

Developer Training Terminology Services

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Serving Terminology

SNOMED
International



SNOMED CT
The global
language of
healthcare

Storing, retrieving and managing SNOMED CT

SNOMED International has a number of open source servers to retrieve the terminology:

- SCT Snapshot REST API
<https://github.com/IHTSDO/sct-snapshot-rest-api>
- SNOMED Query Service
<https://github.com/IHTSDO/snomed-query-service>
- Snow Owl
<https://github.com/IHTSDO/snow-owl>
- Snowstorm
<https://github.com/IHTSDO/snowstorm>



Snowstorm

Snowstorm is a new server built by SNOMED International upon Elasticsearch with the following features:

- Easy to install and run
- Full ECL v1.3 compliant
- No database, leverages the scalability provided by Elasticsearch

Snowstorm:

- is a modern web application, built with Java Spring Boot;
- runs on any server platform and operating system;
- is open sourced under the Apache v2 license

However, Snowstorm:

- is not commercially supported by SNOMED International
- only supports SNOMED CT, and not other terminologies



Snowstorm Roadmap

- Current functionality status (v2.1.0):
 - **Read-Only** - tested and already used in the SNOMED International Browser for ECL queries. Snowstorm can be used in local implementations to query SNOMED CT with the following features:
 - Hosting multiple extensions alongside the International Edition of SNOMED CT
 - Multi-lingual search and content retrieval, including maps
 - Fully ECL v1.3 compliant
 - Full history (depending on initial RF2 import decision)
 - **Authoring** - although write and update features are available this aspect is currently not production ready, having not been fully tested, so should be considered proof of concept.
- In 2019, development targets include adding FHIR compatible APIs as well as completing the authoring functionality.
- Also currently available as a docker image - <https://hub.docker.com/r/snomedinternational/snowstorm/>

Working with SNOMED CT Releases, Extensions and Snowstorm

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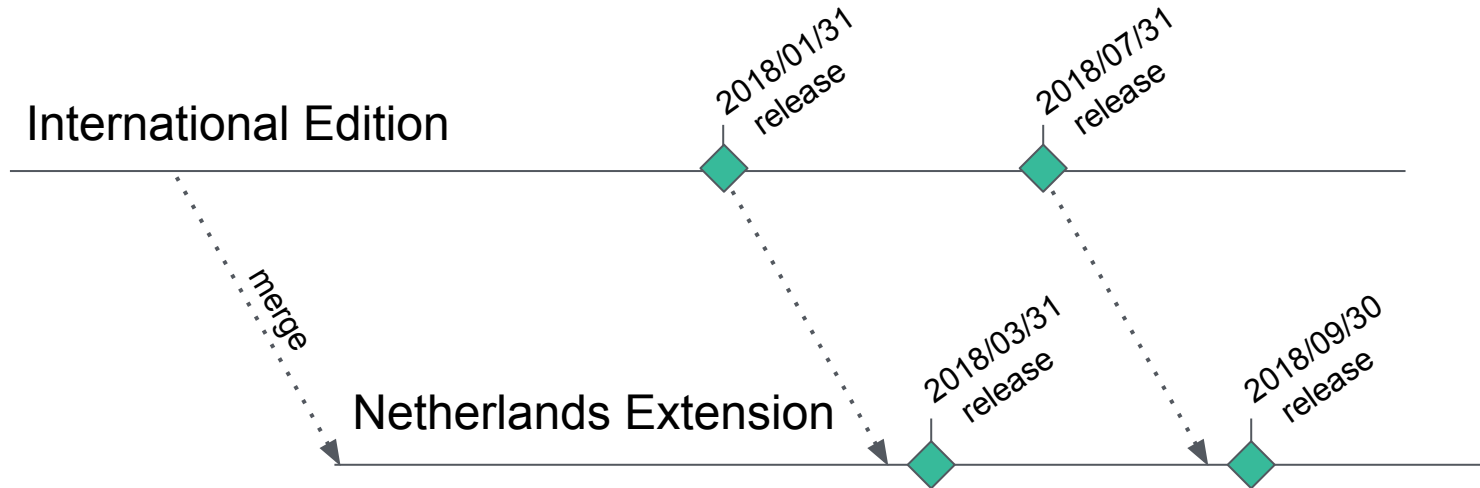
SNOMED CT Releases, Editions and Extensions

A Terminology Server which implements branching allows us to:

- Store and access the SNOMED CT Editions (International, US, NL, etc)
- Store and access one or many SNOMED CT Extensions (DK, SE, BE, etc)
- Import new releases as they become available
- Retain access to previous SNOMED releases

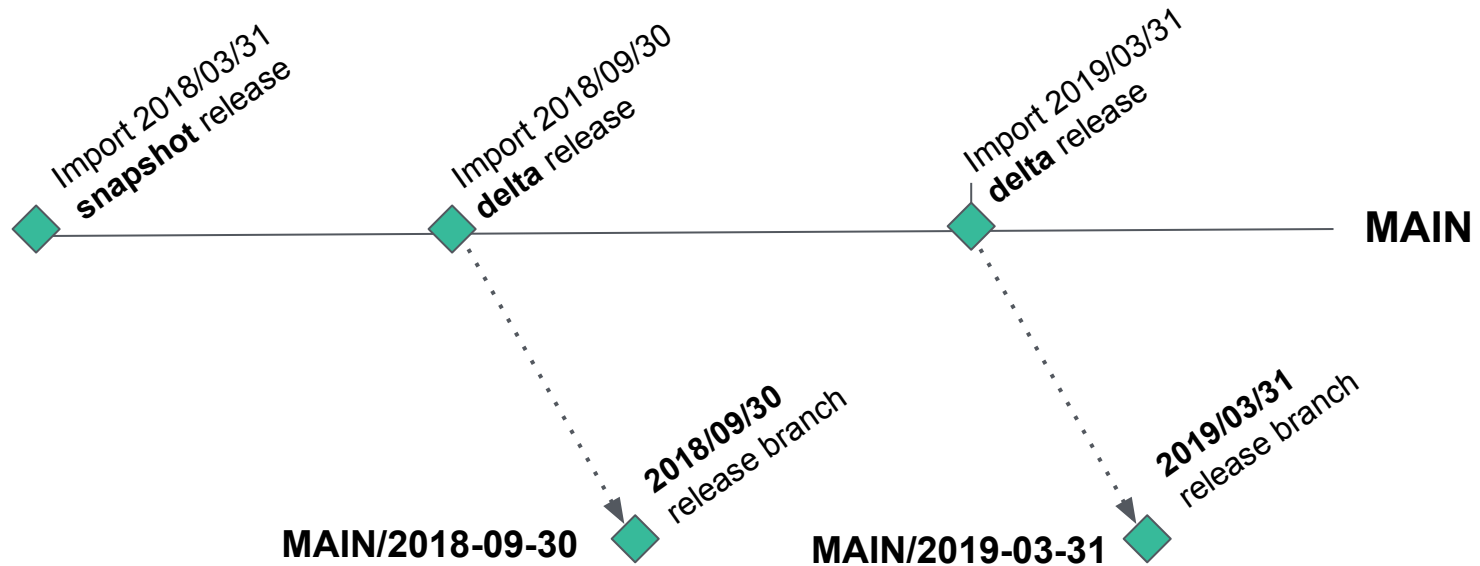
SNOMED CT Releases and Extensions

The content of SNOMED releases and extensions are managed like Git source code repository. For each release of the International Edition the content can be merged into an Extension where it can be customised to create an Extension release.



SNOMED CT Netherlands Edition

The Netherlands edition is a little different in that you do not need to load the International Edition as it is included in each release.



Snowstorm - Edition Initial Setup

When Snowstorm is started the **SNOMED** Code System its **MAIN** branch is created automatically ready for the terminology content to be imported.

To start the initial content setup use a **Snapshot** of the Netherlands Edition onto **MAIN** through the */import* REST endpoint:

```
{  
  "branchPath": "string",  
  "createCodeSystemVersion": true,  
  "type": "SNAPSHOT"  
}
```

The **Snapshot** folder within the release zip file contains the latest version all released content. We use this for initial setup for speed.

Alternatively, for full history use the **Full** type for the import. This will however take much longer.

Snowstorm - Edition *Upgrade*

When a new SNOMED release becomes available you can import that too. You will still have access to previously imported content.

Upgrading an extension is a three step process:

1. Import a ***Delta*** of the new Netherlands Edition release into **MAIN**

```
{  
  "branchPath": "string",  
  "createCodeSystemVersion": true,  
  "type": "DELTA"  
}
```

Delta entries within the release zip file contain just the new content for that release. We use these for upgrading content. The new content will lay on top of the previously imported snapshot.

Setup & Walkthrough Examples

<http://bit.ly/sct-dev-ex1>

Links to further information

SNOMED International Tools

- <http://snomed.org/tools>

Open Source Repositories

- <https://github.com/IHTSDO>

Getting in touch

- techsupport@snomed.org
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Questions?



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