



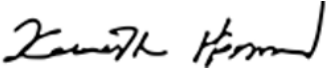

Standard Operating Procedure: REDCap Application Programming Interface (API)

SOP Number:	112
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Department/System:	Digital Solutions – Data Management /REDCap

DOCUMENT HISTORY

Version Number:	Summary of Changes Made:	Effective Date
1	New Document	December 16, 2020
2	Revision- added section 6.5	March 8, 2021
3	<ul style="list-style-type: none"> • Branding • Procedural updates and minor wording changes 	May 20, 2024

APPROVALS

Approver Name	Approver Signature	Date
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1. PURPOSE

- 1.1. To define the procedure used for the utilization of the UBC Faculty of Medicine (FoM) REDCap Application Programming Interface (API). The API token is used to allow external applications to connect to REDCap remotely and is used for programmatically



retrieving or modifying data within REDCap, such as performing automatic data imports and exporting from a specified REDCap project.

2. SCOPE

- 2.1. This procedure applies to the FoM Data Management (DM) Team members, Principal Investigators (PI), Project Administrators (PA) and Research/Project Team members involved in the request for support services and the usage of REDCap API.

3. RESPONSIBILITIES

- 3.1. FoM DM Team is responsible for managing API token requests and providing the necessary API documentation.
- 3.2. PI and/or PA are responsible for the initial request and for adhering to the FoM DM policies and recommendations as they relate to API usage.
- 3.3. PI and/or PA are responsible for testing and documenting the API code throughout its development.

4. RELATED SOPS/DOCUMENTS

- 4.1. FoM REDCap API Guidance Document

5. DEFINITIONS

- 5.1. **Principal Investigator (PI)/Project Lead:** Primary individual in charge of and responsible for the proper conduct of a research project and/or sponsor for non-research projects.
- 5.2. **Project Administrator (PA):** Person responsible for the development of REDCap data instruments and the overall management of the project data.
- 5.3. **Research/Project Team:** Research/project assistants, nurses, data entry and other personnel involved with and granted access to the REDCap project. The Team members report to the PI/Project Lead but are generally directly supervised by the PA.
- 5.4. **FoM Data Management (DM) Team:** Team Lead, Scientific Analyst and other FoM DM individuals responsible for managing projects in REDCap and assisting Research/Project Teams in conducting research studies or projects.



- 5.5. **REDCap Project:** A set of data entry forms, surveys, schedules and other data management tools pertaining to a specific research study or project.
- 5.6. **REDCap API (Application Programming Interface):** Interface that allows external applications to connect to REDCap remotely, and is used for programmatically retrieving or modifying data or settings within REDCap, such as performing automated data imports/exports to/from a specified REDCap project.
- 5.7. **REDCap API Token:** API tokens consist of a 32-character hex string that is unique to a singular REDCap user's permissions in a particular REDCap project. Any given token can only be used to access a single project with the User Rights assigned to a particular REDCap user.
- 5.8. **FoM REDCap Development (Dev) Instance:** REDCap installation/server used for testing, virtually identical to the production or live installation/server.
- 5.9. **FoM REDCap Production (Prod) Instance:** REDCap installation/server used for testing, virtually identical to the production or live installation/server.

6. PROCEDURE

6.1. API Token Request

- 6.1.1. The PI/PA and/or any users with API permissions on the REDCap project may request an API token. The request is automatically sent to the FoM DM Team for processing and review.

Note: In order to be able to request an API token, the user must have API export/import permissions, which are managed in the User Right Application.

- 6.1.2. The FoM DM Team contacts the PI/PA to obtain a brief summary of the API objectives and requirements.

- 6.1.3. The request is reviewed by the FoM DM Team.

6.2. API Token Request Approval

- 6.2.1. The approval process varies depending on the project requirements reported by the user:

- 6.2.1.1. API requests are processed after PI approval confirmation based on use-case.

- 6.2.1.1.1. For Mobile App use, API tokens are provisioned directly on the Production instance of REDCap. User account will have both API import and export permissions at the project level.



- 6.2.1.1.2. For REDCap API Integration with Power BI Data source, API tokens are provisioned directly on the Production instance of REDCap. User account will have only API export permissions at the project level.
- 6.2.1.1.3. For all other API use-cases, see 6.3.

6.3. Other use-cases for API token requests

- 6.3.1. Upon PI approval confirmation, the FoM DM Team including the Scientific Analyst will meet to understand project requirements. The Scientific Analyst determines whether API-token is suitable for particular use-case.
- 6.3.2. If suitable, the FoM DM Team creates a copy of the production project structure (if available) in the REDCap Development instance and the requested REDCap user account is added to the project.
- 6.3.3. The user then requests an API token for REDCap Development project, which is approved by the FoM DM Team. The user is also sent a document outlining the API security best practices (*See FoM REDCap API Guidance document*).
- 6.3.4. The REDCap user develops their application using the API token in REDCap Development, applying adequate documentation and testing.
- 6.3.5. Approval to move project to Production instance of REDCap
 - 6.3.5.1. Once ready, the REDCap user demonstrates the finished application and documentation to the FoM DM Team.
 - 6.3.5.1.1. For external applications (code hosted on external servers), no detailed code review is necessary.
 - 6.3.5.1.2. For plugins needing to be hosted internally, a detailed code review is performed by the FoM DM Scientific Analyst.
- 6.3.6. Once review is complete and the application is approved by the FoM DM Scientific Analyst, an API token will be provisioned to the requested REDCap user account in the REDCap Production instance.
- 6.3.7. Any changes to token use case or functionality must be preapproved by the FoM Scientific Analyst.

6.4. API Token Deactivation

- 6.4.1. Once a REDCap User is no longer part of a Research Team, the PA will disable the user's project access and API token by setting an expiration date in the User Rights Application. On and after the expiration date, the user will no longer have access to the project and their API token will be disabled.



- 6.4.2. When a project is archived, FoM DM Team sets the expiration dates on all user accounts in the project to the archiving date to ensure no users can directly access an archived project. This process also disables API tokens.
- 6.4.3. If a REDCap User's API token is compromised, the REDCap User can manually delete their API token through the User Rights Application.
 - 6.4.3.1. If the PA would like to delete an API token, they can contact the DM Team to delete the token.
- 6.4.4. If a User account is suspended, their API token will be disabled until their account is unsuspended.

7. REFERENCES

N/A