
invenio-sip2 Documentation

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UCLouvain

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CONTENTS

1	User's Guide	3
1.1	Invenio-SIP2 Installation	3
1.2	Configuration	3
1.3	Usage	6
1.4	Example application	6
2	API Reference	7
2.1	API Docs	7
3	Additional Notes	9
3.1	Contributing	9
3.2	Changes	11
3.3	License	12
3.4	Authors	12
	Python Module Index	13
	Index	15

Invenio module that add SIP2 communication for self-check

TODO: Please provide feature overview of module

Further documentation is available on <https://invenio-sip2.readthedocs.io/>

USER'S GUIDE

This part of the documentation will show you how to get started in using Invenio-SIP2.

1.1 Invenio-SIP2 Installation

Invenio-SIP2 is on PyPI so all you need is:

```
$ pip install invenio-sip2
```

1.2 Configuration

Invenio module that add SIP2 communication for self-check.

<i>SIP2_DATASTORE_HANDLER</i>	datastore handler, default: <i>SIP2SimpleDatastore</i>
<i>SIP2_DATASTORE_REDIS_PREFIX</i>	Prefix for redis keys, default <i>sip2</i>
<i>SIP2_DATASTORE_REDIS_URL</i>	Redis Datastore URL
<i>SIP2_MESSAGE_ACTIONS</i>	Dictionary of all selfcheck actions.
<i>SIP2_REMOTE_ACTION_HANDLERS</i>	Dictionary of remote action handlers. See example below.
<i>SIP2_MESSAGE_TYPES</i>	Define all message types conforming to SIP2 protocol.
<i>SIP2_FIXED_FIELD_DEFINITION</i>	All fixed field available.
<i>SIP2_VARIABLE_FIELD_DEFINITION</i>	All variable field available.

```
invenio_sip2.config.SIP2_DATASTORE_HANDLER
```

Add the preferred datastore adaptor.

Provided adaptor by invenio-sip2 are:

```
.. seealso:: :py:class:`~invenio_sip2.datastore.datastore.SIP2SimpleDatastore`  
.. seealso:: :py:class:`~invenio_sip2.datastore.redis.RedisSip2Datastore`
```

Each custom handler actions must be defined in the `SIP2_ACTIONS_HANDLERS` dictionary, where the keys are the application names and the values the configuration parameters for the application.

```
SIP2_REMOTE_ACTION_HANDLERS = dict(  
    myapp=dict(  
        # configuration values for myapp ...  
    ),  
)
```

The application name is used to start invenio-sip2 server and call customized handlers.

1.2.1 Remote action Handlers

Handlers allow customizing endpoints for each selfcheck actions:

Configuration of a single remote application is a dictionary with the following keys:

- `login_handler` - Import path to login selfcheck callback handler.
- `logout_handler` - Import path to logout selfcheck callback handler.
- `system_status_handler` - Import path to automated system status callback handler.
- **`patron_handlers` - A dictionary of import path to patron callback handler.**
 - `validate_patron` - Import path to validate patron callback handler.
 - `authorize_patron` - Import path to authorize patron callback handler.
 - `enable_patron` - Import path to enable patron callback handler.
 - `patron_status` - Import path to patron status callback handler.
 - `account` - Import path to retrieve patron account callback handler.
- **`item_handlers` - A dictionary of import path to item callback handler.**
 - `item` - Import path to retrieve item callback handler.
- **`circulation_handlers` - A dictionary of import path to circulation callback handler.**
 - `checkout` - Import path to checkout item callback handler.
 - `checkin` - Import path to checkin item callback handler.
 - `hold` - Import path to hold item callback handler.
 - `renew` - Import path to renew item callback handler.
 - `renew_all` - Import path to renew_all items callback handler.

```
SIP2_REMOTE_ACTION_HANDLERS = dict(  
    app=dict(  
        login_handler="...",  
        logout_handler="...",  
        system_status_handler="...",  
        patron_handlers=dict(  
            validate_patron="...",  
            authorize_patron="...",  
            enable_patron="...",  
            patron_status="...",  
            account="...",  
        ),  
        item_handlers=dict(  
            item="...",  
        ),  
        circulation_handlers=dict(  
            checkout="...",  
            checkin="...",  
            hold="...",  
            renew="...",  
        ),  
    )  
)
```



```
invenio_sip2.config.BABEL_DEFAULT_LANGUAGE = 'en'
```

Default language

```
invenio_sip2.config.SIP2_CHECKSUM_CONTROL = True
```

Message checksum control.

```
invenio_sip2.config.SIP2_DATE_FORMAT = '%Y%m%d %H%M%S'
```

SIP2 date format.

```
invenio_sip2.config.SIP2_DEFAULT_SECURITY_MARKER = '00'
```

SIP2 default security marker type.

```
invenio_sip2.config.SIP2_LINE_TERMINATOR = '\r'
```

Message line separator.

```
invenio_sip2.config.SIP2_LOGGING_CONSOLE = True
```

Enable logging to the console.

```
invenio_sip2.config.SIP2_LOGGING_CONSOLE_LEVEL = 'INFO'
```

Console logging level.

All requests and responses will be written to the console if the level is on info mode. Otherwise, they will not logged.

```
invenio_sip2.config.SIP2_LOGGING_FS_BACKUPCOUNT = 5
```

Number of rotated log files to keep.

```
invenio_sip2.config.SIP2_LOGGING_FS_LEVEL = 'INFO'
```

Console logging level.

Defaults to write all requests and responses.

```
invenio_sip2.config.SIP2_LOGGING_FS_LOGFILE = None
```

Enable logging to the filesystem.

A valid filesystem path is required to enable logging.

```
invenio_sip2.config.SIP2_LOGGING_FS_MAXBYTES = 104857600
```

Maximum size of logging file. Default: 100MB.

```
invenio_sip2.config.SIP2_PERMISSIONS_FACTORY(action)
```

Define factory permissions.

```
invenio_sip2.config.SIP2_PROTOCOL = '2.00'
```

SIP2 protocol version.

```
invenio_sip2.config.SIP2_REMOTE_ACTION_HANDLERS = {}
```

Configuration of remote handlers.

```
invenio_sip2.config.SIP2_RETRIES_ALLOWED = 10
```

Number of retries allowed.

```
invenio_sip2.config.SIP2_SOCKET_BUFFER_SIZE = '1024'
```

Socket buffer size.

```
invenio_sip2.config.SIP2_SUPPORT_CHECKIN = True
```

Support check in items.

```
invenio_sip2.config.SIP2_SUPPORT_CHECKOUT = True
```

Support check out items.

```
invenio_sip2.config.SIP2_SUPPORT_OFFLINE_STATUS = True
```

Support off line operation.

```
invenio_sip2.config.SIP2_SUPPORT_ONLINE_STATUS = True
    Support online status send by automatic circulation system.

invenio_sip2.config.SIP2_SUPPORT_RENEWAL_POLICY = True
    Support patron renewal requests as a policy.

invenio_sip2.config.SIP2_SUPPORT_STATUS_UPDATE = True
    Support patron status updating by the selfcheck.

invenio_sip2.config.SIP2_TEXT_ENCODING = 'UTF-8'
    Message text charset encoding.

invenio_sip2.config.SIP2_TIMEOUT_PERIOD = 10
    Server timeout.
```

1.3 Usage

Start SIP2 server with CLI example:

```
$ invenio selfcheck start -h 127.0.0.1 -p 3004 -r your-remote-app
```

1.4 Example application

First install Invenio-SIP2, setup the application and load fixture data by running:

```
$ pip install -e .[all]
$ cd examples
$ ./app-setup.sh
$ ./app-fixtures.sh
```

Next, start the development server:

```
$ export FLASK_APP=app.py FLASK_DEBUG=1
$ flask run
```

and open the example application in your browser:

```
$ open http://127.0.0.1:5000/
```

To reset the example application run:

```
$ ./app-teardown.sh
```

API REFERENCE

If you are looking for information on a specific function, class or method, this part of the documentation is for you.

2.1 API Docs

Flask extension for Invenio-SIP2.

```
class invenio_sip2.ext.InvenioSIP2 (app=None)
    Invenio-SIP2 extension.

    Extension initialization.

    add_console_handler (app)
        Add console handler to logger.

    add_fs_handler (app)
        Add file handler to logger.

    classmethod get_logging_formatter ()
        Return logging formatter.

    init_app (app)
        Flask application initialization.

    init_config (app)
        Initialize configuration.

    property retries_allowed
        Number of retries allowed by the automated circulation system.

    property sip2
        Return the SIP2 action machine.

    property sip2_current_date
        Get current date from system.

    property sip2_handlers
        Return the SIP2 handler machine.

    property sip2_message_types
        Message type configuration.

    property support_checkin
        Support of checkin by the automated circulation system.

    property support_checkout
        Support of checkout by the automated circulation system.
```

property support_offline_status

Support of offline status by the automated circulation system.

property support_online_status

Support of online status by the automated circulation system.

property support_renewal_policy

Support of renewal policy by the automated circulation system.

property support_status_update

Support of status update by the automated circulation system.

property supported_messages

Supported messages by the automated circulation system.

property supported_protocol

Supported protocol by the automated circulation system.

property timeout_period

Timeout period allowed by the automated circulation system.

`invenio_sip2.ext.load_fixed_field(app)`

Load fixed field configuration.

`invenio_sip2.ext.load_variable_field(app)`

Load variable field configuration.

2.1.1 Views

Blueprint for Invenio-SIP2.

`invenio_sip2.views.monitoring()`

Render a basic view.

ADDITIONAL NOTES

Notes on how to contribute, legal information and changes are here for the interested.

3.1 Contributing

Contributions are welcome, and they are greatly appreciated! Every little bit helps, and credit will always be given.

3.1.1 Types of Contributions

Report Bugs

Report bugs at <https://github.com/inveniosoftware-contrib/invenio-sip2/issues>.

If you are reporting a bug, please include:

- Your operating system name and version.
- Any details about your local setup that might be helpful in troubleshooting.
- Detailed steps to reproduce the bug.

Fix Bugs

Look through the GitHub issues for bugs. Anything tagged with “bug” is open to whoever wants to implement it.

Implement Features

Look through the GitHub issues for features. Anything tagged with “feature” is open to whoever wants to implement it.

Write Documentation

Invenio-SIP2 could always use more documentation, whether as part of the official Invenio-SIP2 docs, in docstrings, or even on the web in blog posts, articles, and such.

Submit Feedback

The best way to send feedback is to file an issue at <https://github.com/inveniosoftware-contrib/invenio-sip2/issues>.

If you are proposing a feature:

- Explain in detail how it would work.
- Keep the scope as narrow as possible, to make it easier to implement.
- Remember that this is a volunteer-driven project, and that contributions are welcome :)

3.1.2 Get Started!

Ready to contribute? Here's how to set up *invenio-sip2* for local development.

1. Fork the *inveniosoftware-contrib/invenio-sip2* repo on GitHub.
2. Clone your fork locally:

```
$ git clone git@github.com:your_name_here/invenio-sip2.git
```

3. Install your local copy into a virtualenv. Assuming you have virtualenvwrapper installed, this is how you set up your fork for local development:

```
$ mkvirtualenv invenio-sip2
$ cd invenio-sip2/
$ pip install -e .[all]
```

4. Create a branch for local development:

```
$ git checkout -b name-of-your-bugfix-or-feature
```

Now you can make your changes locally.

5. When you're done making changes, check that your changes pass tests:

```
$ ./run-tests.sh
```

The tests will provide you with test coverage and also check PEP8 (code style), PEP257 (documentation), flake8 as well as build the Sphinx documentation and run doctests.

6. Commit your changes and push your branch to GitHub:

```
$ git add .
$ git commit -s
  -m "component: title without verbs"
  -m "* NEW Adds your new feature."
  -m "* FIX Fixes an existing issue."
  -m "* BETTER Improves and existing feature."
  -m "* Changes something that should not be visible in release notes."
$ git push origin name-of-your-bugfix-or-feature
```

7. Submit a pull request through the GitHub website.

3.1.3 Pull Request Guidelines

Before you submit a pull request, check that it meets these guidelines:

1. The pull request should include tests and must not decrease test coverage.
2. If the pull request adds functionality, the docs should be updated. Put your new functionality into a function with a docstring.
3. The pull request should work for Python 2.7, 3.5 and 3.6. Check https://travis-ci.org/github/inveniosoftware-contrib/invenio-sip2/pull_requests and make sure that the tests pass for all supported Python versions.

3.2 Changes

Version 0.5.0 (released 2021-03-25)

Implemented enhancements:

- Adds datastore to save clients and servers state.
- Adds record metadata management.
- Adds APIs to monitor servers and clients.
- Implements specific logger to log selfcheck requests and server responses.

Version 0.4.0 (released 2020-11-26)

Implemented enhancements:

- Implements Patron status action.
- Moves to github action for continuous Integration.

Fixed bugs:

- Increase code coverage

Version 0.3.0 (released 2020-10-13)

Implemented enhancements:

- Adds Item information action.
- Implements circulation actions
- Adds base of patron session.
- Uses pycountry for language management.

Fixed bugs:

- Missing line terminator to tell to client that all bytes are sent.

Version 0.2.0 (released 2020-08-10)

Implemented enhancements:

- Implements Patron information action.
- Adds Remote ILS handlers configuration.

Version 0.1.0 (released 2020-05-25)

- Base of automated circulation system.

3.3 License

Note: In applying this license, CERN does not waive the privileges and immunities granted to it by virtue of its status as an Intergovernmental Organization or submit itself to any jurisdiction.

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3.4 Authors

Invenio module that add SIP2 communication for self-check

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PYTHON MODULE INDEX

i

invenio_sip2.config, 3
invenio_sip2.ext, 7
invenio_sip2.views, 8

A

`add_console_handler()` (*invenio_sip2.ext.InvenioSIP2 method*), 7
`add_fs_handler()` (*invenio_sip2.ext.InvenioSIP2 method*), 7

B

`BABEL_DEFAULT_LANGUAGE` (*in module invenio_sip2.config*), 4

G

`get_logging_formatter()` (*invenio_sip2.ext.InvenioSIP2 class method*), 7

I

`init_app()` (*invenio_sip2.ext.InvenioSIP2 method*), 7
`init_config()` (*invenio_sip2.ext.InvenioSIP2 method*), 7
`invenio_sip2.config` module, 3
`invenio_sip2.ext` module, 7
`invenio_sip2.views` module, 8
`InvenioSIP2` (*class in invenio_sip2.ext*), 7

L

`load_fixed_field()` (*in module invenio_sip2.ext*), 8
`load_variable_field()` (*in module invenio_sip2.ext*), 8

M

`module`
`invenio_sip2.config`, 3
`invenio_sip2.ext`, 7
`invenio_sip2.views`, 8
`monitoring()` (*in module invenio_sip2.views*), 8

R

`retries_allowed()` (*invenio_sip2.ext.InvenioSIP2 property*), 7

S

`sip2()` (*invenio_sip2.ext.InvenioSIP2 property*), 7
`SIP2_CHECKSUM_CONTROL` (*in module invenio_sip2.config*), 5
`sip2_current_date()` (*invenio_sip2.ext.InvenioSIP2 property*), 7
`SIP2_DATASTORE_HANDLER` (*in module invenio_sip2.config*), 3
`SIP2_DATE_FORMAT` (*in module invenio_sip2.config*), 5
`SIP2_DEFAULT_SECURITY_MARKER` (*in module invenio_sip2.config*), 5
`sip2_handlers()` (*invenio_sip2.ext.InvenioSIP2 property*), 7
`SIP2_LINE_TERMINATOR` (*in module invenio_sip2.config*), 5
`SIP2_LOGGING_CONSOLE` (*in module invenio_sip2.config*), 5
`SIP2_LOGGING_CONSOLE_LEVEL` (*in module invenio_sip2.config*), 5
`SIP2_LOGGING_FS_BACKUPCOUNT` (*in module invenio_sip2.config*), 5
`SIP2_LOGGING_FS_LEVEL` (*in module invenio_sip2.config*), 5
`SIP2_LOGGING_FS_LOGFILE` (*in module invenio_sip2.config*), 5
`SIP2_LOGGING_FS_MAXBYTES` (*in module invenio_sip2.config*), 5
`sip2_message_types()` (*invenio_sip2.ext.InvenioSIP2 property*), 7
`SIP2_PERMISSIONS_FACTORY()` (*in module invenio_sip2.config*), 5
`SIP2_PROTOCOL` (*in module invenio_sip2.config*), 5
`SIP2_REMOTE_ACTION_HANDLERS` (*in module invenio_sip2.config*), 5
`SIP2_RETRIES_ALLOWED` (*in module invenio_sip2.config*), 5

SIP2_SOCKET_BUFFER_SIZE (in module *invenio_sip2.config*), 5
SIP2_SUPPORT_CHECKIN (in module *invenio_sip2.config*), 5
SIP2_SUPPORT_CHECKOUT (in module *invenio_sip2.config*), 5
SIP2_SUPPORT_OFFLINE_STATUS (in module *invenio_sip2.config*), 5
SIP2_SUPPORT_ONLINE_STATUS (in module *invenio_sip2.config*), 5
SIP2_SUPPORT_RENEWAL_POLICY (in module *invenio_sip2.config*), 6
SIP2_SUPPORT_STATUS_UPDATE (in module *invenio_sip2.config*), 6
SIP2_TEXT_ENCODING (in module *invenio_sip2.config*), 6
SIP2_TIMEOUT_PERIOD (in module *invenio_sip2.config*), 6
support_checkin() (*invenio_sip2.ext.InvenioSIP2* property), 7
support_checkout() (*invenio_sip2.ext.InvenioSIP2* property), 7
support_offline_status() (*invenio_sip2.ext.InvenioSIP2* property), 7
support_online_status() (*invenio_sip2.ext.InvenioSIP2* property), 8
support_renewal_policy() (*invenio_sip2.ext.InvenioSIP2* property), 8
support_status_update() (*invenio_sip2.ext.InvenioSIP2* property), 8
supported_messages() (*invenio_sip2.ext.InvenioSIP2* property), 8
supported_protocol() (*invenio_sip2.ext.InvenioSIP2* property), 8

T

timeout_period() (*invenio_sip2.ext.InvenioSIP2* property), 8