Connecting with the National Terminology Server

As a new user

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Creating your account on the National Terminology Server

You can create your account by following this link. Enter your name, email and a password and click 'Register'. To register you must accept the End-user license agreement. Read the agreement carefully and press accept if you accept the agreement. Whenever the license agreement changes you will be required to reaccept it in order to regain access to the server. With an account, you have direct access to all terminology resources on the server for which additional licensing is not required. You can use account management to find and edit your account information.

Gaining access to the National Terminology Server

To gain access to the licensed resources on the terminology server you will have to request additional rights. After creating your account, please use the Request a License form (Dutch) to make this request. In this form, enter the name of the license owner (voornaam = first name, achternaam = last name), the email used for the terminology server account, the license information (licentiegegevens – see below) and an expiration date (verloopdatum) of the license if applicable. In 'opmerkingen' you can post any additional comments you have.

In order to verify your licensing information, we require different details depending on which license you are requesting access for:
- For SNOMED and the Nederlandse Labcodeset we require you to enter the SNOMED affiliate number as license information. You can find this number on the MLDS-profile page. After logging in, you can find this profile page on https://mlds.ihtsdotools.org/#/dashboard.
- For LOINC we require the e-mail address associated with the LOINC-account as visible on https://loinc.org/profile/.

As mentioned, the expiration date must only be entered if applicable, as some licenses do not have an expiration date. It is not permissible to use a licensed resource after your license has expired. If you renew your license, please resend a license request using the Request a License form so we may adjust the licensing information.

Your licensing information will be reviewed by our team. You will receive a notification by e-mail when your licensing information has been approved and the rights to the terminology server have been updated. It may also be possible that you receive a follow-up email requesting additional information if approval cannot (yet) be granted.

Reaching the National Terminology Server

You use your username and password to log in to the terminology server. Please note that your username and e-mail are tied together, so a change to your email on your profile will also change the username that you log in with. There are multiple ways to approach the terminology server:
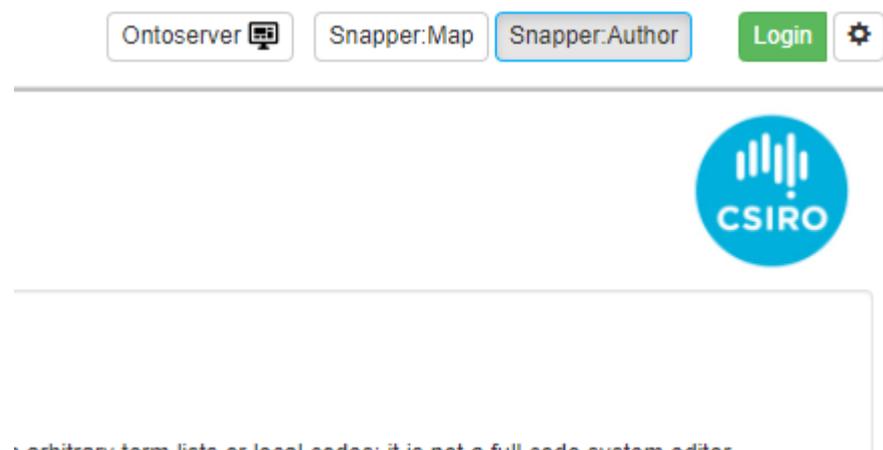1. Onto-UI
2. Snappper
3. Shrimp
4. FHIR API

Onto-UI

By following the link https://terminologieserver.nl/fhir you will automatically be redirected to Onto-UI, the dashboard of Ontoserver. Here you may log in by clicking 'login' at the top right corner of the screen. In this user interface you can also see for which resources you have been granted access and you can view the metadata or the 'capabillity statement' of the server. Due to the functionality of Onto-UI, you will see the syndication and delete buttons, regardless of your rights on the server. The execution of these commands can only be done if you have the correct rights to do so, however. On this dashboard, you can also click through to Snapper and Shrimp, which you can find on the bar to the left under 'Apps'.
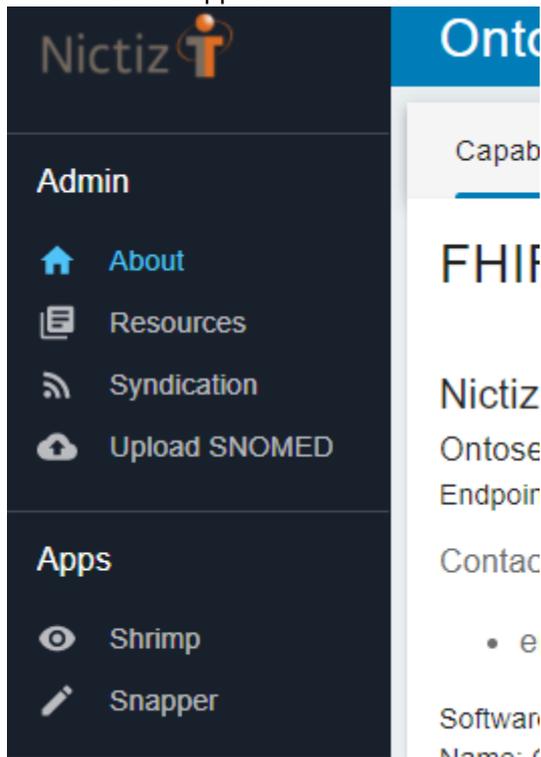

Snapper

Snapper is meant for adjusting and creating new terminology resources. You can approach the server with Snapper via the Onto-UI dashboard as mentioned earlier. You do this by going to https://terminologieserver.nl/fhir and clicking on 'Snapper', which you can find on the left-sidebar under 'Apps'. You can also use this direct link, where you can log in by pressing 'Login' at the top right corner of the window.

Shrimp

Shrimp is used for a visual display of the hierarchy of the terminology resources. You can approach Shrimp on the server through the Onto-UI dashboard, as mentioned earlier. You do this by going to https://terminologieserver.nl/fhir and clicking on 'Shrimp', which you can find on the left-sidebar under 'Apps'. You may also use this direct link, where you can log in by entering your information in the pop-up window. Should the pop-up window not appear, you can also login by pressing 'Login' at the top right.
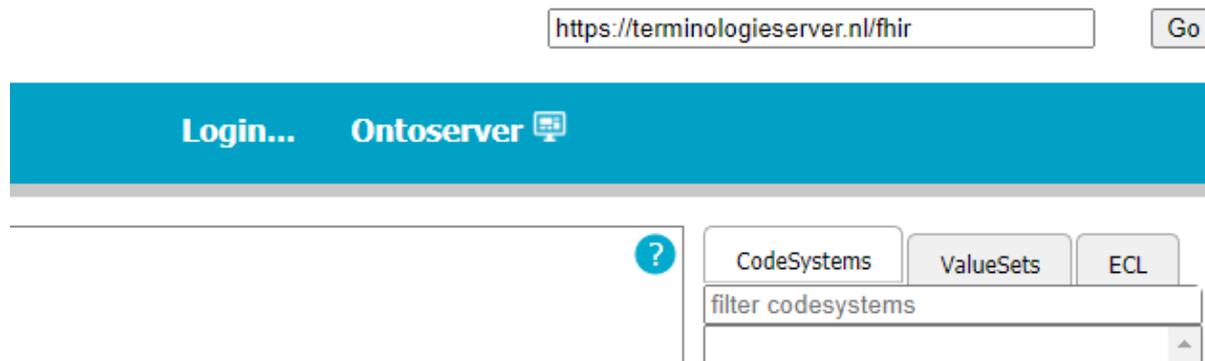
FHIR API

The biggest advantage can be gained when you approach the server using the FHIR API. For approaching the server, we use a bearer token as authorization method. You may find the location of the endpoint where you may retrieve a token at https://terminologieserver.nl/fhir/.well-known/smart-configuration. You can send a POST-request to this endpoint. This endpoint expects a request with the 'Content-Type'-header with the value 'application/x-www-form-urlencoded':

```
"Content-Type" : "application/x-www-form-urlencoded"
```

In the request body you then send the following data ('keys') body, where **{{username}}** and **{{password}}** are replaced by your username and password:

```
{
    "grant_type"    : "password",
    "client_id"     : "cli_client",
    "username"      : {{username}},
    "password"      : {{password}}
}
```

After successful authentication, you will receive an **access_token**, **a refresh_token**, and account information as a JSON-object. The **access_token** is only valid for a specific period of time. By using the **refresh_token** you can retrieve a new **access_token** over extended periods of time. For more detailed instruction, we refer you to the Keycloak documentation.

By adding this access_token to follow up-requests your personal information and licensing will be taken into account. An example of a JSON-object that can be sent in the header is the following, where {{access_token}} should be replaced by your access_token:

```
{
    "Authorization": "Bearer {{access_token}}",
    "Content-Type" : "application/x-www-form-
    urlencoded"
}
```

To verify if the authorization has been successful and the API is working you can search for a code system named '**NullFlavor**'. This code system can be reached without licensing and so can be approached directly after creating your account. A Postman-collection with example requests including authentication is available GitHub.

Github

On Github you can find the Nationale Terminologieserver as an Organization on https://github.com/terminologieserver/. Here you will find example requests, such as for Postman and authentication with Keycloak. You will also find a manual for working with external content on the server. For example, this manual includes the usage of the terminology server with SNOMED, Nederlandse Labcodeset, LOINC, and HL7 resources.

Further questions?

For questions regarding the above manual, requests for more information, problems with your account or server, or any other questions you can reach us at aanvraag_nts@nictiz.nl.