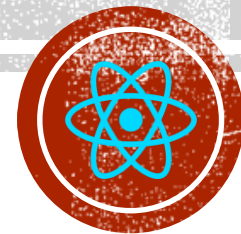


# REACT NATIVE



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Slides: <https://git.io/vdn2c>

# AGENDA

- Nativas vs Híbrido vs Multi-plataforma
- Introdução ao React Native
- Instalação
- Criando projetos
- Executando o projeto
- Explorando o ambiente
- Referências

# NATIVO

- Aplicativo desenvolvido, compilado e empacotado na plataforma nativa do sistema operacional.
  - Android: Java, Kotlin, C++, etc.
  - iOS: Objective-C, Swift, C, C++, etc.
  - Windows: C#, C++, etc.
- Todos os recursos de software e hardware estão disponíveis naturalmente.

# HÍBRIDO

- Aplicativo desenvolvido em uma única linguagem e interpretado (Web View) em diversas plataformas.
  - Cordova/Phonegap: Html, CSS, JavaScript
  - Ionic: Html, CSS, JavaScript/TypeScript, Angular
  - Meteor: Html, CSS, JavaScript/TypeScript
- Desempenho inferior ao nativo.
- Para acessar recursos de hardware ou sistema operacional é preciso criar Plugins complexos e difíceis de manter.

# MULTI-PLATAFORMA

- Aplicativo desenvolvido em uma única linguagem, compilado e empacotado para a plataforma nativa.
  - React Native: JavaScript, TypeScript, React, etc.
  - Xamarin: C#.
  - Native Script: JavaScript, TypeScript, Angular, etc.
- Desempenho equivalente ao nativo.
- Para acessar recursos de hardware ou sistema operacional é possível criar módulos que, naturalmente são mais fáceis de manter devido a proximidade com a plataforma nativa.

# INTRODUÇÃO AO REACT NATIVE

## React Native

Learn once, write anywhere: Build mobile apps with React

[Get Started](#)[Learn the Basics](#)

## Build native mobile apps using JavaScript and React

React Native lets you build mobile apps using only JavaScript. It uses the same design as React, letting you compose a rich mobile UI from declarative components.

# INTRODUÇÃO AO REACT NATIVE

- Construa apps móveis nativos usando JavaScript e React.
  - React Native permite construir apps utilizando apenas JavaScript. Ele utiliza o mesmo design do React, permitindo a composição de interfaces móveis ricas, utilizando componentes

```
import React, { Component } from 'react';
import { Text, View } from 'react-native';

class WhyReactNativeIsSoGreat extends Component {
  render() {
    return (
      <View>
        <Text>
          Se você gosta do React na Web, você vai gostar do React Native.
        </Text>
        <Text>
          Basta utilizar componentes nativos, como 'View' e 'Text',
          no lugar de componentes Web como 'div' ou 'span'.
        </Text>
      </View>
    );
  }
}
```

# INTRODUÇÃO AO REACT NATIVE

- Um app React Native é um app realmente nativo.
  - Com React Native, você não constrói “web app”, ou “HTML5 app”, ou um “app híbrido”. Você constrói um app mobile real que é indistinguível de qualquer app criado com Java ou Objective-C. React Native utiliza o mesmo fundamento de interfaces em bloco como no Android e iOS. Basta unir estes blocos utilizando JavaScript e React.

```
<ScrollView>
  <Image
    source={{ uri: 'https://i.chzbgr.com/full/7345954048/h7E2C65F9/' }}
    style={{ width: 320, height: 180 }}
  />
  <Text>
    No iOS, um ScrollView do React Native usa o nativo UIScrollView.
    No Android, ele usa o nativo ScrollView.

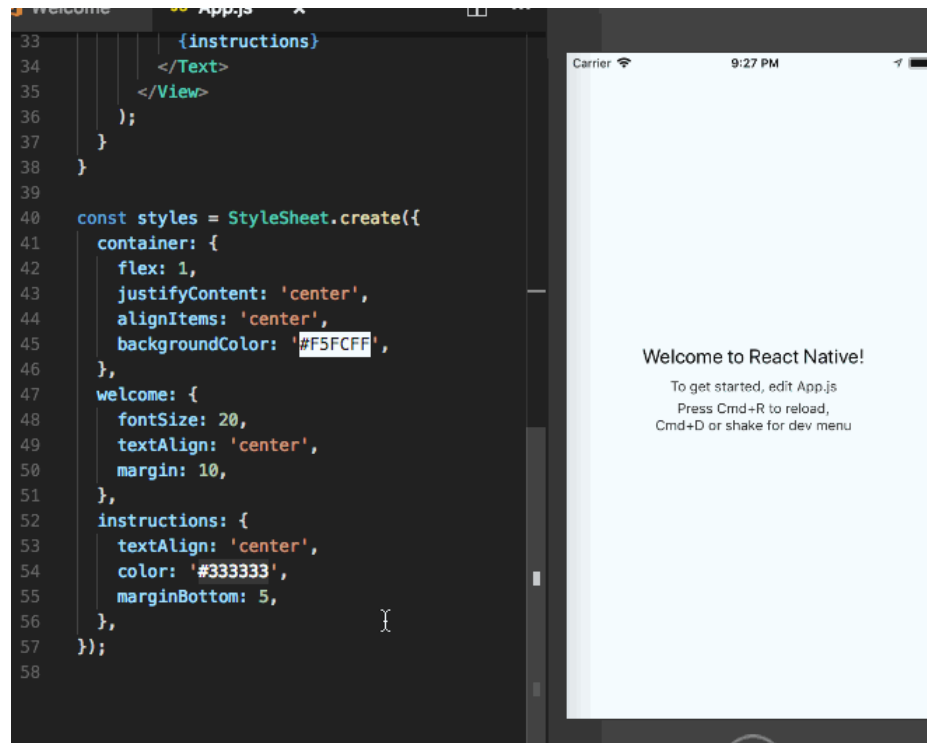
    No iOS, um Image do React Native usa o nativo UIImageView.
    No Android, ele usa o nativo ImageView.

    O React Native abstrai a maioria dos componentes fundamentais
    permitindo que você aproveite toda a performance nativa com React.
  </Text>
</ScrollView>
```



# INTRODUÇÃO AO REACT NATIVE

- Não perca tempo recompilando
  - O React Native permite construir apps rapidamente. Em vez de recompilar, você pode recarregar seu app instantaneamente.

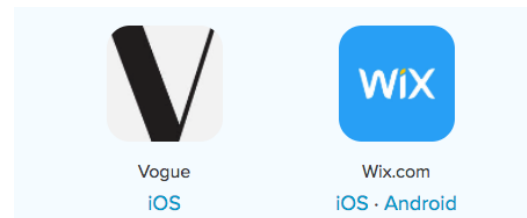
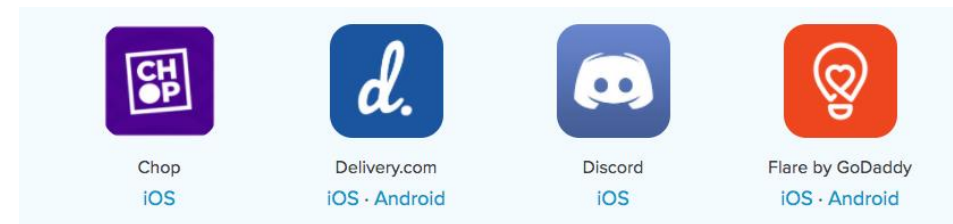
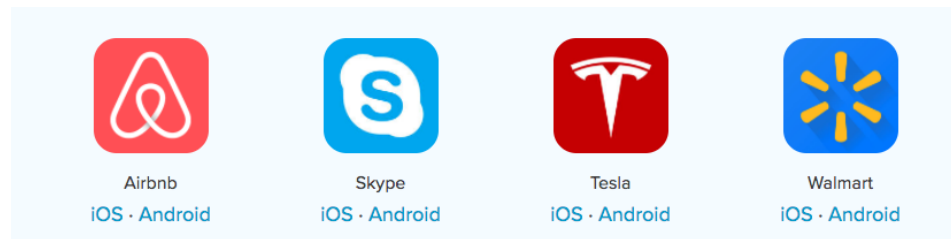
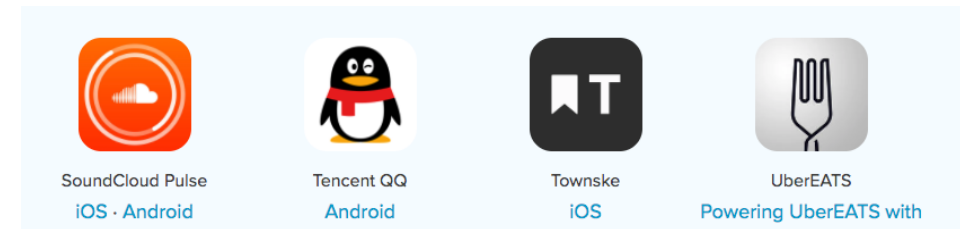
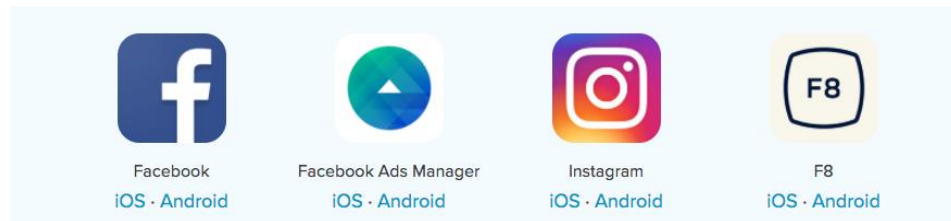


# INTRODUÇÃO AO REACT NATIVE

- Use código nativo quando precisar.
  - É simples acessar recursos nativos se você precisar otimizar sua aplicação. Assim como é fácil de construir partes de seu app em React Native, e outras partes usando código nativo diretamente. É assim que o app do Facebook funciona.

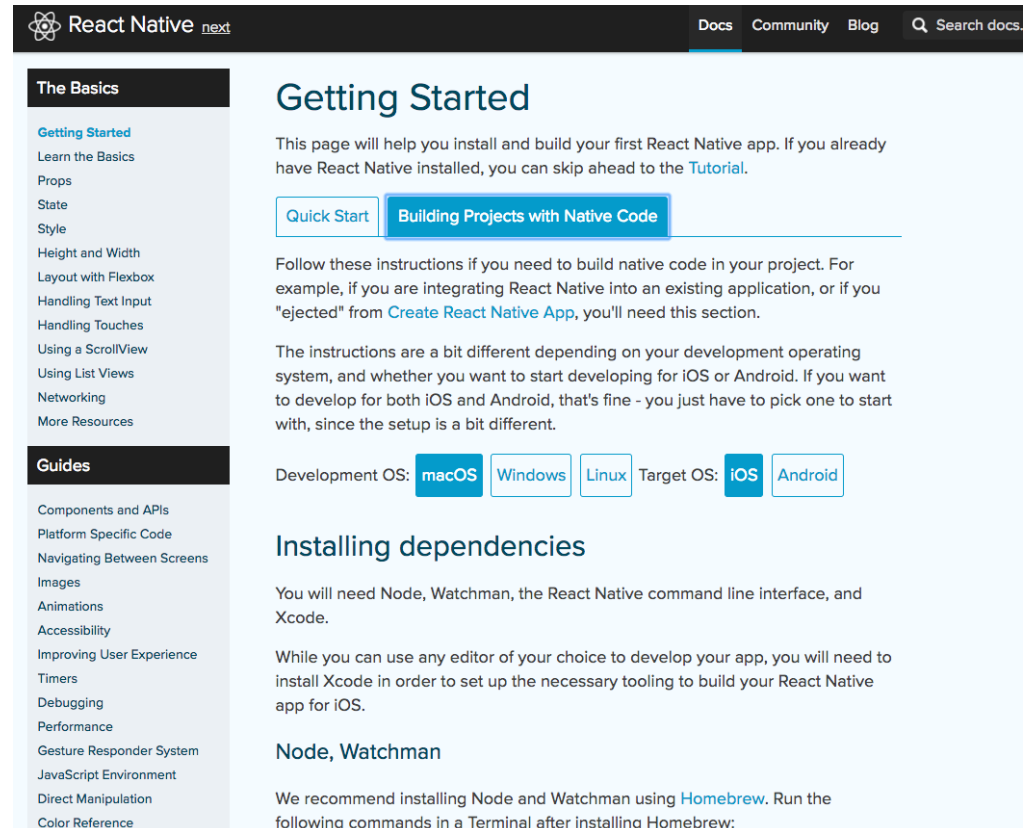
```
import { TheGreatestComponentInTheWorld } from './your-native-code';  
  
<View>  
  <TheGreatestComponentInTheWorld />  
  <Text>  
    TheGreatestComponentInTheWorld permite utilizar Objective-C,  
    Java, ou Swift - o processo de desenvolvimento é o mesmo.  
  </Text>  
</View>
```

# INTRODUÇÃO AO REACT NATIVE



# INTRODUÇÃO AO REACT NATIVE

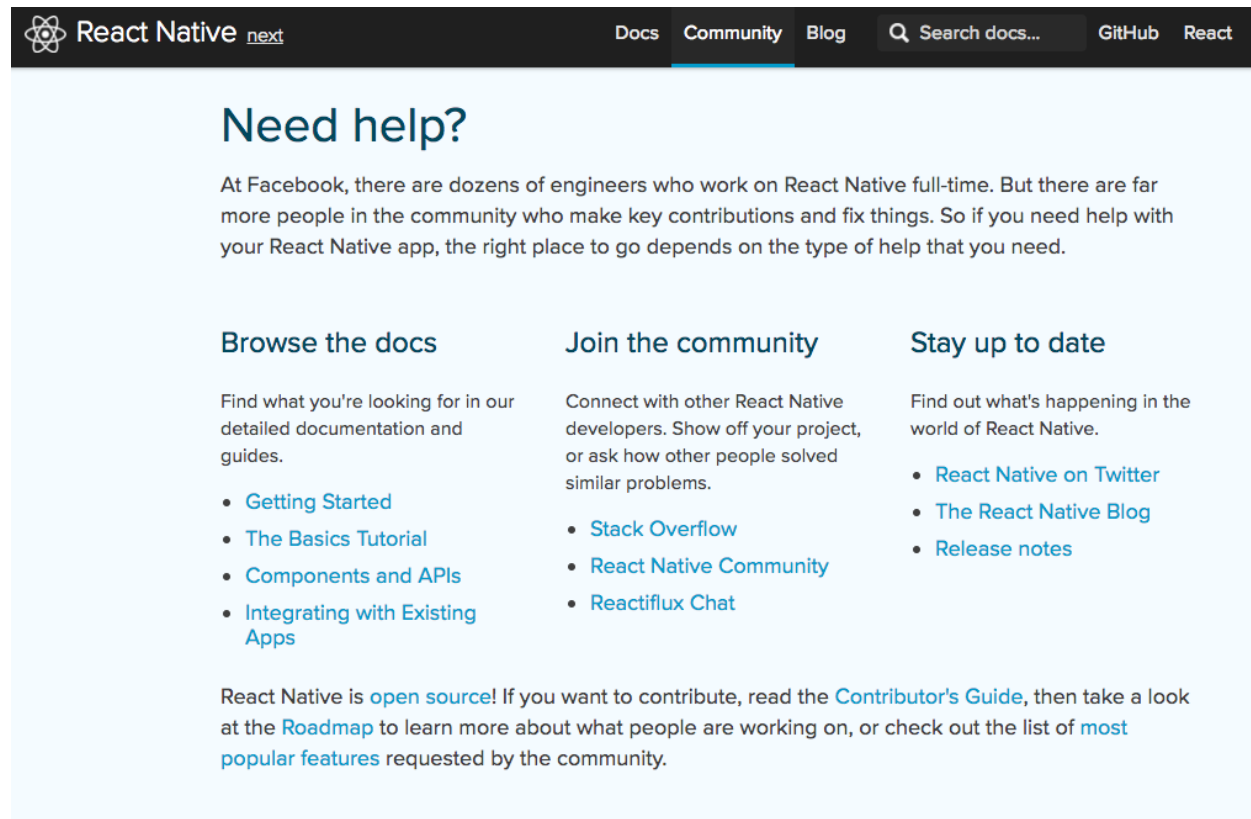
- Documentação rica



The screenshot shows the React Native documentation website. The header includes the React Native logo, the word 'next', and navigation links for 'Docs', 'Community', and 'Blog', along with a search bar. The left sidebar is divided into 'The Basics' and 'Guides' sections. 'The Basics' includes links like 'Getting Started', 'Learn the Basics', 'Props', 'State', 'Style', 'Height and Width', 'Layout with Flexbox', 'Handling Text Input', 'Handling Touches', 'Using a ScrollView', 'Using List Views', 'Networking', and 'More Resources'. 'Guides' includes links like 'Components and APIs', 'Platform Specific Code', 'Navigating Between Screens', 'Images', 'Animations', 'Accessibility', 'Improving User Experience', 'Timers', 'Debugging', 'Performance', 'Gesture Responder System', 'JavaScript Environment', 'Direct Manipulation', and 'Color Reference'. The main content area is titled 'Getting Started' and contains text about installing and building a first React Native app. It features two tabs: 'Quick Start' and 'Building Projects with Native Code'. Below the tabs, there's text about following instructions for building native code, a note about development operating systems (macOS, Windows, Linux) and target operating systems (iOS, Android), and a section titled 'Installing dependencies' which mentions Node, Watchman, and Xcode. At the bottom, there's a section for 'Node, Watchman' recommending Homebrew for installation.

# INTRODUÇÃO AO REACT NATIVE

- Comunidade ativa



The screenshot shows the 'Need help?' section of the React Native website. The header includes the React Native logo, the word 'next', and navigation links for 'Docs', 'Community', 'Blog', a search bar, 'GitHub', and 'React'. The main content area has a light blue background and features three columns of links and text. The first column, 'Browse the docs', lists links to 'Getting Started', 'The Basics Tutorial', 'Components and APIs', and 'Integrating with Existing Apps'. The second column, 'Join the community', lists links to 'Stack Overflow', 'React Native Community', and 'Reactiflux Chat'. The third column, 'Stay up to date', lists links to 'React Native on Twitter', 'The React Native Blog', and 'Release notes'. At the bottom, a paragraph states that React Native is open source and provides links to the 'Contributor's Guide', 'Roadmap', and 'most popular features'.

React Native [next](#) Docs Community Blog 🔍 Search docs... GitHub React

## Need help?

At Facebook, there are dozens of engineers who work on React Native full-time. But there are far more people in the community who make key contributions and fix things. So if you need help with your React Native app, the right place to go depends on the type of help that you need.

### Browse the docs

Find what you're looking for in our detailed documentation and guides.

- [Getting Started](#)
- [The Basics Tutorial](#)
- [Components and APIs](#)
- [Integrating with Existing Apps](#)

### Join the community

Connect with other React Native developers. Show off your project, or ask how other people solved similar problems.

- [Stack Overflow](#)
- [React Native Community](#)
- [Reactiflux Chat](#)

### Stay up to date

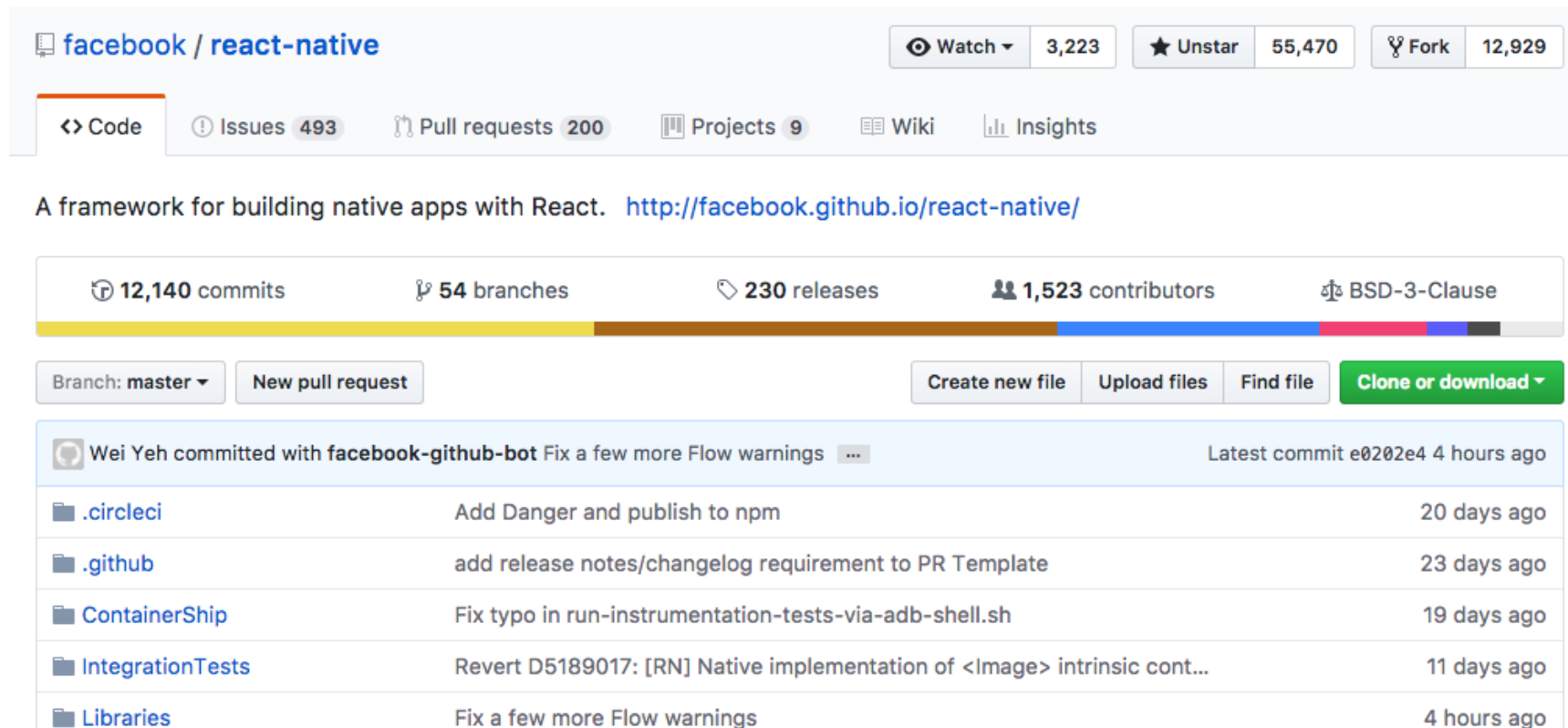
Find out what's happening in the world of React Native.

- [React Native on Twitter](#)
- [The React Native Blog](#)
- [Release notes](#)

React Native is [open source](#)! If you want to contribute, read the [Contributor's Guide](#), then take a look at the [Roadmap](#) to learn more about what people are working on, or check out the list of [most popular features](#) requested by the community.

# INTRODUÇÃO AO REACT NATIVE

- Desenvolvimento constante



The screenshot shows the GitHub repository page for `facebook/react-native`. At the top, it displays the repository name, a 'Watch' button with 3,223 subscribers, an 'Unstar' button with 55,470 stars, and a 'Fork' button with 12,929 forks. Below this, there are tabs for 'Code', 'Issues' (493), 'Pull requests' (200), 'Projects' (9), 'Wiki', and 'Insights'. The description reads: 'A framework for building native apps with React. <http://facebook.github.io/react-native/>'. A statistics bar shows 12,140 commits, 54 branches, 230 releases, 1,523 contributors, and the BSD-3-Clause license. Below the statistics, there are buttons for 'Branch: master', 'New pull request', 'Create new file', 'Upload files', 'Find file', and a green 'Clone or download' button. The commit history table shows the latest commit by Wei Yeh, followed by several other commits with their descriptions and timestamps.

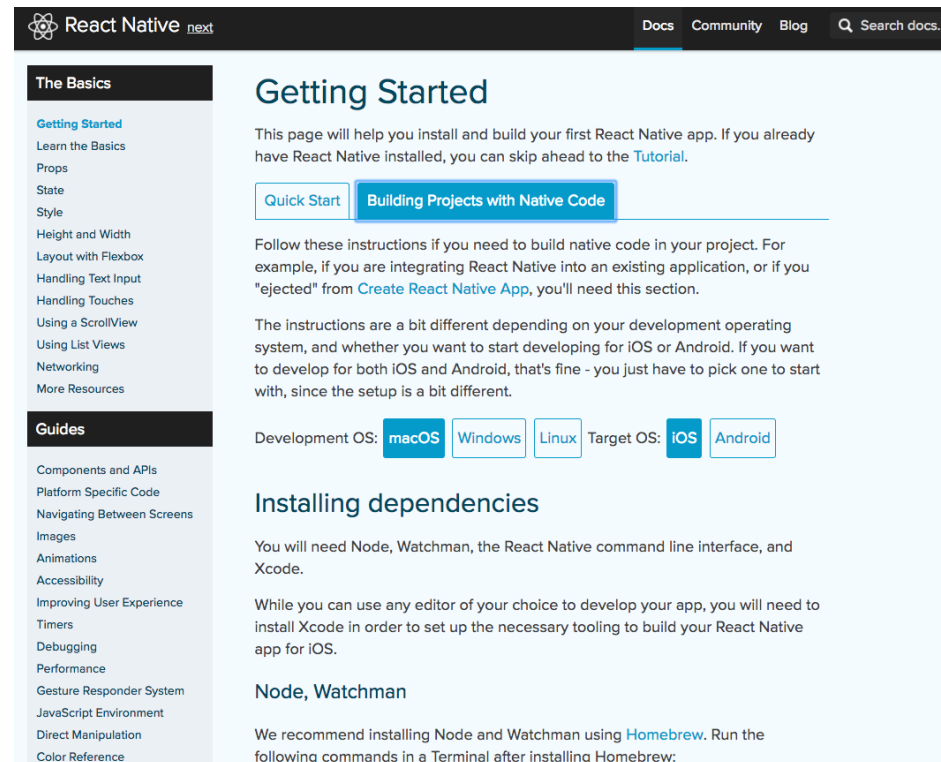
Commit	Description	Time
Wei Yeh committed with facebook-github-bot	Fix a few more Flow warnings	Latest commit e0202e4 4 hours ago
.circleci	Add Danger and publish to npm	20 days ago
.github	add release notes/changelog requirement to PR Template	23 days ago
ContainerShip	Fix typo in run-instrumentation-tests-via-adb-shell.sh	19 days ago
IntegrationTests	Revert D5189017: [RN] Native implementation of <Image> intrinsic cont...	11 days ago
Libraries	Fix a few more Flow warnings	4 hours ago

# INSTALAÇÃO E CONFIGURAÇÃO

- Pré-requisitos
  - Node 6.x
  - Python 2.x
  - Java JDK (Open JDK)  $\geq 1.7$
  - Git
  - Android SDK 23.0.1
  - Xcode
  - Windows, Linux ou Mac

# INSTALAÇÃO E CONFIGURAÇÃO

- Acesse a página de documentação, selecione seu sistema operacional e a plataforma desejada.



The screenshot shows the 'Getting Started' page of the React Native documentation. The page has a dark header with the 'React Native next' logo and navigation links for 'Docs', 'Community', 'Blog', and a search bar. A left sidebar contains a 'The Basics' section with links like 'Getting Started', 'Learn the Basics', 'Props', 'State', 'Style', 'Height and Width', 'Layout with Flexbox', 'Handling Text Input', 'Handling Touches', 'Using a ScrollView', 'Using List Views', 'Networking', and 'More Resources'. Below this is a 'Guides' section with links like 'Components and APIs', 'Platform Specific Code', 'Navigating Between Screens', 'Images', 'Animations', 'Accessibility', 'Improving User Experience', 'Timers', 'Debugging', 'Performance', 'Gesture Responder System', 'JavaScript Environment', 'Direct Manipulation', and 'Color Reference'. The main content area is titled 'Getting Started' and includes a 'Quick Start' button and a 'Building Projects with Native Code' button. The text explains that the page will help install and build the first React Native app, and provides instructions for integrating it into an existing application or creating a new one. It also mentions that the instructions are different depending on the development operating system (macOS, Windows, Linux) and the target OS (iOS, Android). The 'Installing dependencies' section lists the required tools: Node, Watchman, the React Native command line interface, and Xcode. The 'Node, Watchman' section recommends installing them using Homebrew and provides the following commands to run in a Terminal:

```
brew install node
brew install watchman
```



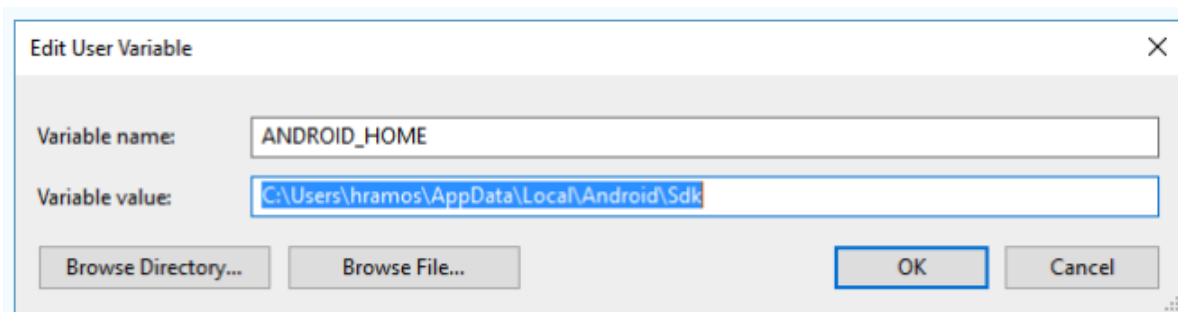
# INSTALAÇÃO E CONFIGURAÇÃO

- Em todas as plataformas é preciso criar as variáveis de ambiente que apontam para o diretório do Android SDK, e em seguida adicionar ao PATH.

- Linux ou Mac

```
export ANDROID_HOME=$HOME/Library/Android/sdk
export PATH=$PATH:$ANDROID_HOME/tools
export PATH=$PATH:$ANDROID_HOME/platform-tools
```

- Windows

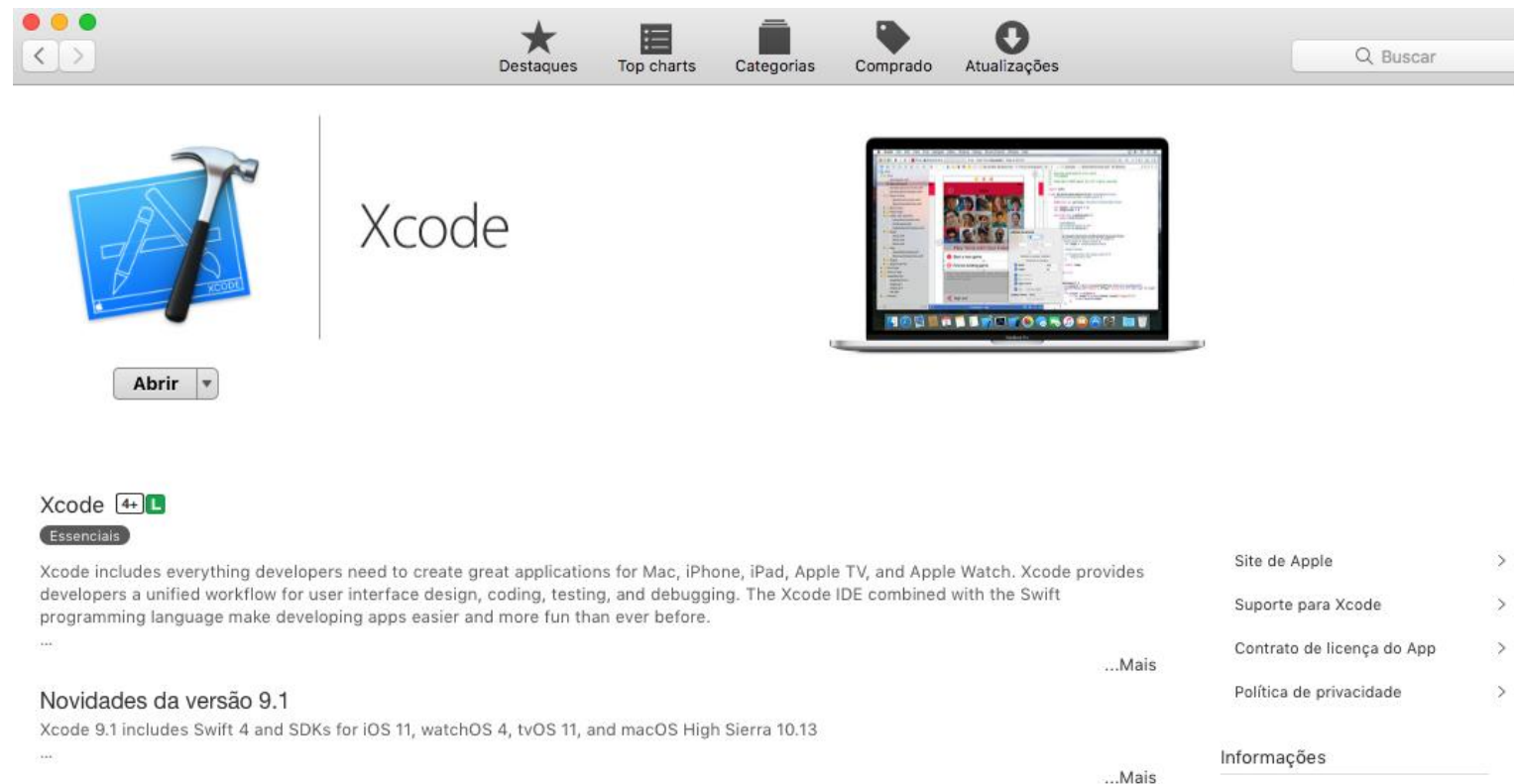


# INSTALAÇÃO E CONFIGURAÇÃO

- No Linux pode ser necessário instalar alguns pacotes 32 bits para compilar para Android.
- Instruções do site do Android Studio.
  - <https://developer.android.com/studio/install.html>
- Stack Overflow
  - <https://stackoverflow.com/questions/2710499/android-sdk-on-a-64-bit-linux-machine>

# INSTALAÇÃO E CONFIGURAÇÃO

- Para instalar o Xcode, basta acessar a loja de aplicativos do Mac OSX.



# CRIANDO PROJETOS

- Antes de criar o projeto, recomenda-se, utilizar o Yarn no lugar do NPM.

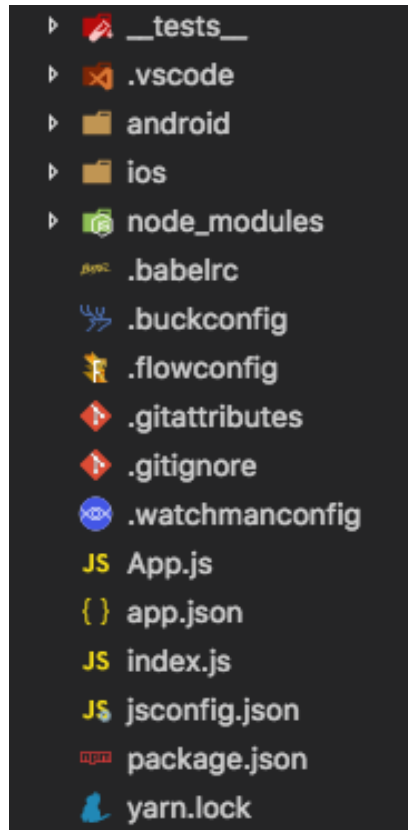
```
$ npm install -g yarn
```

- Após todo ambiente instalado e configurado, você pode criar seu projeto utilizando o comando.

```
$ react-native init PrimeiroProjeto
```

# CRIANDO PROJETOS

- Estrutura de diretórios



# EXECUTANDO O PROJETO ANDROID

- Antes de executar o projeto a primeira vez, recomenda-se abri-lo com o Android Studio. Este processo vai garantir que todas as dependências necessárias estão instaladas, e se não estiver, o Android Studio irá lhe guiar para a instalação.
- Para executar o projeto Android, basta ter aberto um emulador ou dispositivo plugado ao USB, e então:

```
$ react-native run-android
```

- **Caso o packager não inicie automaticamente, execute:**

```
$ npm start
```

# EXECUTANDO O PROJETO IOS

- O projeto iOS pode ser executado diretamente pelo Xcode, ou através do comando:

```
$ react-native run-ios
```

- **Caso o packager não inicie automaticamente, execute:**

```
$ npm start
```

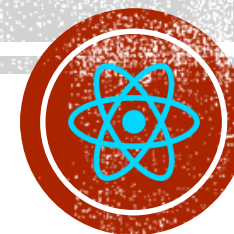
**VAMOS EXPLORAR O AMBIENTE**



# REFERÊNCIAS

- React Native - <https://facebook.github.io/react-native/>
- Showcase - <https://facebook.github.io/react-native/showcase.html>
- Documentação - <https://facebook.github.io/react-native/releases/next/docs/getting-started.html>

# DÚVIDAS?



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