



# REDCap Data Migration from CSV file

Build and migrate your existing CSV database file to REDCap.





# Overview

The REDCap design has made it very easy to move existing data collected in a CSV file to REDCap, providing researchers with a better, more secure solution for their data storage.

# Source File Conversion to CSV

1. Open the Source CSV file.
2. Select “Save As” and rename it to preserve the original file in the event that you encounter issues.
3. **Important:** Edit new file to ensure that a unique record number is in the first column.
4. Click SAVE.

# REDCap Data Dictionary Build

- This process is for data stored in a flat table with the column headers as field names and data in subsequent rows.
- Follow the steps in the following slides to create a data dictionary.
- Once the data dictionary is built and uploaded to REDCap, importing the data will be simple.

# Create a REDCap Project

- Login to REDCap and create your project, choosing “Basic Demography” as a template.
- REDCap will create a database with a form labeled Demographics.
- Navigate to the Project Setup page and select “Upload Data Dictionary.”
- Choose the “Download the current Data Dictionary” Excel link and open the target Excel Data Dictionary.

# Modify the Data Dictionary

- The column headings represent information about the fields in your database, such as field type, variable name, minimum value, maximum values, etc.
- Modify the Target Data Dictionary to conform with your project by deleting all rows after Row 1.
- Open the Source CSV file to be migrated.

# Step I

Source  
CSV file

a

	A	B	C	D	E	F	G	H	I	J	K
1	Case Number	First Name	Last Name	DOB	Gender	Enrollment Date	Consent Signed	Lab Value 1	Lab Value 2	Question 1	Question 2
2	100	John	Doe	12/11/1957	Male	12/1/2011	yes	20	150	yes	no
3	200	Mary	Jones	11/6/1960	Female	12/2/2011	no	40	200	no	I don't know
4	300	James	Arnold	1/1/2001	Male	12/3/2011	yes	35	180	maybe	yes

b

Target  
Data  
Dictionary

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
11	Variable / Field Name	Form Name	Section Header	Field Type	Field Label	Choices, Calculations, OR Slider Labels	Field Note	Text Validation Type OR Show Slider Number	Text Validation Min	Text Validation Max	Identifier?	Branching Logic (Show field only if...)	Required Field?	Custom Alignment	Question Number (surveys only)
12					Case Number										
13					First Name										
14					Last Name										
15					DOB										
16					Gender										
17					Enrollment Date										
18					Consent Signed										
19					Lab Value 1										
20					Lab Value 2										
21					Question 1										
22					Question 2										

- Copy field names from Row 1 from the Source CSV file.
- Paste Special (choosing Transpose) into column E under Field Label of Target Data Dictionary in Row 2.

# Step 2

## Target Data Dictionary

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	Variable / Field Name	Form Name	Section Header	Field Type	Field Label	Choices, Calculations, OR Slider Labels	Field Note	Text Validation Type OR Show Slider Number	Text Validation Min	Text Validation Max	Identifier?	Branching Logic (Show field only if...)	Required Field?	Custom Alignment	Question Number (surveys only)
11	Case_Number				Case Number										
12	First_Name				First Name										
13	Last_Name				Last Name										
14	DOB				DOB										
15	Gender				Gender										
16	Enrollment_Date				Enrollment Date										
17	Consent_Signed				Consent Signed										
18	Lab_Value_1				Lab Value 1										
19	Lab_Value_2				Lab Value 2										
20	Question_1				Question 1										
21	Question_2				Question 2										
22															
23															

- Copy the data in the Field Label column (highlighted in red) and paste in the first column under “Variable/Field Name”.
- Select all of the pasted Variable/Field Names and choose the Replace function in the ribbon bar to replace all spaces “ ” with “\_”. This will create a variable name without spaces which is required by REDCap. (Make sure you have no trailing underscores “\_”). Also edit all variable names to be lower case.

# Step 3

## Target Data Dictionary

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	Variable / Field Name	Form Name	Section Header	Field Type	Field Label	Choices, Calculations, OR Slider Labels	Field Note	Text Validation Type OR Show Slider Number	Text Validation Min	Text Validation Max	Identifier?	Branching Logic (Show field only if...)	Required Field?	Custom Alignment	Question Number (surveys only)
11	Case_Number	Demographics		text	Case Number										
12	First_Name	Demographics		text	First Name										
13	Last_Name	Demographics		text	Last Name										
14	DOB	Demographics		text	DOB										
15	Gender	Demographics		radio	Gender										
16	Enrollment_Date	Enrollment		text	Enrollment Date										
17	Consent_Signed	Enrollment		yesno	Consent Signed										
18	Lab_Value_1	Baseline		text	Lab Value 1										
19	Lab_Value_2	Baseline		text	Lab Value 2										
20	Question_1	Baseline		dropdown	Question 1										
21	Question_2	Baseline		dropdown	Question 2										

- Identify a Data Entry Form for each field and enter the form name in the Form Name column.
- For each field, determine the Field Type and enter it in the Field Type column.
  - Field types: text, radio, yesno, dropdown, checkbox, truefalse, notes, slider, etc. A full list of field types can be found in the REDCap application. All validated fields such as date, time, number, integer, phone number, etc. are of the TEXT field type.

# Step 4

	A	B	C	D	E	F	G	H	I	J	K
	Case Number	First Name	Last Name	DOB	Gender	Enrollment Date	Consent Signed	Lab Value 1	Lab Value 2	Question 1	Question 2
2	100	John	Doe	12/11/1957	Male	12/1/2011	yes	20	150	yes	no
3	200	Mary	Jones	11/6/1960	Female	12/2/2011	no	40	200	no	I don't know
4	300	James	Arnold	1/1/2001	Male	12/3/2011	yes	35	180	maybe	yes

Source CSV file

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	Variable / Field Name	Form Name	Section Header	Field Type	Field Label	Choices, Calculations, OR Slider Labels	Field Note	Text Validation Type OR Show Slider Number	Text Validation Min	Text Validation Max	Identifier?	Branching Logic (Show field only if...)	Required Field?	Custom Alignment	Question Number (surveys only)
12	Case Number	Demographics		text	Case Number										
13	First Name	Demographics		text	First Name										
14	Last Name	Demographics		text	Last Name										
15	DOB	Demographics		text	DOB										
16	Gender	Demographics		radio	Gender	0, Male   1, Female									
17	Enrollment Date	Enrollment		text	Enrollment Date										
18	Consent Signed	Enrollment		yesno	Consent Signed										
19	Lab Value 1	Baseline		text	Lab Value 1										
20	Lab Value 2	Baseline		text	Lab Value 2										
21	Question 1	Baseline		dropdown	Question 1	0, Yes   1, No   2, Maybe									
22	Question 2	Baseline		dropdown	Question 2	0, Yes   1, No   2, I don't know									

Target Data Dictionary

For those categorical fields (Data with a limited number of distinct values), label the field type as “radio” or “dropdown” (for one answer only) or “checkbox” (for when there could be multiple values selected.)

In the above example for the Gender variable, Male and Female could be a **radio** field type for which Male has the value of 0 and Female has the value of 1.

Question 1 could be a **dropdown** field type for which Yes has the value of 0, No has the value of 1 and Maybe has the value of 2.

# Step 5

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	Variable / Field Name	Form Name	Section Header	Field Type	Field Label	Choices, Calculations, OR Slider Labels	Field Note	Text Validation Type OR Show Slider Number	Text Validation Min	Text Validation Max	Identifier?	Branching Logic (Show field only if...)	Required Field?	Custom Alignment	Question Number (surveys only)
11	Case_Number	Demographics		text	Case Number										
12	First_Name	Demographics		text	First Name						Y		Y		
13	Last_Name	Demographics		text	Last Name						Y		Y		
14	DOB	Demographics		text	DOB			date_ymd			Y		Y		
15	Gender	Demographics		radio	Gender	0, Male   1, Female									
16	Enrollment_Date	Enrollment		text	Enrollment Date		YYYY-MM-DD	date_ymd			Y		Y		
17	Consent_Signed	Enrollment		yesno	Consent Signed								Y		
18	Lab_Value_1	Baseline		text	Lab Value 1			number	100	300					
19	Lab_Value_2	Baseline		text	Lab Value 2			number	200	500					
20	Question_1	Baseline		dropdown	Question 1	0, Yes   1, No   2, Maybe									
21	Question_2	Baseline		dropdown	Question 2	0, Yes   1, No   2, I don't know									

Complete the remaining optional field descriptions or make the changes in the Online Designer after you have uploaded the Data Dictionary:

- Field Note:** to aid in data entry
- Text Validation Type OR Show Slider Number:** for text types that have specific formatting such as date, time, number, integer, etc.
- Text Validation Min** and **Text Validation Max:** values for ranges of numeric and date/time values.
- Identifier:** tag as a HIPAA identifier (“y” for YES or blank for NO)
- Required field:** to automatically generate a warning when the value is not supplied. (“y” for YES or blank for NO)

## Step 6

- Save the Target Data Dictionary as a CSV file.
- Navigate to your project's Project Setup page in REDCap and select the "Upload Data Dictionary" button.
- Browse to the Target Data Dictionary file and select "Upload your Data Dictionary."
- You now have a completed building your REDCap database. Further modifications may be made at this time using the "Online Designer" found in the Project Setup page.

# Step 7

Before

1	Case Number	First Name	Last Name	DOB	Gender	Enrollment Date	Consent Signed	Lab Value 1	Lab Value 2	Question 1	Question 2
2	100	John	Doe	12/11/1957	Male	12/1/2011	yes	20	150	yes	no
3	200	Mary	Jones	11/6/1960	Female	12/2/2011	no	40	200	no	I don't know
4	300	James	Arnold	1/1/2001	Male	12/3/2011	yes	35	180	maybe	yes

After

27	Case Number	First Name	Last Name	DOB	Gender	Enrollment Date	Consent Signed	Lab Value 1	Lab Value 2	Question 1	Question 2
28	100	John	Doe	12/11/1957	0	12/1/2011	1	20	150	0	1
29	200	Mary	Jones	11/6/1960	1	12/2/2011	0	40	200	1	2
30	300	James	Arnold	1/1/2001	0	12/3/2011	1	35	180	2	0

- Open the Source CSV file.
- For all categorical values, using the “Replace” tool, replace those syntactical values with their numerical equivalents (i.e., replace “Male” with “0”). (Select only the column you wish to perform the replacement to ensure that other data is not replaced in error).

## Step 8

- For date/time fields, ensure that the data is in the proper format (YMD, DMY, etc.)
- For numerical and date/time fields, ensure that the data values are in range specified in the data dictionary, otherwise an error will occur on import.
- Remove any fields that are calculated fields as they will be calculated by REDCap.

# Step 9

- Save the Source CSV file.
- Navigate to the Data Import tool in REDCap.
- Select the “Download the Data Import Template” link.
- In Excel, copy all of your data (except the column headers) to this template. The columns in the template should mirror exactly the columns in the Data Import Template however, they should be all in lower case with no spaces. Save it as a CSV file. **Make sure your data is being copied to the correct columns.**
- In REDCap, return to the Data Import tool and Browse to that CSV file.
- Select “Upload File.”
- REDCap will provide you with a report of the data imported. Be certain to review that data for accuracy prior to selecting “Import Data.”