

# REDCap nedCAPTCHA: External Module Setup Guide

## Purpose

To protect a public survey with a CAPTCHA. This option will allow users to add protection to their public survey using Google's CAPTCHA functionality, which can prevent bots from entering trash data into a public survey.

## Effect

When enabled in a project, the module will protect the **Public Survey URL** with a CAPTCHA (either a classic image CAPTCHA with distorted text, a math problem, or a custom challenge). A survey participant must complete the CAPTCHA challenge before being allowed to proceed to the survey. The captcha must be completed, at most, **once** per user session.

## Examples

### nedCAPTCHA-protected survey

The first example shows a classic image CAPTCHA. It features the instruction "Please type in the text exactly as displayed" above a distorted image of the text "ZW8pT". To the right is an empty text input field, and below is a "Submit" button.

The second example shows a math problem CAPTCHA. It features the instruction "Please solve this math problem:" above the equation "10 + 4". To the right is a text input field with a small calculator icon, and below is a "Submit" button.

The Custom CAPTCHA option could be used to implement simple password protection of a survey. Only users who know the 'password' can then access the survey.

Note: the password for the survey will be the same for *all* survey participants.

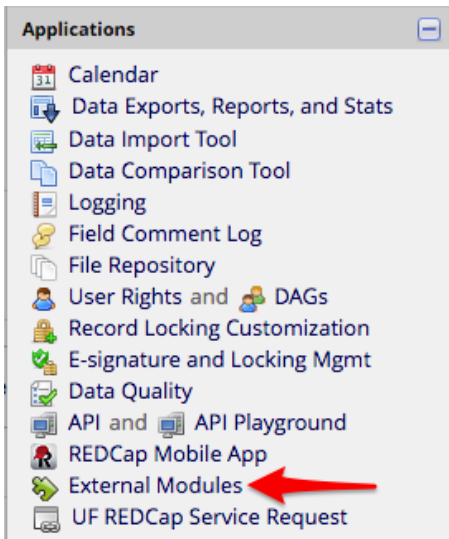
The screenshot shows the configuration interface for the CAPTCHA type. At the top, it says "CAPTCHA type (default: Math):" followed by a dropdown menu set to "Custom". A red arrow points to the dropdown arrow. Below this is a text box with instructions: "You can define your own challenge-response pairs. Simply enter them in the text box below, one pair per line, separated by an equal sign (=). One of them will be randomly shown. The challenge is displayed as text. The response is not case-sensitive." At the bottom, there is a label "Challenge and response pairs, one per line (e.g. The color of the sky? = Blue):" and a text input field containing the example "Enter the survey login you were provided in the email. = surveylogin". A red rounded rectangle highlights this text input field.

Enter the survey login you were provided in the email.

Enter the survey login you were provided in the email.

**Activation:**

- 1) Submit the *REDCap External Modules – Request for Activation* survey:  
<https://redcap.ctsi.ufl.edu/redcap/surveys/?s=NMXX88YLC9>
- 2) Once activated by the REDCap Team (you'll be notified via email), go to the *External Modules* page to configure the module:



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**nedCAPTCHA - v1.0.1** Discoverable  
Adds CAPTCHA protection to surveys. [See full documentation here.](#)  
[View Documentation](#)

Configure Disable

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Note: you must have the user right of “Project Design and Setup” to access the External Modules page and configure the module.

# Configure Module: nedCAPTCHA



## Project Settings

## Value

Debug mode:

CAPTCHA type (default: Math):

Use the following settings to tailor math CAPTCHAs to your needs. The complexity of the problem can be set to 'Simple' (only additions) or 'Complex' (additions, subtractions, and multiplications). Finally, the range of values the operands can take can be specified.

Complexity of the math question (defaults to 'Simple'):

 Simple  
 Complex

Minimum operand value (defaults to 1):

Maximum operand value (defaults to 10):

Colors can be specified in hex notation (e.g. #FF0000 or aabbcc) or as comma-separated RGB values (e.g. 255,0,0).

Text color (defaults to '#800000'):

Background color (defaults to '#f3f3f3'):

The texts displayed on the CAPTCHA page can be customized using the following settings.

Introduction - Text to be displayed below the survey title (by default, no text is displayed):

Label - Text to be displayed as the CAPTCHA label (depending on the CAPTCHA type, this defaults to 'Please type in the text exactly as displayed', 'Please solve this math problem:', or no text in case of 'Custom'):

Button - Submit label (defaults to 'Submit'):

Fail message (defaults to 'Validation failed. Please try again.')

Cancel

Save

## Configuration

### *Project-Level Settings*

**Debug Mode:** When enabled, some additional information that may help troubleshooting will be printed to the Web-browser's console.

**CAPTCHA type:** Sets the type of CAPTCHA that is used to protect the public survey.

- **None:** The CAPTCHA is deactivated.
- **Simple Math Problem:** A math problem will need to be solved to get to the survey. The problem is shown as an image.
- **Distorted Text Image:** A sequence of digits/letters must be entered *exactly* as shown in the displayed image. **Custom:** Custom challenge-response pairs can be set.

### *Math-specific settings:*

- **Complexity:** Can be set to 'Simple' or 'Complex'. Simple problems will be limited to additions, while complex problems include two of addition, subtraction, and multiplication (however, there will never be two multiplications, as results can get quite large).
- **Minimum / Maximum operand values:** Sets the range of operand values. By default, the range of operand values is 1 to 10. In complex problems, the first operand may be set to a higher value to ensure a non-negative result when subtractions are present.

### *Image-specific settings:*

- **Length:** The length of the challenge text (defaults to 6 characters)
- **Challenge reuse:** By default, a new challenge is recreated for each try. By enabling this option, in case of retries, the same challenge is reused.
- **Angle variation:** Determines the amount of random rotation that is applied to individual characters. Can be set to 'None' (no rotation), 'Slight' (up to  $\pm 7^\circ$ ), 'Medium' (up to  $\pm 11^\circ$ ; this is the default setting), or 'Strong' (up to  $\pm 15^\circ$ ).
- **Noise density:** Determines the amount of noise that is added to the image: 'Off' (no noise), 'Low' (a low amount of noise, 60% of the default amount), 'Medium' (the default amount), or 'High' (150% of the default amount).

### **Color settings (math and image CAPTCHAs):**

For math and image CAPTCHAs, text and background colors (in case of image CAPTCHAs also the color or the added noise) can be set. To do so, enter a color value either as triplets of comma-separated integers (0-255) or as hex values (with or without leading #): e.g. red could be specified as 255,0,0 or #ff0000.

*Custom-specific setting:*

**Challenge-response pairs:** Enter pairs of challenges (displayed to the user) and response (the expected answer), separated by the equal sign (=), one pair per line. For the CAPCHA, a random pair will be chosen each time. Answers are **not** case-sensitive.

Examples:

The color of the sky? = Blue

The color of the grass? = Green

Snow White and the ? dwarves (enter as text). = Seven

Type the access key to proceed. = secretaccesskey

**Customization of text elements of the CAPTCHA page:**

- *Introduction:* This is displayed immediately below the survey title. By default, this is blank.
- *Label:* The label of the CAPCHA (displayed above the challenge). Default values vary by CAPCHA type (Math: 'Please solve this math problem:', Image: 'Please type in the text exactly as displayed', Custom: none).
- *Button:* The label of the submit button (defaults to 'Submit').
- *Fail message:* The message that is shown upon failure to solve the CAPTCHA (shown below the submit button; defaults to 'Validation failed. Please try again.')

