

---

# **invenio-sip2 Documentation**

***Release 0.6.6***

**UCLouvain**

**Jul 14, 2021**



# CONTENTS

|          |                                     |           |
|----------|-------------------------------------|-----------|
| <b>1</b> | <b>User's Guide</b>                 | <b>3</b>  |
| 1.1      | Invenio-SIP2 Installation . . . . . | 3         |
| 1.2      | Configuration . . . . .             | 3         |
| 1.3      | Usage . . . . .                     | 6         |
| 1.4      | Example application . . . . .       | 6         |
| <b>2</b> | <b>API Reference</b>                | <b>7</b>  |
| 2.1      | API Docs . . . . .                  | 7         |
| <b>3</b> | <b>Additional Notes</b>             | <b>21</b> |
| 3.1      | Contributing . . . . .              | 21        |
| 3.2      | Changes . . . . .                   | 23        |
| 3.3      | License . . . . .                   | 25        |
| 3.4      | Authors . . . . .                   | 25        |
|          | <b>Python Module Index</b>          | <b>27</b> |
|          | <b>Index</b>                        | <b>29</b> |



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_DATE_FORMAT = '%Y%m%d %H%M%S'`

SIP2 date format.

`invenio_sip2.config.SIP2_DEFAULT_LANGUAGE = 'en'`

Default SIP2 language

`invenio_sip2.config.SIP2_DEFAULT_SECURITY_MARKER = '00'`

SIP2 default security marker type.

`invenio_sip2.config.SIP2_ERROR_DETECTION = True`

Enable error detection on message.

`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 be 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 <server_name> -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_language
        Get default language from system.

    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.

**supported\_messages**(*remote\_app*)

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 Actions

Invenio-SIP2 custom actions.

```
class invenio_sip2.actions.actions.AutomatedCirculationSystemStatus(command, response,  
                                                                    **kwargs)
```

Action to get status from automated circulation system.

Init action object.

```
execute(message, client)
```

Execute action.

```
class invenio_sip2.actions.actions.BlockPatron(command, response, **kwargs)
```

Action to block patron.

Init action object.

```
execute(message, client, **kwargs)
```

Execute action.

```
class invenio_sip2.actions.actions.Checkin(command, response, **kwargs)
```

Action to checkin an item.

Init action object.

```
execute(message, client, **kwargs)
```

Execute checkin action.

```
class invenio_sip2.actions.actions.Checkout(command, response, **kwargs)
```

Action to checkout an item.

Init action object.

**execute**(*message, client, \*\*kwargs*)  
Execute checkout action.

**class** invenio\_sip2.actions.actions.**EndPatronSession**(*command, response, \*\*kwargs*)  
Action to end patron session on automated circulation system.

Init action object.

**execute**(*message, client*)  
Execute action.

**class** invenio\_sip2.actions.actions.**FeePaid**(*command, response, \*\*kwargs*)  
Action to paid fee.

Init action object.

**execute**(*message, client, \*\*kwargs*)  
Execute action.

**class** invenio\_sip2.actions.actions.**Hold**(*command, response, \*\*kwargs*)  
Action to hold an item.

Init action object.

**execute**(*message, client, \*\*kwargs*)  
Execute hold action.

**class** invenio\_sip2.actions.actions.**ItemInformation**(*command, response, \*\*kwargs*)  
Action to get item information from automated circulation system.

Init action object.

**execute**(*message, client*)  
Execute action.

**class** invenio\_sip2.actions.actions.**ItemStatusUpdate**(*command, response, \*\*kwargs*)  
Action to update item status.

Init action object.

**execute**(*message, client, \*\*kwargs*)  
Execute action.

**class** invenio\_sip2.actions.actions.**PatronEnable**(*command, response, \*\*kwargs*)  
Action to enable patron on automated circulation system.

Init action object.

**execute**(*message, client*)  
Execute action.

**class** invenio\_sip2.actions.actions.**PatronInformation**(*command, response, \*\*kwargs*)  
Action to get patron information from automated circulation system.

Init action object.

**execute**(*message, client*)  
Execute action.

**class** invenio\_sip2.actions.actions.**PatronStatus**(*command, response, \*\*kwargs*)  
Action to get patron status from automated circulation system.

Init action object.

**execute**(*message, client*)  
Execute action.

```

class invenio_sip2.actions.actions.Renew(command, response, **kwargs)
    Action to renew an item.

    Init action object.

    execute(message, client, **kwargs)
        Execute checkout action.

class invenio_sip2.actions.actions.RenewAll(command, response, **kwargs)
    Action to renew all items.

    Init action object.

    execute(message, client, **kwargs)
        Execute action.

class invenio_sip2.actions.actions.RequestResend(command)
    Action to resend last message.

    Init action object.

    execute(message, client)
        Execute action.

class invenio_sip2.actions.actions.SelfCheckLogin(command, response, **kwargs)
    Action to selfcheck login.

    Init action object.

    execute(message, **kwargs)
        Execute action.

```

## 2.1.2 Records API

API for manipulating the client.

```

class invenio_sip2.records.record.Client(data, **kwargs)
    class for selfcheck client.

    Initialize instance with dictionary data.

    Parameters data – Dict with record metadata.

    clear_patron_session()
        Shortcut to library name.

    get_current_patron_session()
        Shortcut to patron session.

    get_key()
        Get generated key for Client object.

    property get_last_sequence_number
        Shortcut to user id.

    get_server()
        Get server object.

    property institution_id
        Shortcut to institution id.

    property is_authenticated
        Shortcut to check if the selfcheck client is authenticated.

```

**property last\_request\_message**

Shortcut to user id.

**property last\_response\_message**

Shortcut to user id.

**property library\_language**

Shortcut for library language.

**property library\_name**

Shortcut to library name.

**property remote\_app**

Shortcut for remote app.

**property server\_id**

Get server identifier.

**property terminal**

Shortcut to terminal.

**property transaction\_user\_id**

Shortcut to user id.

**class invenio\_sip2.records.record.Server**(data, \*\*kwargs)

class for SIP2 server.

Initialize instance with dictionary data.

**Parameters** data – Dict with record metadata.

**clear\_all\_clients()**

Clear all clients.

**classmethod create**(data, id\_=None, \*\*kwargs)

Create record.

**Parameters**

- data – Dict with metadata.
- id – Specify a UUID to use for the new record.

**delete()**

Delete server and all attached clients.

**down()**

Set server status to *Down* and clear all clients data.

**classmethod find\_server**(\*\*kwargs)

Find server depending kwargs.

**get\_clients()**

Return clients.

**property is\_running**

Check if server is running.

**property number\_of\_clients**

Shortcut for number of clients.

**up()**

Set server status to *running* and clear all clients data.

**class** invenio\_sip2.records.record.Sip2RecordMetadata(*data*, *\*\*kwargs*)

Sip2RecordMetadata class.

Initialize instance with dictionary data.

**Parameters** *data* – Dict with record metadata.

**classmethod** count()

Return number of all records based on record type.

**classmethod** create(*data*, *id\_=None*, *\*\*kwargs*)

Create record.

**Parameters**

- *data* – Dict with metadata.
- *id* – Specify a UUID to use for the new record.

**delete**()

Delete record by uuid.

**dumps**(*\*\*kwargs*)

Return pure Python dictionary with record metadata.

**classmethod** get\_all\_records()

Get all records.

**get\_key**()

Get generated key for Sip2RecordMetadata object.

**classmethod** get\_record\_by\_id(*id\_*)

Get record by uuid.

**property** id

Shortcut for id.

**search**(*query='\*'*, *index\_type=None*, *filter\_query=None*)

Search record by query.

**update**(*data*)

Update instance with dictionary data.

**Parameters** *data* – Dict with metadata.

## 2.1.3 Models

Models for Invenio-SIP2.

**class** invenio\_sip2.models.PatronStatus

Class to define patron status.

Constructor.

**add\_patron\_status\_type**(*patron\_status\_type*)

Add patron status.

**Parameters** *patron\_status\_type* – Enum of patron status type

Add *patron\_status\_type* indicates that the condition is true. raise exception if patron status type does not exist.

**class** invenio\_sip2.models.PatronStatusTypes(*value*)

Enum class to list all possible patron status types.



```

CARD_REPORTED_LOST = 'card_reported_lost'
CHARGE_PRIVILEGES_DENIED = 'charge_privileges_denied'
EXCESSIVE_OUTSTANDING_FEES = 'excessive_outstanding_fees'
EXCESSIVE_OUTSTANDING_FINES = 'excessive_outstanding_fines'
HOLD_PRIVILEGES_DENIED = 'hold_privileges_denied'
RECALL_OVERDUE = 'recall_overdue'
RECALL_PRIVILEGES_DENIED = 'recall_privileges_denied'
RENEWAL_PRIVILEGES_DENIED = 'renewal_privileges_denied'
TOO_MANY_CLAIMS_OF_ITEMS_RETURNED = 'too_many_claims_of_items_returned'
TOO_MANY_ITEMS_BILLED = 'too_many_items_billed'
TOO_MANY_ITEMS_CHARGED = 'too_many_items_charged'
TOO_MANY_ITEMS_LOST = 'too_many_items_lost'
TOO_MANY_ITEMS_OVERDUE = 'too_many_items_overdue'
TOO_MANY_RENEWALS = 'too_many_renewals'

```

```

class invenio_sip2.models.SelfcheckCheckin(permanent_location, checkin=False, alert=False,
                                             magnetic_media='unknown', resensitize='unknown',
                                             **kwargs)

```

Class representing checkin handler response.

Constructor.

:param permanent\_location - permanent\_location of the item :param checkin - checkin operation is success or not  
:param alert - indicate if the selcheck will generate sound alert :param magnetic\_media - indicate the presence of magnetic media :param resensitize - resensitize an item ? :param kwargs - optional fields

**property has\_magnetic\_media**

Shortcut for desensitize.

**property is\_success**

Shortcut for checkin.

**property resensitize**

Shortcut for resensitize.

**property sound\_alert**

Shortcut for alert.

```

class invenio_sip2.models.SelfcheckCheckout(title_id, checkout=False, renewal=False,
                                             magnetic_media='unknown', desensitize='unknown',
                                             **kwargs)

```

Class representing checkout handler response.

Constructor.

:param title\_id - title\_id (e.g. title, identifier, ...) :param checkout - checkout operation is success or not :param renewal - renewal operation is success or not :param magnetic\_media - indicate the presence of magnetic media  
:param desensitize - desensitize an item ? :param kwargs - optional fields

**property desensitize**

Shortcut for desensitize.

**property due\_date**

Shortcut for due date.

**property has\_magnetic\_media**

Shortcut for desensitize.

**property is\_renewal**

Shortcut for renewal ok.

**property is\_success**

Shortcut for checkout ok.

**class invenio\_sip2.models.SelfcheckCirculationStatus**

Class to handle all available circulation status of an item.

**AVAILABLE = '03'**

**CHARGED = '04'**

**CHARGED\_RECALL = '05'**

**CLAIMED\_RETURNED = '11'**

**IN\_PROCESS = '06'**

**IN\_TRANSIT = '10'**

**LOST = '12'**

**MISSING = '13'**

**ON\_ORDER = '02'**

**OTHER = '01'**

**RECALLED = '07'**

**WAITING\_ON\_HOLD\_SHELF = '08'**

**WAITING\_TO\_RESHELF = '09'**

**class invenio\_sip2.models.SelfcheckEnablePatron**(*patron\_id, institution\_id, patron\_name="", patron\_status=None, language='und', \*\*kwargs*)

Class representing patron information handler response.

Constructor.

:param patron\_id - patron identifier (e.g. id, barcode, ...) :param institution\_id - institution id (or code) of the patron :param patron\_name - full name of the patron :param patron\_status - status of the patron :param language - iso-639-2 language :param kwargs - optional fields

**class invenio\_sip2.models.SelfcheckFeeType**

Class to handle all available fee type.

**ADMINISTRATIVE = '02'**

**COMPUTER\_ACCESS\_CHARGE = '08'**

**DAMAGE = '03'**

**HOLD\_FEE = '09'**

**OTHER = '01'**

**OVERDUE = '04'**

**PROCESSING = '05'**

**RENTAL** = '06'

**REPLACEMENT** = '07'

**class** invenio\_sip2.models.**SelfcheckHold**(*hold=False, available=False, \*\*kwargs*)

Class representing hold handler response.

Constructor.

:param hold - hold operation is success or not :param available - item available or not :param kwargs - optional fields

**property is\_available**

Shortcut for available.

**property is\_success**

Shortcut for hold ok.

**class** invenio\_sip2.models.**SelfcheckItemInformation**(*item\_id, title\_id=None, circulation\_status=None, fee\_type=None, security\_marker=None, \*\*kwargs*)

Class representing item information handler response.

Constructor.

:param patron\_id - patron identifier (e.g. id, barcode, ...) :param patron\_name - full name of the patron :param institution\_id - institution id (or code) of the patron :param language - iso-639-2 language :param kwargs - optional fields

**class** invenio\_sip2.models.**SelfcheckLanguage**(*value*)

Enum class to list all available language.

**ARABIC** = '016'

**BELGIAN** = '026'

**CANADIAN\_FRENCH** = '011'

**CHINESE** = '019'

**DANISH** = '009'

**DUTCH** = '005'

**ENGLISH** = '001'

**FINNISH** = '007'

**FRENCH** = '002'

**GERMAN** = '003'

**GREEK** = '018'

**HEBREW** = '013'

**ICELANDIC** = '025'

**ITALIAN** = '004'

**JAPANESE** = '014'

**KOREAN** = '020'

**MALAY** = '023'

**NORTH\_AMERICAN\_SPANISH** = '021'

```
NORWEGIAN = '012'
POLISH = '017'
PORTUGUESE = '010'
RUSSIAN = '015'
SPANISH = '008'
SWEDISH = '006'
TAIWANESE = '027'
TAMIL = '022'
UNITED_KINGDOM = '024'
UNKNOWN = '000'

chi = '019'
dan = '009'
dut = '005'
eng = '001'
fin = '007'
fra = '002'
fre = '002'
ger = '003'
gre = '018'
heb = '013'
ice = '025'
isl = '025'
ita = '004'
jpn = '014'
kor = '020'
may = '023'
msa = '023'
nor = '012'
pol = '017'
por = '010'
rus = '015'
spa = '008'
swe = '006'
tam = '022'
und = '000'
zho = '019'
```

```
class invenio_sip2.models.SelfcheckMediaType
```

Class to handle all available media type.

```
AUDIO = '004'
```

```
BOOK = '001'
```

```
BOOK_WHIT_AUDIO_TAPE = '010'
```

```
BOOK_WHIT_CD = '009'
```

```
BOOK_WHIT_DISKETTE = '008'
```

```
BOUND_JOURNAL = '003'
```

```
CD_OR_CDROM = '006'
```

```
DISKETTE = '007'
```

```
MAGAZINE = '002'
```

```
OTHER = '000'
```

```
VIDEO = '005'
```

```
class invenio_sip2.models.SelfcheckPatronInformation(patron_id, institution_id, patron_name="",
                                                    patron_status=None, language='und',
                                                    **kwargs)
```

Class representing patron information handler response.

Constructor.

:param patron\_id - patron identifier (e.g. id, barcode, ...) :param institution\_id - institution id (or code) of the patron :param patron\_name - full name of the patron :param patron\_status - status of the patron :param language - iso-639-2 language :param kwargs - optional fields

```
property charged_items_count
    Shortcut for charged items count.
```

```
property fine_items_count
    Shortcut for fine items count.
```

```
property hold_items_count
    Shortcut for hold items count.
```

```
property overdue_items_count
    Shortcut for overdue items count.
```

```
property patron_id
    Shortcut for patron pid.
```

```
property patron_name
    Shortcut for patron pid.
```

```
property recall_items_count
    Shortcut for recall items count.
```

```
property unavailable_items_count
    Shortcut for unavailable items count.
```

```
class invenio_sip2.models.SelfcheckPatronStatus(patron_id, institution_id, patron_name="",
                                                    patron_status=None, language='und', **kwargs)
```

Class representing patron information handler response.

Constructor.

:param patron\_id - patron identifier (e.g. id, barcode, ...) :param institution\_id - institution id (or code) of the patron :param patron\_name - full name of the patron :param patron\_status - status of the patron :param language - iso-639-2 language :param kwargs - optional fields

```
class invenio_sip2.models.SelfcheckRenew(title_id, success=False, renewal=False,
                                         magnetic_media='unknown', desensitize='unknown',
                                         **kwargs)
```

Class representing renew handler response.

Constructor.

#### Parameters

- **title\_id** – title\_id (e.g. title, identifier, ...)
- **renew** – renew operation is success or not should be set to True if the ACS renew the item. should be set to 0 if the ACS did not renew the item.
- **renewal** – renewal operation. should be set to True if the patron requesting to renew the item already has the item renewed. should be set to False if the item is not already renewed.
- **magnetic\_media** – indicate the presence of magnetic media
- **desensitize** – desensitize an item ?
- **kwargs** – optional fields

**property desensitize**  
Shortcut for desensitize.

**property due\_date**  
Shortcut for due date.

**property has\_magnetic\_media**  
Shortcut for desensitize.

**property is\_renewal**  
Shortcut for renewal ok.

**property is\_success**  
Shortcut for success operation.

```
class invenio_sip2.models.SelfcheckSecurityMarkerType
    Class to handle all available security marker type.
```

**NONE** = '01'

**OTHER** = '00'

**TATTLE\_TAPE\_SECURITY\_STRIP** = '02'

**WHISPHER\_TAPE** = '03'

```
class invenio_sip2.models.SelfcheckSummary(text)
    Class representing summary.
```

Init.

**fields** = ['hold\_items', 'overdue\_items', 'charged\_items', 'fine\_items',  
'recall\_items', 'unavailable\_items']

**is\_needed(key)**  
Check if the given information is needed.

**class** invenio\_sip2.models.SupportedMessages

Class to define supported messages from handler config.

Constructor.

**add\_supported\_message**(*handler*)

Add supported message.

```
handlers = ['patron_status', 'checkout', 'checkin', 'block_patron', 'system_status',  
'request_resend', 'login', 'account', 'end_patron_session', 'fee_paid', 'item',  
'item_status_update', 'enable_patron', 'hold', 'renew', 'renew_all']
```

## 2.1.4 Rest API

API blueprint for Invenio-SIP2.

**class** invenio\_sip2.views.rest.Monitoring

Monitoring class.

**classmethod** get\_clients\_by\_server\_id(*server\_id*)

Get list of clients by server id.

**classmethod** get\_number\_client\_by\_server(*server\_id*)

Get total number of clients by server.

**classmethod** get\_servers()

Get list of servers.

**classmethod** status()

Check status for all servers.

**invenio\_sip2.views.rest.get\_clients**()

Display all connected clients to server.

**invenio\_sip2.views.rest.get\_server**(*server\_id*)

Display all running SIP2 servers.

**invenio\_sip2.views.rest.get\_servers**()

Display all running SIP2 servers.

**invenio\_sip2.views.rest.status**()

Display status for all SIP2 server.

## 2.1.5 Views

Blueprint for Invenio-SIP2.

**invenio\_sip2.views.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 3.6 to 3.9. Check [https://travis-ci.org/inveniosoftware-contrib/invenio-sip2/pull\\_requests](https://travis-ci.org/inveniosoftware-contrib/invenio-sip2/pull_requests) and make sure that the tests pass for all supported Python versions.

## 3.2 Changes

Version 0.6.6 (released 2021-07-14)

### Minor changes:

- Defines supported messages from handlers config.

### Bug fix:

- Fixes empty patron session.
- Improves i18n language.

Version 0.6.5 (released 2021-07-12)

### Minor changes:

- Logs more information for debugging

Version 0.6.4 (released 2021-06-30)

### Bug fix:

- Fixes wrong circulation messages response.
- Fixes no such process in command line utilities.

Version 0.6.3 (released 2021-06-15)

### Bug fix:

- Fixes error on renew action.

Version 0.6.2 (released 2021-06-14)

### Minor changes:

- implement summary for patron information.
- Fixes fixed field wrong length.

Version 0.6.1 (released 2021-06-14)

### Minor changes:

- Use invenio-sip2 logger for server error logs.

Version 0.6.0 (released 2021-06-11)

### Implemented enhancements:

- Implements request resend action.
- Adds CLI to stop the server.
- Implements sequence number error detection.

Version 0.5.1 (released 2021-05-06)

**Minor changes:**

- Increase code coverage.
- Updates documentation.
- Cleans and rewrites code.

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.

---

INVENIO-SIP2 Copyright (C) 2020 UCLouvain

This program is free software: you can redistribute it and/or modify it under the terms of the GNU Affero General Public License as published by the Free Software Foundation, version 3 of the License.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Affero General Public License for more details.

You should have received a copy of the GNU Affero General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

## 3.4 Authors

Invenio module that add SIP2 communication for self-check

- Laurent Dubois (UCLouvain) <[laurent.dubois@uclouvain.be](mailto:laurent.dubois@uclouvain.be)>



## PYTHON MODULE INDEX

### i

- `invenio_sip2.actions.actions`, 8
- `invenio_sip2.config`, 3
- `invenio_sip2.ext`, 7
- `invenio_sip2.models`, 12
- `invenio_sip2.records.record`, 10
- `invenio_sip2.views.rest`, 19
- `invenio_sip2.views.views`, 19





## INDEX

### A

`add_console_handler()` (invenio\_sip2.ext.InvenioSIP2 method), 7  
`add_fs_handler()` (invenio\_sip2.ext.InvenioSIP2 method), 7  
`add_patron_status_type()` (invenio\_sip2.models.PatronStatus method), 12  
`add_supported_message()` (invenio\_sip2.models.SupportedMessages method), 19  
**ADMINISTRATIVE** (invenio\_sip2.models.SelfcheckFeeType attribute), 14  
**ARABIC** (invenio\_sip2.models.SelfcheckLanguage attribute), 15  
**AUDIO** (invenio\_sip2.models.SelfcheckMediaType attribute), 17  
**AutomatedCirculationSystemStatus** (class in invenio\_sip2.actions.actions), 8  
**AVAILABLE** (invenio\_sip2.models.SelfcheckCirculationStatus attribute), 14

### B

**BABEL\_DEFAULT\_LANGUAGE** (in module invenio\_sip2.config), 4  
**BELGIAN** (invenio\_sip2.models.SelfcheckLanguage attribute), 15  
**BlockPatron** (class in invenio\_sip2.actions.actions), 8  
**BOOK** (invenio\_sip2.models.SelfcheckMediaType attribute), 17  
**BOOK\_WHIT\_AUDIO\_TAPE** (invenio\_sip2.models.SelfcheckMediaType attribute), 17  
**BOOK\_WHIT\_CD** (invenio\_sip2.models.SelfcheckMediaType attribute), 17  
**BOOK\_WHIT\_DISKETTE** (invenio\_sip2.models.SelfcheckMediaType attribute), 17  
**BOUND\_JOURNAL** (invenio\_sip2.models.SelfcheckMediaType attribute), 17

### C

**CANADIAN\_FRENCH** (invenio\_sip2.models.SelfcheckLanguage attribute), 15  
**CARD\_REPORTED\_LOST** (invenio\_sip2.models.PatronStatusTypes attribute), 12  
**CD\_OR\_CDROM** (invenio\_sip2.models.SelfcheckMediaType attribute), 17  
**CHARGE\_PRIVILEGES\_DENIED** (invenio\_sip2.models.PatronStatusTypes attribute), 13  
**CHARGED** (invenio\_sip2.models.SelfcheckCirculationStatus attribute), 14  
**charged\_items\_count** (invenio\_sip2.models.SelfcheckPatronInformation property), 17  
**CHARGED\_RECALL** (invenio\_sip2.models.SelfcheckCirculationStatus attribute), 14  
**Checkin** (class in invenio\_sip2.actions.actions), 8  
**Checkout** (class in invenio\_sip2.actions.actions), 8  
**chi** (invenio\_sip2.models.SelfcheckLanguage attribute), 16  
**CHINESE** (invenio\_sip2.models.SelfcheckLanguage attribute), 15  
**CLAIMED\_RETURNED** (invenio\_sip2.models.SelfcheckCirculationStatus attribute), 14  
**clear\_all\_clients()** (invenio\_sip2.records.record.Server method), 11  
**clear\_patron\_session()** (invenio\_sip2.records.record.Client method), 10  
**Client** (class in invenio\_sip2.records.record), 10  
**COMPUTER\_ACCESS\_CHARGE** (invenio\_sip2.models.SelfcheckFeeType attribute), 14  
**count()** (invenio\_sip2.records.record.Sip2RecordMetadata class method), 12  
**create()** (invenio\_sip2.records.record.Server class

method), 11  
 create() (invenio\_sip2.records.record.Sip2RecordMetadata  
 class method), 12

## D

DAMAGE (invenio\_sip2.models.SelfcheckFeeType at-  
 tribute), 14  
 dan (invenio\_sip2.models.SelfcheckLanguage attribute),  
 16  
 DANISH (invenio\_sip2.models.SelfcheckLanguage at-  
 tribute), 15  
 delete() (invenio\_sip2.records.record.Server method),  
 11  
 delete() (invenio\_sip2.records.record.Sip2RecordMetadata  
 method), 12  
 desensitize (invenio\_sip2.models.SelfcheckCheckout  
 property), 13  
 desensitize (invenio\_sip2.models.SelfcheckRenew  
 property), 18  
 DISKETTE (invenio\_sip2.models.SelfcheckMediaType at-  
 tribute), 17  
 down() (invenio\_sip2.records.record.Server method), 11  
 due\_date (invenio\_sip2.models.SelfcheckCheckout prop-  
 erty), 13  
 due\_date (invenio\_sip2.models.SelfcheckRenew prop-  
 erty), 18  
 dumps() (invenio\_sip2.records.record.Sip2RecordMetadata  
 method), 12  
 dut (invenio\_sip2.models.SelfcheckLanguage attribute),  
 16  
 DUTCH (invenio\_sip2.models.SelfcheckLanguage at-  
 tribute), 15

## E

EndPatronSession (class in inve-  
 nio\_sip2.actions.actions), 9  
 eng (invenio\_sip2.models.SelfcheckLanguage attribute),  
 16  
 ENGLISH (invenio\_sip2.models.SelfcheckLanguage  
 attribute), 15  
 EXCESSIVE\_OUTSTANDING\_FEES (inve-  
 nio\_sip2.models.PatronStatusTypes attribute),  
 13  
 EXCESSIVE\_OUTSTANDING\_FINES (inve-  
 nio\_sip2.models.PatronStatusTypes attribute),  
 13  
 execute() (invenio\_sip2.actions.actions.AutomatedCirculationSystem  
 method), 8  
 execute() (invenio\_sip2.actions.actions.BlockPatron  
 method), 8  
 execute() (invenio\_sip2.actions.actions.Checkin  
 method), 8  
 execute() (invenio\_sip2.actions.actions.Checkout  
 method), 8

execute() (invenio\_sip2.actions.actions.EndPatronSession  
 method), 9  
 execute() (invenio\_sip2.actions.actions.FeePaid  
 method), 9  
 execute() (invenio\_sip2.actions.actions.Hold method),  
 9  
 execute() (invenio\_sip2.actions.actions.ItemInformation  
 method), 9  
 execute() (invenio\_sip2.actions.actions.ItemStatusUpdate  
 method), 9  
 execute() (invenio\_sip2.actions.actions.PatronEnable  
 method), 9  
 execute() (invenio\_sip2.actions.actions.PatronInformation  
 method), 9  
 execute() (invenio\_sip2.actions.actions.PatronStatus  
 method), 9  
 execute() (invenio\_sip2.actions.actions.Renew  
 method), 10  
 execute() (invenio\_sip2.actions.actions.RenewAll  
 method), 10  
 execute() (invenio\_sip2.actions.actions.RequestResend  
 method), 10  
 execute() (invenio\_sip2.actions.actions.SelfCheckLogin  
 method), 10

## F

FeePaid (class in invenio\_sip2.actions.actions), 9  
 fields (invenio\_sip2.models.SelfcheckSummary at-  
 tribute), 18  
 fin (invenio\_sip2.models.SelfcheckLanguage attribute),  
 16  
 find\_server() (invenio\_sip2.records.record.Server  
 class method), 11  
 fine\_items\_count (inve-  
 nio\_sip2.models.SelfcheckPatronInformation  
 property), 17  
 FINNISH (invenio\_sip2.models.SelfcheckLanguage  
 attribute), 15  
 fra (invenio\_sip2.models.SelfcheckLanguage attribute),  
 16  
 fre (invenio\_sip2.models.SelfcheckLanguage attribute),  
 16  
 FRENCH (invenio\_sip2.models.SelfcheckLanguage at-  
 tribute), 15

## G

ger (invenio\_sip2.models.SelfcheckLanguage attribute),  
 16  
 GERMAN (invenio\_sip2.models.SelfcheckLanguage at-  
 tribute), 15  
 get\_all\_records() (inve-  
 nio\_sip2.records.record.Sip2RecordMetadata  
 class method), 12  
 get\_clients() (in module invenio\_sip2.views.rest), 19

[get\\_clients\(\)](#) (*invenio\_sip2.records.record.Server method*), 11  
[get\\_clients\\_by\\_server\\_id\(\)](#) (*invenio\_sip2.views.rest.Monitoring class method*), 19  
[get\\_current\\_patron\\_session\(\)](#) (*invenio\_sip2.records.record.Client method*), 10  
[get\\_key\(\)](#) (*invenio\_sip2.records.record.Client method*), 10  
[get\\_key\(\)](#) (*invenio\_sip2.records.record.Sip2RecordMetadata method*), 12  
[get\\_last\\_sequence\\_number](#) (*invenio\_sip2.records.record.Client property*), 10  
[get\\_logging\\_formatter\(\)](#) (*invenio\_sip2.ext.InvenioSIP2 class method*), 7  
[get\\_number\\_client\\_by\\_server\(\)](#) (*invenio\_sip2.views.rest.Monitoring class method*), 19  
[get\\_record\\_by\\_id\(\)](#) (*invenio\_sip2.records.record.Sip2RecordMetadata class method*), 12  
[get\\_server\(\)](#) (*in module invenio\_sip2.views.rest*), 19  
[get\\_server\(\)](#) (*invenio\_sip2.records.record.Client method*), 10  
[get\\_servers\(\)](#) (*in module invenio\_sip2.views.rest*), 19  
[get\\_servers\(\)](#) (*invenio\_sip2.views.rest.Monitoring class method*), 19  
[gre](#) (*invenio\_sip2.models.SelfcheckLanguage attribute*), 16  
[GREEK](#) (*invenio\_sip2.models.SelfcheckLanguage attribute*), 15  

## H

[handlers](#) (*invenio\_sip2.models.SupportedMessages attribute*), 19  
[has\\_magnetic\\_media](#) (*invenio\_sip2.models.SelfcheckCheckin property*), 13  
[has\\_magnetic\\_media](#) (*invenio\_sip2.models.SelfcheckCheckout property*), 14  
[has\\_magnetic\\_media](#) (*invenio\_sip2.models.SelfcheckRenew property*), 18  
[heb](#) (*invenio\_sip2.models.SelfcheckLanguage attribute*), 16  
[HEBREW](#) (*invenio\_sip2.models.SelfcheckLanguage attribute*), 15  
[Hold](#) (*class in invenio\_sip2.actions.actions*), 9  
[HOLD\\_FEE](#) (*invenio\_sip2.models.SelfcheckFeeType attribute*), 14  
[hold\\_items\\_count](#) (*invenio\_sip2.models.SelfcheckPatronInformation property*), 17  
[HOLD\\_PRIVILEGES\\_DENIED](#) (*invenio\_sip2.models.PatronStatusTypes attribute*), 13  
[ice](#) (*invenio\_sip2.models.SelfcheckLanguage attribute*), 16  
[ICELANDIC](#) (*invenio\_sip2.models.SelfcheckLanguage attribute*), 15  
[id](#) (*invenio\_sip2.records.record.Sip2RecordMetadata property*), 12  
[IN\\_PROCESS](#) (*invenio\_sip2.models.SelfcheckCirculationStatus attribute*), 14  
[IN\\_TRANSIT](#) (*invenio\_sip2.models.SelfcheckCirculationStatus attribute*), 14  
[init\\_app\(\)](#) (*invenio\_sip2.ext.InvenioSIP2 method*), 7  
[init\\_config\(\)](#) (*invenio\_sip2.ext.InvenioSIP2 method*), 7  
[institution\\_id](#) (*invenio\_sip2.records.record.Client property*), 10  
[invenio\\_sip2.actions.actions](#) module, 8  
[invenio\\_sip2.config](#) module, 3  
[invenio\\_sip2.ext](#) module, 7  
[invenio\\_sip2.models](#) module, 12  
[invenio\\_sip2.records.record](#) module, 10  
[invenio\\_sip2.views.rest](#) module, 19  
[invenio\\_sip2.views.views](#) module, 19  
[InvenioSIP2](#) (*class in invenio\_sip2.ext*), 7  
[is\\_authenticated](#) (*invenio\_sip2.records.record.Client property*), 10  
[is\\_available](#) (*invenio\_sip2.models.SelfcheckHold property*), 15  
[is\\_needed\(\)](#) (*invenio\_sip2.models.SelfcheckSummary method*), 18  
[is\\_renewal](#) (*invenio\_sip2.models.SelfcheckCheckout property*), 14  
[is\\_renewal](#) (*invenio\_sip2.models.SelfcheckRenew property*), 18  
[is\\_running](#) (*invenio\_sip2.records.record.Server property*), 11  
[is\\_success](#) (*invenio\_sip2.models.SelfcheckCheckin property*), 13  
[is\\_success](#) (*invenio\_sip2.models.SelfcheckCheckout property*), 14

is\_success (*invenio\_sip2.models.SelfcheckHold* property), 15

is\_success (*invenio\_sip2.models.SelfcheckRenew* property), 18

isl (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16

ita (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16

ITALIAN (*invenio\_sip2.models.SelfcheckLanguage* attribute), 15

ItemInformation (class in *invenio\_sip2.actions.actions*), 9

ItemStatusUpdate (class in *invenio\_sip2.actions.actions*), 9

## J

JAPANESE (*invenio\_sip2.models.SelfcheckLanguage* attribute), 15

jpn (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16

## K

kor (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16

KOREAN (*invenio\_sip2.models.SelfcheckLanguage* attribute), 15

## L

last\_request\_message (*invenio\_sip2.records.record.Client* property), 10

last\_response\_message (*invenio\_sip2.records.record.Client* property), 11

library\_language (*invenio\_sip2.records.record.Client* property), 11

library\_name (*invenio\_sip2.records.record.Client* property), 11

load\_fixed\_field() (in module *invenio\_sip2.ext*), 8

load\_variable\_field() (in module *invenio\_sip2.ext*), 8

LOST (*invenio\_sip2.models.SelfcheckCirculationStatus* attribute), 14

## M

MAGAZINE (*invenio\_sip2.models.SelfcheckMediaType* attribute), 17

MALAY (*invenio\_sip2.models.SelfcheckLanguage* attribute), 15

may (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16

MISSING (*invenio\_sip2.models.SelfcheckCirculationStatus* attribute), 14

module

*invenio\_sip2.actions.actions*, 8

*invenio\_sip2.config*, 3

*invenio\_sip2.ext*, 7

*invenio\_sip2.models*, 12

*invenio\_sip2.records.record*, 10

*invenio\_sip2.views.rest*, 19

*invenio\_sip2.views.views*, 19

Monitoring (class in *invenio\_sip2.views.rest*), 19

monitoring() (in module *invenio\_sip2.views.views*), 19

msa (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16

## N

NONE (*invenio\_sip2.models.SelfcheckSecurityMarkerType* attribute), 18

nor (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16

NORTH\_AMERICAN\_SPANISH (*invenio\_sip2.models.SelfcheckLanguage* attribute), 15

NORWEGIAN (*invenio\_sip2.models.SelfcheckLanguage* attribute), 15

number\_of\_clients (*invenio\_sip2.records.record.Server* property), 11

## O

ON\_ORDER (*invenio\_sip2.models.SelfcheckCirculationStatus* attribute), 14

OTHER (*invenio\_sip2.models.SelfcheckCirculationStatus* attribute), 14

OTHER (*invenio\_sip2.models.SelfcheckFeeType* attribute), 14

OTHER (*invenio\_sip2.models.SelfcheckMediaType* attribute), 17

OTHER (*invenio\_sip2.models.SelfcheckSecurityMarkerType* attribute), 18

OVERDUE (*invenio\_sip2.models.SelfcheckFeeType* attribute), 14

overdue\_items\_count (*invenio\_sip2.models.SelfcheckPatronInformation* property), 17

## P

patron\_id (*invenio\_sip2.models.SelfcheckPatronInformation* property), 17

patron\_name (*invenio\_sip2.models.SelfcheckPatronInformation* property), 17

PatronEnable (class in *invenio\_sip2.actions.actions*), 9

PatronInformation (class in *invenio\_sip2.actions.actions*), 9

PatronStatus (class in *invenio\_sip2.actions.actions*), 9

PatronStatus (class in *invenio\_sip2.models*), 12

PatronStatusTypes (class in *invenio\_sip2.models*), 12

- pol** (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
**POLISH** (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
**por** (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
**PORTUGUESE** (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
**PROCESSING** (*invenio\_sip2.models.SelfcheckFeeType* attribute), 14  
**R**  
**recall\_items\_count** (*invenio\_sip2.models.SelfcheckPatronInformation* property), 17  
**RECALL\_OVERDUE** (*invenio\_sip2.models.PatronStatusTypes* attribute), 13  
**RECALL\_PRIVILEGES\_DENIED** (*invenio\_sip2.models.PatronStatusTypes* attribute), 13  
**RECALLED** (*invenio\_sip2.models.SelfcheckCirculationStatus* attribute), 14  
**remote\_app** (*invenio\_sip2.records.record.Client* property), 11  
**Renew** (class in *invenio\_sip2.actions.actions*), 9  
**RENEWAL\_PRIVILEGES\_DENIED** (*invenio\_sip2.models.PatronStatusTypes* attribute), 13  
**RenewAll** (class in *invenio\_sip2.actions.actions*), 10  
**RENTAL** (*invenio\_sip2.models.SelfcheckFeeType* attribute), 14  
**REPLACEMENT** (*invenio\_sip2.models.SelfcheckFeeType* attribute), 15  
**RequestResend** (class in *invenio\_sip2.actions.actions*), 10  
**resensitize** (*invenio\_sip2.models.SelfcheckCheckin* property), 13  
**retries\_allowed** (*invenio\_sip2.ext.InvenioSIP2* property), 7  
**rus** (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
**RUSSIAN** (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
**S**  
**search()** (*invenio\_sip2.records.record.Sip2RecordMetadata* method), 12  
**SelfcheckCheckin** (class in *invenio\_sip2.models*), 13  
**SelfcheckCheckout** (class in *invenio\_sip2.models*), 13  
**SelfcheckCirculationStatus** (class in *invenio\_sip2.models*), 14  
**SelfcheckEnablePatron** (class in *invenio\_sip2.models*), 14  
**SelfcheckFeeType** (class in *invenio\_sip2.models*), 14  
**SelfcheckHold** (class in *invenio\_sip2.models*), 15  
**SelfcheckItemInformation** (class in *invenio\_sip2.models*), 15  
**SelfcheckLanguage** (class in *invenio\_sip2.models*), 15  
**SelfCheckLogin** (class in *invenio\_sip2.actions.actions*), 10  
**SelfcheckMediaType** (class in *invenio\_sip2.models*), 16  
**SelfcheckPatronInformation** (class in *invenio\_sip2.models*), 17  
**SelfcheckPatronStatus** (class in *invenio\_sip2.models*), 17  
**SelfcheckRenew** (class in *invenio\_sip2.models*), 18  
**SelfcheckSecurityMarkerType** (class in *invenio\_sip2.models*), 18  
**SelfcheckSummary** (class in *invenio\_sip2.models*), 18  
**Server** (class in *invenio\_sip2.records.record*), 11  
**server\_id** (*invenio\_sip2.records.record.Client* property), 11  
**sip2** (*invenio\_sip2.ext.InvenioSIP2* property), 7  
**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\_LANGUAGE** (in module *invenio\_sip2.config*), 5  
**SIP2\_DEFAULT\_SECURITY\_MARKER** (in module *invenio\_sip2.config*), 5  
**SIP2\_ERROR\_DETECTION** (in module *invenio\_sip2.config*), 5  
**sip2\_handlers** (*invenio\_sip2.ext.InvenioSIP2* property), 7  
**sip2\_language** (*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*), 6  
 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  
 Sip2RecordMetadata (class in *invenio\_sip2.records.record*), 11  
 sound\_alert (*invenio\_sip2.models.SelfcheckCheckin* property), 13  
 spa (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
 SPANISH (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
 status() (in module *invenio\_sip2.views.rest*), 19  
 status() (*invenio\_sip2.views.rest.Monitoring* class method), 19  
 support\_checkin (*invenio\_sip2.ext.InvenioSIP2* property), 7  
 support\_checkout (*invenio\_sip2.ext.InvenioSIP2* property), 7  
 support\_offline\_status (*invenio\_sip2.ext.InvenioSIP2* property), 8  
 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* method), 8  
 supported\_protocol (*invenio\_sip2.ext.InvenioSIP2* property), 8  
 SupportedMessages (class in *invenio\_sip2.models*), 18  
 swe (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
 SWEDISH (*invenio\_sip2.models.SelfcheckLanguage*

attribute), 16

## T

TAIWANESE (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
 tam (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
 TAMIL (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
 TATTLE\_TAPE\_SECURITY\_STRIP (*invenio\_sip2.models.SelfcheckSecurityMarkerType* attribute), 18  
 terminal (*invenio\_sip2.records.record.Client* property), 11  
 timeout\_period (*invenio\_sip2.ext.InvenioSIP2* property), 8  
 TOO\_MANY\_CLAIMS\_OF\_ITEMS\_RETURNED (*invenio\_sip2.models.PatronStatusTypes* attribute), 13  
 TOO\_MANY\_ITEMS\_BILLED (*invenio\_sip2.models.PatronStatusTypes* attribute), 13  
 TOO\_MANY\_ITEMS\_CHARGED (*invenio\_sip2.models.PatronStatusTypes* attribute), 13  
 TOO\_MANY\_ITEMS\_LOST (*invenio\_sip2.models.PatronStatusTypes* attribute), 13  
 TOO\_MANY\_ITEMS\_OVERDUE (*invenio\_sip2.models.PatronStatusTypes* attribute), 13  
 TOO\_MANY\_RENEWALS (*invenio\_sip2.models.PatronStatusTypes* attribute), 13  
 transaction\_user\_id (*invenio\_sip2.records.record.Client* property), 11  

## U

 unavailable\_items\_count (*invenio\_sip2.models.SelfcheckPatronInformation* property), 17  
 und (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
 UNITED\_KINGDOM (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
 UNKNOWN (*invenio\_sip2.models.SelfcheckLanguage* attribute), 16  
 up() (*invenio\_sip2.records.record.Server* method), 11  
 update() (*invenio\_sip2.records.record.Sip2RecordMetadata* method), 12

## V

VIDEO (*invenio\_sip2.models.SelfcheckMediaType* attribute), [17](#)

## W

WAITING\_ON\_HOLD\_SHELF (*invenio\_sip2.models.SelfcheckCirculationStatus* attribute), [14](#)

WAITING\_TO\_RESHELF (*invenio\_sip2.models.SelfcheckCirculationStatus* attribute), [14](#)

WHISPHER\_TAPE (*invenio\_sip2.models.SelfcheckSecurityMarkerType* attribute), [18](#)

## Z

zho (*invenio\_sip2.models.SelfcheckLanguage* attribute), [16](#)