

# API Documentation

*Theory of Change Tool*

# TOC TOOL API DOCUMENTATION

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## **General Information**

# 1 GENERAL INFORMATION

## 1.1 Tool Summary

The Theory of Change Tool aims to formalize and streamline the creation of *Nested ToCs* for CGIAR activities at different levels of maturity. It is based on the CGIAR ToC Guidance Directive and builds on the ToC Data Model informing the structure of its knowledge base.

The tool is built as a web application, with clearly decoupled frontend and backend components. The communication between the components is realised via a broad set of REST API calls. The calls are meant for internal usage by the tool but can be used in the future to expose information in other applications.

Further documentation that contributes to the understanding of the API organisation is provided in the accompanying Data Model summary report and the online documentation for the ontology representing the model as a standards-compliant OWL ontology.

## 1.2 Scope and Organisation of the Guide

The present document summarise all the API calls available through the TOC Tool backend. They are organised on Post operations and Get operations. In the former case, there is a further distinction of the calls between those that operate over the TOC Tool Knowledge Graph and the ones that have to do with the tool's internal operations and flow management.

# **POST OPERATIONS**

## **Graph Related**

## 2 Post Operations

The following operations are used to *ingest* information in the graph database serving the TOC Tool.

### 2.1 addUser

Ingests basic user information for UI presentation and provenance tracking within the tool.

<b>name</b>	addUser
<b>parameters</b>	fullname:string, email:string, code:string

### 2.2 addProgramme

Ingests basic information for a programme of a given type.

<b>name</b>	addProgramme
<b>parameters</b>	code:string, title:string, type:enum(Initiative,Project,Proposal,Other)

### 2.3 addFlow

Defines a new TOC Flow for a given programme (Initiative, Project, Proposal, other).

<b>name</b>	addFlow
<b>parameters</b>	programme:code:string, flowidentifier:string

### 2.4 addTeamMember

Adds a User to the team participants for a given Flow with a specified role from the ones supported by the tool.

<b>name</b>	addTeamMember
<b>parameters</b>	flowidentifier:string, usercode:string, role:enum(Leader,Coleader,Member,Reviewer,Stakeholder)

### 2.5 addTOC

Defines a specific Theory of Change of a given level belonging in a given Flow.

<b>name</b>	addTOC
<b>parameters</b>	toccode:string, flowcode:string, toplevel:enum(InitiativeLevel, CountryRegionTOC, InnovationPackageTOC, WorkPackageLevel, WorkPackageTOC)

## 2.6 addResult

Defines a result of a given type coming from a given programme.

<b>name</b>	addResult
<b>parameters</b>	code:string, title:string, programmecode:string, type:enum(Impact,Innovation,Outcome,Output)

## 2.7 defineInnovationPackage

Defines an innovation package comprising one or more innovations and having a specific geographical scope on which the package applies.

<b>name</b>	defineInnovationPackage
<b>parameters</b>	code:string, title:string, [innovation_code]:string, core_innovation_code:string, [geoscope]:string

## 2.8 addCountry

Adds a country to the internal TOC Tool graph.

<b>name</b>	addCountry
<b>parameters</b>	code:string, isocode:string, name:string, regioncode:string

## 2.9 addRegion

Adds a geographic region in the internal TOC Tool graph.

<b>name</b>	addRegion
<b>parameters</b>	code:string, name:string, parentregioncode:string

## 2.10 addActionArea

Ingest information on CGIAR Action Areas in the internal TOC Tool graph.

<b>name</b>	addActionArea
<b>parameters</b>	areaid:string, title:string, description:string

## 2.11 addImpactArea

Ingests information on CGIAR Impact Areas in the internal TOC Tool graph.

<b>name</b>	addImpactArea
<b>parameters</b>	id:string, title:string, description:string

## 2.12 addSDG

Adds an entry for a UN Sustainable Development Goal in the TOC Tool graph.

<b>name</b>	addSdg
<b>parameters</b>	code:string, title:string, description:string

## 2.13 addSdgTarget

Adds an entry for a UN Sustainable Development Goal Target in the TOC Tool graph.

<b>name</b>	addSdgTarget
<b>parameters</b>	code:string, title:string, description:string, sdgcode:string

## 2.14 addSdgIndicator

Adds an entry for an UN SDG Indicator in the TOC Tool graph.

<b>name</b>	addSdgIndicator
<b>parameters</b>	code:string, uncode:string, title:string, description:string, for_target:string

## 2.15 addWorkPackage

Adds a Work Package (WP) entry associated with a given programme.

<b>name</b>	addWorkPackage
<b>parameters</b>	id:string, title:string, programme:string

## 2.16 addTocSdg

Adds an SDG structure (SDG, applicable targets, and relevant indicators) in a TOC.

<b>name</b>	addTocSDG
<b>parameters</b>	toc_code:string, sdgcode:string, sdgtarget:[string], sdg_indicator:[string]



## 2.17 addTocImpactArea

Adds an impact area in a TOC.

<b>name</b>	addTocImpactArea
<b>parameters</b>	fullname:string, email:string, code:string

## 2.18 addTocResult

Adds a Result structure in a TOC. A specific specialisation of the Result class must be provided (Impact, Outcome, Output, Innovation, Innovation Package).

<b>name</b>	addTocResult
<b>parameters</b>	toc:string, resultcode:string, resulttype: enum(ImpactTocEntity, InnovationPackageTocEntity, InnovationTocEntity, OutcomeTocEntity, OutputTocEntity), responsible:string, genderaspect:string, indicator:[string]

## 2.19 addActorType

Ingest basic information for an actor type. Aligned with CLARISA encodings for Institution and Centre types.

<b>name</b>	addActorType
<b>parameters</b>	code:string, title:string

## 2.20 addActor

Ingests basic user information for an Actor in the TOC Tool knowledge base.

<b>name</b>	addActor
<b>parameters</b>	code:string, title:string

## 2.21 addIndicator

Creates an Indicator entity and adds it to the TOC Tool knowledge graph.

<b>name</b>	addIndicator
<b>parameters</b>	code:string, title:string, description:string, unit:string, target:string, baseline_value:string, baseline_year:int, target_value:string, target_year:int

## 2.22 addUnit

Creates a Unit entity and adds it to the TOC Tool knowledge graph. Aligned with the UM Ontology.

<b>name</b>	addUnit
<b>parameters</b>	code:string, title:string, description:string

## 2.23 addAction

Creates an Action entity in the scope of a TOC and adds it in the TOC subgraph in the knowledge base.

<b>name</b>	addAction
<b>parameters</b>	code:string, actor:string, description:string, scope:[string], assumption:string

## 2.24 addCausalLink

Creates a CausalLink entity and adds it in the TOC subgraph in the knowledge base.

<b>name</b>	addCausalLink
<b>parameters</b>	toc:string, code:string, fromresult:string, toresult:string, action:string, narrative:string

## 2.25 addComment

Adds a comment associated with a given entity.

<b>name</b>	addComment
<b>parameters</b>	code:string, item:string, creator:string, mentions:[string], content:string

## **POST OPERATIONS Tool Flow Related**

## 3 Post Operations – Tool Flow Related

### 3.1 Register

Call URL	/register
Parameters (name: type)	none
Description	Used for user registration

### 3.2 login

Call URL	/login
Parameters (name: type)	<ul style="list-style-type: none"> <li>• email: Sting</li> <li>• password: String</li> </ul>
Description	Used for user login. Once the login is successful the user will receive a token that will be used in order to user the toc API

### 3.3 logout

Call URL	/logout
Parameters (name: type)	none
Description	User logout from the system

### 3.4 requestTocCreation

Call URL	/requestTocCreation
Parameters (name: type)	<ul style="list-style-type: none"> <li>• name: String</li> <li>• authorizer_id: Integer</li> <li>• user_id: Integer</li> <li>• description: String</li> </ul>
Description	User logout from the system

### 3.5 authorizeTocCreation

Call URL	/authorizeTocCreation
Parameters (name: type)	<ul style="list-style-type: none"> <li>• active: Boolean</li> </ul>

Description	Authorize the creation of a specific TOC Flow. The requestee (user_id) will be included in the Flow and take the role of “Leader”
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### 3.6 removeTocMember

Call URL	/removeTocMember
Parameters (name: type)	<ul style="list-style-type: none"> <li>team_id: Integer</li> <li>user_id: Integer</li> </ul>
Description	Removes the specified user from the given TOC Flow

### 3.7 createTocMemberInvitation

Call URL	/createTocMemberInvitation
Parameters (name: type)	<ul style="list-style-type: none"> <li>team_id: Integer</li> <li>users: (associative array) [user_id: Integer : role_id: Integer]</li> </ul>
Description	Creates an invitation to participate to a specified tocFlow. Multiple users can be invited with one call to eliminate the calls required to assemble a team.

### 3.8 showAllTocMembers

Call URL	/showAllTocMembers
Parameters (name: type)	<ul style="list-style-type: none"> <li>team_id: Integer</li> </ul>
Description	Allows for the presentation of all the tocFlow members of a given team.

### 3.9 showUserTocs

Call URL	/ showUserTocs
Parameters (name: type)	none
Description	Returns all the teams the logged in user is part of. Does not show the given user role in the team

### 3.10 respondTocMemberInvitation

Call URL	/respondTocMemberInvitation
Parameters (name: type)	<ul style="list-style-type: none"> <li>• team_id: Integer</li> <li>• invitation_response: Boolean</li> </ul>
Description	Allows the user to respond to a tocFlow invitation. He can either accept or reject an invitation. In case that the invitation is rejected, the user can be invited again from tocFlow members.

## **GET OPERATIONS**

## **4 Get Operations**





