eCQM Content QI Core 2025

Manifest Release and Packaging

## Overview

This document describes the tools and processes for releasing a FHIR manifest and then subsequently retrieving the package contents described by that released manifest.

## Tools

The following tools are used for manifest release and package retrieval:

* [CQ Framework - Clinical Reasoning module](https://github.com/cqframework/clinical-reasoning)
* HAPI’s JPA Server Starter
  + [Github code respository](https://github.com/hapifhir/hapi-fhir-jpaserver-starter)
  + [Docker image](https://hub.docker.com/r/hapiproject/hapi)
* A REST API interaction tool, like [Postman](https://www.postman.com/), that allows for posting (HTTP POST) FHIR API requests.

## Process

The process for releasing a package manifest and subsequently retrieving the package contents as defined in that manifest consists, at the highest level, of two main steps or operations:

* The first step is to load all of the components of the package (i.e., the manifest library, the measures, and measure libraries) into the target FHIR server. The referenced terminology does not need to be loaded – the clinical reasoning module will integrate with the terminology server (e.g., VSAC) to resolve and retrieve those dependencies.
* Once the content is loaded, the manifest library needs to be released. This will gather all dependencies (recursively) and pin them to either the version specific in the manifest parameters of the manifest library or the latest known version available on the terminology server (depending on the value of the ‘latestFromTxServer’ argument to the $release operation). If ‘latestFromTxServer’ is set to true then a ‘terminologyEndpoint’ must be provided.
  + An example invocation of the $release operation on a manifest library:

POST: {{fhirServerUrl}}/Library/Manifest-Partial-Set-FinalDraft-2025/$release

BODY:

{

"resourceType": "Parameters",

"parameter": [

{

"name": "version",

"valueString": "1.0.0"

},

{

"name": "versionBehavior",

"valueString": "force"

},

{

"name": "latestFromTxServer",

"valueBoolean": true

},

{

"name": "terminologyEndpoint",

"resource":

{

"resourceType": "Endpoint",

"extension":

[

{

"url": "vsacUsername",

"valueString": <username>

},

{

"url": "apiKey",

"valueString": "<vsac-api-key>"

}

],

"address": "https://cts.nlm.nih.gov/fhir",

"connectionType":

{

"system": "http://hl7.org/fhir/ValueSet/endpoint-connection-type",

"code": "hl7-fhir-rest"

},

"status": "active",

"payloadType":

[

{

"coding":

[

{

"system": "http://hl7.org/fhir/ValueSet/endpoint-payload-type",

"code": "any"

}

]

}

]

}

}

]

}

* Once the manifest has been successfully released, you can invoke the $package operation on that manifest to retrieve the package contents as described in the manifest. A ‘terminologyEndpoint’ must be provided in order to get the current expansions of any included value sets.
  + An example invocation of the $package operation:  
    POST: {{fhirServerUrl}}/Library/Manifest-Partial-Set-FinalDraft-2025/$package

BODY:

{

"resourceType": "Parameters",

"parameter": [

{

"name": "terminologyEndpoint",

"resource": {

"resourceType": "Endpoint",

"id": "vsac-creds",

"extension": [

{ "url": "vsacUsername", "valueString": "<vsac-username>" },

{ "url": "apiKey", "valueString": "<vsac-api-key>" }

],

"status": "active",

"connectionType": {

"system": "http://terminology.hl7.org/CodeSystem/endpoint-connection-type",

"code": "hl7-fhir-rest"

},

"payloadType": [

{

"coding": [

{

"system": "http://hl7.org/fhir/ValueSet/endpoint-payload-type",

"code": "any"

}

]

}

],

"address": "https://cts.nlm.nih.gov/fhir"

}

}

]

}