MULTI-LANGUAGE MANAGEMENT

Günther Rezniczek, PhD

Ruhr-Universität Bochum / Marien Hospital Herne

guenther.rezniczek@rub.de

About this presentation / manual

- This presentation …

  – was created by Dr. Günther Rezniczek and uses a (modified) slideshow template of Ruhr-Universität Bochum

  – is openly shared for use by others − feel free to modify (including removal of branding)

  – was first shown at the Feb 23, 2022, REDCap Africa monthly call

- All screenshots are from REDCap v12.2.4

Multilingual support in REDCap before v12

- **Native**
  - Language files and different projects for different languages
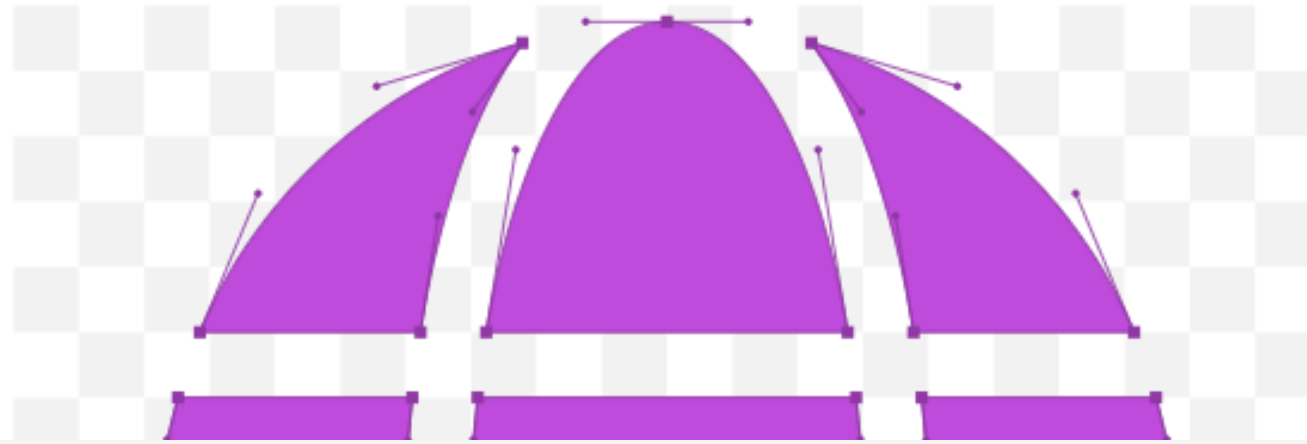 - Branching logic

- **External Modules**
  - Multilingual
  - Second Language
  - Language Switcher
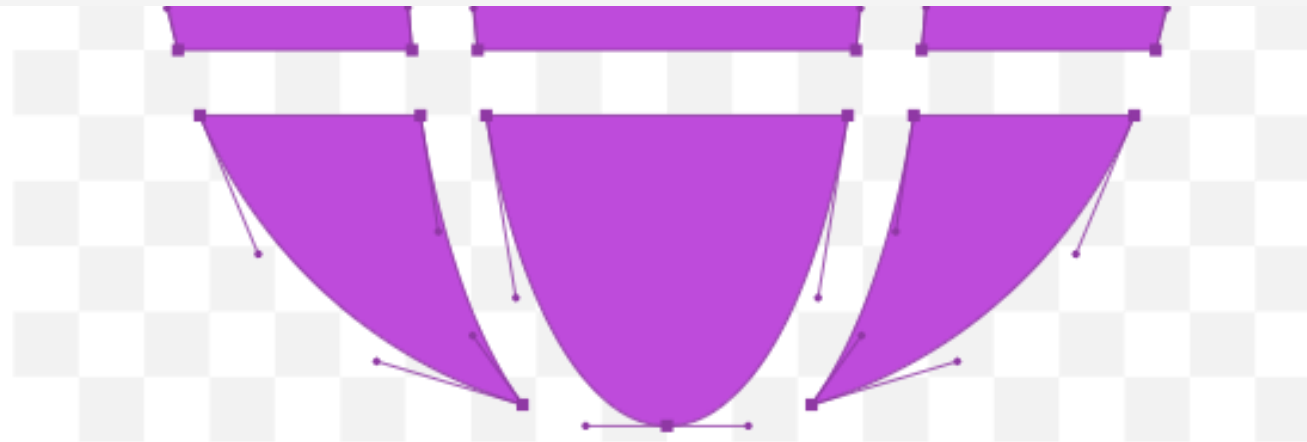 - (Babel)
  - (Right-to-Left Module)

NOT SATISFACTORY

→ A better solution was needed!

REDCap

Enter ...

Native Multi-Language Support in REDCap

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`<i class="fas fa-globe"></i>`

REDCap

What is Multi-Language Management (MLM)?

- New feature in REDCap v12+

- Provides the ability to present REDCap data entry interfaces in multiple languages
  - Data Entry Pages
  - Questions/Choices
  - Survey Settings
  - ASIs and Alerts & Notifications
  - PDFs

- Compatible with piping, field embedding, branching logic

What is Multi-Language Management (MLM)?

- Users / survey respondents can switch among the available languages at will
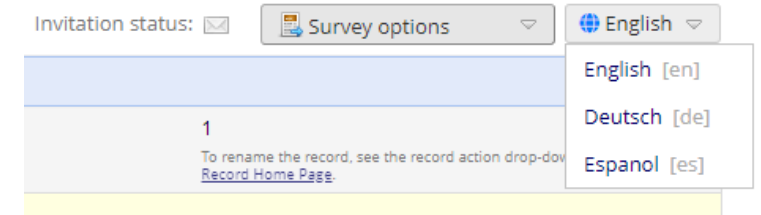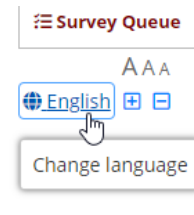
- Easy to administer, purely opt-in

How does it work? – Basic concepts

There are **two** primary translation components for each language:

User interface language
i.e., all the strings that are displayed by REDCap in the context of data entry or surveys, the default values of which originate from a Language.ini file (as set in Control Center or Project Settings)

→(can/should be) provided as **SYSTEM LANGUAGES**

Project-specific language
i.e., all data dictionary items (questions/field labels, choice labels, etc.), survey settings (survey title, survey instructions, etc.), survey queue custom message, ASI and alert message subjects and contents, etc.

(can override user interface items)

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What are "**system**" languages?

- Languages that are configured in a REDCap instance's **Control Center**
- They provide translations for the **stock user interface** strings
- They are **the best way** to initialize a language inside a project

And last but not least:

- They provide a language choice for survey respondents on **general pages** (i.e. pages that cannot be linked with a specific project)
  - Generic survey endpoint (access code page)
  - Error messages
- → Thus, the system languages should always be a **superset of all project languages**

Setting up system languages

1. Go to **Control Center** and bring up the **Multi-Language Management** page

2. Click the **Add a new language** button

3. Click the **Import from file** button

Setting up system languages (ctd.)

4. Drop a file containing UI translations onto the **Choose or drop file…** input (or click **Browse**) This can be …

   - A Language.ini file from **REDCap Language Center** https://redcap.vanderbilt.edu/plugins/redcap_consortium/language_library.php
   - A translation file from the **Multi-Language Management (MLM) Translations Repository** https://redcap.vanderbilt.edu/surveys/?__report=7LEEXCTLYA7TJDJ3

5. Click **Import**

6. Back on the **Add New Language** dialog, enter an *ID* and a *Display Name* (if not already set) and optionally a *Sort Override*

7. Finally, click the **Add Language** button

Add New Language
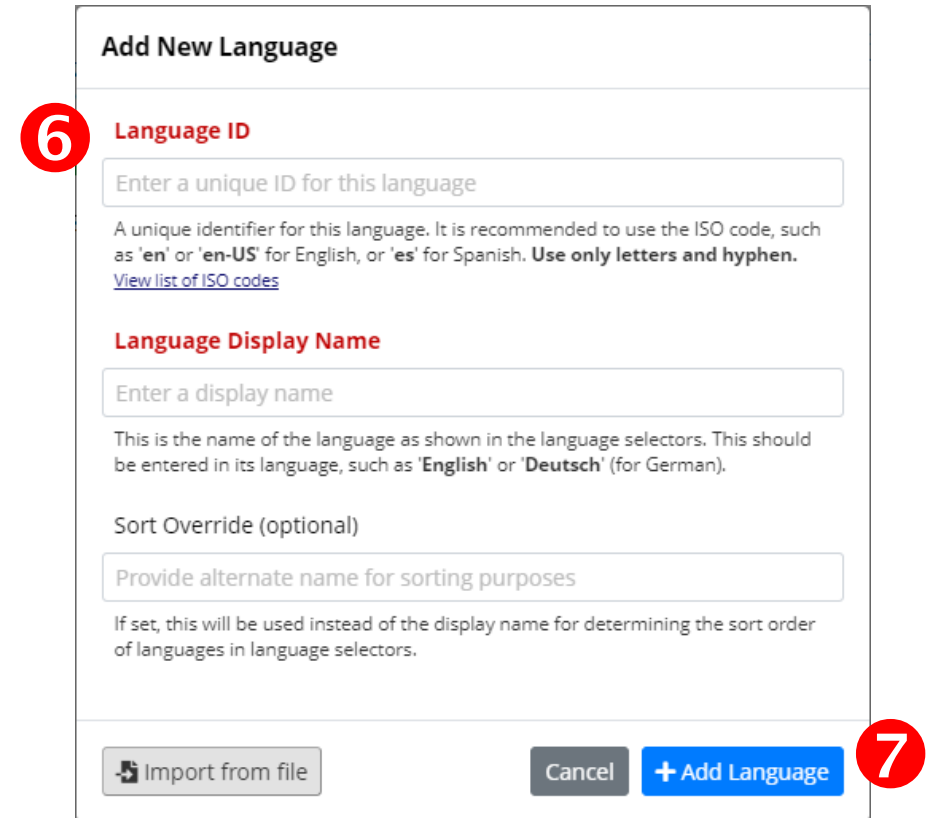
Import language data …

⦿ **from a file (JSON, CSV, or INI)**

Choose or drop file…   Browse   ❹

Cancel   🔲 Import   ❺

Add New Language

❻ **Language ID**

Enter a unique ID for this language

A unique identifier for this language. It is recommended to use the ISO code, such as '**en**' or '**en-US**' for English, or '**es**' for Spanish. **Use only letters and hyphen.** View list of ISO codes

Language Display Name

Enter a display name

This is the name of the language as shown in the language selectors. This should be entered in its language, such as '**English**' or '**Deutsch**' (for German).

Sort Override (optional)

Provide alternate name for sorting purposes

If set, this will be used instead of the display name for determining the sort order of languages in language selectors.

🔲 Import from file   Cancel   **+ Add Language**   ❼

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Setting up system languages (ctd.)

8. Set whether this language is **Active*** and **Visible***

9. If this is a right-to-left language (such as Arabic or Hebrew), turn on **RTL**

10. Finally, click **Save Changes** to commit all changes to the database

* **Active** = The language is available for selection on non-project pages seen by survey respondents
  Visible = The language is listed as an available language on a project's import dialog

Getting started with MLM in projects

There are **3** methods for initializing languages within projects:

1. Build from scratch (not recommended)

2. Import form a file (.csv, .json, .ini)

3. Import from the SYSTEM LANGUAGES (**preferred**)

Then, data dictionary (and other items) can be translated

- On the project's MLM setup page

- Offline (by a professional translator)

  1. Export all items that need to be translated

  2. Import the translations

Note:
The MLM setup page is locked in **production** projects. Switch to draft mode first.

Adding languages to projects

1. Bring up the **Multi-Language Management** page by clicking the link in the **Applications** men

2. Click the **Add a new language** button
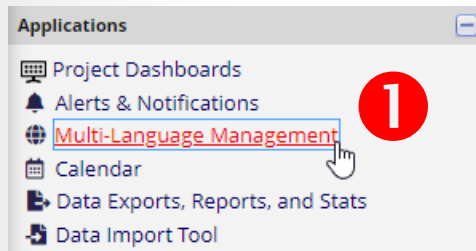
Note: **Project Design** user rights are required to be able to access the MLM setup page (this may change in future versions)

Adding languages to projects (ctd.)

3. Click the **Import from file or system** button
    (unless you want to start translating everything from scratch – then skip to step 7)

4. Select a language from the **available system languages** (or import from a file)

5. Click the **Import** button

6. Back on the **Add New Language** dialog, enter an *ID* and a *Display Name* (if not already set) and optionally a *Sort Override*

7. Click the **Add Language** button

Adding languages to projects (ctd.)

8. Turn on/off languages by setting their **Active** state

9. Set whether a language represents the **Default** or should serve as **Fallback,** and whether it's a right-to-left (**RTL**) language

10. Finally, click the **Save Changes** button to commit your changes

Understanding Default and Fallback
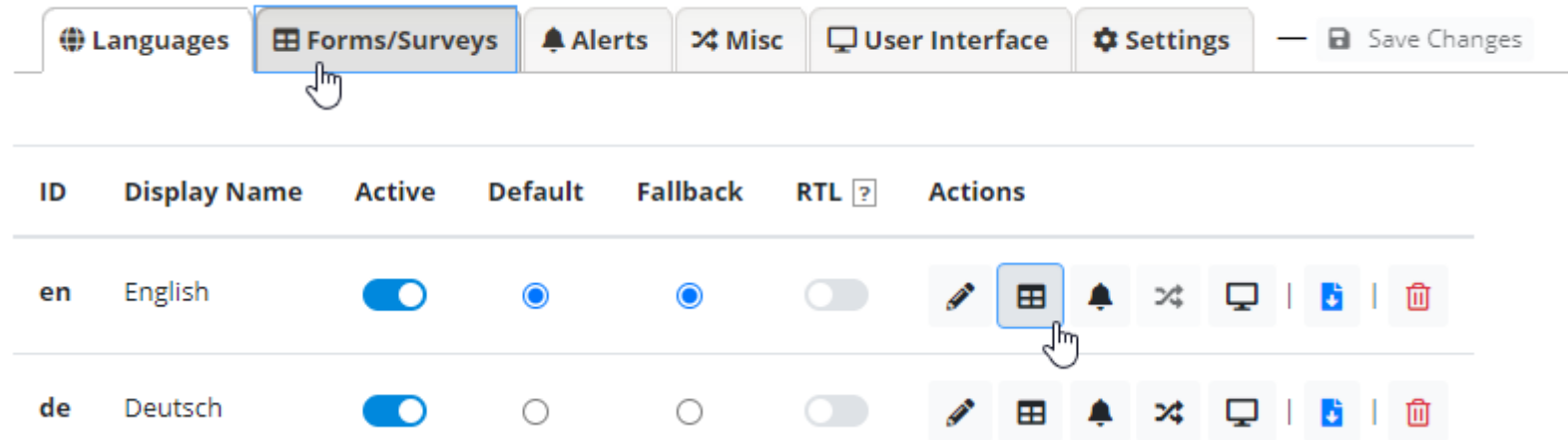
Default (also named **Reference**)

- This is the language used during project design, i.e. for all data dictionary items such as field labels, choice labels, etc., as well as for survey settings, ASI or Alerts messages, Missing Data Code labels, etc.

- This usually corresponds (but not necessarily) with the language set as the project language (on the Project Settings page) by an admin.

- There must always be a default language, but this does not mean that it needs to be shown (i.e. it's **Active** state can be off).

Fallback

- This is the language that should be used in case a translation is not available in the language that currently should be displayed on a (data entry or survey) page.

- In case there is no fallback translation available, the item will be shown in the default language.

Translating project items

1. Click on tab or the corresponding icon in the languages table

- **Forms / Surveys** (fields, survey settings, ASIs, survey queue customizations)
- **Alerts**
- **Misc** (Missing Data Codes, PDF customizations, Protected Email customizations)

- **User Interface** – usually set from a system language, but allows project-specific overrides

Forms/Surveys (default language)

1. On each language's tab, control whether this languages is available for selection, separately for data entry forms and surveys.

2. The default language tab (indicated by an asterisk) is special.

3. There is nothing to translate, but fields can be excluded from translation (i.e., they won't show up on the other languages' tabs)

Note, a common pitfall is to forget to enable languages!

(Full control comes at a price!)

Forms/Surveys (other languages)

1. On each language's tab, control whether this languages is available for selection, separately for data entry forms and surveys.

2. Depending on whether an instrument is enabled as a survey and has ASIs, **Translate** buttons are available.

3. In case the Survey Queue is enable with custom texts, translation buttons are available

Note, a common pitfall is to forget to enable languages!

(Full control comes at a price!)

Forms/Surveys – Fields

1. Use the **Go to field** dropdown to quickly navigate to a specific field

2. Enter translations. When appropriate, a **Rich Text Editor** button is available

3. Indicators reflect the translation status of items/subitems (green = complete)

Hints:

- The copy icons next to the default text can be used to quickly copy/paste them to translation tools

- In case an item changes after having been translated, this will be indicated:

Forms/Surveys – Survey settings

1. Translate each item

2. Use the **Rich Text Editor** for any settings supporting HTML

Note, there is nothing to translate for the default language (marked with an asterisk). When clicked, this will take you to the field exclusion page)

Forms/Surveys – ASIs

1. Translate each item

2. Use the **Rich Text Editor** for any settings supporting HTML

Note, ASIs for each event must →
be translated separately

Make sure that piping is replicated
faithfully in the translations!

Alerts

1. Use the search box to quickly find the item you would like to translate / edit.

2. Use the **Rich Text Editor** for any settings supporting HTML

For Alerts, there are important → settings to be made on the default language's page!

Make sure that piping is replicated → faithfully in the translations!

Alerts – Default language special options

1. Individual alerts can be excluded from translation

2. Since alerts may trigger under circumstances when no language can be determined automatically, set a **Language Source** for each event.
   - **Language preference field** or **User's or survey respondent's active language**
   - What to choose will depend on how the alert is triggered

Select the default →
language to get
to this page!

Miscellaneous items

- Missing Data Codes

- PDF customizations

- Protected Email customizations

For the default language, there → is nothing to translate.

Tabs will only show when there → are customizations set outside of MLM. This means, it is not possible to add new text using MLM, only replace text (with translations).

⊕ Languages | ⊞ Forms/Surveys | 🔔 Alerts | ⤫ Misc | 🖵 User Interface | ⚙ Settings | — 🖫 Save Changes

Click a button below to select a language to translate:

✳ English   Deutsch

Note that some tabs on this page, such as Missing Data Codes or Protected Email Mode, will only be shown when the corresponding features are enabled in this project. If nothing is displayed below, then there is nothing to translate here.

Missing Data Codes   **PDF**   **Protected Email**

🟩 *Missing Data Code Translations*

	Code	Translation
🟩	NI	Keine Information
		Default text: 📋 No information
🟩	INV	Ungültig
		Default text: 📋 Invalid
🟩	UNK	Unbekannt
		Default text: 📋 Unknown

What determines the currently active* language?

* i.e., the language a page, email, PDF is rendered in

Generally:

- **A user's (survey respondent's) choice:**
  - Set via the language selection widget (or a radio field when used with the **@LANGUAGE-SET** action tag)
  - On repeat visits through a cookie value (surveys, non-authenticated users) or user setting (data entry pages, authenticated users)

When this is not available, e.g., in a process triggered by ASI logic:

- **By a field in the project:**
  - Set through the **Language preference field** option on the MLM setup page
  - Its value must correspond to the ID of an *active* language
  - Can be set manually (e.g., on an intake form) or captured into a field with **@LANGUAGE-CURRENT-FORM/SURVEY** action tag
  - Can force a language with the **@LANGUAGE-FORCE** action tags

🅰🇿 Language preference field: -- Select a field -- ⌄

Language determination algorithm
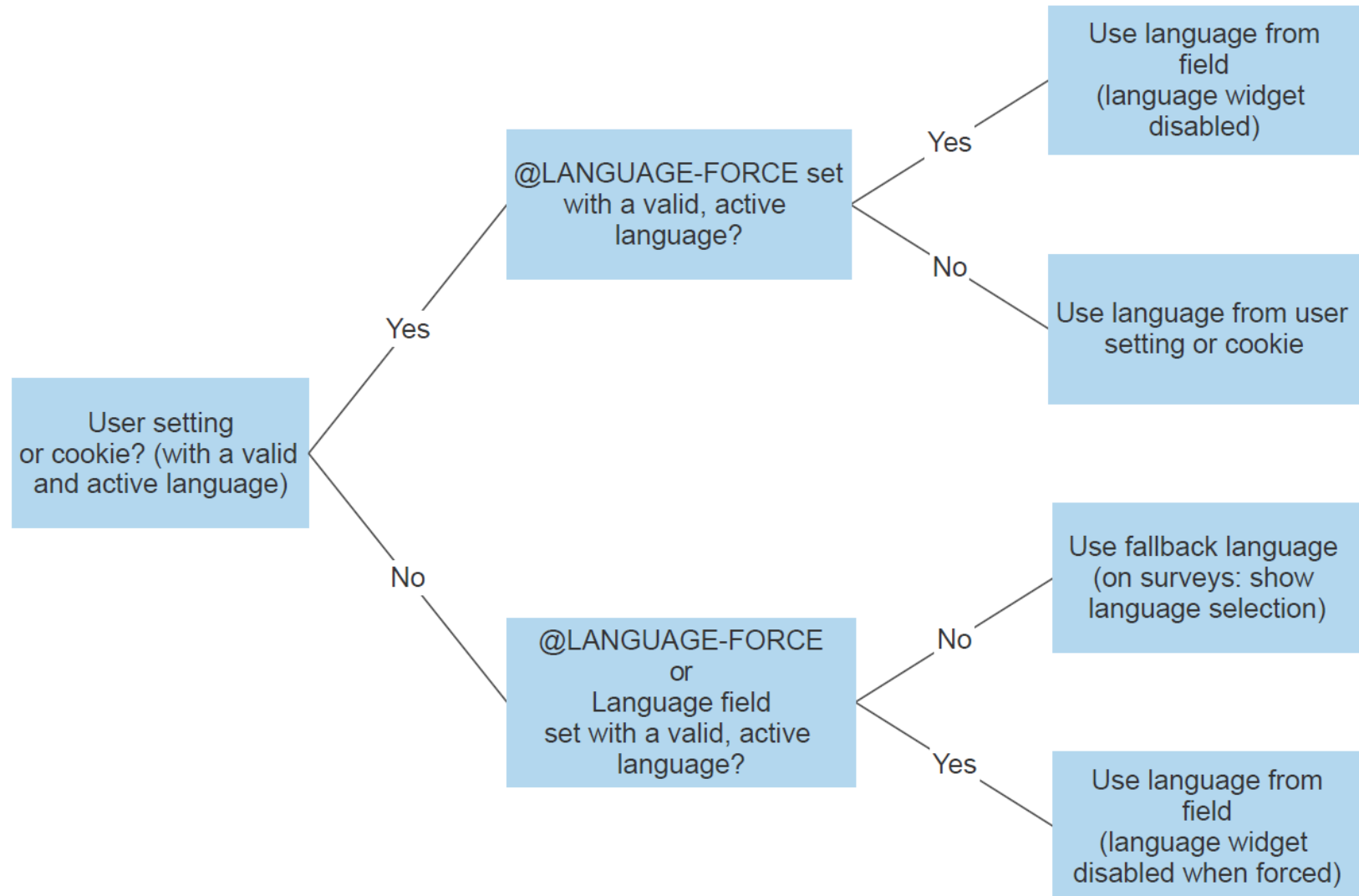
Exporting languages (for re-use/offline translation)

1. Click on the **Export** button in the language's row in the languages table

2. Choose the items that should be included in the export

3. Choose whether to include translation prompts and/or default values, as well as the file format (JSON or CSV)

4. Click the **Download Language** button

For offline translation, include **prompts** and **default values**!
For transfers or backups, these are not needed.

Export Language — [de: Deutsch]

Please choose what to include in the export file, and set export options.
Include the following:

❷
☑ Translations of user interface items
☑ Translations of instruments names
☑ Translations of field items
☑ Translations of survey settings and Survey Queue items
☑ Translations of automated survey invitations
☑ Translations of alerts
☑ Translations of event names
☑ Translations of missing data code labels
☑ Translations of PDF customizations
☑ Translations of Protected Email settings

Export Options:
❸
☐ Include translation prompts
☐ Include default values
◉ JSON
○ CSV — ◉ Comma (,) ○ Semicolon (;) ○ Tab

NOTE: The export will reflect the currently SAVED state only. Thus, any unsaved changes will NOT be contained in the export file.

Cancel | **Download Language** ❹

ID	Display Name	Active	Default	Fallback	RTL [?]	Actions	
de	Deutsch						❶

Importing (updated) translations

1. Click on the **Edit language** button in the corresponding row in the languages table

2. Click on the **Import from file or system** button

3. Drag the translation file into the **Choose or drop file…** box (or click **Browse**)

4. Make sure to select **use imported values**

5. Click the **Import** button

6. Click the **Apply Changes** button

7. Save your changes

Change tracking

ATTENTION: The original values of some translated items have changed, and thus some translations might be out of date. Review 1 changed items.

MLM has a change tracking mechanism built in. This will detect changes in items that occurred after such an item had been translated. When the MLM setup page is accessed, such items will be displayed in the **Review Changed Items** popup.

1. **Accept** an individual item as still valid or Edit an item to update its translation, or

2. **Accept all translations as still valid**, or

3. **Export** all items of a language for offline revision (and re-import later)

Other MLM settings / Translation snapshots

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There are a number of options available under the **Settings** tab, such as the option to …

1. **Highlight untranslated text** (this is useful during development as a visually check for items missing translations in the set language on data entry form and surveys)

2. **Disable** multi-language support in the project (this can be useful for troubleshooting a suspected bug)

3. Enable **Debug mode** (for admins only; a lot of data is output to the browser console)

4. **Create Snapshot** (this will archive a ZIP with export files for all languages)

🌐 Languages ▦ Forms/Surveys 🔔 Alerts ⤫ Misc 🖥 User Interface ⚙ Settings — 🖫 Save Changes

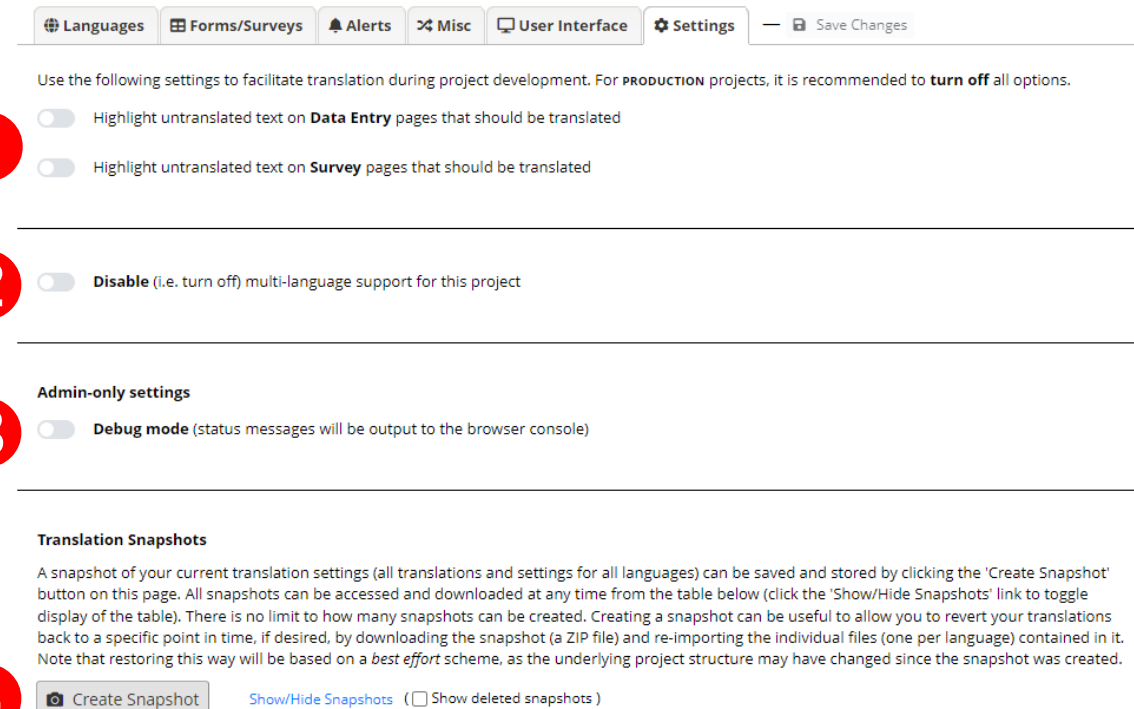Use the following settings to facilitate translation during project development. For PRODUCTION projects, it is recommended to **turn off** all options.

❶ Highlight untranslated text on **Data Entry** pages that should be translated
    Highlight untranslated text on **Survey** pages that should be translated

❷ **Disable** (i.e. turn off) multi-language support for this project

Admin-only settings

❸ **Debug mode** (status messages will be output to the browser console)

Translation Snapshots

A snapshot of your current translation settings (all translations and settings for all languages) can be saved and stored by clicking the 'Create Snapshot' button on this page. All snapshots can be accessed and downloaded at any time from the table below (click the 'Show/Hide Snapshots' link to toggle display of the table). There is no limit to how many snapshots can be created. Creating a snapshot can be useful to allow you to revert your translations back to a specific point in time, if desired, by downloading the snapshot (a ZIP file) and re-importing the individual files (one per language) contained in it. Note that restoring this way will be based on a *best effort* scheme, as the underlying project structure may have changed since the snapshot was created.

❹ 📷 Create Snapshot   Show/Hide Snapshots   (☐ Show deleted snapshots)

REDCap