Skill Export UNS as RDF

AI skill: serialize the current UNS to an RDF/OWL graph file via the **Export UNS** format selector (Solution Export tab) or the `export_graph_model` MCP tool.

Version 10.1.5+

When to invoke

- “Export my UNS as RDF/JSON so I send it to the ontology group”
- “Save the solution as JSON-LD for our PIM import”
- “Give me the UNS as Turtle so I can paste it into Protégé”
- “Round-trip check. Re-import what I exported and diff”

Preconditions

1. Solution open in Designer.
2. UNS has content to export. Empty solutions produce a trivially-empty graph.

Steps

1. If the user has been modifying `@Tag.X.Attributes` at runtime, offer `promote_retentive_attributes` first. The exporter reads cold-start for determinism, so runtime-only changes do not appear in the export otherwise.
2. Pick a format. All four W3C formats ship in 10.1.5 GA:
   - `rj` (default, W3C RDF/JSON, `.rj`)
   - `jsonld` (JSON-LD 1.1 flattened, `.jsonld`)
   - `turtle` (Turtle, `.ttl` — alias `ttl`)
   - `ntriples` (N-Triples, `.nt` — aliases `n-triples`, `nt`)
3. Call:

   ```
   export_graph_model(format="rj", output_name="my-uns")
   ```

4. Relay the `outputPath` back. It is the file the user shares or uploads.
5. If the user asks about round-tripping (re-importing what they just exported), surface the **importer asymmetry**: the importer in 10.1.5 reads **RDF/JSON** and **N-Triples**. Round-trip checks work with `format="rj"` or `format="ntriples"` end-to-end (either is fine — same underlying triple stream). JSON-LD and Turtle readers land in a follow-up release backed by dotNetRDF. Publishing to a triple store or sharing with an ontology team works with any of the four formats — pick whichever the destination accepts.

Gotchas to surface

- **No SPARQL push in 10.1.5.** The file lands in the Exchange folder. Upload to GraphDB / Stardog / Fuseki is the user's job.
- **Round-trip is faithful at the UserType level, not the OWL axiom level.** Restrictions and anonymous class unions do not survive. Set expectations before the diff.
- **Round-trip in 10.1.5: RDF/JSON or N-Triples.** All four formats export; RDF/JSON and N-Triples both import. If the user picked Turtle or JSON-LD intending to re-import, redirect them to `rj` or `nt` before the export runs.
- **FX Solution Localization strings are NOT consulted at export.** Alt-language `rdfs:label` variants live in the `Attributes` column keyed `rdfs:label@pt` and similar.

See also

- Export your UNS to RDF/OWL/GraphDB. Human walkthrough.
- Skill Import Industrial Ontology. Reverse direction.