

Tufts Clinical and Translational Science Institute



Version LTS 11.1.8

Upgrade Date: 09/24/2021

Tufts | CTSI

Tufts Clinical and Translational Science Institute

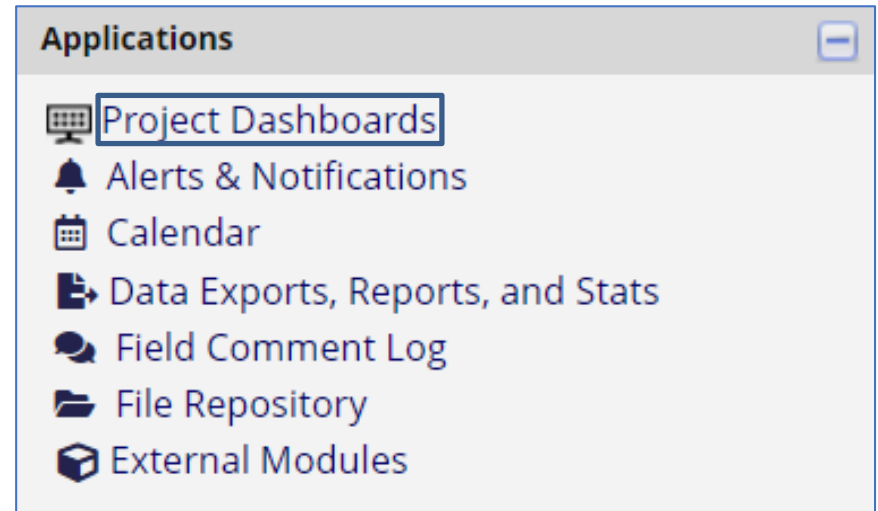
Overview

Tufts CTSI recently upgraded REDCap to version 11.1.8 The new REDCap features are summarized below. If you have questions about these features, please email informatics@tuftsctsi.org:

- [Project Dashboard](#)
- [Smart Functions](#)
- [New Action Tag: @INLINE](#)
- [@PREFILL is now @SETVALUE](#)
- [Field Bank](#)
- [New PDF Print Options](#)
- [Calendar View Records](#)
- [...and many more features!](#)

New Feature: Project Dashboard

- **Project Dashboards** are pages with dynamic content that can be added to a project. They can utilize Smart Variables called **Smart Functions**, **Smart Tables** and **Smart Charts** that can perform aggregate mathematical functions, display tables of descriptive statistics and render various types of charts.
- The **Project Dashboard** can be found under the Applications drop down.



Project Dashboard

Create a new Project Dashboard by selecting the **Create New Dashboard** option.

Project Dashboards

+ Create New Dashboard

My Project Dashboards

Project Dashboards are pages with dynamic content that can be added to a project. They can utilize special Smart Variables called **Smart Functions**, **Smart Tables**, and **Smart Charts** that can perform aggregate mathematical functions, display tables of descriptive statistics, and render various types of charts, respectively. Project dashboards have two basic attributes: a title and a body. User access privileges are customizable for each dashboard, and anyone with Project Design privileges can create and edit them. A wizard is provided on the Project Dashboard creation page to help you easily construct the syntax to add Smart Functions, Smart Tables, or Smart Charts to your dashboards, and a list of helpful examples is also included. [Learn more](#)

	Dashboard name		Dashboard options
1	Project Dashboard Example 1	View	Edit Copy Delete
2	Project Dashboard Example 2	View	Edit Copy Delete
	<div>+ Create New Dashboard</div>		

Project Dashboard: Public Dashboards

Project Dashboards can be set to public viewing. The dashboard can be accessed via a unique URL that anyone can view without a REDCap account.

Select the **Edit** button

	Dashboard name	Dashboard options
1	Project Dashboard Example 1	View Edit Copy Delete

In the **Set as "public"**: option, turn on the **Dashboard is publicly viewable** option

Set as "public":	Enabling this feature below will auto-generate a public link for viewing the dashboard without needing to log in to REDCap. <input type="checkbox"/> Dashboard is publicly viewable
-------------------------	---

A unique URL link is generated for this specific Project Dashboard

Set as "public":	Enabling this feature below will auto-generate a public link for viewing the dashboard without needing to log in to REDCap. <input checked="" type="checkbox"/> Dashboard is publicly viewable <div>Public link: <input type="text" value="https://collaborate-test.tuftsctsi.org/redcap/surveys/?__dashb..."/> Create custom link</div>
-------------------------	---

Project Dashboards can be saved to a PDF file using the **Export as PDF** feature on the top right of the page

Displaying information generated 3 minutes ago

[Export as PDF](#)

Tufts | CTSI

Tufts Clinical and Translational Science Institute

Project Dashboard Template

There are more customization options, graphs and options for **Smart Functions**, **Smart Tables** and **Smart Charts** that can be seen in the **Project Dashboard** Example template project in REDCap!

+ Create a new REDCap Project

You may begin the creation of a new REDCap project on your own by completing the form below and clicking the Create Project button at the bottom.

Project title:

Project's purpose:
How will it be used?

Project notes (optional):
Description of the project's use or purpose (displayed on the My Projects page)

Project creation option:

☐ Empty project (blank slate)
 ☐ Upload a REDCap project XML file (CDISC ODM format) [?](#)
☒ Use a template (choose one below)

<input type="radio"/>	Longitudinal Database (2 arms)	Contains nine data entry forms (beginning with a demography form) for collecting data on two different arms (Drug A and Drug B) with each arm containing eight different events.
<input type="radio"/>	Multiple Surveys (classic)	Contains three surveys and a data entry form. Includes a pre-screening survey followed by two follow-up surveys to capture information from the participant, and then a data entry form for final data to be entered by the study... Show more
<input type="radio"/>	Multiple Surveys (longitudinal)	Contains three surveys and a data entry form. Includes a pre-screening survey followed by two follow-up surveys, one of which is a questionnaire taken weekly to capture participant information longitudinally over a period of... Show more
<input type="radio"/>	Piping Example Project	Contains a single data collection instrument enabled as a survey, which contains questions to demonstrate the Piping feature.
<input type="radio"/>	Project Dashboards, Smart Functions, Smart Tables, & Smart Charts	Example of Project Dashboards, Smart Functions, Smart Tables, & Smart Charts with fifty records included.
<input type="radio"/>	Randomized Clinical Trial	Contains seven data entry forms for collecting data for a randomized clinical trial. Includes a short demographics form followed by a form where randomization is performed. An

New Feature: Smart Functions

Smart Functions are aggregate mathematical functions that are applied across **all** records in a project.

Smart Functions can be used **anywhere in a project where piping is allowed**, and can even be used inside **calculations, branching logic, and other conditional logic**.

A wizard option for these functions can be found in the project dashboard editing page

Wizard for creating Smart Functions, Smart Tables, and Smart Charts

This wizard can help you create a new Smart Function, Smart Table, or Smart Chart that you can then use in a Project Dashboard. Simply make selections using the drop-down lists below regarding which Smart Variable you wish to use, which fields to be utilized in it, and other optional features available. Once your selections have been made, you may click the 'Copy to clipboard' button at the bottom, after which you may paste that generated text into the body of your Project Dashboard.

Step 1) Choose a Smart Variable to create:

aggregate-min
aggregate-min
aggregate-max
aggregate-mean
aggregate-median
aggregate-sum
aggregate-count
aggregate-stdev
aggregate-unique
scatter-plot
line-chart
bar-chart
pie-chart
donut-chart
stats-table

to utilize:

filtering and other settings:

report: -- no filtering by report --

Filter the data using DAGs: -- no filtering by data access group --
Current user's DAG
Duke
Harvard


Step 4) Copy the generated Smart Variable syntax and paste it in your project dashboard:

[aggregate-min:study_id]

Copy to clipboard

Close

Dashboard help:

 Use the Wizard

Tufts | **CTSI**

Tufts Clinical and Translational Science Institute

Smart Functions

The following is a list of **Smart Functions** and their equivalent mathematical function:

[aggregate-min] → Minimum

[aggregate-max] → Maximum

[aggregate-mean] → Mean/Average

[aggregate-median] → Median

[aggregate-sum] → Sum

[aggregate-count] → Count

[aggregate-stdev] → Standard Deviation

[aggregate-unique] → Unique Count

To use a **Smart Function**, attach a field to the end of the function preceded by a colon.

Sample Smart Function Body:

This project contains [aggregate-count:study_id] records. The average age of all participants is [aggregate-mean:age] (stdev=[aggregate-stdev:age]). The median weight is [aggregate-median:weight] (min: [aggregate-min:weight], max: [aggregate-max:weight]).

Result:

This project contains **50 records**. The average age of all participants is **47.38**(stdev=**30.93**). The median weight is **109** (min: **47**, max: **197**).

New Feature: Smart Tables

Smart Tables display descriptive statistics for fields with each field as a row in the table. By default, the following columns will be displayed: **count, missing, unique, min, max, mean, median, stDev, sum.**

To use a **Smart Table**, use the smart variable **[stats-table]** This will accept one or more field types as a parameter such as **[stats-table:age]**

***Smart Tables** can be displayed with **all** columns by default:*

***[stats-table:height,weight,race,gender]** will display the following table:*



	Count	Missing	Unique	Min	Max	Mean	Median	StDev	Sum
Height (cm)	50	0	35	133	214	177.22	180	24.64	8,861
Weight (kilograms)	50	0	44	47	197	114.72	109	42.79	5,736
Race	50	0	7						
Gender	50	0	2						

*To display with only specified columns, use a colon (**:**) after the fields and specify the columns you wish to see:*

***[stats-table:age,weight,height:mean,stdev]** will display the following table:*



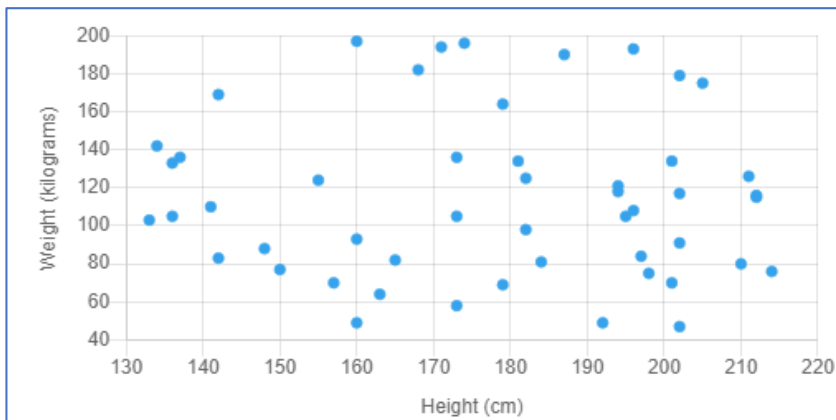
	Mean	StDev
Age (years)	47.38	30.93
Weight (kilograms)	114.72	42.79
Height (cm)	177.22	24.64

New Feature: Smart Charts

Smart Charts can be used to display many types of charts for one or more fields in the project.

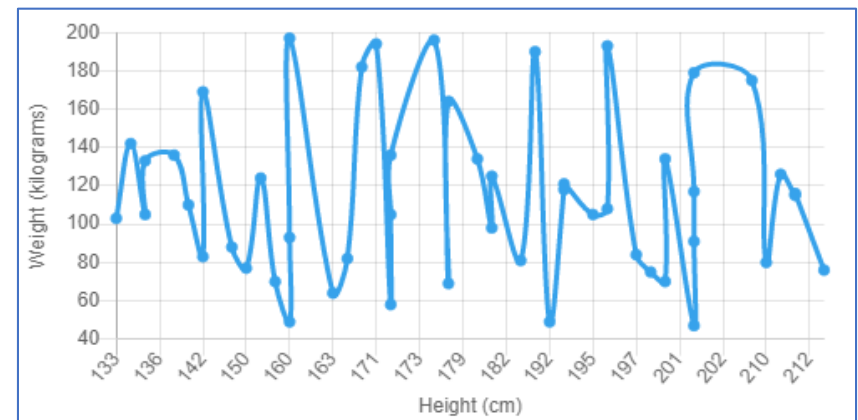
To display a **scatter plot** of two fields (x vs y):

[scatter-plot:height, weight] will display the following:



To use **line charts** of two fields (x vs y):

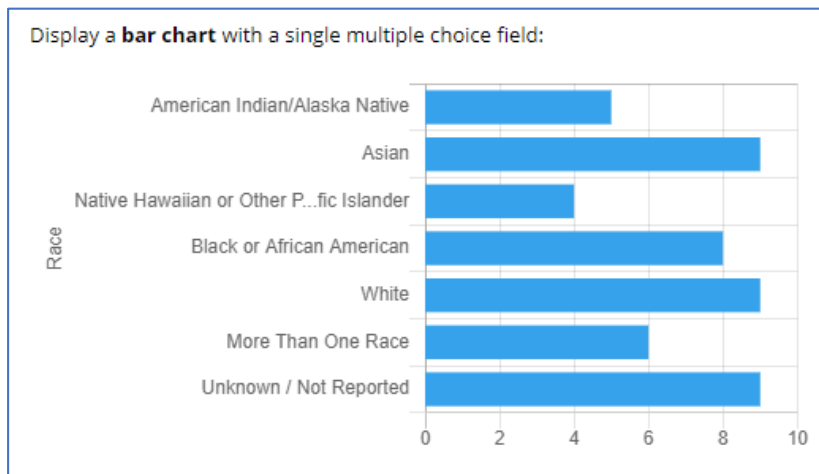
[line-chart:height, weight] will display the following:



Smart Charts

To display a **bar chart** with a single multiple-choice field:

[bar-chart:race] will display the following:



To display a **pie chart**:

[pie-chart:race] will display the following:

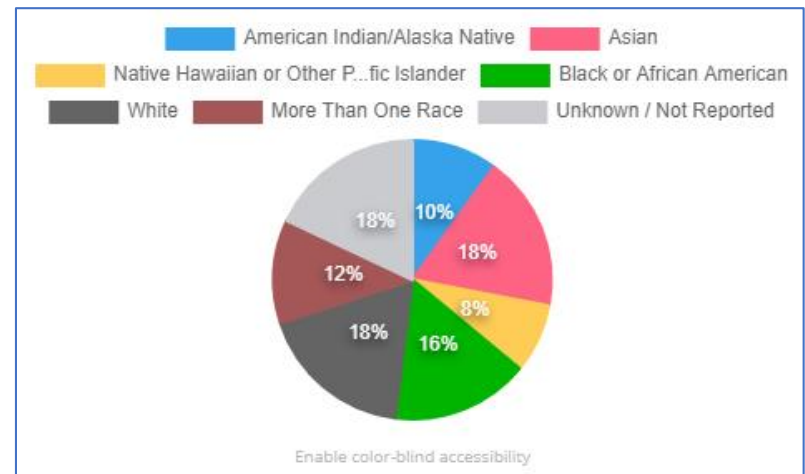
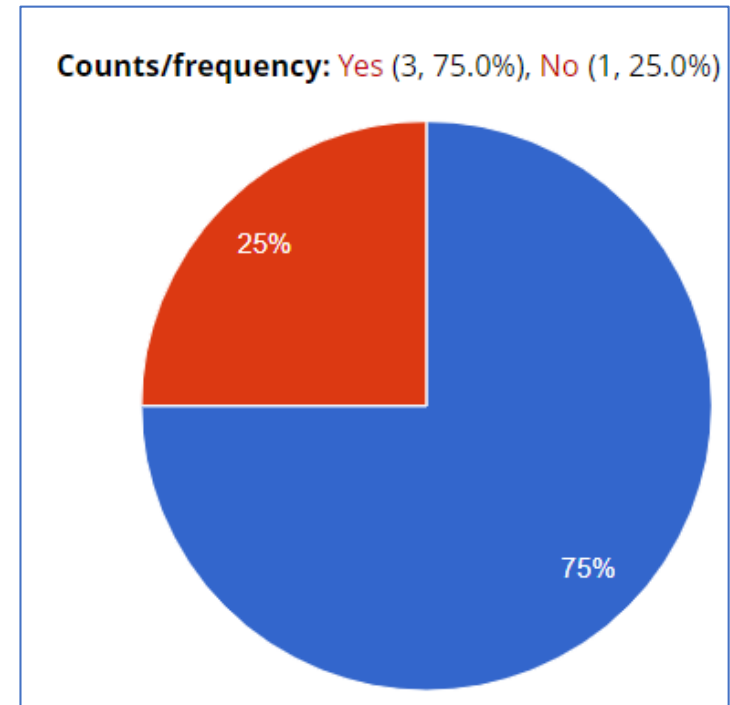
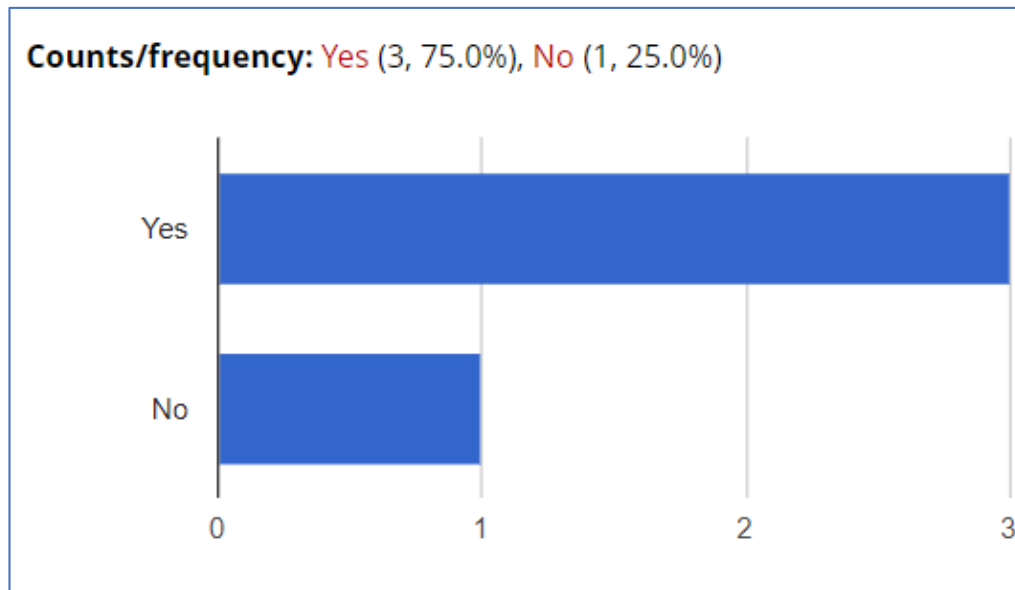


Chart Percentages

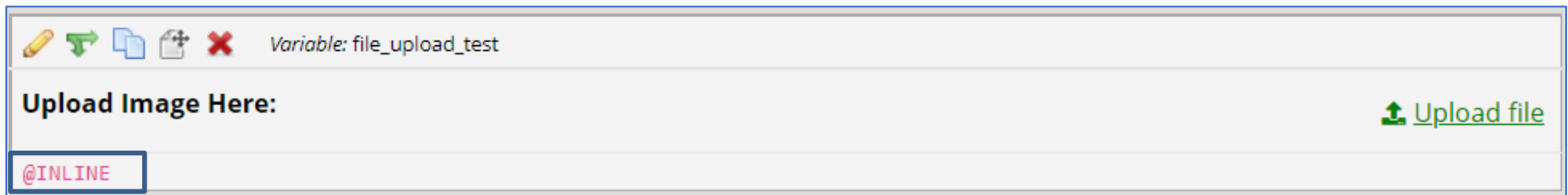
Smart Charts now display the percentage value on top of each colored slice in the chart.



New Action Tag: @INLINE

The **@INLINE** action tag allows a PDF file or image file that is uploaded to a File Upload field to be displayed in an inline manner on the survey page or data entry form so that the PDF/image can be viewed by the user or survey participant without having to download it.

*In a **File Upload** field, add the **@INLINE** action tag to the field*



The screenshot shows a configuration interface for a 'File Upload' field. At the top, there are icons for editing, saving, deleting, and a red 'X' icon, followed by the text 'Variable: file_upload_test'. Below this is a section labeled 'Upload Image Here:' with a green 'Upload file' button. At the bottom, the '@INLINE' action tag is entered into a text box.

When the participant uploads a PDF or image, it will now appear in the survey/form as show below:



The screenshot shows a survey form with a light green background. On the left, the text 'Upload Image Here:' is displayed. On the right, a large image of a pink cosmos flower is shown. Below the image, the filename 'sulfur-cosmos-mexican-ast...owers.jpg (0.96 MB)' is displayed. At the bottom right, there are three links: 'Upload new version', 'Remove file', and 'Send-It'.

New Action Tag: @INLINE

It is also possible to set **width** and **length** dimensions on files uploaded. These can be **percentages** or **pixels**. In action tag below, the **@INLINE** tag is set to **50% Width**:

Action Tags / Field Annotation (optional)

@INLINE(50%)

*Now when the participant uploads a file, it will be displayed at **50% width** rather than the original dimensions:*



The **@INLINE** action tag dimensions are set using the format **@INLINE(width, length)**

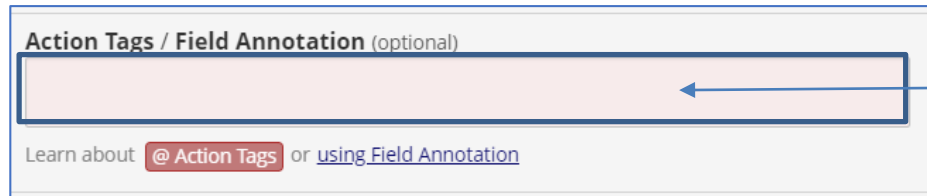
@INLINE(50%,300) will set the file/image at 50 percent width and 300 pixels length.

@INLINE(500,250) will set the file/image at 500 pixels width and 250 pixels length

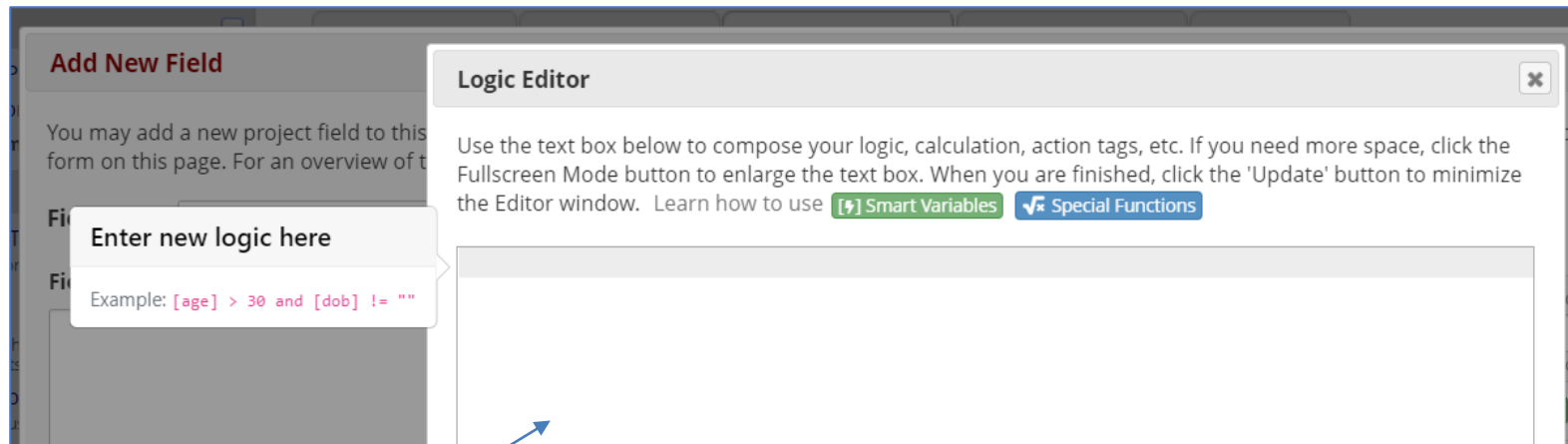
@INLINE(325,70%) will set the file/image at 325 pixels width and 70 percent length.

Action Tags

The Logic Editor popup is now utilized when editing the **Action Tags/Field Annotation** text box in the Online Designer



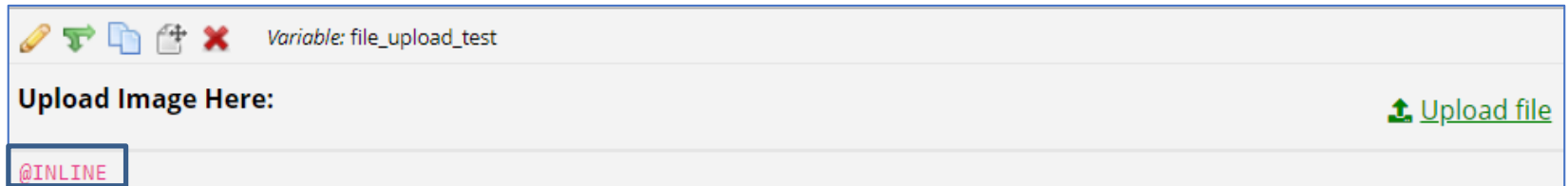
Clicking on this box...



Opens the Logic Editor now!

Action Tags

In the Online Designer, any fields that have action tags will have those action tags listed immediately below the field in the table on that page. This makes it easier to know if a field has a certain action tag without having to open the **Edit Field** dialog for the field.



Action Tags now appear underneath the field in the online designer!

@PREFILL is now @SETVALUE

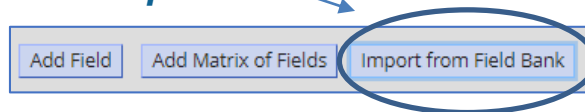
The **@PREFILL** action tag has been renamed to **@SETVALUE**, which more accurately captures how it behaves. Some confusion had occurred regarding this action tag's behavior simply because of its name. This change to the name is **backwards compatible** so that projects already using **@PREFILL** will still work with its legacy counterpart. **@SETVALUE** will be the preferred name going forward. The documentation notes for action tags have been updated to reflect this.



New Feature: Field Bank

Users will see an **Import from Field Bank** button when adding fields in the Online Designer. This button will allow users to search different standardized catalogs of commonly used fields, such as the **U.S National Library of Medicine** catalog. The **Field Bank** helps users add new fields quickly and easily to their instruments. Over time, more catalogs will be added. The **Field Bank** allows a better emphasis on **standardization** within their projects.


New Option




Users can search and new fields via these standardized catalogs

Using the Field Bank, search for fields in various catalogs below by selecting a catalog and entering specific keyword. When reviewing the resultsup of your search, click the "Add Field" button for the field to add that field to the current data collection instrument.

Select a catalog to search:

 NIH/NLM Catalog U.S. National Library of Medicine



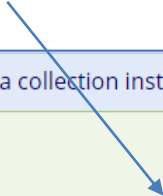
Search by keyword

Please select a catalog above and enter a search keyword.

Survey: Custom Offline Message

Users can provide custom text that is displayed to participants only when the survey is offline. This custom text will be displayed in place of the default offline text on the survey while the survey is in offline mode. This text can be set at the top of the **Survey Settings** page.

New




✎ Modify survey settings for data collection instrument "Pre-Screening Survey" Save Changes Cancel

Survey Status ✓ Survey Active ▼ If offline, respondents will not be able take the survey.

Custom text to display on survey page when offline: Add offline message

"Survey Stop Actions" Controls

The new **Survey Stop Actions** give users more flexibility with survey controls. You may now prevent survey responses from being saved if the survey ends via Stop Action. In addition, you maybe now set **alternative text** upon survey completion.

 **Options related to Survey Stop Actions:**

Prevent survey responses from being saved if the survey ends via Stop Action?

If a Stop Action triggers the end of the survey, you may choose to keep the submitted responses or to prevent them from being saved as data in the project.

Save all survey responses regardless of Stop Action being triggered (default) ▼

WARNING: If any data has been saved on the survey instrument prior to the Stop Action being triggered, that data will be deleted. For example, if the survey is a multi-page survey in which data has been entered on previous pages prior to triggering the Stop Action, all data collected thus far in that survey will be deleted as if the survey was never taken. Additionally, if the record does not contain data in any other instruments, the entire record itself will be deleted during this process.

Alternate Survey Completion Text (optional)

This completion text is ONLY displayed when a Stop Action triggers the end of the survey. If left blank, the standard Survey Completion Text will be used.


Paragraph ▼


—


B


I


U


























































































 [How to use Piping here](#)


":link" Pipping Option for Field Upload

A new **pipping** option for the **Field Upload** field has been added. If pipping using the **":link"** option for a **Field Upload** field, such as **[my_field:link]**, the file's filename will be displayed as a clickable hyperlink for downloading the file, which works on webpages and inside the body of email text.

Field Label

File Upload > [my_field:link]

How it appears in the instrument

 Variable: test_field1

File Upload > [my_field:link]



[Add Field](#) [Add Matrix of Fields](#) [Import from Field Bank](#)

How it appears in the survey

File Upload > [test.pdf](#)

Link Field Upload

[test.pdf \(0.01 MB\)](#)

 [Upload new version](#) or  [Remove file](#)

New PDF Print Option

A new option (highlighted below) has been added to the "Download PDF of instrument(s)" dropdown. This option will produce an improved **web-based PDF** of the selected instrument(s) that better preserve formatting options.

Note: This "Print to PDF" option correctly hides fields that have the @HIDDEN-PDF action tag

The screenshot shows a web interface with a top bar containing 'Actions: Modify instrument', 'Download PDF of instrument(s)', and 'VIDEO: Basic data entry'. On the left is a sidebar with 'Test Instrument' and 'Editing existing Record ID 1'. The main area displays a dropdown menu for 'Download PDF of instrument(s)' with the following options:

- This data entry form (blank)
- This data entry form with saved data
- This data entry form with saved data (send to printer: select "Save as PDF" as the Printer/Destination)**
- This data entry form with saved data (compact)
- All forms/surveys (blank)
- All forms/surveys with saved data
- All forms/surveys with saved data (compact)

The third option is highlighted with a black border. Below the dropdown, there are buttons for 'Record ID', 'Form Status', 'Complete?', and 'Lock this instrument?'.

Import/Export Alerts

Users may now export and import alerts to the same project or another project using a CSV file. If updating an existing alert, the unique alert ID must be included in the CSV file.

My Alerts

Notification Log

Upload or download Alerts

?

+ Add New Alert

Re-evaluate Alerts

Show deactivated alerts

Search

Alert #1: Alert 1

Edit

Options

Unique Alert ID: A-1

🔔 When the instrument "Participant Information" is saved and has any form status.

➡ Send immediately

1x Send one time (only once per record - i.e., never re-trigger)

📊 Activity:

📧 12 records were alerted [view list](#)

✅ Last sent:

Email

Preview

From:

To:

Subject: Test

Test

Alert #2: Alert 2

Edit

Options

Unique Alert ID: A-2

🔔 When the instrument "Study Data" is saved and has any form status.

➡ Send immediately

1x Send one time (only once per record - i.e., never re-trigger)

📊 Activity:

📧 28 records were alerted [view list](#)

✅ Last sent:

Email

Preview

From:

To:


Subject: Test 2


Test 2

Import/Export Alerts via CSV

Users may now export and import alerts to the same project or another project using a CSV file. If updating an existing alert, the unique alert ID must be included in the CSV file to identify the alert that the user wishes to modify. If the unique alert ID is left blank in the CSV file being uploaded, it is assumed the user wishes to create a new alert.


Old


 Add New Alert



 Re-evaluate Alerts


☐ Show deactivated alerts

New

 Add New Alert

 Re-evaluate Alerts

 Upload or download Alerts 



☐ Show deactivated alerts

Reorder Alerts

Users can now reorder alerts in the options menu of individual alert. When this is done, you will be notified that moving the alert will cause alert numbers to be renumbered. The **alert title and unique ID** will no change during this process.

The screenshot displays the alert management interface with two alerts. Alert #1, titled 'Alert 1', has a unique ID of A-1. Its options menu is open, showing 'Copy alert', 'Deactivate alert', and 'Move alert' (which is highlighted). The alert description is 'When the instrument "Par" is saved and has any form status.' It is set to 'Send immediately' and 'Send one time (only once)'. The activity shows '12 records were alerted' and 'Last sent:'. To the right is an email preview for 'Test'.

Alert #2, titled 'Alert 2', has a unique ID of A-2. Its description is 'When the instrument "Study Data" is saved and has any form status.' It is also set to 'Send immediately' and 'Send one time (only once per record - i.e., never re-trigger)'. The activity shows '28 records were alerted' and 'Last sent:'. To the right is an email preview for 'Test 2'.

User Preference CSV Delimiter

The **My Profile** page now has a new user preference to allow a user to set their own preferred CSV delimiter(e.g., comma, semi-colon) that will be used as the delimiter character in all CSV file downloads throughout REDCap, such as data dictionary import/export, event import/export, etc.

New

User Preferences
Set your preferences for how dates, timestamps, and numbers appear to you in REDCap.

Date and time format:

MM/DD/YYYY and 12-hour AM/PM time ▾
(e.g., 12/31/2004 22:57 or 31/12/2004 10:57pm)

Number format - decimal character:

. (period / full stop) ▾
(e.g., 3.14 or 3,14)

Number format - thousands separator:

, (comma) ▾
(e.g., 1,000,000 or 1.000.000 or 1 000 000)

Delimiter for CSV file downloads:

, (comma) ▾
(e.g., "record,age,bmi" or "record;age;bmi")

Save Preferences

Reports: Built-in Live Filters

When viewing reports, A or B a new **live filters** option is available. Options for filtering include record_id, events and DAGs (only appears if DAGs are enabled for current project.)

Old

Number of results returned: 4

Total number of records queried: 4

Report execution time: 0 seconds

 Stats & Charts

 Export Data

 Print Page

All data (all records and fields)


New

Number of results returned: 4

Total number of records queried: 4

('records' = total available data across all designated events)

Report execution time: 0 seconds

 Stats & Charts

 Export Data

 Print Page

Live filters: [Record ID] ▾ [Events] ▾ [Data Access Group] ▾

All data (all records and fields)

Calendar View

When you select on the **+New** button on the calendar, a popup will appear for you to input the **Time**, **Notes** and **Record ID** if applicable.

Add New Calendar Event

Date: **09/21/2021 (Tuesday)**

Time: HH:MM (24-hr format)
(optional)

Notes:

Record ID:

- not applicable - ▼

 Select from drop-down if calendar event is for existing Record ID

Add Calendar Event

New Feature: Calendar View Records

When viewing the "View/Edit Calendar Event" popup for a calendar event that is attached to a record, a new option **View Record Home Page** allows users to easily navigate to that record.

View/Edit Calendar Event

Record ID: **1** [View Record Home Page](#)

Event Name: **Ad Hoc**

Date: **09/01/2021 (Wednesday)** [change date](#)

Time: HH:MM

Notes:

Test

Export Data Quality Rule Results

After running a data quality rule, users may **export** the results/discrepancies of the rule as a CSV file. The CSV file will be structured exactly like a data export/import file, which should allow for faster and easier cleaning of data so that values can be fixed and then re-uploaded as a **data import**.

Old

	A	Blank values*	-		192	view
--	---	---------------	---	--	-----	----------------------

New

	A	Blank values*	-		178	export view	0
--	---	---------------	---	--	-----	-------------------------------	---

Custom Ranges for Slider Fields

Users may now set a custom **minimum and/or custom maximum** integer for slider fields. If no value is entered for the min or max value, it will assume the default value. These can be set via the **Edit Field** popup in the Online Designer, and via the "**Text Validation Min**" and "**Text Validation Max**" columns in the Data Dictionary.

Labels displayed above slider (optional):

Left label (bottom, if vertical):

Middle label:

Right label (top, if vertical):

Display number value (0-100)? ☐

Labels displayed above slider (optional):

Left label (bottom, if vertical):

Middle label:

Right label (top, if vertical):

Display number value? ☐

Min/max range values: Min: Max:

New

...and Many More Features!

- New option for Project Templates called “copy records”, which will copy any existing records in the template to a new project created from the template.
- Assign a user to a DAG at the same time as adding the user to the project.
- When exporting a PDF of all record data via the “Other Export Options” page, a copy of the downloaded PDF will now be archived and stored in the File Repository.
- The project logging page now displays more information for PDF Exports that contain data, such as displaying record name, event, and instrument for the downloaded PDF.
- The User Access Dashboard now displays “Last logged activity” for each project displayed on that page.
- The “Phone(North America)” field validation now allows phone numbers that begin with “800” and “811”.
- If a project contains more than 25,000 records, the Logging page will no longer display the record filtering drop-down at the top of the page but instead will display an auto-complete text box to allow the user to enter the record name to filter the log by record.

To see the full release notes, please look at our website at

<https://www.tuftsctsi.org/research-services/informatics/redcap-research-electronic-data-capture/>

Request a REDCap Account

To request a REDCap user account or receive other REDCap support, please follow the Request Services link located on our website at www.tuftsctsi.org and we will contact you within 48 hours.

Thank you!