Why use ConMan?

- Connectathon reports are used to measure FHIR Maturity
- More discrete reporting is necessary as the number of Implementation Guides being tested grows
- IG’s are being tested at multiple tracks – this will keep reporting together.

http://conman.clinfhir.com/connectathon.html?event=con27
TL;DR

List connectathon tracks, implementation guides, servers, clients and participants in the connectathon to make it easier for people to understand the range of activities in the Connectathon event.

Allows testing results to be recorded for tracks (especially Implementation guides) to assist with determining IG maturity.

Provide links to other Connectathon artifacts such as Confluence pages, IG’s on the web and the FHIR Package registry

Note: Works with any modern browser, with the exception of the Brave Browser
Login & User creation

• Login is just name. No password required (at the moment)
• When starting the app in a browser
  – If this is the first time in the browser (e.g., a different browser), but the user has already been created:
    • Type name in dialog – auto complete
    • After selecting, user saved in browser and will be remembered
  – If this user has not been created:
    • Click ‘Register new Person’ in the dialog, then enter the user name
    • Must be a unique name
    • After selecting, user saved in browser and will be remembered
• There is a logout option on the navbar
  – Really only useful if someone else wishes to use the same browser
Track Leads
Goal in setting up a track

- Set up conMan tracks for participants to use
- Specifically to enable
  - Easy way to find stuff
  - Enter tests / comments against an IG
- One off task before event (though can edit at any time)
ConMan Architecture

Description
Type
Track Lead
Links to confluence / chat

A FHIR server

A FHIR client

Represent an IG
Description
Links to IG on web and FHIR Registry

A specific scenario to be tested
Varying level of detail
Includes roles

Must have scenarios if recording testing

Result of testing a server interaction
Generally a client & server in roles
Can just be a note
Setting up a track

- **Process**
  1. If testing an IG, ensure that there is a definition for the IG in conMan
     - Should only be 1 per IG
     - IG’s can be referenced by any number of Tracks
  2. Create the Track
     - Track Lead
     - Description
     - IGs
     - Links to confluence / FHIR registry
  3. Add the scenarios
Implementation Guide Set Up
**1a IG list and link to new/edit**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Package</th>
<th>Version</th>
<th>Tracks</th>
<th>External link</th>
<th>View in Registry</th>
<th>Edit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advance Directives</td>
<td>Personal Advance Care Plan (PACP) data</td>
<td>hl7.fhir.us.carin-bb</td>
<td>0.1.0</td>
<td>Advance Directives Play track</td>
<td>View</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carin Blue Button</td>
<td>CARIN Consumer Directed Payer Data Exchange (CARIN IG for Blue Button®)</td>
<td>hl7.fhir.us.davinci-deqm</td>
<td>2.1.0</td>
<td>Carin Blue Button</td>
<td>View</td>
<td>View</td>
<td>Edit</td>
</tr>
<tr>
<td>DEQM</td>
<td>Data Exchange for Quality Measures</td>
<td>hl7.fhir.us.qicore</td>
<td>4.0.0</td>
<td>Clinical Reasoning Play track</td>
<td>View</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>QI Core</td>
<td>Sharing knowledge artifacts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality Measure</td>
<td>Quality Measures using CQL</td>
<td>hl7.fhir.us.cqfmeasures</td>
<td>2.0.0</td>
<td>Clinical Reasoning</td>
<td>View</td>
<td>View</td>
<td></td>
</tr>
</tbody>
</table>

- **Main IG attributes**
- **Tracks** are those with a link to the IG
  - Set in track edit (next section) and read-only here
- **External link** is IG on web (i.e. human readable version)
- **Package & version** if IG is in FHIR registry
  - ‘View in Registry’ link will display registry entry

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**HL7 International**

**Connectathon Manager: Connectathon 27**

**Add new IG**
1b Create / Edit IG entry

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>QI Core</td>
</tr>
<tr>
<td>Description</td>
<td>Sharing knowledge artifacts</td>
</tr>
<tr>
<td>Package</td>
<td>hi7.fhir.us.qicore</td>
</tr>
<tr>
<td>Version</td>
<td>4.0.0</td>
</tr>
<tr>
<td>External Link</td>
<td><a href="http://hi7.org/fhir/us/qicore/">http://hi7.org/fhir/us/qicore/</a></td>
</tr>
</tbody>
</table>

Adds an entry for the Implementation Guide. If you set the package id and version correctly, then the user will be able to load the FHIR Registry from the app. The IG does not have to be in the FHIR Registry, but it is recommended if possible.

You can also add artifacts other than IG’s (like an associated specification) - in this case just leave the package and version fields blank.

- Keep name & description short
- Use ‘External Link’ for location of IG
- Set package and version so can be found in registry
  - Link to registry bottom right for convenience
Track Setup
### 2a Track list tab

**Description**
This is a track to test the Clinical Reasoning IG

**Track Type:** igreview

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Package</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEQM</td>
<td>Data Exchange for Quality Measures</td>
<td>hl7.fhir.us.davinci-deqm</td>
<td>View</td>
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<td>View</td>
</tr>
</tbody>
</table>

**Confluence track page**
https://confluence.hl7.org/display/FHIR/2021-05+Clinical+Reasoning (Opens in a new tab)

**Registered Participants**
No participants registered so far.

**Watchers (Tracks of Interest)**
- David Hay
2b Track edit dialog

- Track lead is only one who can edit
  - * Logged in user
- Track type so users know what to expect
- If type = IG Review can select IG’s
  - * Can have multiple
  - * Will be displayed in IG list and track description
- Description is useful, others in lower tab less so
Scenarios
3a Scenarios: General comments

- Describes a specific usage of an IG (or other)
- Optional, but needed if recording test results in conMan
- Each scenario can have varying degrees of detail
  - User can always load the Confluence page via the link in the track
  - Each scenario has the roles needed within that scenario
    - E.g. for Clinical Reasoning there is a Producer (server) and a Consumer (client)
    - Roles are shared across all scenarios in a track
      - Define in one scenario, and include it in any others (within the track)
3b Scenarios: List and link to create / edit

**Description**: This is a track to test the Clinical Reasoning IG

**Scenarios**

- **Push scenario ($Submit-data)**

**Description**: Action: An EHR playing the role of the Producer uses the $Submit-data operation to report the data-of-interest for an MRP measure

**Precondition**: The EHR has appropriate data to produce the data-of-interest for the measure, either based on the test data, or by walking through a simulated workflow that produces the data required

**Success Criteria**: The Consumer receives the data and successfully processes the data

**Bonus Point**: Run the operation multiple times throughout a simulated measurement period to feed incremental data of interest for the measure to the Consumer

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<table>
<thead>
<tr>
<th>Track type</th>
<th>Track Type: igreview</th>
</tr>
</thead>
<tbody>
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<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>DEQM</td>
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</table>

**Confluence track page**: [https://confluence.h7.org/display/FHIR/2021-05+Clinical+Reasoning](https://confluence.h7.org/display/FHIR/2021-05+Clinical+Reasoning) (Opens in a new tab)
3c Scenarios: Create / Edit

- At least have description and roles
- Roles:
  - Want at least 1 client & 1 server
  - May have other roles
    - Each role is a client or server
- Other tabs for specialized situations
3d Scenarios: Roles

- Will list all the roles in the track
- Select the ones you want
- Can add new ones
- Role is not a specific server / client
  - They are in a role when testing
All Users Setup
Main tasks

1. Person setup
2. Record servers the user has
3. Record clients the user has
4. Record outcomes of testing
Person Setup
Person setup

- 'Person' is created by login
- Can edit 'profile'
- Indicate tracks participating in:
  - **Primary Track**
    - Main one. Only 1
    - Different to Track Lead
  - **Tracks of Interest**
    - Any number of others
- Will populate participation report
  - And appear in track details
1b Participation report

- Shows who participated in which track
- Derived from user setup
  - Primary vs Tracks Of Interest / Others relatively immaterial
Server Setup
2a Servers

- Allows participants to find servers for testing
- Tracks set by server owner (in edit dialog).
  - Indicative only – ie any test can select any server
  - Will also show in the track description (under Track details and testing)
2b Server details

- Has endpoint and UI (if any)
- Check CapabilityStatement link to populate Capability tab
  - Populates FHIR version
- Associated tracks tab
  - Tracks this server can be used for
  - (Indicative only)
- Link to load clinFHIR Server Query

Click the 'Check CapabilityStatement link to read the Servers CapabilityStatement. After this, server capabilities will be displayed in a separate tab.
2c Associated tracks

- Indicate which tracks the server can be used for

Update server

<table>
<thead>
<tr>
<th>Description</th>
<th>Associated tracks</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracks that this server supports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✔ Advance Directives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✔ Carin Blue Button</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✔ Clinical Reasoning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Play track</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Update server

Click the 'Check CapabilityStatement link to read the Servers CapabilityStatement. After this, server capabilities will be displayed in a separate tab.

id1616480738598
2d Server Capability

- A rendition of the CapabilityStatement
- Must click 'Check CapabilityStatement link on front tab to populate — (Statement can be large)
### 2e Server query

**Server Query**

<table>
<thead>
<tr>
<th>Select server</th>
</tr>
</thead>
</table>

**Server Capabilities**
- Query

**REST Interface**
- Description
- REST Operations
- Json

**Resource Types**
- Account
- ActivityDefinition
- AdverseEvent
- AllergyIntolerance

- From link on server dialog
- Allows queries against server
Client setup
3a Clients

- Potential clients for use against a server
- The ‘invoke’ link will launch the client (if web based)
- The Track / Scenario Role is populated from test results
Testing
4a Testing

- Allows recording of testing a client/server scenario interaction
  - Especially useful for IG
- A test is a client accessing a server – each in some specific role (from the scenario)
- 2 parts:
  - Recording a test result is from the ‘Track details & testing’ tab
  - All results in the ‘Test Results’ tab & Track details tab
- Can also enter a general note against a scenario / IG
• Existing results and new test under track tab
4c Add a client or server

- All defined scenarios are listed in the tab.
- Add a client (in a role) and a server (in a role) and the 'intersection' is where a test result can be added (one per combination)
- Also have the option to make a general comment against a scenario without specifying client or server
4d Enter the test result

- Click the ‘Enter result’ link to set the result
- Can indicate outcome: Pass / Fail / Partial or just a note
- Can select the IG if more than 1
- Can enter a note for any result
- Can change the asserter
- Can edit the result by clicking the result icon
4e View results

- Various report formats
- Can also download all results (from the ‘details all scenarios this track)
When a test is associated with an IG
- IGs registered against track
Experimentation & Learning

• If you want to try stuff out
  – Play track useful to see how testing works
  – For ‘configuration’ stuff (tracks, servers etc) there is a separate event
  – http://conman.clinfhir.com/connectathon.html?event=hl7Webinar