REDCap
Research Electronic Data Capture

User Guide

For Vanderbilt/Meharry end users

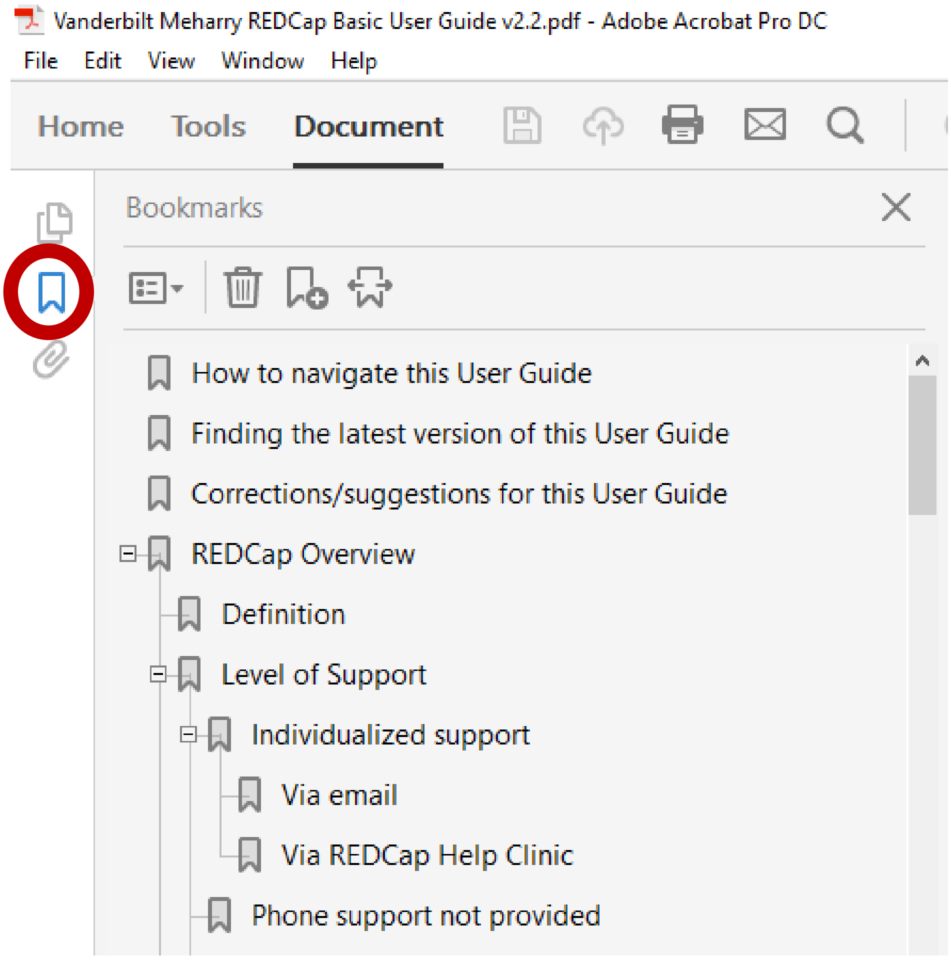
Adapted from User Guides created by REDCap Consortium Partners Jen Hoitenga/Children's Mercy and Luke Stevens/Murdoch Children's Research Institute

Additional content from Heath Davis/University of Iowa, Andrew Carroll/University of Michigan at Ann Arbor, Chris Battiston/Women's College Hospital and Leila Deering, Marshfield Clinic Research Institute

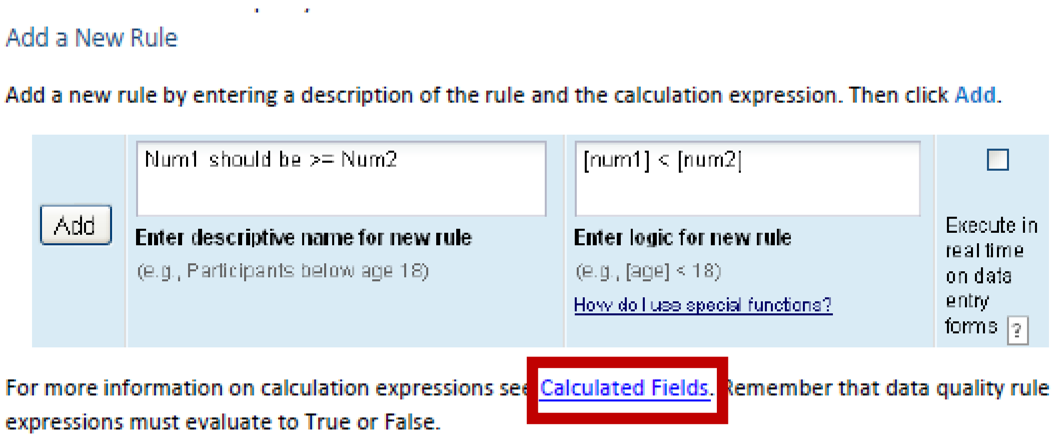
Contents

How to navigate this User Guide

- You can use Ctrl+F to search for a keyword within this User Guide
- You can click on the Bookmark icon to find the section you would like to jump to:



- There are some embedded hyperlinks, referencing other sections of the User Guide. If you click on the link, it will bring you to that section of the User Guide.



Finding the latest version of this User Guide

This User Guide is regularly updated. To make sure you are referencing the most recent version, please visit the Vanderbilt Meharry resource page. You can get to that website by clicking the hyperlink above. You can also always find the link to it on the login screen or at the top of the Help & FAQ tab within REDCap.

Corrections/suggestions for this User Guide

If you have corrections/suggestions for this user guide, please email them to redcap@vanderbilt.edu.

REDCap Overview

Definition

REDCap = **R**esearch **E**lectronic **D**ata **Cap**ture

REDCap is a secure, web-based application for building and managing online surveys and database. You can think of it as a tool to collect and disseminate data.

For a brief video overview of REDCap, see this link. It is 4 minutes in length. You can access the video from the Home or My Projects tab by clicking on Training Videos. If you are in a REDCap project, look on the left-hand navigation bar under the Help & Information section at the bottom of the navigation bar.

A more detailed video overview of REDCap can be found here. It is 14 minutes in length.

Helpful Terms

Data Collection Instrument – a form or survey created for capturing data. Similar to a sheet or tab within an Excel Workbook.

Record - Similar to a row in an Excel sheet.

Record ID – a unique identifier for each record in your database.

Record Status Dashboard – a table that lists all existing records and their status for every data collection instrument

Data Dictionary – a spreadsheet containing the data entry fields for your project

Variable – the name of the field or answer choice that is stored in the database

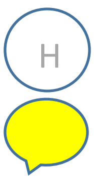
User – a person who is given access to a REDCap project (e.g. can login to REDCap and go into the project.) If you are the creator of a REDCap project, you are a user on that project. Anyone else you add to the project is a user on the project.

Participant – a person who completes a survey. This person does not see other participants' survey results because they are not logging into REDCap to enter their results.

Survey – data collection instrument that can be completed by someone who is not a user on a REDCap project.

Project - Similar to an Excel workbook. Contains the instruments that will capture your data. All instruments within a project are tied together.

Field Comment - Users with access to data entry forms may leave one or more comments on any field on a data collection instrument by clicking on the field comment, after which the balloon icon will stay lit up to signify that comments exist for that field for this record.



Level of Support

REDCap is available to all Vanderbilt/Meharry end users at no cost. It is a tool we invite you to leverage in supporting your role at Vanderbilt/Meharry. There are over 39,000 end user accounts at our REDCap installation, with each user having their own unique REDCap projects. Other non-profit institutions around the world license REDCap for free. Each institution that has REDCap has its own team of administrators working to support their REDCap installation and end users, just like the Vanderbilt team.

To keep the use of REDCap free to end users, we offer a self-serve model. This means that end users can take ownership in learning as much as they can through the resources built into REDCap, the trainings we offer and through testing projects themselves. Once you have tried all these resources, you are most welcome to seek help through these options below.

Individualized support

We can provide individualized support for your project in 2 ways:

Via email

If you email us with your question, we can respond to you within 1-2 business days.

Via REDCap Help Clinic

You can come to one of our REDCap Help Clinics. These are typically held every week (there are some weeks that clinic is not held) and registration is required. This is the only time you can meet with a REDCap team member in person. We are not able to schedule appointments outside of Clinic hours. For more information, please see the Additional Training/Support Resources section of this guide.

Phone support not provided

Due to the high volume of users we support and other work we do in order to support the REDCap Consortium, we are not able to provide phone support. If your problem occurs in between in-person Clinic sessions, you will have to write up your inquiry in an email. We recognize that takes more time on your part but if you plan your project appropriately, this should not be a problem.

Allow plenty of time for project development and testing

The Vanderbilt REDCap Team is responsible not just for supporting its own end users but supporting the other REDCap administrative teams around the world and to continually improving the software. As such, we want to support our end users as much as possible, but we do have limits to the immediacy and type of support we can provide. Help us help you by allowing plenty of time for testing and deployment. If your project has a deadline by when it needs to be launched, be sure to start testing it at least two weeks in advance. This will give you time to seek out our help if you have any problems.

Fee for service support

For forms development, special programming and other services available on a fee-for-service basis, please email datacore@vumc.org.

Logging into REDCap

On any web browser go to https://redcap.vanderbilt.edu.

Local User Accounts

As a Vanderbilt/Meharry employee, you use your VUNet ID credentials (username and Password) to login to REDCap. Since REDCap uses your VUNet ID credentials, whenever you change your password on the network, it is automatically changed for REDCap.

Please note: if you fail to change your password by the time the Vanderbilt system requires you to (once a year), then your VUNet ID becomes inactive and you will not be able to login to REDCap. If that happens, you will need to contact Vanderbilt IT and request that your VUNet ID be reactivated. When making this request, please refrain from mentioning REDCap. If you do, it is likely that you will get referred to REDCap and REDCap does not have the ability to reset VUNet ID passwords.

Meharry employees and students who do not already have a VUNet ID may request one via this form.

Former Vanderbilt/Meharry colleagues

For local users of the Vanderbilt REDCap system, access is tied to your VUNet ID. Access expires when your VUNet ID is deactivated.

If you will continue to collaborate on studies based here, then your Vanderbilt/MMC Principal Investigator can request an external collaborator account for you and add you to any projects that you need ongoing access to. You will however NOT be able to create any new projects.

Otherwise, users leaving Vanderbilt/MMC may continue to access their REDCap projects for a limited time. This time should be used to download your data and metadata (e.g. data dictionary). That will allow you to analyze your dataset after your access is terminated. NOTE: If the projects are not related to continued collaborative work at Vanderbilt, the user name will expire in 3 months. This time period is subject to change. The actual expiration date is provided in the auto-generated email that provides the user name and temporary password at time of account creation.

To continue access, please ask your PI or department manager to request an account for you by completing the REDCap External User Account Request Form.

Core Clients external to Vanderbilt/Meharry

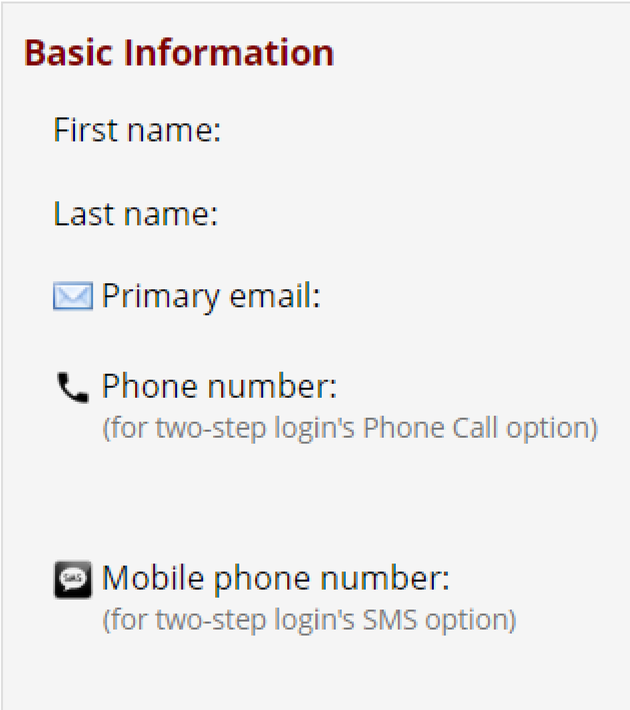
Core customers external to Vanderbilt/Meharry are not able to use Twilio or the REDCap Shared Library.

My Profile

When you are logged into REDCap and not in a project, you will have access to a navigation bar across the top of the page. On that bar you will see an icon for “My Profile”:

My Profile Basic Information

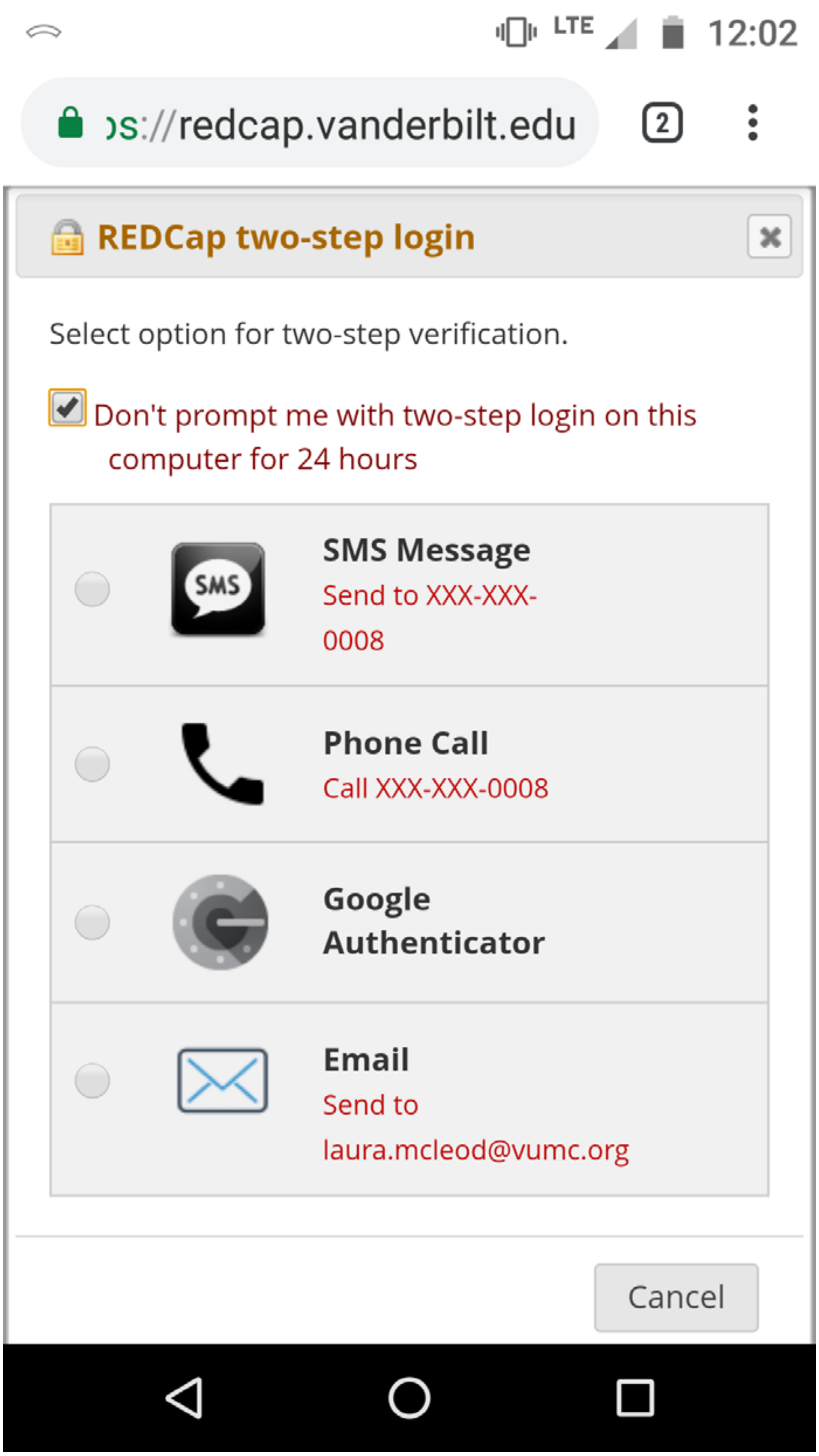
The Basic Information section of My Profile has these fields:



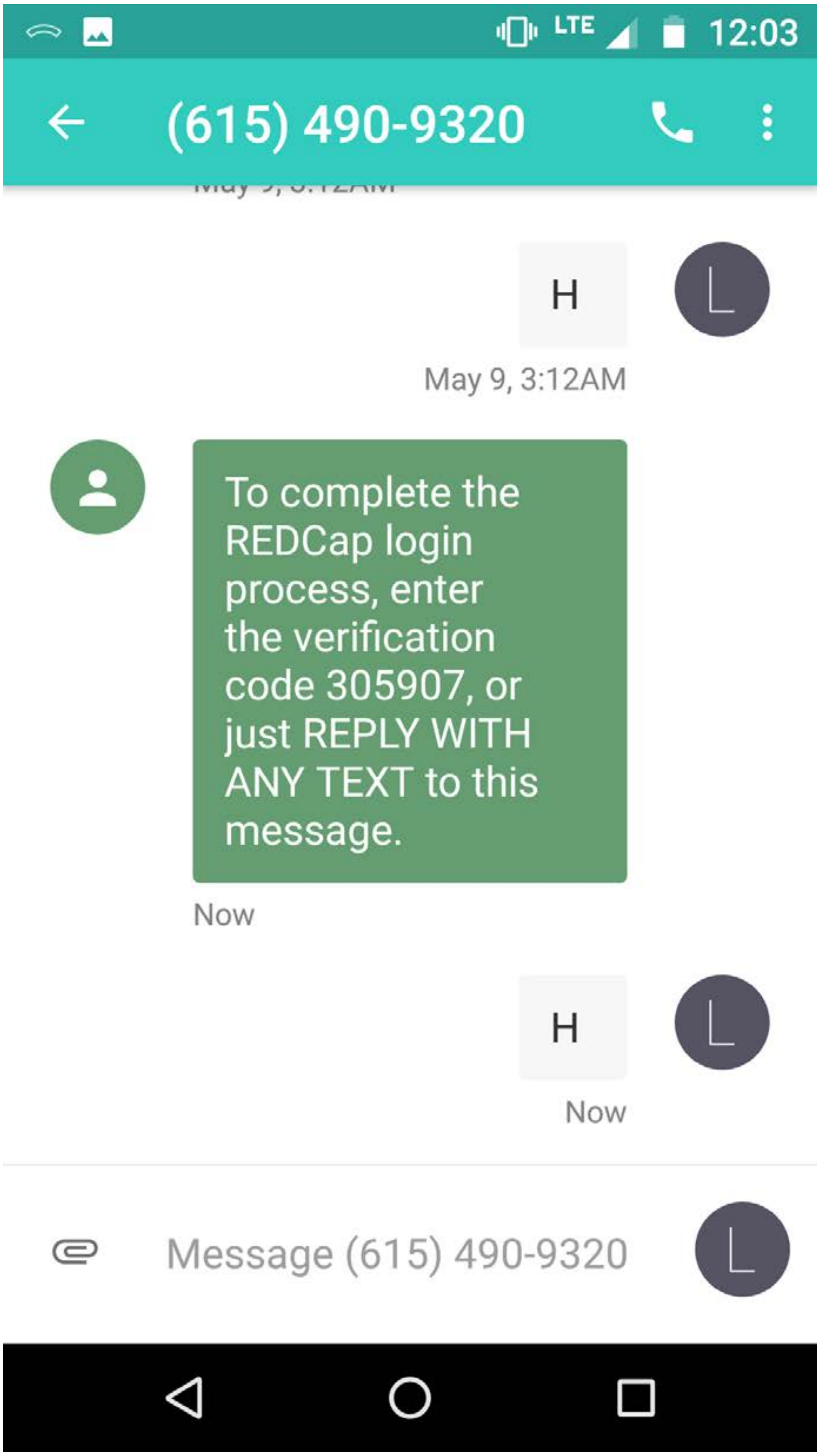
When you are on a Vanderbilt server and logging into REDCap, all you have to do is go to the Vanderbilt REDCap website and enter your VUNet ID credentials. If you plan on accessing REDCap off-campus, it is helpful to have your mobile phone number included in your profile. This will allow you to easily go through the login authentication process. Essentially, if you are not on a Vanderbilt network, REDCap will have you go through an extra authentication process to make sure it is ok for you to login.

Logging in via a non-Vanderbilt server

When you login to REDCap on a non-Vanderbilt network, you will see a dialog box that prompts you to authenticate your login:



One of those options is to have a text message sent you. If your mobile phone number is included in 'My Profile', you can select the text message option, you will receive a text message and all you have to do is enter any letter or number and hit send.



Your authentication will then be considered complete.

My Profile Login-related options:

If you plan on accessing REDCap on a non-Vanderbilt network, you can set up Google Authenticator for the two step login process.

My Profile Additional Options/Associating another email address with your REDCap account

If you are sending out survey invitations in any of your projects and wish for the survey invitations to come from an email address that does not belong to a user on the project (for instance, if you have a generic email address for your lab, like biolab@vumc.org), you can add that email address into your profile in the Additional Options section. Please note: this is an account-wide setting. That means you will be able to use that email address to send survey invitations for ANY of your REDCap projects. It is not project specific.

My Profile User Preferences

In this section of My Profile you have the ability to change date and time format, number format – decimal character and number format thousands separator.

My Profile Notification Preferences for REDCap Messenger.

If you receive a message while you are not logged in to REDCap, Messenger will send an email informing you of any unread messages (note: the email will *not* contin the message text itself.) You can adjust your preferences for how often you want to receive email notifications from REDCap Messenger in this section of My Profile. For more information about Messenger, please see this section of this User Guide.

Requesting an external user account

To request an external user account (for someone not affiliated with Vanderbilt or Meharry), please

Complete this external user request form: https://redcap.vanderbilt.edu/surveys/?s=L4R3NJ8XME

Each user will be sent their login information separately. We will also send you (the person who sent the request) a list of their usernames, and you can then add them to any project via the User Rights tool.

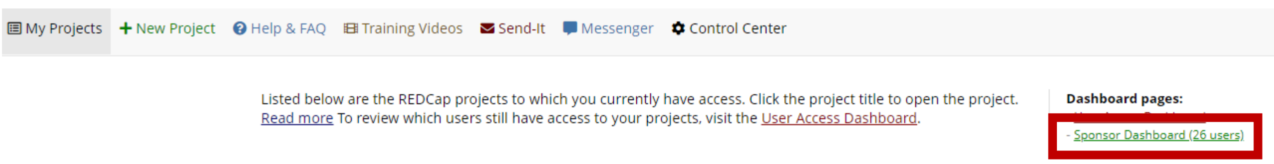
Please note:

- external collaborators do not have the ability to create a new project. They can only access projects to which they are added by a Vanderbilt/Meharry person.
- Unless otherwise indicated in the request, the requestor (not the PI) will be listed as the sponsor for the external user. That person will have the ability/responsibility of performing tasks listed in the Sponsor Dashboard section below.
- You (the project owner) have the responsibility of adding users to your project. REDCap administrators do not add users to your project.

For instructions on how to add a collaborator (internal or external) to your project, please see this section of this User Guide.

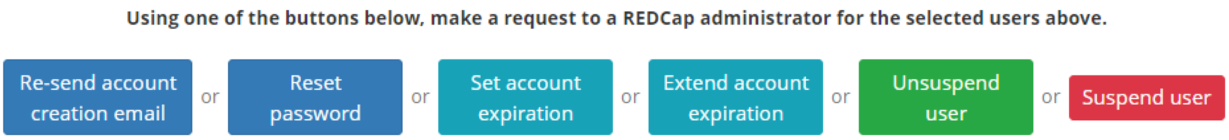
Sponsor Dashboard

The person requesting an external user account is listed as the external user's sponsor. The sponsor is the person who grants the external user access to projects. Additionally, the sponsor will see a Sponsor Dashboard at the top of their My Projects page:



Once in the Sponsor Dashboard, the sponsor will see a list of all external users for whom he/she is a sponsor. From this page, the sponsor can:

- Trigger the REDCap account creation email to be re-sent to the external user
- Trigger a password reset link for the external user
- Set the account expiration date for the external user
- Extend the account expiration for the external user
- Un-suspend the external user
- Suspend the external user



This is a useful tool if you need to perform one of those actions for many users at the same time. In most cases a PI will not be managing the above tasks, which is why the sponsor is typically someone other than the PI.

External User account expiration notifications

Most external user accounts are set to expire after one year. Two weeks prior to this account expiration, the external user and the sponsor will receive an email notifying them of this fact. The sponsor has the right to request that the account be extended. The sponsor can make that request by replying to the expiration notification email or via the Sponsor Dashboard (see above.)

Project Management tip: pre-emptively extend external user's account expiration

If you are a sponsor and have many external user accounts which might expire around the same time (because you requested the account creations around the same time), you will get multiple account expiration notification emails – one per external user. You can pre-empt the account expiration notification process by going to the Sponsor Dashboard, sort by expiration date and look for the users whose accounts will expire soon. If you want to extend any of them, you can bulk select them and click the Extend account expiration button. A REDCap administrator will finalize the request and you will therefore avoid you and your external users receiving the account expiration notification emails.

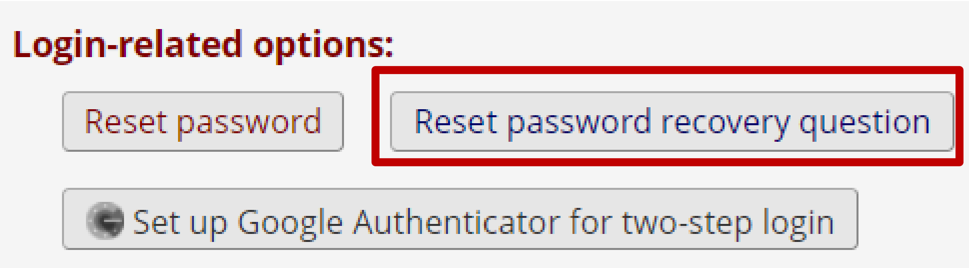
Account access vs. Project access

A local user (Vanderbilt/Meharry affiliate) will have access to their accounts and projects as long as they are employed or an active student at Vanderbilt/Meharry. External users are given a limited time period during which they have a REDCap account (typically one year.) The sponsor of the external user is given the opportunity to extend the REDCap **account**. They can make that request via email or via the Sponsor Dashboard. The project creator can additionally set an expiration date for how long a person has access to their project. REDCap administrators do not set expiration dates on a **project**. The project owner is responsible for that.

Passwords

Please note: Vanderbilt requires that you change your VUNet password once a year. If you do not change your password, your VUNet ID will become inactive and you will not be able to login to REDCap. You will have to call ITS to reactivate it. Their phone number is 615-343-4357.

External users have the option to set up password recovery in the My Profile section of REDCap. Once that is set up, they can click on the 'Forgot Your Password' link on the login page. That will trigger a password reset link to be emailed to them. It is HIGHLY RECOMMENDED that the external user set this up. That way they are not dependent on waiting until business hours to receive a response from their sponsor or the REDCap administrator.



If an external user does not have password recovery set up, they can email their Vanderbilt/Meharry sponsor (the person who requested their account) or redcap@vanderbilt.edu and request a password reset. The sponsor has the ability to reset the password via the Sponsor Dashboard on their My Projects page. For further information on the Sponsor Dashboard, please see this section of this User Guide.

For further questions about access to the Vanderbilt REDCap installation, please see this section of our Vanderbilt Meharry REDCap user page.

REDCap Project

You can think of a REDCap project as being analogous to a project database file from Microsoft Access: the terms 'project' and 'database' are essentially synonymous. Similarly, an Excel Workbook is analogous to a REDCap project, with the different instruments within a REDCap project being similar to the different tabs or sheets within an Excel workbook.

Create a New REDCap Project

Once logged into REDCap, click on the Create New Project tab

Project Title

Enter a short and descriptive title for your project. This can be changed later, if needed.

Purpose of this project

Use the drop down and select the purpose:

- **Practice/Just for Fun** – use this if you are creating a practice project
- **Operational Support** – use this for tracking specific department information processes
- **Research** – if this is an IRB approved project, you must enter your PI information, your IRB # and specify the type of research you are doing
- **Quality** – use this for any projects that help with goals and performance improvement
- **Other** – if you choose this option, please specify the purpose

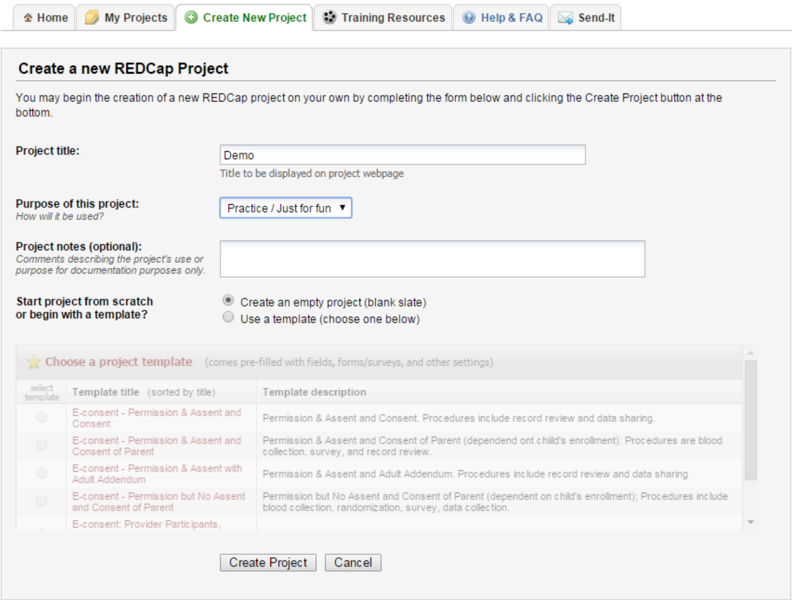
For a video overview of the different project types, please see this link. It is 3 minutes in length. You can access the video from the Home or My Projects tab by clicking on Training Videos. If you are in a REDCap project, look on the left-hand navigation bar under the Help & Information section at the bottom of the navigation bar.

Project notes (optional)

Enter any notes or comments regarding the use or purpose of the project.

Start project from scratch or begin with a template

If one of the templates appears to match the type of work you are doing, select it from the list. You will be able to customize and make any changes you wish. To follow along with this user guide, select "Create an empty project (blank state)". Once ready, click Create Project.



Your Project's unique ID

Each project has a project ID number (PID.) When you are within a project, you can see pid=xxxx in the URL (xxxx being your project's unique id.)

Navigating from within a Project

Once you are in a REDCap project, you will notice that the screen is divided into two parts:

1. The left-hand navigation menu, which you will always have access to when you are within a project
2. Your workspace, which is the area on the right. This is where you will be designing your project, entering data, viewing data, etc.

Your project itself is a series of webpages, made up of the different components of the left-hand navigation bar and your workspace. All of these pages are tied together via that unique PID.

You can click any of the buttons on the left-hand navigation bar or on your workspace and stay within the project. The only exceptions are:

> **My Projects** – this button is essentially like hitting the escape key. It will take you out of your project to the page that lists all of your projects (the tab called "My Projects")
>
> **The REDCap logo** – this button will take you out of your project to the My Projects tab

You will notice that as you click on any of the buttons on the left-hand navigation menu or do any work in your workspace, your PID will be somewhere in the URL. **You can right-click on any of the links within your project and open that page on a new tab.**

Project Access

By default, a project is private. No one can access your project unless you add them as a user to the project.

Access to individual projects is coordinated **by the project owner** (the user who created the project) via the project's User Rights module. **REDCap administrators do not add users to projects**.

Project Status

A REDCap project can exist in one of four status categories at any given time:

1. Development

A project in the design, setup and testing phase. No real data is entered. By default, a project is in Development mode when it is created.

2. Production

Real data is being collected. Alterations to project configuration and setup are possible but should be infrequent and minor. A project is in Production mode only when a user on the project moves it to production. This is the final step on the Project Setup page.

3. Inactive

The project is essentially complete. Most functionality is disabled – including access to individual records – but data can still be exported.

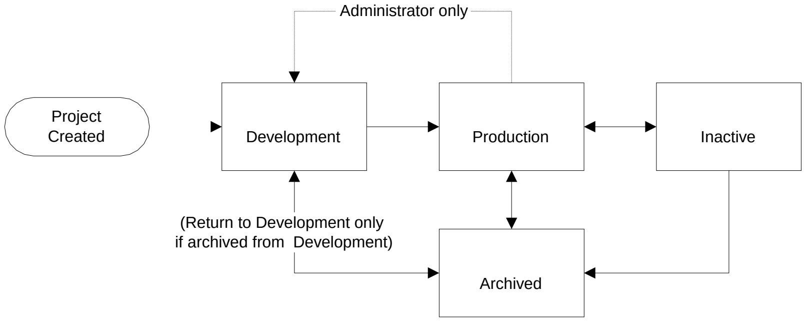
4. Archived

As for inactive projects, functionality is limited. Moreover, the project is no longer shown in the **My Projects** list unless the **Show Archived Projects** option is selected.

Project Transitions

Transitions of project status may be accomplished only by users that have Project Design and Setup permissions. See User Rights.

A project need not necessarily progress through these categories in sequence. Indeed, some projects – such as "Practice" projects – may never reach production; others may be archived directly once the Production phase is complete. The diagram below illustrates the allowed transitions:



Project Setup

You must have Project Design & Setup permissions to perform actions on the Project Setup page. Permissions are set in the User Rights of the project and is unique to each user on the project.

Step 1 on the Project Setup page: Main project settings

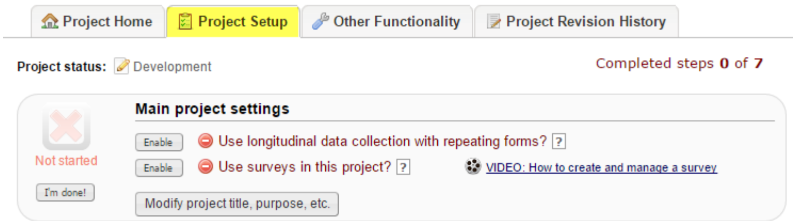
Select your data collection type:

Use surveys in this project

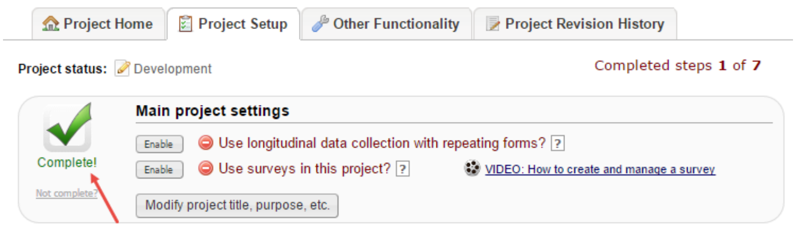
Click Enable if your project will contain surveys. {Reminder – per the Helpful Terms above, you would enable surveys if the person entering the data is someone who is not a user on the project. For instance, if a research participant is entering the data about themselves.}

Modify project title, purpose, etc.

Click this icon if you would like to change your project title or purpose.



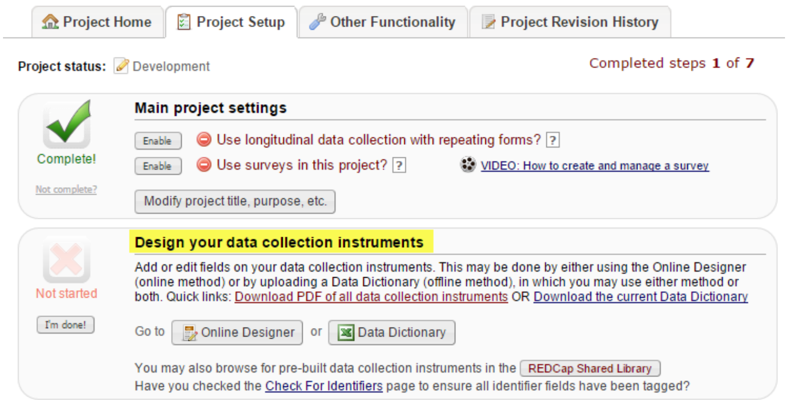
Once you are finished with your main project settings, click "I'm done!" This will serve as a visual check mark that this section is completed. **Note:** You can always go back and change your settings while in Development mode.



Step 2 on the Project Setup page: Design your data collection instruments

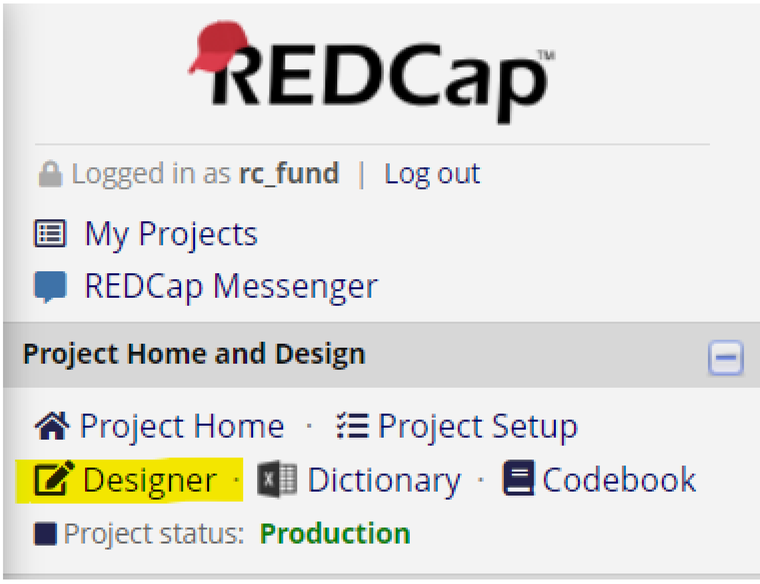
Online Designer: Click Online Designer to start building your data collection instrument(s)

Data Dictionary: Alternatively, you may upload your data dictionary via an Excel csv file in order to build your data collection instruments. **Note:** This is considered an advanced step and should not be used unless you are an experienced user.



Navigating to Online Designer

You can access the Online Designer via the Designer link on the left-hand navigation bar under Project Home and Design:



Data Collection Instruments

The term "instrument" is synonymous with "form" in referring to a discrete page on which data is entered and viewed in fields. In this context the terms "field" and "variable" are also essentially synonymous.

REDCap provides two methods for creating and editing data collection instruments: using the online designer and via upload of a data dictionary file that is composed in CSV [^] format, typically using Microsoft Excel.

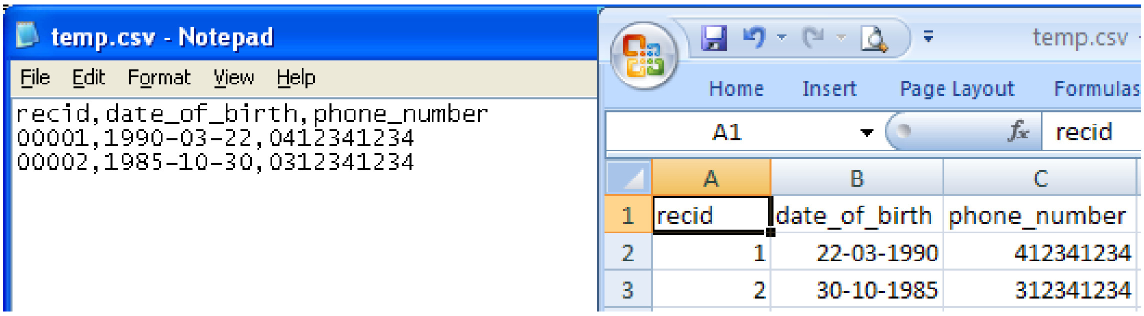
For a video introduction to Instrument Development, please see this link. It is 6 ½ minutes in length. You can access the video from the Home or My Projects tab by clicking on Training Videos. If you are in a REDCap project, look on the left-hand navigation bar under the Help & Information section at the bottom of the navigation bar.

Note on CSV files

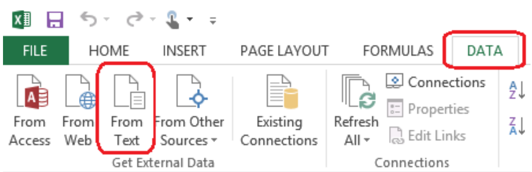
A CSV file is simple plain text with one record per line and columns delimited with a comma – i.e. each individual value in each record is separated by a comma (CSV is an acronym for "Comma-Separated

Values”). On Windows computers CSV files are set to open using Excel by default, and Excel will generally use the commas to separate the values into columns, but **a CSV file is NOT an Excel file**.

Beware Excel’s not-so-helpful automatic data formatting: it can cause you to lose format information from CSV data such as leading zeros and specific date formatting...



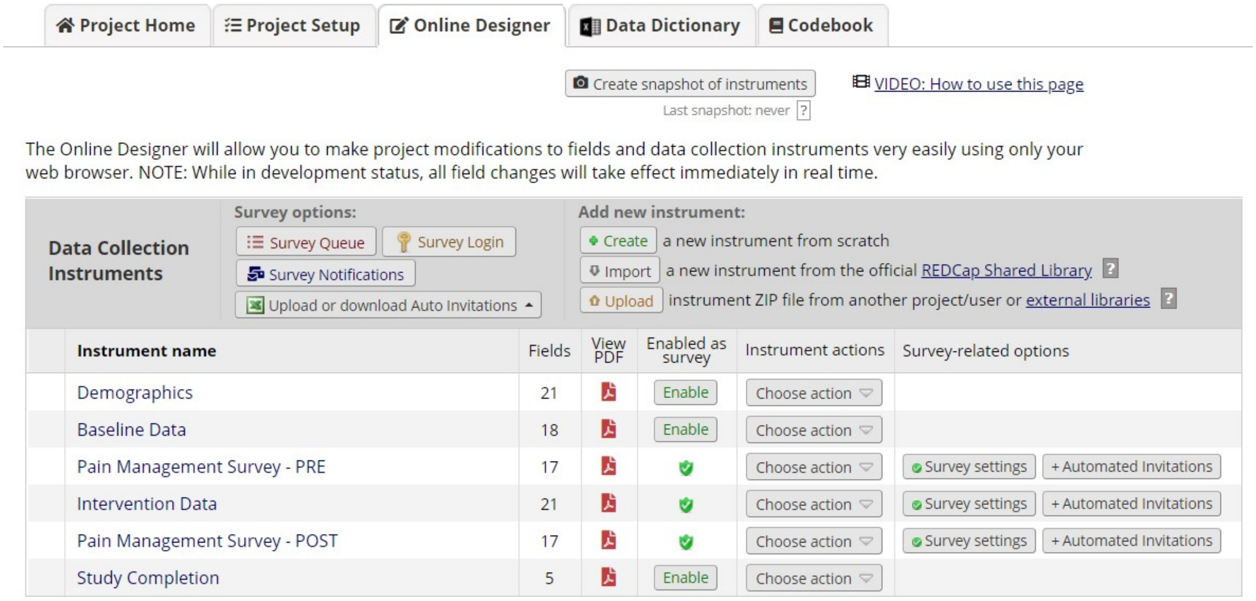
It may be preferable to open your CSV file in Excel not by double-clicking on the file in the usual way, but by opening a blank Excel worksheet and using the import wizard: on the Data tab in the ribbon is the option **From Text.**



This method enables you to specify that you want Excel to treat some (or all) of your columns as text, thus displaying the data exactly as it appears in the source file, not using Excel’s opinion of what you want to see.

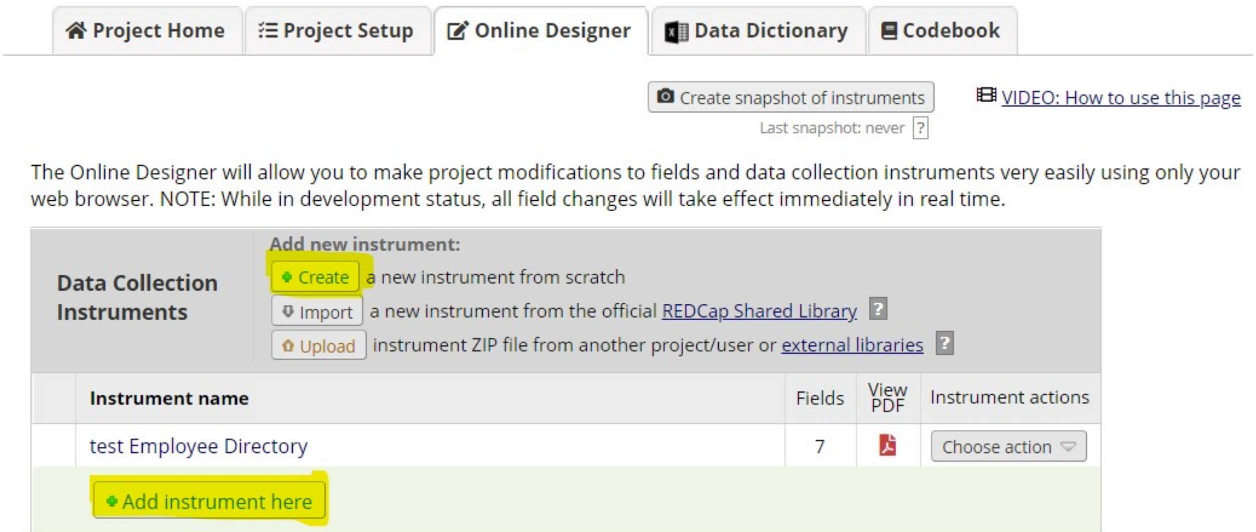
Online Designer

The Online Designer lists the instruments that exist in a project and provides functions for manipulating them at the instrument level (as opposed to the manipulation of items within an instrument). You can access Online Designer by clicking on the word ‘Designer’ on the left-hand navigation bar (under Project Home and Design’ or by clicking on the Online Designer button on the Project Setup page.



Create a New Form

1. Click **Create**
2. Click **Add instrument here** in the position in the list where the new form is to be created (this can be changed later)
3. Assign a name and click **Create**
4. Add variables to the form. The new form will NOT be saved until at least one variable has been added.



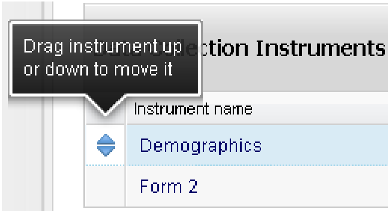
Delete a Form

1. Click the **Delete** button (under Actions) for the relevant form
2. Confirm the deletion. The form will be removed along with all of its variables

Reorder Forms (Move instruments)

1. Position your mouse cursor over the left-hand end of the form’s row

2. Click and drag the row to a new position

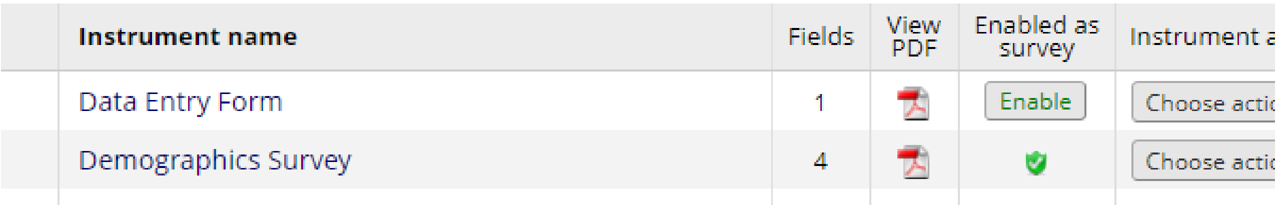


Caution on moving instruments

If you have surveys in your project and wish to use the public survey link, your survey needs to be the first instrument in the project, as seen in the image below:

	Instrument name	Fields	View PDF	Enabled as survey	Instrument a…
	Demographics Survey	5			Choose acti…
	Data Entry Form	0		Enable	Choose acti…

If the data entry form is first, as in the image below…



	Instrument name	Fields	View PDF	Enabled as survey	Instrument a…
	Data Entry Form	1		Enable	Choose acti…
	Demographics Survey	4			Choose acti…

…your public survey link will be disabled.

Also keep in mind branching logic, piping and calculations when moving instruments. For instance, say you plan on entering data into Data Entry Form A, positioned as the first instrument within your project, which will then be piped into Data Entry Form B, positioned as the second instrument within your project. If you move Data Entry Form B to be the first instrument and enter the data into that form first, the field into which your piping should be seen on Data Entry Form A will not have a value.

Additionally, if you have a survey queue or auto-continue enabled, check to see how re-ordering the instruments impacts those features.

Finally, it’s a good idea to check the Survey Settings to see if you need to adjust the wording of the survey instructions and/or confirmation emails (if you have that enabled.) To get to Survey Settings, click on Designer on the left-hand navigation bar under Project Home and Design.

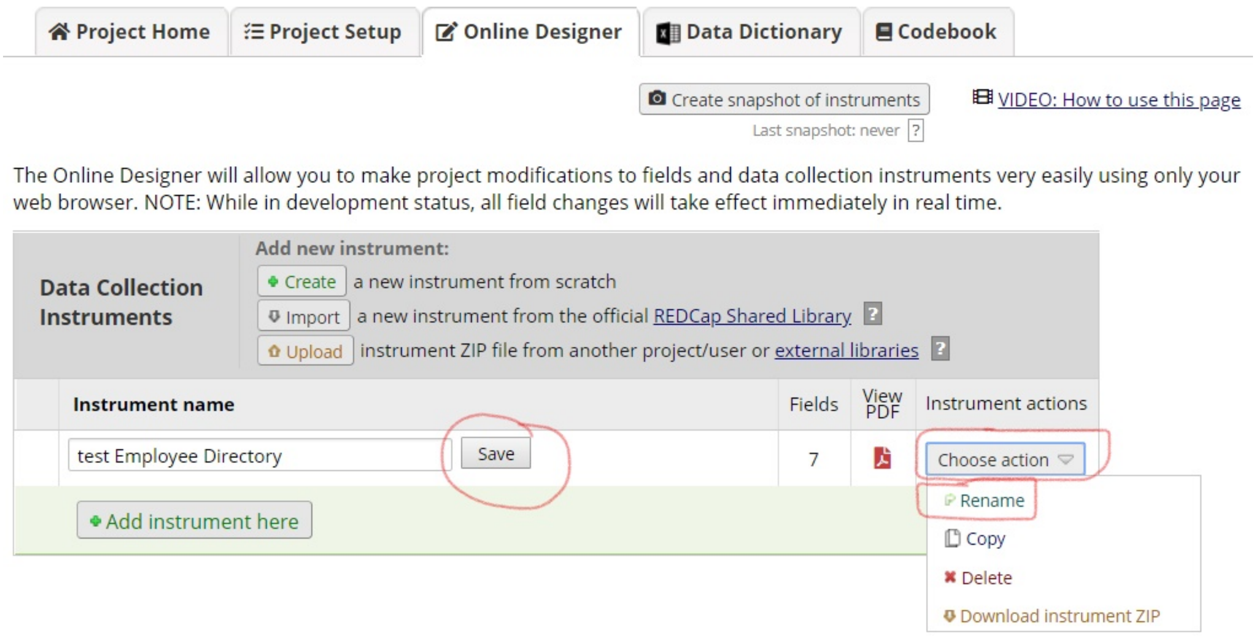
Please note that if you change the first survey (e.g. move survey B to come before Survey A), that changes the public survey link. If you had created a custom public survey link before moving the survey, that custom public survey link will no longer be valid. Any participant who clicks on the old survey link will get the message: **Thank you for your interest, but you are not a participant for this survey.** To solve this problem, delete the custom public survey link and then create it again.

Rename a Form

REDCap will begin your project with a data collection instrument titled “My First Instrument”. You will want to change the title so that it is reflective of the data you are collecting in it.

1. Click the **Rename** button (under Actions) for the form

2. Enter the new name and click **Save**



Designing within an instrument

To begin building your data collection instrument, click on the instrument name.

Design tip: add test records as you are designing your instrument.

This helps ensure that the instrument is coming along as you wish it to. Because your REDCap project is a series of webpages, you can have the Online Designer open on one browser tab, and then have the Add/Edit records open on another browser tab. Simply toggle back and forth between the two tabs to switch from design to adding test data.

Design Tip: Participant-Identifying Data

Think very carefully about exactly what confidential, participant-identifying data is required in your project. It is recommended that identifying information be kept separate from other project data, which can be done – in descending order of security by ensuring all identifying fields (see Check For Identifiers) are on separate forms to other data, and that access to these forms is restricted to the minimum set of users

Record Identifier

As in any database, your project records must be uniquely identifiable. REDCap projects must all define a "record identifier" field as the first field on the first form

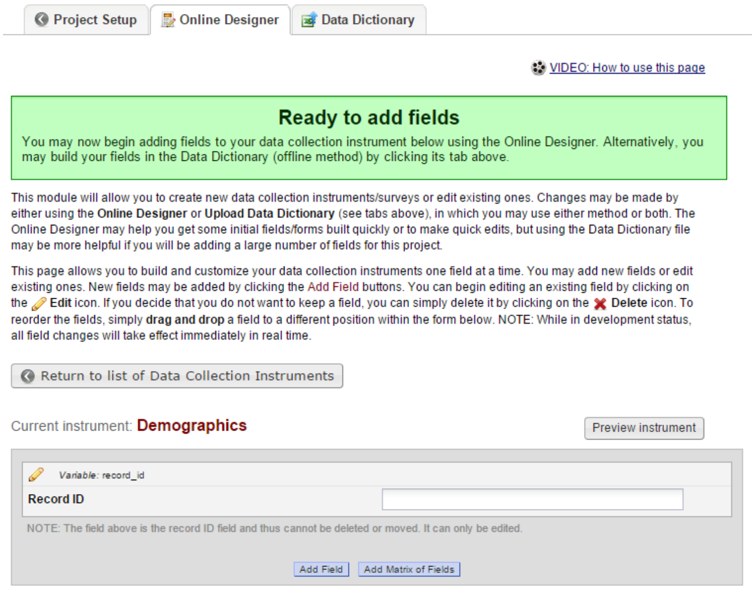
In any changes you make to your project's data collection forms it is essential that the record identifier field remain the first field of the first form.

The record identifier field cannot be deleted; however, you may rename this field by clicking on the pencil icon.

User-generated record identifier or auto-numbered identifier

The record identifiers can be automatically sequentially- generated (auto-numbered) or user-entered.

A good example of a user-entered identifier would be the patient's MRN. That's because an MRN is unique, and the record identifier needs to be unique. A bad example would be a participant's last name since there can be several individuals with the same last name (e.g. Smith, Jones, etc.).

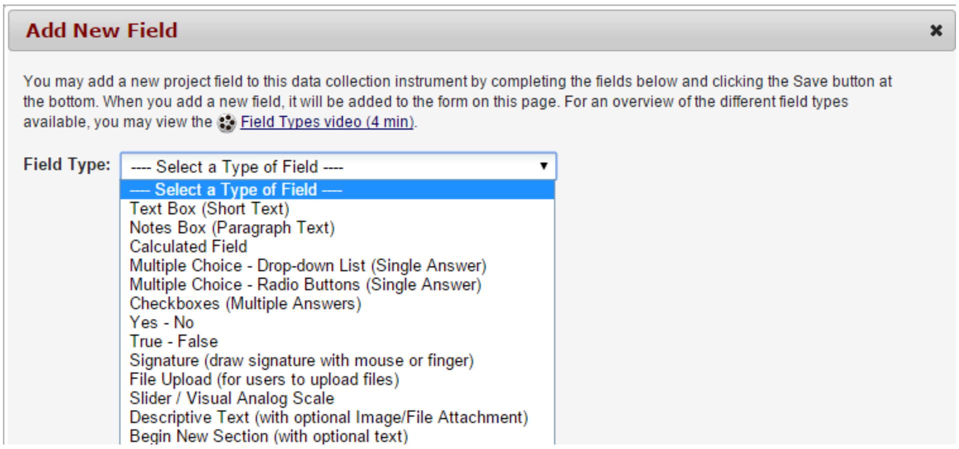


Add Fields to Your Data Collection Instruments (add questions to your data collection instruments)

1. Click **Add Field Here** 

2. The **Add New Field** dialog opens

3. Select one of the several field types available:



4. Enter your field elements (see further info below)
5. Click the save button

Choosing a field type

In general, it is best to select a field type that will collect data in a quantitative manner. For instance, select one of the multiple choice field type options and provide a list of choices rather than selecting the text box or notes box field type and letting the person enter their own text. This prevents typos and ensures consistent data collection. Quantitative questions will yield graphical and statistical results.

If collecting alpha-numeric text, add validation when possible to restrict the type of text entered. Validation for these data points are available in the text box field type:

Date
Email
Integer
Number
Phone (North America)
Time
Vanderbilt MRN
Zip code (US)

Field Elements

Once you have selected your field type, these are some of the elements available to you:

- **Field Label:** This is where you would format your question or data field.
- **Field Annotation:** This is primarily used for you to enter action tags and explanatory notes. These notes will not appear on your data collection instrument or survey.
- **Variable Name:** This is the name of your Field Label that is stored in the database and can be used in reports, exports and analysis. The variable names may contain letters, numbers and underscores but no spaces or special characters. If you decide to change the name of a variable prior to moving your project into production, you must change it everywhere that it is being used such as calculations, branching logic, etc.
- **Required:** Indicate if your field is going to be required. The default setting for all fields is set to No.
- **Identifier:** Indicate if your field is an identifier. All fields that could potentially identify a person should be marked as an identifier, regardless of who will be accessing your data. Especially for

Research projects, you will want to mark identifying fields appropriately. This way, if you need to de-identify data, you can do so easily.

- To be HIPAA-compliant there are 18 pieces of information that must be marked as *Identifiers* in a project.
    - Name
    - Fax number
    - Phone number
    - E-mail address
    - Account numbers
    - Social Security number
    - Medical Record number
    - Health Plan number
    - Certificate/license numbers
    - URL
    - IP address
    - Vehicle identifiers
    - Device ID
    - Biometric ID
    - Full face/identifying photo
    - Other unique identifying number, characteristic, or code
    - Postal address (geographic subdivisions smaller than state)
    - Date precision beyond year

- **Custom Alignment:** Select the alignment for your field. The default setting is Right/Vertical.
- **Field Note:** Use this field to enter any notes, reminders or instructions for the person entering data.

Design Tip re: variable names

Variable names must be unique across your project. A best practice is to name your variables descriptively. For example, if you collect multiple dates in a project, provide each with a variable name to identify how the date relates to the project (visit date, screen date). This enables data exports (which utilize variable names) to have clear identifying information, differentiating variables from each other.

Action Tags

Action Tags are an excellent way to customize the data entry experience for surveys and forms. They are special terms that begin with the '@' sign that can be placed inside a field's Field Annotation when adding or editing a field. Each action tag has a corresponding action that is performed for the field when displayed on data entry forms and survey pages. You can use as many as you want for a single field, but if you do use more than one tag for a field, make sure to put a space or line break between them. Because the action tags are used as part of the Field Annotation, they are not displayed anywhere on the page. To start using Action Tags, navigate to the Online Designer in a project, and when adding or editing a field, add the tag into the Action Tag/Field Annotation text box in the Edit Field popup.

For a list and definition of all action tags see this link.

Please note that Action Tags are case-sensitive. If you choose to manually type the action tag into the Action Tag box (rather than clicking on the Action Tag link and clicking on the 'add' button), you'll want to write the Action Tag in all caps. If you were to type @hidden-survey, for instance, REDCap would not recognize that syntax. It needs to be @HIDDEN-SURVEY. Likewise, if you are referencing a variable name in an action tag (like you might when using the Default action tag), you need to make sure the variable name is in all lower-case.

For an online tutorial of Action Tags, please click on this link: https://is.gd/ActionTagDemo

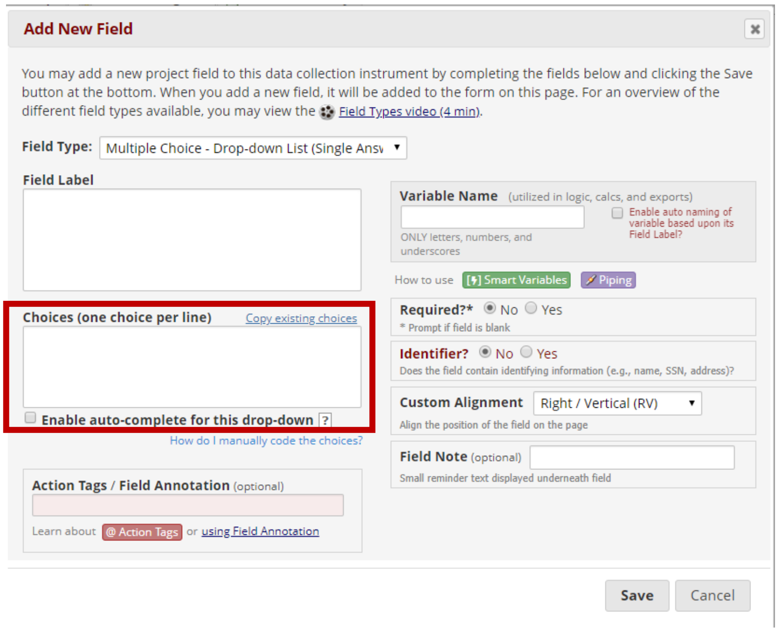
Text box field elements

For Text Box fields you have this additional element:

Validation: For the field type Text Box (Short Text) you have the opportunity to select a validation. If you would like to indicate how data in this field should be entered, use the drop down and select an option.

Multiple choice fields additional element:

Choices: Enter the pre-determined choices for the question, one per line:



Examples of field types

Design Tip: Selecting the Field Type

In order to determine which field type you want, think about the type of data you wish to collect. In general, data is more actionable if it can be captured quantitatively vs. qualitatively. Think of it as better to ask close-ended questions vs. open-ended questions.

So, think about the question you are asking and see if it can be structured in a way that is close-ended. For example, if you are creating an employee directory, you could have a field in the directory that asks who the employee's supervisor is. Technically you could leave that as an open-ended question. But if it's a short list of supervisors, it would be better to make it a multiple-choice question and list all the potential supervisors as the choices for that question.

Collecting Alphanumeric text

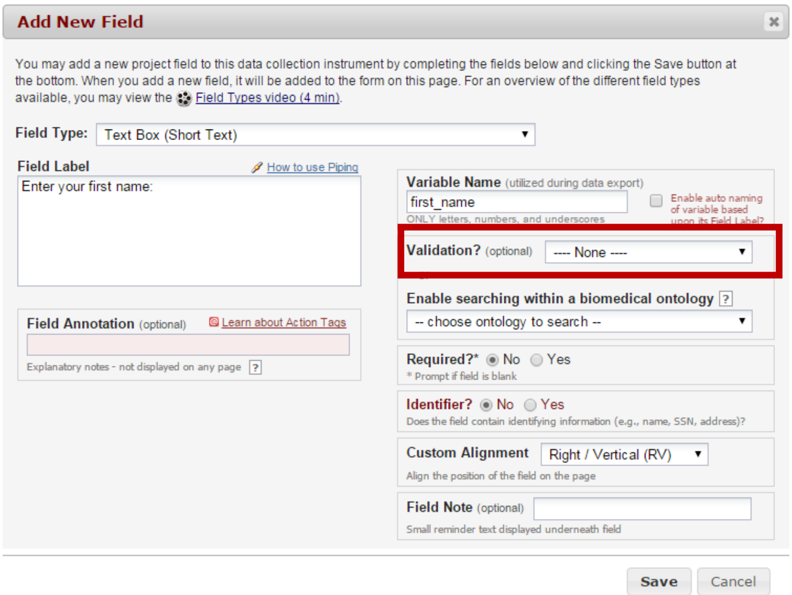
If you need the person entering data to enter alphanumeric text (rather than selecting from a pre-determined choice), you can select either the Text Box or Notes box as your field type.

If the text that will be entered is brief, select text box. If you want to allow more room for a response, select the notes box. You'll see that the two options look different on the data entry form or survey because the Notes box is bigger.

If you want the text to fit a certain format (like a date, email address, phone number, etc.) choose the Text Box field type. This will allow you to add validation, forcing the person entering data to enter data in the prescribed format.

Text Box (Short Text)

This field can be used to capture alphanumeric text. Use the Validation drop down whenever possible to restrict how data should be entered.



Design tip re: collecting names

When collecting a person's name, it is best to create two separate fields: one for first name and one for last name. This helps with sorting records.

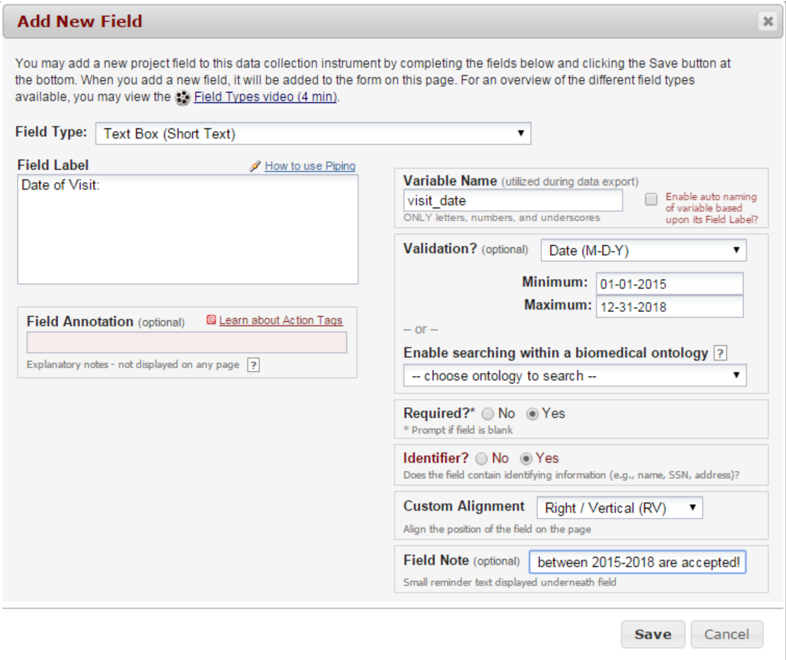
Validation Types

Date
email address
Integer
Number
phone number (North America)
time
Vanderbilt MRN
Zip code (US)

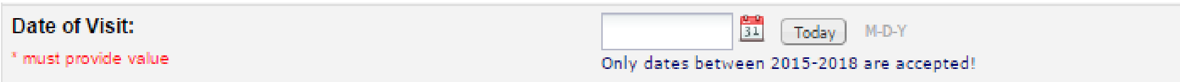
Text Box (Short Text) with a validation of Date (M-D-Y)

The below example is a text box field with range checks (minimum and maximum fields). The field is marked as required and includes a field note.

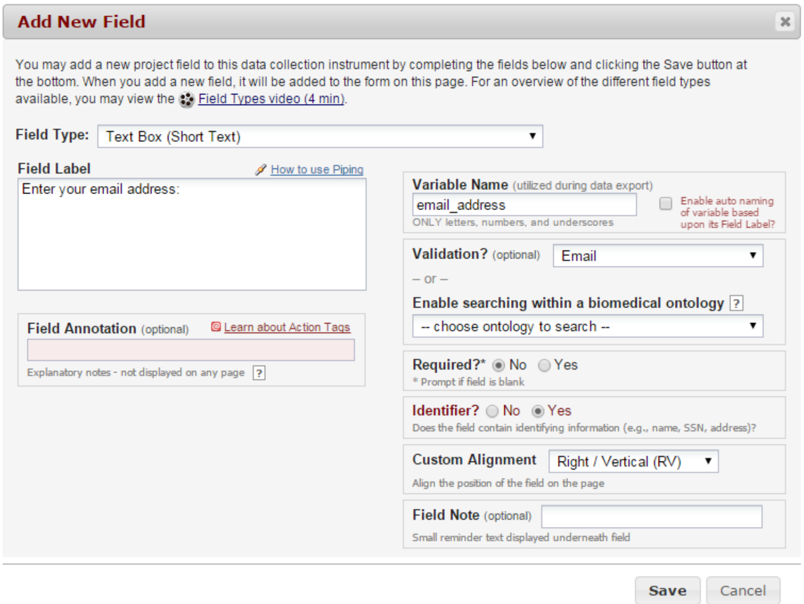
How it appears in Online Designer:



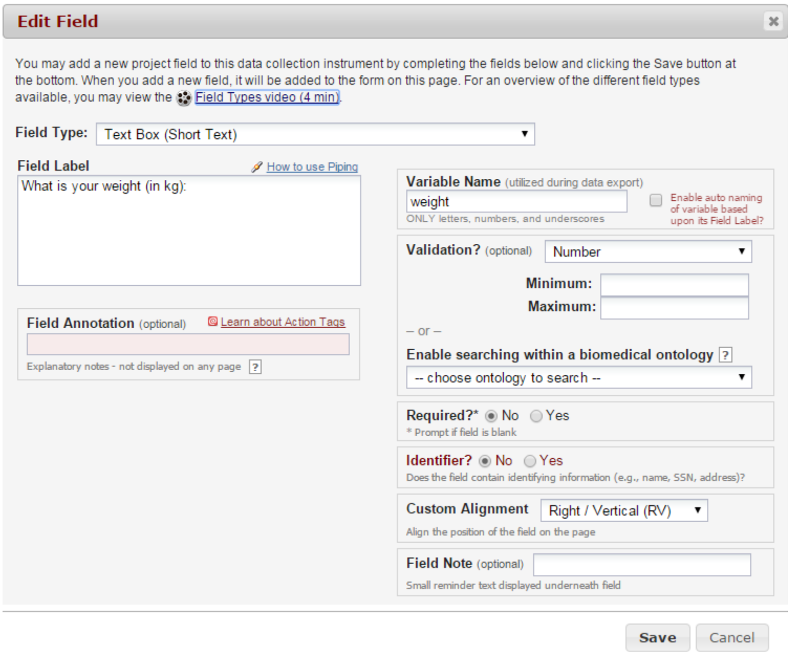
How it appears to person entering data:



Text Box (Short Text) with a validation of Email



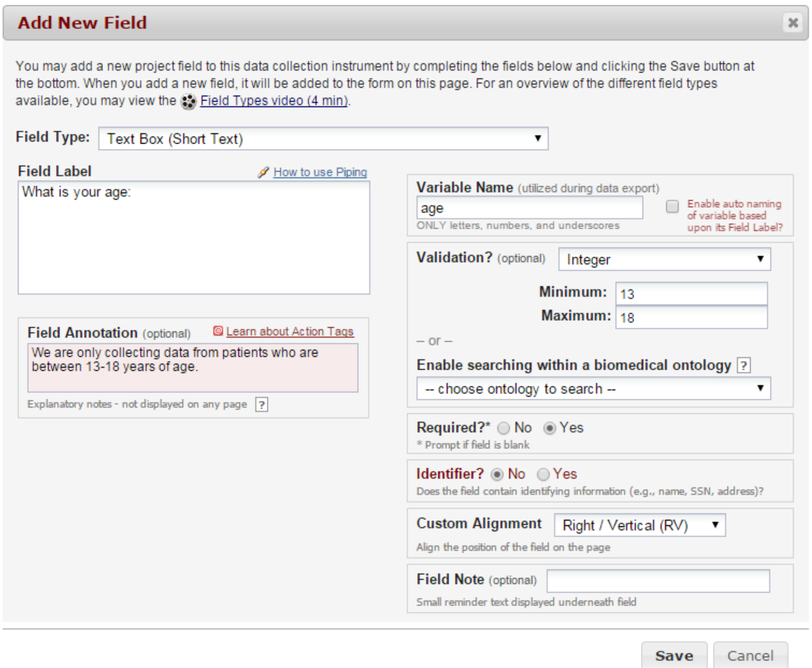
Text Box (Short Text) with a validation of Number (allows decimals)



As a general rule, it is helpful to specify a range when using number validation.

Text Box (Short Text) with a validation of Integer (a whole number)

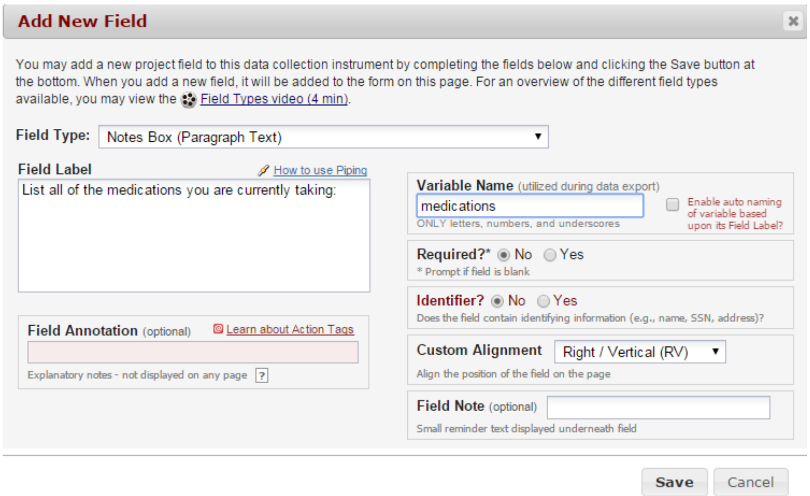
This field has range checks (minimum and maximum fields), is marked as required and includes a field annotation.



As a general rule, it is helpful to specify a range when using integer validation.

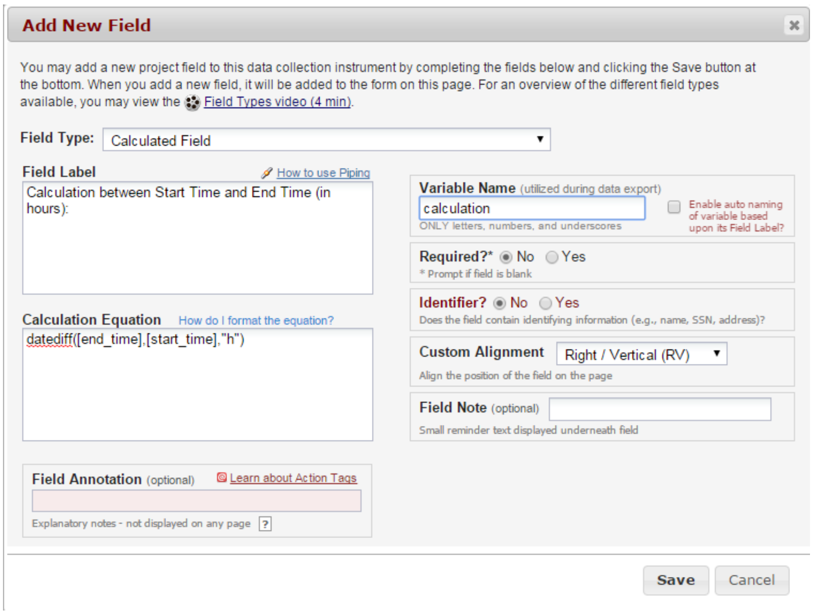
Notes Box (Paragraph Text)

This kind of field is helpful when you want to capture qualitative data and want the person entering the data to have a good bit of space in which to enter it. You'll see that it is a bigger box than a Text Box field.



Calculated Field

This field can perform real-time calculations based on the data from other fields. For an example, you could create a calculation based off of the birth date field and visit date field in order to find out how old the participant was at the time of visit.



So, to make use of a calculated field, you must have two or more other fields created, from which the calculated field will make its calculations. The fields from which the calculated field pulls must be text box fields validated as a number, integer or date.

Calculation results must be numeric, not text, Boolean or date/datetime. ***It is strongly recommended that you do not use "today" in calculated fields for age.*** *This is because every time you access and save the instrument, the calculation will run. So if you calculate age as of today, a year later when you access the instrument to review or make updates, the age as of "today" will also be updated (+1 yr). A best practice is to calculate age utilizing a field collected in the course of the study (e.g. a fixed date such as screening date, enrollment date).*

Build My Calc

If you need help writing your calculations, go to this link and provide the information requested. That link is an online, interactive tutorial designed to help you build your REDCap calculation one step at a time. The framework of the calculation is provided, and you fill in the blanks. How many blanks, and what kind of information is needed will depend on the calculation you want to build. As you specify the different elements, you can see them being added to the calculation in real time at the bottom of the page.

Design Tip: calculated field

When entering calculations, the syntax in your formula is very important. Note the difference between using square brackets -- used to designate REDCap variables and event names -- and round brackets or parentheses, which are used to group mathematical expressions. Variable names in the project can be used as variables in the equation, but you must place **[ ]** square brackets around each variable. Be sure that you follow the mathematical order of operations when constructing equations. Pay attention to open and closed quotation marks and brackets and parentheses.

Multiple Choice –

Design tip: drop-down list or radio buttons?

Resolving this question comes down partly to personal preference but consider also who and how the data entry forms are used. As a suggestion:

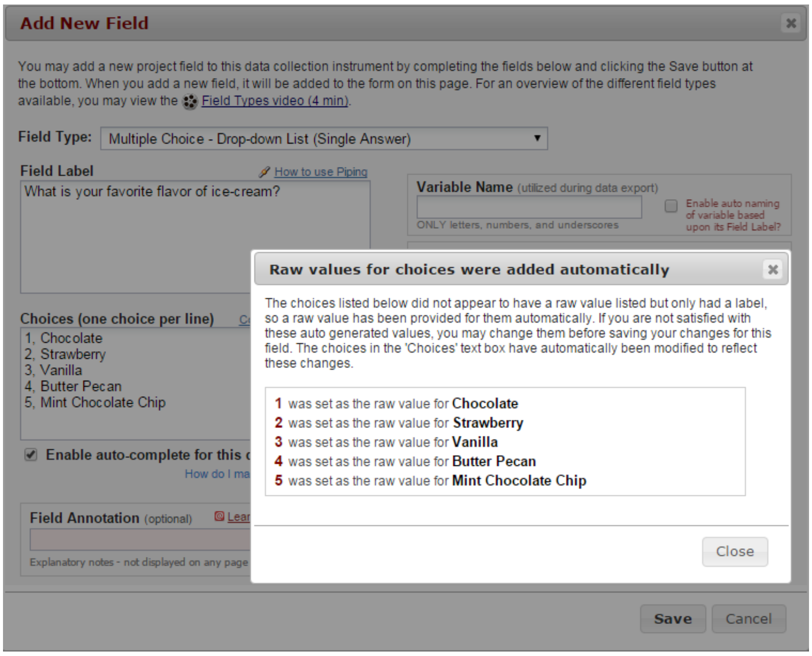
- Radio groups are best for survey forms, or on data entry forms for infrequent data entry users, because all potential choices are displayed on the form
- Drop-down lists are preferred for data entry forms because you can tab to/through fields and select options using keyboard input (e.g. y/n if your labels are "Yes" / "No") or numeric keypad (e.g. 1/0 if your labels are "1 Yes" / "0 No")

There can also be an argument for using radio buttons where data entry users are inexperienced (i.e. mouse- heavy): selecting an option from a radio group is one click with a mouse, rather than the two clicks (or press- select-release) for a drop-down list. But experienced computer / data entry users are likely to prefer the mouse-free usage afforded by drop-down lists.

Multiple Choice Drop Down List (Single Answer)

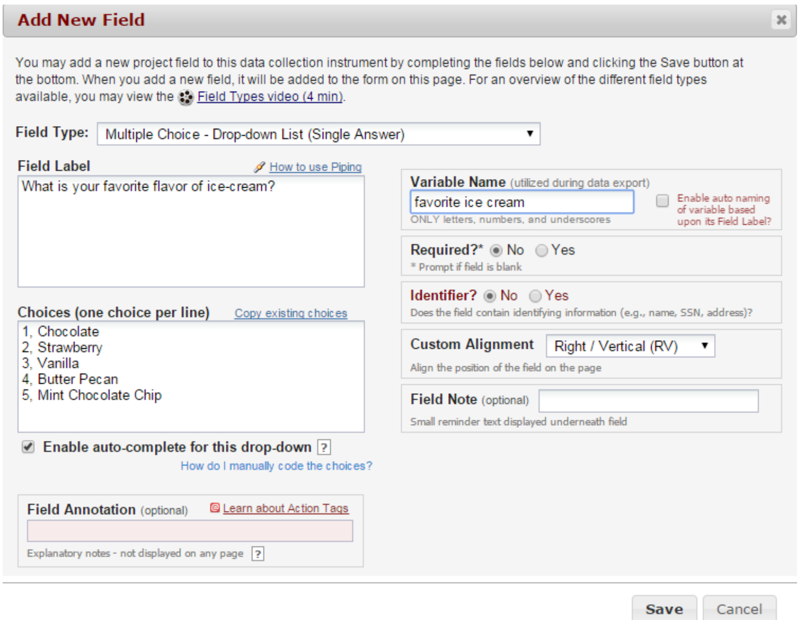
This field will display your answer choices as a drop-down list. This is helpful when you have a long list of choices and want to save screen space.

When a field contains multiple answer choices, you must give each answer choice a raw value. If you do not, REDCap will automatically assign them for you.



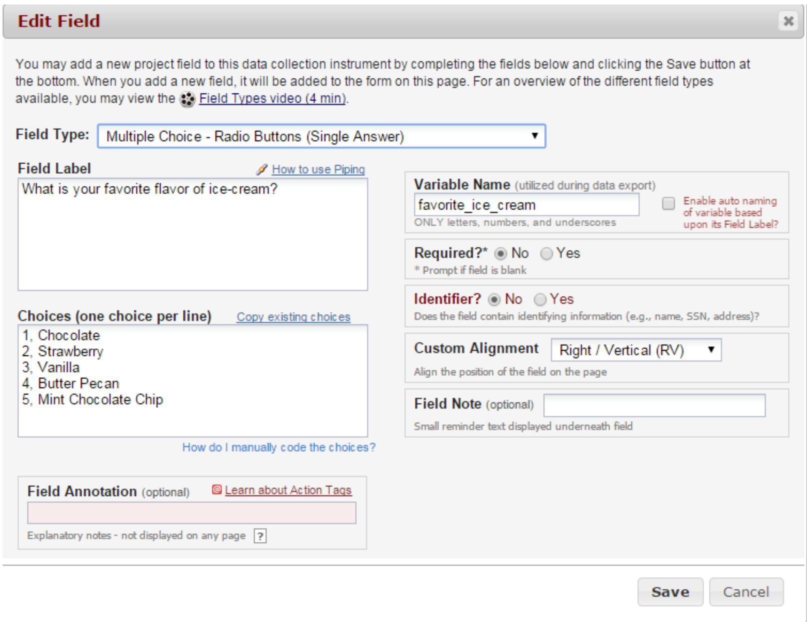
Auto-complete for drop-down choice

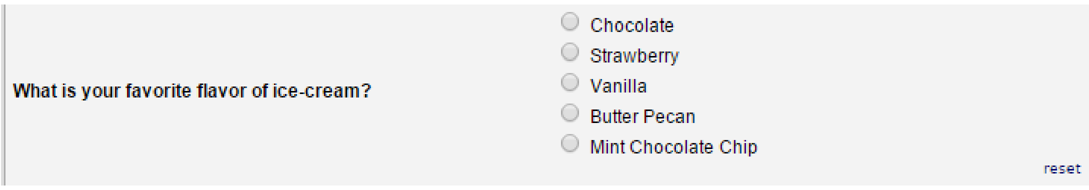
REDCap has an auto-complete feature for drop-down fields. When this is enabled, it allows the participant or data entry person to type in a couple of the characters of the answer choice and a list of matching options will appear. For an example, if I typed in Van, Vanilla would automatically appear. This is very helpful when you have a drop-down field that contains a large amount of possible answer choices.



Multiple Choice – Radio Buttons (Single Answer)

This field will display your answer choices as radio buttons. This means that all the answers are visible on the screen. This option is good if your list of potential answers is short.

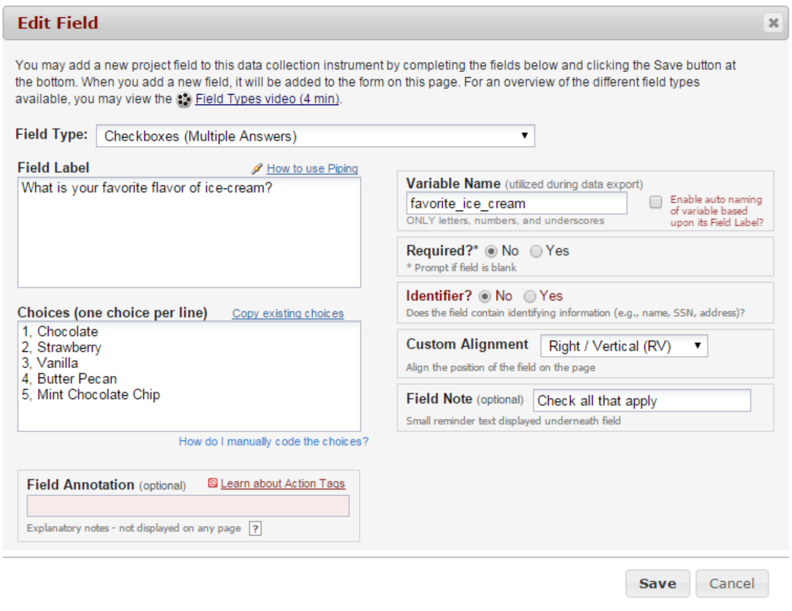


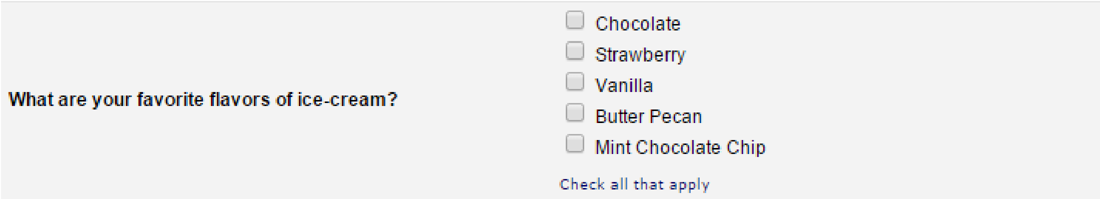


Multiple Choice Checkboxes (Multiple Answers)

This field will display your answer choices as check boxes and will allow more than one answer.

Note: a field note that states "Check all that apply".





Coding Suggestions for Multiple Choice questions

Unknown/Missing value

Code responses that represent an unknown type value with a number that is obviously out of normal range for any variable code or text response that makes sense or is missing.

Example: Has the patient tested his/her blood sugar levels every day this week?

1, Yes
0, No
7777, Don’t know
8888, Refused
9999, Missing

Reverse Coding

If questions have reverse scoring, code the selections according to the value unless otherwise specified. Here is an example, where #4 is coded normally and #5 is reversed:

4. Made me need someone to reposition me.

    0, Never true for me

    1, Rarely true for me

    2, Sometimes true for me

    3, Often true for me

    4, Very often true for me

5. Helped me keep my muscles exercised.

    4, Never true for me

    3, Rarely true for me

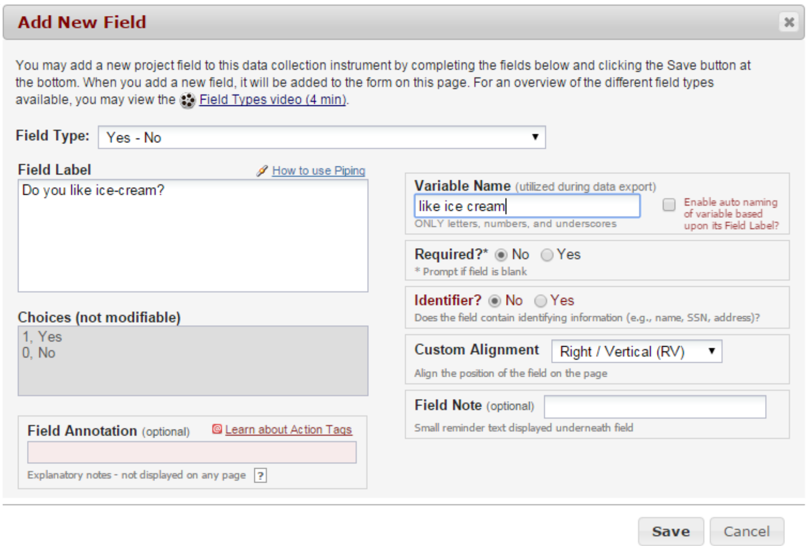
    2, Sometimes true for me

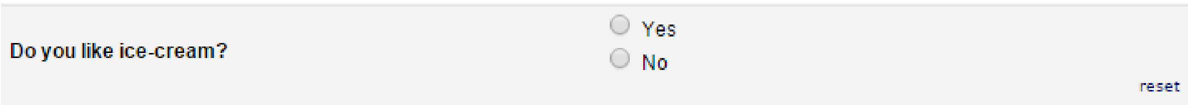
    1, Often true for me

    0, Very often true for me

Yes – No

This field will display Yes and No as radio button answer choices. Those are pre-populated by REDCap and cannot be altered.

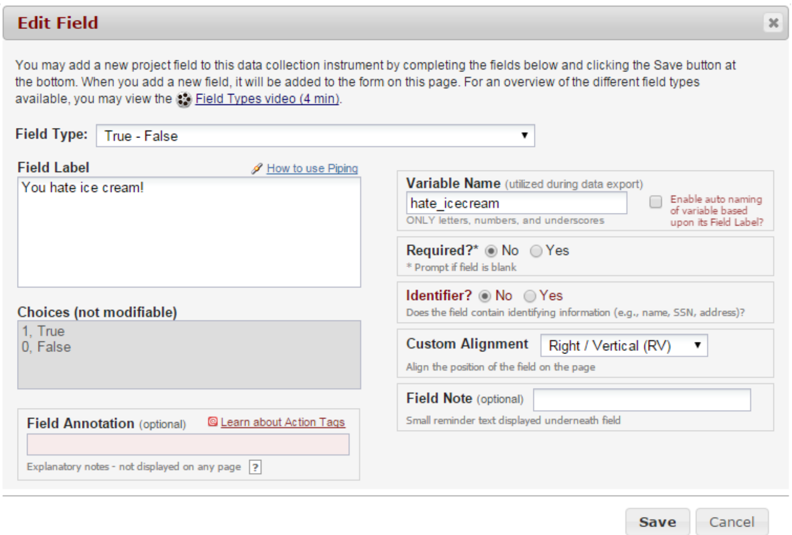


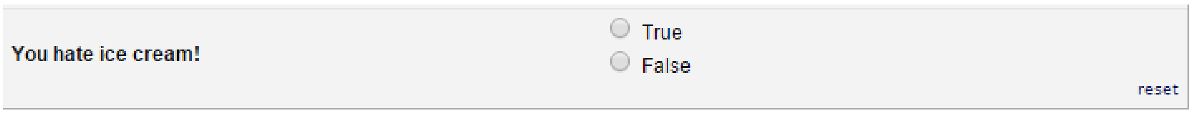


Note: the default setting for Yes/No questions is ‘1’ for the choice ‘yes’ and ‘0’ for the choice no. If you have other fields in your project that contain yes or no choices, you will want the choices to align the same. For instance, if you have a question with the choices yes, no, maybe, you would want the choice labels to be 1, 0, 2 to be consistent. Your statistician will thank you!

True – False

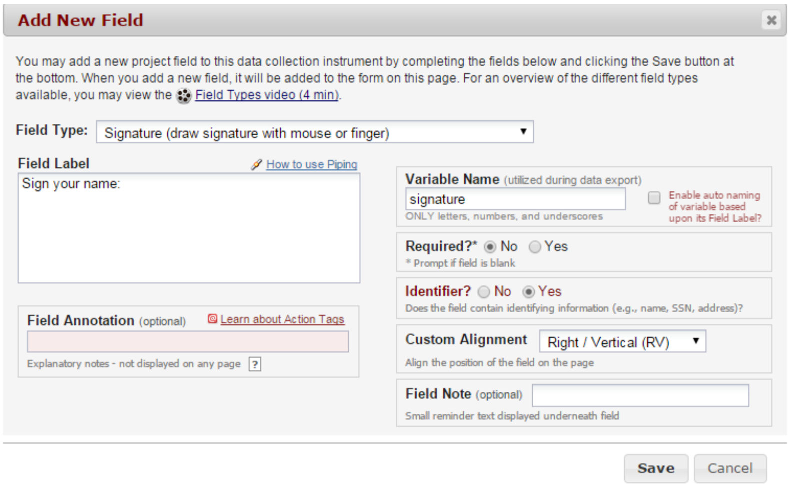
This field will display True and False as radio button answer choices.

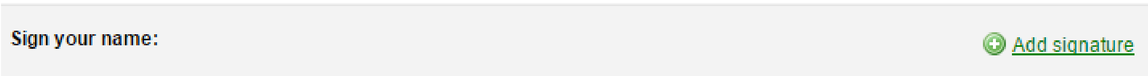




Signature (draw signature with mouse or finger)

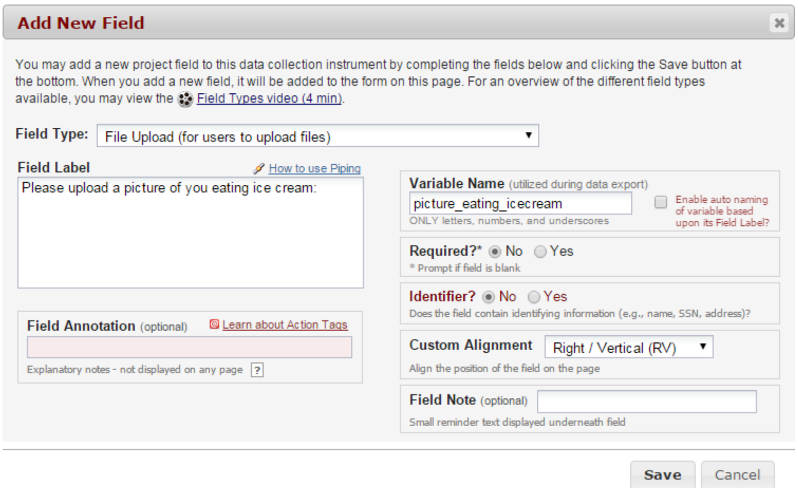
This field will allow the participant to add their signature digitally using their mouse or the finger (if using a tablet or touch screen device). It is sometimes called a digital signature or e-signature.

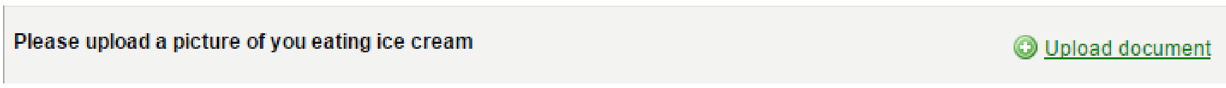




File Upload (for users to upload files)

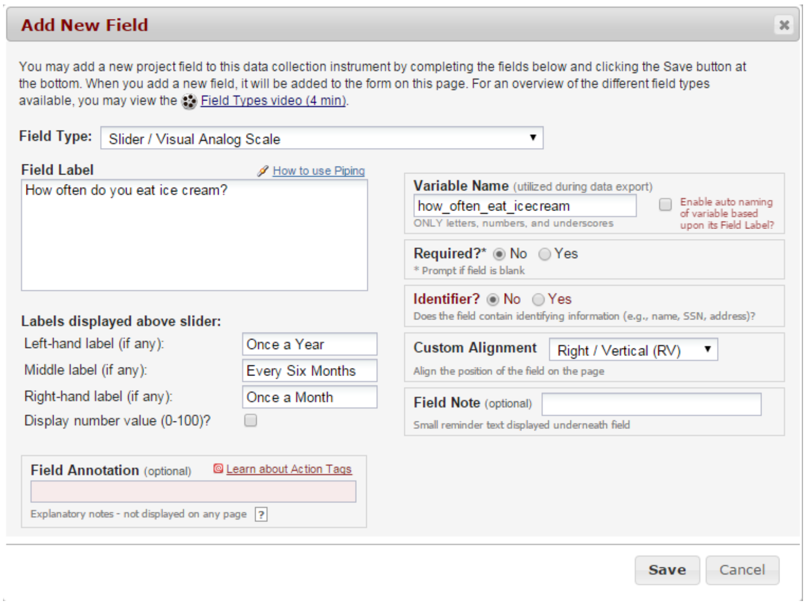
This field gives the participant the ability to upload a file or image

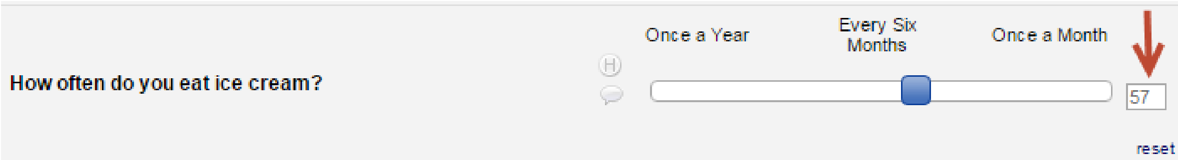




Slider Visual Analog Scale

This field gives you a scale with three answer choices. If you select "Display number value (0-100)", it will code the answer given.

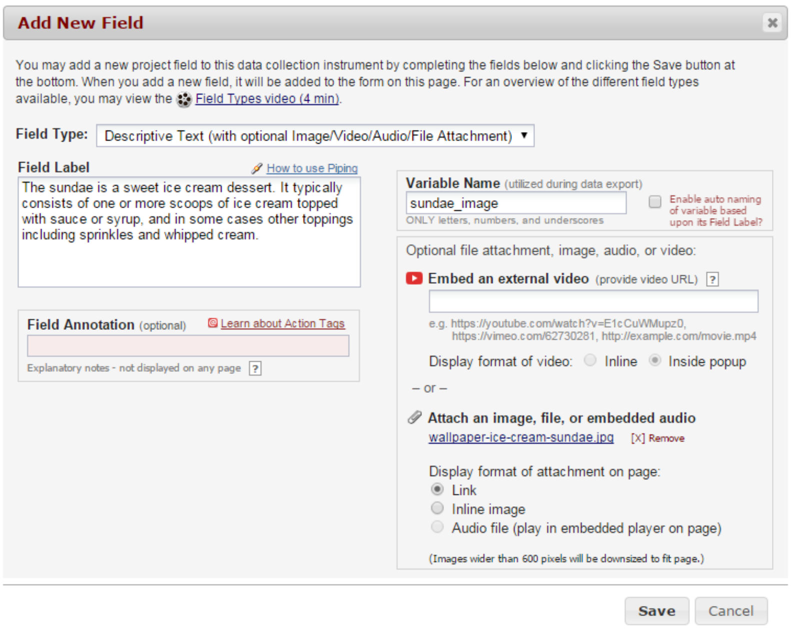




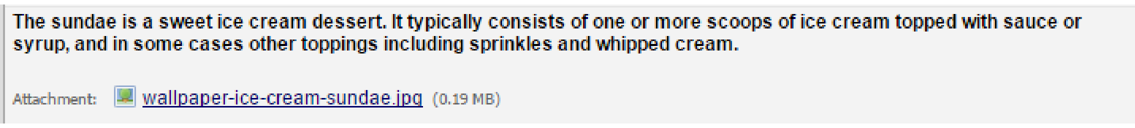
Be sure to test how your data results look when using this field type. Even if you set a number for the labels, those are not the values assigned to the data entered. All data is on a 1-100 scale.

Descriptive Text (with optional Image/File Attachment)

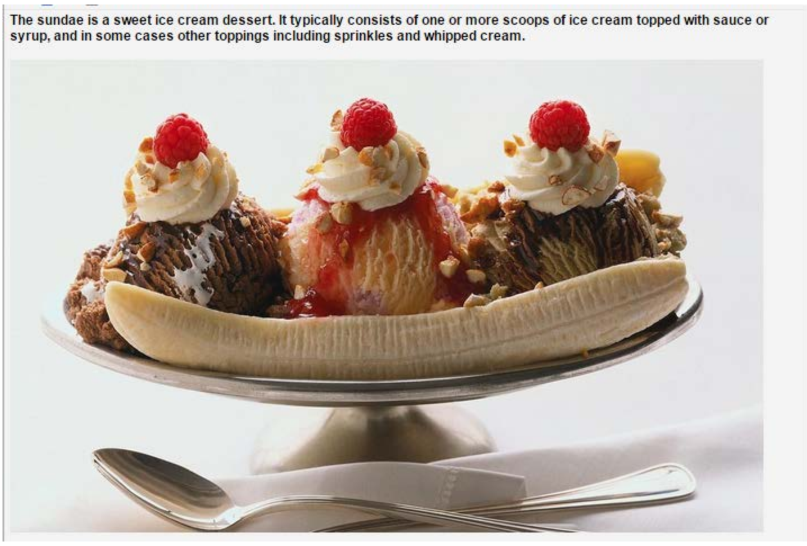
This field will allow you to add text such as instructions or additional information. It also gives you the option to add an image as a link or as an inline image.



Link:



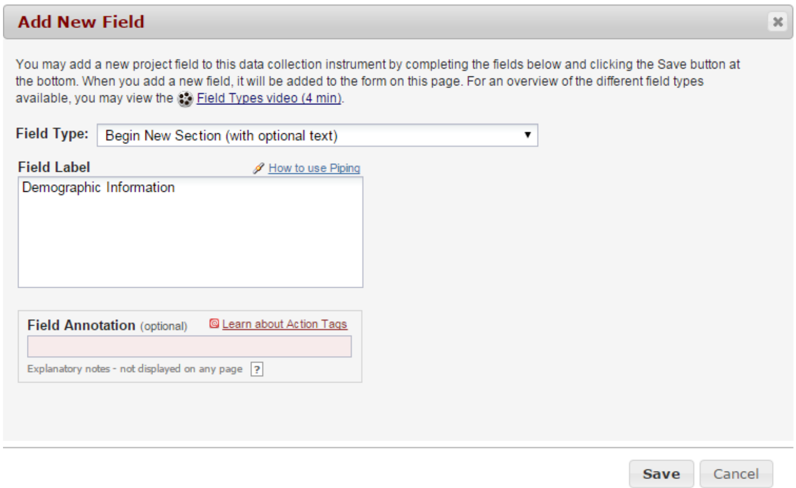
Inline Image:



Because the content of a descriptive text field takes up the entire horizontal space, it makes a nice divider on the page. You can use that as an alternative to the 'Begin New Section' option, if you wish.

Begin New Section (with optional text)

This field is used as a section header. You can add text or leave blank.



As a general rule, it is helpful to provide instructional text in headers. Example: *Headache Disability: The following questions try to assess how much the headaches are affecting day-to- day activity. Your answers should be based on the last three months. There are no "right", or "wrong" answers so please* *put down your best guess.*

Cautions/advice when adding 'Begin New Section'

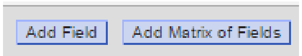
- You cannot have two 'begin new section' field types in a row.
- You cannot have 'begin new section' as the last field of an instrument
- REDCap will automatically merge 'begin new section' with a matrix if the matrix follows the begin new section field.
- When building an instrument that will have a lot of section headers, add a dummy field first, so that the section headers aren't last

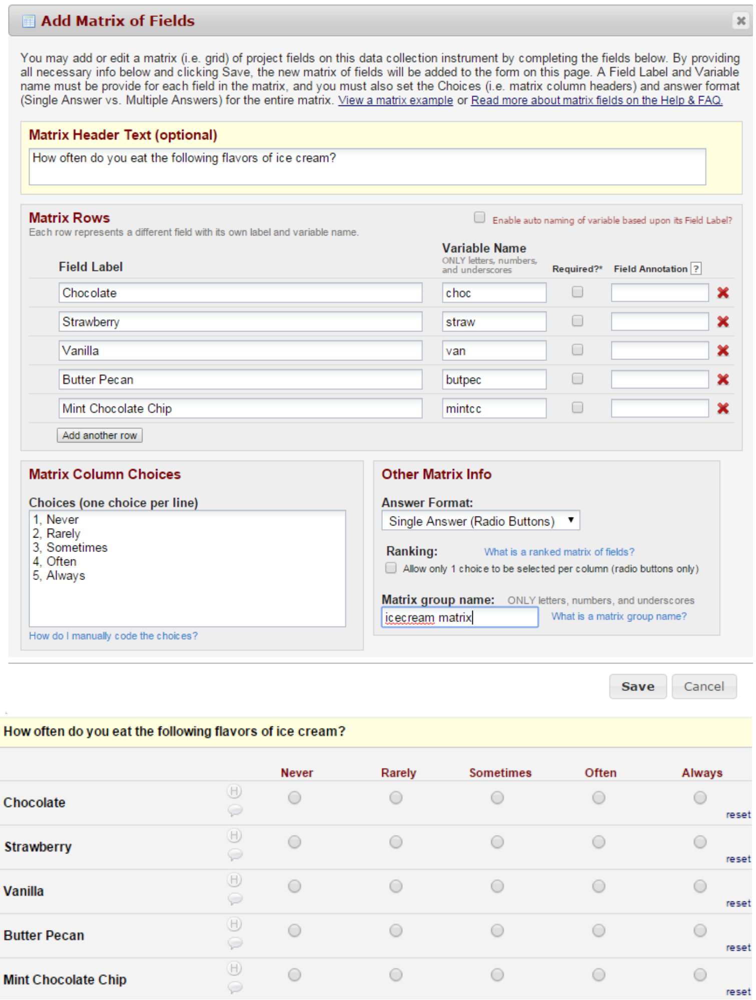
Design Tip: When it is useful to add a "Begin New Section" field

if the instrument is a survey and you want to break the survey up into several pages, you need to insert "Begin New Section" so that REDCap knows where to end/start a new page. Having a survey on multiple pages helps to break up the survey ad prevents the participant from having to scroll down a long page to submit.

Matrix of Fields

If you have a group of questions that all have the same answer choices, you can create a Matrix of Fields. Instead of clicking Add Field, you would click Add Matrix of Fields. You would add an optional header, your field labels and variable names, indicate which fields are required, add your answer choices and select whether these fields should be a single answer (radio button) or multiple answers (checkboxes). If you would like only one answer choice to be selected per column, enable ranking. You must also give your matrix a group name.





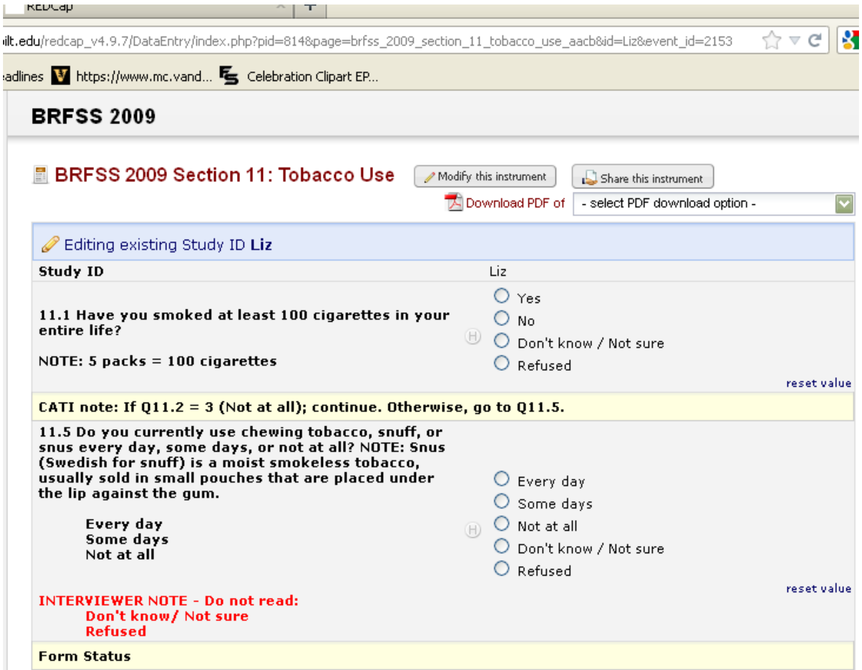
Enter the configuration information for your matrix:

- Matrix Header Text: a section header to appear above the matrix
- Matrix Rows: these are the fields that are incorporated within the matrix
- Matrix Column Choices: the response values and labels shared by each field in the matrix
- Answer Format: radio buttons or check boxes?
- Ranking: with a radio button matrix you may opt for ranking. Ranking ensures no two fields in the matrix can have the same selected value for a column.
- Matrix Group Name: a unique reference for the matrix

You'll notice that when adding a matrix field via Online Designer, you do not see the option for adding a Field Note, like you would for a regular field. What you can do is download the data dictionary of your project and add your field note into column G, which is the column for Field Note.

Customizing Field Labels

Simple HTML may be implemented in field labels. It may also be used to clarify or highlight information. Examples: <u>text</u> for underline, <i>text</i> for italicize, <div><span style='color:red;'>text</div> to color red and highlight the interviewer instructions.



To learn more about HTML formats, [see this link](). It is an interactive online survey that provides information using HTML in REDCap.

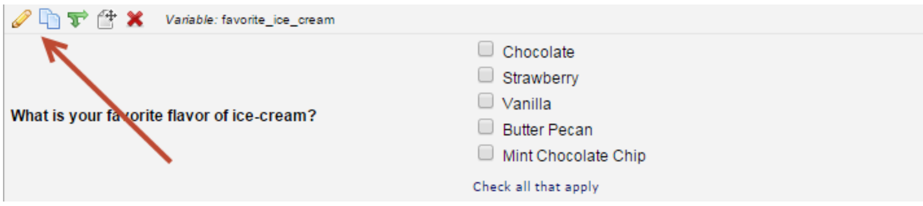
Edit/Copy/Move/Delete a Field

Edit: To edit a field, click on the pencil icon

Copy: To copy a field, click on the double paper icon

Move: To move a field, click on the paper with pointer icon

Delete: To delete a field, click on the red X icon



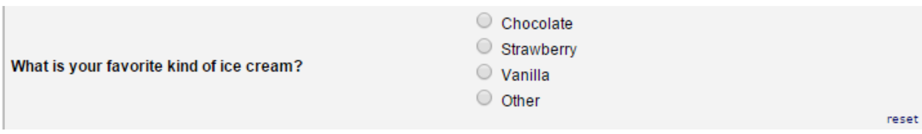
Stop Actions for Survey

When an instrument is enabled as a survey, an additional option is included in the toolbar at the top of the field: the Stop Actions for Survey button, which appears as a stop sign. This feature allows you to prevent a participant from moving forward with a survey, based on how they answer a question. For instructions on how to set up Stop Actions for Surveys, [please see this section]() of this User Guide.

Add Branching Logic

Branching logic is used when you have a field/question that you only want to be visible when a specific answer is given to a previous question.

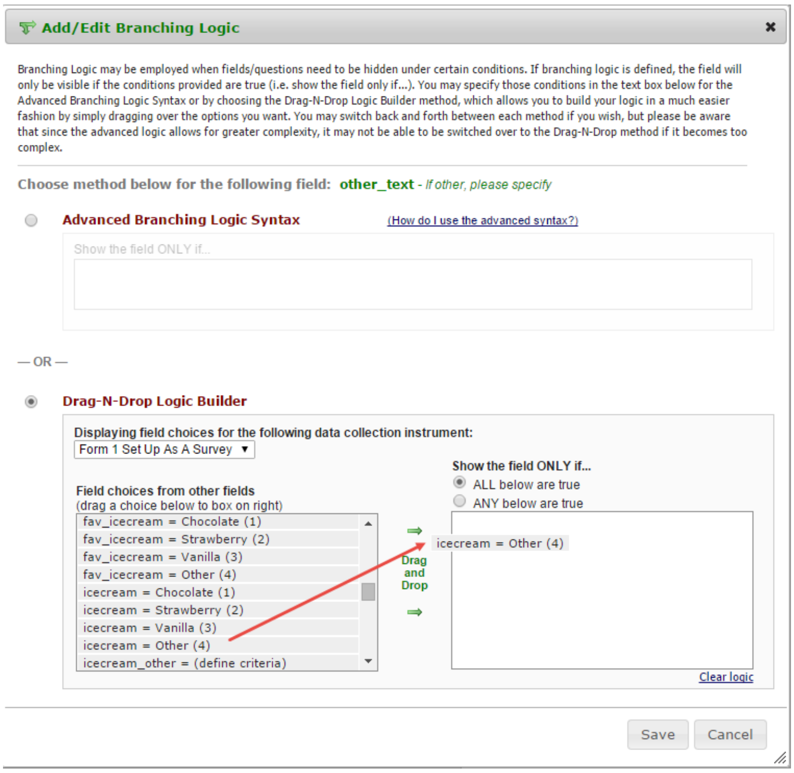
For an example, you might ask the below question:



You'll note that one of the choices is 'other.' If someone makes the choice 'other', you might want to ask a follow-up question to find out what this other ice cream flavor is. But you only want the follow-up question to appear if the answer to the previous question is the choice "Other". To do this, you would create the follow-up question:

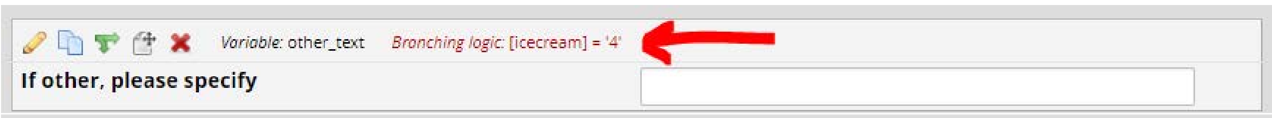
You would then, **on the follow-up question,** click on the double green arrows.

You will now see this logic builder:



You would then click on the Drag-N-Drop Logic Building option and scroll through the list of field choices until you find the choice that should trigger this question (the follow-up question) to appear. In this example, you would select 'icecream = Other (4)'. You then click on that choice and drag the field into the box on the right. Click Save once finished.

The field now indicates that branching logic exists.



This means that the question "If other, please specify' will now appear to the person entering data only if they select the answer 'other' to the previous question.

You can have multiple elements to your branching logic. In other words, it could be a combination of answers to many different questions that can make a field appear.

Testing your branching logic

Determining your branching logic can sometimes be tricky, especially if there are multiple fields that contribute to the branching logic. That's why it is very important to test out your logic to make sure it is behaving the way you want it to.

To test your branching logic, add a test record (via Add/Edit Records on the left-hand navigation bar) and see if the questions appear/are hidden the way you wish them to. If you are using branching logic on a survey, open a survey and see if the questions appear/are hidden the way you wish them to Applying branching logic to multiple questions. If the branching logic is on the first survey in your project, you can go to Survey Distribution Tools and click on Open public survey and enter test data there.

If you want to apply the same branching logic to multiple questions, it is sometimes easier and faster to use the Data Dictionary to accomplish this. Using the Data Dictionary allows you to copy and paste the branching logic into multiple fields very quickly.

To do this, you would:

1. Create the branching logic within one of the fields via Online Designer
2. Go to your Data Dictionary (when you are in Online Designer, scroll up to the top of your page to see the tab for Data Dictionary)
3. Download the current Data Dictionary
4. Save your data dictionary somewhere on your computer – be sure to note where you have saved the file
    a. Be sure to keep the data dictionary in .csv format – do not convert it to an Excel workbook!
5. Open the data dictionary and find the cell that contains your branching logic
6. Copy the branching logic and paste it into the branching logic cells of the other questions for which you wish to apply it to
7. Save your data dictionary
8. Go back to the Data Dictionary page within your REDCap project
9. Click on 'choose file' and find the file location of your updated data dictionary
10. Click on upload file

Note: if you are making these changes while in Production mode, you will need to enter draft mode first, perform the above steps and then click on the "Submit Changes for Review" on the Data Dictionary page.

For more information on how to use the Data Dictionary, go to this section of this User Guide.

Caution on variable names in branching logic

While in development mode, you do have the ability to change a variable name. Please note that if that variable is used in branching logic elsewhere, REDCap will NOT automatically change the variable name in the branching logic.

Branching logic across instruments

In our example, a question is asked in survey 1 "Do you have type 2 diabetes?" This question has the variable name type2diabetes and the potential answers are yes or no. The raw value for yes is 1 and no is 0. Then there is survey 2 where the question is asked "Do you take medication for your diabetes?" The variable name is takediabetesmeds, the answers are yes or no and the raw value for yes is 1 and no is 0.

To set up branching logic so that the question “Do you take medication for your diabetes?” only appears in survey 2 when the person answers ‘yes’ to the question “Do you have type 2 diabetes?” in survey 1…

1. In Online Designer, click on Survey 2
2. Go to the field “Do you take medication for your diabetes?”
3. On that field, click on the green arrows to access the branching logic.
4. Click on the button next to Drag-N-Drop Logic Builder.
   a. When you do that, you will see a drop-down box that lists all your instruments.
5. Select the instrument from which you want to base your branching logic. In our example, we want to access survey 1.
   a. You will now see all the variables (questions) that are in that instrument (in our example, survey 1.)
6. You can scroll until you see the question type2diabetes = Yes (1) and type2diabetes = No (0) in the list.
7. Click on type2diabetes = Yes (1) and drag it to the box on the right
8. Click save

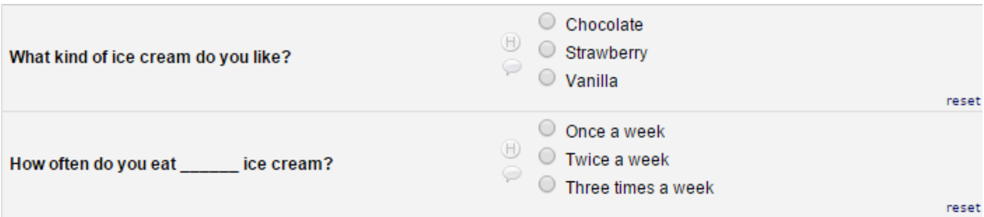
You now have branching logic on the question “Do you take medication for your diabetes?”. It will now only appear in survey 2 if the person answers yes to the question “Do you have type 2 diabetes?” in the first survey.

Add Piping Logic

Piping gives you the ability to insert answers and place it in various places within REDCap.

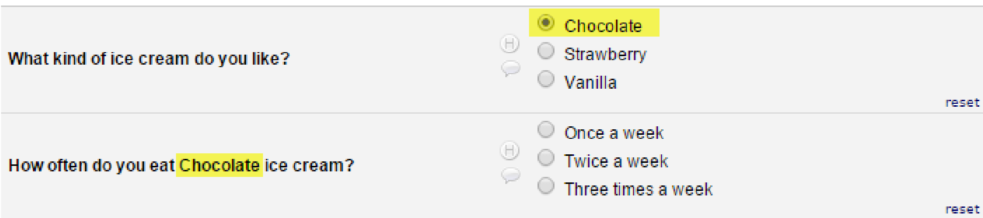
For an example, in the below example there is a field that asks the participant “What kind of ice cream do you like?” Next is a field that asks the participant “How often do you eat ___ ice cream?” Piping logic is included in the second question so that it will insert the answer from the first question.

Before:

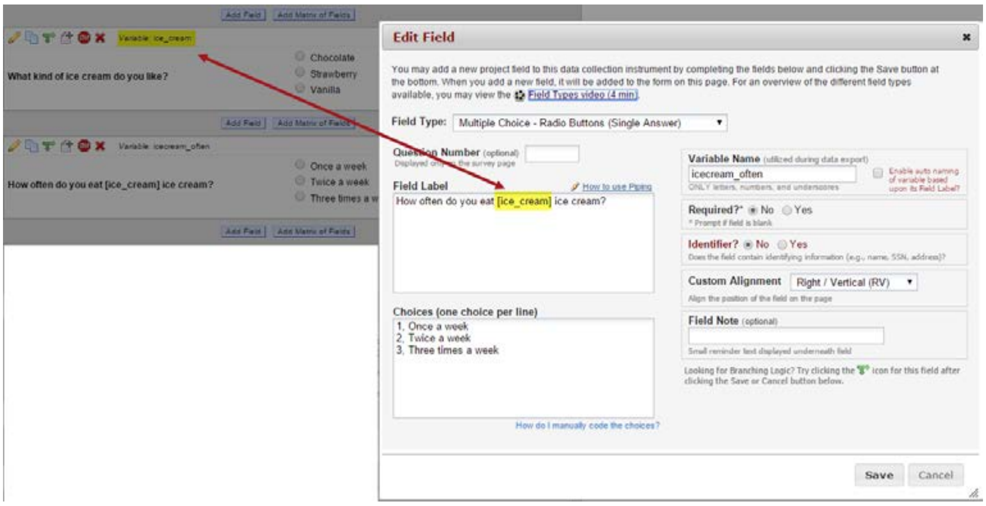


Once the participant answers the first question, the answer is then inserted into the next question.

After:



To add piping, add the variable name of the field you want to pipe in. The variable name must be inserted into square brackets [ ]. *Note: if the variable you want to use for piping is not adjacent, consider* *opening the [Codebook](#) on one tab and do your design on another tab. This way you can easily reference the variable name in the Codebook. You can use the ctrl+F function to search through the Codebook.*



Piping can be used in many different places in REDCap such as:

- Field Label
- Field Note
- Section Header
- Matrix field column headers
- Option labels for multiple choice fields (radio, drop-down, checkbox)
- Slider field labels (i.e. text displayed above slider bar)
- Survey instructions and acknowledgement Text
- Survey invitation emails sent via Participant List or Automated Invitations - both in the subject line and in the message body

Note about Piping in Longitudinal projects

If your project is longitudinal and you want to pipe in data from an event *that is not the current event*, you need to pre-pend to the variable the appropriate unique event name also enclosed within square brackets, e.g. [unique_event_name][variable_name]. Unique event names can be found by going to Project Setup/Define My Events. You will see an events table, and the last column shows you the Unique event name, which is automatically generated by REDCap.

Piping tutorial

To see an online demonstration of piping, please click on this link: https://is.gd/PipingTutorial

Add styling with HTML and CSS

Additional styling can be added to certain elements in your project using HTML tags with CSS styles. Examples include:

- Field labels
- Section headings and descriptive text fields
- Survey welcome and thank you messages
- Survey invitation emails

This guide will not become a web programming manual: you can find good references for HTML and CSS at w3schools.com, and Google is always your friend. Nevertheless, some examples of the types of formatting that can be applied are included below. First a section header, then two field labels:

Demographics Information **Confidential**	Demographics Information Confidential
Full Name	<div class="green">Full Name</div>
Date of Birth Here is a selection of text styles: small and red **bold, large and green** blue monospace normal in a white box	Date of Birth <p style="font-weight:normal;">Here is a selection of text styles:</p> <p style="color:red; font-size:75%;">small and red<p> <p style="color:green; font-weight:bold; font-size:150%;">bold, large and green</p> <p style="color:blue; font-family: monospace;">blue monospace</p> <p style="display:block; padding:5px; border:1px black solid; background-color:white; ">normal in a white box</p>

To learn more about HTML formats, see this link. It is an interactive online survey that provides information using HTML in REDCap.

Shared Library

The REDCap Shared Library is a repository of validated data collection instruments that can be downloaded and used in your REDCap projects.

To access the REDCap Shared Library your project must be in Development (not Production) mode. You can access the library via two locations:

1. The Project Setup tab – see the Design your data collections instruments section
2. The Online Designer page – there is a button to import button

You can download any instrument from the library into your REDCap project.

If your project is in production status, you can also upload data collection instruments that you have created to the Shared Library. They will then be available for download by other REDCap users around the world.

Note: Do not share copyrighted material unless you are the owner.

Smart Variables

Definition

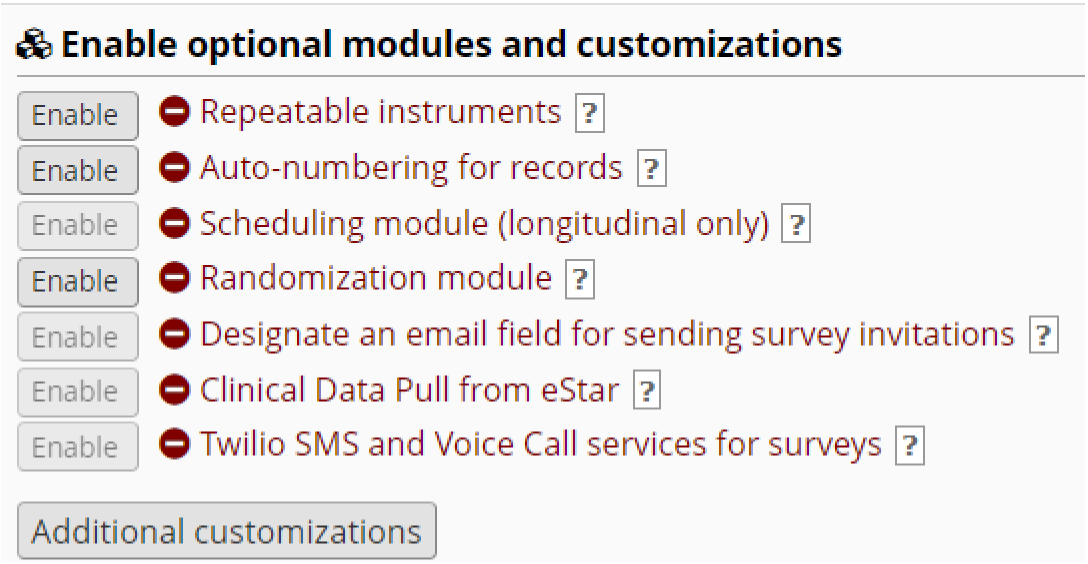
In REDCap Field Notation, variable names always point to data fields in the project. However, another type of entity exists called 'Smart Variables' that allow you to reference information other than data fields. Smart Variables are context-aware and thus adapt to many different situations in which they can know who the current user is, what event is currently being viewed, whether or not an instrument is being viewed as a survey or data entry form, etc. In this way, Smart Variables are dynamic (and thus 'smart') because they adapt to the current context in which they are used. Smart Variables are easily distinguishable from field variable names because Smart Variables will have dashes and colons whereas field variable names cannot.
Smart Variables can be used...

- On their own - e.g., *[record-dag-name]*
- In conjunction with field variables - e.g., *[previous-event-name][weight_measurement]*
- In conjunction with other Smart Variables - e.g., *[previous-event-name][survey-url:prescreening_survey]*

For more information on Smart Variables, [please see this page.]()

Step 3 on the Project Setup page: Enable Optional Modules and Customizations

The third box on the Project Setup page lists several optional modules that you can enable for your project:



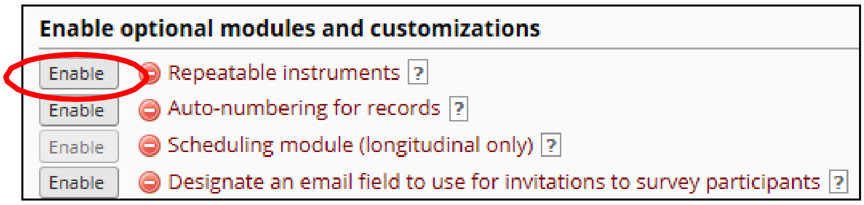
Repeatable or Repeating instruments

You can repeat a data collection instrument or a single predefined event dynamically and as often as you wish. This is useful when collecting data for multiple visits, concomitant medications, adverse events, or repetitive surveys (weekly, monthly, etc.) There is no need to pre-define a maximum number of repetitions, and the feature works in *either* classic or longitudinal projects.

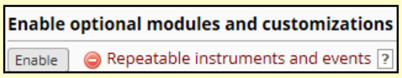
Classic projects (i.e., in which the longitudinal module is not enabled) can utilize repeating instruments as a simple way of enabling longitudinal data collection.

Enabling Repeatable Instruments

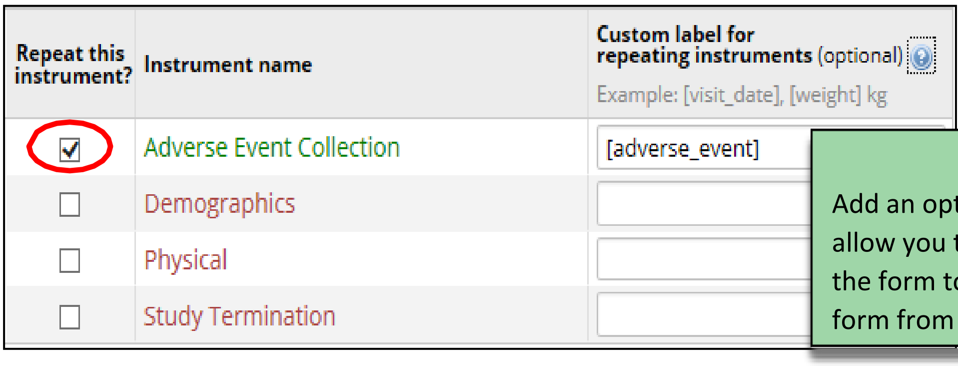
Navigate to Project Setup, Optional Modules. Click **Enable** for Repeatable instruments.



Tip: In *longitudinal* projects, you may repeat instruments **and** events:



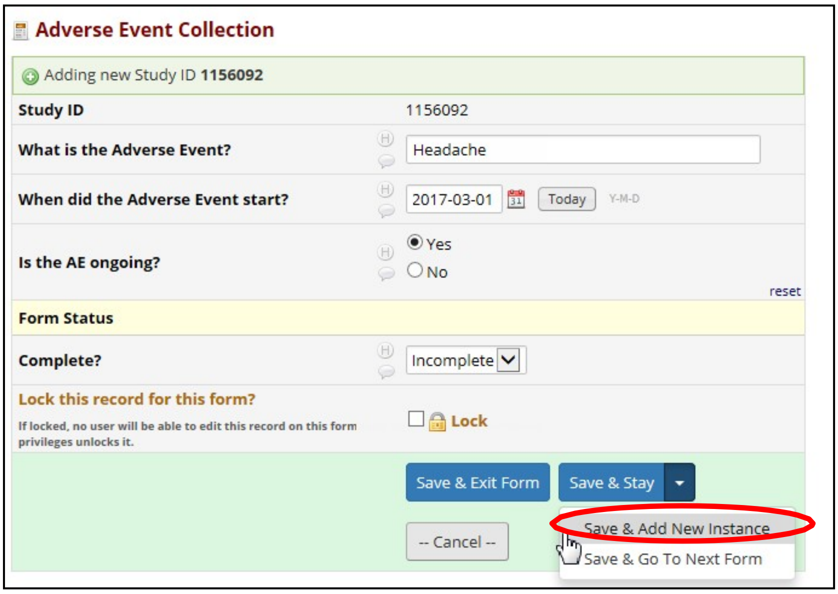
Use the checkbox to indicate which data collection instrument may be repeated.



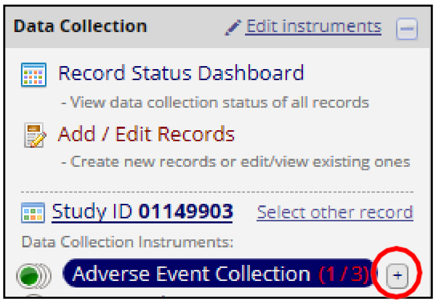
Add an optional custom label. Variables allow you to pipe collected data from the form to label one instance of the form from other repeated instances.

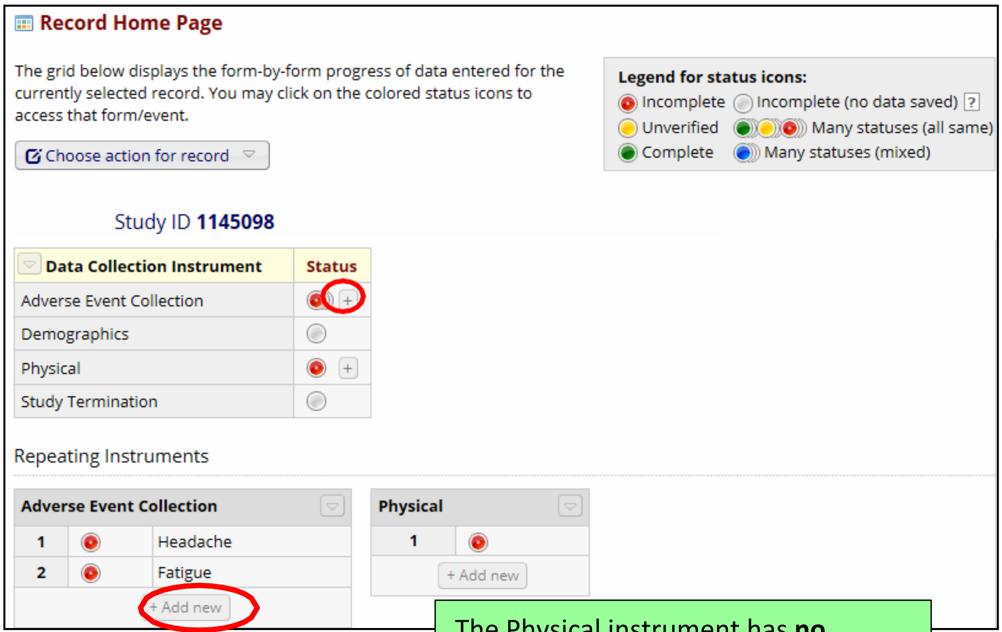
Data Entry for a Repeating Instrument

During Data Entry, click **Save & Add New Instance** to create another instance of the instrument immediately.



To add a new instance of the instrument *after data entry*, click the ***+ sign*** from Data Collection or on the Record Home Page beside the form you want to repeat. Only Repeating instruments display the + sign.



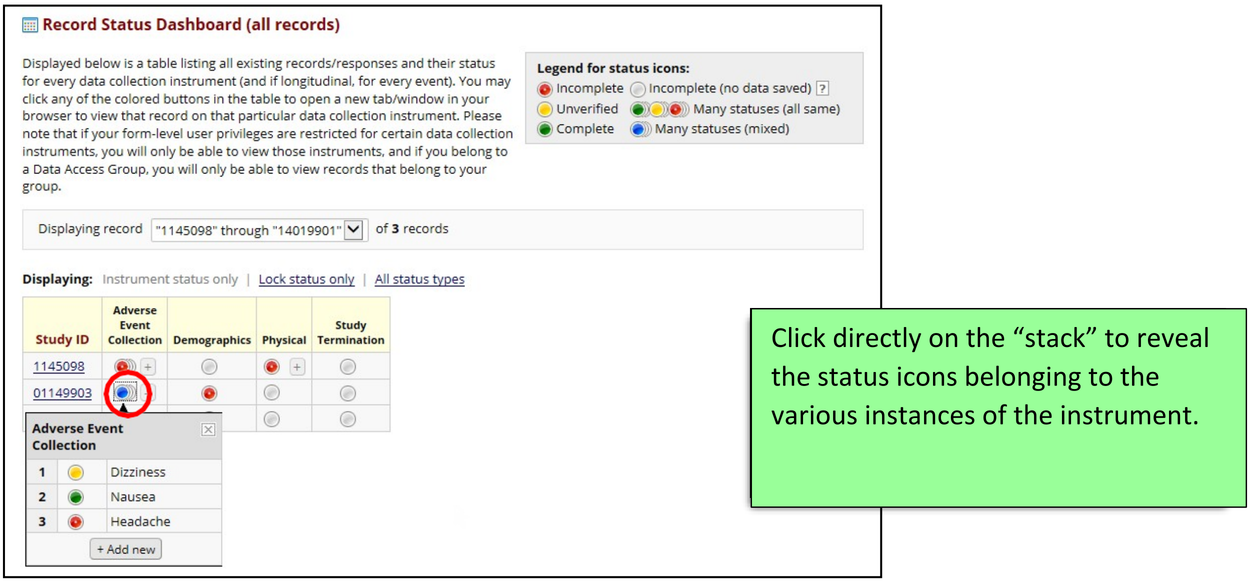


Tip: *Include variable names in your custom labels. This will pipe collected data into the label name, distinguishing one instance of an instrument from another.*

The Physical instrument has **no** custom labels in this example. Open the form to see the data inside.

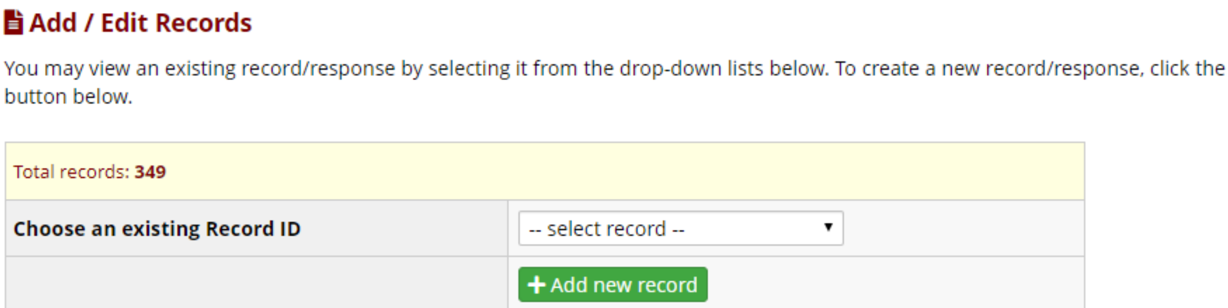
Viewing Repeating Instrument Status Icons

The Record Status Dashboard includes a legend specifying both individual instrument status icons, as well as icons for the repeating instances of an instrument. A single dot indicates a single instrument containing data. The "stacked" icons indicate multiple instances of the instrument.



Auto-numbering for records

Auto-numbering will automatically be enabled for your project, unless you are using a project template that does not have it enabled. With auto-numbering enabled, you will see this when you navigate to the Add/Edit records page:



This option will remove the ability for users to name new records manually and will instead auto-generate a new unique record name, which will be numerical and will increment from the highest numerical record value in the project. If no records exist, it will begin with '1'.

If you want to create your own record identification, you may disable this feature and manually assign a record identifier.

Work-around for starting record numbering with a number other than 1

When using auto-numbering you can have your sequence begin with a number other than 1 using the following strategy:

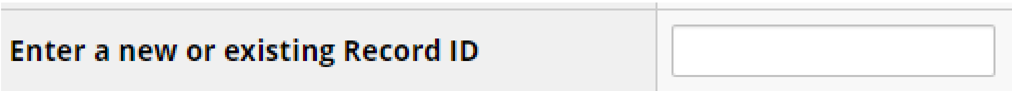
1. With record auto-numbering **disabled**, create a dummy record with an identifier one less than your desired start number
2. Enable record auto-numbering
3. Create a new record – this will become your first record
4. Delete the dummy record

For example, if you want your first record to be numbered 1001, disable record auto-numbering, add a record with id=1000, enable record auto-numbering, create another new record (id=1001 will be assigned), then delete record 1000.

Manually assign a record identifier

To manually assign the record identifier for your project, go to Project Setup and in the section 'Enable optional modules and customizations', click on the Disable button next to 'Auto-numbering for records.'

Now, when you go to Add/Edit records, you will see this (instead of the 'Add record' button:



Enter the identifier you wish to use for the record and hit 'enter.'

Please note: the disable button will not be clickable if you already have records in your project or if the first instrument in your project is a survey.

Scheduling module (longitudinal only)

The scheduling module can generate schedules for your project calendar that are auto-generated from project-defined events (e.g., visits, time-points). Scheduling is only available for projects using longitudinal data collection. To enable the scheduling module, your project needs to be enabled as a longitudinal project (under Step 1 on the Project Setup tab.) You can then click the enable button next to the Scheduling module in Step 3 of the Project Setup tab. For further information, see the Scheduling section of this User Guide. For further information, you can click on the question mark next to the module on the Project Setup page or search the Help & FAQ tab.

Randomization module

Randomization is a process that assigns participants/subjects by chance (rather than by choice) into specific groups, typically for clinical research and clinical trials. This is considered an advanced feature so no further instructions will be available here. For further information, you can click on the question mark next to the module on the Project Setup page or search the Help & FAQ tab.

Designate an email field for sending survey invitations

Enabled for use with Automated Survey Invitations or participant lists built via data entry form. Requires there to be a field within your project that is validated as an email field.

If you have a survey that you would like to have available via a public survey link (e.g. you don't know the email addresses of the potential respondents) but then want to send a subsequent survey to the same respondents, this is a helpful feature. It requires you to request the respondent's email address in the first survey. Then, when you use the 'designate an email field' module, you are telling REDCap that the email address captured in that initial survey is the email address that you want the subsequent surveys sent to. When participants complete the first survey, their email addresses will pre-populate the Participant Lists and will allow you to send additional surveys for the same record.

Enabling this feature also automates the sending of survey confirmation emails (rather than relying on the survey participant to enter their email address on the survey completion screen to receive the confirmation email.)

Note: This feature should only to be used if it is ok that survey responses are not anonymous.

For further information, you can click on the question mark next to the module on the Project Setup page or search the Help & FAQ tab.

Clinical Data Pull from eStar

The Clinical Data Pull from eStar (CDP), formerly known as "DDP on FHIR with EHR Launch", is a special feature that imports clinical data into REDCap.

CDP requirements

CDP can only be used for research purposes. The REDCap project owner must:

1. have access to eStar (Epic)
2. have IRB approval
3. be key study personnel.

(NOTE: CDP is NOT required if you want to enter clinical data into REDCap. That can always be done manually or via the Data Import Tool. CDP is an optional feature, most useful for REDCap projects requiring frequent updating of clinical data in many REDCap fields/records.)

What is 'Clinical Data Pull' (CDP)?

Clinical Data Pull is a special feature for importing data into REDCap from an EHR (electronic health record system), such as Epic, Cerner, etc. It provides an adjudication process whereby REDCap users can approve all incoming data from the EHR before it is officially saved in their REDCap project. Clinical Data Pull can only be enabled by a REDCap Administrator, so you should contact them if you wish to utilize Clinical Data Pull for this project.

How 'Clinical Data Pull' works

Clinical Data Pull has the ability to fetch data from the EHR system both manually in real time and automatically at a regular interval. From the EHR interface, Clinical Data Pull can create new records in a CDP-enabled REDCap project. Additionally, if a user knows the patient identifier (e.g. medical record number), then they could optionally enter the MRN for a record in a CDP-enabled REDCap project, after which it will then go and immediately retrieve the patient data from the EHR in real time.

Enabling CDP

After a REDCap administrator has enabled the CDP for your REDCap project, someone with access to the User Rights page may then give you and any user in the project user privileges to access the CDP, in which the user can be given user privileges to perform the mapping/setup process and/or to adjudicate/import data from the source system. **See the User Rights page to enable privileges for a given user.** After being granted access to the CDP, the user will then see the CDP step on the Project Setup page where they can navigate to the CDP mapping/setup page, which allows the user to map fields already created in their REDCap project to fields from the external source system. This mapping allows REDCap to know how where to put the data when importing it from the external system.

The CDP field mapping process

A user on the mapping/setup page can choose any available fields from the external source system to map to one of their REDCap project fields. (Note: This assumes that the user has already created their data collection instruments and fields in their project.) There are two types of fields that may be mapped: 1) one-time data fields, and 2) temporal data fields. One-time data fields are those where data will only be stored one time in the source system, such as demography data. Conversely, temporal data fields are those where data may be collected many times over a period of time (e.g., labs, vitals, any kind of longitudinal data). When mapping temporal fields, you must also specify a REDCap date/datetime field that will be used for determining the window of time in which it should look when fetching data from the source system. It will determine the window of time in conjunction with the day offset value defined on the mapping page. For example, if the value of the mapped REDCap date/datetime field is 2001-11-29 and the day offset is 1 day, it will query the source system and return only data saved for the field from 2001-11-28 until 2001-11-30. Any source data outside of that range will be ignored during the adjudication process. It is important to note that the source data for a temporal field will NOT be fetched from the external source system UNLESS its associated REDCap date/datetime field has a value. Once a value is entered for the associated date/datetime field, source data will then be fetched for that temporal field.

CDP Coding

There are a few demography fields (race, sex, and ethnicity) that, if used in a project, are required to have their choices coded a very specific way. Listed below are the codings that should be used for these fields.

```
gender
F, Female
M, Male
UNK, Unknown

ethnicity
2135-2, Hispanic or Latino
2186-5, Not Hispanic or Latino
2137-8, Spaniard
2148-5, Mexican
2155-0, Central American
2165-9, South American
2178-2, Latin American
2180-8, Puerto Rican
2182-4, Cuban
2184-0, Dominican
2138-6, Andalusian
2139-4, Asturian
2140-2, Castillian
2141-0, Catalonian
2142-8, Belearic Islander
2143-6, Gallego
2144-4, Valencian
2145-1, Canarian
2146-9, Spanish Basque
2149-3, Mexican American
2150-1, Mexicano
2151-9, Chicano
2152-7, La Raza
2153-5, Mexican American Indian
2156-8, Costa Rican
2157-6, Guatemalan
```

```
2158-4, Honduran
2159-2, Nicaraguan
2160-0, Panamanian
2161-8, Salvadoran
2162-6, Central American Indian
2163-4, Canal Zone
2166-7, Argentinean
2167-5, Bolivian
2168-3, Chilean
2169-1, Colombian
2170-9, Ecuadorian
2171-7, Paraguayan
2172-5, Peruvian
2173-3, Uruguayan
2174-1, Venezuelan
2175-8, South American Indian
2176-6, Criollo
UNK, Unknown
```

race

```
1002-5, American Indian/Alaska Native
2028-9, Asian
2076-8, Native Hawaiian or Other Pacific Islander
2054-5, Black or African American
2106-3, White
1004-1, American Indian
1735-0, Alaska Native
1006-6, Abenaki
1008-2, Algonquian
1010-8, Apache
1021-5, Arapaho
1026-4, Arikara
1028-0, Assiniboine
1030-6, Assiniboine Sioux
1033-0, Bannock
1035-5, Blackfeet
1037-1, Brotherton
1039-7, Burt Lake Band
1041-3, Caddo
1044-7, Cahuilla
1053-8, California Tribes
1068-6, Canadian and Latin American Indian
1076-9, Catawba
1078-5, Cayuse
1080-1, Chehalis
1082-7, Chemakuan
1086-8, Chemehuevi
1088-4, Cherokee
1100-7, Cherokee Shawnee
1102-3, Cheyenne
1106-4, Cheyenne-Arapaho
1108-0, Chickahominy
1112-2, Chickasaw
1114-8, Chinook
1123-9, Chippewa
1150-2, Chippewa Cree
1153-6, Chitimacha
1155-1, Choctaw
1162-7, Chumash
1165-0, Clear Lake
1167-6, Coeur D'Alene
1169-2, Coharie
1171-8, Colorado River
1173-4, Colville
1175-9, Comanche
1178-3, Coos, Lower Umpqua, Siuslaw
1180-9, Coos
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1182-5, Coquilles
1184-1, Costanoan
1186-6, Coushatta
1189-0, Cowlitz
1191-6, Cree
1193-2, Creek
1207-0, Croatan
1209-6, Crow
1211-2, Cupeno
1214-6, Delaware
1222-9, Diegueno
1233-6, Eastern Tribes
1250-0, Esselen
1252-6, Fort Belknap
1254-2, Fort Berthold
1256-7, Fort Mcdowell
1258-3, Fort Hall
1260-9, Gabrieleno
1262-5, Grand Ronde
1264-1, Gros Ventres
1267-4, Haliwa
1269-0, Hidatsa
1271-6, Hoopa
1275-7, Hoopa Extension
1277-3, Houma
1279-9, Inaja-Cosmit
1281-5, Iowa
1285-6, Iroquois
1297-1, Juaneno
1299-7, Kalispel
1301-1, Karuk
1303-7, Kaw
1305-2, Kickapoo
1309-4, Kiowa
1312-8, Klallam
1317-7, Klamath
1319-3, Konkow
1321-9, Kootenai
1323-5, Lassik
1325-0, Long Island
1331-8, Luiseno
1340-9, Lumbee
1342-5, Lummi
1344-1, Maidu
1348-2, Makah
1350-8, Maliseet
1352-4, Mandan
1354-0, Mattaponi
1356-5, Menominee
1358-1, Miami
1363-1, Miccosukee
1365-6, Micmac
1368-0, Mission Indians
1370-6, Miwok
1372-2, Modoc
1374-8, Mohegan
1376-3, Mono
1378-9, Nanticoke
1380-5, Narragansett
1382-1, Navajo
1387-0, Nez Perce
1389-6, Nomalaki
1391-2, Northwest Tribes
1403-5, Omaha
1405-0, Oregon Athabaskan
1407-6, Osage
1409-2, Otoe-Missouria
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1411-8, Ottawa
1416-7, Paiute
1439-9, Pamunkey
1441-5, Passamaquoddy
1445-6, Pawnee
1448-0, Penobscot
1450-6, Peoria
1453-0, Pequot
1456-3, Pima
1460-5, Piscataway
1462-1, Pit River
1464-7, Pomo
1474-6, Ponca
1478-7, Potawatomi
1487-8, Powhatan
1489-4, Pueblo
1518-0, Puget Sound Salish
1541-2, Quapaw
1543-8, Quinault
1545-3, Rappahannock
1547-9, Reno-Sparks
1549-5, Round Valley
1551-1, Sac and Fox
1556-0, Salinan
1558-6, Salish
1560-2, Salish and Kootenai
1562-8, Schaghticoke
1564-4, Scott Valley
1566-9, Seminole
1573-5, Serrano
1576-8, Shasta
1578-4, Shawnee
1582-6, Shinnecock
1584-2, Shoalwater Bay
1586-7, Shoshone
1602-2, Shoshone Paiute
1607-1, Siletz
1609-7, Sioux
1643-6, Siuslaw
1645-1, Spokane
1647-7, Stewart
1649-3, Stockbridge
1651-9, Susanville
1653-5, Tohono O'Odham
1659-2, Tolowa
1661-8, Tonkawa
1663-4, Tygh
1665-9, Umatilla
1667-5, Umpqua
1670-9, Ute
1675-8, Wailaki
1677-4, Walla-Walla
1679-0, Wampanoag
1683-2, Warm Springs
1685-7, Wascopum
1687-3, Washoe
1692-3, Wichita
1694-9, Wind River
1696-4, Winnebago
1700-4, Winnemucca
1702-0, Wintun
1704-6, Wiyot
1707-9, Yakama
1709-5, Yakama Cowlitz
1711-1, Yaqui
1715-2, Yavapai Apache
1717-8, Yokuts
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1722-8, Yuchi
1724-4, Yuman
1732-7, Yurok
1011-6, Chiricahua
1012-4, Fort Sill Apache
1013-2, Jicarilla Apache
1014-0, Lipan Apache
1015-7, Mescalero Apache
1016-5, Oklahoma Apache
1017-3, Payson Apache
1018-1, San Carlos Apache
1019-9, White Mountain Apache
1022-3, Northern Arapaho
1023-1, Southern Arapaho
1024-9, Wind River Arapaho
1031-4, Fort Peck Assiniboine Sioux
1042-1, Oklahoma Cado
1045-4, Agua Caliente Cahuilla
1046-2, Augustine
1047-0, Cabazon
1048-8, Los Coyotes
1049-6, Morongo
1050-4, Santa Rosa Cahuilla
1051-2, Torres-Martinez
1054-6, Cahto
1055-3, Chimariko
1056-1, Coast Miwok
1057-9, Digger
1058-7, Kawaiisu
1059-5, Kern River
1060-3, Mattole
1061-1, Red Wood
1062-9, Santa Rosa
1063-7, Takelma
1064-5, Wappo
1065-2, Yana
1066-0, Yuki
1069-4, Canadian Indian
1070-2, Central American Indian
1071-0, French American Indian
1072-8, Mexican American Indian
1073-6, South American Indian
1074-4, Spanish American Indian
1083-5, Hoh
1084-3, Quileute
1089-2, Cherokee Alabama
1090-0, Cherokees of Northeast Alabama
1091-8, Cherokees of Southeast Alabama
1092-6, Eastern Cherokee
1093-4, Echota Cherokee
1094-2, Etowah Cherokee
1095-9, Northern Cherokee
1096-7, Tuscola
1097-5, United Keetowah Band of Cherokee
1098-3, Western Cherokee
1103-1, Northern Cheyenne
1104-9, Southern Cheyenne
1109-8, Eastern Chickahominy
1110-6, Western Chickahominy
1115-5, Clatsop
1116-3, Columbia River Chinook
1117-1, Kathlamet
1118-9, Upper Chinook
1119-7, Wakiakum Chinook
1120-5, Willapa Chinook
1121-3, Wishram
1124-7, Bad River
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1125-4, Bay Mills Chippewa
1126-2, Bois Forte
1127-0, Burt Lake Chippewa
1128-8, Fond du Lac
1129-6, Grand Portage
1130-4, Grand Traverse Band of Ottawa/Chippewa
1131-2, Keweenaw
1132-0, Lac Courte Oreilles
1133-8, Lac du Flambeau
1134-6, Lac Vieux Desert Chippewa
1135-3, Lake Superior
1136-1, Leech Lake
1137-9, Little Shell Chippewa
1138-7, Mille Lacs
1139-5, Minnesota Chippewa
1140-3, Ontonagon
1141-1, Red Cliff Chippewa
1142-9, Red Lake Chippewa
1143-7, Saginaw Chippewa
1144-5, St. Croix Chippewa
1145-2, Sault Ste. Marie Chippewa
1146-0, Sokoagon Chippewa
1147-8, Turtle Mountain
1148-6, White Earth
1151-0, Rocky Boy's Chippewa Cree
1156-9, Clifton Choctaw
1157-7, Jena Choctaw
1158-5, Mississippi Choctaw
1159-3, Mowa Band of Choctaw
1160-1, Oklahoma Choctaw
1163-5, Santa Ynez
1176-7, Oklahoma Comanche
1187-4, Alabama Coushatta
1194-0, Alabama Creek
1195-7, Alabama Quassarte
1196-5, Eastern Creek
1197-3, Eastern Muscogee
1198-1, Kialegee
1199-9, Lower Muscogee
1200-5, Machis Lower Creek Indian
1201-3, Poarch Band
1202-1, Principal Creek Indian Nation
1203-9, Star Clan of Muscogee Creeks
1204-7, Thlopthlocco
1205-4, Tuckabachee
1212-0, Agua Caliente
1215-3, Eastern Delaware
1216-1, Lenni-Lenape
1217-9, Munsee
1218-7, Oklahoma Delaware
1219-5, Rampough Mountain
1220-3, Sand Hill
1223-7, Campo
1224-5, Capitan Grande
1225-2, Cuyapaipe
1226-0, La Posta
1227-8, Manzanita
1228-6, Mesa Grande
1229-4, San Pasqual
1230-2, Santa Ysabel
1231-0, Sycuan
1234-4, Attacapa
1235-1, Biloxi
1236-9, Georgetown (Eastern Tribes)
1237-7, Moor
1238-5, Nansemond
1239-3, Natchez
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1240-1, Nausu Waiwash
1241-9, Nipmuc
1242-7, Paugussett
1243-5, Pocomoke Acohonock
1244-3, Southeastern Indians
1245-0, Susquehanock
1246-8, Tunica Biloxi
1247-6, Waccamaw-Siousan
1248-4, Wicomico
1265-8, Atsina
1272-4, Trinity
1273-2, Whilkut
1282-3, Iowa of Kansas-Nebraska
1283-1, Iowa of Oklahoma
1286-4, Cayuga
1287-2, Mohawk
1288-0, Oneida
1289-8, Onondaga
1290-6, Seneca
1291-4, Seneca Nation
1292-2, Seneca-Cayuga
1293-0, Tonawanda Seneca
1294-8, Tuscarora
1295-5, Wyandotte
1306-0, Oklahoma Kickapoo
1307-8, Texas Kickapoo
1310-2, Oklahoma Kiowa
1313-6, Jamestown
1314-4, Lower Elwha
1315-1, Port Gamble Klallam
1326-8, Matinecock
1327-6, Montauk
1328-4, Poospatuck
1329-2, Setauket
1332-6, La Jolla
1333-4, Pala
1334-2, Pauma
1335-9, Pechanga
1336-7, Soboba
1337-5, Twenty-Nine Palms
1338-3, Temecula
1345-8, Mountain Maidu
1346-6, Nishinam
1359-9, Illinois Miami
1360-7, Indiana Miami
1361-5, Oklahoma Miami
1366-4, Aroostook
1383-9, Alamo Navajo
1384-7, Canoncito Navajo
1385-4, Ramah Navajo
1392-0, Alsea
1393-8, Celilo
1394-6, Columbia
1395-3, Kalapuya
1396-1, Molala
1397-9, Talakamish
1398-7, Tenino
1399-5, Tillamook
1400-1, Wenatchee
1401-9, Yahooskin
1412-6, Burt Lake Ottawa
1413-4, Michigan Ottawa
1414-2, Oklahoma Ottawa
1417-5, Bishop
1418-3, Bridgeport
1419-1, Burns Paiute
1420-9, Cedarville
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1421-7, Fort Bidwell
1422-5, Fort Independence
1423-3, Kaibab
1424-1, Las Vegas
1425-8, Lone Pine
1426-6, Lovelock
1427-4, Malheur Paiute
1428-2, Moapa
1429-0, Northern Paiute
1430-8, Owens Valley
1431-6, Pyramid Lake
1432-4, San Juan Southern Paiute
1433-2, Southern Paiute
1434-0, Summit Lake
1435-7, Utu Utu Gwaitu Paiute
1436-5, Walker River
1437-3, Yerington Paiute
1442-3, Indian Township
1443-1, Pleasant Point Passamaquoddy
1446-4, Oklahoma Pawnee
1451-4, Oklahoma Peoria
1454-8, Marshantucket Pequot
1457-1, Gila River Pima-Maricopa
1458-9, Salt River Pima-Maricopa
1465-4, Central Pomo
1466-2, Dry Creek
1467-0, Eastern Pomo
1468-8, Kashia
1469-6, Northern Pomo
1470-4, Scotts Valley
1471-2, Stonyford
1472-0, Sulphur Bank
1475-3, Nebraska Ponca
1476-1, Oklahoma Ponca
1479-5, Citizen Band Potawatomi
1480-3, Forest County
1481-1, Hannahville
1482-9, Huron Potawatomi
1483-7, Pokagon Potawatomi
1484-5, Prairie Band
1485-2, Wisconsin Potawatomi
1490-2, Acoma
1491-0, Arizona Tewa
1492-8, Cochiti
1493-6, Hopi
1494-4, Isleta
1495-1, Jemez
1496-9, Keres
1497-7, Laguna
1498-5, Nambe
1499-3, Picuris
1500-8, Piro
1501-6, Pojoaque
1502-4, San Felipe
1503-2, San Ildefonso
1504-0, San Juan Pueblo
1505-7, San Juan De
1506-5, San Juan
1507-3, Sandia
1508-1, Santa Ana
1509-9, Santa Clara
1510-7, Santo Domingo
1511-5, Taos
1512-3, Tesuque
1513-1, Tewa
1514-9, Tigua
1515-6, Zia
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1516-4, Zuni
1519-8, Duwamish
1520-6, Kikiallus
1521-4, Lower Skagit
1522-2, Muckleshoot
1523-0, Nisqually
1524-8, Nooksack
1525-5, Port Madison
1526-3, Puyallup
1527-1, Samish
1528-9, Sauk-Suiattle
1529-7, Skokomish
1530-5, Skykomish
1531-3, Snohomish
1532-1, Snoqualmie
1533-9, Squaxin Island
1534-7, Steilacoom
1535-4, Stillaguamish
1536-2, Suquamish
1537-0, Swinomish
1538-8, Tulalip
1539-6, Upper Skagit
1552-9, Iowa Sac and Fox
1553-7, Missouri Sac and Fox
1554-5, Oklahoma Sac and Fox
1567-7, Big Cypress
1568-5, Brighton
1569-3, Florida Seminole
1570-1, Hollywood Seminole
1571-9, Oklahoma Seminole
1574-3, San Manual
1579-2, Absentee Shawnee
1580-0, Eastern Shawnee
1587-5, Battle Mountain
1588-3, Duckwater
1589-1, Elko
1590-9, Ely
1591-7, Goshute
1592-5, Panamint
1593-3, Ruby Valley
1594-1, Skull Valley
1595-8, South Fork Shoshone
1596-6, Te-Moak Western Shoshone
1597-4, Timbi-Sha Shoshone
1598-2, Washakie
1599-0, Wind River Shoshone
1600-6, Yomba
1603-0, Duck Valley
1604-8, Fallon
1605-5, Fort McDermitt
1610-5, Blackfoot Sioux
1611-3, Brule Sioux
1612-1, Cheyenne River Sioux
1613-9, Crow Creek Sioux
1614-7, Dakota Sioux
1615-4, Flandreau Santee
1616-2, Fort Peck
1617-0, Lake Traverse Sioux
1618-8, Lower Brule Sioux
1619-6, Lower Sioux
1620-4, Mdewakanton Sioux
1621-2, Miniconjou
1622-0, Oglala Sioux
1623-8, Pine Ridge Sioux
1624-6, Pipestone Sioux
1625-3, Prairie Island Sioux
1626-1, Prior Lake Sioux
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1627-9, Rosebud Sioux
1628-7, Sans Arc Sioux
1629-5, Santee Sioux
1630-3, Sisseton-Wahpeton
1631-1, Sisseton Sioux
1632-9, Spirit Lake Sioux
1633-7, Standing Rock Sioux
1634-5, Teton Sioux
1635-2, Two Kettle Sioux
1636-0, Upper Sioux
1637-8, Wahpekute Sioux
1638-6, Wahpeton Sioux
1639-4, Wazhaza Sioux
1640-2, Yankton Sioux
1641-0, Yanktonai Sioux
1654-3, Ak-Chin
1655-0, Gila Bend
1656-8, San Xavier
1657-6, Sells
1668-3, Cow Creek Umpqua
1671-7, Allen Canyon
1672-5, Uintah Ute
1673-3, Ute Mountain Ute
1680-8, Gay Head Wampanoag
1681-6, Mashpee Wampanoag
1688-1, Alpine
1689-9, Carson
1690-7, Dresslerville
1697-2, Ho-chunk
1698-0, Nebraska Winnebago
1705-3, Table Bluff
1712-9, Barrio Libre
1713-7, Pascua Yaqui
1718-6, Chukchansi
1719-4, Tachi
1720-2, Tule River
1725-1, Cocopah
1726-9, Havasupai
1727-7, Hualapai
1728-5, Maricopa
1729-3, Mohave
1730-1, Quechan
1731-9, Yavapai
1733-5, Coast Yurok
1737-6, Alaska Indian
1840-8, Eskimo
1966-1, Aleut
1739-2, Alaskan Athabascan
1811-9, Southeast Alaska
1740-0, Ahtna
1741-8, Alatna
1742-6, Alexander
1743-4, Allakaket
1744-2, Alanvik
1745-9, Anvik
1746-7, Arctic
1747-5, Beaver
1748-3, Birch Creek
1749-1, Cantwell
1750-9, Chalkyitsik
1751-7, Chickaloon
1752-5, Chistochina
1753-3, Chitina
1754-1, Circle
1755-8, Cook Inlet
1756-6, Copper Center
1757-4, Copper River
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1758-2, Dot Lake
1759-0, Doyon
1760-8, Eagle
1761-6, Eklutna
1762-4, Evansville
1763-2, Fort Yukon
1764-0, Gakona
1765-7, Galena
1766-5, Grayling
1767-3, Gulkana
1768-1, Healy Lake
1769-9, Holy Cross
1770-7, Hughes
1771-5, Huslia
1772-3, Iliamna
1773-1, Kaltag
1774-9, Kluti Kaah
1775-6, Knik
1776-4, Koyukuk
1777-2, Lake Minchumina
1778-0, Lime
1779-8, Mcgrath
1780-6, Manley Hot Springs
1781-4, Mentasta Lake
1782-2, Minto
1783-0, Nenana
1784-8, Nikolai
1785-5, Ninilchik
1786-3, Nondalton
1787-1, Northway
1788-9, Nulato
1789-7, Pedro Bay
1790-5, Rampart
1791-3, Ruby
1792-1, Salamatof
1793-9, Seldovia
1794-7, Slana
1795-4, Shageluk
1796-2, Stevens
1797-0, Stony River
1798-8, Takotna
1799-6, Tanacross
1800-2, Tanaina
1801-0, Tanana
1802-8, Tanana Chiefs
1803-6, Tazlina
1804-4, Telida
1805-1, Tetlin
1806-9, Tok
1807-7, Tyonek
1808-5, Venetie
1809-3, Wiseman
1813-5, Tlingit-Haida
1837-4, Tsimshian
1814-3, Angoon
1815-0, Central Council of Tlingit and Haida Tribes
1816-8, Chilkat
1817-6, Chilkoot
1818-4, Craig
1819-2, Douglas
1820-0, Haida
1821-8, Hoonah
1822-6, Hydaburg
1823-4, Kake
1824-2, Kasaan
1825-9, Kenaitze
1826-7, Ketchikan
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1827-5, Klawock
1828-3, Pelican
1829-1, Petersburg
1830-9, Saxman
1831-7, Sitka
1832-5, Tenakee Springs
1833-3, Tlingit
1834-1, Wrangell
1835-8, Yakutat
1838-2, Metlakatla
1842-4, Greenland Eskimo
1844-0, Inupiat Eskimo
1891-1, Siberian Eskimo
1896-0, Yupik Eskimo
1845-7, Ambler
1846-5, Anaktuvuk
1847-3, Anaktuvuk Pass
1848-1, Arctic Slope Inupiat
1849-9, Arctic Slope Corporation
1850-7, Atqasuk
1851-5, Barrow
1852-3, Bering Straits Inupiat
1853-1, Brevig Mission
1854-9, Buckland
1855-6, Chinik
1856-4, Council
1857-2, Deering
1858-0, Elim
1859-8, Golovin
1860-6, Inalik Diomede
1861-4, Inupiaq
1862-2, Kaktovik
1863-0, Kawerak
1864-8, Kiana
1865-5, Kivalina
1866-3, Kobuk
1867-1, Kotzebue
1868-9, Koyuk
1869-7, Kwiguk
1870-5, Mauneluk Inupiat
1871-3, Nana Inupiat
1872-1, Noatak
1873-9, Nome
1874-7, Noorvik
1875-4, Nuiqsut
1876-2, Point Hope
1877-0, Point Lay
1878-8, Selawik
1879-6, Shaktoolik
1880-4, Shishmaref
1881-2, Shungnak
1882-0, Solomon
1883-8, Teller
1884-6, Unalakleet
1885-3, Wainwright
1886-1, Wales
1887-9, White Mountain
1888-7, White Mountain Inupiat
1889-5, Mary's Igloo
1892-9, Gambell
1893-7, Savoonga
1894-5, Siberian Yupik
1897-8, Akiachak
1898-6, Akiak
1899-4, Alakanuk
1900-0, Aleknagik
1901-8, Andreafsky
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1902-6, Aniak
1903-4, Atmautluak
1904-2, Bethel
1905-9, Bill Moore's Slough
1906-7, Bristol Bay Yupik
1907-5, Calista Yupik
1908-3, Chefornak
1909-1, Chevak
1910-9, Chuathbaluk
1911-7, Clark's Point
1912-5, Crooked Creek
1913-3, Dillingham
1914-1, Eek
1915-8, Ekuk
1916-6, Ekwok
1917-4, Emmonak
1918-2, Goodnews Bay
1919-0, Hooper Bay
1920-8, Iqurmuit (Russian Mission)
1921-6, Kalskag
1922-4, Kasigluk
1923-2, Kipnuk
1924-0, Koliganek
1925-7, Kongiganak
1926-5, Kotlik
1927-3, Kwethluk
1928-1, Kwigillingok
1929-9, Levelock
1930-7, Lower Kalskag
1931-5, Manokotak
1932-3, Marshall
1933-1, Mekoryuk
1934-9, Mountain Village
1935-6, Naknek
1936-4, Napaumute
1937-2, Napakiak
1938-0, Napaskiak
1939-8, Newhalen
1940-6, New Stuyahok
1941-4, Newtok
1942-2, Nightmute
1943-0, Nunapitchukv
1944-8, Oscarville
1945-5, Pilot Station
1946-3, Pitkas Point
1947-1, Platinum
1948-9, Portage Creek
1949-7, Quinhagak
1950-5, Red Devil
1951-3, St. Michael
1952-1, Scammon Bay
1953-9, Sheldon's Point
1954-7, Sleetmute
1955-4, Stebbins
1956-2, Togiak
1957-0, Toksook
1958-8, Tulukskak
1959-6, Tuntutuliak
1960-4, Tununak
1961-2, Twin Hills
1962-0, Georgetown (Yupik-Eskimo)
1963-8, St. Mary's
1964-6, Umkumiate
1968-7, Alutiiq Aleut
1972-9, Bristol Bay Aleut
1984-4, Chugach Aleut
1990-1, Eyak
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1992-7, Koniag Aleut
2002-4, Sugpiaq
2004-0, Suqpigaq
2006-5, Unangan Aleut
1969-5, Tatitlek
1970-3, Ugashik
1973-7, Chignik
1974-5, Chignik Lake
1975-2, Egegik
1976-0, Igiugig
1977-8, Ivanof Bay
1978-6, King Salmon
1979-4, Kokhanok
1980-2, Perryville
1981-0, Pilot Point
1982-8, Port Heiden
1985-1, Chenega
1986-9, Chugach Corporation
1987-7, English Bay
1988-5, Port Graham
1993-5, Akhiok
1994-3, Agdaagux
1995-0, Karluk
1996-8, Kodiak
1997-6, Larsen Bay
1998-4, Old Harbor
1999-2, Ouzinkie
2000-8, Port Lions
2007-3, Akutan
2008-1, Aleut Corporation
2009-9, Aleutian
2010-7, Aleutian Islander
2011-5, Atka
2012-3, Belkofski
2013-1, Chignik Lagoon
2014-9, King Cove
2015-6, False Pass
2016-4, Nelson Lagoon
2017-2, Nikolski
2018-0, Pauloff Harbor
2019-8, Qagan Toyagungin
2020-6, Qawalangin
2021-4, St. George
2022-2, St. Paul
2023-0, Sand Point
2024-8, South Naknek
2025-5, Unalaska
2026-3, Unga
2029-7, Asian Indian
2030-5, Bangladeshi
2031-3, Bhutanese
2032-1, Burmese
2033-9, Cambodian
2034-7, Chinese
2035-4, Taiwanese
2036-2, Filipino
2037-0, Hmong
2038-8, Indonesian
2039-6, Japanese
2040-4, Korean
2041-2, Laotian
2042-0, Malaysian
2043-8, Okinawan
2044-6, Pakistani
2045-3, Sri Lankan
2046-1, Thai
2047-9, Vietnamese
```

```
2048-7, Iwo Jiman
2049-5, Maldivian
2050-3, Nepalese
2051-1, Singaporean
2052-9, Madagascar
2056-0, Black
2058-6, African American
2060-2, African
2067-7, Bahamian
2068-5, Barbadian
2069-3, Dominican
2070-1, Dominica Islander
2071-9, Haitian
2072-7, Jamaican
2073-5, Tobagoan
2074-3, Trinidadian
2075-0, West Indian
2061-0, Botswanan
2062-8, Ethiopian
2063-6, Liberian
2064-4, Namibian
2065-1, Nigerian
2066-9, Zairean
2078-4, Polynesian
2085-9, Micronesian
2100-6, Melanesian
2500-7, Other Pacific Islander
2079-2, Native Hawaiian
2080-0, Samoan
2081-8, Tahitian
2082-6, Tongan
2083-4, Tokelauan
2086-7, Guamanian or Chamorro
2087-5, Guamanian
2088-3, Chamorro
2089-1, Mariana Islander
2090-9, Marshallese
2091-7, Palauan
2092-5, Carolinian
2093-3, Kosraean
2094-1, Pohnpeian
2095-8, Saipanese
2096-6, Kiribati
2097-4, Chuukese
2098-2, Yapese
2101-4, Fijian
2102-2, Papua New Guinean
2103-0, Solomon Islander
2104-8, New Hebrides
2108-9, European
2118-8, Middle Eastern or North African
2129-5, Arab
2109-7, Armenian
2110-5, English
2111-3, French
2112-1, German
2113-9, Irish
2114-7, Italian
2115-4, Polish
2116-2, Scottish
2119-6, Assyrian
2120-4, Egyptian
2121-2, Iranian
2122-0, Iraqi
2123-8, Lebanese
2124-6, Palestinian
2125-3, Syrian
```

```
2126-1, Afghanistani
2127-9, Israeili
2131-1, Other Race
```

Preview fields (optional)

On the mapping/setup page, you may choose up to 5 source fields to be used as 'preview fields'. Preview fields are optional and are typically used to confirm that the record identifier (e.g. medical record number) that was entered is correct by displaying other contextual data from the source system. For example, if you have 'last name' and 'date of birth' as source fields, you may choose them to be preview fields in your project, and thus when a value is entered in REDCap as the record identifier, if will then fetch and display the last name and date of birth of the person to validate their identity. If preview fields are not utilized, it is possible that incorrect source data is imported. Thus preview fields are not required but are recommended for data quality purposes.

CDP adjudication process

After the mapping process has been completed, data from the external source system will not be imported automatically into the REDCap project, but instead it requires that a person view and adjudicate each data item from the source system before being imported into the project. The adjudication screen can be accessed from either of two places: 1) on the Record Status Dashboard, and 2) on the data entry form when viewing a record. The Record Status Dashboard will display a new table column with a count of any new items from the source system for each record displayed. Clicking on the count will open the adjudication screen for that record. Alternatively, when viewing a record on a data entry form, the count of new items from the source system will be displayed at the top of the page in red box, in which clicking the View button will open the adjudication screen. On the adjudication screen, it will display all data from the source system that has not been adjudicated yet. **If only a single source value has been returned for a REDCap field, it will automatically pre-select that item for you. If the field is a temporal data field that has multiple values returned, it will automatically pre-select the data value *ONLY IF* that value is the only value returned that occurs on the exact same calendar date as the REDCap date/datetime value (that is, unless a pre-selection option - e.g., Minimum value, Latest value - has already been set for that field on the mapping page).** The user must view all the items on the adjudication screen and select the radio button next to each to denote the source value they wish to import. Once all values have been selected, clicking the Save button will import the value into the project. If some items were left and were not adjudicated, the user can return at any time to adjudicate them in the future.

Learn more about CDP

To learn more about this feature, please review the CDP page on our User FAQ page, watch the video on CDP or register for our monthly in-person seminar.

To request CDP

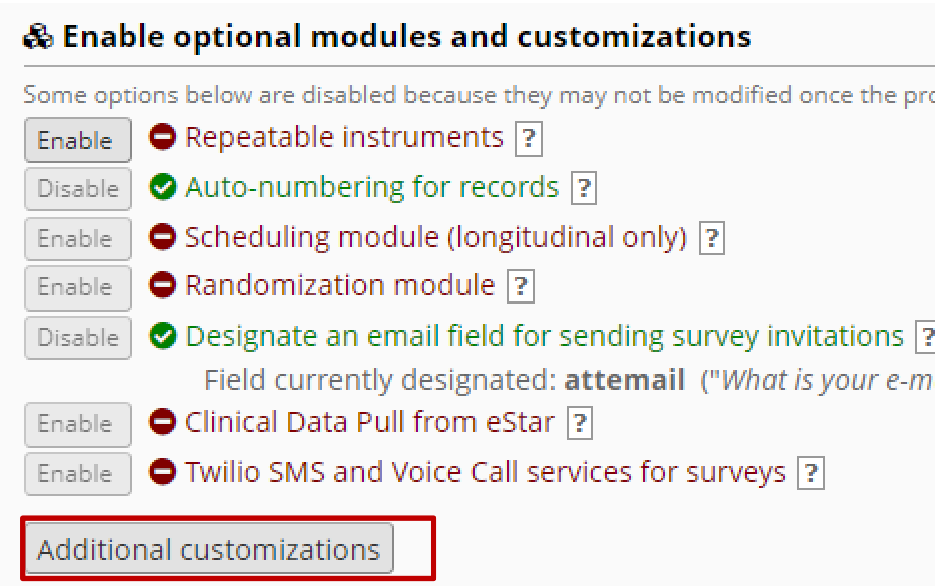
When you are ready to proceed, submit the CDP request survey. Please only submit a request AFTER you have read through all of the documentation.

Additional Customizations

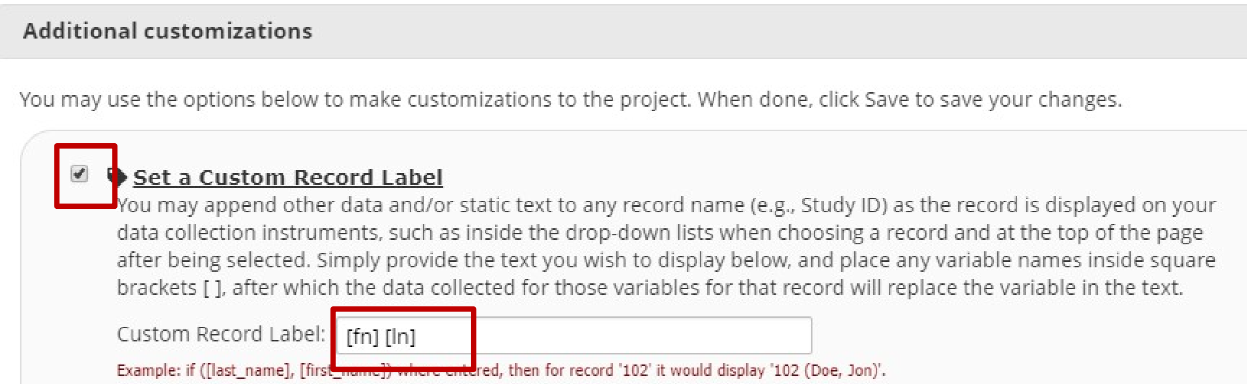
Set a custom record label

This tool assists you in identifying what is contained in a record (most commonly, the name of the person to whom the record belongs) when looking at a list of records (e.g. from the list of records on Add/Edit records or the Record Status Dashboard.) For instance, if you collect a person's name in the project, you could set a custom record label to see that person's name next to the record identifier. This will be visible via the add/edit records and record status dashboard as well as at the top of the form/survey. That way, you don't have to open up the record to see who it belongs to.

To set a custom record label, go to the Project Setup page and under 'Enable Optional Modules and Customizations' click on "Additional Customizations".



You will see an option to add a custom record label:



Tick the box and then put the variable names in square brackets that you wish to see next to the record identifier. In the above example, the variable name 'fn' captures the first name and the variable name 'ln' captures the last name.

So instead of this:

Displaying: Instrument status only | Lock status only | /

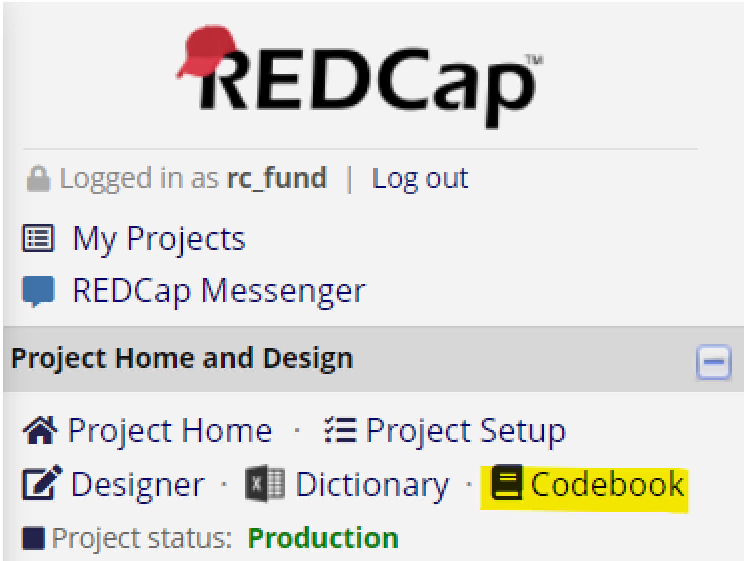
Record ID	Registration Survey	Internal form	Follow-up Survey	Internal form 2	Final survey
1	✓	○	○	○	○
2	✓	○	○	○	○
3	✓	○	○	○	○
4	✓	○	○	○	○
5	✓	○	○	○	○
6	✓	○	○	○	○
7	✓	○	○	○	○
8	✓	○	○	○	○
9	✓	○	○	○	○
10	✓	○	○	○	○

You will see this:

Record ID	Registration Survey	Internal form	Follow-up Survey	Internal form 2	Final survey
1 Bonnie Plunkett	✓	○	○	○	○
2 Kelly Kapoor	✓	○	○	○	○
3 Christy Plunkett	✓	○	○	○	○
4 Mindy Lahiri	✓	○	○	○	○
5 Sam Swarek	✓	○	○	○	○
6 Jake Peralta	✓	○	○	○	○
7 Shawn Spencer	✓	○	○	○	○
8 Andy McNally	✓	○	○	○	○
9 Gus Burton	✓	○	○	○	○
10 Danny Castellano	✓	○	○	○	○

Design Tip: Reference the Codebook when setting the Custom Record Label

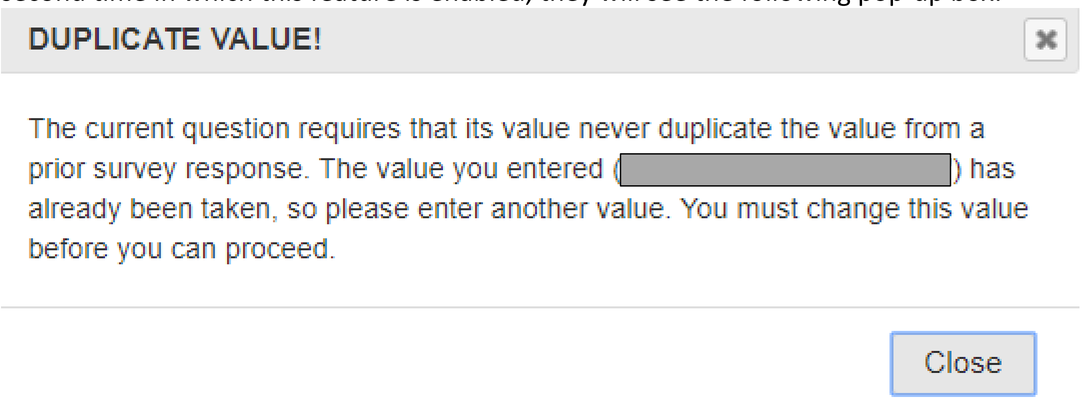
You may decide to set the custom record label sometime after you have designed the project, so you may not remember what you called the variable that you want to see in the record label. In those cases, you can check your Codebook to see what name you gave the variable. You can access your Codebook via the link on the left-hand navigation bar (under Project home and Design).



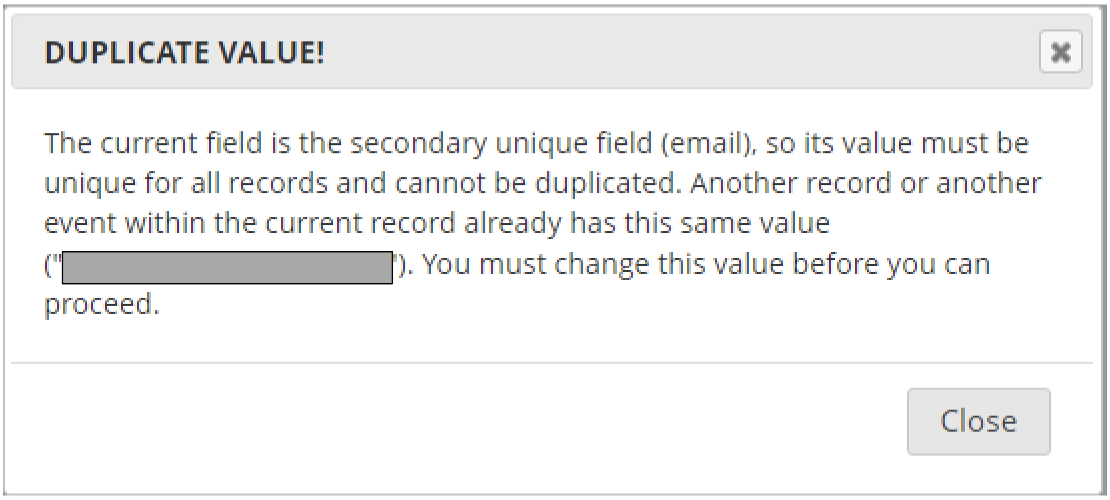
Designate a secondary unique field

- A field in addition to the primary record identifier for which REDCap will ensure the uniqueness of all values
- Values will also be included alongside the primary record identifier in the record selection lists

You may designate a **text** field to serve as a unique constraint whose value cannot be duplicated or shared by any other **record** in the project. When a value is entered or imported for the secondary unique field, it will be checked in real time to ensure it is not shared by another record, and if so, it will ask the user to enter another value. This means that if a participant is completing a survey for a second time in which this feature is enabled, they will see the following pop-up box:



If it is a data entry form, the user will see this:



Note: this feature should be enabled **before** you start collecting real data. That is because if you are already collecting real data and there are duplicates in your project, you cannot enable this feature.

It is not possible to specify that the combination of two or more fields be unique.

Order the records by another field

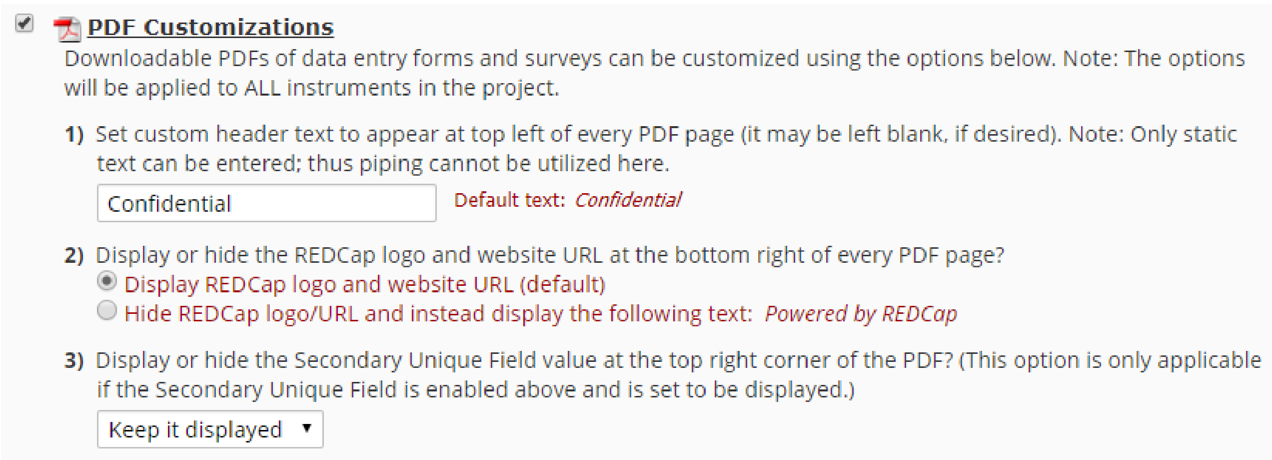
The default setup is that all records are ordered by their record name (e.g., Study ID) when displayed in the drop-down lists on your data collection instruments, but you may alternatively order the drop-down lists by the values of another field in the project (e.g., last name), if desired. If you wish to order the records by another field, you can select the field by which you wish to order records via this customization.

Enable the Field Comment Log or Data Resolution Workflow (Data Queries)

The Field Comment Log (enabled by default) allows users to leave comments for any given field on a data entry form by clicking the balloon icon next to the field.

PDF Customizations

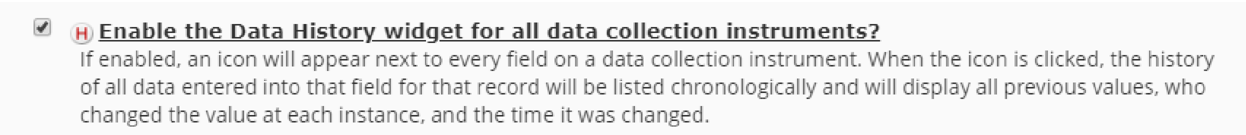
Downloadable PDFs of data entry forms and surveys can be customized. See the options below:



Enable the Data History widget for all data collection instruments

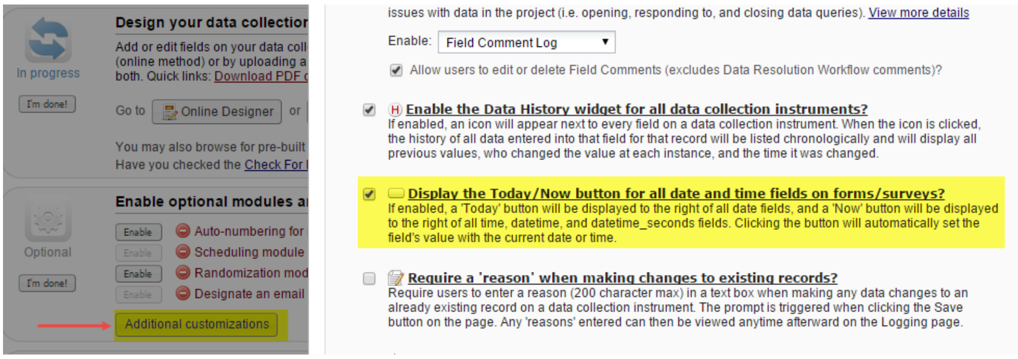
When enabled, an icon will appear next to every field on a data collection instrument. When the icon is clicked, the history of all data entered into that field for that record will be listed chronologically and will display all previous values, who changed the value at each instance, and the time it was changed.

This setting is enabled by default. If you wish to disable the feature, go to Project Setup/Enable Optional Modules and Customizations, click on the Additional Customizations and un-tick the box (you will need to scroll down to see it):



Don't display the Today/Now button for all date and time fields on forms/surveys

If you do not wish to have the Today icon appear next to your date fields, you may turn this setting off. Uncheck the box next to "Display the Today/Now button for all date and time fields on forms/surveys". Note that this is a project-level setting – it is not possible to set this for individual fields



Require a 'reason' when making changes to existing records?

- With this option selected, the user must enter some text as a "reason for change" each time a form is saved – except when the record is initially created
- Users can find this intrusive for longitudinal or multi-form projects as the dialog box appears even when entering new data on a form that is not the first form (i.e. when the record is created)

Data Entry Trigger

- Enter a web address and whenever a data entry form or survey record is created or modified REDCap will post data to the specified URL

Step 4 on the Project Setup page: Set up project bookmarks

Because your project is a series of webpages, you can technically bookmark any one of those webpages and have it appear on the left-hand navigation menu. This will allow you to get to that page with one click. So, if you find yourself navigating to a particular section of your project over and over again and it is not already on the left-hand navigation bar, you can make it a bookmark so you can get to it in one click. You can also add a bookmark to any other URL outside of REDCap.

To add a bookmark of a page within your project:

- Copy the URL of the page you wish to bookmark (click on the browser bar, select all and copy)

- Right-click on the Project Setup link on your left-hand navigation bar and open link in new tab
- Scroll down to “Set up project bookmarks (optional)” and click on “Add or edit bookmarks”
- Paste the URL into the “Link URL/Destination box”
- Enter the name of the URL into the Link Label box (for instance, Online Designer or Codebook)
- Tick the box “Opens new window”
- Click the “Add” button

Once you have created your first bookmark within your project, you can go to the bookmarks section of your navigation bar and click on the “Edit” button to get to your project bookmarks. It’s only when setting up your first one that you have to go to the Project Setup page to access Bookmarks.

Notes:

- Create a bookmark by completing the information required in the table row and click **Add**
- Bookmarks can be re-ordered by clicking and dragging a bookmark record
- Edit buttons ( ) appear when you hover your mouse pointer over a bookmark’s **Link Label** and **Link URL / Destination** values
- Use the delete button ( ) to remove a bookmark
- Link Type
    - **REDCap Project:** choose from the list of REDCap projects that you have permission to access
    - **Simple Link:** a simple URL to, for example, an external web page
    - **Advanced Link:** as with the Simple Link, a URL to, say, an external web page, but REDCap sends additional information (e.g. user and project info) to the target website as a means of verifying the identity of the REDCap user on that external site
- **User Access:** control which users of the current project can see the bookmark. Select either **All users** or select specific users individually by selecting **Selected users**

Step 5 on the Project Setup page: User Rights and Permissions

User Rights

In summary, the **User Rights** page enables you to:

- Add and remove access to your project for other REDCap users
- Control which Applications each user can access for your project
- Control the record operations that each user is permitted to perform
    - Create records
    - Rename records (i.e. edit a record id)
    - Delete records
- Control the level of access each user is permitted to each specific data collection form
    - No access
    - Read-only access
    - Full edit access
- Define roles – templates of permissions – to which users may be assigned

Data Access Groups

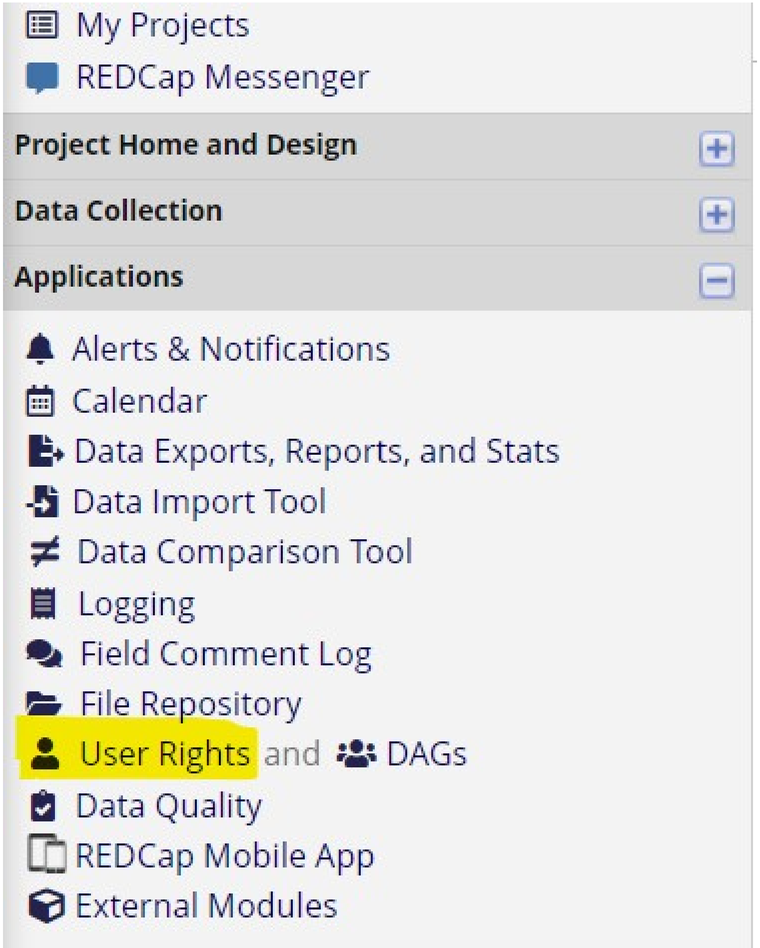
A Data Access Group is an arbitrary entity that can be thought of as analogous to a study site. Individual users can be assigned to a single Data Access Group, as can project records. Records that a group user creates are automatically assigned to that group. **A user in a Data Access Group has access only to records that are also assigned to that Data Access Group.**

For example, you as the project owner create a Data Access Group called “Nashville Site”. Your collaborator from another institution has had a Vanderbilt/Meharry REDCap account created for them by the REDCap administrator, and you assign her username to the Nashville Site group. The collaborator can view records that she creates or that you assign to Nashville Site, but not any records that are assigned to other groups, or that are unassigned to any group.

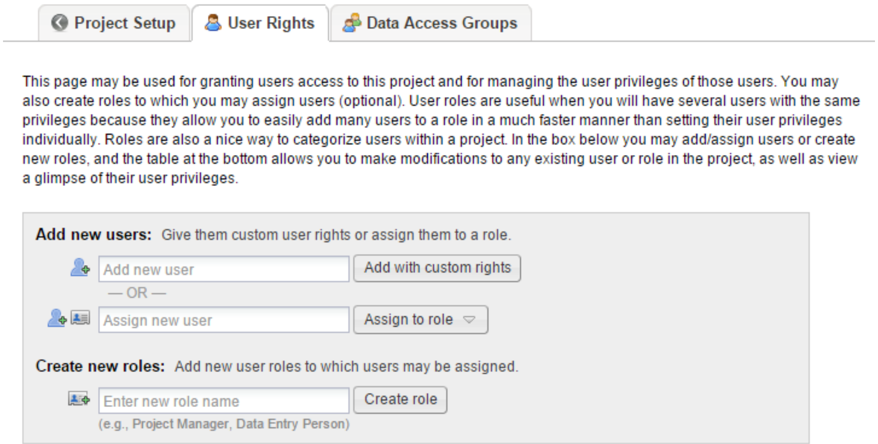
For more information on Data Access Group setup, see Create a Data Access Group under the Applications section of this User Guide.

Adding a user to your project (Add a user to your project)

If you would like to grant other users access to your project, click on User Rights on the Project Setup page or on the left-hand navigation bar.



You will see this image in your workspace (area to the right of the left-hand navigation bar):

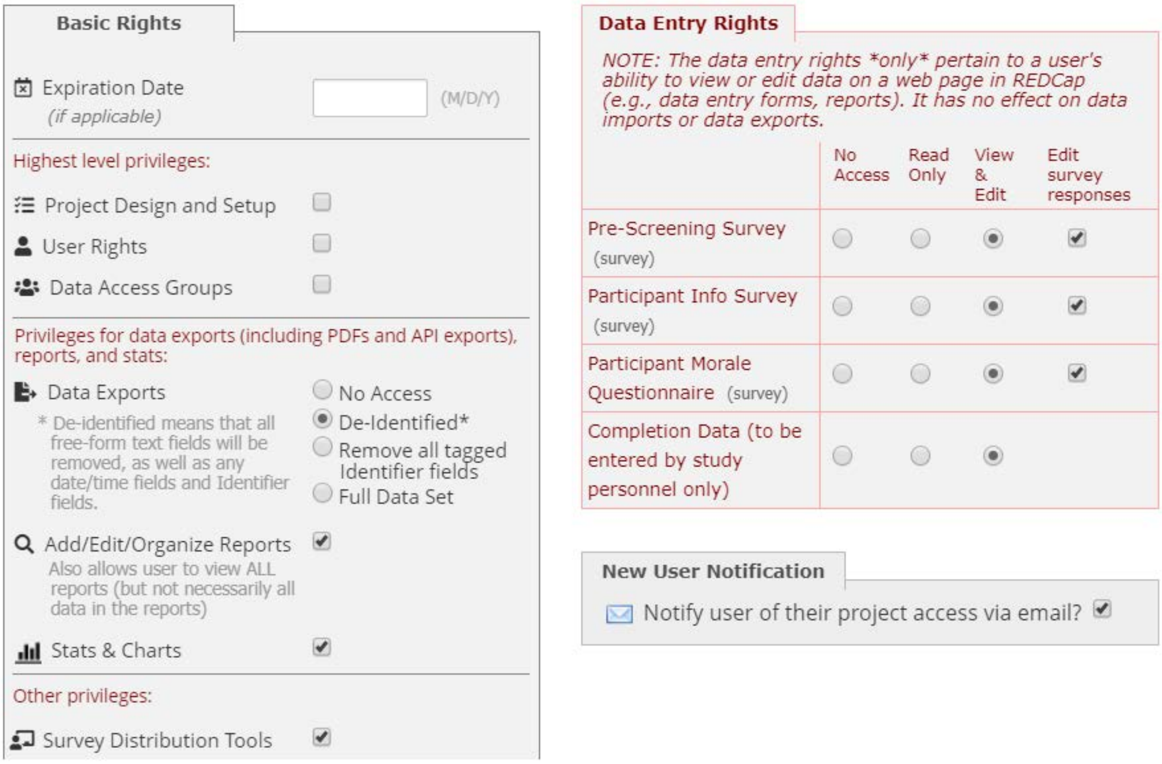


Enter the person's VUNet ID or external user name in the Add new user field.

- If the person is found, click on their name and then click on Add with custom rights.
- If the person is not found, this either means they do not have access to REDCap or they have not logged into REDCap before. If they are a Vanderbilt/Meharry employee, you can add them to your project by entering their VUNet ID. You cannot add them by their email address.

Correct way: wcteachout Incorrect way: wcteachout@vanderbilt.edu

Once you click Add with custom rights, you will now see a screen similar to this:



Choose what you want the user to have access to. Select the appropriate rights and then click Add User.

Customizing User Rights

The **Basic User Rights** section is a checklist of REDCap modules that the user can access.

In general, users should be given access only to the modules that they require, and no more. This is known as the Principle of least privilege and acts both to increase the security of your project and to aid usability by removing unnecessary clutter from a user's view.

Note the **Project Expiration Date** field gives you the option of permitting access for a specific period of time. Please note: this is different from an external user's ACCOUNT expiration date.

The **Data Entry Rights** allows you to limit which instruments the user can access and how they will be able to edit data. If the project has surveys enabled, there will be a column for editing survey responses. A project with only data entry form(s) will not have that column. The Principle of least privilege applies here too

At the bottom of the page are three buttons:

- Save Changes
- **Cancel**
- **Remove User**: remove the user from your project

For further questions about access to the Vanderbilt REDCap installation, please see this section of our Vanderbilt Meharry REDCap user page.

Removing a user (remove a user)

To remove a user from your project, select their name from the User Rights list and click on Edit User Privileges. You can click on the “Remove User” button.

Please note, if you wish to remove a user from your project and that user has been assigned to a role, you must first remove them from the role and then remove them as a user.

An alternative to removing the user is to expire them as a user by putting the last date they should have access to the project in the expiration date field of their user rights.

User Roles

A **role** is simply a template of user rights. Users assigned to a role are granted the set of rights that the role is configured to have.

Create a Role

You may name and define project-level **user roles** (e.g., Data Manager, Data Entry, Project Manager, etc.), then assign users to the appropriate role. This feature allows you to quickly and consistently designate user privileges by their specific role in the project.

Creating a role is similar to creating a user with custom rights: enter a name for the role (e.g. “Project Manager”, “Data Entry” etc.) and click **Create role**.

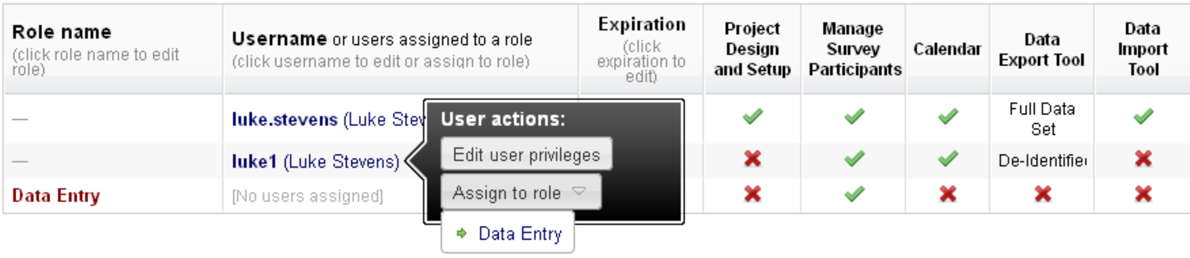
Configure the rights associated with the role and click **Create role**.

Add a New User to a Role

Enter the user’s name or username into the “Assign new user” text box, click **Assign to role** and select the role to which the user should be assigned.

Change a User’s Role

You can change a user’s role (or assign an unassigned user to a role) by clicking on the user’s name, then clicking **Assign to role** and then selecting the role.



Step 6 on the Project Setup page: Test Your Project Thoroughly

It is extremely important to test your project before moving it into production!

Purpose of Testing

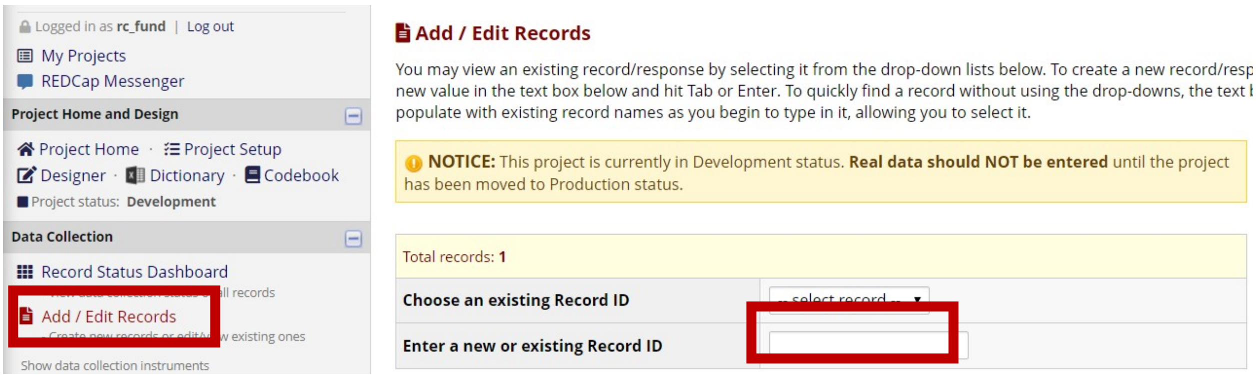
The purpose of a database - and the function of database software - is to provide your data with structure and integrity that cannot be enforced using unstructured formats such as text files or spreadsheets.

The purpose of testing your database is to ensure that it has the structure and integrity checks that you expect and that it meets your requirements.

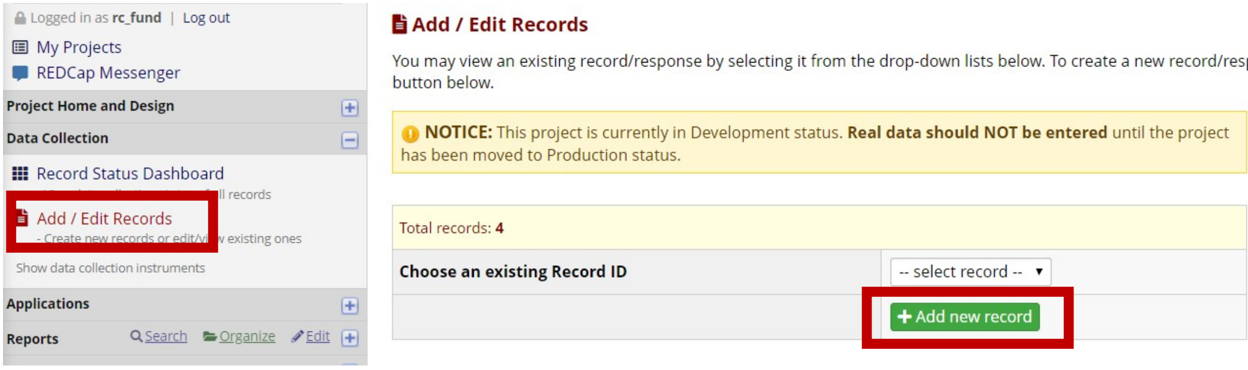
Adding test data

Try creating a few test records and enter some data to ensure that your data collection instruments look and behave how you expect, especially branching logic and calculations. You can do this by clicking Add/Edit Records on the left-hand navigation bar.

If you do not have auto-numbering enabled, you will enter the unique for the new record:



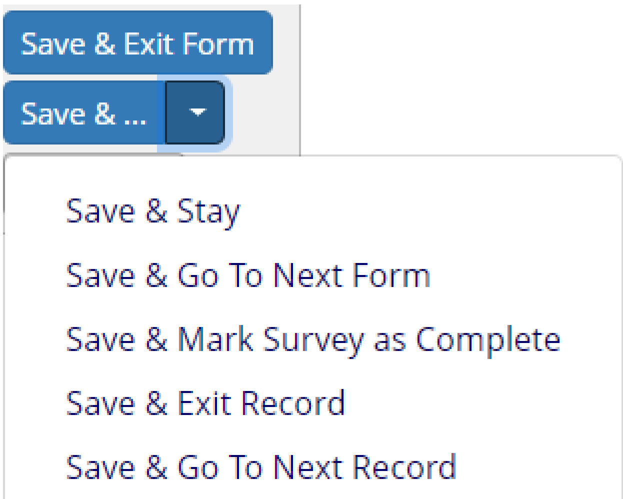
If you have the auto-numbering feature enabled, you can click 'add record':



Enter test data into the data entry form.

Save options for data entry

At the bottom of the page you will see these options:



Save & Stay (Save and Stay) is a good option if you are entering complex data and you think it might take you awhile to get through the entire form. It will allow you to save what you have entered but still remain on the page.

Save & Go To Next Form (Save and Go To Next Form) is a good option if there are multiple instruments within the project and you want to enter data for the same record across multiple instruments. That option will take you to the next instrument for the same record you are currently on.

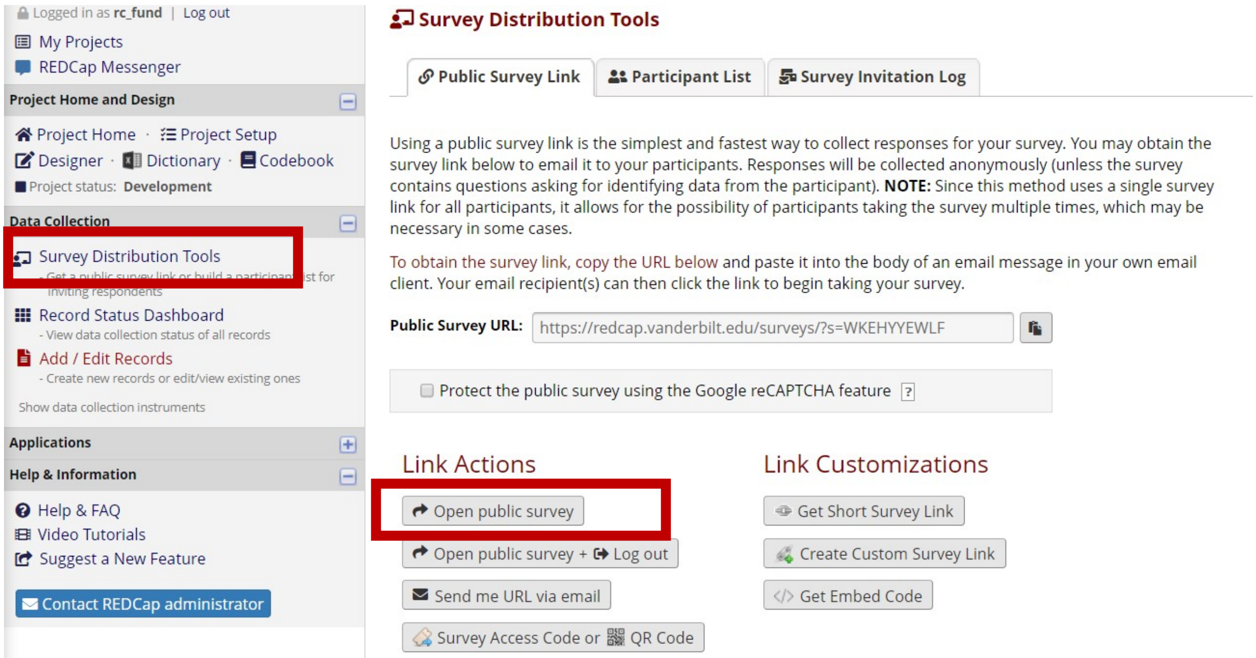
Save & Mark Survey as Complete (Save and Mark Survey as Complete) is a good option if you are entering data on behalf of a survey participant. It's important to use this option if there are subsequent surveys in the project. That is because if you are using the Survey Queue or Automated Survey Invitations, there are cases where the completion of an instrument AS A SURVEY determines whether or not a subsequent survey invitation gets sent. If you simply mark the with one of the other save options, REDCap doesn't know that the subsequent survey invitations should be triggered. Additionally, marking the form as a completed survey will generate a confirmation (if you have that set up in Survey Settings.) If you simply mark it complete as a data entry form, the confirmation email will not get sent.

Save & Exit Record (Save and Exit Record) is an option you might use if you are only entering the data for one instrument for one record.

Save & Go To Next Record is a good option when you are entering data for multiple records and you want to stay on the same instrument.

Adding test data for surveys

If you have surveys, complete the surveys as if you were a participant by using the Public Survey Link. To access the public survey link, click on the Survey Distribution Tools link on the left-hand navigation bar and then Open Public Survey:



If you are not seeing the public survey link, that means you have either not enabled your first instrument as a survey or you have not set up your project to have surveys. You can enable surveys in your project in the first step listed on the Project Setup page. You can enable an instrument as a survey on the Online Designer page. (*You can get to the Online Designer by clicking on the Designer button on the left-hand navigation bar under Project Home and Design*.)

Specific things to check for when entering test data

- For continuous fields, such as dates and numbers, that have range validations, test around the boundaries by entering the minimum and maximum values (which should succeed) and then entering values just outside the valid range (which should trigger warnings). For example, if height should be 50 - 250 cm: ensure that 50 and 250 are accepted, and that 49 and 251 trigger a warning message.

- Test that your branching logic is working properly, skipping questions on pregnancy for male participants, for example.

- Check that required fields are marked as such.

Once you have some test records entered, review them by going to your Record Status Dashboard; create reports and export your data and view in Excel or one of the statistical analysis packages; review your Stats.

The best way to test your project is to use it as if you were entering real production data, and it is always helpful to have colleagues (especially team members) take a look at your project to get a fresh set of eyes on it.

Design Tip: test on the type of device that your participants will be entering data

Designing a data entry form for use on a phone or tablet does not require many special considerations compared with data entry on a regular computer. Most important is to test your forms using the devices on which they will be used in the field. That way you can hope to identify any areas where you might wish to change.

One thing that can be worth considering is to use dropdown lists rather than text fields for entry of numbers. Even a lengthy dropdown list (one for weight, say, might have 20.0 kg up to 50.0 kg in 100g increments: 31 entries) might be easier for tablet users than a text box where they have to use the mobile keyboard

Allow plenty of time for project development and testing

The Vanderbilt REDCap Team is responsible not just for supporting its own end users but supporting the other REDCap administrative teams around the world and to continually improving the software. As such, we want to support our end users as much as possible, but we do have limits to the immediacy and type of support we can provide. Help us help you by allowing plenty of time for testing and deployment. If your project has a deadline by when it needs to be launched, be sure to start testing it at least two weeks in advance. This will give you time to seek out our help if you have any problems.

Step 7 on the Project Setup page: Move Your Project to Production

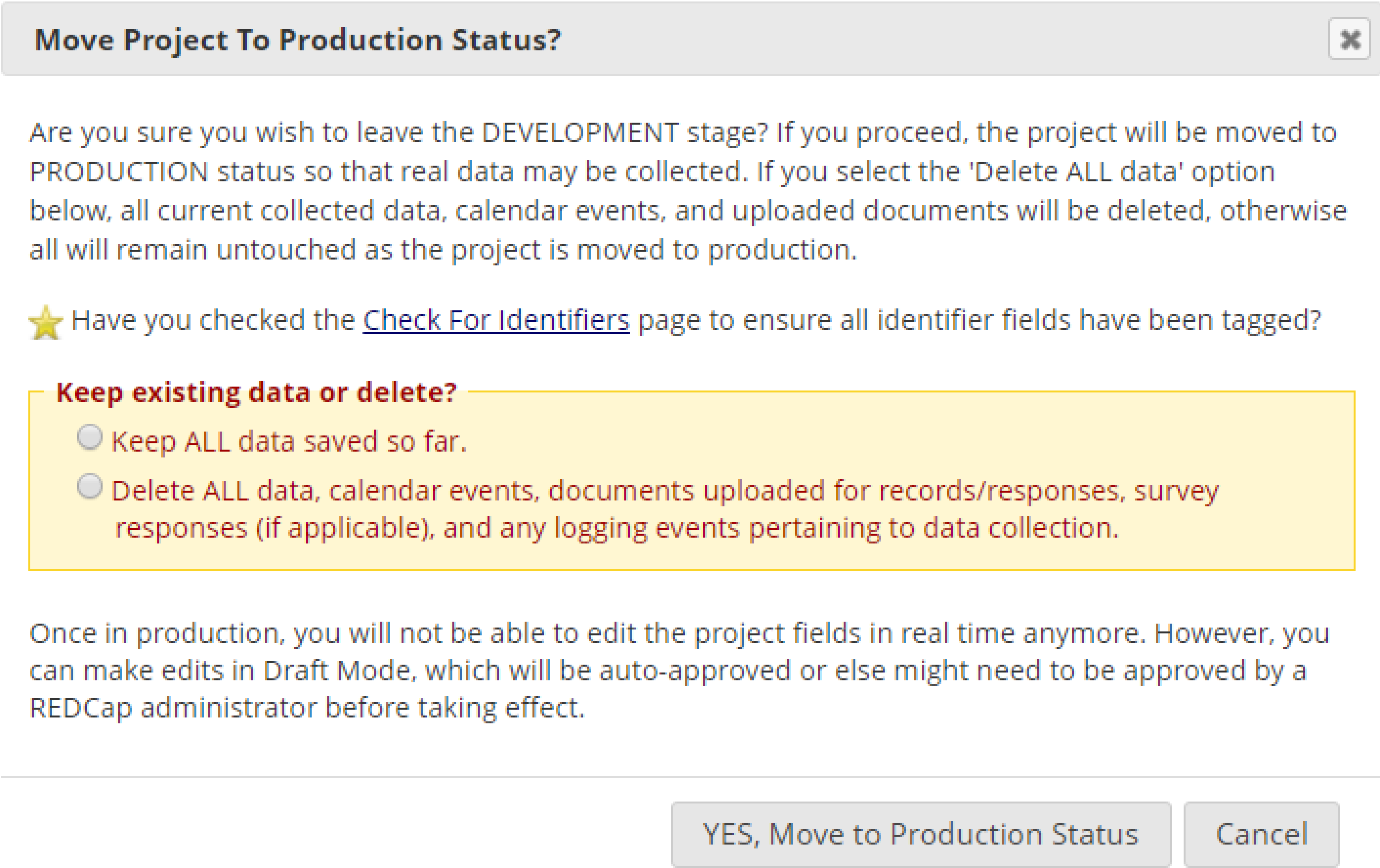
When a project is created, its default status is Development mode and any changes are deployed immediately, overwriting or deleting any existing data. This is fine because any data you are entering while in Development mode should only be test data, so it is ok if that data is damaged or deleted. Once you start collecting real data, however, it is always recommended that the project be in Production status.

Moving a project to Production status does three important things:
- It signals the data is real and important
- It makes the data recoverable in case of a data loss
- It creates a snapshot of the data dictionary so that when a database addition or edit is needed, any changes critical to the data are held until REDCap has the chance to review the impact of the change

You are strongly encouraged to test your project thoroughly before you move your project into Production.

How to move your project to Production mode

Once you have ensured your project is capturing all of the fields you need and has all of the design elements you want, click on the Move project to production icon.



You will have the option to delete all the test data you entered with one click. If you enter test data after you are already in production, you will have to manually delete each individual record.

Check For Identifiers

Also note the **Check for Identifiers** step. It is recommended that you perform the check for identifiers to ensure that all fields that contain participant identifiers – or indeed may contain any information that could potentially be used to identify a participant – are marked as identifying fields. This helps to protect confidential data from access by users that are not permitted to view it.

Once in production, you can still make changes to your project design – it will just require a couple extra steps. You can make edits in Draft Mode, which will then need to be approved by a REDCap administrator before taking effect. Many times, these changes are approved automatically and within seconds.

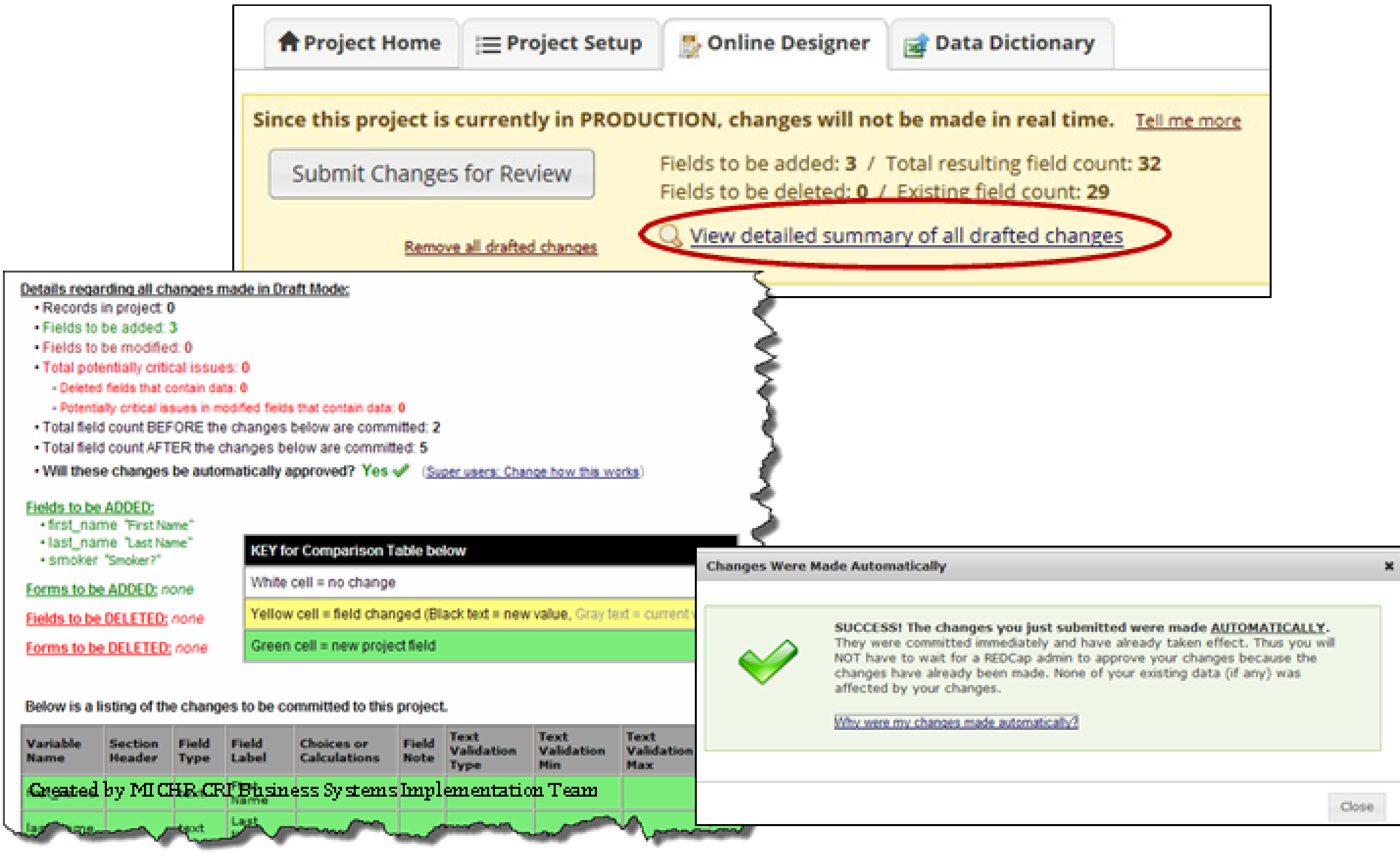
Advantage of being in production mode

If you make any design changes to your project while in Production, REDCap will check to make sure those changes don't damage/delete your existing data.

Making Design Changes in Production

When your project is in Production mode, any design changes require that you change the Project Status to Draft Mode. When you access Online Designer, REDCap will prompt you to enter Draft Mode.

Once in draft mode, you can make changes to the design of your instruments. You will then need to submit your changes for review. Prior to submitting the changes, you are encouraged to use “View detailed summary of all drafted changes’ to clearly understand the impact of the changes.



REDCap will automatically approve your changes for all non-critical post-production changes.

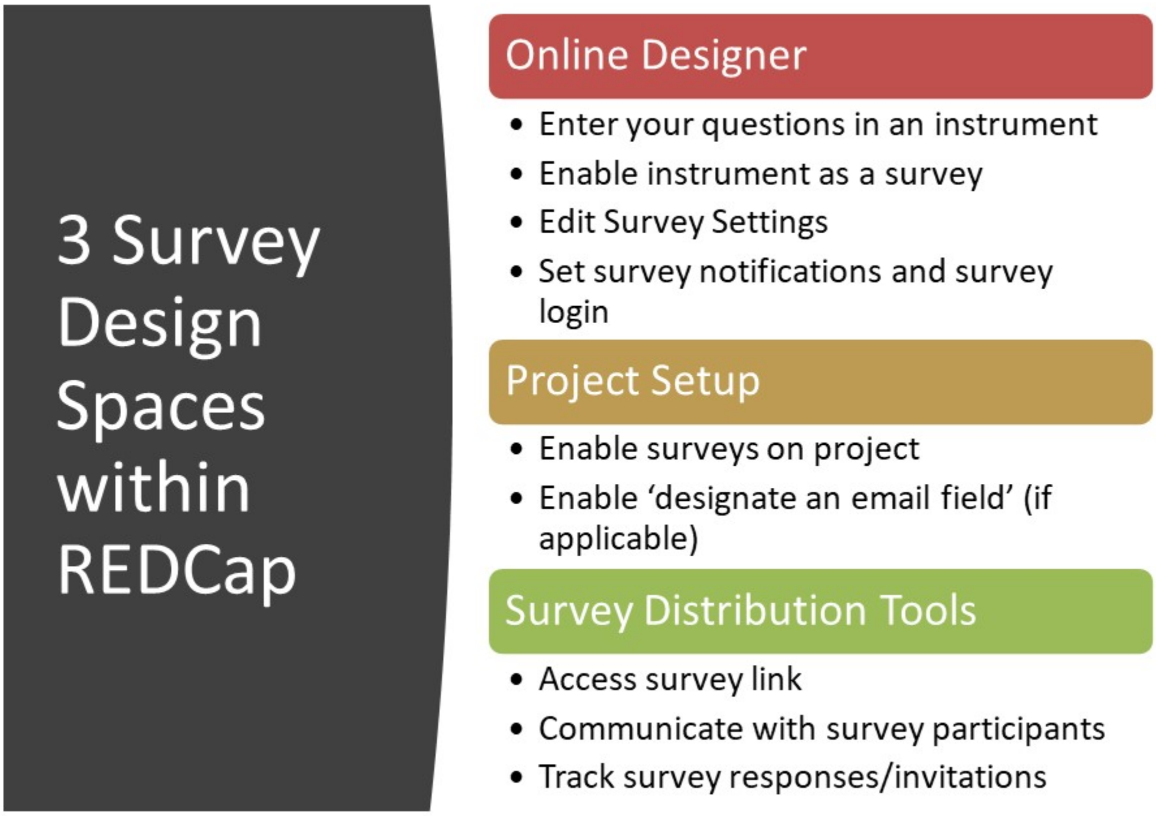
Changes that would result in data damage and/or loss will require written approval by you. REDCap will automatically send you an email, asking for your confirmation that you do wish to make the changes. The changes will not go into effect until you respond to the email.

Project status change

Once your project is in production your project status will indicate Production on the left-hand navigation menu. Similarly, when you are on your My Projects page, you will notice that the icon next to your project name is changed from a wrench (for development) to a green box with a checkmark (for production.)

Surveys

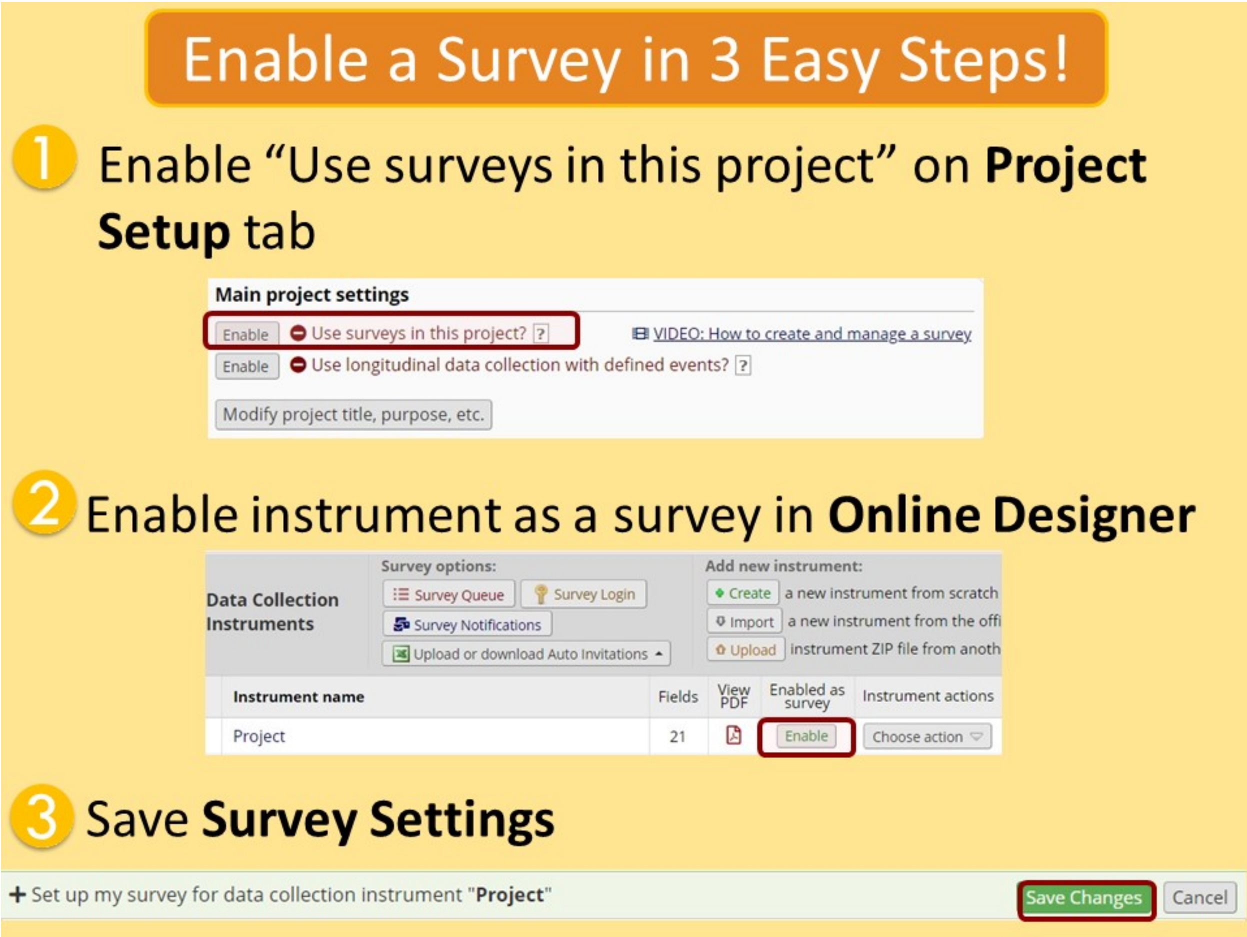
There are 3 main spaces within REDCap that you will work to design/manage your survey:



Survey Wizard

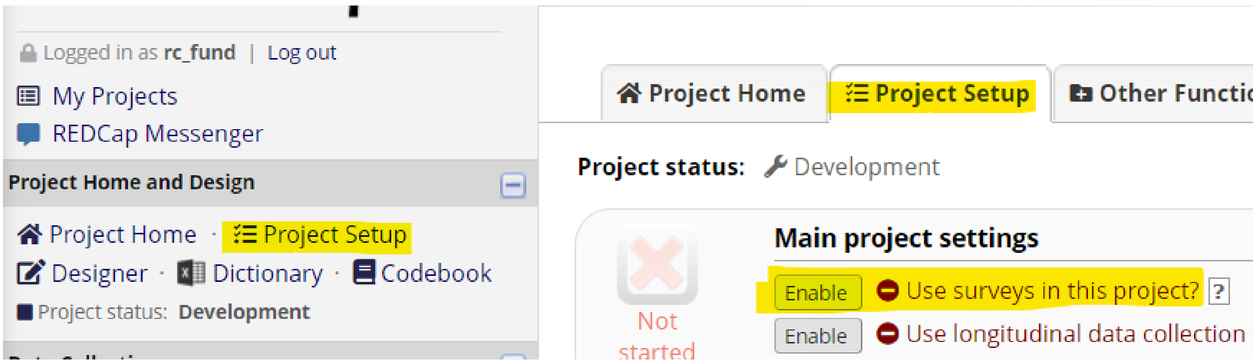
For step-by-step guidance about setting up surveys, we highly recommend you use the Survey Wizard. It is an interactive online tool that addresses when to enable survey functionality, what to consider when choosing a survey model, and reviews survey setting options.

Quick Guide to Survey Setup

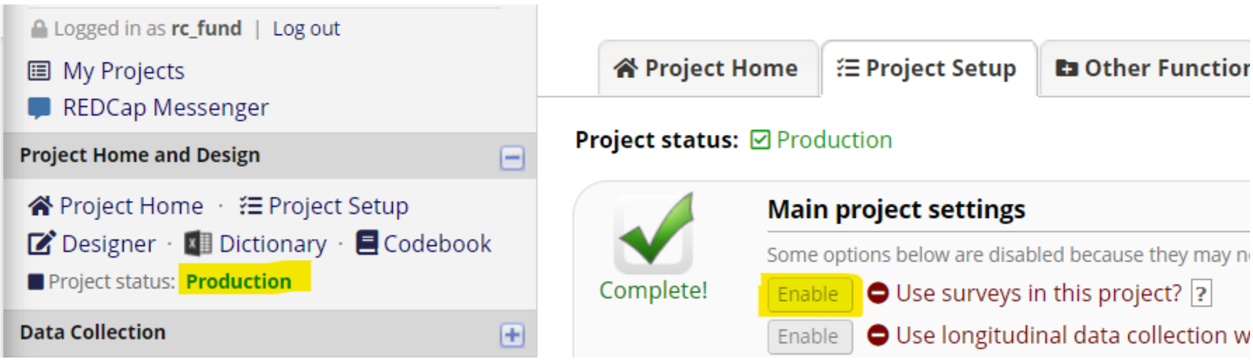


Enable Surveys within the project

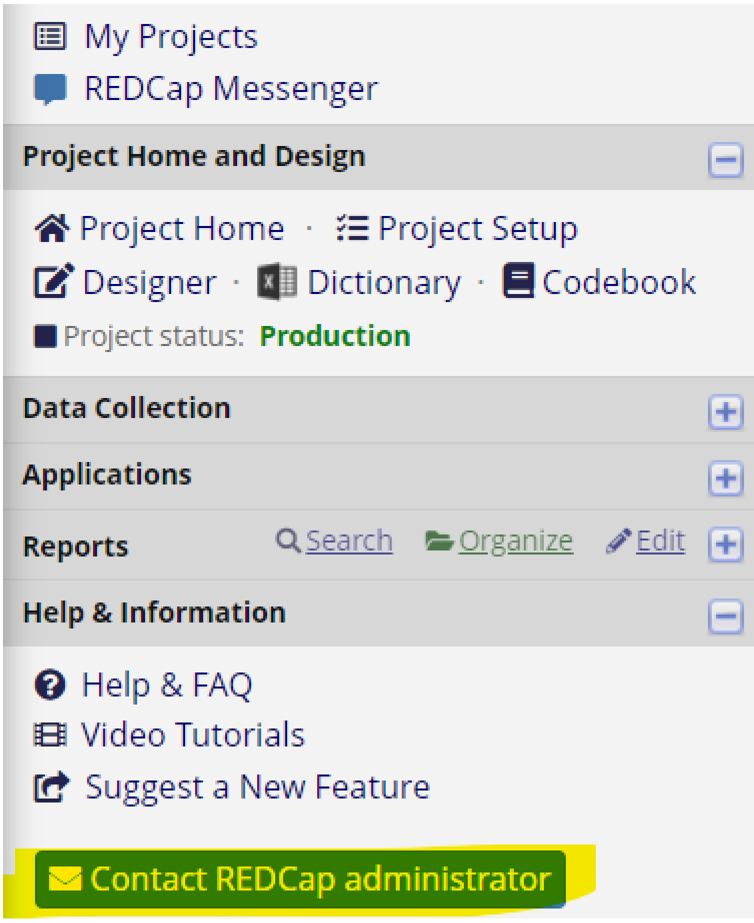
If you plan to use surveys in your project, you must go to the Project Setup page and click the first option under Main project settings:



If your project is in Production mode, the Enable button will be greyed out:

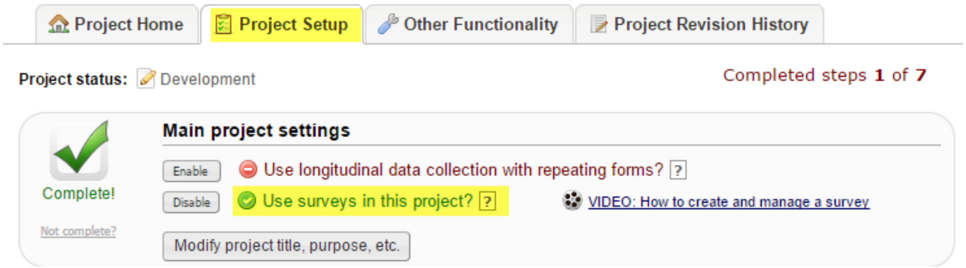


You will need to click on the 'Contact REDCap administrator button' from within your project and request that the project be enabled for surveys.

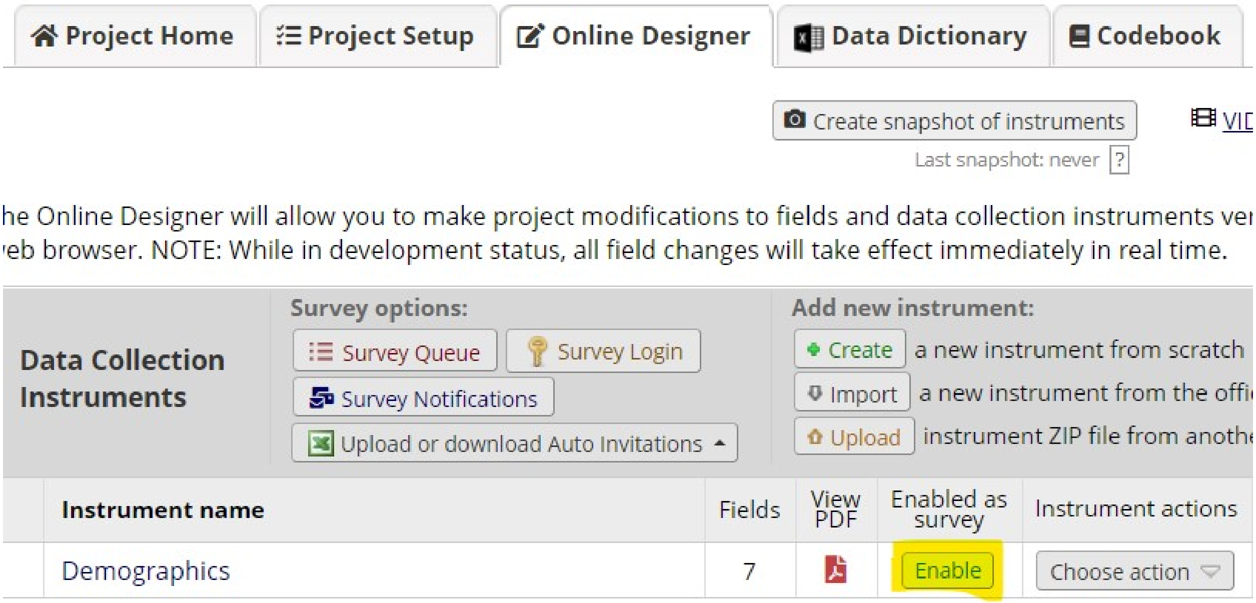


Enable Your Instrument as a Survey

Once you have enabled the "Use surveys in this project" setting under Project Setup, you will want to indicate which data collection instruments are going to be used as surveys.



Under Online Designer, click Enable next to the data collection instrument you want to use as a survey.



You will then automatically be brought to the page where you can setup Survey Settings. You can leave the default settings or make adjustments. But you must click the 'save changes' button in order for the instrument to convert to a survey. If you navigate away from the page and do not save changes, your instrument will remain a data entry form.

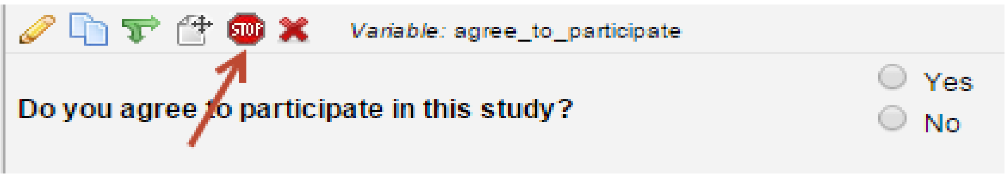
Field function in Surveys

Field in Online Designer	Survey Settings	Result
Begin New Section	One section per page	Survey split up into multiple pages
Choice question set with Stop Action		Survey will end for participant if they select the specified choice
Validated for email	Confirmation email set to 'yes'	Confirmation email will automatically get sent to participant
Radio buttons and checkboxes (drop-down lists aren't eligible)	Enhanced buttons	Mobile-friendly!
Branching logic	Questions will be custom-numbered	No question numbers next to survey questions
Numbering in field label	Question numbering set to custom	Will see question numbers next to survey questions

Stop Action

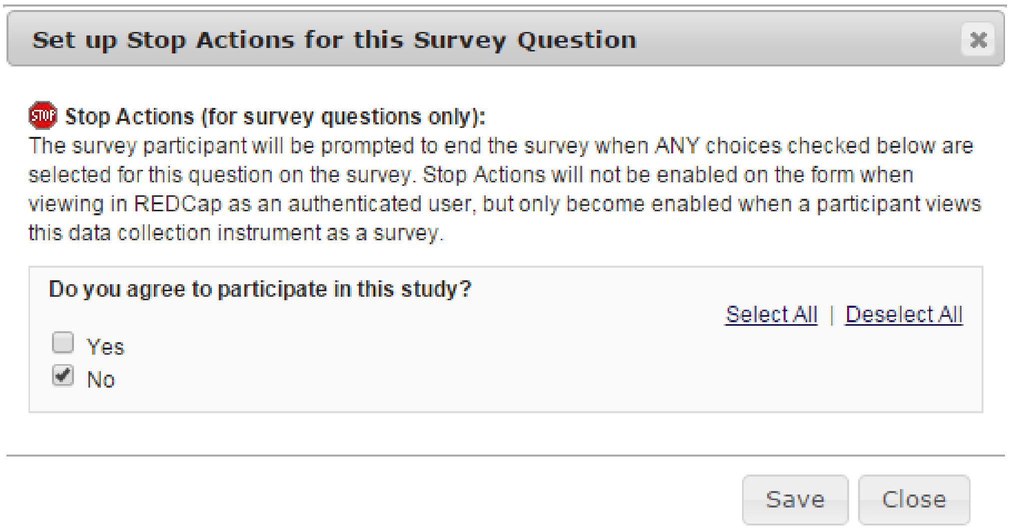
The Stop Survey action will prompt the survey participant to end the survey when a specific answer is given. The stop survey action is available on Drop-down List, Radio Buttons, Multiple Answers, Yes/No and True/False field types.

Once you have created one of the field types listed above and you have your data collection instrument set up as a survey, you will see a stop sign icon.

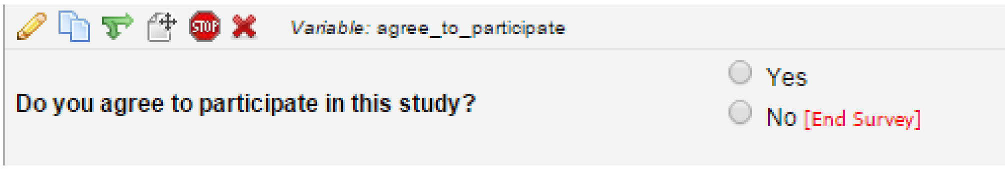


To add the Stop Survey logic, click on the stop sign icon. The Stop Survey logic box will appear. Select the answer choice that should prompt the survey participant to end the survey and click Save.

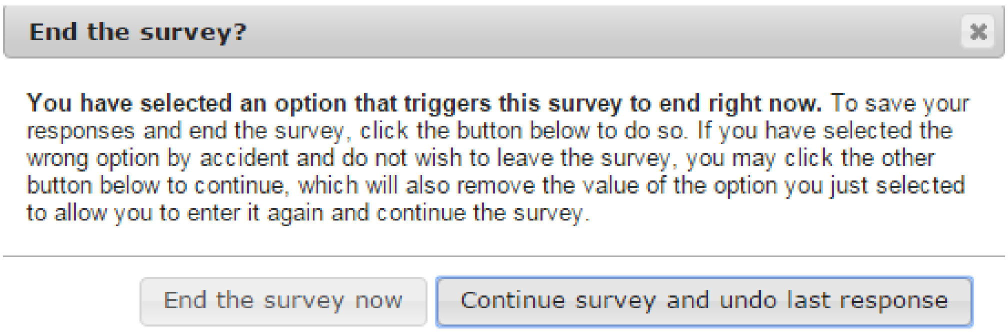
In this example, I want the survey participant to be prompted when they click No.



Notice that once the Stop Survey logic is setup, text appears next to the answer choice that will end the survey.



When the participant takes the survey and they answer No, they will receive the following message. The message is hard coded and cannot be changed. The participant can either choose to “End the survey now” which would take them to the Survey Acknowledgment text or they can choose “Continue survey and undo last response”.



Enabling Repeating Instruments for a Survey Instrument

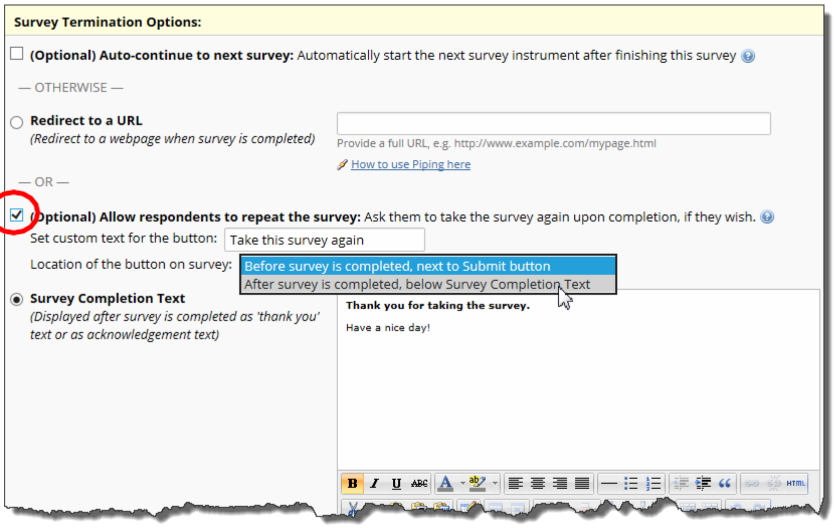
A Survey can be set up as a repeating instrument. You need to complete the steps largely in order, however.

- **Enable** Surveys for the Project
- **Build** the Instrument (at the very least, name it)
- From Project Setup, **Enable** Repeatable Instruments. Click **Modify** to select the Survey(s) to

be Repeated

- From Online Designer, **Enable** the Instrument as a Survey, opening the Survey Settings page
- From Survey Settings, Survey Termination Options:
  - **Check the Checkbox** to Enable the Survey to be Repeated
  - Add optional custom text to the button
  - Select the location for the Repeat button to appear
- Click **Save**

You MUST check the box to enable the Repeating feature on the instrument.



For more information about Repeating Instruments, see this section of this User Guide.

Survey Design tip: Validation check error messages

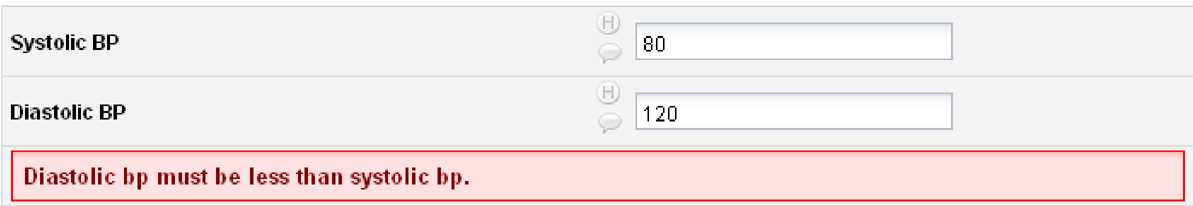
Descriptive Text fields can be useful for displaying an error message of a cross-field validation check. For example:

```
<div class="red" style="font-weight:bold;">Diastolic bp should be less than systolic bp</div>
```

Used with a branching logic expression along these lines:

```
[systolic_bp]<>'' and [diastolic_bp]<>'' and [diastolic_bp]>=[systolic_bp]
```

Produces an outcome like this:



Survey Design tip re: User Access

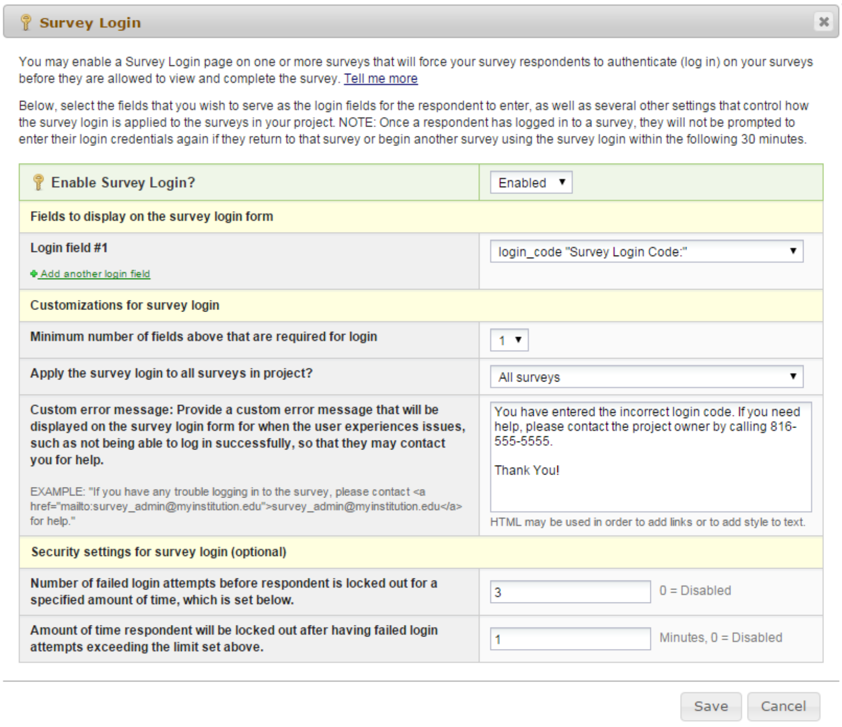
In the User Rights application, you will notice that you can limit a user's access by instrument. So, when designing your project, you might think about breaking up the information that will be entered into separate instruments, in order to restrict access. For example, say you have an application where you collect an applicant's merits, demographics, and scholarship information via survey. If you have a committee reviewing the applications, you may not want them to consider the applicant's demographics or the fact of whether or not the applicant is requesting a scholarship. In this instance, you could have separate those questions into 3 different surveys. You could enable survey auto-continue, so that the applicant can complete all 3 surveys in one sitting. Then, behind the scenes the committee member would be added as a user to the project but only be given access to view the merits survey.

Survey Login

You can provide improved security for your surveys with a survey login form, in which respondents will be required to enter some login credentials – their date of birth, for example – in order to begin a survey or (if the "Save & Return Later" feature is enabled) to return to a previously entered survey response.

To enable the Survey Login feature,go to Online Designer and click the **Survey Login** button at the top of the instrument list**.**

That will open up the Survey Login settings popup:



Login Field # 1: Use the drop down and select a field from your project. If you would like to add another login field, click the Add another login field link.

Minimum number of fields above that are required for login: If you have more than one field that you are using as the login, indicate how many of the fields are required. For an example, you might have three fields but only two of them are required to be answered in order to log in.

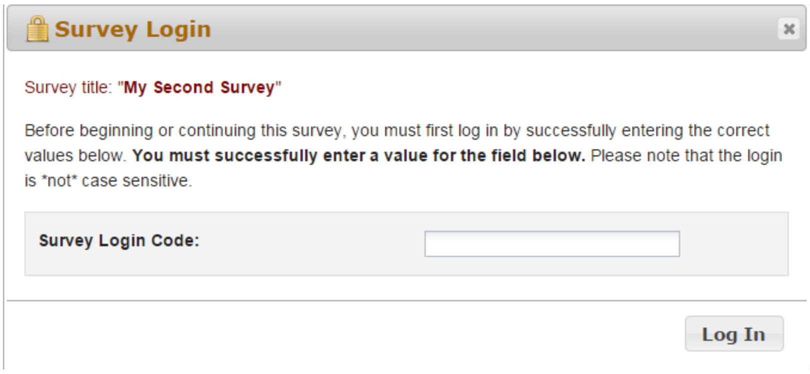
Apply the survey login to all surveys in this project: Use the drop down and indicate if the survey login should be used for all surveys or if you would like to specify the surveys this will be used for. If you would like to specify which surveys this will be used for, you will need to navigate to survey settings.

Custom error message: Enter a custom error message that will be displayed if the participant experiences difficulty logging in.

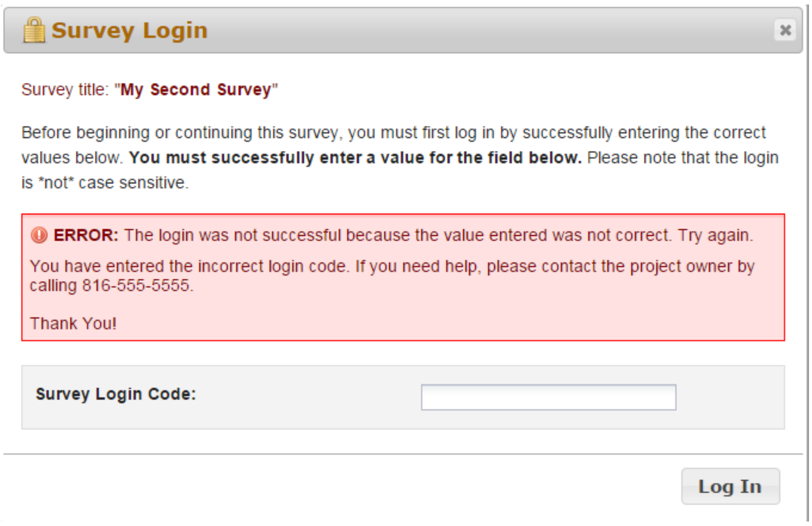
Number of failed login attempts: Enter the amount of login attempts you would like to grant to the participant. If you would like them to have unlimited attempts, enter 0.

Amount of time participant will be locked out: Enter the amount of time (in minutes) you would like to have the participant locked out for. If you do not wish to lock them out, enter 0.

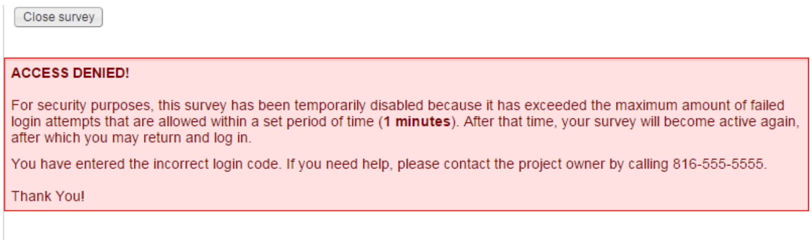
When the participant attempts to take the survey, this will receive this log in box:



If the participant does not enter the correct Login Code, they will receive this message:



If the participant reaches the maximum number of failed attempts you specified, they will receive this message:



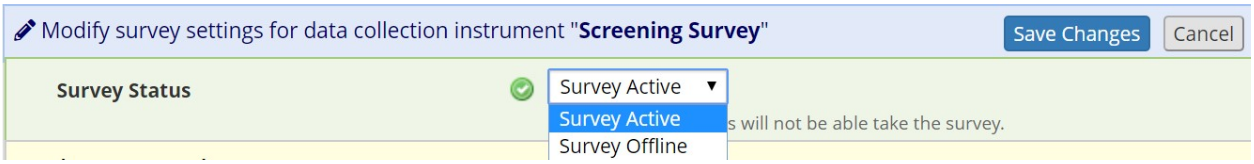
Survey Settings

Once you enable your data collection instrument as a survey, the “Survey Settings” page will appear.

You can make changes to Survey Settings at any time. To get to the Survey Settings click on the Designer link on the left-hand navigation bar under Project Home and Design.

Survey Status

A survey can be Active (online) or Inactive (offline). The default setting is online

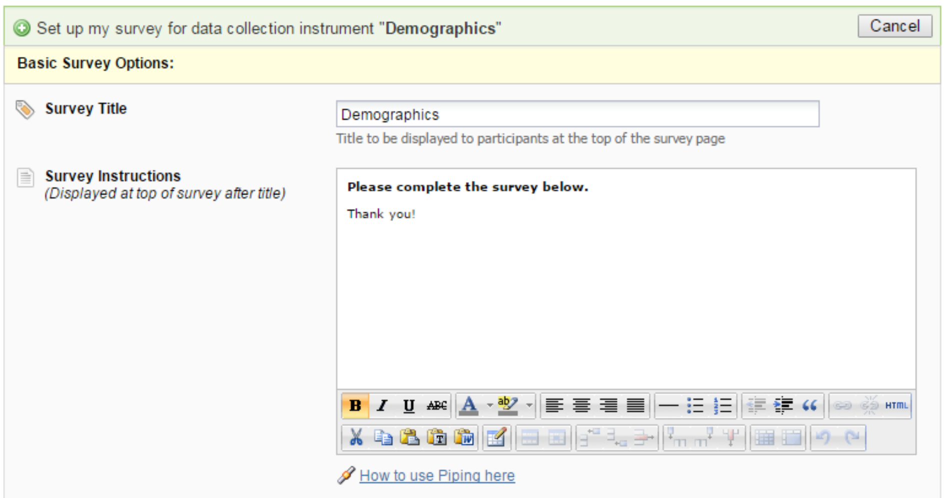


For a comparison of how this differs from other survey expiration options, [see this section of the User Guide](#).

Basic Survey Options

Survey Title: Enter a survey title. It does not have to be the same name as your form.

Survey Instructions: Enter any instructions you wish to give to the participant. The default instructions are “Please complete the survey below. Thank You!” Oftentimes it is helpful to include a contact email address if the person has questions or the deadline by when you need them to complete the survey.



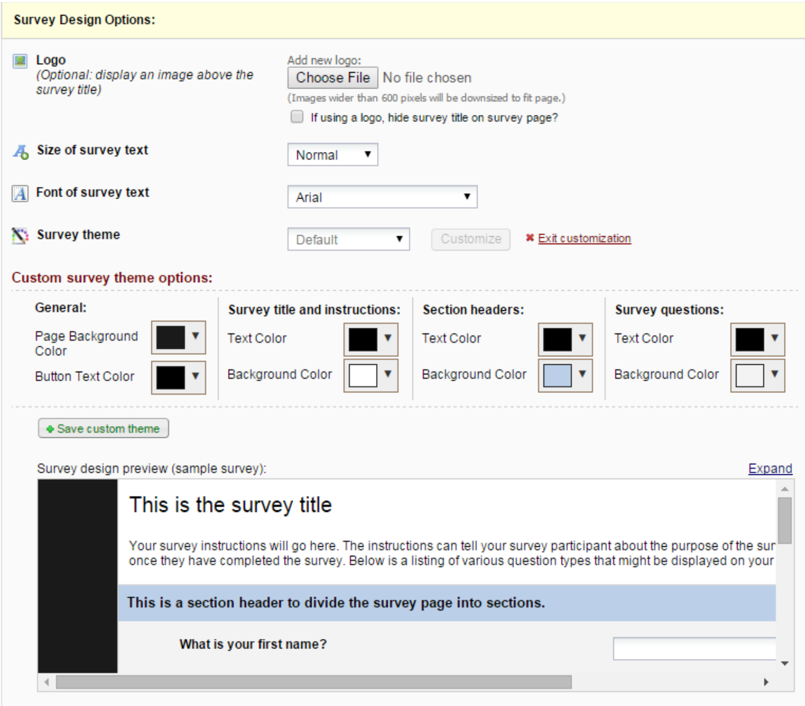
Survey Design Options

Logo: Click the Choose File icon and add a logo.

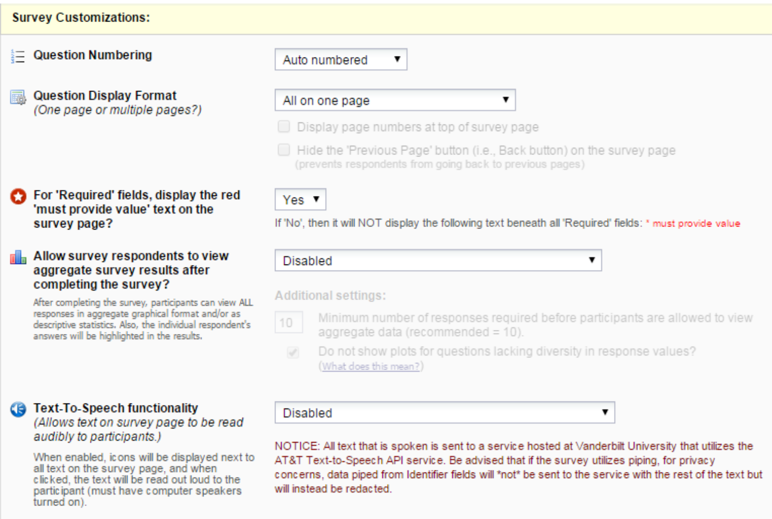
Size of survey text: Use the drop down and select Normal, Large or Very Large.

Font of survey text: Use the drop down and select the font family you would like to use.

Survey Theme: Use the drop down to select a saved survey theme, including a CMH survey theme. Otherwise you may click Customize and change the color of your backgrounds, fonts and buttons. If you would like to use the same color choices at a later date, click the Save custom theme icon.

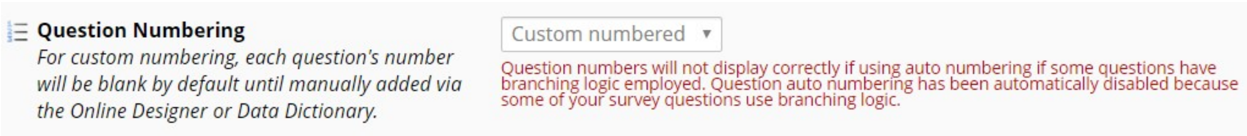


Survey Customizations



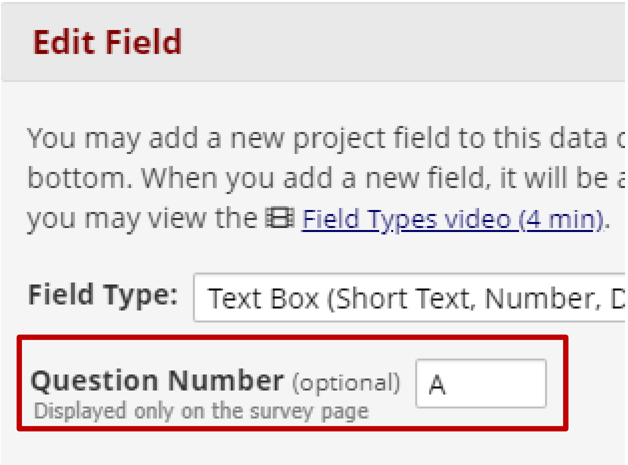
Question Numbering

REDCap will by default auto number survey questions. The exception is if you have branching logic in your survey. In that case, auto-numbering is disabled and instead your questions are custom-numbered.



Custom numbering of questions in Survey

If you change the setting to custom numbering, question numbers will be removed. If you set your Survey Settings so that your questions are custom numbered, you will see a 'Question Number' box for each field of that survey in Online Designer:



You can enter your custom question number there (or leave it blank.)

Question Display Format

All on one page: Select this if you would like all of your questions placed on one page.

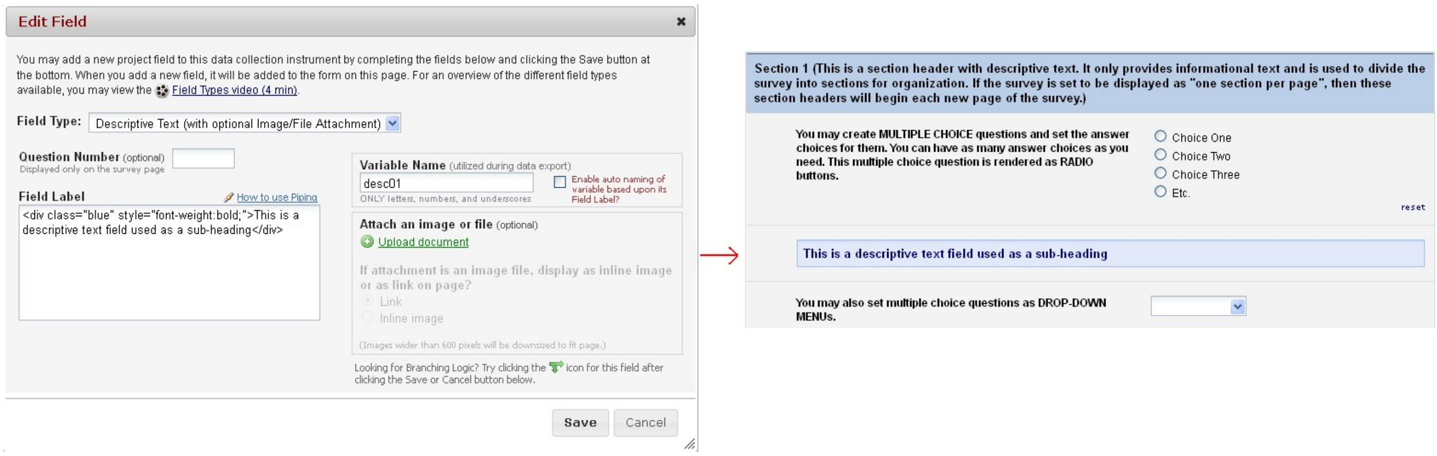
One section per page (multiple pages): Select this option if you would like to like to break your survey up into sections by your section headers (the yellow banner bars). If you select this option, you can display the page numbers at the top of the survey page and also hide the "Previous Page button".

Survey Design Tip: Using Descriptive Text field as a section sub-heading

If you want to break up the content of the survey page but don't want the participant to have to go to a new page (which is what a 'Begin New Section' field type will cause), use the descriptive text field instead.

For example, using html coding you could type this as your field label:

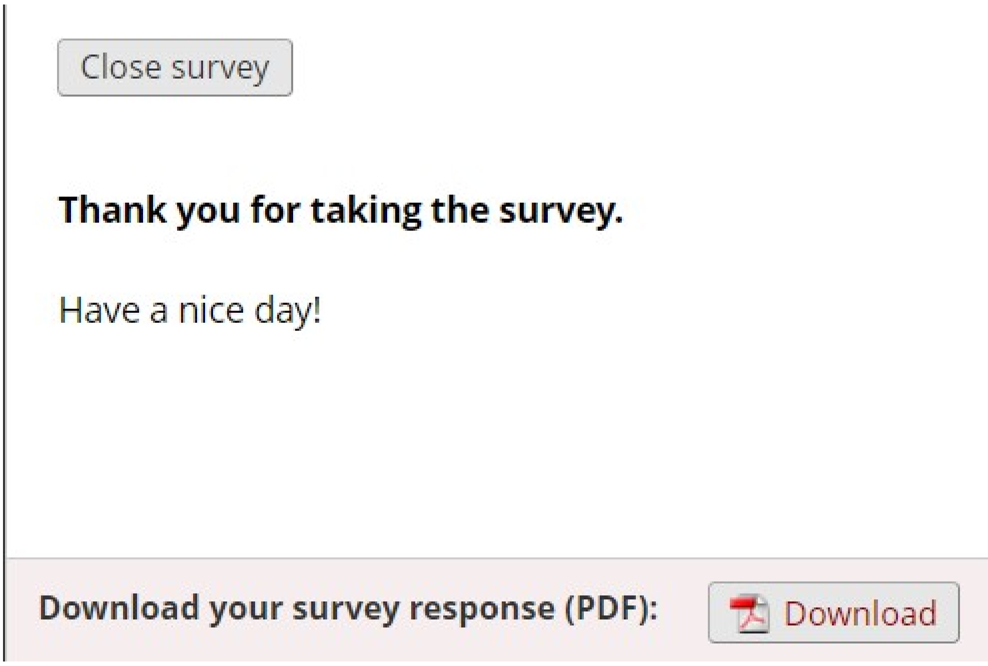
```
<div class="blue" style="font-weight:bold;">A descriptive text field used as a
sub-heading</div>
```



Allow participants to download a PDF of their responses at end of survey?

The default setting is no.

The respondent will see a PDF button on the confirmation screen (screen they see after they hit the survey submit button).



All fields viewable to the survey respondent on the screen, regardless of whether or not they answered the question, are included in the PDF. This means that if a HIDDEN action tag is used on a field in the survey, that field will not be visible in the PDF.

Exceptions: This option is not available if the Survey Auto-continue feature is enabled or if the Survey queue auto-start option is enabled.

Survey-specific email invitation field

You may have a project with multiple surveys where different people are completing the survey for the same record. If you wish to designate which person should be sent the invitation for that specific survey, you would select that designated email field from the drop-down list.

Note: only text box fields that have been validated as an email address show up on the drop-down list.

For "Required" fields, display the red 'must provide value' text on the survey page

The default setting is Yes. If you do not wish to have the 'must provide value' field display on your survey, use the drop down and select No.

Allow survey respondents to view aggregate survey results after completing the survey

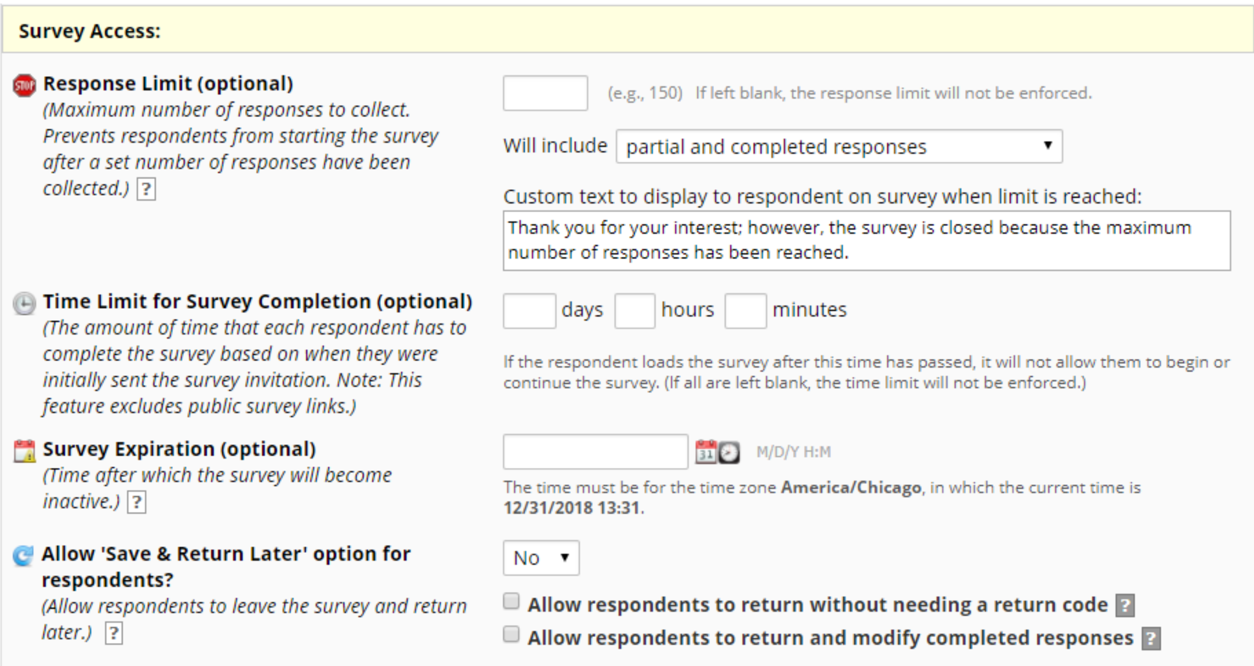
The default setting is disabled. Otherwise you may choose to display Graphical Plots, Descriptive Statistics or both plots and statistics. If you enable this setting, you can choose the minimum number of responses before participants are allowed to view the aggregate data.

Text-To-Speech functionality

The default settings is Disabled. When enabled, icons will be displayed next to each text that is listed on the survey. When clicked, the text will be read out loud to the participant.

Survey Access

How a survey participant accesses the survey can be set in the Survey Access section of Survey Settings.



Response Limit (optional): Default is blank

This setting prevents respondents from starting the survey after a set number of responses have been collected. You can specify if a response is only completed responses or partial/completed responses. You can also modify the stock language that is shown when the limit is reached.

For a comparison of how this differs from other survey expiration options, see this section of the User Guide.

Time Limit for Survey Completion

You can use this setting if you wish to limit the amount of time a respondent has to complete a survey after it was sent to them.

This only works when you have a participant list – it will not work on public survey links. It's ideal if you want to keep a survey open but will have rotating groups of people taking it.

Note: the language displayed to the participant is not customizable.

For a comparison of how this differs from other survey expiration options, see this section of the User Guide.

Survey Expiration (optional): You may enter a date/time you would like for your survey to expire. This saves you the trouble of going to survey settings and changing the survey status to inactive (especially helpful if you want the survey to go offline when you are not at work!)

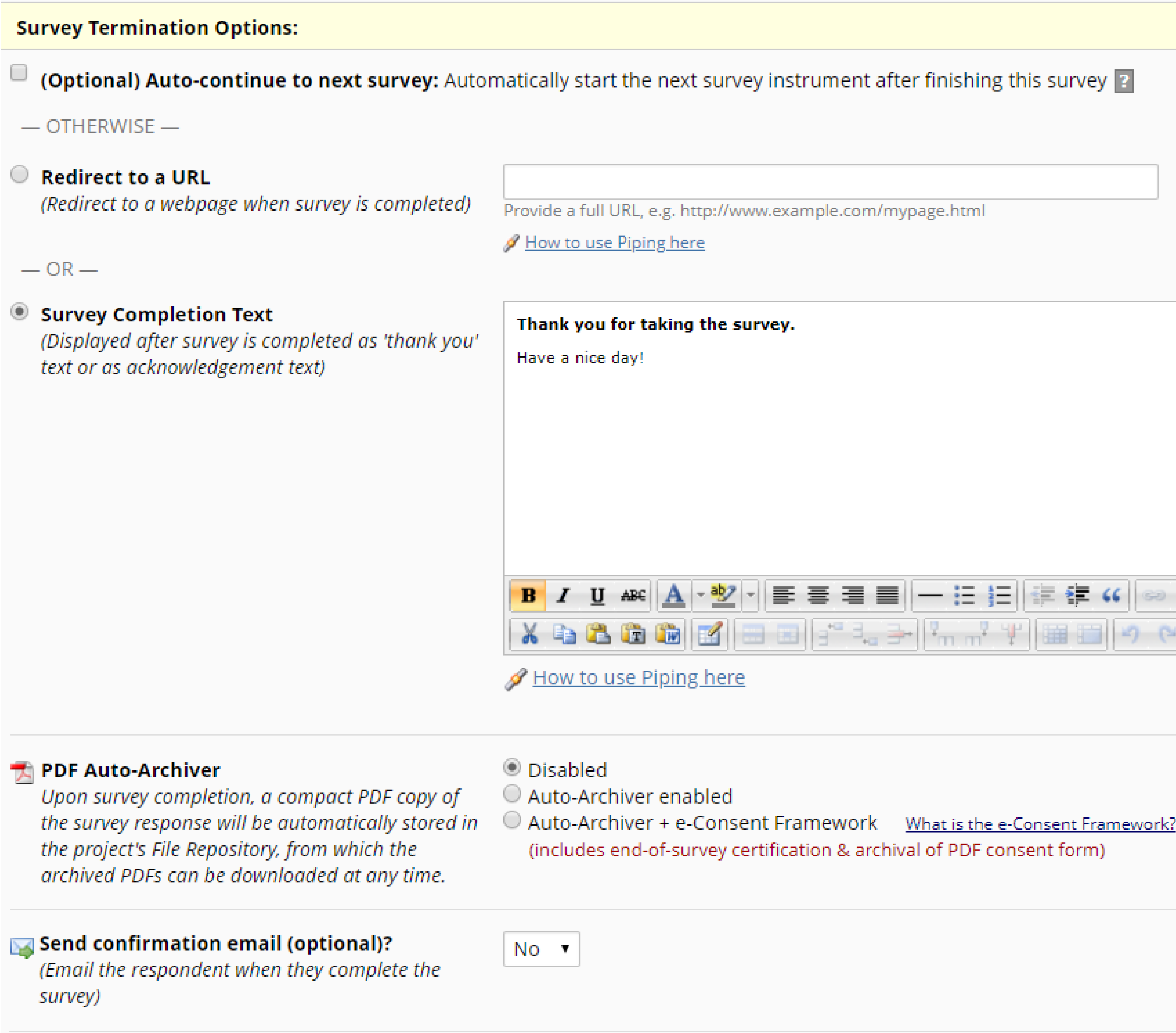
For a comparison of how this differs from other survey expiration options, see this section of the User Guide.

Allow 'Save & Return Later' (Save and Return Later) option for respondents: You may enable this option if you would like your participants to be able to come back and finish taking their survey.

If enabled, the participant will receive a generated code they must enter in order to continue. If you want them to be able to return to the survey without needing a code, you can check that box. **NOTE: If you are collecting identifying information (e.g., PII, PHI), for privacy reasons it is HIGHLY recommended that you leave the option unchecked so as to enforce a return code.**

You may also indicate if you would like your participants to be able to return and modify their completed responses.

Survey Termination Options



Auto-continue to next survey

Click this if you have more than one survey and you would like the next survey to automatically start as soon as this survey is completed. If you want the respondent to complete a subsequent survey at a later time or only if they answered questions with a specific answer, then you would not want to enable this feature. See Survey Invitations for further information.

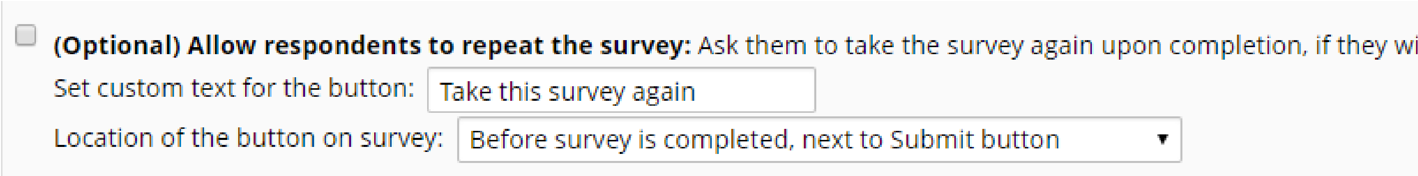
Note: if you have auto-continue enabled and then set up a Survey Queue, auto-continue is not automatically disabled. In fact, it will trump your Survey Queue settings.

Redirect to a URL

If you would like the participant to be redirected to another URL after they have completed their survey, enter the full URL. For instance, if a person is registering for an event and you have a website for your event, you could enter that website here.

Allow respondents to repeat the survey

If the instrument is enabled as a repeating instrument, you will see these options in the Survey Settings.



Survey Completion Text

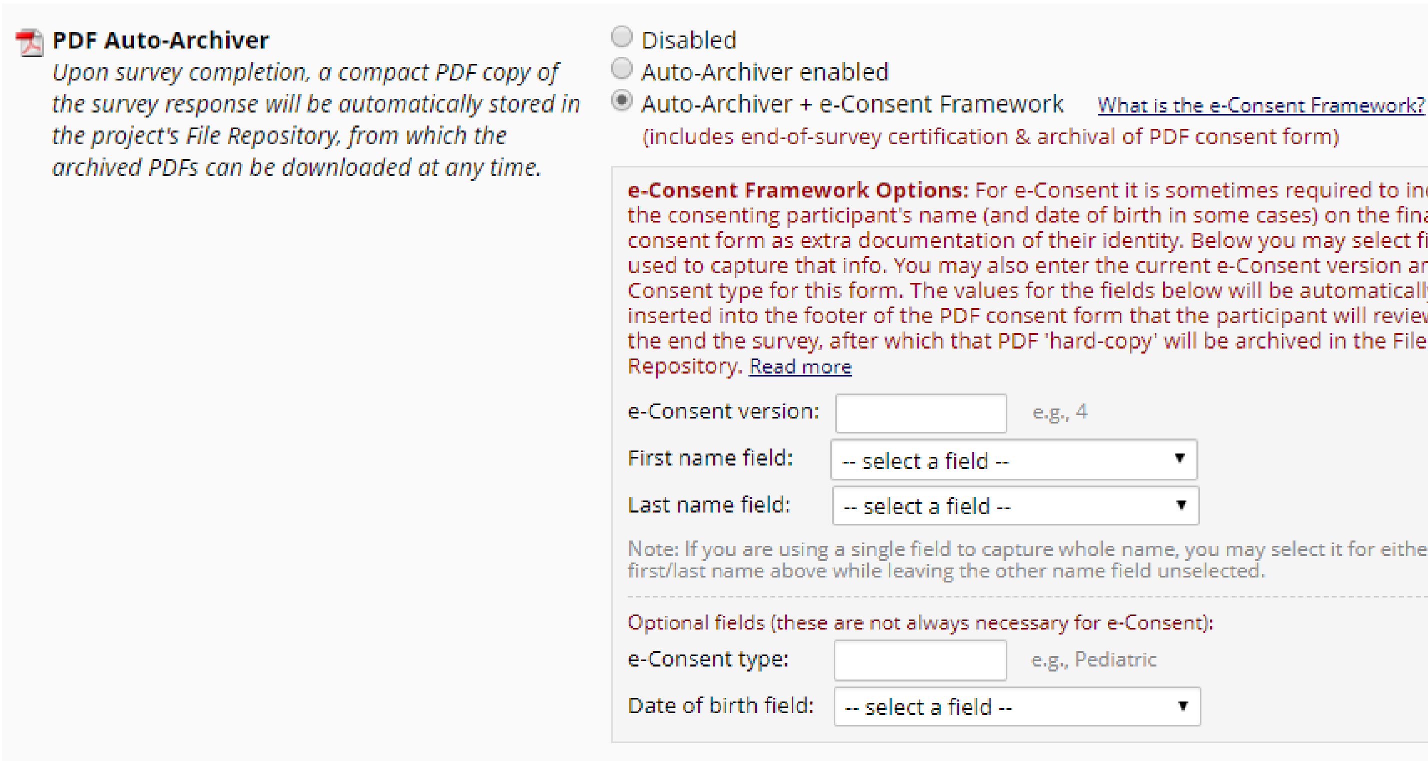
Enter any text you wish to display after the participant has finished taking your survey. The default text is "Thank you for taking the survey. Have a nice day!"

PDF Auto-archiver

With this setting enabled, upon survey completion, a compact PDF copy of the survey response will be automatically stored in the project's File Repository, from which the archived PDFs can be downloaded at any time. The default setting for this option is 'no'.

Auto-Archiver + eConsent Framework

This setting not only will save the version of the completed survey to the file repository, but it will provide a summary screen to the respondent. The respondent has to review that summary screen before clicking submit.



It is highly recommended that you have a discussion with your local Institutional Review Board (IRB) if you wish to do e-Consent in REDCap.

Send survey confirmation email

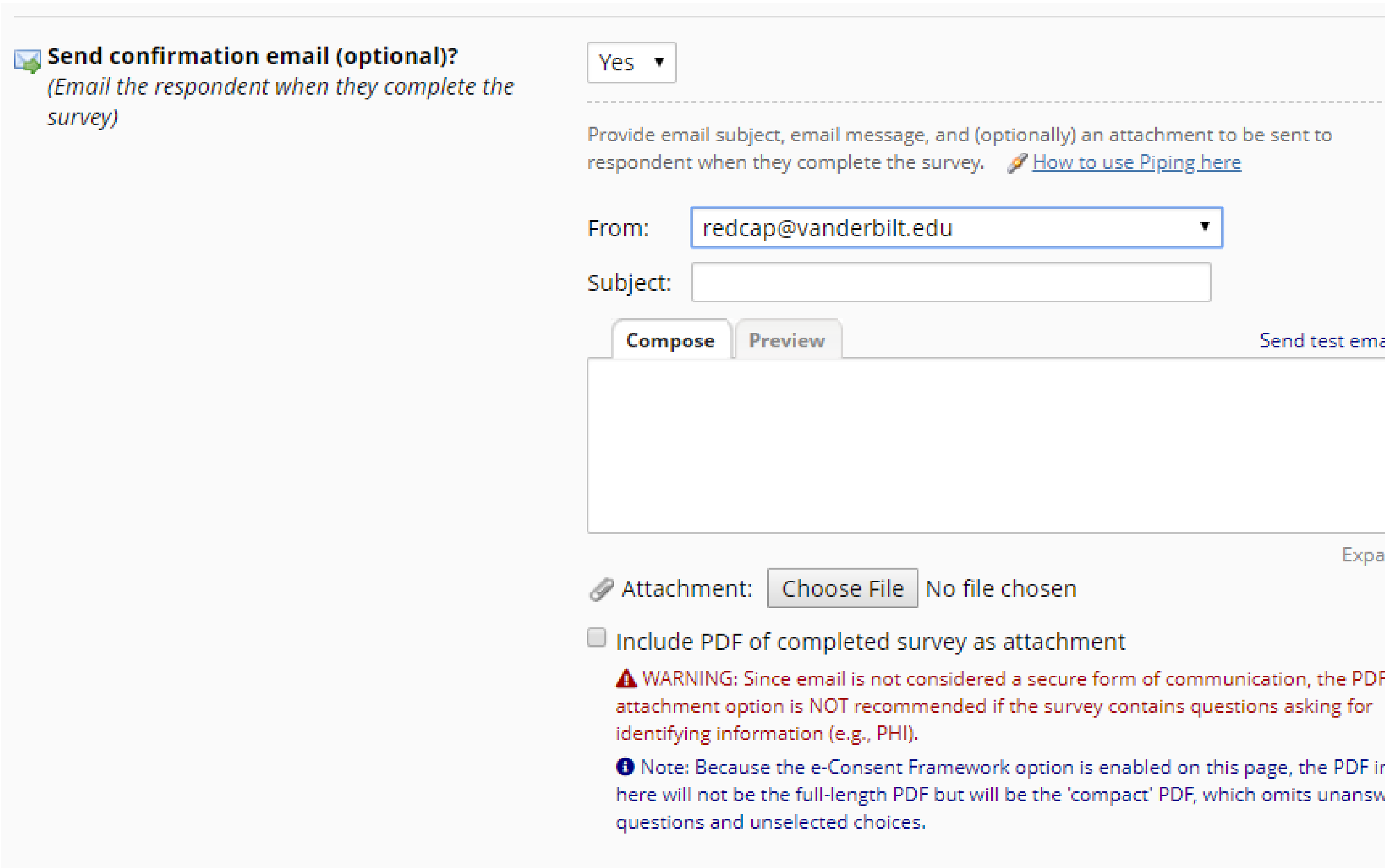
If you would like the participant to receive a confirmation email once they have completed the survey, use the drop down and select Yes. Enter the subject and the body of the message.

You may also add an attachment to the email by clicking Choose File or automatically attach a PDF of the completed survey as an attachment. The PDF of the completed survey will show all the questions and choices in the survey – not just the questions and choices selected.

Since email is not considered a secure form of communication, the PDF attachment option is NOT recommended if the survey contains questions asking for identifying information (e.g., PHI).

If you send a confirmation email to the participant and you have the eConsent framework enabled, the participant will receive a compact version of the PDF of their survey responses. That means that they will only see the questions they answered (it will omit unanswered questions and unselected choices.)

You can use html coding in the confirmation email.



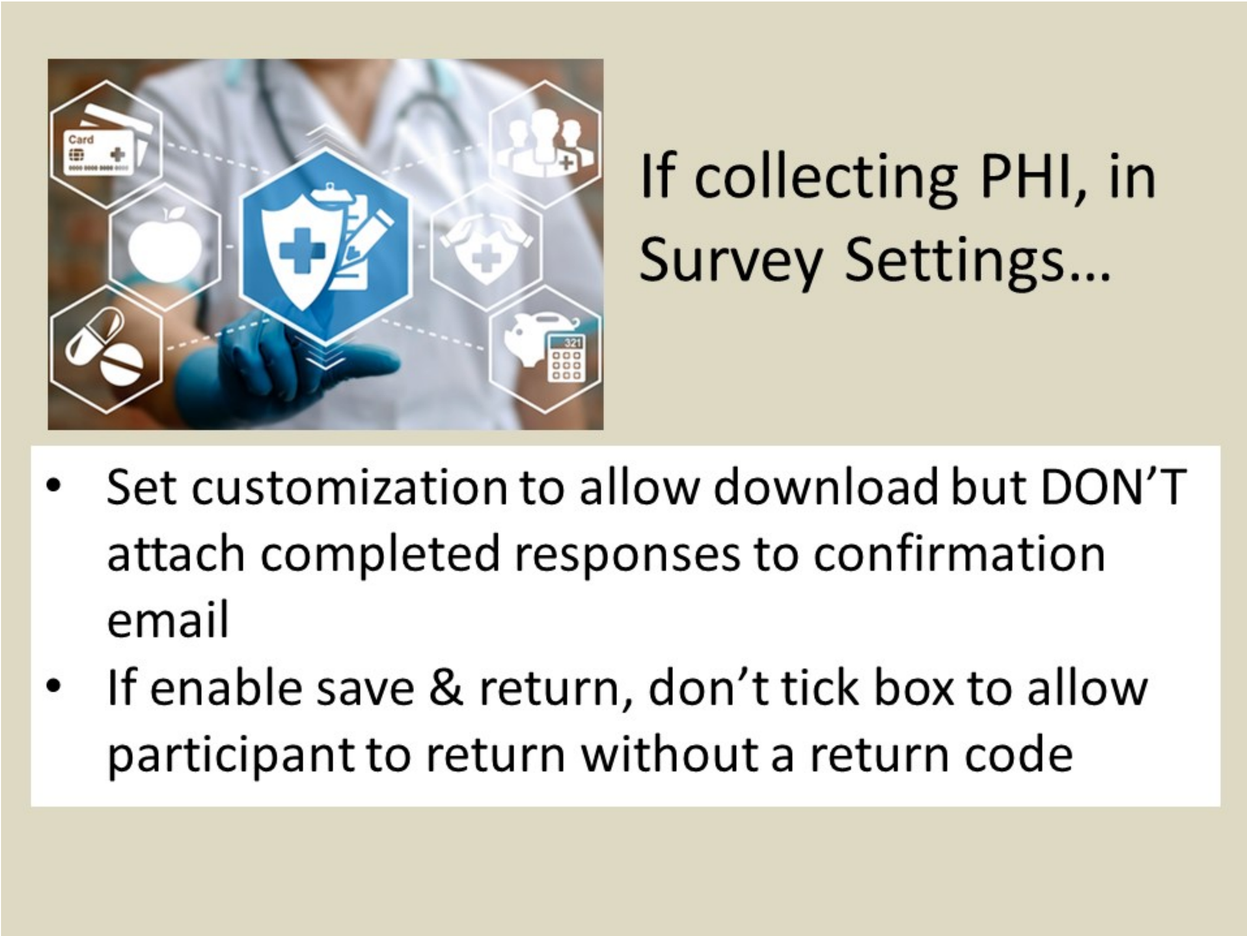
Survey Inactive Comparison

There are several ways a survey can be taken offline. Here is a side-by-side comparison to help you choose the one that best suits your needs:

Inactive Survey Setting Comparison

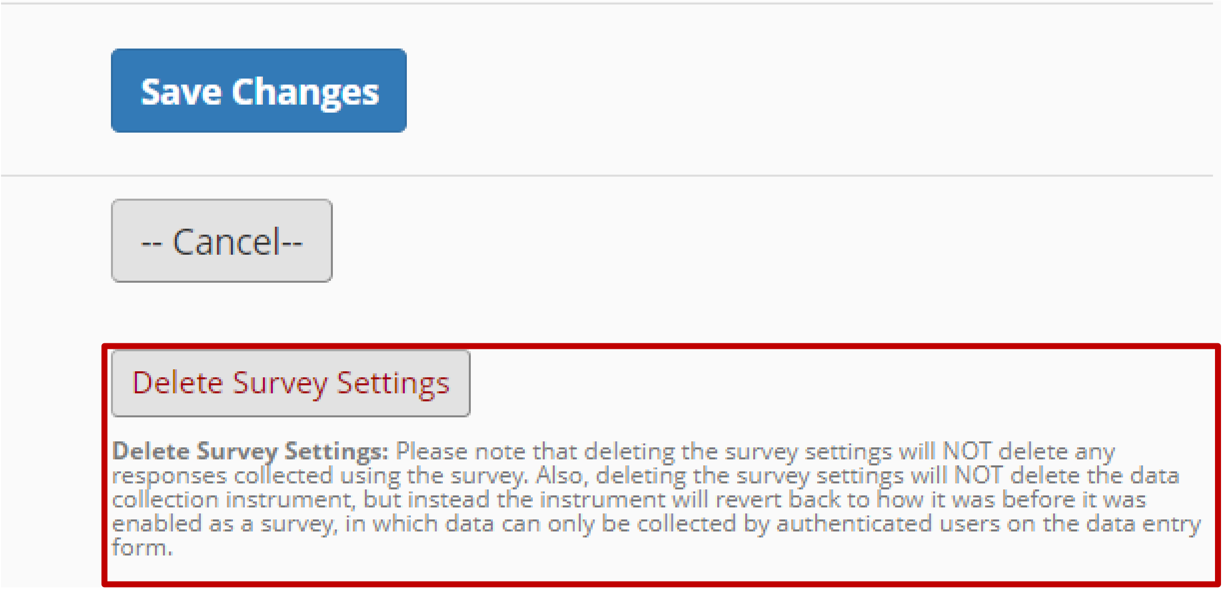
Survey Status	Survey Expiration	Response Limit	Time Limit for Survey Completion
At top of survey settings page	In Survey Access section of Survey Settings	In Survey Access section of Survey Settings	In Survey Access section of Survey Settings
Manual	Automatic	Automatic	Automatic
Survey-level (affects all participants)	Survey-level (affects all participants)	Survey-level (affects all participants)	Participant-level
Not time-specific	Time-specific	Not time-specific	Time-specific
Does not require use of Participant List	Does not require use of Participant List	Does not require use of Participant List	Requires sending survey invitation via Participant List (not using Public Survey Link)

Best practices for Survey Settings if collecting PHI (Protected Health Information)



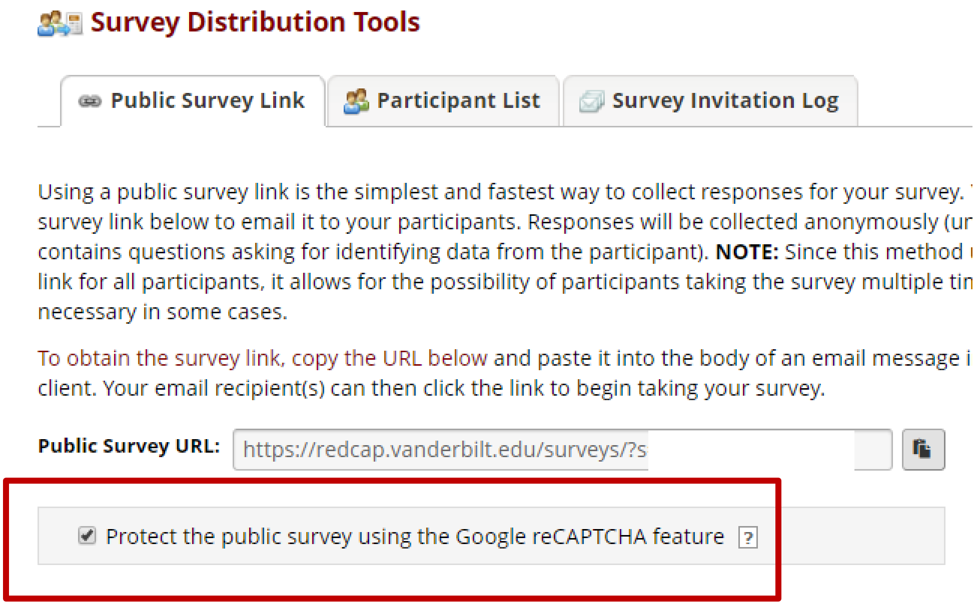
To change an instrument from a survey back into a data entry form (reverting a survey to a data entry form)

If you have designed an instrument as a survey but want to change it back to a data entry form, go to Survey Settings (Project Setup/Online Designer) and click on the Delete Survey Settings button at the bottom of the page.

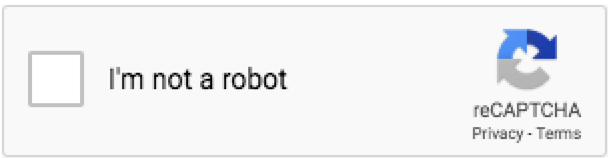


reCAPTCHA – foiling bots!

This feature allows you to utilize the Google reCAPTCHA functionality to help protect public surveys from abuse from "bots", which are automated software programs that might enter trash data into surveys. You can enable the Google reCAPTCHA functionality on the Public Survey Link tab of Survey Distribution Tools:



The public survey will display the reCAPTCHA checkbox and "I'm not a robot" text on a survey page prior to allowing the participant to view the public survey:

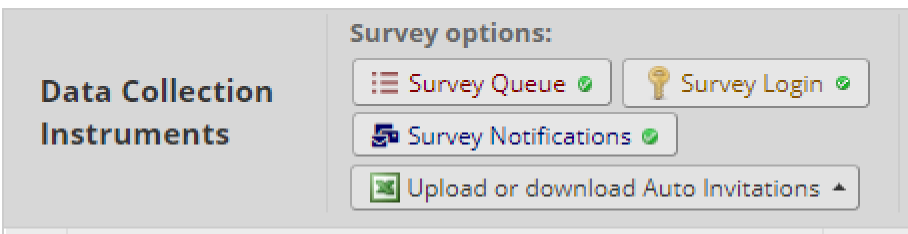


This feature is not employed on any private survey links because those are unique to a record and thus would never be made publicly available like a public survey link would.

Note: A survey participant will never have to pass the reCAPTCHA test more than once per day on a given device/computer.

Survey Notifications (Survey notification emails)

If you would like REDCap to email you or a team member **every time** a survey is completed, you can turn on Survey Notifications. Go to Online Designer and you will see this:



Click on Survey Notifications. Listed are all the surveys in the project and under each survey is a list of email addresses associated with each user that has been granted access to the project. You can select which user should receive the survey notification email.

If you have a lot of survey responses coming in at once, it can be overwhelming to receive a flurry of notification emails. If that is the case, you might want to turn off survey notifications and instead create a reverse chronological order report in your project and check that on a regular basis. For information on creating custom reports, see this section of this User Guide: Create Custom Report.

If you would like to receive notifications not simply when a survey is completed but if a particular response is marked, you can set up an alert for that. See the Alerts & Notifications section of this User Guide for instructions on how to set that up.

Survey Delivery options

There are many ways to deliver survey invitations. Outlined below are the delivery options and when you might want to use them.

Delivery Option	Allows for future scheduling	Allows for conditional logic
Manual (via public survey link or participant list found under Survey Distribution Tools)	Yes	No
Auto-continue (found in survey settings)	No	No
Survey queue (found on Online Designer page)	No	Yes
Automated Survey Invitations (found on Online Designer page)	Yes	Yes

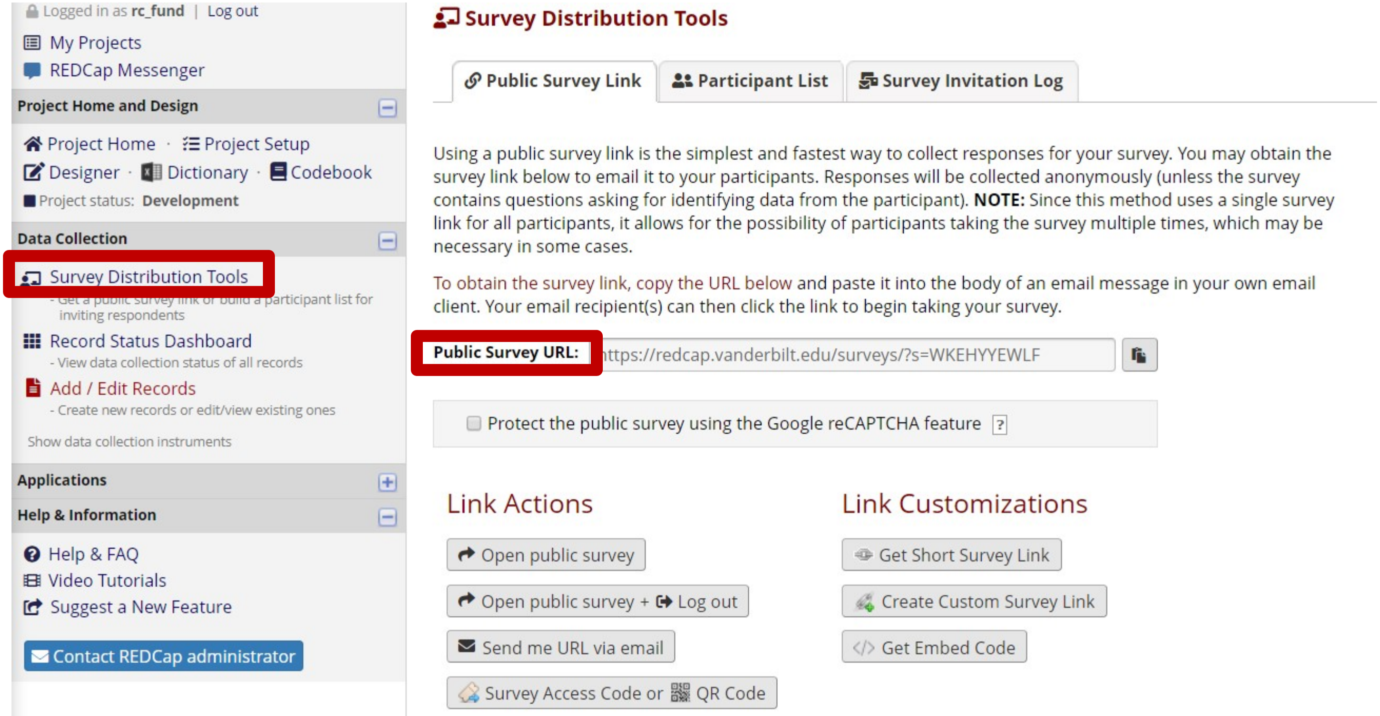
You can find additional information about those delivery options at the locations listed above. Below are some brief explanations.

Public Survey Link

Using a public survey link is the simplest and fastest way to collect responses for your survey. Responses are collected anonymously. Three things need to be in place for you to have a public survey link:

1. Your project must be enabled for surveys (1st step on the Project Setup page) while in Development mode.
    a. If a project is in Production, the use surveys in project' button is disabled on the Project Setup page. The project must be moved back into Development mode in order for that setting to work. You will need to contact your REDCap administrator to move your project back into Development mode.
2. You must have an instrument enabled as a survey within your project (set this in Online Designer)
3. The first instrument within your project must be a survey.

To access the public survey link, click on Survey Distribution Tools in the left-hand navigation menu:



There is the option to obtain a shorter, more easily typed link by clicking the **Get shorter survey link**. The link generated, when accessed, will redirect the user's browser to the regular public survey URL.

Project status re: survey link

Your public survey link remains the same when you move the project from Development mode to Production. If you created a short public survey link in development, it will carry through into Production – you won't see it at first on the Survey Distribution Tools page but when you click on the 'get short public survey url' button, it will generate the same short url that you had in Development.

Only one public survey link per REDCap project

Please note: only the first survey in a project has a public survey link. Any subsequent surveys within the project have their own unique link. There are several ways you can disseminate the private link. This is important in tying the responses from different surveys together. If you wish to disseminate multiple surveys with public survey links for each one, just know that each survey will have to be in a separate REDCap project and the responses cannot be tied together.

Emailing unique survey links to participants

If you know ahead of time the email addresses of your survey respondents, you can email the survey link to those people from REDCap using Compose Survey Invitations. To use that feature, you first need to build your Participant List.

Participant List

REDCap generates a survey URL that is unique to each member of the list, which enables you to track who is responding to your survey invitation – and who is not – without requiring that the survey form contain any identifying information.

Please see the section of this User Guide "Converting an Outlook Distribution list…" if you wish to build a participant list from an existing Distribution List.

Participant Identifier (Optional)

The ability to specify an identifier for each member of the participant list is optional. This means that you can choose a tracking model that best suits your project:

1. **No identifier:** the Participant List shows who has responded but there is no link from the participant to a specific response. **The responses remain anonymous**.

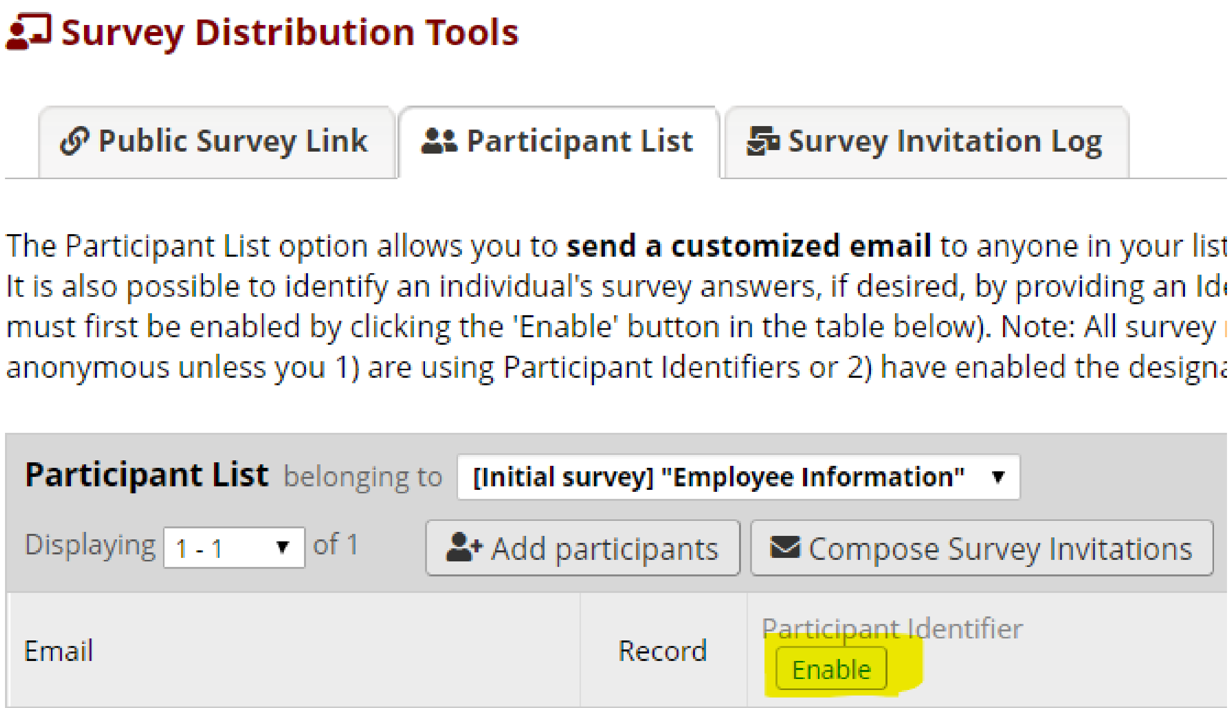
2. **With identifier:** the Participant List shows who has responded and you can navigate directly to the participant's response.

This setting is available only when your project is in Development. If your project is in Production mode and you wish to enable identifiers, you will need to email redcap@vanderbilt.edu and request that your project be moved back to Development mode. Once your project is in Development mode, you can enable identifiers. You would then need to move the project back to Production mode via the Project Setup page.

You should not use participant identifiers if you want your responses to remain anonymous.

Enable Participant Identifiers

To enable participant identifiers, click the Enable button on the Participant List page:

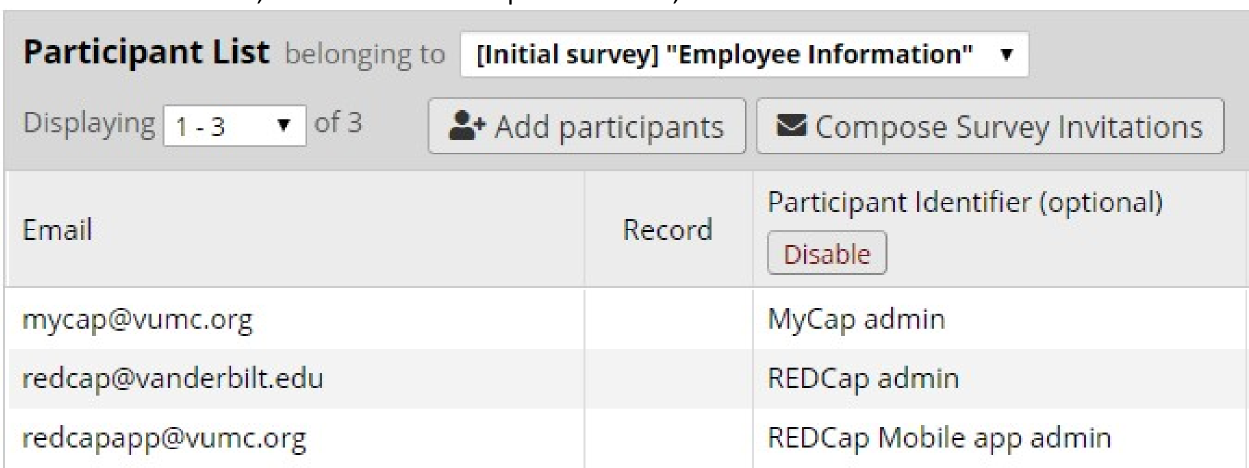


Add Participants

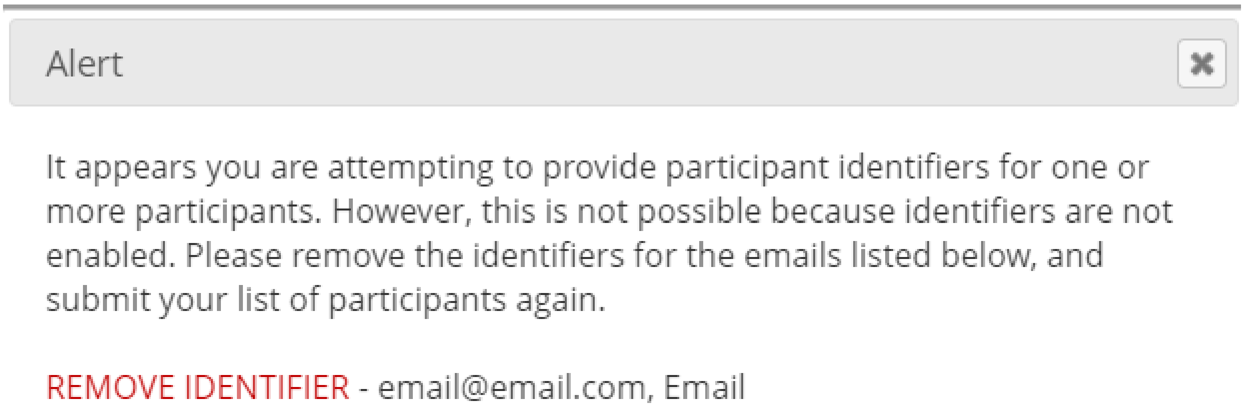
There are two options for populate your participant list:

1. Click **Add Participants** and enter (e.g. copy-and-paste) your list of email addresses (and identifiers, if enabled), one per line:

`<email address>`	email only, with no identifier
`<email address>,<id>`	comma-separated email,id when identifiers have been enabled

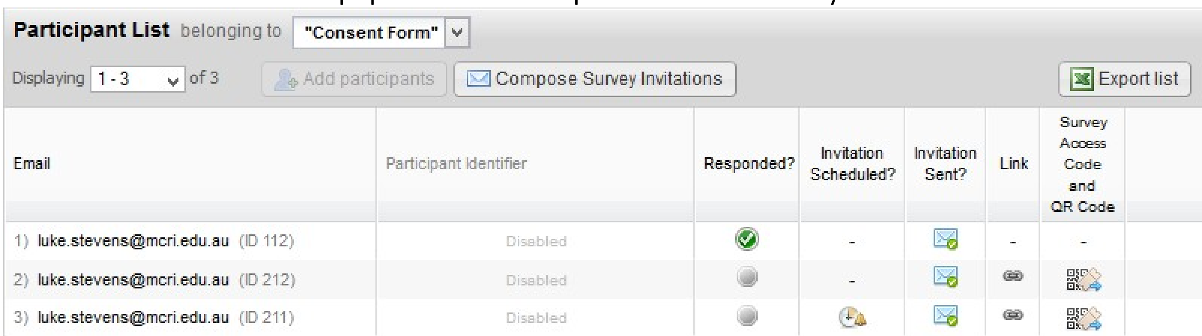


If you add participants with identifiers but you have not enabled identifiers, you will see this error message:



If you wish to build a participant list from a distribution list within your email client (e.g. Outlook), please see the instructions for [Converting an Outlook Distribution List into a Participant List.]()

2. [Designate an email field]() from one of your data collection forms. Email data entered into this field will be used to populate the Participant List automatically.

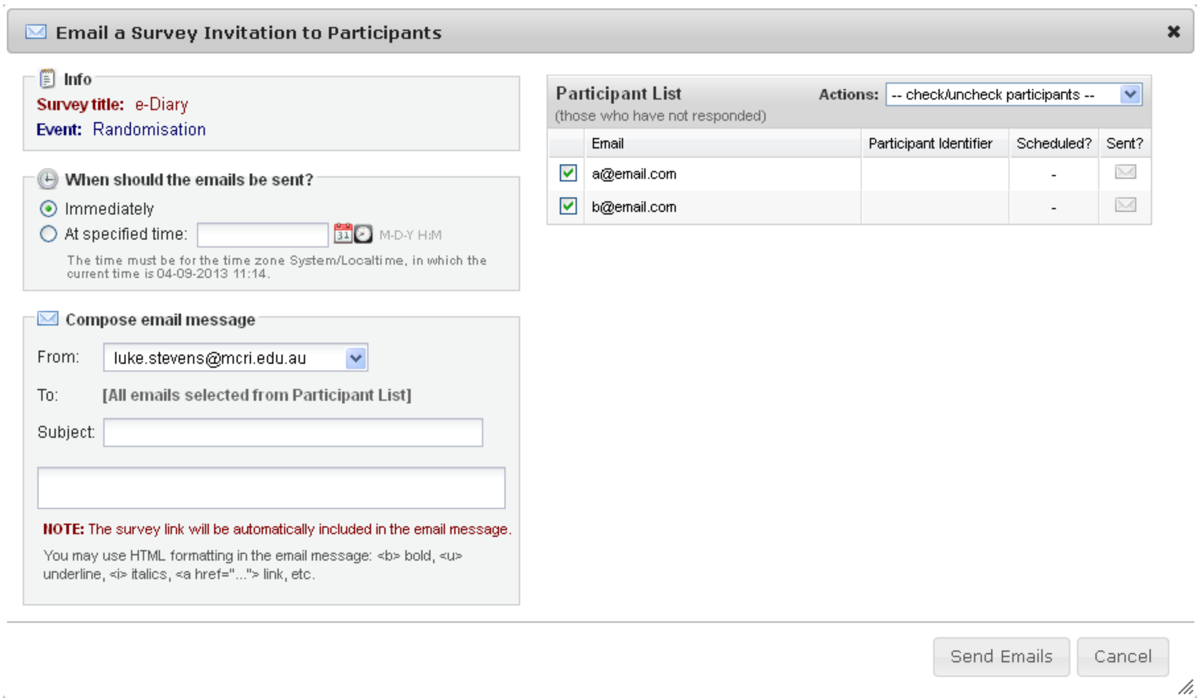


Note:

- Participant Identifier values must be unique
- Email addresses need not be unique. You may add your own (or a project) email address for all records, for example, if you wish to tailor each request to each specific participant and send the request email yourself

Send Survey Invitations

Clicking **Compose Survey Invitations** enables you to send email invitations to members of your participant list.



- Indicate whether the message(s) is(are) to be sent immediately or at a specified time

- Select the email address that you want the message(s) to be sent from. You will have the option to select the email address of any user on the project.

- Set the message subject and body: the participant's unique URL will automatically be appended to the message body. You can edit any of the pre-populated text, but you must keep the unique survey link string, which will be listed within brackets.

- Select the desired recipients by ticking the relevant checkbox. The Actions drop-down list gives you shortcuts to ticking:
  - Check All
  - Uncheck All
  - Check Sent
  - Check Not Sent
  - Check Scheduled
  - Check Not Scheduled
  - Check Not Scheduled and Not Sent

- There is no limit to the number of times an invitations may be manually sent and re-sent to a participant

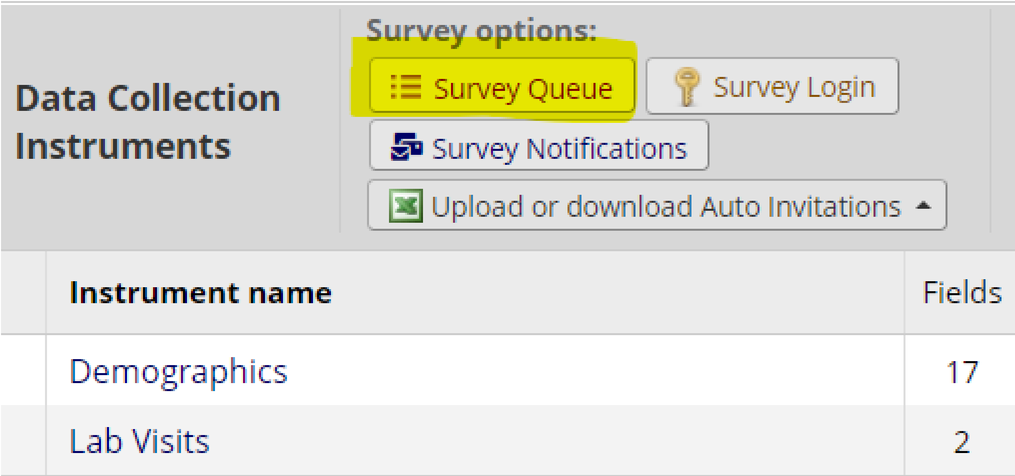
Survey Queue

The survey queue enables your survey respondents to see a list of the surveys that you are asking them to complete. This can be a powerful feature because it enables you to, for example:

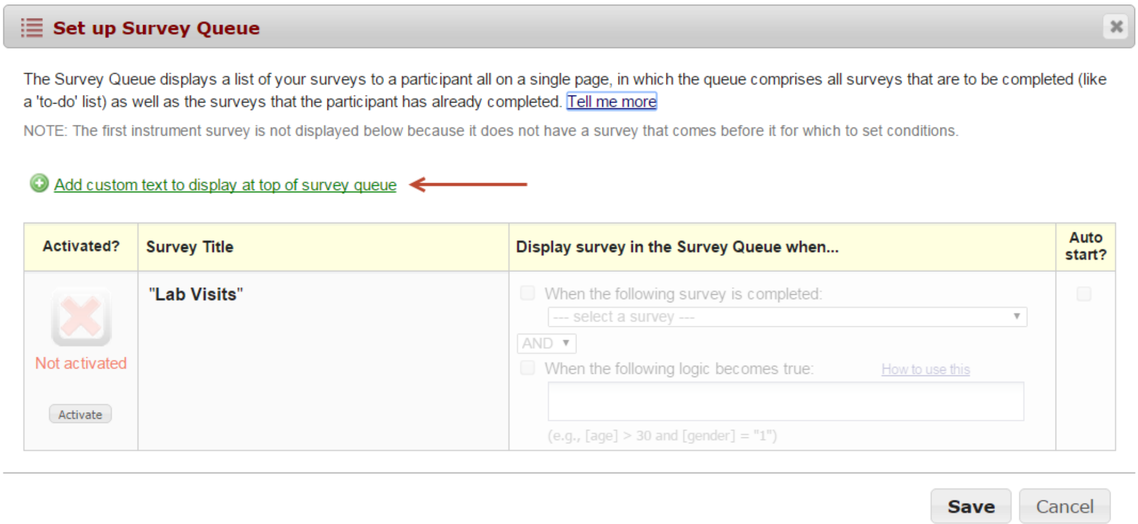
1. Force respondents to complete surveys in a particular order
2. Give different surveys to different respondents based on certain criteria. Age-specific questionnaires, for example.

3. Control when surveys become available.

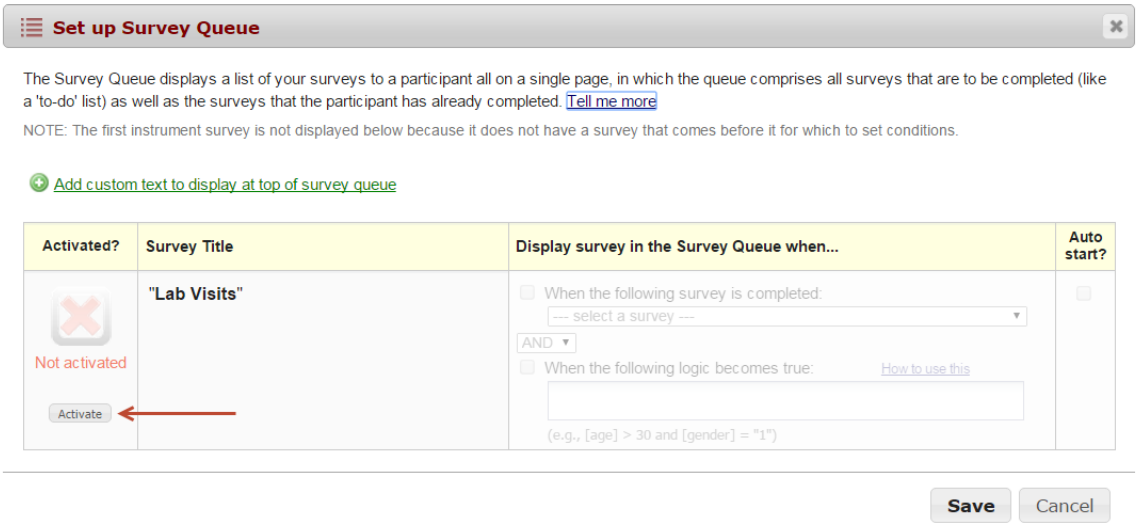
To activate your survey queue, navigate to Online Designer and click the Survey Queue icon located above your data collection instruments.



A “Set up Survey Queue” box will appear. If you would like, you may add your own custom text to display at the top of the survey queue.

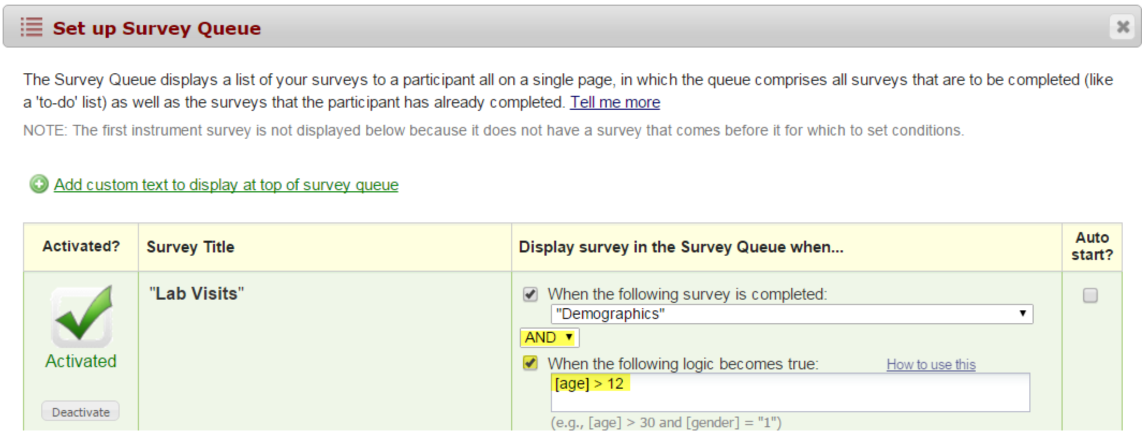


Click the Activate icon for each survey you would like to set up. Under the “Display survey in the Survey Queue when…” column, use the drop down to indicate when the survey should be displayed. For an example, you might want your second survey to display after the first survey is completed.

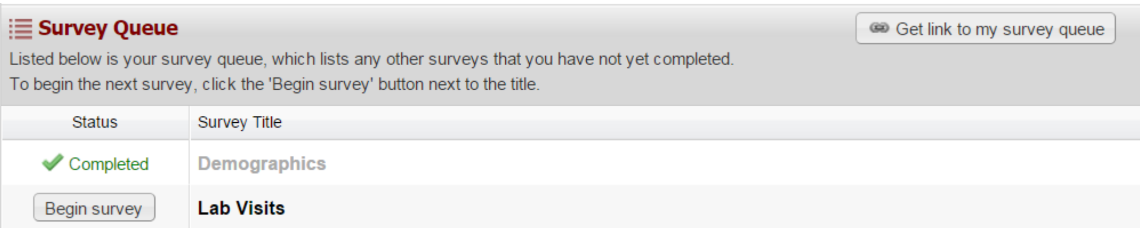


If you would like to add additional logic as to when the next survey should be displayed, use the operator drop down and select AND/OR and then check the box next to "When the following logic becomes true" and finally add your logic in the formula box. See further down for tips on [how to configure complex Boolean logic](#).

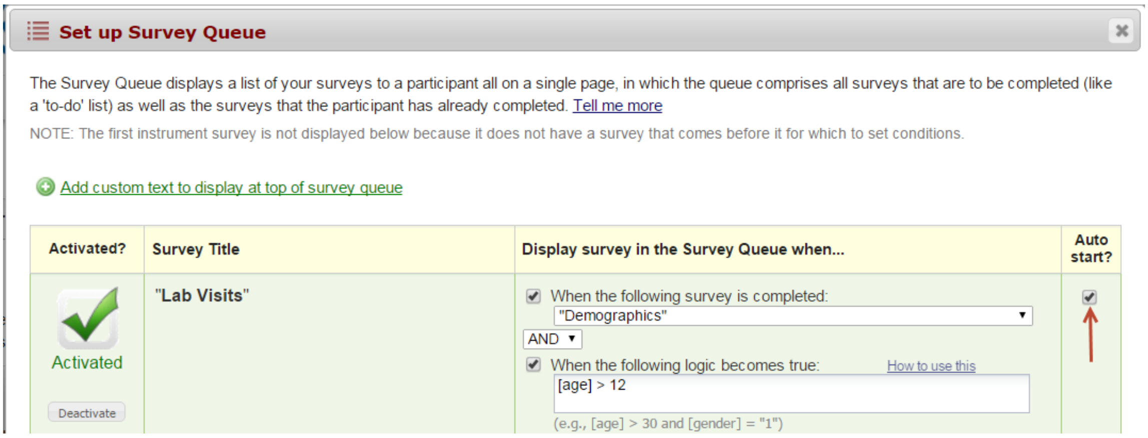
For an example, I want my second survey to start after my first survey is completed AND the participant's age is greater than 12. To do this, I added the variable for the participant's age field in square brackets, the greater than sign and the number. [age] > 12



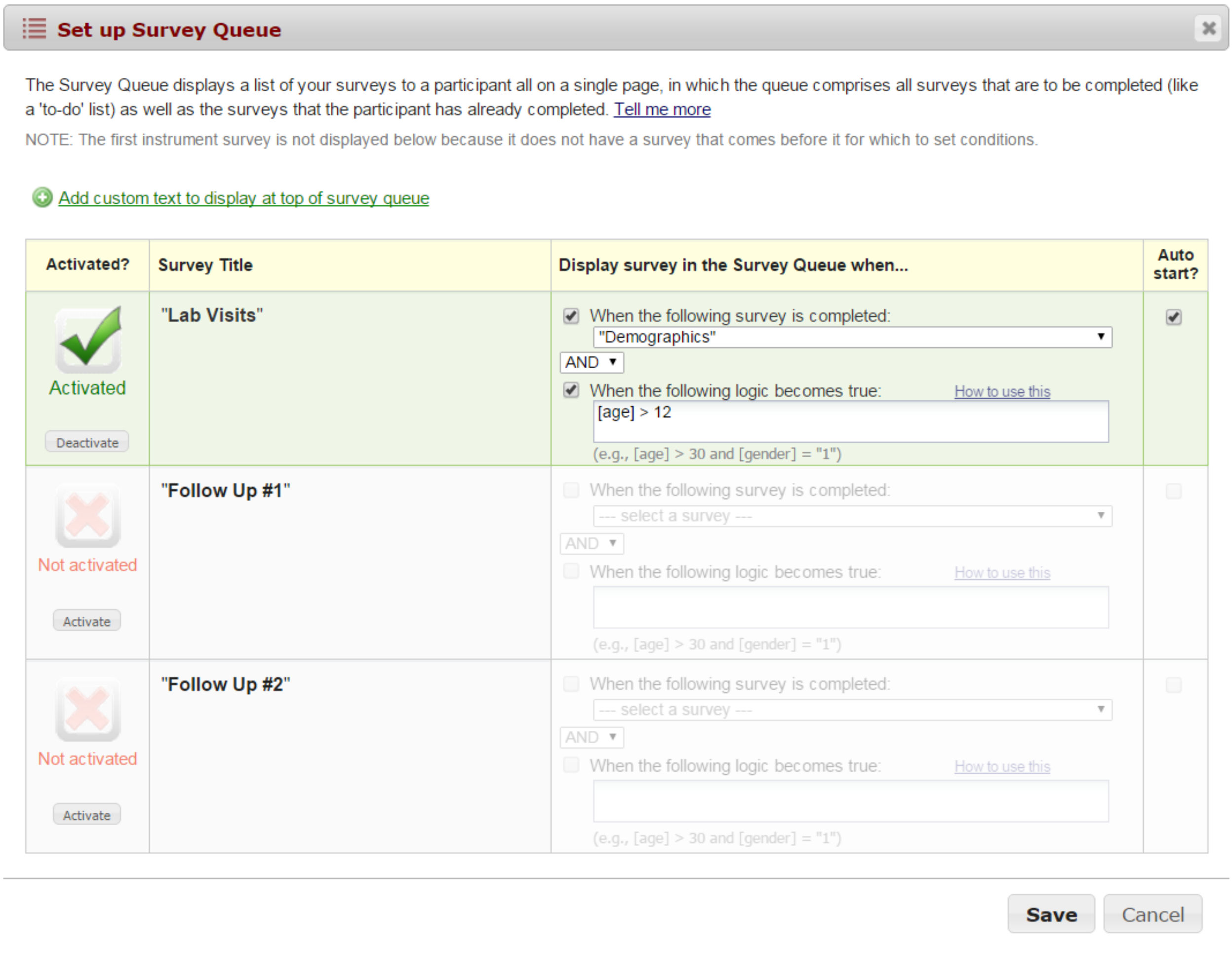
When a participant takes my survey and enters an age greater than 12, they will see the following Survey Queue:



They can click the Begin Survey to start the second survey. If you would like the second survey to automatically launch and do not want to force the participant to click the Begin Survey icon, you can accomplish this by going back to the Survey Queue settings and click the box underneath the Auto Start column. When the participant finishes the first survey and they are at least 13 years old, the second survey will display.



You may continue to add logic for the rest of your surveys.

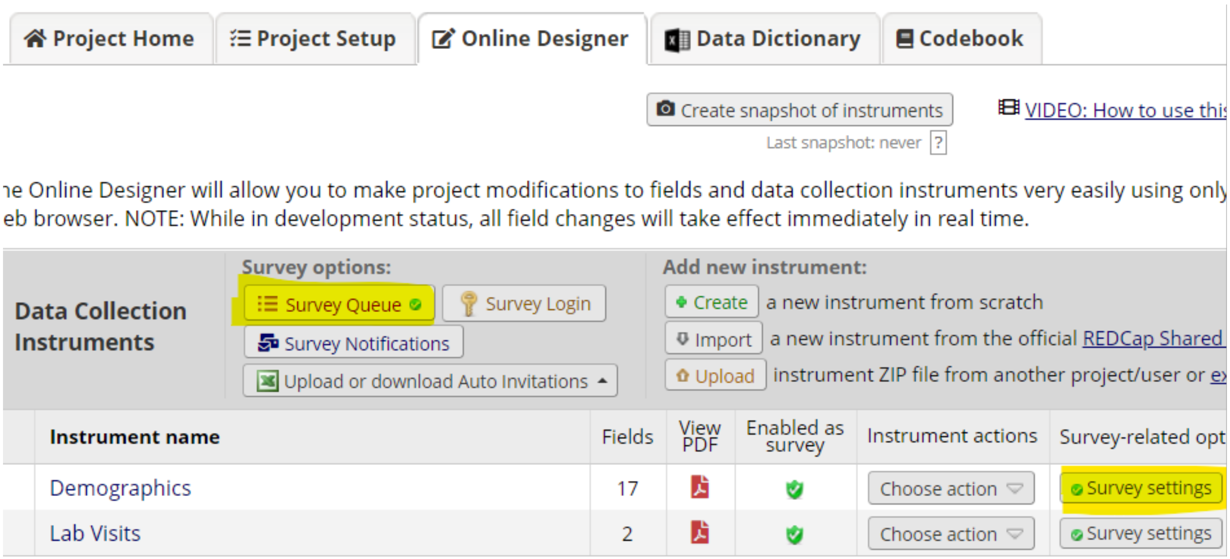


As with all features in REDCap, it is a good idea to test this feature before using it with real participants.

Caution when using Survey Queue

The auto-continue option overrides the Survey Queue. So, if you want to use Survey Queue, make sure that auto-continue is turned off for surveys in your project. Otherwise, the participant will automatically be taken to the next survey even if they do not meet the conditions specified in the Survey Queue.

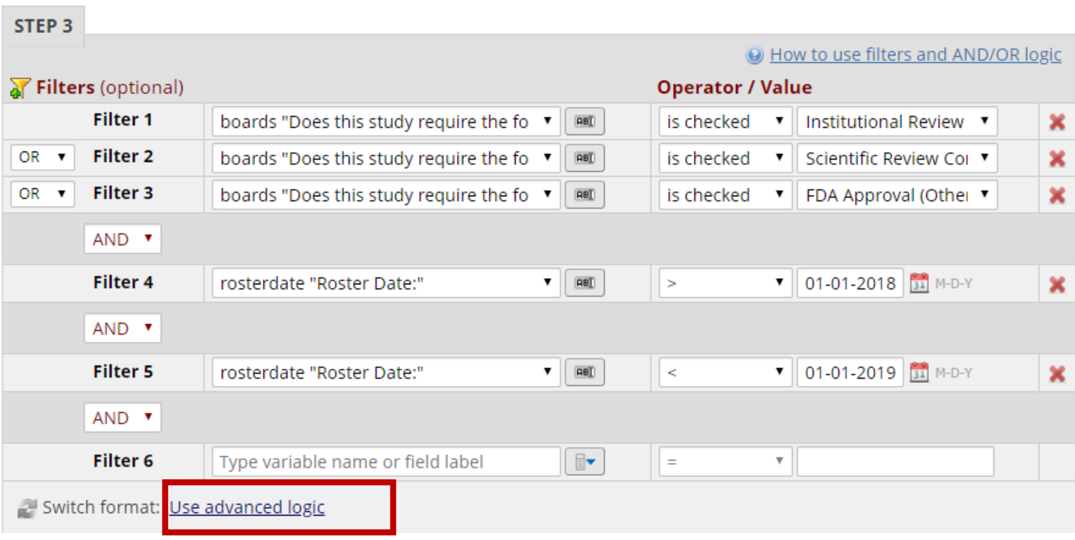
The auto-continue option is in Survey Settings for the individual survey. Survey Queue is found on the Online Designer page.



Design tip: writing conditional logic for a Survey Queue

Sometimes it can be tricky writing conditional logic, especially when working with checkbox fields or date ranges. What you can do is create a test report using the filter section of the custom report to figure out your logic.

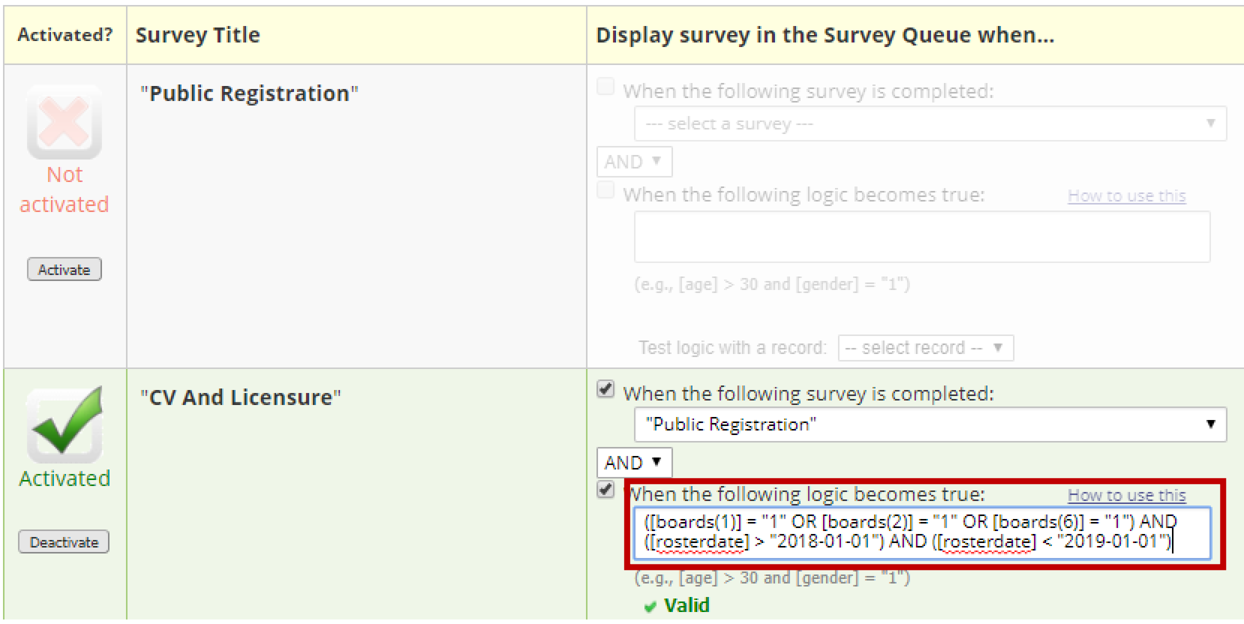
In the example below, we are essentially saying that we want to see the results where the box is checked for any of the three boards and the roster date is between 1/1/2018 and 12/31/2018.



You can check the results of the report to make sure you have your logic configured correctly.

Once you get it right, you can click on Advanced Logic (not it in the red box above) and click the 'convert' button. You will see your logic written for you in Boolean form.

You can copy and paste that logic into the box "When the following logic becomes true" in your **Survey Queue**:



If you want to use a datediff function to return results that satisfy the conditions for the last year, you can add the datediff function to your advanced logic. The advanced logic builder does not have the capability of constructing it.

For the above example, our date validation is in the format of ymd. To capture results from the last year, you could add datediff([rosterdate],"today","d","ymd")<=365 to your advanced logic.

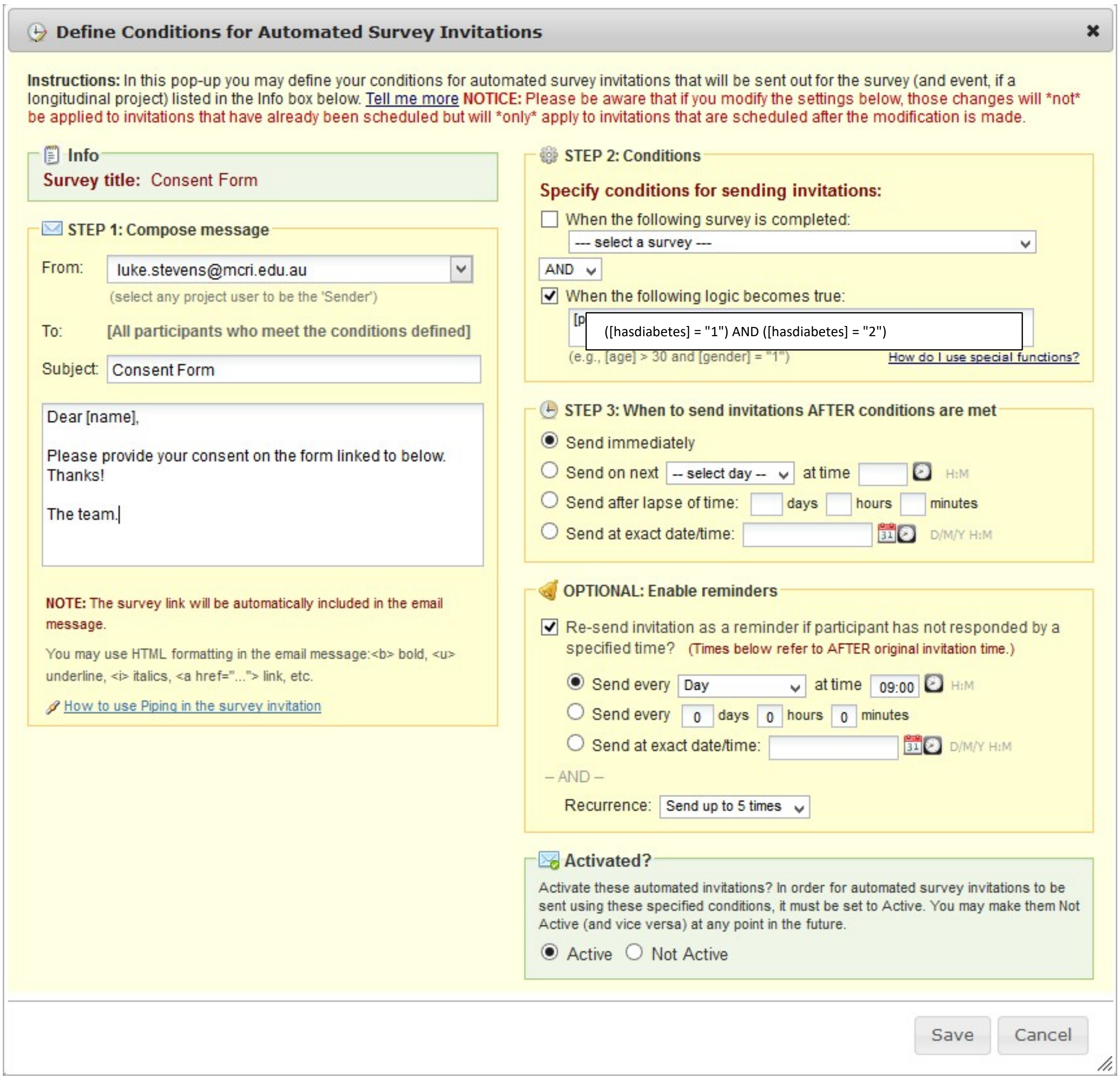
Automated Survey Invitations (ASIs)

You can configure invitations to be sent automatically by REDCap upon certain criteria being met using the **Automated Invitations** option.

You need to have a the 'designate an email field' function enabled on your project setup page in order for Automated Survey Invitations (ASI) to work. For instructions on how to set that up, see this section of this User Guide.

Note: you may want to have your [Codebook]() open on a separate tab if you are going to use piping in the survey invitation email and to write the conditional logic.

- Click **Automated Invitations** in the **Online Designer** table for the appropriate form
- If your project is longitudinal, select the event
- The **Define Conditions for Automated Survey Invitations** dialog is displayed



The **Instructions** text (including that shown when clicking **Tell me more**) is fairly complete, but to summarize:

- **Info:** Displays the event and survey that you have selected
- **Compose email message:** Specify the subject line and content for the email that REDCap will send.
- The participant's unique URL link and some stock text will pre-load in the dialog box. You can edit the content, but you need to keep the survey link in the format it appears (with brackets around it.)
- **Conditions:** Indicate the conditions that – when met – will indicate to REDCap that an invitation is to be sent.

***Ensure that you include the event reference alongside any field reference** if your project is longitudinal (as in the example shown in the image above).*

- **When to send:** Specify when REDCap should send the invitation **after the trigger condition has been met.**
  Note that an invitation will still be triggered even if by the time the invitation is sent the participant data has changed such that the trigger would not be met.
- **Enable reminders**: Choose the settings you want for automating the resending of the survey invitation. The invitation will be sent at most five times (i.e. the initial invitation and four resends).
- **Activated?**: To save your ASI settings, click on save. By default, the settings will remain Inactive. This is helpful during the design phase of the ASI.

Note that you can still send invitations manually via the participant list irrespective of the **Automated Invitations** settings.

Scheduled invitations (and reminders) may be deleted via the Survey Invitation Log.

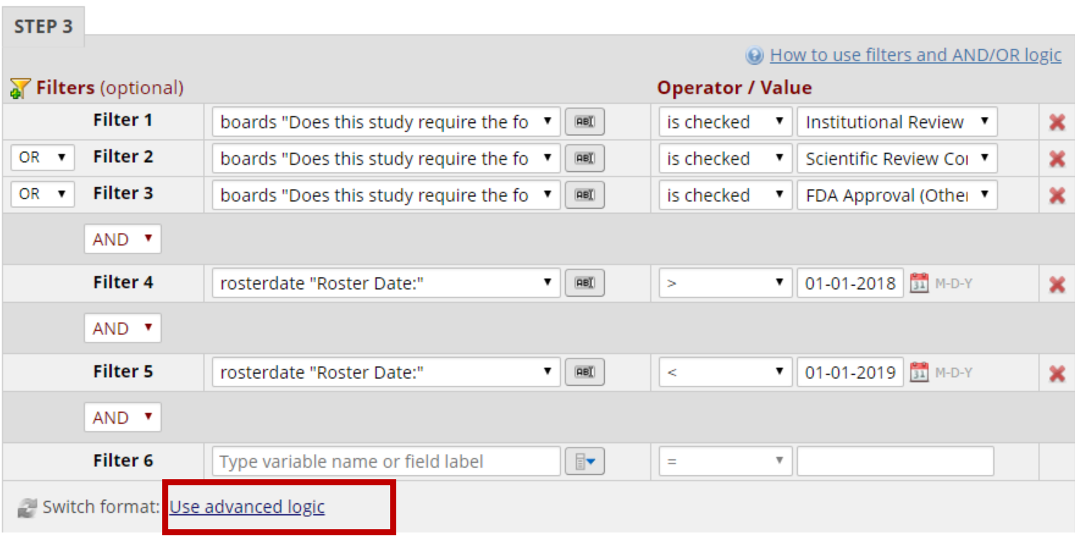
Automated Survey Invitation online tutorial

Please click on this link for an interactive tutorial in Automated Survey Invitations (ASIs): https://redcap.vanderbilt.edu/surveys/?s=LKM4DPEHL4

Design tip: writing conditional logic for an Automated Survey Invitation

Sometimes it can be tricky writing conditional logic, especially when working with checkbox fields or date ranges. What you can do is create a test report using the filter section of the custom report to figure out your logic.

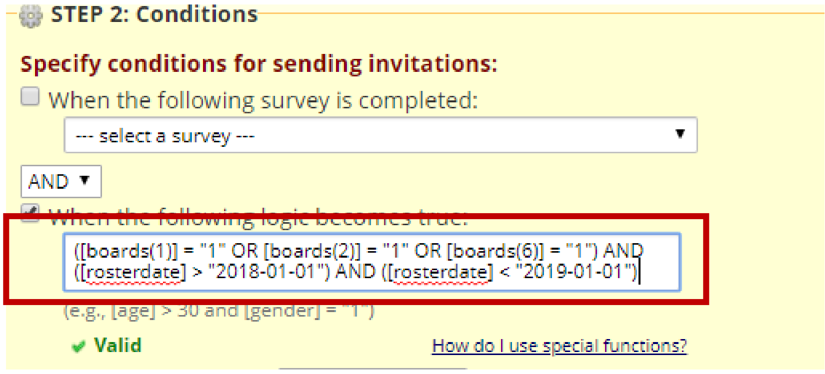
In the example below, we are essentially saying that we want to see the results where the box is checked for any of the three boards and the roster date is between 1/1/2018 and 12/31/2018.



You can check the results of the report to make sure you have your logic configured correctly.

Once you get it right, you can click on Advanced Logic (not it in the red box above) and click the 'convert' button. You will see your logic written for you in Boolean form.

You can copy and paste that logic into the box "When the following logic becomes true" in your **ASI**:



If you want to use a datediff function to return results that satisfy the conditions for the last year, you can add the datediff function to your advanced logic. The advanced logic builder does not have the capability of constructing it.

For the above example, our date validation is in the format of ymd. To capture results from the last year, you could add datediff([rosterdate],"today","d","ymd")<=365 to your advanced logic.

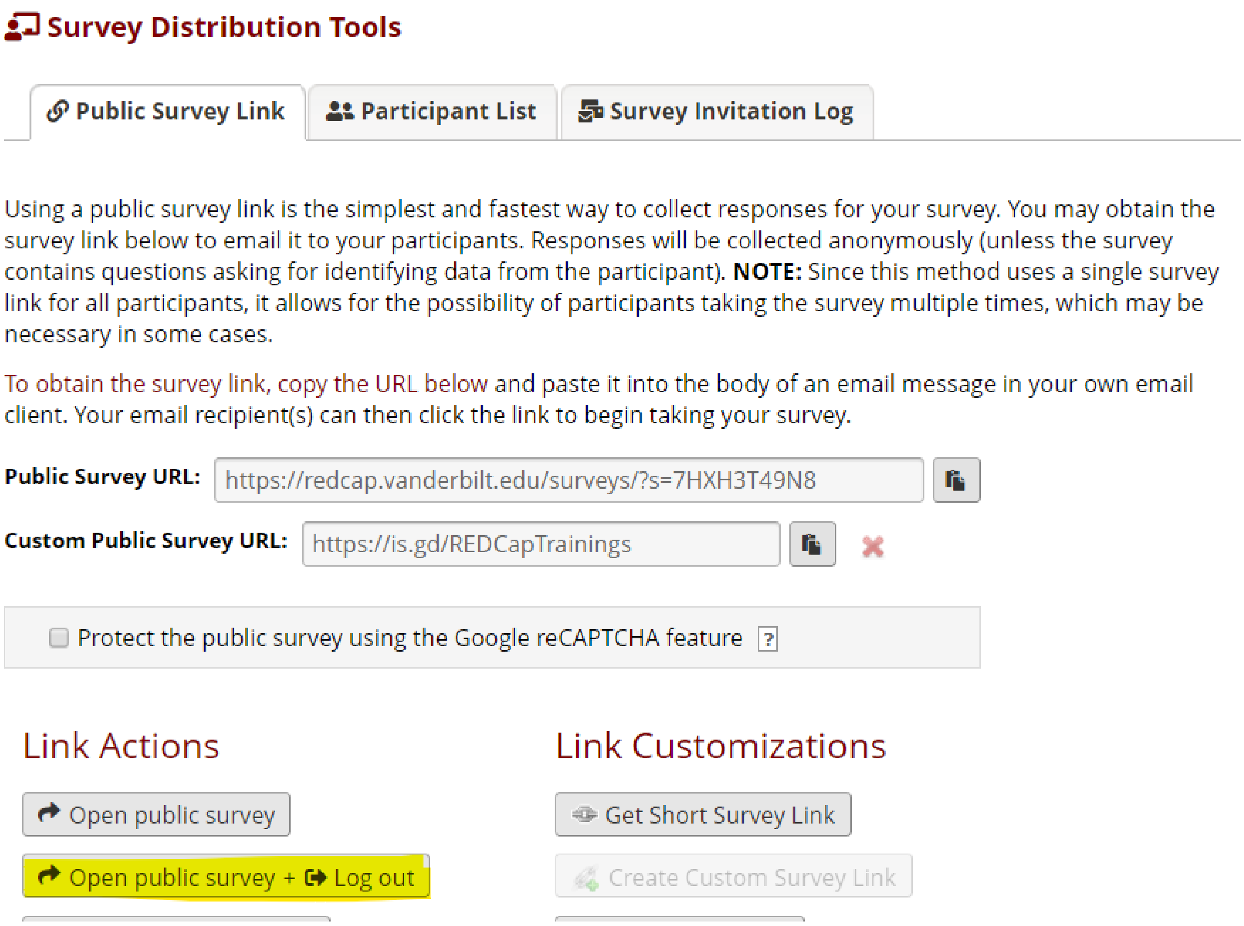
Conditional logic in ASI of Longitudinal Project

If your project is longitudinal and you want to use a variable in your conditional logic that is from an event *that is not the current event*, you need to pre-pend to the variable the appropriate unique event name also enclosed within square brackets, e.g. [unique_event_name][variable_name]. Unique event names can be found by going to Project Setup/Define My Events. You will see an events table, and the last column shows you the Unique event name, which is automatically generated by REDCap.

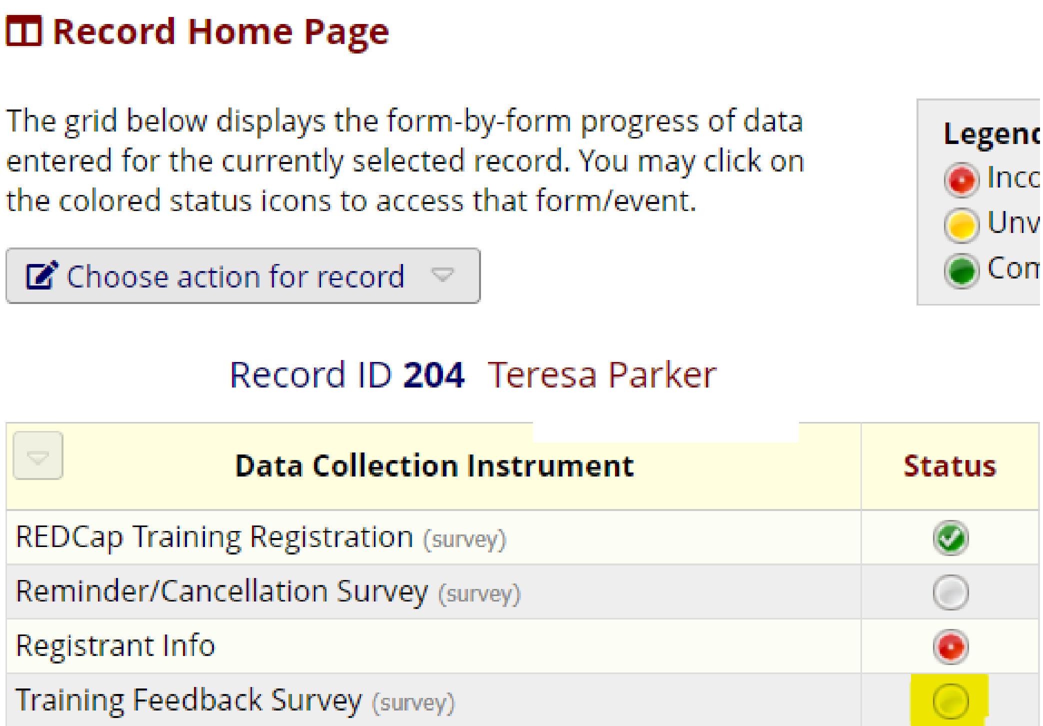
Giving device to survey participant in person

If you want a person to complete a survey as a participant and they are in the same physical space as you, it is best to use the logout feature when handing the device over to the participant. That will prevent the participant from having access to your project. This protects the security of the data that is stored in your project.

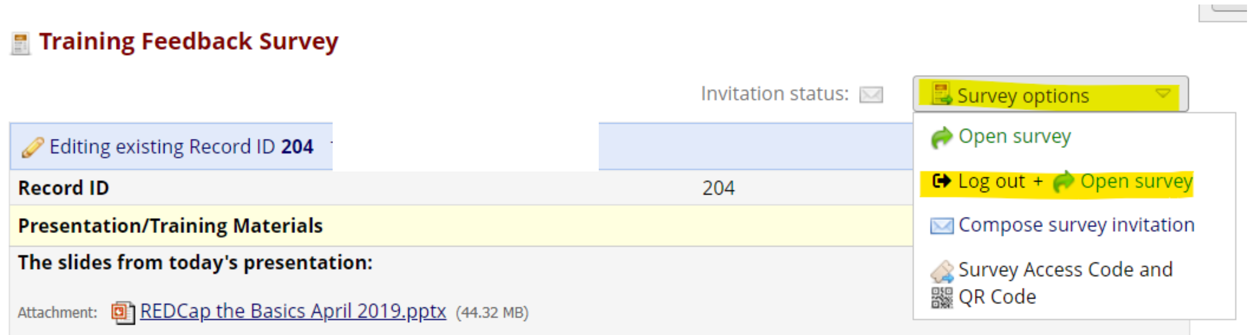
If the survey you wish the person to complete is the first survey in the project and there is a public survey link, you can go to Survey Distribution Tools and select the logout option from there:



If the survey you wish them to complete is not the first survey, navigate to the record home page for that person via the Record Status Dashboard or Add/Edit records:



On that record home page, click on the empty circle of the survey you want the person to complete. In this example, you're clicking on the highlighted circle in the image above. You will see a screen like this:



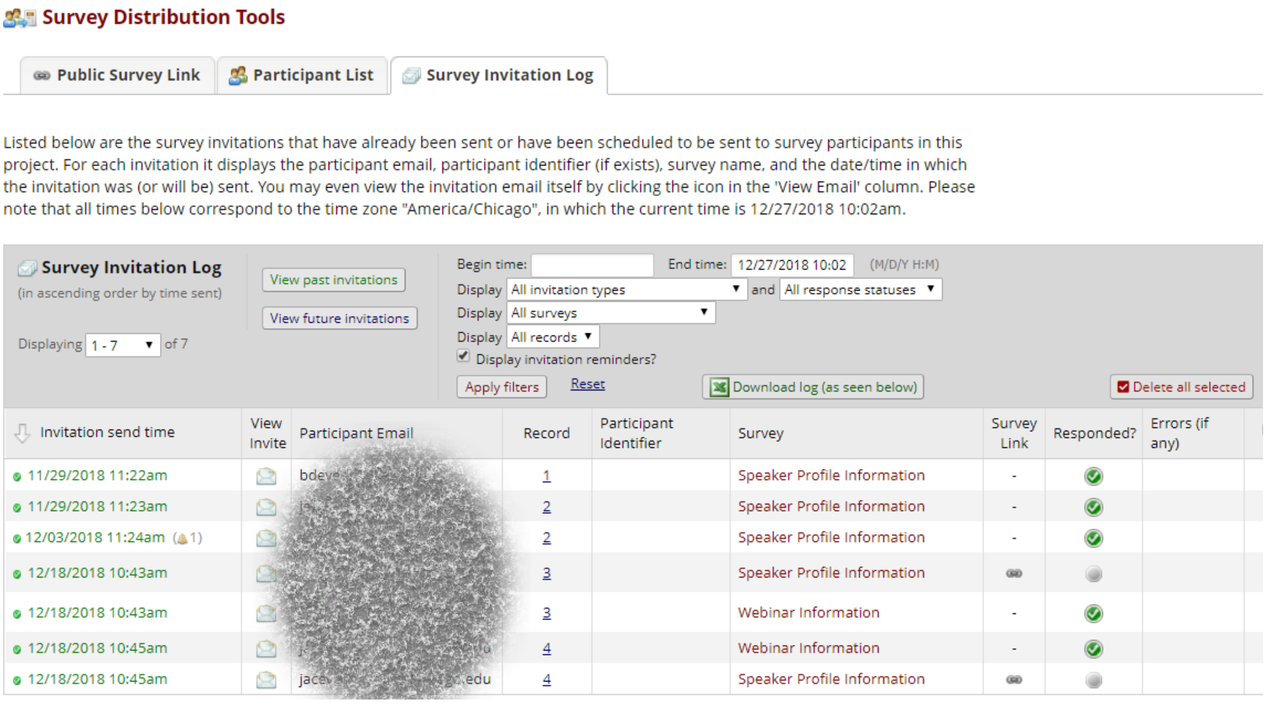
If you click on the Survey options button on the top right, you see an option to Log out and open the survey. This means the person will now be entering their information into the instrument as a survey. They will not see the left-hand navigation bar. This protects the security of the data that is stored in your project.

Viewing Survey Invitations

The **Survey Invitation Log** tab of the **Survey Distribution Tools** page can display all of the survey invitation messages sent for your project and the date and time that any future invitations are scheduled to be sent.

Use the filter criteria to specify the criteria for the invitations you are interested in seeing. Click Apply filters to refresh the list.

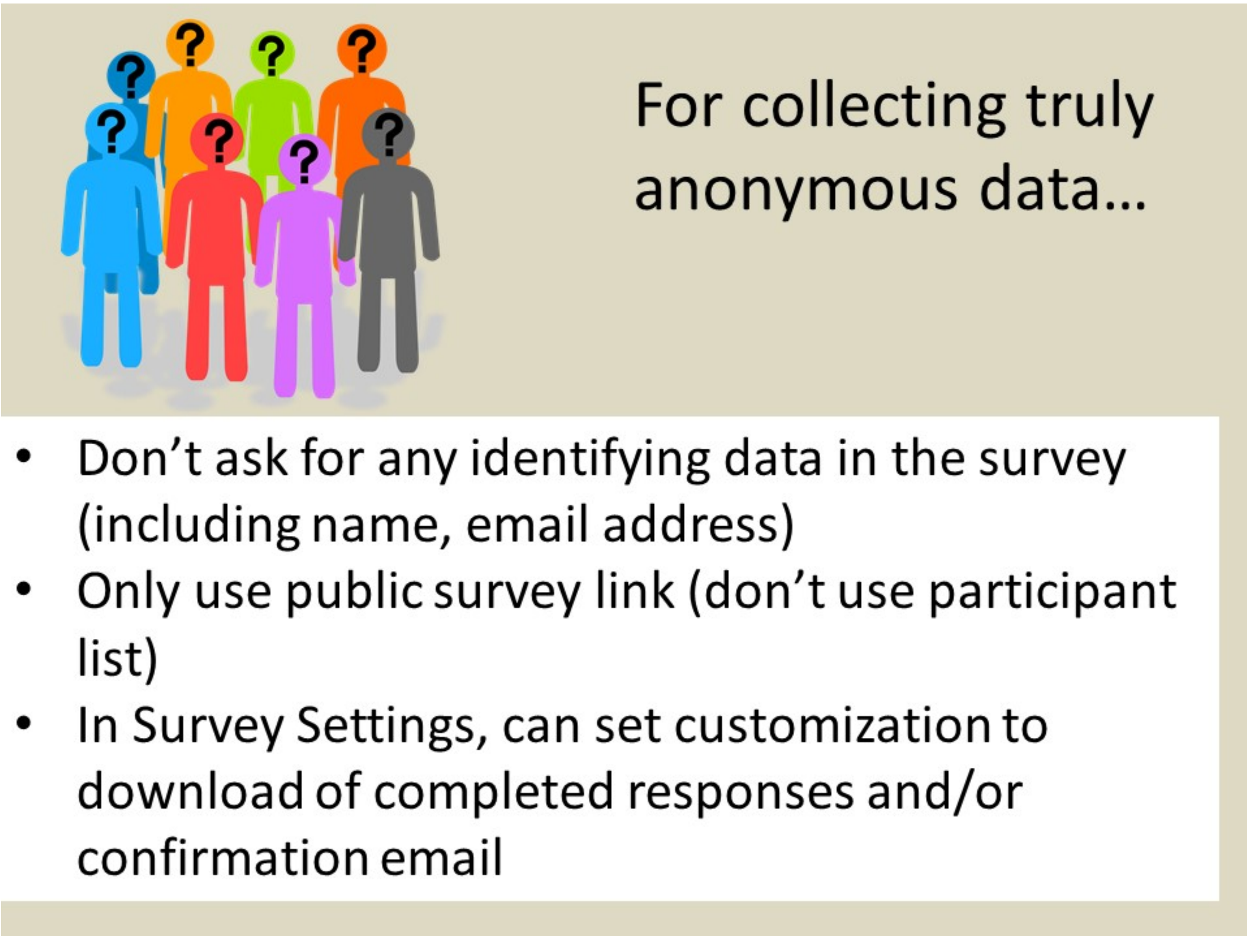
Unsent invitations (including reminders) may be deleted by clicking the red **X**. There is no undo, but you may always send or invitation manually.



Invitation send time	View Invite	Participant Email	Record	Participant Identifier	Survey	Survey Link	Responded?	Errors (if any)
11/29/2018 11:22am		[illegible]	1		Speaker Profile Information	-		
11/29/2018 11:23am		[illegible]	2		Speaker Profile Information	-		
12/03/2018 11:24am (1)		[illegible]	2		Speaker Profile Information	-		
12/18/2018 10:43am		[illegible]	3		Speaker Profile Information			
12/18/2018 10:43am		[illegible]	3		Webinar Information	-		
12/18/2018 10:45am		[illegible]	4		Webinar Information	-		
12/18/2018 10:45am		[illegible]	4		Speaker Profile Information			

To view the content of the email invitation, click on the envelope icon.

Best practices for collecting anonymous data via Surveys



Testing the survey

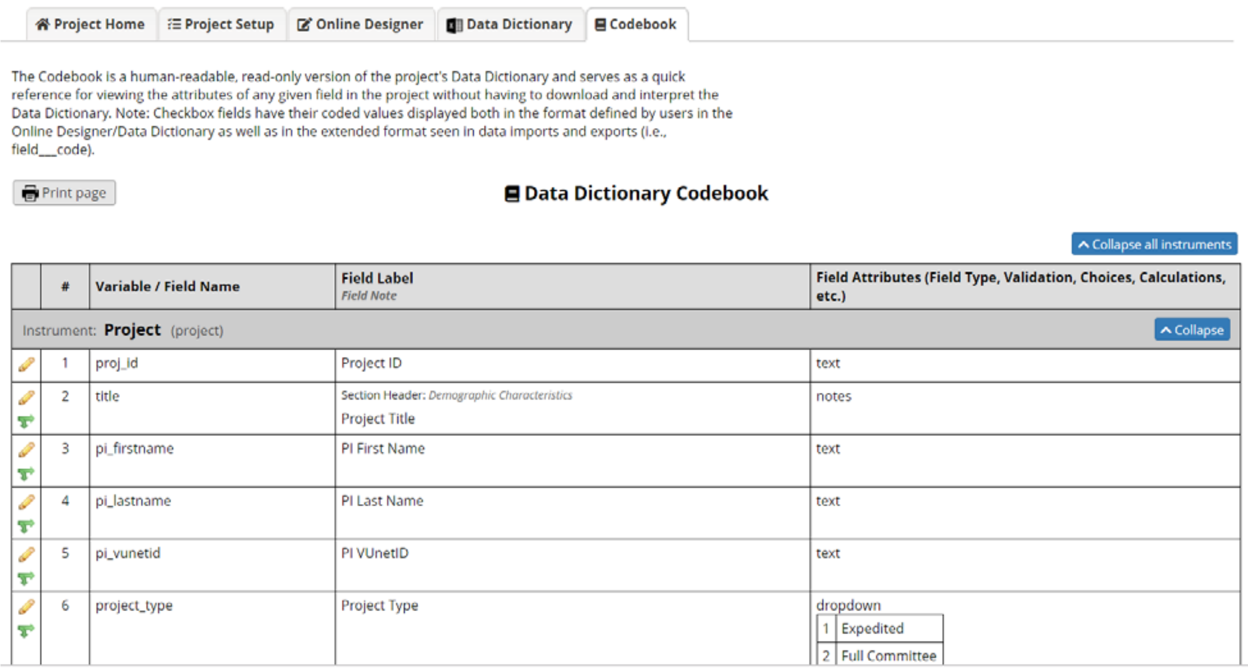
It is critical to test your survey to make sure it looks and behaves the way you want it to for your survey participants. See [Adding test data] for suggestions on how to do that.

Codebook

The Codebook is a list of your projects questions 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 or access the Online Designer. This is particularly helpful when you are in Production mode since the only way you can access an instrument via the Online Designer is by entering into Draft Mode.

Times when it may be helpful to access the Codebook:

- When you are writing conditional logic for an Automated Survey Invitation
- When you are writing calculated fields
- When you are using piping

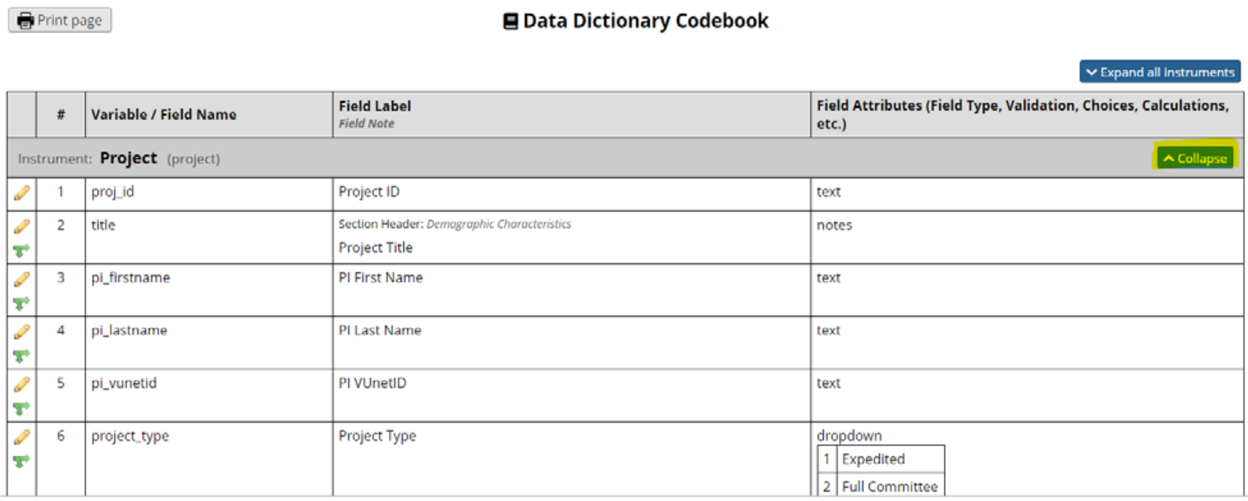


#	Variable / Field Name	Field Label *Field Note*	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
1	proj_id	Project ID	text
2	title	Section Header: *Demographic Characteristics* Project Title	notes
3	pi_firstname	PI First Name	text
4	pi_lastname	PI Last Name	text
5	pi_vunetid	PI VUnetID	text
6	project_type	Project Type	dropdown 1 Expedited 2 Full Committee

Access the codebook view by clicking the **Codebook** button (Codebook) on the left-hand navigation bar Under Project Home and Design.

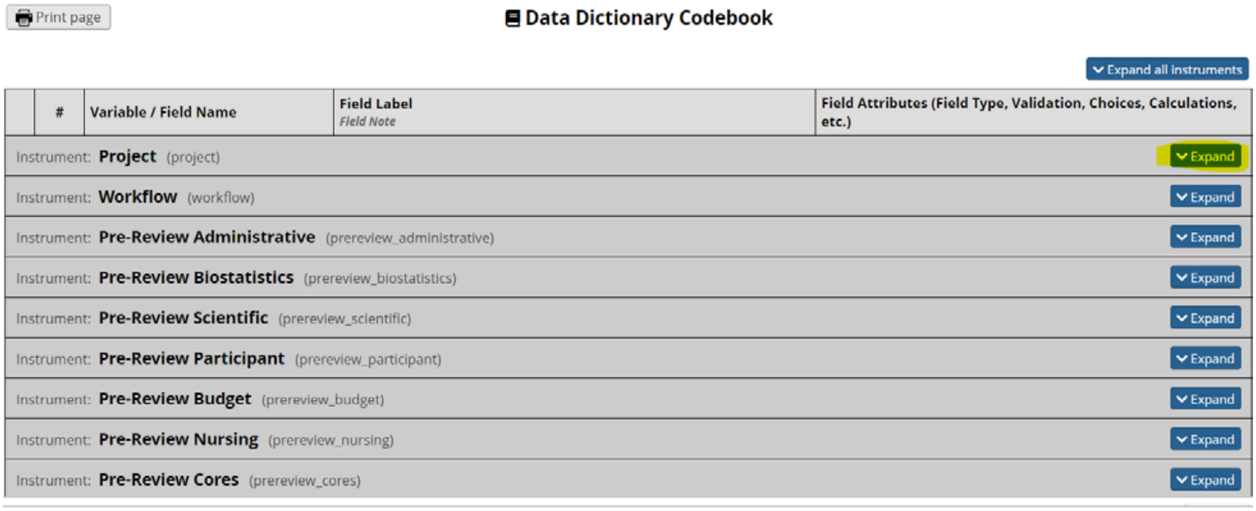
Collapse/expand instruments in Codebook

If you have multiple instruments and many fields within your project, the Codebook page can be very long. There may be times when you want to only look at the fields for a specific instrument. To condense the page so that you are only viewing the specific instrument you wish to look at, you can use the ‘collapse’ option.



	#	Variable / Field Name	Field Label *Field Note*	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
	1	proj_id	Project ID	text
	2	title	Section Header: *Demographic Characteristics* Project Title	notes
	3	pi_firstname	PI First Name	text
	4	pi_lastname	PI Last Name	text
	5	pi_vunetid	PI VUnetID	text
	6	project_type	Project Type	dropdown 1 Expedited 2 Full Committee

Likewise, when all instruments are collapsed, you can expand them.



Making changes to your project with the Data Dictionary

The Data Dictionary is a helpful tool to use when making global changes to your project (for instance, changing a word that appears several times in the project) or moving blocks of fields.

Why are there two methods that are essentially equivalent? There are different situations that suit the use of one method over the other:

Use the Online Designer...
- for small changes like adding or editing a single field
- to apply specific formatting to form names
- to gain familiarity with branching logic expressions using the drag-n-drop builder
- tinkering with and testing a calculation
- when you feel like it

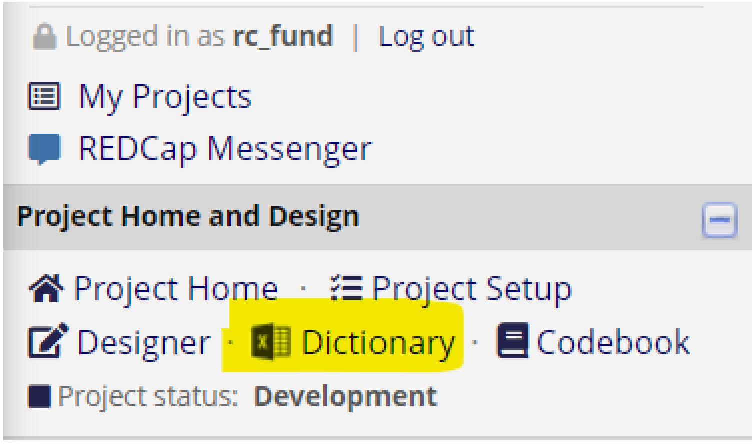
Use the Data Dictionary...
- when you have many fields to add, edit or remove
- to utilize Excel features such as auto-fill and copy/paste to quickly specify similar settings to multiple fields
- to keep a record of the current state as a backup that you may want to roll back to
- when you feel like it

These are merely considerations to keep in mind: feel free to use whichever method you are most comfortable with.

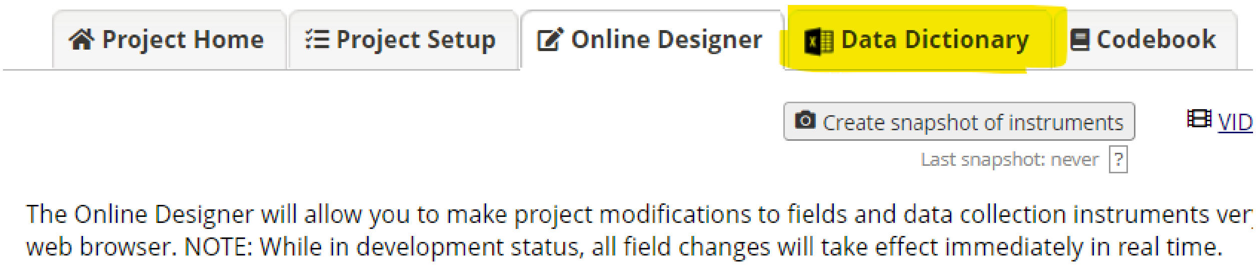
The REDCap data dictionary is a CSV file that contains the specification of all fields in your data collection forms: the form metadata. In other words, the data dictionary is your project's code book.

Download the Current Data Dictionary

You can access the Data Dictionary from a couple places within your project. On the left-hand navigation bar, click on Dictionary (listed under Project Home and Design):



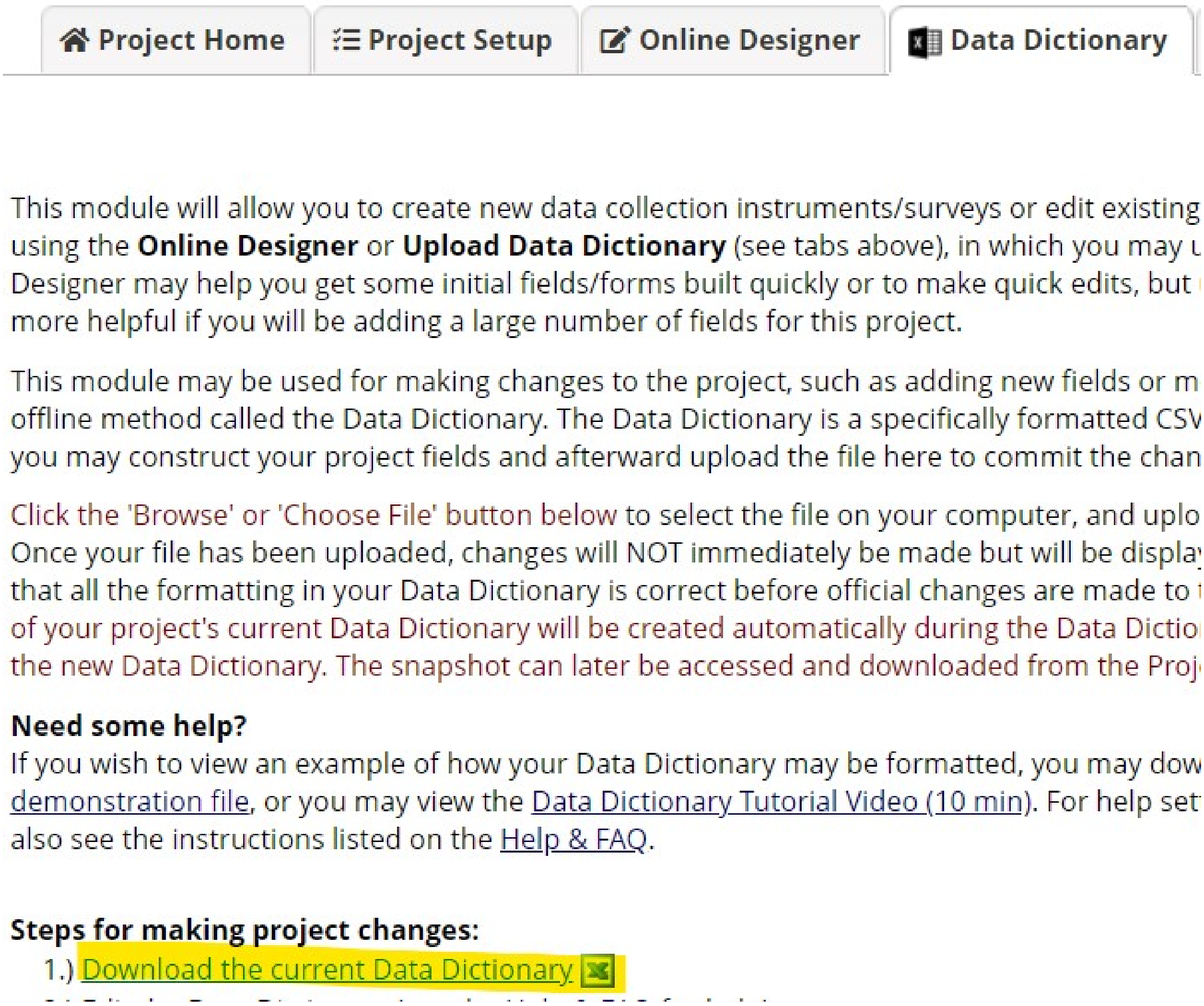
Or if you are on the Online Designer page, you can click on the Data Dictionary tab:



Download the Data Dictionary

Always download the current version of the data dictionary before making new updates. Changes made using the online designer or by other users will be lost if you make changes in and upload an out-of-date data dictionary.

To download the data dictionary, click on "Download the current Data Dictionary' from the Data Dictionary tab:

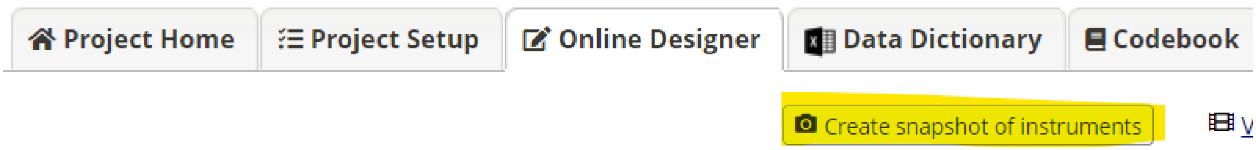


Design tip: create snapshot of instruments when in Development mode

Because any changes you make to the design of your project go into effect immediately when in Development mode, there is not an 'un-do' button if you change your mind.

It is more likely that you would want to un-do a change if there are multiple people designing the project at the same time and one person is making a design change that another team member is not aware of and who doesn't agree with the change.

To give yourself the opportunity to revert the design of the project to a previous iteration, it is a best practice to use the 'create snapshot of instruments' feature. You can find that feature on the Online Designer tab:



That feature automatically creates a data dictionary of the project at the time that you click the button. That data dictionary is saved to the Project Revision History tab. So, if you want to revert to that data dictionary, you can go to Project Revision History, download that data dictionary and then upload it back into the project. You can access the Project Revision History tab via Project Home or Project Setup:

Project Home | **Project Setup** | **Other Functionality** | **Project Revision History**

The tables below list information about when major changes and revisions were made to the project. The first table below di when the project was created, and if the project is in production, lists the time it was moved to production, as well as any rev made to the project fields while in production. You may also download any of the Data Dictionaries from past revisions. The t the bottom displays general statistics with regard to the times of project changes and revisions.

Project Revision History			Hide data dictionary snapshots
Created project	03/18/2019 9:18am	-	Created by rc_fund (REDCap Fundamentals)
Data dictionary snapshot	05/15/2019 3:27pm	Download data dictionary	Snapshot by rc_fund (REDCap Fundamentals)
Development status (current)	-	Download data dictionary	

Edit the Data Dictionary

The data dictionary is in CSV format, which is plain text with values delimited with commas. Excel is generally the tool of choice for editing CSV files, but you may use any spreadsheet program or text editor.

Data dictionary in Excel

	A	B	C	D	E	F
1	Variable / Field Name	Form Name	Section Header	Field Type	Field Label	Choices, Calculations,
2	study_id	demographics		text	Study ID	
3	first_name	demographics	Demographics Information	text	First Name	
4	last_name	demographics		text	Last Name	
5	dob	demographics		text	Date of Birth	
6	sex	demographics		dropdown	Gender	0, Female | 1, Male
7	address	demographics		notes	Street, City, State, ZIP	
8	phone_number	demographics		text	Phone number	
9	eventdate	visit_form		text	Date of Event	

Data dictionary in Notepad

REDCapUserGuide_DataDictionary_2012-06-22-1.csv - Notepad

File Edit Format View Help

```
"Variable / Field Name","Form Name","Section Header","Field Type","Field Label","Choices,
study_id,demographics,,text,"Study ID",,,,,,,,,,
first_name,demographics,"Demographics Information",text,"First Name",,,,,,,,,,
last_name,demographics,,text,"Last Name",,,,,,,,,,
dob,demographics,,text,"Date of Birth",,,date_dmy,,,,,,
sex,demographics,,dropdown,Gender,"0, Female | 1, Male",,,,,,,,,
address,demographics,,notes,"Street, City, State, ZIP",,,,,,,,,,
phone_number,demographics,,text,"Phone number",,,phone,,,,,,
eventdate,visit_form,,text,Date of Event,,,,,,,,,,
```

Things you can/can't do in the Data Dictionary

When editing the data dictionary there are certain things to bear in mind about what is, and what is not permitted:

You can...

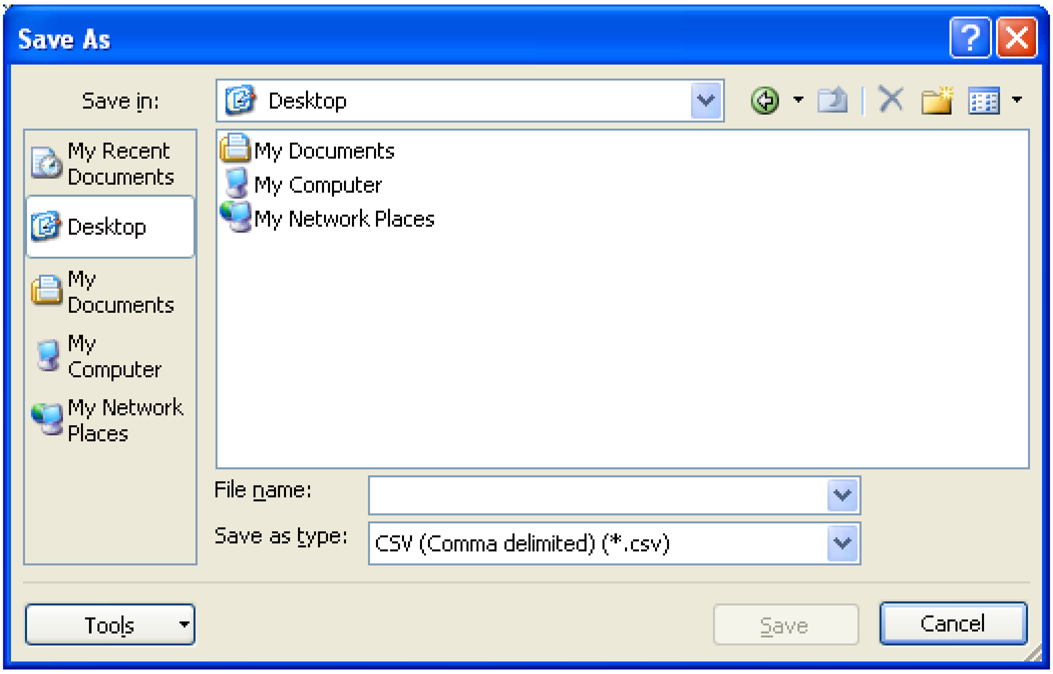
- Add new rows, i.e. add new fields and matrix groups
- Delete rows, i.e. remove fields
- Change form name (although some changes to how names are formatted – e.g. ALL CAPS – must be done using the Online Designer)
- Move fields to a different form
- Re-order fields in a form
- Re-order forms (but ensure that the record id field remains as the top row - the first field of the first form)

You cannot...

- Add, remove, rename or rearrange columns
- Have any blank rows
- Mix up the fields from different forms – forms' fields must appear together in blocks of adjacent rows

Saving the Data Dictionary

After making changes in the data dictionary, ensure that it is saved in CSV format, i.e. with the file extension .csv. Files with other extensions (e.g. .xlsx, .txt) cannot be uploaded.

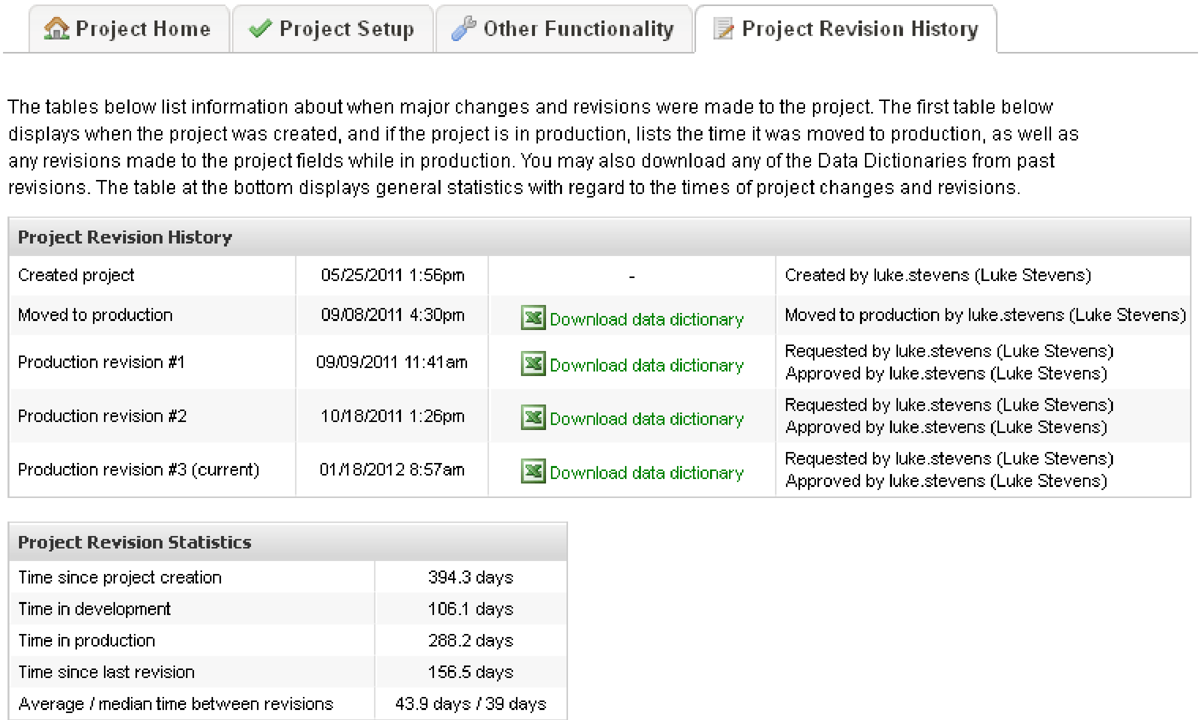


Upload Data Dictionary

Browse to the file you saved and click **Upload File**. REDCap will load your file and perform a number of validation checks that ensure your settings are valid, for example:

- Check that the file is a valid CSV file containing the expected column headers
- Ensure all required settings are present (e.g. field name, form name, field label)
- Ensure settings are valid (e.g. no spaces in field names, choices specified in the correct format)
- Ensure type and validation settings are consistent (e.g. you cannot have a drop-down list field with a validation type of date)

Viewing Data Dictionary history



The tables below list information about when major changes and revisions were made to the project. The first table below displays when the project was created, and if the project is in production, lists the time it was moved to production, as well as any revisions made to the project fields while in production. You may also download any of the Data Dictionaries from past revisions. The table at the bottom displays general statistics with regard to the times of project changes and revisions.

Project Revision History			
Created project	05/25/2011 1:56pm	-	Created by luke.stevens (Luke Stevens)
Moved to production	09/08/2011 4:30pm	Download data dictionary	Moved to production by luke.stevens (Luke Stevens)
Production revision #1	09/09/2011 11:41am	Download data dictionary	Requested by luke.stevens (Luke Stevens) Approved by luke.stevens (Luke Stevens)
Production revision #2	10/18/2011 1:26pm	Download data dictionary	Requested by luke.stevens (Luke Stevens) Approved by luke.stevens (Luke Stevens)
Production revision #3 (current)	01/18/2012 8:57am	Download data dictionary	Requested by luke.stevens (Luke Stevens) Approved by luke.stevens (Luke Stevens)

Project Revision Statistics	
Time since project creation	394.3 days
Time in development	106.1 days
Time in production	288.2 days
Time since last revision	156.5 days
Average / median time between revisions	43.9 days / 39 days

The **Project Revision History** tab gives you access to the details of each version of the data dictionary. You can download any of the data dictionary CSV files.

Other Functionality

You must have Project Design & Setup permissions to perform actions on the Other Functionality page. You can navigate to the Other Functionality tab via Project Home or Project Setup.

The **Other Functionality** tab provides some additional project tools:

Move to inactive status (production only):

Prevent access to all project functionality except Data Export, File Repository, Logging and User Rights.

Move to production status / Move to production status (archived only):

Return the project to its pre- archival state.

Copy the project:

Make an exact duplicate of the project configuration and forms/fields plus (optionally) all project data, reports, data quality rules and users. You will be prompted for a new project title.

Delete the project (development only):

Removes the project entirely. All data will be deleted.

Erase all data (development only):

Clears out all data from your development project, including participant records, form data and scheduling and calendar data.

Archive the project:

Prevent access to all project functionality except Data Export, File Repository, Logging and User Rights. Also removes the project from the **My Projects** list, unless the **Show Archived Projects** option is selected.

Add Data

For a video overview of Data Entry, [see this link](). It is 19 minutes in length. You can access the video from the Home or My Projects tab by clicking on Training Videos. If you are in a REDCap project, look on the left-hand navigation bar under the Help & Information section at the bottom of the navigation bar.

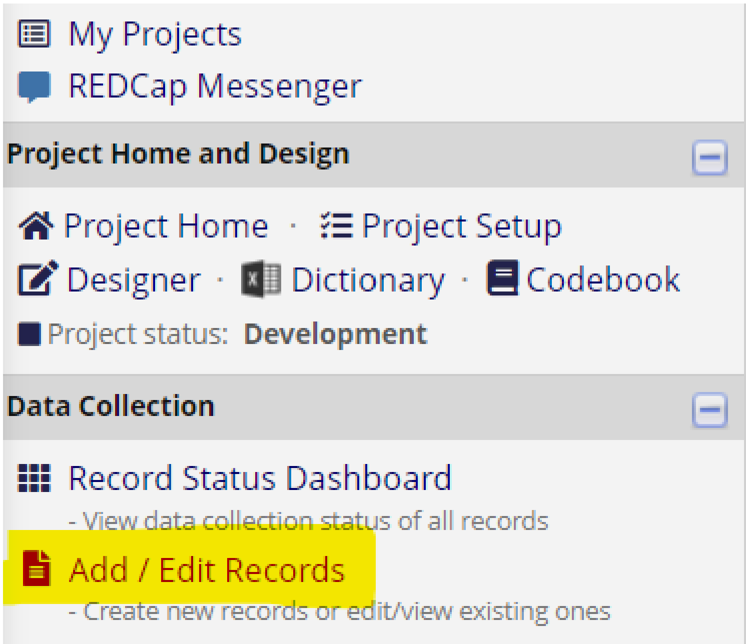
What to know about data entry

- You can use the tab key to move from one question to the next
- Validation will force you to enter data enter a specific way
- Branching logic will determine what questions you see
- Required questions force you to enter an answer for those questions in order to save
- Each entry creates a record

View Data

View individual record

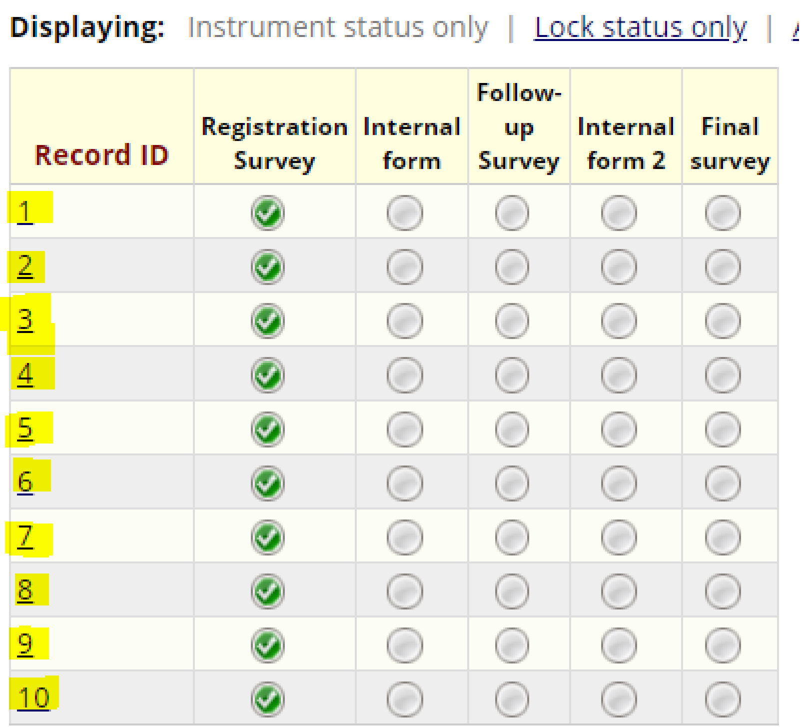
You can view any individual record within your project by clicking on the Add/Edit records link on your left-hand navigation bar.



Select the record from the drop-down menu. You will be brought to the Record Home Page of the record you selected. For longitudinal projects, you will see the Event Grid.

Design Tip for Viewing Records

You can add a label to a record number, so that as you are viewing a list of records in the Add/Edit records or Record Status Dashboard, you will know more information about the record rather than having to open it to see what data is in it. For instance, if the record represents a person, you can add the person's first and last name as the custom record label. So instead of this:

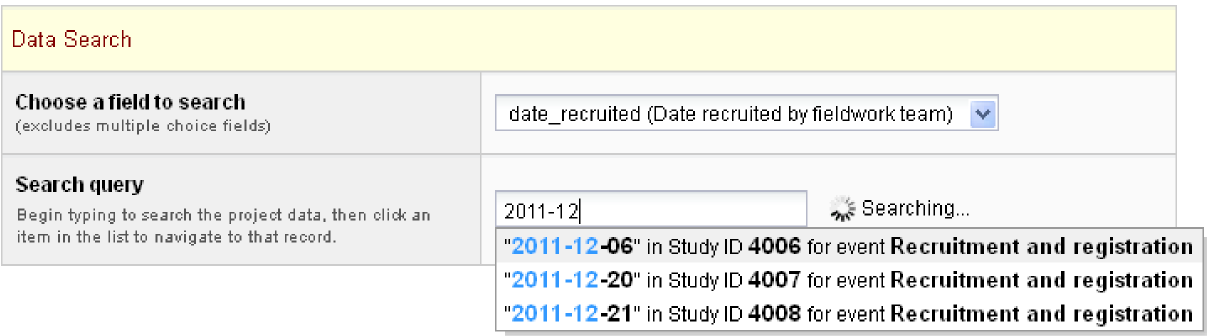


You will see this:

For more information, see the [Set a Custom Record Label section](#) of this User Guide.

Search Records

To search for an individual record by something other than the record identifier, you can use the **Data Search** section of Add/Edit Records. Only non-categorical fields appear in the list as they are most likely to contain useful identifiers.

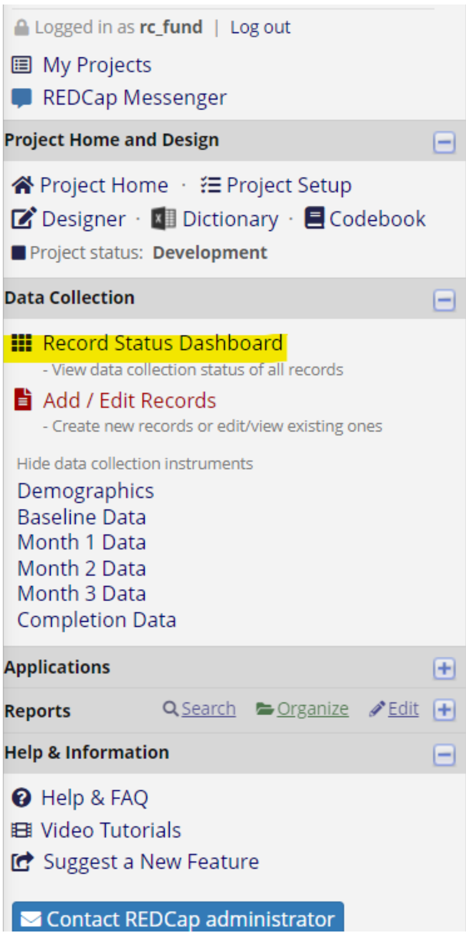


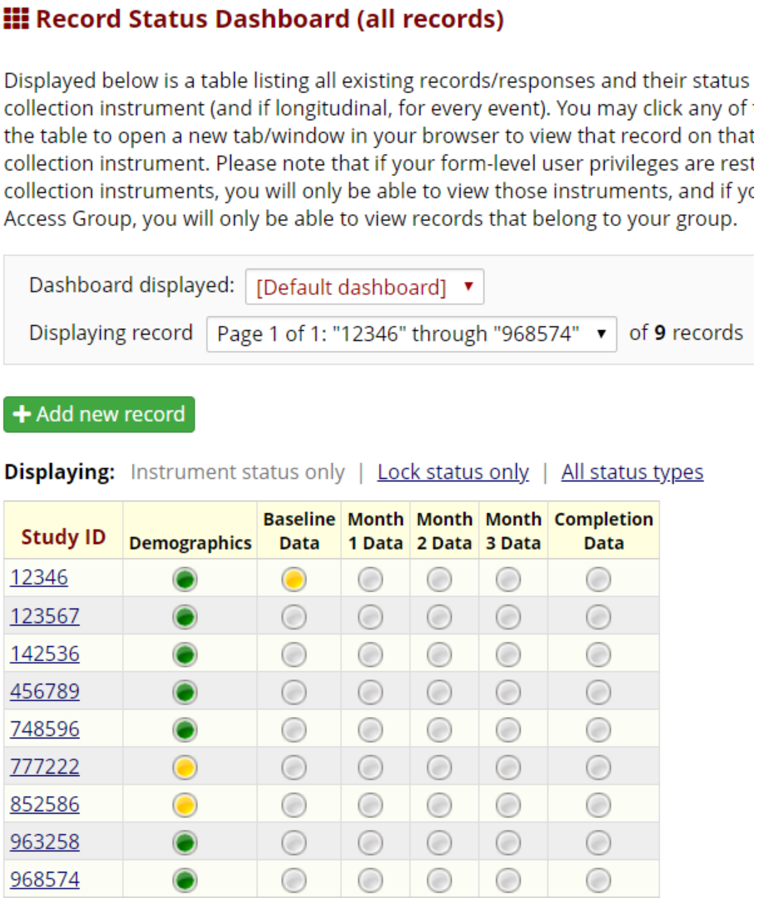
With each keystroke of your typing, records with saved data matching your entry are shown in a list. Click an item in the list to select that record. You will be taken directly to the event/form for the data item you selected

Record Status Dashboard

This is a table that lists all records/responses and their status for every data collection instrument in the project. To access it, click on Record Status Dashboard on the left-hand navigation bar, in the Data Collection section.

You may click on one of the icons in order to open the data collection instrument for a specific record.





A record that has been entered as a data entry form will have the circle filled with color. A record that has been entered as a survey will have the color and a checkmark in it.

Viewing Aggregate Data

See the Applications section of this User Guide re: Data Exports, Reports and Stats. You will learn how to view all of the data in your project and also how to select a sub-set of data for viewing.

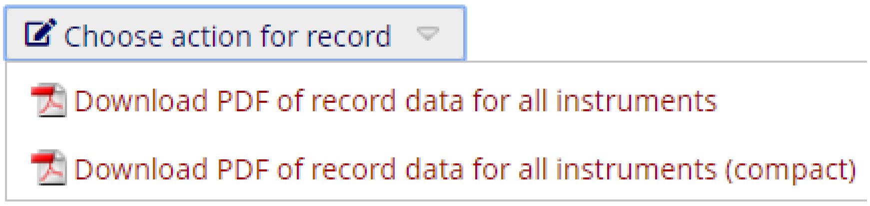
Printing PDFs of your data

There are multiple ways to print PDFs of the records in your project. To customize the appearance of the PDF, please see PDF Customizations.

Printing PDFs of one record across all instruments

From Add/Edit Records - Select record from drop-down menu. You are now on the Record Home Page.

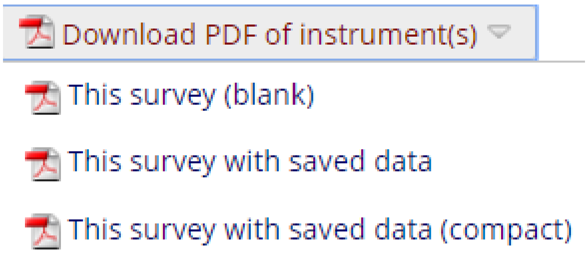
You can download either a full version (1st option listed) or compact version (2nd option listed) of the data. The first version will give you all the fields and all the responses in the instrument, regardless of whether the question was hidden due to branching logic or if it was left empty. A compact version shows only the fields that were asked and does show questions that were hidden due to branching logic. If you have multiple instruments, the PDF will contain data across all instruments.



Printing PDF of one instrument for a record

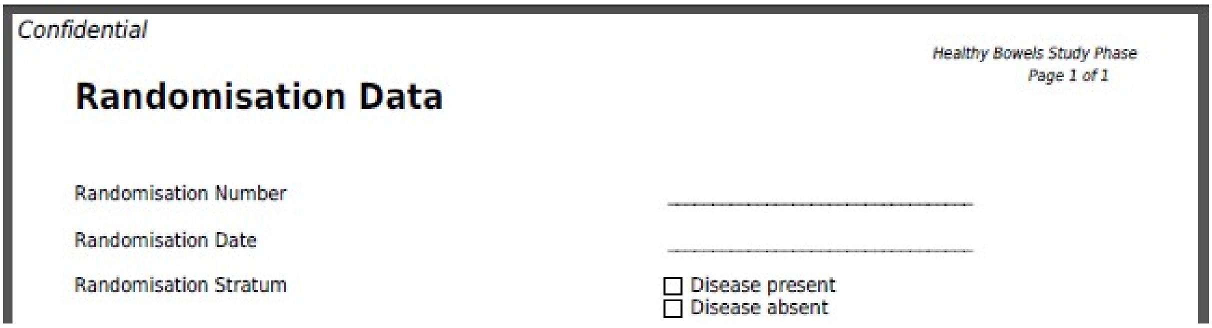
If you wish to download a PDF of only one instrument, click on the record for that instrument. You can get to a specific instrument for a record by going to the Record Home Page via Add/Edit records (see above) or via the Record Status Dashboard.

You will then have 3 options available:



Again, the compact version simply means that it will not show the fields that were hidden due to branching logic.

Note about printing PDFs of blank instruments


Confidential

Healthy Bowels Study Phase
Page 1 of 1

Randomisation Data

Randomisation Number ______________________

Randomisation Date ______________________

Randomisation Stratum
☐ Disease present
☐ Disease absent

Note that the document produced is not suitable for use as a paper data entry form because it does not provide sufficient guidance on expected data formats and coding to the person completing the form and the data entry person. For example, even three simple fields in the screenshot below would lead to a number of questions:

1. Is Randomization Number expected to be numeric? Could it be alphanumeric?
2. How many characters are expected for Randomization Number?
3. What format should be used for writing dates? dd-mm-yy? mm/dd/yyyy? dd-mmm-yyyy? yyyy-mm- dd? Consistency is very important, especially for projects running in a number of countries.

4. How does the data entry person encode the response for Randomization Stratum? 1=present, 2=absent? 1=present, 0=absent?

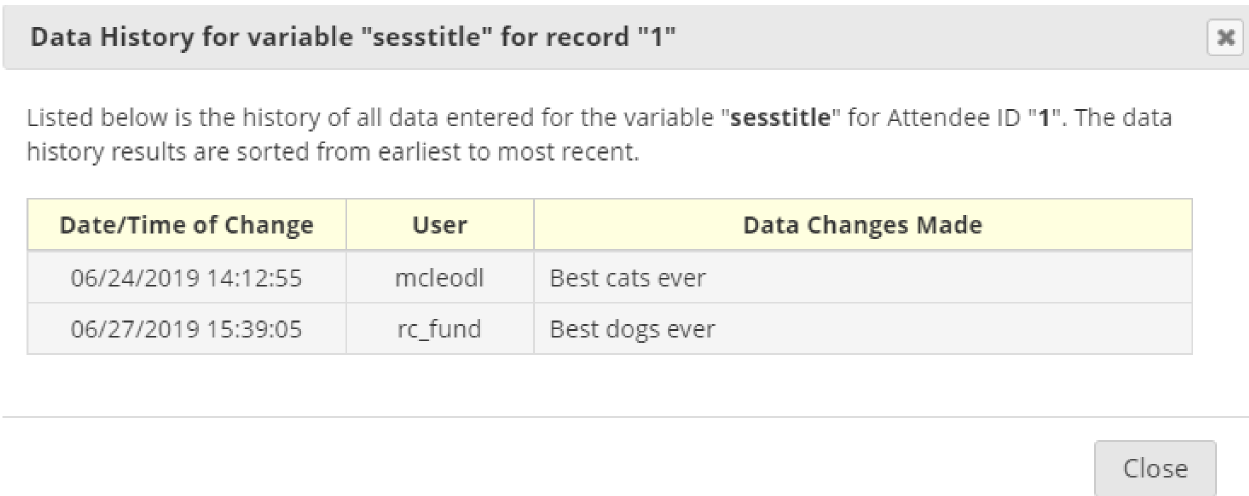
5. For all fields, what code can the data entry person enter if data is missing from the form? What about if data is illegible or otherwise raises some query?

Change data

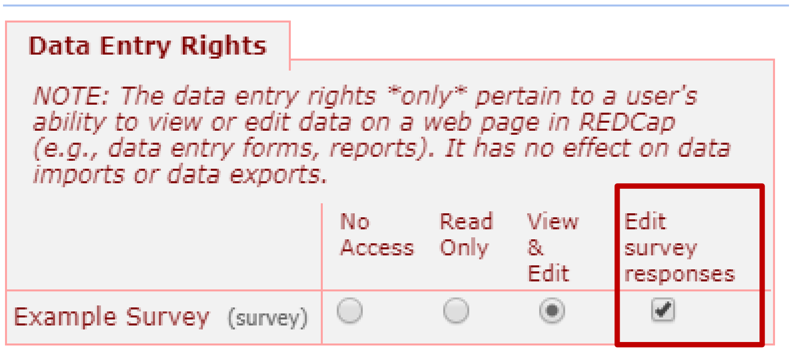
Edit records (edit response)

To edit a **data entry form**, you must have the data entry right "view & edit" selected for your username on the project. That is set using the User Rights application. For instructions on editing User Rights, please see this section of this User Guide.

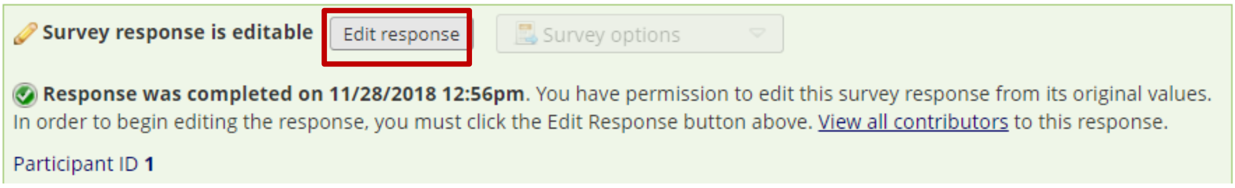
With this user right, you could then go to the record, make changes and save. If you over-write data that has been previously entered, you may view the history of the response by clicking on the 'H' next to the field:



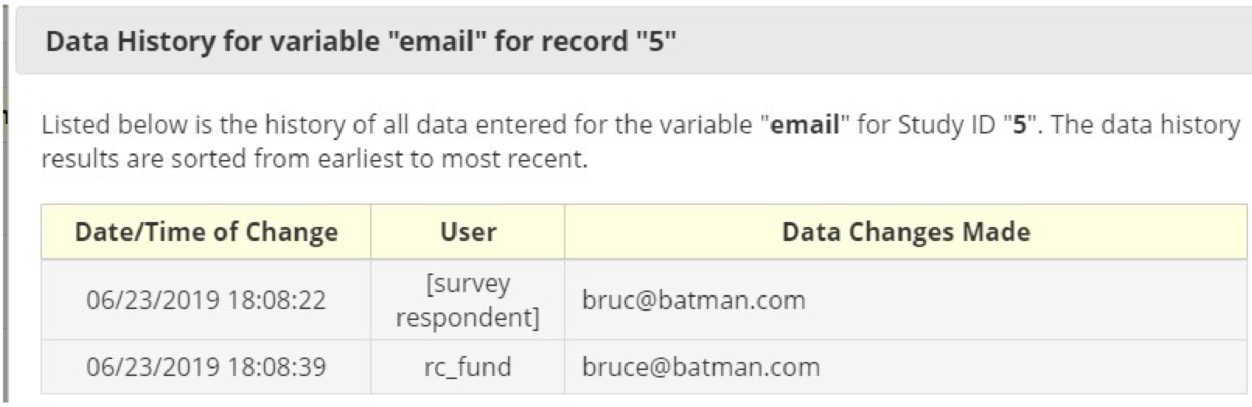
To edit a **survey response**, you must have the data entry right "edit survey responses" selected for your username on the project. That is set using the User Rights application. For instructions on editing User Rights, please see this section of this User Guide.



With this user right, you could then go to the record, click on the 'edit response' button.



You can make changes and save. If you over-write data that has been previously entered, you may view the history of the response by clicking on the 'H' next to the field:



Data History for variable "email" for record "5"

Listed below is the history of all data entered for the variable "**email**" for Study ID "**5**". The data history results are sorted from earliest to most recent.

Date/Time of Change	User	Data Changes Made
06/23/2019 18:08:22	[survey respondent]	bruc@batman.com
06/23/2019 18:08:39	rc_fund	bruce@batman.com

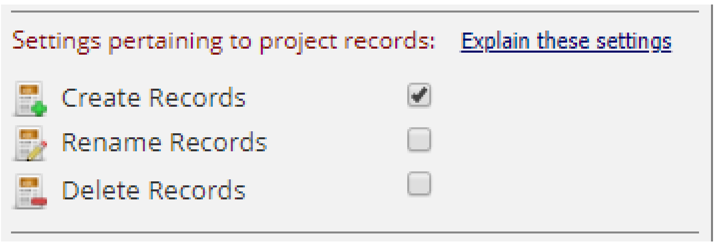
Delete Records

To delete a record:

1. Navigating to any data entry form for the record
2. Click the **Delete Record** button that appears at the bottom of the form
3. Confirm the deletion

Delete record rights

To delete records a user must have been given the necessary permission on the User Rights page. Access to this function should be restricted to a limited set of project users. If you want to grant this right to yourself, go to the User Rights page, click on your name and then the Edit User Privileges button. You can then tick the box for Delete Records.



If you do not see that option or it is greyed out, you will need to contact the Project creator/owner and ask them to assign that right to you.

Applications

Alerts & Notifications

The Alerts & Notifications feature allows you to construct alerts and send customized email notifications. These notifications may be sent to one or more recipients (a user on the project, a survey respondent or someone else) and can be triggered or scheduled when a form/survey is saved and/or based on conditional logic whenever data is saved or imported.

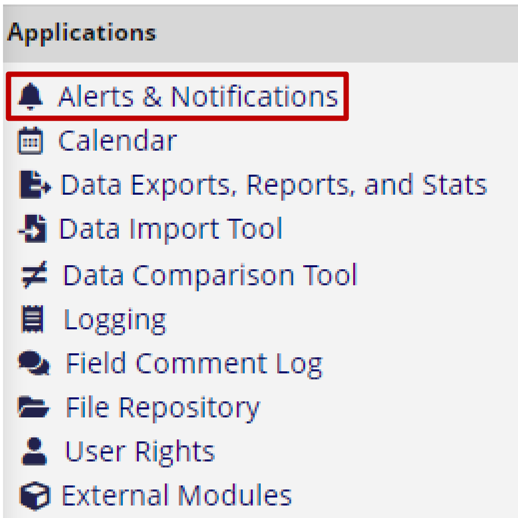
When adding/editing an alert, you will need to 1) set how the alert gets triggered, 2) define when the notification should be sent (including how many times), and 3) specify the recipient, sender, message text, and other settings for the notification.

For the message, you may utilize customized options such as rich text, the piping of field variables (including Smart Variables), and uploading multiple file attachments.

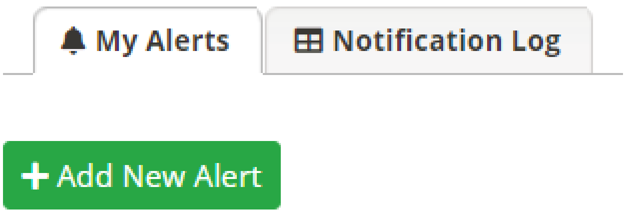
Alerts apply to both data entry forms and surveys, and they also allow for more options regarding who can be the recipient of a notification (project users, survey participants, etc.).

To create an Alert using Alerts & Notifications

To create an alert, click on Alerts & Notifications in the Applications section on the left-hand navigation bar.



Then click on the Add New Alert button:



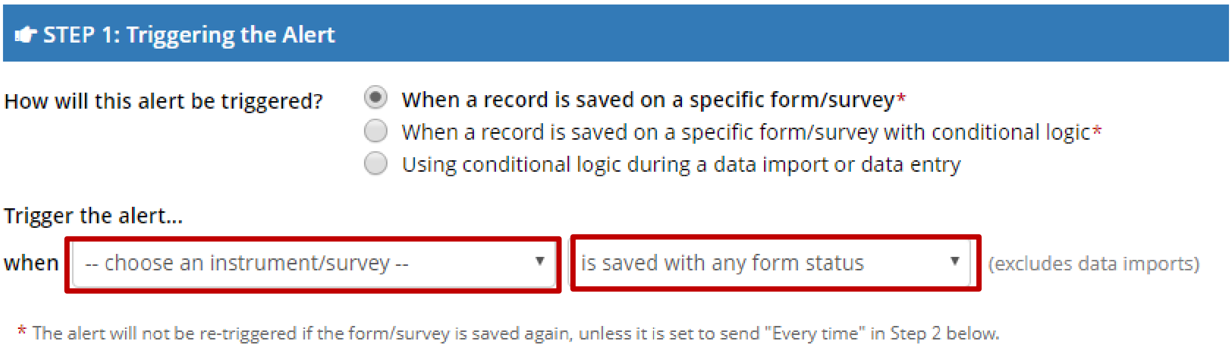
You will then see the following sections for you to configure:

Title the Alert

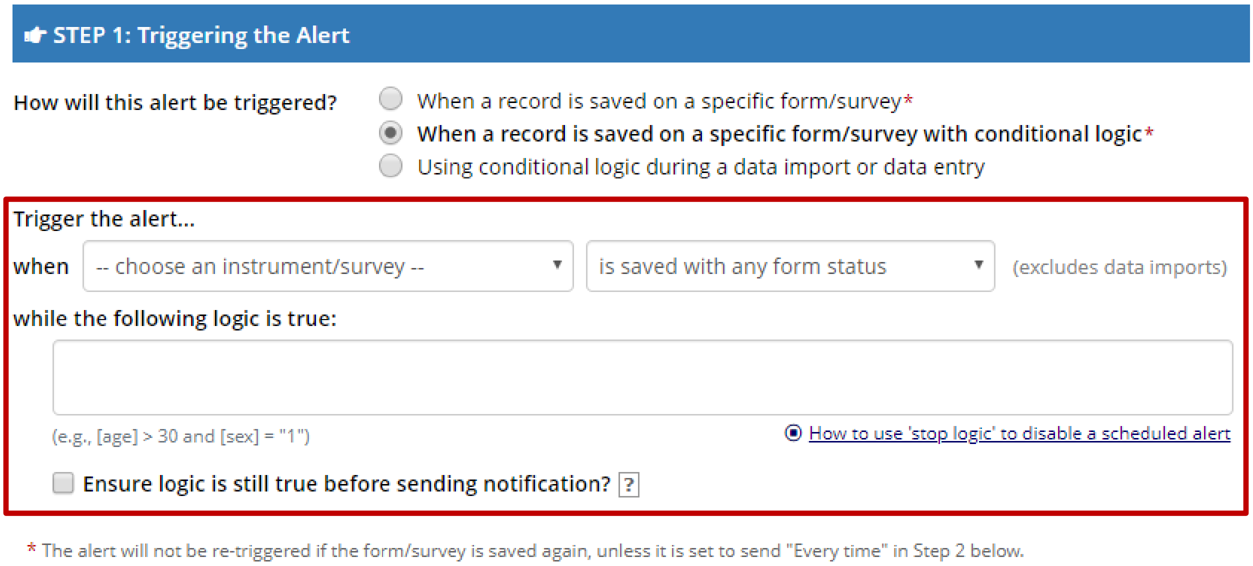
You can title your alert, which is helpful if you have many alerts. This is a way to distinguish one alert from another.

Step 1 of Alert setup

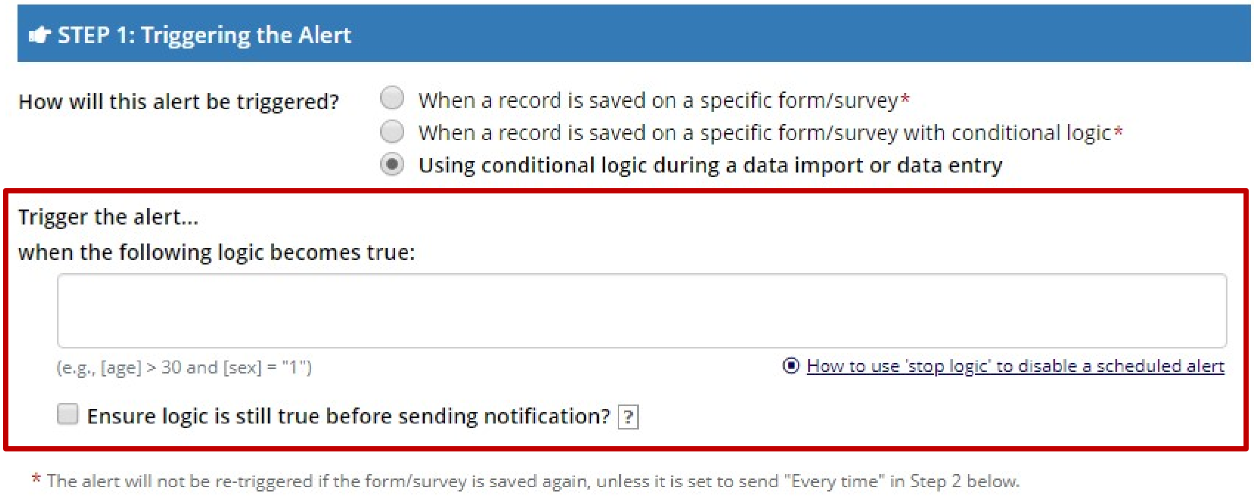
If the condition for triggering the alert is simply that a record is saved, these would be your choices in Step 1:



If the condition for triggering the alert is based on conditional logic, these are the choices you will see in Step 1:

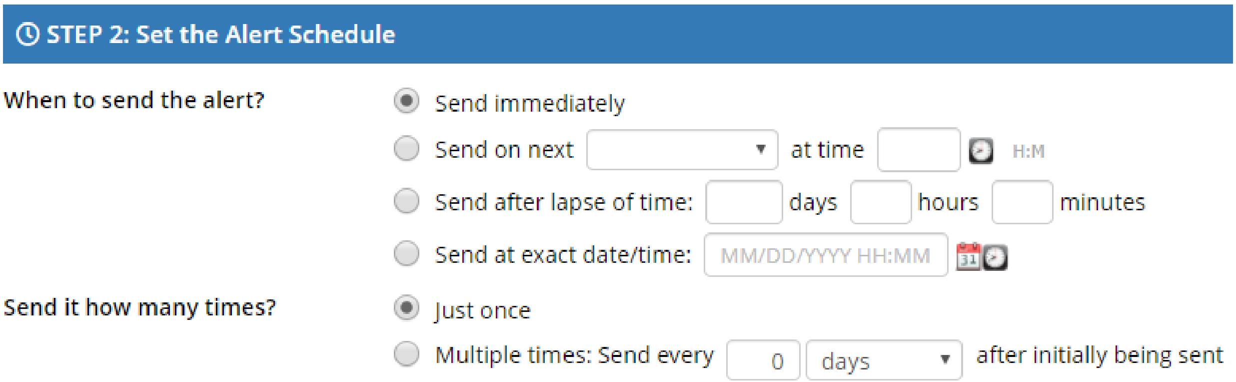


If the condition for triggering the alert is based on data import, these are the choices you will see in Step 1:



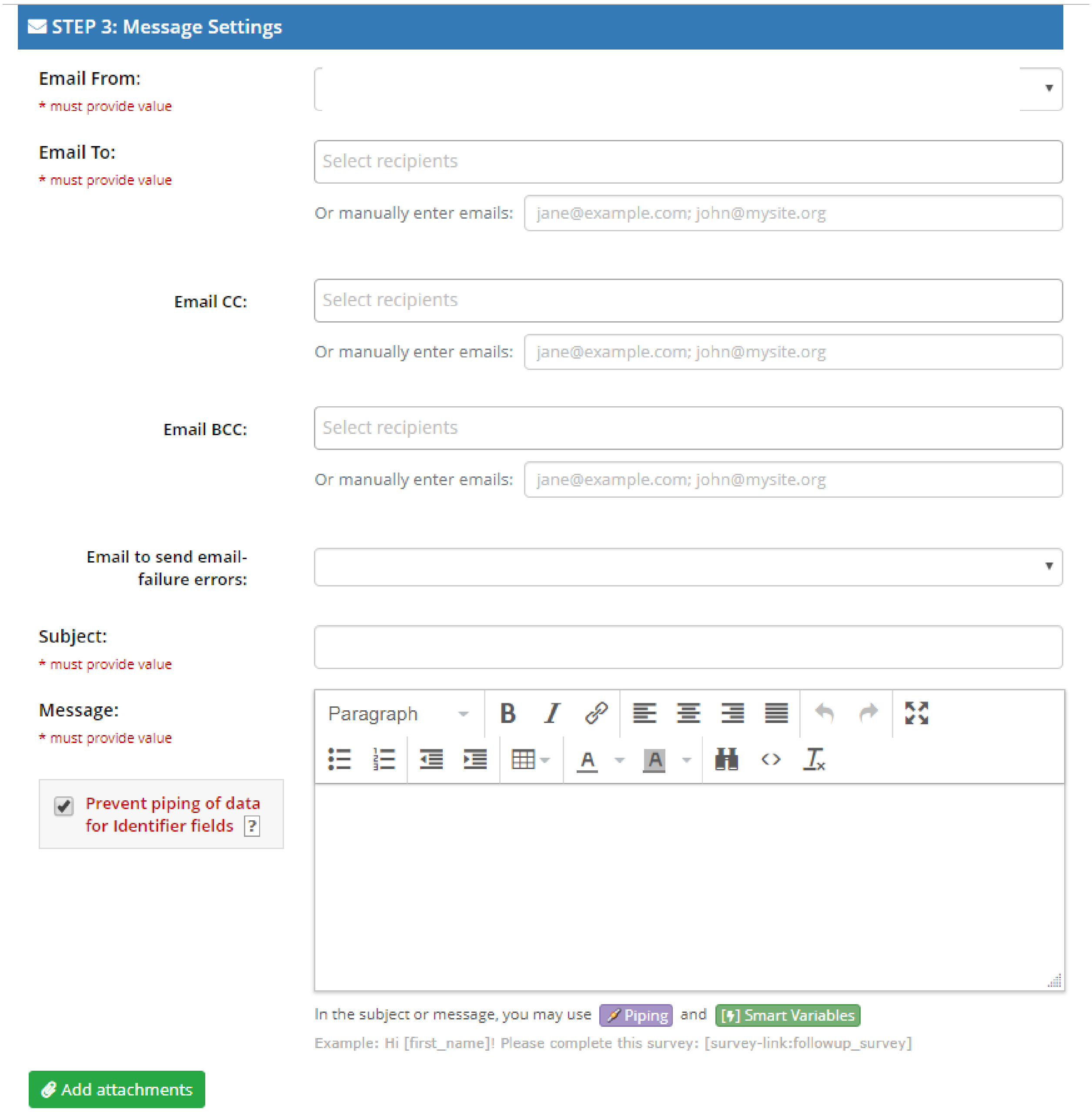
Step 2 of Alert setup

This is the section where you tell REDCap when to send the alert and how many times to send it.



Step 3 of Alert setup

This is the section where you configure who the alert comes from, who it will go to, who to email if there are message send failures, the subject line and body of the email and upload attachments.



Email from: This field will pre-populate with your email address. You can change it to another email address associated with your REDCap account or another user on the project.

Email To: This can be an email address captured in a field on the project or a user on the project. If you wish the alert to go to someone who is not a user on the project, simply manually type the email address in the second box (labeled ‘or manually enter emails’).

Email CC and Email BCC: click on the ‘show more options’ link located below Email To to see these.

Email to send email-failure errors: put the email address of the person managing the alert. If the recipient's email client rejects your message for some reason (e.g. the file size is too big), then this person will be notified.

> Note: if you are attaching a file(s) to the alert, it is highly recommended that you put an email address in the 'Email to send email-failure errors'. That way, if the recipient's email client rejects your message for some reason (e.g. the file size is too big), then someone will be notified.

Piping in Alerts

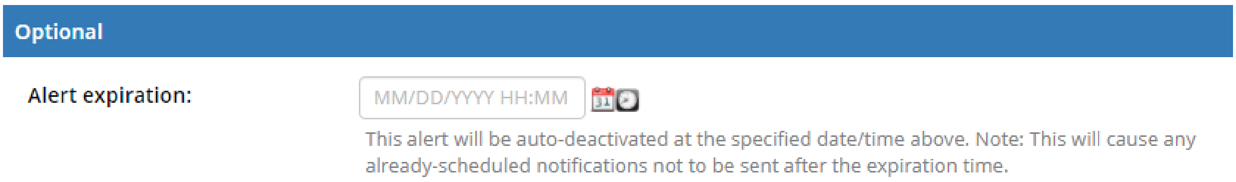
The box 'Prevent piping of data for identifier fields' is automatically checked for all alerts. This means that any field variables (e.g., [date_of_birth]) that exist in the alert's subject line or message will not have their value piped if the field has been tagged as an 'Identifier' field. In this case, it will simply replace the field variable with [*DATA REMOVED*] rather than piping the actual data into the message.

This is a preventative measure, since an Alert is sent via email and email is not a secure form of communication.

If you wish to pipe identifiable information into the subject line or body of the email message, you will have to un-check that box.

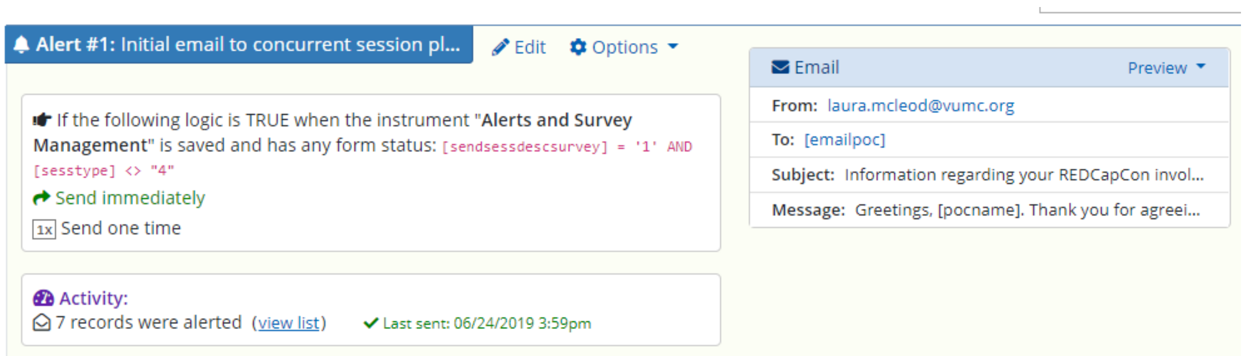
Optional setting in Alert

If you wish for REDCap to automatically expire your alert at a specified time, you can set that here.



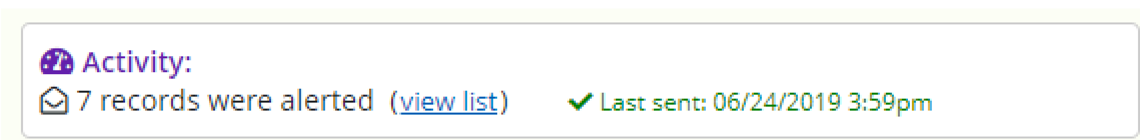
Alert listing

Once you have created your alert, an abbreviated listing will appear, showing the highlights of the alert.



Alert Activity

To see a summary of what activity has occurred for the alert, you can look at the Activity section of your alert on the Alerts & Notifications page,

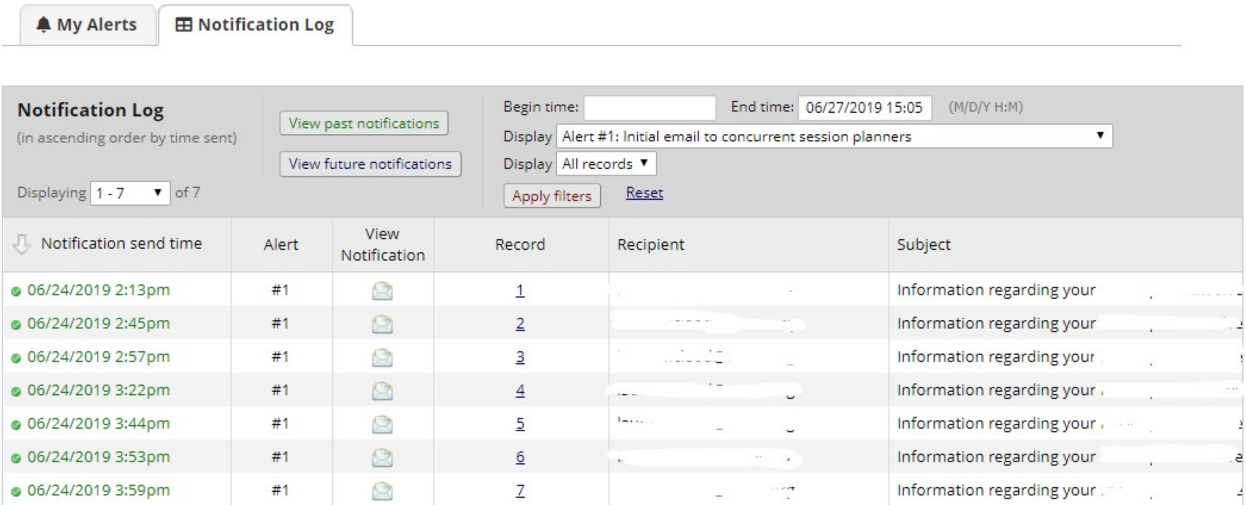


If you click on the view list link, you will see something like this:

Please note, the record numbers are not hyperlinks. To see a detailed listing of Alerts sent, click on the View sent alerts in Notification Log link.

Notification Log

The notification log is a detailed listing of what alerts have been sent. It might look something like this:

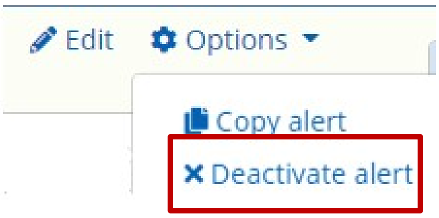


Notification send time	Alert	View Notification	Record	Recipient	Subject
06/24/2019 2:13pm	#1		1		Information regarding your
06/24/2019 2:45pm	#1		2		Information regarding your
06/24/2019 2:57pm	#1		3		Information regarding your
06/24/2019 3:22pm	#1		4		Information regarding your
06/24/2019 3:44pm	#1		5		Information regarding your
06/24/2019 3:53pm	#1		6		Information regarding your
06/24/2019 3:59pm	#1		7		Information regarding your

You will note that the alert number, not the name that you gave the alert, is listed. Also, the email address in this image has been obscured but you will see the first email address of the person to whom the alert was sent to. If you wish to view other recipients of the email (other people listed in the To, CC or BCC sections), click on the View Notification icon. You will see there a copy of the Alert.

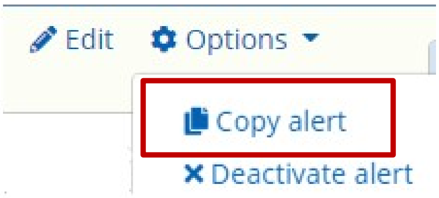
Deactivating Alert

If you wish to manually deactivate an alert, go to your Alerts & Notifications page, find the alert and click on the Options button. You can then click on the Deactivate alert option:



Copying Alert (Copy alert)

Sometimes you might need to set up an alert that is very similar to one you've already created, but with a small change. To easily copy the existing alert, you would go to the Alerts & Notifications page, find the existing alert and click on the Options button. You can then click on the Copy alert option:



You would then edit the alert.

Editing Alert (Edit alert)

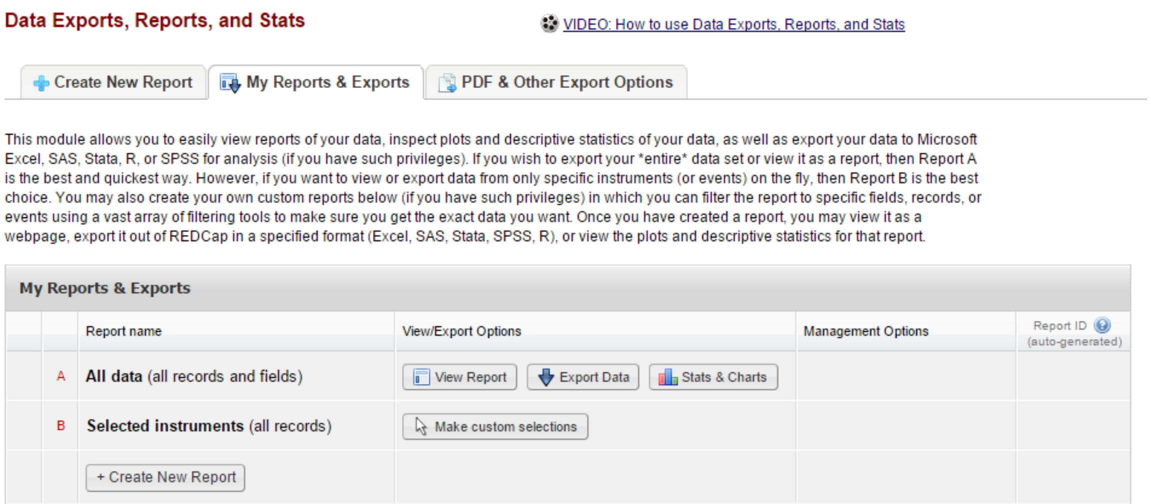
To edit an alert, you would go to the Alerts & Notifications page, find the existing alert and click on the Edit icon:

Calendar (for longitudinal projects only)

The calendar application can be used when the project is a longitudinal project. Please go to the Longitudinal Projects section of this User Guide for more information. You can also see the training video embedded in the application or find further information on the topic in the Help & FAQ section within REDCap itself.

Data Exports, Reports and Stats

This will allow you to easily view reports of your data as well as export your data to Microsoft Excel, SAS, Stata, R or SPSS for analysis. If you wish to export your *entire* data set or view it as a report, then Report A is the best and quickest way. If you want to view or export data from only specific instruments (or events) on the fly, then Report B is the best choice.



Create Custom Report

You may create your own custom reports in which you can filter the report to specific fields, records, or events using a vast array of filtering tools to make sure you get the exact data you want. Once you have created a report, you may view it as a webpage, export it out of REDCap in a specified format (Excel, SAS, Stata, SPSS, R), or view the plots and descriptive statistics for that report.

Custom report: Step 1

To get started, click Create New Report and enter a name for the report. This name will be listed in the Reports section of REDCap's left-hand menu column.

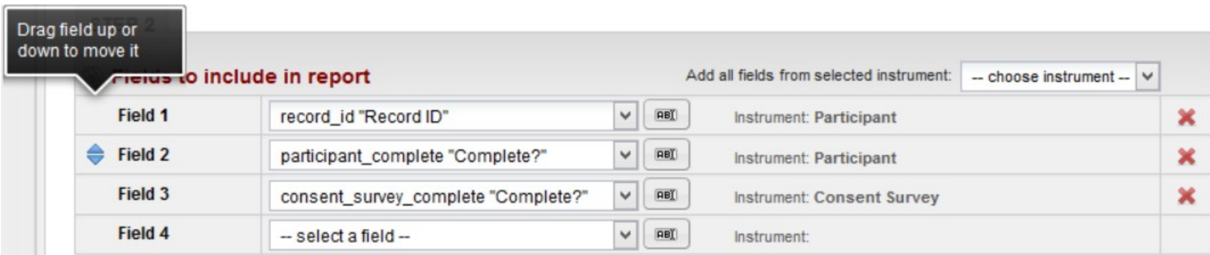
Indicate who should be able to access the report:

- All users
- A list users specified by name
- All users from a particular user role or roles
- All users from a particular data access group or groups (see User Rights for more information about user roles and data access groups)

Indicate who should have access to editing, copying or deleting the report. This feature will only be available to users on the project who have "Add/Edit/Organize Reports' privileges. Multiple users might want to use a report in different ways and might choose to change some of the fields, filters or sorting options. This setting will allow you to restrict other users' ability to make those changes.

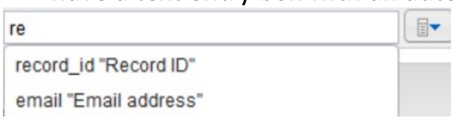
Custom report: Step 2

Specify the fields to include in the report



Note:

- If your list of fields is very long it can be easier to find them by clicking **ABI**and opting to have a text entry box with an autocomplete dropdown.

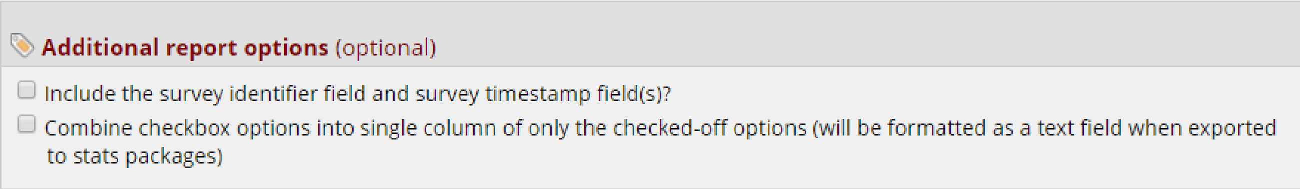


- You may reorder fields by dragging a field to a new position
- Remove fields using the red **X**

Additional report options

Survey Identifier field and survey timestamp fields

If your project includes surveys, you have the option to tick a box so that the survey identifier field and survey timestamp fields are included in your report.



If you use multiple choice checkboxes in your project, you will note that each choice takes up its own column in a report or export. If you prefer to have those columns combined, tick the option to combine check box options.

Custom report: Step 3

Specify a filter for the records (optional).

You can apply straightforward filters by selecting the relevant fields and specifying an operator (e.g. “equals”) and a value to match. For complex expressions involving functions or requiring parentheses click **Use advanced logic** to write your filter expression. The syntax for the expression follows the same rules as for calculated fields and branching logic.

Live Filters

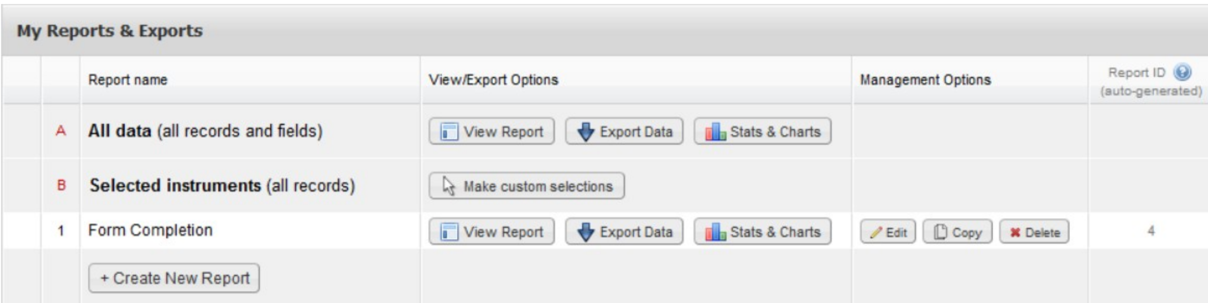
Live filters can be selected on the report page for dynamically filtering data in real time. With the exception of the Record ID field, only multiple-choice fields can be used as Live Filters.

An example of when this might be useful is if you are looking at a report of all patients who have diabetes. You could have a live filter on gender and race. So when you first view the report (with no live filters), you would see all patients with diabetes. If you wanted to know how many of them are female, you could click on the live filter for gender and select to only see females. You would then be looking at a sub-set of your data: patients with diabetes who are female. You can then click the live filter for race and select African American. That would deliver you a further sub-set of data, this one displaying only the African American female patients who have diabetes.

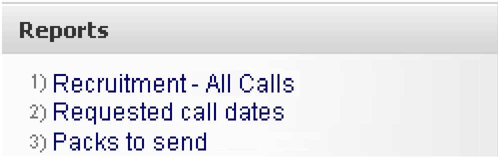
Custom report: Step 4

Specify up to three of the report fields by which the records will be sorted

You will then click **Save Report**. You will be asked if you wish to View the Report, Return to My Reports & Exports or Continue Editing report. Once you click View Report, your report will be added to your report list on the left-hand navigation bar.



Reports are also listed in their own section of the left-hand menu and are available directly from any project page

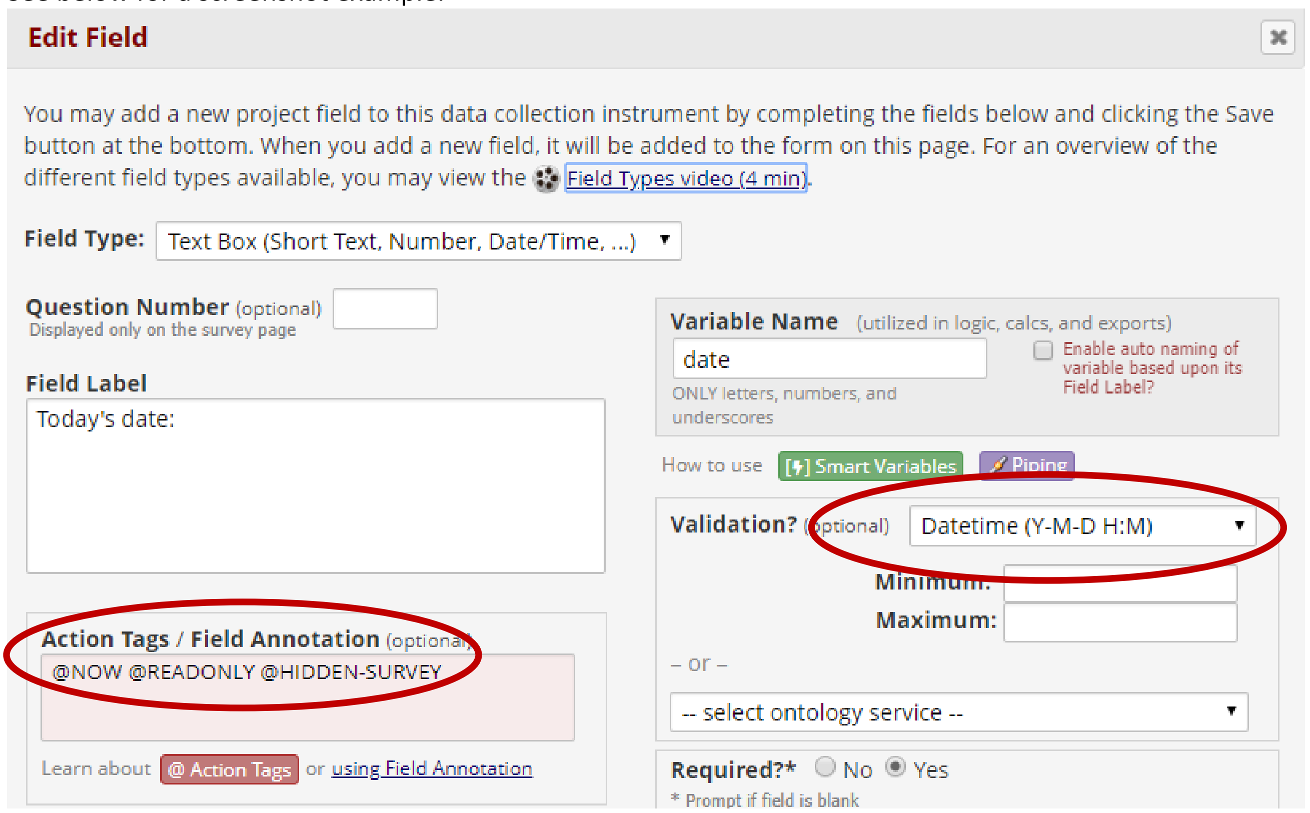


Design tip: Survey Timestamps

While you do have the option in the Reports section to add a survey timestamp to a report, that timestamp is solely for the first survey in your project. If you have multiple surveys, REDCap does not automatically capture those survey completion times in the Report. Additionally, the survey timestamp is not a field on which you can sort your report. So if you need to sort your responses based on completion time, you will not be able to do that.

You can automatically capture the timestamp of subsequent survey completion times (and the initial survey completion time, should you wish to use that field to sort results) using action tags. To do that, add a validated date field as the last field in your survey. When in that field, click on action tag and add 'TODAY' (if your validated option is for date only) or 'NOW' (if your validated option is for date and time.) Also click on 'HIDDEN-SURVEY'. What that does is instruct REDCap to capture the date behind the scenes without the survey participant having to fill it in.

See below for a screenshot example.



Managing and Using Your Reports

The list of Reports & Exports displays the two built-in reports and then any that have been created for your project. The table supports the following tasks:

1. View Report

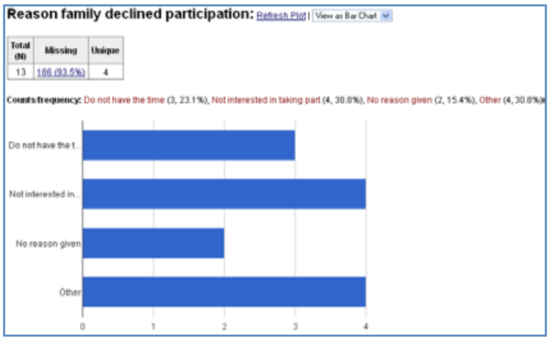
Run the report and display the results in a table onscreen

2. Export Data

Select an export format and any de-identification options and download report data in CSV format, plus a syntax file for the stats package options

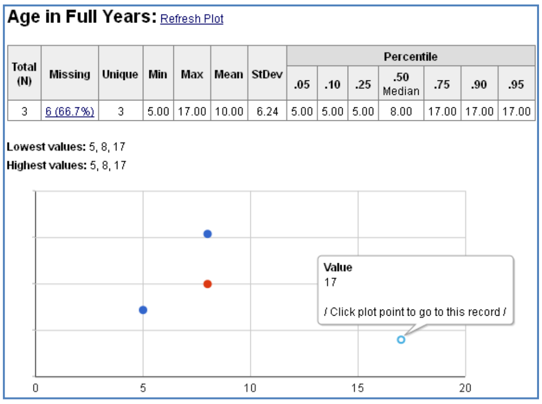
3. Stats & Charts

View plots and summary stats for each variable in the report. It does not enable you to define your own summaries, such as tabulations of two fields.



How the summary data is presented varies according to the field type:

- **Categorical fields**: summarized in bar charts
- **Numeric fields**: summarized in scatter plots. This can be of assistance in identifying outliers. Click on a data point to navigate to the specific record.



- **Text fields**: you see simple totals for the number of records that have data and the number of records where the value is missing

Full Name:

Total (N)	Missing
4	5 (55.6%)

4. **Edit** Report

Return to the edit screen to make changes to the design of the report.

5. **Copy** Report

Create a new report as a copy of the report selected. A new title must be entered, and you may then make alterations to other aspects of the new report's setup (allowed users, fields, record filter, sort).

6. **Delete** Report

Remove the report. There is no Undo!

7. Reorder Report List

You can reorder the list of reports by hovering your mouse pointer over the left-hand column of the table of reports and dragging a row in the table to a new position.

Reports and Data Exports with Repeating Instruments and Events

Two new fields will be automatically included in Reports and Data Exports if data is collected through repeating instruments or events. Each repeated instance of an instrument or event will be displayed as a new row in the report or export file.

A Repeating Instrument will populate both columns and provide multiple rows for each instance.

A Repeating Event will provide one row without populating the Repeat Instrument column (all of the instruments for the event are repeated). The Repeat Instance number is an auto-numbered value (beginning with 1) that is incremented with each repeat of the instrument or event.

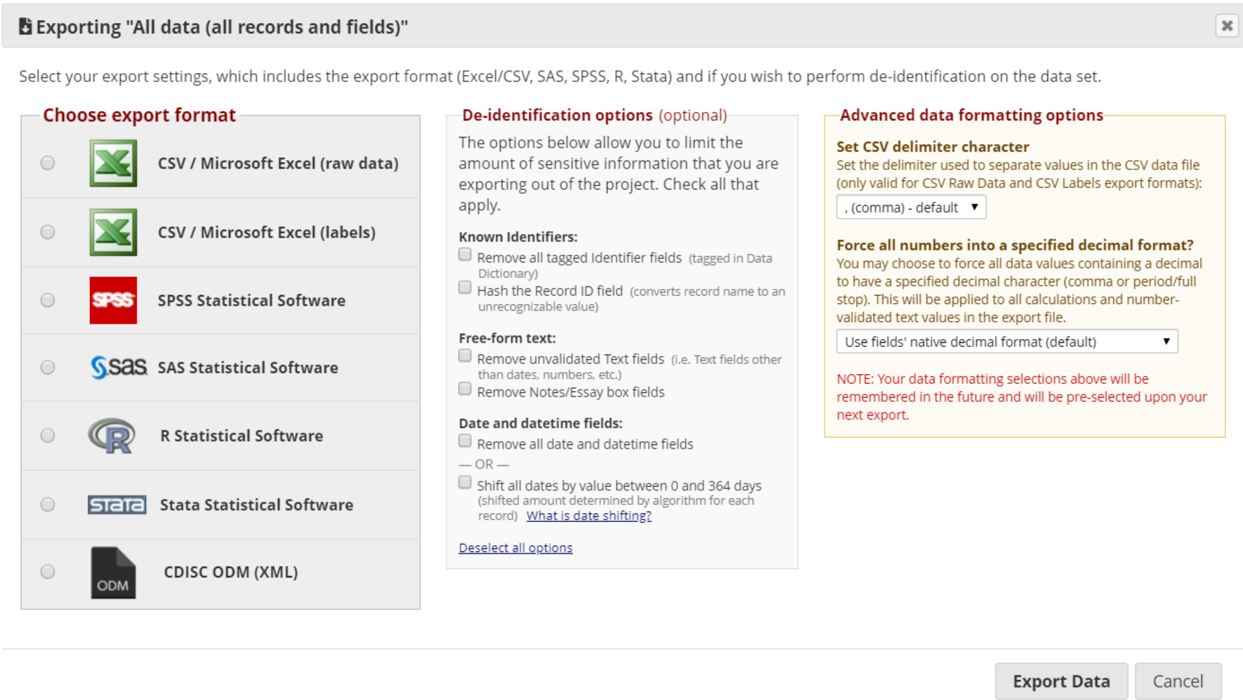
Sample Reporting

Study ID (study_id)	**Event Name** (redcap_event_name)	**Repeat Instrument** (redcap_repeat_instrument)	**Repeat Instance** (redcap_repeat_instance)	**Date collected** (meddat)	**Medication Name** (med)	**Dosage** (dose)	**What is the Adverse Event?** (adverse_event)
1178902	Baseline						
1178902	Baseline	Medications	1	2017-03-23	Tylenol		
1178902	Baseline	Medications	2	2017-03-25	Aspirin		
1178902	Baseline	Medications	3	2017-03-28	Zyrtec		
1178902	Month 1		1	2017-03-20	Prilosec	10 mg	Nausea
1178902	Month 1		2	2017-03-29	Lisinopril	5 mg	Headache

The Medications **Instrument** has 3 instances. The Month1 **Event** with all of its instruments, has been repeated twice.

If the report contains data specifically from a repeating instrument (as opposed to a repeating event), a field named 'redcap_repeat_instrument' will additionally be included, representing the instrument name for which the row of data belongs.

Export Data



After clicking Export Data for a report, you must select the format for the export and any de-identification options.

Export Formats

Choose how you would like to download the data. Either:

1. CSV Format
    - Raw data:
    Variable names in the first row; categorical data shown as values

	A	B	C
1	record_id	participant_complete	consent_survey_complete
2	112	2	2
3	211	2	0
4	212	2	0

    - Labelled data:
    Variable labels shown in first row; categorical data shown as labels

	A	B	C
1	Record ID	Complete?	Complete?
2	112	Complete	Complete
3	211	Complete	Incomplete
4	212	Complete	Incomplete

Use the “Raw” option if you are wanting to take a backup of your data or if you want to use the data for producing charts or to prepare a file to import back into REDCap (or indeed another system).

Remember that CSV files are NOT Excel files, and Excel may not display CSV data exactly how it is in the CSV file. See Note on CSV Files.

2. Statistical Software

For each stats package option (SPSS, SAS, R and Stata) REDCap will give you a raw data file in CSV format and a syntax file that will read in the data from the CSV file and apply the appropriate column formatting, variable labels and value labels.

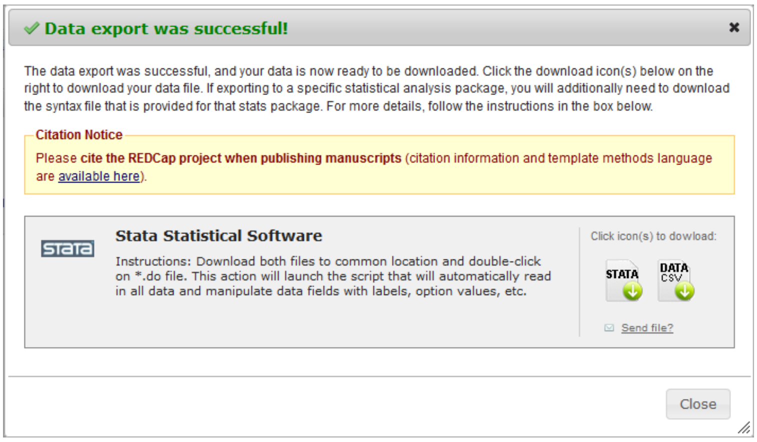
De-Identification

- **Known identifiers**: obfuscate record identifiers and/or ensure all fields that are flagged as identifiers in the online designer or data dictionary are excluded from the export
- **Free-form text**: text entry fields with no validation (and particularly Notes-type fields) may well have identifying information entered into them. You can opt to exclude such fields from the export
- **Date and datetime fields**: can be excluded or date-shifted whereby all dates for each record are shifted by a random but consistent number of days (for example, record 1 dates all +23 days, record 2 dates all +201 days etc.)

For users whose export permissions are set to **De-identified only** (see [User Rights)](#) these options (with the exception of record identifier hashing) are always applied.

Downloading

After the export is run and you have confirmed the citation reminder you are presented with buttons for downloading the files in the format you chose. For example, here a raw data file and Stata syntax (.do) file:



Notes on CSV files:

- Note the reminder to cite your use of REDCap in any published material. See http://www.project- redcap.org/cite.php for some boilerplate text.

- The data in the Excel CSV Raw and stats package DATA CSV files are identical – raw, unlabelled data in CSV format – but the stats package DATA CSV files do not contain header rows (field information is included in the syntax files)

- The **Pathway Mapper** files for SPSS and SAS are Windows batch files. When you have downloaded the associated syntax and data files, you can run (double-click) the pathway mapper. It will update the syntax file's file handle/infile statement so that it includes the full file path to the location where the files are saved.

Using the **Pathway Mapper** is optional (and not possible if you use Mac or Linux). You can perform the same task by manually setting the path in the syntax file, or by setting the current working directory to the appropriate location.

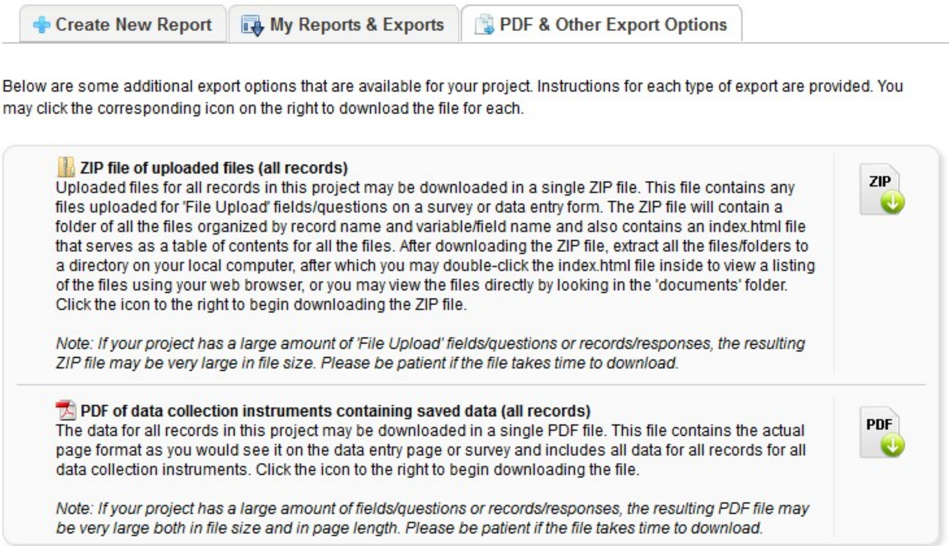
- **Send file?** loads the export files into REDCap's Send-It application, enabling you to send the files securely to anyone

- All exports are saved to the database and can be downloaded again using the File Repository

PDF & Other Export Options

The **PDF & Other Export Options** tab gives you options for downloading:

- A ZIP file containing all files uploaded to all of your project records
- A single PDF containing all data for all forms for all of your project records Further information is available in the text on the page.



Data Import Tool

This application is used when you have existing data that you would like to enter into your project. Detailed steps are provided on the application page. Note that you will need to download the data import template first and the then paste your data into that template.

This tool is helpful to use if you have created a condition that will then schedule an Automated Survey Invitation.

Import Template

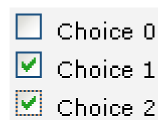
First download an import template file (CSV format). The template contains column headings labelled with the field names from your data dictionary plus the form status indicator fields. Calculated fields are omitted from the template – you may not import data into a calculated field, but calculated fields will be updated following an import.

Your template can be formatted with records in rows or records in columns. “Records in rows” is overwhelmingly more common.

Importing to Checkbox Fields

Checkbox groups are treated as separate fields named according to the field name specified plus a zero-based index. Below illustrates the import template for a checkbox field named checkboxquestion that has three checkboxes. Following import, the first checkbox will be unticked (value=0) and checkboxes two and three will be ticked (value=1).

X	Y	Z
checkboxquestion___0	checkboxquestion___1	checkboxquestion___2
0	1	1



Importing to Date and DateTime Fields

Date values must be formatted as yyyy-mm-dd or dd/mm/yyyy

Date/time values must be formatted as yyyy-mm-dd HH:MM[:SS] or dd/mı
HH:MM[:SS]

D	E
dob	enrol_date_time
2001-10-30	2011-12-14 12:30

Importing to Data Access Groups

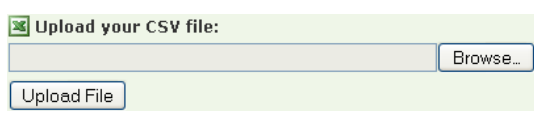
Please see this section of this User Guide.

Calculated Fields

You may not import data into a calculated field, but calculated fields will be updated following an import. Calculated fields are omitted from the import template.

Upload File

Browse to your import file and click **Upload**.

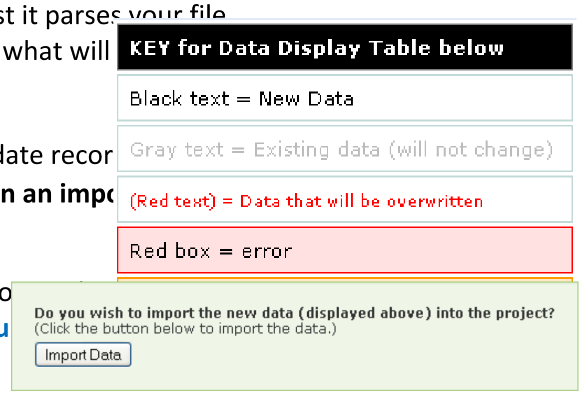


Upload Summary

REDCap does not import the data from the file immediately. First it parses your file and displays a summary view. The summary view highlights what will with each data point in your import file.

Note: data can be imported into your project to create or update recor cannot delete data using the Data Import Tool: **blank values in an impo not overwrite existing data values**.

When you have reviewed the summary page, complete the impo commit the data to the database by clicking **Import Data** (**Su** for longitudinal projects).



Importing Data for Data Access Groups

When importing data into project that uses Data Access Groups, you must include a column that specifies the [Data Access Group](#)(DAG) for each record. Find the values to use on the **Data Access Groups** tab from User Rights.

A	B	C	D	E	F	G	H
study_id	redcap_event_name	redcap_data_access_group	dob	enrol_date_time	enrolment_details_complete	allocation	randomisation_date
1	enrolment_arm_1	melbourne	2001-10-30	2011-12-14 12:30	2		
1	randomisation_arm_1	melbourne				1	2012-02-01
1	follow_up_1_arm_1	melbourne					
1	follow_up_2_arm_1	melbourne					
2	enrolment_arm_2	melbourne	1994-09-15	2011-12-14 10:30	2		
3	enrolment_arm_1	melbourne	1995-12-06	2011-12-15 14:00	2		
4	enrolment_arm_2	melbourne			0		
5	enrolment_arm_1	sydney	2005-03-10	2011-12-14 15:45	2		
5	randomisation_arm_1	sydney					
5	enrolment_arm_2	sydney			0		

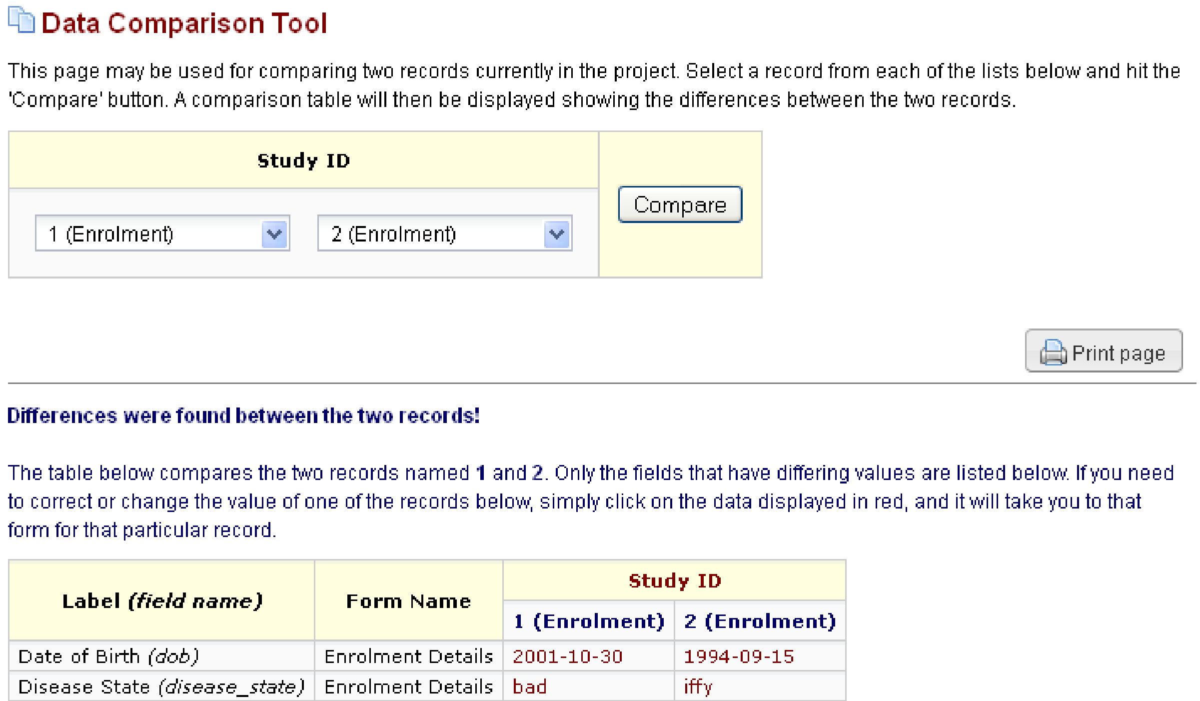
Where the user performing the import is assigned to a DAG, records are automatically assigned to the user's DAG. Such users cannot import records to other DAGs.

Records can also be assigned and re-assigned to a Data Access Group individually from their data entry forms following import.

Data comparison Tool

This application may be used for comparing two records currently in the project. It is typically used for projects using Double Data Entry.

Select a record from each of the lists below and hit the 'Compare' button. A comparison table will then be displayed showing the differences between the two records. Only the fields that have differing values are listed. If you need to correct or change the value of one of the records, you can click on the data displayed in red, and it will take you to that form for that particular record.



Label *(field name)*	Form Name	Study ID	
		1 (Enrolment)	2 (Enrolment)
Date of Birth *(dob)*	Enrolment Details	2001-10-30	1994-09-15
Disease State *(disease_state)*	Enrolment Details	bad	iffy

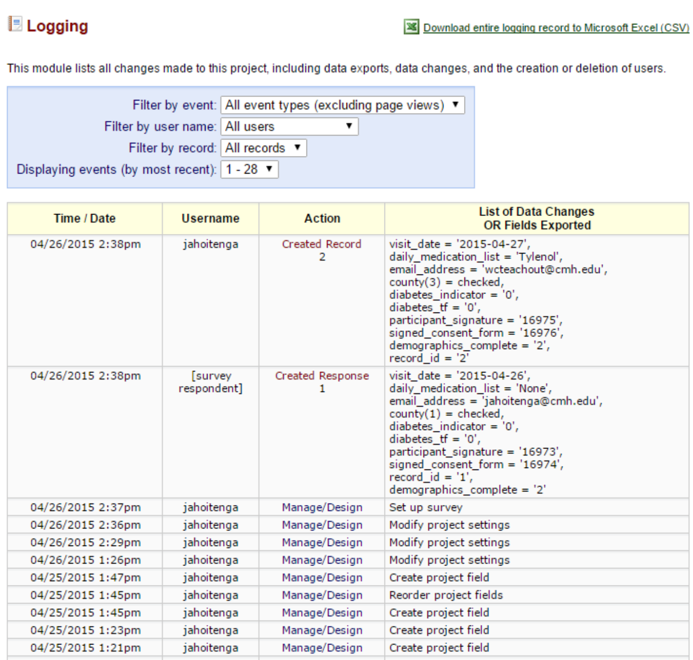
Note: Data Comparison Tool and Repeating Instruments

While repeating instruments/events are fully supported when using Double Data Entry, REDCap states that the Data Comparison Tool ***does not*** *fully* support the Repeating Instruments and Events feature. Data can be compared (and even merged if using Double Data Entry), but REDCap will only allow comparison and merging of Instance #1 of a repeating instrument or repeating event. In other words, all other repeating data will be ignored on this page. Also, all non-repeating data can still be compared and merged.

Logging

The **Logging** module is where you can view audit trail information, i.e. a log of data changes in your project. You can view and reconstruct a history of record creations, updates and deletions and review the activity of your project's users.

This will list the date and time and user or survey respondent who made changes made to the project. This includes data exports, data changes and the creating or deletion of users. **Note:** It does not give you the details of the changes made.



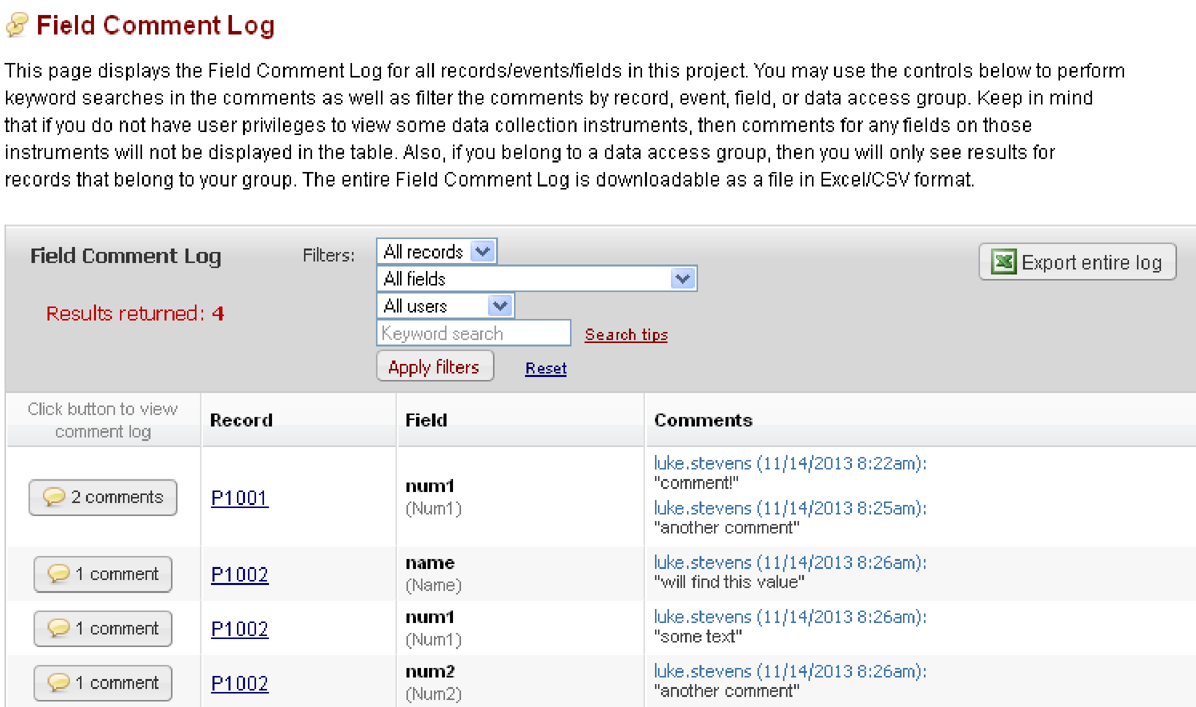
Time / Date	Username	Action	List of Data Changes OR Fields Exported
04/26/2015 2:38pm	jahoitenga	Created Record 2	visit_date = '2015-04-27', daily_medication_list = 'Tylenol', email_address = 'wcteachout@cmh.edu', county(3) = checked, diabetes_indicator = '0', diabetes_tf = '0', participant_signature = '16975', signed_consent_form = '16976', demographics_complete = '2', record_id = '2'
04/26/2015 2:38pm	[survey respondent]	Created Response 1	visit_date = '2015-04-26', daily_medication_list = 'None', email_address = 'jahoitenga@cmh.edu', county(1) = checked, diabetes_indicator = '0', diabetes_tf = '0', participant_signature = '16973', signed_consent_form = '16974', record_id = '1', demographics_complete = '2'
04/26/2015 2:37pm	jahoitenga	Manage/Design	Set up survey
04/26/2015 2:36pm	jahoitenga	Manage/Design	Modify project settings
04/26/2015 2:29pm	jahoitenga	Manage/Design	Modify project settings
04/26/2015 1:26pm	jahoitenga	Manage/Design	Modify project settings
04/25/2015 1:47pm	jahoitenga	Manage/Design	Create project field
04/25/2015 1:45pm	jahoitenga	Manage/Design	Reorder project fields
04/25/2015 1:45pm	jahoitenga	Manage/Design	Create project field
04/25/2015 1:23pm	jahoitenga	Manage/Design	Create project field
04/25/2015 1:21pm	jahoitenga	Manage/Design	Create project field
04/25/2015 1:12pm	jahoitenga	Manage/Design	Edit project field

Notes:

- Note the different filter options to help you narrow the scope of log records included in the view
- You may **Download the entire logging record**, just be aware that this may take some time for large or very active projects.

Field Comment Log

An application that lists all field comments for all records/fields. Field comments can be keyword searched and filtered.



Notes:

- Note the different filter options to help you narrow the scope of comment records included in the view
- You may **Export entire log** in CSV format
- Unfortunately, it is currently not possible to change the month/day/year date format
- Clicking on the Record link for a field will open the associated data entry form and record

File Repository

This application may be used for storing and retrieving files and documents used for this project. For instance, if you have an SOP (standard operating procedure document) or any other reference document which team members might need access to, you can upload it here.

User Files

The **User Files** menu tab is where you view all files that have been uploaded for a project.

Notes:

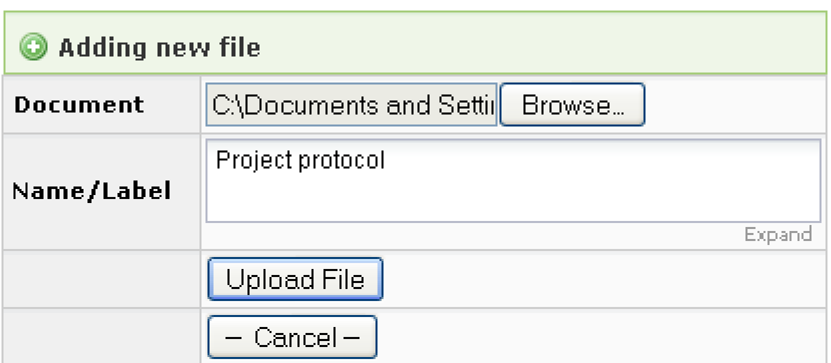
- The four **Actions** are:
  - Download file
  - Edit label
  - Remove file
  - Send the file to anyone using Send-It
- All files will be visible to and all actions can be performed by any user that is given access to the **File Repository** module.

Data Export Files

The **Data Export Files** menu tab gives users with Data Export permissions access to the history of data exports.

Upload New File

Uploading a new file is very straightforward: select the **Upload New File** menu tab, select the file to upload and give it a label, then click **Upload File**.



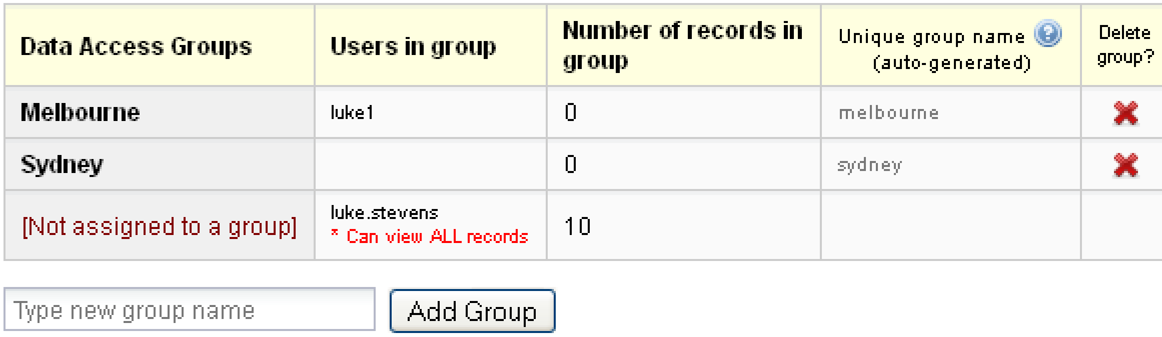
Data Access Groups (DAGs)

For **User Rights**, see Step 5 on the Project Setup tab.

Data Access Group (DAG): Access to certain project records may be limited by using Data Access Groups, in which only users within a given Data Access Group can access **records** created by users within that group. This may be useful in the case of a multi-site or multi-group project that requires that groups not be able to access another group's data.

Create a Data Access Group

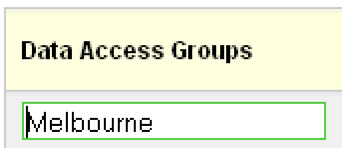
Enter the name of the new group into the text box and click **Add Group**.



Data Access Groups	Users in group	Number of records in group	Unique group name (auto-generated)	Delete group?
Melbourne	luke1	0	melbourne	✖
Sydney		0	sydney	✖
[Not assigned to a group]	luke.stevens * Can view ALL records	10		

The new group will be added to the table. The table also indicates the users that are assigned to each group and the **Unique group name** used in data imports and exports.

Rename a Data Access Group



e a Data Access Group by clicking its name in the table. Click or tab away from the d and the new name is saved automatically.

Delete a Data Access Group

to delete a group.

You must remove all users from the Data Access Group before it can be deleted.

Assign User to a Data Access Group

Select the user and group and click **Assign**. The user will be assigned (or re-assigned) to the group.

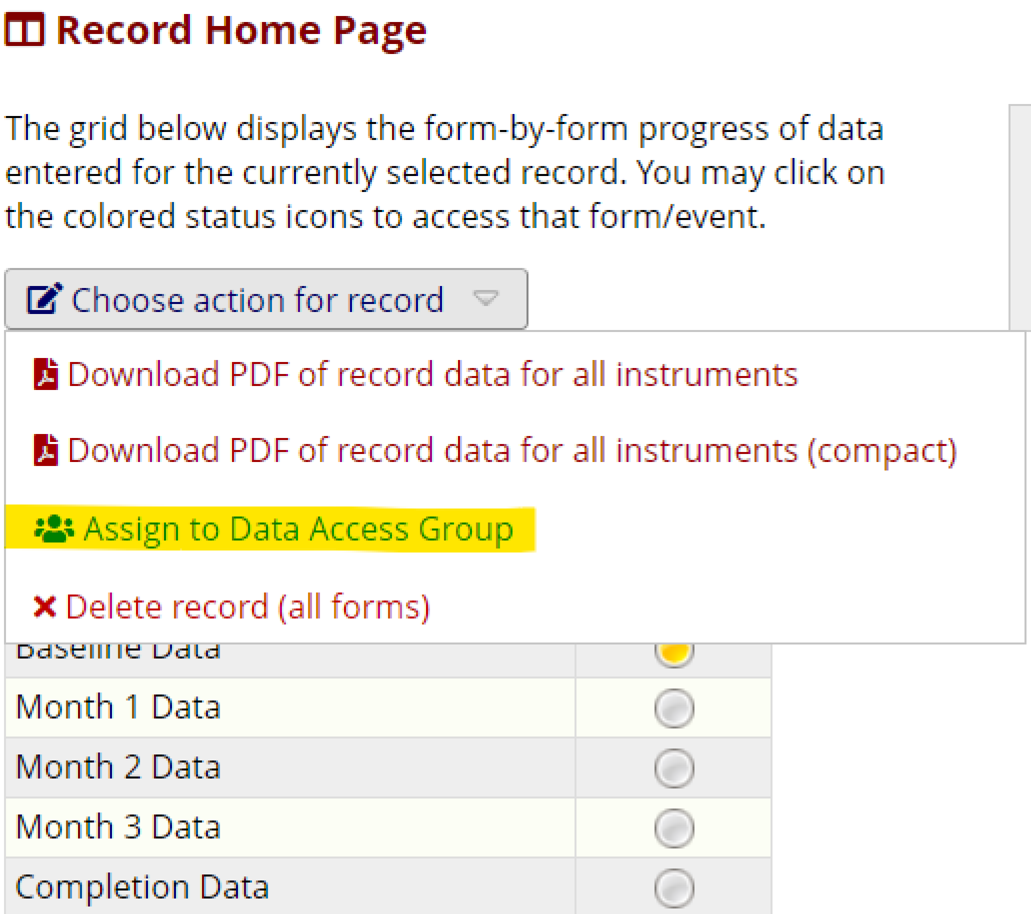
Note that it is not possible for a user to belong to more than one Data Access Group.

Remove User from a Data Access Group

Select the user, then select [No Assignment] as the group. Click **Assign** and the user will be removed from all Data Access Groups.

Assigning Records to a Data Access Group

To add records to a Data Access Group, go to the record home page and select "Assign to Data Access Group":



Using the Data Import Tool to add records to a Data Access Group

Once a Data Access Group is created on a project, REDCap creates a field named "redcap_data_access_group' behind the scenes. To bulk add records to a data access group, go to the Data Import Tool under the Applications section of your left-hand navigation bar. Follow the directions listed on that page. Essentially, after you download the data import template, you will see a column with the header redcap_data_access_group in it. That is the column into which you will enter the DAG group name (not the unique group name or Group ID number listed on the DAG page.) Note that the DAG group name is case-sensitive. You can then enter the record numbers (one per row) that you want to assign to that DAG. You will then upload the new file (with the records and DAG name) back into REDCap on that same page.

For more information on using the Data Import Tool, please see this section of this User Guide.

E-signature and Locking Management

Record locking and e-signatures are optional features that can help you gain greater control over the status of the data in your project.

Records that are **locked** cannot be updated unless the lock is first removed by a user with record Lock/Unlock permissions.

Locked records can be **electronically signed**. A signature becomes invalid if the record is later unlocked.

The **Customization Module** enables configuration of your preferences for locking and e-signatures. By default, they are switched off, but you can enable locking and/or e-signatures for specific forms.

Display the Lock option for this instrument?	Data Collection Instrument	Also display E-signature option on instrument?	Lock Record Custom Text	Edit / Remove Custom Text
☑	Enrolment Details	☐	Save	

The **E-signature and Locking Management** page gives you various views over the Lock/Sign status of your data entry forms.

Download the table below as Microsoft Excel (CSV)

Actions: SHOW ALL ROWS | Show timestamp / user | Hide timestamp / user | Show locked | Show not locked | Show e-signed | Show not e-signed (excludes N/A) | Show both locked and e-signed | Show neither locked nor e-signed (excludes N/A) | Show locked but not e-signed (excludes N/A)

All Records					
Record	**Event Name**	**Form Name**	**Locked?**	**E-signed?**	
1	Enrolment	Enrolment Details	🔒	✔	View record
1	Randomisation	Randomisation	🔒		View record

Data Quality

This application will allow you to execute data quality rules upon your project data to check for discrepancies in your data. Pre-defined data rules that are already developed for you in the application are for such things as missing values, field validation errors and outliers for numerical fields.

A "data quality rule" is a calculation expression that must evaluate to True or False. When a rule is executed on your project data any records for which the expression evaluates False can be viewed and potentially corrected.

The **Data Quality** page includes detailed instructions.

Execute Rules

Execute rules one at a time using **Execute**, or all together using **Execute All Rules**.

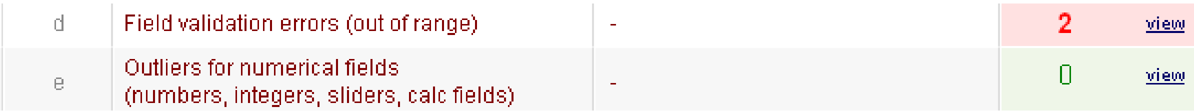
The **Clear** button refreshes the view to the state before any rules have been executed.

Data Quality Rules — Execute All Rules | Clear

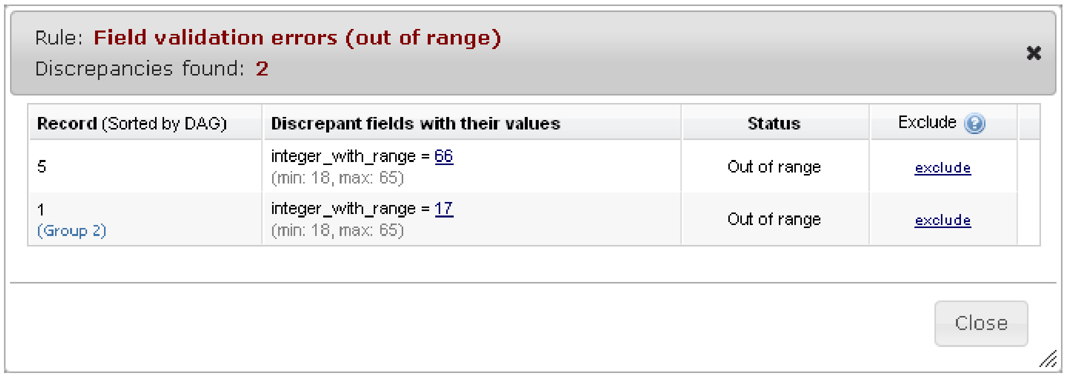
	Rule #	Rule Name	Rule Logic (Show discrepancy only if...)	Total Discrepancies	Group 1	Group 2	Delete rule?
	a	Missing values*	-	Execute			

Discrepancies

Rules that identify discrepancies (i.e. where your project contains data for which the calculation expression returns False) are highlighted in red.



- Click **view** to see the records that fail the test.

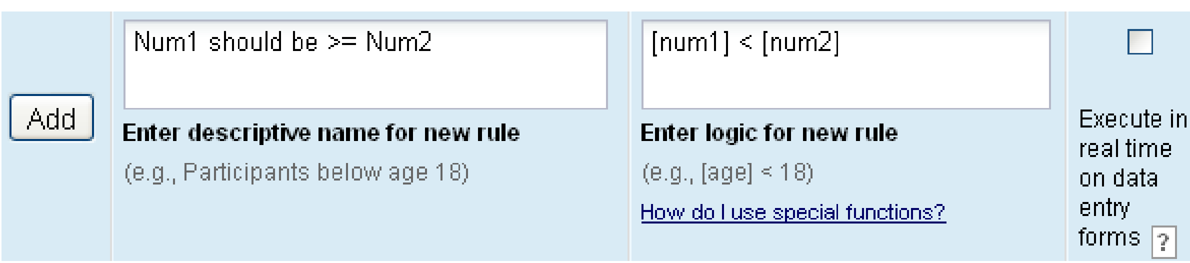


- Navigate to the record / form that contains the discrepant value by clicking on the value

- Clicking **exclude** will mark a discrepant value as not to be included as a discrepancy in future executions of this rule

Add a New Rule

Add a new rule by entering a description of the rule and the calculation expression. Then click **Add**.



For more information on calculation expressions see [Calculated Fields](). Remember that data quality rule expressions must evaluate to True or False.

Important Tip! If your expression includes a "less than" sign (<), ensure that you include a space after it (as shown above). This stops the page thinking that you're entering a potential harmful HTML tag and stripping out the remainder of your expression! Using "Less than or equal to" (<=) is fine – this problem does not occur.

Real Time Execution

Ticking the **Execute in real time** option is a useful mechanism for performing cross-field validation checks during data entry. Rules where this option is ticked will be execute each time you save a data entry form that contains a field that is part of the expression.

Note that the rules are executed on **data entry forms only**: NOT when importing data via Data Import or API, and NOT during survey data entry.

API

The REDCap API ("Application Programming Interface") is an interface that allows external applications to connect to REDCap. It enables remote retrieval or modification of data or settings within REDCap, such as performing automated data imports into or exports from a specified REDCap project.

Please contact the REDCap Administrator for assistance if you believe that you the functionality of the REDCap API might be valuable for your project.

REDCap Mobile App

The REDCap Mobile App is an app that can be installed on an Android or iOS tablet or mobile device so that data may then be collected in an offline fashion on that device.

Please note: the only reason to use the REDCap Mobile App is if you will be collecting data in an area that has unreliable internet. Otherwise, you can use the regular online version of REDCap, since it will work on any mobile device via the device's internet browser.

To watch a brief video overview of the REDCap Mobile App, please see this link. It is 2 minutes in length. You can access the video from the Home or My Projects tab by clicking on Training Videos. If you are in a REDCap project, look on the left-hand navigation bar under the Help & Information section at the bottom of the navigation bar.

For more information on the Mobile App, click on the REDCap Mobile App link on the left-hand navigation bar from within any project. You can also consult the Help & FAQ tab within REDCap for information about the Mobile App.

REDCap Mobile App Help

If you are experiencing problems with your project that uses the REDCap Mobile app, you can:

1. Email redcapapp@vumc.org with your question. Our developer will respond to your inquiry within 1-2 business days.
2. From the mobile device on which the mobile app is downloaded, on the main app screen, there is a button labeled 'report a bug' at the bottom of the screen. Click that button and complete the form. Once your device is connected to the internet, your inquiry will get sent to our team. Our developer will respond to your inquiry within 1-2 business days.
3. Attend the weekly REDCap Mobile App Assistance call. It is held every Monday at 9 am Central. You can join the conference call via this link: **https://global.gotomeeting.com/join/305129941** and enter the access code 305-+129-941.
    a. There might be other mobile app users who are on the call at the same time as you. You can wait your turn and then describe the problem you are having. Our developer can then help you. Oftentimes it is helpful to listen in on the discussion that other users have with the developer, since sometimes they might be having the same issue as you!

To determine if the Mobile App is necessary for your project, consider this information:

Features	REDCap Mobile App	REDCap
Offline data collection	👍	👎
Data collection on mobile device or laptop	👍	👍
Barcode scanning	👍	👎
GPS	👍	👍
Translations	👍	👍
Longitudinal projects	👍	👍
Online Survey *CATS (Computer Adaptive Test Surveys)* *Survey Login* *Survey Notifications* *Survey queue* *Viewing Files* *Inline audio/video* *Stop actions* *Thank-you text*	👎	👍
1000+ field forms	👎	👍
Randomization	👎	👍
Double data entry	👎	👍

MyCap

MyCap is an extension to REDCap that lets researchers capture patient reported outcomes using a participant's phone or tablet. MyCap is similar to REDCap surveys in that participants enter data which is then synchronized to the researcher's REDCap project. REDCap surveys are administered through a web browser whereas MyCap "tasks" are administered through a custom designed mobile application for Android and iOS devices.

MyCap has many features in addition to capturing basic task data:

- **Offline access**: Participants may complete tasks without internet connectivity. Data are stored in an encrypted database on the device and synchronized to REDCap when possible.
- **Active tasks:** Some tasks utilize the device's hardware sensors to capture steps taken, sound, images, video, heart rate, and more. See http://researchkit.org/docs/docs/ActiveTasks/ActiveTasks.html for information on active tasks.
- **Scheduling**: Flexible scheduling for one-time tasks, repeating tasks, and permanent tasks.
- **Reminders:** Participants receive a notification on their device when a task is due.
- **Secure text messaging**: Researchers may send a message to an individual participant or an announcement to all participants.
- **Customization**: Researchers use the MyCap module within REDCap to define informational screens, specify contact information, choose a color scheme.
- **Security**: The MyCap mobile app protects participant data by requiring a 6-digit passcode to unlock the app.
- **Multi-project support**: A participant may join multiple projects on a single device.

For more information about MyCap, please go to https://projectmycap.org/

To experience MyCap:

1) Install MyCap from the Google Play Store or Apple App Store. Links are provided on https://projectmycap.org/.
2) Visit https://www.projectmycap.org/?demo

3) Scroll down to the bottom of the page and submit the "PUBLIC DEMO" form. You should see a QR code after submitting the form.
4) Open the MyCap mobile app and scan your QR code.

To request a new MyCap-enabled REDCap project or to ask any question regarding MyCap, please email mycap@vumc.org.

REDCap Mobile App vs. MyCap

To understand the difference between REDCap Mobile App and MyCap, consider this information:

	REDCap Mobile App	MyCap
Set up	• Requires a REDCap connection through API • App must be downloaded from the app store	• Requires REDCap connection through MyCap module API • App must be downloaded from app store • Only REDCap Administrators can create MyCap-enabled projects
Intended Use	• Offline data collection	• Captures patient-reported outcomes, similar to REDCap surveys. Online or offline
Target Audience	• Data collectors	• Project participants
REDCap feature compatible	• Yes, only features not requiring an online connection	• No, must install the MyCap external module
Data collection on mobile device/laptop	• Android and iOS devices only • Android emulator for laptop use	• Android and iOS devices only
REDCap System/Server Requirements (for most current functionality)	• Version 6.0 and later	• REDCap Version 8.0.3 and later; PHP 5.6
Android	• OS Version 4.3 and later	• Yes
iOS	• OS Version 9.0 and later	• OS Version 10.0 and later

External Modules

External modules are custom features which REDCap users or administrators have developed for use in their particular projects. Modules are like software add-ons or extensions. They are individual 'packages' of software that work *within* REDCap but are not truly part of the *official* REDCap code.

Some of the more popular external modules are:

Email alerts – this module will allow you to set up a notification for actions taken within your project. For instance, if a field in a data entry form or survey is marked a certain way.

Inline Pop-Up text – allows the survey respondent to hover their mouse over text and additional text will appear.

VoteCap – Simple Q&A interface that allows anonymous participants to ask questions and upvote the questions of others. It could also be structured to solicit suggestions and allow other people to upvote those suggestions. The link that is generated is technically what is called a 'plug-in.' You can post that link anywhere and allow people to participate.

Design tip: avoid bots when using a public survey link

If you wish to post the link on a public website and are concerned about bots, you could create a descriptive text field in a survey, add the VoteCap link to it and then enable the Google reCAPTCHA feature on the Survey Distribution Tools page. You would then post that public survey link, rather than the VoteCap link.

Please see our Vanderbilt/Meharry REDCap Resource page for more information about external modules.

Longitudinal Projects

If your project will contain instruments that will be used to collect data numerous times, you will want to enable your project as a Longitudinal Project. An example of a project that is well-suited for longitudinal design is when participants undergo certain assessments at defined time points over the duration of their participation in a study, as defined in the study protocol.

Project Setup

Enable your project as a longitudinal project

On the Project Setup page on the first step, click Enable for 'Use Longitudinal data collection with defined events".

Design instruments

You will want to next design your data collection instruments and then follow the below steps to round out the longitudinal aspects of your project design.

Design Tip: calculated fields and branching logic in longitudinal projects

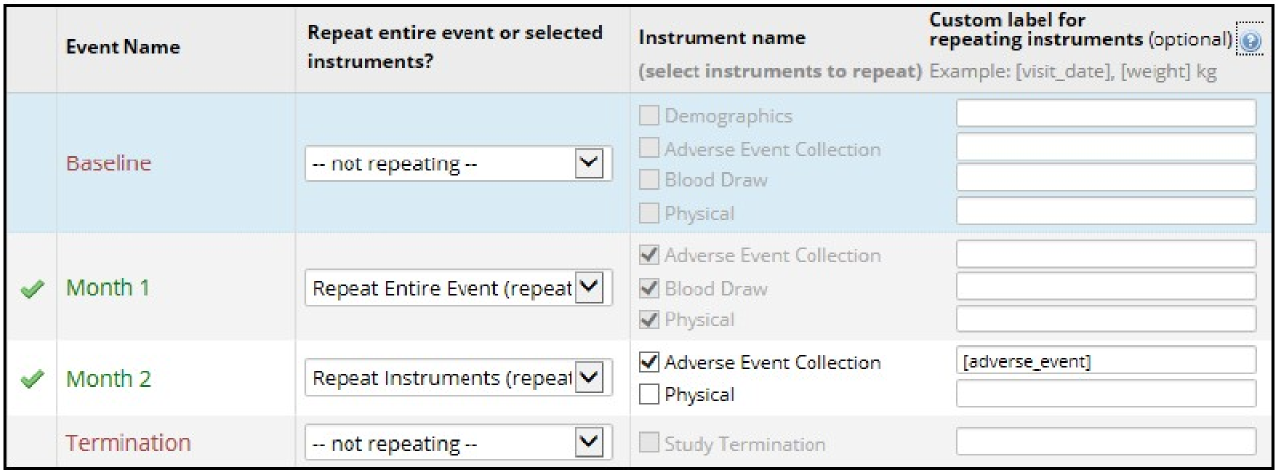
When using calculations and branching logic that reference variables in different events, be sure to include the unique event name before the variable. If the unique event name is not added before the variable, the calculation/bl will not work.

If you want to pipe in data from an event ***that is not the current event***, you need to pre-pend the appropriate unique event name, also enclosed within square brackets. For example, [enrolment][first_name]. Unique event names can be found by going to Project Setup/Define My Events. You will see an events table, and the last column shows you the Unique event name, which is automatically generated by REDCap.

Enabling Repeating Instruments and Events in a Longitudinal Project

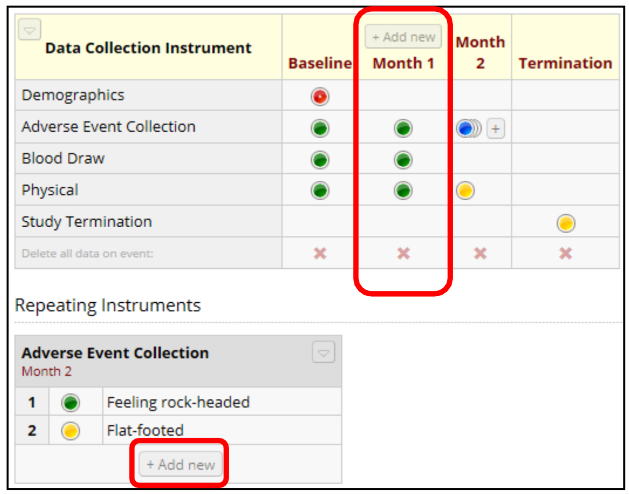
While the repeating instruments feature allows you to repeat a given instrument as a single unit, the repeating events feature allows you to repeat an entire event of instruments together, in unison. This might be useful when multiple instruments have data correlating together, such as multiple surveys which are collected back to back for a specific time-point or visit, for example.

Note: this option assumes 1) events are already defined and 2) instruments have been designated to events.



💡 ***Tip:** If you repeat all of an Event's instruments together, add new instances of the Event by clicking the + sign in the **column** (see Month 1).*

*Add a new instance of an **individual***



For more information about Repeatable Instruments, please see this section of this User Guide.

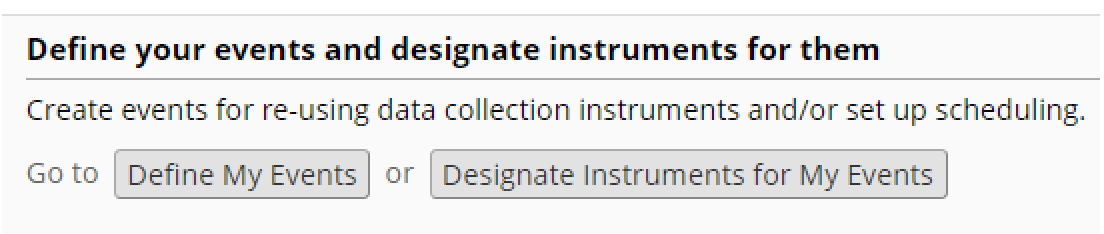
Design your Event Grid

When your project is configured as longitudinal you can define a series of events and associate data collection forms with those events.

An Event Grid determines how scheduling will work and how data will be created in your longitudinal project. Designing your Event Grid is comprised of two steps:

1. Defining your events
2. Designating (or assigning) instruments to your events

Those two steps can be found on your Project Setup page, after you have enabled your project for longitudinal data collection.



These steps should only be done while the project is in Development mode (not Production.)

Define My Events

To define events click **Define My Events** on the **Project Setup** page. The **Define My Events** page opens.

	Event #	Days Offset	Offset Range Min / Max	Event Name	Unique event name (auto-generated)
	1	0	-0/+0	Enrolment	enrolment_arm_1
	2	1	-0/+0	Randomisation	randomisation_arm_1
	3	7	-0/+0	Follow Up 1	follow_up_1_arm_1
	4	14	-0/+0	Follow Up 2	follow_up_2_arm_1
Add new event		Days Convert from other units	-0 +0	Descriptive name for this event	

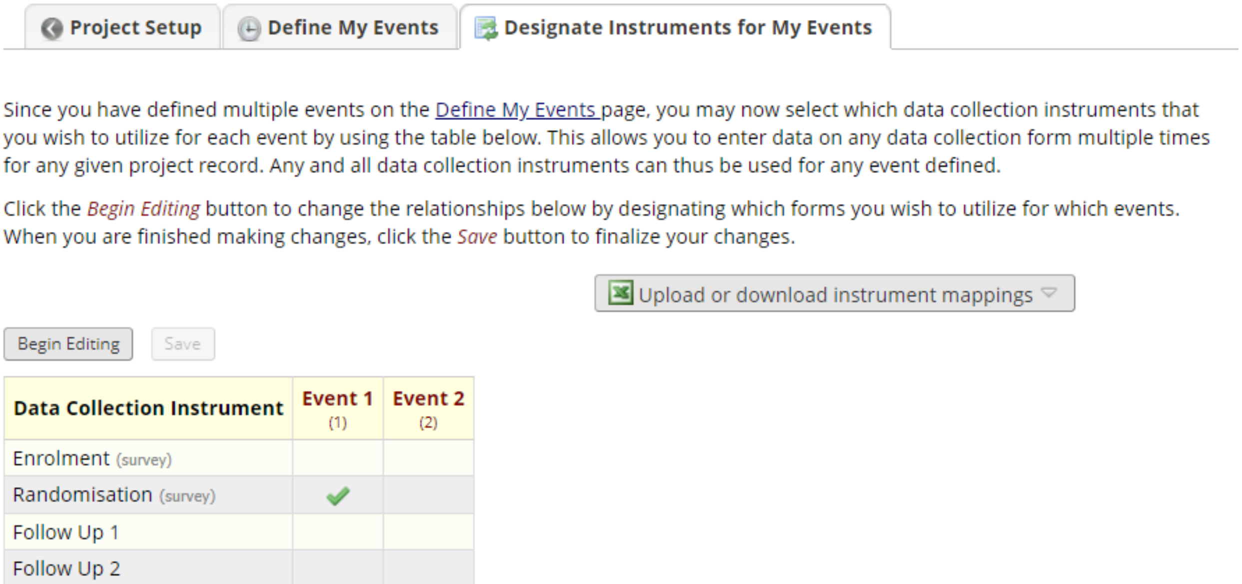
Notes:

- The edit button ( )facilitates editing a record
- Use the delete button ( ) to remove an event from the schedule
- To add an event, enter data into the text boxes then click **Add new event**
- The number of events you can define is limited only by your patience for creating them and assigning forms!
- **Days Offset** is the number of days from an arbitrary baseline on which an event will be created when using the Scheduling module. If not using the Scheduling module Days Offset is just for information.
- **Days Offset** can be negative
- **Offset Range** is a number of days before (-) or after (+) the date set using Days Offset. There is no special significance to this range within REDCap, other than that a warning message is displayed if you move the scheduled event date to a date that is outside of the range. For example, an event is scheduled on 10th June +/-5 days. If the event is rescheduled to a date before June 5th or after June 15th a warning message is displayed that prompts the user to confirm that they accept the new out- of-range date. See Scheduling for more information about the Scheduling module.
- Note the settings for **Unique event name**. These codes are used when importing and exporting longitudinal data.

Designate Instruments for My Events

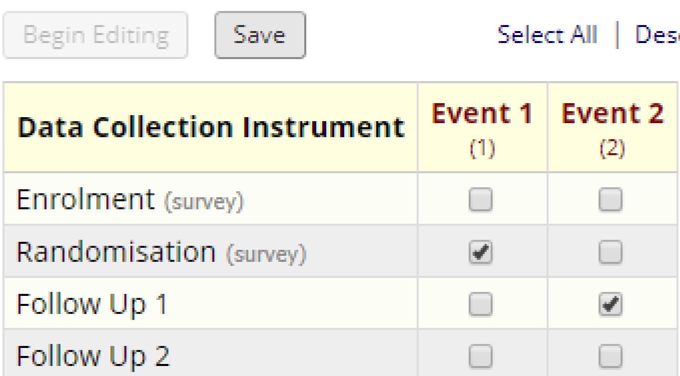
The next step in setting up your event grid is to assign your data collection instruments to your events. Designating your instruments creates links between events and data collection instruments. This allows completion of any instrument multiple times for each record.

To assign data collection forms to events click **Designate Instruments to My Events** on the **Project Setup** page or on the **My Events** page. The event setup page opens.



The Designate Instruments page displays a grid of events, instruments and arms. Each event has its own column, each instrument has its own row, and (if applicable) each arm has its own tab.

Designating instruments to your events is a required step for your longitudinal project to work. To designate the instruments to events, click on ‘Begin Editing’ and select the instruments that are to be assigned to events by ticking the boxes.

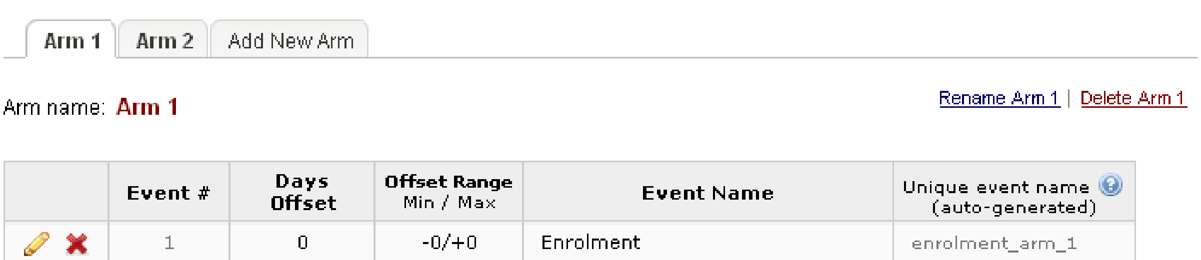


Remember to designate instruments for each arm of the project. Each arm uses a separate series of events, but all arms use the same instruments. For more information about defining arms, see below.

Defining Arms

REDCap’s Arm functionality enables you to create alternative event schedules for different groups of participants: different randomized treatments, for example.

Name your arms and set up the events as described for Define My Events.

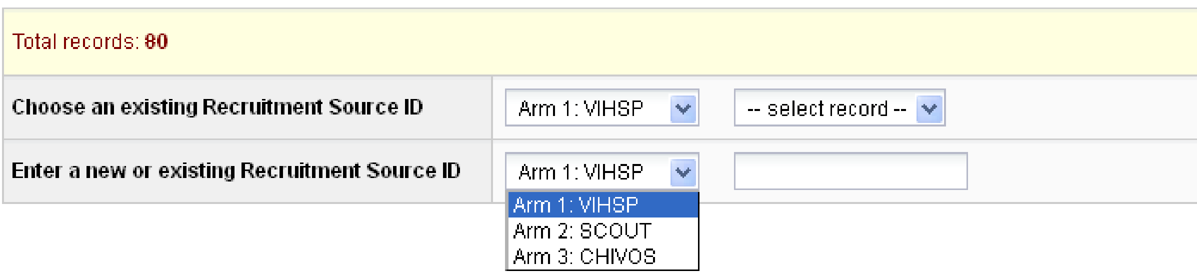


Participant records are assigned to an Arm when they are created. **It is not possible to later edit the arm to which a record is assigned**, although it is straightforward to export data, delete the record and recreate it in the correct arm, and then import the record's data.

Projects where the arm is not known at the time records need to be created (a project with an enrolment phase, followed by a randomization at a later date, for example) should be set up with an arm specifically for the initial phase, as well as arms for the randomized treatment phase. Following randomization, a record can be created in the appropriate randomized arm with a record id that matches the record in the initial arm.

Creating a New Record: Arms

You must select the arm appropriate to your new record before creating the record in the same manner as described above.



For longitudinal-type projects where multiple Arms are defined (see Defining Arms), each arm functions essentially as a distinct project. **Record identifiers are unique only within an arm**: you can have a record identified with study_id=1001 in both Arm 1 and Arm 2, for example.

It is not possible to ensure that a record identifier is unique within the project, although REDCap does provide a warning when creating a new record with a record identifier that matches one from another arm:

Records are assigned to an Arm when they are created, and **it is not possible to later edit the arm to which a record is assigned**. There are ways to handle the need for a record to switch to another arm, however, depending on the reason why the switch is required.

Switching Arms: Correcting an Incorrect Arm Assignment

A switch of arm can be achieved indirectly via an export-import "shuffle":

1. Using the Data Export module perform the "Export all project data" task and download the data in **Raw CSV** format
2. Locate the data row (or rows) that relate to the record to be switched to a different arm. There will be more than one row if data exists for more than one event: rows are uniquely identified by the combination of record identifier (e.g. study_id) and event reference (e.g. enrolment_arm_1).
3. Delete all rows that correspond to other records
4. Correct the event reference, e.g. change enrolment_arm_1to enrolment_arm_2.

5. Save the file in CSV format. **Ensure that all dates remain in yyyy-mm-dd format and any leading zeros in numeric fields are preserved.** Excel can be unhelpful here: see Note on CSV Files.

6. Use the Data Import tool to re-import the record's data

7. View the newly imported record to ensure that the data has been imported as you expect

8. Delete the original record from the incorrect arm

To perform these tasks user(s) require Create Record and Delete Record permissions and permission to access the **Data Export** and **Data Import** modules.

Switching Arms: Progression Through Study

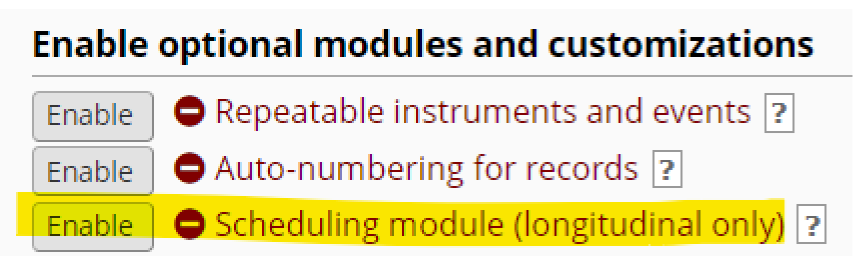
Projects where the arm is not known at the time a record is created should be set up with an arm specifically for the initial phase, as well as arms for any subsequent phase(s). Create the record in the initial arm, then later create a record in the appropriate subsequent arm with a record id that matches the record in the initial arm. REDCap warns you of the duplicate identifier, but in this case, you expect to see this message: you have mistyped the identifier if you don't.

Scheduling

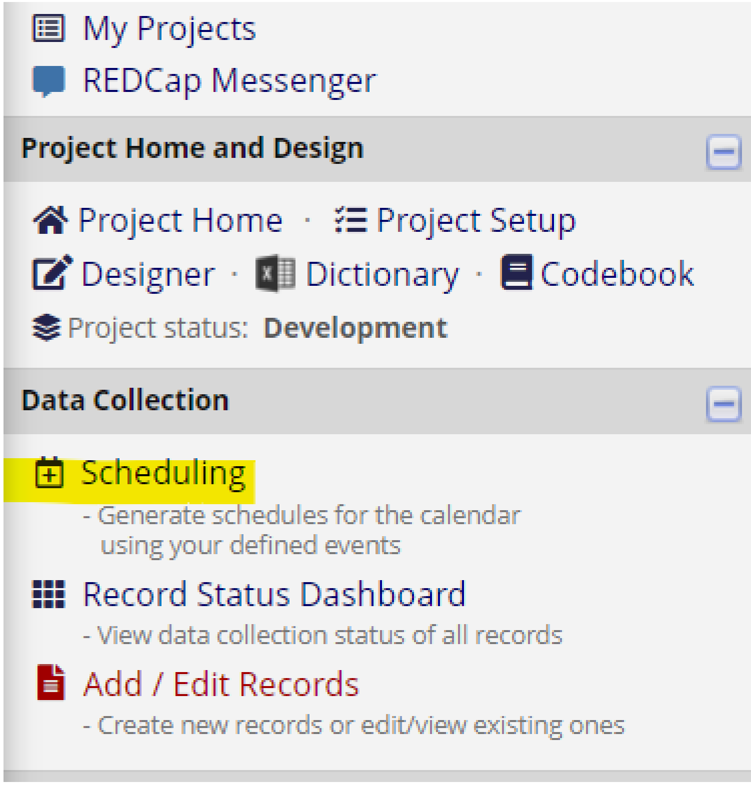
The **Scheduling** module is optional for longitudinal projects. It works in conjunction with the events you have created to enable you to generate an event schedule for each individual project record. Typically, this is a calendar of a participant's study visits.

Enable Scheduling module

To make use of the scheduling module, you must first enable the feature on the Project Setup page under Enable optional modules and customizations:

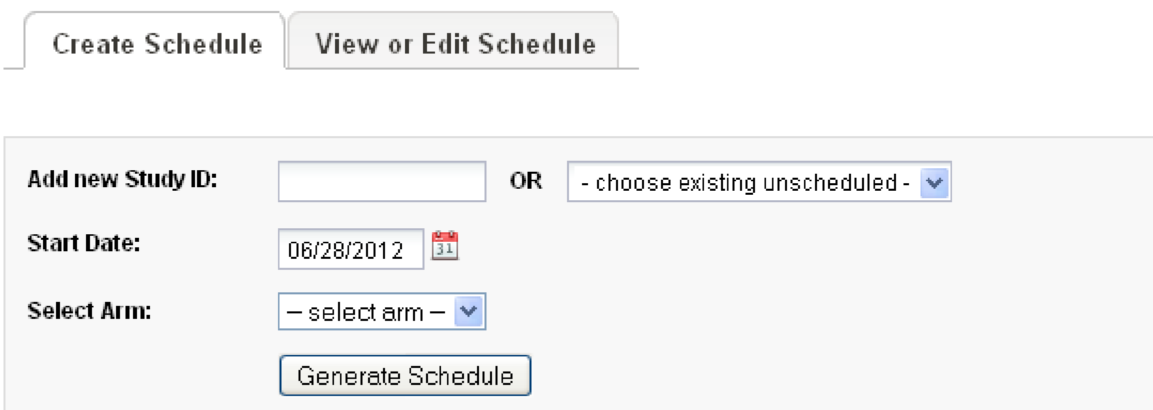


Once it is enabled, you will be able to access it via the **Scheduling** button in the left-hand menu in the Data Collection section:



Create a Schedule

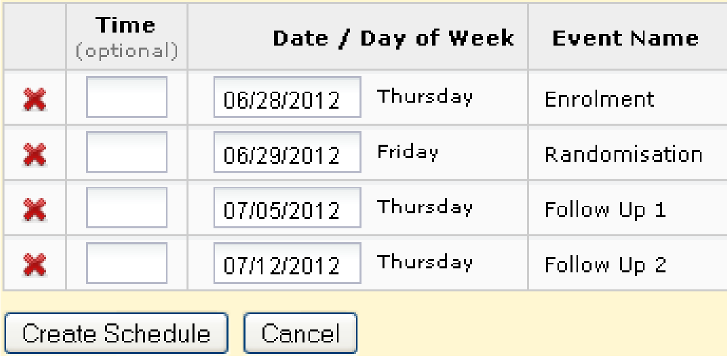
Create participant schedules on the **Create Schedule** tab.



Notes:

- You can create a new record here by entering a new record identifier in the text entry box: be sure to select the correct arm if your project has multiple arms (see Creating a New Record: Arms).
- Start Date is the baseline date for the schedule: the date from which each event's offset days is calculated.

A "projected schedule" is generated and displayed, allowing you to adjust event dates and times (avoiding weekend visits, for example). The schedule is not saved until you click **Create Schedule**.



Automatic Generation of Schedules

View or Edit Schedule

Select the relevant record to view the associated schedule.

- Edit ( ): edit the date, time, status or notes for the schedule event
- Delete ( ): remove the schedule event. **Be careful: there is no 'Undo'!**
- View ( ): Open the schedule event in a dialog box. Also permits editing.

Do not delete event records unless you really mean to!

Schedule events across all records in your project may be viewed in a calendar format using the Calendar module.

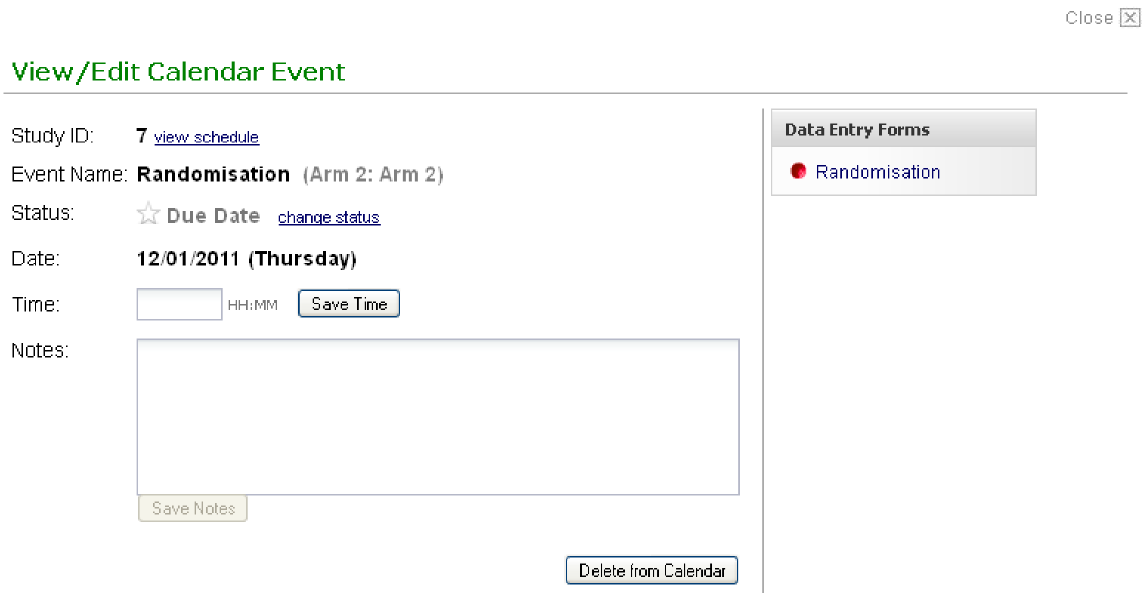
Calendar

The **Calendar** module integrates with REDCap's scheduling functionality to provide a calendar-based view of participant events.

- Select the **Day**, **Week** or **Month** to view the events for that period
- **Agenda** shows a list of the events for the period in date order
- The **+ New** button will add a new ad-hoc event to the calendar, but you cannot associate data entry forms with ad-hoc events

Calendar Events

- Click on an event to view and make edits to the calendar event



- Note the link to the data entry forms that are associated with the study event. Click the link to go to the form for data entry.

- The **Event Status** field has five settings:
  - Due Date
  - Scheduled
  - Confirmed
  - Cancelled
  - No Show

  The colored event status indicator changes (as shown) according to the status of the event.

  REDCap ascribes no particular significance to the status of an event, which means that you can use these status flags in any way that suits you. The wording of the label does not bind you to any specific meaning.

Exporting Longitudinal Data

With longitudinal projects you will find that your exported data contains multiple rows per project record: one row per record per event for which data is exported, as illustrated below:

	A	B	C	D	E
1	study_id	redcap_event_name	dob	randomisation_date	follow_up_date
2	1	Enrolment (Arm 1: Arm 1)	30-10-2001		
3	1	Randomisation (Arm 1: Arm 1)		01-02-2012	
4	1	Follow Up 1 (Arm 1: Arm 1)			14-02-2012
5	1	Follow Up 2 (Arm 1: Arm 1)			19-02-2012

It is done this way to handle situations where a field occurs on a form used in more than one event, such as follow_up_datein the illustration above.

For your analyses you will often (but not always) need to manipulate the data so that it has all data for a record in a single row. Your stats package will have tools for accomplishing this kind of task (e.g. reshapein Stata, casestovarsin SPSS).

After reshaping, the data above will appear in a manner similar to this:

J	K	L	M	N
study_id	dob	randomisation_date	follow_up_1_date	follow_up_2_date
1	30-10-2001	01-02-2012	14-02-2012	19-02-2012

Longitudinal Reports

The current report builder is very limited when it comes to building report in longitudinal projects. Due to the fact that a field may be associated with multiple events, you get a result row for each record *for each event*, as illustrated below.

Study ID (study_id)	Event Name (redcap_event_name)	Date of Birth (dob)	Enrol Date (enrol_date)	Randomisation Date (randomisation_date)	Second Dose Date (second_dose_date)	Follow Up Date (follow_up_date)
1	Enrolment	2001-10-30	2011-12-14			
1	Randomisation			2012-02-01		
1	Follow Up 1					2012-02-14
1	Follow Up 2					2012-02-19
2	Enrolment	1994-09-15	2011-12-14			
3	Enrolment	1995-12-06	2011-12-15			

It severely restricts the usage of limiters because report records for events not associated with the field will never contain data for the field the limiter is applied to, and will therefore be excluded from the report results.

For example, say we wanted to view data for project records with dob < 01-01-2000. If we specify a filter of dob < 01-01-2000 then data from Randomization and Follow Up events will no longer appear in the result set because there can never be a value for dob associated with those events.

Importing Data for Longitudinal Projects

Follow the Instructions for Applications/Data Import. Additionally, when importing data into a longitudinal project, you must include a column that specifies the unique event name for each record. Find the values to use on the **Define My Events** page from **Project Setup** (see Define My Events).

A	B	C	D	E	F	G	H
study_id	redcap_event_name	redcap_data_access_group	dob	enrol_date_time	enrolment_details_complete	allocation	randomisation_date
1	enrolment_arm_1	melbourne	2001-10-30	2011-12-14 12:30	2		
1	randomisation_arm_1	melbourne				1	2012-02-01
1	follow_up_1_arm_1	melbourne					
1	follow_up_2_arm_1	melbourne					
2	enrolment_arm_2	melbourne	1994-09-15	2011-12-14 10:30	2		
3	enrolment_arm_1	melbourne	1995-12-06	2011-12-15 14:00	2		
4	enrolment_arm_2	melbourne			0		
5	enrolment_arm_1	sydney	2005-03-10	2011-12-14 15:45	2		
5	randomisation_arm_1	sydney					
5	enrolment_arm_2	sydney			0		

Public Survey Links within a Longitudinal Project

If you have surveys in multiple arms, REDCap will generate a unique public survey link for the first survey in each arm.

To access your public survey links, go to Survey Distribution Tools on the left-hand menu. You'll see your Public Survey Link tab and a line of text that reads "The survey link below applies only to "x." There is a drop-down menu next to the name of your first arm. You can click on the drop-down arrow to get the public survey link for the other arms within the project.

Double Data Entry

Double data entry is a tried and tested strategy for validating data entered manually. Ideally all records would be entered twice by different data entry persons, but if this is not practical, double entry and checking of just a sample can be a worthwhile compromise.

REDCap contains specific functionality for managing double data entry, but there is a requirement that specific users are allocated to entry roles 1 and 2. This is often too restrictive for projects that have several data entry staff that might fulfil different roles at different times.

An alternative – similar – method is for each record to be entered as normal once, then for a duplicate record to be entered as a new record but with a suffix appended to the record identifier, for example:

`study_id`
1001
1002
1003
...
1001-duplicate 1002-duplicate 1003-duplicate
...

Validation of the data entry is performed using the Data Comparison Tool(and source data e.g. paper CRF). Each pair of records is viewed in the tool, which highlights any instances where a field value differs between the pair. Data can be corrected and the "-duplicate" records dropped from data exports prior to analysis.

eConsent

There is an electronic consent (or eConsent) framework available in REDCap. This is typically used when consenting participants for a research study. The eConsent framework only works as a survey (not a data collection instrument.) Please see Survey Termination Options/Auto-Archiver = eConsent Framework above.

Setting up eConsent

You will need to design the content of your eConsent form. That will be dictated by what was approved by the IRB. You will add the fields to that instrument that provide the information you want given to the participant and then have the fields that you want the participant to complete. The eConsent framework then provides the mechanics by which the participant is able to review the information they have provided before submitting and also saves an electronic version of their consent into the file repository of your project.

1. Design your consent survey in Online Designer
2. If you wish the consent survey to be distributed via the public survey link, the consent survey will need to be the first instrument in your project
3. Enable the eConsent instrument as a survey by clicking 'enable' under the column "Enabled as survey."
    a. If you are not seeing the Enable button, that means you do not have surveys enabled on your PROJECT. Go to Project Setup and click on the button 'use surveys on the project'
4. You will be brought to Survey Settings
5. **To set up eConsent framework**, see the section called "PDF Auto-Archiver." In that section, select the option "Auto-Archiver + e-Consent Framework." You can read more about that framework by clicking on "What is the e-Consent Framework?" hyperlink in that section.
6. Be sure to click the Save Changes button at the bottom of that page.

Content of e-Consent survey

Vanderbilt's IRB has a publicly-available webpage about e-consent (including a template REDCap data dictionary) which explains some general background and other useful information: https://www4.vanderbilt.edu/irb/2015/03/e-consent-faqs/

StarBRITE also has a resource about e-consent: https://starbrite.vanderbilt.edu/managedata/eConsent.html

Please use this information to coordinate closely with your IRB to learn about what they require for your specific protocol.

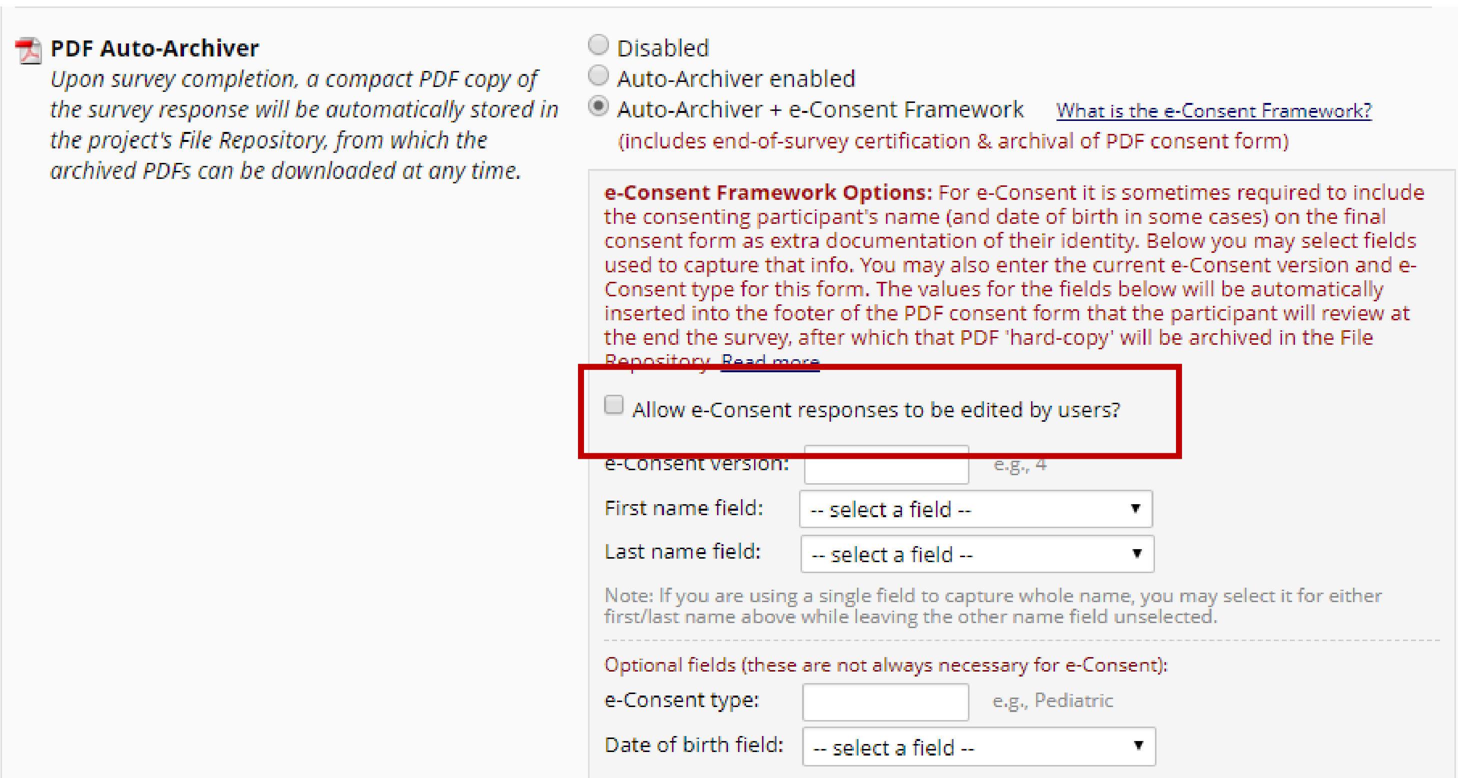
We recommend exploring all the options in both REDCap and with your study oversight to determine which REDCap features are most applicable to your work. Your oversight/governing bodies certainly have the final say in what they consider 'valid' – e.g. yes/no fields, typed vs. signed names. You can use REDCap's features to build your e-consent form however you (and they) wish.

Viewing eConsent documents

As a participant submits their survey in a project that has the eConsent framework enabled on it, their signed eConsent form will go directly to your Projects File Repository. You can access the File Repository on the left-hand navigation bar under Applications.

Editing e-Consent documents

You may need to edit a participant's eConsent form (for instance, if they entered their name as Rob and it should be Robert. If you anticipate this might happen, tick the box for "Allow e-Consent responses to be edited by users?" (see image below.)



Updating your e-Consent form

As your study progresses, you may find that you want to edit the terms of the consent form. To do that, update your e-Consent survey fields and then change the e-Consent version number in the Survey Settings. This will make it very clear which version of the consent document that the participant signed.

Also see this section of our Vanderbilt Meharry REDCap user page for more information on eConsent.

Twilio

REDCap's Twilio module enables your project to make and receive voice calls and SMS text messages, both ***from*** and ***to*** survey respondents. This module uses a third-party web service named **Twilio**. You must have a Twilio account to use this module and your project must have a survey in it.

For further information about this feature, please see this section of our Vanderbilt Meharry REDCap user page.

External Modules

Definition

External Modules are individual packages of software that can be downloaded and installed by a REDCap administrator. Modules can extend REDCap's current functionality and can also provide customizations and enhancements for REDCap's existing behavior and appearance at the system level or project level.

Disclaimer

Please be aware that External Modules are not part of the REDCap software but instead are add-on packages that, in most cases, have been created by software developers at other REDCap institutions. Be aware that the entire risk as to the quality and performance of the module as it is used in your REDCap project is borne by you and your local REDCap administrator. If you experience any issues with a module, your REDCap administrator should contact the author of that particular module.

For more information on External Modules

You are welcome to consult the Vanderbilt/Meharry Resource page to learn more about external modules. There is a separate page for external modules within that site. The direct link to that page is here.

To see what external modules are available

From within any REDCap project, click on the External Modules link in the left-hand navigation bar (in the Applications section.)

To request an external module to be enabled

External modules are enabled on a project by project basis. To request a module to be enabled in your project, use the blue 'Contact REDCap administrator' button on the left-hand navigation bar within your project. That will pre-populate an email with your VUNet ID and project name. State in the email which external module you wish to have enabled for that project.

To configure an external module

Most external modules come with downloadable documentation. The module authors (who very often are not with Vanderbilt/Meharry) are only required to include very minimal instructions. Trial-and-error is generally the best way to learn about any particular module and figure out how to set it up. Administrator guidance is limited on helping you configure the external module on your project. However, you can email redcap@vanderbilt.edu or come to our Help Clinics for in-person guidance and we will try to help you as best we can.

Reporting bugs in external modules

The modules are provided as-is. In most cases, if you have encountered a bug, you'll need to contact the module's author and ask if/when they are willing to fix it. Please be mindful that authors are under NO obligation to do this, or to even reply to your email.

Further customizations to your REDCap project

If you are interested in changing, customizing, personalizing, or extending a particular module, so that it better addresses your specific needs, you are also welcome to contact Vanderbilt's Data Core (datacore@vumc.org) to explore their fee-based software development services. Customizing external modules for better use in your Vanderbilt projects usually requires a fee-for-service contract, even if the modules were originally developed and authored by the Core.

Communication Tools within REDCap

REDCap Messenger

REDCap Messenger is a tool for users to communicate with each other **securely** while logged into REDCap. Only users who have an account with the Vanderbilt REDCap installation will be able to use this tool. Perhaps you wish to discuss data entered on a particular patient/participant and need to reference sensitive health information in the message. Messenger allows you to include that PHI in a secure environment.

Message structure and capabilities

Messages can be one-to-one or you can organize a group conversation with many users. You are able to attach files to the conversation threads.

Message notifications

You are alerted that a new message is waiting for you when you see an explanation point on the Messenger icon…

…on the top navigation bar when you are on the Home or My Projects tab:

…on the left-hand navigation bar if you are in a project:

If you receive a message while you are not logged in to REDCap, Messenger will send an email informing you of any unread messages (note: the email will NOT contain the message text itself.) You can adjust your preferences for this setting in the My Profile section of REDCap, which you can access from the Home or My Projects tab.

Please note that sometimes REDCap administrators will post messages to all REDCap users via Messenger. Be sure to read the messages for information about REDCap-related events, new features and improvements.

We do ask that you NOT use Messenger to ask the REDCap administrative team questions about your REDCap project. Instead, please use the blue button within your project or email us directly at redcap@vanderbilt.edu.

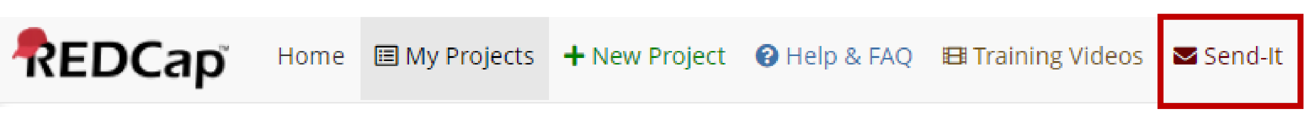
Send-It

Send-It is the perfect solution for anyone wanting to send files that are too large for email attachments or that contain sensitive data. Send-it allows you to upload a file (up to 125 MB in size) and then allow multiple recipients to download the file in a secure manner. The recipient does NOT need to be a REDCap user or affiliated with Vanderbilt/Meharry.

Each recipient will receive an email containing a unique download URL, along with a second follow-up email with the password (for greater security) for downloading the file. The file will be stored securely and then later removed from the server after the specified expiration date. You have the option to receive an email notification informing you when the file has been downloaded by each recipient.

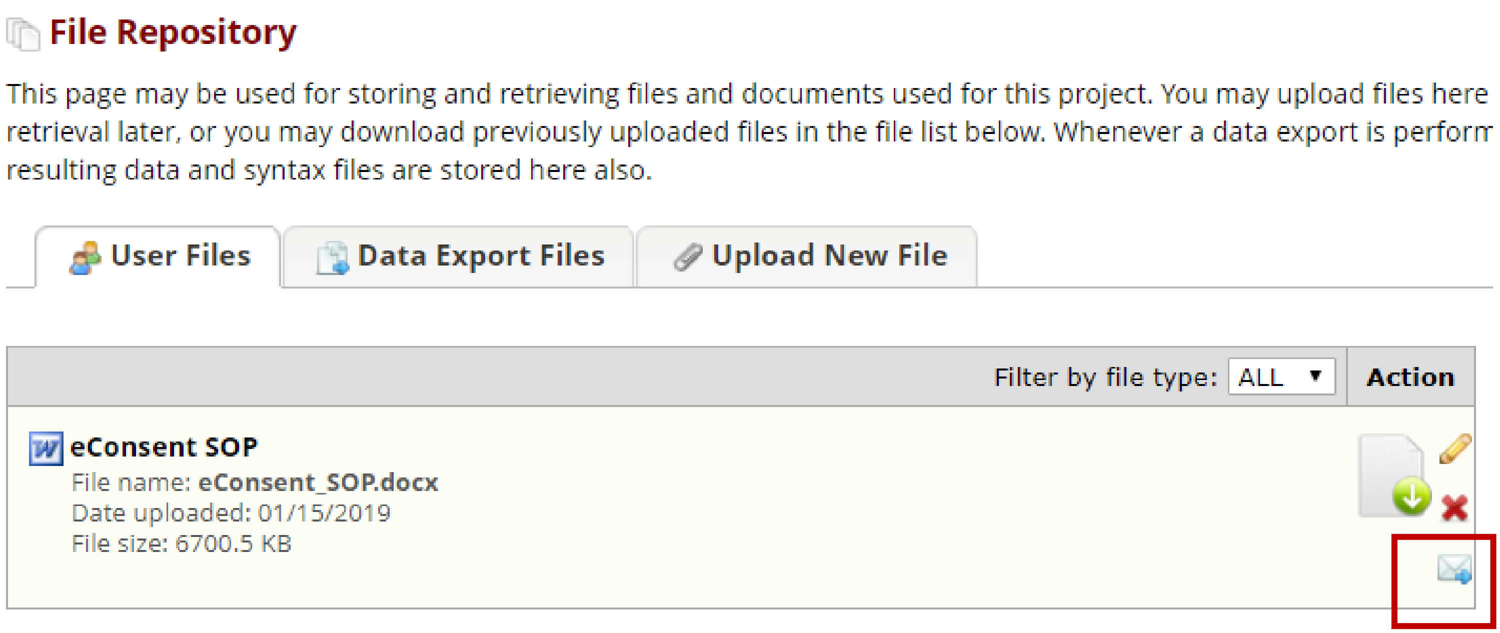
Send-It Access

Send-It from the Home or My Projects tab:

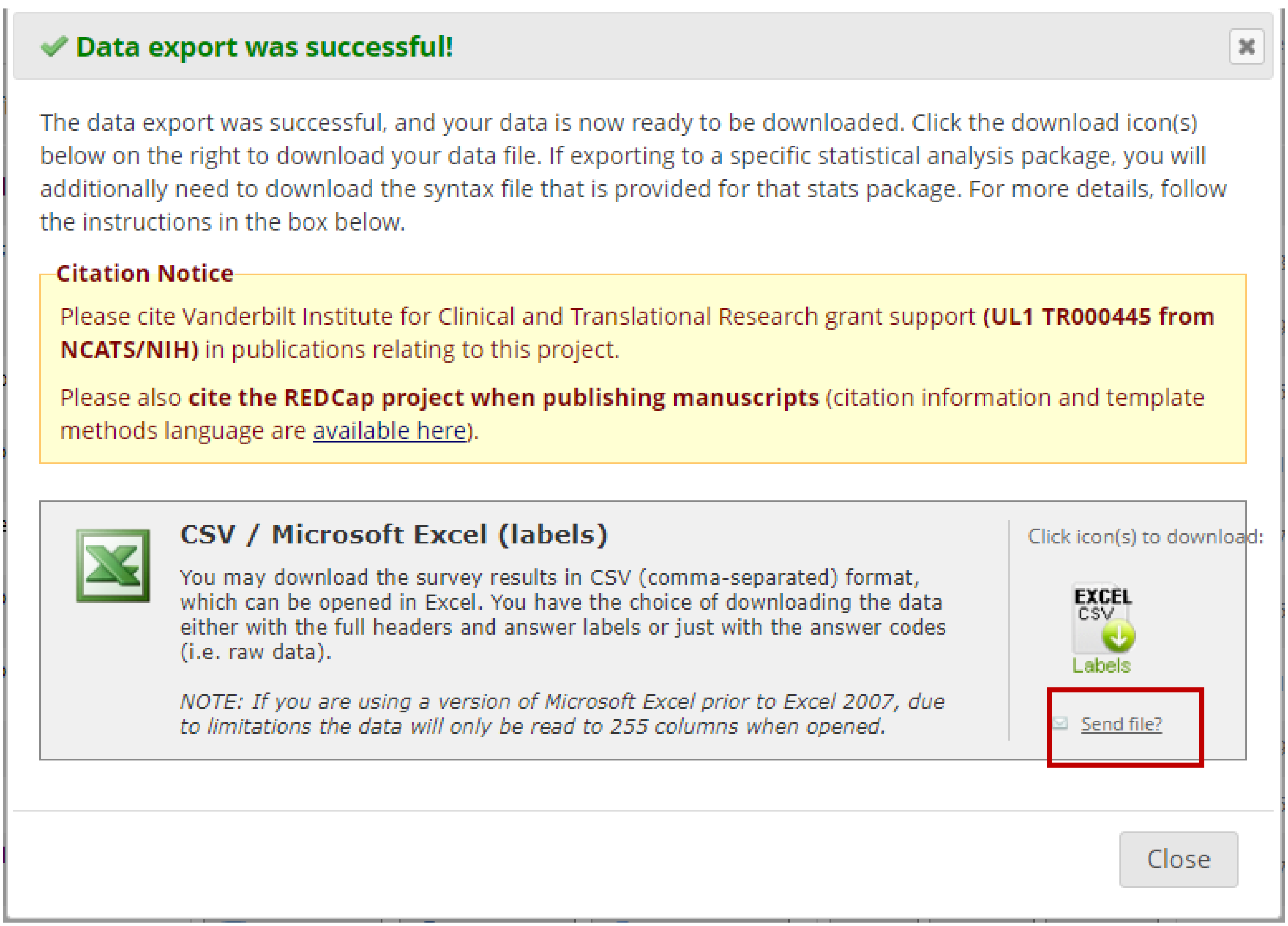


From within a project:

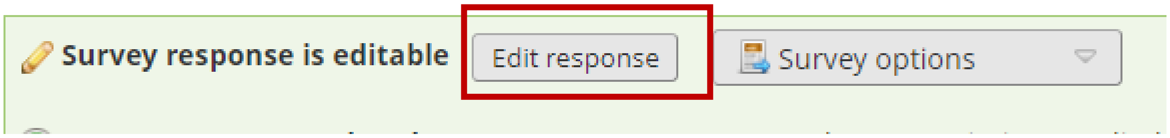
If you have files uploaded into the **File Repository** of your project, you can click on the Send-It icon and it will pre-fill the Send-It tool with that file:



In **Data Exports, Reports and Stats**, you have the option after you select your export type and click the export button to email the export/report to a person. In the below example, the export type is a CSV file:



In a **record that has a file** that has been uploaded by the user or participant, you can click on 'edit response' (if you have rights) and the option to email the file appears. In the below example, the record is a survey response but it could also be a record in a data entry form:



Converting an Outlook Distribution List into a Participant List

Using the Participant List in REDCap is very helpful in sending out survey invitations. One of the biggest benefits is that it creates a unique survey link so that a person can only complete the survey once. You can also enable reminders when composing your survey invitation, so that people who have not completed the survey are sent a follow-up email, reminding them to complete the survey.

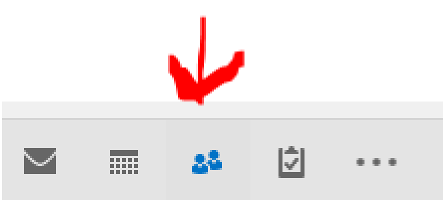
To create a participant list, each participant needs to be listed on a separate line, with the email address being listed first. When viewing members of a distribution list, the information may not be listed in the format required by REDCap. To convert your distribution list so that REDCap will accept it, please follow these instructions.

Please remember that if you use a participant list, technically your participant's responses are not considered anonymous. That is because they are tied to an email address, which is identifiable.

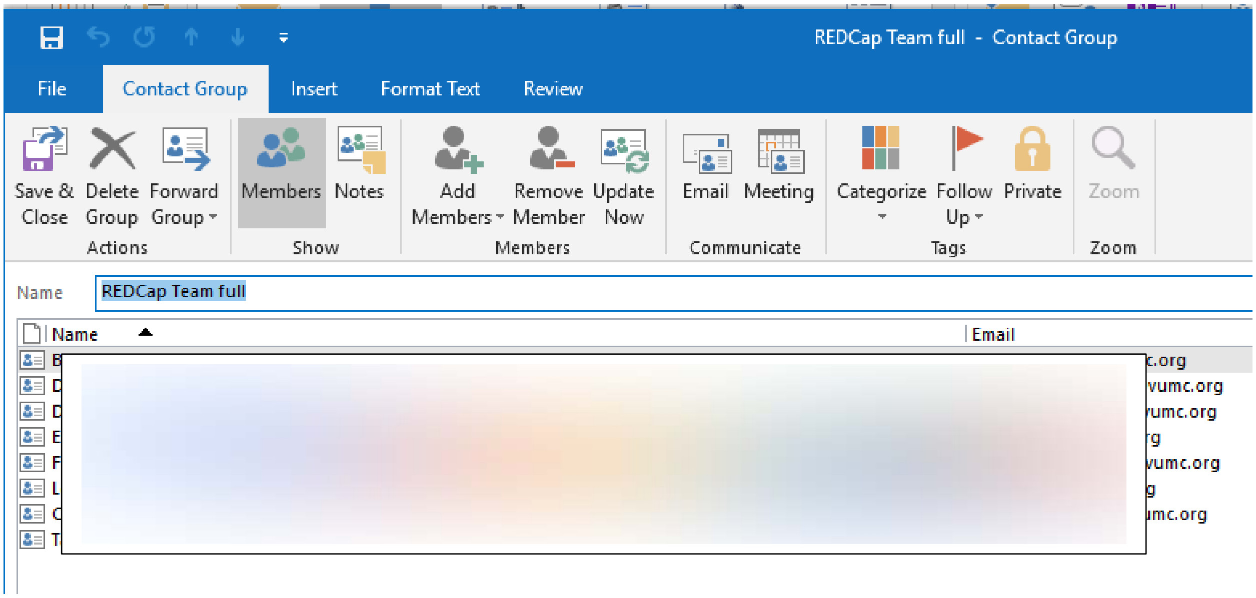
These instructions are adapted from this online article: https://www.extendoffice.com/documents/outlook/1730-outlook-extract-export-distribution-list-as-csv-to-excel.html#a1

The options you see may vary slightly depending on your version of Excel or if you are using a Mac. Whichever version you are on, you should be able to follow the prompts on your screen to accomplish the conversion. If the images shown don't align with what you are seeing, and you find it confusing, try searching for a similar article online. It's possible you can find one that matches what you are seeing.

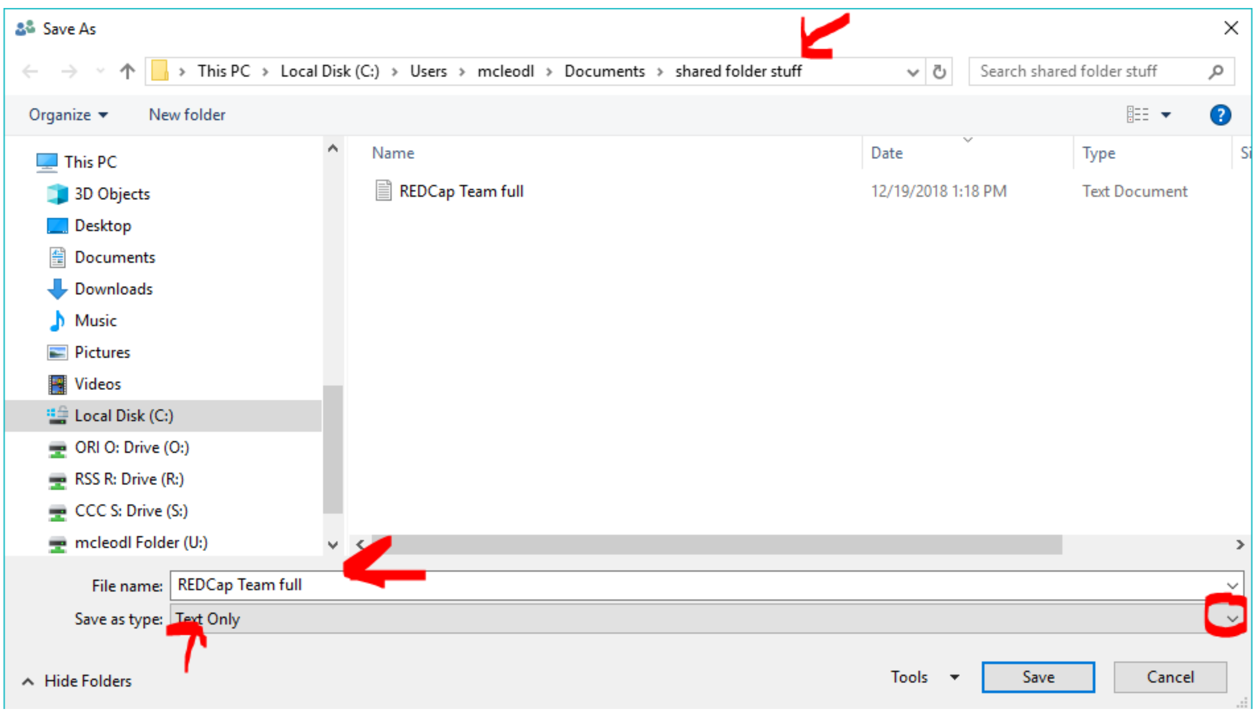
1. In Outlook, click on Contacts



2. open the contact containing the specified contact group or distribution list



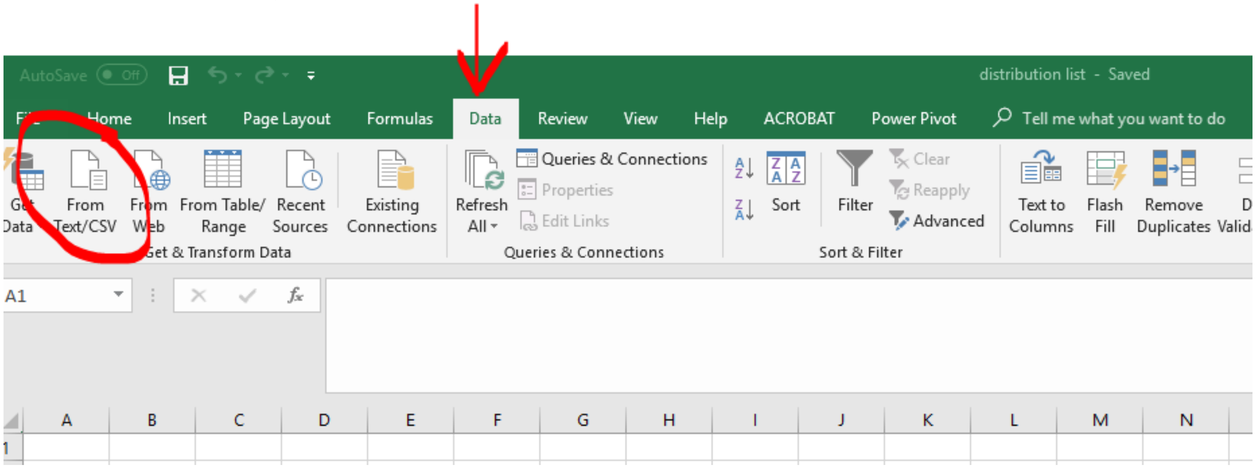
3. Click **File** > **Save As**.
    a. In the Save As dialog box, you need to *(1)* ensure the filepath for the saved file is correct *(2)* Rename the exported file if needed; *(3)* Click on the **Save as type** drop-down list (it will default to Outlook Message format – Unicode) and change it to **Text Only**; and *(4)* click **Save** button. See screenshot:



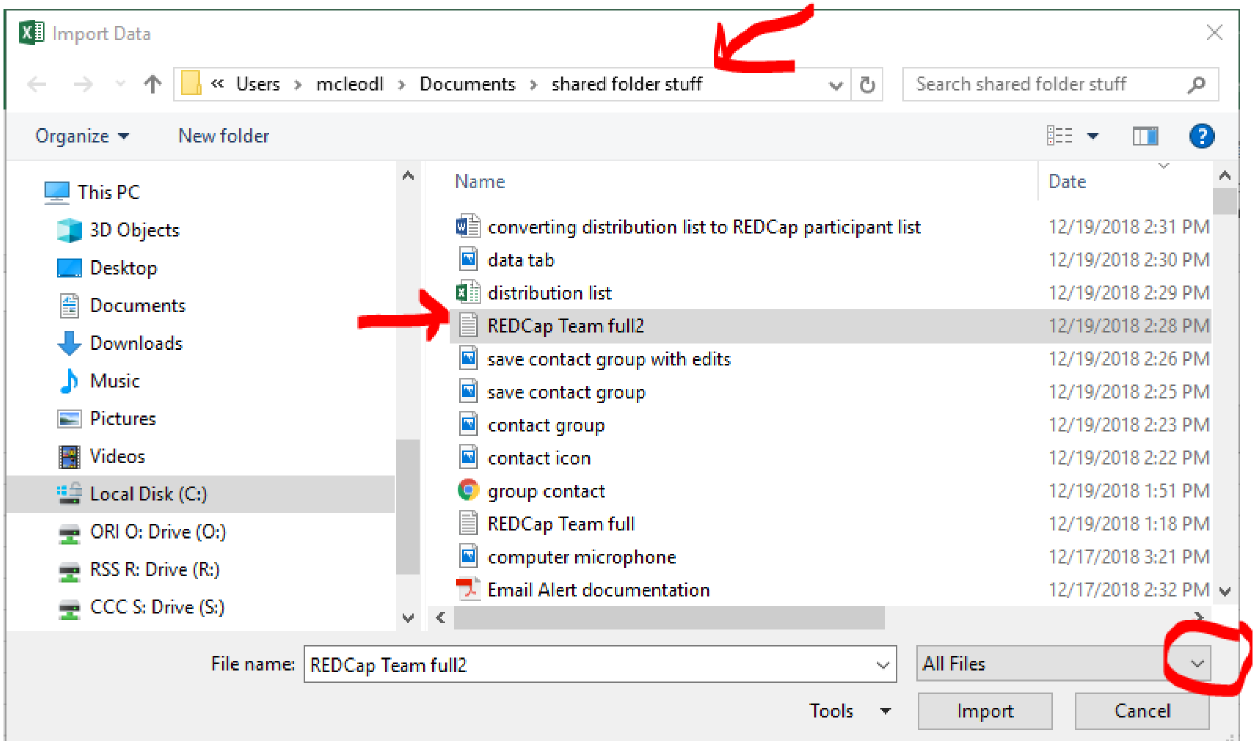
Now the specified contact group is saved as a separate text file.

4. Open Microsoft Excel, click on blank workbook. Save the Excel Workbook to a specified location on your computer.

5. Click **Data** > **From Text/CSV**.

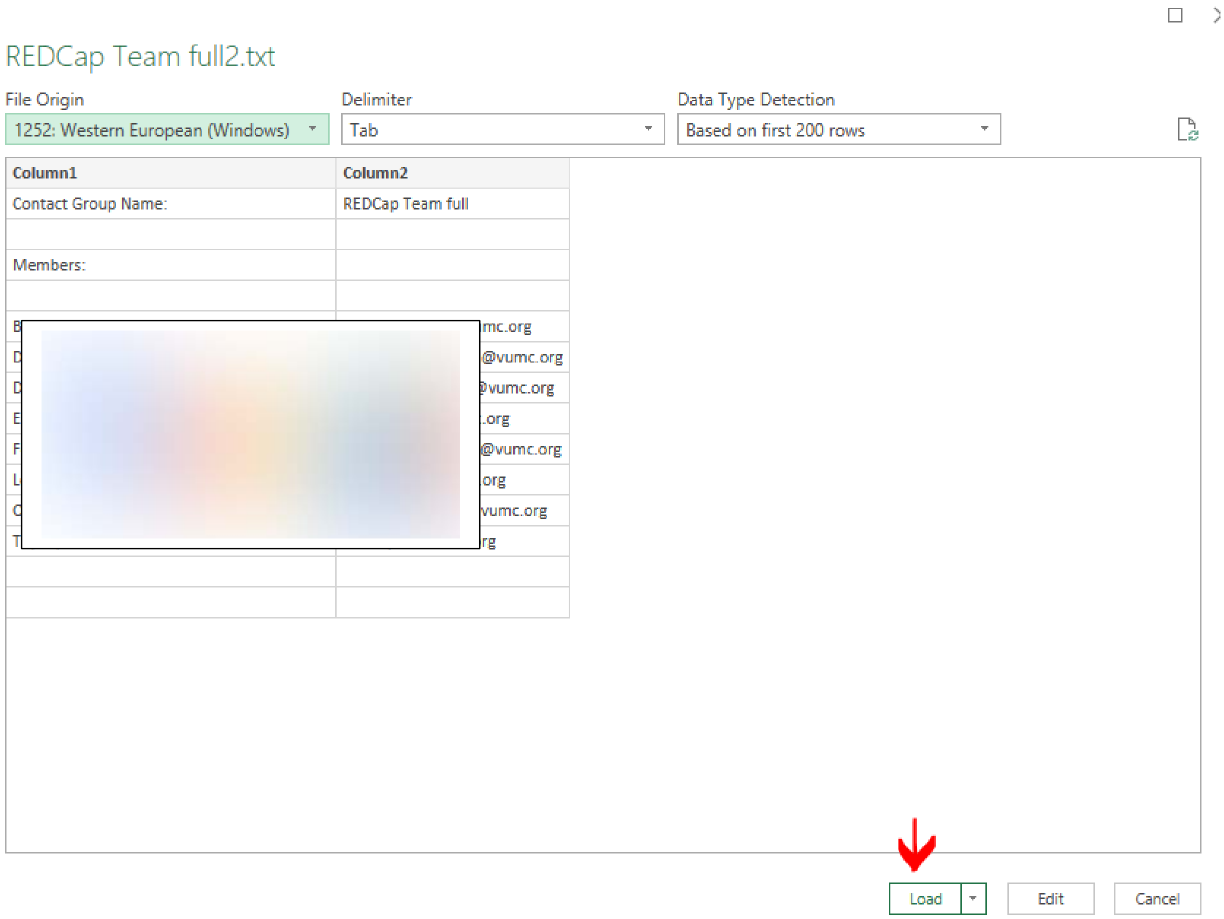


6. A dialog box will pop up.
    a. Go to the filepath where you saved the distribution list and select the distribution list file.
    b. the drop-down list besides **File name**box defaults to Text Files. Change that selection to All Files.
    c. click the **Import** button.

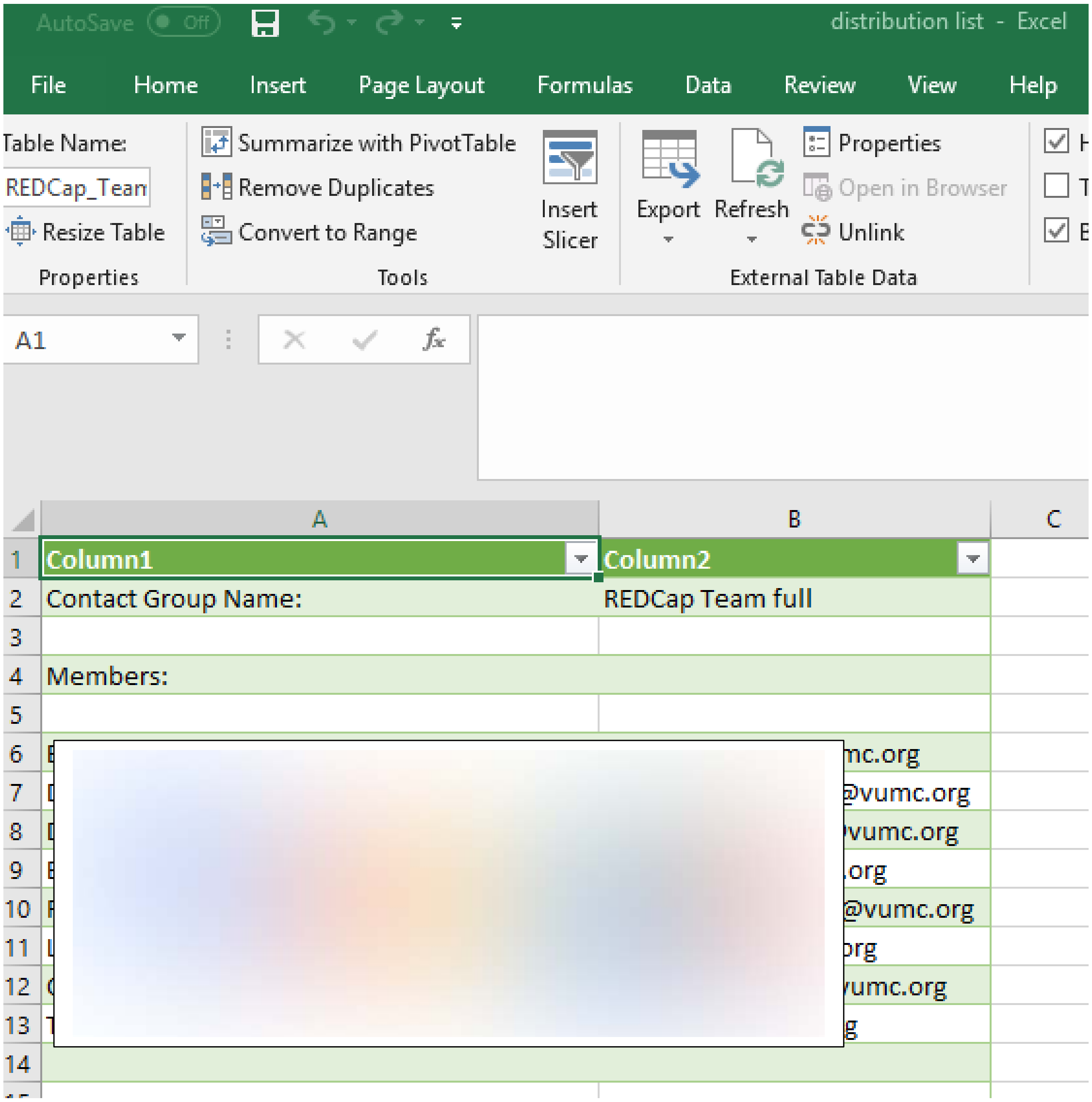


7. Now the Text Import Wizard pops out. You want to make sure that your email addresses are in a separate column from the names and that there is one email address per cell. If the data comes in and the email address content is not separate, you can separate it from the rest of the content by selecting a delimiter (tab, comma, space.)

8. Click the 'Load' button to finalize the import.



Now you will see the specified text file is imported and placed at the specified range.



The data comes in with the identifying information in column a and the email addresses in column b with one name per row, which is how REDCap will need the information for the Participant List. You can copy the email address content directly into the REDCap participant list tab. To add the people to your REDCap participant list:

1. Select the cells that have the email addresses and copy the content to your clipboard.
2. Go to your REDCap project and click on Survey Distribution Tools
3. Click on the Participant List tab
4. Click on Participant list and paste the content from your clipboard into it

Modifying a participant list to include identifiers

If you want to include the participant identifier, you have to do a few more steps. You would only want to use identifiers if it is ok that the responses are not anonymous.

1. Make a copy of the Excel sheet (so that, if in re-formatting you mess up the data you can go back to the original.

2. Cut column A and paste it so that it comes after the column with the email address content.

3. Copy the block of content (only the cells in column b and c that contain email addresses and names)

4. Paste the content into a Word document. It will appear in the Word doc as a table with grid lines

5. Click on the top left-hand corner of the grid (where the compass icon is). This will highlight the whole table. You will now see a "Layout" tab appear on your toolbar.

6. Click on the Layout tab

7. Making sure the whole table is still highlighted, click on the Convert to Text button (button that is second from the right)

8. A dialog box will pop up that asks you how you want to separate text. Click on the option "Other" and make sure a comma is in the box to the right of it.

9. Your list will now have the email addresses and participant identifiers in comma-delimited format.

10. Go to your REDCap project and click on Survey Distribution Tools

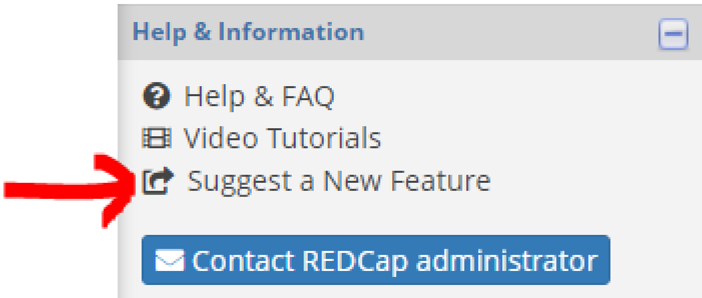
11. Click on the Participant List tab

12. Make sure participant identifiers are enabled (click on the enable button if they aren't)

13. Click on Participant list and paste the content from your Word doc into it

Requesting a Feature

Any Vanderbilt/Meharry end user has the ability to submit an idea for a new REDCap feature via the Suggest a New Feature link, found on the left-hand navigation bar within a project.

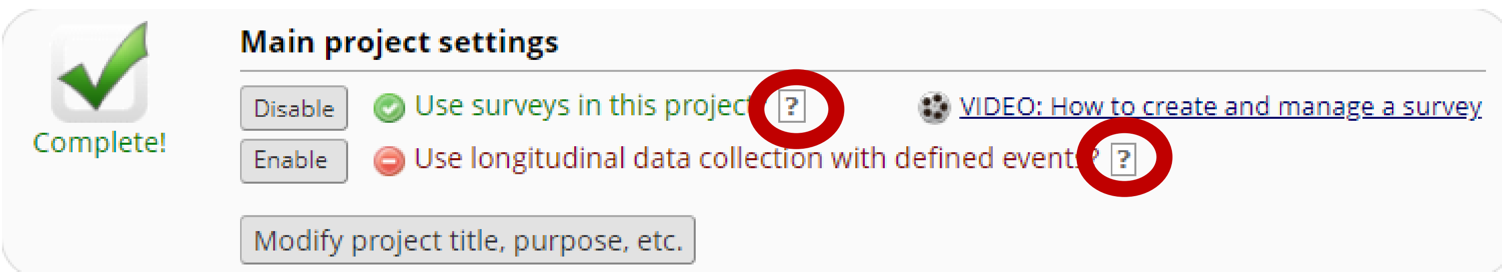


Suggestions made there are ranked for feasibility and utility by the REDCap consortium software development team. That development team considers the input of ~852,000 users across all ~3,200+ consortium partner sites worldwide. We of course cannot guarantee that all suggestions will result in changes or new features, but suggestions do all feed into the consortium's exploration and development prioritization list. It's the best way to ensure your voice is heard!

Additional Training/Support Resources

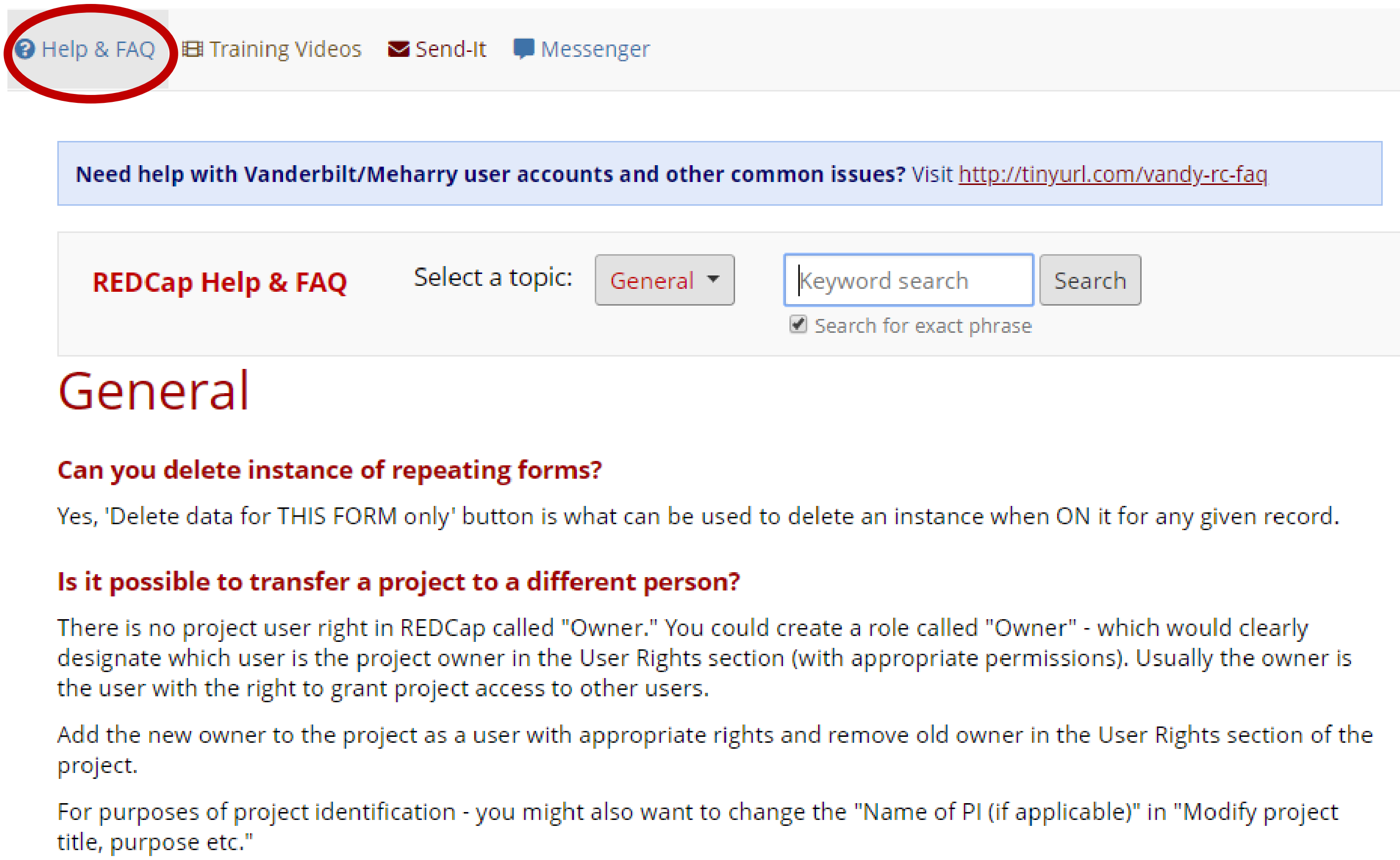
Instructional text within REDCap

There is a lot of built-in instructional text within REDCap itself. Any time you see the question mark symbol in a box, you can click on it for more information.

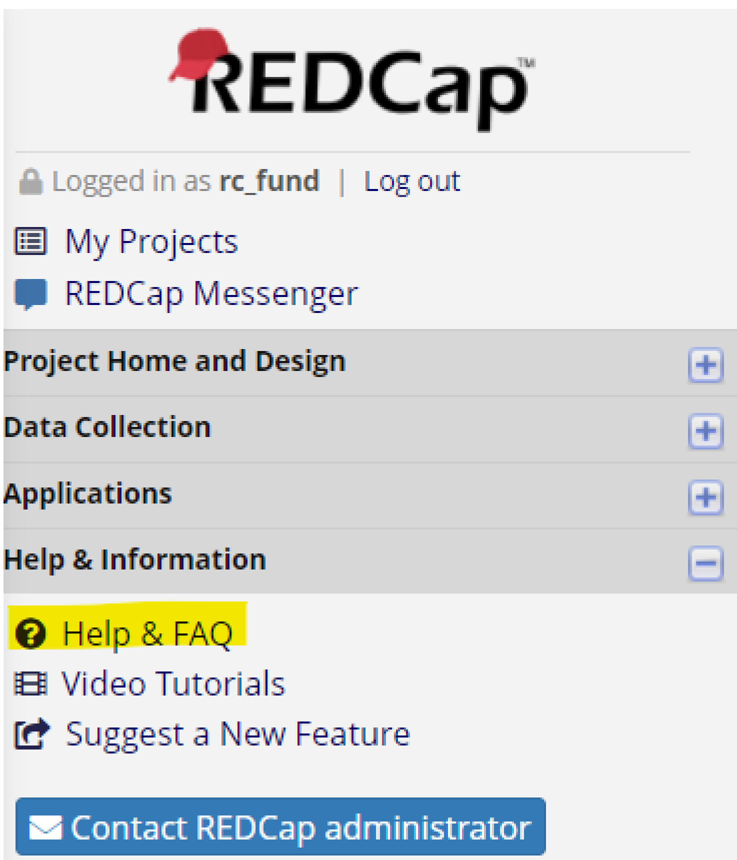


Help & FAQ within REDCap

The Help & FAQ page contains a number of questions and answers relevant to general use of the system. Make it your first point of reference if you get stuck, particularly for help with branching logic or calculated field expressions. The Help & FAQ tab appears at the top of your screen.

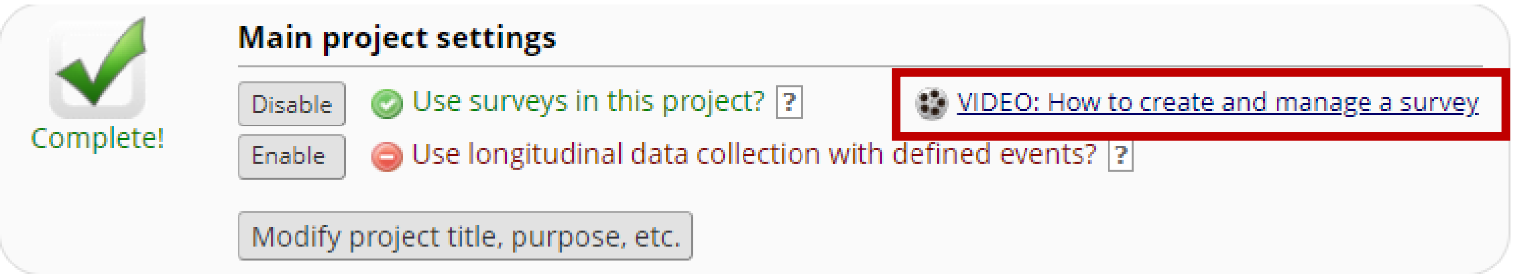


From within a project, you can select it from the left-hand menu.



Training Videos

The Training Videos tab within REDCap provides guidance on specific REDCap elements. Currently there are videos for those just getting started, Building a Project, Basic Features and Modules, Types of REDCap Projects and Special Features within REDCap Projects. The Training Videos tab appears at the top of your screen. From within a project, you can select it from the left-hand menu. You will also find hyperlinks to specific videos embedded within your project pages.



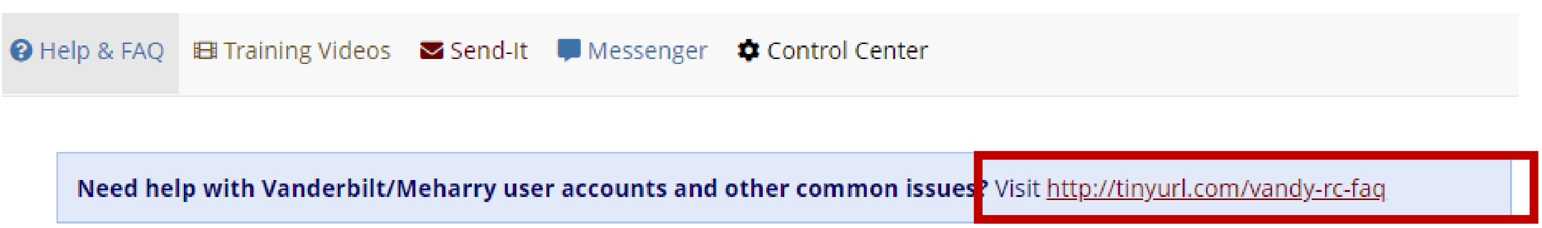
Website for Vanderbilt/Meharry end users

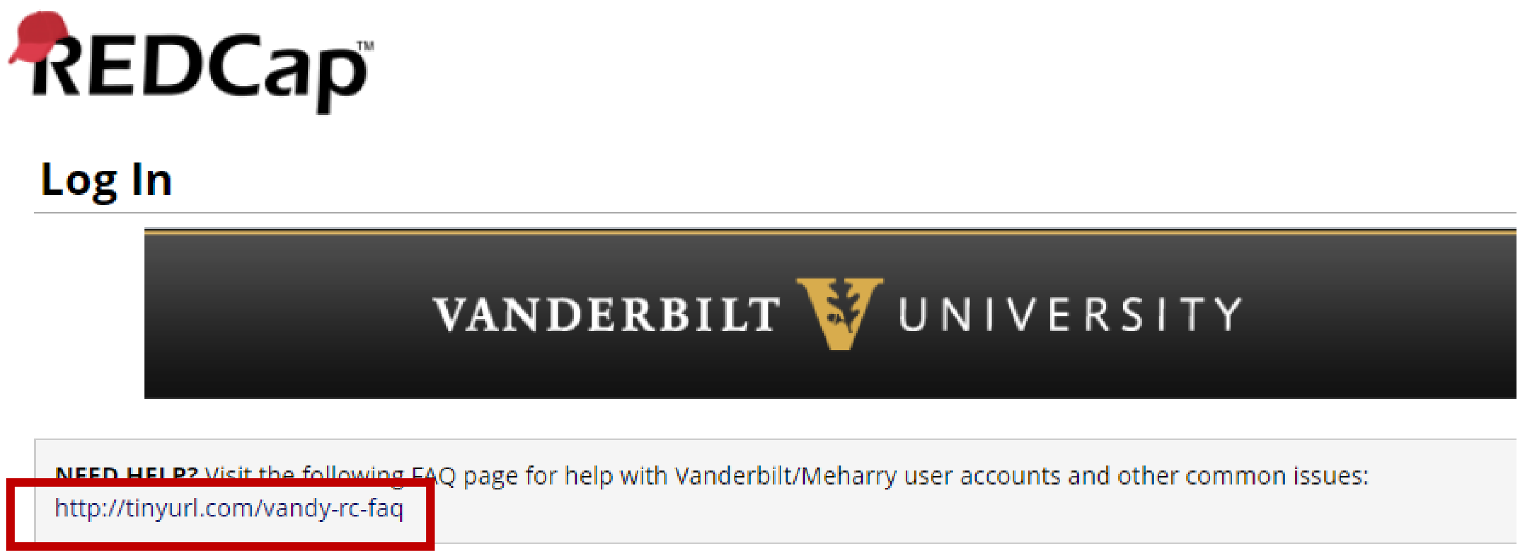
Everything that you see in REDCap is designed to be visible to all the other REDCap installations around the world. But each REDCap installation is different from the next. To find information that is specific to the Vanderbilt/Meharry installation, please see the ROCKET page that we developed for our end users.

At that website you can find information on:

- Requesting an external collaborator account
- Troubleshooting suggestions for sign-in problems
- Project Development suggestions
- Data Management tips
- eConsent
- Clinical Data Pull (eStar integration)
- Twilio Module
- External Modules

To access the ROCKET page, you can find the link at the top of the Help & FAQ page and also on the sign-in screen. You can also click here to be brought to the ROCKET page.





Latest User Guide

If you want to see if there is an updated version of this User Guide, you can go to the Vanderbilt Meharry end user website and look on the Help Resources page to see if there is a newer version. Simply look at the filename to see if there is a newer version.

Email

If you click on the Contact REDCap Administrator blue button from within your project, an email will be created that is pre-populated with your name, email address, VUNet ID and most importantly – the name and PID of the project you are in. This is very helpful to the REDCap administrator.

You can also email us directly from your email client at redcap@vanderbilt.edu.

Emails are responded to within 1-2 business days.

In-person help

All Vanderbilt/Meharry users are welcome to sign up for our weekly user help clinics. This is your opportunity to meet with a REDCap Team member one-on-one for guidance on your REDCap project. Sessions are held the 1st and 3rd Wednesdays and 2nd and 4th Tuesdays of each month from 12:30 - 2:00 pm. Sessions take place at 2525 West End Avenue. You must sign up to attend.

Our team is unfortunately unable to provide personalized consultations, private meetings, phone support, or teleconferences. In-person help is only available during our clinics.

In-person trainings

We currently offer two trainings every month: a beginner training and an intermediate training. The beginner's training session is called REDCap - the Basics. It is a mixture of lecture and hands-on training opportunity in a group setting. Topics covered include an overview of REDCap, Project Building tips, Adding Data, and Viewing Data. Intermediate topics change every month. You can see upcoming trainings and register at https://is.gd/REDCapTrainings.