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Python wrapper for the NLB Open Web Services.
Currently supports the Catalogue Service.
CHAPTER ONE

INSTALLATION

```
pip install nlbsg
```
CHAPTER TWO

USAGE EXAMPLE

Creating a client:

```python
from nlbsg import Client
from nlbsg.catalogue import STAGING_URL

API_KEY = 'secret_api_key'

client = Client(STAGING_URL, API_KEY)
```

Searching the catalogue:

```python
>>> from nlbsg import MediaCode
>>> results = client.search('lord of the rings', author='tolkien', media_code=MediaCode.BOOKS, limit=3)
>>> for title in results.titles:
...    print(f'Title: {title.title_name}
ISBN: {title.isbn}
Published: {title.publish_year}')
...
Title: Beren and Luthien / by J.R.R. Tolkien ; edited by Christopher Tolkien ; with illustrations by Alan Lee.
ISBN: 1328915336 (paperback)
Published: 2018

Title: Beren and Luthien [electronic resource]. J. R. R Tolkien.
ISBN: 9780008214210 (electronic bk)
Published: 2017

Title: The fall of arthur [electronic resource]. J. R. R Tolkien.
ISBN: 9780007489954 (electronic bk)
Published: 2013
```

Getting title details:

```python
>>> details = client.get_title_details(isbn='1328915336')
>>> details.title_detail.summary
"The epic tale of Beren and Luthien became an essential element in the evolution of The Silmarillion, the myths and legends of J.R.R. Tolkien's First Age of the World. Always key to the story is the fate that shadowed their love: Beren was a mortal man, Luthien an immortal Elf. Her father, a great Elvish lord, imposed on Beren an impossible task before he might wed Luthien: to rob the greatest of all evil beings, Melkor, of a Silmaril. Painstakingly restored from Tolkien's manuscripts and presented for the first time as a continuous and standalone story, Beren and Luthien reunites fans of The Hobbit and The Lord of the Rings with Elves and Men, along with the rich landscape and creatures unique to Tolkien's Middle-earth. Christopher Tolkien tells the story in his father's own words by giving the original form as well as prose and verse passages from later texts that illustrate the narrative as it changed. -- from back cover."
```

(continues on next page)
Getting title availability:

```python
>>> availability = client.get_availability_info(isbn='1328915336')
>>> for item in availability.items:
...     print(f'Branch: {item.branch_name}
Status: {item.status_desc}
')
...
Branch: Ang Mo Kio Public Library
Status: Not On Loan
Branch: Bukit Batok Public Library
Status: On Loan
Branch: Bedok Public Library
Status: On Loan
Branch: Bishan Public Library
Status: Not On Loan
Branch: Bukit Panjang Public Library
Status: Not On Loan
Branch: Choa Chu Kang Public Library
Status: On Loan
Branch: Central Public Library
Status: Not On Loan
Branch: Clementi Public Library
Status: On Loan
Branch: Cheng San Public Library
Status: On Loan
Branch: Geylang East Public Library
Status: Not On Loan
```

## 2.1 nlbsg

### 2.1.1 nlbsg package

**nlbsg.catalogue module**

```python
class nlbsg.catalogue.Client(wsdl, api_key)
```

**get_availability_info(bid=None, isbn=None, sort=None, start=1, limit=10, set_id=None)**

Check whether an item is available for loan. Either `bid` or `isbn` should be provided.

**Parameters**

- `bid` (Optional[str])
- `isbn` (Optional[str])
• **sort** (Union[str, Sort, None]) – By default, results are sorted by published year in descending order. Use **PUBDATE** to sort in ascending order instead, or **TITLE** to sort by title in ascending order, ignoring articles like “a”, “an” or “the”. These values can also be found in **constants.Sort**.

• **start** (int) – Start pointer for returned records.

• **limit** (int) – Maximum records to be returned. This is capped at 100 records even if a number greater than 100 is specified.

• **set_id** (Optional[str]) – For use in pagination. This can be used with **start** to return the index position of the next record in the backend system

Return type: **GetAvailabilityInfoResponse**

Returns

**get_title_details** (bid=None, isbn=None)
Get detailed information about an item. Either **bid** or **isbn** should be provided.

Parameters

• **bid** (Optional[str]) –

• **isbn** (Optional[str]) –

Return type: **GetTitleDetailsResponse**

Returns

**search**(keywords=None, author=None, subject=None, title=None, branch=None, media_code=None, language=None, sort=None, start=1, limit=10, set_id=None)
Searches content according to search criteria.

Parameters

• **keywords** (Optional[str]) –

• **author** (Optional[str]) –

• **subject** (Optional[str]) –

• **title** (Optional[str]) –

• **branch** (Union[str, Branch, None]) – Include only results from a particular branch. See **constants.Branch** for possible values.

• **media_code** (Union[str, MediaCode, None]) – Include only results of a particular media type. See **constants.MediaCode** for possible values.

• **language** (Union[str, Language, None]) – Include only results in a particular language. See **constants.Language** for possible values.

• **sort** (Union[str, Sort, None]) – By default, results are sorted by published year in descending order. Use **PUBDATE** to sort in ascending order instead, or **TITLE** to sort by title in ascending order, ignoring articles like “a”, “an” or “the”. These values can also be found in **constants.Sort**.

• **start** (int) – Start pointer for returned records.

• **limit** (int) – Maximum records to be returned. This is capped at 100 records even if a number greater than 100 is specified.

• **set_id** (Optional[str]) – For use in pagination. This can be used with **start** to return the index position of the next record in the backend system

Return type: **SearchResponse**
Returns

nlbsg.constants module

class nlbsg.constants.Branch
    Bases: enum.Enum

    Branch Code and Branch Name Mapping
    http://www.nlb.gov.sg/labs/technical-documentation/#BranchCodeandBranchNameMapping

    ANG_MO_KIO_PUBLIC_LIBRARY = 'AMKPL'
    BEDOK_PUBLIC_LIBRARY = 'BEPL'
    BISHAN_PUBLIC_LIBRARY = 'BIPL'
    BUKIT_BATOK_PUBLIC_LIBRARY = 'BBPL'
    BUKIT_MERAH_PUBLIC_LIBRARY = 'BMPL'
    BUKIT_PANJANG_PUBLIC_LIBRARY = 'BPPL'
    CENTRAL_PUBLIC_LIBRARY = 'CLL'
    CHENG_SAN_PUBLIC_LIBRARY = 'CSPL'
    CHOA_CHU_KANG_PUBLIC_LIBRARY = 'CCKPL'
    CLEMENTI_PUBLIC_LIBRARY = 'CMPL'
    GEYLANG_EAST_PUBLIC_LIBRARY = 'GEPL'
    JURONG_REGIONAL_LIBRARY = 'JRL'
    JURONG_WEST_PUBLIC_LIBRARY = 'JWPL'
    LEE_KONG_CHIAN_REFERENCE_LIBRARY = 'LKCRL'
    LEE_KONG_CHIAN_REFERENCE_LIBRARY_LEVEL_11 = '11LKCRL'
    LEE_KONG_CHIAN_REFERENCE_LIBRARY_LEVEL_7 = '07LKCRL'
    LEE_KONG_CHIAN_REFERENCE_LIBRARY_LEVEL_8 = '08LKCRL'
    LEE_KONG_CHIAN_REFERENCE_LIBRARY_LEVEL_9 = '09LKCRL'
    LIBRARY_AT_CHINATOWN = 'CNPL'
    LIBRARY_AT_ESPLANADE = 'EPPL'
    LIBRARY_AT_HARBOURFRONT = 'HBPL'
    LIBRARY_AT_ORCHARD = 'OCPL'
    LIBRARY_SUPPLY_CENTRE = 'LSC'
    LIBRARY_SUPPLY_CENTRE_FOR_AV = 'LSCAV'
    MARINE_PARADE_PUBLIC_LIBRARY = 'MPPL'
    MOBILE_BUS = 'MOLLEY'
    NL_HERITAGE = 'LOLC'
    PASIR_RIS_PUBLIC_LIBRARY = 'PRPL'
    QUEENSTOWN_PUBLIC_LIBRARY = 'QUPL'
SEMBAWANG_PUBLIC_LIBRARY = 'SBPL'
SENGKANG_PUBLIC_LIBRARY = 'SKPL'
SERANGOON_PUBLIC_LIBRARY = 'SRPL'
TAMPINES_REGIONAL_LIBRARY = 'TRL'
TOA_PAYOH_PUBLIC_LIBRARY = 'TPPL'
WOODLANDS_REGIONAL_LIBRARY = 'WRL'
YISHUN_PUBLIC_LIBRARY = 'YIPL'

class nlbsg.constants.Language
    Bases: enum.Enum
    An enumeration.
    CHINESE = 'Chinese'
    ENGLISH = 'English'
    MALAY = 'Malay'
    TAMIL = 'Tamil'

class nlbsg.constants.MediaCode
    Bases: enum.Enum
    Title Level Media Code and Media Description Mapping
    http://www.nlb.gov.sg/labs/technical-documentation/#TitleLevelMediaCodeandMediaDescriptionMapping
    BOOKS = 'BK'
    COMPUTER_FILE = 'CF'
    MAPS = 'MP'
    MIXED_MATERIALS = 'MX'
    MUSIC = 'MU'
    SERIALS = 'SE'
    VISUAL_MATERIALS = 'VM'

class nlbsg.constants.Sort
    Bases: enum.Enum
    An enumeration.
    PUBDATE = 'PUBDATE'
    TITLE = 'TITLE'

nlbsg.types module

class nlbsg.types.GetAvailabilityInfoResponse
    status (str), message (str), error_message (str),
    next_record_position, set_id, items
    Returned by Client.get_availability_info.
    Variables
    • status (str) -
    • message (str) -
• `error_message (Optional[str])` -
• `next_record_position (Optional[int])` -
• `set_id (Optional[str])` -
• `items (Optional[Iterable[Item]])` -

Example `GetAvailabilityInfoResponse`:

```python
GetAvailabilityInfoResponse(
    status='OK',
    message='Operation completed successfully',
    error_message=None,
    next_record_position=2,
    set_id='3709',
    items=tuple(
        Item(
            item_no='B33315114J',
            branch_id='AMKPL',
            branch_name='Ang Mo Kio Public Library',
            location_code='____',
            location_desc='Adult Lending',
            call_number='English TOL -[FN]',
            status_code='S',
            status_desc='Not On Loan',
            media_code=None,
            media_desc='Book',
            status_date='06/09/2018',
            due_date=None,
            cluster_name=None,
            category_name=None,
            collection_code=None,
            collection_min_age_limit=None
        ),
        Item(
            item_no='B33315118C',
            branch_id='BBPL',
            branch_name='Bukit Batok Public Library',
            location_code='____',
            location_desc='Adult Lending',
            call_number='English TOL -[FN]',
            status_code='C',
            status_desc='On Loan',
            media_code=None,
            media_desc='Book',
            status_date='08/11/2018',
            due_date='08/11/2018',
            cluster_name=None,
            category_name=None,
            collection_code=None,
            collection_min_age_limit=None
        )
    ))
```

class nlbsg.types.GetTitleDetailsResponse (status, message, error_message, title_detail)

Returned by `Client.get_title_details`.

Variables
Example `GetTitleDetailsResponse`:

```python
GetTitleDetailsResponse(
    status='OK',
    message='Operation completed successfully',
    error_message=None,
    title_detail=TitleDetail(
        bid='203125808',
        title_name='Beren and Luthien / by J.R.R. Tolkien ; edited by Christopher Tolkien ; with illustrations by Alan Lee.',
        author='Tolkien, J. R. R.',
        other_authors='Tolkien, J. R. R. (John Ronald Reuel), 1892-1973|Tolkien, Christopher|Lee, Alan',
        publisher=None,
        physical_desc='288 pages (pages numbered 8-288) :chiefly color illustrations ;21 cm',
        subjects=('Middle Earth (Imaginary place) Fiction', 'Elves Fiction', 'Fantasy fiction'),
        summary='The epic tale of Beren and Luthien became an essential element in the evolution of The Silmarillion, the myths and legends of J.R.R. Tolkien's First Age of the World. Always key to the story is the fate that shadowed their love: Beren was a mortal man, Luthien an immortal Elf. Her father, a great Elvish lord, imposed on Beren an impossible task before he might wed Luthien: to rob the greatest of all evil beings, Melkor, of a Silmaril. Painstakingly restored from Tolkien's manuscripts and presented for the first time as a continuous and standalone story, Beren and Luthien reunites fans of The Hobbit and The Lord of the Rings with Elves and Men, along with the rich landscape and creatures unique to Tolkien's Middle-earth. Christopher Tolkien tells the story in his father's own words by giving its original form as well as prose and verse passages from later texts that illustrate the narrative as it changed. -- from back cover.',
        notes='First published by Harper Collins Publishers 2017. Includes abstractsThe epic tale of Beren and Luthien became an essential element in the evolution of The Silmarillion, the myths and legends of J.R.R. Tolkien's First Age of the World. Always key to the story is the fate that shadowed their love: Beren was a mortal man, Luthien an immortal Elf. Her father, a great Elvish lord, imposed on Beren an impossible task before he might wed Luthien: to rob the greatest of all evil beings, Melkor, of a Silmaril. Painstakingly restored from Tolkien's manuscripts and presented for the first time as a continuous and standalone story, Beren and Luthien reunites fans of The Hobbit and The Lord of the Rings with Elves and Men, along with the rich landscape and creatures unique to Tolkien's Middle-earth. Christopher Tolkien tells the story in his father's own words by giving its original form as well as prose and verse passages from later texts that illustrate the narrative as it changed. -- from back cover.',
        isbn='1328915336 (paperback)',
        issn=None,
        n_title_name=None,
    ),
)
```

(continues on next page)
class nlbsg.types.Item(item_no, branch_id, branch_name, location_code, location_desc, call_number, status_code, status_desc, media_code, media_desc, status_date, due_date, cluster_name, category_name, collection_code, collection_min_age_limit, available)

Part of GetAvailabilityInfoResponse.

Variables

• item_no (str) -
• branch_id (str) -
• branch_name (str) -
• location_code (str) -
• location_desc (str) -
• call_number (str) -
• status_code (str) -
• status_desc (str) -
• media_code (Optional[str]) -
• media_desc (str) -
• status_date (str) -
• due_date (Optional[str]) -
• cluster_name (Optional[str]) -
• category_name (Optional[str]) -
• collection_code (Optional[str]) -
• collection_min_age_limit (Optional[str]) -
• available (bool) -

Example Item:

```python
Item(
    item_no='B33315118C',
    branch_id='BBPL',
    branch_name='Bukit Batok Public Library',
    location_code='____',
    location_desc='Adult Lending',
    call_number='English TOL -[FN]',
    status_code='C',
    status_desc='On Loan',
    media_code=None,
    media_desc='Book',
    status_date='08/11/2018',
    due_date='08/11/2018',
    cluster_name=None,
    available=True
)
```
class nlbsg.types.SearchResponse(status, message, error_message, total_records, next_record_position, set_id, titles)

Returned by Client.search.

Variables

- **status**(str)
- **message**(str)
- **error_message**(Optional[str])
- **total_records**(Optional[int])
- **next_record_position**(Optional[int])
- **set_id**(Optional[str])
- **titles**(Optional[Iterable[Title]])

Example `SearchResponse`:

```python
SearchResponse(
    status='OK',
    message='Operation completed successfully',
    error_message=None,
    total_records=52,
    next_record_position=4,
    set_id='PGE3676',
    titles=tuple([
        Title(
            bid='203125808',
            isbn='1328915336 (paperback)',
            title_name='Beren and Luthien / by J.R.R. Tolkien ; edited by Christopher Tolkien ; with illustrations by Alan Lee.',
            author='Tolkien, J. R. R. (John Ronald Reuel), 1892-1973',
            publish_year='2018',
            media_code='BK',
            media_desc='Books'
        ),
        Title(
            bid='204576140',
            isbn='9780008214210 (electronic bk)',
            title_name='Beren and Luthien [electronic resource]. J. R. R. Tolkien.',
            author='Tolkien, J. R. R.',
            publish_year='2017',
            media_code='BK',
            media_desc='Books'
        )
    ])
)```
class nlbsg.types.Title(bid, isbn, title_name, author, publish_year, media_code, media_desc)
    Part of SearchResponse.

Variables

• bid(str) -
• isbn(str) -
• title_name(str) -
• author(str) -
• publish_year(str) -
• media_code(str) -
• media_desc(str) -

Example Title:

```python
Title(
    bid='203125808',
    isbn='1328915336 (paperback)',
    title_name='Beren and Luthien / by J.R.R. Tolkien ; edited by Christopher Tolkien ; with illustrations by Alan Lee.',
    author='Tolkien, J. R. R. (John Ronald Reuel), 1892-1973',
    publish_year='2018',
    media_code='BK',
    media_desc='Books'
)
```

class nlbsg.types.TitleDetail(bid, title_name, author, other_authors, publisher, physical_desc, subjects, summary, notes, isbn, issn, n_title_name, n_author, n_publisher)
    Part of GetTitleDetailsResponse.

Variables

• bid(str) -
• title_name(str) -
• author(str) -
• other_authors(str) -
• publisher(Optional[str]) -
• physical_desc(str) -
• subjects(Iterable[str]) -
• summary(str) -
• notes(str) -
• isbn(str) -
• issn(Optional[str]) -
• n_title_name(Optional[str]) -
• n_author(Optional[str]) -
• n_publisher(Optional[str]) -

Example TitleDetail:
The epic tale of Beren and Luthien became an essential element in the evolution of The Silmarillion, the myths and legends of J.R.R. Tolkien's First Age of the World. Always key to the story is the fate that shadowed their love: Beren was a mortal man, Luthien an immortal Elf. Her father, a great Elvish lord, imposed on Beren an impossible task before he might wed Luthien: to rob the greatest of all evil beings, Melkor, of a Silmaril. Painstakingly restored from Tolkien's manuscripts and presented for the first time as a continuous and standalone story, Beren and Luthien reunites fans of The Hobbit and The Lord of the Rings with Elves and Men, along with the rich landscape and creatures unique to Tolkien's Middle-earth. Christopher Tolkien tells the story in his father's own words by giving its original form as well as prose and verse passages from later texts that illustrate the narrative as it changed. -- from back cover.

First published by Harper Collins Publishers 2017. Includes abstracts The epic tale of Beren and Luthien became an essential element in the evolution of The Silmarillion, the myths and legends of J.R.R. Tolkien's First Age of the World. Always key to the story is the fate that shadowed their love: Beren was a mortal man, Luthien an immortal Elf. Her father, a great Elvish lord, imposed on Beren an impossible task before he might wed Luthien: to rob the greatest of all evil beings, Melkor, of a Silmaril. Painstakingly restored from Tolkien's manuscripts and presented for the first time as a continuous and standalone story, Beren and Luthien reunites fans of The Hobbit and The Lord of the Rings with Elves and Men, along with the rich landscape and creatures unique to Tolkien's Middle-earth. Christopher Tolkien tells the story in his father's own words by giving its original form as well as prose and verse passages from later texts that illustrate the narrative as it changed. -- from back cover.

isbn='1328915336 (paperback)',
issn=None,
n_title_name=None,
n_author=None,
n_publisher=None
)
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