PRACTICAL LESSON PLAN

Subject:	Web Applications Development	**Degree:**	Informatics Engineering
Topic:	Client side: React + JSX + Babel	**Professor:**	Noélia Correia (ncorreia@ualg.pt)
Type:	□ Programming ⊠ Setup	**Institution:**	Universiy of Algarve

GOALS

React makes it painless to create interactive UIs because component logic is written in JavaScript. Most people find it helpful to use JSX (a syntax extension to JavaScript) with React when describing what the UI should look like. That is, React doesn't require using JSX, but is a visual aid when working with UI inside the JavaScript code. Babel is used to transpile JSX code into JS code. The goal of this lab is for you to become familiar with React+JSX and transpile step into valid JavaScript.

REQUIRED RESOURCES

You need:

- ◇ Your laptop.

- ◇ Node and npm installed.

TASKS

Building Project with Babel Support

Create a directory and `npm init` your project. Then:

- ◇ Install Babel using `npm install @babel/core @babel/cli`.

- ◇ Install the React preset using `npm install @babel/preset-react`.

Create `.babelrc` configuration file with the following content:

```
1  { "presets" : [
2      [ "@babel/preset-react" ]
3    ]
4  }
```

The HTML File: react5.html[1]

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <meta charset="UTF-8" />
5      <title>Intro To React</title>
6      <script crossorigin src="https://unpkg.com/react@16/umd/react.development.js"></script>
7      <script crossorigin src="https://unpkg.com/react-dom@16/umd/react-dom.development.js"></
           script>
8      <script src="main.js"></script>
9    </head>
10   <body onLoad="start();">
11     <div id="mainContainer"></div>
12   </body>
13 </html>
```

The JSX File: main.jsx

Adapt the code inside the `react4.html`, in order to include JSX syntax, and place it in `main.jsx` file. Then execute `npx babel main.jsx --out-file main.js` and use your browser to open `react5.html`. Then add the following to the HTML file:

```
1  <script crossorigin src="https://unpkg.com/prop-types@15.6/prop-types.js"></script>
```

and include an intentional error after the constructor in `main.jsx`:

```
1  static propTypes = { descricao : PropTypes.number };
```

Inspect the console tab in the web development tool of your browser.

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[1]The remaining react?.html examples are included as links in slides from theoretical lectures. Do not forget to test them!