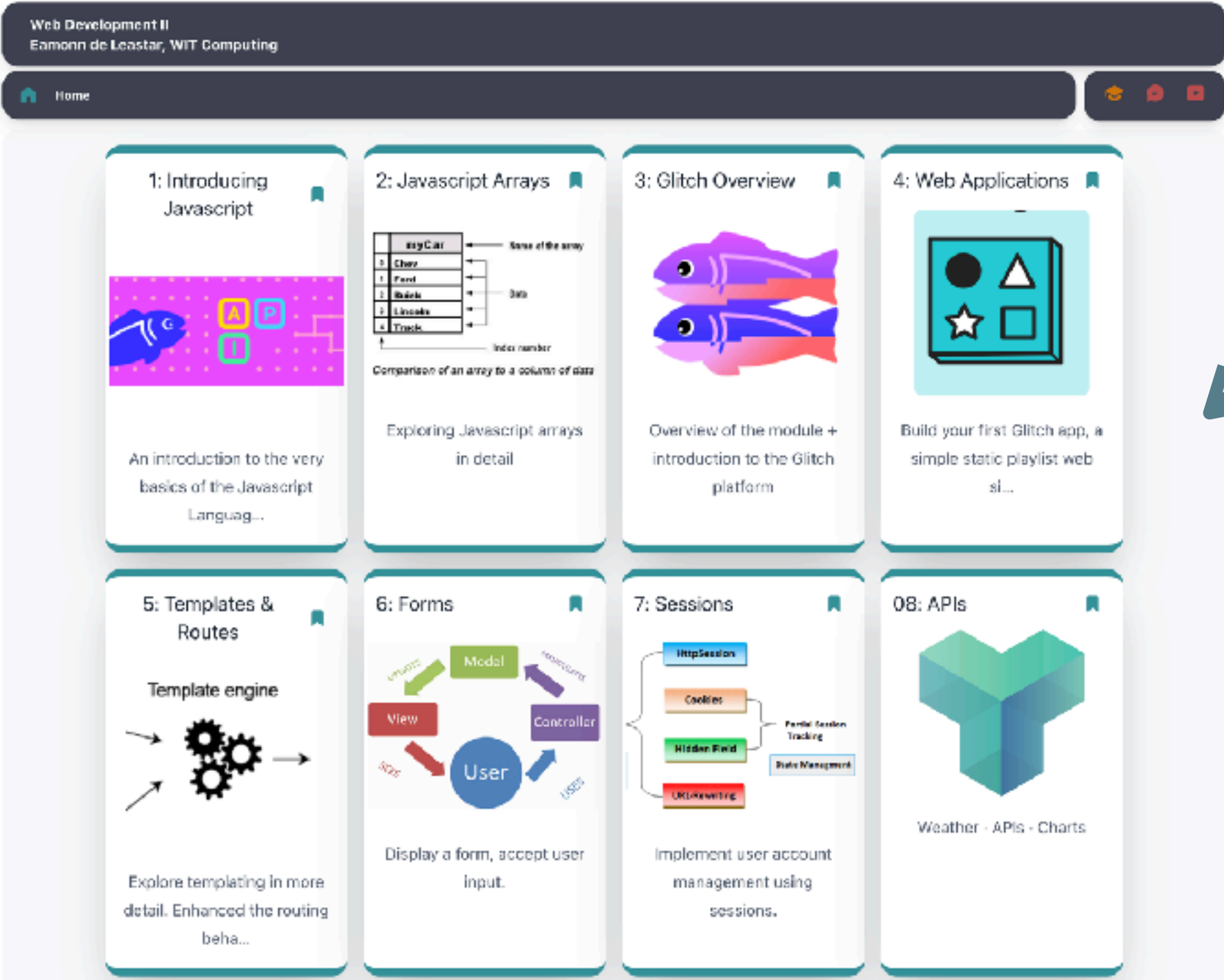
Dynamic/JSON

Static/HTML

npx tutors-html

Command generates static site to 'public-site' folder
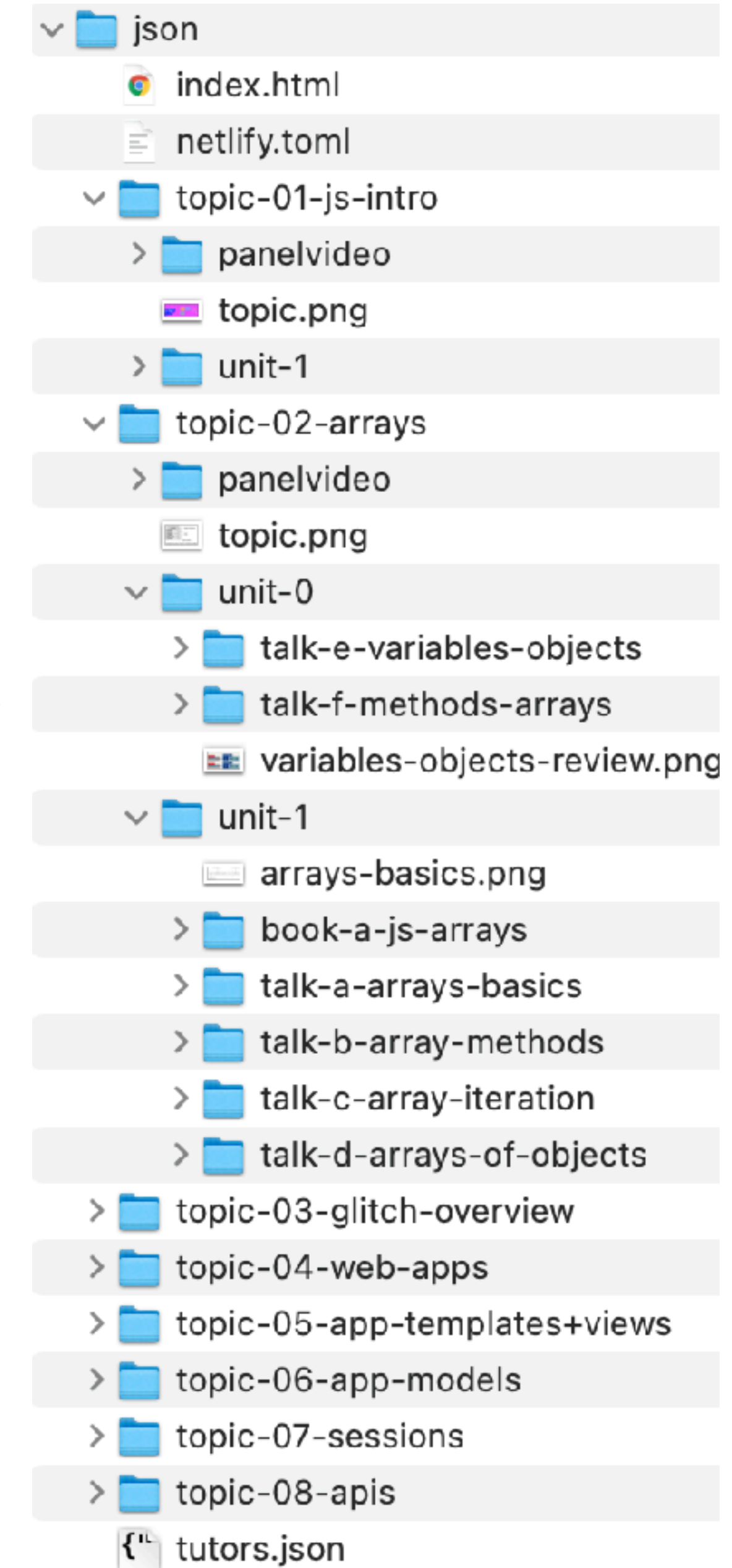
Static

Drag & Drop Public Site folder to Netlify Project

Deploys the site globally

Dynamic/JSON

npx tutors-json

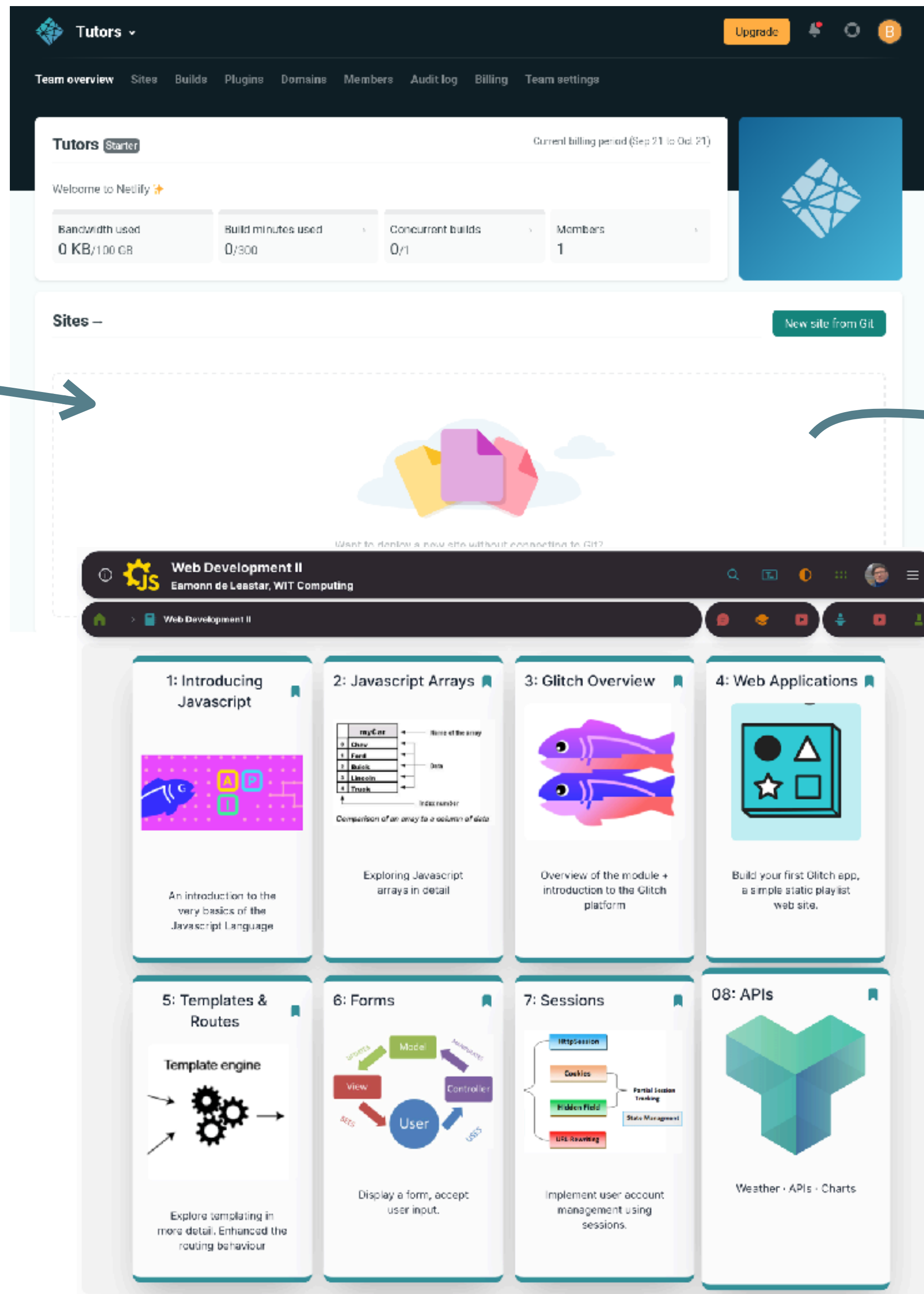Command generates static site to 'json' folder

Dynamic

Drag & Drop Public Site folder
to Netlify Project

Deploys the Course Globally

Dynamic
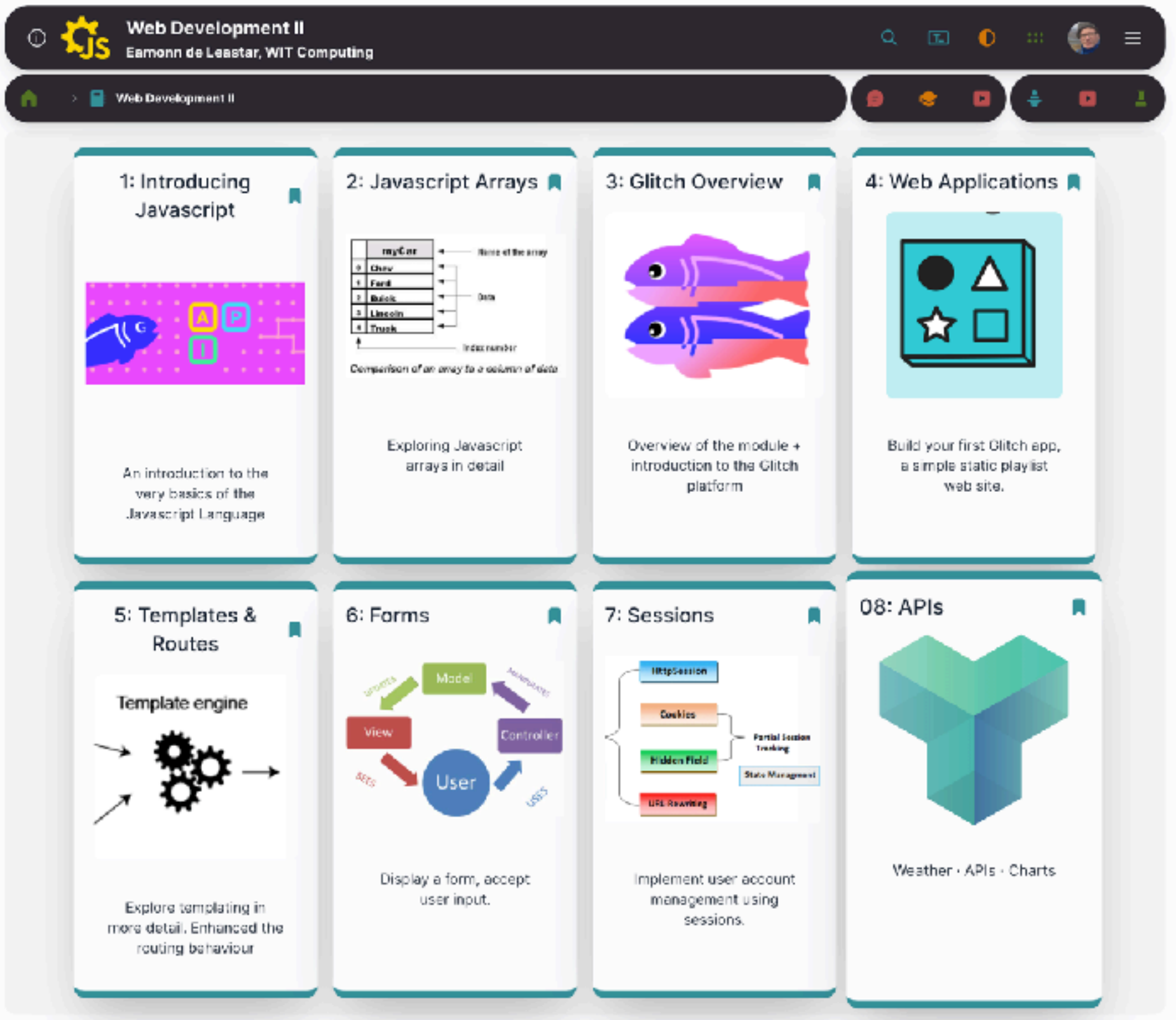
properties.yaml

```
Auth : 1
```


Number of minutes the Each lab has been active in your browser (estimate)

Number of minutes the the Course has been active in your browser (estimate)

You may choose to not appear on this page if you prefer to 'appear offline'

Any students currently online will appear here, indicating the topic/lab they may be working on

https://tutors.dev/

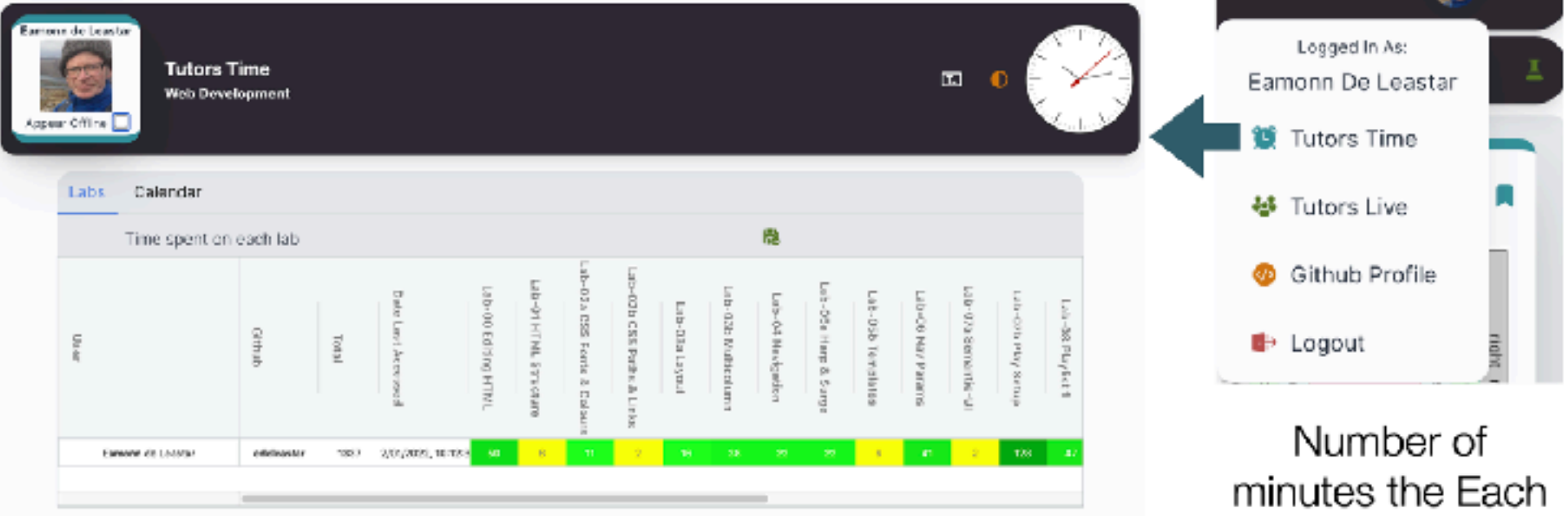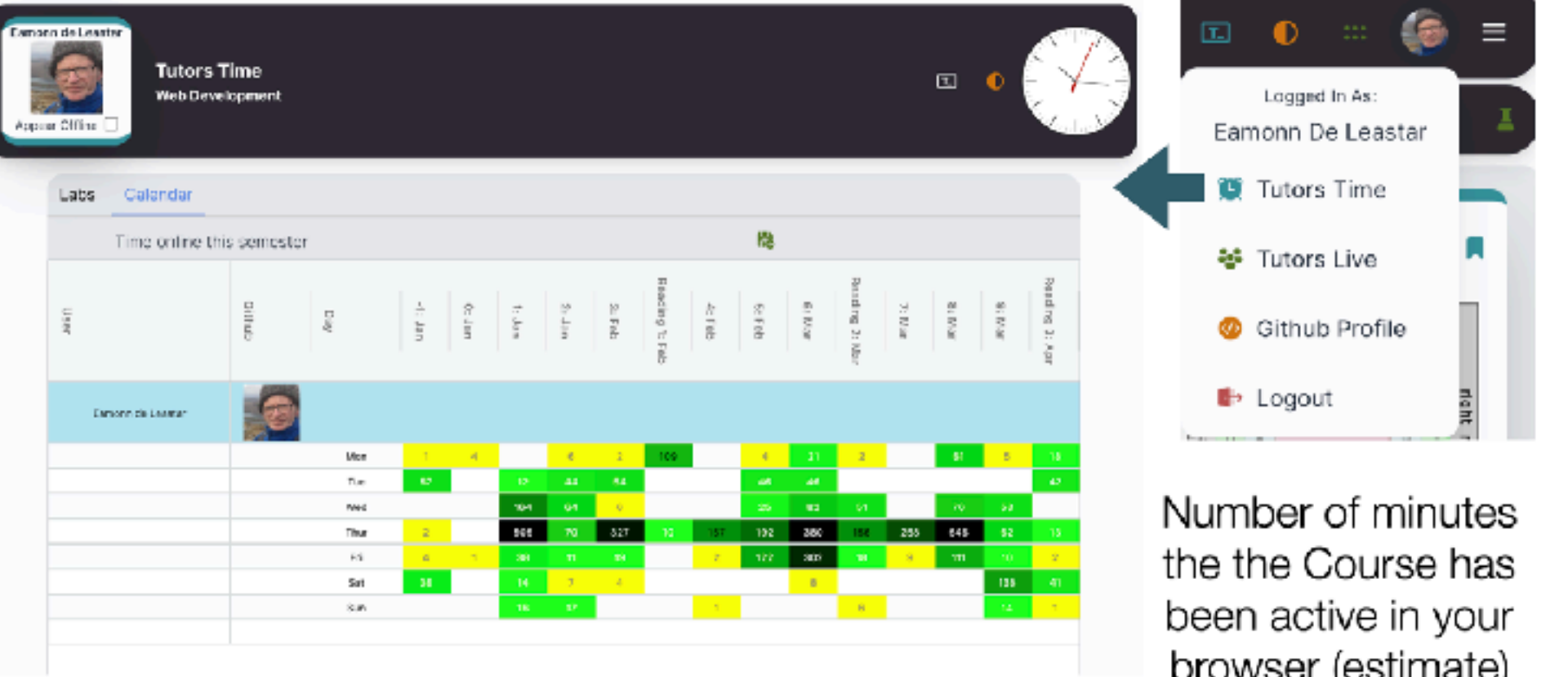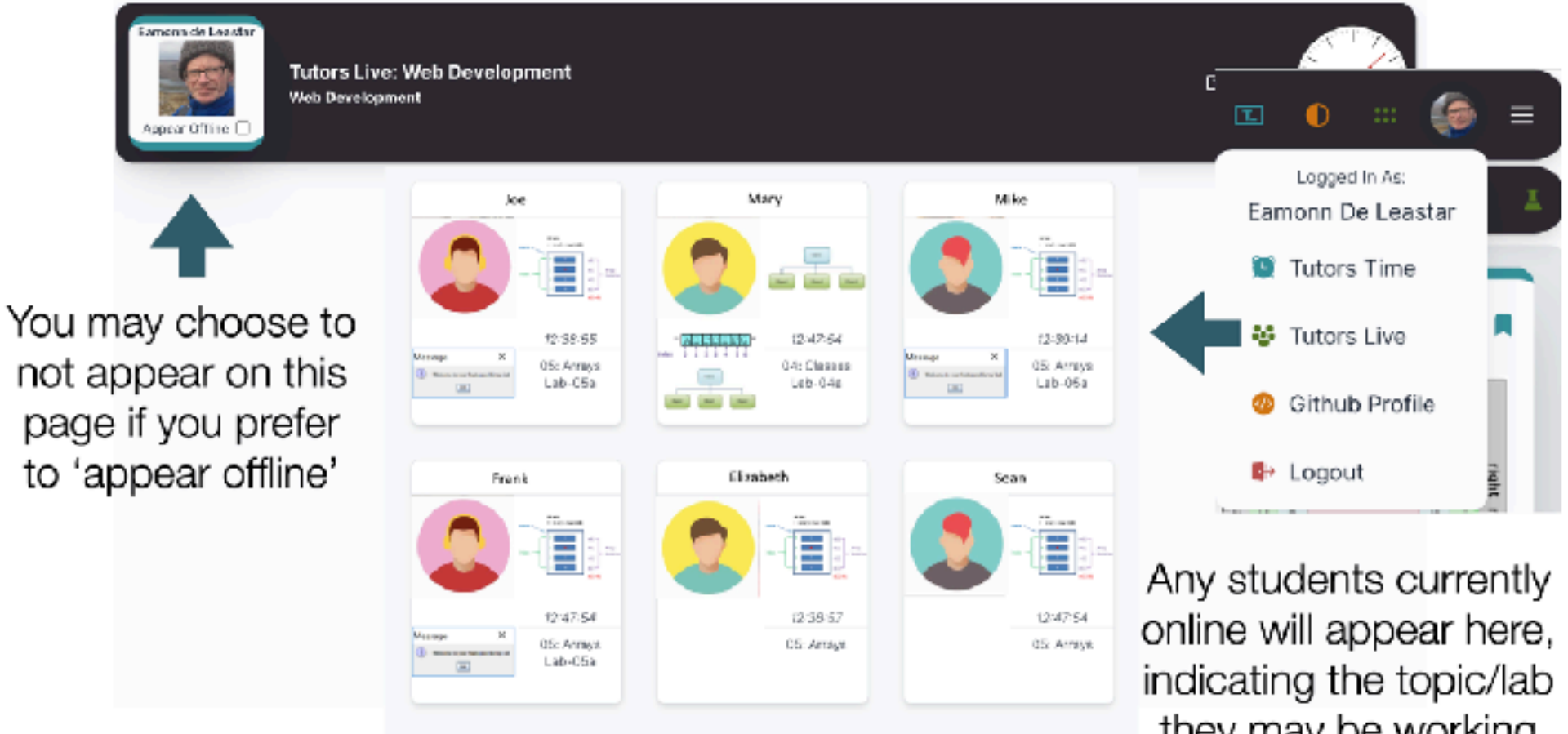**Tutors Open Source Project**
Open Learning Web Toolkit

Tutors: An Open Learning Web Toolkit

A collection of open source components & services supporting the creation of transformative learning experiences using open web standards.

EXPLORE

The project supports three complimentary perspectives

The Learner Experience

The *Learner Experience* prioritises web interactions that are **engaging**, **contextual**, **linkable**, **searchable**, **accessible** and **responsive**. In addition the experience should foster a sense of **community** and **connection** among fellow learners.

The Educator Experience

The *Educator Experience* prioritises the creation of a **guided paths** through a curriculum via the creation of learning materials that are **autonomous**, **structurally aligned**, **composable**, **auditable**, **extensible**, **versioned** and **independent**.

The Developer Experience

The *Developer Experience* prioritises the specification and implementation of **robust**, **well documented**, **loosely coupled components & services**, integrated into a **coherent toolkit** open to contributions from **diverse skill sets**.