

React Native

Что это и с чем его едят

```
<title>Hello World</title>
<body>
  <div id="root">
    <div id="button">Hello</div>
    <div id="text">Some new words</div>
  </div>
</body>
```



ПЛАН

1. Что такое React Native?
2. История React Native
3. React по сравнению с React Native
4. Что такое кросс-платформенная разработка?
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Компоненты

JSX

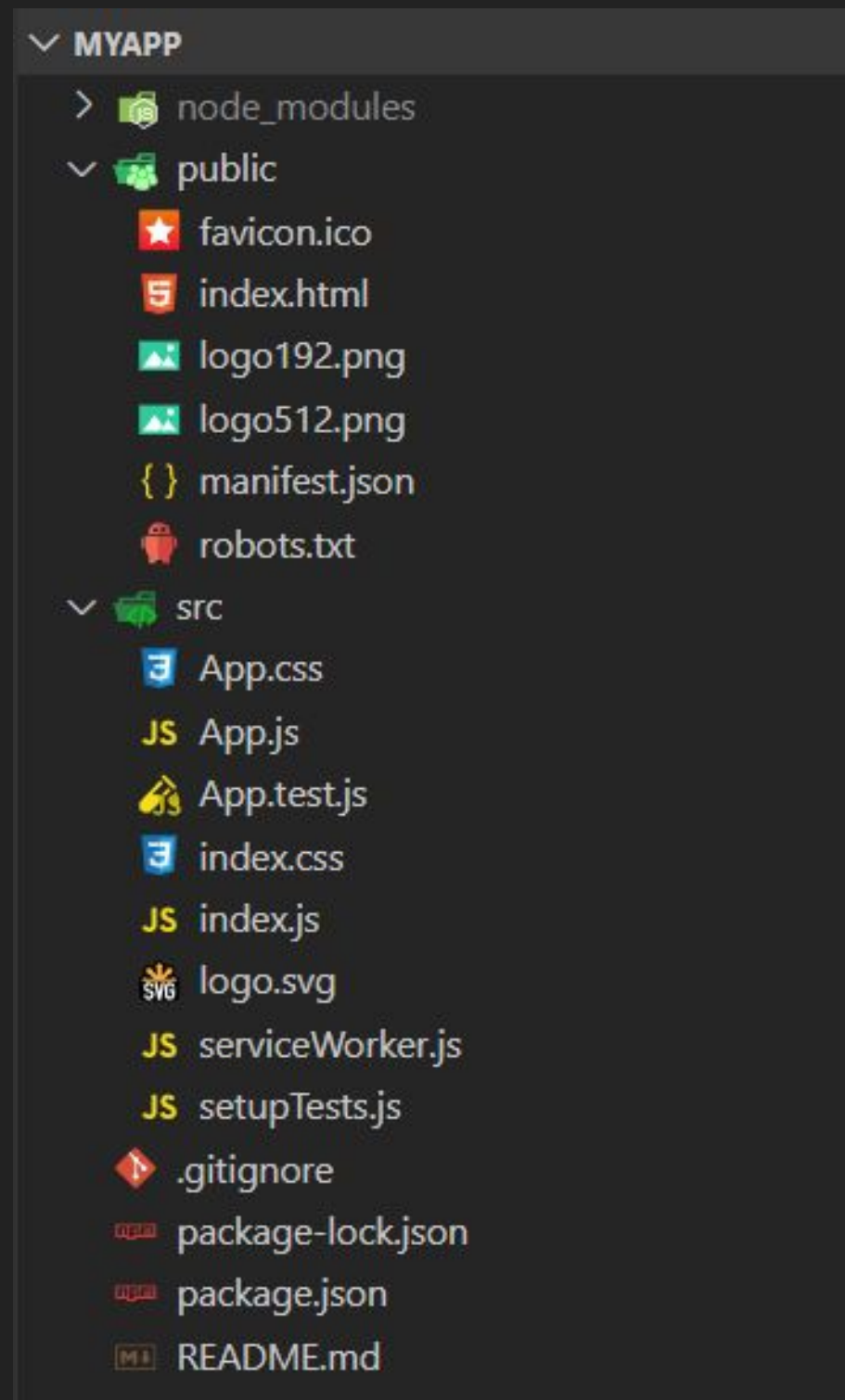
CRA

Create React App

```
$ npx create-react-app myapp --use-npm
```

```
$ cd myapp/
```

```
$ npm start
```



КОМПОНЕНТ

```
// Pokemon.js
function Pokemon() {
  return 'some pokemon';
}
```

```
export default Pokemon;
```

```
// App.js
import React from 'react';
import Pokemon from './Pokemon';
```

```
function App() {
  return (
    <div className="App">
      <Pokemon />
    </div>
  );
}
```

```
export default App;
```

JSX

```
// Pokemon.js
import React from 'react';

function Pokemon() {
  return (
    <>
      <h2>Slowpoke</h2>
      <strong>Вес: 360 гектограмм</strong>
      
    </>
  );
}

export default Pokemon;
```

Props

Props

```
// Pokemon.js
import React from 'react';

function Pokemon({ name, weight, img }) {
  return (
    <>
      <h2>{name}</h2>
      <strong>
        Вес:
        { ' ' }
        {weight}
        { ' ' }
        гектограмм
      </strong>
      <img src={img} alt={name} />
    </>
  );
}
```

```
export default Pokemon;
```

```
// App.js
import React from 'react';
import Pokemon from './Pokemon';

function App() {
  return (
    <div className="App">
      <Pokemon
        name="Slowpoke"
        weight={360}
        img="https://bit.ly/2LkFfgI"
      />
    </div>
  );
}

export default App;
```


map

&&

?:

map, key

```
// App.js
import React from 'react';
import Pokemon from './Pokemon';

function App() {
  const pokemons = [
    { name: 'Slowpoke', weight: 360, img: 'https://bit.ly/2LkFfgI' },
    { name: 'Pikachu', weight: 60, img: 'https://bit.ly/3co9xem' },
    { name: 'Psyduck', weight: 196, img: 'https://bit.ly/2Wldz1g' },
  ];
  return (
    <div className="App">
      {pokemons.map(({ name, weight, img }) => (
        <Pokemon
          key={name}
          name={name}
          weight={weight}
          img={img}
        />
      ))}
    </div>
  );
}

export default App;
```



```
// Pokemon.js
import React from 'react';

function Pokemon({ name, weight = false, img }) {
  return (
    <>
      <h2>{name}</h2>
      {
        weight
        && (
          <strong>
            Bec:
            { ' ' }
            {weight}
            { ' ' }
            гектограмм
          </strong>
        )
      }
      <img src={img} alt={name} />
    </>
  );
}

export default Pokemon;
```



```
// Pokemon.js
import React from 'react';

function Pokemon({ name, weight = false, img }) {
  return (
    <>
      <h2>{name}</h2>
      {
        weight
          ? (
              <strong>
                Вес:
                { ' ' }
                {weight}
                { ' ' }
                гектограмм
              </strong>
            )
          : <strong>Вес не определён</strong>
      }
      <img src={img} alt={name} />
    </>
  );
}

export default Pokemon;
```

useState

useState (+functional updates)

```
// Pokemon.js
import React, { useState } from 'react';

const weightStep = 50;

function Pokemon({ name, weight, img }) {
  const [
    currentWeight,
    setCurrentWeight,
  ] = useState(weight);
  function addWeight() {
    setCurrentWeight((x) => x + weightStep);
  }
  function removeWeight() {
    setCurrentWeight((x) => x - weightStep);
  }
  return (
    <>
      <h2>{name}</h2>
      <strong>
        Bec:
        { ' ' }
        {currentWeight}
        { ' ' }
        гектограмм
      </strong>
    </>
  );
}
```

```
<button onClick={addWeight} type="button">
  Потолстеть
</button>
<button onClick={removeWeight} type="button">
  Похудеть
</button>
<img
  width={96 * (currentWeight / weight)}
  src={img}
  alt={name}
  style={{ display: 'block' }}
  />
</>
);
}

export default Pokemon;
```

useEffect

useEffect

```
// App.js
import React, { useState, useEffect } from 'react';

function App() {
  const [date, setDate] = useState(new Date());
  useEffect(() => {
    const timer = setTimeout(() => setDate(new Date()), 1000);
    return () => clearTimeout(timer);
  }, [date]);
  return (
    <div className="App">
      {date.toLocaleDateString()}
    </div>
  );
}

export default App;
```


useEffect (practical example)

```
// App.js
import React from 'react';
import PokemonList from './PokemonList';

function App() {
  return (
    <div className="App">
      <PokemonList pokemons={['slowpoke', 'pikachu', 'psyduck']} />
    </div>
  );
}
```

```
export default App;
```

```
// lib/fetch-all.js
```

```
export default async (urls, options) => {
  const responses = await Promise.all(
    urls.map((url) => fetch(
      url,
      options,
    )),
  );
  return Promise.all(
    responses.map((response) => response.json()),
  );
};
```

```
// PokemonList.js
```

```
import React, { useState, useEffect } from 'react';
import fetchAll from './lib/fetch-all';
import Pokemon from './Pokemon';
```

```
function PokemonList({ pokemons }) {
  const [pokemonsData, setPokemonsData] = useState([]);

  useEffect(() => {
    (async () => {
      const jsonResults = await fetchAll(
        pokemons.map((name) =>
          `https://pokeapi.co/api/v2/pokemon/${name}/`),
      );
      return setPokemonsData(jsonResults.map((data) => ({
        name: data.name,
        weight: data.weight,
        img: data.sprites.front_default,
      })));
    })();
  }, [pokemons]);

  return pokemonsData.map(({ name, weight, img }) => (
    <Pokemon key={name} name={name} weight={weight} img={img} />
  ));
}
```

```
export default PokemonList;
```

useEffect (clean-up)

```
// App.js
import React from 'react';
import PokemonList from './PokemonList';

function App() {
  return (
    <div className="App">
      <PokemonList pokemons={['slowpoke', 'pikachu', 'psyduck']} />
    </div>
  );
}
```

```
export default App;
```

```
// lib/fetch-all.js
```

```
export default async (urls, options) => {
  const responses = await Promise.all(
    urls.map((url) => fetch(
      url,
      options,
    )),
  );
  return Promise.all(
    responses.map((response) => response.json()),
  );
};
```

```
// PokemonList.js
import React, { useState, useEffect } from 'react';
import fetchAll from './lib/fetch-all';
import Pokemon from './Pokemon';

function PokemonList({ pokemons }) {
  const [pokemonsData, setPokemonsData] = useState([]);

  useEffect(() => {
    const abortController = new AbortController();
    const { signal } = abortController;
    (async () => {
      let jsonResults;
      try {
        jsonResults = await fetchAll(
          pokemons.map((name) => `https://pokeapi.co/api/v2/pokemon/${name}/`),
          { signal },
        );
      } catch (err) {
        return setPokemonsData([]);
      }
      return setPokemonsData(jsonResults.map((data) => ({
        name: data.name,
        weight: data.weight,
        img: data.sprites.front_default,
      })));
    })();
    return () => abortController.abort();
  }, [pokemons]);

  return pokemonsData.map(({ name, weight, img }) => (
    <Pokemon key={name} name={name} weight={weight} img={img} />
  ));
}
```

```
export default PokemonList;
```

React Dev Tools

React Dev Tools

<https://github.com/facebook/react/tree/master/packages/react-devtools>

Virtual DOM

Virtual DOM

- Reconciliation
- Diffing
- Keys

Альтернативы

Альтернативы

- Vue.js
- Angular
- Svelte
- Ember.js