



# Welcome to the React x Web Database Workshop!

Recording will  
be shared

Download  
Code & Slide

[bit.ly/KDP.REACT\\_2](https://bit.ly/KDP.REACT_2)

Click the top right  
**Download ZIP**  
button



Sign Up For:

#1 Developer Account  
[bit.ly/KDP\\_signup](https://bit.ly/KDP_signup)

#2 Kintone Subdomain  
[bit.ly/K.DevLic](https://bit.ly/K.DevLic)

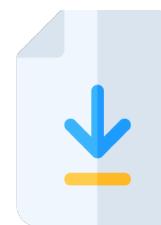
Asking Questions  
& Raising Hands

Post questions in  
the chat anytime!

Include your code  
& error messages.



\$25 Gift Card  
Raffle at the End



Instantly share code, notes, and snippets.

 ahansel / [00\\_React\\_Workshop\\_v2.md](#)

Last active 1 hour ago

[Code](#) [Revisions \(23\)](#)

Star

0

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0



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Click here to download  
EVERYTHING

[Raw](#)

## React & REST API Workshop Part 2

### Let's POST Data to a Web Database From a React Component

Thank you for attending our 2nd Kintone x React workshop!

Use the following files to follow along!

#### Download Links

Click [here](#) or the

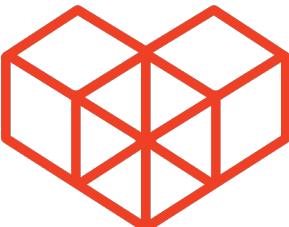
[Download ZIP](#)

button on the upper right corner for all the code & slides you need for our workshop!

Scroll down to  
view the other files



# #1 - Sign Up for Developer Account



[bit.ly/KDP\\_signup](https://bit.ly/KDP_signup)

⚠ Do NOT use Safari ⚠

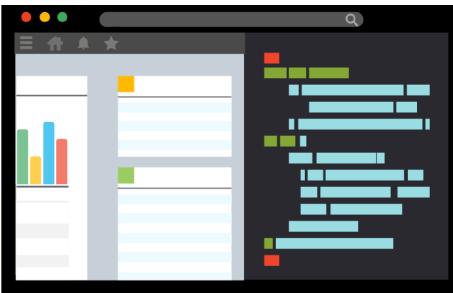
⚡ Accept Cookies First ⚡

✓ Chrome & Firefox works ✓

The screenshot shows a sign-up form for the Kintone Developer Program. At the top, there's a header with the Kintone logo and a search bar. Below the header, a banner features a giraffe and the text "Welcome to the source of innovation". The main form area has a heading "Sign up to Kintone Developer Program" followed by a descriptive text: "Please fill out this form, and we'll send you a welcome email so you can verify your email address and sign in." There are two input fields: "Your full name \*" and "Your email \*". Below these is a reCAPTCHA field with the text "I'm not a robot" and a checkbox. A large blue "Sign up" button is at the bottom, and a "Cancel" link is in the bottom right corner.



# #2 - Create a Kintone Subdomain



[bit.ly/K\\_DevLic](https://bit.ly/K_DevLic)

⚠ No Special Characters ⚠

⚡ Name your Subdomain with only ⚡  
lowercase [a-z], numbers [0-9],  
& hyphens [-]

✓ e.g. weekend-hacker, coffee4life ✓

**Terms of Service for the Developer License**

The account holder of this developer program who applies for the license (hereinafter referred to as "User") must comply with all of the provisions and the following conditions set out by Kintone Corporation (hereinafter referred to as "Kintone"), who will provide a Kintone developer license to the User.

[Kintone Developer License Terms of Service](#)

**Developer License Application Form**

First Name\*

Last Name\*

Email\*

Company Name\*

Create your Kintone Developer License subdomain (lowercase, numbers and hyphens only)\*  
*For example: mydomain, coffee-lovers*

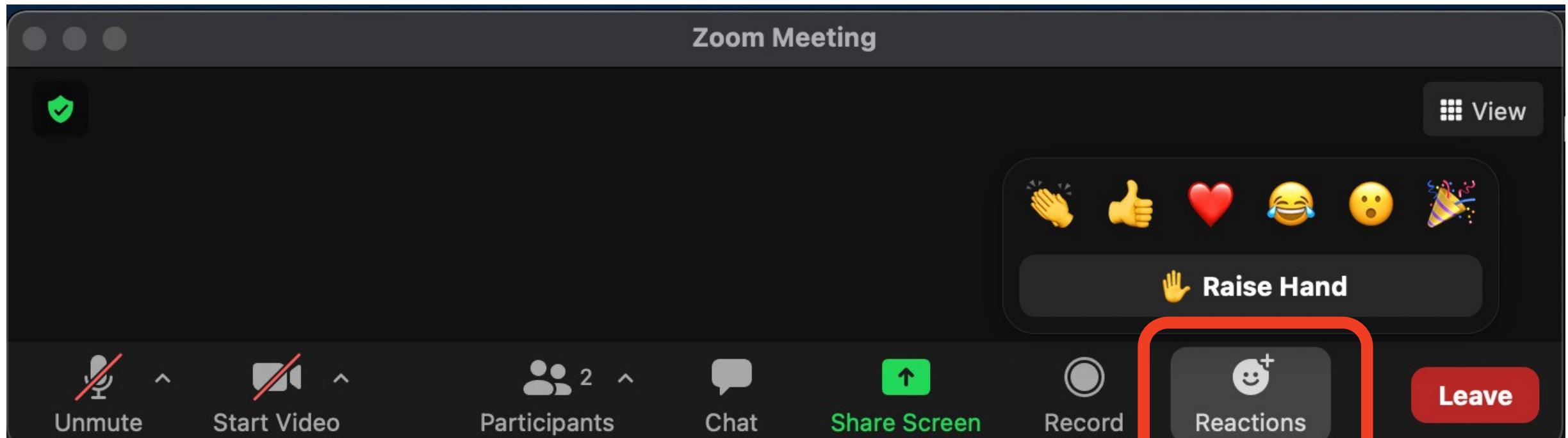
I agree with the [Kintone Developer License Terms of Service\\*](#)

protected by reCAPTCHA Privacy - Terms

[Sign Up](#)



# Let's Practice using Zoom's Reactions



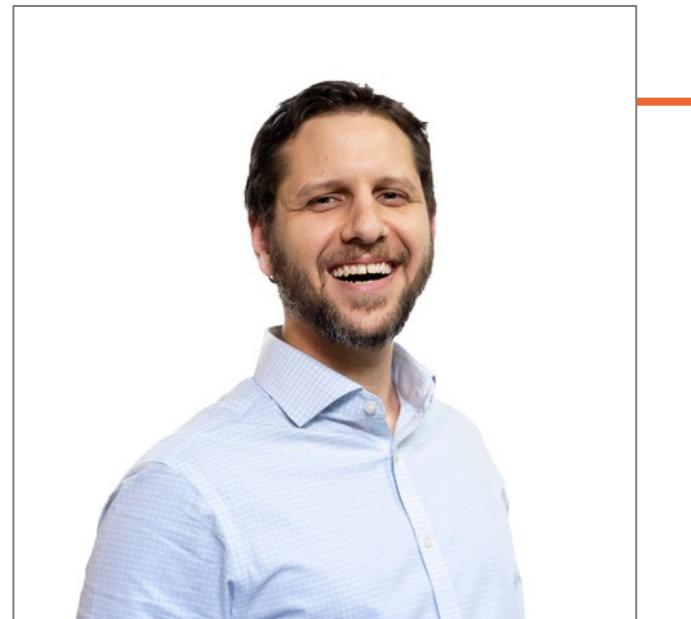
This helps us out who to look out for throughout this workshop.



# Hello From Kintone

**Nim**

Technical Evangelist



**Will**

Developer Advocate



**Genji**

Developer Advocate

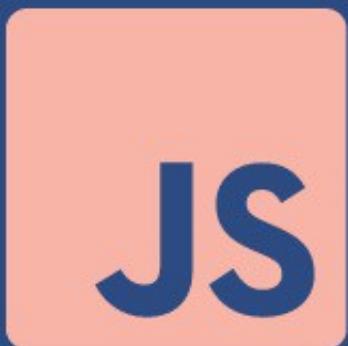
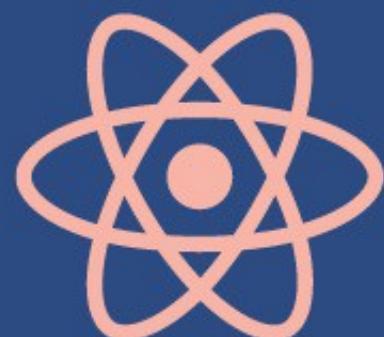


A stylized illustration of a workspace setup. It includes a laptop with a teal screen and a blue keyboard, a pink smartphone, a stack of three books (teal, white, and orange), a small potted plant with long green leaves, and a pink coffee cup with a saucer.

FREE ONLINE WORKSHOP

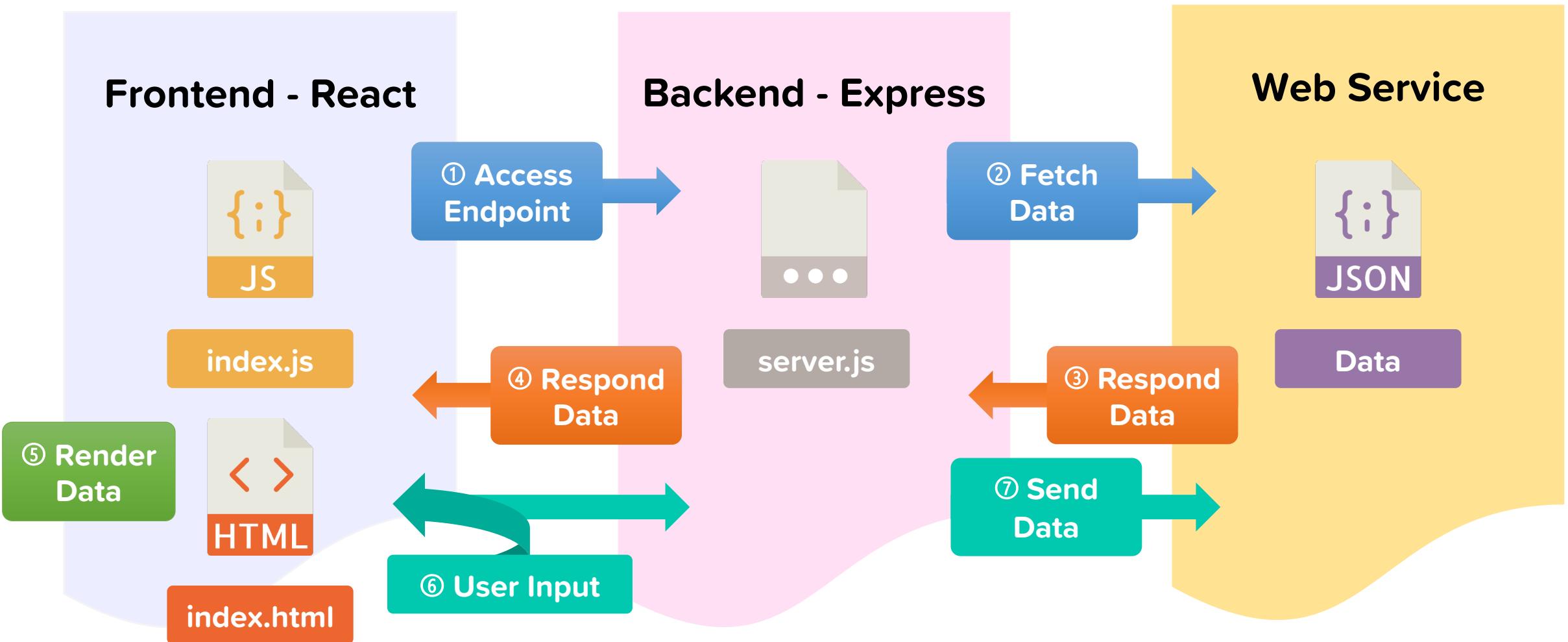
# React & REST API Workshop

**GET & POST Data to a Web Database!**





# What We Will Make Today



# What We Will Make Today

React App Manga DB - Goal - Records +

devevents.kintone.com/k/28/ Genji Guest

kintone

Manga DB - Goal

App: Manga DB - Goal

List View

Records 1 - 8 of 8

	Title	Alternative Title	Author	Genre	
1	Undead Unluck	Undead Unluck	Yoshifumi Tozuka	Action	/ X
2	Golden Kamuy	Golden Kamuy	Satoru Noda	Action Comedy	/ X
3	Hachiwan Diver	81 diver	Yokusaru Shibata	Action Comedy Sports	/ X
4	Kimetsu no Yaiba	Demon Slayer	Koyoharu Gotouge	Action	/ X
5	Batuque	Batuque	Toshio Sako	Action	/ X
6	Usogui	The Lie Eater	Toshio Sako	Action Gambling	/ X
7	Gunnm	Battle Angel Alita	Yukito Kishiro	Action Cyberpunk	/ X
8	Ouran High School Host ...		Bisco Hatori		/ X

Records 1 - 8 of 8



# Check Node.js & npm version

## Check the versions

Check the versions in *myproject*

```
$ node -v  
$ npm -v
```

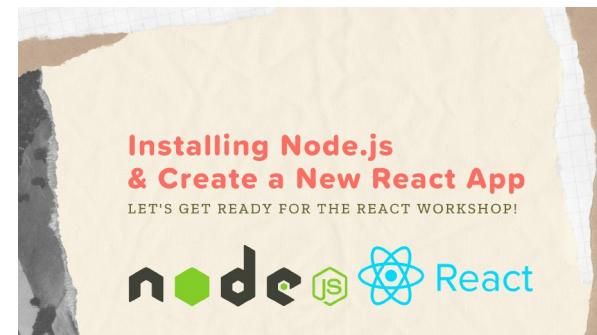
Required for React:

Node ≥ 10.16 & npm ≥ 5.6

## If missing, install

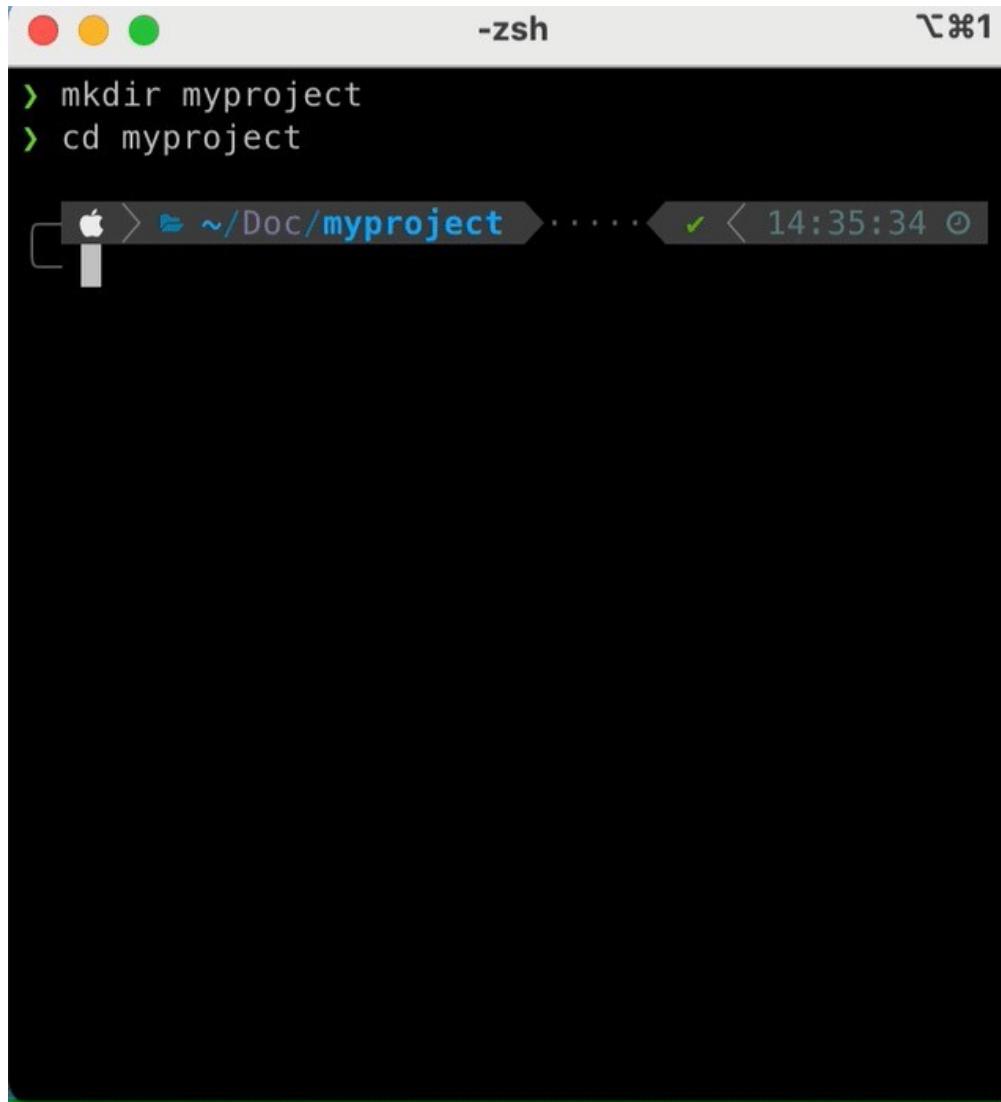
For those who are new to Node.js, check out [01\\_Prep.md](#)

There is a companion video:



[youtu.be/4Kw-i\\_rX3tY](https://youtu.be/4Kw-i_rX3tY)

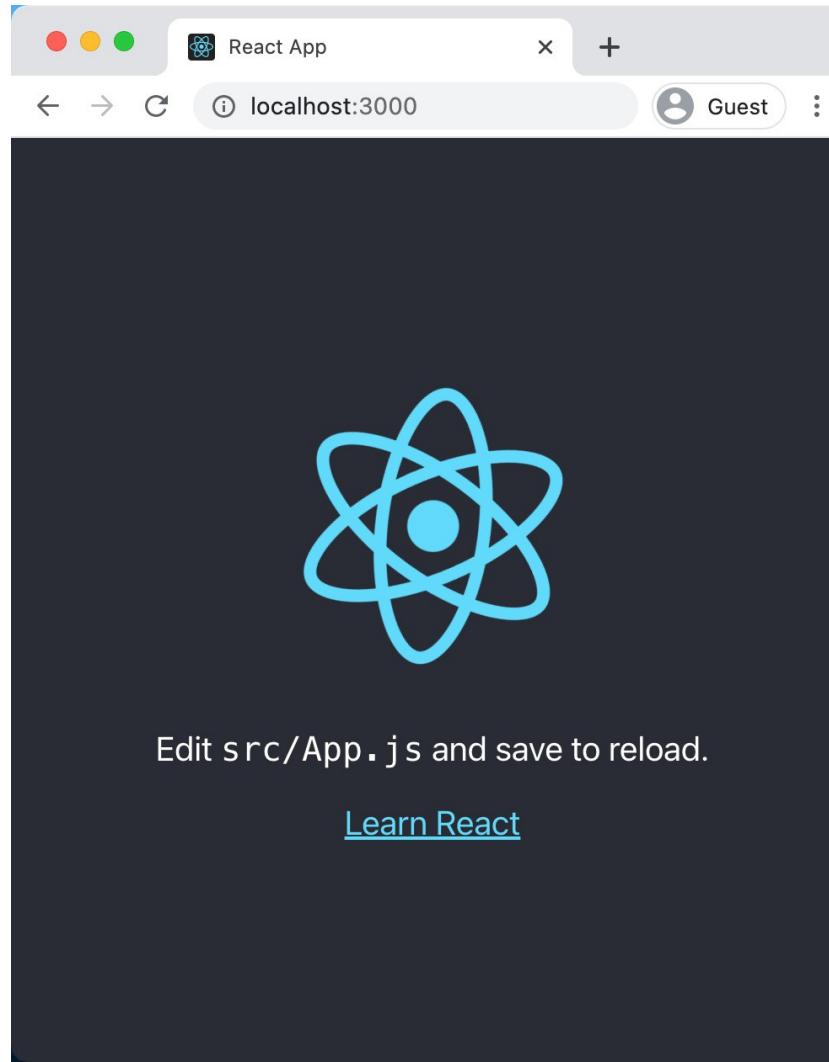
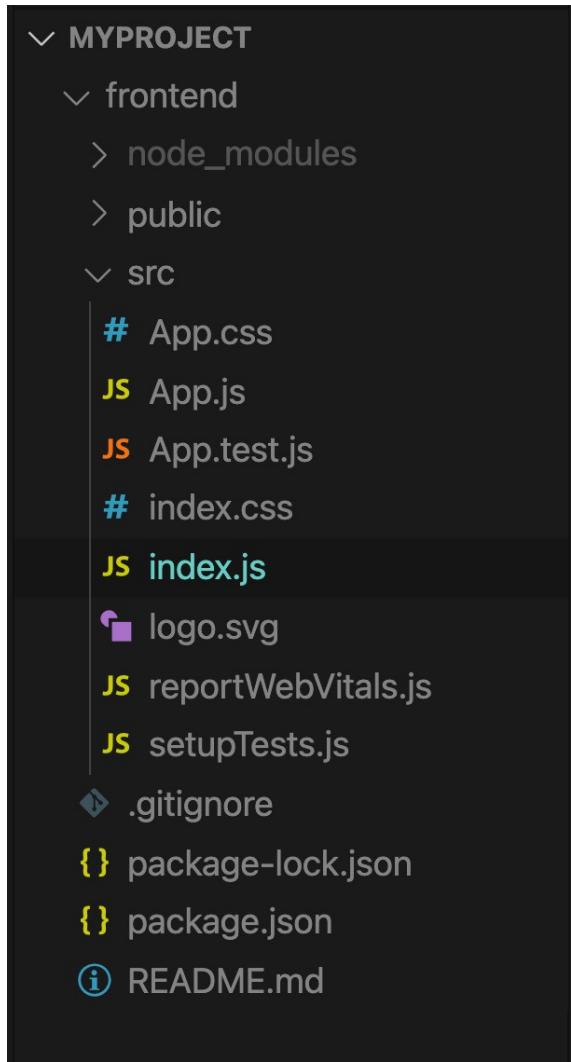
# Open the Sample React App



```
mkdir myproject
cd myproject
```

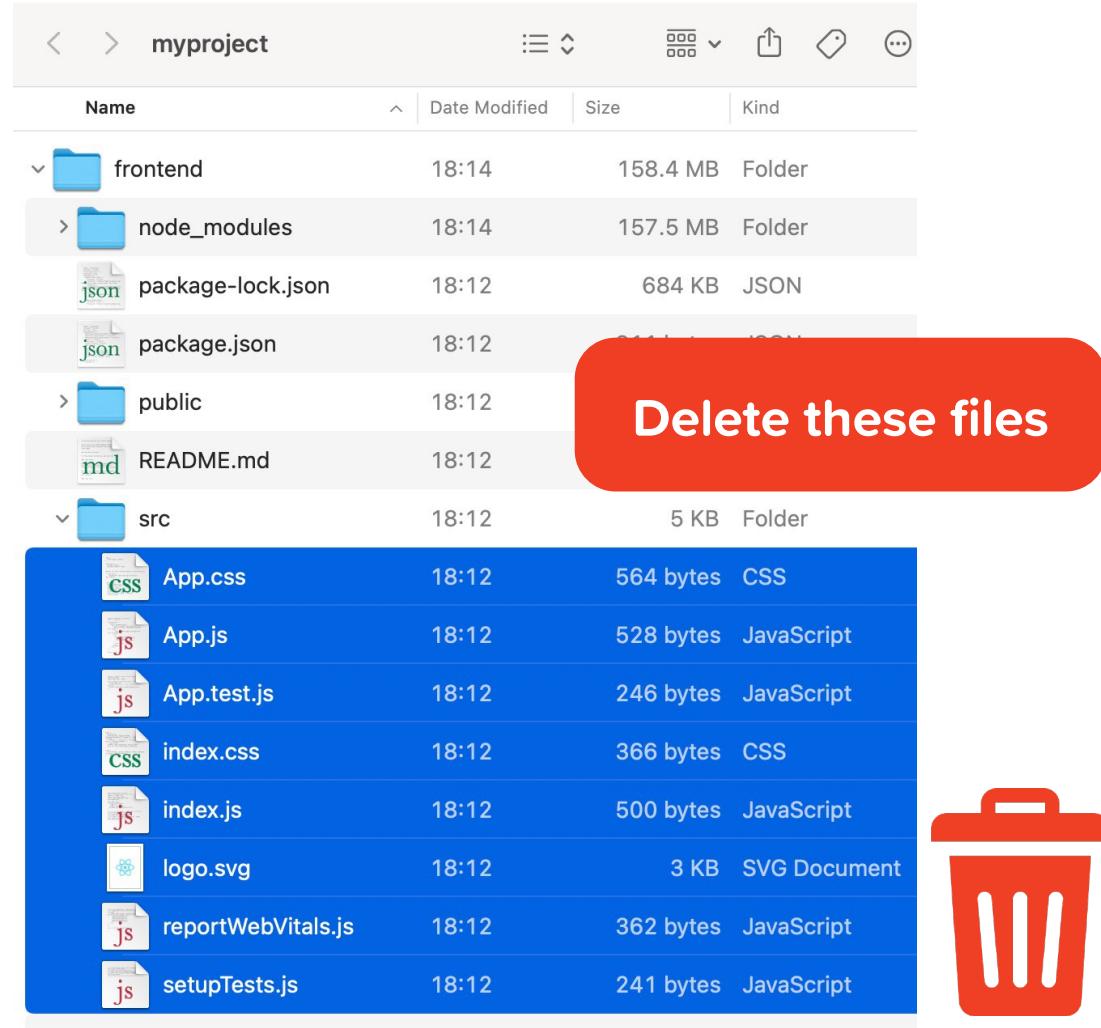
```
$ cd .../myproject
$ npx create-react-app frontend
...
$ cd frontend
$ code .
```

# Inside frontend



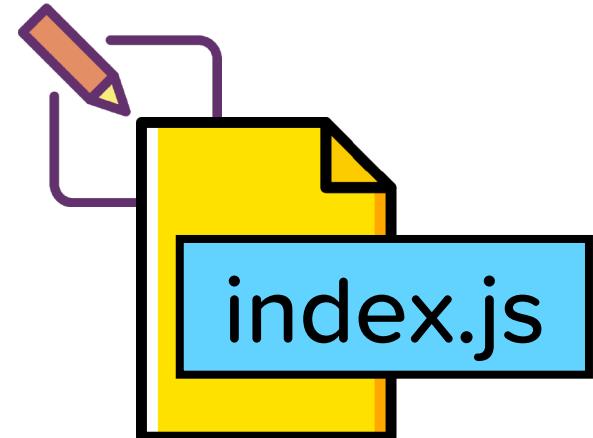
```
> .../myproject/frontend  
$ npm start
```

# Deleting Files Inside `src` Folder

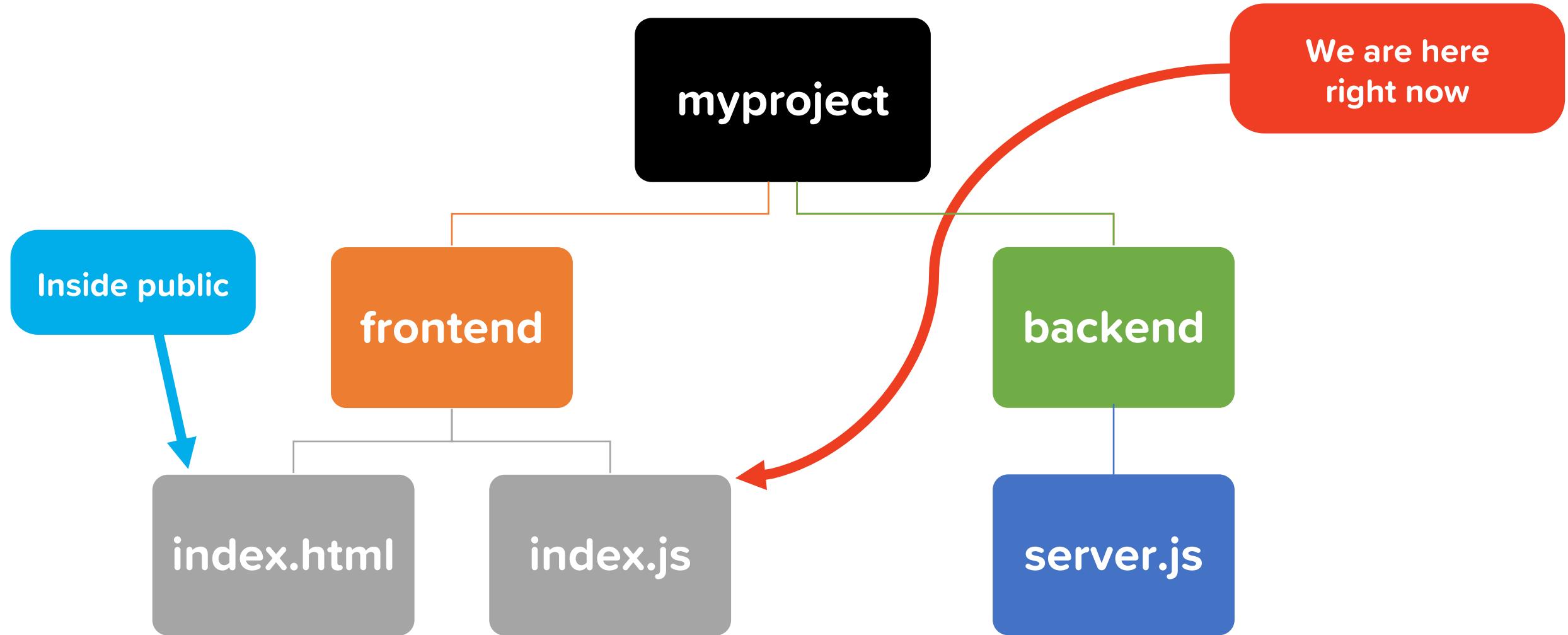


Inside the **frontend** folder,  
Go inside **src** folder.

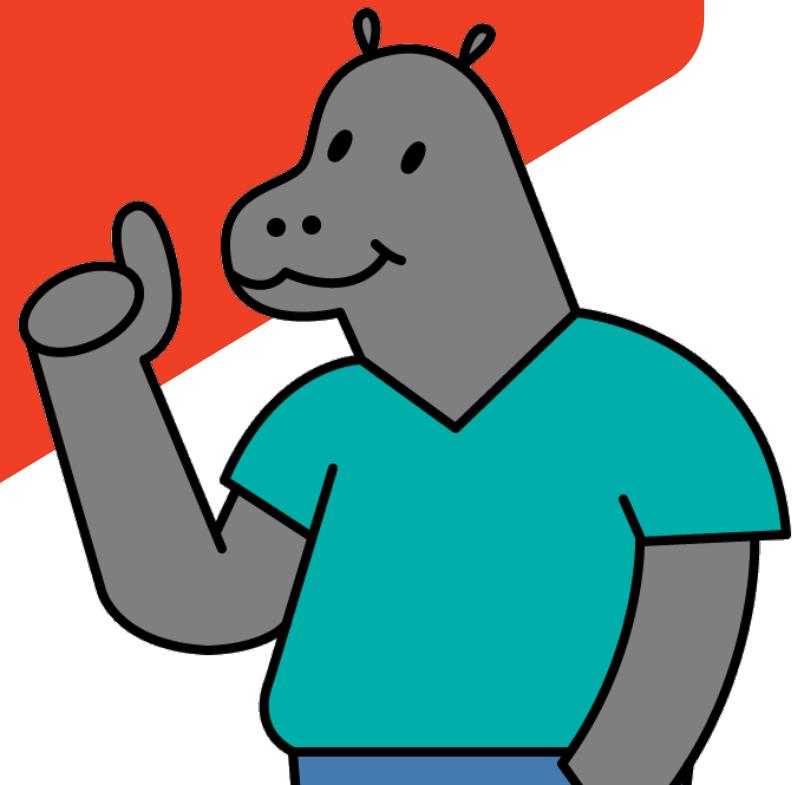
1. Delete ALL the files inside **src**
2. Create a new **index.js** file



# Goal: The Directory Structure



# Quick check-in with Zoom polling



# Using Promises in React

What Happens?



# Rendering API Response to React

```
1 import React from 'react';
2 import ReactDOM from 'react-dom';
3
4 // Call Random User Generator API
5 const restEndpoint = 'https://randomuser.me/api/';
6
7 // Wait for response & tries to output it to React
8 const callRestApi = async () => {
9   const resp = await fetch(restEndpoint);
10  const jsonResp = await resp.json();
11  return React.createElement('h1', null, JSON.stringify(jsonResp));
12 };
13
14 ReactDOM.render(
15   callRestApi(),
16   document.querySelector('#root')
17 );
```

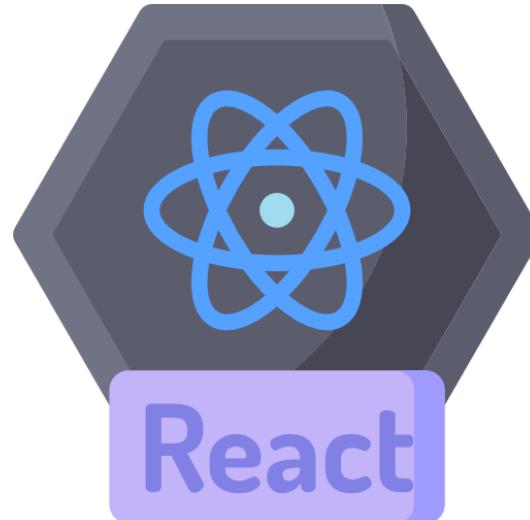
The screenshot shows a browser window at localhost:3000 with an error message in the developer tools' error console. The error is: "Error: Objects are not valid as a React child (found: [object Promise]). If you meant to render a collection of children, use an array instead." A stack trace is provided, starting from index.js:14 where ReactDOM.render is called with the promise returned by callRestApi.

```
localhost:3000
Error: Objects are not valid as a React child (found: [object Promise]). If you meant to render a collection of children, use an array instead.
▶ 17 stack frames were collapsed.

(anonymous function)
src/index.js:14
11 |   return React.createElement('h1', null, JSON.stringify(jsonResponse))
12 | };
13 |
14 | > ReactDOM.render(
15 |   callRestApi(),
16 |   document.querySelector('#root')
17 | );
View compiled

./src/index.js
http://localhost:3000/static/js/main.chunk.js:105:34
__webpack_require__
/Users/g001494/Documents/React_Workshop/myproject/frontend/webpack/bootstrap:851
848 |
849 | __webpack_require__. $Refresh$.init();
850 | try {
851 |   modules[moduleId].call(module.exports, module, module.exports
hotCreateRequire(moduleId));
852 | } finally {
853 |   __webpack_require__. $Refresh$.cleanup(moduleId);
```

# Using useState & useEffect Hooks



**Hooks**



Let's use useState & useEffect Hooks to handle the REST API calls in React.

```
1 import React, { useState, useEffect } from 'react';
```

# Using useState & useEffect Hooks

useState hooks allow us to use special "state" variables that we can utilize to render into the React UI.

```
const [state, setState] = useState(initialState);
```

Name of your state

Function used to change  
the state's value

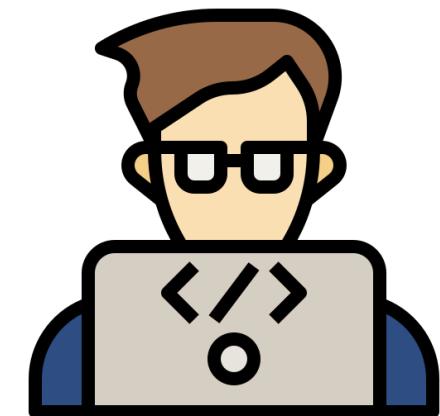
Initial value of the state

# Using useState & useEffect Hooks

useEffect hooks allow us to run functions after rendering has finished.

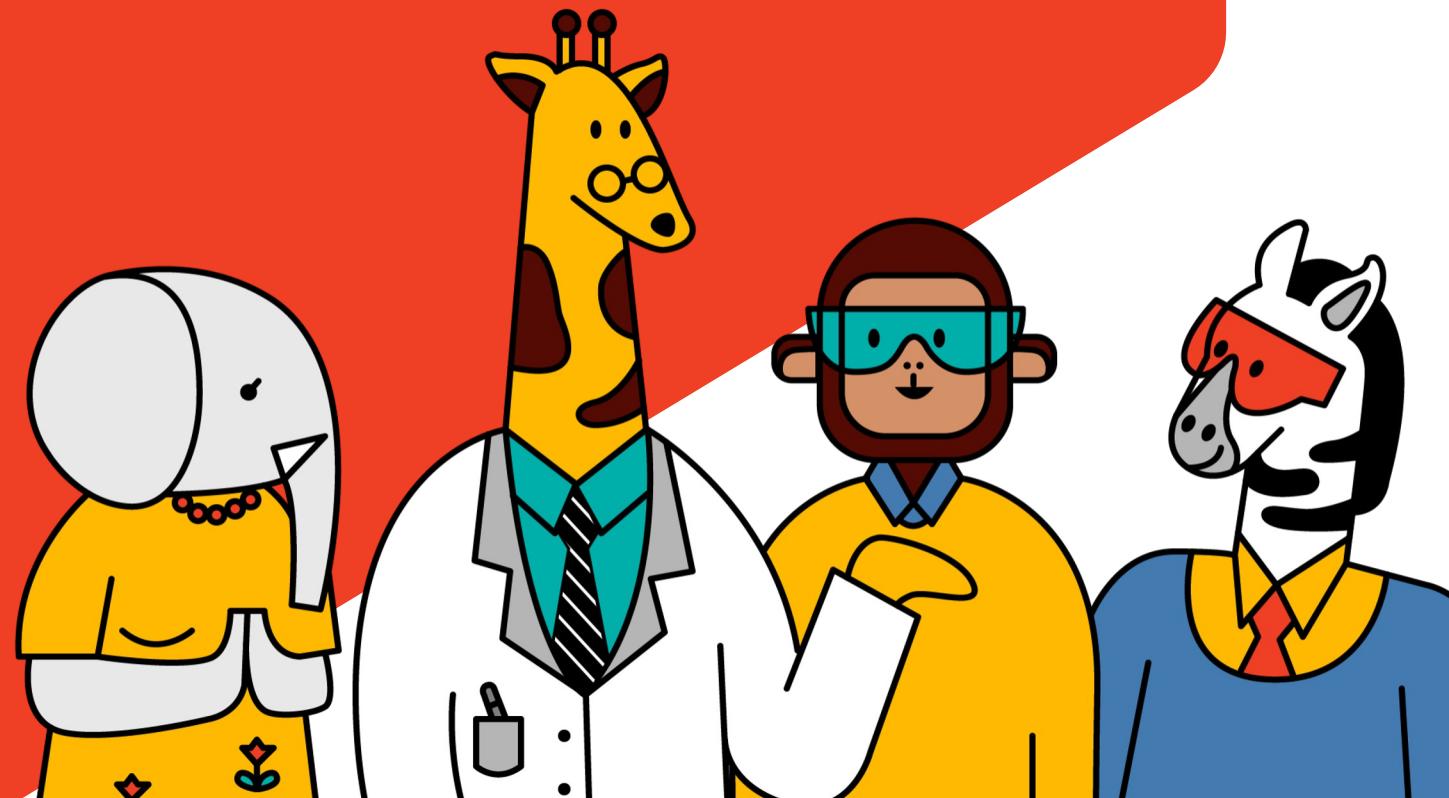
We'll use this to run a REST API call and update the state variable, which will then cause React to *re-render* the UI.

# Live Coding Time!



# What is Kintone?

Built for teamwork,  
designed by you



# What is Kintone?

The screenshot displays the Kintone interface with several panels:

- Customer Database:** Shows a grid with three items: Admin:Green, Admin:Green, and Admin:Green.
- Sales Leads:** Shows a grid with three items: Admin:Green, Admin:Green, and Admin:Green.
- Contact Log:** Shows a grid with three items: Admin:Green, Admin:Green, and Admin:Green.
- Threads:** A list of threads including "Deal Flow" (Apr 3 11:24 AM), "Sales Division" (Apr 1 11:49 PM), and "Monthly Reports" (Apr 1 11:45 PM).
- Apps:** A list of applications: Vendor Database, Item Database, [Of] Product List, [Of] Invoices, [Of] Seminar Survey, [Of] Attendee Lists, [Of] Event Calendar, [Of] Activity Log, [Of] Sales Leads, and [Of] Customer Database.
- People:** A list of members: Hiroko ..., Mary Si..., John S..., Rudy Red, Polly Pink, Bill Blue, Glen Gr..., Paul Gray, Mark Pe..., Dannie ...

**Dashboard:**

- Bar Chart:** Sales Leads: Monthly Expected Sales (per priority) from Apr 01, 2019 to Mar 01, 2020. Legend: Middle (blue), High (red), Low (green). Data: Middle ~2500, High ~1200, Low ~500.
- Donut Chart:** Total(Amount) distribution. Data: Int Creator: \$4202 (30.1 %), T/C: \$1950 (14.0 %), Viewer: \$1440 (10.3 %), Form Creator: \$630 (4.5 %), kintone: \$5718 (41.5 %).

Bottom left: Apr 1 10:43 PM - Mary Simpson

Kintone is a **no-code / low-code** cloud platform for teams to easily share and **collaborate** on their **data** efficiently.

# Where Kintone is Special!



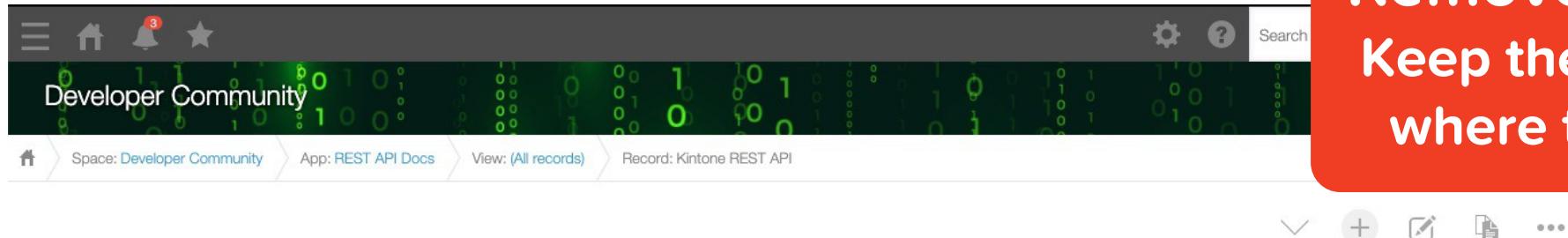
# Missing - Unified Communication

## Data Silos

Information is not being  
shared effectively

**Scattered Communication**  
Unclear where the  
conversation is happening

# What is Possible?



Remove the Friction  
Keep the conversation  
where the data lives

Where  
Data  
Lives

A screenshot of a Kintone API documentation page. The top section shows fields for "EN Section" (API Info), "EN API Group" (Kintone REST API), and "EN Method" (GET). Below these are fields for "EN API Name" (Get API Schema), "EN URL (Endpoint)" (/k/v1/apis/\*.json), and "EN Article Link" (<https://developer.kintone.io/hc/en-us/articles/115006107628>). A "Fix History" section contains a table with one row. The table has columns for "Date" (Aug 27, 2020), "Fixed By" (@Clare - Support), "Before" (Screenshot of the original API schema page), "After" (Screenshot of the fixed API schema page), and "Fix Details" (Fixed the GET API List API link, Added apis.{key}.link).

Date	Fixed By	Before	After	Fix Details
Aug 27, 2020	@Clare - Support			Fixed the GET API List API link Added apis.{key}.link

A screenshot of a communication thread in Kintone. The header says "Write your comment here." The first message is from @Clare - Support (@Sharon - Developer @Genji) at Aug 27, 2020 1:29 AM, saying "Done!". Below it is a "Like" and "Reply" button. The second message is from @Sharon - Developer (@Genji) at Aug 27, 2020 1:28 AM, saying "Oh, shoot, thanks for catching my mistake!". The third message is from @Clare - Support at Aug 27, 2020 1:28 AM, saying "Please fix the Fixed the GET API List API link". The fourth message is from @Genji at Aug 27, 2020 1:27 AM, saying "Please take a look at this document.". Below each message are "Like" and "Reply" buttons.

Write your comment here.

3: Clare - Support Aug 27, 2020 1:29 AM  
@Sharon - Developer @Genji  
Done!

Like Reply

2: Sharon - Developer Aug 27, 2020 1:28 AM  
@Genji  
Oh, shoot, thanks for catching my mistake!

@Clare - Support  
Please fix the Fixed the GET API List API link

Like Reply

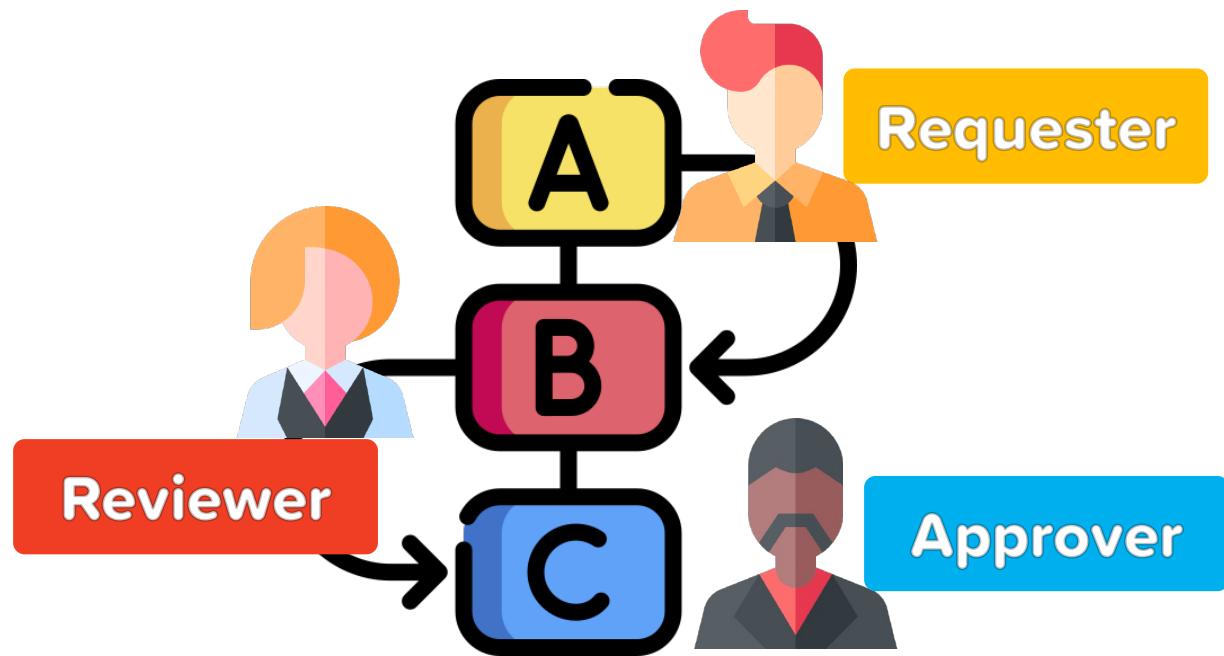
1: Genji Aug 27, 2020 1:27 AM  
@Clare - Support Please take a look at this document.

Like Reply

Where  
Communication  
Lives

# Workflow

With Process Management,  
establish a workflow so that the  
**right people** sees the **right info**  
at the **right time**.



The screenshot shows a process management application interface with the following details:

- Space:** Developer Community
- App:** KDP Event
- View:** Summary
- Record:** No Server Data Visualization: Build a W...

The current step is "Writing Report". A modal dialog is open for "Select Assignee":

- Options: Genji, Sharon - Developer, John - Manager, Clare - Support (selected)
- Buttons: Cancel, Confirm

On the right, there is a sidebar with comments and event details:

- Comment:** Write your comment here.
- Comments:**
  - 2: John - Manager @Genji Assign this even to @Clare - Support
  - 1: Genji @Sharon - Developer They together such a great w...
- Event Image:** No Server Data Visualization JS Build a Word Cloud!

# Kintone Apps

The screenshot shows the Kintone Shared To Do app interface. At the top, there's a navigation bar with icons for home, search, and settings, along with a 'Search in App' field. Below the header, the title 'Shared To Do' is displayed, followed by a breadcrumb trail 'App: Shared To Do'. A descriptive text block states: 'To Do App with Process Management feature. All tasks assigned to you can be viewed under "Assigned to me" section on the portal page. Always be organized and on time by setting up reminders and visualizing team's progress through snazzy graphs.' The main area features a table with the following data:

To Do	Priority	Due date	Status	Details	Attachment
Define requirements	Medium	Apr 05, 2019	In progress	Please start defining the requirements for our ne...	/ X
Research vendors	Medium	Apr 08, 2019	Complete	Find at least 3 vendors and summarize their pro...	/ X
Send invoice to customer	High	Apr 11, 2019	Assigned		/ X
Define scope	Low	Apr 12, 2019	Assigned	XYZ Project would be a long project divided into...	/ X
Map out schedule	Low	Apr 19, 2019	Assigned		/ X

At the bottom of the table, it says 'Records 1 - 5 of 5'. The interface also includes a toolbar with buttons for 'My To Do', a graph icon, a filter icon, and a list icon.

The main building block in Kintone is an **App**.

Imagine an **App** as a powerful, online table where data is stored in records.

# Kintone Apps

Sales & Leads > Settings

Last Updated: Mary Simpson 12:10 AM

Sales & Leads

Form Views Graphs App Settings

Save Form

Leads & Sales

Lead Title Sales Representative

Contact Info

Company Name Website

Contact Name Job Title

Email Telephone Number

Product Name Product ID Unit Price Quantity

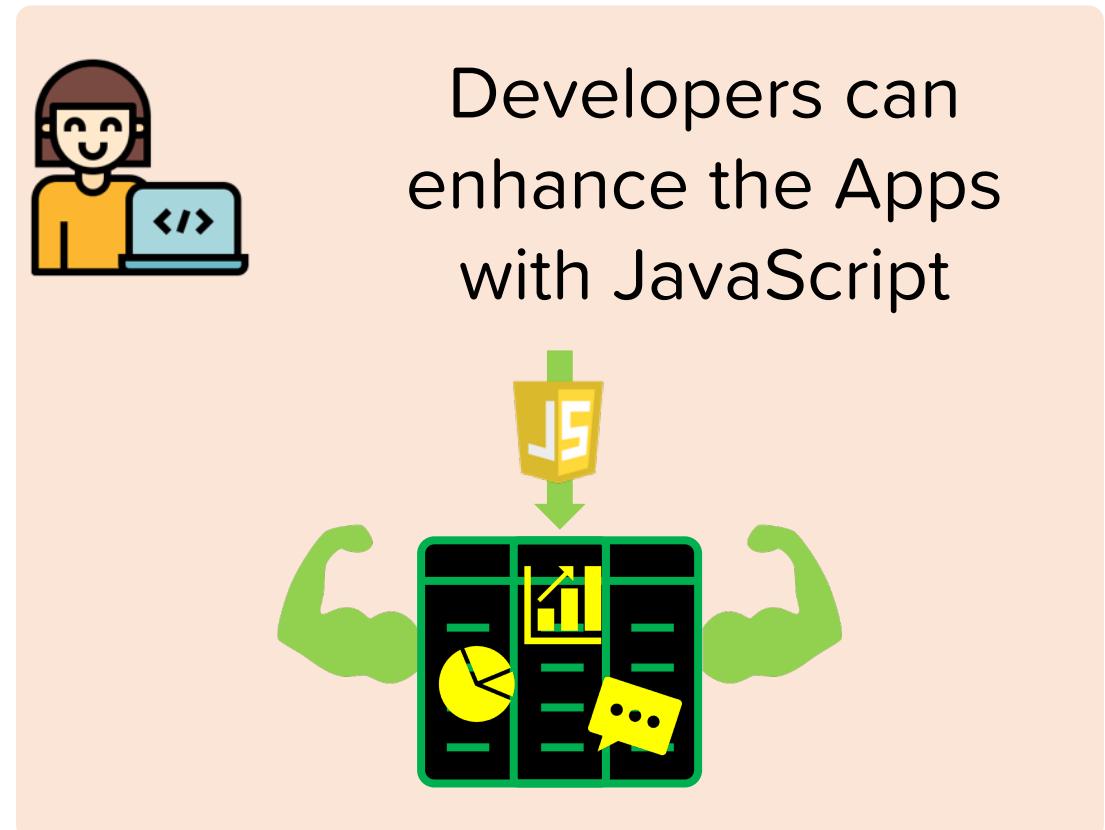
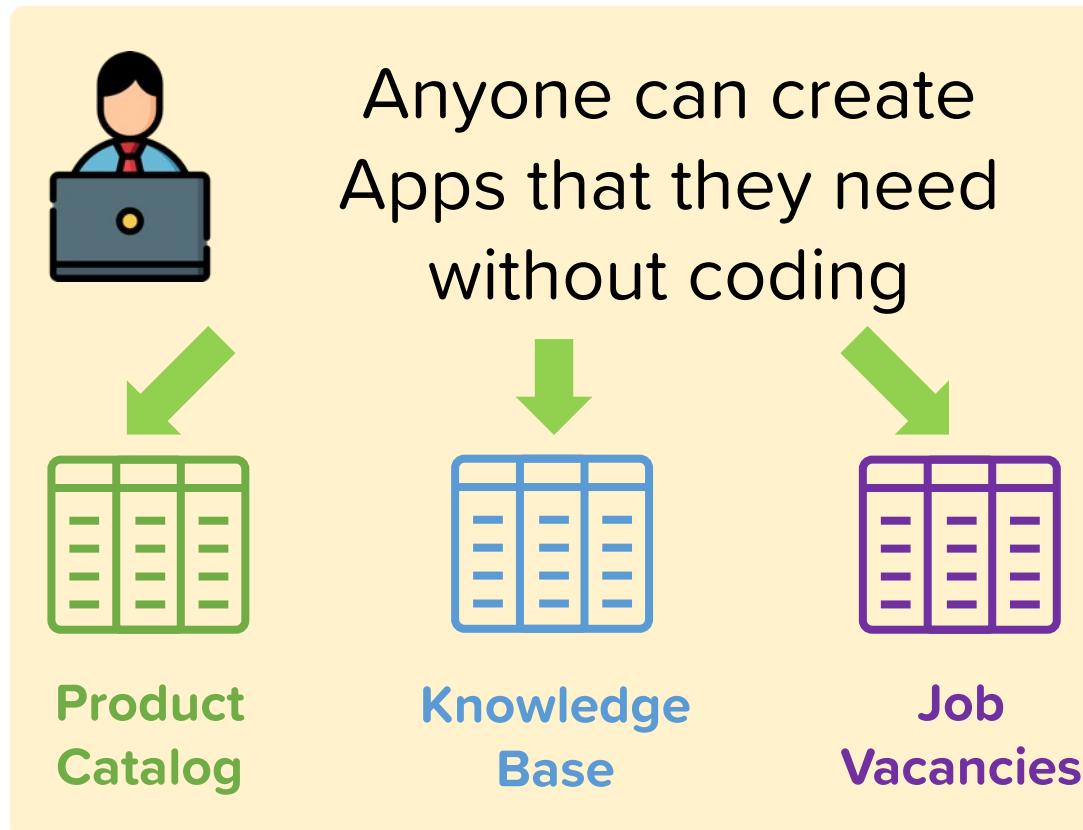
The screenshot shows the Kintone app builder interface for a 'Sales & Leads' application. At the top, there are tabs for 'Form', 'Views', 'Graphs', and 'App Settings'. Below the tabs, a green button says 'Save Form'. The main area is titled 'Leads & Sales' and contains fields for 'Lead Title' and 'Sales Representative'. Under 'Contact Info', there are fields for 'Company Name' and 'Website', with a 'Lookup' and 'Clear' button between them. Below that, there are fields for 'Contact Name' and 'Job Title'. At the bottom, there are fields for 'Email' and 'Telephone Number'. A footer row includes columns for 'Product Name', 'Product ID', 'Unit Price', and 'Quantity'.

**Apps** are easy to **create** using a **drag-and-drop** interface with no coding needed.

**Apps** are extensively **customizable** with client-side **JavaScript**.

# Everyone Contributes!

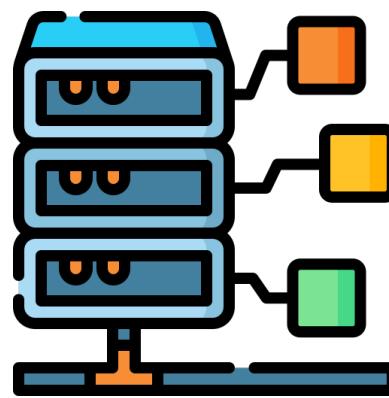
As a **no-code & low-code platform**, Kintone supports non-coders with visual programming UI while enabling sophisticated customization



# Fulfill the Promise of *Groupware*

Share meaningful insights about the data that become operationalized quickly.

**Data + Communication**



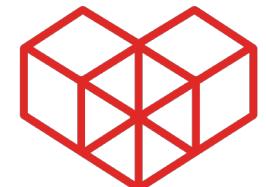
**Insight**



**Action**



# How Developers Contribute

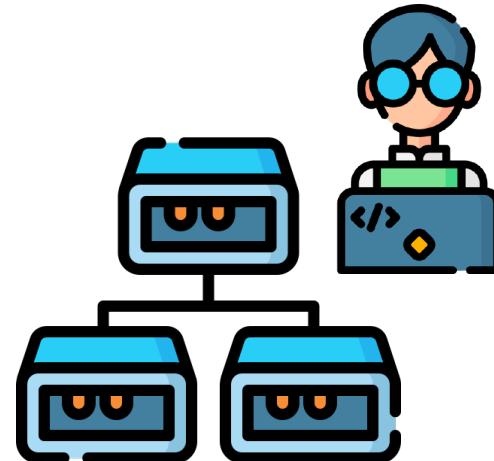


**kintone**  
developer program

# How Developers Contribute

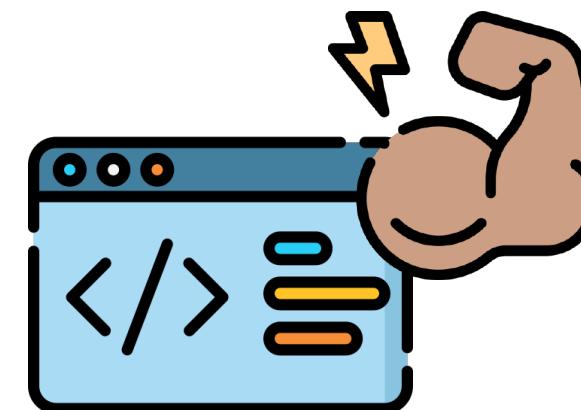
## Command Center

- Create a custom look & feel
- Integrate with 3<sup>rd</sup> party web applications to exchange data



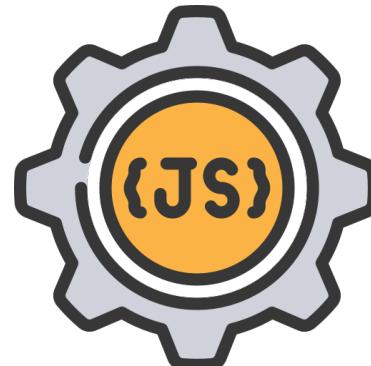
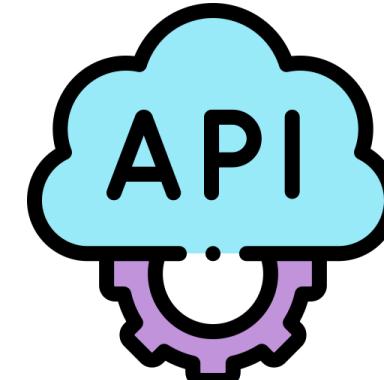
## Enhancements

- Develop JavaScript customizations
- Build & share extensions



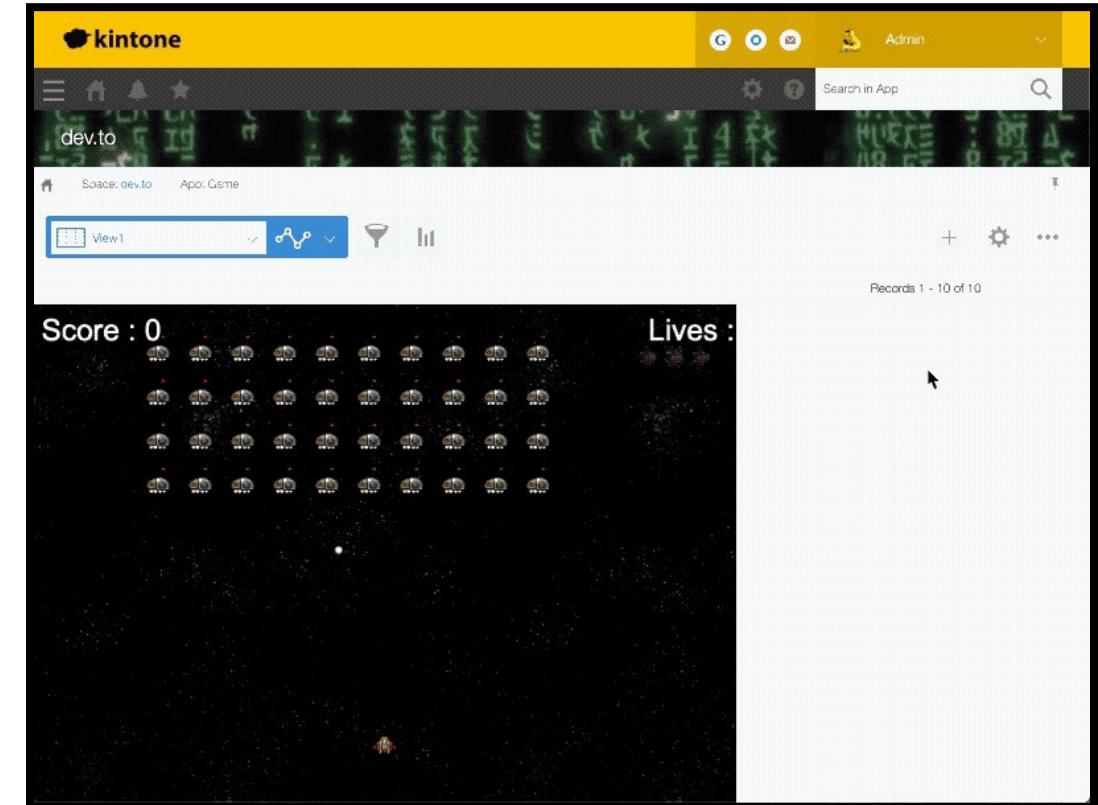
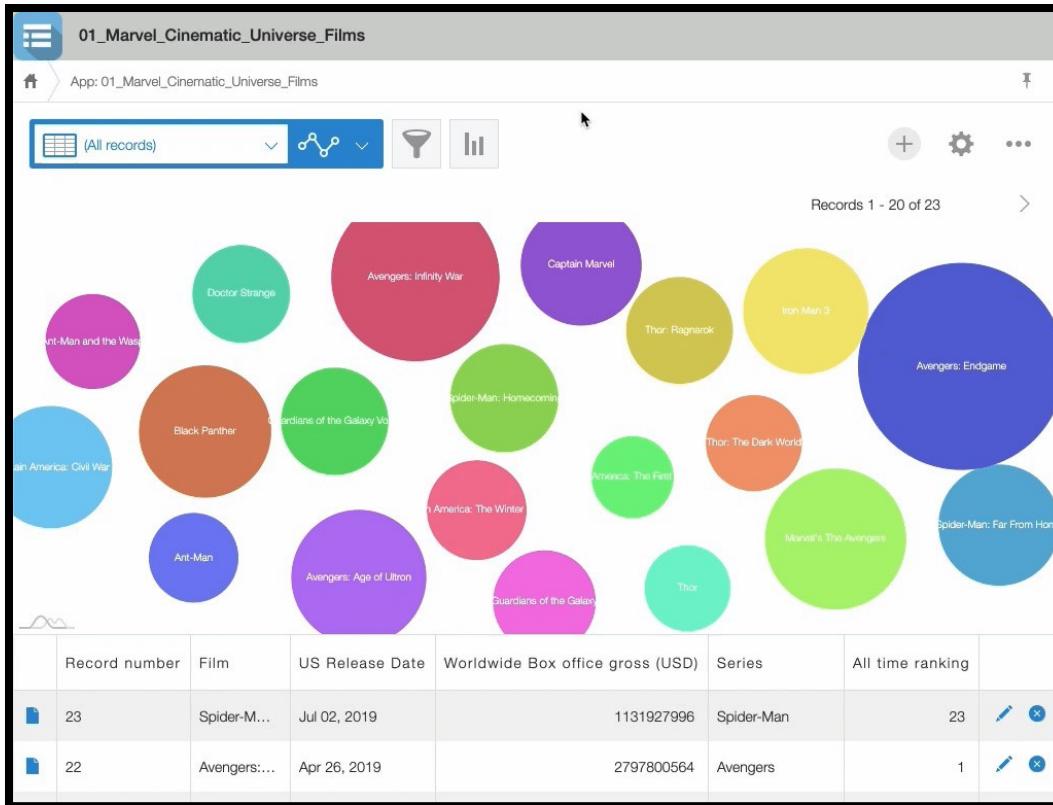
# Tools Inside Kintone

- JavaScript APIs
- REST APIs
- API Tokens
- Webhook
- Plugins
- JavaScript Customizations
- CSS & HTML Customizations
- Precise Permission Controls



# Create a Custom Look and Feel

Display data the way you want with HTML, JS, and CSS



# Kintone For Self Learning



Keep learning new  
JavaScript tricks!



Contribute your  
learnings to tech  
blogs



Share your  
projects with your  
community!

# Kintone For Creating Revenue



Create & sell  
Kintone  
extensions



Consult with firms  
on achieving  
business goals



Develop Kintone  
customizations for  
customers

# Quick 10-min Break

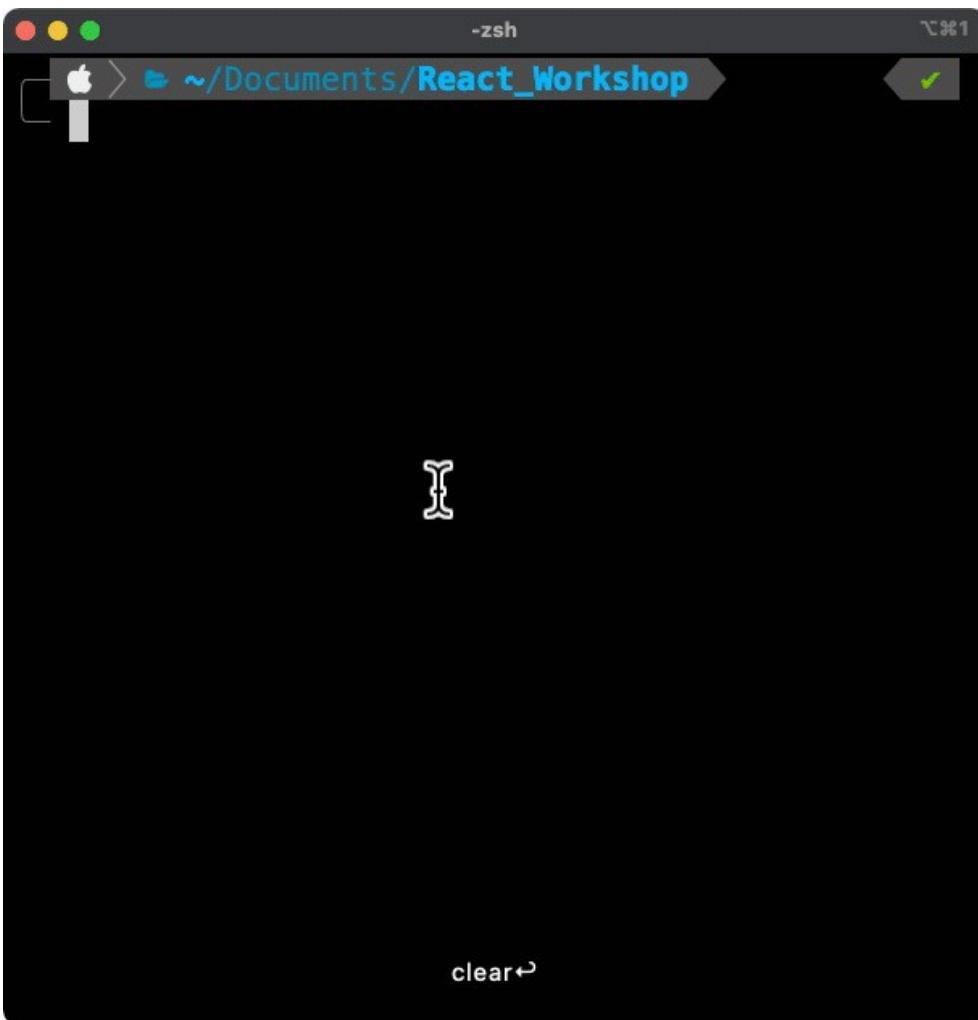


# Installing the Express Server (backend)

What Happens?



# Installing the Express Server

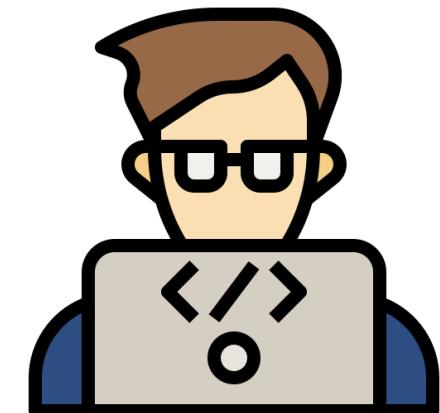


A screenshot of a macOS terminal window titled '-zsh'. The window shows the command line path: ~/Documents/React\_Workshop. The terminal has a dark background with light-colored text. A cursor icon is visible on the left side of the window. At the bottom left, there is a 'clear' button.

```
$ cd .../myproject  
$ mkdir backend  
$ cd backend  
  
$ npm init  
... Hit enter to skip the questions ...  
  
$ npm install express node-fetch cors  
$ touch server.js
```

```
$ cd .../myproject  
$ mkdir backend  
$ cd backend  
  
$ npm init  
... Hit enter to skip the questions ...  
  
$ npm install express node-fetch cors  
$ touch server.js
```

# Back to the Live Coding!



# Wrap Up

## 1 Starting a React Project

- Created a React project for the **frontend**
- Called Random User Generator API and outputted in React

## 2 Render an API Response

- Addressed the issue with **async rendering** in React
- Used **useState** and **useEffect** Hooks to have async code in React

## 3 Starting an Express Server

- Created a Express server project fo the **backend**
- Avodided **CORS errors** by making REST API calls from the server

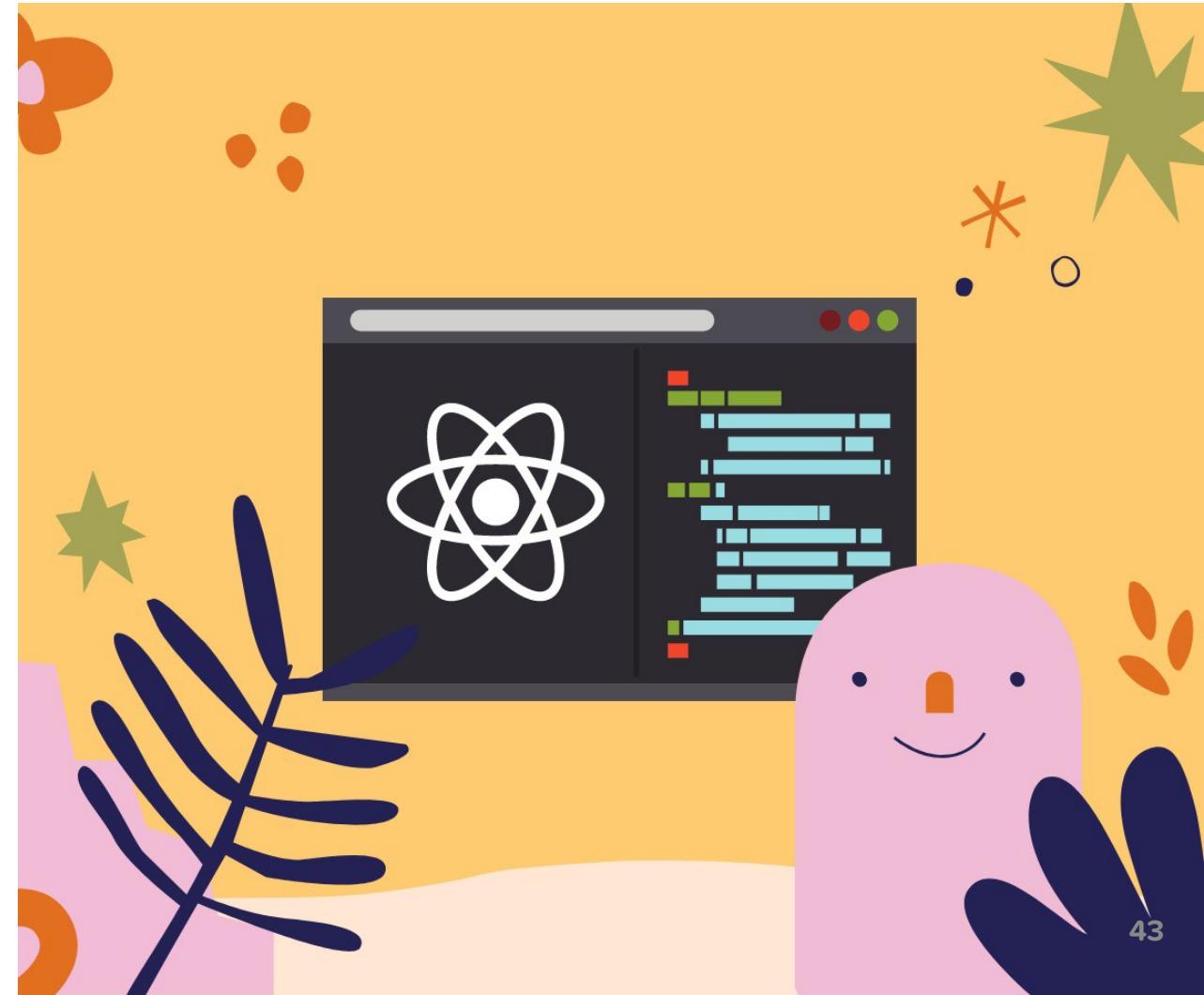
## 4 Calling a Web Database

- Kintone is a no-code / low-code **web database**
- REST API calls to Kintone get the data & display in React

# React & REST API Article Series

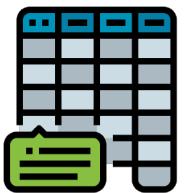
1. How to render responses
2. How to overcome CORS errors
3. How to get data from a Web Database

[bit.ly/react-rest-devto](https://bit.ly/react-rest-devto)

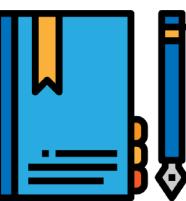
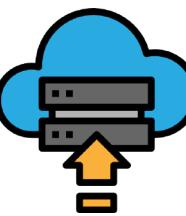


# Next Steps

What are some next steps you can take?

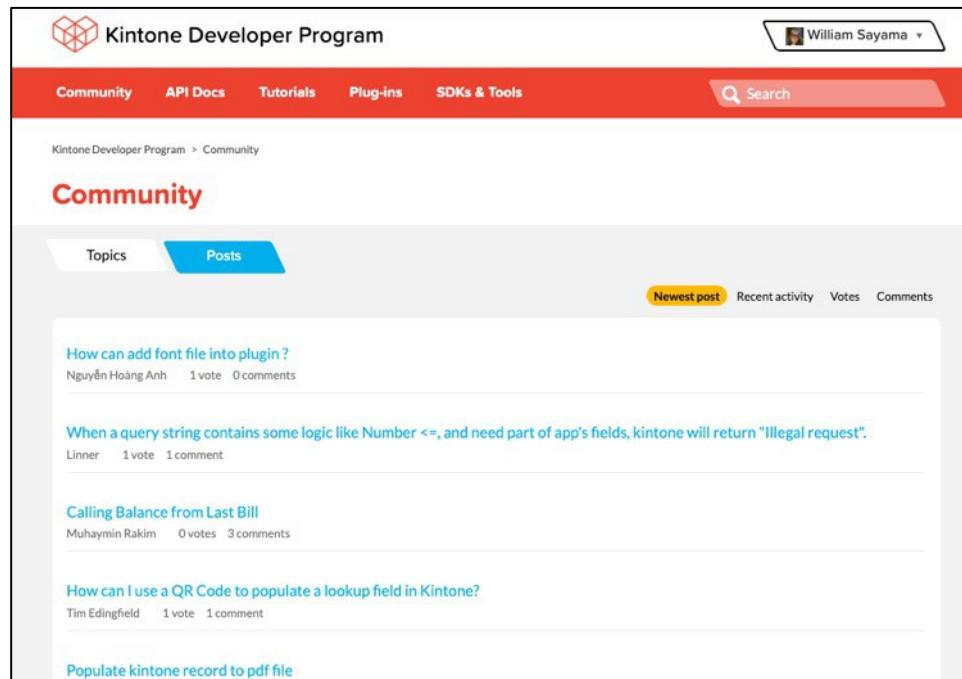


- Handle the response so it renders as tables
- Challenge making POST requests to add data into Kintone
- Try calling a public API from this [great list](#)
- Deploy your App somewhere like [Heroku](#) so others can see it
- Share your experience on dev.to!



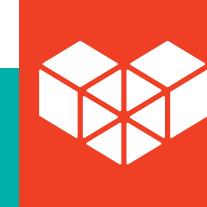
# Where Can I Get Help?

If you're stuck, share your code on the Kintone Developer Community forum or on Stack Overflow!



The screenshot shows the Kintone Developer Program Community forum. The top navigation bar includes links for Community, API Docs, Tutorials, Plug-ins, and SDKs & Tools, along with a search bar and a user profile for William Sayama. The main content area is titled "Community" and shows a list of posts. The first post is titled "How can add font file into plugin?", made by Nguyễn Hoàng Anh, with 1 vote and 0 comments. The second post is titled "When a query string contains some logic like Number <=, and need part of app's fields, kintone will return "Illegal request".", made by Liner, with 1 vote and 1 comment. The third post is titled "Calling Balance from Last Bill", made by Muhammin Rakim, with 0 votes and 3 comments. The fourth post is titled "How can I use a QR Code to populate a lookup field in Kintone?", made by Tim Edingfield, with 1 vote and 1 comment. The fifth post is titled "Populate kintone record to pdf file", which is currently visible at the bottom of the list.





Any  
Questions?

[developer.kintone.io](https://developer.kintone.io)

# Thank You!

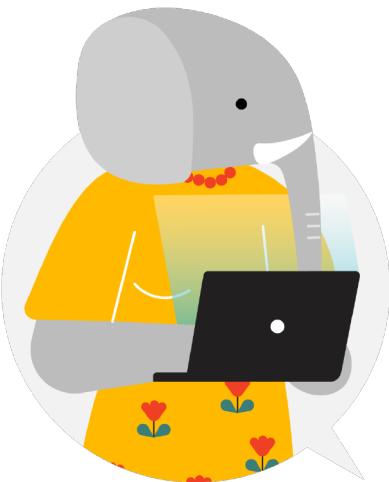


# Thank You to Our Community Partner!



**HackBuddy by JavaScriptLA**

# Join Our Future Workshops!



We are cooking up **new content**  
for our **upcoming workshops!**



Join our Meetup to not miss out!

**[bit.ly/KDP\\_Events](https://bit.ly/KDP_Events)**



# Workshop Recording on YouTube

This workshop's recording will be posted on  
our YouTube Channel!

Our past workshops are posted as well:

Charts: Bubble Cloud, Word Cloud

Introductions: REST API, JS Promise



**[bit.ly/KDP\\_Video](https://bit.ly/KDP_Video)**

# Thank You for Your Participation!

**Fill out our quick survey for a  
chance to win a  
\$25 Amazon gift card!**



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