swiss-rx-login.ch
The key to pharmaceutical information

Technical information: Integrating swiss-rx-login into your website

Using swiss-rx-login, medical personnel in Switzerland are able to access the secure areas of websites of participating Swiss health companies and organisations by using their personal single sign-on offered free of charge by the Refdata foundation.

The technical integration into your website is simple and does not require a great deal of work in terms of software development, as we support the standard OAuth2 authentication as definied in IETF RFC 6749.

Authentication is carried out by doing a Client Redirect from the company website to https://swiss-rx-login.ch and passing identity parameters such as clientId and PostBackURL via POST or GET. Refdata then presents the end user with a registration dialogue (or verifies an already existing registration). Once authentication has been successful, the client is redirected from swiss-rx-login back to your company website "PostBackURL" (which must be registered on swiss-rx-login), passing a set of parameters such as access type and control hash.

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What is the easiest way to start using the service?

1. If your company has not yet registered service admins with us, go to www.refdata.ch and read the information under "Für Firmen > Anmeldung" on how to proceed.
2. Then define which persons are responsible for managing swiss-rx-login in your company (registering postback-URLs, managing users), fill out the request form (also available from refdata.ch) and send it to us. We will create these users on swiss-rx-login and give them "ServiceAdmin" permissions so that they can access the necessary functions: For reasons of security, all PostBackURLs must be registered with **swiss-rx-login.ch**. In addition, each client has its own individual id and secret (Client ID, Client Secret). The secret a code as a shared key.
3. Create your content website using cookie- or session-based authentication.
4. Put an html form with a login/authentication button on your (unprotected) startpage. Clicking this button shall then launch the authorization process, based on OAuth 2.0

Using OAuth 2.0

Swiss-Rx-Login implements OAuth 2.0 according to IETF RFC 6749. However, only the two main grant types are available:

- Authorization Code: used with server-side applications where you can keep your secret protected. For your typical company website.
- Implicit: used with standalone Mobile Apps or pure javascript Web Applications, where the Client Secret cannot be protected.

The exact documentation of the OAuth2.0 protocol is available in the RFC mentioned above or in various tutorials online. The most important parameters for Swiss-Rx-Login are:

- The authorization endpoint URL is https://swiss-rx-login.ch/oauth/authorize
- The token endpoint URL is https://swiss-rx-login.ch/oauth/token
- The allowed scope values are anonymous and personal (includes some details)

The OAuth2 flows and parameters

The simplified flow diagrams for the two grants look as follows. Both use a quite similar set of parameters. All HTTP request must use SSL!

Authorization Code grant

1. *myWebSite through user-agent web browser to swiss-rx-login*
   https://swiss-rx-login.ch/oauth/authorize?
   response_type=authorization_code&client_id=CLIENT_ID&
   redirect_uri=CALLBACK_URL&scope=anonymous&state=randomStateString

2. *User Logs in*

3. *Swiss-rx-login to myWebSite*
   https://myWebSite.com/callback?code=AUTHORIZATION_CODE

4. *myWebSite to swiss-rx-login*
   https://swiss-rx-login.ch /oauth/token?client_id=CLIENT_ID&
   client_secret=CLIENT_SECRET&grant_type=authorization_code&
   code=AUTHORIZATION_CODE&redirect_uri=CALLBACK_URL

5. *swiss-rx-login to myWebSite*
   https://myWebSite.com/callback?token=JWT-Token

Implicit grant

1. *myWebSite to swiss-rx-login*
   https://swiss-rx-login.ch/oauth/authorize?
   response_type=token&client_id=CLIENT_ID&
   redirect_uri=CALLBACK_URL&scope=anonymous

2. *User Logs in*

3. *Swiss-rx-login to myWebSite*
   https://myWebSite.com/callback?token=JWT-Token

An explanation of the detailed parameters is available on the next page

Step	Name	Description	Example	
1	response_type	"token" or "authorization_code"	token	Req
1 + 4	client_id	Your client id from swiss-rx-login (GLN)	7601001234567	Req
1 + 4	redirect_uri	URI where you want to receive the authorization code (1) or the token (4)	https://myWebsite.com/callback	Req
1	scope	The extent of identity info needed by your website to allow the login.	anonymous personal	Opt
1, 3	state	Random string, to be posted back and then verified, to eliminate XSRF	xyzABC123	Opt
3 + 4	code	Authorization code returned from swiss-rx-login after the user has logged in successfully	kjekgf9k4hgofy88fvn3==	Req
4	client_secret	Your client secret from swiss-rx-login	hkvjkjr8ösdfigh8srd7843hufh8=	Req
4	grant_type	Always the constant "authorization_code"	authorization_code	Req
5	token	JWT Token	eyJhbGci…	Req
1	lang	Language of the login dialog. (Fallback: according to browser settings) Allowed: DE/FR/EN	DE	Opt
1 + 4	showtext	Information string shown to the user after login	myWebSite	Opt
1	types	A string that contains all the AccTypes accepted for entry into your website	A	Opt

Req = required, Opt = optional

The resulting token

A typical JWT result token might look like this:

eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJyb2xlIjoic3dpc3NSeExvZ2luIiwibmFtZWlkIjoiSXJ1OUdFS3BEYWp4Zm5xdkNLZTZoQT09MDAwMDAwMDAiLCJodHRwczovL3N3aXNzLXJ4LWxvZ2luLmNoL29hdXRoL2NsYWltcy9BY2NJRCI6IklydTlHRUtwRGFqeGZucXZDS2U2aEE9PTAwMDAwMDAwIiwiaHR0cHM6Ly9zd2lzcy1yeC1sb2dpbi5jaC9vYXV0aC9jbGFpbXMvQWNjVHlwZSI6IkEiLCJodHRwczovL3N3aXNzLXJ4LWxvZ2luLmNoL29hdXRoL2NsYWltcy9BY2NHcnAiOiJQSEFSTSIsImdpdmVuX25hbWUiOiJUaG9tYXMiLCJmYW1pbHlfbmFtZSI6IlfDpGx0aSIsImVtYWlsIjoidGhvbWFzLndhZWx0aUBlLW1lZGlhdC5uZXQiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9zdHJlZXRhZGRyZXNzIjoiMzAyNyBCZXJuIiwibGFuZ3VhZ2UiOiJERSIsImdsbiI6Ijc2MDEwMDMxNzg5OTkiLCJ1bmlxdWVfbmFtZSI6IlRob21hcyBXw6RsdGkiLCJuYmYiOjE1MDY2MTQwMDAsImV4cCI6MTUwNjYxNzYwMCwiaWF0IjoxNTA2NjE0MDAwLCJpc3MiOiJodHRwczovL3N3aXNzLXJ4LWxvZ2luLmNoIiwiYXVkIjoiNzYwMTAwMTM2MjM4MyJ9.0fhyHzikmn5maEETm5HvWAzK8TgQZ9VyltfxbhOCLpo

If you base64-decode this, you will get a two JSON objects that contain a header and a payload element plus the signature block signed in HS256 by the server using the client secret (To manually decode it and verify the signature if needed, use an online service such as https://jwt.io/ or the Chrome extension https://jwtinspector.io/)

To verify the signature in your code, follow an online documentation such as https://auth0.com/docs/api-auth/tutorials/verify-access-token

Once decoded, the token containing the user information looks similar to:

Header:

```
{
 "typ": "JWT",
 "alg": "HS256"
}
```

Payload

```
{
 "role": "swissRxLogin",
 "nameid": "Iru9GEKpDajxfnqvCKe6hA==00000000",
 "https://swiss-rx-login.ch/oauth/claims/AccID": "Iru9GEKpDajxfnqvCKe6hA==00000000",
 "https://swiss-rx-login.ch/oauth/claims/AccType": "A",
 "https://swiss-rx-login.ch/oauth/claims/AccGrp": "PHARM",
 "given_name": "Thomas",
 "family_name": "Wälti",
 "email": "thomas.waelti@e-mediat.net",
 "http://schemas.xmlsoap.org/ws/2005/05/identity/claims/streetaddress": "3027 Bern",
 "language": "DE",
 "gln": "7601003178999",
 "unique_name": "Thomas Wälti",
 "nbf": 1506596539,
 "exp": 1506600139,
 "iat": 1506596539,
 "iss": "https://swiss-rx-login.ch",
 "aud": "7601001049369"
}
```

Parameters delivered to the PostBackURL of the company site (via POST) in the JWT Token

Param	Description, value area	Example	Type
Nameid	Unique anonymous user id	Iru9GEKpDajxfnqvCKe6h	1
Nbf	Not before time: Time before which the JWT must not be accepted for processing	1506596539	1
Iat	Issued at time: Time at which the JWT was issued	1506596539	1
Exp	Expiration time: Time at which the JWT has expired	1506600139	1
Iss	Issuer: Fix value https://swiss-rx-login.ch	https://swiss-rx-login.ch	1
AccType	Access type: A=Academic medical professional (or employee for his own company website) B = Employee (Mitarbeiter im Gesundheitswesen)	A	2
AccID	Access ID: An anonymous Identifier to identify a user on subsequent visits, to e.g. tie him to a user account on your website that he created there. Always the same for the same user (one-way hash value of the userGLN + YourCompanyGLN + salt)	39e4420ba0a27a561477ed68b6b6a73a	2
AccGrp	List of access groups (1…n, multi entries possible, separated by comma): MED=Doctor PHARM=Pharmacist DENT=Dentist VET = Veterinary surgeon EMP = Employee ADM = Employee (ServiceAdmin)	MED,PHARM	2
GLN	Optional: GS1-GLN of authorised person	7601003006070	3
Unique_Name	Name according to RefData entry, without title	Hans Meier	3
Given_name	Given name according to RefData entry	Hans	3
Family_name	Family name according to RefData entry	Meier	3
Streetaddress	Short address according to RefData entry	3006 Berne	3
aud	Unique User ID in swiss-rx-login. Is either the GLN (if available) or the e-mail originally used when signing up for swiss-rx-login.	7601003006070 OR drorig@ovana.ch	3
Language	User language (de/fr)	de	3
Email	Current E-Mail address of this user, as entered in swiss-rx-login user profile. If you use an e-mail address in your portal, please use this – this makes sure that the user keeps it current in ONE place for all pharma websites.	drnow@ovana.ch	3

Type 1:	Parameters always provided, must be evaluated.
Type 2:	Parameters always provided; use by company website optional. AccType and AccGrp for those cases in which a more sophisticated authorization hierarchy is necessary (e.g. differentiation between doctor and pharmacist).
Type 3:	Parameters that permit the person to be traced; only provided if the input parameter scope is set to personal and if the end user concerned has given his consent

You can pass your own parameters, too

You can post your own data to swiss-rx-login and receive it again in the PostBack: simply attach your own variables to the PostBackURL parameter that you are sending us and you will receive it again in the postback, allowing you to get them by parsing the querystring. Here are two examples for passing parameters:

a) Using POST in a form:

```
<input type="hidden" name="BackURL" value="https://mytestsite.com/ srxl-prod.php?MyOwnSessionID=whatever" />
```

b) Using GET in a URL (do not forget about URL/HTML encoding):

```
<a href="https://swiss-rx-login.ch/?GLN=760100YOURCOMPANY&Lang=fr&ShowText=YOURCOMPANY&BackURL=https%3A%2F%2Fmytestsite.com%2Fsrxl-prod.php%3FMyOwnSessionID%3Dwhatever">swiss-rx-login</a>
```

Readout example for your PostBackURL page, code snippet in PHP:

```
echo "MyOwnSessionID: ".$_GET["MyOwnSessionID "]."<br />";
```

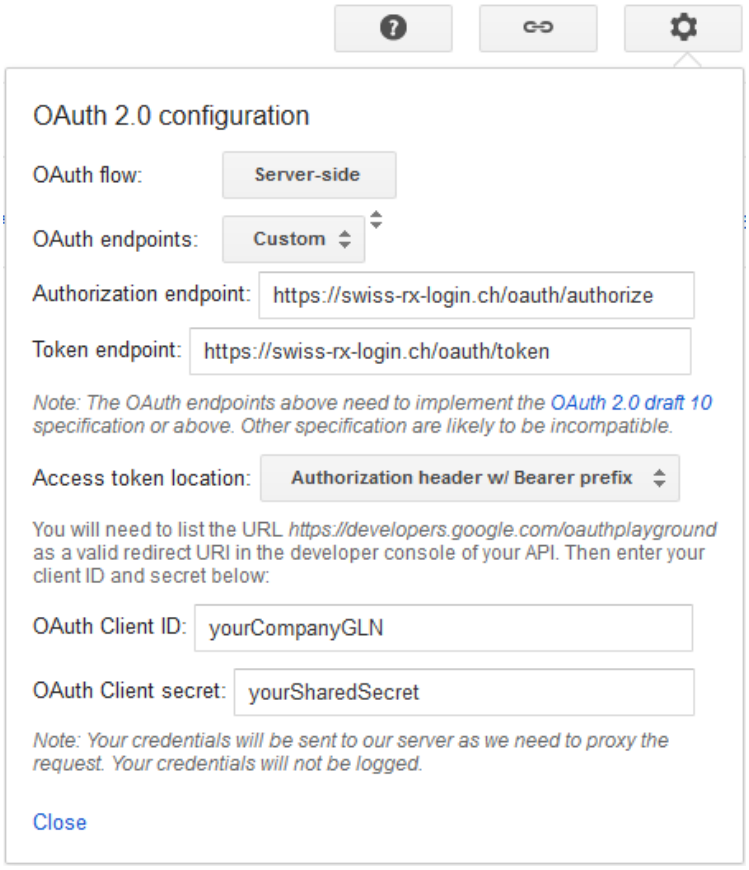
This additional feature has two advantages:

- To pass different query parameters (e.g. german and french sites), you do not have to register multiple sites on our ServiceAdmin site.
- You can better integrate the SRXL identification service into your own systems.

Integration tips

Testing it in the Google OAuth 2.0 Playground (Authorization Grant, Server-side OAuth flow)
Google offers a nice online playground to experiment with any OAuth2 implementation:

- Make sure that in swiss-rx-login, you did register the Google example URL (https://developers.google.com/oauthplayground), using your ServiceAdmin login.
- In addition, know your client ID (the company GLN, to use as client ID) and the client secret (Shared Secret), but visible from your company page in Swiss-Rx-Login.
- Configure the playground for authorization grant, using the dropdown at the top right:



- Once this is done, you can simply switch over to the left side of the playground, select “Step 1” and enter the desired scope:
  - Anonymous (if you only want to know if the user has a valid account)
  - Personal (if you want to get some details about the user)
- Now click on [Authorize APIs] to finish Step 1. The playground will request an authorization token from Swiss-Rx-Login by going to https://swiss-rx-login.ch/oauth/authorize?scope=personal&redirect_uri=https://developers.google.com/oauthplayground&response_type=code&client_id=YourCompanyGLN
- Once the login in SRXL is successful, the client will return to the Google Playground, providing the authorization code (e.g. 902e4f37-7030-4266-b49e-47a9c93fa9c6c00343cb-64f7-4eab-8a47-943678395bc3) attached to the postback URL, in a GET HTTP request inside the user-agent/browser (https://developers.google.com/oauthplayground/?code=b8401e67-c35e-483c-8260-a146a9eeda1babb74a1b-2e8d-4a36-b85a-b80a093b758f)

- Now you can simply click [Exchange authorization code for tokens] to do Step 2. The playground will take the authorization code obtained in Step 1 and exchange it with SRXL (outside the user-agent, server-to-server) for an Access token through HTTP POST, using the client ID and client secret, e.g. https://swiss-rx-login.ch/oauth/token?code=b8401e67-c35e-483c-8260-a146a9eeda1babb74a1b-2e8d-4a36-b85a-b80a093b758f&redirect_uri=https%3A%2F%2Fdevelopers. google.com %2Foauthplayground&client_id=yourClientID& client_secret=yourSharedSecret&scope=&grant_type=authorization_code)
- The response to the above request will be a JSON object, a wrapper around the token itself:

{
"access_token":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJyb2xlIjoic3dpc3NSeExvZ2luIiwibmFtZWlkIjoiSXJ1OUdFS3BEYWp4Zm5xdkNLZTZoQT09MDAwMDAwMDAiLCJodHRwczovL3N3aXNzLXJ4LWxvZ2luLmNoL29hdXRoL2NsYWltcy9BY2NJRCI6IklydTlHRUtwRGFqeGZucXZDS2U2aEE9PTAwMDAwMDAwIiwiaHR0cHM6Ly9zd2lzcy1yeC1sb2dpbi5jaC9vYXV0aC9jbGFpbXMvQWNjVHlwZSI6IkEiLCJodHRwczovL3N3aXNzLXJ4LWxvZ2luLmNoL29hdXRoL2NsYWltcy9BY2NHcnAiOiJQSEFSTSIsImdpdmVuX25hbWUiOiJUaG9tYXMiLCJmYW1pbHlfbmFtZSI6IlfDpGx0aSIsImVtYWlsIjoidGhvbWFzLndhZWx0aUBlLW1lZGlhdC5uZXQiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9zdHJlZXRhZGRyZXNzIjoiMzAyNyBCZXJuIiwibGFuZ3VhZ2UiOiJERSIsImdsbiI6Ijc2MDEwMDMxNzg5OTkiLCJ1bmlxdWVfbmFtZSI6IlRob21hcyBXw6RsdGkiLCJuYmYiOjE1MDY2MTQ4MzUsImV4cCI6MTUwNjYxODQzNSwiaWF0IjoxNTA2NjE0ODM1LCJpc3MiOiJodHRwczovL3N3aXNzLXJ4LWxvZ2luLmNoIiwiYXVkIjoiNzYwMTAwMTM2MjM4MyJ9.eIZGOWlEtFedbNilD8QN1qQYwcq1xly7sgkOYCFQqJQ",
"token_type": "Bearer",
"expires_in": 3600
}

Testing it in the Google OAuth 2.0 Playground (Implicit Grant, Client-side OAuth flow)

You can also test and learn about the other grant type using the playground. Simply change the config of the playground to use the Client-side OAuth flow in the settings. As no Shared Secret is needed, the input box will disappear.

As there is only one step, the access token will be returned immediately.

{
"access_token":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJyb2xlIjoic3dpc3NSeExvZ2luIiwibmFtZWlkIjoiSXJ1OUdFS3BEYWp4Zm5xdkNLZTZoQT09MDAwMDAwMDAiLCJodHRwczovL3N3aXNzLXJ4LWxvZ2luLmNoL29hdXRoL2NsYWltcy9BY2NJRCI6IklydTlHRUtwRGFqeGZucXZDS2U2aEE9PTAwMDAwMDAwIiwiaHR0cHM6Ly9zd2lzcy1yeC1sb2dpbi5jaC9vYXV0aC9jbGFpbXMvQWNjVHlwZSI6IkEiLCJodHRwczovL3N3aXNzLXJ4LWxvZ2luLmNoL29hdXRoL2NsYWltcy9BY2NHcnAiOiJQSEFSTSIsImdpdmVuX25hbWUiOiJUaG9tYXMiLCJmYW1pbHlfbmFtZSI6IlfDpGx0aSIsImVtYWlsIjoidGhvbWFzLndhZWx0aUBlLW1lZGlhdC5uZXQiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9zdHJlZXRhZGRyZXNzIjoiMzAyNyBCZXJuIiwibGFuZ3VhZ2UiOiJERSIsImdsbiI6Ijc2MDEwMDMxNzg5OTkiLCJ1bmlxdWVfbmFtZSI6IlRob21hcyBXw6RsdGkiLCJuYmYiOjE1MDY2MTUyMTUsImV4cCI6MTUwNjYxODgxNSwiaWF0IjoxNTA2NjE1MjE1LCJpc3MiOiJodHRwczovL3N3aXNzLXJ4LWxvZ2luLmNoIiwiYXVkIjoiNzYwMTAwMTM2MjM4MyJ9.j1IsxxZrEzxKxq43OKXM-8lDAiI1HF4u5KNWonw_rGc",
"token_type": "Bearer",
"expires_in": 3600
}

Make sure to use the correct GLN and that your PostBackURL is registered!

Use the GLN of your company, not a personal one! Go to the admin portal, login and make sure that your PostBackURL is registered – at the top of the page, the GLN of your company is clearly visible.

Implementation via own cookies on company website

The successful website authorization via **swiss-rx-login.ch** can be persistently stored in a cookie with the client and verified when visiting the site later; this reduces the load on the service and the nuisance for the end user. In such a case, we recommend limiting the validity of the cookie to a month; this ensures that the user authentication remains current.

Granting access to the relevant websites to internal employees

To enable access to swiss-rx-login secured websites to your own employees, we recommend that the origin IP of the user is checked first (e.g. via REMOTE_ADDR or REMOTE_HOST server variables): Authentication using swiss-rx-login is only needed for external users., and not for internal IPs. Employees belonging to authorised access groups such as doctors or pharmacists can of course register directly via their personal GLN. In addition, the account information of your Service-Administrators enables them to authenticate in swiss-rx-login (but only for their own servers). There is also the possibility to create "CompanyUsers" in our admin portal (just mail us at tech@swiss-rx-login.ch so that we can enable this feature for your company) – such users have the same access rights to your protected websites as a ServiceAdmin has. This is a good solution for product and marketing people who might need access wherever they are.

Testing the service

You can test your integration directly against our productive server. Just use your ServiceAdmin account credentials (GLN, password) on swiss-rx-login.ch (due to legal and security restrictions, this only works for websites of companies where this person is registered as ServiceAdmin).

After entry and a successful check by our server, the test user's browser is redirected by our server to the BackURL provided by you. You can now check the parameters that were sent and authorize the user's access to the secure websites.

Support and Help

If you need additional support, please contact us using the information in the footer of this document.