



# Welcome to the

# Color-Coded Map Workshop!



Recording will  
be shared

**Download  
Code & Slide**

[bit.ly/KDP\\_CCMAP](https://bit.ly/KDP_CCMAP)

Click the top right  
**Download ZIP**  
button



**Sign Up For:**

KDP Account

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

Developer License

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



**Asking Questions  
& Raising Hands**

Post questions in  
the chat anytime!

Include your code  
& error messages.

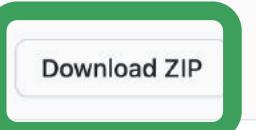


**\$25 Gift Card  
Raffle at the End**

 GitHub Gist Search... All gists Back to GitHub

ahansel / 00\_Color-Coded\_Map\_Workshop.md Last active 7 minutes ago

<> Code -o Revisions 17 Embed <script src="https://> Download ZIP



 00\_Color-Coded\_Map\_Workshop.md Raw

**Click here to download EVERYTHING**

## No Server Data Visualization: Build a Color-Coded Map Project!

Thank you for attending our Kintone x Color-Coded Map workshop!

Use the following CSV, JavaScript, & PDF files and CDN URLs for the hands-on section!

### Download Links

Click [here](#) or the [Download ZIP](#) button on the upper right corner for all the code, data, & slide you need for our workshop

  
Scroll down to view the other files

### Getting your FREE Kintone Database

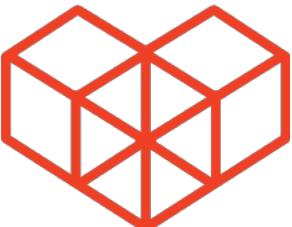
Step 1 - Sign Up for Kintone Developer Account (Website)



2



# #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 ✓

Sign up to Kintone Developer Program

Please fill out this form, and we'll send you a welcome email so you can verify your email address and sign in.

Your full name \*

Your email \*

I'm not a robot  reCAPTCHA

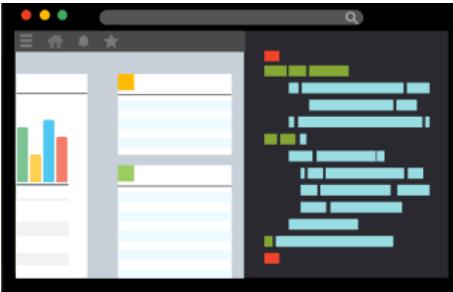
Privacy - Terms

Sign up

Cancel



# #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, jsis4you ✓

## 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](#)

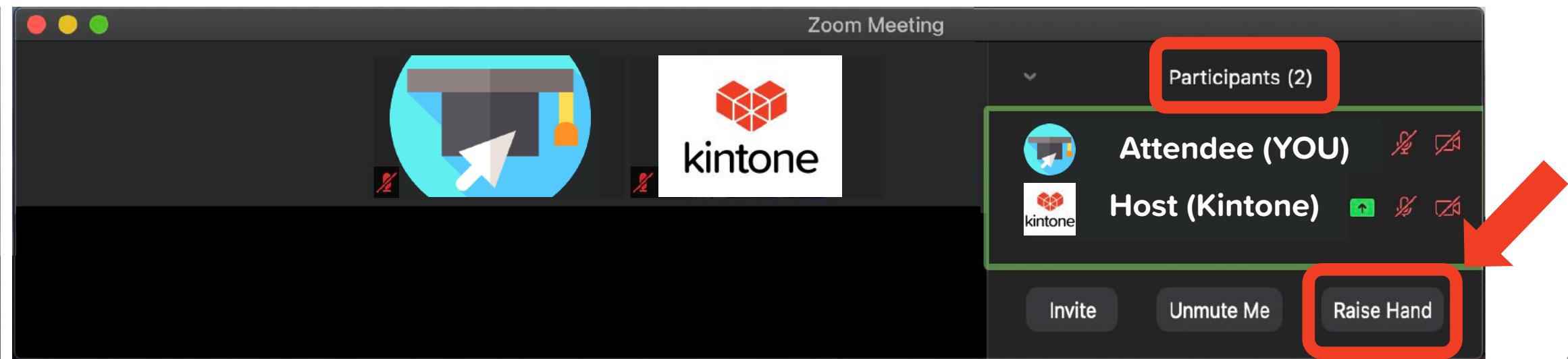
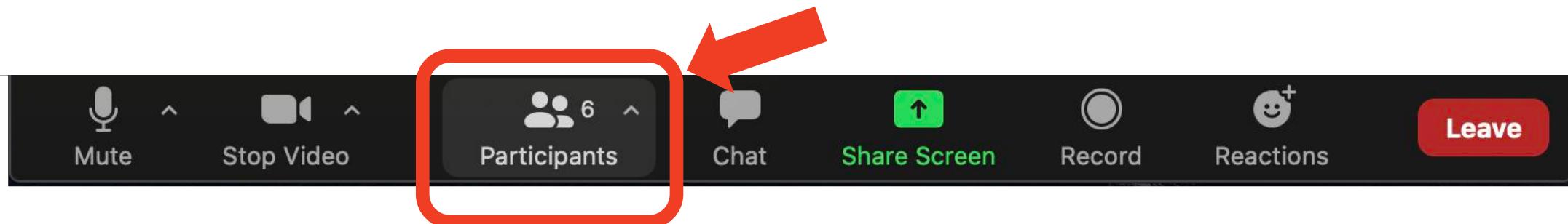


Sign Up



# Let's Practice Raising Your Hand in Zoom

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





# What We Will Make Today

App: 01\_Esports\_Earnings

(All records) Filter Chart ...

Records 1 - 100 of 100

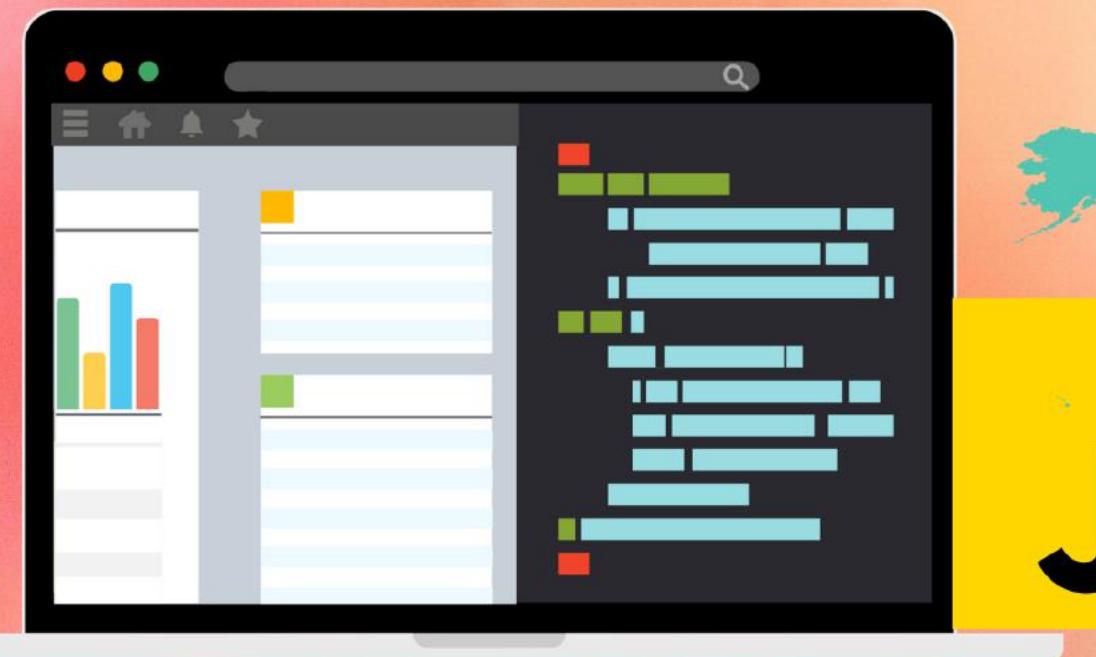
Home

Record number	Country	Continent	Country Code	Total Earned Prize Money (\$)	Number of Players	Prize Money per Player	Latitude	Longitude	Action
100	Albania	Europe	al	38621.6	22	1756	41.1533	20.1683	<span>Edit</span> <span>Delete</span>
99	Algeria	Africa	dz	73040.04	40	1826	28.0339	1.6596	<span>Edit</span> <span>Delete</span>



# No Server Data Visualization

**Build a Color-Coded Map!**

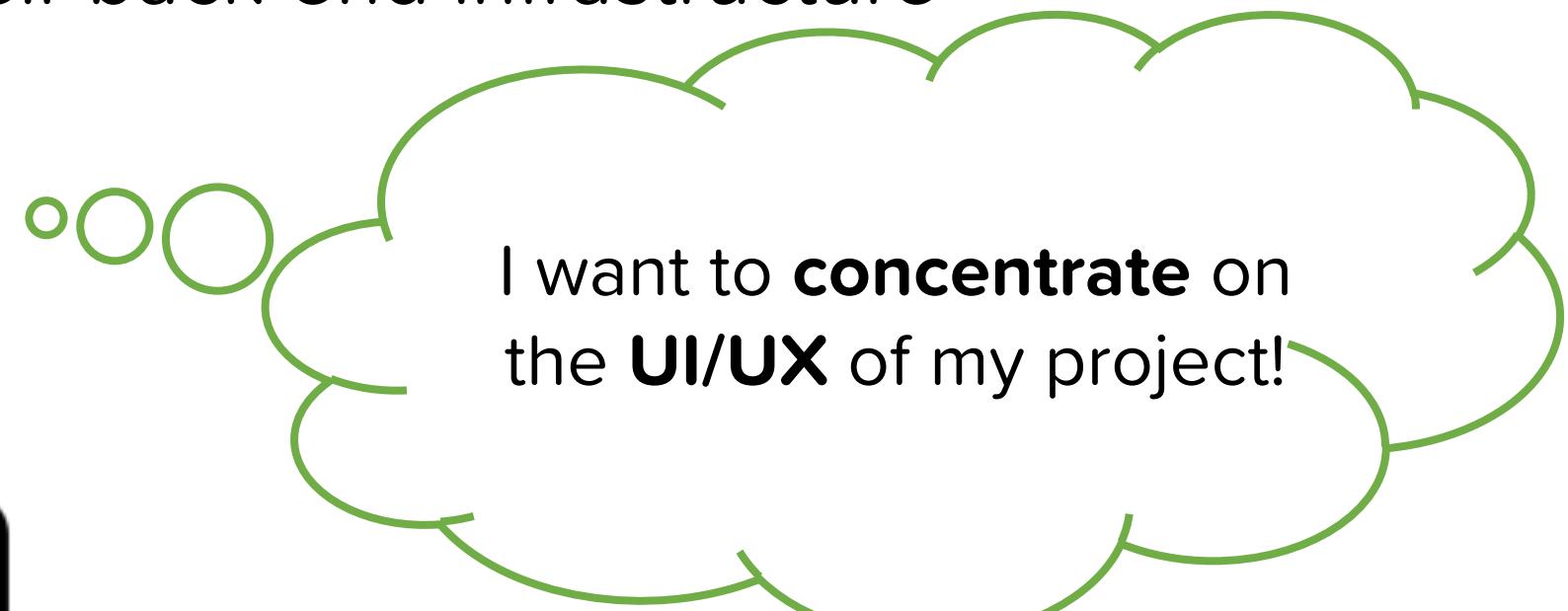


**JS**



# This Workshop is For

**Front-end developers** who want to **spend less time**  
setting up their back-end infrastructure



# Hey! I'm Nim.

**My path to becoming a  
Technical Evangelist:**

Hack Reactor SF



Kintone Sales Engineer



Lead Sales Engineer



Sales Engineering Manager



**Technical Evangelist**



# Today's Agenda

- 1 Get the Big Picture**
- 2 Create a Kintone App**
- 3 Display amCharts on Kintone**
- 4 Call REST APIs from Kintone**

# Today's Agenda

- 1 Get the Big Picture**
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- 4 Call REST APIs from Kintone**

# Scope of Traditional Data Analytics

Nearly all conversations about Data Analytics revolve around three goals:

- Make data look pretty
- Understand the data easily
- Generate actionable insight

But are we **sharing** the insights effectively?



# Missing - Unified Communication

## Data Silos

Information is not being  
shared effectively

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

# Where Kintone is Special!



# What is Kintone?

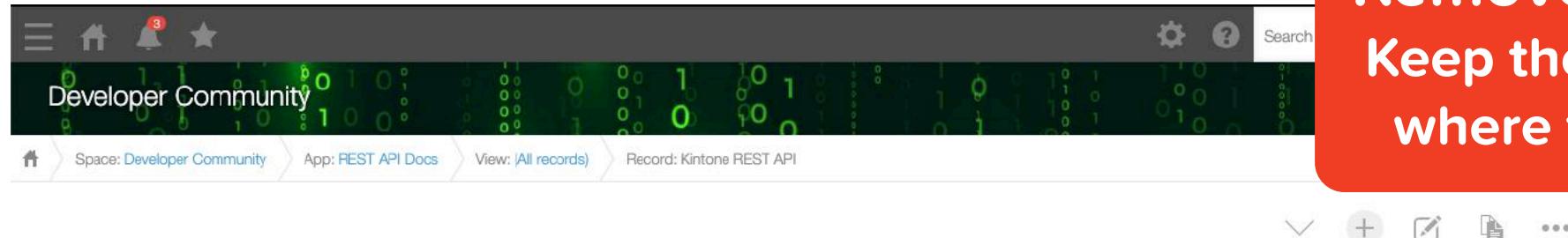
The screenshot displays the Kintone interface with several panels:

- Customer Database:** Shows icons for Admin:Green.
- Sales Leads:** Shows icons for Admin:Green.
- Contact Log:** Shows a count of 23.
- 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.
- Dashboard:** Two charts:
  - Sales Leads: Monthly Expected Sales (per priority):** Bar chart showing sales for Middle, High, and Low priorities from Jun 01, 2019, to Mar 01, 2020.
  - Sales Leads: Total Expected Sales (per Products):** Pie chart showing distribution of sales by creator type: Form Creator (\$6030 4.5%), Viewer (\$1440 10.3%), T/C (\$1960 14.0%), Int Creator (\$4202 30.1%), and kintone (\$5718 41.0%).
- People:** A list of members including Hiroko ..., Mary Si..., John S..., Rudy Red, Polly Pink, Bill Blue, Glen Gr..., Paul Gray, Mark Pe..., and Dannie ....

Bottom left corner: 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.

# What is Possible?



Where  
Data  
Lives

EN Section: API Info, EN API Group: Kintone REST API, EN Method: GET

EN API Name: Get API Schema

EN URL (Endpoint): /k/v1/apis/\*.json

EN Article Link: <https://developer.kintone.io/hc/en-us/articles/115006107628>

Fix History:

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

Write your comment here.

3: Clare - Support Aug 27, 2020 1:28 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

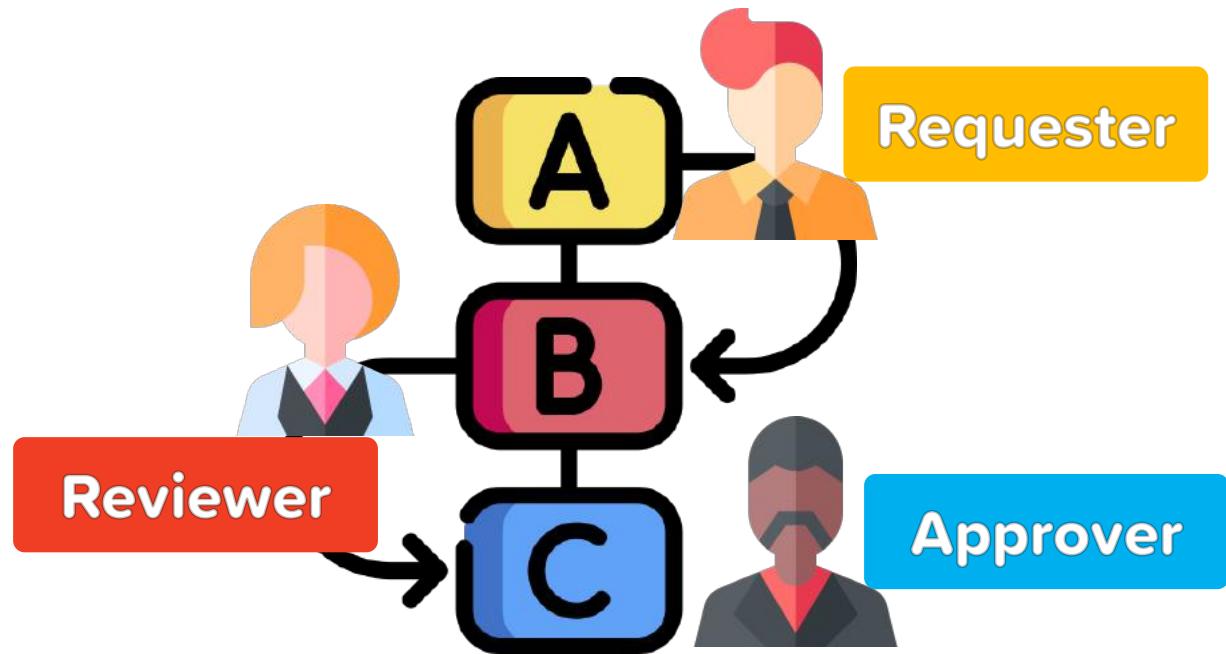
1: Genji Aug 27, 2020 1:27 AM @Clare - Support Please take a look at this document.

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**.



Developer Community

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

Assign Reporter Change Assignee

Next Status:  
Writing Report

Select Assignee:

- Genji
- Sharon - Developer
- John - Manager
- Clare - Support

Cancel Confirm

Write your comment here.

Community

Support

Event Image

No Server Data Visualization JS Build a Word Cloud!

1: Genji @Sharon - Developer They together such a great w

Like Reply

2: John - Manager @Genji Assign this even to @Clare - Support

1 Unlike Reply

# 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, a banner reads: "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 is a table titled "My To Do" with the following columns: To Do, Priority, Due date, Status, Details, and Attachment. The table contains five records:

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 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

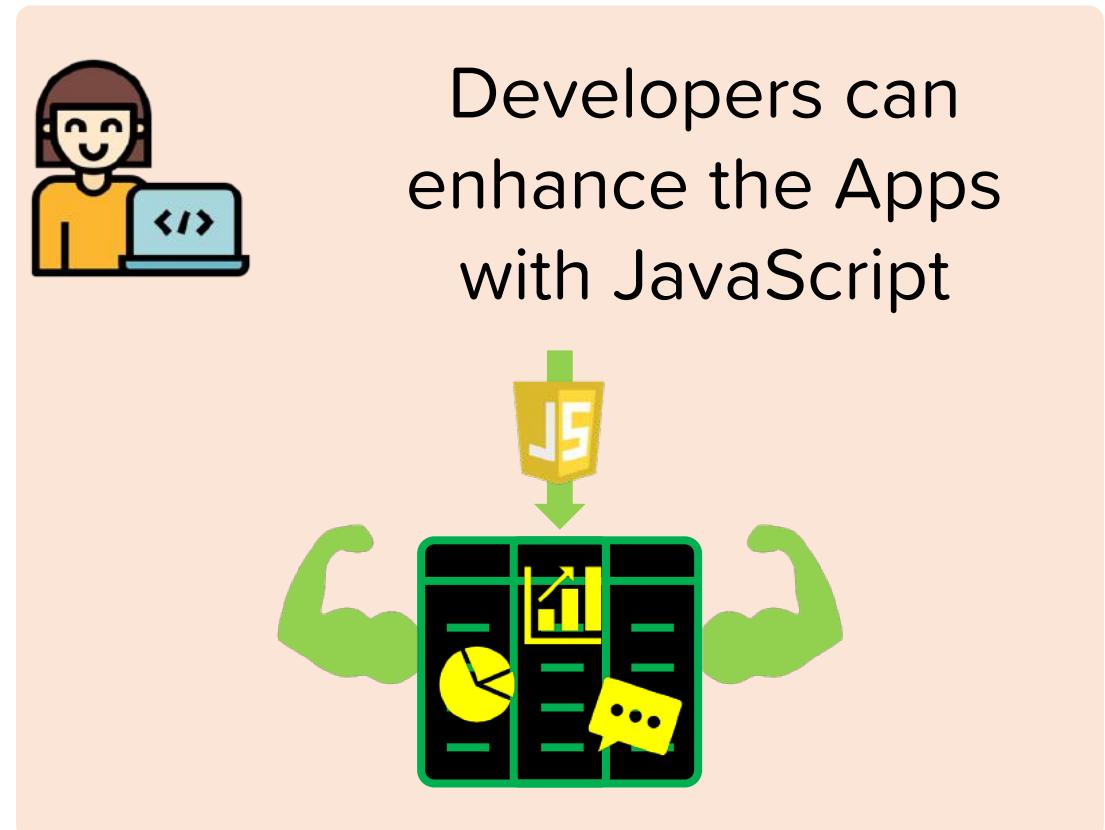
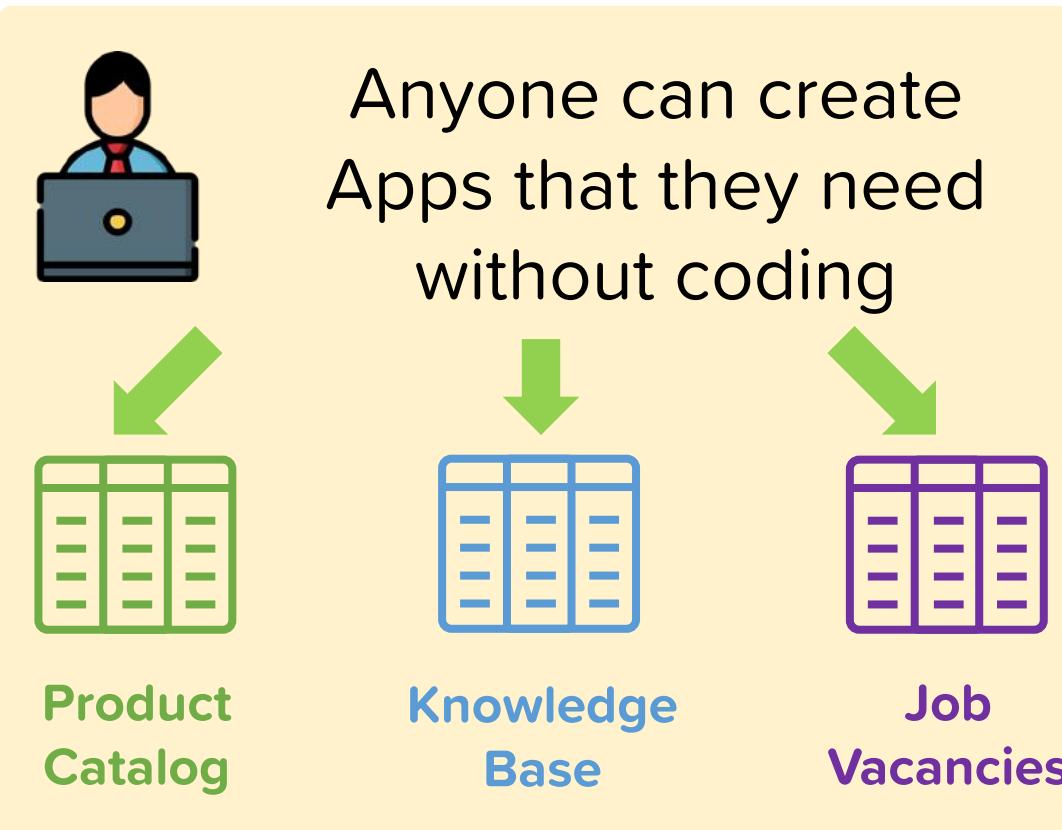
Label Text  
Rich text Text area  
Number Calculated  
Radio button Check box  
Multi-choice Drop-down  
Date Time  
Date and time Attachment  
Link User selection  
Department selection Group selection  
Related records Lookup  
Blank space Border  
Field group  
Record number Created by  
Created datetime Updated by  
Updated datetime

**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!

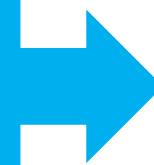
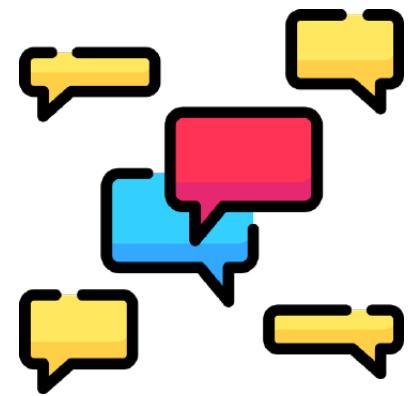
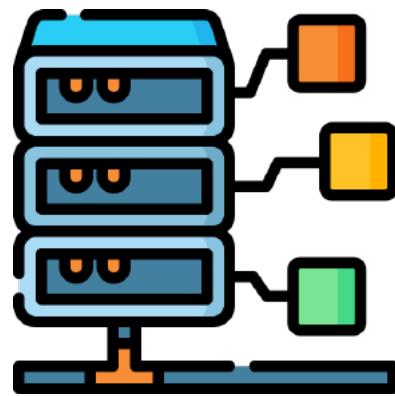
As a **no-code & low-code platform**, Kintone supports non-coders with visual programming UI while enabling sophisticated customization



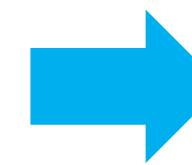
# Fulfill the Promise of Data Analytics

Gain meaningful insights about the data that become operationalized quickly.

**Data + Communication**



**Insight**



**Action**



# How Developers Contribute

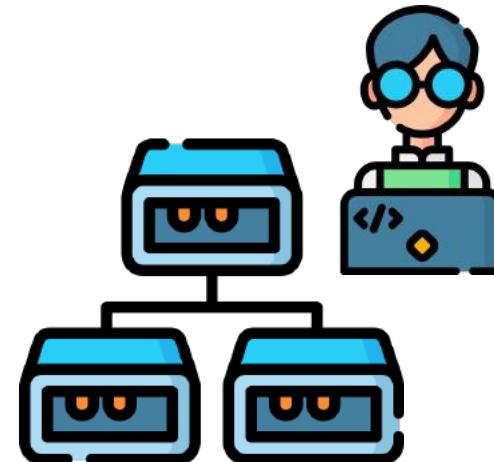


**kintone**  
developer program

# How Developers Contribute

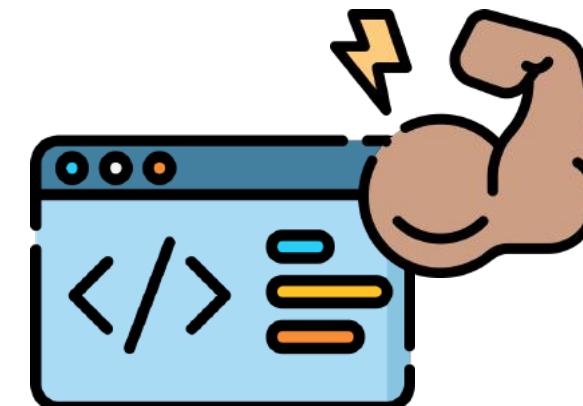
## Command Center

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



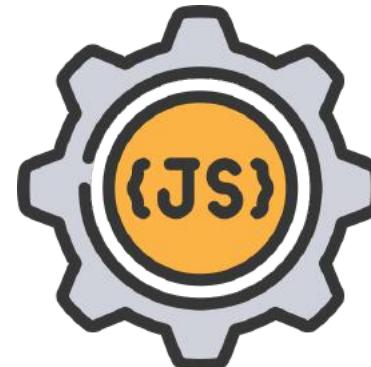
## Enhancements

- Develop JavaScript customizations
- Build & share extensions



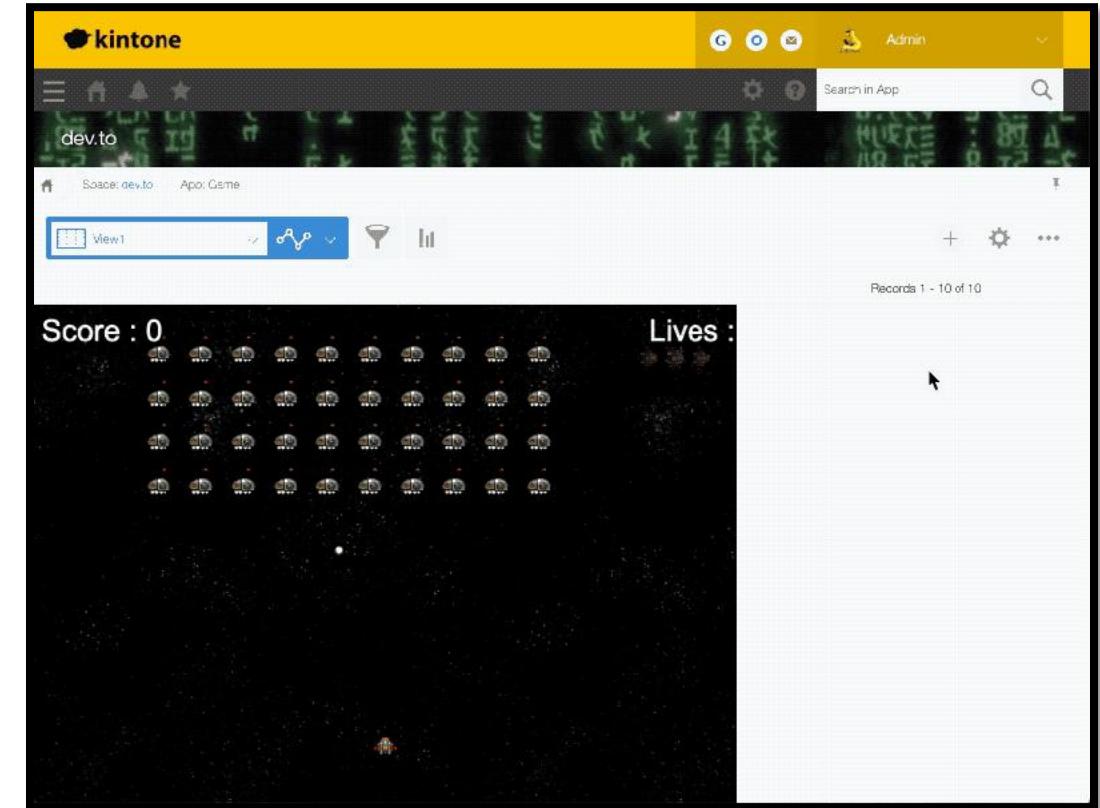
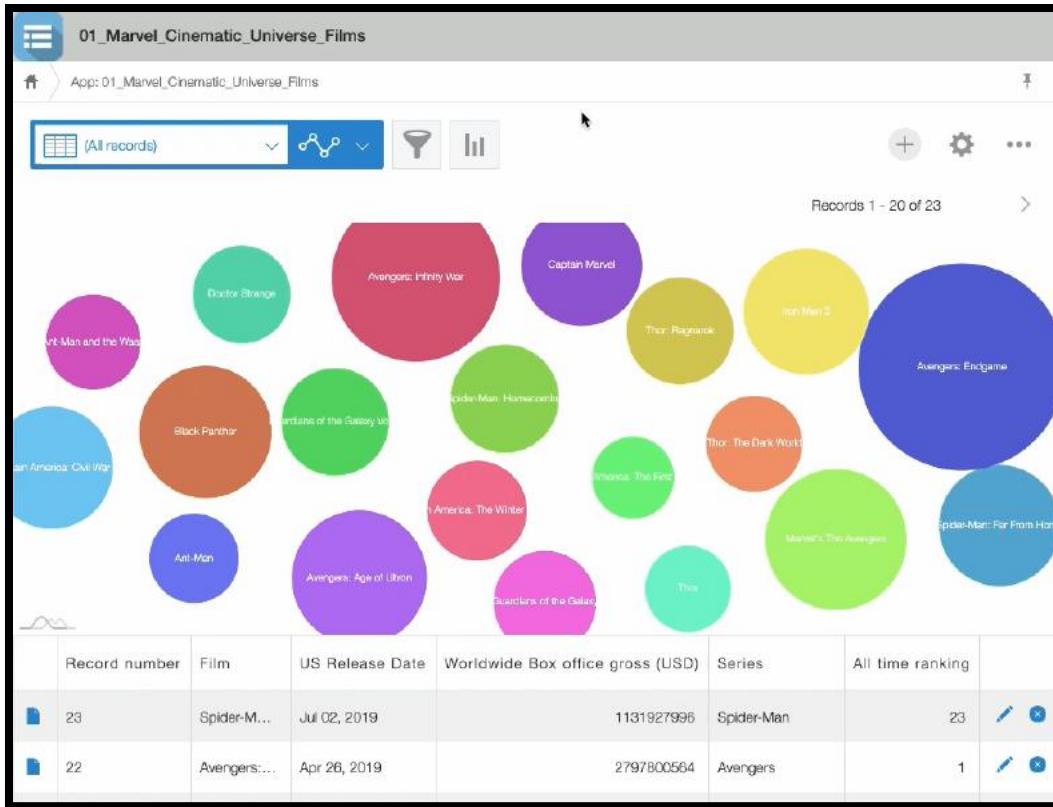
# Tools Inside Kintone

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

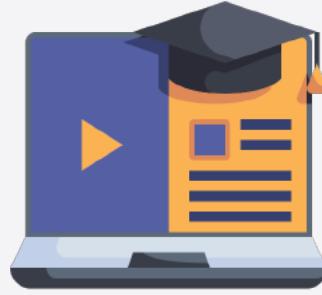


# Create a Custom Look and Feel

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!

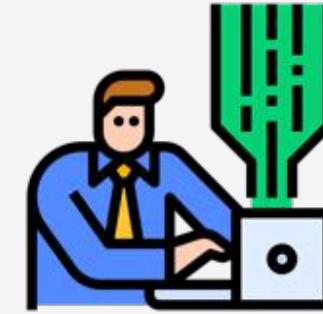
# Kintone For Creating Revenue



Create & sell  
Kintone  
extensions



Consult with firms  
on achieving  
business goals



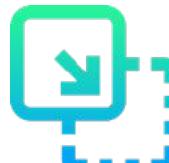
Develop Kintone  
customizations for  
customers

# How Is This Related to Building Projects With No Servers?

Kintone will:



become your server running your database



let you create your databases with GUI



allow you to concentrate on the front-end work

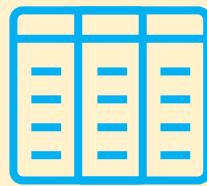
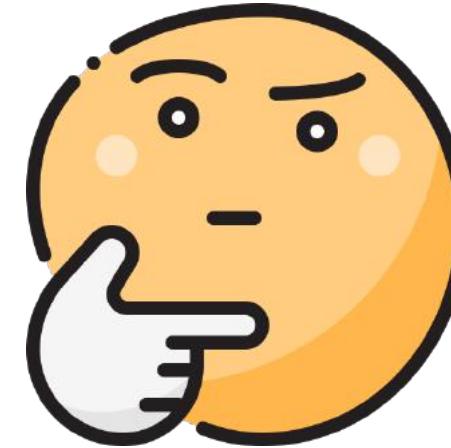
# Today's Agenda

- 1 Get the Big Picture**
- 2 Create a Kintone App**
- 3 Display amCharts on Kintone**
- 4 Call REST APIs from Kintone**

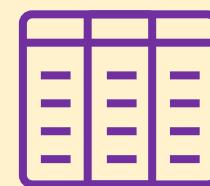
\$25 Amazon Gift Card  
Raffle at the end!

# Let's Create a Kintone App! (A Database)

What sort of database shall we make?



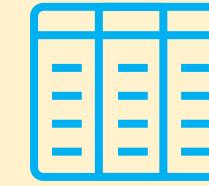
Employee List



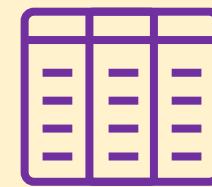
CRM



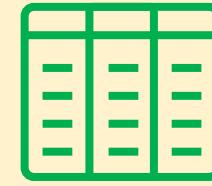
Expense Report



Company FAQ



Board Game DB



Lunch DB



# Hands-On Walk-Through

- 1** First, let's go over the steps to build the app
- 2** Then, build the app as an exercise





# Getting Your Kintone Environment

1

Sign up for a Kintone  
Developer Account

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

- ⚠ Do NOT use Safari
- ⚡ Accept Cookies First
- ✓ Use Chrome & Firefox

2

Create a Kintone  
Subdomain

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

- ⚠ No Special Characters
- ⚡ Only use lowercase [a-z],  
numbers [0-9], & hyphens [-] in  
your subdomain

# Check Your Email



Welcome to Kintone! One More Step To...

The screenshot shows a Gmail inbox with one email. The subject is "Welcome to Kintone! One More Step to Developer License". The sender is "Will Sayama akihiro-sayama@cybozu.com via bf06x.hubspotemail.net to me". The email body contains an orange banner with the kintone logo and the text "ONE MORE STEP FOR YOUR DEVELOPER LICENSE!". Below the banner, there is a message: "Howdy! Please click the button below to activate your developer license and complete the sign-up process." followed by a red "Activate Now" button. At the bottom, a note says: "Only valid for 24 hours. Please click [here](#) if an error is displayed after the expiration. Your subdomain name is devevents2."

**YOUR\_SUBDOMAIN.kintone.com**

The screenshot shows a web browser window with the URL "https://your\_subdomain.kintone.com/...". The page title is "Set Initial Password". It has two input fields: "New Password" and "Confirm New Password". Below the "New Password" field is a note: "Enter minimum 8 characters, including both letters and numbers." At the bottom is a blue "Set Password" button.

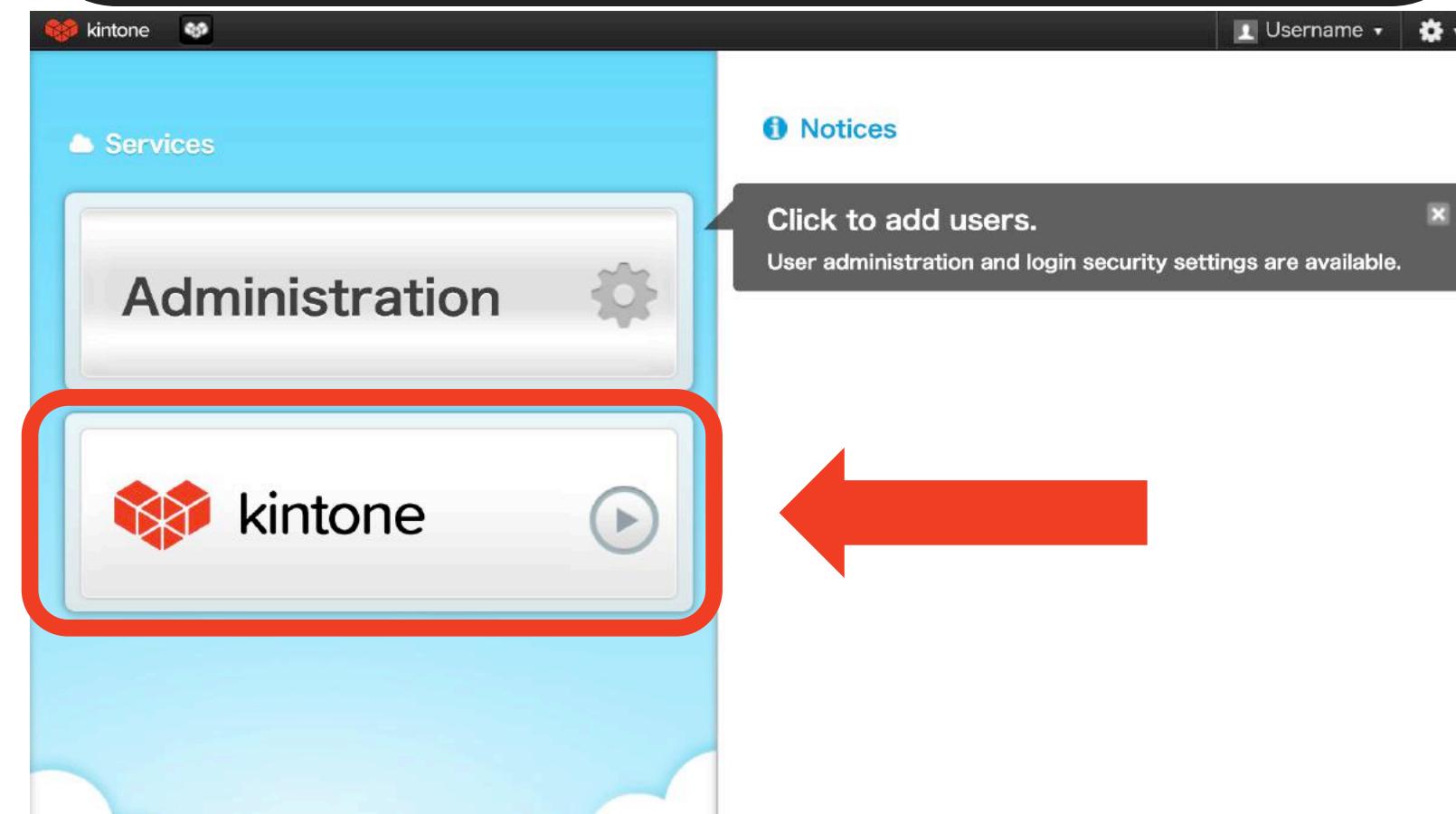


# Let's Log into Kintone

Click on Kintone button  
on the Left side

The email has the  
initial registration link  
& subdomain

[https://YOUR\\_SUBDOMAIN.kintone.com/...](https://YOUR_SUBDOMAIN.kintone.com/)





# Create a Kintone App (Web Database)

On the Left side of the  
**Portal**

- > Find the **Apps** section
- > Click on the [ + ] button on the left side

The screenshot shows the Kintone Portal interface. On the left, there is a sidebar with sections for "Announcement", "Spaces", and "Apps". The "Announcement" section displays a welcome message and instructions on how to use the announcements dashboard. The "Spaces" section shows joined spaces and an option to add new ones. The "Apps" section shows all apps and an option to add a new app, with a red arrow pointing to the "+" button. The main content area shows the "Announcement" dashboard with a green leaf background, a megaphone icon, and the text "Welcome to Kintone!". It also includes links to "How to use Kintone", "How to use the Announcements dashboard", and a timestamp from Aug 8, 2017.



# Create a Kintone App (Web Database)

Under the Create New App section, select the

**Create App from Scratch** button

The screenshot shows the Kintone Marketplace interface. At the top, there's a navigation bar with the Kintone logo, user profile, and search bar. Below it, the main title is "Kintone Marketplace". On the left, there's a sidebar titled "By Department" with categories like Sales, Customer Service, Human Resources, IT & Administration, Research & Development, Marketing, Legal & Finance, and Company-wide. In the center, there's a section titled "How to Find Apps?" with instructions: "Click the left category names to look for apps in the Kintone Marketplace, or enter a keyword in the search box." Below this, there's a "Create New App" section with two options: "Create App from Scratch" (which has a red arrow pointing to it) and "Create from Excel".



# Title Your Kintone App

This is the App Builder!

Let's start by naming  
the new App!

Title it by clicking on  
"New App" and type  
**Board Game DB**

The screenshot shows the Kintone App Builder interface. At the top, there is a navigation bar with the Kintone logo, user information (Username), and search functionality. Below the navigation bar, the breadcrumb path indicates 'Kintone Marketplace > New App > Settings'. The main title 'Board Game DB' is displayed in a blue header bar, with a red arrow pointing to it from the left. To the right of the title are 'Discard' and 'Activate App' buttons. Below the title, there are tabs for 'Form', 'Views', 'Graphs', and 'App Settings', with 'Views' being the active tab. On the left side, there is a 'Save Form' button and a list of field types: Label, Text, Rich text, Text area, Number, Calculated, Radio button, Check box, Multi-choice, Drop-down, Date, Time, Date and time, and Attachment. To the right of the fields, a large grey arrow points downwards with the text 'Drag and drop fields here.'.

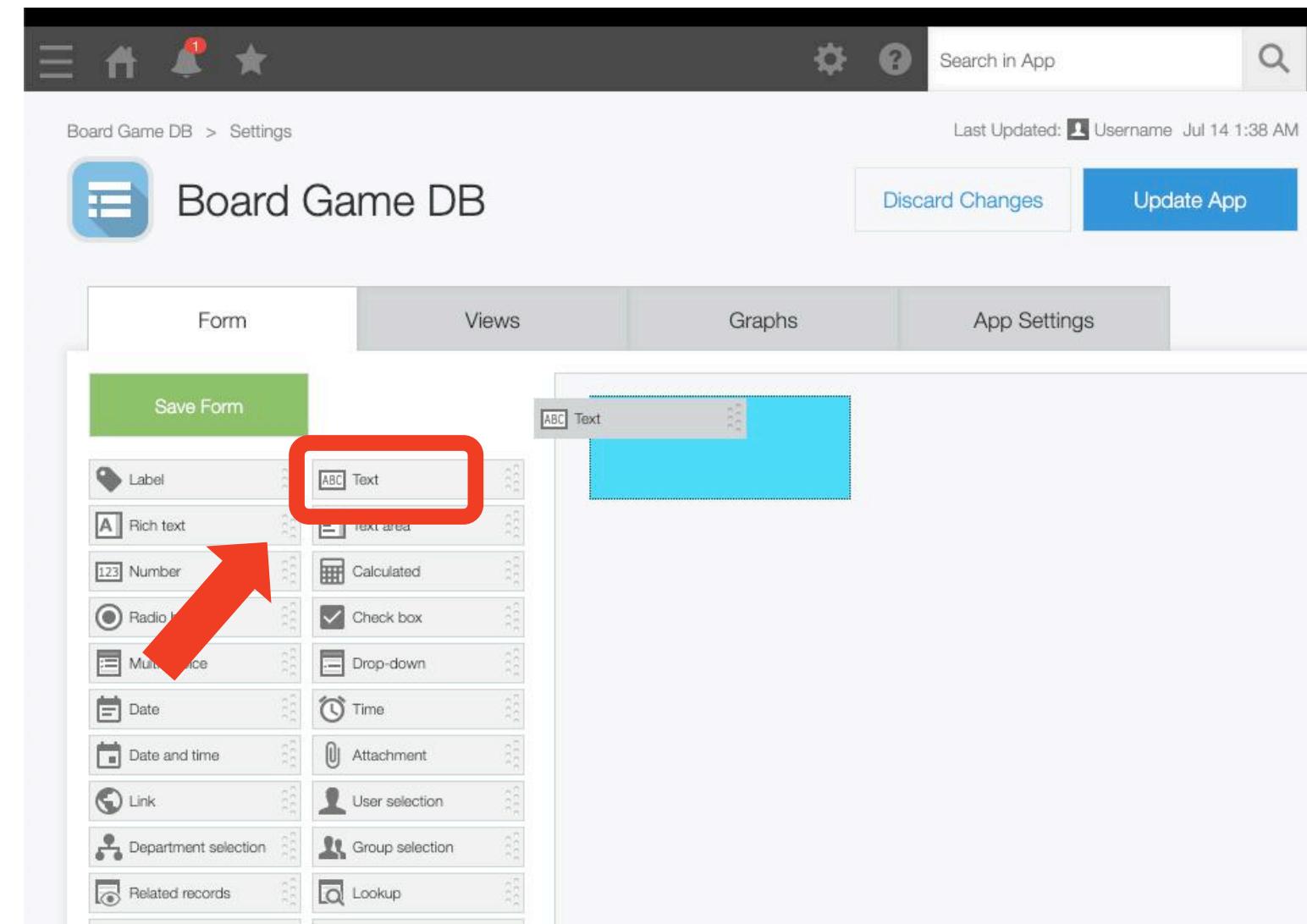


# Drag and Drop the Text Field

Now let's add a **Text** field to the **Board Game DB** App!

On the Left side

- > Find the **[ ABC ] Text** field
- > Drag it to the middle





# Configure the Text Field

Hover over the [ ABC ] Text field

> Click on the Gear icon

> Replace Text with **Name**

> Click on the **Save** button

The screenshot shows the Kintone app interface for 'Board Game DB'. At the top, there are tabs for 'Form', 'Views', 'Graphs', and 'App S...'. Below these, a green 'Save Form' button is visible. In the center, there's a list of field types: 'Label', 'Rich text', 'Number', 'Text' (which is highlighted in blue), 'Text area', and 'Calculated'. A red arrow points from the 'Text' field to a gear icon in a context menu that appears when the gear icon is clicked. This menu includes options: 'Settings', 'Duplicate', and 'Delete'.

This screenshot shows the 'Text Settings' dialog box for the 'ABC Text' field. It includes fields for 'Name \*' (containing 'Name'), 'Hide field name', 'Calculate automatically', 'Required field', and 'Prohibit duplicate values'. There are also sections for 'Number of Characters (Note: Use integer)' with 'Minimum' and 'Maximum' fields, and 'Default Value'. The 'Field Code \*' section contains 'Text' with a pencil icon. A large red arrow points from the 'Name' field in the dialog back to the 'Text' field in the Kintone form. A large green arrow points down to the 'Save' button at the bottom right of the dialog, which is highlighted with a green border.



# Drag and Drop the Drop-down Field

let's add a **Drop-down** field  
to the **Board Game DB**  
App!

On the Left side

- > Find the **Drop-down** field
- > Drag it to the middle

The screenshot shows the 'Board Game DB' application interface. At the top, there is a navigation bar with icons for home, notifications (1), and star, followed by 'Search in App'. Below the notifications icon is a gear icon and a question mark icon. To the right of the search bar, it says 'Last Updated: [User] Jul 14 1:38'. On the far right are 'Discard Changes' and 'Update App' buttons.

The main area is titled 'Board Game DB > Settings'. It has tabs for 'Form', 'Views', 'Graphs', and 'App Settings'. The 'Form' tab is active. A green button labeled 'Save Form' is visible. On the left, there is a list of field types: Label, Text, Rich text, Text area, Number, Calculated, Radio button, Check box, Multi-choice, Drop-down, Date, Time, Date and time, Attachment, Link, User selection, Department selection, Group selection, and Person. The 'Drop-down' field type is highlighted with a blue border. On the right, there is a section for 'Name' with a text input field and a large blue dashed rectangular placeholder where the 'Drop-down' field would be placed.



# Configure the Drop-down field

Hover over the **Drop-down** field

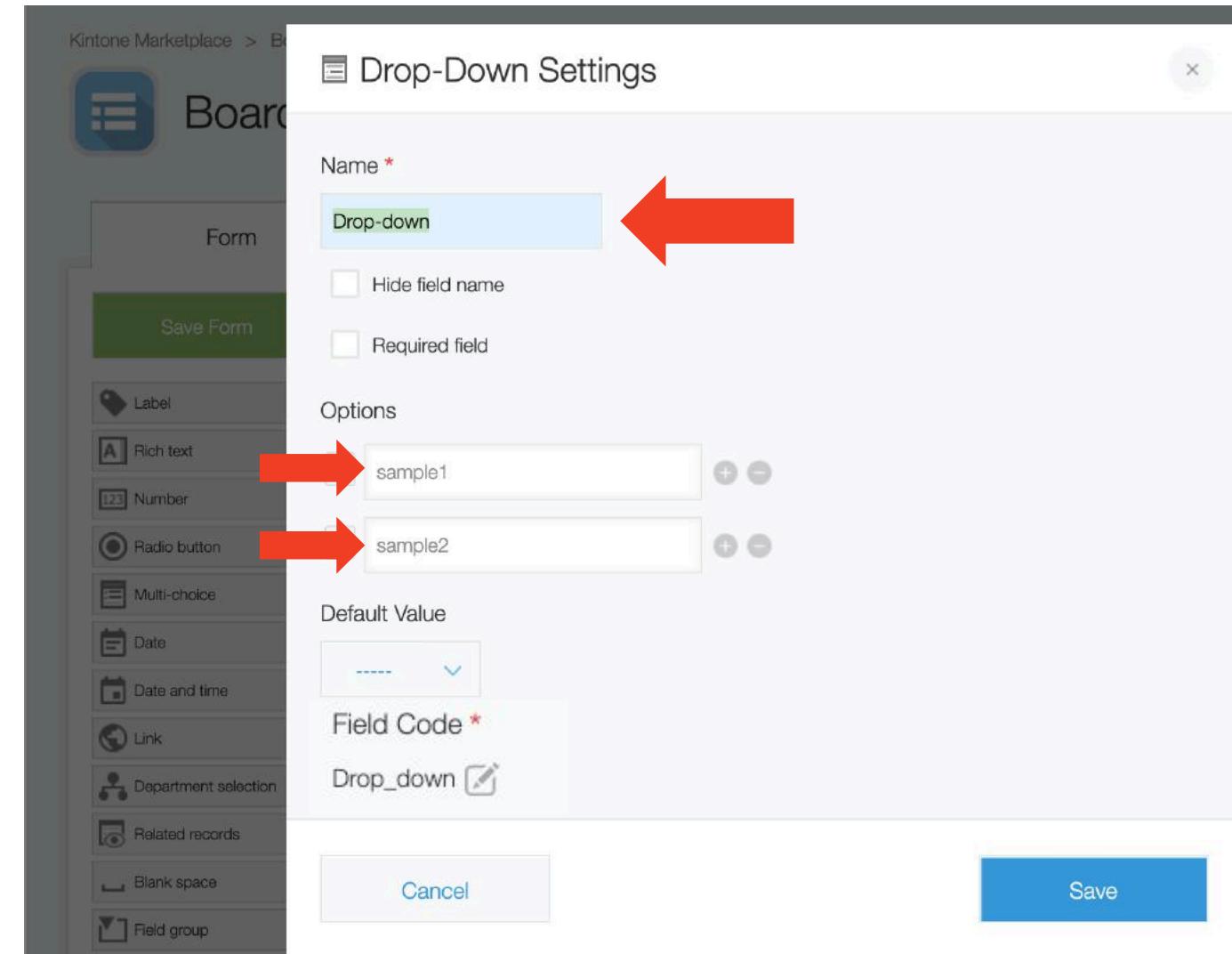
> Click on the Gear icon 

Replace the following text:

> "Drop-down" with **Type**

> "sample1" with **Abstract**

> "sample2" with **Area Control**





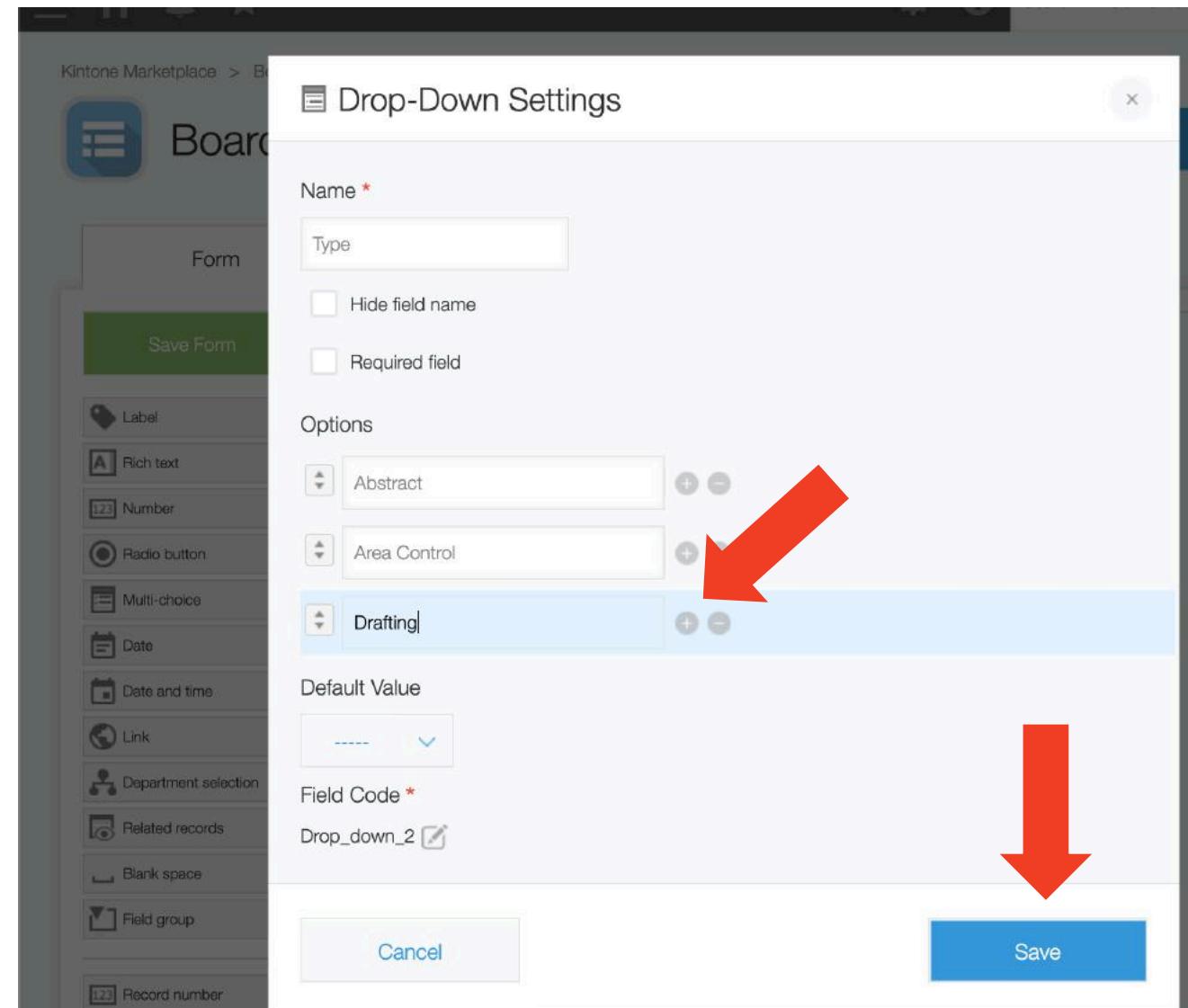
# Configure the Drop-down field

Add another Options to the  
**Drop-down** field

> Click on the ( + ) button next  
to the second Options

Type **Drafting**

Then click Save

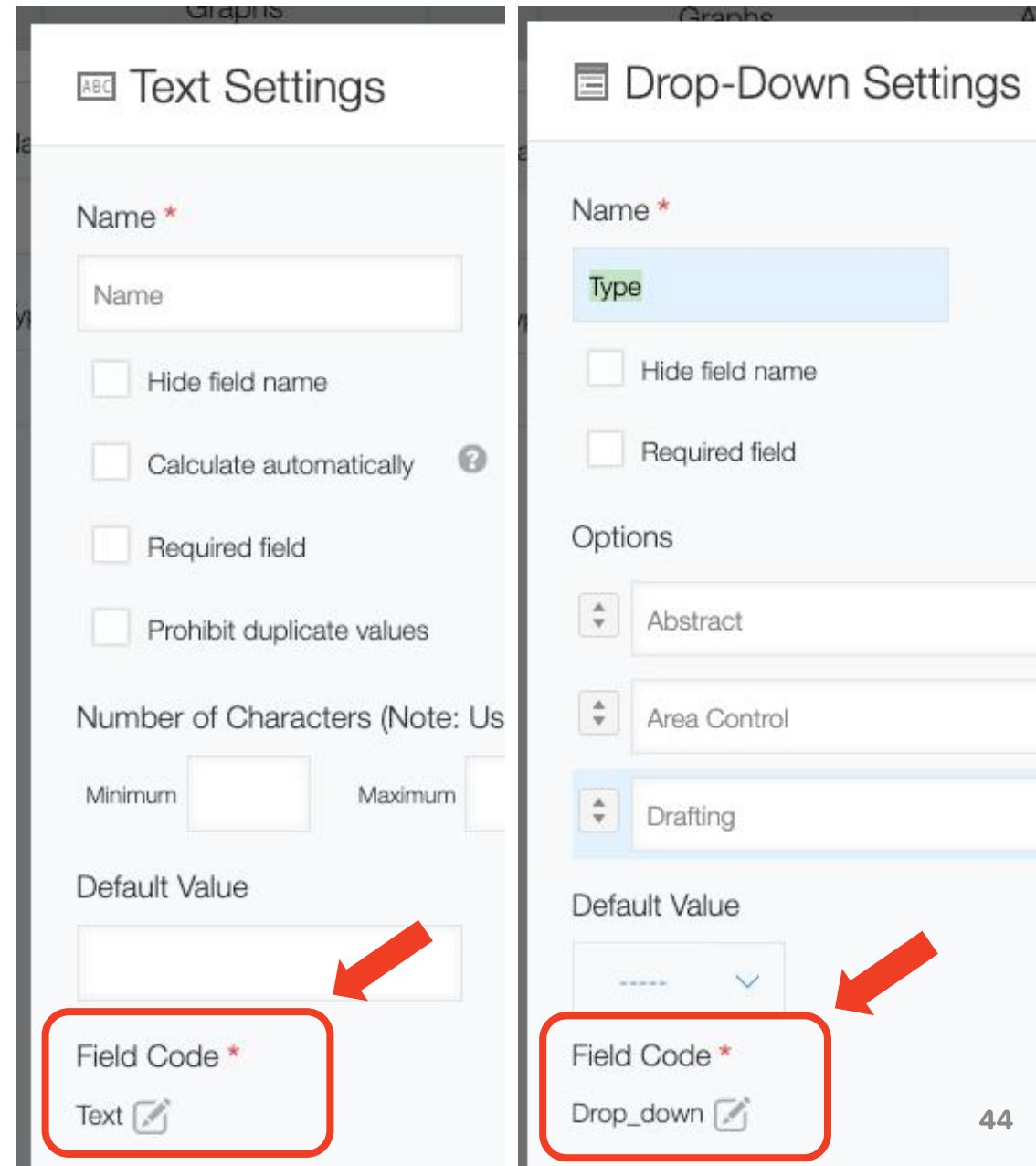


# What are Field Codes?

The field code is the identifier for each field, represented as a string

- Name's field code = Text
- Type's field code = Drop\_down

These are the default field code values for their respective fields





# Save / Deploy the App!

Once you are finished setting up the fields, click **Activate App** to deploy it.

\*Apps can always be updated later on

The screenshot shows the kintone application interface. At the top, there is a navigation bar with the kintone logo, user information (Username), and search functionality. Below the navigation bar, the breadcrumb path indicates the current location: Kintone Marketplace > Board Game DB > Settings. The main title "Board Game DB" is displayed next to a blue icon representing a form. On the right side of the screen, there are two buttons: "Discard" and "Activate App". A red box highlights the "Activate App" button, and a red arrow points towards it from the bottom right. Below the title, there is a tab navigation bar with four tabs: "Form", "Views", "Graphs", and "App Settings". The "App Settings" tab is currently selected. In the "Form" section, there is a green "Save Form" button. Below it, a grid of field types is shown, each with a small icon and a name: Label, Text, Rich text, Text area, Number, Calculated, Radio button, Check box, Multi-choice, Drop-down, Date, Time, Date and time, and Attachment. To the right of the "Form" section, there is a form builder interface with fields for "Name" and "Type".



# Save / Deploy the App!

The screenshot shows the Kintone app interface. At the top, there is a navigation bar with a house icon (selected), a bell icon, a gear icon, a question mark icon, a code icon, and a search bar labeled "Search in App". A red arrow points from the text "Portal" to the house icon. Below the navigation bar, the title "Board Game DB" is displayed, followed by a breadcrumb trail "App: Board Game DB". The main content area shows a table with columns "Record number", "Name", and "Type". The first row contains "(None)". Below the table, it says "Records 0 - 0 of 0". There are also filter and chart icons at the top of the table.

**Congrats!**

You made your first  
Kintone App!

# Record View of the Board Game DB

This **Board Game DB** App is now accessible to any users in your Kintone environment

It is under the **Apps** section

The screenshot shows the Kintone portal interface. At the top, there's a navigation bar with icons for Home, Announcements, and Favorites, along with a gear for settings, a question mark for help, and a search bar labeled "Search All Contents". Below the navigation bar is a banner with a green leafy background and water droplets. The main content area has a title "Portal" and a sub-section "Announcement" with a megaphone icon. A large "Welcome to Kintone!" message is displayed, followed by a description of what Kintone is. Below this, there's a "How to use Kintone" section with a link to "How to use the Announcements dashboard". On the right side, there's a sidebar titled "Spaces" with sections for "Joined Spaces" (listing "(None)" and "All Spaces") and "Apps" (listing "All Apps"). The "Board Game DB" app icon is shown under "All Apps" and is highlighted with a red box and a red arrow pointing to it.

# Quick Overview of the App

The screenshot shows a table of board games with columns for Record number, Name, Type, Min Players, and Max Players. Each row has edit and delete icons. A red box highlights the first few rows. A red line points from the text "Data you add to the App is listed here" to the table. Another red line points from the text "Access the Details page of the row (record)" to the first row's edit icon. A red line points from the text "Add new data" to the top-right "Add" button. A red line points from the text "Access the App's settings" to the gear icon.

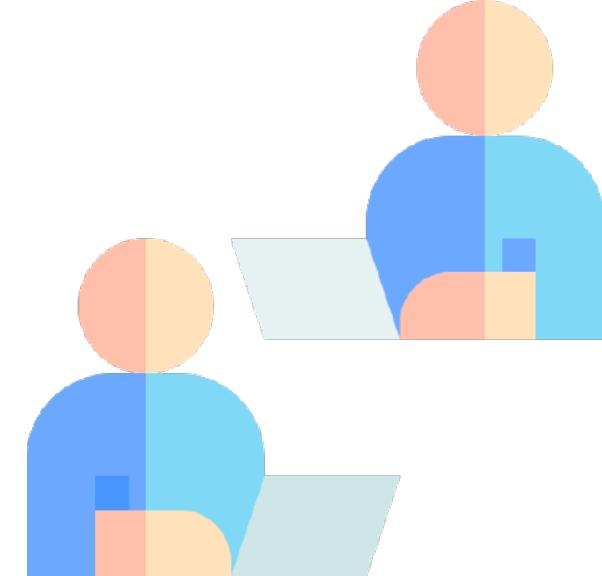
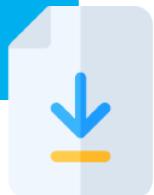
Record number	Name	Type	Min Players	Max Players	
8	Love Letter	Social Deduction	2	4	
7	Best Treehouse Ever	Drafting	2	4	
6	El Grande	Area Control	2	5	
5	Onitama	Abstract	2	2	
4	A Fake Artist Goes to New York	Social Deduction	5	10	
3	Ethnos	Area Control	2	6	
2	Treasure Hunter	Drafting	2	6	
1	Royal	Area Control	2	5	

# Time To Get Started!

1. Go to the Kintone Portal page
2. Apps section > (+) Button
3. Create App from Scratch
4. Drag-&-Drop the **Text field**, name it **Name**
5. Drag-&-Drop the **Drop-down field**, name it **Type**
6. Add 3x options {Abstract, Area Control, & Drafting}
7. Hit the Blue **Activate App**
8. Raise Hand on Zoom when you are done

Want the Slides?

Hit Download ZIP button at  
[bit.ly/KDP\\_CCMAP](http://bit.ly/KDP_CCMAP)



**Want to Win a  
\$25 Amazon  
Gift Card?**

**Stay tuned till the  
end & fill out our  
quick survey**



**Short Break**  
**10 min break**

# Today's Agenda

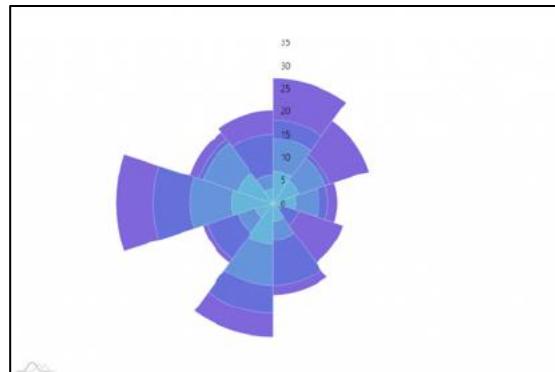
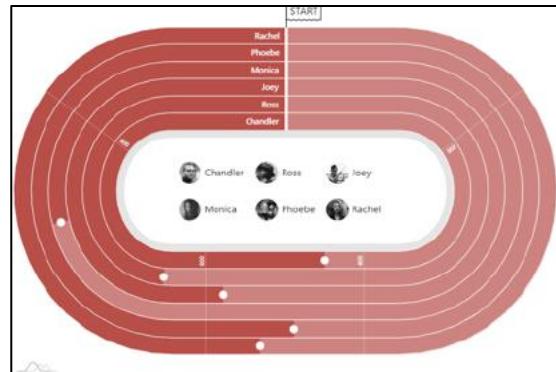
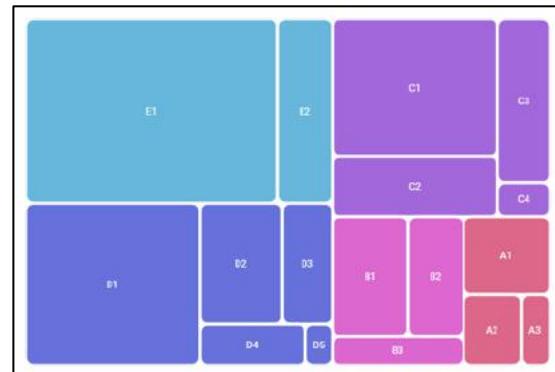
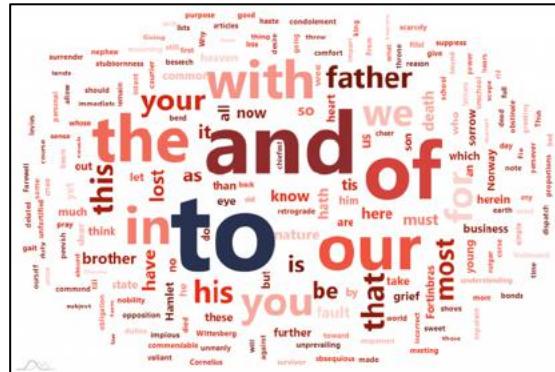
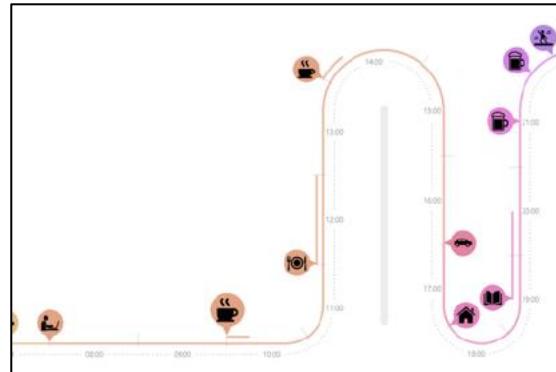
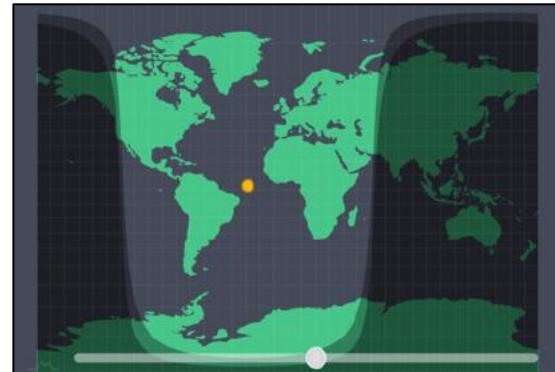
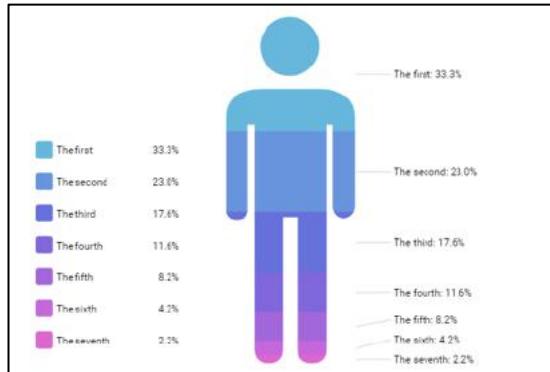
- 1 Get the Big Picture
- 2 Create a Kintone App
- 3 Display amCharts on Kintone
- 4 Call REST APIs from Kintone

# What is amCharts?



[www.amcharts.com](http://www.amcharts.com)

# What Does amCharts Offer?



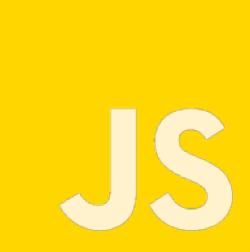
[www.amcharts.com](http://www.amcharts.com)

# How to Use amCharts (Front-End JavaScript)



## Define website details

```
<html>
  <body>
    <h1>My Graph</h1>
    <div id="chartdiv"></div>
  </body>
</html>
```



## Read libraries

```
<script src="https://www.amcharts.com/lib/4/core.js"></script>
<script src="https://www.amcharts.com/lib/4/charts.js"></script>
```

## Define chart details

```
// Create chart instance
var chart = am4core.create("chartdiv", am4charts.PieChart);
// Add and configure Series
var pieSeries = chart.series.push(new am4charts.PieSeries());
pieSeries.dataFields.value = "litres";
pieSeries.dataFields.category = "country";
```

## Define data

```
// Add data
chart.data = [ {
  "country": "Lithuania",
  "litres": 501.9
}, {
  "country": "Czechia",
  "litres": 301.9
}, {
  "country": "Ireland",
  "litres": 201.1
}]
```

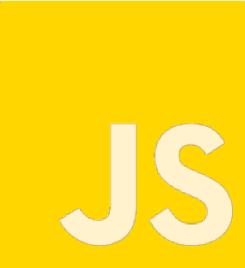
# How to Use amCharts on Kintone?



## Define website details

```
<html>
  <head>
    <title>My Graph</title>
  </head>
  <body>
    <div id="chartdiv"></div>
  </body>
</html>
```

We will use the Kintone platform's HTML



## Read libraries

```
<script src="https://www.amcharts.com/lib/4/core.js"></script>
<script src="https://www.amcharts.com/lib/4/charts.js"></script>
```

We will set these links in the App's settings

## Define chart details

```
// Create chart instance
var chart = am4core.create("chartdiv", am4charts.PieChart);
// Add and configure Series
var pieSeries = chart.series.push(new am4charts.PieSeries());
pieSeries.dataFields.value = "litres";
pieSeries.dataFields.category = "country";
```

## Define data

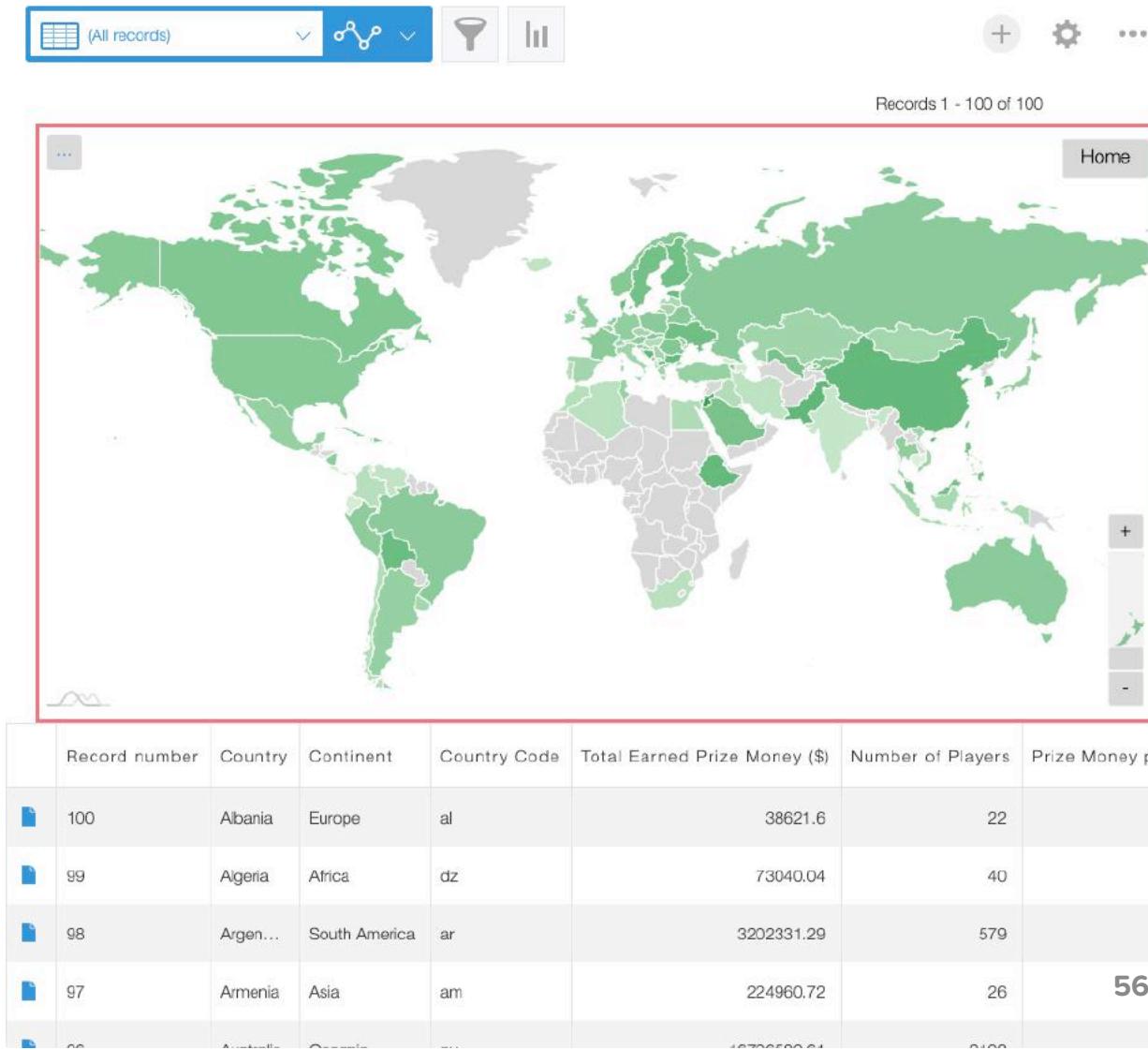
```
// Add data
chart.data = [
  {
    "country": "Ireland",
    "litres": 201.1
  },
  {
    "country": "Czechia",
    "litres": 301.9
  }
];
```

We will use the data that lies inside the Kintone Apps

# Overview of amCharts on Kintone

In our next hands-on, we will create a new **App** from a **CSV** file.

We will then **add JavaScript** to the App that utilizes the **amCharts library**, so we can do some stylish data visualization.



# Hands-On Walk-Through

- 1** First, let's go over the steps to build the app
- 2** Then, build the app as an exercise



# amCharts Customization for Kintone

1. Create a new Kintone App from a CSV file
2. Add amCharts libraries to the App
3. Add a custom JavaScript file to the App
4. Redeploy the Kintone App

# amCharts Customization for Kintone

**1. Create a new Kintone App from a CSV file**



2. Add amCharts libraries to the App

3. Add a custom JavaScript file to the App

4. Redeploy the Kintone App

# Esports Earnings



The CSV file's data is from the **Highest Earnings By Country** list on [esportsearnings.com.](https://esportsearnings.com/)

Top 100 countries' total earned prize money (in USD) & player count were extracted and we generated the **Prize Money per Player** figure.

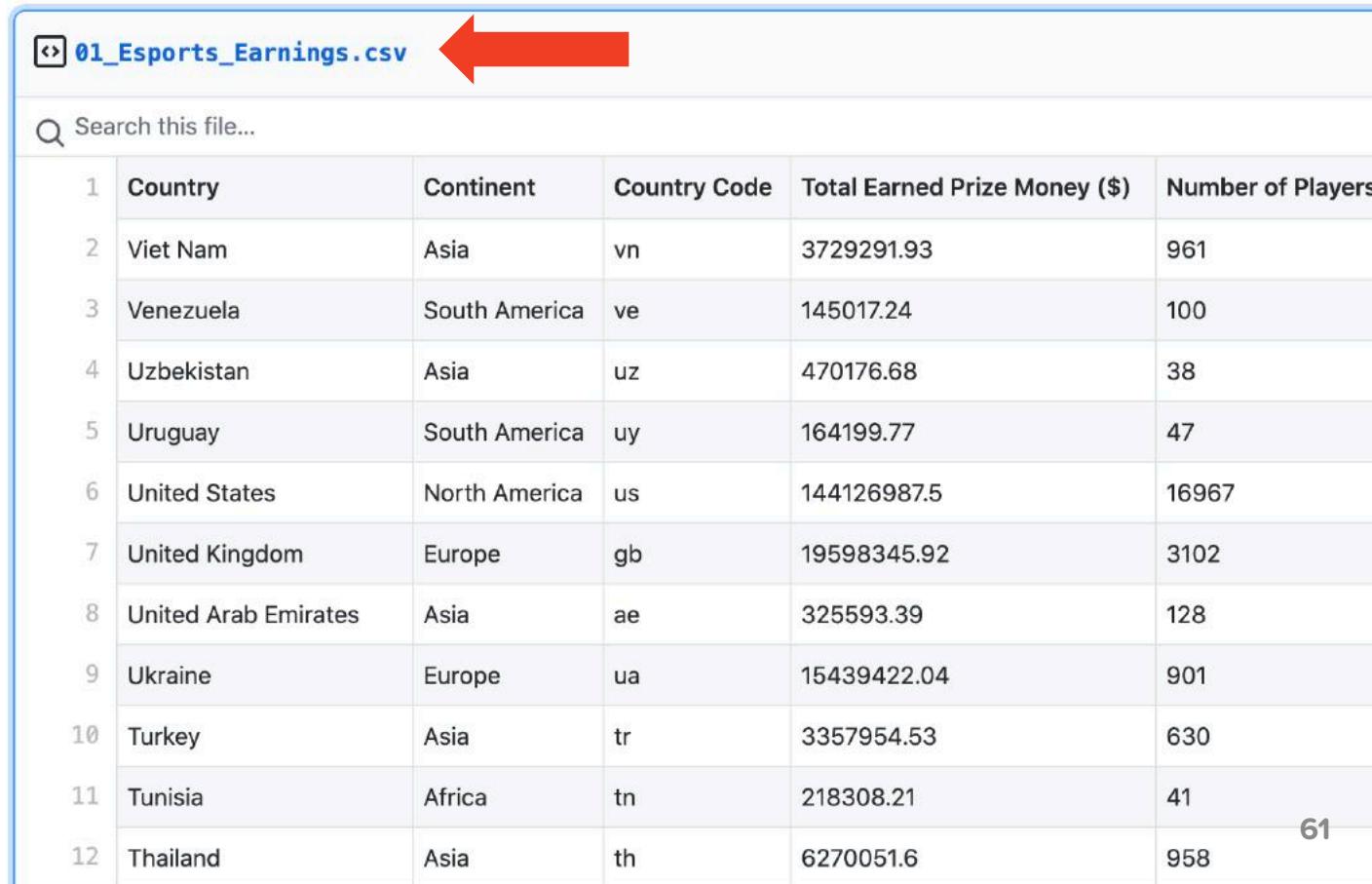
Rank	Country	Continent	Country Code	Total Earned Prize Money (\$)	Number of Players	Prize Money per Player	Latitude	Longitude
1	Viet Nam	Asia	vn	3729291.93	961	3881	14.0583	108.2772
2	Venezuela	South America	ve	145017.24	100	1450	6.4238	-66.5897
3	Uzbekistan	Asia	uz	470176.68	38	12373	41.3775	64.5853
4	Uruguay	South America	uy	164199.77	47	3494	-32.5228	-55.7658
5	United States	North America	us	144126987.5	16967	8495	37.0902	-95.7129
6	United Kingdom	Europe	gb	19598345.92	3102	6318	55.3781	-3.436
7	United Arab Emirates	Asia	ae	325593.39	128	2544	23.4241	53.8478
8	Ukraine	Europe	ua	15439422.04	901	17136	48.3794	31.1656
9	Turkey	Asia	tr	3357954.53	630	5330	38.9637	35.2433
10	Tunisia	Africa	tn	218308.21	41	5325	33.8869	9.5375
11	Thailand	Asia	th	6270051.6	958	6545	15.87	100.9925
12	Taiwan	Asia	tw	10421853.11	862	12090	23.6978	120.9605
13	Switzerland	Europe	ch	1607943.9	353	4555	46.8182	8.2275
14	Sweden	Europe	se	38011781.16	2489	15272	60.1282	18.6435
15	Spain	Europe	es	5519985.01	1493	3697	40.4637	-3.7492
16	South Africa	Africa	za	866860.84	455	1905	-30.5595	22.9375
17	Slovenia	Europe	si	816771.73	90	9075	46.1512	14.9955
18	Slovakia	Europe	sk	1978486.34	212	9332	48.669	19.699
19	Singapore	Asia	sg	3742315.07	597	6269	1.3521	103.8198
20	Serbia	Europe	rs	879756.04	225	3910	44.0165	21.0059
21	Saudi Arabia	Asia	sa	2010015.01	157	12803	23.8859	45.0792
22	Russian Federation	Europe	ru	26540077.16	3486	7613	61.524	105.3188
23	Romania	Europe	ro	3558278.36	362	9830	45.9432	24.9668
24	Qatar	Asia	qa	21317.54	9	2369	25.3548	51.1839



# Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist: [bit.ly/KDP\\_CCMAP](https://gist.github.com/CCMAP/01_Esports_Earnings.csv)
2. Create a Kintone App:  
Portal > [ + ] button
3. Select Create from CSV
4. Continue & Upload CSV...

The data on the Marvel Cinematic Universe Films's box office performance came from the [List](#) Wikipedia article.



1	Country	Continent	Country Code	Total Earned Prize Money (\$)	Number of Players
2	Viet Nam	Asia	vn	3729291.93	961
3	Venezuela	South America	ve	145017.24	100
4	Uzbekistan	Asia	uz	470176.68	38
5	Uruguay	South America	uy	164199.77	47
6	United States	North America	us	144126987.5	16967
7	United Kingdom	Europe	gb	19598345.92	3102
8	United Arab Emirates	Asia	ae	325593.39	128
9	Ukraine	Europe	ua	15439422.04	901
10	Turkey	Asia	tr	3357954.53	630
11	Tunisia	Africa	tn	218308.21	41
12	Thailand	Asia	th	6270051.6	958



# Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist: [bit.ly/KDP\\_CCMap](https://gist.github.com/KDP_CCMap/01_Esports_Earnings.csv)
2. Create a Kintone App:  
Portal > [ + ] button
3. Select Create from CSV

The data on the Marvel Cinematic Universe Films's box office performance came from the [List](#) Wikipedia article.

01\_Esports\_Earnings.csv

Search this file...

1	Country	Continent	Country Code	Total Earned Prize Money (\$)	Number of Players
2	Viet Nam	Asia	vn	3729291.93	961
3	Venezuela	South America	ve	145017.24	100
4	Uzbekistan	Asia	uz	470176.68	38

23bc4381f6f3c16790c942a7b1ecbc10-3d7a8635100423afa381572eebae143368aacea6

Search

Favorites

01\_Esports\_Earnings.csv 03\_Map\_Script.js 05\_xkcd.js 00\_Color-Coded...shop.md 04\_Post\_Event\_Survey.md z\_Slides.pdf 02\_CDN\_URLs.txt



# Create a new Kintone App from a CSV file

1. Download the CSV file:  
[bit.ly/KDP\\_CCMAP](http://bit.ly/KDP_CCMAP)
2. Create a Kintone App:  
Portal > [ + ] button
3. Select Create from CSV
4. Continue & Upload CSV...

The screenshot shows the Kintone portal interface. At the top, there's a navigation bar with icons for home, search, and settings. Below it, a banner says "Portal". On the left, there's a sidebar with sections for "Announcement" (which is currently selected), "Spaces", "Joined Spaces", "Apps", "All Apps", and "Board Game DB". A red arrow points to the "[ + ]" button under the "Apps" section. The main content area displays the "Welcome to Kintone!" message and instructions on how to use the announcements dashboard. At the bottom, there's a footer with the date "Aug 8, 2017 11:00 AM" and the user "Administrator".



# Create a new Kintone App from a CSV file

1. Download the CSV file:  
[bit.ly/KDP\\_CCMAP](https://bit.ly/KDP_CCMAP)
2. Create a Kintone App:  
Portal > [ + ] button
3. Select Create from CSV
4. Continue & Upload CSV...

Kintone Marketplace

Marketplace Search

By Department

- Sales
- Customer Service
- Human Resources
- IT & Administration
- Research & Development
- Marketing
- Legal & Finance
- Company-wide

Scenario

- Mobile
- Project Management
- Business to Customer
- NPO

Choose from the list of FREE business productivity apps or use our app builder to make your own app.

How to Find Apps?

Click the left category names to look for apps in the Kintone Marketplace, or enter a keyword in the search box.

Create New App

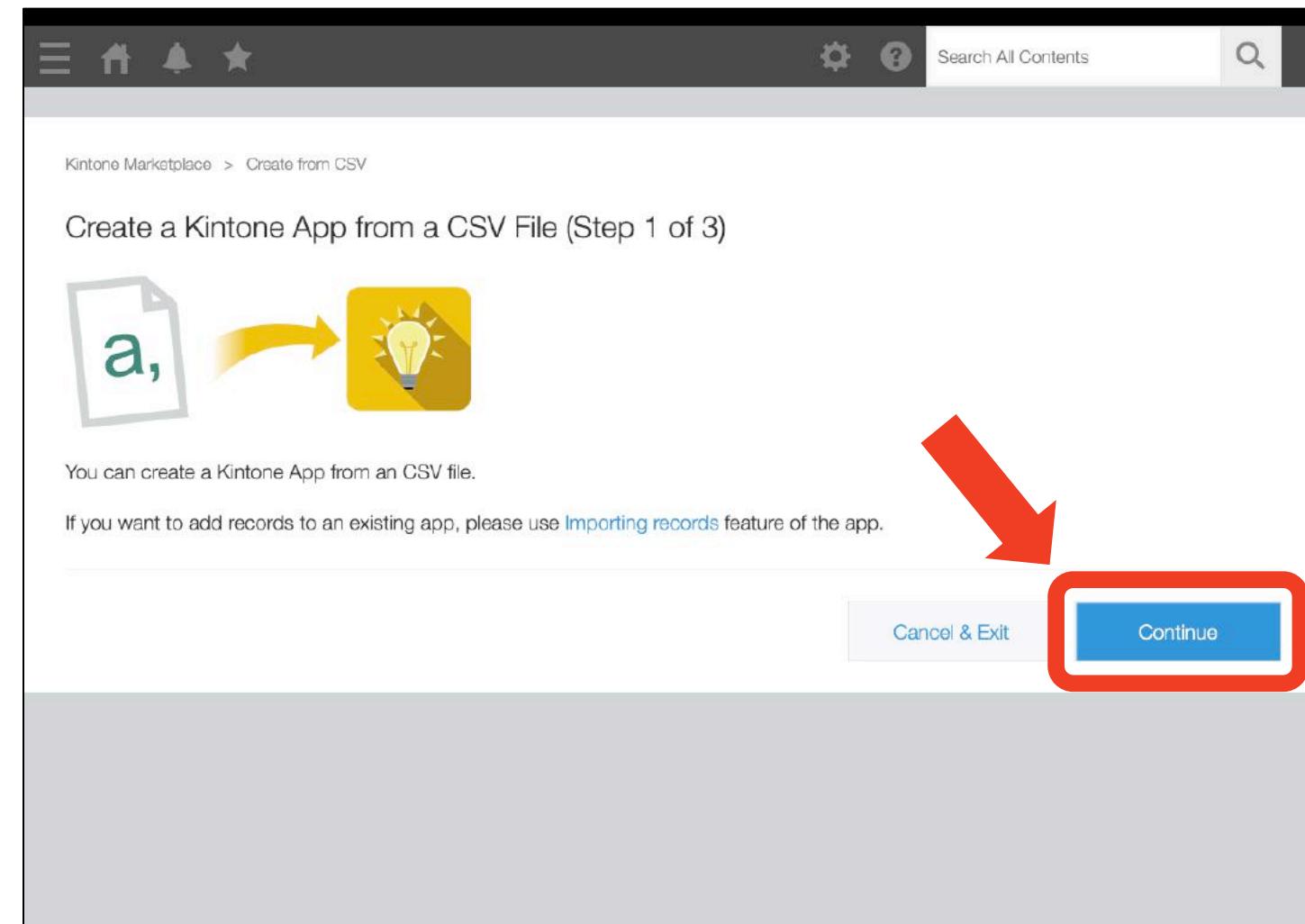
- Create App from Scratch
- Create from Excel
- Create from CSV**
- Create from Template File

Featured Apps



# Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist
2. Create a Kintone App
3. Select Create from CSV
4. Continue & Upload CSV
  - Continue button
  - Check all button
  - Continue to the Upload button
  - Upload the CSV file
  - Scroll down to the Convert button





# Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist
2. Create a Kintone App
3. Select Create from CSV
4. Continue & Upload CSV

- Continue button
- Check all button
- Continue to the Upload button
- Upload the CSV file
- Scroll down to the Convert button

Kintone Marketplace > Create from CSV

### Prepare a CSV File (Step 2 of 3)

Open the CSV file and format the contents accordingly.

The first row contains the column names (at least one character, and no more than 128 characters). \*

The number of columns (rows) must be 100 or less. \*

The import file must contain no more than 100,000 rows. \*

The file size must be 100 MB or smaller. \*

**Check all**

Please refer to the [help](#) for details about how to prepare CSV files.

Cancel & Exit   Back   Continue to the Upload screen

**Column name**

A	B	C	D
Contact Date	Department	Name	Age
12/01/17	Sales	Chris	35-44
12/01/17	Sales	Chris	35-44
12/01/17	Sales	Chris	35-44
12/01/17	Sales	Chris	35-44
12/01/17	Sales	Chris	35-44
12/01/17	Sales	Chris	35-44

**Data (Maximum 100,000 rows)**

**Maximum 100 columns**



# Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist
2. Create a Kintone App
3. Select Create from CSV
4. Continue & Upload CSV

- Continue button
- Check all button
- Continue to the Upload button
- Upload the CSV file
- Scroll down to the Convert button

Kintone Marketplace > Create from CSV

Prepare a CSV File (Step 2 of 3)

Open the CSV file and format the contents accordingly.

The first row contains the column names (at least one character, and no more than 128 characters). \*

The number of columns (items) must be 100 or less. \*

The import file contains no more than 100,000 rows. \*

The file size must be 100 MB or smaller. \*

[Check all](#)

Please refer to the [help](#) for details about how to prepare CSV files.

Cancel & Exit    Back    **Continue to the Upload screen**

Column name	A	B	C	D
Contact Date	12/01/17	Sales	Chris	35-44
2	12/01/17	Sales	Chris	35-44
3	12/01/17	Sales	Chris	35-44
4	12/01/17	Sales	Chris	35-44
5	12/01/17	Sales	Chris	35-44
6	12/01/17	Sales	Chris	35-44

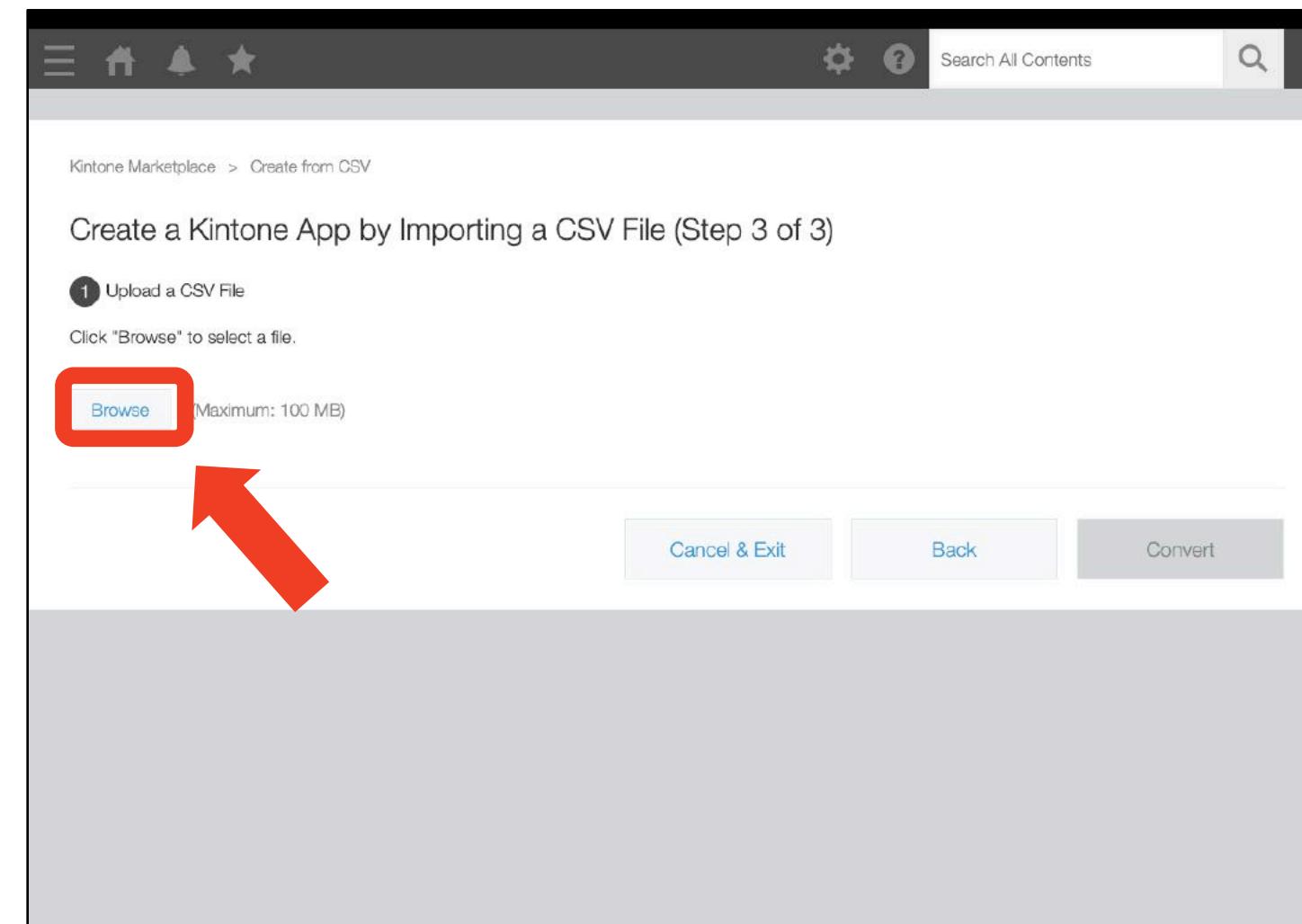
Data (Maximum 100,000 rows)

Maximum 100 columns



# Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist
2. Create a Kintone App
3. Select Create from CSV
4. Continue & Upload CSV
  - Continue button
  - Check all button
  - Continue to the Upload button
  - Upload the CSV file
  - Scroll down to the Convert button





# Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist
2. Create a Kintone App
3. Select Create from CSV
4. Continue & Upload CSV
  - Continue button
  - Check all button
  - Continue to the Upload button
  - Upload the CSV file
  - Scroll down to the Convert button

Kintone Marketplace > Create from CSV

Create a Kintone App by Importing a CSV File (Step 3 of 3)

1 Upload a CSV File

Click "Browse" to select a file.

01\_Esports\_Earnings.csv 7 KB

Browse (Maximum: 100 MB)

2 Check the Preview

The table below shows the preview of the App with your data.  
Ensure that the first row of the preview table (top-most row with white background) shows the column names. Partial sample data is shown in the second row and after.

Total Records: 100 Character Encoding: English (Latin1) Delimiter: Comma

Country	Continent	Country Code	Total Earned Prize Money (\$)	Number of Players	Prize Money per Player	Latitude	Longit
Viet Nam	Asia	vn	3729291.93	961	3881	14.0583	108.27
Venezuela	South America	ve	145017.24	100	1450	6.4238	-66.58
Uzbekistan	Asia	uz	470176.68	38	12373	41.3775	64.585
Ivory Co	South America	ci	164100.77	47	3404	22.5029	55.705



## Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist
2. Create a Kintone App
3. Select Create from CSV
4. Continue & Upload CSV
  - Continue button
  - Check all button
  - Continue to the Upload button
  - Upload the CSV file
  - Scroll down to the Convert button

However, field type settings are not mandatory, because Kintone has automatically selected recommended field types.

Field Name (Column Name)	Field Type
Country	Text
Continent	Drop-down
Country Code	Text
Total Earned Prize Money (\$)	Number
Number of Players	Number
Prize Money per Player	Number
Latitude	Number
Longitude	Number

[Cancel & Exit](#) [Back](#) [Convert](#)



# amCharts Customization for Kintone

1. Create a new Kintone App from a CSV file
- 2. Add amCharts libraries to the App**
3. Add a custom JavaScript file to the App
4. Redeploy the Kintone App



# Add JavaScript Libraries to the App

1. Find and click on the Esports Earnings App
2. Click on the Gear icon for the App's settings
3. Navigate to the App Settings tab
4. Find the JavaScript and CSS Customization option in the middle.

The screenshot shows the Kintone app settings interface. On the left, there's a sidebar with 'Portal', 'Announcement', 'Spaces', and 'Apps'. Under 'Announcement', it says 'Welcome to Kintone!' with a description of the platform. Under 'Spaces', it lists 'Joined Spaces' and '(None) All Spaces'. Under 'Apps', it lists 'All Apps', '01\_Esports\_Earnings' (which has a red arrow pointing to it), and 'Board Game DB'. A modal window titled 'How to use Kintone' is open, showing a list item '■ How to use the Annou' and a note about the dashboard being for admins to share with team members. At the bottom of the modal, it says 'App added!'. The bottom of the screen shows the date 'Aug 8, 2017 11:00 AM' and the user 'Administrator'.



# Add JavaScript Libraries to the App

1. Find and click on the Esports Earnings App
2. **Click on the Gear icon for the App's settings**
3. Navigate to the App Settings tab
4. Find the JavaScript and CSS Customization option in the middle.

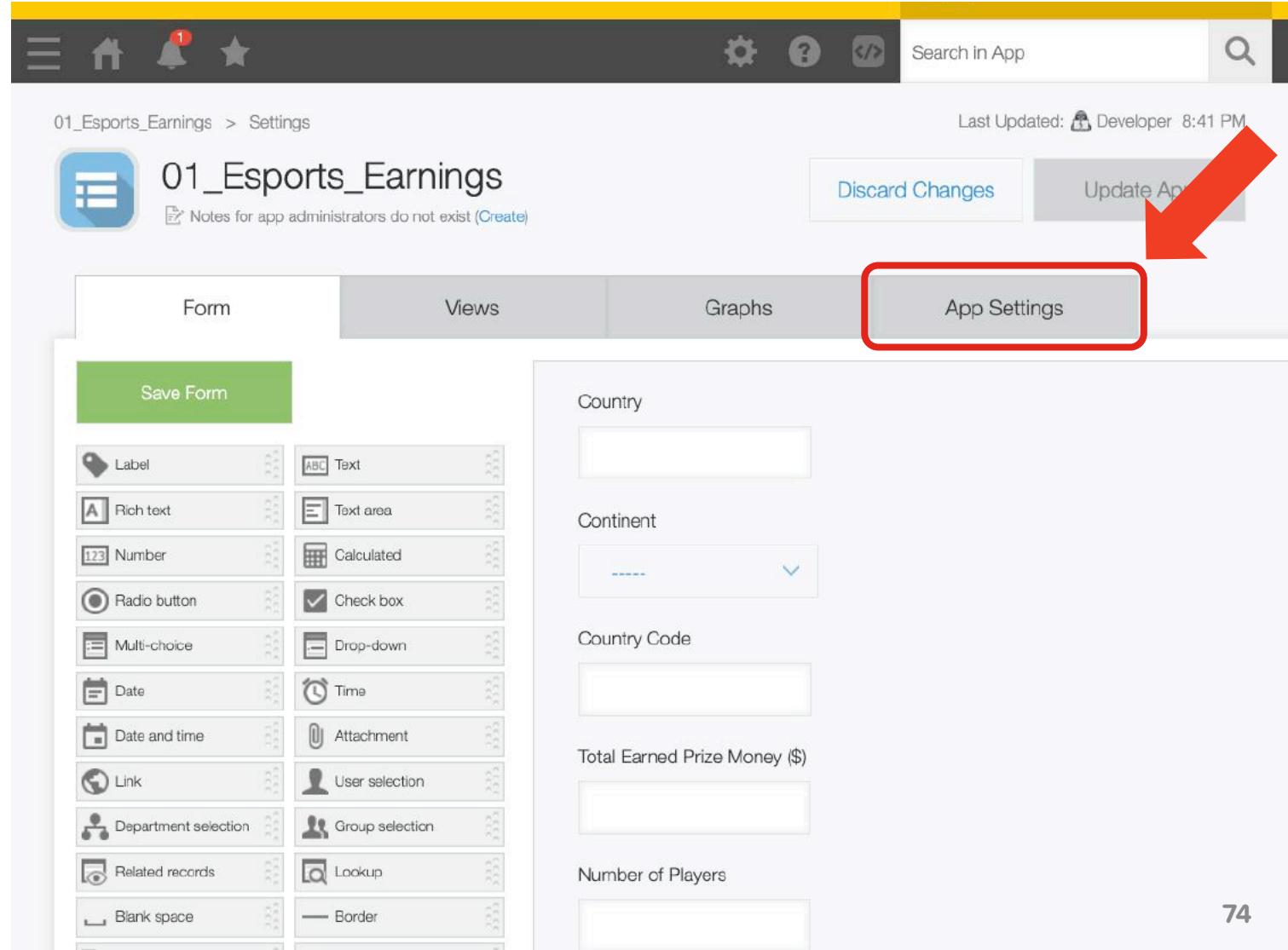
The screenshot shows a CRM application interface. At the top, there is a navigation bar with icons for home, search, and settings. A blue banner displays the message "File imported successfully!". Below the banner, the app title "01\_Esports\_Earnings" is shown, along with a gear icon for settings. The main area features a table with 100 records of Esports earnings data. The columns include Record number, Country, Continent, Country Code, Total Earned Prize Money (\$), Number of Players, Prize Money per Player, Latitude, and Longitude. The first few rows of data are as follows:

Record number	Country	Continent	Country Code	Total Earned Prize Money (\$)	Number of Players	Prize Money per Player	Latitude	Longitude
100	Albania	Europe	al	38621.6	22	1756	41.15	
99	Algeria	Africa	dz	73040.04	40	1826	28.03	
98	Argen...	South America	ar	3202331.29	579	5531	-38.41	
97	Armenia	Asia	am	224960.72	26	8652	40.06	
96	Australia	Oceania	au	16796589.61	2198	7642	-25.27	
95	Austria	Europe	at	3749642.46	511	7338	47.51	
94	Azerb...	Asia	az	81151.58	89	912	40.14	
93	Bahrain	Asia	bh	71557.6	8	8945	25.93	



# Add JavaScript Libraries to the App

1. Find and click on the Esports Earnings App
2. Click on the Gear icon  for the App's settings
3. **Navigate to the App Settings tab**
4. Find the JavaScript and CSS Customization option in the middle.

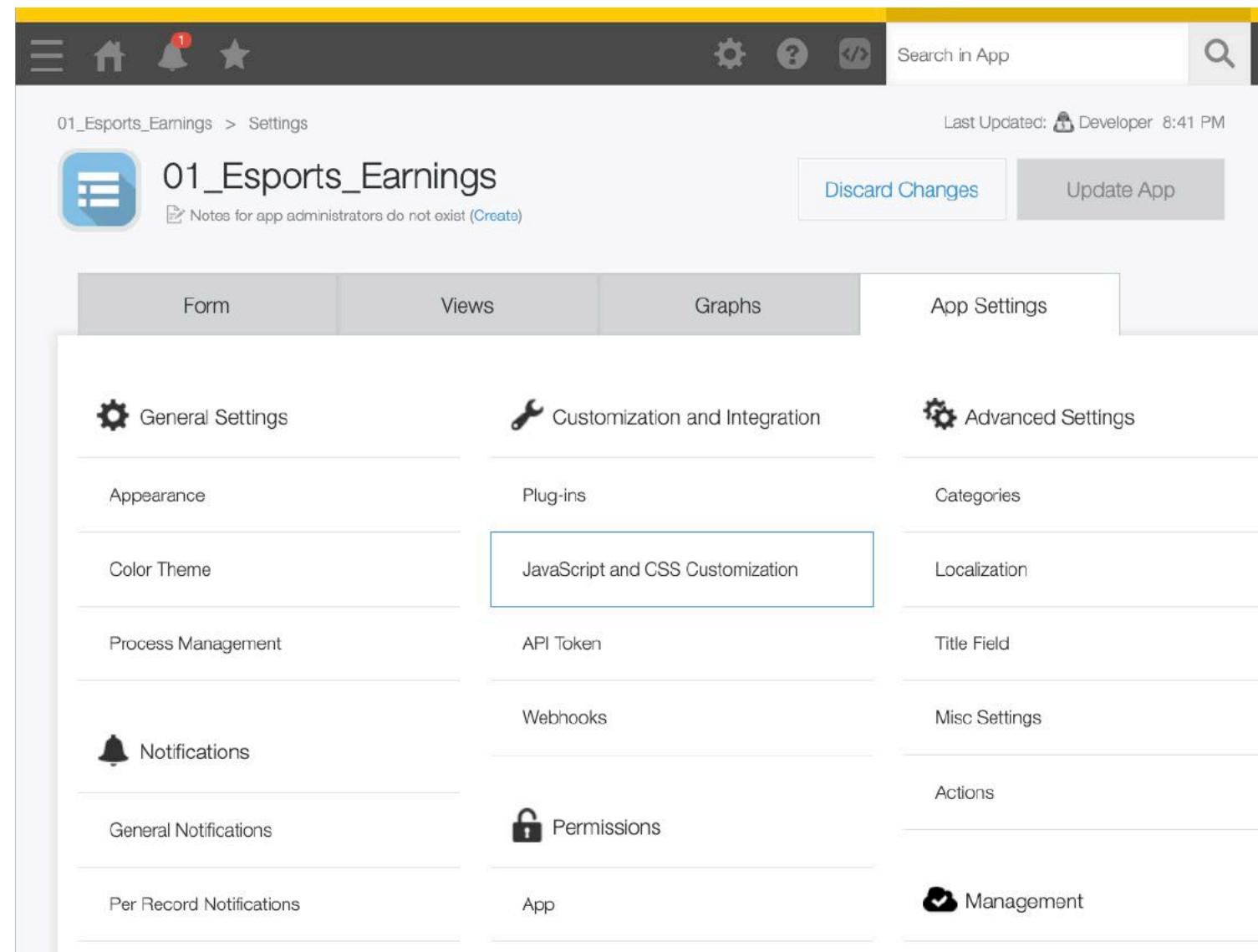


The screenshot shows the '01\_Esports\_Earnings' app settings page. At the top, there are navigation icons (three bars, home, bell with 1 notification, star), a gear icon for settings, a question mark icon, and a search bar. To the right, it says 'Last Updated: Developer 8:41 PM'. Below the header, the app name '01\_Esports\_Earnings' is displayed with a blue icon. A note says 'Notes for app administrators do not exist (Create)'. There are four tabs: 'Form' (selected), 'Views', 'Graphs', and 'App Settings' (which is highlighted with a red box and has a red arrow pointing to it). On the left, there's a 'Save Form' button and a grid of form field icons: Label, Text, Rich text, Text area, Number, Calculated, Radio button, Check box, Multi-choice, Drop-down, Date, Time, Date and time, Attachment, Link, User selection, Department selection, Group selection, Related records, Lookup, Blank space, Border, and Field group. On the right, there are input fields for 'Country', 'Continent' (with a dropdown menu), 'Country Code', 'Total Earned Prize Money (\$)', and 'Number of Players'.



# Add JavaScript Libraries to the App

1. Find and click on the Esports Earnings App
2. Click on the Gear icon  for the App's settings
3. Navigate to the App Settings tab
- 4. Find the JavaScript and CSS Customization option in the middle.**



The screenshot shows the 'Settings' page for the '01\_Esports\_Earnings' app. At the top, there are navigation icons (three horizontal lines, home, bell with a red notification dot, star), a gear icon for settings, a question mark icon, and a code icon. To the right is a search bar and a timestamp 'Last Updated: [key] Developer 8:41 PM'. Below the header, the app name '01\_Esports\_Earnings' is displayed with a blue square icon containing a white chart. A note says 'Notes for app administrators do not exist ([Create](#))'. On the right are 'Discard Changes' and 'Update App' buttons. A navigation bar at the bottom has tabs for 'Form', 'Views', 'Graphs', and 'App Settings', with 'App Settings' being the active tab. The main content area contains several sections: 'General Settings' (Appearance, Color Theme, Process Management), 'Customization and Integration' (Plug-ins, API Token, Webhooks), 'Advanced Settings' (Categories, Localization, Title Field, Misc Settings, Actions), 'Notifications' (General Notifications, Per Record Notifications), and 'Permissions' (App, Management). The 'JavaScript and CSS Customization' section under 'Customization and Integration' is highlighted with a blue border.



# Add JavaScript Libraries to the App

Under **Upload JavaScript for PC**, click on **Add Link** to add the following amCharts libraries in order:

<https://www.amcharts.com/lib/4/core.js>

<https://www.amcharts.com/lib/4/maps.js>

<https://cdn.amcharts.com/lib/4/geodata/worldLow.js>

<https://www.amcharts.com/lib/4/themes/animated.js>

Don't click on the top blue Save button yet!

The screenshot shows the 'JavaScript and CSS Customization' section of the amCharts app. At the top, there are tabs for '01\_Esports\_Earnings', 'Settings', and 'JavaScript and CSS Customization'. Below the tabs are 'Save' and 'Cancel' buttons. The main area is titled 'JavaScript and CSS Customization' with a sub-instruction: 'You can customize this app with JavaScript and CSS. Please make sure you read through the [JavaScript Coding Guidelines](#) prior to the development.' It includes sections for 'Scope of Customization' (radio buttons for 'Affect all users', 'Affect only app administrators', and 'Disable'), 'Upload JavaScript for PC' (with 'Add Link' and 'Add File' buttons), 'Upload JavaScript for Mobile Devices' (with 'Add Link' and 'Add File' buttons), 'Upload CSS File for PC' (with 'Add Link' and 'Add File' buttons), and 'Upload CSS File for Mobile Devices' (with 'Add Link' and 'Add File' buttons). A red arrow points to the 'Add File' button in the 'Upload JavaScript for PC' section. A red box highlights this same button with the text 'Add the 4 links here'.

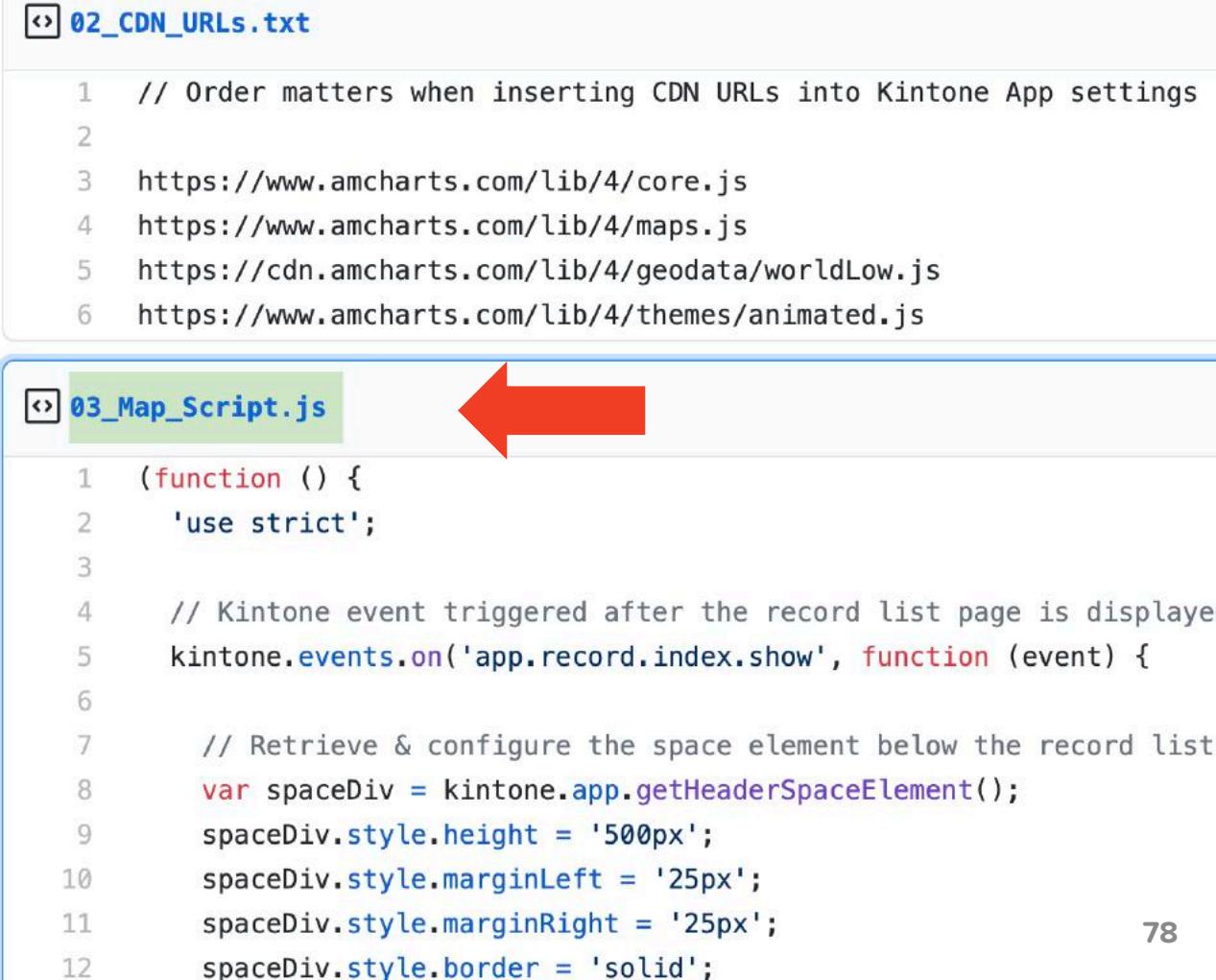
# amCharts Customization for Kintone

1. Create a new Kintone App from a CSV file
2. Add amCharts libraries to the App
- 3. Add a custom JavaScript file to the App**
4. Redeploy the Kintone App



# Add a Custom JavaScript File to the App

1. Download the JS file:  
**03\_Map\_Script.js**  
[bit.ly/KDP\\_CCMAP](https://bit.ly/KDP_CCMAP)
2. Click on Add File button & upload the JS file
3. Click on Save button
4. Click on Update App button



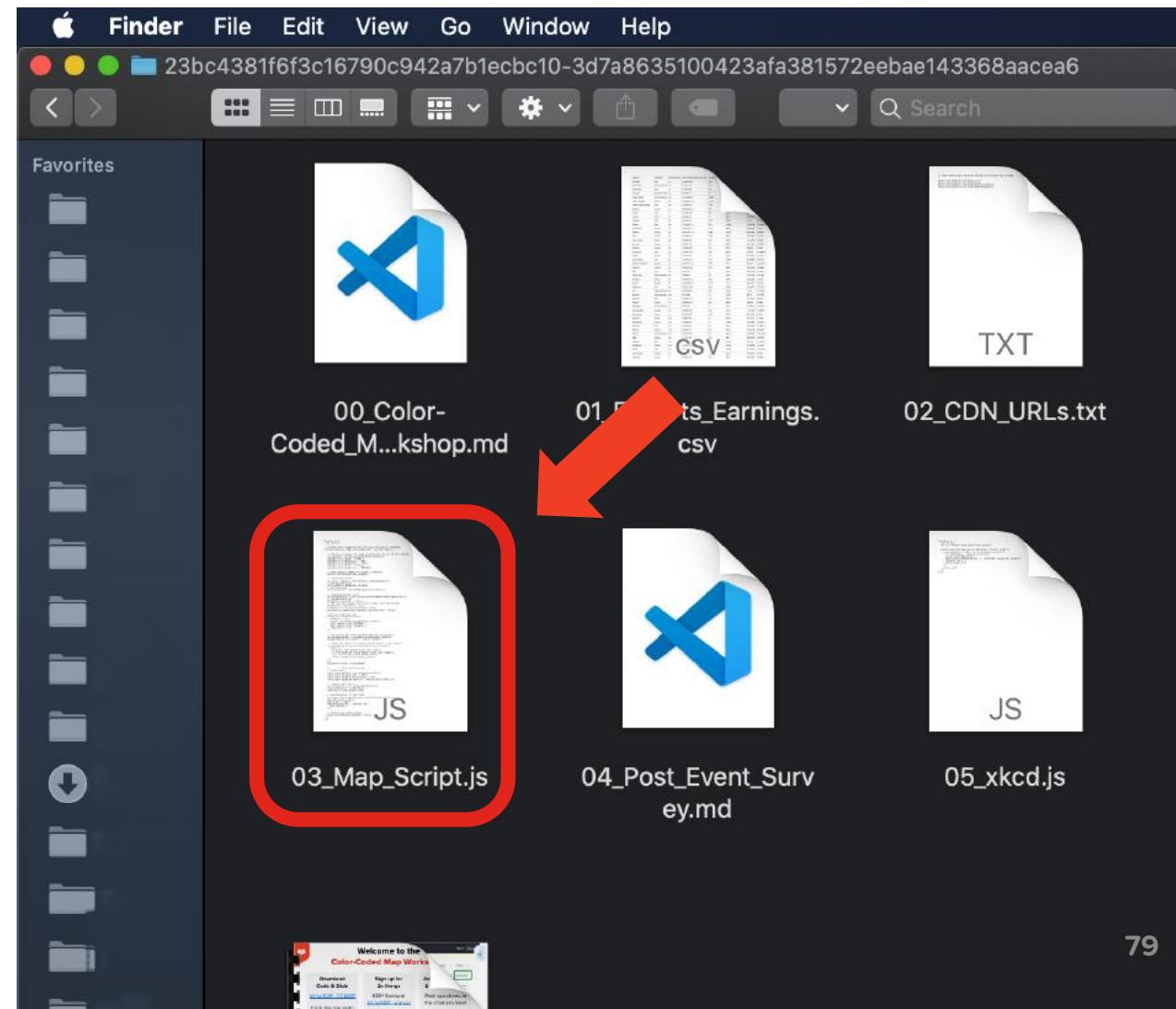
```
02_CDN_URLs.txt
1 // Order matters when inserting CDN URLs into Kintone App settings
2
3 https://www.amcharts.com/lib/4/core.js
4 https://www.amcharts.com/lib/4/maps.js
5 https://cdn.amcharts.com/lib/4/geodata/worldLow.js
6 https://www.amcharts.com/lib/4/themes/animated.js
```

```
03_Map_Script.js
1 (function () {
2   'use strict';
3
4   // Kintone event triggered after the record list page is displayed
5   kintone.events.on('app.record.index.show', function (event) {
6
7     // Retrieve & configure the space element below the record list
8     var spaceDiv = kintone.app.getHeaderSpaceElement();
9     spaceDiv.style.height = '500px';
10    spaceDiv.style.marginLeft = '25px';
11    spaceDiv.style.marginRight = '25px';
12    spaceDiv.style.border = 'solid';
```



# Add a Custom JavaScript File to the App

1. Download the JS file:  
**03\_Map\_Script.js**  
[bit.ly/KDP\\_CCMAP](https://bit.ly/KDP_CCMAP)
2. Click on Add File button & upload the JS file
3. Click on Save button
4. Click on Update App button





# Add a Custom JavaScript File to the App

1. Download the JS file:  
**03\_Map\_Script.js**
2. Click on Add File button & upload the JS file
3. Click on Save button
4. Click on Update App button

The screenshot shows the 'JavaScript and CSS Customization' page of the amCharts app. At the top, there are navigation icons (three horizontal lines, home, bell with a '1', star), a search bar, and settings options. Below the header, the path '01\_Esports\_Earnings > Settings > JavaScript and CSS Customization' is visible, along with 'Save' and 'Cancel' buttons.

The main content area is titled 'JavaScript and CSS Customization' and contains instructions: 'You can customize this app with JavaScript and CSS. Please make sure you read through the [JavaScript Coding Guidelines](#) prior to the development.'

Under 'Scope of Customization', there are three radio button options: 'Affect all users' (selected), 'Affect only app administrators', and 'Disable'.

The 'Upload JavaScript for PC' section lists four URLs:

- https://www.amcharts.com/lib/4/core.js
- https://www.amcharts.com/lib/4/maps.js
- https://cdn.amcharts.com/lib/4/geodata/worldLow.js
- https://www.amcharts.com/lib/4/themes/animated.js

Below this list are two 'Add' buttons: 'Add Link' and 'Add File (Maximum: 20 MB)'. A red box highlights the 'Add File' button. A red arrow points from a callout box containing the text 'Add 03\_Map\_Script.js file here' to this button.

On the right side of the screen, there are sections for 'Customization samples' (with a 'Kintone Customization' link) and 'Community support' (with a 'Kintone Dev' link).



# Add a Custom JavaScript File to the App

1. Download the JS file:  
**03\_Map\_Script.js**
2. Click on Add File button & upload the JS file
3. Click on Save button
4. Click on Update App button

The screenshot shows the 'JavaScript and CSS Customization' section of the amCharts app. At the top, there are navigation icons (three horizontal lines, home, notification with 1, star) and a search bar. Below that, the breadcrumb navigation shows '01 Esports Earnings > Settings > JavaScript and CSS Customization'. A red arrow points from the 'Save' button in the toolbar to the 'Save' button in the dialog. Another red arrow points from the 'Add File' button in the dialog to the '03\_Map\_Script.js' file listed in the 'Upload JavaScript for PC' section. The dialog also contains text about customization guidelines and scope options.

JavaScript and CSS Customization

You can customize this app with JavaScript and CSS. Please make sure you read through the [JavaScript Coding Guidelines](#) prior to the development.

Scope of Customization

Affect all users  Affect only app administrators  Disable

Upload JavaScript for PC

- https://www.amcharts.com/lib/4/core.js
- https://www.amcharts.com/lib/4/maps.js
- https://cdn.amcharts.com/lib/4/geodata/worldLow.js
- https://www.amcharts.com/lib/4/themes/animated.js
- 03\_Map\_Script.js 2 KB

Add Link  Add File (Maximum: 20 MB)

Upload JavaScript File for Mobile Devices

Customization samples

Kintone Customization

Community support

Kintone Dev

# amCharts Customization for Kintone

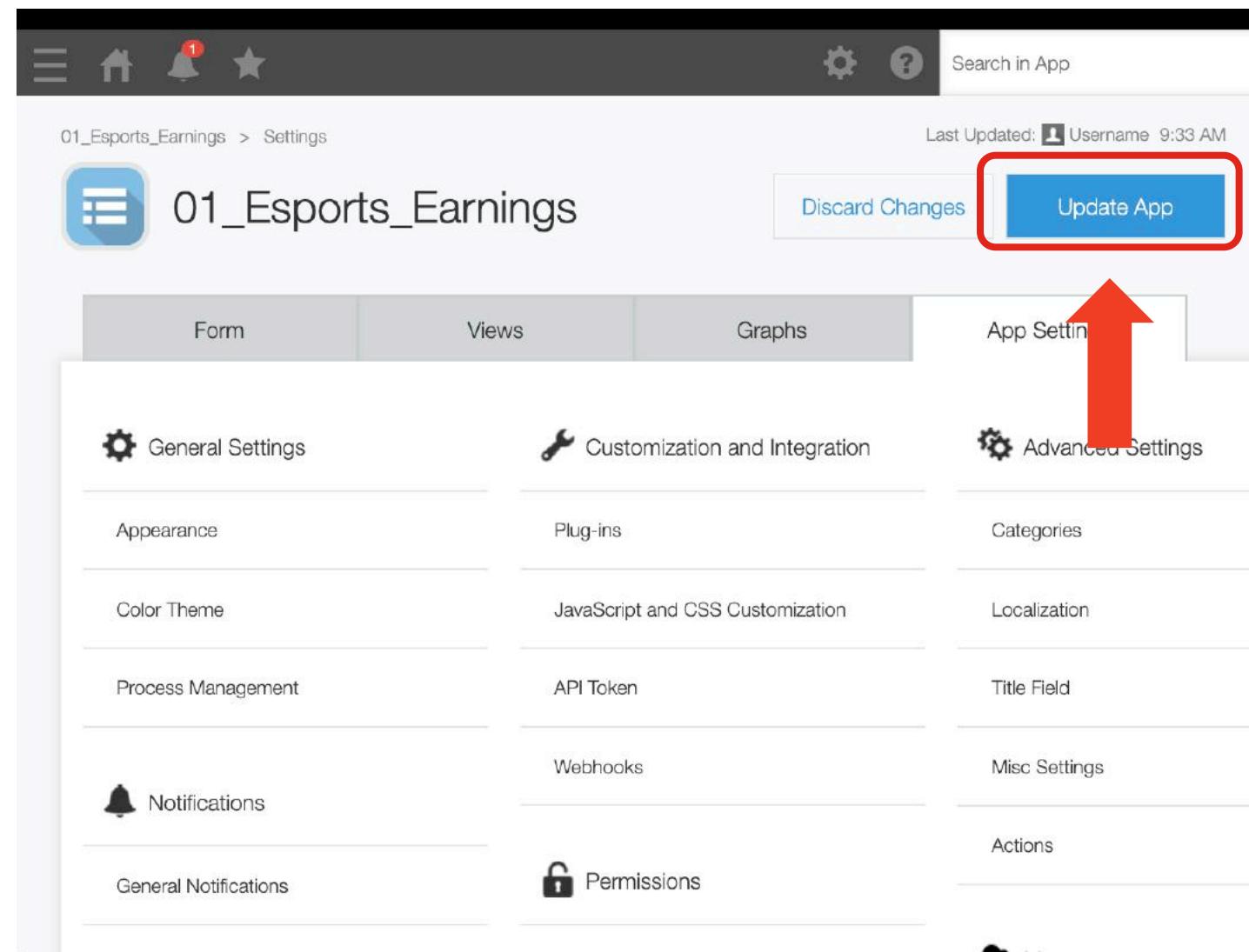
1. Create a new Kintone App from a CSV file
2. Add amCharts libraries to the App
3. Add a custom JavaScript file to the App
- 4. Redeploy the Kintone App**



# Redeploy the Kintone App

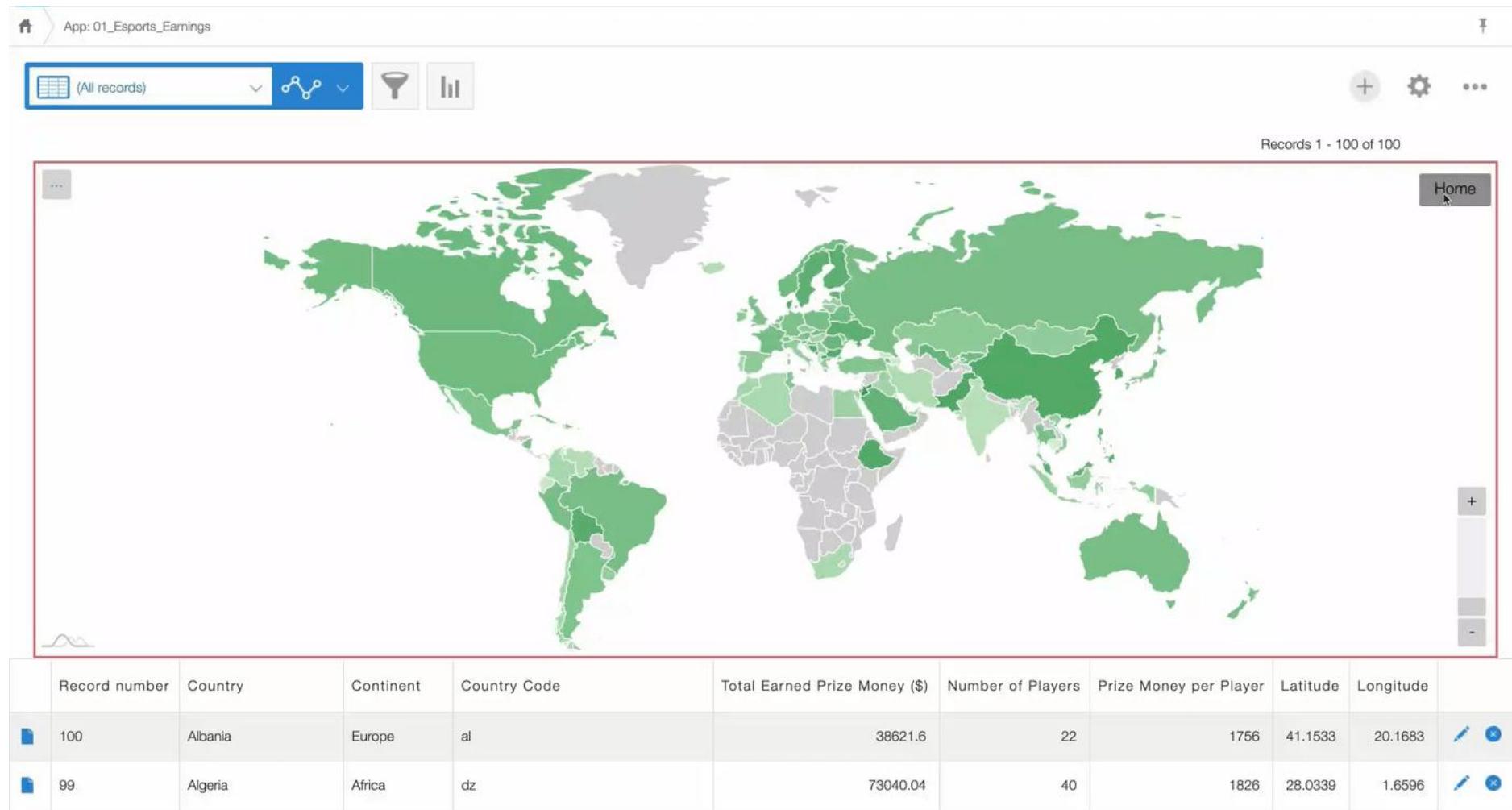
1. Download the JS file:  
**03\_Map\_Script.js**
2. Click on Add File button & upload the JS file
3. Click on Save button
4. Click on Update App button

Changes made are applied  
(adding libraries & JS file)





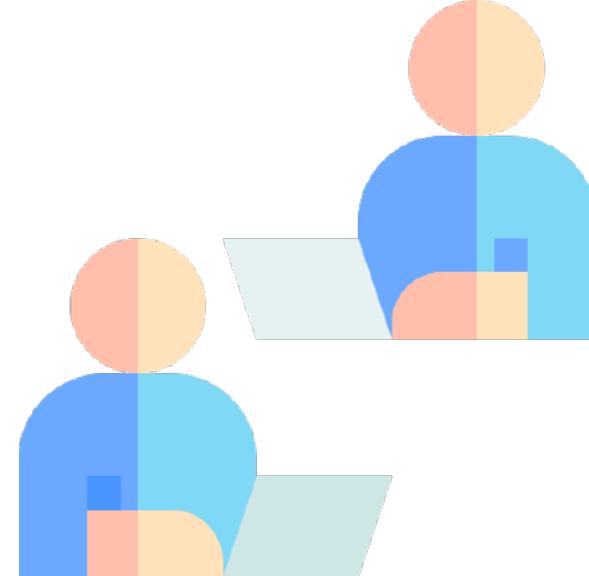
# Results



# Time To Get Started!

1. Create a Kintone App from a CSV file
  - [Create from CSV](#) option
  - Import the Esports Earnings CSV file
2. Add JavaScript libraries to the App
  - amCharts CDN links
3. Add a custom JavaScript file to the App
  - Download and upload [03\\_Map\\_Script.js](#)
4. Redeploy the Kintone App
  - Click on [Update App](#)
5. Raise Hand on Zoom when you are done

Want the Slides? Hit the  
Download ZIP button at  
[bit.ly/KDP\\_CCMAP](https://bit.ly/KDP_CCMAP)



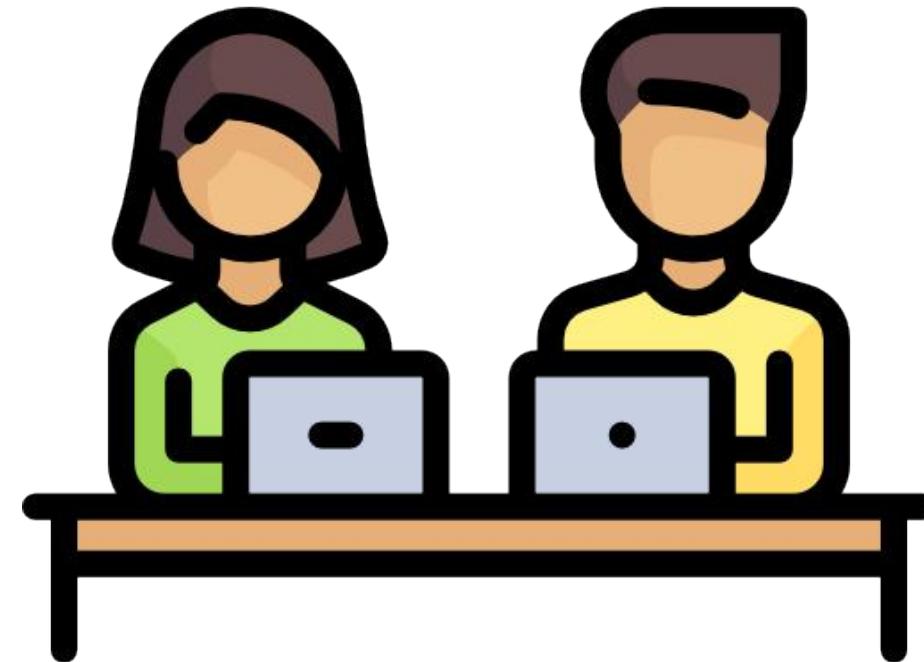
**Want to Win a  
\$25 Amazon  
Gift Card?**

**Stay tuned till the  
end & fill out our  
quick survey**



**Short Break  
10 min break**

# Let's look through the code!



# amCharts Libraries

## JavaScript and CSS Customization

You can customize this app with JavaScript and CSS.

Please make sure you read through the [JavaScript Coding Guidelines](#) prior to the development.

## Scope of Customization

- Affect all users
- Affect only app administrators
- Disable

## Upload JavaScript for PC

<input type="checkbox"/>	<a href="https://www.amcharts.com/lib/4/core.js">https://www.amcharts.com/lib/4/core.js</a>	
<input type="checkbox"/>	<a href="https://www.amcharts.com/lib/4/maps.js">https://www.amcharts.com/lib/4/maps.js</a>	
<input type="checkbox"/>	<a href="https://cdn.amcharts.com/lib/4/geodata/worldLow.js">https://cdn.amcharts.com/lib/4/geodata/worldLow.js</a>	
<input type="checkbox"/>	<a href="https://www.amcharts.com/lib/4/themes/animated.js">https://www.amcharts.com/lib/4/themes/animated.js</a>	
<input type="checkbox"/>	03_Map_Script.js	2 KB 

[Add Link](#) [Add File](#) (Maximum: 20 MB)

Core library needed for all amCharts

amCharts library for creating charts

geodata package that contains data of world maps

contains the amCharts "Animated" theme which automatically provides smooth transitions

# Code - 2 Main Parts

## Kintone Event + Header & Loading Map

```
(function () {
  'use strict';

  // Kintone event triggered after the record list page is displayed.
  kintone.events.on('app.record.index.show', function (event) {

    // Retrieve & configure the space element below the record list's header
    var spaceDiv = kintone.app.getHeaderSpaceElement();
    spaceDiv.style.height = '500px';
    spaceDiv.style.marginLeft = '25px';
    spaceDiv.style.marginRight = '25px';
    spaceDiv.style.border = 'solid';
    spaceDiv.style.borderColor = '#ED7B84';

    // Apply amCharts Themes for automatic animation
    am4core.useTheme(am4themes_animated);

    // Create map instance
    var chart = am4core.create(spaceDiv, am4maps.MapChart);

    // Set map definition
    chart.geodata = am4geodata_worldLow;

    // Set projection
    chart.projection = new am4maps.projections.Miller();
...
  });
})();
```

## Getting the Data & Configuring the Map

```
// Create map polygon series
var polygonSeries = chart.series.push(new am4maps.MapPolygonSeries());
// Exclude Antarctica
polygonSeries.exclude = ['AQ'];
// Make map load polygon (like country names) data from GeoJSON
polygonSeries.useGeodata = true;
polygonSeries.calculateVisualCenter = true;
polygonSeries.mapPolygons.template.tooltipPosition = 'fixed';

//Set min & max fill color
polygonSeries.heatRules.push({
  'property': 'fill',
  'target': polygonSeries.mapPolygons.template,
  'min': am4core.color('#e5f5e0'),
  'max': am4core.color('#31a354'),
  'logarithmic': true
});

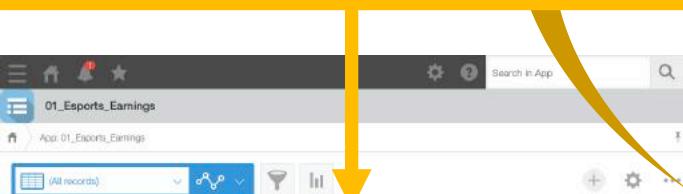
// Set tooltip with data to be displayed when hovered over
var polygonTemplate = polygonSeries.mapPolygons.template;
polygonTemplate.tooltipText = '{name}: ${value}';

// Create JSON object from Kintone records & pass it onto amCharts
var polygonData = event.records.map(function (record) {
  return {
    // Country Code default field code = Text_0
    // Prize Money per Player default field code = Number_1
    'id': record.Text_0.value.toUpperCase(),
    'value': Number(record.Number_1.value)
  }
});
polygonSeries.data = polygonData;
```

# Code - events (Line 1 - 13)

Kintone native event  
that triggers when the  
Record List page loads

Retrieve & configure  
the space element  
below the record list's  
header



This Space Here

```
(function () {
  'use strict';

  kintone.events.on('app.record.index.show', function (event) {

    var spaceDiv = kintone.app.getHeaderSpaceElement();
    spaceDiv.style.height = '500px';
    spaceDiv.style.marginLeft = '25px';
    spaceDiv.style.marginRight = '25px';
    spaceDiv.style.border = 'solid';
    spaceDiv.style.borderColor = '#ED7B84';
```

# Code - Map Instance (Line 15 - 23)

am4themes\_animated  
is a theme that  
automatically animates  
many amCharts  
actions. It is a system-  
wide setting.

Create a map instance.

1<sup>st</sup> parameter is the  
target HTML element  
to create the map in

2<sup>nd</sup> parameter  
references an  
amCharts map type  
class.

```
// Apply amCharts Themes for automatic animation
am4core.useTheme(am4themes_animated);

// Create map instance
var chart = am4core.create(spaceDiv, am4maps.MapChart);

// Set map definition
chart.geodata = am4geodata_worldLow;

// Set projection
chart.projection = new am4maps.projections.Miller();
```

# Code - Map Instance (Line 15 - 23)

Import the geodata package for basic world map info (e.g. borders & country names).

'worldLow' imports Map data of the whole world with lower resolution in terms of country position & shapes.

Alternatively, 'worldHigh' Map data provides higher resolution but are heavier & slower to work with.

```
// Apply amCharts Themes for automatic animation  
am4core.useTheme(am4themes_animated);  
  
// Create map instance  
var chart = am4core.create(spaceDiv, am4maps.MapChart);  
  
// Set map definition  
chart.geodata = am4geodata_worldLow;  
  
// Set projection  
chart.projection = new am4maps.projections.Miller();
```



# Code - chart.projection (Line 15 - 23)

The Miller projection is used to display this map.

Details on amCharts projections:

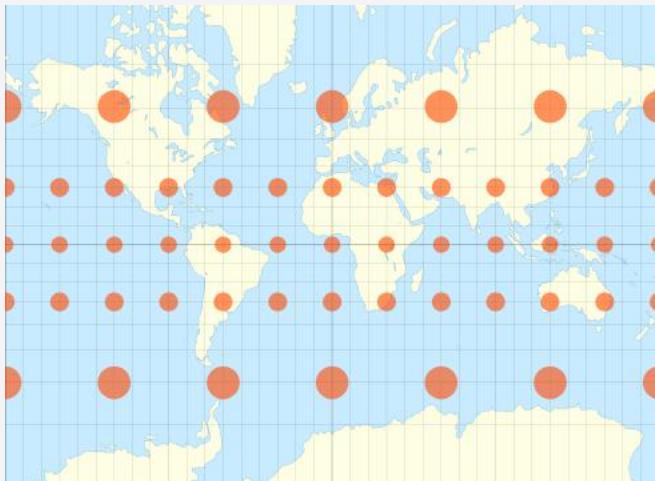
[amcharts.com/dataviz-tip-15-choose-map-projection](https://amcharts.com/dataviz-tip-15-choose-map-projection)



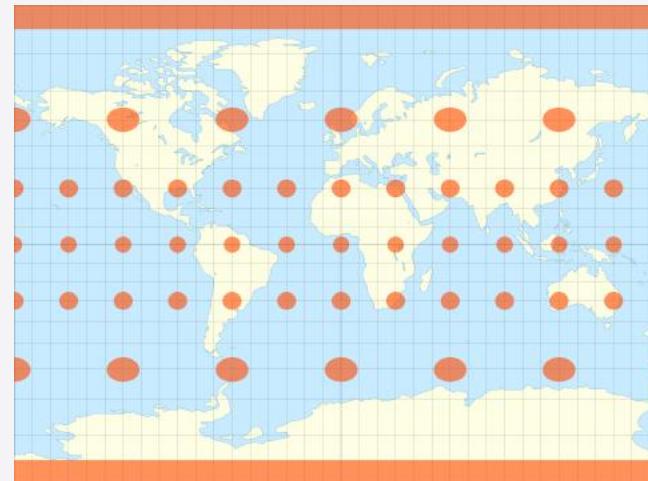
```
// Apply amCharts Themes for automatic animation  
am4core.useTheme(am4themes_animated);  
  
// Create map instance  
var chart = am4core.create(spaceDiv, am4maps.MapChart);  
  
// Set map definition  
chart.geodata = am4geodata_worldLow;  
  
// Set projection  
chart.projection = new am4maps.projections.Miller();
```

# Map Projections

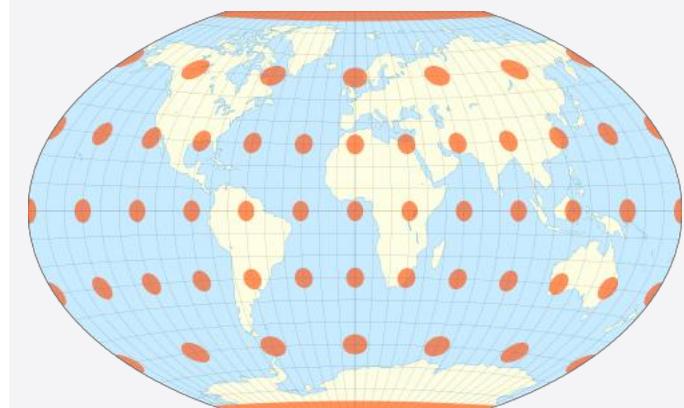
**Mercator**



**Miller Cylindrical**



**Winkel Tripel**



# Code - polygonSeries (Line 25 - 32)

MapPolygonSeries is a series of map polygon elements, used to display the country shapes on the map

Exclude Antarctica from the map to save space

```
// Create map polygon series  
var polygonSeries = chart.series.push(new  
am4maps.MapPolygonSeries());
```

```
// Exclude Antarctica  
polygonSeries.exclude = ['AQ'];
```

Make map load polygon (like country names) data from  
GeoJSON

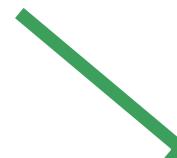
```
polygonSeries.useGeodata = true;  
polygonSeries.calculateVisualCenter = true;  
polygonSeries.mapPolygons.template.tooltipPosition = 'fixed';
```

# Code - polygonSeries (Line 25 - 32)

The series uses the imported geodata for country borders, names, & center point.

The country's information will be displayed in a tooltip in the country's center when the mouse hovers over.

```
// Create map polygon series  
  
var polygonSeries = chart.series.push(new  
am4maps.MapPolygonSeries());  
  
// Exclude Antarctica  
  
polygonSeries.exclude = ['AQ'];  
  
// Make map load polygon (like country names) data from GeoJSON  
  
polygonSeries.useGeodata = true;  
polygonSeries.calculateVisualCenter = true;  
polygonSeries.mapPolygons.template.tooltipPosition = 'fixed';
```



# Code - heatRules & template (Line 34 - 45)

Set the heatmap rules where areas with higher values will have color closer to max color value. The opposite case for areas with lower values.

The coloring is set to a logarithmic scale to handle extreme values.

```
//Set min & max fill color  
  
polygonSeries.heatRules.push({  
    'property': 'fill',  
    'target': polygonSeries.mapPolygons.template,  
    'min': am4core.color('#e5f5e0'),  
    'max': am4core.color('#31a354'),  
    'logarithmic': true  
});  
  
// Set tooltip with data to be displayed when hovered over  
  
var polygonTemplate = polygonSeries.mapPolygons.template;  
polygonTemplate.tooltipText = '{name}: ${value}';
```

min

max



# Code - heatRules & template (Line 34 - 45)

Make a change to the template to alter the map's behavior.

The tooltip is updated to display bound "name" data from the geodata, & "value" data from Kintone (explained on the next slide)

```
//Set min & max fill color
polygonSeries.heatRules.push({
  'property': 'fill',
  'target': polygonSeries.mapPolygons.template,
  'min': am4core.color('#e5f5e0'),
  'max': am4core.color('#31a354'),
  'logarithmic': true
});

// Set tooltip with data to be displayed when hovered over
var polygonTemplate = polygonSeries.mapPolygons.template;
polygonTemplate.tooltipText = '{name}: ${value}';
```



# Code - polygonData (Line 47 - 56)

Get data from Kintone Records & Fields, create a JSON object with it, and then pass it onto amCharts.

The **event object** contains data of all the records that are displayed in the record list.

```
// Create JSON obj from Kintone records & pass it onto amCharts
var polygonData = event.records.map(function (record) {
    return {
        // Country Code default field code = Text_0
        // Prize Money per Player default field code = Number_1
        'id': record.Text_0.value.toUpperCase(),
        'value': Number(record.Number_1.value)
    }
});

polygonSeries.data = polygonData;
```

# What are Event objects?

- In Kintone, an Event object refers to an object filled with **record data**, related to the Kintone event that the JavaScript customization is using.
  - The **event** object being used in JavaScript code contains all the data within the list view.
- Event objects contains the field values of the record(s) listed on the page.

```
kintone.events.on('app.record.index.show', function(event){ ... });
```

# What are Event objects?

The screenshot shows a kintone application interface. At the top, there's a yellow header bar with the kintone logo and the word "Administrator". Below it is a dark navigation bar with icons for home, search, and help. The main title "Map - LiveDemo.js" is displayed above a toolbar with filters and search functions. The central area features a world map where countries are colored green, indicating data points. Below the map is a table with the following data:

Record number	Country	Continent	Country Code	Total Earned Prize Money (\$)	Number of Players	Prize Money per Player
100	Albania	Europe	al	38621.6	22	1756
99	Algeria	Africa	dz	73040.04	40	1826
98	Argen...	South America	ar	3202331.29	579	5531
97	Armenia	Asia	am	224960.72	26	8652
96	Australia	Oceania	au	16796589.61	2198	7642
95	Austria	Europe	at	3749642.46	511	7338
94	Azerbaij...	Asia	az	R11R1 SR	RQ	Q12

In the top right corner of the browser window, the DevTools console tab is open, showing the following code snippet:

```
Event Object:  
  uc7export=view&id=1A-6EaPubFrWcrew9mX:6  
  uc7export=view&id=1A-6EaPubFrWcrew9mX:7  
  type: "app.record.index.show", appId: 64, viewType: "list", viewId: 20, viewName: "(All records)", ...
```

At the bottom right, there's a "Console" tab with a message about the Chrome 84 update.

# Code - polygonData (Line 47 - 56)

Field codes are used to extract data from the Kintone App.

Country Code's default field code is "Text\_0"

Prize Money per Player's default field code is "Number\_1"

```
// Create JSON obj from Kintone records & pass it onto amCharts
var polygonData = event.records.map(function (record) {
    return {
        // Country Code default field code = Text_0
        // Prize Money per Player default field code = Number_1
        'id': record.Text_0.value.toUpperCase(),
        'value': Number(record.Number_1.value)
    }
});

polygonSeries.data = polygonData;
```

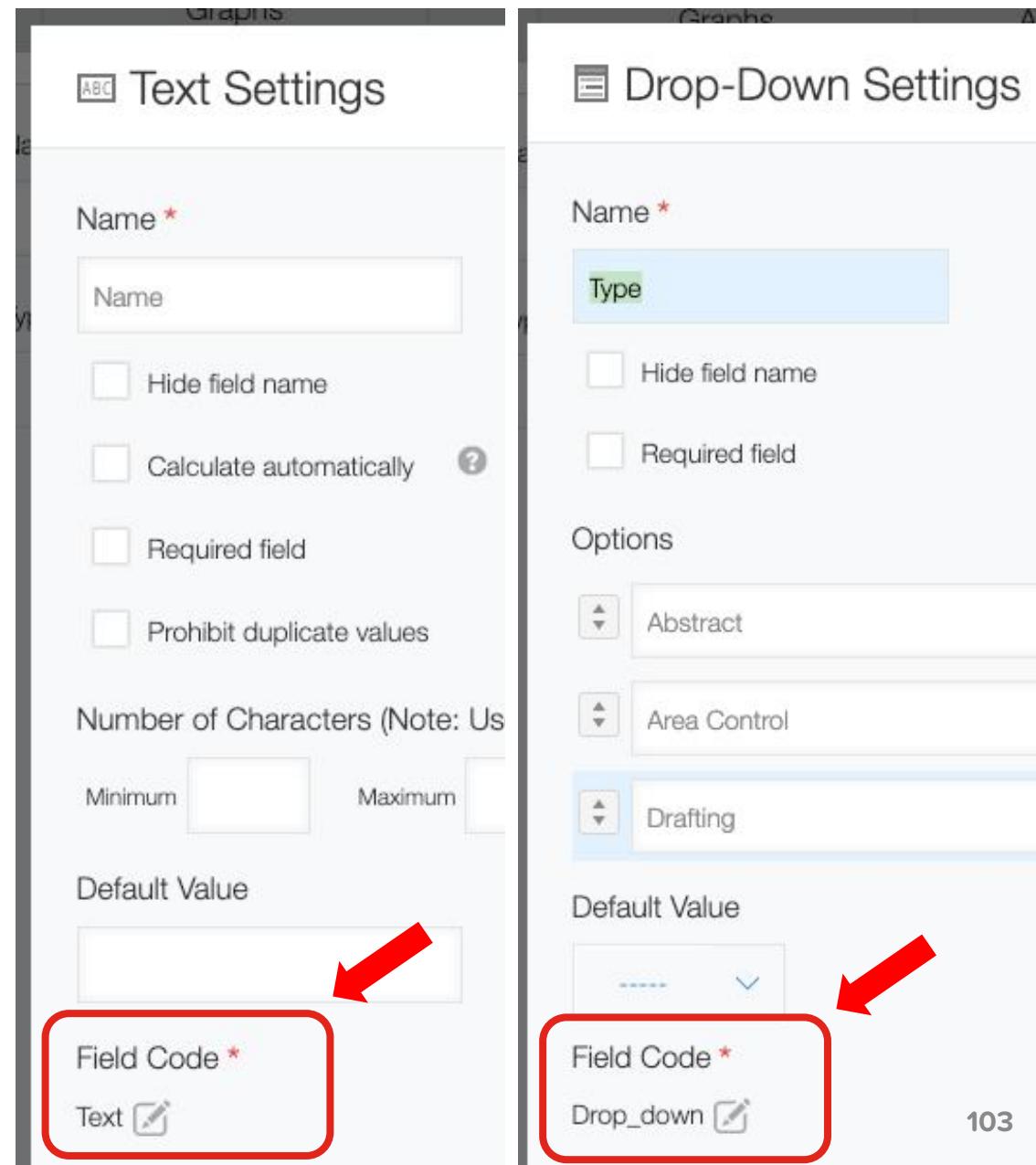


# Do You Remember?

The field code is the identifier for each field, represented as a string

- Name's field code = Text
- Type's field code = Drop\_down

These are the default field code values for their respective fields



# Code - polygonData (Line 47 - 56)

Apply the JSON object to the map.

This amCharts map likes the JSON in the following format:

```
[  
  {  
    id: "VN",  
    value: 3881  
  },  
  {  
    id: "VE",  
    value: 1450  
  },  
  ....etc....  
]
```

```
// Create JSON obj from Kintone records & pass it onto amCharts  
  
var polygonData = event.records.map(function (record) {  
  
  return {  
    // Country Code default field code = Text_0  
    // Prize Money per Player default field code = Number_1  
  
    'id': record.Text_0.value.toUpperCase(),  
    'value': Number(record.Number_1.value)  
  }  
});  
  
polygonSeries.data = polygonData;
```

# Code - exporting (Line 58 - 62)

Create and configure the amCharts exporting menu button.

Set it to the top left corner (avoiding overlap with zoom controls).

Exporting background is set to transparent.

```
// Enable export  
chart.exporting.menu = new am4core.ExportMenu();  
  
chart.exporting.menu.align = "left";  
chart.exporting.menu.verticalAlign = "top";  
  
chart.exporting.backgroundColor = am4core.color("#f00", 0);
```

# Code - Zoom Controls (Line 64 - 79)

// Create a zoom control

For better map navigation experience.

// Add Home button to reset zoom

The button will reset the viewing to the center.

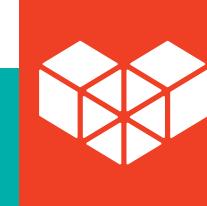
// Disable mouse wheel zooming

To prevent conflict when scrolling down to Kintone records below the map.

```
var zoomControl = new am4maps.ZoomControl();
chart.zoomControl = zoomControl;
zoomControl.slider.height = 100;
```

```
var home = chart.chartContainer.createChild(am4core.Button);
home.label.text = "Home";
home.align = "right";
home.events.on("hit", function (ev) {
    chart.goHome();
});
```

```
chart.chartContainer.wheelable = false;
```



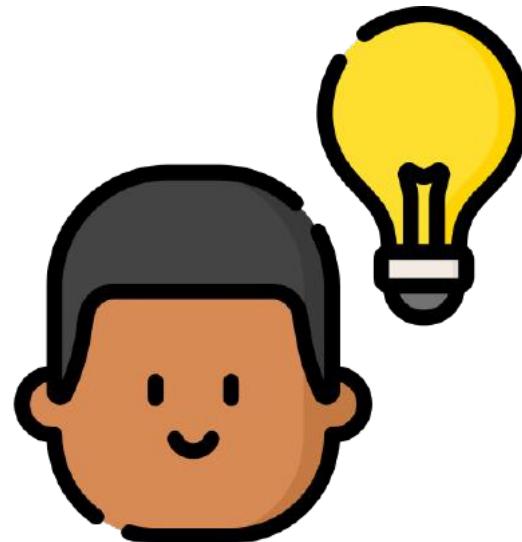
Any  
Questions?

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

# Today's Agenda

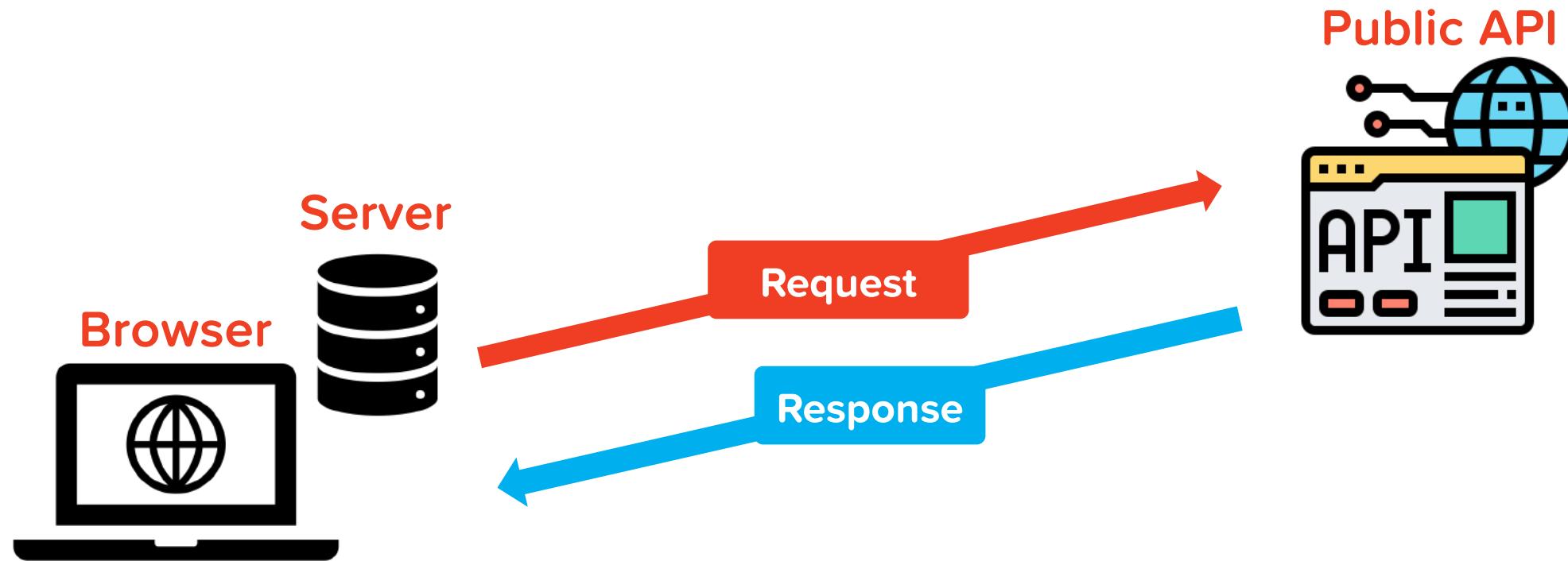
- 1 Get the Big Picture
- 2 Create a Kintone App
- 3 Display amCharts on Kintone
- 4 Call REST APIs from Kintone

# Since We Are Talking About Data



Wouldn't it be great, if we could get data from public APIs?

# REST API Calls From the Server



REST API calls are usually called through a server

# REST API Calls From the Browser

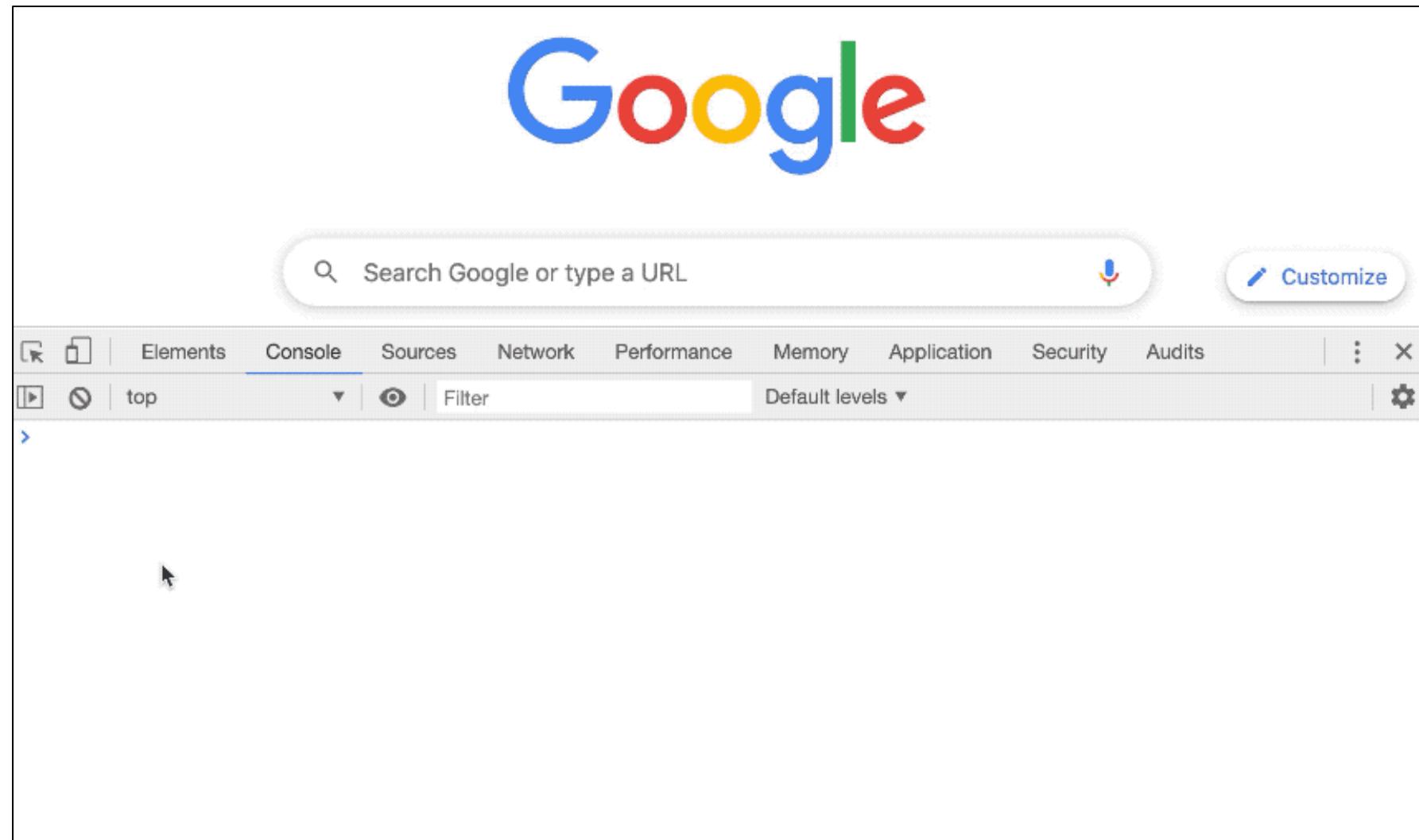


Calling REST APIs directly from the browser can often result in CORS errors

# CORS Error Example

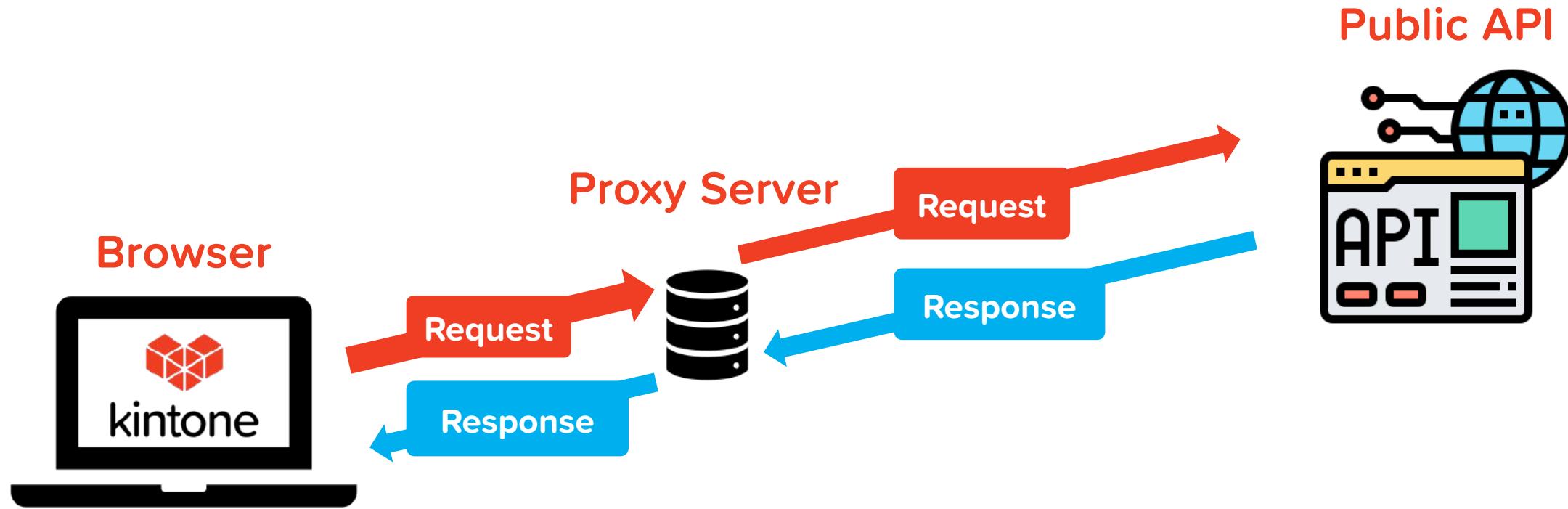


Yes, xkcd has an API for retrieving comic images.



A screenshot of the Google Chrome DevTools interface. The title bar shows "Google". Below it is a search bar with the placeholder "Search Google or type a URL". To the right of the search bar are icons for microphone and "Customize". The main menu bar includes "Elements", "Console" (which is underlined to indicate it's active), "Sources", "Network", "Performance", "Memory", "Application", "Security", and "Audits". Below the main menu is a toolbar with icons for refresh, stop, and reload, followed by "top", a dropdown arrow, and "Filter". A "Default levels" dropdown is also present. The bottom portion of the screen is a large, mostly empty white area where developer tools output would appear.

# REST API Calls from Kintone



The JavaScript codes on Kintone can call REST APIs by passing the call through a proxy server

# The REST API Initiator

Kintone has a method called **kintone.proxy()** that calls REST APIs from the client-side JavaScript without running into any CORS errors.

the API endpoint

the HTTP method

```
kintone.proxy(url, method, headers, data, callback, errback)
```

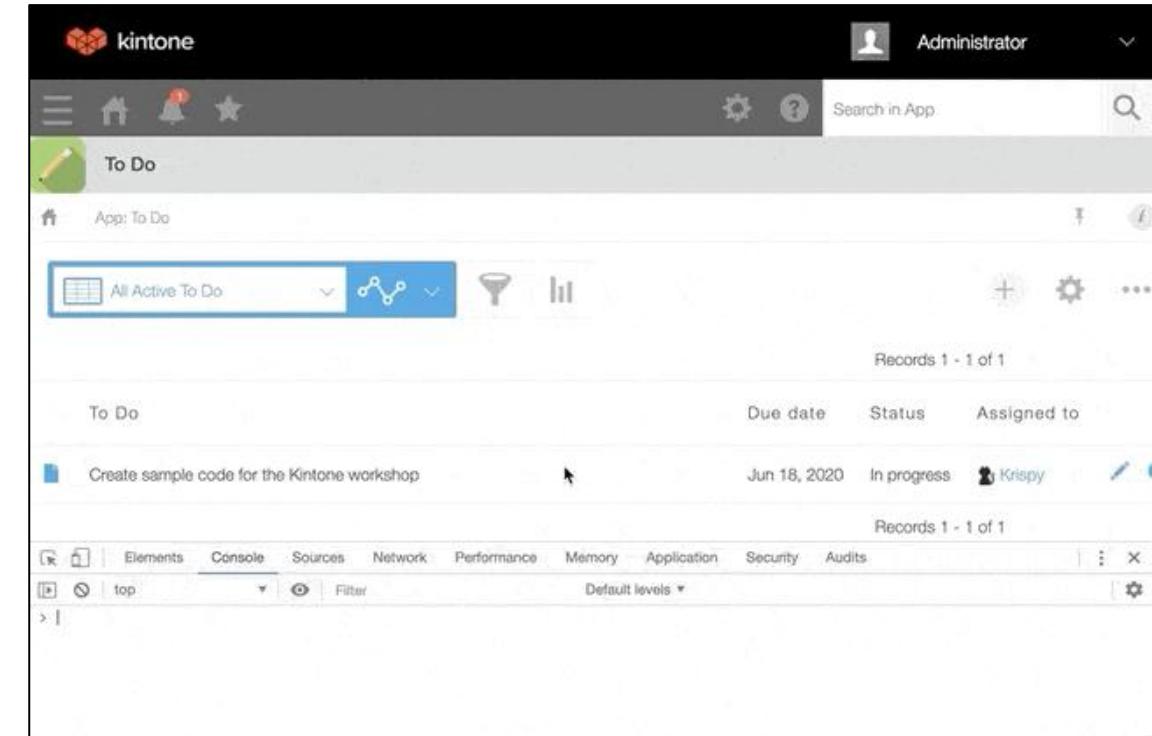
Callback functions – ignoring this  
will return a Promise object

the request header

the request body

# Example Call Result

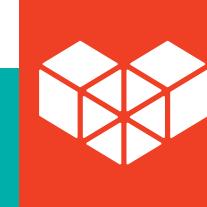
```
1  (function () {
2    'use strict';
3    var url = "https://xkcd.com/327/info.0.json";
4
5    kintone.events.on('app.record.index.show', function (event) {
6      kintone.proxy(url, 'GET', {}, {}, function (success) {
7        var jsonResponse = JSON.parse(success);
8        console.log(jsonResponse);
9        window.open(jsonResponse.img,"","width=800,height=200");
10      }, function(error) {
11        console.log(error);
12      });
13      return event;
14    });
15  })();
```



**kintone.proxy(url, method, headers, data, callback, errback)**

# Benefits of the REST API Initiator

- Similar to how the fetch method works, **kintone.proxy returns a promise** object
- **kintone.proxy** can be used on all browsers that Kintone is compatible with, **including IE**
- **REST API calls can be made from the browser without being blocked by CORS errors**



Any  
Questions?

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

# Wrap Up

## 1 Get the Big Picture

- Kintone is a **no-code/low code** cloud platform
- You can use your **free Kintone Developer License** for your projects

## 2 Create a Kintone App

- **Databases** can be created with **no coding**
- **Customize** any Kintone App with **JavaScript**

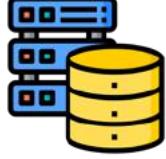
## 3 Display amCharts on Kintone

- Kintone Apps can **run JavaScript** files
- JavaScript files can **interact with data** stored in Kintone Apps

## 4 Call REST APIs from Kintone

- Front-end JavaScript can make **REST API calls**
- REST API calls from Kintone can **bypass CORS errors**

# Benefits of Using Kintone for Your Projects

-  There is no need to set up or maintain a server
-  Databases can be created easily with GUI
-  Front-end JavaScript can utilize the Database data
-  REST APIs can be called from Front-end JavaScript and avoid CORS errors

# Projects to Work On Next!

For Developers who want to try out more visualization projects on Kintone

Fancy Data-Viz

- Chart Types
- Column & Bar
- Line & Area
- Pie & Donut
- XY & Bubble
- Maps
- Candlestick & OHLC
- Stock
- TimeLine
- Pictorial
- Gauges
- Radar & Polar

Fancy Data-Viz

COVID-19 Spread Data

World Mar 25, 2020

Asia, Africa, South America, Europe, North America

Chart design inspired by Brian Davies

Coronavirus animated dashboard

IN 2019  
I CYCLED 3300 km.  
I SWIMMED 1000 m.  
I HIKED 1000 m.  
I SWAM 1000 m.

Chart design inspired by Brian Davies

Radar Chart visualizing yearly activities

COVID-19 U.S. Spread Data

United States (Total: Apr 01, 2020)

Chart design inspired by Brian Davies

Coronavirus animated dashboard

Chart design inspired by Brian Davies

There are many more charts you can use on the amCharts website:

<https://www.amcharts.com/demos/>

Try linking to different libraries & reuse the code we used in the workshop!

# Projects to Work On Next!

For Developers who want to create projects on Kintone,  
and want to retrieve and store data from public APIs

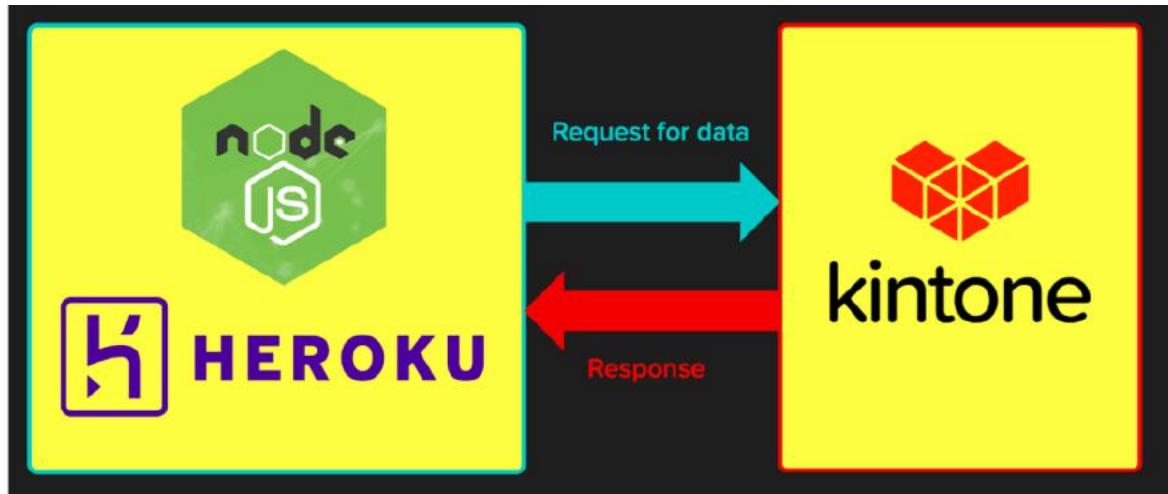
Health					
API	Description	Auth	HTTPS	CORS	
BetterDoctor	Detailed information about doctors in your area	apiKey	Yes	Unknown	
Covid-19	Covid 19 spread, infection and recovery	No	Yes	Yes	
Diabetes	Logging and retrieving diabetes information	No	No	Unknown	
Flutrack	Influenza-like symptoms with geotracking	No	No	Unknown	
Healthcare.gov	Educational content about the US Health Insurance Marketplace	No	Yes	Unknown	
Lexigram	NLP that extracts mentions of clinical concepts from text, gives access to clinical ontology	apiKey	Yes	Unknown	
Makeup	Makeup Information	No	No	Unknown	
Medicare	Access to the data from the CMS - medicare.gov	No	Yes	Unknown	
NPPES	National Plan & Provider Enumeration System, info on healthcare providers registered in US	No	Yes	Unknown	
Nutritionix	Worlds largest verified nutrition database	apiKey	Yes	Unknown	
openFDA	Public FDA data about drugs, devices and foods	No	Yes	Unknown	
USDA Nutrients	National Nutrient Database for Standard Reference	apiKey	Yes	Unknown	

You can find a list of APIs  
to call from the link below:

<https://github.com/public-apis/public-apis#index>

# Projects to Work On Next!

For Developers who want to use Kintone as a back-end database, and retrieve data via Kintone's REST API



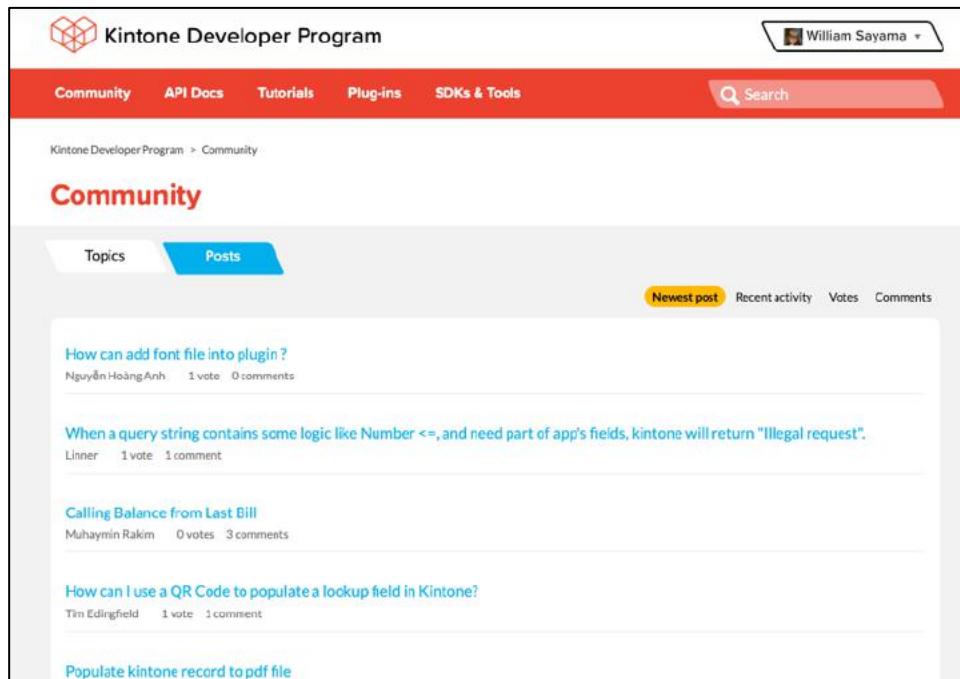
You can follow a tutorial where Node.js is used to call Kintone's REST APIs from the link below:

[https://dev.to/will\\_yama/deploy-a-rest-api-calling-node-js-app-to-heroku-2mia](https://dev.to/will_yama/deploy-a-rest-api-calling-node-js-app-to-heroku-2mia)

Finally

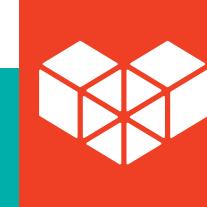
# Where Can I Get Help?

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 Muhaymin 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".





Any  
Questions?

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

# Our Upcoming Workshops!

Join us at the next Workshop! (PST)

- Thu | Dec 3<sup>rd</sup> - Build a **Bar Chart Race** Data Project

[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!**



**bit.ly/KDP\_Q**

