



LabCollector Web Service API

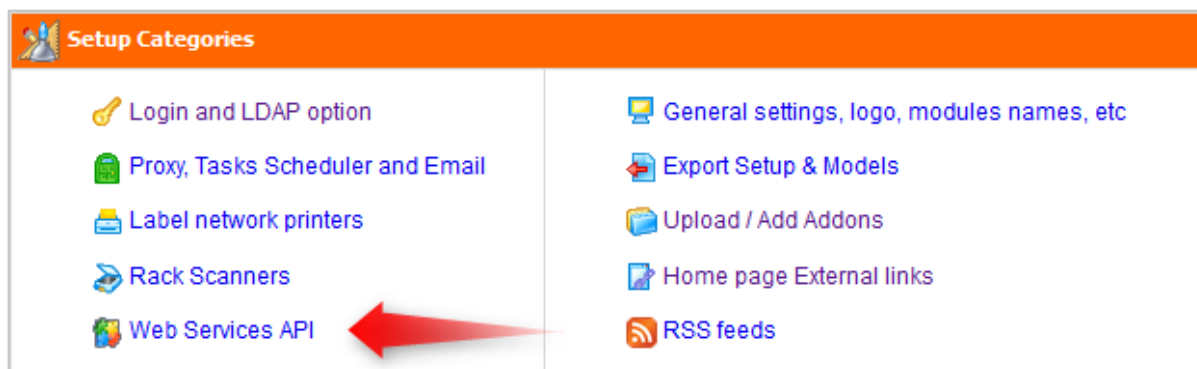
The LabCollector Web Service Application Programming Interface (API) allows third-party applications to interact with LabCollector's database (modules).

The API is based on a Representational State Transfer (REST) architecture allowing access to resources through Uniform Resource Identifier (URI) and actions on them.

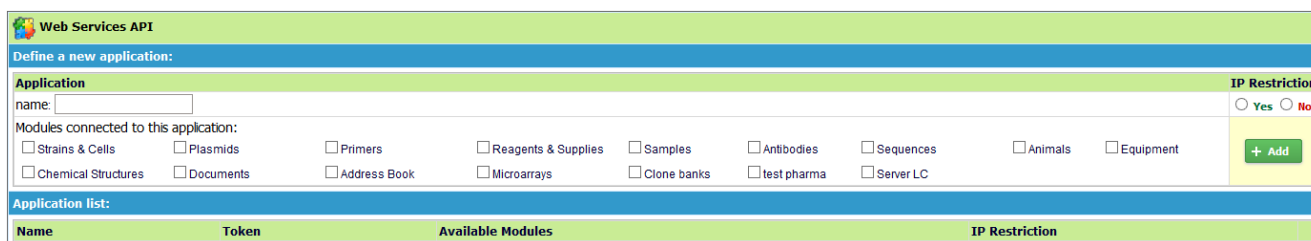
1. API Setup

First of all, you have to declare your application in your LabCollector software.

To access the application declaration setup form, log-in into LabCollector with super-administrator rights and go to **Admin > Setup** page. Then select the Web Service API link.



You are now on the Web Service API applications management page. To declare a new application, simply complete this form.



- *Name*: name of your application.
- *Modules connected to this application*: select modules in which the application can access.
- *IP Restriction*: security option that allows you to declare a list of IP addresses, which

will be allowed to perform requests on the API.

The **Application list** shows all the applications for your LabCollector and you can, at any time, modify their scope.

You have also access to the Token which is necessary to identify your application during requests to the API.

Application list:						
Name	Token	Available Modules				IP Restriction
LSM I-Collector	87a10d804c27ea4e2a05e11b4698da9764413d483e375b0d2adc44cd49ebf51c Regenerate APP token	<input type="checkbox"/> Strains & Cells <input type="checkbox"/> Samples <input type="checkbox"/> Equipment <input type="checkbox"/> Microarrays <input type="checkbox"/> LabCoat	<input type="checkbox"/> Plasmids <input type="checkbox"/> Antibodies <input type="checkbox"/> Chemical Structures <input type="checkbox"/> BloodBank <input type="checkbox"/> Agios	<input type="checkbox"/> Primers <input type="checkbox"/> Sequences <input type="checkbox"/> Documents <input type="checkbox"/> InstrumentResult <input type="checkbox"/> IBL Nimbelgen	<input type="checkbox"/> Reagents & Supplies <input type="checkbox"/> Animals <input type="checkbox"/> Address Book <input type="checkbox"/> Animals2	<input type="radio"/> Yes <input checked="" type="radio"/> No Update Delete app
wf_api	0b970e66587d21151afe3b3615b98a85b4b297cb902a86be8f9155d798e11cee Regenerate APP token	<input checked="" type="checkbox"/> Strains & Cells <input checked="" type="checkbox"/> Samples <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Microarrays <input type="checkbox"/> LabCoat	<input checked="" type="checkbox"/> Plasmids <input checked="" type="checkbox"/> Antibodies <input checked="" type="checkbox"/> Chemical Structures <input checked="" type="checkbox"/> BloodBank <input type="checkbox"/> Agios	<input checked="" type="checkbox"/> Primers <input checked="" type="checkbox"/> Sequences <input checked="" type="checkbox"/> Documents <input checked="" type="checkbox"/> InstrumentResult <input type="checkbox"/> IBL Nimbelgen	<input checked="" type="checkbox"/> Reagents & Supplies <input checked="" type="checkbox"/> Animals <input checked="" type="checkbox"/> Address Book <input type="checkbox"/> Animals2	<input type="radio"/> Yes <input checked="" type="radio"/> No Update Delete app
My application	02255576cb8edca029697981b6d3dcd92d524923c962357c1e6b9ed17280a384 Regenerate APP token	<input checked="" type="checkbox"/> Strains & Cells <input checked="" type="checkbox"/> Samples <input type="checkbox"/> Equipment <input type="checkbox"/> Microarrays <input type="checkbox"/> LabCoat	<input type="checkbox"/> Plasmids <input type="checkbox"/> Antibodies <input type="checkbox"/> Chemical Structures <input type="checkbox"/> BloodBank <input type="checkbox"/> Agios	<input type="checkbox"/> Primers <input type="checkbox"/> Sequences <input checked="" type="checkbox"/> Documents <input type="checkbox"/> InstrumentResult <input type="checkbox"/> IBL Nimbelgen	<input type="checkbox"/> Reagents & Supplies <input type="checkbox"/> Animals <input checked="" type="checkbox"/> Address Book <input type="checkbox"/> Animals2	<input type="radio"/> Yes <input checked="" type="radio"/> No Update Delete app

Note: In order to use this feature, you need to activate Curl on your PHP preferences.

In Linux, install PHP-Curl package.

On windows and with our automatic installer, edit PHP.INI and uncomment extensions for Curl (extension=php_curl.dll).

2. REQUESTS

The dialog between third-party applications and the LabCollector web service API is based on the HTTP 1.1 protocol.

2-1. API Method

You can send HTTP request to the web service with a method to perform an action on a resource.

- **GET** method for read a resource
- **POST** method to create new resource
- **PUT** method to modify a resource
- **DELETE** method to delete a resource

2-2. Headers

A request to the API requires some specific HTTP headers:

- The **Accept** header defines the desired response format of your request, text/xml (default) or application/json.
- The **X-LC-APP-Auth** header where you put your application token which is necessary to authorize your request to the API.
- The **X-LC-APP-Charset** header defines the character encoding of your application. It allows the API to send back the response with the appropriate encoding and to correctly convert your POST and PUT requests to the LabCollector's character encoding (ISO 8859-1).

3. Uniform Resource Identifier (URI)

3-1. GET Method

Each LabCollector module data is identified by a unique URI (see annex for a complete list of module's URI):

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]
```

This request replies the list of all data in a module.

You can do searching into module data by adding parameters to your URI. You can pass a parameter with a keyword matching a field value, like:

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?name=[KEYWORD]
```

e.g. `[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?name=First%20Record`

This request returns the records where their name value contains the "First Record" keyword.

They are some custom parameters that the API uses to perform searching and filtering actions:

- The **record_id** parameter to specify data by its ID:

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?record_id=[RECORD_ID]
```

e.g. `[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?record_id=1,19`

This request returns records with ID 1 and ID 19. You can specify multiple IDs by separating them with a comma.

- The **by_keywords** parameter performs a keyword search:

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?by_keywords=[KEYWORD]
```

e.g. `[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?by_keywords=cell`

This request performs a search into all fields of all records and returns matching `cell`. You can specify multiple keywords by separating them with a comma.

- The **fields** parameters, if you want to retrieve only some fields values in the API response:

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?fields=[FIELD1],[FIELD2]
```

e.g. `[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?fields=count,name`

This request returns all records from the module but with only `count` and `name` fields. You can specify multiple fields by separating them with a comma.

- The **sort_by** parameter allows you to sort your search:

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?sort_by=[FIELD1]_DESC
```

e.g. `[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?sort_by=name_DESC`

This request returns all records sorted in descending order on the `name` field. You can specify multiple `sort_by` separating them with a comma, and specified order ascendant “_ASC” or descendant “_DESC” for each field.

- The **limit_to** parameter allows you to limit the number of results:

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]?limit_to=0,10
```

This request returns 10 records beginning at the index 0. If you do not specify the index, only the number of result indicated is returned.

The API also returns two custom fields in the header response, “X-LC-QUERY-RESULT” containing the number of results returned in the body response and “X-LC-QUERY-TOTAL” containing the total of records matching your search.

Each record also has a unique URI:

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]/[DATA_ID]
```

This request replies a unique record. `[DATA_ID]` must match the unique ID of the record you want to retrieve.

3-1-1. Tube Sorter filtering functions

```
[PATH_TO_LABCOLLECTOR]/webservice/index.php?v=1&action=tube_sorter&box_id=[BOX_ID]
```

e.g. `[PATH_TO_LABCOLLECTOR]/webservice/index.php?v=1&action=tube_sorter&box_id=34`

This request returns storage info on box ID `34` like tube sorter. You can specify multiple IDs by separating them with a comma.

```
[PATH_TO_LABCOLLECTOR]/webservice/index.php?v=1&action=tube_sorter&box_id=[BOX_ID]&record_name=[RECORD_NAME]
```

e.g. `[PATH_TO_LABCOLLECTOR]/webservice/index.php?v=1&action=tube_sorter&box_id=206&record_name=ST-260`

```
[PATH_TO_LABCOLLECTOR]/webservice/index.php?v=1&action=tube_sorter&record_name=[RECORD_NAME]
```

e.g. `[PATH_TO_LABCOLLECTOR]/webservice/index.php?v=1&action=tube_sorter&record_name=ST-260`

These requests perform filtering on record named `ST-260`. You can specify multiple record names by separating them with a comma. You can also specify box ID, here `206`.

```
[PATH_TO_LABCOLLECTOR]/webservice/index.php?v=1&action=tube_sorter&box_name=[BOX_NAME]
```

e.g. `[PATH_TO_LABCOLLECTOR]/webservice/index.php?v=1&action=tube_sorter&box_name=test-rack_06`

This request performs filtering on box `test-rack_06`. You can specify multiple box names by separating them with a comma.

3-2. POST Method

To create a new resource, simply send a request with the POST method to the desired module URI:

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]
```

Your parameter keys have to match the field's name.

3-3. PUT Method

To modify a resource, simply send a request with the PUT method to the desired record URI:

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]/[DATA_ID]
```

Your parameter keys have to match the field's name you want to modify.

3-4. DELETE Method

To delete a resource, simply send a request with the DELETE method to the desired record URI:

```
[PATH_TO_LABCOLLECTOR]/webservice/v1/[MODULE]/[DATA_ID]
```

LabCollector Web Service API - ANNEX

Web Services API URI list

The URI system of the API uses simple and clean URL. Be sure to enable the rewrite engine from Apache to use the URI referenced in the following table.

If the LabCollector server does not support rewrite engine please use the full URL pattern for your request (secondary URL of each line).

URI		Module	Description
webservice/v1/strains webservice/index.php?v=1&module=strains	GET POST	Strains & Cells	List of all records
webservice/v1/strains/[DATA_ID] webservice/index.php?v=1&module=strains&data_id=[DATA_ID]	GET PUT	Strains & Cells	Unique record
webservice/v1/strains/customfields webservice/index.php?v=1&module=strains&getModuleCustomFields=1	GET	Strains & Cells	List of custom fields
webservice/v1/strains/organisms webservice/index.php?v=1&module=strains&getModuleOrganisms=1	GET	Strains & Cells	List of organisms
webservice/v1/plasmids webservice/index.php?v=1&module=plasmids	GET POST	Plasmids	List of all records
webservice/v1/plasmids/[DATA_ID] webservice/index.php?v=1&module=plasmids&data_id=[DATA_ID]	GET PUT	Plasmids	Unique record
webservice/v1/plasmids/customfields webservice/index.php?v=1&module=plasmids&getModuleCustomFields=1	GET	Plasmids	List of custom fields
webservice/v1/primers webservice/index.php?v=1&module=primers	GET POST	Primers	List of all records
webservice/v1/primers/[DATA_ID] webservice/index.php?v=1&module=primers&data_id=[DATA_ID]	GET PUT	Primers	Unique record
webservice/v1/primers/customfields webservice/index.php?v=1&module=primers&getModuleCustomFields=1	GET	Primers	List of custom fields
webservice/v1/chemicals	GET POST	Reagents &	List of all records

webservice/index.php?v=1&module=chemicals		Supplies	
webservice/v1/chemicals/[DATA_ID] webservice/index.php?v=1&module=chemicals&data_id=[DATA_ID]	GET PUT	Reagents & Supplies	Unique record
webservice/v1/chemicals/customfields webservice/index.php?v=1&module=chemicals&getModuleCustomFields=1	GET	Reagents & Supplies	List of custom fields
webservice/v1/samples webservice/index.php?v=1&module=samples	GET POST	Samples	List of all records
webservice/v1/samples/[DATA_ID] webservice/index.php?v=1&module=samples&data_id=[DATA_ID]	GET PUT	Samples	Unique record
webservice/v1/samples/customfields webservice/index.php?v=1&module=samples&getModuleCustomFields=1	GET	Samples	List of custom fields
webservice/v1/samples/organisms webservice/index.php?v=1&module=samples&getModuleOrganisms=1	GET	Samples	List of organisms
webservice/v1/samples/types webservice/index.php?v=1&module=samples&getModuleTypes=1	GET	Samples	List of sample types
webservice/v1/antibodies webservice/index.php?v=1&module=antibodies	GET POST	Antibodies	List of all records
webservice/v1/antibodies/[DATA_ID] webservice/index.php?v=1&module=antibodies&data_id=[DATA_ID]	GET PUT	Antibodies	Unique record
webservice/v1/antibodies/customfields webservice/index.php?v=1&module=antibodies&getModuleCustomFields=1	GET	Antibodies	List of custom fields
webservice/v1/sequences webservice/index.php?v=1&module=sequences	GET POST	Sequences	List of all records
webservice/v1/sequences/[DATA_ID] webservice/index.php?v=1&module=sequences&data_id=[DATA_ID]	GET PUT	Sequences	Unique record
webservice/v1/sequences/customfields webservice/index.php?v=1&module=sequences&getModuleCustomFields=1	GET	Sequences	List of custom fields
webservice/v1/animals webservice/index.php?v=1&module=animals	GET POST	Animals	List of all records

webservice/v1/animals/[DATA_ID] webservice/index.php?v=1&module=animals&data_id=[DATA_ID]	GET PUT	Animals	Unique record
webservice/v1/animals/customfields webservice/index.php?v=1&module=animals&getModuleCustomFields=1	GET	Animals	List of custom fields
webservice/v1/equipments webservice/index.php?v=1&module=equipments	GET POST	Equipment	List of all records
webservice/v1/equipments/[DATA_ID] webservice/index.php?v=1&module=equipments&data_id=[DATA_ID]	GET PUT	Equipment	Unique record
webservice/v1/equipments/customfields webservice/index.php?v=1&module=equipments&getModuleCustomFields=1	GET	Equipment	List of custom fields
webservice/v1/structures webservice/index.php?v=1&module=structures	GET POST	Chemical Structures	List of all records
webservice/v1/structures/[DATA_ID] webservice/index.php?v=1&module=structures&data_id=[DATA_ID]	GET PUT	Chemical Structures	Unique record
webservice/v1/structures/customfields webservice/index.php?v=1&module=structures&getModuleCustomFields=1	GET	Chemical Structures	List of custom fields
webservice/v1/docs webservice/index.php?v=1&module=docs	GET POST	Documents	List of all records
webservice/v1/docs/[DATA_ID] webservice/index.php?v=1&module=docs&data_id=[DATA_ID]	GET PUT	Documents	Unique record
webservice/v1/docs/customfields webservice/index.php?v=1&module=docs&getModuleCustomFields=1	GET	Documents	List of custom fields
webservice/v1/docs/categories webservice/index.php?v=1&module=docs&getModuleCategories=1	GET	Documents	List of categories
webservice/v1/abook webservice/index.php?v=1&module=abook	GET POST	Address Book	List of all records
webservice/v1/abook/[DATA_ID] webservice/index.php?v=1&module=abook&data_id=[DATA_ID]	GET PUT	Address Book	Unique record
webservice/v1/abook/customfields webservice/index.php?v=1&module=abook&getModuleCustomFields=1	GET	Address Book	List of custom fields

webservice/v1/abook/categories webservice/index.php?v=1&module=abook&getModuleCategories=1	GET	Address Book	List of categories
webservice/v1/microarrays webservice/index.php?v=1&module=microarrays	GET POST	Microarrays	List of all records
webservice/v1/microarrays/[DATA_ID] webservice/index.php?v=1&module=microarrays&data_id=[DATA_ID]	GET PUT	Microarrays	Unique record
webservice/v1/microarrays/customfields webservice/index.php?v=1&module=microarrays&getModuleCustomFields=1	GET	Microarrays	List of custom fields
webservice/v1/microarrays/organisms webservice/index.php?v=1&module=microarrays&getModuleOrganisms=1	GET	Microarrays	List of organisms
webservice/v1/[CUSTOM_MODULE_NAME] webservice/index.php?v=1&module=[CUSTOM_MODULE_NAME]	GET POST	Custom Module	List of all records
webservice/v1/[CUSTOM_MODULE_NAME]/[DATA_ID] webservice/index.php?v=1&module=[CUSTOM_MODULE_NAME]&data_id=[DATA_ID]	GET PUT	Custom Module	Unique record
webservice/v1/[CUSTOM_MODULE_NAME]/customfields webservice/index.php?v=1&module=[CUSTOM_MODULE_NAME]&getModuleCustomFields=1	GET	Custom Module	List of custom fields