React Native
Module – Navigation

Peter Kassenaar –
info@kassenaar.com

Adding Navigation

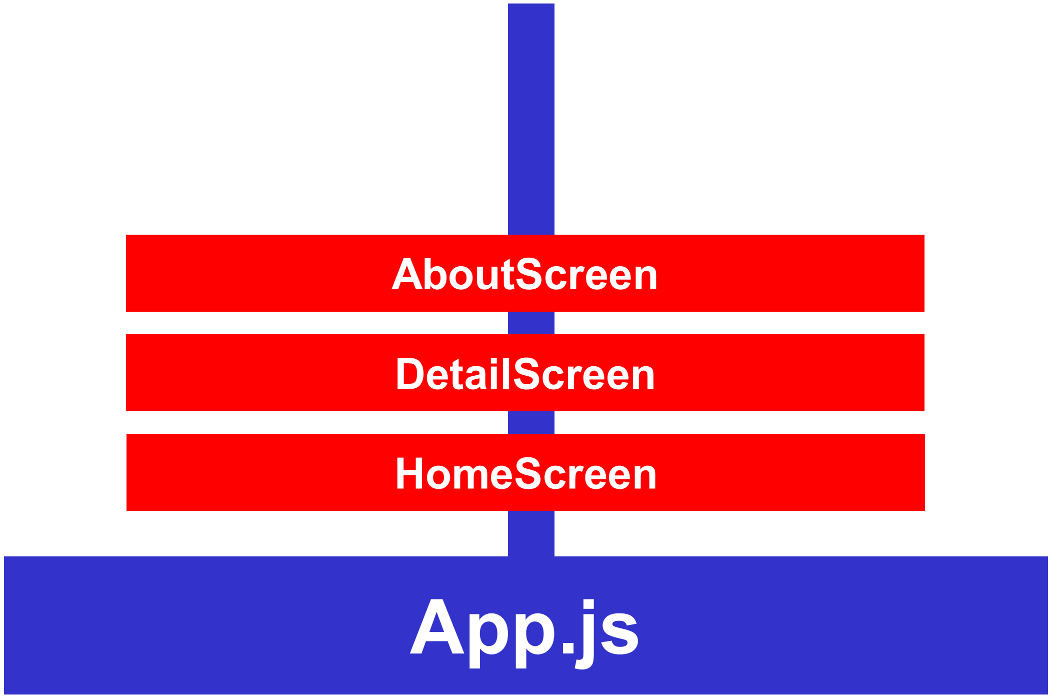
Navigating between screens in your app

Routing in React Native

- React Native DOES NOT HAVE default routing, like a web browser, or on the web.
- So NO `<a href="…">` tags available
- You have to install routing as separate packages
- There are different types of routing you can use
  - Stack navigation
  - Drawer navigation
  - Nested navigation (nested stacks)

Navigation in React Native

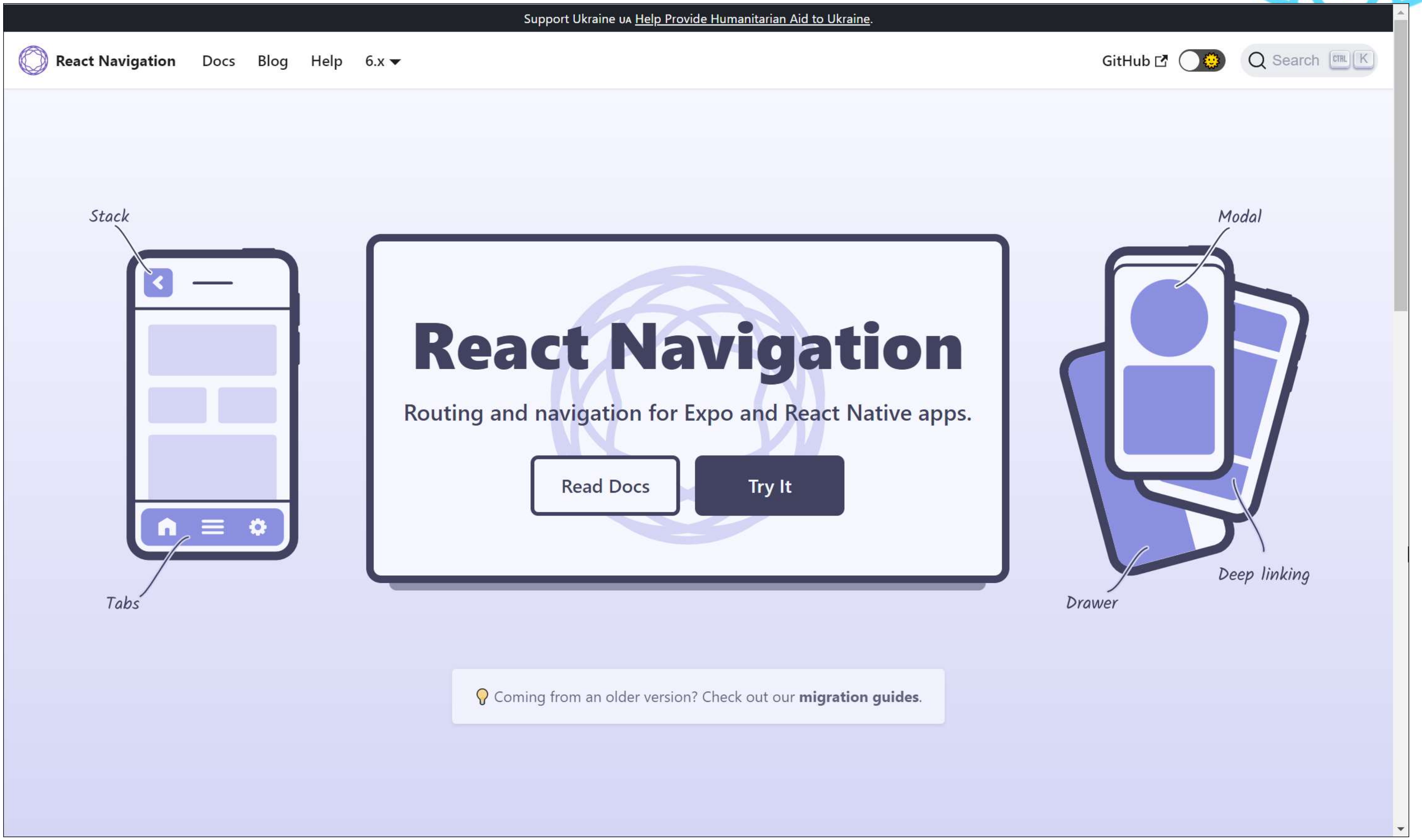
Navigation is like a ‘stack of screens’



Moving between screens

- You `push()` new screens on the stack
- You pop screens off the stack (by using `.goBack()`)
- You can pass data between screens, as `route` props
- Screens have an automatic `navigation` prop
- Your app lives inside a `<NavigationContainer>` component
- There typically is only one (1) NavigationContainer per app

Installing Routing



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React Navigation

Routing and navigation for Expo and React Native apps.

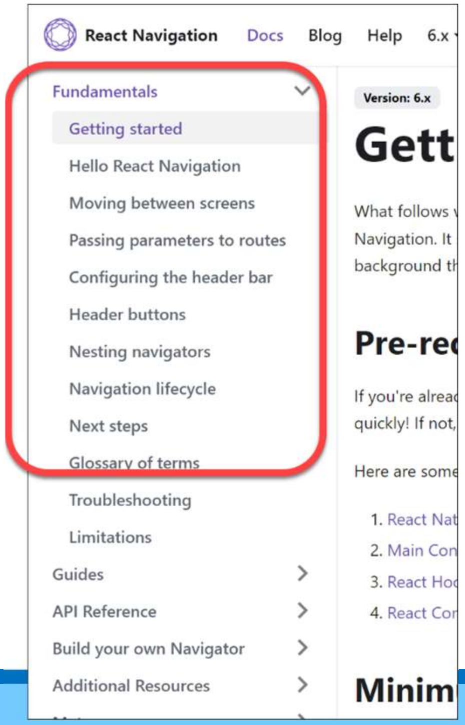
💡 Coming from an older version? Check out our **migration guides**.

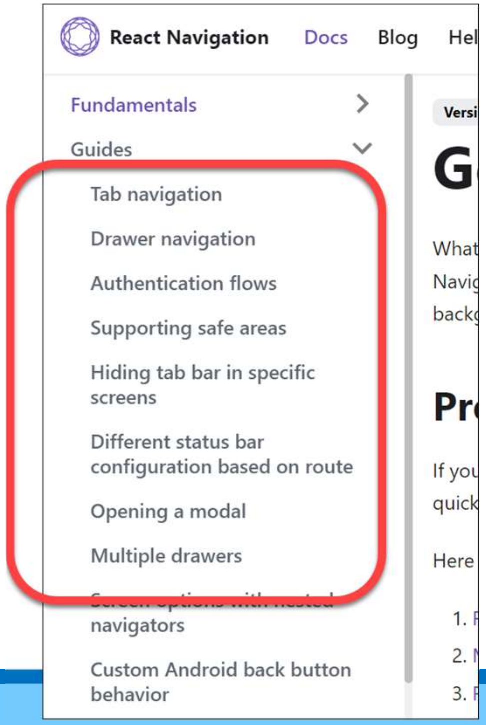
Warning: LOTS of outdated stuff online. Make sure to use `version 6.x`!!

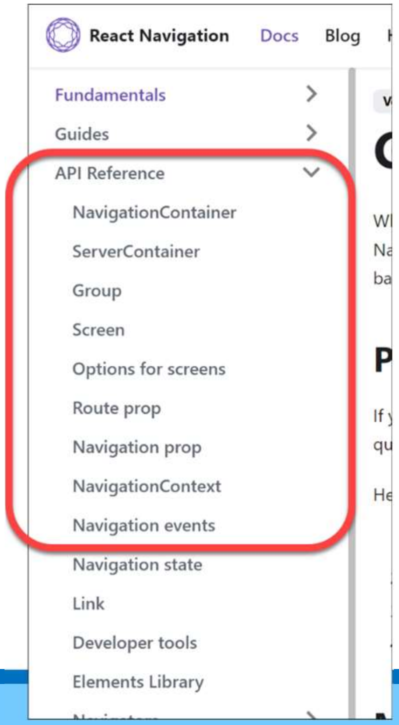
https://reactnavigation.org/

Recommended steps

- 1. Read Getting Started, to get familiar with routing
- 2. Read Guides, for different types of navigation
- 3. Read API docs per item that you use







Installing Routing

- In a new, or non-routing project:

```
npm install @react-navigation/native
```

- Also, add extra dependencies:

```
npx expo install react-native-screens react-native-safe-area-context
```

(in Expo project)

Wrapping the app

- Now, you need to wrap the whole app in `<NavigationContainer />`.
    - Usually, in your entry file such as `index.js` or `App.js`:

```
export default function App() {
    return (
        <NavigationContainer>
                {/*Rest of the app code…*/}
        </NavigationContainer>
    );
}
```

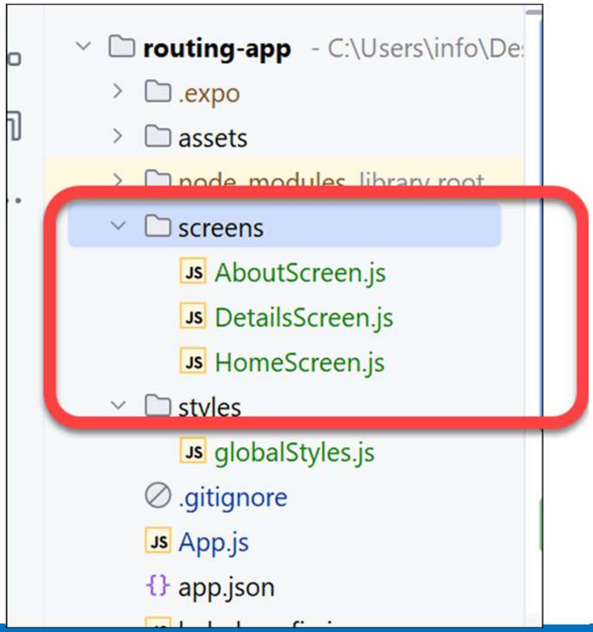
You typically have only 1 `<NavigationContainer />`, unless you have specific use cases

Multiple screens

“If your app uses only one stack navigator then it is conceptually similar to how a web browser handles navigation state - your app pushes and pops items from the navigation stack as users interact with it, and this results in the user seeing different screens”

Create additional screens

- We’ve put it in a `/screens` directory.
  - But of course this is convention. You can name it whatever you want
- Created 3 additional screens:



```
routing-app - C:\Users\info\De
  .expo
  assets
  node_modules library root
  screens
    AboutScreen.js
    DetailsScreen.js
    HomeScreen.js
  styles
    globalStyles.js
  .gitignore
  App.js
  app.json
```

Installing the stack navigator library

- Every navigator lives in its own package. So you also have to install that one (sigh…)

```
npm install @react-navigation/native-stack
```

- Update `<App />` to use the StackNavigator:

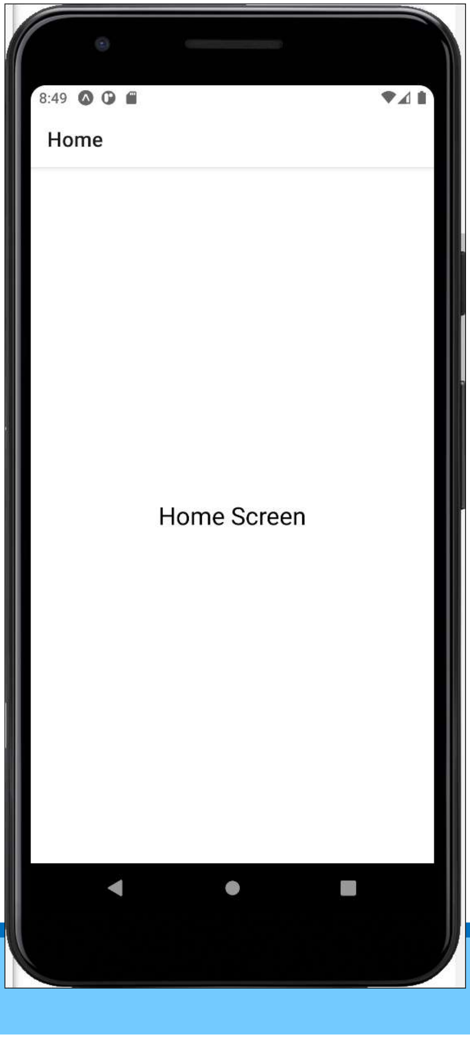
```
import {createNativeStackNavigator} from "@react-navigation/native-stack";
import …

const Stack = createNativeStackNavigator();
export default function App() {
    return (
        <NavigationContainer>
            <Stack.Navigator>
                <Stack.Screen name="Home" component={HomeScreen}/>
                 …more screens…
            </Stack.Navigator>
        </NavigationContainer>
    );
}
```

What is your ‘Home’ screen?

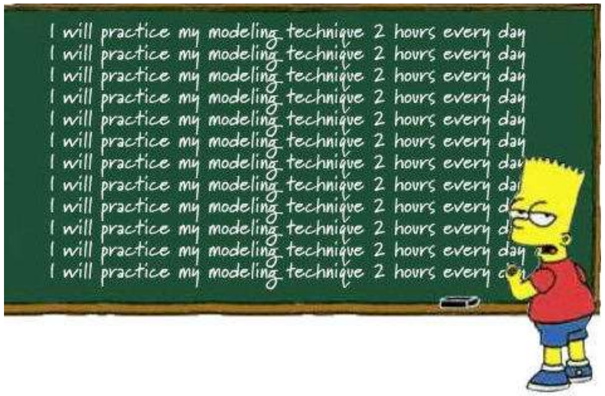
- The screen that is listed first, is by default the Home Screen.
- OR: set the property `initialRouteName`:

```
<Stack.Navigator
         initialRouteName="Home">
```



Workshop

- Create a new React app, or work from your existing app
- Add routing to the app, as described before
- Add three screens to the app. See if you can assign each screen as the ‘home’ screen
- (we’re going to navigate between screens next)
- Example: ../200-navigation-basics
- https://reactnavigation.org/docs/getting-started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Checkpoint

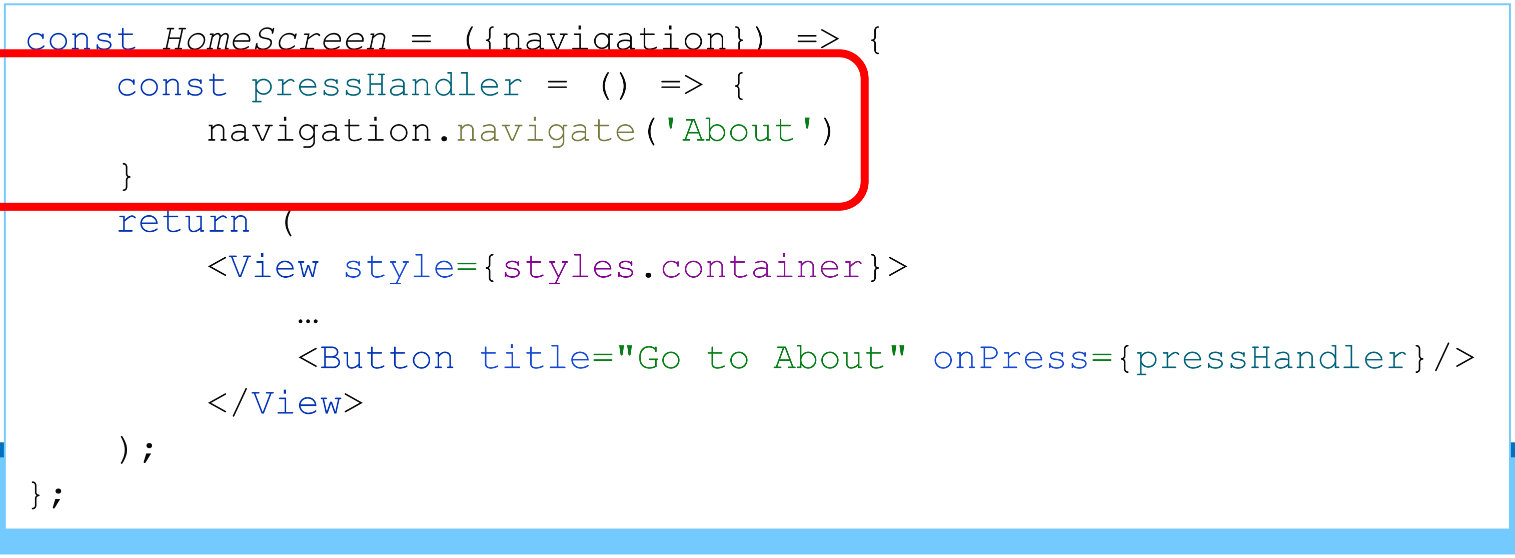
- React Native doesn't have a built-in API for navigation like a web browser does. React Navigation provides this for you.
- `Stack.Navigator` is a component that takes route configuration as its children
- There are props for configuration and rendering our content.
- Each `Stack.Screen` component takes a `name` which refers to the name of the route and `component` which specifies the component to render for the route.
- These are the 2 required props.

Navigating between screens

Moving from one screen to another and back to the home screen

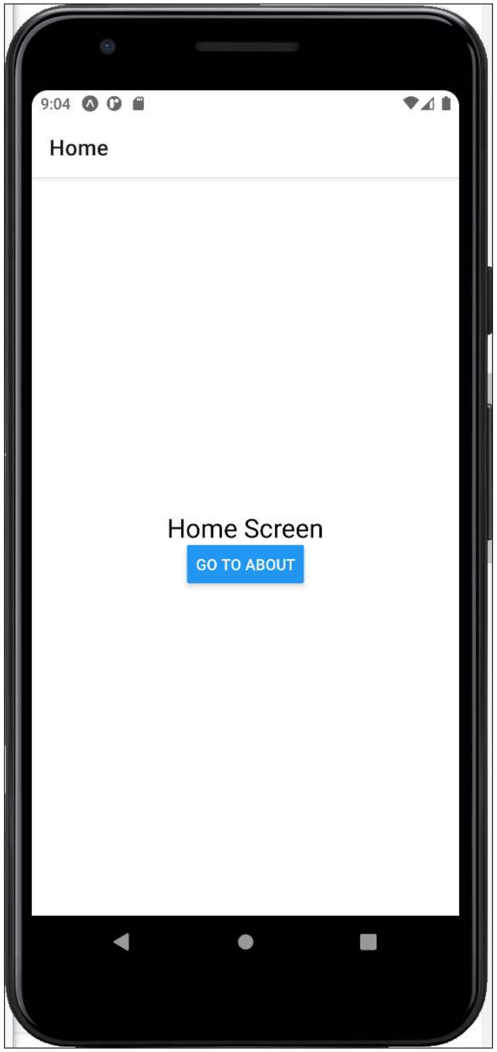
Navigation on the web

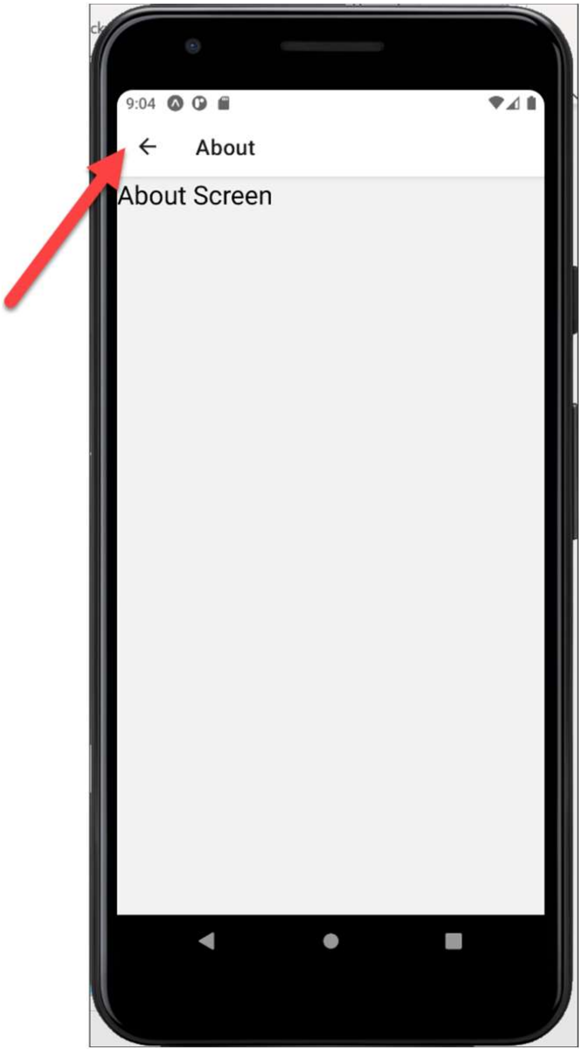
- `<a href="details.html">Go to Details</a>`
- NOT Valid in React Native
- You create a `Button` (or `Text`, or `Icon`, or `Pressable`) and handle the `onPress` event, for instance:



```
const HomeScreen = ({navigation}) => {
    const pressHandler = () => {
        navigation.navigate('About')
    }
    return (
        <View style={styles.container}>
            …
            <Button title="Go to About" onPress={pressHandler}/>
        </View>
    );
};
```

Result

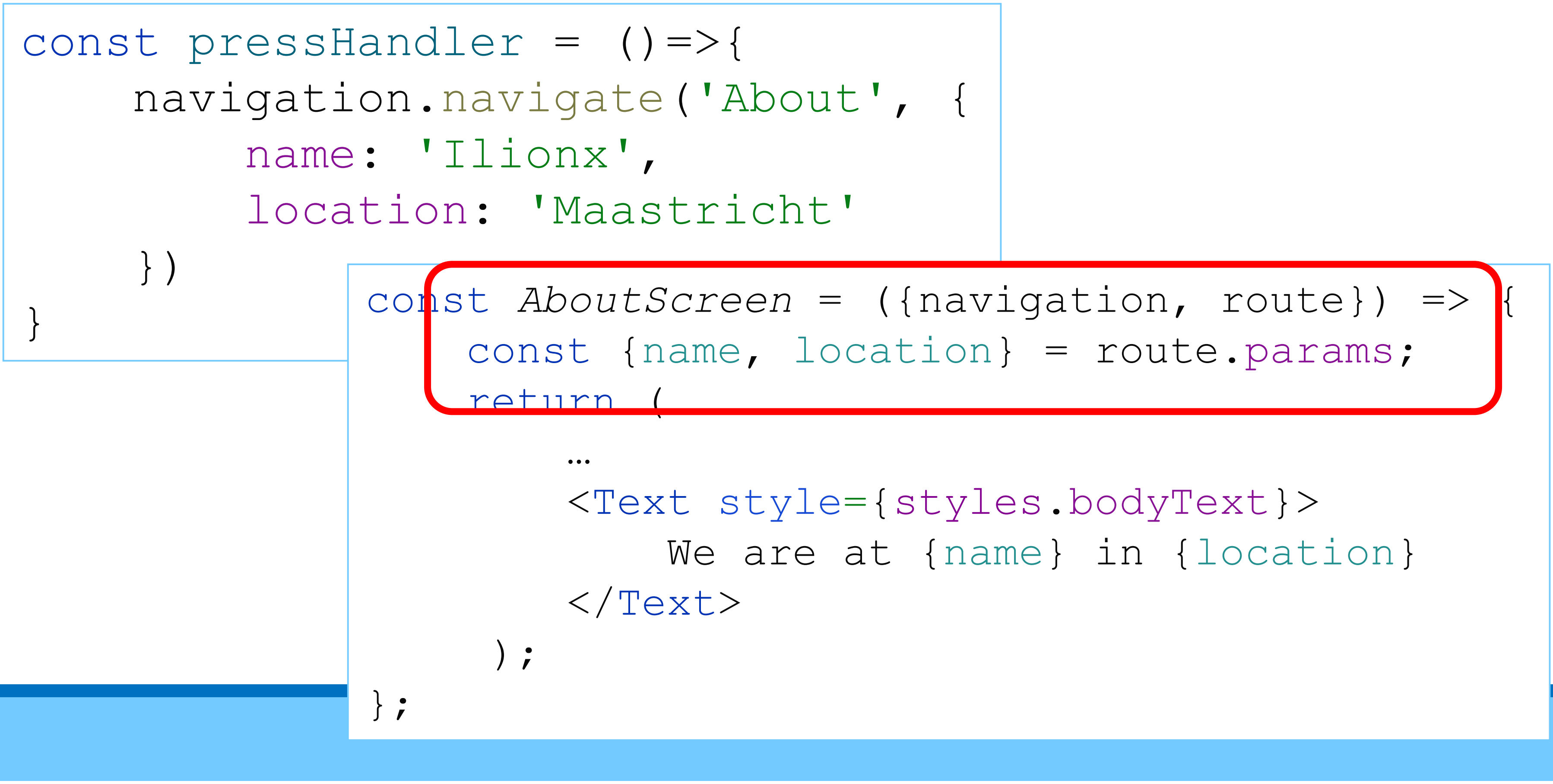




You get the Back button and navigation bar for free. These of course are highly configurable via props.

Passing data between screens

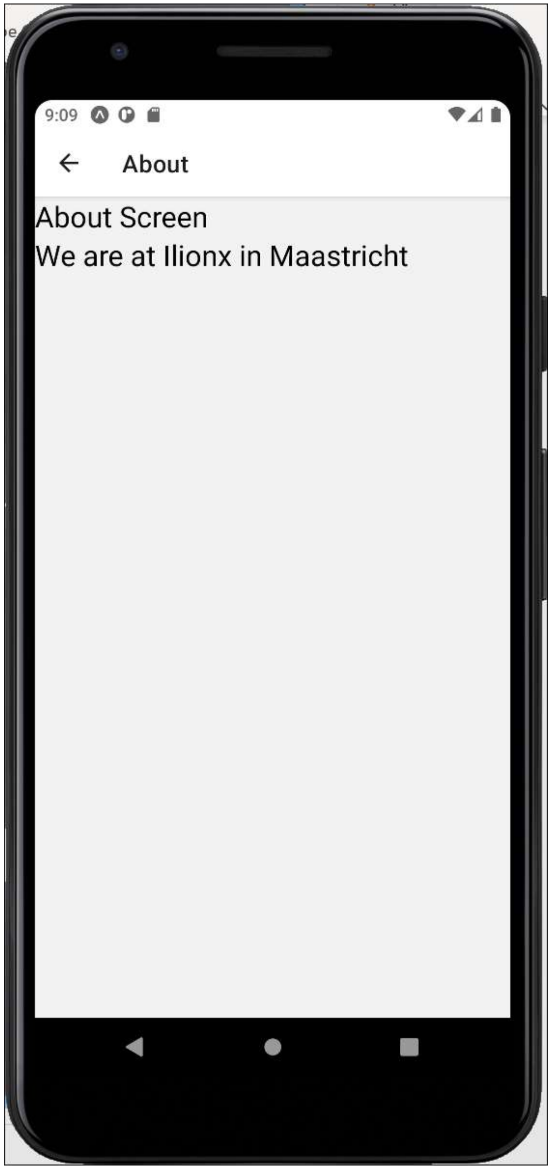
- We can send a configuration/params object to the next screen, upon navigation like so:



```
const pressHandler = ()=>{
    navigation.navigate('About', {
        name: 'Ilionx',
        location: 'Maastricht'
    })
}
```

```
const AboutScreen = ({navigation, route}) => {
    const {name, location} = route.params;
    return (
        …
        <Text style={styles.bodyText}>
            We are at {name} in {location}
        </Text>
    );
};
```

Result



About Screen
We are at Ilionx in Maastricht

Going back programmatically:

```
<Button title="Go back" onPress={() =>
       navigation.goBack()} />
```

Going to the very first screen in the app:

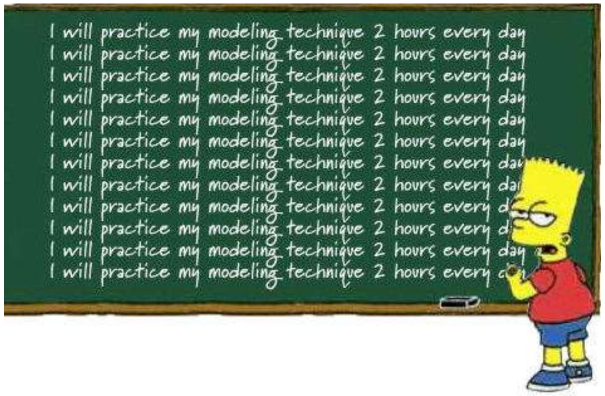
```
<Button title="Go back" onPress={() =>
       navigation.popToTop()} />
```

Checkpoint

- `navigation.navigate('RouteName')` pushes a new route to the native stack navigator if it's not already in the stack, otherwise it jumps to that screen.
- The header bar will automatically show a back button, but you can programmatically go back by calling `navigation.goBack()`.
- You can go back to the first screen in the stack with `navigation.popToTop()`.
- The `navigation` prop is available to all `Screen` components.

Workshop

- Create a list in your navigation app. Load the list on the Home Screen
- When you tap an item in the list, navigate to a detail screen showing details for that item
- Experiment with `.goBack()` and `popToTop()`.
- Optional:
  - Send the tapped name, show in the Title Bar
  - Can you change the navigation animation?
- Example: `../210-navigation-data`
- https://reactnavigation.org/docs/navigating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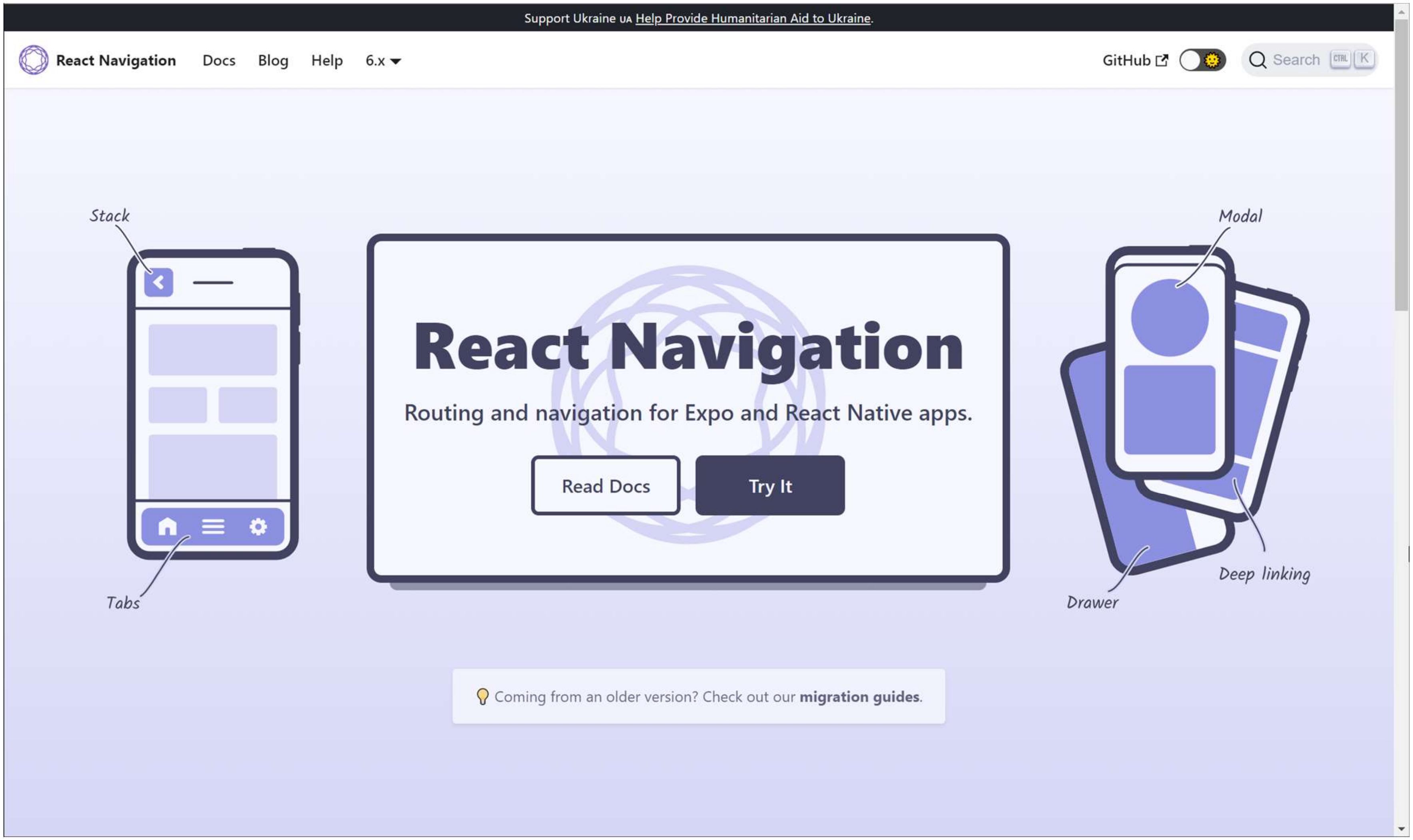
[more navigation to come…]

More info

More info on the topics in this module



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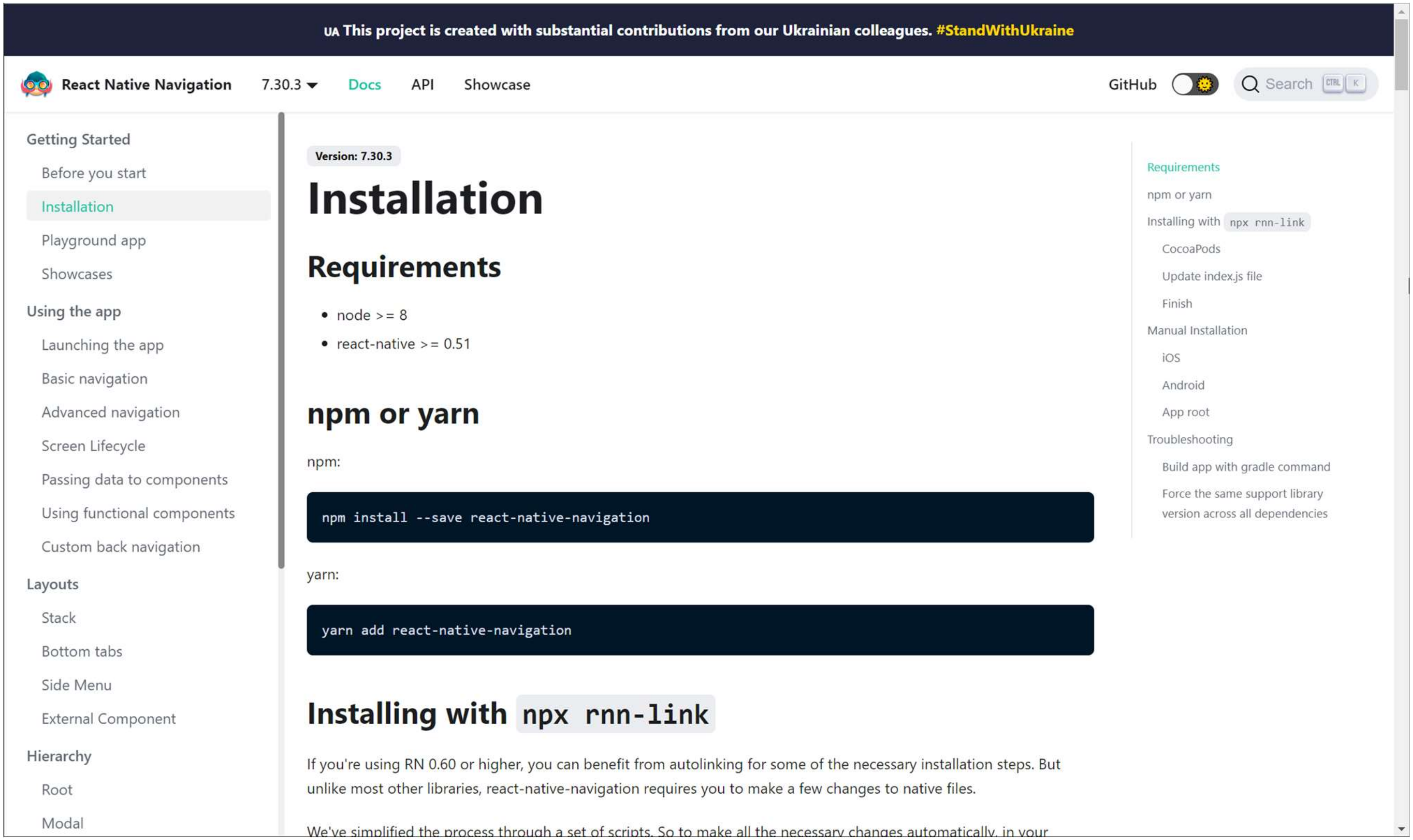
Alternative navigation: WIX



Version: 7.30.3

Installation

Requirements

- node >= 8
- react-native >= 0.51

npm or yarn

npm:

```
npm install --save react-native-navigation
```

yarn:

```
yarn add react-native-navigation
```

Installing with `npx rnn-link`

If you're using RN 0.60 or higher, you can benefit from autolinking for some of the necessary installation steps. But unlike most other libraries, react-native-navigation requires you to make a few changes to native files.

We've simplified the process through a set of scripts. So to make all the necessary changes automatically, in your

https://wix.github.io/react-native-navigation/docs/before-you-start/