



Welcome to the

Bubble Cloud Workshop!



Recording will
be shared

**Download
Code & Slide**

bit.ly/KDP_Bubble

Click the top right
Download ZIP
button



**Sign up for
2x things**

KDP Account

bit.ly/KDP_signup

Developer License

bit.ly/K_DevLic



**Asking Questions
& Raising Hands**

Post questions in
the chat anytime!

Include your code
& error messages.





Instantly share code, notes, and snippets.



ahansel / 00_Bubble_Cloud_Workshop.md

Last active now

Star

5

Fork

0

Code

Revisions 46

Stars 5

Embed ▾

<script src="https://



Download ZIP

00_Bubble_Cloud_Workshop.md

Raw

Click here to download
EVERYTHING

No Server Data Visualization: Build a Bubble Cloud Project!

Thank you for attending our Kintone x Bubble Cloud workshop!

Use the following CSV file, CDN URLs, visualization.js, and PDF files 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!

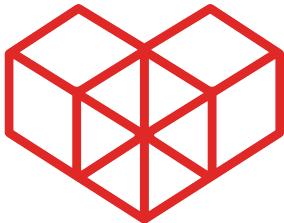
Scroll down to
view the other files

2x Accounts to Sign-Up for

1. Kintone Developer Program (KDP) Account



Sign Up for a KDP Account



kintone
developer program

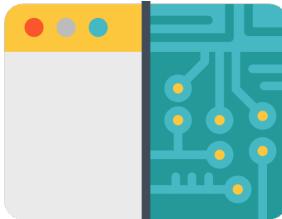
bit.ly/KDP_signup

⚠ Do NOT use Safari ⚠

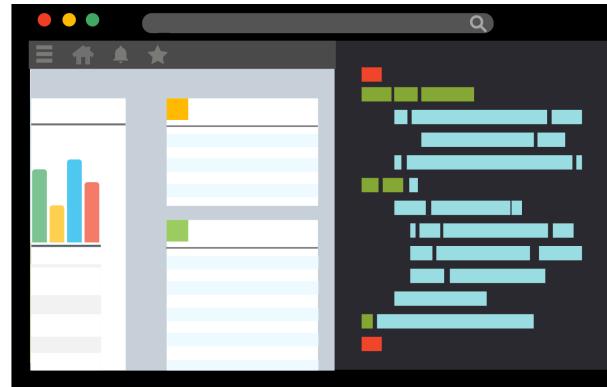
⚡ Accept Cookies First ⚡

✓ Chrome & Firefox works ✓

The screenshot shows a web browser window with the Kintone Developer Program sign-up page. The page has a light gray background with a yellow header bar. At the top left is the Kintone logo (red cube) and the text "Kintone". To the right is a search bar with a magnifying glass icon and the word "Search". Below the search bar is a large image of a giraffe's head with the word "Welcome" overlaid. To the right of the image, the text "The source of your ideas" is visible. A yellow sidebar on the right contains the text "What is the" and "Learn how to unlock". The main content area is titled "Sign up to Kintone Developer Program" with the sub-instruction "Please fill out this form, and we'll send you a welcome email so you can verify your email address and sign in." It includes fields for "Your full name *", "Your email *", and a reCAPTCHA section with a checkbox labeled "I'm not a robot". A large blue "Sign up" button is at the bottom.



Sign Up for a Developer License



Get a free Kintone environment
by signing up here:

bit.ly/K_DevLic

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](#)

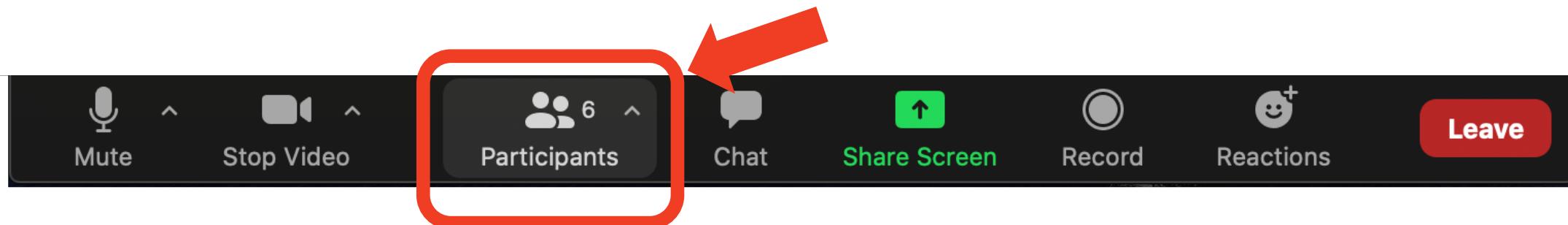


[Sign Up](#)



Let's Practice Raising Your Hand in Zoom

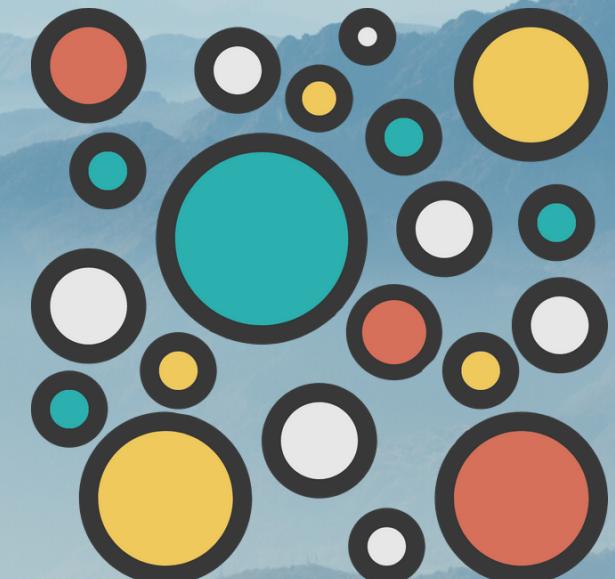
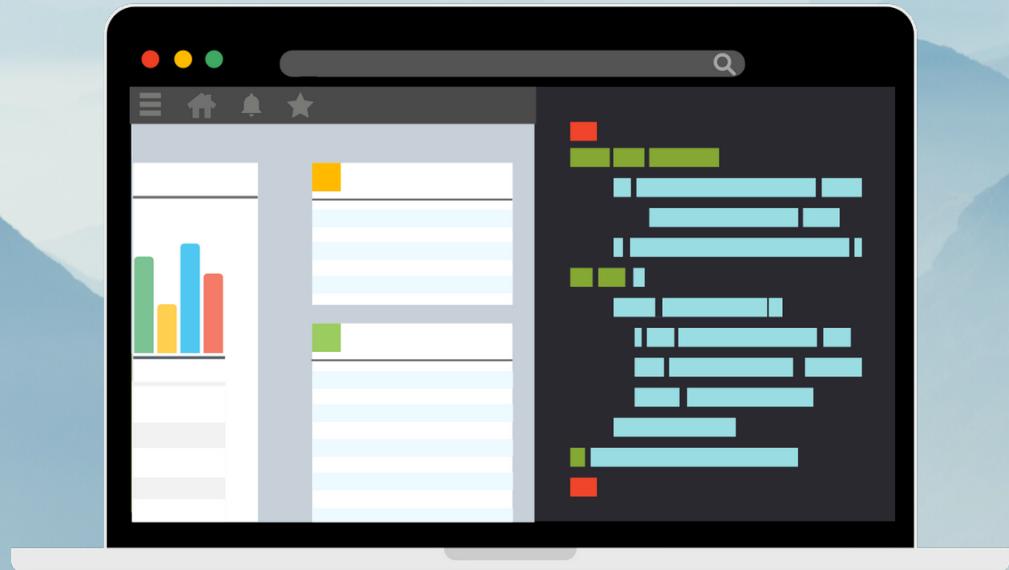
This helps us out who to look out for throughout this workshop.

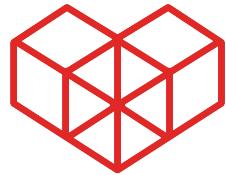




No Server Data Visualization

Build a Bubble Cloud Project!





Kintone Developer Program Team

Will, Genji, & Niki run
the Kintone
Developer Program!

The screenshot shows the homepage of the Kintone Developer Program. At the top, there's a navigation bar with links for Home, Community, API Docs, Tutorials, Plug-ins, and SDKs & Tools. A search bar is also present. Below the navigation, a banner features three animals: a giraffe, a lion, and an elephant, with the text "Welcome to the Kintone Developer Program" and "The source for API Docs, Tutorials, Tools, and Support for Kintone customizations". A yellow call-to-action button says "What is the Kintone Developer Program? Learn more →". At the bottom, there are three main sections: "Quick start" (with a user icon), "Community" (with a cloud icon), and "API Docs" (with a document icon).



@will_yama

Hi, I'm Will!

Name: William Akihiro Sayama

Role: Kintone Developer Advocate

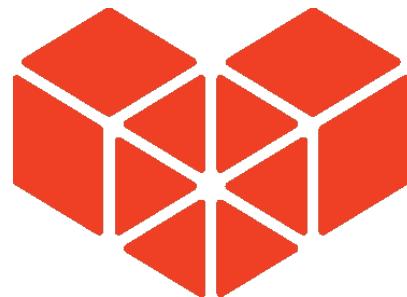
Languages: English, Japanese, JavaScript, C# (Unity)

Hobby: Badminton

A sport for Ladies
& Gentlemen



Overview of Today's Workshop



kintone

- ❑ We will build a visualization project together using Kintone
- ❑ Everyone will walk away with a project they can work on

This Workshop is For

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



I want to **concentrate** on
the **UI/UX** of my project!

Today's Agenda

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

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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?



Where did
that file go?

Missing - Unified Communication



Missing - Unified Communication

Data Silos

Information is not being shared effectively

Scattered Communication
Unclear where the conversation is happening

Where Kintone is Special!



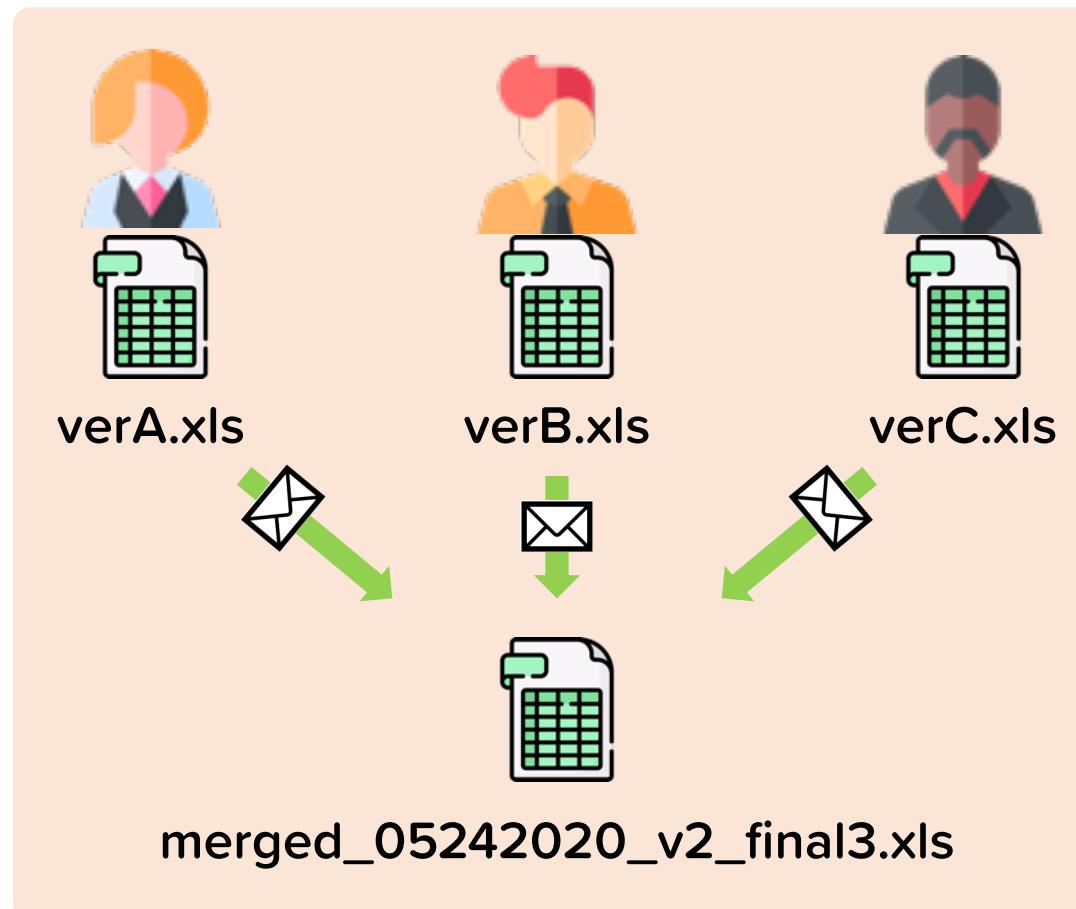
What is Kintone?

The screenshot displays the Kintone interface with a green header labeled "Sales". On the left, there's an "Announcement" section and a "Customer Database" card. The main area features a "Sales Leads" card with a bar chart and a "Contact Log" card with a counter. Below these are two large cards: a "Dashboard" card showing monthly sales leads and a "Threads" card listing recent activity from "Deal Flow", "Sales Division", and "Monthly Reports". To the right, there's a "Public Space" section with a "Threads" board, an "Apps" list, and a "People" section showing member profiles.

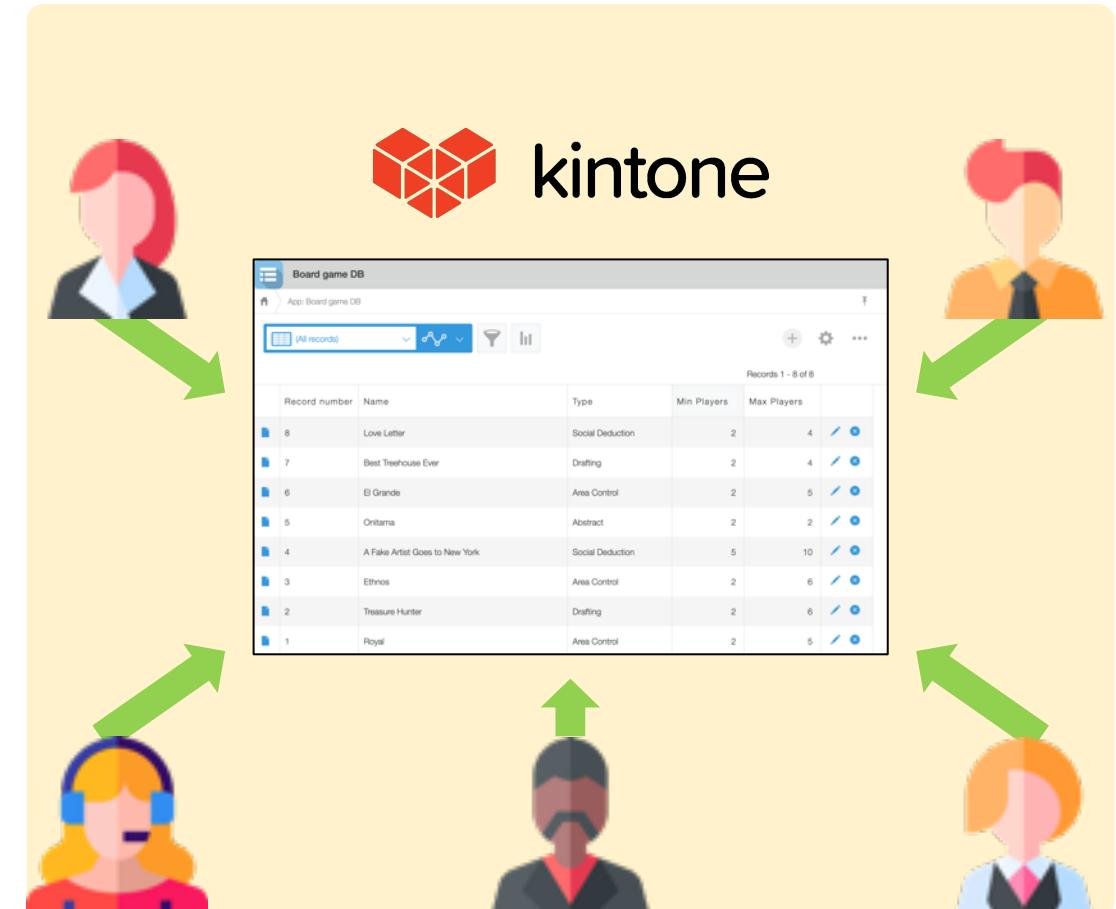
Kintone is a **no-code / low-code** cloud platform for teams to easily share and **collaborate** on their **data** efficiently.

Sharing Data With Teams Is Easier

When sharing data is hard

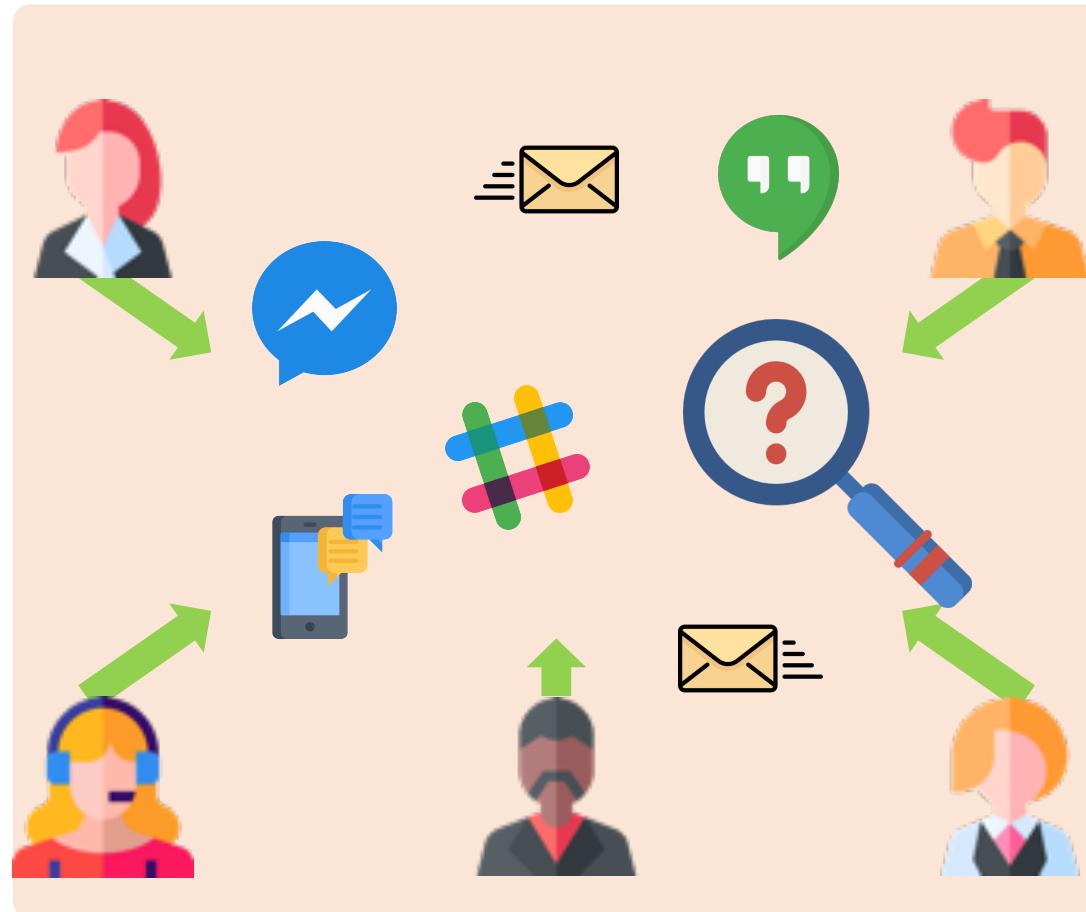


When sharing data is easy



Keep Your Conversations Accessible

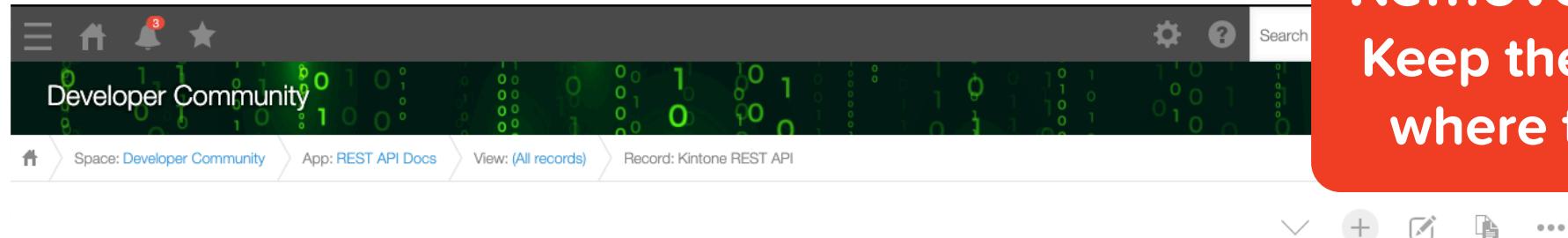
When communicating is hard



When sharing data is easy



What is Possible?



Where
Data
Lives

A screenshot of the REST API Docs application. It 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 includes a table comparing "Before" and "After" states of a document. The "Before" state shows a link to "apis.{key}.link", while the "After" state shows a corrected link. The "Fix Details" column notes "Fixed the GET API List API link" and "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 feed. It starts with a message from Clare (@Clare - Support) at 1:29 AM on Aug 27, 2020, saying "Done!". This is followed by a message from Sharon (@Sharon - Developer @Genji) at 1:28 AM, saying "Oh, shoot, thanks for catching my mistake!". Clare replies at 1:27 AM, asking Genji to fix the link. Genji responds at 1:27 AM, asking Clare to take a look at the document.

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

What is Possible?

Workflow
Loop the right
people at the
right time

The screenshot shows a software interface with a dark header bar featuring binary code. The header includes icons for home, notifications (5), star, gear, question mark, and search. Below the header, the title "Developer Community" is displayed, followed by navigation steps: "Space: Developer Community", "App: KDP Event", "View: Summary", and "Record: No Server Data Visualization: Build a Word Cloud Data Project".

A modal window titled "Assign Reporter" is open in the foreground. It contains fields for "Next Status" (set to "Writing Report") and "Select Assignee". The assignee "Clare - Support" is selected and highlighted with a blue border. Other options include "Genji", "Sharon - Developer", "John - Manager", and "Clare - Support". At the bottom of the modal are "Cancel" and "Confirm" buttons.

The main workspace shows a summary card for "No Server Data Visualization: Build a Word Cloud Data Project". The card includes sections for "Community", "Data Project", "Support", and "Event Image". The "Support" section lists "Genji", "Sharon - Developer", "John - Manager", and "Clare - Support".

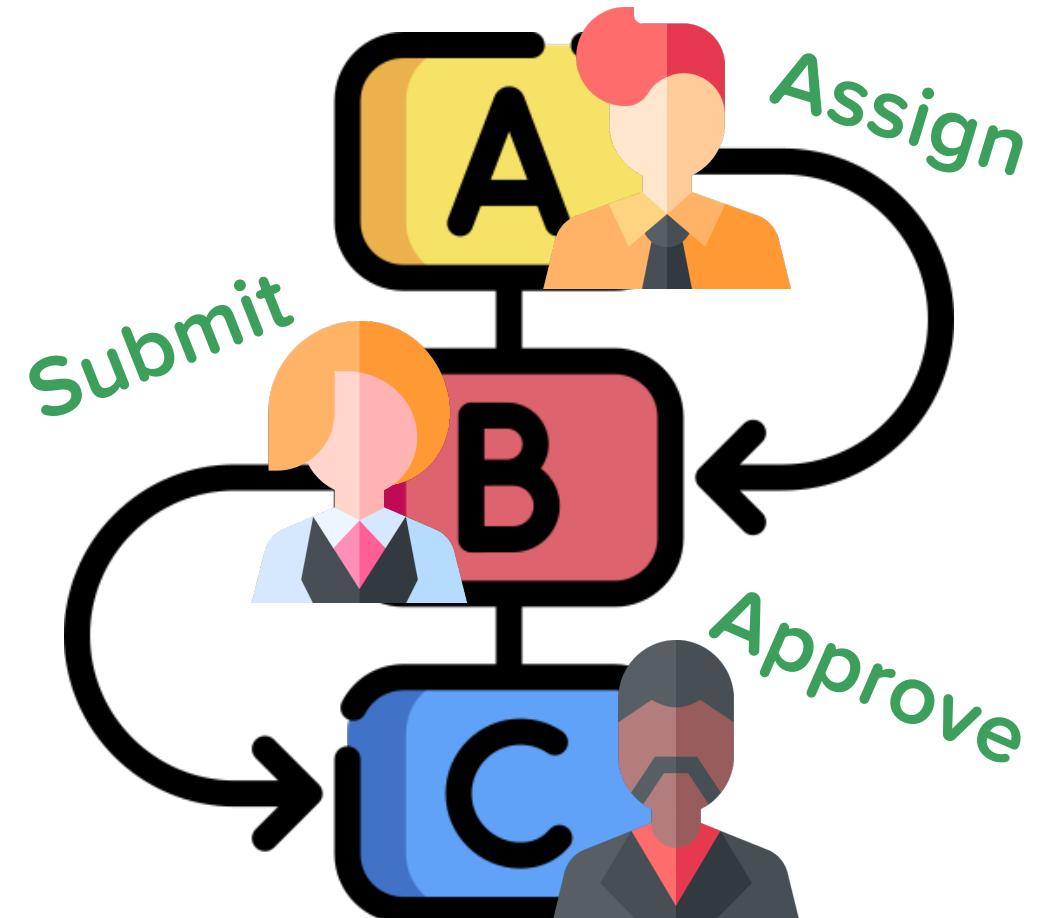
To the right, a comment stream is visible. A comment from "John - Manager" (@Genji) says: "Assign this event's report writing to @Clare - Support". This comment has 1 like and 1 reply. Another comment from "Genji" (@Sharon - Developer) says: "Thanking for putting together such a great workshop content!". This comment also has 1 like and 1 reply.

Collaboration Done Right

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

Common uses:

- Expense report
- Legal document review
- Hiring process



Control the Data - Permissions

Control exactly who to share the data with. The granular permission controls can be configured to the Apps, the Records, or even at Field-by-field basis.

These permissions can be applied to individual Users, Groups, and or Departments.



Everyone Contributes!

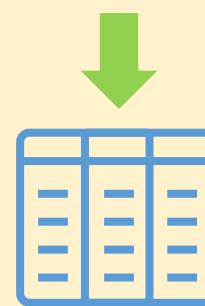
As a **no-code & low-code platform**, Kintone supports non-coders with visual programming UI while enabling sophisticated customization



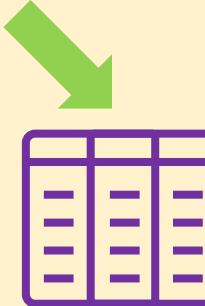
Business users can
create Apps that they
need without coding



Product
Catalog



Knowledge
Base



Job
Vacancies



Developers can
enhance the Apps
with JavaScript



Kintone Apps

The screenshot shows the Kintone Shared To Do app interface. At the top, there's a navigation bar with icons for home, notifications (15), and search. Below it is a header bar with a gear icon, a refresh icon, a close button, and a search bar labeled "Search in App". The main title is "Shared To Do" and the subtitle is "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." Below this is a toolbar with buttons for "My To Do" (selected), a graph icon, a funnel icon, and a list icon. On the right side of the toolbar are buttons for "+", settings, and three dots. The main area displays a table titled "Records 1 - 5 of 5". The columns are: To Do, Priority, Due date, Status, Details, and Attachment. The data rows are:

| 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 area, 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

The screenshot shows the Kintone app builder interface for a 'Sales & Leads' application. The top navigation bar includes 'Sales & Leads > Settings' and a timestamp 'Last Updated: Mary Simpson 12:10 AM'. Below the title, there are tabs for 'Form', 'Views', 'Graphs', and 'App Settings', with 'App Settings' currently selected. A green 'Save Form' button is visible. The main area displays a form titled 'Leads & Sales' with fields for 'Lead Title' and 'Sales Representative'. Under 'Contact Info', there are fields for 'Company Name' and 'Website', with 'Lookup' and 'Clear' buttons. Below that are fields for 'Contact Name' and 'Job Title'. At the bottom, there are fields for 'Email' and 'Telephone Number'. A footer row contains columns for 'Product Name', 'Product ID', 'Unit Price', and 'Quantity'.

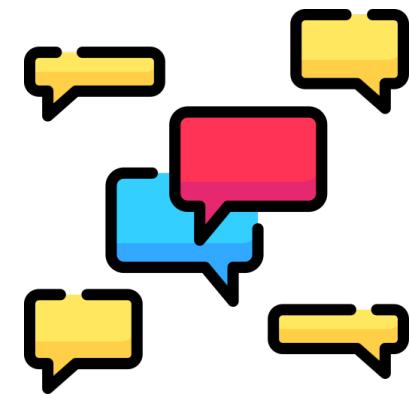
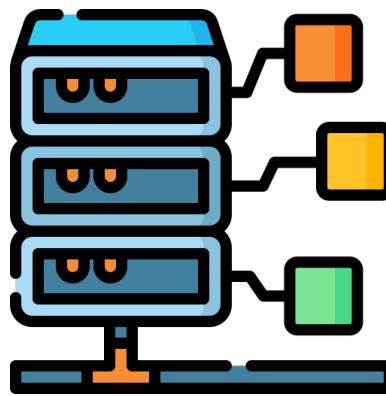
Apps are easy to **create** using a **drag-and-drop** interface with no coding needed.

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

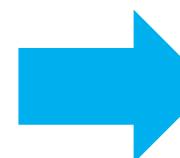
Fulfill the Promise of Data Analytics

Gain meaningful insights about the data that become operationalized quickly.

Data + Communication



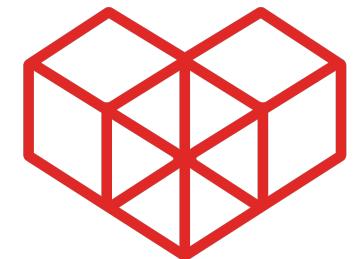
Insight



Action



How Developers Contribute

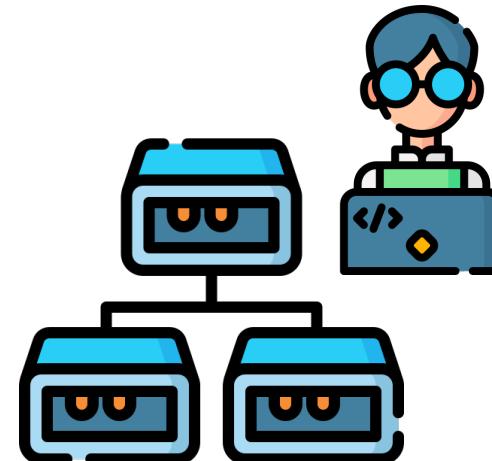


kintone
developer program

How Developers Contribute

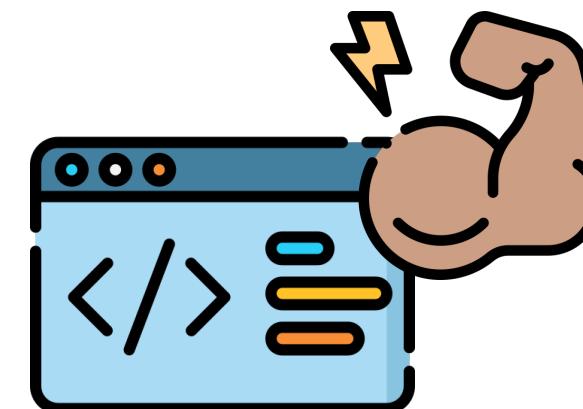
Command Center

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



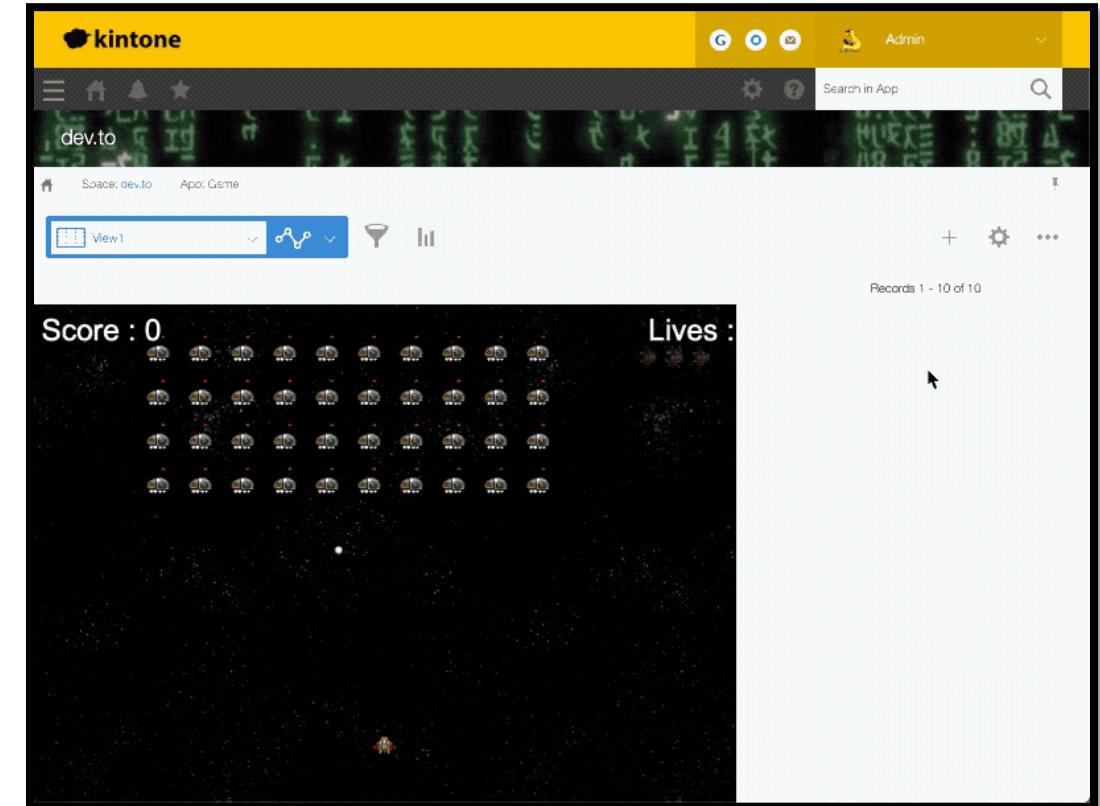
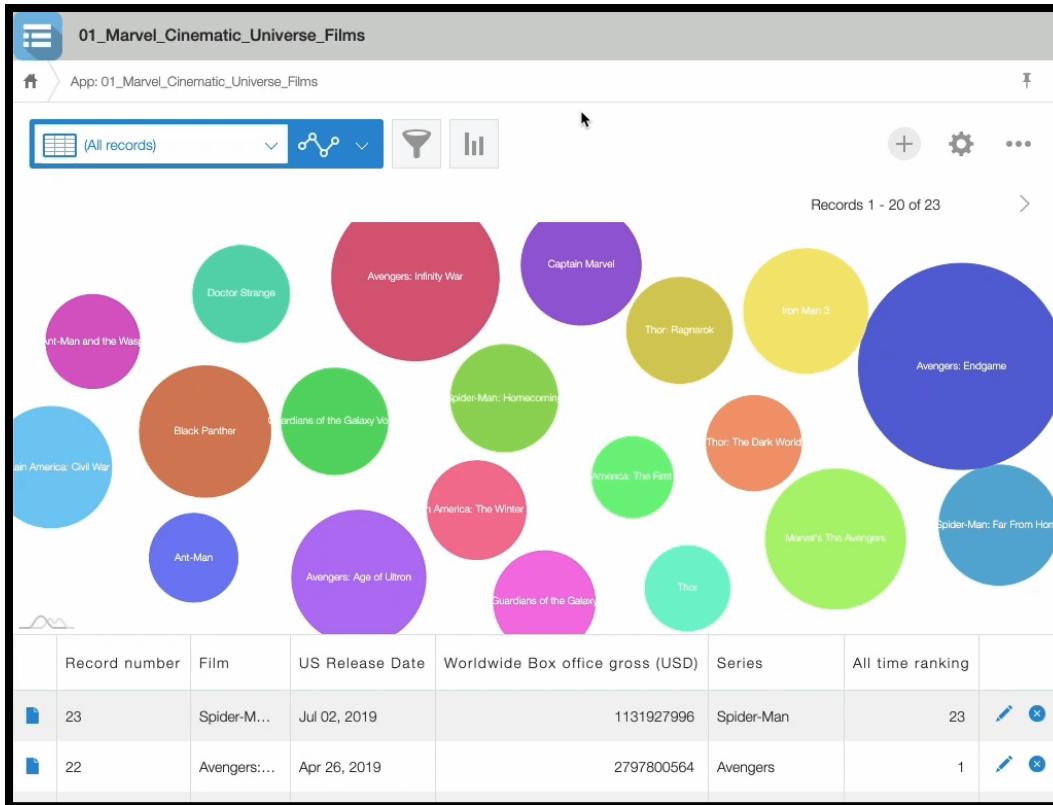
Enhancements

- Develop JavaScript customizations
- Build & share extensions



Create a Custom Look and Feel

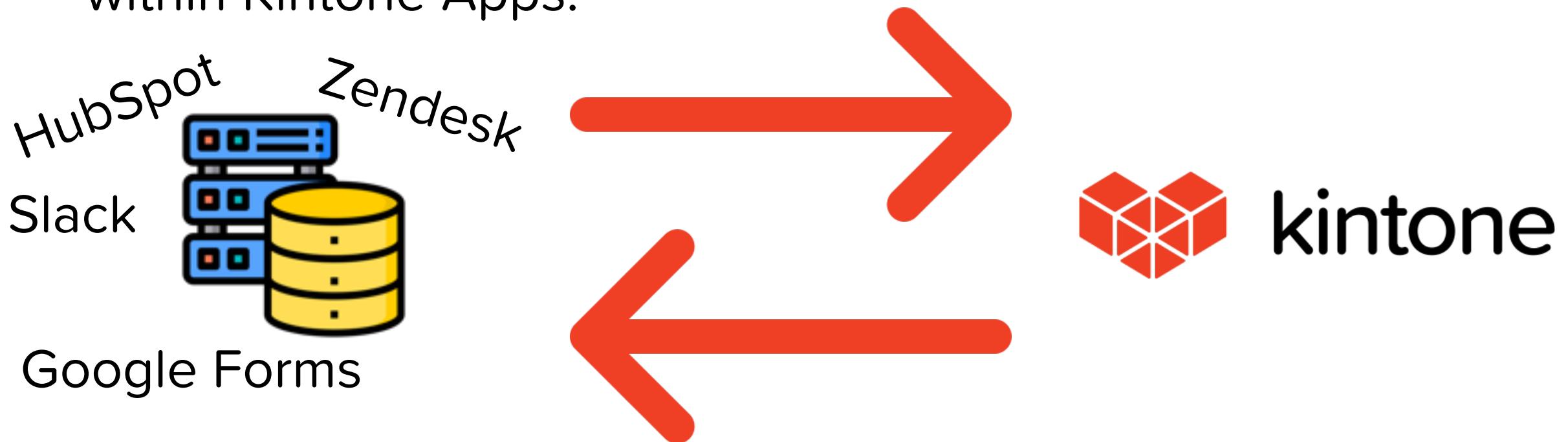
Display data the way you want with HTML, JS, and CSS



Integrate with 3rd Party Web Applications

Have all your business platforms **talk with Kintone!**

Call Kintone's REST APIs to create, read, and update data within Kintone Apps.



Integrate with 3rd Party Web Applications

Kintone can **talk with other apps** and servers!

Send data to an external server through **outbound webhooks** whenever records are created, updated, deleted, moved along in a workflow, or commented on.



```
"id": "01234567-012389ab",
"type": "ADD_RECORD",
"app": {
    "id": "1",
    "name": "Project management"
}
```

Record Data



Integrate with 3rd Party Web Applications

Integrate with 3rd parties **securely!**

API Tokens can be generated to grant access to each Kintone App with limited permissions.



Board game DB

App: Board game DB

(All records) Filter Chart

Records 1 - 8 of 8

| Record number | Name | Type | Min Players | Max Players | Actions |
|---------------|--------------------------------|------------------|-------------|-------------|---------|
| 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 | |

Share Your Enhancements With Non-coders

Plug-ins are custom JavaScript and CSS packages that business users can install and configure themselves.

Category: Plug-in

Date input button Plug-in



Details

Version: 1

Date Field *
Select a date field where the date will be inserted into.

Submission date

Button Space Field *
Select a Blank space field where the button will be displayed.
Blank space fields must have their Element IDs set in the Form settings.

space_for_button

Title

App Creation Doc

Submission date

Product Feature

Apps
 Spaces
 People

Assignee

Kintone For Self Learning



Keep learning new
JavaScript tricks!

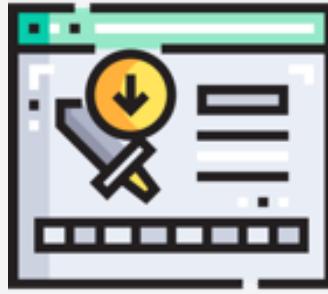


Contribute your
learnings to tech
blogs



Share your
projects with your
community!

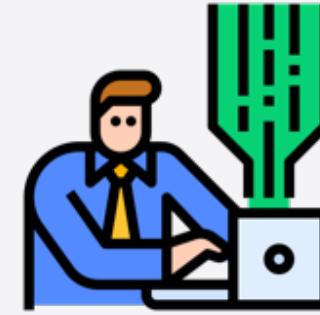
Kintone For Creating Revenue



Create & sell
Kintone
extensions



Consult with firms
on achieving
business goals



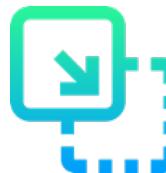
Develop Kintone
customizations for
customers

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

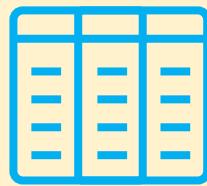
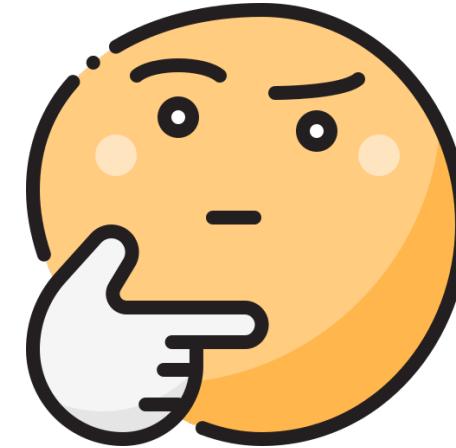
Today's Agenda

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

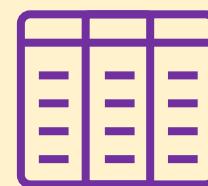
Amazon Gift Card
Raffle at the end!

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

What sort of database shall we make?



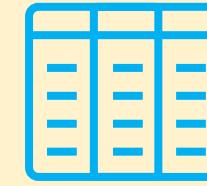
Employee List



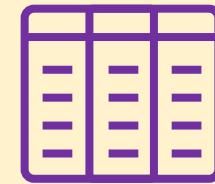
CRM



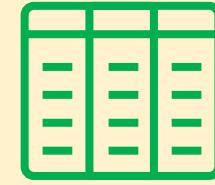
Expense Report



Company FAQ



Board Game DB



Lunch DB

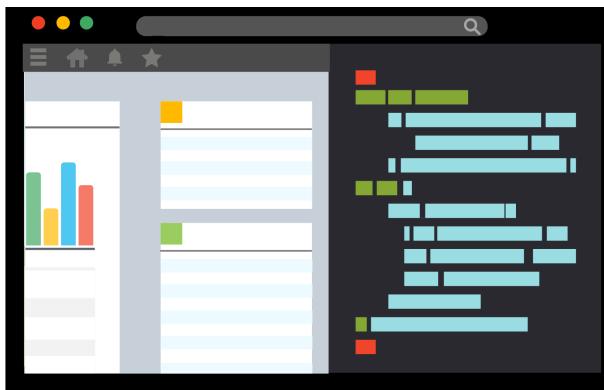


Hands-On Walk-Through

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



Sign Up for a Developer License



Get a free Kintone environment
by signing up here:

bit.ly/K_DevLic

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](#)

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."

https://{{your_subdomain}}.kintone.com

The screenshot shows a web browser window with the URL "https://{{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.

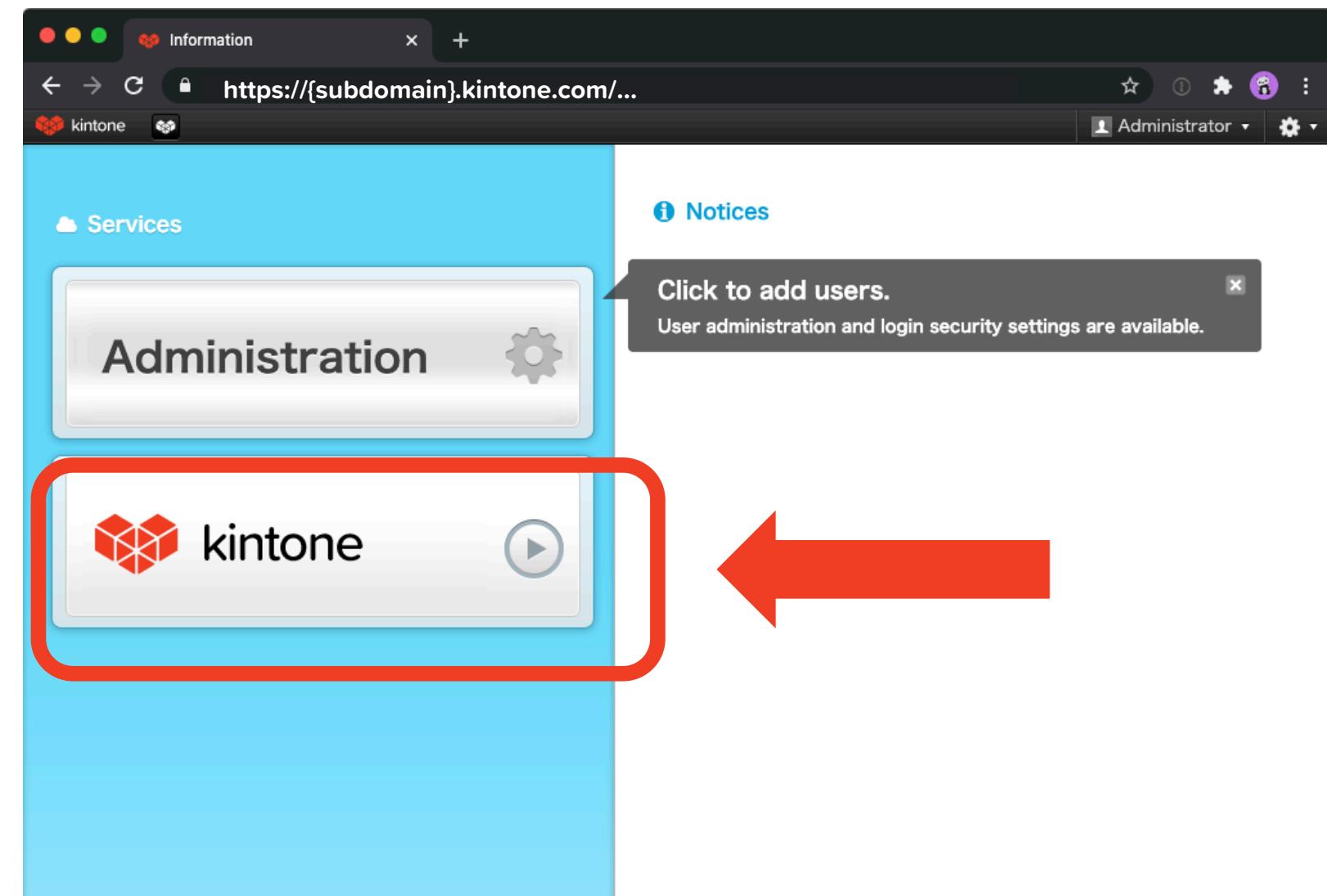


Let's Log into Kintone

Click on Kintone button
on the Left side

[https://\[subdomain\].kintone.com](https://[subdomain].kintone.com)

Note: Details of your domain and log in
details should be in your email!





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. The left sidebar is visible, featuring sections for Announcement, Spaces, and Apps. A red arrow points to the 'Add New App' button in the Apps section, which is highlighted with a red square. The main content area displays a welcome message and instructions for using the Announcements dashboard.

Announcement

Welcome to Kintone!

Kintone is your teamwork platform that gives you a visual application builder to build custom applications easily and empowers you, your teams, and your organization to effectively manage your data and workflows with better, more centralized collaboration.

How to use Kintone

- How to use the Announcements dashboard

This dashboard is where Administrators can post announcements, reports, and more to team members.

How to use the Announcements dashboard

Aug 8, 2017 11:00 AM Administrator

Spaces

Joined Spaces

(None) All Spaces

Apps

All Apps

(None) Add New App

Notifications

All Unread Read

No notifications to show.



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 buttons: "Create App from Scratch" (which is highlighted with a red arrow and a red box) 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

Kintone Marketplace > New App > Settings

Board Game DB

Discard Activate App

Form Views Graphs App Settings

Save Form

| | |
|---------------|------------|
| Label | Text |
| Rich text | Text area |
| Number | Calculated |
| Radio button | Check box |
| Multi-choice | Drop-down |
| Date | Time |
| Date and time | Attachment |

Drag and drop fields here.

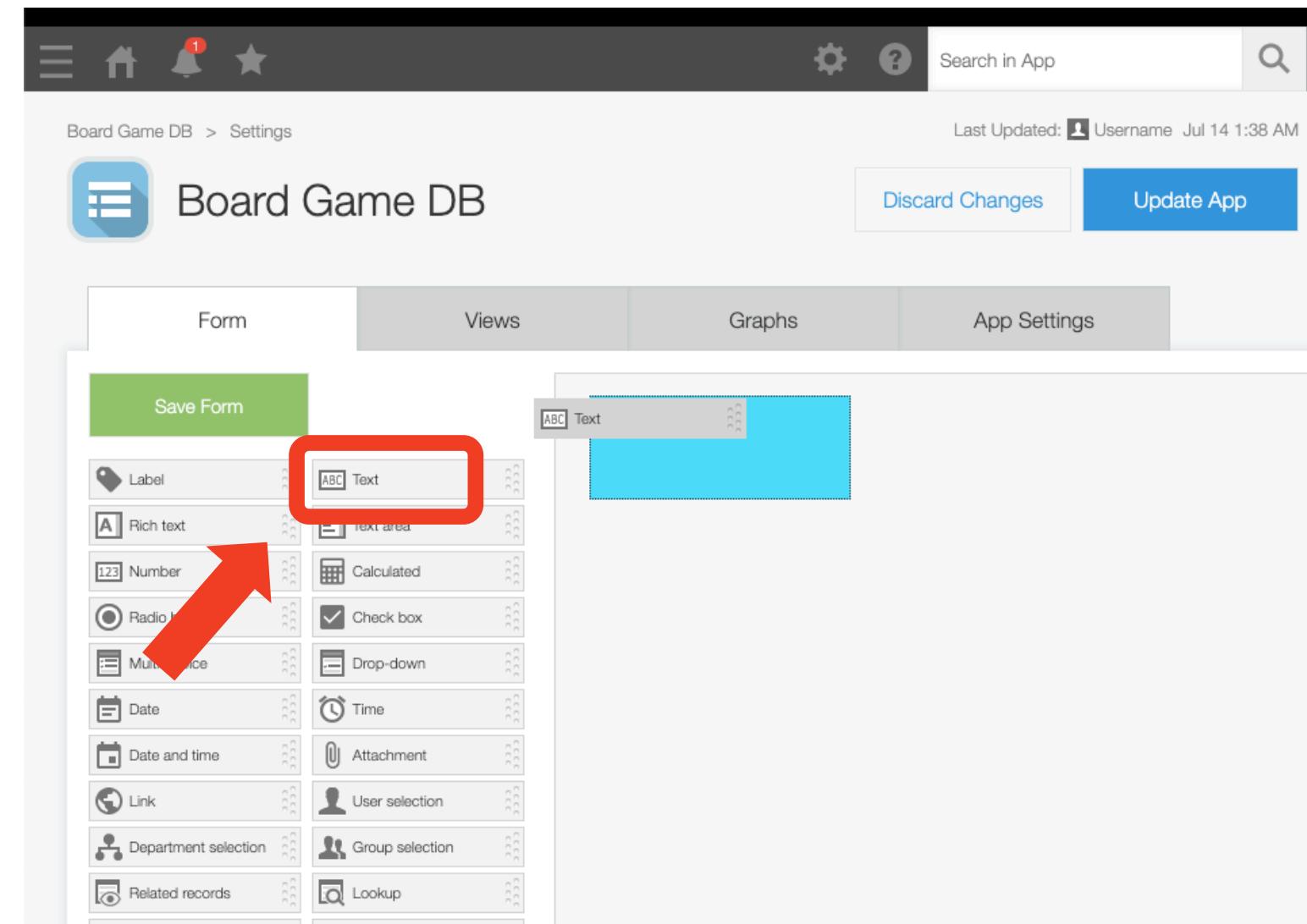


Drag and Drop the Text Field

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



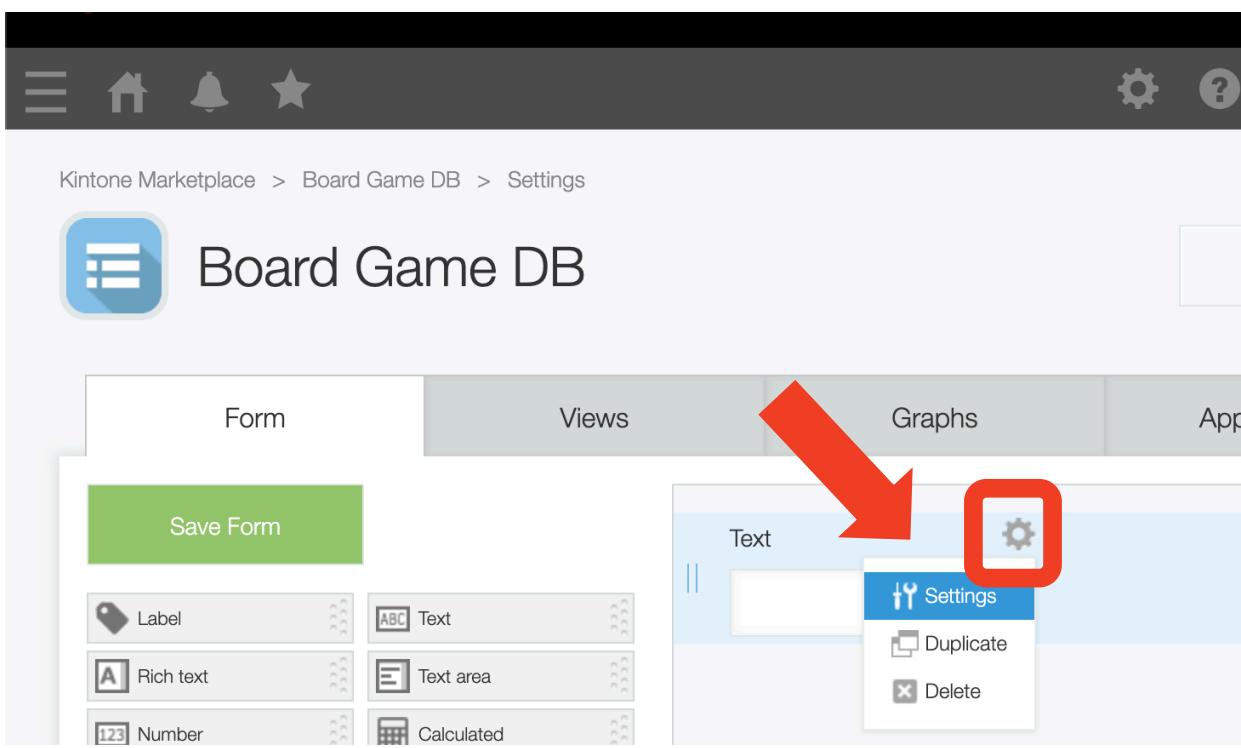


Configure the Text Field

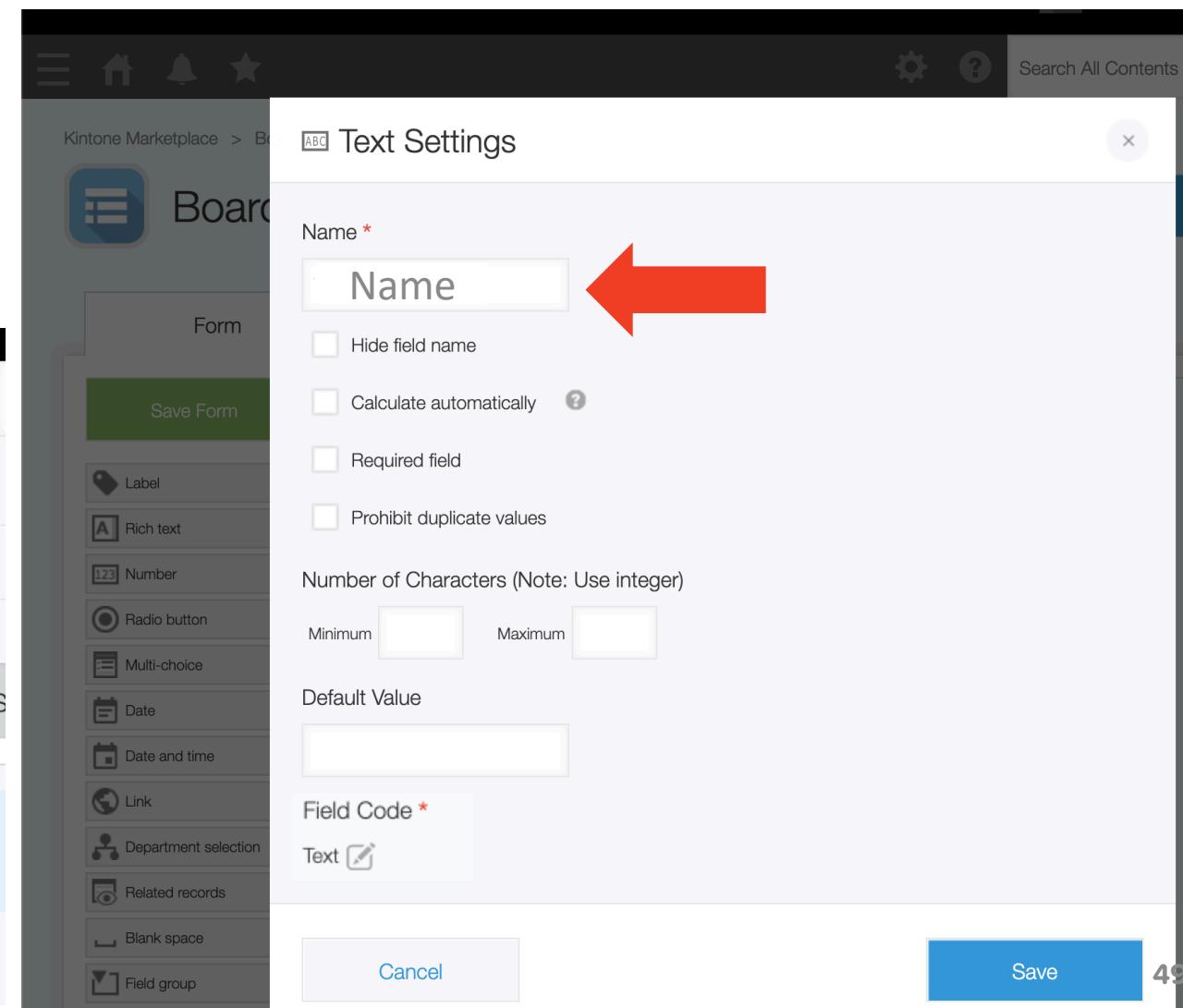
Hover over the [ABC] Text field

> Click on the Gear icon 

> Replace Text with Name



This screenshot shows the Kintone app settings interface for the 'Board Game DB' application. The top navigation bar includes icons for Home, Settings, and Help, along with a search bar labeled 'Search All Contents'. Below the navigation is a breadcrumb trail: 'Kintone Marketplace > Board Game DB > Settings'. The main area features tabs for 'Form', 'Views', 'Graphs', and 'App S'. A green 'Save Form' button is prominent. In the center, there's a list of field types: Label, Rich text, Number, Radio button, Multi-choice, Date, Date and time, Link, Department selection, Related records, Blank space, and Field group. A 'Text' field is selected, indicated by a red arrow pointing to its gear icon. A context menu for the 'Text' field is open, showing options: 'Settings' (highlighted in blue), 'Duplicate', and 'Delete'.



This screenshot shows the 'Text Settings' configuration dialog. At the top right are 'Cancel' and 'Save' buttons. The main area starts with a 'Name' input field containing 'Name', which is highlighted with a red arrow. Below it are several checkboxes: 'Hide field name', 'Calculate automatically', 'Required field', and 'Prohibit duplicate values'. There's also a section for 'Number of Characters (Note: Use integer)' with 'Minimum' and 'Maximum' input fields. Under 'Default Value', there's a text input field. At the bottom is a 'Field Code' section with a 'Text' input field and a pencil icon. On the left side of the dialog, a sidebar lists various field types: Label, Rich text, Number, Radio button, Multi-choice, Date, Date and time, Link, Department selection, Related records, Blank space, and Field group.



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, search, and settings, and a message 'Last Updated: [User] Jul 14 1:38'. Below the navigation bar, the title 'Board Game DB' is displayed next to a blue icon. On the right, there are buttons for 'Discard Changes' and 'Update App'. The main area has tabs for 'Form', 'Views', 'Graphs', and 'App Settings', with 'Form' selected. A green button labeled 'Save Form' is visible. To the right of the tabs, there is a section for 'Name' with an input field. On the left, there is a list of field types with their corresponding icons: Label, Text, Rich text, Text area, Number, Calculated, Drop-down, Radio button, Check box, Multi-choice, Drop-down, Date, Time, Date and time, Attachment, Link, User selection, Department selection, Group selection, and Person selection. The 'Drop-down' field type is highlighted with a blue selection box.



Configure the Drop-down field

Hover over the **Drop-down** field

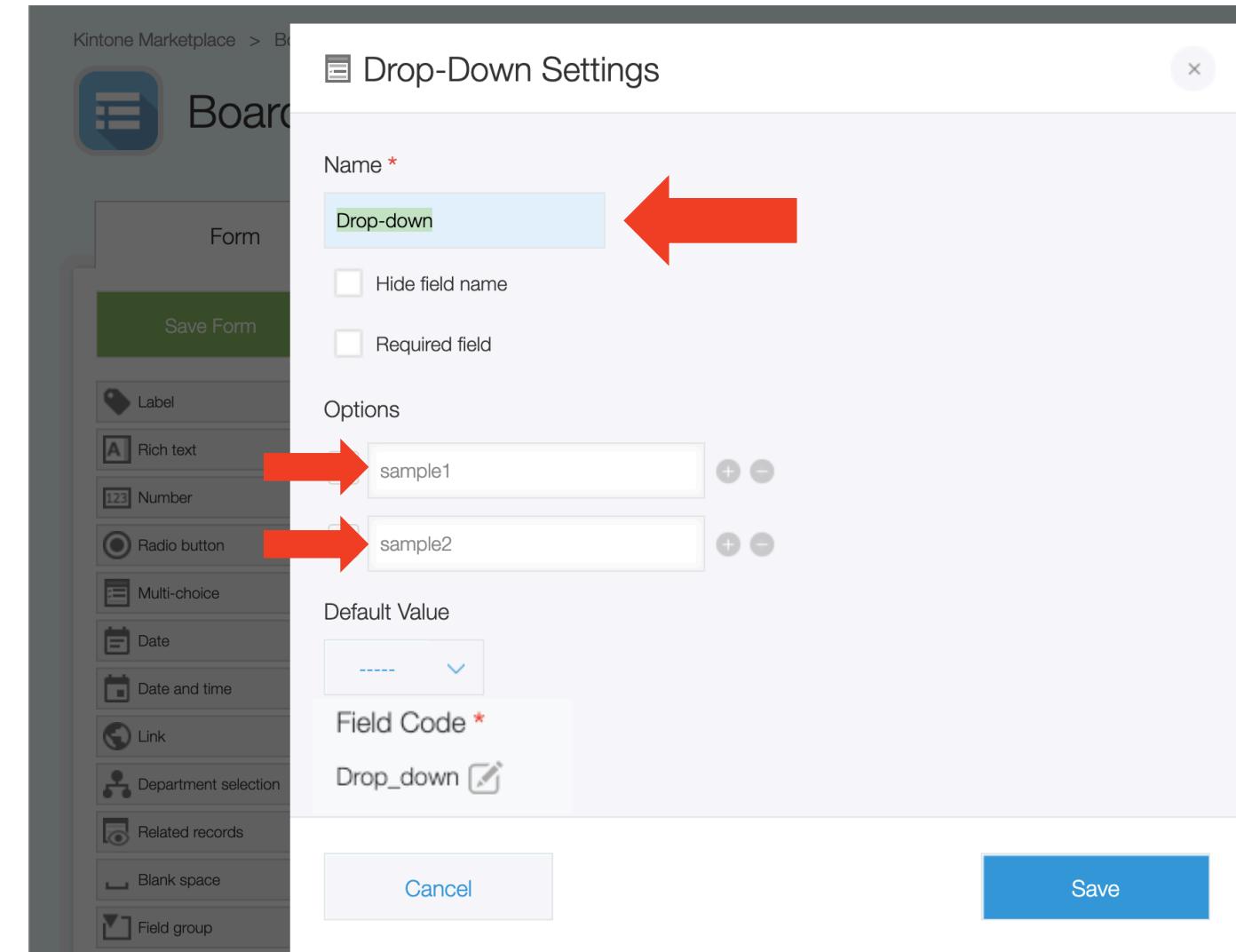
> Click on the Gear icon 

Replace the following text:

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

> "sample1" with **Abstract**

> "sample2" with **Area Control**





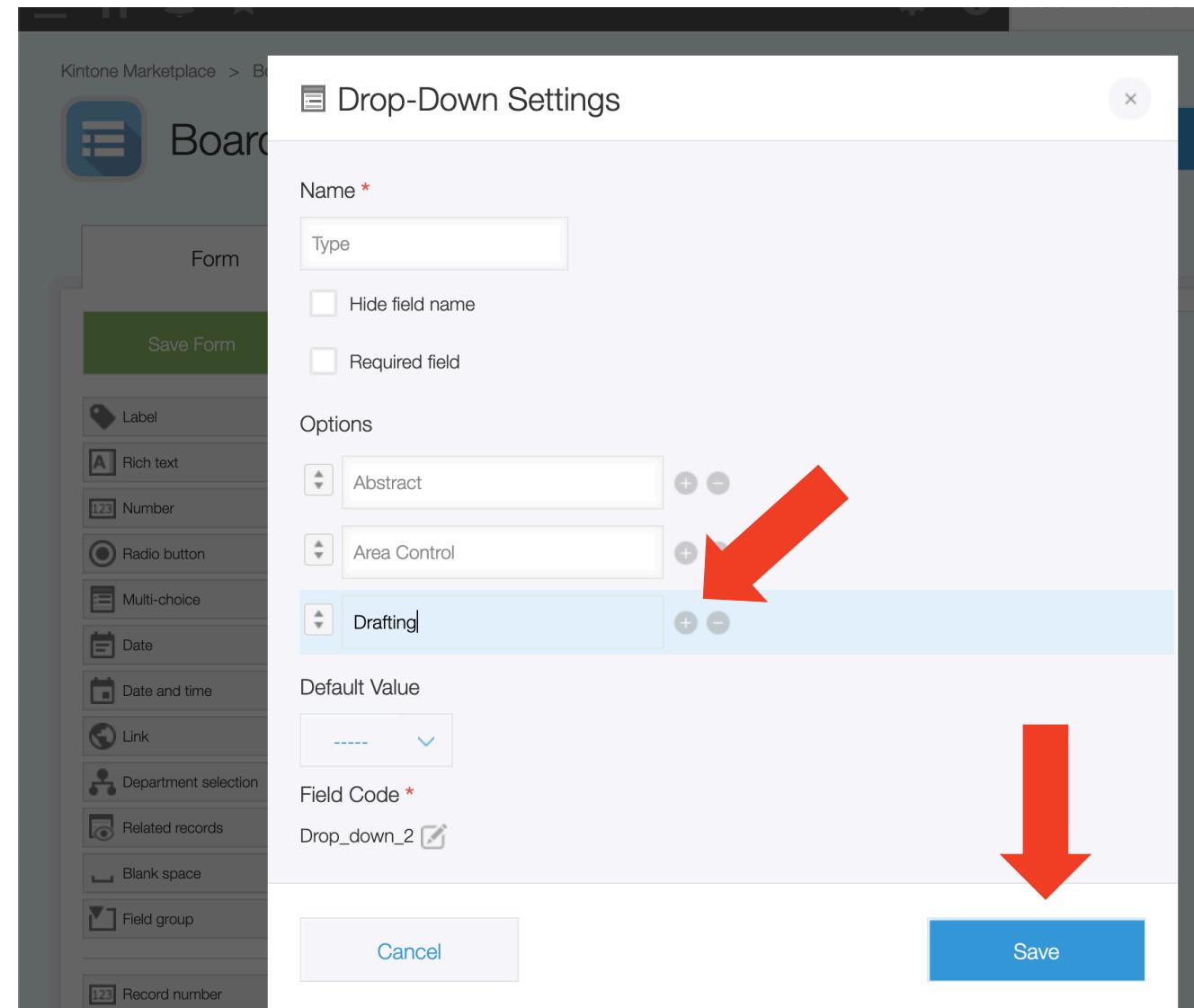
Configure the Drop-down field

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

The image displays two side-by-side configuration screens from a software application titled 'Create an App'.
The left screen, titled 'Text Settings', shows settings for a 'Text' field. It includes fields for 'Name' (containing 'Name'), 'Hide field name' (unchecked), 'Calculate automatically' (unchecked), 'Required field' (unchecked), and 'Prohibit duplicate values' (unchecked). Below these are 'Number of Characters' fields for 'Minimum' and 'Maximum', and a 'Default Value' input field which is empty. At the bottom is a 'Field Code' field containing 'Text' with a pencil icon, which is highlighted with a red rounded rectangle and has a red arrow pointing to it.
The right screen, titled 'Drop-Down Settings', shows settings for a 'Drop-Down' field. It includes fields for 'Name' (containing 'Type'), 'Hide field name' (unchecked), and 'Required field' (unchecked). Below these are dropdown menus for 'Abstract', 'Area Control', and 'Drafting', and a 'Default Value' input field containing '----' with a dropdown arrow, which is also highlighted with a red rounded rectangle and has a red arrow pointing to it.



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 Marketplace interface. At the top, there's a navigation bar with icons for Home, Bell, Star, Settings, Help, and a search bar labeled 'Search All Contents'. Below the navigation, the path 'Kintone Marketplace > Board Game DB > Settings' is displayed. The main title 'Board Game DB' is shown with its icon. On the right side, there are two buttons: 'Discard' and 'Activate App'. A large red box highlights the 'Activate App' button, and a red arrow points to it from below. On the left, there's a 'Form' tab and a 'Save Form' button. To the right of the form tab, there are tabs for 'Views', 'Graphs', and 'App Settings'. In the 'App Settings' section, there are fields for 'Name' (empty) and 'Type' (set to '----'). The bottom half of the screen shows a grid 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, Related records, and Lookup. Each field type has a small icon and a preview area.



Record View of the Board Game DB

Congrats!

You made your first
Kintone App!

The screenshot shows the Kintone Record View interface for the "Board Game DB" application. The top navigation bar includes icons for Home, Bell, Star, Settings, Help, and a search bar labeled "Search in App". Below the header, the app title "Board Game DB" is displayed, along with a breadcrumb trail "App: Board Game DB". The main content area features a toolbar with filters, a search icon, and a chart icon. A message "Records 0 - 0 of 0" is shown above a table. The table has columns for "Record number", "Name", and "Type". A single row displays "(None)". Another message "Records 0 - 0 of 0" is shown below the table.

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, Spaces, 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 is titled "Portal". On the left, there's an "Announcement" card with a megaphone icon and the text "Welcome to Kintone!". It describes Kintone as a teamwork platform for building custom applications. Below the announcement is 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 is listed under "All Apps" with a blue icon. A large red arrow points from the text "CLICK!" to the "Board Game DB" app entry.

Portal

Announcement

Welcome to Kintone!

Kintone is your teamwork platform that gives you a visual application builder to build custom applications easily and empowers you, your teams, and your organization to effectively manage your data and workflows with better, more centralized collaboration.

How to use Kintone

CLICK! →

Board Game DB

Spaces

Joined Spaces

(None)
All Spaces

Apps

All Apps

Aug 8, 2017 11:00 AM Administrator

Quick Overview of the App

The screenshot shows a Microsoft Power Apps application titled "Board game DB". The interface includes a navigation bar with a home icon and the app name, a toolbar with filters and search icons, and a main table view displaying eight records. The table columns are: Record number, Name, Type, Min Players, Max Players, and actions (edit and delete).

Annotations in red text and arrows provide instructions:

- Access the Details page of the row (record)**: Points to the edit icon (pencil) in the first row of the table.
- Data you add to the App is listed here**: Points to the table body, indicating where added data is stored.
- Add new data**: Points to the plus sign icon in the top right corner of the table header.
- Access the App's settings**: Points to the gear icon in the top right corner of the table header.

| 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 | |

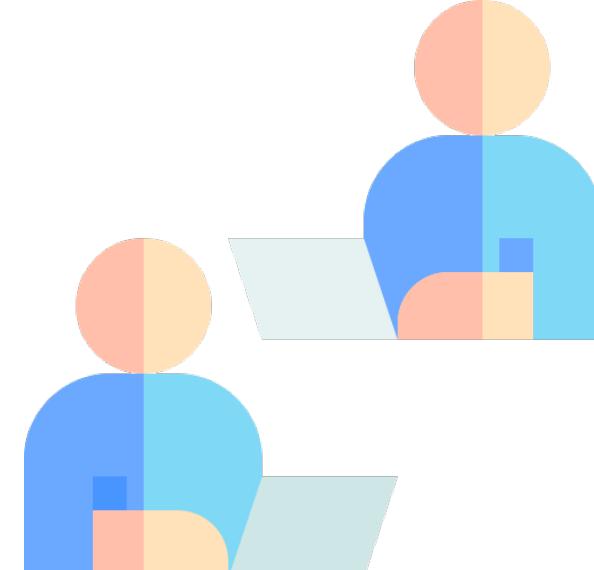


Time To Get Started!

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**

Want the Slides?

Hit Download ZIP button
at bit.ly/KDP_Bubble



Today's Agenda

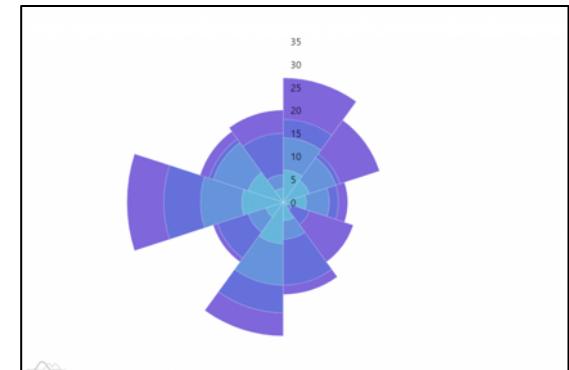
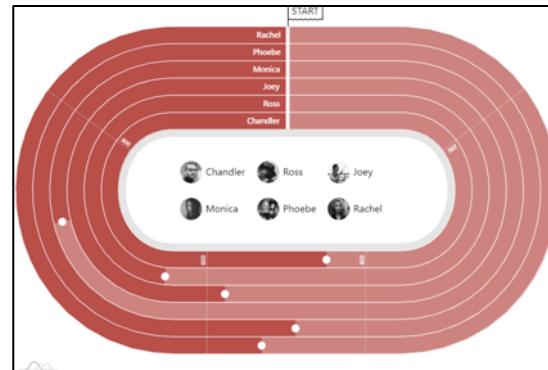
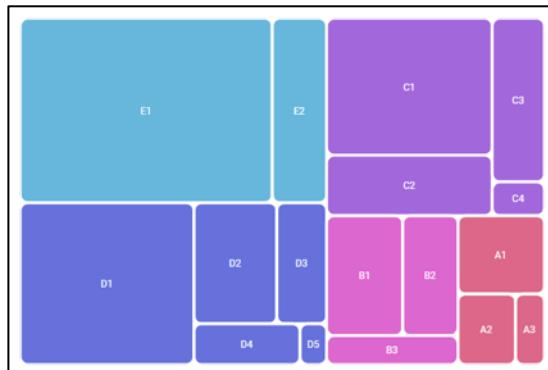
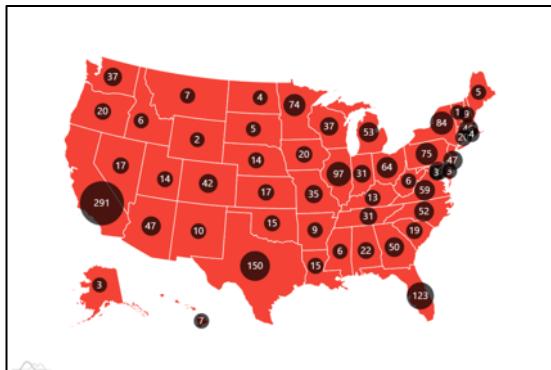
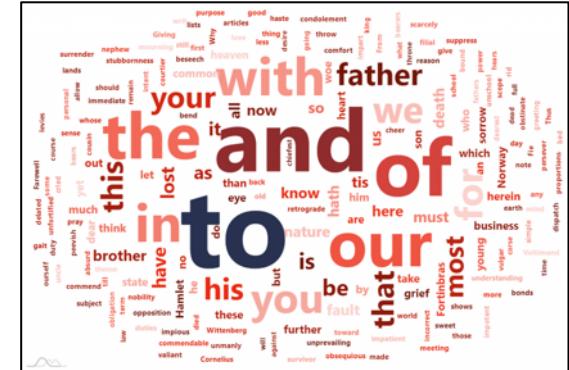
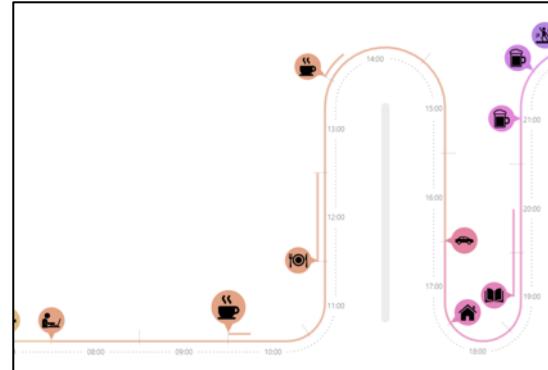
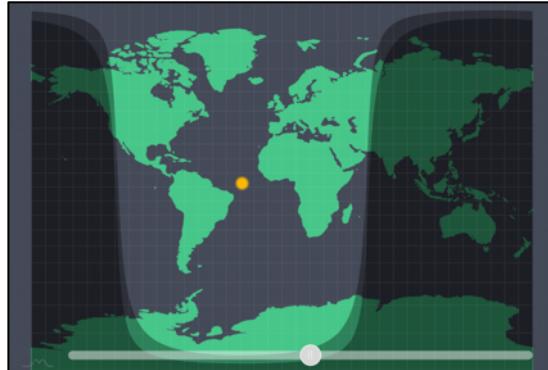
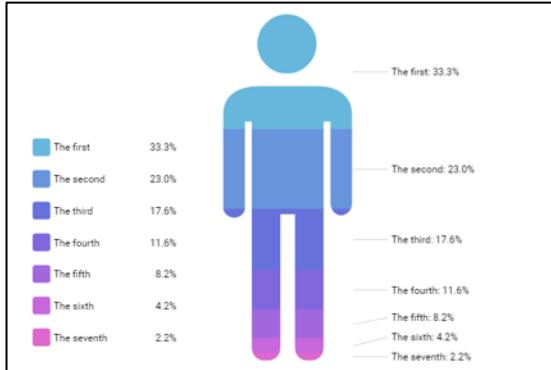
- 1 Get the Big Picture
- 2 Create a Kintone App
- 3 Display amCharts on Kintone
- 4 Call REST APIs from Kintone

What is amCharts?



www.amcharts.com

What Does amCharts Offer?



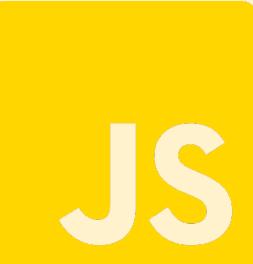
www.amcharts.com

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
}
```

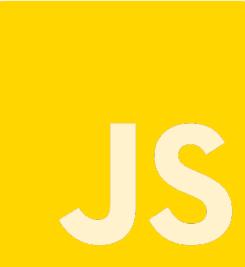
How to Use amCharts on Kintone?



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

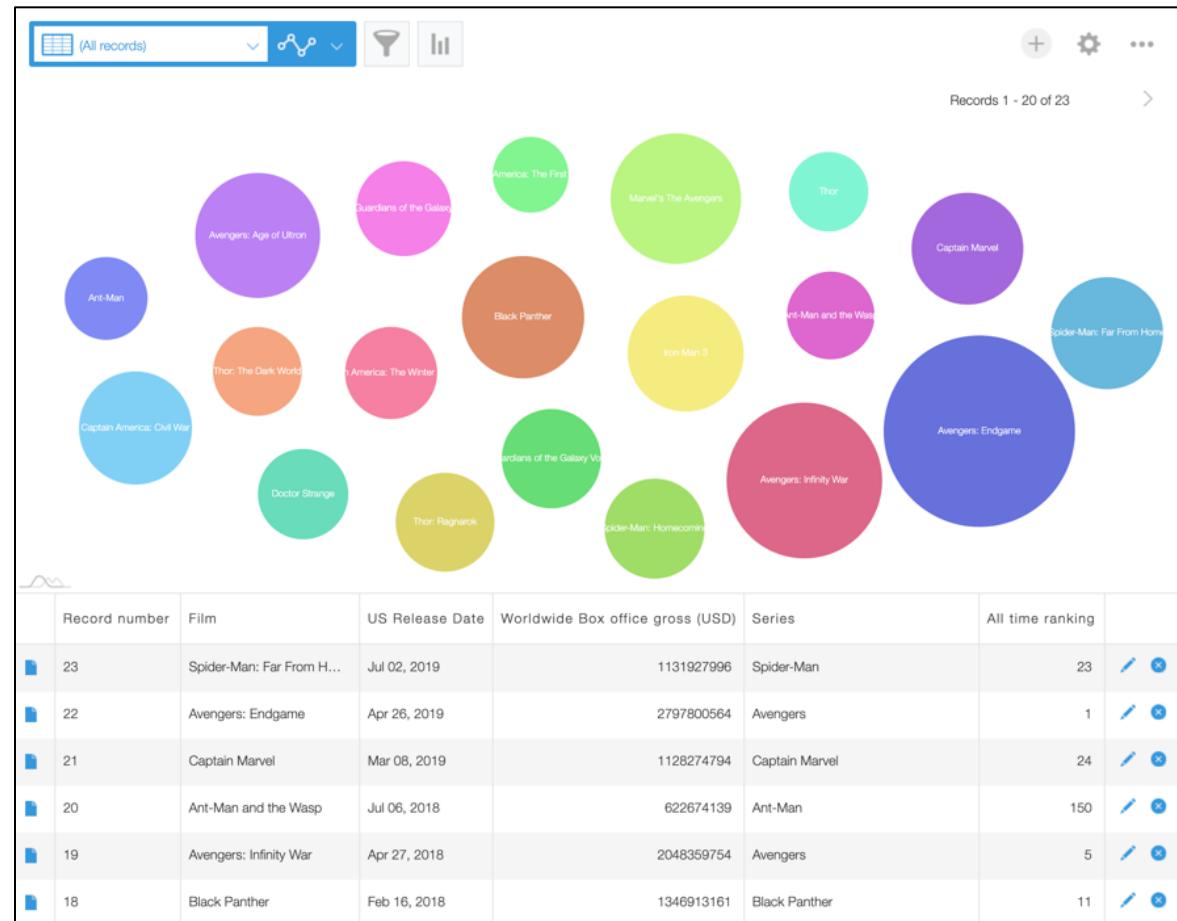
```
// Add data
chart.data = [
  {
    "country": "Ireland",
    "litres": 201.1
  },
  {
    "country": "Czechia",
    "litres": 301.9
  }
];
```

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's 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's libraries to the App
3. Add a custom JavaScript file to the App
4. Redeploy the Kintone App



Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist: bit.ly/KDP_Bubble
2. Create an Kintone App:
Portal > [+] button
3. Select Create from CSV
4. Continue & Upload CSV...

The screenshot shows a GitHub Gist page for 'ahansel / 00_Bubble_Cloud_Workshop.md'. The page includes a search bar, navigation links for 'All gists' and 'Back to GitHub', and user authentication options. Below the header is a message: 'Instantly share code, notes, and snippets.' The gist itself contains a Markdown file ('00_Bubble_Cloud_Workshop.md'), a JavaScript file ('05_xkcd.js'), a Markdown file ('04_Post_Event_Survey.md'), a JavaScript file ('03_visualization.js'), a text file ('02_CDN_URLs.txt'), and the target CSV file ('01_Marvel_Cinematic_Universe_Films.csv'). A red arrow points to the CSV file. On the right side of the gist's main content area, there are 'Star' (5), 'Fork' (0), and 'Download ZIP' buttons. The 'Download ZIP' button is highlighted with a red box.

Name	Date Modified	Size	Kind
.git	Today at 15:58	55.5 MB	Folder
00_Bubble_Cloud_Workshop.md	Today at 15:55	1 KB	Markdown
05_xkcd.js	2020/08/21 at 18:35	446 bytes	JavaScript
04_Post_Event_Survey.md	2020/08/21 at 18:35	920 bytes	Markdown
03_visualization.js	2020/08/21 at 18:35	847 bytes	JavaScript
02_CDN_URLs.txt	2020/08/21 at 18:35	203 bytes	text
01_Marvel_Cinematic_Universe_Films.csv	2020/08/21 at 18:35	1 KB	com...values



Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist: bit.ly/KDP_Bubble
2. Create an 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, Bell, Star, Settings, and Help, followed by a search bar labeled "Search All Contents". Below the navigation bar is a banner with a green leaf and water droplets. The main content area displays an "Announcement" card with a megaphone icon and the text "Welcome to Kintone!". It includes a brief description of Kintone as a teamwork platform and links to "How to use Kintone" and "How to use the Announcements dashboard". To the right of the announcement card is a sidebar titled "Spaces" which lists "Joined Spaces" (None) and "All Spaces". A red arrow points to the "All Spaces" link. Below the spaces section is another sidebar titled "Apps" with a plus sign icon, also highlighted with a red box. The bottom of the screen shows the date and time: "Aug 8, 2017 11:00 AM" and "Administrator".



Create a new Kintone App from a CSV file

1. Get the CSV file from the Gist: [bit.ly/KDP_Bubble](https://gist.github.com/kintone-developer/b3a2a2a2a2a2a2a2a2a2a2a2a2a2a2a2)
2. Create an 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

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** (highlighted by a red box)
- Create from Template File

Featured Apps



Create a new Kintone App from a CSV file

1. Download the CSV file
2. Create an 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

The screenshot shows the Kintone Marketplace homepage. The top navigation bar includes a search bar labeled 'Search All Contents' and a magnifying glass icon. Below the header, there's a decorative banner with various app icons. The main content area is titled 'Kintone Marketplace'. On the left, there's a sidebar with categories like 'By Department' (Sales, Customer Service, Human Resources, IT & Administration, Research & Development, Marketing, Legal & Finance, Company-wide) and 'Scenario' (Mobile, Project Management, Business to Customer). The right side features a section titled 'How to Find Apps?' with instructions to click category names or use the search box. Below this is a 'Create New App' section with several options: 'Create App from Scratch' (with a dashed square icon), 'Create from Excel' (with a document icon), 'Create from CSV' (with a CSV icon, highlighted by a red arrow), 'Create from Template File' (with a template icon), and 'Create from Existing App' (with a document icon).

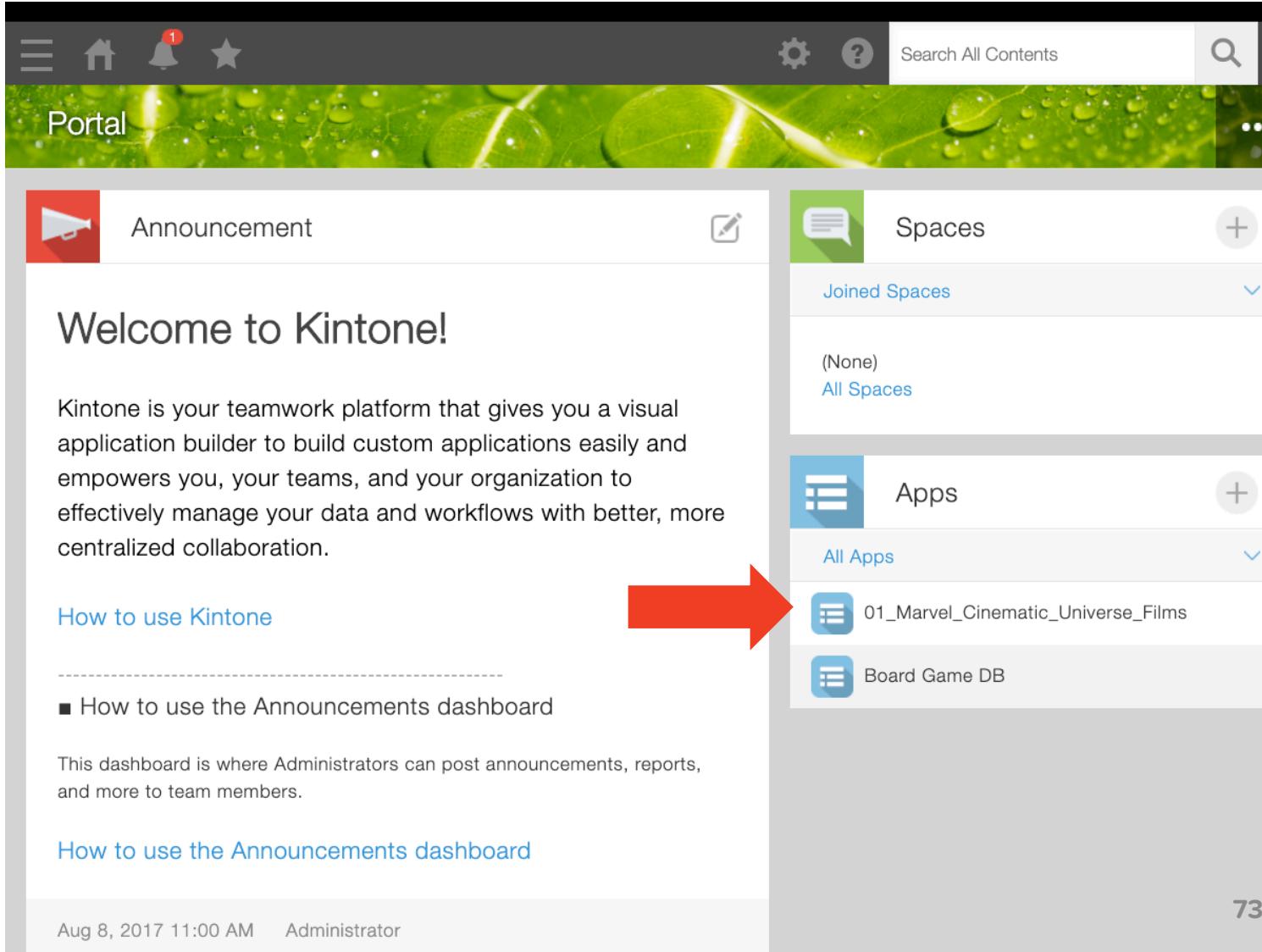
amCharts Customization for Kintone

1. Create a new Kintone App from a CSV file
- 2. Add amCharts's 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 new Kintone 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 Portal interface. At the top, there is a navigation bar with icons for Home, Notifications (with one notification), and Favorites. On the right side of the bar are settings, help, and search functions. Below the bar, the title "Portal" is displayed over a green leaf background image. To the left, the "Announcement" app is shown with its icon (a megaphone) and name. To the right, the "Spaces" section is visible, featuring "Joined Spaces" and links for "(None)" and "All Spaces". A large red arrow points from the bottom of the "Announcement" app area towards the "All Apps" section on the right. The "All Apps" section lists "01_Marvel_Cinematic_Universe_Films" and "Board Game DB". At the bottom of the screen, the date and time "Aug 8, 2017 11:00 AM" and the user "Administrator" are shown.



Add JavaScript Libraries to the App

1. Find and click on the new Kintone 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.

File imported successfully!

01_Marvel_Cinematic_Universe_Films

App: 01_Marvel_Cinematic_Universe_Films

(All records)

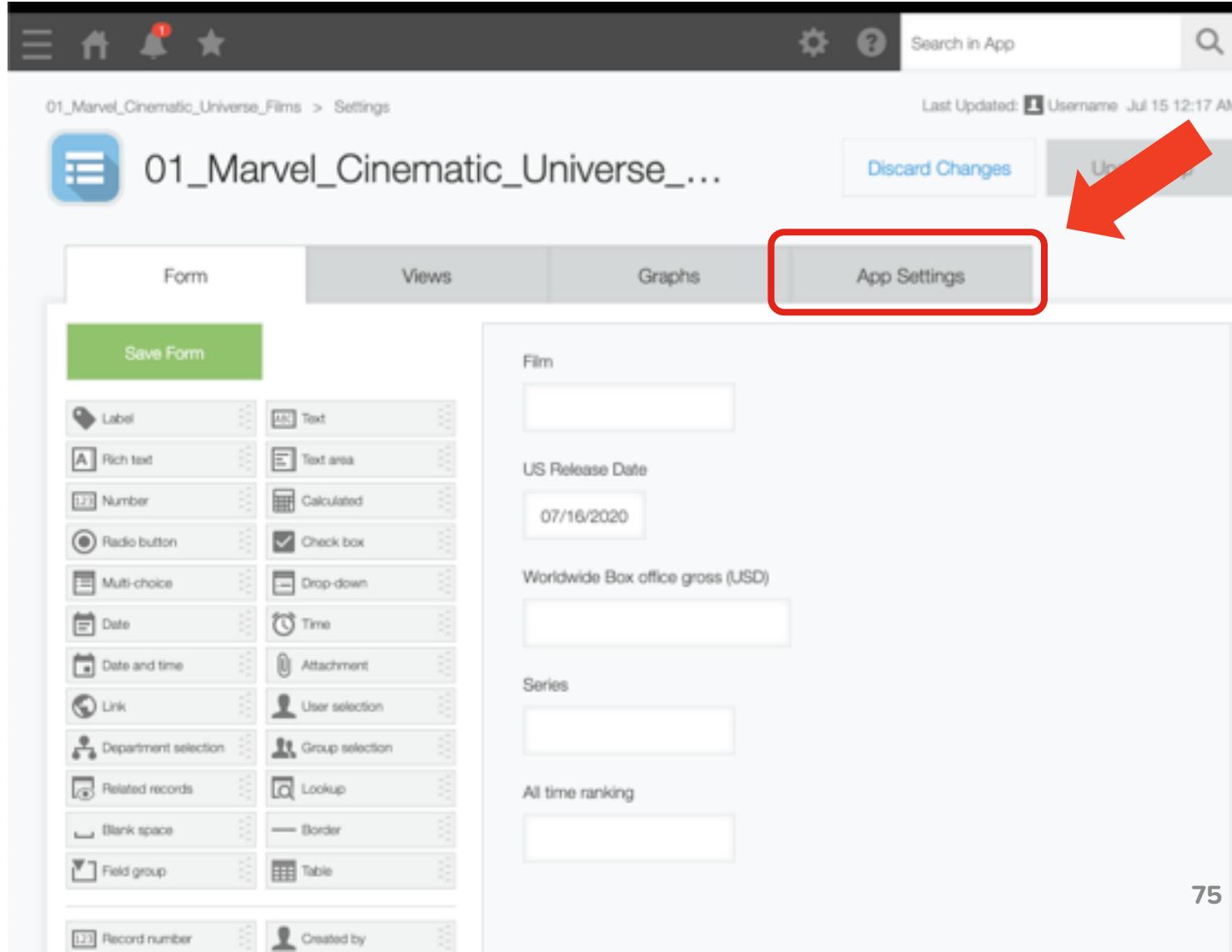
Records 1 - 23 of 23

	Record number	Film	US Release Date	Worldwide Box office gross (USD)	Series	All time ranking		
23	23	Spider-Man: Far From Home	Jul 02, 2019	1131927996	Spider-Man	23		
22	22	Avengers: Endgame	Apr 26, 2019	2797800564	Avengers	1		
21	21	Captain Marvel	Mar 08, 2019	1128274794	Captain Marvel	24		
20	20	Ant-Man and the Wasp	Jul 06, 2018	622674139	Ant-Man	150		
19	19	Avengers: Infinity War	Apr 27, 2018	2048359754	Avengers	5		
18	18	Black Panther	Feb 16, 2018	1346913161	Black Panther	11		
17	17	Thor: Ragnarok	Nov 03, 2017	853977126	Thor	74		



Add JavaScript Libraries to the App

1. Find and click on the new Kintone 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.

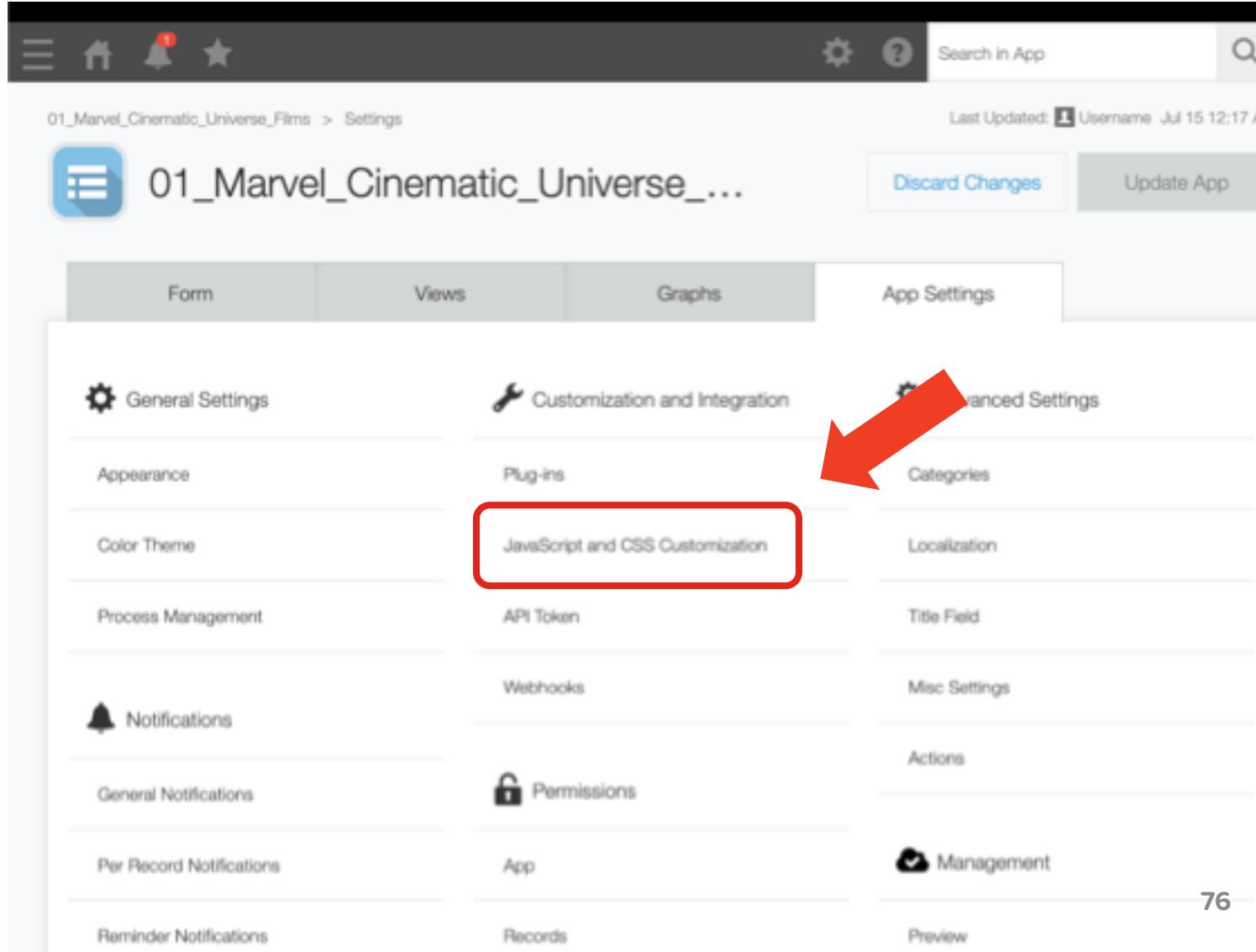


The screenshot shows the Kintone app settings page for "01_Marvel_Cinematic_Universe_Films". The top navigation bar includes icons for home, notifications (with one notification), and a star. On the right, there are "Search in App", "Last Updated: Jul 15 12:17 AM", "Username", "Discard Changes", and "Unpublish" buttons. Below the navigation is a tabs section with "Form", "Views", "Graphs", and "App Settings", where "App Settings" is highlighted with a red box and has a red arrow pointing to it from the right side. To the left is a "Save Form" button and a grid of field type icons: Label, Rich text, Number, Radio button, Multi-choice, Date, Date and time, Link, Department selection, Related records, Blank space, Record number, Text, Text area, Calculated, Check box, Drop-down, Time, Attachment, User selection, Group selection, Lookup, Border, and Table. To the right are several input fields: "Film" (empty), "US Release Date" (07/16/2020), "Worldwide Box office gross (USD)" (empty), "Series" (empty), and "All time ranking" (empty).



Add JavaScript Libraries to the App

1. Find and click on the new Kintone 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. At the top, there are navigation icons (three horizontal lines, home, bell, star) and a search bar. To the right, it says "Last Updated: Jul 15 12:17 AM" and shows "Username". Below the header, the app name "01_Marvel_Cinematic_Universe_Films" and its ID are displayed. On the right, there are "Discard Changes" and "Update App" buttons. The main area has tabs for "Form", "Views", "Graphs", and "App Settings". The "App Settings" tab is active. It contains several sections: "General Settings" (Appearance, Color Theme), "Customization and Integration" (Plug-ins, API Token, Webhooks), "Advanced Settings" (Categories, Localization, Title Field, Misc Settings, Actions), "Notifications" (General Notifications, Per Record Notifications, Reminder Notifications), "Permissions" (App, Records, Preview), and "Management". A red arrow points to the "JavaScript and CSS Customization" section under "Customization and Integration", and a red box highlights this section.



Add JavaScript Libraries to the App

Under **Upload JavaScript for PC**

click on **Add Link** to add the following amCharts libraries in the following order:

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

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

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

The screenshot shows the 'JavaScript and CSS Customization' section of the amCharts app settings. At the top, there are navigation icons (three horizontal lines, house, bell with a red notification dot, star), a title '01_Marvel_Cinematic_Universe_Films', a 'Settings' link, and a 'Save' button. Below this, the 'JavaScript and CSS Customization' heading is displayed. A red arrow points to the first 'Add Link' button under the 'Upload JavaScript for PC' section.

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 de...

Scope of Customization

Affect all users Affect only app administrators Disable

Upload JavaScript for PC

Add Link Add File (Maximum: 20 MB)

Upload JavaScript File for Mobile Devices

Add Link Add File (Maximum: 20 MB)

Upload CSS File for PC

Add Link Add File (Maximum: 20 MB)

Upload CSS File for Mobile Devices

Add Link Add File (Maximum: 20 MB)



Add JavaScript Libraries to the App

Under **Upload JavaScript for PC**

click on **Add Link** to add the following amCharts libraries in the following order:

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

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

<https://www.amcharts.com/lib/4/plugins/forceDirected.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 navigation icons (three horizontal bars, home, notification with 1, star) and a gear icon. Below that is the title '01_Marvel_Cinematic_Universe_Films' followed by 'Settings' and 'JavaScript and CSS Customization'. A 'Save' button is on the left, and a 'Cancel' button is on the right. The main area has a heading '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.' There are three radio buttons for 'Scope of Customization': 'Affect all users' (selected), 'Affect only app administrators', and 'Disable'. The 'Upload JavaScript for PC' section contains two links: 'https://www.amcharts.com/lib/4/core.js' and 'https://www.amcharts.com/lib/4/charts.js', each with a delete icon. Below this are 'Add Link' and 'Add File' buttons with a 'Maximum: 20 MB' note. The 'Upload JavaScript File for Mobile Devices' section has 'Add Link' and 'Add File' buttons with a 'Maximum: 20 MB' note, where the 'Add File' button is highlighted with a cursor. The 'Upload CSS File for PC' and 'Upload CSS File for Mobile Devices' sections also have 'Add Link' and 'Add File' buttons with a 'Maximum: 20 MB' note.

amCharts Customization for Kintone

1. Create a new Kintone App from a CSV file
2. Add amCharts's 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. Get the JavaScript file:
3_visualization.js
bit.ly/KDP_Bubble
2. Click on Add File button & upload the JS file
3. Click on Save button
4. Click on Update App button

The screenshot shows two windows side-by-side. The top window is a GitHub Gist page for a gist titled 'ahansel / 00_Data_Visualization_Workshop.md'. It displays the code for '3_visualization.js' and other files like '00_Bubble_Cloud_Workshop.md', '01_Marvel_Cinematic_verse_Films.csv', '02_CDN_URLs.txt', and '04_Post_Event_Survey.md'. A green arrow points from the '3_visualization.js' file in the GitHub Gist to its corresponding file in the Finder window below. The bottom window is a Mac OS X Finder window titled '1_Bubble_Cloud_Gist'. It lists the same files, with '03_visualization.js' highlighted by a green arrow. The files are listed in the following order:

Name	Date Modified	Size	Kind
.git	Today at 15:58	55.5 MB	Folder
00_Bubble_Cloud_Workshop.md	Today at 15:55	1 KB	Markdown
01_Marvel_Cinematic_verse_Films.csv	2020/08/21 at 18:35	1 KB	com...values
02_CDN_URLs.txt	2020/08/21 at 18:35	203 bytes	text
03_visualization.js	2020/08/21 at 18:35	847 bytes	JavaScript
04_Post_Event_Survey.md	2020/08/21 at 18:35	920 bytes	Markdown
05_xkcd.js	2020/08/21 at 18:35	446 bytes	JavaScript



Add a Custom JavaScript File to the App

1. Get the JavaScript file:
3_visualization.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 a Kintone app. The 'Scope of Customization' is set to 'Affect all users'. Under 'Upload JavaScript for PC', there are four entries: three links to AmCharts files and one local file named '03_visualization.js' (847 bytes). The 'Add File' button for this section is highlighted with a red box and a red arrow pointing to it from the bottom right.

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

(Maximum: 20 MB)

(Maximum: 20 MB)

(Maximum: 20 MB)

(Maximum: 20 MB)

Customization samples

Kintone Customization Gallery

Community support

Kintone Developer Program



Add a Custom JavaScript File to the App

1. Get the JavaScript file:
3_visualization.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 a Kintone app. At the top, there are buttons for 'Save' (highlighted with a red box and arrow) and 'Cancel'. Below this, there's a heading 'JavaScript and CSS Customization' with a sub-instruction: 'You can customize this application's JavaScript and CSS.' It also includes a note about reading 'JavaScript Coding Guidelines'. Under 'Scope of Customization', the 'Affect all users' option is selected. The 'Upload JavaScript for PC' section contains three links: 'core.js', 'charts.js', and 'forceDirected.js', along with a file named '03_visualization.js' (847 bytes). There are 'Add Link' and 'Add File' buttons for this section. Below this, there are sections for 'Upload JavaScript File for Mobile Devices', 'Upload CSS File for PC', and 'Upload CSS File for Mobile Devices', each with 'Add Link' and 'Add File' buttons.

amCharts Customization for Kintone

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



Redeploy the Kintone App

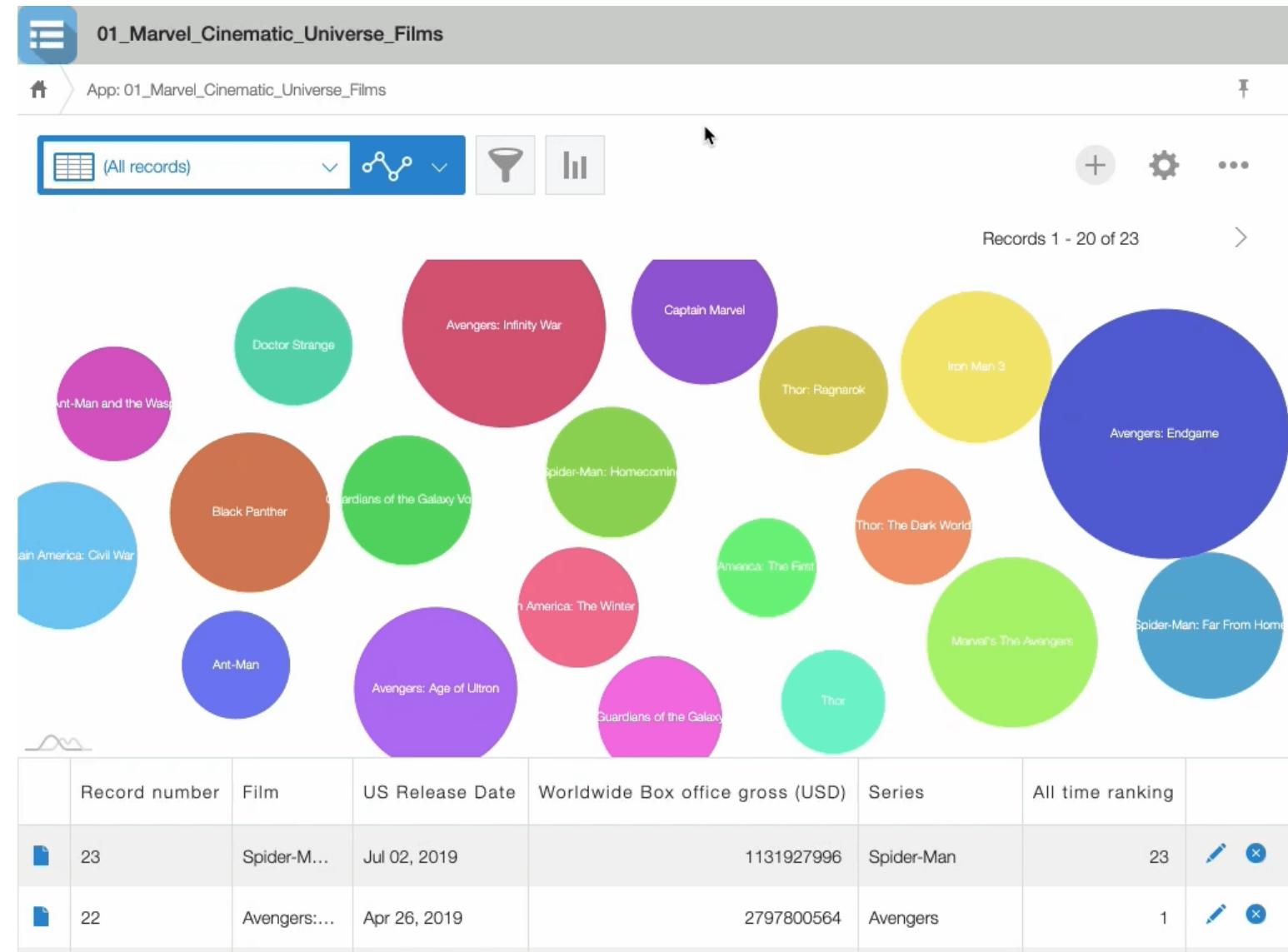
1. Get the JavaScript file:
3_visualization.js
2. Click on Add File button &
upload the JS file
3. Click on Save button
4. Click on Update App
button

This will apply the changes
made (adding libraries & JS
file)

The screenshot shows the 'Settings' screen for the '01_Marvel_Cinematic_Universe_Films' app. At the top, there's a navigation bar with icons for home, notifications (1), and stars. On the right, there are 'Search in App', a gear icon for settings, and a question mark icon. Below the bar, the app name '01_Marvel_Cinematic_Universe...' is displayed with a blue icon, followed by a 'No file chosen' button. To the right of the app name are 'Discard Changes' and 'Update App' buttons, with 'Update App' being highlighted by a red box and an arrow pointing to it. The main area is divided into four tabs: Form, Views, Graphs, and App Settings. Under 'App Settings', there are several sections: General Settings, Customization and Integration, Advanced Settings, Appearance, Plug-ins, Categories, Color Theme, JavaScript and CSS Customization, Localization, Process Management, API Token, Title Field, Notifications, Webhooks, Misc Settings, General Notifications, Permissions, Actions, Per Record Notifications, App, Management, Reminder Notifications, Records, and Preview.



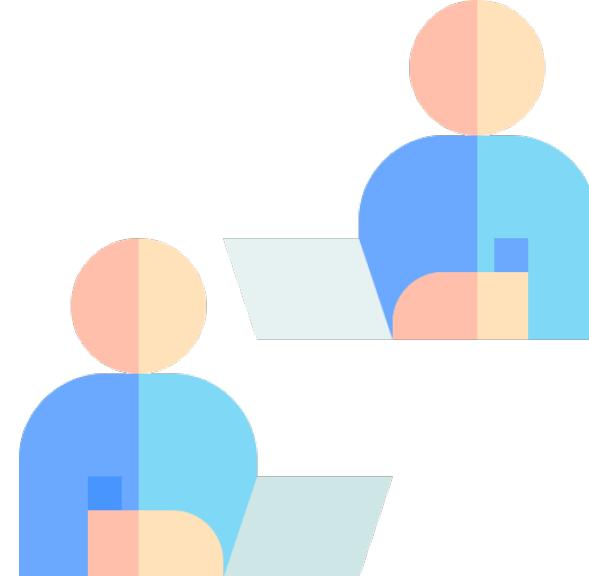
Results



Time To Get Started!

1. Create a Kintone App from a CSV file
 - [Create from CSV](#) option
 - Import the 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_visualization.js](#)
4. Redeploy the Kintone App
 - Click on [Update App](#)

Want the Slides? Hit the
Download ZIP button at
bit.ly/KDP_Bubble



**Want to Win
an 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](#).

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/charts.js>

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

 [visualization.js](#)

 [Add Link](#)

 [Add File](#)

(Maximum: 20 MB)

938 bytes

Core library needed for amCharts

amCharts library related to creating charts.

If you are using maps, you will be replacing this with the map.js library.

Additional library for the Force Directed chart. It displays multi-item data as a series of bubbles with the option of being linked or unlinked.

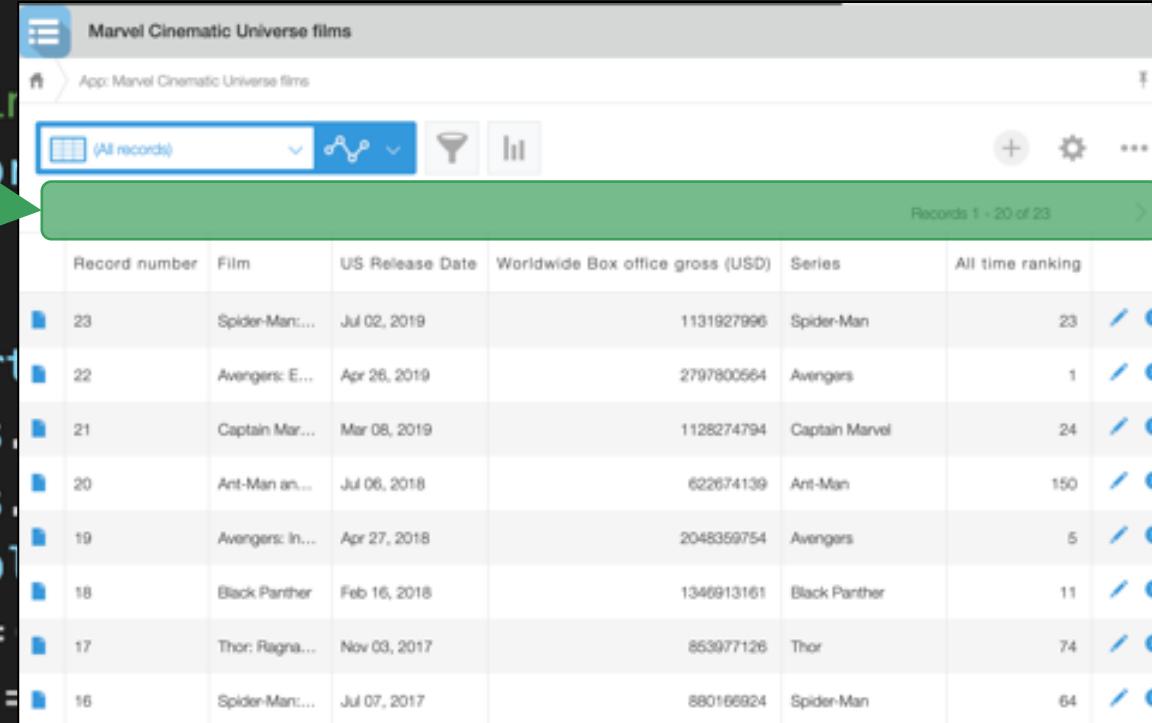
Code - events

Kintone
native event
that triggers
when the
Record List
page loads

```
1  (function() {
2    'use strict';
3    kintone.events.on('app.record.index.show', function(event) {
4      var spacediv = kintone.app.getHeaderSpaceElement();
5      spacediv.style.height = '400px';
6
7      // Create chart instance
8      var chart = am4core.create(spacediv, am4plugins_forceDirected);
9
10     // Create series
11     var series = chart.series.push(new am4plugins_forceDirected.Fo
```

Code - getHeaderSpaceElement();

Kintone native method to retrieve the HTML element above the Record List



The screenshot shows a Kintone application interface. At the top, there's a navigation bar with a search icon and a gear icon. Below it is a header section titled "Marvel Cinematic Universe films". The main content area contains a chart on the left and a table on the right. The table has columns for "Record number", "Film", "US Release Date", "Worldwide Box office gross (USD)", "Series", and "All time ranking". The table lists 23 records, with the first few rows being: 23 (Spider-Man: Far From Home), 22 (Avengers: Endgame), 21 (Captain Marvel), 20 (Ant-Man and the Wasp), 19 (Avengers: Infinity War), 18 (Black Panther), 17 (Thor: Ragnarok), and 16 (Spider-Man: Homecoming). A green arrow points from the highlighted code line to the chart area in the screenshot.

```
1  (function() {
2    'use strict';
3    kintone.events.on('app.record.index.show', function(event) {
4      var spacediv = kintone.app.getHeaderSpaceElement();
5      spacediv.style.height = '400px';
6
7      // Create chart in header space
8      var chart = am4core.create('chart', am4charts.PieChart);
9
10     // Create series
11     var series = chart.series.push(new am4charts.PieSeries());
12     series.dataFields.value = 'gross';
13     series.dataFields.name = 'film';
14     series.nodes.template.propertyFields.fill = 'color';
15     series.fontSize = 14;
16     series.minRadius = 10;
```

Code - chart instance

```
1 (function() {
2   'use strict';
3   kintone.events.on('app.record.in.show', function(ev) {
4     var spacediv = kintone.app.getHeaderSpaceElement();
5     spacediv.style.height = '400px';
6     ...
7     // Create chart instance
8     var chart = am4core.create(spacediv, am4plugins_forceDirected.ForceDirectedTree);
9
10    // Create series
11    var series = chart.series.push(new am4charts.ForceDirectedTreeSeries());
12    series.dataFields.value = "value";
13    series.dataFields.name = "name";
14    series.nodes.template.label.text = "{name}";
15    series.fontSize = 10;
16    series.minRadius = 30;
17    series.maxRadius = 100;
```



Create a chart instance.
The first parameter is the target
HTML element to create the chart in.
The second parameter references a
amCharts's chart type class.

Code - series

```
1  (function() {  
2    'use strict';  
3    kintone.event.on('kintone:ready', function() {  
4      var spacediv = document.getElementById('spacediv');  
5      spacediv.innerHTML = '';  
6  
7      // Create chart instance  
8      var chart = am4core.create(spacediv, am4plugins_forceDirected.ForceDirectedTree);  
9  
10     // Create series  
11     var series = chart.series.push(new am4plugins_forceDirected.ForceDirectedSeries());  
12     series.dataFields.value = "value";  
13     series.dataFields.name = "name";  
14     series.nodes.template.label.text = "{name}";  
15     series.fontSize = 10;  
16     series.minRadius = 30;  
17     series.maxRadius = 100;  
18   });  
});
```

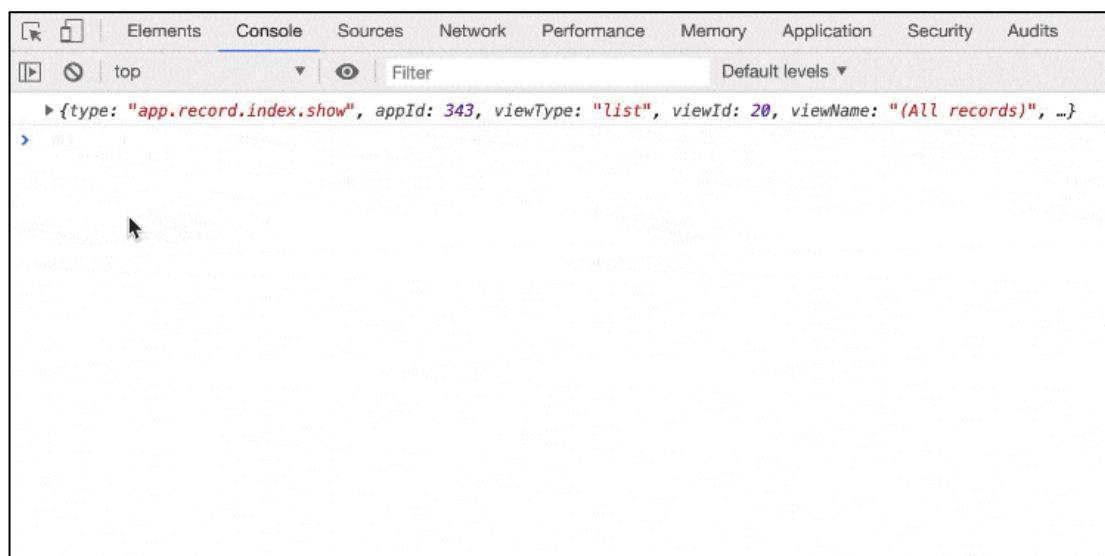
Create a "series" for the chart, where various settings for the chart is set.
If multiple series are created, multiple charts will be displayed on top of each other in the same container.



Code - event

Prints the **event object** into the console.

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



```
7   .... // Create chart instance
8   .... var chart = am4core.create(spacediv, am4plu
9
10  .... // Create series
11  .... var series = chart.series.push(new am4plugi
12  .... series.dataFields.value = "value";
13  .... series.dataFields.name = "name";
14  .... series.nodes.template.label.text = "{name}"
15  .... series.fontSize = 10;
16  .... series.minRadius = 30;
17  .... series.maxRadius = 100;
18
19  .... console.log(event); ←
20
21  .... var data = event.records.map(function(recor
22  ....   return {
23  ....     'name': record.Text.value,
24  ....     'label': record.Text.value + ' (' + record.v
25  ....   }
26  .... }
27  ....
28  .... chart.data = data;
29  .... chart.start();
30  ....
31  ....
32  ....
33  ....
34  ....
35  ....
36  ....
37  ....
38  ....
39  ....
40  ....
41  ....
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89  ....
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91  ....
92  ....
93  ....
94  ....
95  ....
96  ....
97  ....
98  ....
99  ....
100 ....
```

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 visualization.js contains all of 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 titled "01_Marvel_Cinematic_Universe_Films". A success message "File imported successfully!" is displayed. The main view lists 23 records as circular bubbles, with titles like "Spider-Man: Homecoming", "Avengers: Infinity War", "Thor: Ragnarok", "Guardians of the Galaxy Vol. 2", "Doctor Strange", "Black Panther", and "Captain America: Civil War". The browser's developer tools console tab is active, showing the imported data structure. The data is an object with properties: appId (5), date (null), offset (0), and records (an array of 20 items). Each record item contains properties like \$id, \$revision, Created_by, Created_datetime, Date, Number, Number_0, Record_number, Text, Text_0, Updated_by, Updated_datetime, and __proto__.

```
Object {appId: 5, date: null, offset: 0, records: Array(20)}  
records: Array(20)  
0: Object  
$id: {type: "__ID__", value: "23"}  
$revision: {type: "__REVISION__", value: "1"}  
Created_by: {type: "CREATOR", value: {...}}  
Created_datetime: {type: "CREATED_TIME", value: "2020-07-15T07:17:00Z"}  
Date: {type: "DATE", value: "2019-07-02"}  
Number: {type: "NUMBER", value: "1131927996"}  
Number_0: {type: "NUMBER", value: "23"}  
Record_number: {type: "RECORD_NUMBER", value: "23"}  
Text: {type: "SINGLE_LINE_TEXT", value: "Spider-Man: Far From Home"}  
Text_0: {type: "SINGLE_LINE_TEXT", value: "Spider-Man"}  
Updated_by: {type: "MODIFIER", value: {...}}  
Updated_datetime: {type: "UPDATED_TIME", value: "2020-07-15T07:17:00Z"}  
__proto__: Object  
1: {Record_number: ..., Updated_by: ..., Created_by: ..., Updated_datetime: ...}  
2: {Record_number: ..., Updated_by: ..., Created_by: ..., Updated_datetime: ...}  
3: {Record_number: ..., Updated_by: ..., Created_by: ..., Updated_datetime: ...}  
4: {Record_number: ..., Updated_by: ..., Created_by: ..., Updated_datetime: ...}  
5: {Record_number: ..., Updated_by: ..., Created_by: ..., Updated_datetime: ...}  
6: {Record_number: ..., Updated_by: ..., Created_by: ..., Updated_datetime: ...}  
7: {Record_number: ..., Updated_by: ..., Created_by: ..., Updated_datetime: ...}
```

Code - data = event.records.map()

```
15     ....series.fontWeight;
16     ....series.fontSize;
17     ....series.maxFontSize;
18
19     ....console.log(event);
20
21     var data = event.records.map(function(record) {
22         return {
23             'name': record.Text.value,
24             'value': Number(record.Number.value)
25         }
26     });
27
28     series.data = data;
29
30 });
31 })();
```

Cycle through the records in the event object,
add the Film names & Gross values into the data object.

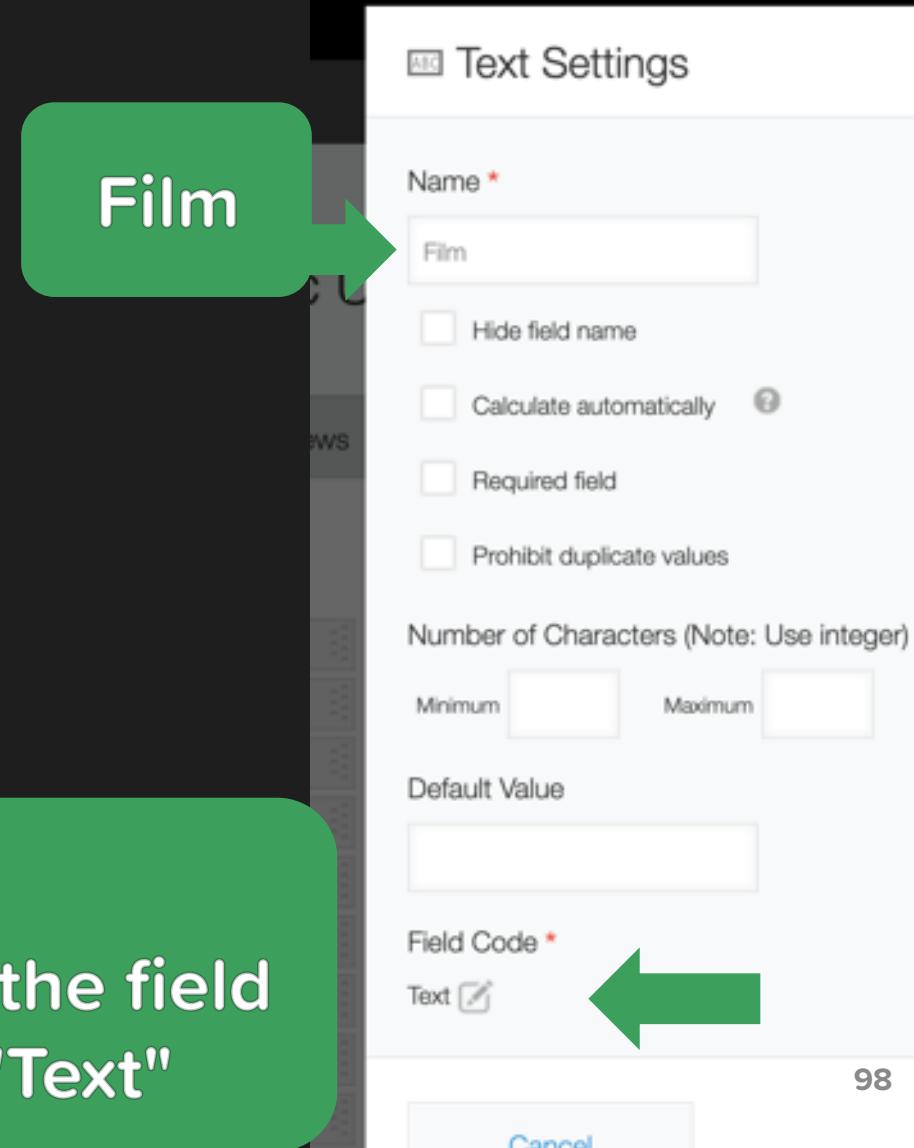


Code - record.Text.value

```
15     series.fontSize = 10;  
16     series.minRadius = 30;  
17     series.maxRadius = 100;  
18  
19     console.log(event);  
20  
21     var data = event.records.map(function(record) {  
22         return {  
23             'name': record.Text.value,  
24             'value': Number(record.Number.value)  
25         };  
26     });  
27  
28     series.data = data;  
29     }  
30   );  
31 })( );
```

record.Text.value

This refers to the value inside the field
with the field code named "Text"



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

The image shows two side-by-side configuration screens for field settings.

Text Settings Screen:

- Name ***: A text input field containing "Name".
- Options**:
 - Hide field name
 - Calculate automatically
 - Required field
 - Prohibit duplicate values
- Number of Characters (Note: Us)**: Minimum and Maximum input fields.
- Default Value**: An empty text input field.
- Field Code ***: A text input field containing "Text".

Drop-Down Settings Screen:

- Name ***: A text input field containing "Type".
- Options**:
 - Hide field name
 - Required field
- Default Value**: A dropdown menu showing "----".
- Field Code ***: A text input field containing "Drop_down".

Red arrows point from the text input fields in both screens to the corresponding "Field Code *" sections at the bottom of each screen, highlighting the concept of field codes.

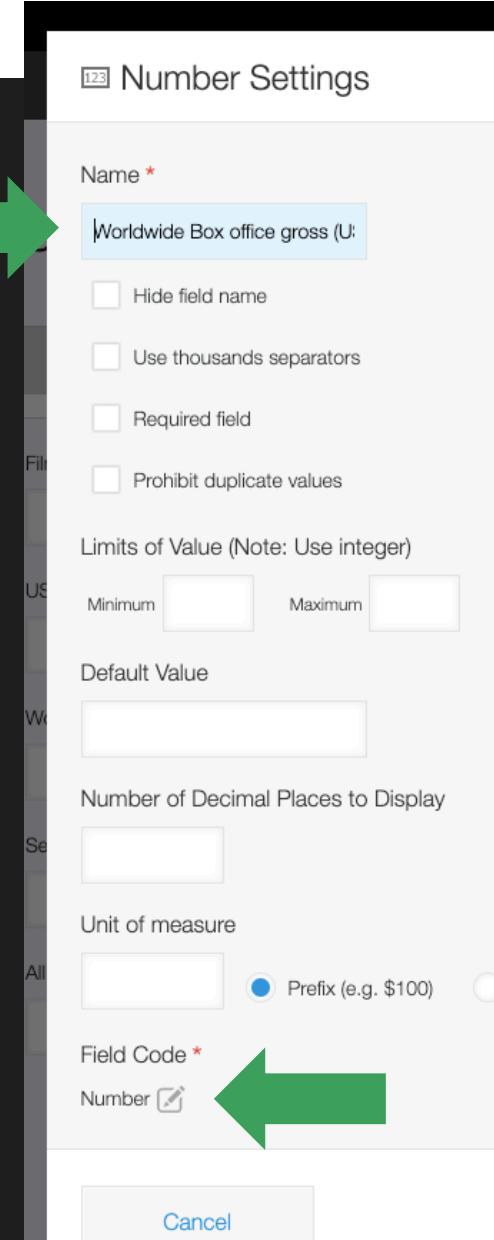
Code - record.Number.value

```
15     series.fontSize = 10;  
16     series.minRadius = 30;  
17     series.maxRadius = 100;  
18  
19     console.log(event);  
20  
21     var data = event.records.map(function(record) {  
22         return {  
23             'name': record.Text.value,  
24             'value': Number(record.Number.value)  
25         }  
26     });  
27  
28     series.dat  
29     });  
30 })();  
31 })();
```

Worldwide Box
office gross (USD)

record.Number.value

This refers to the value inside the field
with the field code named "Number"



Code - series.data = data;

```
15     ....series.fontSize = 10;  
16     ....series.minRadius = 30;  
17     ....series.maxRadius = 100;  
18     ....  
19     ....console.log(event);  
20  
21     var data = event.records.map(function(record) {  
22         return {  
23             ....'name': record.Text.value,  
24             ....'value': Number(record.Number.value)  
25         }  
26     });  
27  
28     ....series.data = data;  
29  
30     ....});  
31 })(());
```



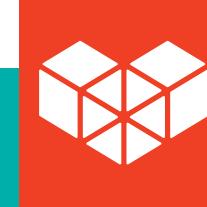
Set all the above record data into the series

Code - Inside the JSON Object

```
[ {  
    "name": "Spider-Man: Far From Home",  
    "value": 1131927996  
},  
{  
    "name": "Avengers: Endgame",  
    "value": 2797800564  
},  
{  
    "name": "Captain Marvel",  
    "value": 1128274794  
},  
...,  
{  
    "name": "Thor",  
    "value": 449326618  
}  
]
```

- Contains the films' title & Worldwide Box office gross.
- Quick overview of JSON
 - A text format for easy data sharing between clients & servers
 - Consists of sets of "key-value" pairs
 - Simple key-value pairs look like this





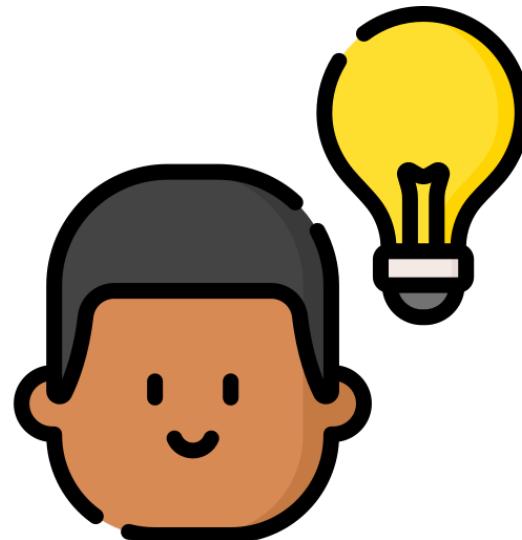
Any
Questions?

developer.kintone.io

Today's Agenda

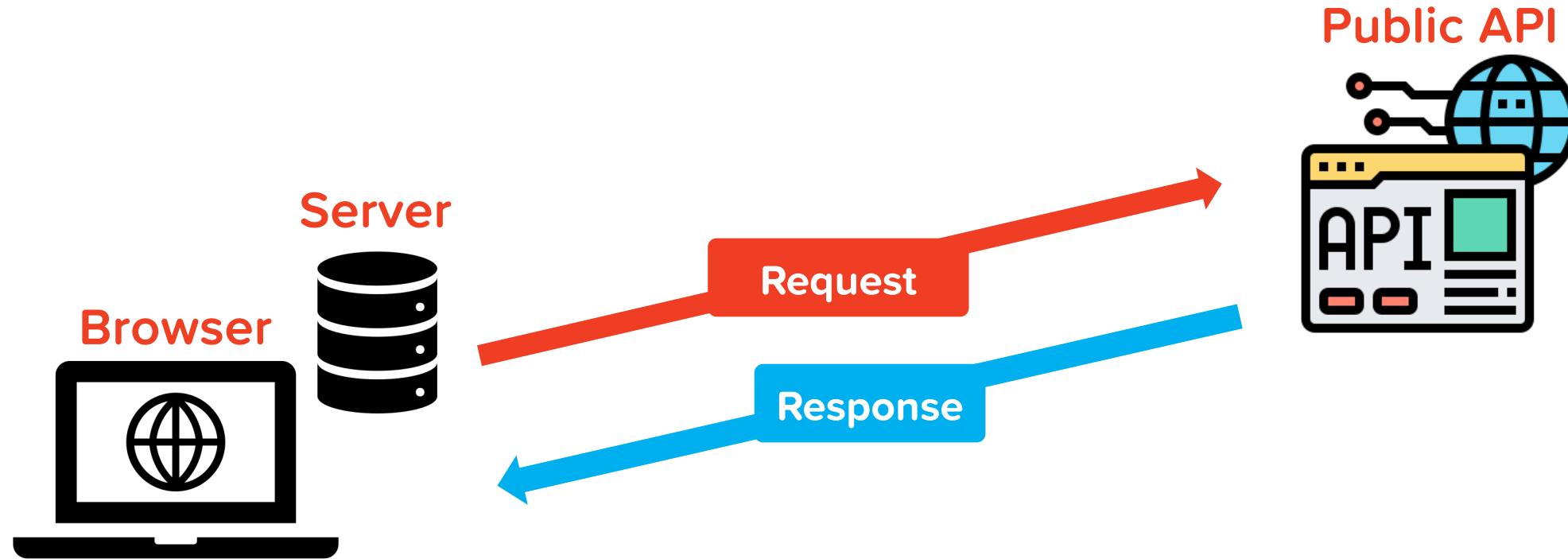
- 1 Get the Big Picture
- 2 Create a Kintone App
- 3 Display amCharts on Kintone
- 4 Call REST APIs from Kintone

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

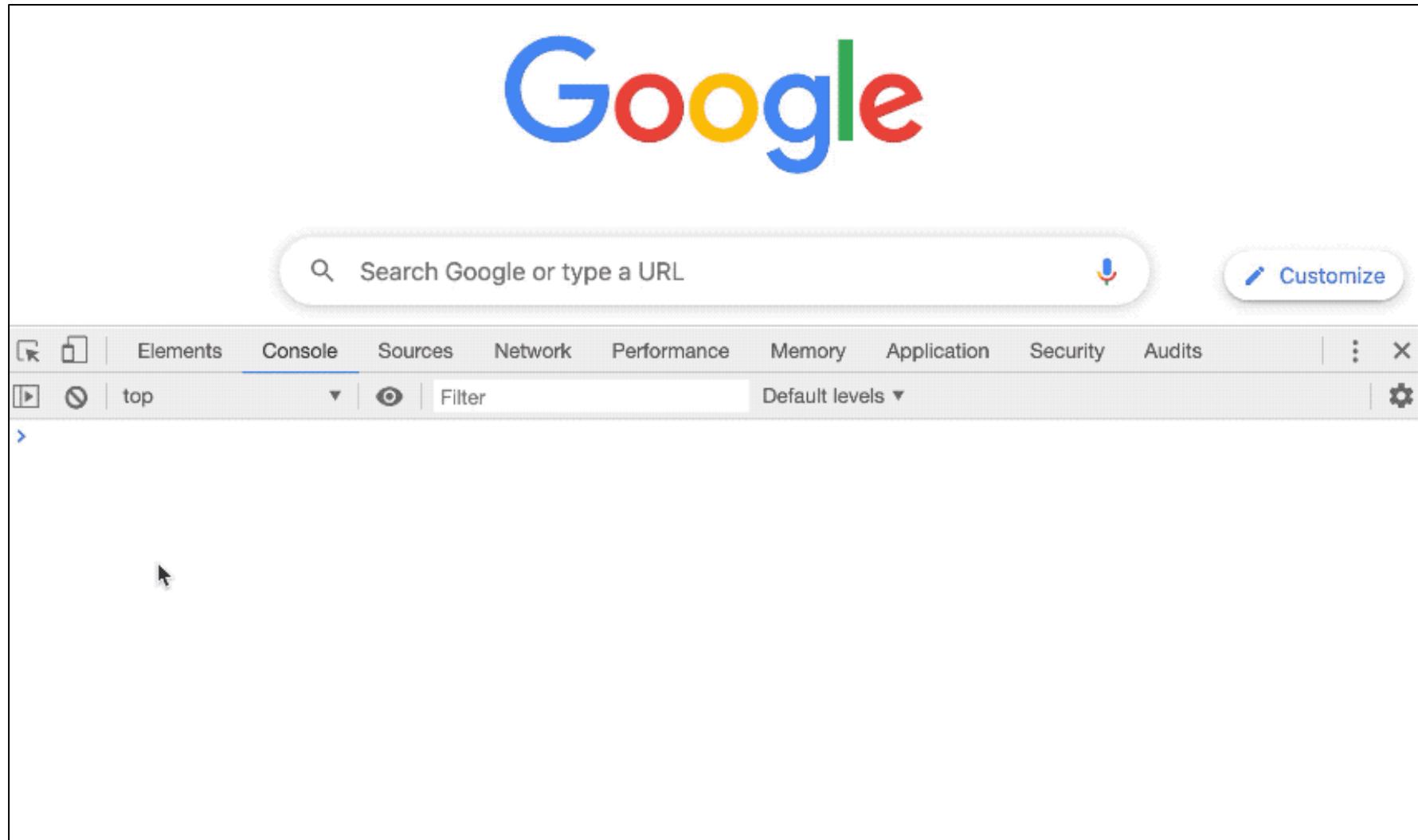


Calling REST APIs directly from the browser can often result in CORS errors

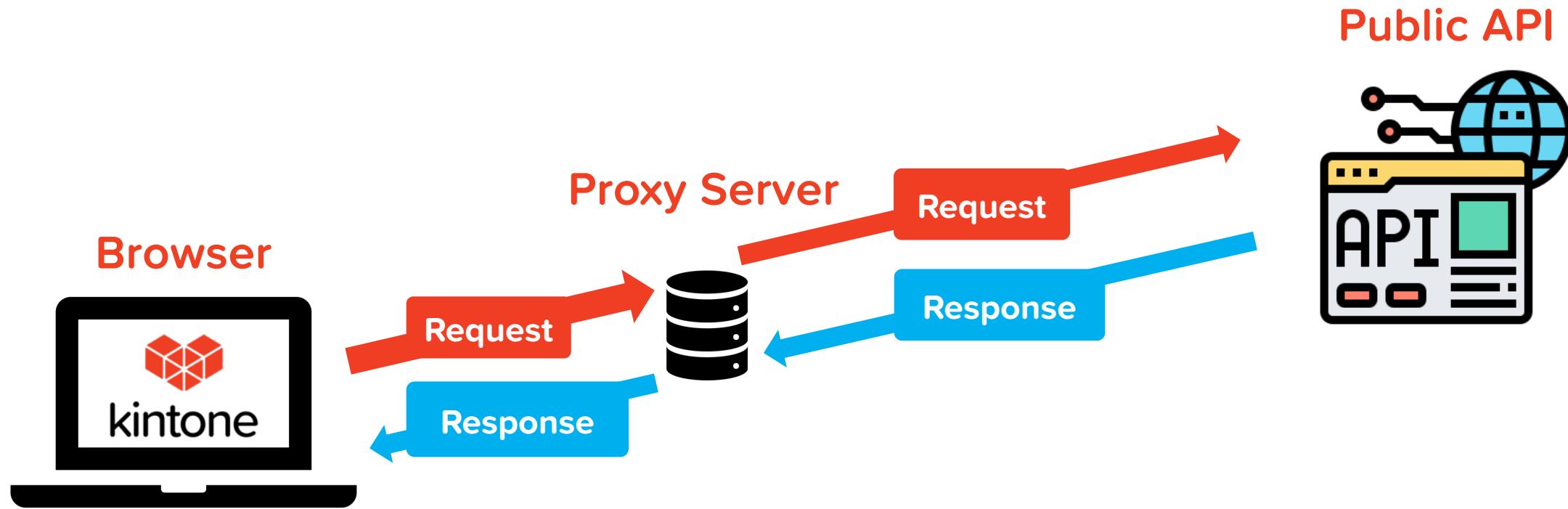
CORS Error Example



Yes, xkcd has an API for retrieving comic images.

A screenshot of the Google Chrome browser window. The address bar shows "Search Google or type a URL". Below the address bar is the DevTools toolbar with tabs for Elements, Console, Sources, Network, Performance, Memory, Application, Security, and Audits. The "Console" tab is selected. The main content area of the browser shows the Google homepage. The DevTools sidebar on the left is visible, showing a list of files and a "Default levels" dropdown. A cursor is visible at the bottom center of the browser window.

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)
```

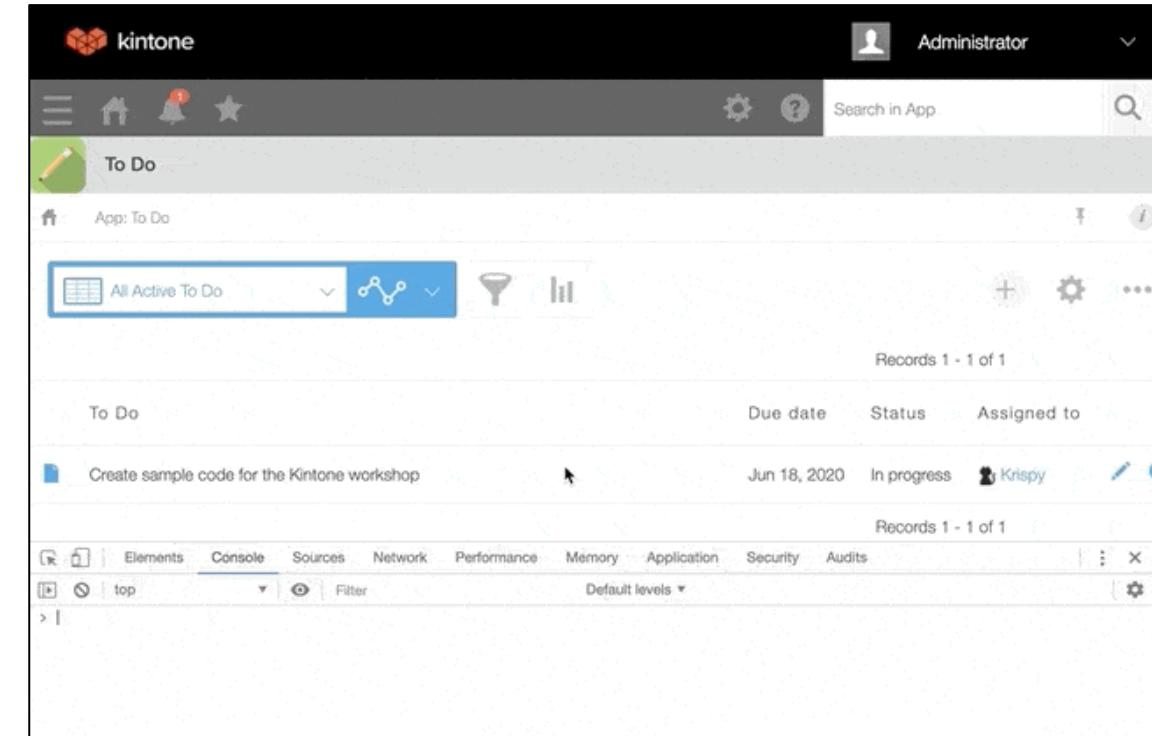
Callback functions – ignoring this
will return a Promise object

the request header

the request body

Example Call Result

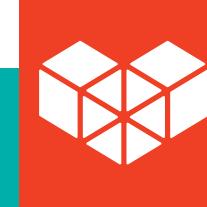
```
1 (function () {
2   'use strict';
3   var url = "https://xkcd.com/327/info.0.json";
4
5   kintone.events.on('app.record.index.show', function (event) {
6     kintone.proxy(url, 'GET', {}, {}, function (success) {
7       var jsonResponse = JSON.parse(success);
8       console.log(jsonResponse);
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

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 20, 2020

Confirmed: 101,000

Recovered: 101,000

Deaths: 101,000

Active: 101,000

Chart design inspired by Bojan Stoev

Coronavirus animated dashboard

IN 2019 I CYCLED 3300 km, SWIMMED 1000 m, AND SPENT 100 HOURS IN THE GARDEN.

Chart design inspired by Bojan Stoev

Radar Chart visualizing yearly activities

COVID-19 U.S. Spread Data

United States (Total), Apr 03, 2020

Confirmed: 101,000

Deaths: 101,000

Active: 101,000

Recovered: 101,000

Chart design inspired by Bojan Stoev

Coronavirus animated dashboard

Chart design inspired by Bojan Stoev

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

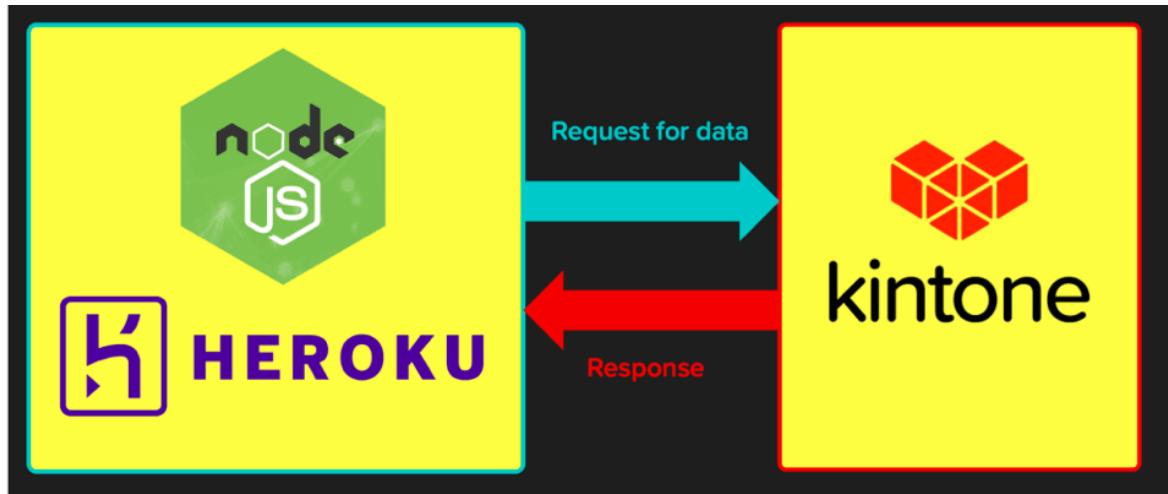
Health					
API	Description	Auth	HTTPS	CORS	
BetterDoctor	Detailed information about doctors in your area	apiKey	Yes	Unknown	
Covid-19	Covid 19 spread, infection and recovery	No	Yes	Yes	
Diabetes	Logging and retrieving diabetes information	No	No	Unknown	
Flutrack	Influenza-like symptoms with geotracking	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



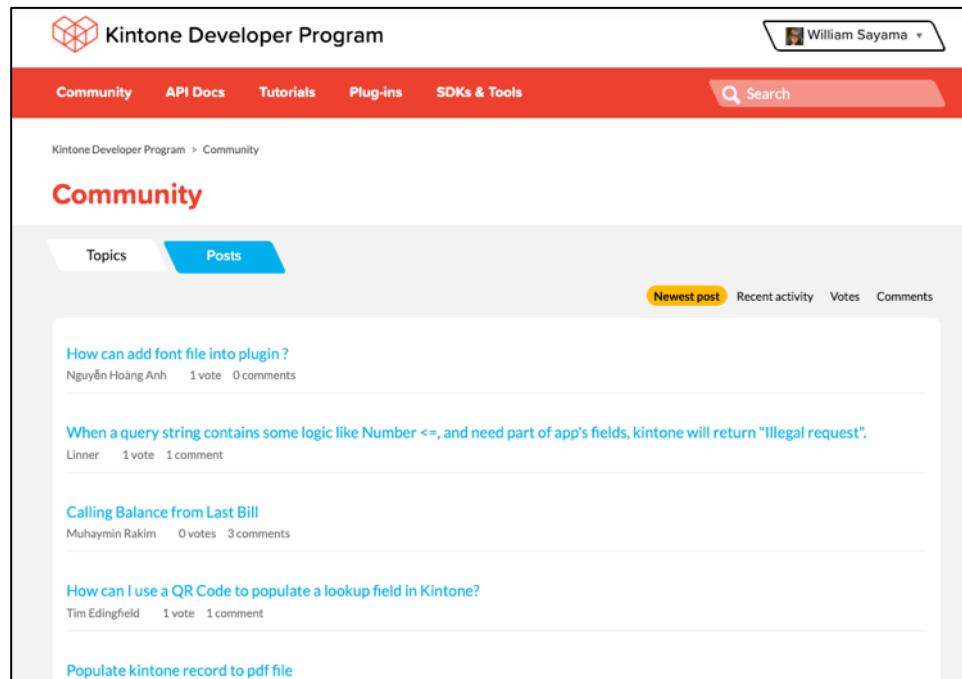
You can follow a tutorial where Node.js is used to call Kintone's REST APIs from the link below:

https://dev.to/will_yama/deploy-a-rest-api-calling-node-js-app-to-heroku-2mia

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 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 partially visible at the bottom.



Upcoming Online 48-hr Hackathons

SillyHacks.online

September 18 - 20

Theme: Hack for FUN!

Focus on showing off your creativity & let Kintone handle the database needs!

sillyhacks.online



**NASA SPACE APPS
2020**

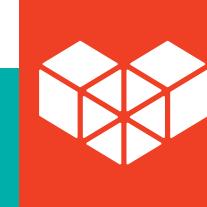
October 2 - 4

Theme: Take Action!

NASA & Kintone invites everyone to come together to create virtual teams & solve challenges using NASA's open-source data!

spaceappsboston.org





Any
Questions?

developer.kintone.io

Thank You to Le Wagon Tokyo!

Quick shout out to all the wonderful people at Le Wagon Tokyo!

Thank you, Sasha Kaverina & Sylvain Pierre, for helping us put this workshop together!



Our Upcoming Workshops!

Join us at the next No Server Data Visualization workshop!

Build a **Bar Chart Race** Data Project

Wed, Sept 30th

10 AM – 12 PM JST

bit.ly/KDP_Events

Workshop Recording on YouTube

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



We have recordings of our past
workshops for you as well:

- Bubble Cloud
- Color-Coded Map
- Word Cloud

Check it out at

bit.ly/KDP_Video

Thank You for Your Participation!

**Fill out our quick survey for
a chance to win a
2,500 yen
Amazon gift card!**



bit.ly/KDP_survey20