

# LSR API Search Service

## Documentation for Export Clients

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<b>Project</b>	Lehrstellenregister (LSR)
<b>Responsible</b>	Schweizerische Dienstleistungszentrum Berufsbildung SDBB
<b>Version</b>	2.0
<b>Status</b>	Final
<b>Target audience</b>	IT Partners / Export Clients
<b>Language</b>	English

## 1. Introduction

This document is intended for IT partners (export clients) who wish to retrieve apprenticeship data from the Lehrstellenregister (LSR) via the LSR API Search Service. It covers all steps required for technical integration.

### 1.1 Background

LSR is a management system for apprenticeship place registrations. This API enables on-demand retrieval of LSR data for integration into third-party systems.

The API provides read-only access only — no data can be modified through it.

### 1.2 Terminology

The API uses the following English terms for the German and French concepts:

German	French	English (API)
Lehrtort	Lieu de formation	Apprenticeship location
Betriebliche Bildung (Lehrtort + Beruf)	Formation en entreprise	Apprenticeship
Lehrstellenausschreibung	Place d'apprentissage	Apprenticeship place
Bewerbungskontakt	Contact de postulation	Application contact
Unternehmen	Enterprise	Enterprise
Lehrbeginn / Schuljahr	Année de début	School year

### 1.3 Environments

The LSR API is available in three environments:

Environment	Purpose	Recommendation
PROD (Production)	Live operation with real data	Direct implementation recommended
QUAL (Quality)	Functional testing with real data	Available on request
TEST	Technical integration / sandbox	Available on request

**Note:** Since the LSR API provides read-only data access, clients can generally implement directly against the production environment (PROD). Test and quality environments are available on request if needed.

## 2. Available Data

### 2.1 Apprenticeship Places (ExportApprenticeshipPlaces)

Returns all apprenticeship place listings with at least one open position. The LSR system manages data for two school years simultaneously to facilitate year-to-year transitions. Each canton independently determines which school years are published.

Data provided:

- Apprenticeship location
- Application contact

- Profession
- Apprenticeship (language-specific; not school-year-specific)
- Apprenticeship place (school-year-specific)

Result is filtered to listings with at least one open place. Sorted by: location code, SBFI number, variant (ascending).

## 2.2 Apprenticeships / Eligible Professions (ExportApprenticeships)

Returns the list of eligible apprenticeship professions (LEFIs) — i.e. the professions a company is authorised to train for, regardless of whether open positions are currently listed.

Data provided:

- Apprenticeship location
- Application contact
- Profession
- Apprenticeship (language-specific)

Sorted by: location code, SBFI number, variant (ascending).

## 2.3 Profession Search (Swissdoc / SBFI)

Data can be filtered using two profession classification systems:

- **SBFI number:** filter by exact number
- **Swissdoc number:** partial/prefix search supported — all professions whose Swissdoc number begins with the supplied string will be returned

## 2.4 Data Access and Responsibility

A valid, authorised user account is required to access the API. Access control is organisation-based: each API client is responsible for retrieving only the data it is entitled to under its contract with SDBB (e.g. restricted by certain professions or cantons).

**Note:** The volume of API requests is monitored by SDBB. No hard rate limits are currently enforced.

# 3. Authentication

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## 3.1 Overview: Identity Server (IDService)

Authentication is handled by the SDBB IDService using the OpenID Connect (OIDC) protocol with JSON Web Tokens (JWT). Every API request must include a valid Bearer Token in the Authorization header.

Access tokens are valid for 25 minutes. After expiry, a new access token must be obtained using the refresh token (no re-authentication required).

## 3.2 User Account Setup

User accounts are created by the LSR administrator. A separate account is created per client and per environment to prevent cross-environment errors.

To set up an account, provide an email address to SDBB. The LSR administrator will create the account and send a password-setup link to that address. Send account requests to:

`datenmanagement@sdbb.ch`

The `client_id` and `client_secret` are shared across all clients for this API and will be provided by SDBB.

## 3.3 Required Credentials

Parameter	Description
username	Username per naming convention (one per environment)
password	Set via email link during account creation
client_id	Provided by SDBB (shared across all clients)
client_secret	Provided by SDBB (shared across all clients)

### 3.4 Obtaining an Access Token

Send an HTTP POST request to the token endpoint of the appropriate environment.

#### Token Endpoints

Environment	URL
PROD	<a href="https://id.sdbb.ch/auth/realms/SDBB_Production/protocol/openid-connect/token">https://id.sdbb.ch/auth/realms/SDBB_Production/protocol/openid-connect/token</a>
QUAL	<a href="https://id-quality.sdbb.ch/auth/realms/SDBB_Quality/protocol/openid-connect/token">https://id-quality.sdbb.ch/auth/realms/SDBB_Quality/protocol/openid-connect/token</a>
TEST	<a href="https://id-test.sdbb.ch/auth/realms/SDBB_Test/protocol/openid-connect/token">https://id-test.sdbb.ch/auth/realms/SDBB_Test/protocol/openid-connect/token</a>

#### Request

```
POST <token-endpoint-url>
Content-Type: application/x-www-form-urlencoded

grant_type=password
&username=<username>
&password=<password>
&client_id=<client_id>
&client_secret=<client_secret>
```

#### Response (JSON)

```
{
  "access_token": "<JWT>",
  "expires_in": 1500,
  "refresh_expires_in": 1800,
  "refresh_token": "<refresh-token>",
  "token_type": "bearer",
  ...
}
```

#### Using the Token

Include the access\_token in the Authorization header of every API request:

```
GET https://lsr-search.sdbb.ch/api/v1.4/ExportApprenticeshipPlaces?...
Authorization: Bearer <access_token>
```

### 3.5 Refreshing the Token

When the access token expires (after 25 min), obtain a new one using the refresh token — no password required:

```
POST <token-endpoint-url>
Content-Type: application/x-www-form-urlencoded

grant_type=refresh_token
&refresh_token=<refresh_token>
&client_id=<client_id>
&client_secret=<client_secret>
```

## 4. API Reference

### 4.1 General Properties

- **Method:** HTTP GET only (read-only; no data modification possible)
- **Response format:** JSON, UTF-8 encoded
- **Versioning:** API version is included in the URL path. Always use the latest version — currently v1.4
- **Base URL (PROD):** <https://lsr-search.sdbb.ch/api/v1.4/>
- **Pagination:** Results are paginated. Use `pageIndex` and `pageSize` to retrieve all data in multiple requests

### 4.2 Endpoints

Endpoint	Description
GET <code>/api/{version}/ExportApprenticeshipPlaces</code>	Returns apprenticeship place listings with at least one open position
GET <code>/api/{version}/ExportApprenticeships</code>	Returns the list of eligible apprenticeship professions (LEFIs) per company

### 4.3 Query Parameters

Both endpoints support the same query parameters. `version` is the only required parameter (passed in the URL path):

Parameter	Description	Required	Type
<code>countyCodes</code>	Comma-separated canton codes, e.g. AG,BE	No	string
<code>sbfiNumbers</code>	Comma-separated SBFI profession codes	No	string
<code>swissDocNumbers</code>	Swissdoc number or prefix (comma-separated)	No	string

schoolYear	School year as integer, e.g. 2025	No	integer
pageIndex	Page index, 0-based	No	integer
pageSize	Number of records per page	No	integer
version	API version, e.g. 1.4. Always use the latest version.	Yes	string (path)

## 4.4 API Response

### HTTP Status Codes

Code	Meaning
200 OK	Request successful; data returned as JSON
400 Bad Request	Invalid or missing parameter
401 Unauthorized	Missing, invalid, or expired Bearer Token

### Response Structure

```

{
  "pageIndex": 0,
  "pageSize": 10,
  "pageCount": 5,
  "count": 50,
  "result": [
    {
      // Apprenticeship place / LEFI object
      // See Swagger documentation for full field descriptions
    }
  ]
}

```

The complete data model (all fields with types and descriptions) is available in the Swagger documentation.

## 5. Interactive API Documentation (Swagger)

The full API documentation is provided via Swagger UI. It includes:

- Description of all endpoints and parameters
- Complete data model (field names, types, descriptions)
- Interactive request execution via "Try it out" — no additional tooling required

### 5.1 Access URLs



Environment	URL
PROD	<a href="https://lsr-search.sdbbervices.ch/swag-doc">https://lsr-search.sdbbervices.ch/swag-doc</a>
QUAL	<a href="https://lsr-search-quality.sdbbervices.ch">https://lsr-search-quality.sdbbervices.ch</a>
TEST	<a href="https://lsr-search-test.sdbbervices.ch/index.html">https://lsr-search-test.sdbbervices.ch/index.html</a>

## 5.2 Authorising in Swagger

Click "Authorize" and enter your credentials (username, password, client\_id, client\_secret). Once authorised, all endpoints are accessible and can be tested directly in the browser.

**Note:** Do not download the swagger.json file directly from the Swagger UI — it may be incomplete. Use the version provided by SDBB via email.

REST clients such as Postman, Insomnia, or curl can also be used for testing API requests independently of the Swagger UI.

## 6. Example Requests

### 6.1 Querying Apprenticeship Places

All open apprenticeship places in cantons Aargau and Bern for school year 2025, page 1 with 20 records:

```
GET https://lsr-search.sdbbervices.ch/api/v1.4/ExportApprenticeshipPlaces
?countyCodes=AG, BE
&schoolYear=2025
&pageIndex=0
&pageSize=20
Authorization: Bearer <access_token>
```

### 6.2 Filtering by SBFI Number

All companies offering apprenticeships in professions whose SBFI number starts with 15005:

```
GET https://lsr-search.sdbbervices.ch/api/v1.4/ExportApprenticeships
?sbfiNumbers=15005
&pageIndex=0
&pageSize=50
Authorization: Bearer <access_token>
```

### 6.3 Pagination

For large result sets, retrieve all pages sequentially. The pageCount field in the response indicates the total number of pages:

```
// First page
```

```
GET https://lsr-
search.sdbb.ch/api/v1.4/ExportApprenticeshipPlaces?pageIndex=0&pageSize=100

// Second page

GET https://lsr-
search.sdbb.ch/api/v1.4/ExportApprenticeshipPlaces?pageIndex=1&pageSize=100

// Continue until pageIndex == pageCount - 1
```

## 7. Implementation Process

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The following steps outline the recommended path to a successful production integration:

1. Read this documentation thoroughly
2. Send your email address to SDBB to request user account creation (datenmanagement@sdbb.ch)
3. Receive credentials from SDBB (client\_id, client\_secret, password setup link)
4. Implement and test token retrieval (access token + refresh flow)
5. Implement API endpoint calls per the Swagger documentation
6. Implement pagination (retrieve all pages for complete datasets)
7. Integrate into your own system
8. Deploy against the production environment (PROD) — test/quality environments available on request

**Recommendation:** Because the LSR API is strictly read-only, direct deployment to the production environment is generally safe and recommended. Separate test and quality environments are available on request if your integration process requires them.

## 8. Change History

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Version	Date	Author	Changes
0.1	28.10.2019	ALB	Initial version
0.2	25.11.2019	PG	Additional information
0.3	28.11.2019	ALB/PG	Final version (EN)
2.0	2026	SDBB	Revised: simplified and consolidated