

What is the Snow Owl Workbench?

Snow Owl is a state-of-the-art authoring platform for clinical terminologies. It supports the TermInfo extended SNOMED CT compositional grammar for semantic querying, and allows the creation of intensional and extensional value sets that follow the IHTSDO SNOMED CT RF2 specifications. In addition to authoring SNOMED CT or a national extension, Snow Owl is designed to support a variety of ontologies and classifications. Snow Owl's architecture can be extended to support higher-level terminology authoring tools, such as drug and device dictionaries.

Snow Owl can operate in two modes; in stand-alone mode supporting a single user or in collaborative mode with multiple users connected to a single server authoring the same terminology simultaneously in a distributed fashion.

Snow Owl is built upon the seasoned Eclipse platform that has wide industry adoption. Snow Owl is inherently modular; it provides extension points and services to be consumed by future extensions. In addition, other Eclipse-based architectures can also be integrated as a single tool. An example of this integration is Stanford's Protégé Ontology Editor, which allows us to use any Protégé-compatible description logic classifier. Snow Owl also seamlessly integrates with information model tooling, such as the HL7 Static Model Designer to support information model design, ontology authoring, and terminology binding.

Key features include:

- **Browsing:** Snow Owl quickly navigates imported terminologies by browsing and filtering the concept hierarchy.
- Searching: Our platform provides high performance full-text search capabilities including wildcards and fuzzy matching.
- Query authoring: Snow Owl includes an advanced editor for Extended SNOMED CT Compositional Grammar (ESCG) language expressions. The editor provides contextual support for query authoring by prompting you based on the ESCG language specification. Other features include: color highlighting, as-you-type validation; quick-fix suggestions for common errors, user-definable templates for common expression patterns, and more.
- Query evaluation: Snow Owl's query evaluation engine uses information from the semantic cache, the classifier, and indexes to provide unparalleled performance.
- •Value Sets: Value sets can be created either manually ("extensionally") or automatically ("intensionally") with the use of an ESCG query. Intensional queries are compatible with the SNOMED CT RF2 Query Specification Type Reference Set and can be optionally converted to manual reference sets if desired.
- Mapping: Mapping between two terminologies is possible using Snow Owl's mapping feature, which is compatible with the SNOMED CT Simple Map Type Reference Set format.
- •Reporting: Snow Owl includes an extensible reporting and charting engine, which uses Snow Owl's semantic cache to accelerate report execution. A variety of graphs and charts can be created and exported in several formats including HTML, PDF, and Microsoft Office formats.



- Validation: An extensible validation framework allows additional validation rules to be plugged in and configured. Individual validation rules can be configured to execute in batch or single validation mode. Validation results are shown in concept editors and navigators in addition to the validation results view
- Description Logic Classification: ELK, Snow Owl's default reasoner, performs description logic classification in parallel on modern multi-core computers. This allows the full international SNOMED CT plus the Australian extensions (830,926 relationships) to be classified and checked for equivalencies in about 10 seconds on a modern desktop computer.
- Task Management: Snow Owl integrates with existing issue tracking systems to display, search, assign, and schedule issues and tasks.
- Collaborative Authoring: Snow Owl is a distributed collaborative authoring platform. Multiple users can access and author the terminology using a process that is driven by our task workflow support. Assigned tasks can be activated and corresponding terminological changes are persisted for review. Upon final approval the changes are committed to the terminology repository.



- Extensibility: The Snow Owl framework can be extended by plugging in new terminologies, new editors, new navigation views, new classifiers, and more.
- **SNOMED CT Support:** Working with SNOMED CT is simplified by providing a customized concept editor, navigator, advanced search, and query interfaces.
- Anatomical Therapeutic Chemical (ATC) Classification System Support: Snow Owl supports mapping to ATC codes with a customized navigator and search interface.
- •Concrete datatypes: Snow Owl supports concrete datatypes, allowing (e.g.) numerical strength values to be assigned to pharmaceutical products.

Unlocking the meaning from healthcare data

