



REDCap Project Development Guide

Thoughtful project development is essential to building a REDCap project that is usable, secure, and ready for accurate data collection. Before collecting real study data, project teams should use the **Development environment** to plan the project structure, configure settings, build instruments, test workflows, and review exports.

Important: The Development environment is for building and testing only. Real data, PII, PHI, and other sensitive data should not be collected in Development.

Follow the process below when developing your project.

Create a New Project. When creating a new REDCap project, enter the project title, select the project purpose (typically research), and provide required details such as PI and IRB number. Choose a project creation method:

- Empty project (recommended for most users)
- Upload REDCap XML (CDISC ODM)
- Use a template

Best Practice: Start simple. Build the minimum structure needed and expand only as your workflow requires.

Choose Core Project Settings. Determine how data will be collected before you begin building instruments. Consider:

- Will participants complete surveys?
- Will data be collected at multiple visits or time points?
- Will the project require a longitudinal design?
- Will both staff-entered data and participant surveys be used?

Enable longitudinal design when data will be collected across multiple events or visits. Enable surveys when participants will enter data directly.

Best Practice: Decide early whether the project will be classic, longitudinal, survey-based, or a combination. This decision affects the project's structure, workflow, and reporting.

Build Data Collection Instruments. Use the **Online Designer** to create and modify instruments. The **Data Dictionary** can be used for more advanced project builds or when managing large numbers of fields. Start with the default instrument and add additional instruments based on your study workflow.

Best Practice: Organize instruments around the way data will actually be collected—for example, by visit, workflow, or user role—rather than placing all fields on one long form.

Setup The Record ID. The first field must be a unique record identifier. It cannot be deleted but can be renamed.

Important: Do not use PHI (e.g., MRN, DOB, initials) as the record ID.

Best Practice: Use a neutral study ID that does not contain identifying information.

Select Appropriate Field Types. Choose field types that match the data being collected. Common options include:

- Validated text fields for dates, email addresses, and numbers
- Dropdown lists and radio buttons for single-choice responses
- Checkboxes for multiple-choice responses
- Calculated fields for simple, automated calculations
- File upload fields when documents or other files must be collected
- Signatures and sliders when appropriate
- Descriptive fields and section headers to organize instruments

Best Practice: Use structured and validated fields whenever possible. This improves data quality and reduces entry errors.

Use Branching Logic and Piping. Use **branching logic** to control when a field or section is displayed based on previous responses. Use **piping** to allow information already entered into the project to be displayed elsewhere—for example, displaying a participant's name in a later question or survey message.

Best Practice:

- ***Keep logic as simple as possible.***
- ***Use clear, consistent logic.***
- ***Test every possible pathway.***
- ***Confirm that piped information displays correctly in all applicable scenarios.***

Configure Surveys & Optional Modules. REDCap provides additional functionality that can support more complex workflows, including:

- Auto-numbering
- Repeating instruments and events
- Scheduling
- Randomization
- Data Resolution Workflow

Enable only the functionality your study requires.

Best practice: Avoid unnecessary features and complexity. A simpler project is generally easier to build, test, maintain, and support.

Setup User Rights. Assign access based on each user's responsibilities.

Role	Typical Access
Study Coordinator	Data entry, limited reports
Data Manager	Reports, exports, data quality
Principal Investigator	Oversight, read-only or reporting

These are examples only. User rights should be customized to the needs of the study.

Important: Follow the principle of least privilege—give users only the access they need to perform their responsibilities. Review user permissions before moving the project to Production and periodically thereafter.

Testing the Project in Development. Thorough testing is essential before collecting real data. Test the complete workflow, including:

- Entering test records
- Branching logic
- Calculated fields
- Surveys
- Automated workflows and notifications
- Reports and dashboards
- Data exports
- User permissions
- Different response scenarios

Have someone other than the person who built the project test the workflow when possible. A fresh perspective can identify usability issues or unexpected behavior.

Best Practice: Test complete workflows—not just individual fields.



Move the Project to Production. Move the project to Production only after it has been fully built, tested, and validated and the required IRB approval has been obtained.

To initiate the move:

- Select Move to Production at the bottom of the Project Setup page.
- Complete the survey that appears.
- Provide all requested information before submitting the request.