

# Dynamic Function Dispatching

This demo addresses a need to dynamically call a JavaScript function by a string name.

Approaches using `Eval` or `Function` are not allowed.

Instead, we use a JavaScript object to map a string key to a function name in a factory pattern. Here is `functionFactory.js` :

```
import functionOne from './dynamic/functionOne';
import functionTwo from './dynamic/functionTwo';
import functionThree from './dynamic/functionThree';
import functionZero from './dynamic/functionZero';

// To add a function: add its import above; then add a line for its name here:
const functionMap = {
  functionOne,
  functionTwo,
  functionThree,
  functionZero,
};

const resolve = (functionName, args) => {
  const fn = functionMap[functionName];
  return fn
    ? fn(args)
    : `Rats! ${functionName} not registered`;
};

export function functionFactory(code, args = {}) {
  return resolve(`function${code}`, args);
}
```

A caller would invoke a function by a `code` parameter string in this manner.

Parameter signatures are a contract between the caller and the target function.

We sends zero or more target-specific arguments via an

`args` object. Here's the demo sending three arguments in the factory's second parameter, an object containing key/value arguments.

```
functionFactory(code, {arg1: new Date().toString(), arg2: 'value2', arg3: 'value3'})
```

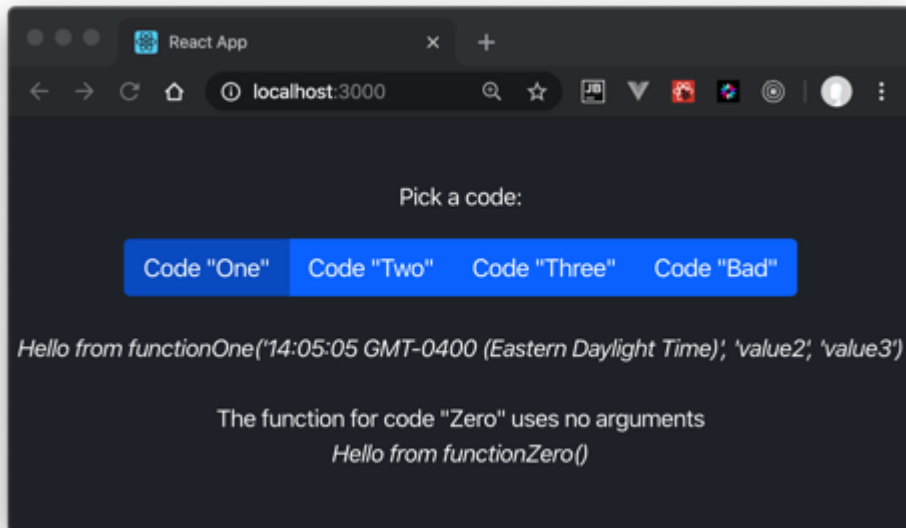
That parameter object is optional, defaulting to `{}`. Again, argument signature is an agreement between caller and target.

```
functionFactory('Zero')
```

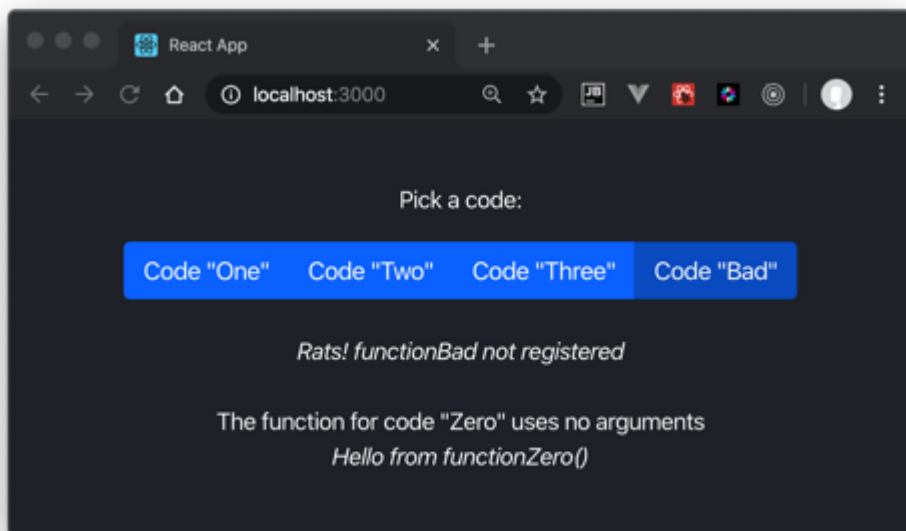
Here is one demo dynamic target function:

```
export default function functionOne(args) {
  const { arg1, arg2, arg3 } = { ...args };
  return `Hello from functionOne('${arg1}', '${arg2}', '${arg3}')`;
}
```

The demo UI chooses the target's code property via a toggle buttons.



The factory defaults unregistered functions.



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## Instructions

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This project was bootstrapped with [Create React App](#).

## Available Scripts

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In the project directory, you can run:

```
yarn start
```

Runs the app in the development mode.

Open <http://localhost:3000> to view it in the browser.

The page will reload if you make edits.

You will also see any lint errors in the console.

## **yarn test**

Launches the test runner in the interactive watch mode.

See the section about [running tests](#) for more information.

## **yarn build**

Builds the app for production to the `build` folder.

It correctly bundles React in production mode and optimizes the build for the best performance.

The build is minified and the filenames include the hashes.

Your app is ready to be deployed!

See the section about [deployment](#) for more information.