UNIVERSIDAD TÉCNICA DE MACHALA

Maestría en Software

Asignatura:

Desarrollo de Aplicaciones Web

Tema:

Ejecutar Tutorial REACT

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Estudiante:

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Informe técnico de la experiencia.

Construir un juego de tic-tac-toe interactivo con React

Prerrequisitos

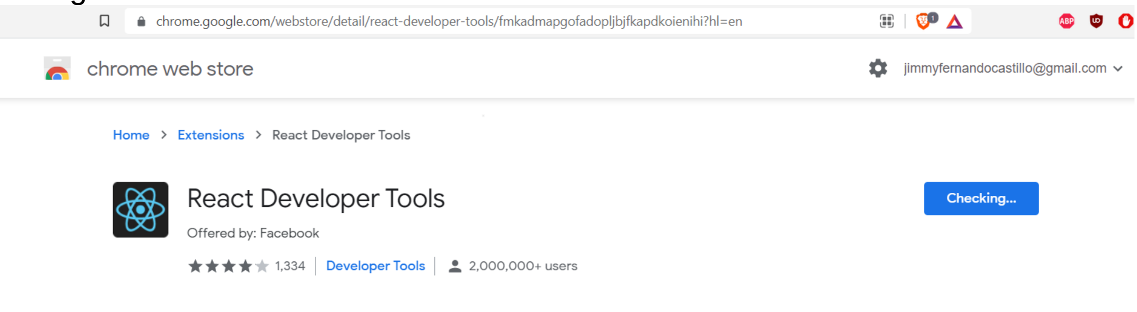
- Familiaridad con HTML y JavaScript ES6.
- Familiaridad con conceptos de programación como funciones, objetos, arrays, y en menor medida, clases.
- Instalar nodeJS

Crear proyecto en react

npx create-react-app my-app

Herramientas de desarrollo

La extensión de React Devtools para Chrome y Firefox te permite inspeccionar el árbol de componentes de React con tus herramientas de desarrollo del navegador.



chrome.google.com/webstore/detail/react-developer-tools/fmkadmapgofadopljbjfkapdkoienihi?hl=en

chrome web store

jimmyfernandocastillo@gmail.com

Home > Extensions > React Developer Tools

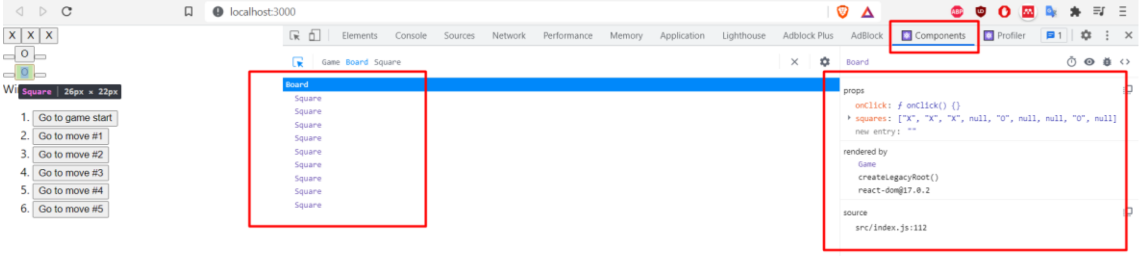
React Developer Tools

Offered by: Facebook

★★★★☆ 1,334 | Developer Tools | 2,000,000+ users

Checking...

Ejemplo de funcionamiento:



localhost:3000

Elements Console Sources Network Performance Memory Application Lighthouse Adblock Plus AdBlock Components Profiler

Game Board Square

Board
Square
Square
Square
Square
Square
Square
Square
Square
Square

Square | 26px × 22px

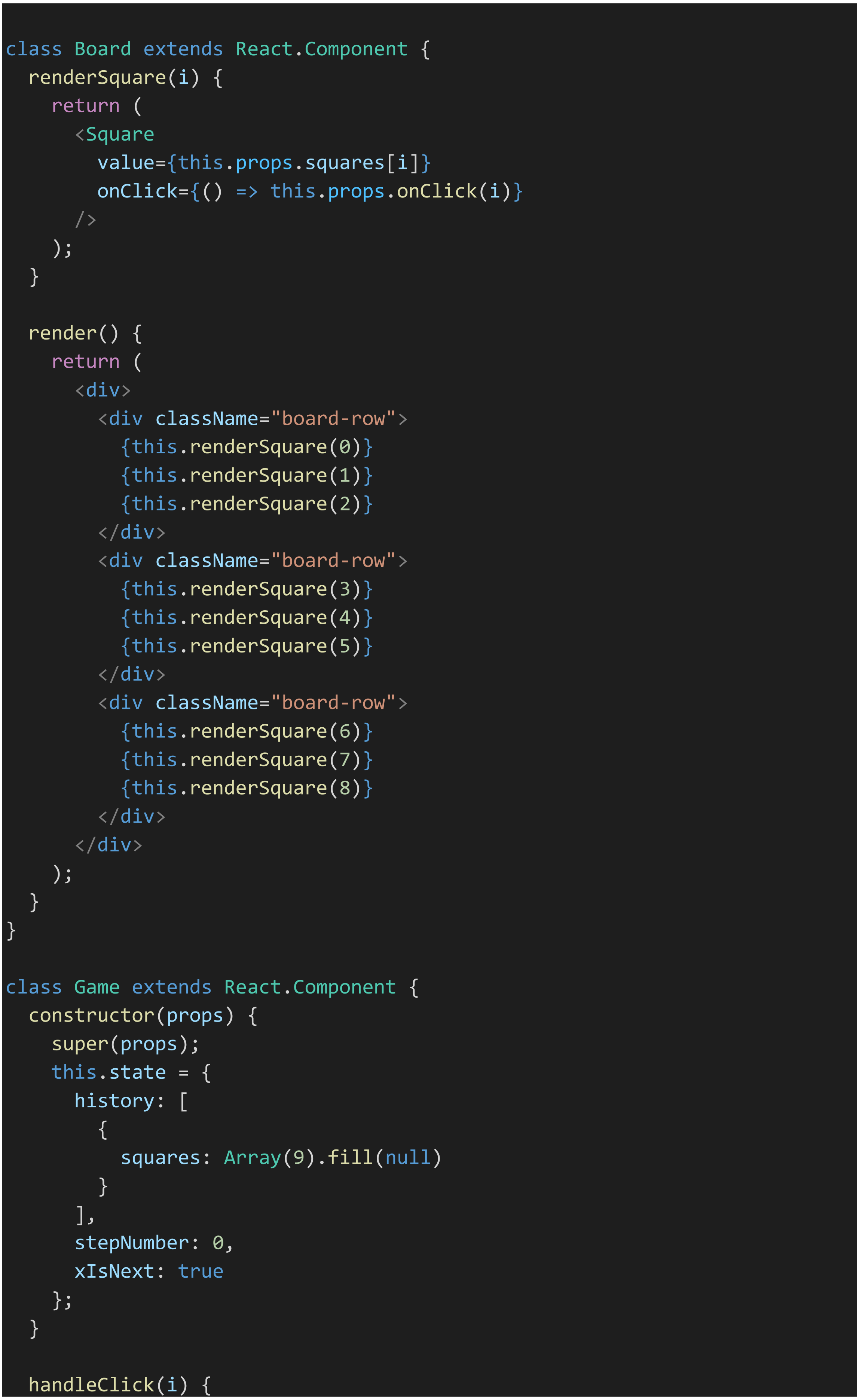
1. Go to game start
2. Go to move #1
3. Go to move #2
4. Go to move #3
5. Go to move #4
6. Go to move #5

Board

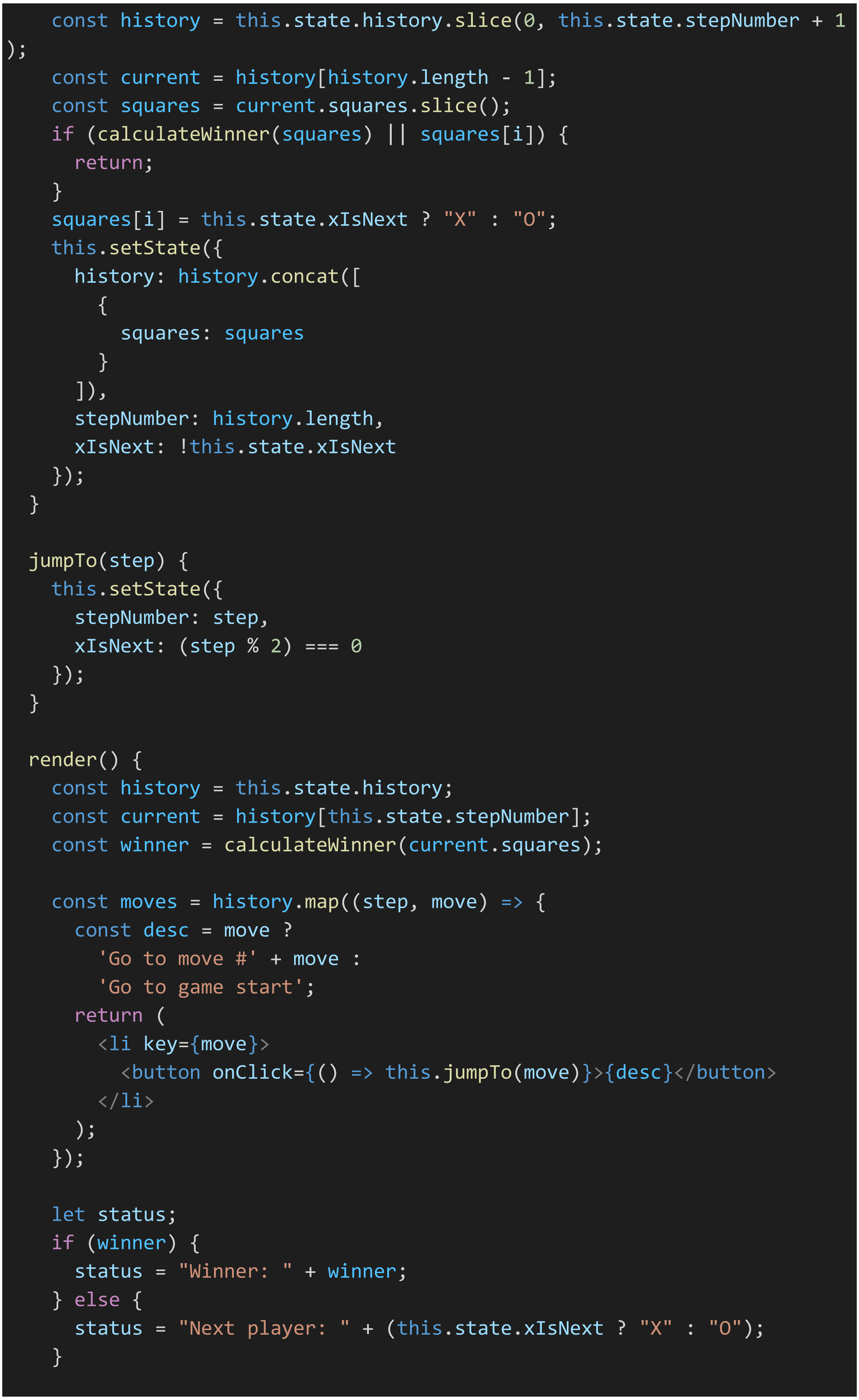
```
props
  onClick: ƒ onClick() {}
  squares: ["X", "X", "X", null, "O", null, null, "O", null]
  new entry: ""
rendered by
  Game
  createLegacyRoot()
  react-dom@17.0.2
source
  src/index.js:112
```

Código fuente:

```
import React from 'react';
import ReactDOM from 'react-dom';
import './index.css';

function Square(props) {
  return (
    <button className="square" onClick={props.onClick}>
      {props.value}
    </button>
  );
}
```

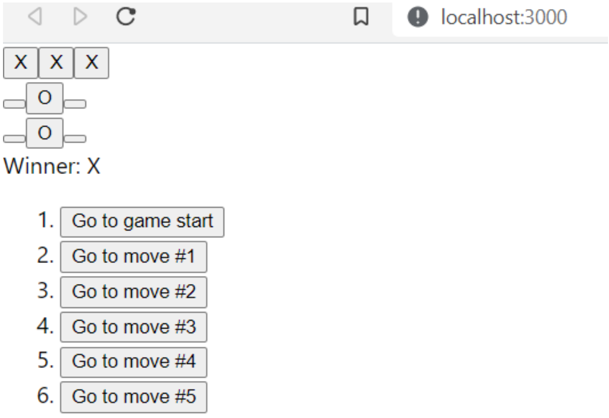


```
class Board extends React.Component {
  renderSquare(i) {
    return (
      <Square
        value={this.props.squares[i]}
        onClick={() => this.props.onClick(i)}
      />
    );
  }

  render() {
    return (
      <div>
        <div className="board-row">
          {this.renderSquare(0)}
          {this.renderSquare(1)}
          {this.renderSquare(2)}
        </div>
        <div className="board-row">
          {this.renderSquare(3)}
          {this.renderSquare(4)}
          {this.renderSquare(5)}
        </div>
        <div className="board-row">
          {this.renderSquare(6)}
          {this.renderSquare(7)}
          {this.renderSquare(8)}
        </div>
      </div>
    );
  }
}

class Game extends React.Component {
  constructor(props) {
    super(props);
    this.state = {
      history: [
        {
          squares: Array(9).fill(null)
        }
      ],
      stepNumber: 0,
      xIsNext: true
    };
  }

  handleClick(i) {
```



```
    const history = this.state.history.slice(0, this.state.stepNumber + 1
);
    const current = history[history.length - 1];
    const squares = current.squares.slice();
    if (calculateWinner(squares) || squares[i]) {
      return;
    }
    squares[i] = this.state.xIsNext ? "X" : "O";
    this.setState({
      history: history.concat([
        {
          squares: squares
        }
      ]),
      stepNumber: history.length,
      xIsNext: !this.state.xIsNext
    });
  }

  jumpTo(step) {
    this.setState({
      stepNumber: step,
      xIsNext: (step % 2) === 0
    });
  }

  render() {
    const history = this.state.history;
    const current = history[this.state.stepNumber];
    const winner = calculateWinner(current.squares);

    const moves = history.map((step, move) => {
      const desc = move ?
        'Go to move #' + move :
        'Go to game start';
      return (
        <li key={move}>
          <button onClick={() => this.jumpTo(move)}>{desc}</button>
        </li>
      );
    });

    let status;
    if (winner) {
      status = "Winner: " + winner;
    } else {
      status = "Next player: " + (this.state.xIsNext ? "X" : "O");
    }
    return (
      <div className="game">
        <div className="game-board">
          <Board
            squares={current.squares}
            onClick={i => this.handleClick(i)}
          />
        </div>
        <div className="game-info">
          <div>{status}</div>
          <ol>{moves}</ol>
        </div>
      </div>
    );
  }
}

// ========================================

ReactDOM.render(<Game />, document.getElementById("root"));

function calculateWinner(squares) {
  const lines = [
    [0, 1, 2],
    [3, 4, 5],
    [6, 7, 8],
    [0, 3, 6],
    [1, 4, 7],
    [2, 5, 8],
    [0, 4, 8],
    [2, 4, 6]
  ];
  for (let i = 0; i < lines.length; i++) {
    const [a, b, c] = lines[i];
    if (squares[a] && squares[a] === squares[b] && squares[a] === squares
[c]) {
      return squares[a];
    }
  }
  return null;
}
```

Resultado final



```
X X X
  O
  O
Winner: X
```

Bibliografía: https://es.reactjs.org/tutorial/tutorial.html