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

INSTALLATION

`pip install nlbsg`
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 l\textregistered thien [electronic resource]. J. R. Tolkien.
ISBN: 9780008214210 (electronic bk)
Published: 2017

Title: The fall of arthur [electronic resource]. J. 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."
```
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

g**et_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

s**earch** (*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 lan-
  guage. 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**

```python
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'
```

Chapter 2. Usage example
SEMAWANG_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, message, error_message, 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_author='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 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,
)
```
```python
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,
)
```

(continues on next page)
category_name=None,
collection_code=None,
collection_min_age_limit=None,
available=False,
)

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:

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 = 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**:

```python
```
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.
CHAPTER
THREE

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