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Introduction to REDCap™

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Helix

AGENDA

Introduction

Training Topics

Live Demos

Q&A (anytime!)

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REDCap Introduction

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REDCap DEMO

Training Registration

- Go to the website and sign-in

  https://is.gd/monashredcaptraining

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Who Created REDCap and Who Uses it?

THEN

2004: Developed at Vanderbilt Univ.

2006: Global consortium started

2014: Monash joined

NOW

Worldwide:

- +3085 institutions /127 countries
- +590,000 projects
- +797,000 users

REDCap @ Monash:

- +500 projects
- +2000 users

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What is REDCap?

Web-based software used to create and manage research databases and/or participant surveys.

Developed as a tool to help researchers collect and manage data effectively and responsibly.

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Advantages of REDCap

Accessible
- web-based access (on and off campus)
- access for multi-site collaborations

Customisable
- fast and flexible to design
- modifications at anytime

Accurate
- ensures consistent and accurate data entry
- data quality checks to look for errors

Secure
- Data are stored in a secured area
- Daily backup and software upgrades

Supported
- includes user group, training, design guidance, troubleshooting

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Training Topics

Project Setup
- Main Project Settings
- Design your data instruments
- Enable modules and customisations
- User Rights and Permissions
- Testing your project
- Moving to production

Using Surveys
- Enabling surveys
- Settings & customisations
- Public link vs private links

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Training Topics

Applications & Tools

- Record status dashboard
- Project audit trail
- Field history
- Codebook
- Data export
- Data import
- Data quality

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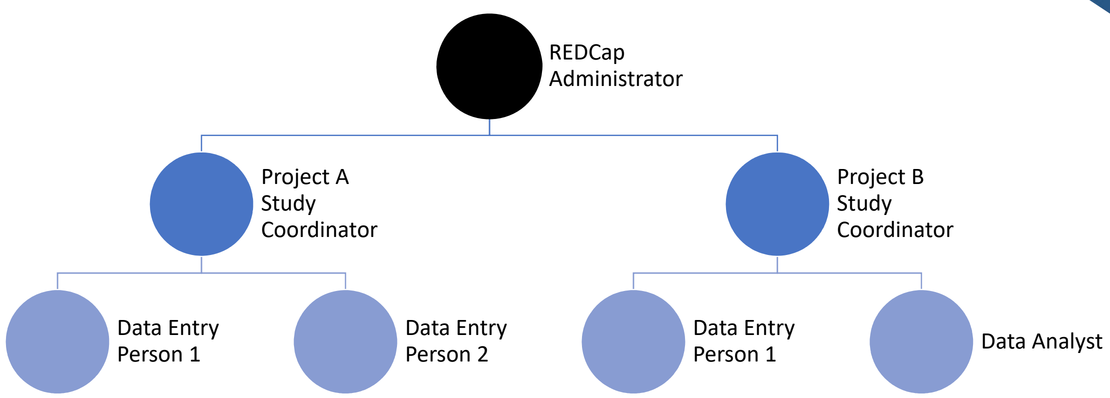
REDCap Users



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REDCap Project Request

Monash University Research
The P.I. must be from Monash University
https://is.gd/monashredcap

Monash Health Translation Precinct (MHTP) Research
The P.I. must be from MHTP, Hudson or Monash University
https://is.gd/mhtpredcap

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Project Setup

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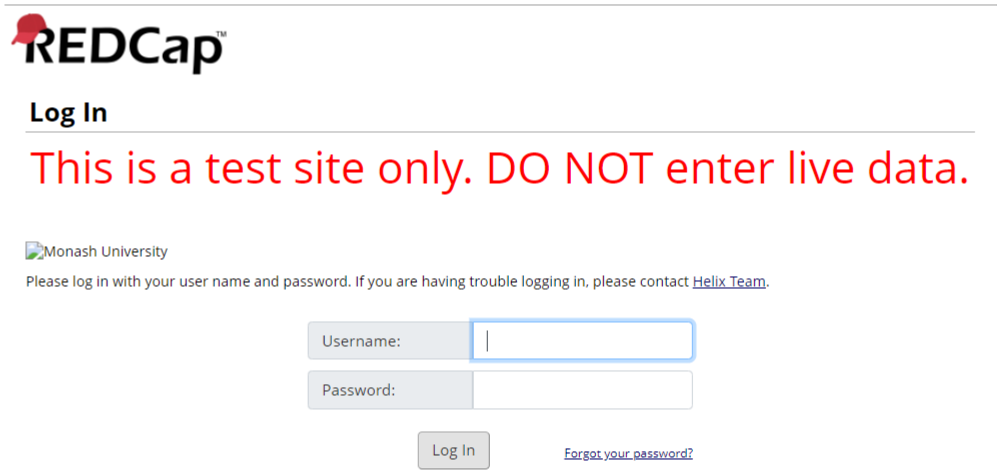
REDCap Access: https://redcap-qa.helix.monash.edu/



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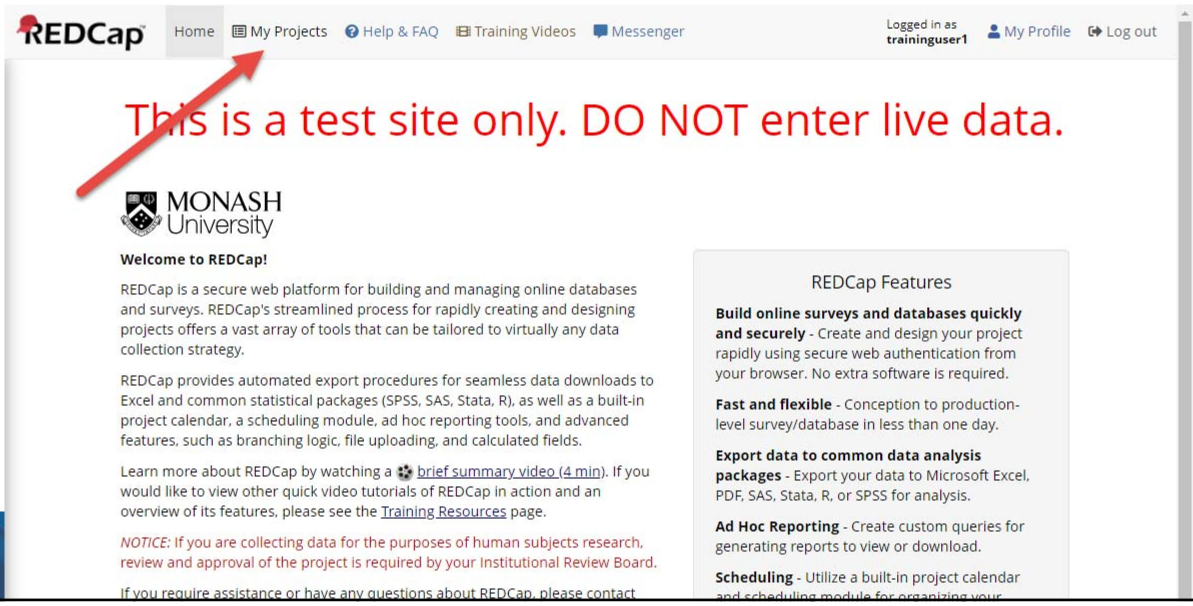
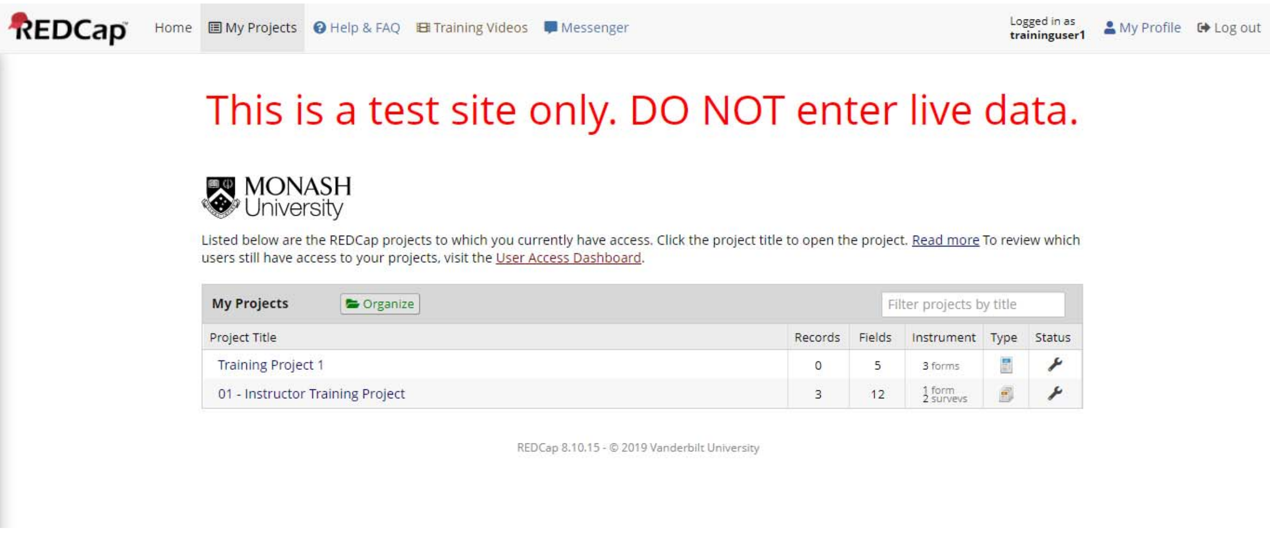
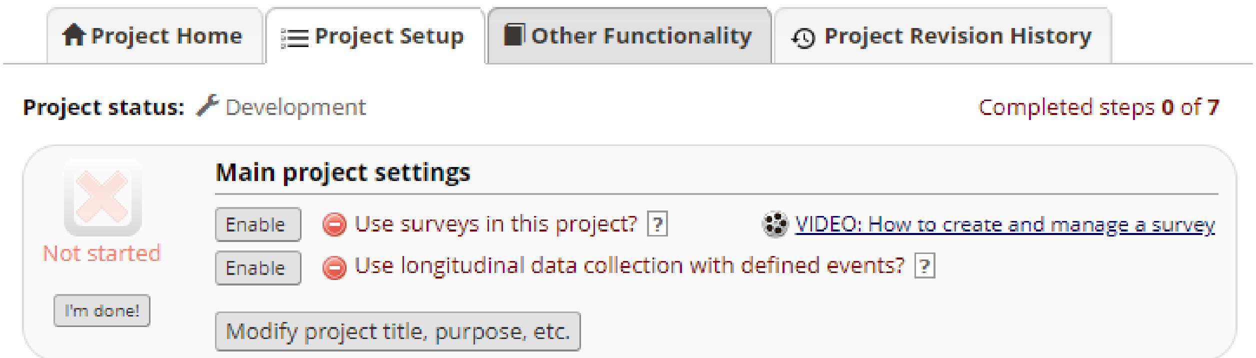
My Projects





Step 1: Main Project Settings



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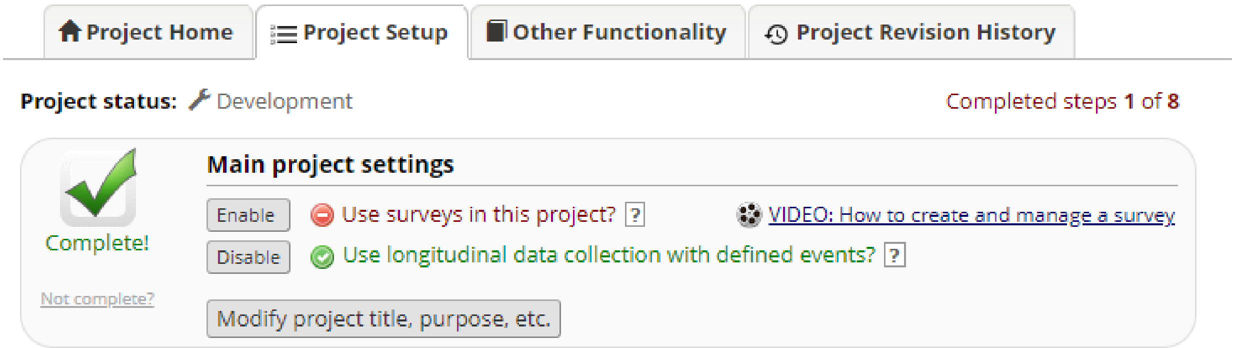
Step 1: Main Project Settings



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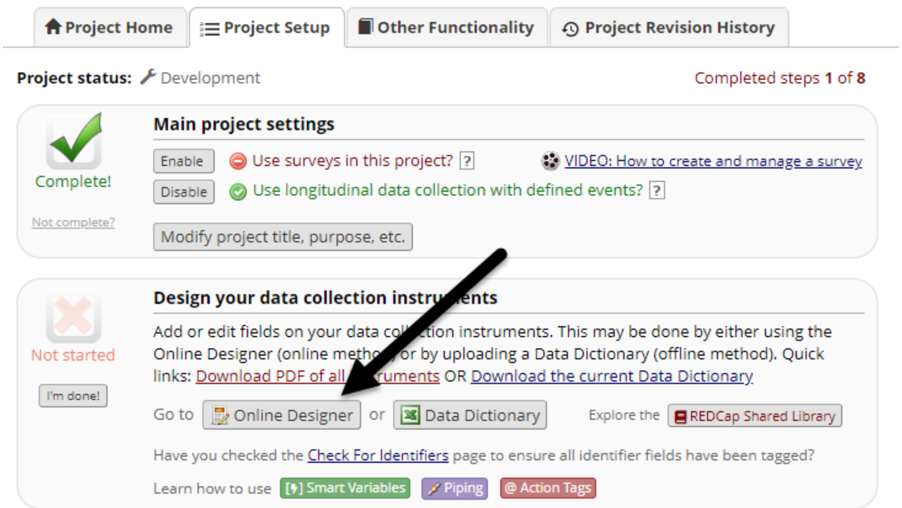
Step 2: Online Designer



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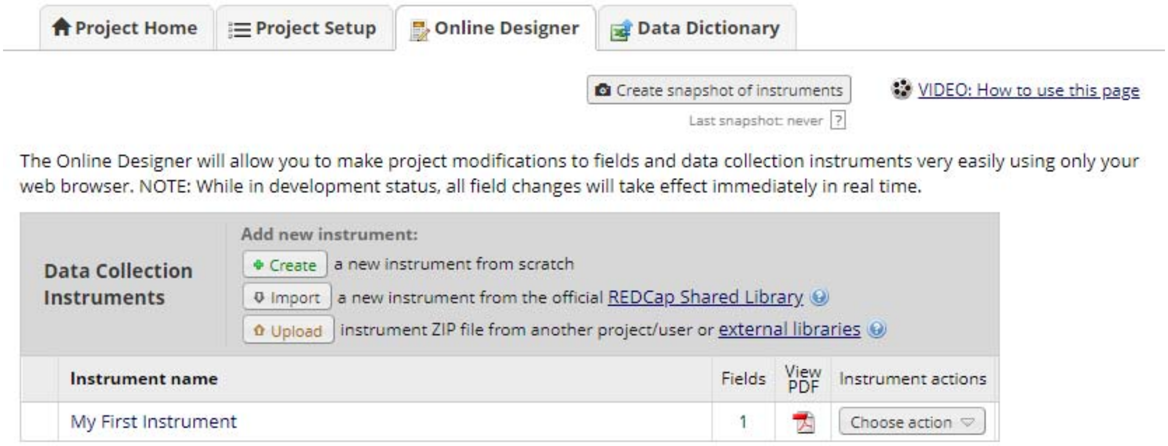
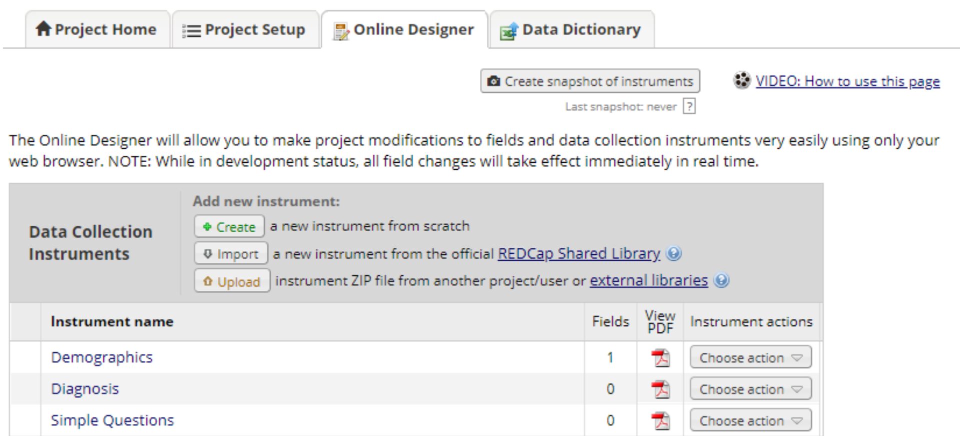
Step 2: Online Designer



Step 2: Online Designer



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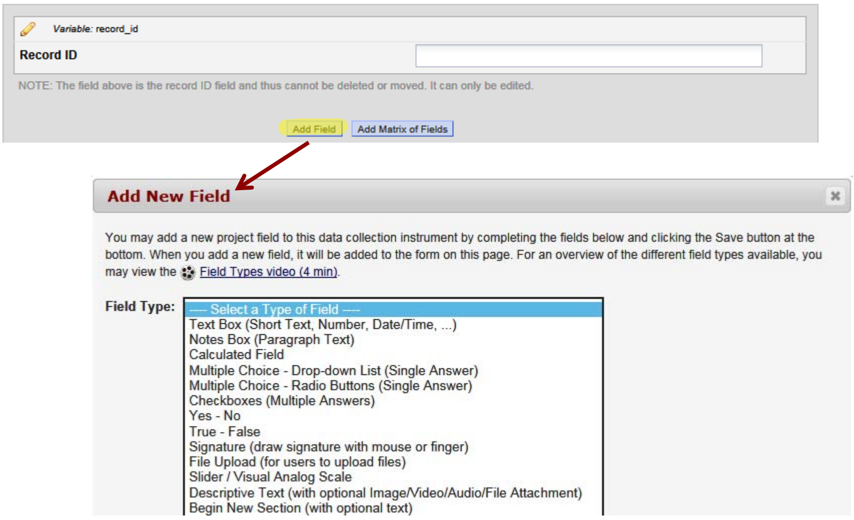
Step 2: Online Designer



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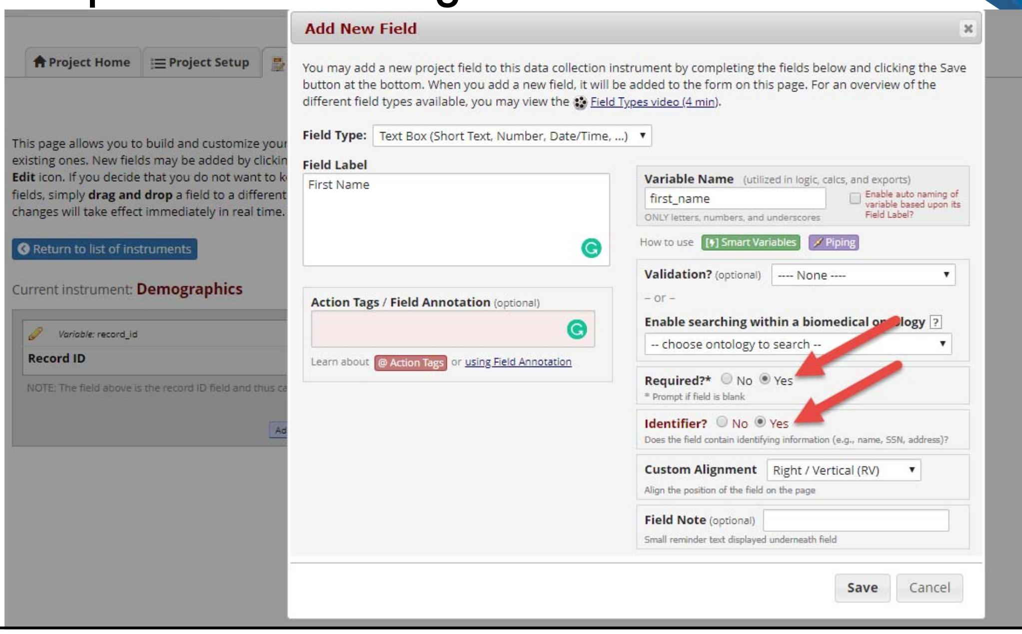
Step 2: Online Designer



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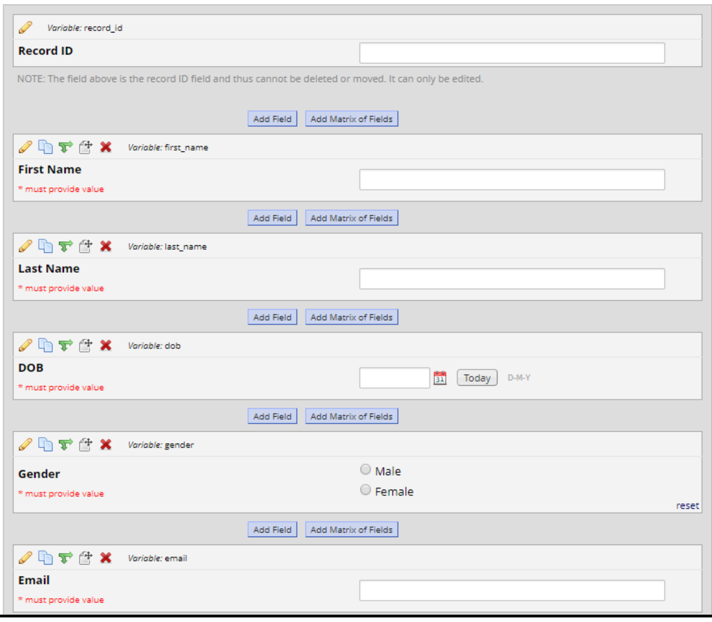
Step 2: Online Designer



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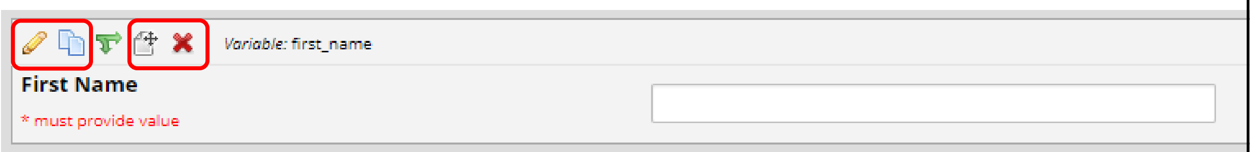
Step 2: Edit/Copy/Move/Delete Fields



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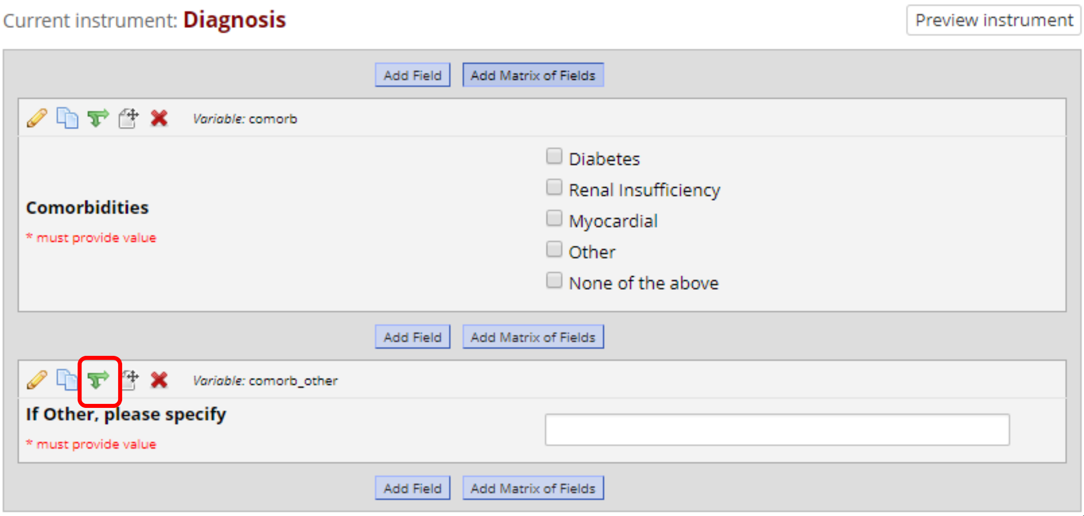
Step 2: Branching Logic



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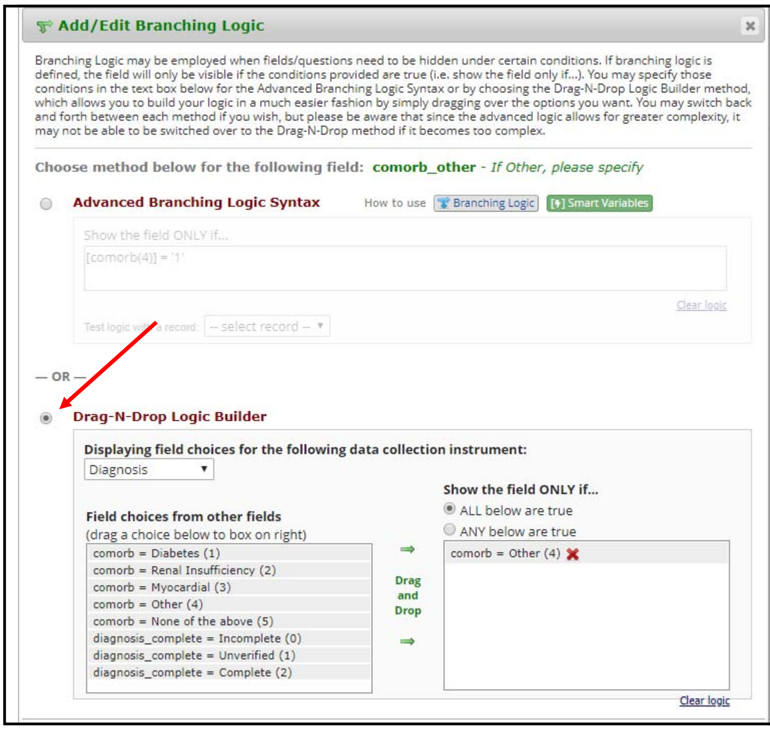

Step 2: Branching Logic

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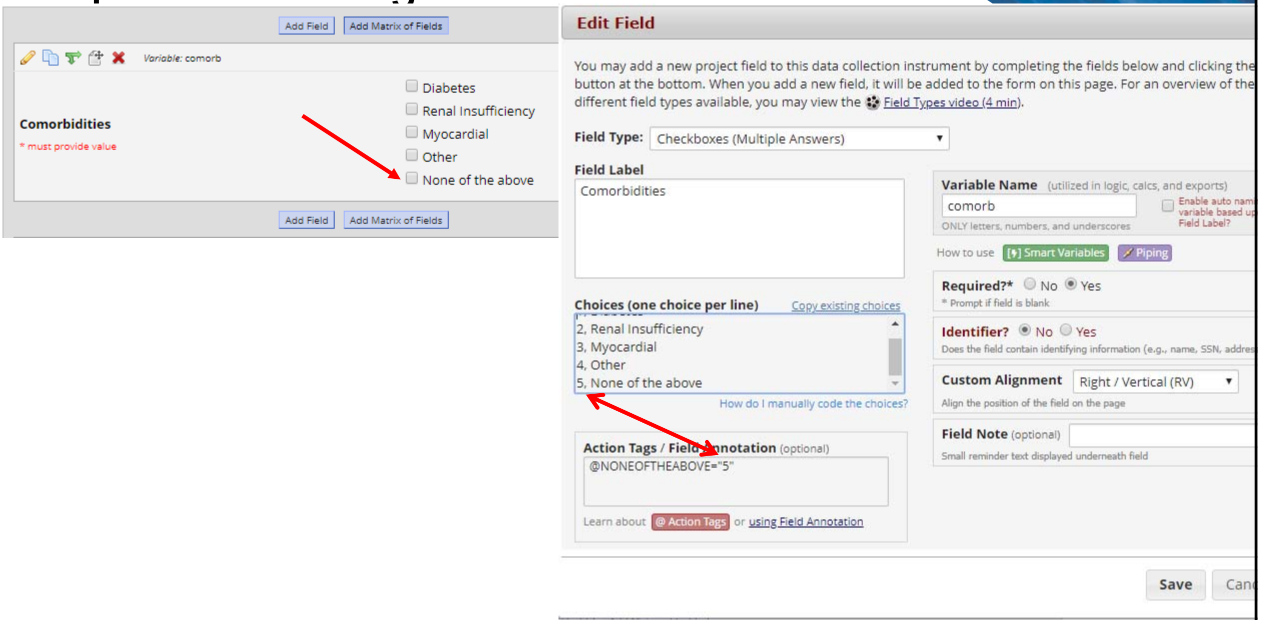
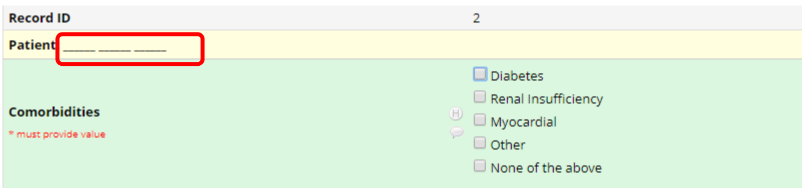
Step 2: Action Tags



Step 2: Piping

Without Data



With Piping Data

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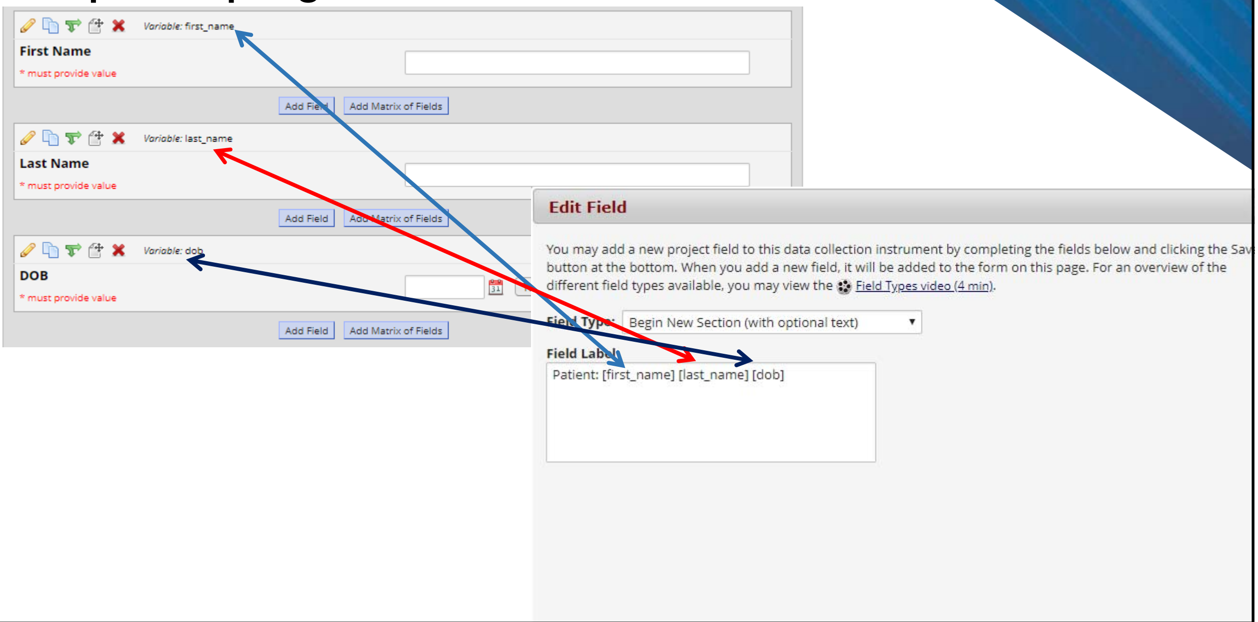
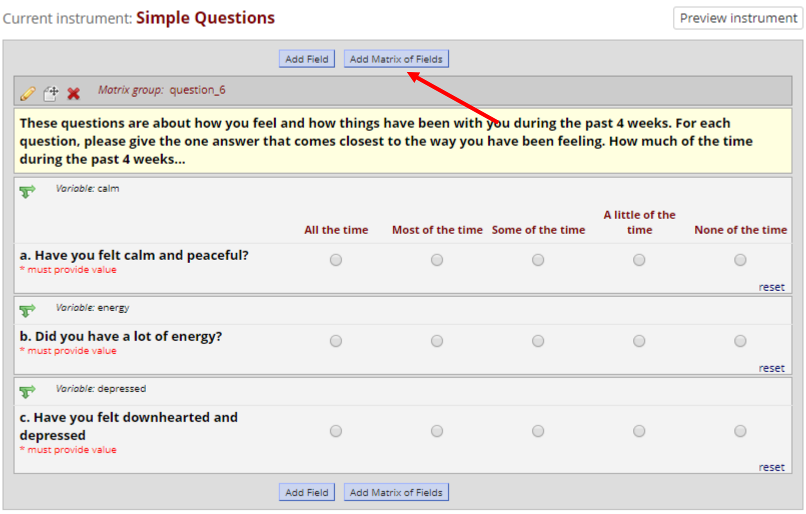
Step 2: Piping



Step 2: Matrix Field



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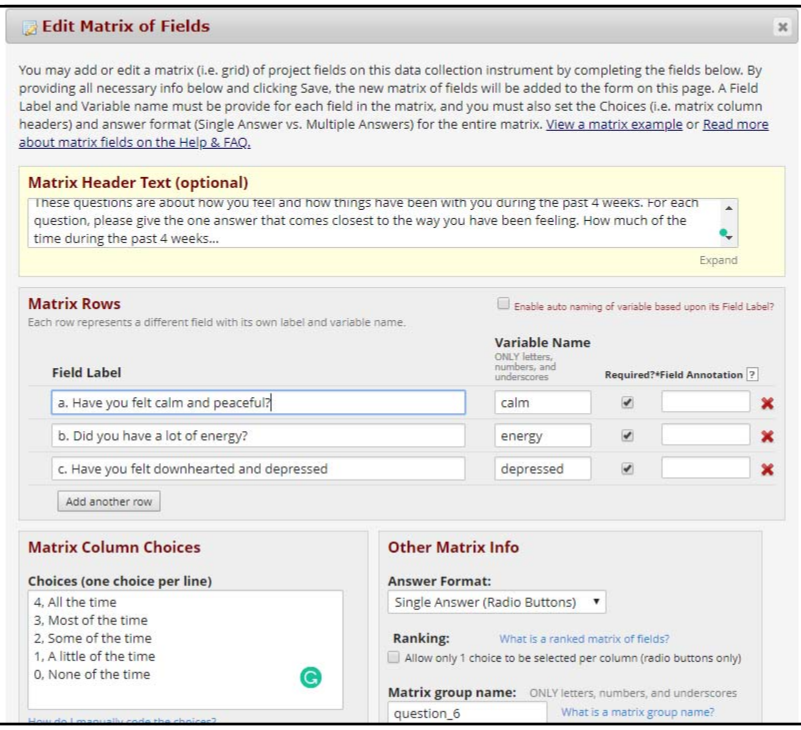
Step 2: Matrix Field



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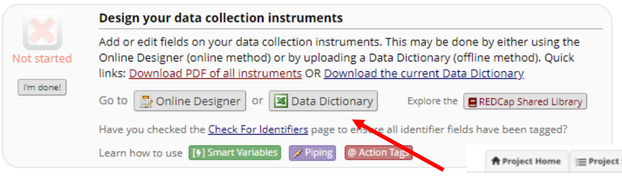
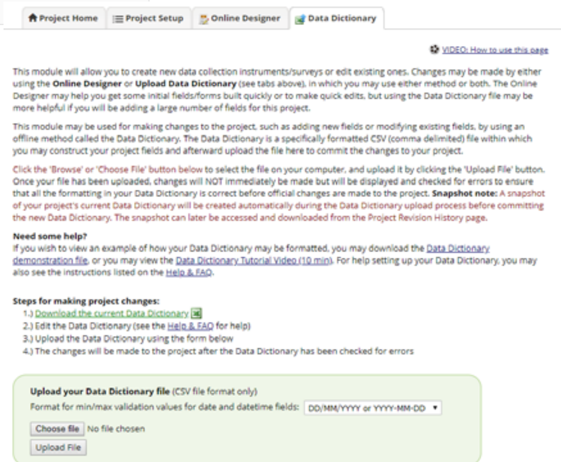
Step 2: Data Dictionary: Bulk Edit





Use case:

- Numbering all questions
- Moving fields to another form
- Copy a group of fields

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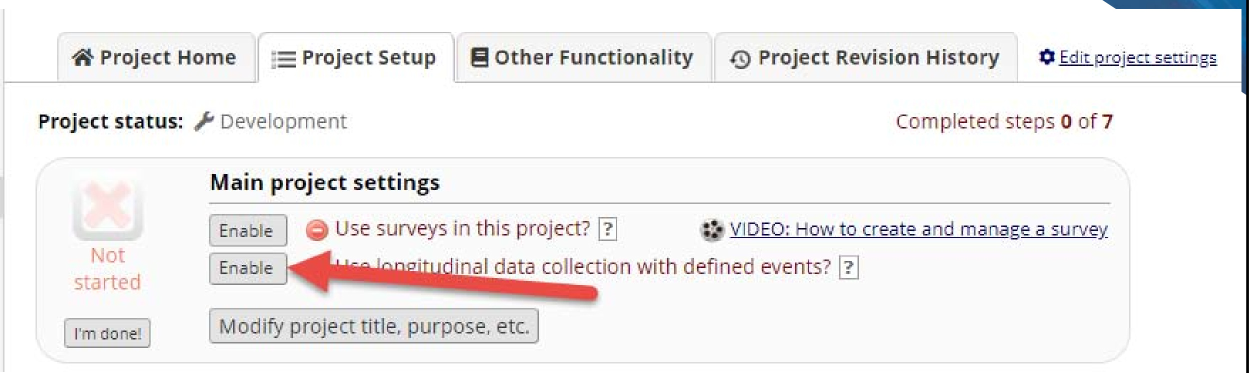
Step 2: Define Events



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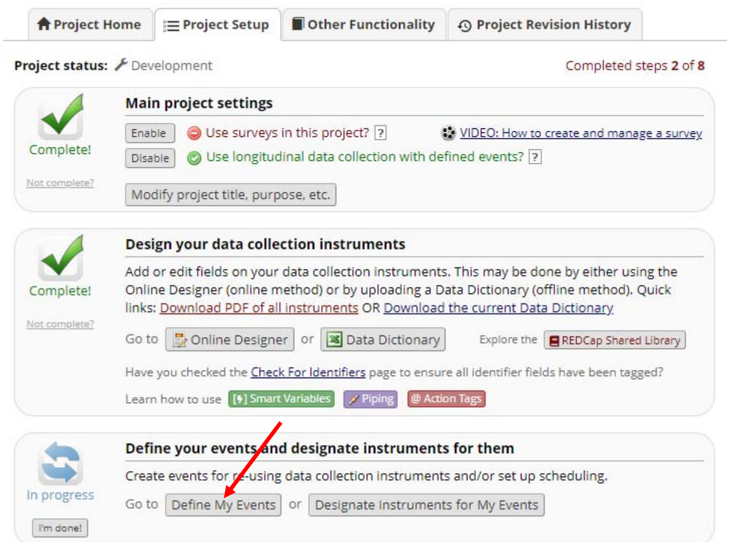
Step 3: Define Events



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Step 3: Define My Events

Project Setup | Define My Events | Designate Instruments for My Events

This application allows you to define 'events' for your project that allow for the **utilization of data collection forms multiple times for any given project record** (often used when collecting longitudinal data). An 'event' may be a temporal event in the course of your project, such as a participant visit or a task to be performed. After events have been defined, you will need to designate the data collection instruments that you wish to utilize for any or all events, thus allowing you to use a form for multiple events for the same project record. You may **group your events into 'arms'**, in which you may have one or more arms/groups for your project. Each arm can have as many events as you wish. You may use the table below to create new events and/or arms, or modify existing ones. (One arm and one event will be initially defined as the default for all projects.)

STEP #1:
To add new events below, provide an **Event Name** for that event, and then click the *Add new event*. Once events have been added, you can easily change their order by dragging and dropping the event using the up-down arrow icon on the far left for a given row in the table.

STEP #2:
Once you have defined your events on this page, you may navigate to the Designate Instruments for My Events page, where you may select which data collection instruments that you wish to utilize for each event you defined.

Upload or download arms/events

Arm 1: Arm 1 | +Add New Arm

Arm name: **Arm 1** Rename Arm 1

	Event #	Event Name	Custom Event Label (optional)	Unique event name (auto-generated)
	1	Baseline		baseline_arm_1
	2	Follow-up 3 Months		followup_3_months_arm_1
	3	Follow-up 6 Months		followup_6_months_arm_1

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Step 3: Designate Instruments

Project Setup | Define My Events | Designate Instruments for My Events

Since you have defined multiple events on the Define My Events page, you may now select which data collection instruments that you wish to utilize for each event by using the table below. This allows you to enter data on any data collection form multiple times for any given project record. Any and all data collection instruments can thus be used for any event defined.

Click the *Begin Editing* button to change the relationships below by designating which forms you wish to utilize for which events. When you are finished making changes, click the *Save* button to finalize your changes.

Upload or download instrument mappings

Begin Editing | Save | Select All | Deselect All

Data Collection Instrument	Baseline (1)	Follow-up 3 Months (2)	Follow-up 6 Months (3)
Demographics	☑	☐	☐
Diagnosis	☑	☐	☐
Simple Questions	☐	☑	☑

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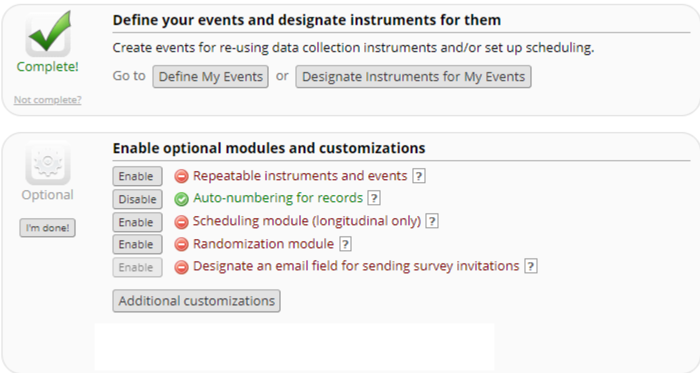
Step 4: Enable optional Modules/Customisations



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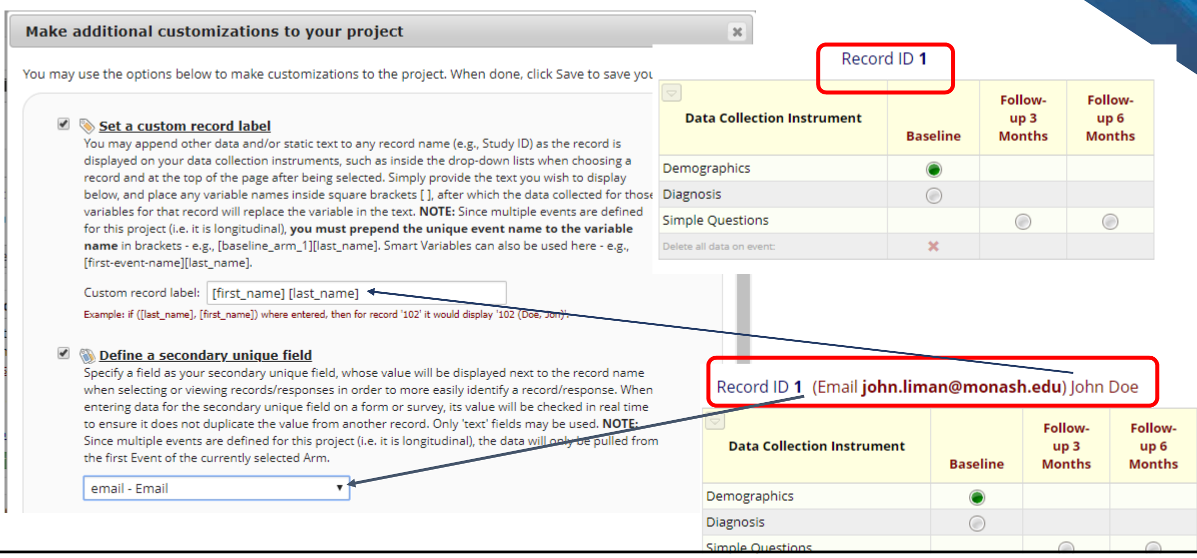
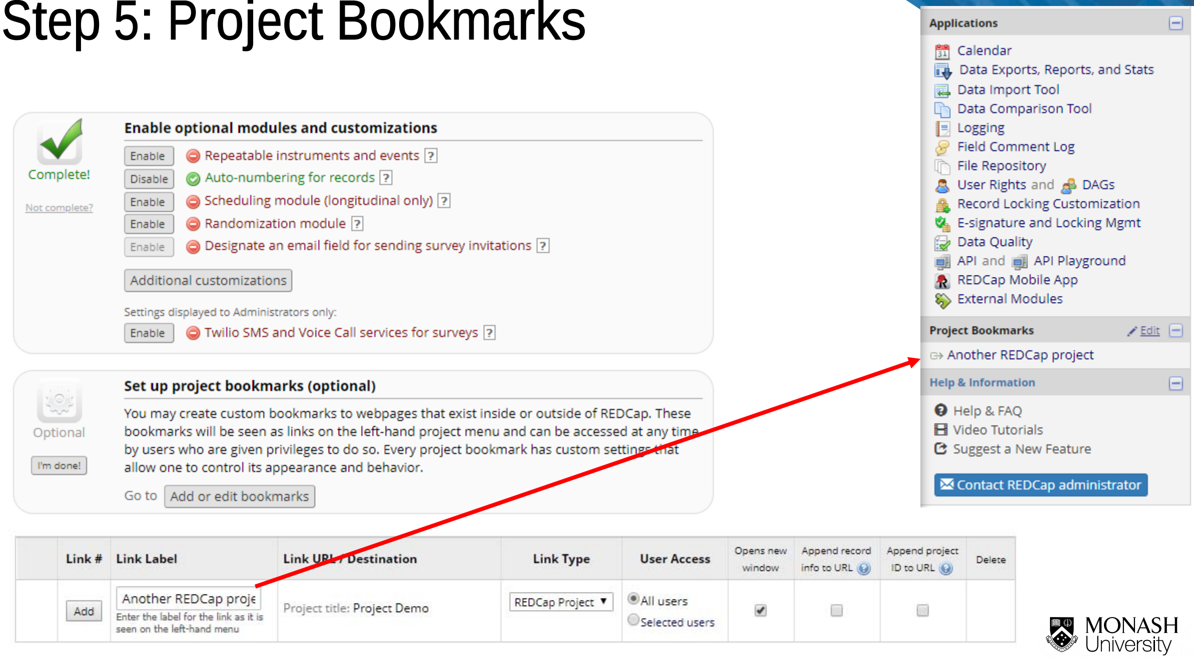
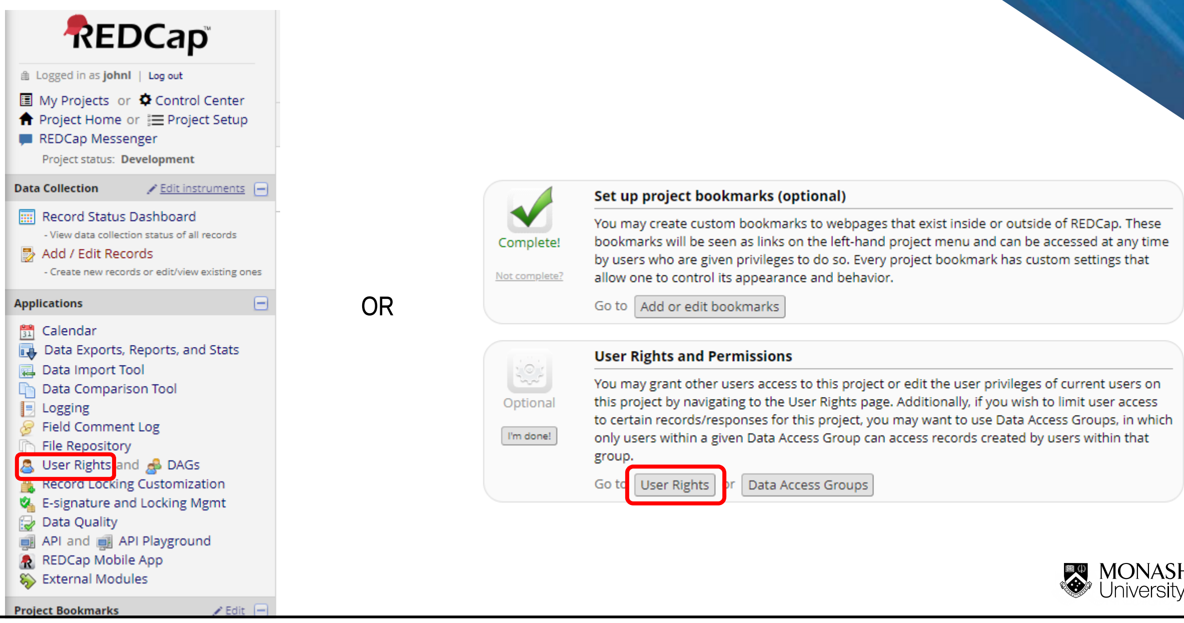
Step 4: Enable optional Modules/Customisations



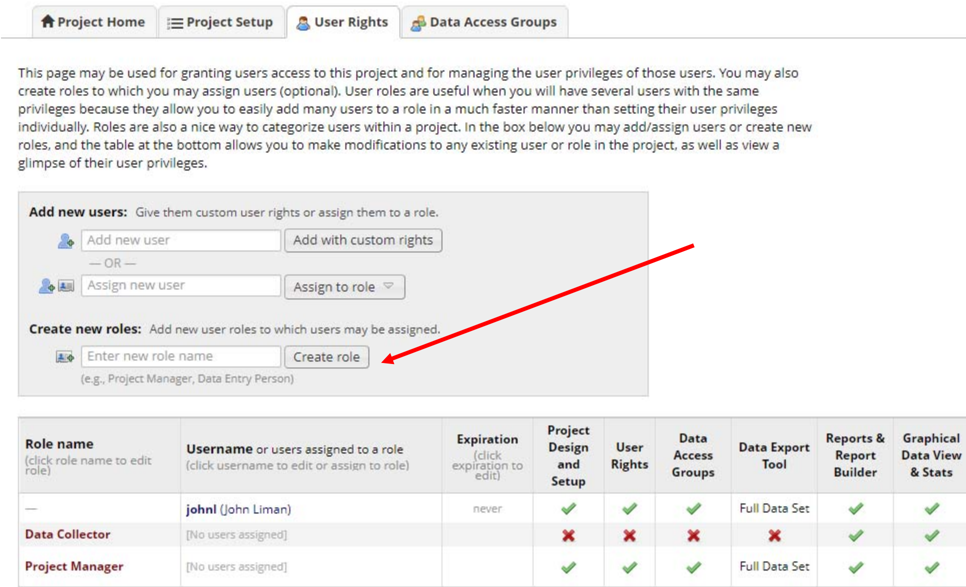
Step 5: Project Bookmarks



Step 6: User Rights and Permissions



Step 6: User Role



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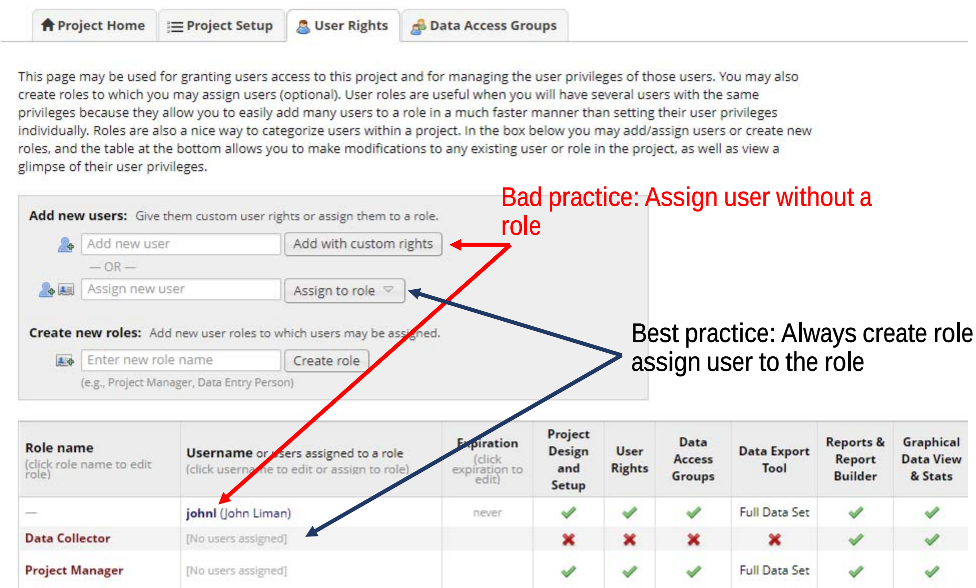
Step 6: User Role



Bad practice: Assign user without a role

Best practice: Always create role and assign user to the role

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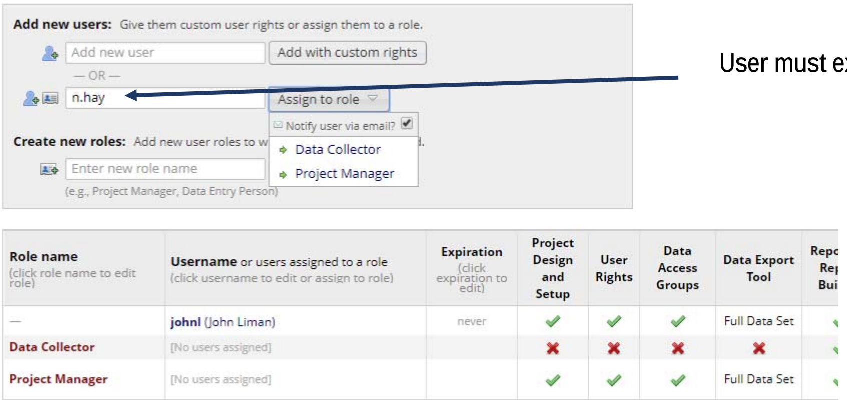
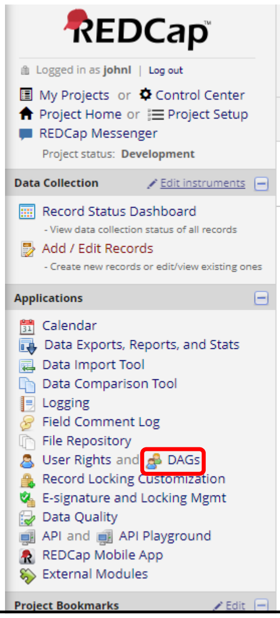
Step 6: Assign User to Role

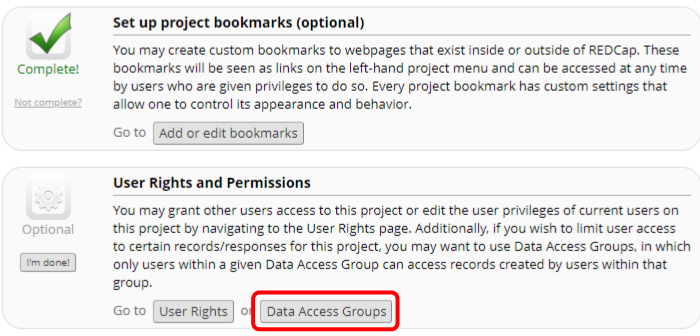


User must exist – if not exist raise a request

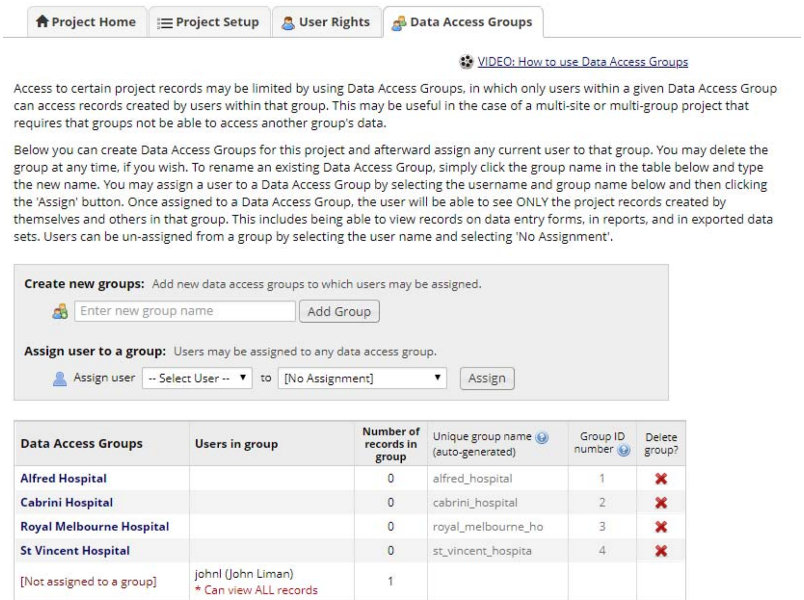
Step 6: Data Access Groups



OR



Step 6: Data Access Group



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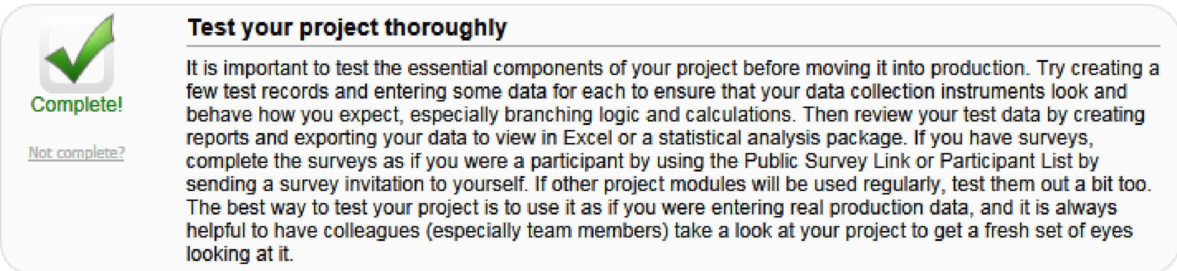
Step 7: Test Your Project



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Step 8: Move to Production

Move your project to production status

Not started

Move the project to production status so that real data may be collected. Once in production, you will not be able to edit the project fields in real time anymore. However, you can make edits in Draft Mode, which will then need to be approved by a REDCap administrator before taking effect.

Go to Move project to production

Move Project To Production Status?

Are you sure you wish to leave the DEVELOPMENT stage? If you proceed, the project will be moved to PRODUCTION status so that real data may be collected. If you select the 'Delete ALL data' option below, all current collected data, calendar events, and uploaded documents will be deleted, otherwise all will remain untouched as the project is moved to production.

Have you checked the Check For Identifiers page to ensure all identifier fields have been tagged?

Keep existing data or delete?

- Keep ALL data saved so far.
- Delete ALL data, calendar events, documents uploaded for records/responses, survey responses (if applicable), and any logging events pertaining to data collection.

Once in production, you will not be able to edit the project fields in real time anymore. However, you can make edits in Draft Mode, which will be auto-approved or else might need to be approved by a REDCap administrator before taking effect.

YES, Move to Production Status | Cancel

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Using Surveys

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Two Type of Survey

Survey that starts with a Public Survey Link

User click on a **generic** survey link → Data collection starts based on the entered survey data

E.g. Training Registration Form

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Two Type of Survey

Survey that starts with a Data Collection

Data collection start → Send the **specific** survey link to collected data

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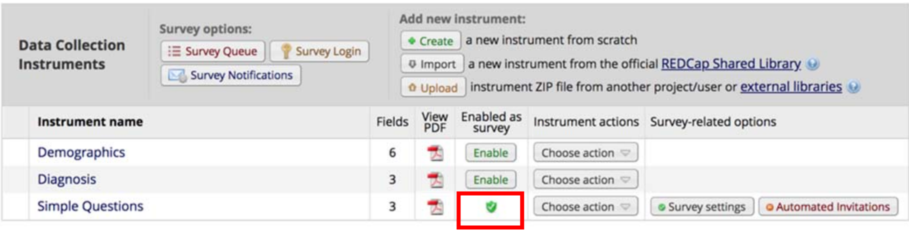
Creating a Survey

1. Enable the survey feature

2. Enable the form as a survey



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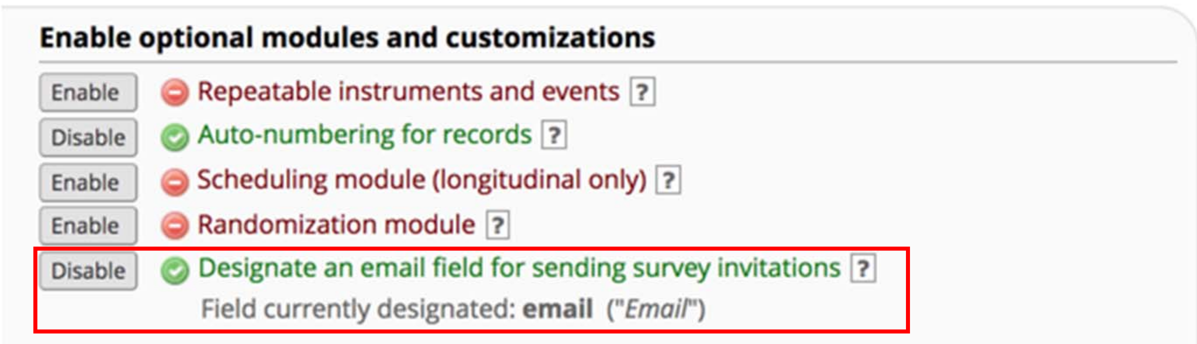
Creating a Survey

3. Designate an email field for sending survey invitations



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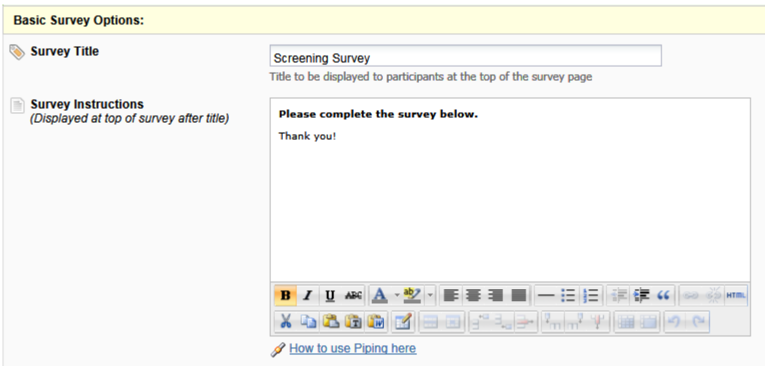
Survey Settings

Set the status title, color, instructions, etc



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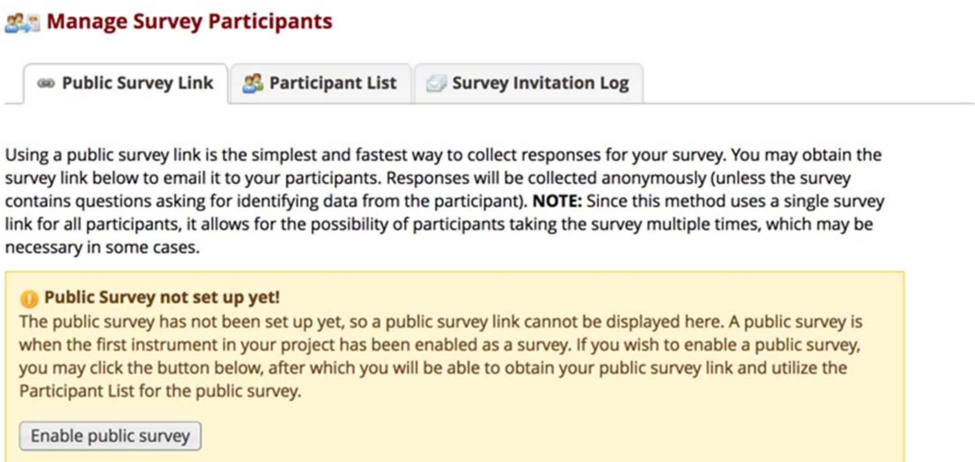
Public Survey Link



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Participant List

Manage Survey Participants

Public Survey Link | Participant List | Survey Invitation Log

The Participant List option allows you to **send a customized email** to anyone in your list and **track who responds to your survey**. It is also possible to identify an individual's survey answers, if desired, by providing an Identifier for each participant (this feature must first be enabled by clicking the 'Enable' button in the table below). More details

Participant List belonging to "Simple Questions" - Baseline

Displaying 1 - 9 of 9 Add participants Compose Survey Invitations Export list

Email	Record	Participant Identifier	Responded?	Invitation Scheduled?	Invitation Sent?	Link	Survey Access Code and QR Code
christopher.robyn@monash.edu	2	Disabled		-			
Christpoher.Mace@monash.edu	8	Disabled		-			
John.Doe@monash.edu	6	Disabled		-			
john.liman@monash.edu	1	Disabled		-			
Kelly.Hillman@monash.edu	7	Disabled		-			
Kenny.Rogers@monash.edu	5	Disabled		-			
michael.wong@monash.edu	4	Disabled		-			
Michelle.Pullman@monash.edu	9	Disabled		-			
sum.bar.dee@monash.edu	3	Disabled		-			

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Application and Tools

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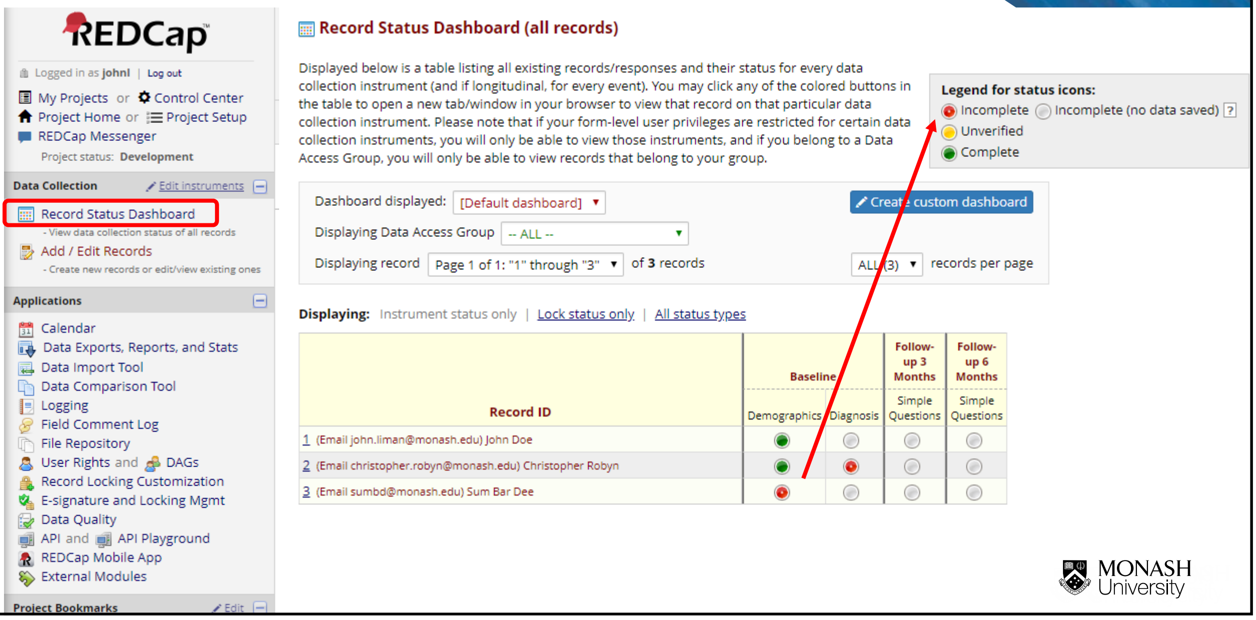
Record Status Dashboard



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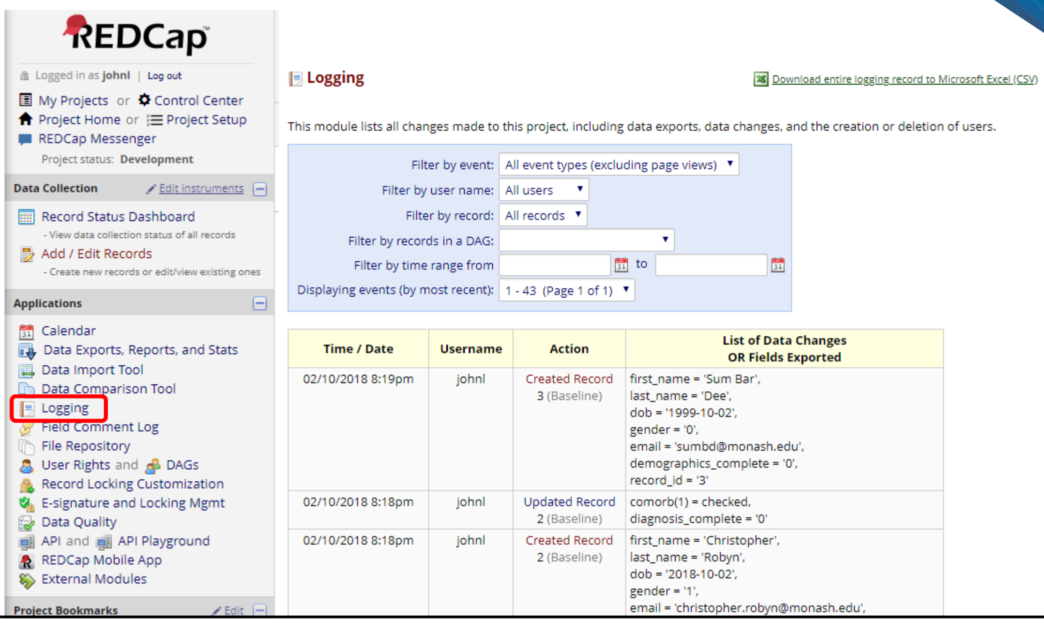
Project Log/Audit Trail



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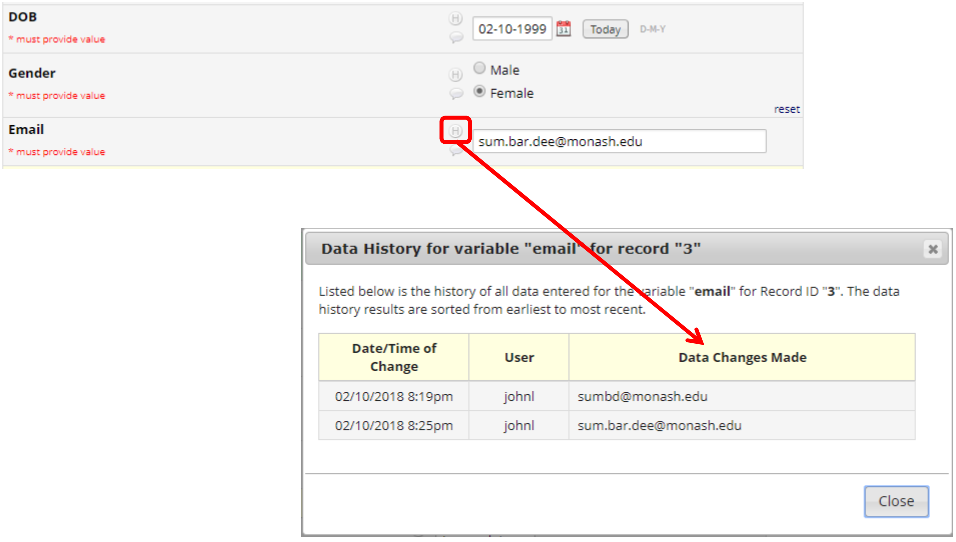
Field Data History



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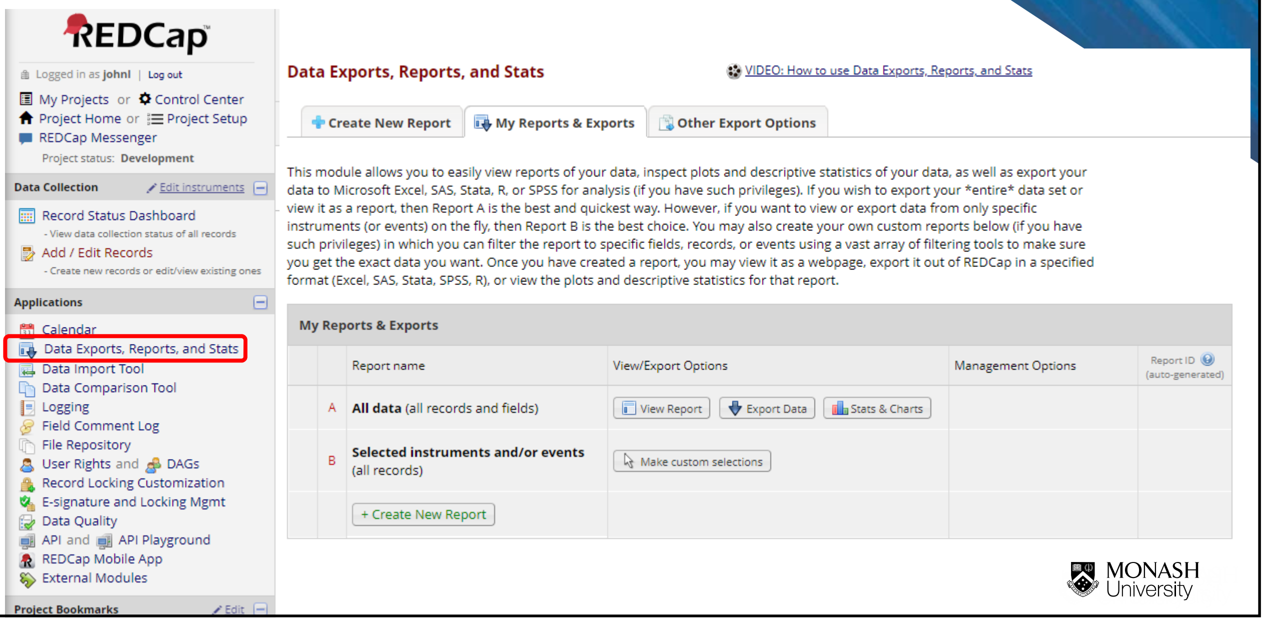
Data Exports



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Create New Reports

Data Exports, Reports, and Stats — VIDEO: How to use Data Exports, Reports, and Stats

Create New Report | My Reports & Exports | Other Export Options

You may create a new report by selecting the fields/variables below that you want to include in the report. You may add as many fields to your report as you wish, and you can choose which users may view this report. You will also need to provide a name for your report, which will then be displayed on the project's left-hand menu for anyone to whom you have given access. You can filter the results returned in the report in a variety of ways, including using complex AND/OR logic. When you are finished, click the Save Report button at the bottom. The new report will then be added to your list of reports, after which you may immediately begin viewing them or exporting them.

Name of Report: Ready for Follow-Up

STEP 1

User Access: Choose who sees this report on their left-hand project menu ?

All users – OR – Custom user access (Choose specific users, roles, or data access groups who will have access)

STEP 2

Fields to include in report Quick Add — Add all fields from selected instrument: -- choose instrument --

Field 1	record_id "Record ID"	Instrument: Demographics
Field 2	first_name "First Name"	Instrument: Demographics
Field 3	last_name "Last Name"	Instrument: Demographics
Field 4	dob "DOB"	Instrument: Demographics

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Create New Reports

STEP 3

Show data for all events for each record returned ? — How to use filters and AND/OR logic

Filters (optional) — **Operator / Value**

Filter 1	demographics_complete "Complete?" in All events	= Complete
AND		
Filter 2	-- select a field -- in All events	

Live Filters (optional) — Live Filters can be selected on the report page for dynamically filtering data in real time. Only multiple choice fields can be used as Live Filters (as well as Events, if longitudinal, and Data Access Groups, if any exist).

Live Filter 1	[Data Access Groups]
Live Filter 2	-- select a field --
Live Filter 3	-- select a field --

STEP 4

Order the Results (optional)

First by	record_id "Record ID"	Ascending order
Then by	Type variable name or field label	Ascending order
Then by	Type variable name or field label	Ascending order

Save Report Cancel

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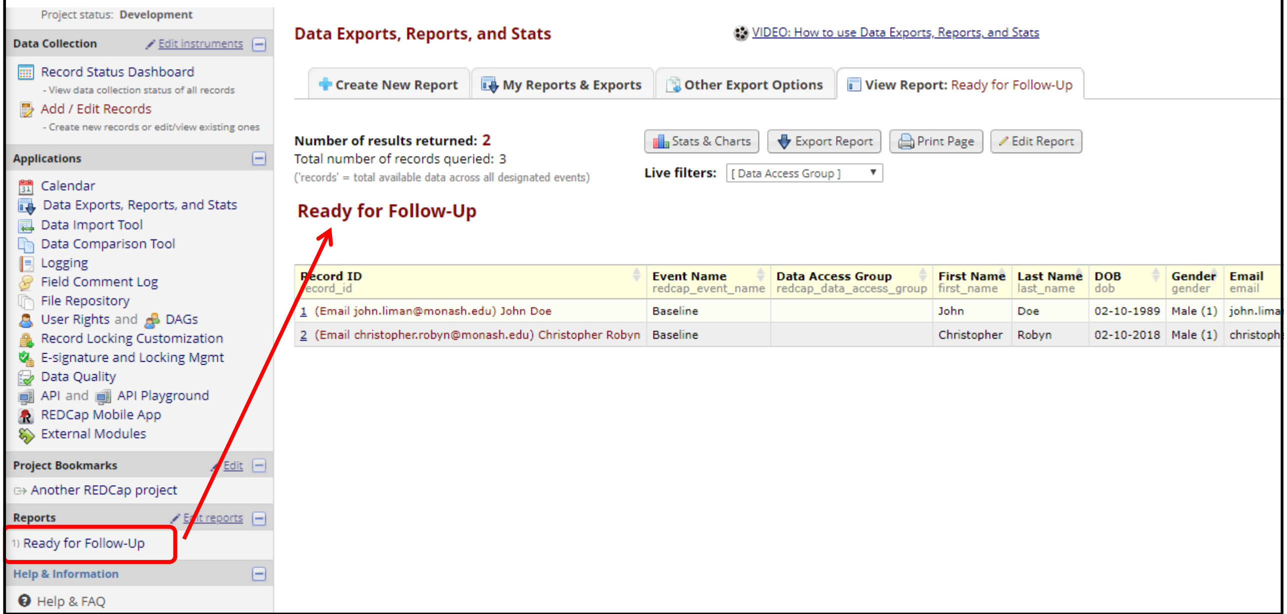
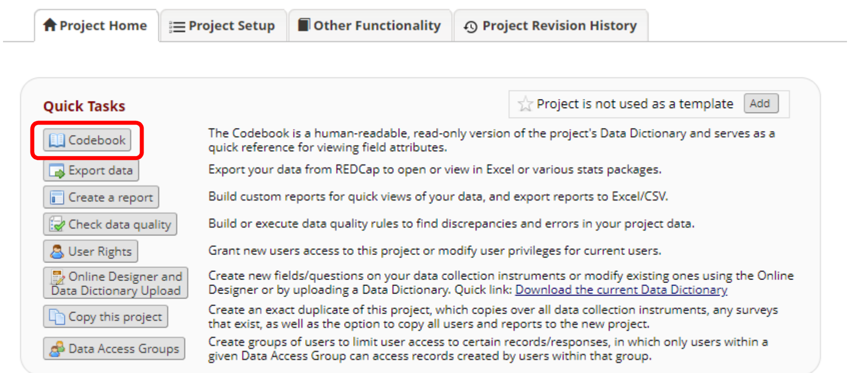
Create New Reports



Data Dictionary Codebook



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Data Dictionary Codebook

Project Home | Project Setup | Codebook

The Codebook is a human-readable, read-only version of the project's Data Dictionary and serves as a quick reference for viewing the attributes of any given field in the project without having to download and interpret the Data Dictionary. Note: Checkbox fields have their coded values displayed both in the format defined by users in the Online Designer/Data Dictionary as well as in the extended format seen in data imports and exports (i.e., field___code).

Print page

Data Dictionary Codebook

	#	Variable / Field Name	Field Label *Field Note*	Field Attributes (Field Type, Validation, Choices, Calcula
Instrument: **Demographics** (demographics)				
	1	record_id	Record ID	text
	2	first_name	First Name	text, Required, Identifier
	3	last_name	Last Name	text, Required, Identifier
	4	dob	DOB	text (date_dmy), Required, Identifier
	5	gender	Gender	radio, Required, Identifier 1 Male 0 Female
	6	email	Email	text (email), Required, Identifier

Data Import

Tips

- Perform All Data Export (raw data) and take a look on how it was structured
- Empty columns can be removed from the import file
- Always perform Data Quality check after import (next topic)

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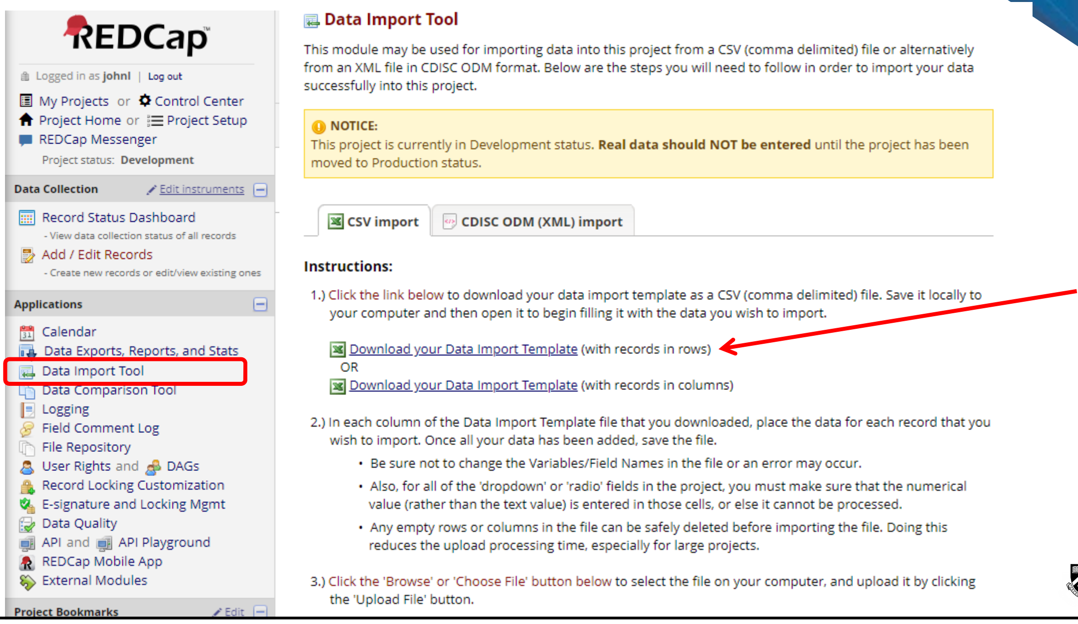
Data Import



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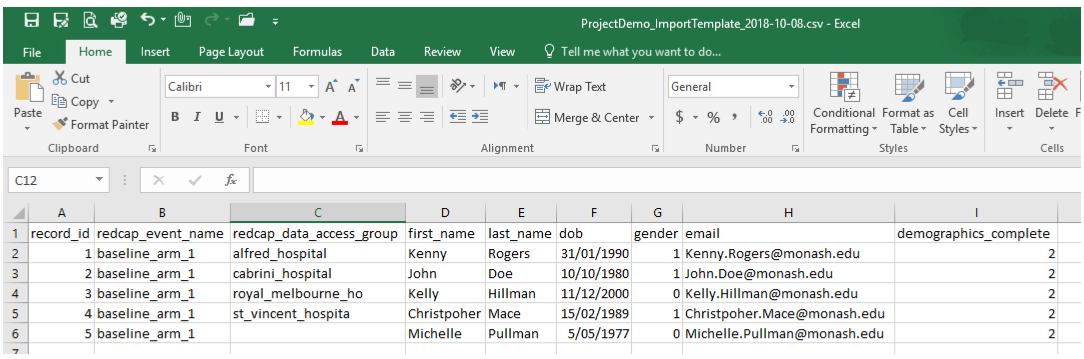
Data Import

Sample File



	A	B	C	D	E	F	G	H	I
1	record_id	redcap_event_name	redcap_data_access_group	first_name	last_name	dob	gender	email	demographics_complete
2	1	baseline_arm_1	alfred_hospital	Kenny	Rogers	31/01/1990	1	Kenny.Rogers@monash.edu	2
3	2	baseline_arm_1	cabrini_hospital	John	Doe	10/10/1980	1	John.Doe@monash.edu	2
4	3	baseline_arm_1	royal_melbourne_ho	Kelly	Hillman	11/12/2000	0	Kelly.Hillman@monash.edu	2
5	4	baseline_arm_1	st_vincent_hospita	Christpoher	Mace	15/02/1989	1	Christpoher.Mace@monash.edu	2
6	5	baseline_arm_1		Michelle	Pullman	5/05/1977	0	Michelle.Pullman@monash.edu	2

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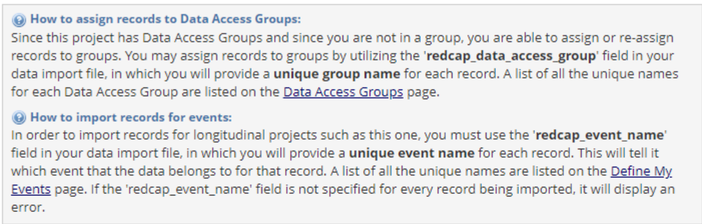
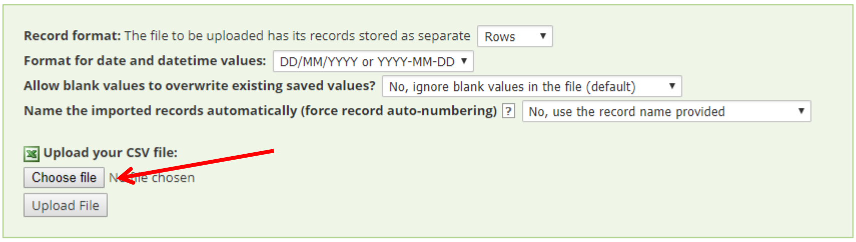
Data Import





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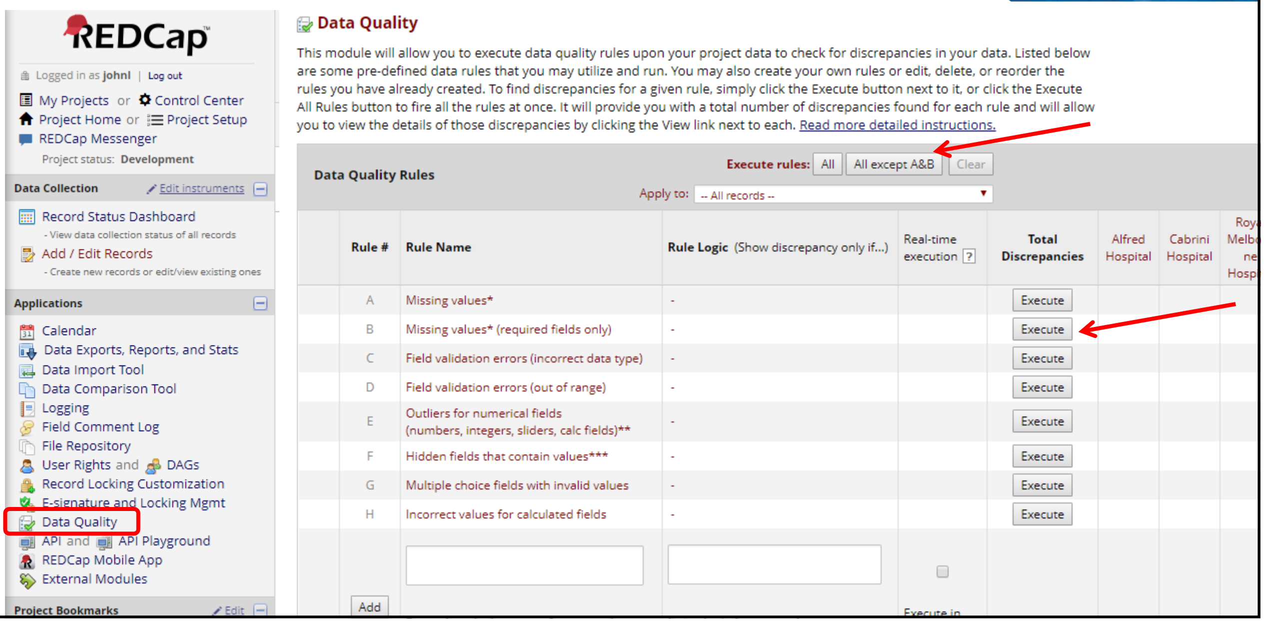
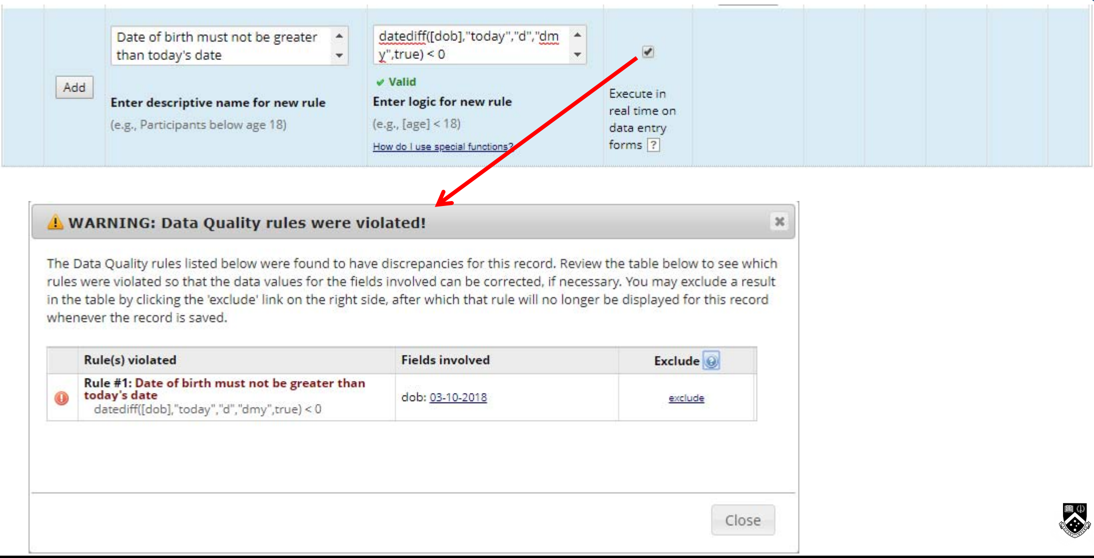
Data Quality



Data Quality



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Help and Resources

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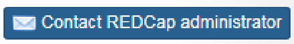
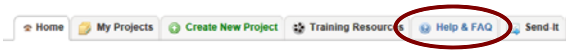
Help Resources

Blue Button



Help Tab



Email

- *redcap@monash.edu*

Workplace

- https://monash.facebook.com/groups/monashredcap/
- Regular User Group @ Monash

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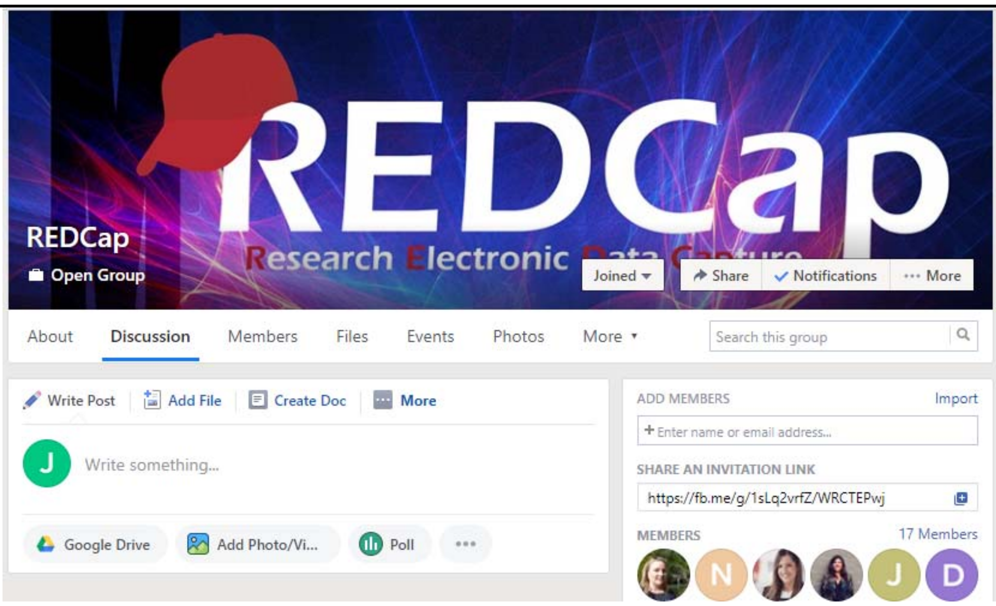

REDCap Group @orkplace

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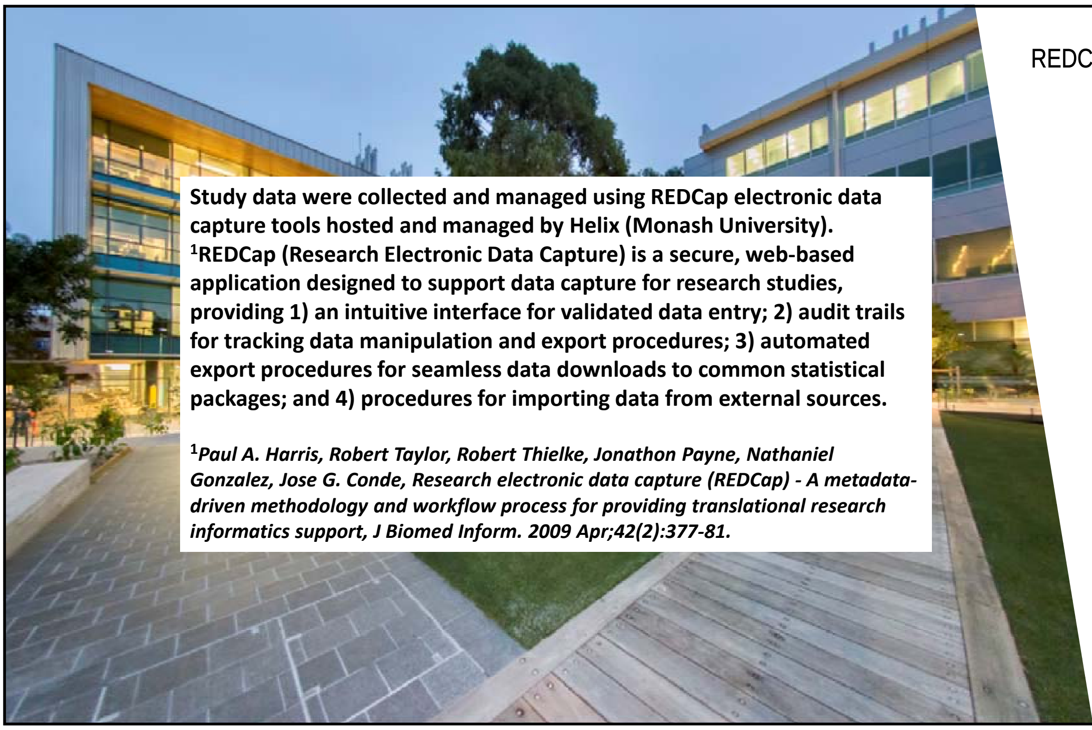
REDCap Citation



Study data were collected and managed using REDCap electronic data capture tools hosted and managed by Helix (Monash University). [1]REDCap (Research Electronic Data Capture) is a secure, web-based application designed to support data capture for research studies, providing 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources.

[1]***Paul A. Harris, Robert Taylor, Robert Thielke, Jonathon Payne, Nathaniel Gonzalez, Jose G. Conde, Research electronic data capture (REDCap) - A metadata-driven methodology and workflow process for providing translational research informatics support, J Biomed Inform. 2009 Apr;42(2):377-81.***

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