



Double Data Entry (DDE)

▶ What is the Double Data Entry (DDE) Module?

- This module allows two project users to be set as **Data Entry Person #1** and **Data Entry Person #2** (using the **User Rights** page), and allows them to create records with the same **Record ID** and enter data for the same record without seeing one another's data.
- Typically, only one person at a time can be set as **Person #1** or **Person #2**. All other users are considered **Reviewers**.
- **Reviewers** have the ability to merge a record created by **Person #1** and **Person #2** after viewing differences and adjudicating those differences using the **Data Comparison Tool**, thus creating a third record in the set.

▶ How do I enable DDE for my project?

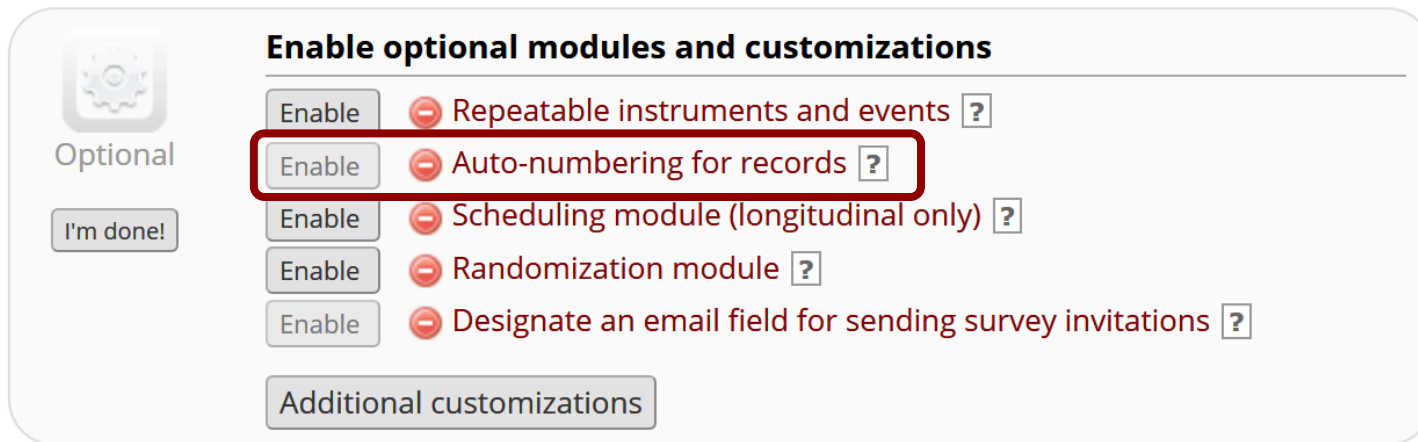
- The **Double Data Entry (DDE)** module that needs to be enabled by a **REDCap Administrator** prior to any data is collected in the project.
- Contact your local **REDCap Administrator** by clicking on the **blue contact button** in the lower-left hand corner of your project and ask that DDE be enabled for your project.

 Contact REDCap administrator

- DDE should be enabled **BEFORE** you begin any data entry in the project.

► Once DDE is Enabled...

Once DDE has been enabled by your REDCap Administrator, you will notice **Auto-numbering** for the project has been disabled.



The screenshot shows the 'Enable optional modules and customizations' section of the REDCap interface. On the left, there is a gear icon, the word 'Optional', and a button labeled 'I'm done!'. The main area contains a list of modules, each with an 'Enable' button, a red minus sign, the module name, and a help icon. The 'Auto-numbering for records' option is highlighted with a red rectangular box.

Module Name	Enable Button	Minus Sign	Help Icon
Repeatability instruments and events	Enable	⊖	?
Auto-numbering for records	Enable	⊖	?
Scheduling module (longitudinal only)	Enable	⊖	?
Randomization module	Enable	⊖	?
Designate an email field for sending survey invitations	Enable	⊖	?

Additional customizations

▶ How do I set up DDE User Rights?

Go to your **User Rights** page:

REDCap
Logged in as **Jacevedo** | Log out
My Projects or Control Center
Project Home or Project Setup
REDCap Messenger
Project status: **Development**

Data Collection | Edit Instruments

Record Status Dashboard
- View data collection status of all records
Add / Edit Records
- Create new records or edit/view existing ones
Show data collection instruments

Applications

- Calendar
- Data Exports, Reports, and Stats
- Data Import Tool
- Data Comparison Tool
- Logging
- Field Comment Log
- File Repository
- User Rights** and DAGs
- Record Locking Customization
- E-signature and Locking Mgmt
- Data Quality
- API and API Playground
- REDCap Mobile App
- External Modules
- How To: Advanced Coding
- How To: Calculations
- How To: Survey Wizard
- How To: Adding Users
- UChicago REDCap Website

Help & Information

- Help & FAQ
- Video Tutorials
- Suggest a New Feature
- Contact REDCap administrator

Double Data Entry Demo

Project Home | Project Setup | **User Rights** | Data Access Groups

This page may be used for granting users access to this project and for managing the user privileges of those users. You may also create roles to which you may assign users (optional). User roles are useful when you will have several users with the same privileges because they allow you to easily add many users to a role in a much faster manner than setting their user privileges individually. Roles are also a nice way to categorize users within a project. In the box below you may add/assign users or create new roles, and the table at the bottom allows you to make modifications to any existing user or role in the project, as well as view a glimpse of their user privileges.

Add new users: Give them custom user rights or assign them to a role.

— OR —

Create new roles: Add new user roles to which users may be assigned.



(e.g., Project Manager, Data Entry Person)

Role name (click role name to edit role)	Username or users assigned to a role (click username to edit or assign to role)	Expiration (click expiration to edit)	Project Design and Setup	User Rights	Data Access Groups	Data Export Tool
—	t.cri.redcap1 (Sam Jones)	never	✓	✓	✓	Full Data Set
—	t.cri.redcap2 (Jane Doe)	never	✗	✗	✗	Full Data Set
—	t.cri.redcap3 (John Doe)	never	✗	✗	✗	Full Data Set

▶ How do I set up DDE User Rights?



- Click on your **username** and you will see the **Reviewer** user rights has already been assigned to

Other privileges:

 Calendar	<input checked="" type="checkbox"/>
 Double Data Entry	<input checked="" type="radio"/> Reviewer
	<input type="radio"/> Person #1
	<input type="radio"/> Person #2

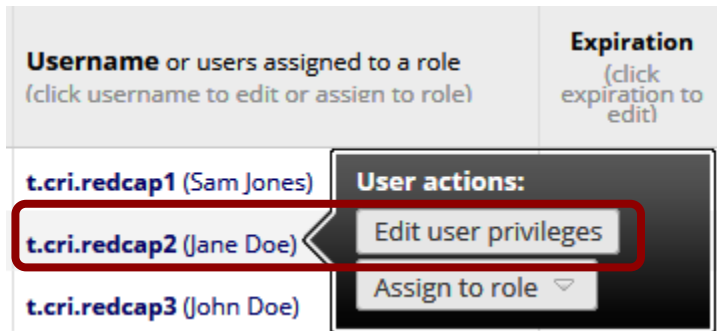
- As a **Reviewer**, you have rights to assign data entry **Person #1** and **Person #2**.

Other privileges:

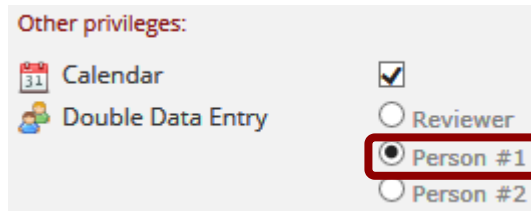
 Calendar	<input checked="" type="checkbox"/>
 Double Data Entry	<input checked="" type="radio"/> Reviewer
	<input type="radio"/> Person #1
	<input type="radio"/> Person #2

▶ How do I set up DDE User Rights?

- To assign data entry **Person #1**, click on the user's name and click **Edit user privileges**:



- Then assign the user **Person #1** user rights.



- Repeat the steps for **Person #2** for the other user
- Any remaining users on the projects will be **Reviewers**.

▶ Person #1 – Data Entry

Person #1 can now log in and begin data entry:

The screenshot shows the REDCap interface for a 'Double Data Entry Demo' project. The user is logged in as 't.cri.redcap1'. The main content area displays a 'Data Entry Form' for 'Adding new Record ID 100'. The form fields are as follows:

Field	Value
Record ID	100
Last Name	Marin
First Name	Sue
Date of Birth	07-24-1980
Zip Code	60605
Lab Location	North
Form Status	Complete
Complete?	Complete

Navigation buttons include 'Save & Exit Form', 'Save & ...', and '-- Cancel --'. A red rounded rectangle highlights the form fields.

Person #1 – Dashboard

This is how the **Record Status Dashboard** will appear for **Person #1** after entering their first record.

REDCap
Logged in as t.cri.redcap1 | Log out
My Projects
Project Home
REDCap Messenger
Project status: **Production**

Data Collection
Record Status Dashboard
Add / Edit Records
Show data collection instruments

Applications
Calendar
Data Exports, Reports, and Stats
Field Comment Log
File Repository
How To: Advanced Coding
How To: Calculations
How To: Survey Wizard
How To: Adding Users
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Help & Information
Help & FAQ
Video Tutorials
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Double Data Entry Demo

Record Status Dashboard (all records)

Displayed below is a table listing all existing records/responses and their status for every data collection instrument (and if longitudinal, for every event). You may click any of the colored buttons in the table to open a new tab/window in your browser to view that record on that particular data collection instrument. Please note that if your form-level user privileges are restricted for certain data collection instruments, you will only be able to view those instruments, and if you belong to a Data Access Group, you will only be able to view records that belong to your group.

Legend for status
● Incomplete
● Unverified
● Complete

Dashboard displayed: [Default dashboard] ▼
Displaying record Page 1 of 1: "100" through "100" ▼ of 1 records ALL (1) ▼ records per page

Displaying: Instrument status only | [Lock status only](#) | [All status types](#)

Record ID	Data Entry Form
100	●

▶ Person #2 – Data Entry

Person #2 can now log in and begin data entry:

The screenshot shows the REDCap interface for a project named "Double Data Entry Demo". The user is logged in as "t.cri.redcap2". The interface is divided into a left sidebar with navigation options and a main content area for the data entry form. The form is titled "Data Entry Form" and is for "Adding new Record ID 100". The form fields are as follows:

Field	Value
Record ID	100
Last Name	Maren
First Name	Sue
Date of Birth	07-24-1980
Zip Code	60606
Lab Location	North
Form Status	Complete
Complete?	Complete

The form includes several buttons: "Save & Exit Form", "Save & ..." (dropdown), and "-- Cancel --". A red rounded rectangle highlights the main form area.

► Person #2 – Dashboard

- This is how the **Record Status Dashboard** will appear for **Person #2** after entering their first record.
- *Notice, they don't see Person #1's record.*

REDCap™

Logged in as **t.cri.redcap2** | [Log out](#)

[My Projects](#)
[Project Home](#)
[REDCap Messenger](#)
Project status: **Production**

Data Collection

- [Record Status Dashboard](#)
- [Add / Edit Records](#)

Show data collection instruments

Applications

- [Calendar](#)
- [Data Exports, Reports, and Stats](#)
- [Field Comment Log](#)
- [File Repository](#)
- [How To: Advanced Coding](#)
- [How To: Calculations](#)
- [How To: Survey Wizard](#)
- [How To: Adding Users](#)
- [UChicago REDCap Website](#)

Help & Information

- [Help & FAQ](#)
- [Video Tutorials](#)
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Double Data Entry Demo

Record Status Dashboard (all records)

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Legend for status

- Incomplete
- Unverified
- Complete

Dashboard displayed: [Default dashboard] ▼

Displaying record Page 1 of 1: "100" through "100" ▼ of 1 records

ALL (1) ▼ records per page

Displaying: [Instrument status only](#) | [Lock status only](#) | [All status types](#)

Record ID	Data Entry Form
100	●

▶ Reviewer – Dashboard

- This is how the **Record Status Dashboard** will appear for the Reviewer when viewing all records.
- They see both records:
Person #1 (100--1) and Person #2 (100--2)

REDCap™

Logged in as **t.cri.redcap3** | [Log out](#)

[My Projects](#)

[Project Home](#) or [Project Setup](#)

[REDCap Messenger](#)

Project status: **Production**

Data Collection

- [Record Status Dashboard](#)
- [Add / Edit Records](#)

Show data collection instruments

Applications

- [Calendar](#)
- [Data Exports, Reports, and Stats](#)
- [Data Import Tool](#)
- [Data Comparison Tool](#)
- [Logging](#)
- [Field Comment Log](#)
- [File Repository](#)
- [User Rights and DAGs](#)
- [Data Quality](#)
- [How To: Advanced Coding](#)
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- [How To: Survey Wizard](#)
- [How To: Adding Users](#)
- [UChicago REDCap Website](#)

Double Data Entry Demo

Record Status Dashboard (all records)

Displayed below is a table listing all existing records/responses and their status for every data collection instrument (and if longitudinal, for every event). You may click any of the colored buttons in the table to open a new tab/window in your browser to view that record on that particular data collection instrument. Please note that if your form-level user privileges are restricted for certain data collection instruments, you will only be able to view those instruments, and if you belong to a Data Access Group, you will only be able to view records that belong to your group.

Legend for status

- Incomplete
- Unverified
- Complete

Dashboard displayed: [Create custom dashboard](#)

Displaying record of **2** records records per page

Displaying: [Instrument status only](#) | [Lock status only](#) | [All status types](#)

Record ID	Data Entry Form
100--1	<input checked="" type="radio"/>
100--2	<input checked="" type="radio"/>

▶ Reviewer – Data Comparison Tool

- The **Data Comparison Tool** is located under Applications on the left hand menu of the project.
- This tool may be used for **comparing** records that have been entered by data entry Persons #1 and #2.
- Select a record from the list and click the '**Compare**' button.
- A **comparison table** will then be displayed showing the **differences** between the records.
- Only records that have been entered by **both** data entry persons will be displayed in the selection box.
- If only one data entry person has entered their record, the table **will not** display that single record.

▶ Reviewer – Data Comparison Tool Results

- Below are the **Data Comparison Tool** results for record 100:

The screenshot shows the REDCap interface for a 'Double Data Entry Demo' project. The left sidebar contains navigation options like 'My Projects', 'Project Home', and 'Data Collection'. The main content area is titled 'Data Comparison Tool for Double Data Entry' and includes a dropdown menu for selecting a record ID (currently set to 100) and buttons for 'Compare selected record' and 'Compare all records'. Below this, a 'Print page' button is visible. A section titled 'Differences were found between the two records named 100--1 and 100--2.' contains a table comparing the two records. The table highlights differences in the 'Last Name' and 'Zip Code' fields. A 'MERGE THEM?' section provides a link to merge the selected values.

Record ID [100] [Compare selected record] — OR — [Compare all records]

[Print page]

Differences were found between the two records named 100--1 and 100--2.

The table below compares the two records named **100--1** and **100--2**. Only the fields that have differing values are listed below. If you need to correct or change the value of one of the records below, simply click on the data displayed in red, and it will take you to that form for that particular record.

MERGE THEM?
If you wish to merge selected values from the two records below into a NEW third record, you may [click here to merge them](#).

Label (field name)	Form Name	Record ID	
		100--1	100--2
Last Name (<i>last_name</i>)	Data Entry Form	Marin	Maren
Zip Code (<i>zip_code</i>)	Data Entry Form	60605	60606

- All records can be compared at once too.

▶ Reviewer – Data Comparison Tool Results

- The table compared the two records named 100--1 and 100--2.
- Only the fields that have differing values are listed.
- If you need to correct or change the value of one of the records below, simply click on the data displayed in red, and it will take you to that form for that particular record.

Differences were found between the two records named **100--1** and **100--2**.

The table below compares the two records named **100--1** and **100--2**. Only the fields that have differing values are listed below. If you need to correct or change the value of one of the records below, simply click on the data displayed in red, and it will take you to that form for that particular record.

MERGE THEM?

If you wish to merge selected values from the two records below into a NEW third record, you may [click here to merge them](#).

Label (field name)	Form Name	Record ID	
		100--1	100--2
Last Name (<i>last_name</i>)	Data Entry Form	Marin	Maren
Zip Code (<i>zip_code</i>)	Data Entry Form	60605	60606

► Reviewer – Merging Records

To merge the records, click on the merge link:

MERGE THEM?

If you wish to merge selected values from the two records below into a NEW third record, you may [click here to merge them.](#)

Label (<i>field name</i>)	Form Name	Record ID	
		100--1	100--2
Last Name (<i>last_name</i>)	Data Entry Form	Marin	Maren
Zip Code (<i>zip_code</i>)	Data Entry Form	60605	60606

▶ Reviewer – Merging Records

Two differences were found: last name and zipcode.

Instructions for merging records:

In the table below, only the fields that have differing values for the existing two records are displayed. Since you are merging these two records, you will need to decide which of those two values you wish to include in the new record you are creating. You may also choose to enter a new value rather than selecting one from the existing records.

Simply click on the dot in each cell to select that field's value as the value to be included for the NEW third record you will be creating. When you are done making your selections, click the Merge Records button at the bottom to create the new record.

Label (field name)	Form Name	Choose one of the existing values or enter a new value		
		100--1	100--2	New Value
Last Name (<i>last_name</i>)	Data Entry Form	<input checked="" type="radio"/> Marin	<input type="radio"/> Maren	<input type="text"/>
Zip Code (<i>zip_code</i>)	Data Entry Form	<input checked="" type="radio"/> 60605	<input type="radio"/> 60606	<input type="text"/>
		<input type="button" value="Merge Records"/> Cancel		

▶ Reviewer – Merging Records

- We will merge the record choosing **Marin** and **60606**.

Label (<i>field name</i>)	Form Name	Choose one of the existing values or enter a new value		
		100--1	100--2	New Value
Last Name (<i>last_name</i>)	Data Entry Form	<input checked="" type="radio"/> Marin	<input type="radio"/> Maren	<input type="text"/>
Zip Code (<i>zip_code</i>)	Data Entry Form	<input type="radio"/> 60605	<input checked="" type="radio"/> 60606	<input type="text"/>
				<input type="button" value="Merge Records"/> Cancel

- Once merged, a new record 100 will be created.

RECORD CREATED!

Record **100** has now been created by merging the values you selected from records 100--1 and 100--2.




▶ Reviewer – Dashboard

- This is how the **Record Status Dashboard** will appear for the Reviewer after merging the record.
- They see all three records:
 1. Merged Record (100)
 2. Person #1 (100--1)
 3. Person #2 (100--2)

Dashboard displayed: [Default dashboard] ▼ [Create custom dashboard](#)

Displaying record Page 1 of 1: "100--1" through "100" ▼ of 3 records ALL (3) ▼ records per page

Displaying: [Instrument status only](#) | [Lock status only](#) | [All status types](#)

Record ID	Data Entry Form
100	
100--1	
100--2	

► Person #1 – Dashboard

- However, this is how the **Record Status Dashboard** will appear for **Person #1** after merging the record.
- They see still only see their one record: 100

REDCap™

Logged in as **t.cri.redcap1** | Log out

My Projects
Project Home
REDCap Messenger
Project status: **Production**

Data Collection

- Record Status Dashboard
- Add / Edit Records

Show data collection instruments

Applications

- Calendar
- Data Exports, Reports, and Stats
- Field Comment Log
- File Repository
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Double Data Entry Demo

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Dashboard displayed: [Default dashboard] ▼

Displaying record Page 1 of 1: "100" through "100" ▼ of 1 records ALL (1) ▼

Displaying: [Instrument status only](#) | [Lock status only](#) | [All status types](#)

Record ID	Data Entry Form
100	

▶ Person #2 – Dashboard

- However, this is how the **Record Status Dashboard** will appear for **Person #2** after merging the record.
- They see still only see their one record: 100

REDCap™

Logged in as **t.cri.redcap2** | Log out

My Projects
Project Home
REDCap Messenger
Project status: **Production**

Data Collection

- Record Status Dashboard
- Add / Edit Records

Show data collection instruments

Applications

- Calendar
- Data Exports, Reports, and Stats
- Field Comment Log
- File Repository
- How To: Advanced Coding
- How To: Calculations
- How To: Survey Wizard
- How To: Adding Users
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Double Data Entry Demo

Record Status Dashboard (all records)

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Dashboard displayed: [Default dashboard] ▼

Displaying record Page 1 of 1: "100" through "100" ▼ of 1 records ALL (1) ▼

Displaying: [Instrument status only](#) | [Lock status only](#) | [All status types](#)

Record ID	Data Entry Form
100	

Record Compare After Merging

Person #1	Person #2	Reviewer
100--1 <small>To rename the record, see the record action drop-down at top of the Record Home Page.</small>	100--2 <small>To rename the record, see the record action drop-down at top of the Record Home Page.</small>	100 <small>To rename the record, see the record action drop-down at top of the Record Home Page.</small>
<input type="text" value="Marin"/>	<input type="text" value="Maren"/>	<input type="text" value="Marin"/>
<input type="text" value="Sue"/>	<input type="text" value="Sue"/>	<input type="text" value="Sue"/>
<input type="text" value="07-24-1980"/>  <input type="button" value="Today"/> M-D-Y	<input type="text" value="07-24-1980"/>  <input type="button" value="Today"/> M-D-Y	<input type="text" value="07-24-1980"/>  <input type="button" value="Today"/> M-D-Y
<input type="text" value="60605"/>	<input type="text" value="60606"/>	<input type="text" value="60606"/>
<input checked="" type="radio"/> North <input type="radio"/> South <input type="radio"/> West	<input checked="" type="radio"/> North <input type="radio"/> South <input type="radio"/> West	<input checked="" type="radio"/> North <input type="radio"/> South <input type="radio"/> West

- REDCap gives no indication to Person #1 and #2 that their records were merged by the Reviewer.
- Even though the merged record 100 has the correct data, records 100--1 and 100--2 still have the old data.
- Changing the data in 100--1 and 100--2 will not update the data in 100. They are considered 3 separate and distinct records in the project.

- ▶ The following pages cover FAQs (frequently asked questions) related to DDE.

▶ How do I export only the merged records in a DDE project?

- When exporting records (or viewing a report) from a Double Data Entry (DDE) project, the exported record set will, by default, include **three** records for every merged record (the **first** user's entry, the **second** user's entry, and the **merged** record).
- To **limit** the exported (viewed) records to only the final **merged** version of each record, follow these steps:
 1. Create a filter.
 2. Switch to Advanced Logic:
 3. Add this code: `not_contain([record_id], "--")`
- Note, change **[record_id]** to whatever field you are using as the record identifier.


In a project using DDE, can I make changes in one of the merged records?

- A record can be merged only once. For example records "AA--1" and "AA--2" merge to create record "AA".
- After merging, the user in role data entry **Person #1** can still make changes and only record "AA--1" will be changed.
- The person in role data entry **Person #2** can make changes and only record "AA--2" will be changed.
- A person in role **Reviewer** can view all three records that can be edited like any record in a database. The **Reviewer** can use the Data Comparison Tool to see discrepancies in the three versions. The **Reviewer** may then access the merged record and add data. What they add in the "AA" record will not be added to either "AA--1" or "AA--2" unless they open those records and make the addition. **Reviewers** can see, and make manual changes, but cannot use "merge" again. An alternative is to delete the merged version "AA", let the Data Entry people make changes themselves and then merge the records again.



As a DDE Reviewer, how can I make sure the data entry personnel do not modify their records after I create a final merged record?

- If you do not want data entry personnel to update records after a review and merge, you can enable the **User Right > Lock/Unlock Records** for the Reviewers.
- The Reviewers can then lock any records **prior** to a merge.
- The data entry personnel without this right **will not** be able to make updates to the locked record without first contacting the Reviewer.



What if data entry has begun by one data entry person, and then I decide to bring on another data entry person so that I can use DDE?

- Ask you **Administrator** to enable DDE for your project.
- Assign the original data entry person **Person #1** User Rights.
- Assign the new data entry person **Person #2** User Rights.
- **Rename** all the records entered by Person #1 (**before** DDE was enabled) to have the suffix --1 (i.e. record 200 rename to 200--1).
- As Person #2 begins entering records, REDCap will add the suffix --2 to their records (but **only** the Reviewer will see the suffix).
- The **Reviewer** can then use the **Data Comparison Tool** to compare and merge the 2 records from **Person #1** and **Person #2**, provided each record to be compared has their corresponding suffix (--1 and --2).

▶ What if I have more than two people entering data for the same records?

- It is sometimes recommended to use the **Data Access Groups (DAGs)** over the actual **DDE** module to implement a form of double data entry.
- The advantages of using **DAGs** include allowing an unlimited number of users to be in a group and enter data, to utilize the **Data Import Tool**, and to access all **Applications** pages.
- Discrepancies between double-entered records can be resolved by a **Reviewer** (i.e. someone not in a group) using the **Data Comparison Tool**.
- However, two records can **ONLY** be merged together when using the **DDE** module. So if it is necessary for a third party **Reviewer** to merge the two records into a third record, then in that case the **DDE** module would be advantageous over using **DAGs**.

▶ Are repeating forms compatible with DDE?

- No, you can only compare the **first instance** of repeating forms with DDE.
- The **Data Comparison Tool** does not support the Repeating Instruments and Events feature.
- Data can be compared and merged with the **Data Comparison Tool** but it will only allow comparison and merging of Instance #1 of a repeating instrument or repeating event.
- All non-repeating data in non-repeating forms can be compared and merged.



Can I use DDE only on certain instruments in my project?

- No, **DDE** applies to the **entire** project.
- It should **not** be used with projects where you just wish to do double data entry on some forms; it must be done on **all** forms.