

# REACT

## 01 FUNDAMENTALS AND INSTALLATION

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# SYLLABUS

- **01 Fundamentals And Installation**
- 02 Components And Props
- 03 State
- 04 Handling Events
- 05 SetState And Lifecycle
- 06 Lists And Keys
- 07 Forms
- 08 PropTypes
- 09 Refs
- 10 React Router v4

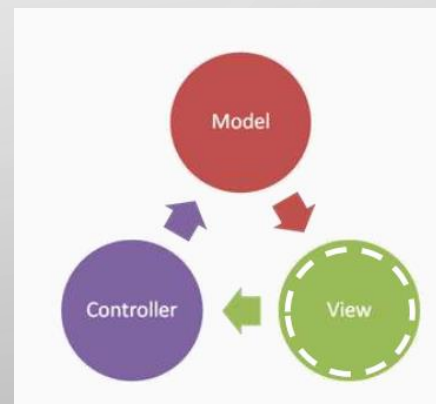
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# מה זה REACT?

## React

A JavaScript library for building user interfaces

- ספריה לפיתוח UI של צד לקוח בJS.



- מתוך MVC

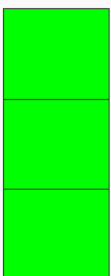
- DECLERATIVE - מתכנתים את המה רוצים לעשות? ולא את האופן משיגים את זה?

## Declarative

A tower of 3 blocks

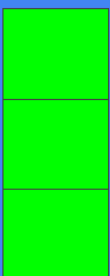


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## Imperative

1. Put down block A
2. Put down block B on A
3. Put down block C on B



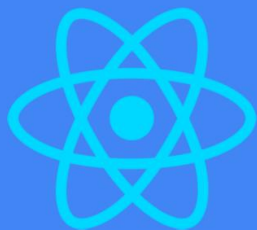
# Learn once, write anywhere? מה זה REACT

Write once, run anywhere

It's Java



React Native



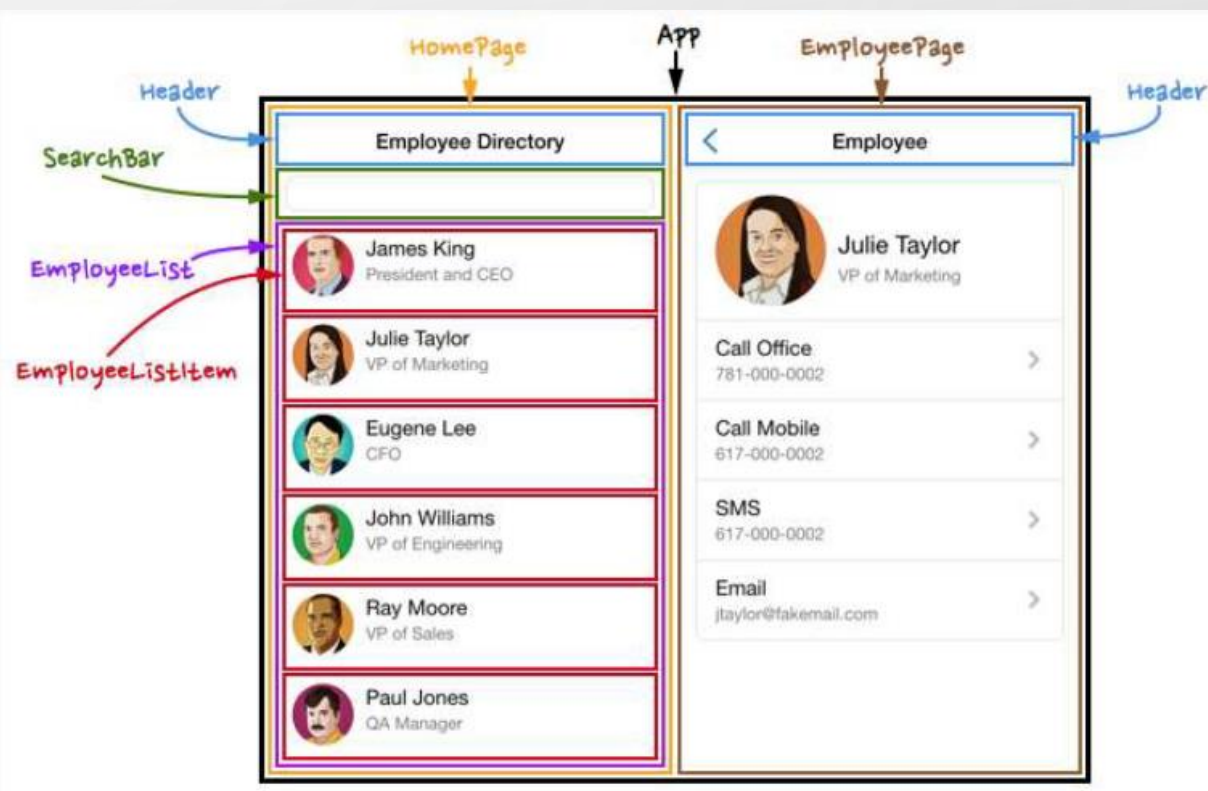
React VR



LEARN ONCE, •  
WRITE ANYWHERE

– משתלב עם  
טכנולוגיות אחרות,  
רץ גם בשרת, יש גם  
REACT ANTIVE

הכל זה COMPONENT •



מי משתמש?



כולל  
ANGULAR 2

## פופולריות

### angular

One framework. Mobile & desktop.

TypeScript ★ 29.6k 7.4k

### angular.js

AngularJS - HTML enhanced for web apps!

JavaScript ★ 57.4k 28.7k

### react

A declarative, efficient, and flexible JavaScript interfaces.

frontend declarative ui library

JavaScript ★ 80,221 15,201

### react-native

A framework for building native apps

JavaScript ★ 55,430 12,928

### vue

A progressive, incrementally-adoptable JavaScript framework for building UI on the web.

JavaScript ★ 72.6k 10.6k



Search GitHub

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### Gitstar Ranking

Users

Organizations

Repositories

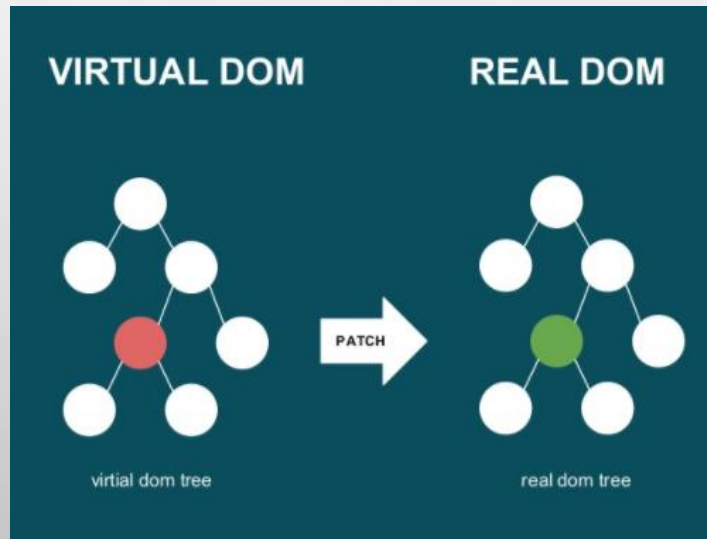
GitHub username

## Repositories Ranking

1.	freeCodeCamp/freeCodeCamp	★ 291193
2.	twbs/bootstrap	★ 114834
3.	EbookFoundation/free-progra...	★ 92555
4.	facebook/react	★ 74873
5.	tensorflow/tensorflow	★ 68969
6.	d3/d3	★ 67875
7.	getify/You-Dont-Know-JS	★ 66736
8.	vuejs/vue	★ 65590
9.	sindresorhus/awesome	★ 64991
10.	robbyrussell/oh-my-zsh	★ 58591
11.	airbnb/javascript	★ 57906
12.	angular/angular.js	★ 56966
13.	github/gitignore	★ 54224
14.	facebook/react-native	★ 52994

# מרכיבים עיקריים

## VIRTUAL DOM •



## JSX •



Components

## COMPONENTS הכל זה •



One way data flow

## המידע זורם בכיוון אחד •



# מרכיבים עיקריים

- הכי מהירה בצד לקוח (יותר מANGULAR, AMBER...) בגלל הVIRTUAL DOM. FPS 60



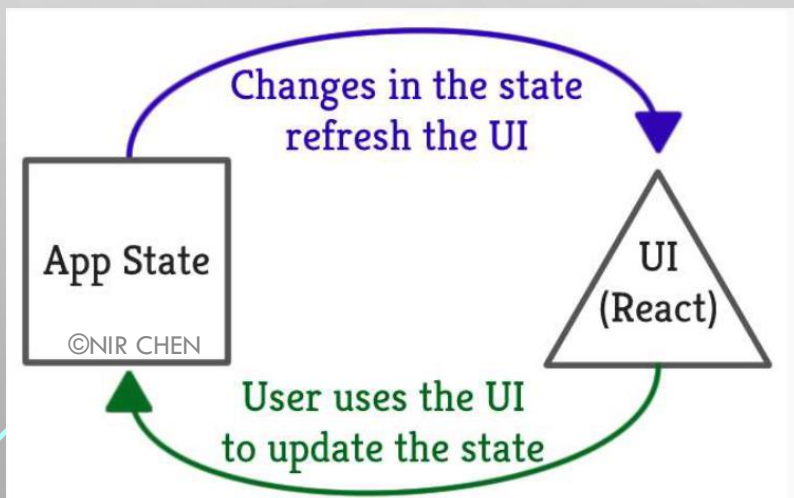
## DOM VS Virtual DOM



VS



- הכנסת ה"HTML" (JSX) לתוך הJS לעומת שפות אחרות שמכניסות את ה JS לתוך ה HTML. (נראה בהמשך)
- משנים את המצב של התוכנית והיא מעדכנת אוטומטית את הUI.





# עזרים

BABEL

**Babel is a JavaScript compiler.**

Use next generation JavaScript, today.

• BABEL – מתרגם JSX לJS.

יודע גם לתרגם מES6 לJS ישן

כך שיעבוד בדפדפנים ישנים

npm

npm is the package manager for JavaScript and the world's largest software registry. Discover packages of reusable code — and assemble them in powerful new ways.

Use npm to install, share, and distribute code; manage dependencies in your projects; and share & receive feedback with others.

• NPM – עוזר לארגן את הפרוייקט

להוריד ספריות ולייצר גרסת הרצה

# עזרים



At its core, *webpack* is a *module bundler* for modern JavaScript applications. When webpack processes your application, it recursively builds a *dependency graph* that includes every module your application needs, then packages all of those modules into one or more *bundles*.

• WEBPACK – מייצר קבצים להרצה כך שיהיו מאוחדים, וקטנים יותר ללא כפילויות.



Linting tools like ESLint allow developers to discover problems with their JavaScript code without executing it.

• מעיין קומפיילר ל JS ו- JSX



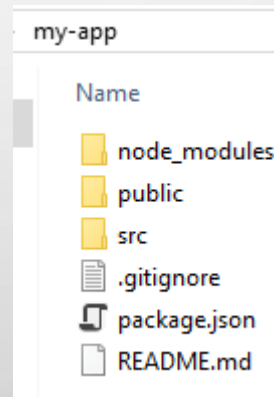
• סביבת העבודה שלנו תהיה

# הרצה

## FOR DEVELOPMENT

```
npm install -g create-react-app  
create-react-app my-app
```

```
cd my-app  
npm start / npm run build
```



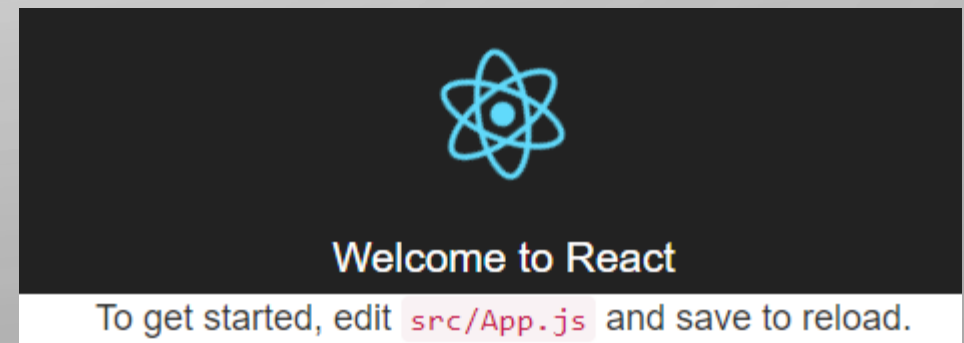
## FOR PRODUCTION

```
npm install -g create-react-app  
create-react-app my-app
```

```
cd my-app  
npm run build
```

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```
npm install -g serve  
Serve -s build
```



# RUN ON SERVER

## FOR PRODUCTION

```
npm install -g create-react-app  
create-react-app my-app
```

```
cd my-app
```

```
npm run build
```



להעתיק את  
ספריית BUILD  
לשרת



## package.json

```
{  
  "name": "my-app",  
  "version": "0.1.0",  
  "private": true,  
  "dependencies": {  
    "react": "^16.0.0",  
    "react-dom": "^16.0.0",  
    "react-scripts": "1.0.17"  
  },  
  "scripts": {  
    "start": "react-scripts start",  
    "build": "react-scripts build",  
    "test": "react-scripts test --env=jsdom",  
    "eject": "react-scripts eject"  
  },  
  "homepage":  
    "http://ruppinmobile.ac.il.prev.../site01/build"  
}
```

שלב ראשון  
לייצר את הקובץ  
הזה

## .eslintrc.js

```
module.exports = {  
  "parser": "babel-eslint",  
  // "extends": "airbnb",  
  "extends": ["eslint:recommended",  
    "plugin:react/recommended"],  
  "parserOptions": {  
    "ecmaFeatures": {  
      "jsx": true,  
      "modules": true  
    }  
  },  
  "plugins": [  
    "react",  
    "jsx-a11y",  
    "import"  
  ],  
};
```

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# ESLINT

שלב שני

```
npm install eslint --save-dev
```

```
npm install eslint-plugin-react --save-dev
```

```
npm install -g install-peerdeps  
install-peerdeps --dev eslint-config-airbnb
```



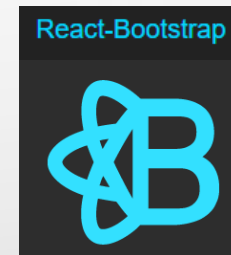
Linting tools like ESLint allow developers to discover problems with their JavaScript code without executing it.

# BOOTSTRAP

```
npm install --save bootstrap
```

index.js

```
import '../node_modules/bootstrap/dist/css/bootstrap.min.css';
```



• מתי צריך את react-bootstrap

- If you just need html and css part of bootstrap, it should be fine to not use the library .But if you want use js part of bootstrap for bootstrap transitions, the library is a must



# TRY IT YOURSELF



Welcome to React

To get started, edit `src/App.js` and save to reload.

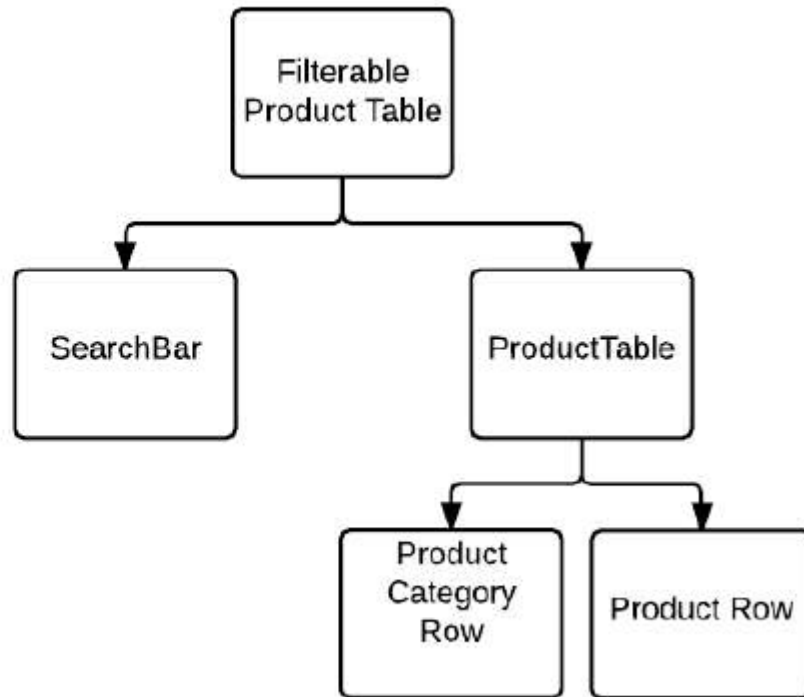
# Hello, world!

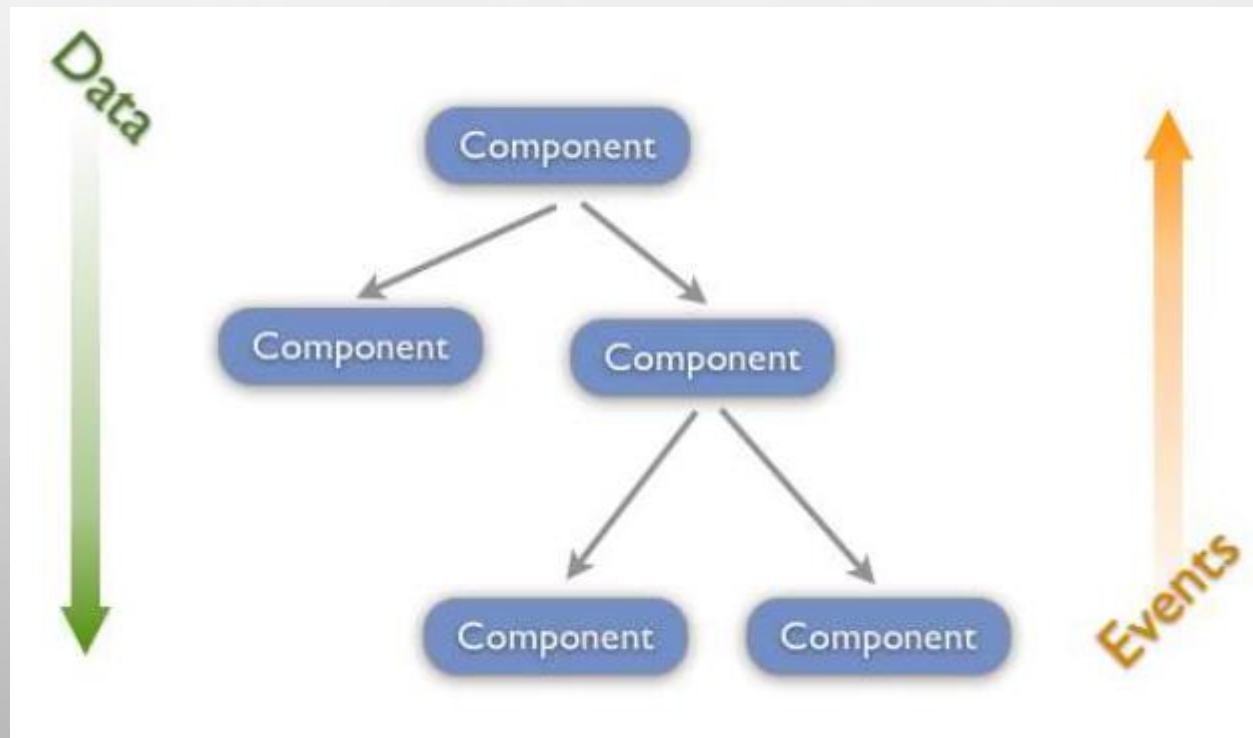
From our React Course:)

# COMPONENTS

☒ Only show products in stock

Name	Price
Sporting Goods	
Football	\$49.99
Baseball	\$9.99
Basketball	\$29.99
Electronics	
iPod Touch	\$99.99
iPhone 5	\$399.99
Nexus 7	\$199.99





## Mounting

initialization  
(initial **state** or default **props**)

componentWillMount

render

componentDidMount

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## Updating

componentWillReceiveProps

shouldComponentUpdate

true  false

componentWillUpdate

render

componentDidUpdate

## Unmounting

componentWillUnmount