




This report is mainly used to point out some common issues that may happen in redcap. I also mention that what kind of solutions you can try. To learn how to use the redcap, you can watch some tutorial videos on redcap or read the Redcap note.docx on GitHub which was provided by the previous intern.

## 1. Design the database in redcap

The first step that you should do is using online designer to create instruments. Assume that you have three csv files named patient, medications and conditions. Then you should create three instruments to match them. For each field in the instrument, you need to consider whether this field must provide value based on that column in csv file. Once you finish your design, you can start to import the data.

The Online Designer will allow you to make project modifications to fields and data collection instruments very easily using only your web browser. NOTE: While in development status, all field changes will take effect immediately in real time.

Data Collection Instruments			
<a href="#">+ Create</a>	a new instrument from scratch		
<a href="#">Import</a>	a new instrument from the official <a href="#">REDCap Instrument Library</a> ?		
<a href="#">Upload</a>	instrument ZIP file from another project/user or <a href="#">external libraries</a> ?		
Form options:		<a href="#">Form Display Logic</a>	
Instrument name	Fields	View PDF	Instrument actions
Patient	27		<a href="#">Choose action</a> ▾
medications	12		<a href="#">Choose action</a> ▾
conditions	5		<a href="#">Choose action</a> ▾

Variable: id\_patient

**The unique id for each patient**

NOTE: The field above is the record ID field and thus cannot be deleted or moved. It can only be edited.

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

Variable: birthdate\_patient

**The birthdate of each patient**

\* must provide value

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

Variable: deathdate\_patient

**the deathdate for each patient**

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

Variable: ssn\_patient

**Patient's social security identifier**

\* must provide value

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

Variable: drivers\_patient

**Patient drivers license identifier**

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

Variable: passport\_patient

**Patient's passport identifier**

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

Field Type: Text Box (Short Text, Number, Date/Time, ...)

Field Label ☐ Use the Rich Text Editor

The birthdate of each patient

Action Tags / Field Annotation (optional)

Learn about [@ Action Tags](#) or [using Field Annotation](#)

Variable Name (utilized in logic, calcs, and exports)

birthdate\_patient ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

How to use [Smart Variables](#) [Piping](#) [Field Embedding](#)

Validation? (optional) Date (Y-M-D)

Minimum:

Maximum:

Tip for min/max limits: You may use the word today or now (not wrapped in quotes) for date/time fields to set dynamic range limits. Also, you may pipe a value from another field - e.g., [visit\_date] or [event\_1\_arm\_1][age].

-- OR --

-- select ontology service --

Required?\* ☐ No ☒ Yes

\* Prompt if field is blank

Identifier? ☒ No ☐ Yes

Does the field contain identifying information (e.g., name, SSN, address)?

Custom Alignment Right / Vertical (RV)

Align the position of the field on the page

Field Note (optional)

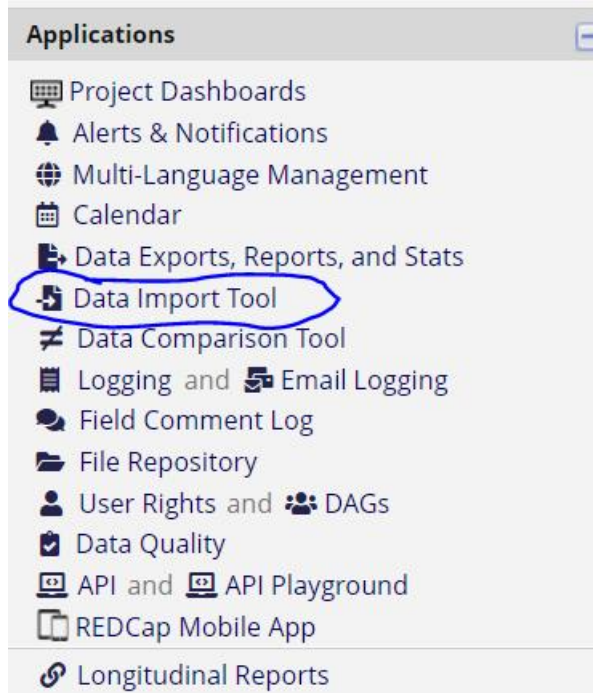
Small reminder text displayed underneath field

## 2.Import data by using API

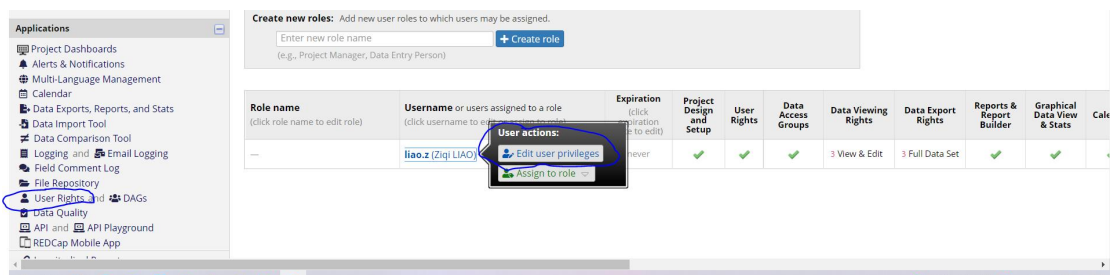
The easiest way to import data into redcap is through the data import tool. However, if the csv file size is larger than 32MB, the system will fail to import the data. However, even if your file size is larger than 20 MB, the

redcap will still get stuck. In that case, you have to use API to import the data.

Here is the picture showing where can you find the Data import Tool.



Maybe you will be confused that the API is not in the left panel. To be able to use API, you need to firstly click User Rights on the left panel and then click your username and select edit user privileges. Finally, enable the API option.



**Highest level privileges:**

- ☒ Project Design and Setup
- ☒ User Rights
- ☒ Data Access Groups

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**Other privileges:**

- ☒ Calendar
- ☒ Add/Edit/Organize Reports  
Also allows user to view ALL reports (but not necessarily all data in the reports)
- ☒ Stats & Charts
- ☒ Data Import Tool
- ☒ Data Comparison Tool
- ☒ Logging
- ☒ File Repository
- ☒ Data Quality
  - ☒ Create & edit rules
  - ☒ Execute rules
- ☒ API
  - ☒ API Export
  - ☒ API Import/Update

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**Settings pertaining to the REDCap Mobile App:**

- ☒ REDCap Mobile App
  - ☒ Allows user to collect data offline in the mobile app

Allow user to download data for all records to ☒

After doing these steps, the API function will appear on the left panel. You need to apply for your own API Token.

**Your API token for project "Clinical dashboard"**

The API token below is **ONLY for you** and will work **ONLY with this project**. This token allows special access to REDCap data and **should NOT be shared with others**. If you think your token has been compromised, then please contact your REDCap administrator immediately **AND** either delete or regenerate your token by using the buttons below.

**API Token:**  
**7A50AA6A08E8136F04C82EF870EE1887**

Finished using the API for this project? If so, please delete your token for security reasons.

Think someone else knows your token? If so, please regenerate your token for security reasons.

### 3. Some bugs found when use API

The sample code of using API can be found in GitHub, the redcap folder. If you find such error information which means the column name in your csv file doesn't match the field name in redcap.

```
HTTP Status: 400
{"error":"The record id field (id_patient) is missing."}
error occur at row 10000
HTTP Status: 400
{"error":"The record id field (id_patient) is missing."}
error occur at row 20000
HTTP Status: 400
{"error":"The record id field (id_patient) is missing."}
error occur at row 30000
HTTP Status: 400
{"error":"The record id field (id_patient) is missing."}
error occur at row 40000
HTTP Status: 400
{"error":"The record id field (id_patient) is missing."}
error occur at row 50000
HTTP Status: 500
```

Since the redcap is not case sensitive, you need to carefully check each column whether the case of each letter also matches. What I did is I extract 100 lines from my csv file, and upload it to redcap by using data import tool. Then if there are some mistakes in format, the redcap will print the specific error.

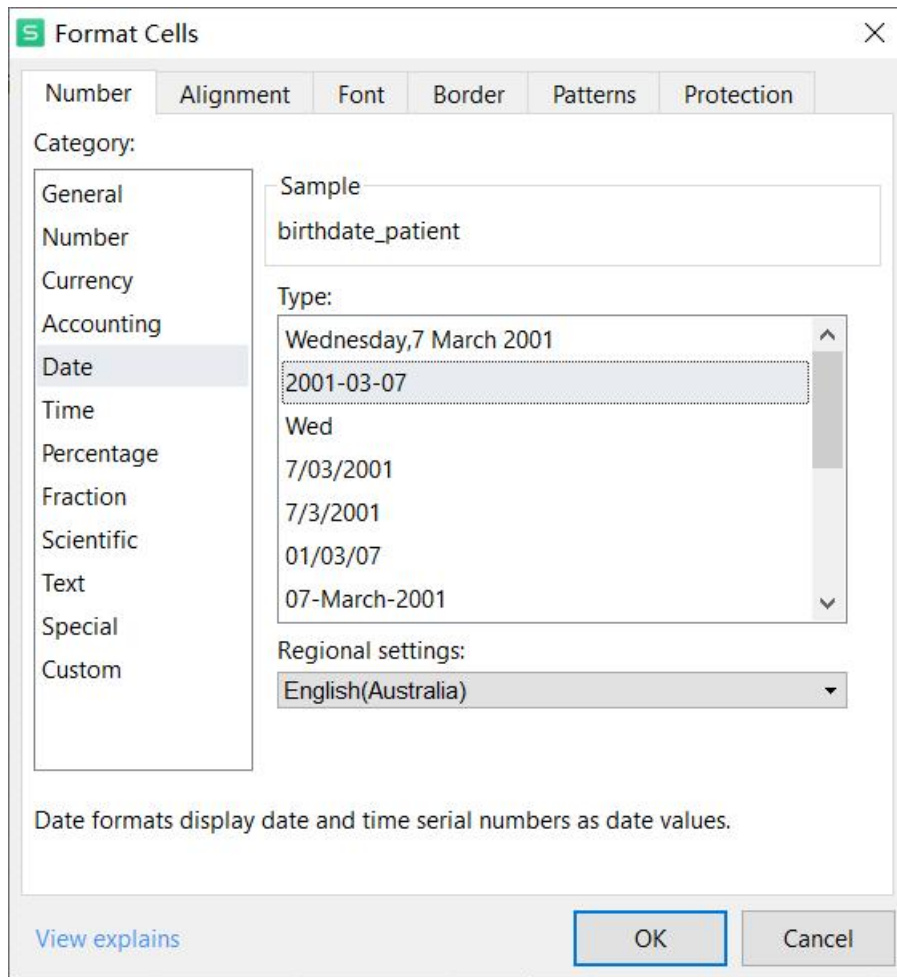
 Errors were detected in the import file that prevented it from being loaded.

There are 4 errors (shown in red in the error table below) in this dataset. Please correct any errors and upload the file again.

ERROR DISPLAY TABLE			
Record	Field Name	Value	Error Message
1f8aac42-9cc3-fadd-42e6-97989a13f818	birthdate_patient	0007-09-2010	Invalid date format. (NOTE: Dates must be imported here only in D/M/Y format or Y-M-D format, regardless of the specific date format designated for this field.)
acbe1048-796f-140e-976a-3b6ceb47cf7d	birthdate_patient	2015-08-1989	Invalid date format. (NOTE: Dates must be imported here only in D/M/Y format or Y-M-D format, regardless of the specific date format designated for this field.)
acbe1048-796f-140e-976a-3b6ceb47cf7d	deathdate_patient	0001-08-2001	Invalid date format. (NOTE: Dates must be imported here only in D/M/Y format or Y-M-D format, regardless of the specific date format designated for this field.)
7e670dae-d2a4-17f3-4443-2cc586f43648	birthdate_patient	0005-08-2015	Invalid date format. (NOTE: Dates must be imported here only in D/M/Y format or Y-M-D format, regardless of the specific date format designated for this field.)

The above image is one of the error that I received. Since the data format in redcap only supports D/M/Y or Y-M-D, you need to change the data format in excel as well. To change the format, right click the format cell and click format cells.





It is important to emphasize that the reason for the API error is basically because the field name in redcap does not match the column name in excel, and it is likely to be due to the problem of letter case. The easiest way to solve this kind of bug is to extract a small part of records from each instrument, and then use the data import tool to import, and the system will display specific error messages. If all instrument bugs are resolved, you can use the API to import the entire file.

After successfully import the data, you can find the record by clicking the Record Status Dashboard on the left panel.

