**HAPI-FHIR Starter Project [Enhancement]**

**Terminology Server:**

The HAPI server runs a terminology service which is useful for the task. The only configuration that is needed is to add the ICD-10 conditions as well as the LOINC codes as terminology data to the server.

**ICD-10:**

To add the ICD-10 condition, a json file was generated by using a web scraping technique (from the data at: https://icd.who.int/browse10/2019/en). This json file contained the code, display and definition for each of the disease available in the dataset. This json data basically constituted the concept map of the terminology. The CodeSystem object was generated using a basic CodeSystem template (from https://www.hl7.org/fhir/codesystem.html) and filling that up with the correct data for ICD-10 CodeSystem. The concept map was directly added to the CodeSystem inside the ‘concept’ array. The CodeSystem was uploaded to the terminology server using the “Update as Create” method to set its ID properly (to ‘icd-10’).

**LOINC:**

Unlike ICD-10, LOINC (https://loinc.org/downloads/) provides a dataset download which can be directly uploaded to the terminology server using the ‘upload-terminology’ cli command available from the hapi-fhir-cli. However, this requires enabling the upload-terminology feature in the server, which is done by flipping a flag in the code.

The ‘complete’ package was downloaded from LOINC and uploaded to the terminology server which inturn created the official terminology structure containing: a CodeSystem, the required ConceptMaps and ValueSets defining the official LOINC value sets. In this case the CodeSystem does not contain all the concept maps, but a few concept maps are generated and stored as separate ConceptMap objects in the terminology server. The official structure also includes ValueSets which group these concept maps into subsets.