



Content Testing Tools User Guide

This guide is to be used with the eHealth Exchange enhanced content test program launched on February 5, 2018

Version 1.0



Table of Contents – Page 1

- [Slide #4 - Step #1 – Submit Content Testing Survey/Application](#)
- [Slide #5 - Step #2 – Activate Account](#)
- [Slide #6 - Access Tooling/Login](#)
- [Slide #7 - Have Credentials Already?](#)
- [Slide #8 - Logoff Tooling](#)
- [**Slide #9 - DO NOT Use Create an account Feature**](#)
- [Slide #10 - Retrieve/Reset Password Step 1 – Request](#)
- [Slide #11 - Retrieve/Reset Password Step 2 - Request Email Received](#)
- [Slide #12 - Validate a CDA/CCDA Document – Step 1](#)
- [Slide #13 - Validate a CDA/CCDA Document – Step 2](#)
- [Slide #14 - Validate a CDA/CCDA Document – Step 3](#)
- [Slide #15 - Review Sections in Report for Pass/Fail](#)

Table of Contents – Page 2

- [Slide #16 - Review Content Testing Information Section](#)
- [Slide #17 - Review Validation Result Section Templates Tree](#)
- [Slide #18 - File Content Section](#)
- [Slide #19 - Review errors in line with XML](#)
- [Slide #20 - Constraint & Assertion Hints](#)
- [Slide #21 - Scorecard Tab – Click Get Scorecard to generate view](#)
- [Slide #22 - Scorecard Constraint Scoring/Summary Section](#)
- [Slide #23 - Scorecard Detail Section](#)
- [Slide #24 - Scorecard – Template Scoring/Access Tree View](#)
- [Slide #25 - Viewing Validation Logs](#)
- [Slide #26 - Validation Logs – Available to all](#)
- [Slide #27 - Questions](#)

Step #1 – Submit Content Testing Survey/Application

- [eHealth Exchange Content Testing Survey / Application](#)
- **Required** to gain access to tooling
- One form per organization identifying all users to be added for testing
 - **Name, email, phone**
- Asks for all source systems expected to be tested
- Asks for additional details useful for trading partners to know
 - Some details may be published in the eHealth Exchange Directory in the future
 - Please follow [Sequoia Joint Technical Workgroup](#) to stay informed
- Requests or updates or New users after initial request
 - Submit new form w/additions to testing@sequoiaproject.org

Step #2 – Activate Account

- Sequoia Staff create your organizational account and send activation emails to new users
- User IDs will be first initial + last name or some variation
- New Users must select hyperlink in activation email received from testing@sequoiaproject.org

User ID Dear New User (Organization name),

Your administrator just created an account for you on Gazelle.

You need to click the following link to confirm the validity of your e-mail address and to activate your account with the username : 'didid'.

<https://validation.sequoiaproject.org/gazelle/firstUserRegistration.seam?activationCode=b371efeb29ce698e8ab353adff711ed1>

You will be prompted to change your password on Gazelle.

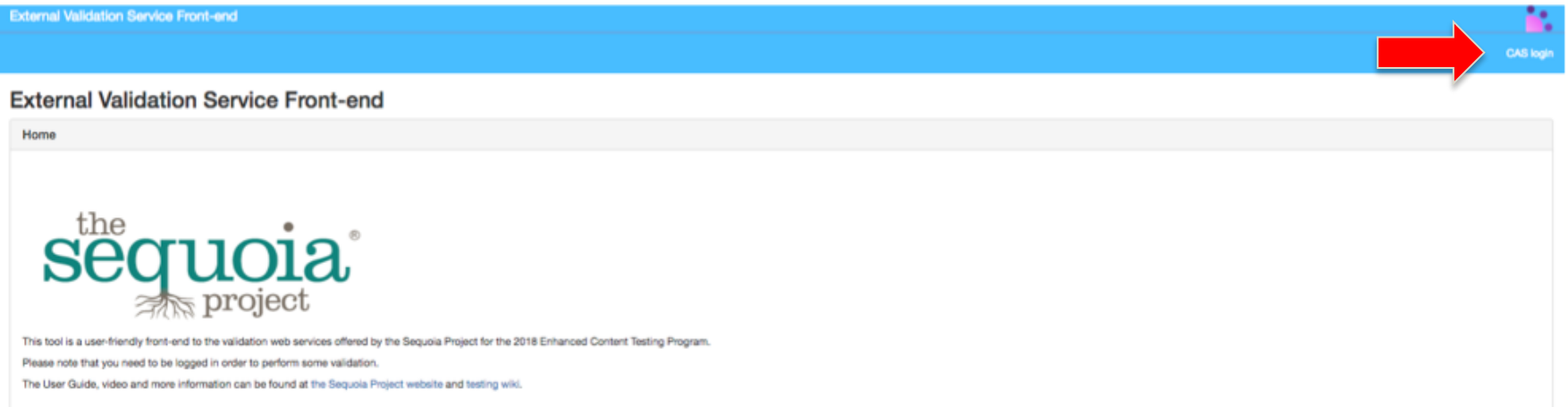
Didi Davis

Each new user will receive an email from testing@sequoiaproject.org similar to below with their name and organization and username ID:

**Each new user must click the URL link to confirm validity of email
This will prompt you to set your new account password**

Access Tooling/Login

1. Visit <https://gazellecontent.sequoiaproject.org/EVSCClient/home.seam>
2. Click CAS Login



External Validation Service Front-end

CAS login

External Validation Service Front-end

Home

the sequoia[®]
project

This tool is a user-friendly front-end to the validation web services offered by the Sequoia Project for the 2018 Enhanced Content Testing Program.
Please note that you need to be logged in order to perform some validation.
The User Guide, video and more information can be found at the Sequoia Project website and testing wiki.

Have Credentials Already?

- If you have already been granted access to the tooling, type your user ID and password to gain access and click login
- Begin validation of your clinical documents

the sequoia project

CAS – Central Authentication Service For
Sequoia Project Conformity Assessment Testing

Enter your Gazelle id and password

ID: SequoiaTest

Password:

Remember me before logging me into other sites.

LOGIN clear

[Create an account](#)

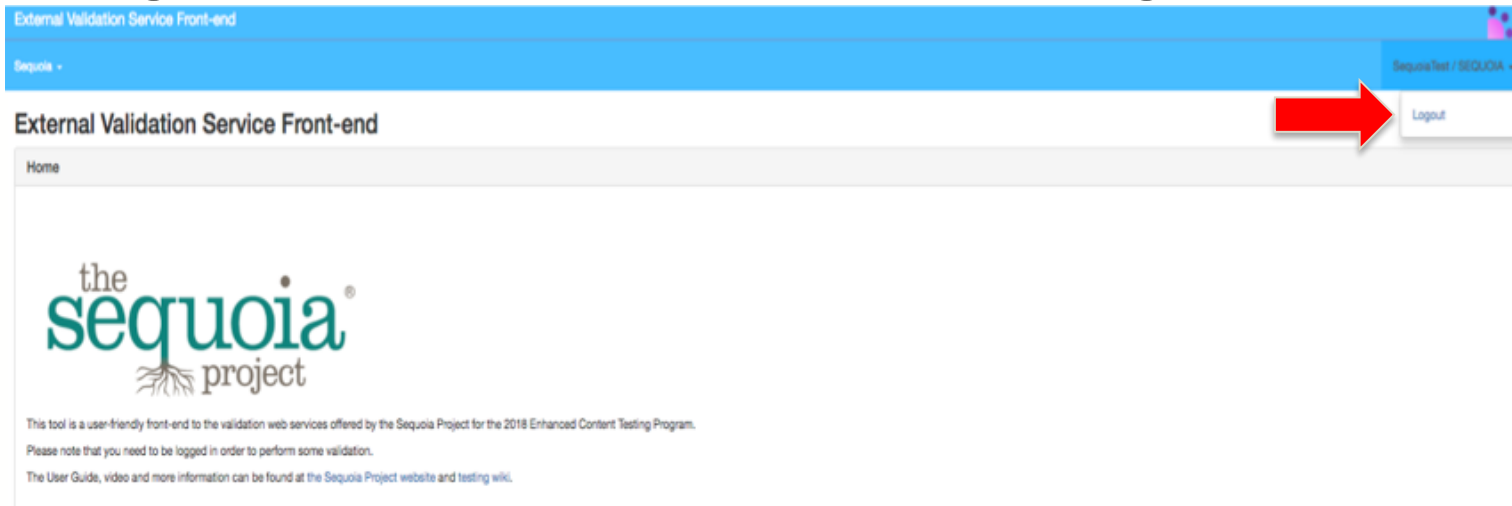
[Retrieve lost password](#)

For security reasons, please Log Out and Exit your web browser when you are done accessing services that require authentication!

Languages:
[English](#) | [Spanish](#) | [French](#) | [Russian](#) | [Nederlands](#) | [Svenskt](#) | [Italiano](#) | [Urdu](#) | [Chinese \(Simplified\)](#) | [Deutsch](#) | [Japanese](#) | [Croatian](#) | [Czech](#) | [Slovenian](#) | [Catalan](#) | [Macedonian](#) | [Polish](#)

Logoff Tooling

- Once you have completed testing, it is advised to logout of your session and close any open windows. Reminder that this tooling does open sequential windows at times for one document validation depending on your navigation. This is meant for convenience.
- To logout do this and close all windows from testing:



DO NOT Use Create an account Feature

Sequoia will not be able to match new users to organizations using this method



CAS – Central Authentication Service For Sequoia Project Conformity Assessment Testing

A screenshot of a web form for logging in. The form has a title 'Enter your Gazelle id and password'. It contains two input fields: 'ID:' and 'Password:'. Below these is a checkbox labeled 'Warn me before logging me into other sites.' At the bottom of the form are three elements: a 'LOGIN' button, a 'clear' link, and a blue link 'Create an account'. A red arrow points from the left towards the 'Create an account' link. Below the form is another blue link 'Retrieve lost password'.

For security reasons, please Log Out and Exit your web browser when you are done accessing services that require authentication!

Retrieve/Reset Password Step 1 - Request

1. If you have lost or forgotten your password, retrieve your lost password.
2. Email will be received from Testing@sequoiaproject.org with a subject of **“Gazelle – Password assistance”**
3. Click on link received from email to complete reset password process



CAS – Central Authentication Service For
Sequoia Project Conformity Assessment Testing

Enter your Gazelle id and password

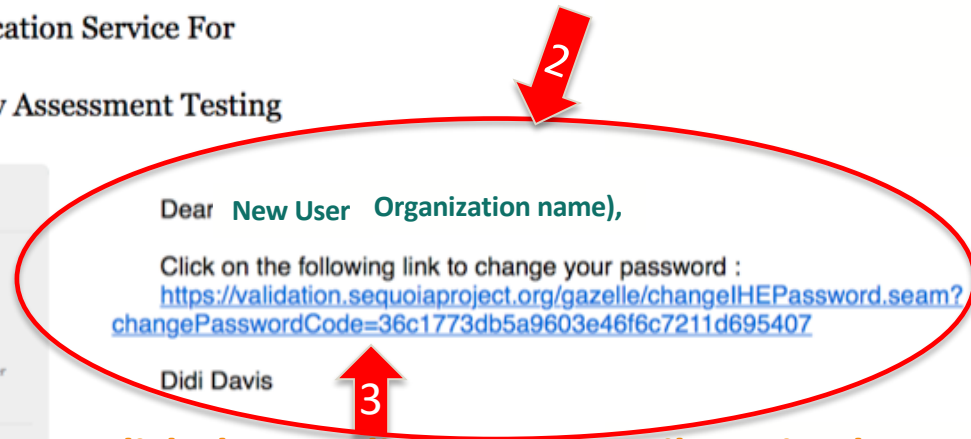
ID:

Password:

Warn me before logging me into other sites.

[Create an account](#)

[Retrieve lost password](#)



**Click the URL link in the email received
This will prompt you to set your new
account password**

For security reasons, please Log Out and Exit your web browser when you are done accessing services that require authentication!

Retrieve/Reset Password Step 2 - Request Email Received

- Once you receive the email for your password reset you will need to click on the hyperlink within the email and complete the following steps:
- Reset/Enter your new password and confirm a second time
- Press Save
- **NOTE: You will be redirected after this reset and will need to navigate to back to the content machine URL to access the tooling with your new password**
 - <https://gazellecontent.sequoiaproject.org/EVSCClient/home.seam>



Change password

**Enter password
and confirm
and save**



Please update your password

Username: Serendipity

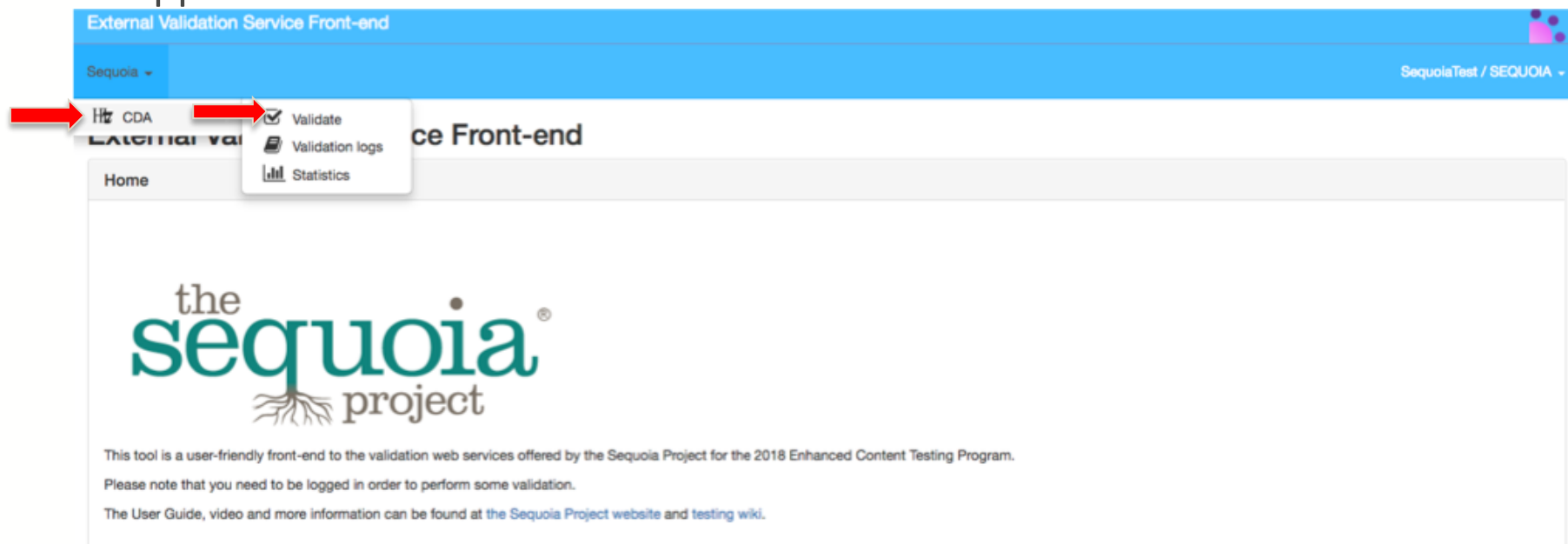
NEW Password *

NEW Password confirmation *

* required fields

Validate a CDA/CCDA Document – Step 1

- Access the tooling
<https://gazellecontent.sequoiaproject.org/EVSCClient/home.seam>
- Once logged into the tooling, navigate to the upper left corner of the application and select validate as shown below:



Validate a CDA/CCDA Document – Step 2

- Select Add button and choose document you wish to upload from your local storage.

The screenshot displays the 'External Validation Service Front-end' interface. The main heading is 'Validate CDA documents'. Under the 'Validation' section, there is a text input field for uploading a file and a '+ Add...' button, which is highlighted by a red arrow. Below this, there are dropdown menus for selecting a validator (currently showing 'schematron') and a 'Model Based Validation' dropdown (currently showing 'Please select...'). A 'Reset' button is located at the bottom left. A file selection dialog is overlaid on the interface, showing a list of files in the 'Samples' folder. The dialog includes a 'Format' dropdown set to 'All Files' and 'Options', 'Cancel', and 'Open' buttons.

Validate a CDA/CCDA Document – Step 3

Select appropriate validation for your version of document

- A. For MU 2011 Edition: choose schematron/MU HITSP 32
- B. For MU 2014 or 2015 Edition: choose Model Based Validation and R1.1 or R2.1
- C. For any other Universal Realm CDA document choose HL7 CDA Release 2
- D. Press Validate button

The image displays three sequential screenshots of the 'External Validation Service Front-end' web application, illustrating the steps to select validation options for a CDA document.

- Top Screenshot:** Shows the 'Validate CDA documents' page. The 'File being validated' is 'DemoCCD 20161105.xml'. Under 'Select a validator:', the 'schematron' dropdown is highlighted with a red arrow.
- Middle Screenshot:** Shows the 'Model Based Validation' dropdown menu open, with 'HL7 - C-CD R2.1 - Meaningful Use Stage 3' selected. A red arrow points to this dropdown.
- Bottom Screenshot:** Shows the 'Validate' button highlighted with a red arrow.

Review Sections in Report for Pass/Fail

- There are different ways to slice and dice the testing results

Information Section

Validate CDA documents

Information

File Name: DemoCDD 20161105.xml
 OID: 1.3.6.1.4.1.12559.11.28.1444
 Schematron: N/A (Version N/A)
 Schematron Validation ...: N/A
 Validation Date: 9/28/17 12:25:53 AM (CEST GMT+0200)
 Model Based Validator: HL7 - C-CDA R2.1 - Meaningful Use Stage 3 (Version N/A)
 Model Based Validation...: **FAILED**
 Permanent link: <https://gazellecontent.sequoiaproject.org/EVSCClient/detailedResult.seam?type=CDA&oid=1.3.6.1.4.1.12559.11.28.1444>
 Data Visibility: Private - Owned By SequoiaTest / SEQUOIA

Buttons: Make this result public, share this result, Validate again, Perform another validation

Model

Validation Results

Model based validation | **Scorecard**

XML Validation Report PASSED

The document you have validated is supposed to be a wellformed XML document. The validator has checked if it is well-formed, results of this validation are gathered in this section.
 The XML document is well-formed

XSD Validation detailed Result PASSED

Your XML document has been validated with the appropriate XSD schema, here is the detail of the validation outcome.
 The XML document is valid regarding the schema

Gazelle Objects Checker validator results FAILED

Summary of checks: 578 / 3837

Show Templates

Tree of the templates used in this document
 Show Templates

Review Content Testing Information Section

Information Section

1. The document sample tested is permanently stored with the results and can be downloaded if required
2. The testing result defaults to locked status, unlocking or making public can make this available for all testing organizations to view and download
3. Testing reports can be downloaded
4. Permanent Link

The screenshot shows the 'Information' section of a content testing result. The 'Information' tab is circled in red. A red arrow labeled '1' points to the 'File Name' field, which includes a download icon. A red arrow labeled '2' points to the 'Data Visibility' field, which is set to 'Private - Owned By SequoiaTest / SEQUOIA'. A red arrow labeled '3' points to the 'Model Based Validation...' field, which shows a 'FAILED' status and a download icon. A red arrow labeled '4' points to the 'Permanent link' field, which contains a long URL. At the bottom, a red arrow labeled '2' points to the 'Make this result public' button. The top right corner of the interface shows a lock icon and a refresh icon.

File Name	DemoCCD 20161105.xml
OID :	1.3.6.1.4.1.12559.11.28.1444
Schematron :	N/A (Version N/A)
Schematron Validation ...	N/A
Validation Date :	9/28/17 12:25:53 AM (CEST+0200)
Model Based Validator :	HL7 - C-CDA R2.1 - Initial Use Stage 3 (Version N/A)
Model Based Validation...	FAILED
Permanent link :	https://gazellecontent.sequoiaproject.org/EVSCClient/detailedResult.seam?type=CDA&oid=1.3.6.1.4.1.12559.11.28.1444
Data Visibility :	Private - Owned By SequoiaTest / SEQUOIA

Review Validation Result Section Templates Tree

1. Click on eye icon to view error within XML
2. Click Show Templates to get this view and errors adjust on the left side

The screenshot displays the 'Validation Results' section of a web application. It is divided into three main panels:

- XML Validation Report (PASSED):** Indicates the document is well-formed.
- XSD Validation detailed Result (PASSED):** Indicates the document is valid regarding the schema.
- Gazelle Objects Checker validator results (FAILED):** Shows a summary of checks with 57 errors and 3937 warnings. A red arrow labeled '1' points to the 'View Error in XML' button next to the first error entry.

On the right side, there is a 'Tree of the templates used in this document' section. A red arrow labeled '2' points to the 'Show Templates' button. Below this, a list of templates is shown, each with an eye icon and a red error indicator. A red arrow labeled '2' also points to the 'Show Templates' button.

At the bottom left, a red arrow labeled '2' points to the 'Errors adjust' text, which is positioned next to the 'Severity' filter in the 'Summary of checks' table.

File Content Section

1. Raw XML allows user to indent file to make more readable
2. Click on HTML View of Content & select desired stylesheet view

The screenshot displays three overlapping windows of the 'File Content' section. The leftmost window shows the 'Raw XML Content' with the 'View lines numbers' checkbox selected (circled in red) and the 'Indent file' checkbox unselected. A red arrow labeled '1' points to the 'Indent file' checkbox. The middle window shows the 'Indented XML Content' with the 'Indent file' checkbox selected. A red arrow labeled '2' points to the 'HTML View of Content' button in the rightmost window. The rightmost window shows the 'HTML View of Content' with a selected stylesheet named 'cda'. The content is a patient record for Mr. Adam Everyman, including personal information, document details, and a table of contents.

Patient Safety of C-CDA Documents (Validates to Schematron without Errors)

Patient	Mr. Adam Everyman
Date of birth	November 25, 1954
Sex	Male
Race	White
Ethnicity	Not Hispanic or Latino
Contact info	Primary Home: 17 Daws Rd. Blue Bell, MA 02968, US Tel: (781)555-1212
Patient ID#	12345 2.16.840.1.113883.19
Document Id	20130607100315-CCDA-CCD 2.16.840.1.113883.3.3208.101.1
Document Created:	June 7, 2015, 00:00:00 -0000
Care provision	Encounter for Problem from November 14, 2014 to November 14, 2014
Performer	Hearty Sixer, MD
Author	Doctor Second, MD
Contact info	Primary Home: 2222 StreetName St Silver Spring, MD 20901, US Tel: +1301222-2222
Author	EHR Software Name

Table of Contents

- 1. Patient
- 2. Date of Birth
- 3. Sex
- 4. Race
- 5. Ethnicity
- 6. Contact Info
- 7. Patient ID#
- 8. Document Id
- 9. Document Created
- 10. Care Provision
- 11. Performer
- 12. Author
- 13. Contact Info
- 14. Author

ALLERGIES, ADVERSE REACTIONS, ALERTS

Medication	Reaction	Reaction Date	Reaction Site	Reaction Type
Aspirin	Allergy	2014-11-14	Upper Arm	Severe

PROBLEMS

Problem	Start Date	End Date	Resolution
Encounter for Problem	2014-11-14	2014-11-14	Resolved

RESULTS

Result	Test	Order	Reference Range	Interpretation	Comments	Reporting Facility
Encounter for Problem	Encounter for Problem	2014-11-14	2014-11-14	Resolved		2014-11-14

SOCIAL HISTORY

Category	Value
Smoking Status	Never Smoked
Alcohol Use	Occasional

VITAL SIGNS

Measure	Value
Weight	150 lbs
Height	5'10"

Review errors in line with XML

1. Descriptions of errors can be found within XML
2. Click on Constraint and Assertion to get additional details for troubleshooting

```

214 <tr>
215 <td ID="allergen1">Codeine</td>
216 <td ID="reaction1">Hives</td>
217 <td ID="severity1">Fatal</td>
218 <td>Active</td>
219 </tr>
220 </tbody>
221 </table>
222 </text>
223 <entry typeCode="DRIV">
224 <act classCode="ACT" moodCode="EVN">

```

E - 2

↑ (2/167) Test codamu33465

↓ Location /ClinicalDocument/component/structuredBody/component[0]/section/entry/act

Description In Allergy Concern Act (V3), in /hl7:act[hl7:templateId/@root="2.16.840.1.113883.10.20.22.4.30"/hl7:code, the attribute code SHALL have the value 'CONC' if present [Constraint...] [Assertion...]

```

225 </templateId root="2.16.840.1.113883.10.20.22.4.30"/>
226 <!-- ** Allergy problem act ** -->
227 <id root="36e3e930-7b14-11db-9fe1-0800200c9a66"/>
228 <code code="48765-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Allergies, adverse reactions, alerts"/>
229 <statusCode code="active"/>
230 <effectiveTime value="20090909">
231 <low value="20090902"/>
232 <high value="20100103"/>
233 </effectiveTime>
234 <entryRelationship typeCode="SUBJ">
235 <observation classCode="OBS" moodCode="EVN">
236 <!-- allergy observation template -->
237 <templateId root="2.16.840.1.113883.10.20.22.4.7"/>
238 <id root="4adc1020-7b14-11db-9fe1-0800200c9a66"/>
239 <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
240 <statusCode code="completed"/>
241 <effectiveTime>
242 <low value="20000215"/>
243 </effectiveTime>
244 <value xsi:type="CD" code="416098002" displayName="drug allergy" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
245 <participant typeCode="CSM">

```

Constraint & Assertion Hints

1. Constraints will provide the **CONF: xxxx-xxxx** that corresponds to the base underlying HL7 specification

The image shows a workflow from a constraint in CDAGenerator to an assertion in Assertion Manager. In the CDAGenerator interface, the 'Constraint Descriptor' for 'ccdamu33465' is shown with an OCL rule. A red arrow labeled '1' points from the OCL rule to a URL in the 'List Assertions' section. This URL is then used in the Assertion Manager interface, where another red arrow labeled '1' points to the 'Unknown assertion' table.

CDAGenerator

Tools ▾ CDA Documentation ▾ CDA Generation ▾

Constraint Descriptor : ccdamu33465 (type: ERROR, kind: Fixed value)

Constraint : ccdamu33465

Constraint Name	ccdamu33465 (type: ERROR, kind: Fixed value)
Constraint Class	AllergyConcernActV3
Package	ccdamu3
Description	In Allergy Concern Act (V3), in /hl7:act/hl7:templateId/@root="2.16.840.1.113883.10.20...30"/hl7:code, the attribute code SHALL have the value 'CONC' if present
OCL	self.code->forAll(code.oclIsUndefined() or code='CONC')

List Assertions

- <https://gazellecontent.sequoiaproject.org/AssertionManagerGui/rest/testAssertion/assertion?assertionId=CONF:1198-7477&idScheme=ccdamu3>

Assertion Manager

Scopes Assertions Id Schemes Documents

Unknown assertion

Assertion id	CONF:1198-7477
Id scheme	ccdamu3

Scorecard Tab – Click Get Scorecard to generate view

External Validation Service Front-end

Sequoia ▾

SequoiaTest / SEQUOIA ▾

Validation result

Information 🔒 ↻

File Name	DemoCCD 20161105.xml
OID :	1.3.6.1.4.1.12559.11.28.1659
Schematron :	N/A (Version N/A)
Schematron Validation ...	N/A
Validation Date :	2/2/18 8:42:57 PM (CET GMT+0100)
Model Based Validator :	HL7 - C-CDA R2.1 - Meaningful Use Stage 3 (Version N/A)
Model Based Validation...	FAILED
Permanent link :	https://gazellecontent.sequoiaproject.org/EVSCClient/detailedResult.seam?type=CDA&oid=1.3.6.1.4.1.12559.11.28.1659
Data Visibility :	Public

Validate again
Perform another validation

Validation results

↓
1

Scorecard

Get Scorecard

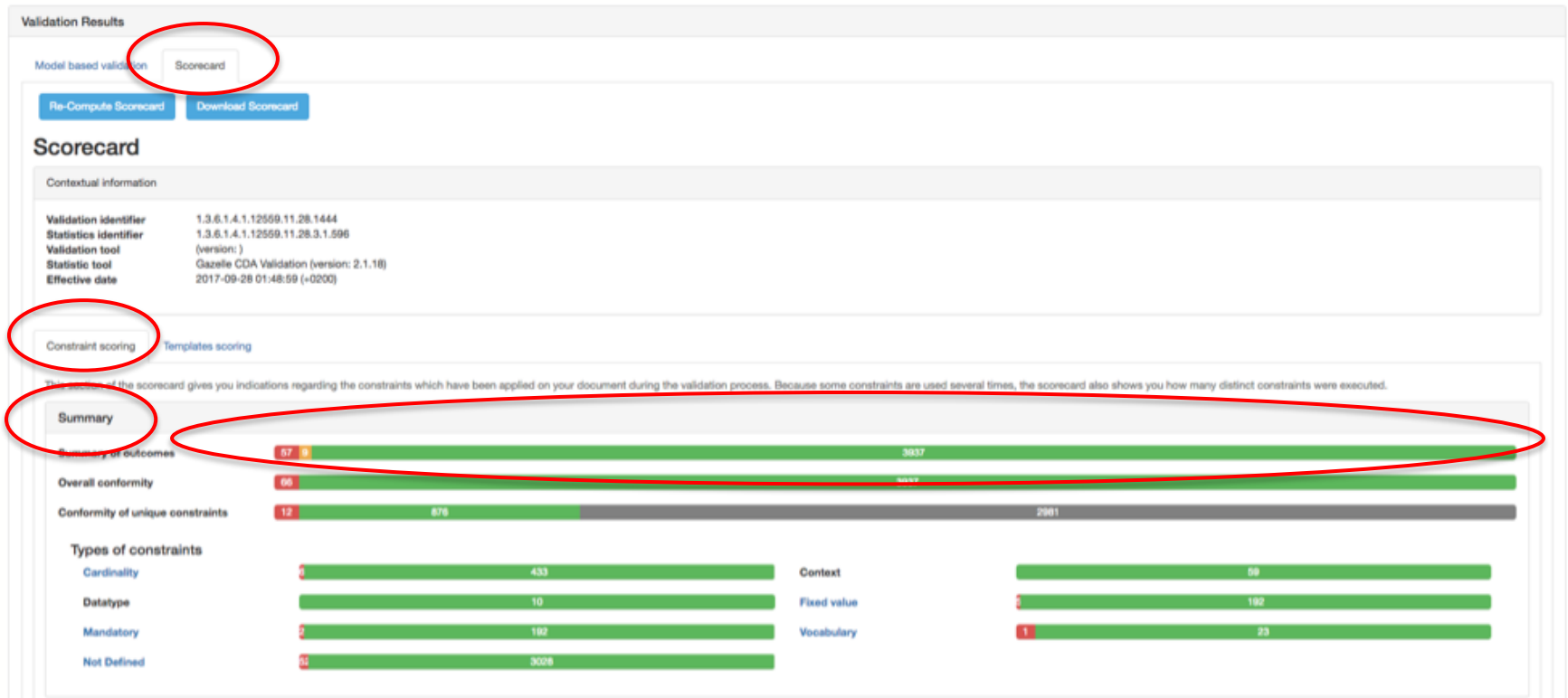
File Content

Raw XML Content
HTML View of Content

Scorecard Constraint Scoring/Summary Section

1. This view provides a summarized view of errors/warnings/info items

- Red numbers are errors
- Orange numbers are warnings
- Green numbers are informational



Scorecard – Template Scoring/Access Tree View

1. Shows templates utilized in blue = true and black = false
2. Summary of rules outcome highlighted by section errors/warnings/info

Continuity of Care Document (CCD) (V3) [2.16.840.1.113883.10.20.22.1.2]

Summary of rules outcome **57** 3937

Sub template(s)

Template Id	Is present
2.16.840.1.113883.10.20.22.2.1.1	true
2.16.840.1.113883.10.20.22.2.10	true
2.16.840.1.113883.10.20.22.2.14	false
2.16.840.1.113883.10.20.22.2.15	false
2.16.840.1.113883.10.20.22.2.17	true
2.16.840.1.113883.10.20.22.2.18	false
2.16.840.1.113883.10.20.22.2.18	false
2.16.840.1.113883.10.20.22.2.2.1	false
2.16.840.1.113883.10.20.22.2.21	false
2.16.840.1.113883.10.20.22.2.22	false
2.16.840.1.113883.10.20.22.2.23	false
2.16.840.1.113883.10.20.22.2.3.1	true
2.16.840.1.113883.10.20.22.2.4.1	true
2.16.840.1.113883.10.20.22.2.5.1	true
2.16.840.1.113883.10.20.22.2.56	false
2.16.840.1.113883.10.20.22.2.57	false
2.16.840.1.113883.10.20.22.2.6.1	true
2.16.840.1.113883.10.20.22.2.7.1	true

Medications Section (entries) (V2) [2.16.840.1.113883.10.20.22.2.1.1]

Summary of rules outcome **5** 479

Sub template(s)

Template Id	Is present
2.16.840.1.113883.10.20.22.4.16	true

Medication Activity (V2) [2.16.840.1.113883.10.20.22.4.16]

Viewing Validation Logs

1. Leverage search criteria when searching validation logs for your organization
2. All results (locked/unlocked) for users within your organization will be visible

External Validation Service Front-end

Sequoia - SequoiaTest / SEQUOIA -

Validated CDA documents (C-CDA)

Search criteria

Date: Any

Validation result: Show all

Standard: Show all

Model Based Validator: Show all

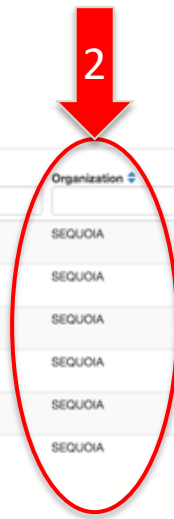
Schematron: Show all

Template OID: Show all

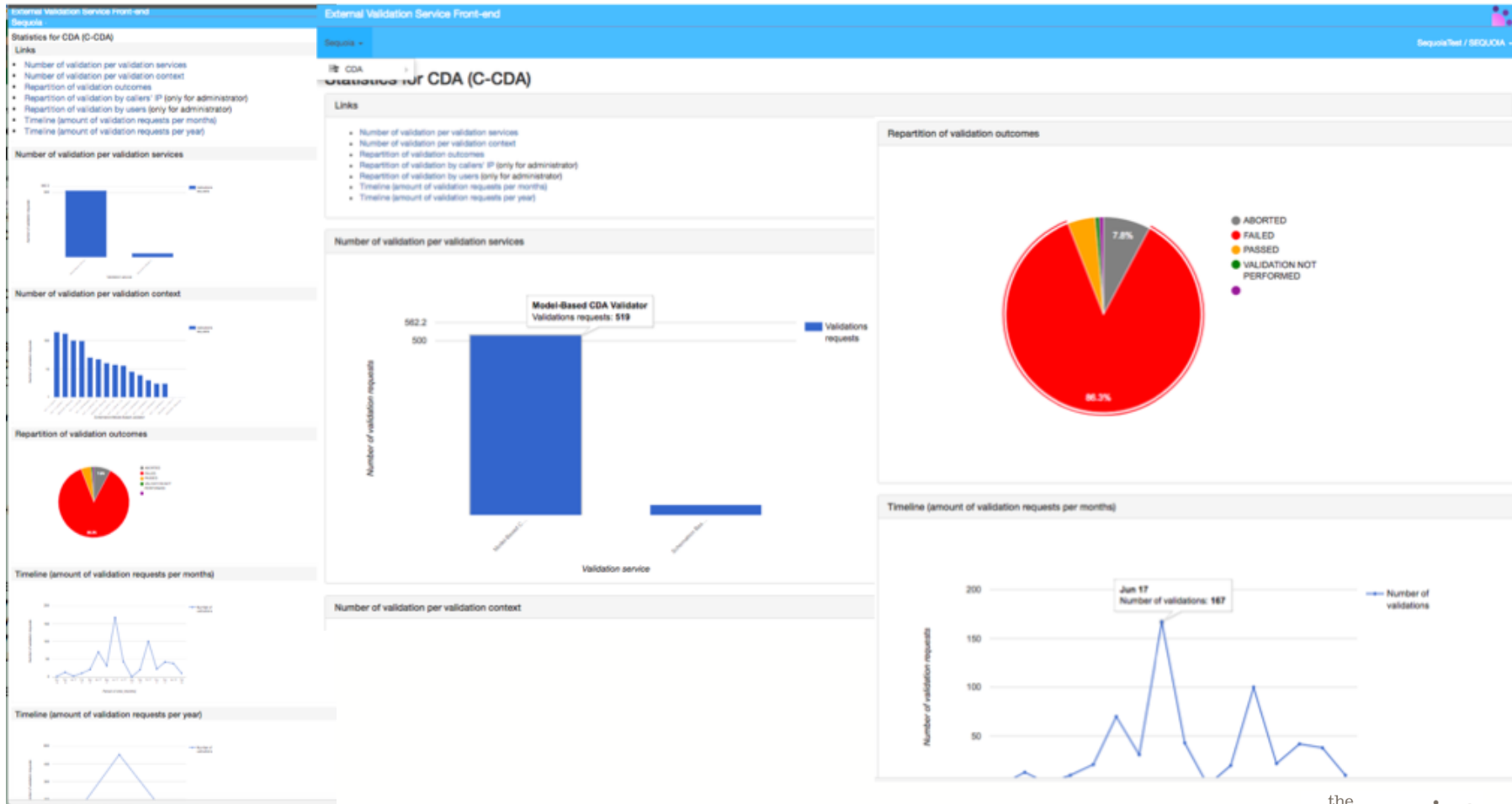
Template Name: Show all

Template Extension: Show all

OID	Validation date	Filename	Schematron	Model Based validator	User	Organization	Validation status
1.3.6.1.4.1.12559.11.28.1444	9/28/17 12:25:53 AM (CEST GMT+0200)	DemoCCD 20161105.xml		HL7 - C-CDA R2.1 - Meaningful Use Stage 3	SequoiaTest	SEQUOIA	FAILED
1.3.6.1.4.1.12559.11.28.1443	9/26/17 10:32:55 PM (CEST GMT+0200)	DemoCCD 20161105.xml		HL7 - C-CDA R2.1 - Meaningful Use Stage 3	SequoiaTest	SEQUOIA	FAILED
1.3.6.1.4.1.12559.11.28.1442	9/22/17 7:44:20 PM (CEST GMT+0200)	DemoCCD 20161105.xml		HL7 - C-CDA R2.1 - Meaningful Use Stage 3	didi	SEQUOIA	FAILED
1.3.6.1.4.1.12559.11.28.1437	9/22/17 6:54:15 AM (CEST GMT+0200)	MU_Rev3_HITSP_C32C83_4Sections_RobustEntries_NoErrors.xml	SEQUOIA - Meaningful Use HITSP/C32 v2.5		didi	SEQUOIA	PASSED
1.3.6.1.4.1.12559.11.28.1427	9/13/17 1:23:13 AM (CEST GMT+0200)	DemoCCD 20161105.xml		HL7 - C-CDA R2.1 - Meaningful Use Stage 3	didi	SEQUOIA	FAILED
1.3.6.1.4.1.12559.11.28.1423	9/5/17 7:30:58 PM (CEST GMT+0200)	ccd_7744.xml		HL7 - C-CDA R2.1 - Meaningful Use Stage 3	didi	SEQUOIA	FAILED



Validation Logs – Available to all



Questions?
testing@sequoiaproject.org