ITS

User manual – SNOMED CT Browser

Introduction

ITServer allows working with standard terminologies such as SNOMED CT, ICD-9-CM or LOINC and also with local terminologies.

First of all, once you enter in the browser you must select the terminology you want to access.

We'll see the browser running with SNOMED CT.

Language

ITServer permits working with the Spanish and the English language versions of SNOMED CT. It provides the option to choose in which language we want to work. By default the selected language version is the Spanish version of SNOMED CT.

In order to see the SNOMED CT release that it is being used now we have to put the pointer over the "i" icon. This icon is located next to language selection.
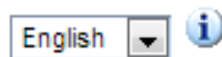
Picture 1_Language selection

SNOMED CT Browser displays two different areas: "Browser" (on the left side of the display) and "Details" (on the right side of the display). Next we'll see the "Browser" area.

Browser module- Search

A search for a concept can be performed by explicit finding of its descriptions or sctids or browsing the hierarchy it belongs.

You can perform the explicit finding of a concept from "Browser descriptions" or you can browse from "Hierarchy".

Explicit search

You can find the predictive search in "Descriptions". The search box lets us do a search in SNOMED CT. The search engine will provide us suggestions in order to refine the search. You can introduce words, phrases or numeric codes (sctids) in the search box allowing finding both by SNOMED CT description as by code.

You can use the option "Fuzzy lookup" just bellow of "Search". It allows finding similar words or sentences, and the words can appear at any position (at the beginning of the sentence, at the end, etc.). The maximum of suggestions shown are 100 results. As you can see, the suggestions are sorted by their similarity regarding the searched word in the current version of ITServer.

On the other hand, the system has a spelling checker that is used in case the searched word hasn't been found.

Picture 2_Search results in SNOMED CT

You can see the following fields in the box suggestions:

- **Sel:** You can select the SNOMED CT elements to be added to a new or existing subset interacting with the different checkboxes.

- **DT:** It shows at which SNOMED CT description type corresponds each term. The SNOMED CT descriptions can be: preferred term (P), synonym (S) or Fully Specified Name (DC). Also we can find "NE" to indicate "Not specified"

- **S:** It is the index of similarity between the searched word and the description found by ITServer.

- **SCTID:** it corresponds to the SNOMED CT description Identifier. **If you click on the SCTID, the information associated to that item is displayed on the Browser Details**.

- **Description**: it corresponds to the SNOMED CT description.

Picture 3_Fuzzy lookup in SNOMED CT

By default ITS server searches in every SNOMED CT hierarchies. But you can refine your search to a unique SNOMED CT hierarchy, selecting it from the box on the right of the Search button.

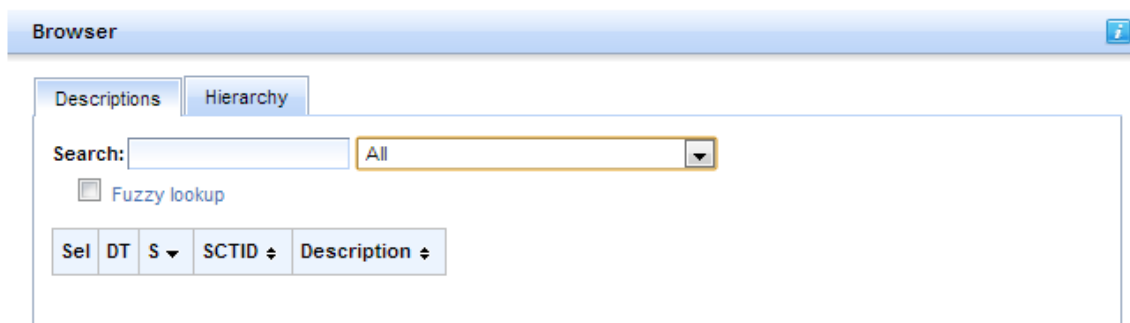
Picture 4_Selection of search hierarchy

![Browser window showing Descriptions and Hierarchy tabs with a Search field set to "All", a Fuzzy lookup checkbox, and column headers Sel, DT, S, SCTID, Description]

Picture 5_Browser Help icon

Search by hierarchy

We can navigate also the SNOMED CT hierarchy.

![Browser window with Hierarchy tab selected, showing SNOMED-CT tree with expandable nodes]

- SNOMED-CT
  - [48176007] Social context
  - [71388002] Procedure
  - [78621006] Physical force
  - [105590001] Substance
  - [106237007] Linkage concept
  - [123037004] Body structure
  - [123038009] Specimen
  - [243796009] Situation with explicit context
  - [254291000] Staging and scales
  - [260787004] Physical object
  - [272379006] Event
  - [308916002] Environment or geographical location
  - [362981000] Qualifier value
  - [363787002] Observable entity
  - [370115009] Special concept
  - [373873005] Pharmaceutical / biologic product
  - [404684003] Clinical finding
  - [410607006] Organism
  - [419891008] Record artifact

Picture 6_SNOMED CT hierarchies

If you click on a SCTID, the information associated to that item will be displayed on the Browser Details on the screen at the right side.

Browser module – Details

As we have explained in the previous section, if you click on a SCTID, the information associated to that item is displayed on the Browser Details. The displayed information about the selected item includes: "Concept", "Fully Specified Name", "Preferred Term" and "Synonyms".

You can access to the Wikipedia definition of the selected term from the "Definition" section (in case that there is a definition to this term in Wikipedia).

Details

Concept

[76581006] Cholecystitis (disorder)   ⚠ ⓘ

Fully Specified Name

☐ [817317017] Cholecystitis (disorder)   ⓘ

Preferred term

☐ [127173011] Cholecystitis   ⓘ

Sinonyms

Definition

Cholecystitis (greek, -cholecyst, "gallbladder", combined with the suffix -itis, "inflammation") is inflammation of the gallbladder, which occurs most commonly due to obstruction of the cystic duct with gallstones (cholelithiasis).

Source: Wikipedia

Picture 7_SNOMED CT concept details

- **Concept:** It shows the code and the description in the international version. There are 3 icons on the right:

  - *"i":* it displays additional information of the concept from here (equivalent codes in SNOMED RT and CTv3, Concept Status…)

Picture 8_Additional information on the concept

- o *Yellow triangle:* it allows you to send suggestions about the concept to the health department of Spain.

- **Fully Specified Name:** Displays the code and the term.
  You can find the icon "i" on the right. It displays additional information of the description (Description Status, Initial Capital Status...).
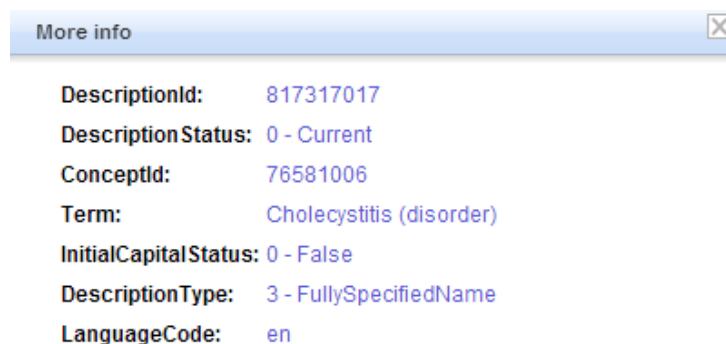
**Picture 9_Additional information on the description**

- **Preferred term:** Displays the code and the term.
  You can find the icon "i" on the right. It displays additional information of the description (Description Status, Initial Capital Status...).

- **Synonyms:** Every concept has 0 or some synonyms associated with the selected concept. For each synonym the application shows the code and the description.

There are 4 tabs on the bottom of the area "Details": Hierarchy, Relationships, Selection list and Postcoordination.

Let's see a short description about each of them.

Hierarchy:

The hierarchy shows the IS_A relationships. You can see its parents in the first level. Below you can see the selected concept in bold type and after you can see its children.
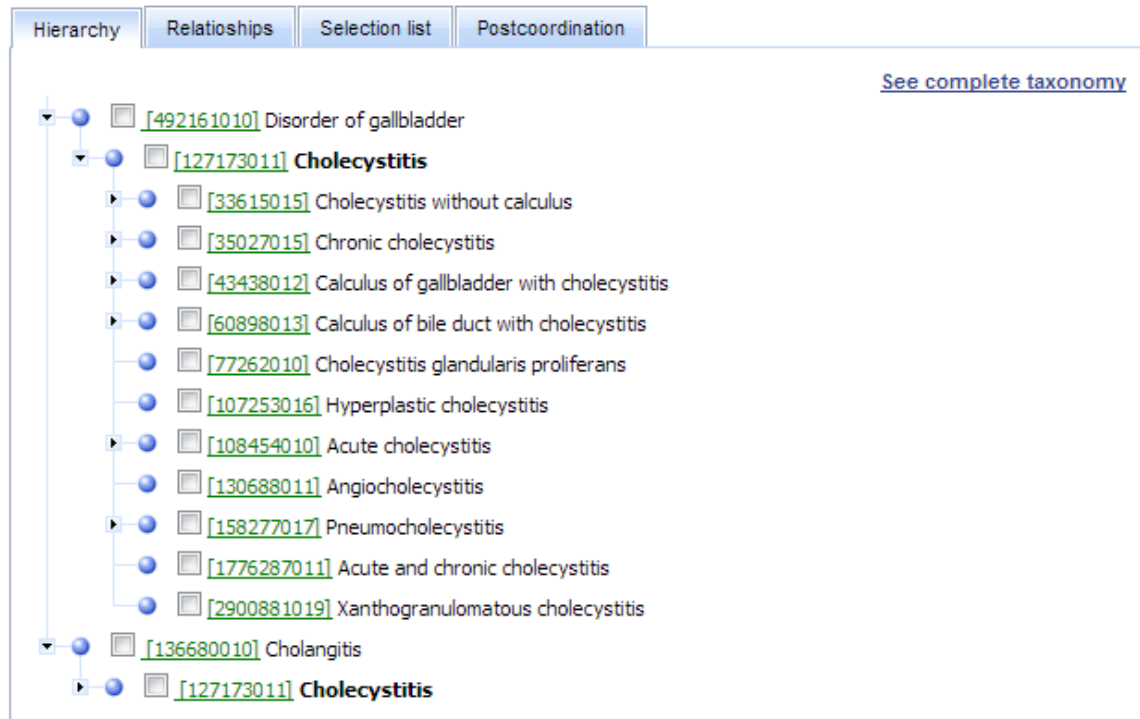
Picture 10_Concept relationships IS_A

You can select the SNOMED CT descriptions to be added to a new or existing subset checking its checkboxes. You can display the information in detail about a father or a child of a concept if you click on the appropriate SCTID.

Moreover, is it possible to see the position of the concept in the whole SNOMED CT hierarchy using the function "See complete taxonomy"

Relationships:

It shows the other relationships of a given concept of SNOMED CT, as identified with the "R" icon. The relationships can be definition (D icon) or qualifiers (C icon).

Picture 11_Definitional and qualifiers relationships in a concept

You can select the SNOMED CT descriptions to be added to a new or existing subset checking its checkboxes. Moreover, You can display the information in detail about a particular element if you click on the appropriate SCTID.

Selection:

If you go to the "Selection" tag you will see all the elements that you have selected using the different checkboxes. It shows a table with the SNOMED CT identifier, the description type and the description. There is a red cross icon in each row. If you click on this icon you can delete the appropriate element in your "shopping list".

Picture 12_Selected elements in the "shopping list"

Post-coordination:

It allows you to build one or more post-coordinate expressions. It shows you a table with the selected elements in your shopping list.

Picture 13_Selected elements to post-coordination

The first step is to select the term to poostcoordinate (click in cord icon). Once this action is performed the application will display a list of possible attributes.

Picture 14_Attributes in post-coordination

The values assigned to each attribute are recorded at their right. You can select these values from the icon magnifier on the right. You can assign one or more values for each attribute in order to generate one or more post-coordinates expressions. And you can save each expression associating with one alias or any tags.

Picture 15_Post-coordinate expression associated to an alias

You can also see the created expressions by clicking on the magnifier button in the upper and selecting the corresponding expression.

It's possible to search post-coordinate expressions through the tag, alias or author.

Picture 16_Post-coordinate expression search

You can use your list shopping elements and your post-coordinate expressions in other ITServer sections as "Subsets" or "Mapsets".

Shopping list

When you are in the SNOMED CT Browser you can see a green box in the upper. It is the list shopping in ITServer where you can see the elements that you have selected to add to an actual subset or a new subset. The Subset module is described in the Subset manual. You can see some pictures bellow to display the shopping list as you add some descriptions.
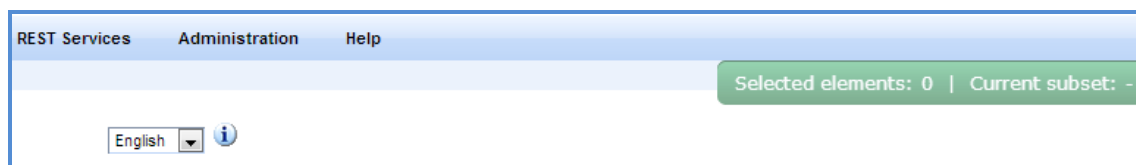
Picture 17_Empty list shopping
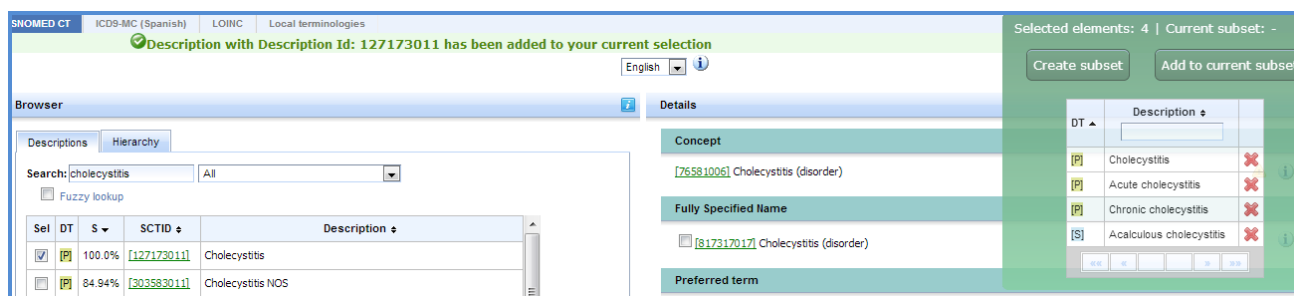
Picture 18_ List shopping with selected descriptions