Package 'gleifr'

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Title Client for the 'GLEIF' API

Version 0.4.0

Description Download legal entity reference data from the 'Global Legal Entity Identifier Foundation' ('GLEIF') API. Retrieve Legal Entity Identifier ('LEI') records, their direct and ultimate parent and child relationships, accredited issuers ('Local Operating Units'), and mappings from 'LEI' codes to other identifiers such as 'ISIN', 'BIC', and 'MIC'. See <https://www.gleif.org/en/lei-data/gleif-api> for further details.

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URL https://m-muecke.github.io/gleifr/, https://github.com/m-muecke/gleifr

BugReports https://github.com/m-muecke/gleifr/issues

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`cache` *Get or manage the gleifr API cache*

Description

`lei_cache_dir()` returns the path where cached API responses are stored. `lei_cache_clear()` clears all cached responses.

Usage

```
lei_cache_dir()

lei_cache_clear()
```

Details

The cache is only used when enabled with `options(gleifr.cache = TRUE)`. Cached responses are stored for 1 day by default, but this can be customized with `options(gleifr.cache_max_age = seconds)`.

Value

`lei_cache_dir()` returns a string with the path to the cache directory.

`lei_cache_clear()` is called for its side effect of clearing the cached responses and returns `NULL` invisibly.

Examples

```
## Not run:
# enable caching
options(gleifr.cache = TRUE)

# view cache location
lei_cache_dir()

# clear the cache
lei_cache_clear()

## End(Not run)
```

`lei_autocomplete` *Autocomplete LEI records*

Description

Performs a prefix-based completion against the GLEIF API, returning candidate values together with their LEI. Useful for typeahead-style lookups. For typo-tolerant matching, see `lei_fuzzy()`.

Usage

```
lei_autocomplete(q, field = c("fulltext", "owns", "ownedBy"))
```

Arguments

`q`	(`character(1)`) The search query.
`field`	(`character(1)`) The field to search. One of `"fulltext"`, `"owns"`, or `"ownedBy"`. Default is `"fulltext"`.

Value

A `data.frame()` with columns:

- **value**: The matched value
- **lei**: The Legal Entity Identifier of the matched record, or `NA` if none is linked

When nothing matches, `NULL`.

Source

https://www.gleif.org/en/lei-data/gleif-api

See Also

lei_fuzzy() for typo-tolerant matching, lei_record_by_id() for full records.

Examples

```
lei_autocomplete("Appl")
```

`lei_children` *Fetch LEI child records*

Description

Fetches the direct or ultimate child records of a given LEI.

Usage

```
lei_children(id, type = c("direct", "ultimate"), limit = 200L, simplify = TRUE)
```

Arguments

`id`	(`character(1)`) The Legal Entity Identifier (LEI) to fetch the children for.
`type`	(`character(1)`) The type of children to fetch. One of `"direct"` or `"ultimate"`. Default is `"direct"`.
`limit`	(`NULL` | `integer(1)`) Maximum number of records to return. Default `200L`. Use `NULL` to fetch all.
`simplify`	(`logical(1)`) Should the output be simplified? Default `TRUE`.

Value

When `simplify = TRUE`, a long-format `data.frame()` with columns:

- **lei**: The Legal Entity Identifier
- **name**: The attribute name
- **value**: The attribute value

When `simplify = FALSE`, a `list()` of the raw record objects from the API.

When `simplify = TRUE` and no records match, `NULL`.

See Also

lei_parent() to fetch the parent record of a LEI.

Examples

```
# get direct children
head(lei_children("O2RNE8IBXP4R0TD8PU41", limit = 5))

# get ultimate children
head(lei_children("O2RNE8IBXP4R0TD8PU41", type = "ultimate", limit = 5))
```

---

lei_child_relationships

Fetch the child relationship records of a LEI

Description

Fetches the relationship records that link a LEI to its direct or ultimate children. Where lei_children() returns the children's own LEI records, this returns the relationships themselves: their type, status, the periods they cover, and how they were corroborated.

Usage

```
lei_child_relationships(id, type = c("direct", "ultimate"), limit = 200L)
```

Arguments

id	(character(1)) The Legal Entity Identifier (LEI) to fetch the child relationships for.
type	(character(1)) The type of child relationships to fetch. One of "direct" or "ultimate". Default is "direct".
limit	(NULL | integer(1)) Maximum number of records to return. Default 200L. Use NULL to fetch all.

Value

A data.frame() with one row per relationship and the same columns as lei_parent_relationship(), where **start_node** is the child and **end_node** is id.

When the LEI has no children, NULL.

See Also

lei_parent_relationship() for the relationship to the parent of a LEI, lei_children() for the children's LEI records.

Examples

```
lei_child_relationships("O2RNE8IBXP4R0TD8PU41", limit = 5)

lei_child_relationships("O2RNE8IBXP4R0TD8PU41", type = "ultimate", limit = 5)
```

`lei_countries` *Fetch the list of countries*

Description

Fetches the list of countries (ISO 3166-1) recognized by the GLEIF API.

Usage

```
lei_countries()
```

Value

A `data.frame()` with columns:

- **code**: The country code
- **name**: The country name

Examples

```
head(lei_countries())
```

`lei_fuzzy` *Fuzzy search for LEI records*

Description

Performs a typo-tolerant, approximate search against the GLEIF API. Unlike the filters in `lei_records()`, which match literal substrings, this matches on edit distance and returns candidate values together with their LEI. Useful for resolving messy or misspelled entity names to a LEI, which can then be passed to `lei_record_by_id()`.

Usage

```
lei_fuzzy(q, field = c("fulltext", "entity.legalName", "owns", "ownedBy"))
```

Arguments

q	(character(1)) The search query.
field	(character(1)) The field to search. One of "fulltext", "entity.legalName", "owns", or "ownedBy". Default is "fulltext".

Value

A data.frame() with columns:

- **value**: The matched value
- **lei**: The Legal Entity Identifier of the matched record, or NA if none is linked

When nothing matches, NULL.

Source

https://www.gleif.org/en/lei-data/gleif-api

See Also

lei_autocomplete() for prefix-based completion, lei_record_by_id() for full records.

Examples

```
lei_fuzzy("Deutsch Bank", field = "entity.legalName")
```

---

lei_isins *Fetch ISINs for a LEI*

Description

Fetches the ISINs associated with a given LEI.

Usage

```
lei_isins(id, limit = 200L)
```

Arguments

id	(character(1)) The Legal Entity Identifier (LEI) to fetch ISINs for.
limit	(NULL | integer(1)) Maximum number of records to return. Default 200L. Use NULL to fetch all.

Value

A `data.frame()` with columns:

- **lei**: The Legal Entity Identifier
- **isin**: The ISIN

When the LEI has no ISINs, `NULL`.

Examples

```
head(lei_isins("529900W18LQJJN6SJ336", limit = 10))
```

`lei_issuers` *Fetch LEI issuers*

Description

Fetches the list of LEI issuers (Local Operating Units) from the GLEIF API.

Usage

```
lei_issuers()
```

Value

A `data.frame()` with columns:

- **lei**: The Legal Entity Identifier of the issuer
- **name**: The issuer name
- **marketing_name**: The marketing name
- **website**: The issuer website
- **accreditation_date**: The accreditation date as `POSIXct` in UTC

Examples

```
head(lei_issuers())
```

lei_jurisdictions *Fetch the list of jurisdictions*

Description

Fetches the list of jurisdictions (countries and their subdivisions) recognized by the GLEIF API.

Usage

```
lei_jurisdictions()
```

Value

A `data.frame()` with columns:

- **code**: The jurisdiction code
- **name**: The jurisdiction name

Examples

```
head(lei_jurisdictions())
```

lei_legal_forms *Fetch the list of entity legal forms*

Description

Fetches the list of entity legal forms (ELF codes) recognized by the GLEIF API. These resolve the legal form codes that appear in `lei_record_by_id()` output to human-readable names.

Usage

```
lei_legal_forms()
```

Value

A `data.frame()` with columns:

- **code**: The entity legal form (ELF) code
- **country**: The country the legal form applies to
- **country_code**: The country code
- **status**: The status of the legal form, e.g. `"ACTV"`
- **name**: The local name of the legal form
- **language**: The language of the name

Examples

```
head(lei_legal_forms())
```

`lei_mapping` *Download the latest LEI mapping data*

Description

Download the latest Legal Entity Identifier (LEI) mapping data from the Global Legal Entity Identifier Foundation (GLEIF).

Usage

```
lei_mapping(type = c("isin", "bic", "mic", "oc"))
```

Arguments

`type`	(`character(1)`) The type of mapping data to download. One of `"isin"`, `"bic"`, `"mic"`, or `"oc"`. Default is `"isin"`.

Value

A `data.frame()` with the lei and the corresponding mapping.

Source

https://www.gleif.org/en/lei-data/lei-mapping

Examples

```
head(lei_mapping("isin"))
```

`lei_modifications` *Fetch the change history of a LEI record*

Description

Fetches the field-level modification history of a given LEI, i.e. an audit log of every recorded change to the entity (`recordType "LEI"`) and its relationships (`recordType "RR"`).

Usage

```
lei_modifications(id, limit = 200L)
```

Arguments

`id`	(`character(1)`) The Legal Entity Identifier (LEI) to fetch the change history for.
`limit`	(`NULL	integer(1)`) Maximum number of records to return. Default `200L`. Use `NULL` to fetch all.

Value

A `data.frame()` with columns:

- **lei**: The Legal Entity Identifier
- **record_type**: The record the change applies to, `"LEI"` or `"RR"`
- **modification_type**: The type of change, e.g. `"UPDATE"`
- **field**: The path of the changed field
- **date**: The date of the change as `POSIXct` in UTC
- **value_old**: The previous value, or `NA` if none
- **value_new**: The new value, or `NA` if none

When the LEI has no modifications, `NULL`.

Source

https://www.gleif.org/en/lei-data/gleif-api

Examples

```
head(lei_modifications("529900W18LQJJN6SJ336", limit = 10))
```

`lei_official_roles` *Fetch the list of official organizational roles*

Description

Fetches the list of official organizational roles (OOR codes) recognized by the GLEIF API. These are the roles, such as director or general partner, that a person can hold in a legal entity under a given legal form, as used in verifiable LEI (vLEI) role credentials.

Usage

```
lei_official_roles()
```

Value

A `data.frame()` with one row per role and name, and columns:

- **code**: The official organizational role (OOR) code
- **country**: The country the role applies to
- **country_code**: The country code
- **jurisdiction**: The jurisdiction the role applies to, or `NA` if none
- **subdivision_code**: The country subdivision code, or `NA` if none
- **elf_code**: The entity legal form (ELF) code the role belongs to, see `lei_legal_forms()`
- **status**: The status of the role, e.g. `"ACTV"`
- **date_created**: The date the role was created as `Date`
- **name**: The local name of the role
- **language**: The language of the name
- **transliterated_name**: The name transliterated into Latin script

See Also

`lei_legal_forms()` for the legal forms the roles belong to.

Examples

```
head(lei_official_roles())
```

`lei_parent` *Fetch a LEI parent record*

Description

Fetches the direct or ultimate parent record of a given LEI.

Usage

```
lei_parent(id, type = c("direct", "ultimate"), simplify = TRUE)
```

Arguments

`id`	(`character(1)`) The Legal Entity Identifier (LEI) to fetch the parent for.
`type`	(`character(1)`) The type of parent to fetch. One of `"direct"` or `"ultimate"`. Default is `"direct"`.
`simplify`	(`logical(1)`) Should the output be simplified? Default `TRUE`.

Value

When `simplify = TRUE`, a long-format `data.frame()` with columns:

- **lei**: The Legal Entity Identifier
- **name**: The attribute name
- **value**: The attribute value

When `simplify = FALSE`, a named `list()` containing the raw API response.

See Also

`lei_children()` to fetch the child records of a LEI.

Examples

```
# get direct parent
head(lei_parent("529900W18LQJJN6SJ336"))

# get ultimate parent
head(lei_parent("529900W18LQJJN6SJ336", type = "ultimate"))
```

`lei_parent_relationship` *Fetch the parent relationship record of a LEI*

Description

Fetches the relationship record that links a LEI to its direct or ultimate parent. Where `lei_parent()` returns the parent's own LEI record, this returns the relationship itself: its type, status, the periods it covers, and how it was corroborated.

Usage

```
lei_parent_relationship(id, type = c("direct", "ultimate"))
```

Arguments

`id`	(`character(1)`) The Legal Entity Identifier (LEI) to fetch the parent relationship for.
`type`	(`character(1)`) The type of parent relationship to fetch. One of `"direct"` or `"ultimate"`. Default is `"direct"`.

Value

A `data.frame()` with one row and columns (all dates are `POSIXct` in UTC):

- **start_node**: The LEI of the child entity
- **end_node**: The LEI of the parent entity
- **relationship_type**: The relationship type, e.g. `"IS_DIRECTLY_CONSOLIDATED_BY"`
- **relationship_status**: The relationship status, e.g. `"ACTIVE"`
- **relationship_period_start**, **relationship_period_end**: When the relationship holds
- **accounting_period_start**, **accounting_period_end**: The accounting period it was reported for
- **document_filing_period_start**, **document_filing_period_end**: The filing period of the supporting document, or `NA` if none
- **initial_registration_date**: When the relationship was first registered
- **last_update_date**: When the relationship was last updated
- **registration_status**: The registration status, e.g. `"PUBLISHED"` or `"LAPSED"`
- **next_renewal_date**: When the relationship is due for renewal
- **managing_lou**: The LEI of the managing Local Operating Unit
- **corroboration_level**: How the relationship was validated, e.g. `"FULLY_CORROBORATED"`
- **corroboration_documents**: The type of supporting document, or `NA` if none
- **corroboration_reference**: A reference to the supporting document, or `NA` if none
- **valid_from**, **valid_to**: When the record is valid in the GLEIF database

Errors when no parent relationship is reported for the LEI.

See Also

lei_child_relationships() for the relationships to the children of a LEI, lei_parent() for the parent's LEI record.

Examples

```
lei_parent_relationship("529900W18LQJJN6SJ336")

lei_parent_relationship("529900W18LQJJN6SJ336", type = "ultimate")
```

---

lei_records *Fetch LEI records*

Description

Fetch LEI records from the GLEIF database, optionally filtered by attribute. The filters are combined with logical AND, so each one you supply narrows the results further. To fetch a single record by its LEI, see lei_record_by_id().

Usage

```
lei_records(
  legal_name = NULL,
  fulltext = NULL,
  country = NULL,
  jurisdiction = NULL,
  registration_status = NULL,
  entity_status = NULL,
  category = NULL,
  isin = NULL,
  ...,
  sort = NULL,
  limit = 200L,
  simplify = TRUE
)
```

Arguments

legal_name	(NULL | character(1)) Filter by legal name.
fulltext	(NULL | character(1)) Full-text search query.
country	(NULL | character(1)) Filter by legal address country (ISO 3166-1 alpha-2 code), e.g. "DE".
jurisdiction	(NULL | character(1)) Filter by jurisdiction (ISO 3166-1 alpha-2 code), e.g. "DE".

registration_status
: (NULL | character(1))
Filter by LEI registration status, e.g. "ISSUED" or "LAPSED".

entity_status
: (NULL | character(1))
Filter by entity status, one of "ACTIVE" or "INACTIVE".

category
: (NULL | character(1))
Filter by entity category, e.g. "FUND", "BRANCH", or "GENERAL".

isin
: (NULL | character(1))
Filter by ISIN.

...
: Additional filter parameters passed to the GLEIF API. These are appended as query parameters, e.g. "filter[entity.subCategory]" = "CENTRAL_GOVERNMENT".

sort
: (NULL | character(1))
Field to sort the results by, e.g. "entity.legalName". Prefix with "-" for descending order, e.g. "-registration.lastUpdateDate". Default NULL uses the API's default order.

limit
: (NULL | integer(1))
Maximum number of records to return. Default 200L. Use NULL to fetch all matching records.

simplify
: (logical(1))
Should the output be simplified? Default TRUE.

Value

When simplify = TRUE, a long-format data.frame() with columns:

- **lei**: The Legal Entity Identifier
- **name**: The attribute name
- **value**: The attribute value

When simplify = FALSE, a list() of the raw record objects from the API.

When simplify = TRUE and no records match, NULL.

See Also

lei_record_by_id() to fetch a single record by its LEI.

Examples

```
# search by legal name
head(lei_records(legal_name = "Deutsche Bank", limit = 5))

# filter by country and registration status
head(lei_records(country = "DE", registration_status = "ISSUED", limit = 5))

# most recently updated records first
head(lei_records(country = "DE", sort = "-registration.lastUpdateDate", limit = 5))
```

`lei_record_by_id` *Fetch a LEI record*

Description

Fetch a single LEI record by its Legal Entity Identifier. To fetch records by attribute filters, see `lei_records()`.

Usage

```
lei_record_by_id(id, simplify = TRUE)
```

Arguments

`id`	(`character(1)`) The Legal Entity Identifier (LEI) to fetch.
`simplify`	(`logical(1)`) Should the output be simplified? Default `TRUE`.

Value

When `simplify = TRUE`, a long-format `data.frame()` with columns:

- **lei**: The Legal Entity Identifier
- **name**: The attribute name
- **value**: The attribute value

When `simplify = FALSE`, a named `list()` containing the raw API response.

See Also

`lei_records()` to fetch records by attribute filters.

Examples

```
# get simplified long-format data.frame
head(lei_record_by_id("529900W18LQJJN6SJ336"))

# get raw API response as named list
str(lei_record_by_id("529900W18LQJJN6SJ336", simplify = FALSE), max.level = 2)
```

lei_regions *Fetch LEI regions*

Description

Fetches the list of regions from the GLEIF API.

Usage

```
lei_regions()
```

Value

A `data.frame()` with columns:

- **code**: The region code
- **language**: The language of the region name
- **name**: The region name

Examples

```
head(lei_regions())
```

lei_registration_agents *Fetch LEI registration agents*

Description

Fetches the list of registration agents from the GLEIF API. Registration agents help legal entities obtain a LEI but do not issue LEIs themselves; they work with an accredited issuer (see `lei_issuers()`).

Usage

```
lei_registration_agents()
```

Value

A `data.frame()` with one row per agent and website, and columns:

- **name**: The registration agent name
- **lei**: The Legal Entity Identifier of the agent, or `NA` if none
- **lei_issuer**: The LEI of the issuer the agent works with
- **website**: The agent website, or `NA` if none

See Also

lei_issuers() for the accredited issuers.

Examples

```
head(lei_registration_agents())
```

---

lei_registration_authorities

Fetch the list of registration authorities

Description

Fetches the list of registration authorities (RA codes) recognized by the GLEIF API. These resolve the registration authority codes that appear in lei_record_by_id() output to the issuing business registries.

Usage

```
lei_registration_authorities()
```

Value

A data.frame() with columns:

- **code**: The registration authority (RA) code
- **international_name**: The international name of the registry, or NA if none
- **local_name**: The local name of the registry, or NA if none
- **international_organization_name**: The international organization name, or NA if none
- **local_organization_name**: The local organization name, or NA if none
- **website**: The authority website, or NA if none

Examples

```
head(lei_registration_authorities())
```

`lei_vlei_issuers` *Fetch vLEI issuers*

Description

Fetches the list of qualified vLEI issuers from the GLEIF API. These organizations are qualified by GLEIF to issue verifiable LEI (vLEI) credentials, the digital counterpart of a LEI.

Usage

```
lei_vlei_issuers()
```

Value

A `data.frame()` with columns:

- **lei**: The Legal Entity Identifier of the issuer
- **name**: The issuer name
- **marketing_name**: The marketing name, or `NA` if none
- **website**: The issuer website, or `NA` if none
- **qualification_date**: The qualification date as `POSIXct` in UTC

See Also

`lei_issuers()` for the accredited LEI issuers, `lei_official_roles()` for the roles used in vLEI role credentials.

Examples

```
head(lei_vlei_issuers())
```

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