



**Canada Health Infoway**

# **Gazelle Platform Self-Testing User Guide**

# Gazelle Platform Self-Testing – User Guide

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# General Guidance

## Introduction

The Gazelle Platform is a framework that facilitates testing Interoperability of IT systems within the healthcare industry.

Infoway is leveraging Gazelle to provide a conformance testing platform for the pan-Canadian Digital Health Interoperability specifications, such as pan-Canadian Patient Summary (PS-CA).

One important concept to consider when testing on the Gazelle platform is IHE profiles, which are standard specifications recommended to be used to solve a set of use cases, based on actors and transactions. The testing in Gazelle is based on IHE profiles, or on similar specifications that are closely following the IHE paradigm.

There are multiple tools and functionalities within the Gazelle platform. In this guide the focus is on the Gazelle Test Manager and the Gazelle Proxy, when using Gazelle Platform for Self-testing.

The instructions within this guide aim to offer a fundamental introduction to getting started and becoming acquainted with the available tools, as well as the general testing process. Users are encouraged to expand upon this knowledge and as they are getting more familiar with the environments and the testing process.

## Abbreviations / Glossary

|     |                                       |
|-----|---------------------------------------|
| IHE | Integrating the Healthcare Enterprise |
| SUT | System under Test                     |

## Self-Testing Approach

The Self-testing comprises of a series of no-peer tests against simulators, conducted independently by implementers on the Gazelle platform to validate their conformance to the specifications. Testing teams are responsible to determine the quantity and scope of tests they will conduct and verifying results. The main tools recommended for Self-testing are the Gazelle Test Manager and the Gazelle Proxy.

In Gazelle there is a list of test scenarios available for the specifications that are available for testing. During the Self-testing, participants will focus on the actors and transactions that are applicable for their particular implementations.

The transactions executed during the test are sent through the Gazelle proxy that captures the transaction request and response for analysis.

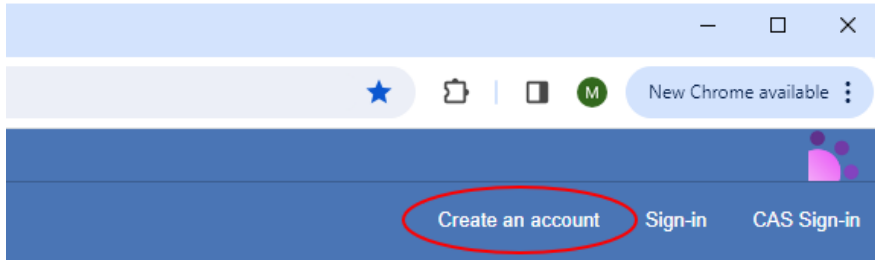
Note: The scenarios in Gazelle are focused on a single Actor and Transaction, or multiple Actors and corresponding transactions can be grouped together in the same test scenario. For example, CA:FeX can be grouped together with the IUA profile, that adds support for authorization.

## Registration

### User Registration

To obtain access to the Gazelle platform, you must create an account in Gazelle.

Navigate to the Gazelle website <https://pancanadianio.ca/gazelle> and click Create an Account

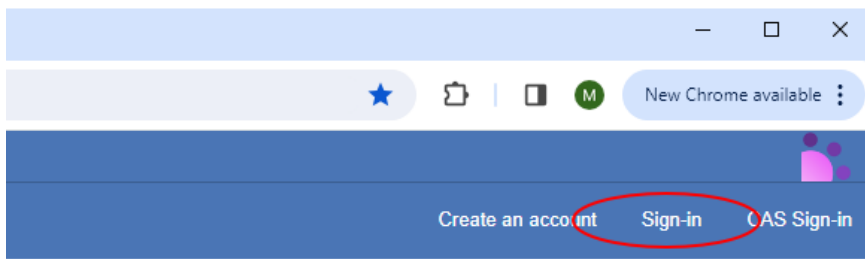


Fill in your user information on the registration form.

In the Organization dropdown, select your organization if it is already registered. Otherwise select New company and fill in the required information. Click Save to complete the registration.

You will receive an email from Gazelle – click on the link in the email to activate your user account.

Now your user account is activated; click Sign-in to login to Gazelle.



## Vendor Registration

To be able to use the features available on the Gazelle platform, you must register your system with Gazelle and specify the Actors that are applicable to your specific implementation.

If you have server-side systems, The Gazelle administrator will open a channel in the proxy for your implemented actors.

For support with the registration process, contact Infoway support at [interoperability@infoway-inforoute.ca](mailto:interoperability@infoway-inforoute.ca).

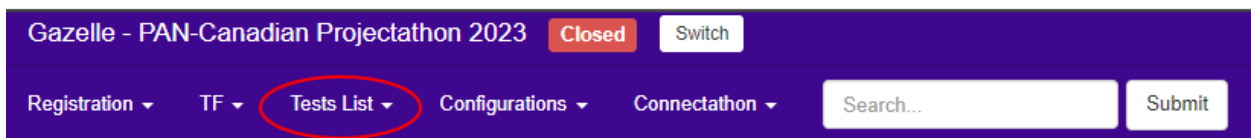
**Note:** Details regarding registration will be added soon.

## Testing in Gazelle

### Test Scenarios

To access the test scenarios that are available, navigate to the Gazelle Test Manager using the URL: <https://pancanadianio.ca/gazelle>

In the top menu, click on Tests List



Gazelle will display the list of available tests.

In the search Criteria, select the options:

- Test Type: pre-connectathon
- Test Peer Type: No Peer
- Test Status: ready

| Search Criteria     |                                      |
|---------------------|--------------------------------------|
| Domain              | Show all <span>✖</span>              |
| Integration profile | Show all <span>✖</span>              |
| Transaction         | Show all <span>✖</span>              |
| Test Type           | (46) pre-connectathon <span>✖</span> |
| Test Peer Type      | (46) No Peer <span>✖</span>          |
| Test Last modifier  | Show all <span>✖</span>              |
| Author              | Show all <span>✖</span>              |
| By keyword or name  | <input type="text"/> <span>🔍</span>  |

|                  |                           |
|------------------|---------------------------|
| Actor            | Show all <span>✖</span>   |
| Int Prof. option | Show all <span>✖</span>   |
| Test Status      | (45) ready <span>✖</span> |
| Test Version     | Show all <span>✖</span>   |
| is Validated     | Show all <span>✖</span>   |

Use the filters provided to further narrow down the list of tests that are relevant to your implementation. Use the x next to each field to clear the filters.

| Keyword ▲                        | Version ◆   | Status ◆ |
|----------------------------------|-------------|----------|
| 00_Connectivity_Testing[CA]      | CAN-IO 2023 | ready ▼  |
| 00_GazelleTesting_CheatSheet[CA] | CAN-IO 2023 | ready ▼  |
| 00_IUA-Registration[CA]          | CAN-IO 2023 | ready ▼  |
| 01_PS-CA_Validation[CA]          | CAN-IO 2023 | ready ▼  |
| CA:Aud_Log_Creation[CA]          | CAN-IO 2023 | ready ▼  |
| CA:Aud_Log_Retrieval[CA]         | CAN-IO 2023 | ready ▼  |
| CA:FeX-1_DataRecipient[CA]       | CAN-IO 2023 | ready ▼  |
| CA:FeX-1_DataRecipient_IUA[CA]   | CAN-IO 2023 | ready ▼  |
| CA:FeX-1_DataSource[CA]          | CAN-IO 2023 | ready ▼  |
| CA:FeX-1_DataSource_IUA[CA]      | CAN-IO 2023 | ready ▼  |

## Test Prerequisites

Typically, there are prerequisites required for execution of each test scenario, depending on the actors that are implemented by your SUT.

For instance, for server-side actors, the Gazelle administrator needs to open a channel in the proxy and add the server certificate to the proxy trust store. For IUA actors there are prerequisites that are aligned with the configurations required by OAuth2.

Note: The tests that have the names starting with the prefix 00, contain information and instructions that are useful before starting the testing process.

## Test Execution

Select and click on a test that is applicable for the actors and transactions applicable of your particular implementation. Your SUT can be either on the client side or on the server side, and your tests will be performed against the corresponding simulator. For easy identification, the name of the No-Peer scenario includes the name of the Profile, Transaction and Actor that is played by your SUT.

Follow the instructions and steps described in the Test Scenario.

Generally, each test scenario has different sections, such as Prerequisites, Description, and more.

The test contains the most important details needed to perform the test. It includes a diagram describing the actors and transactions and steps to perform during the test. It also includes an evaluation section with instructions how to verify the test results.

At the bottom of the page there are information regarding the Test roles and the main steps that to be executed for the test.

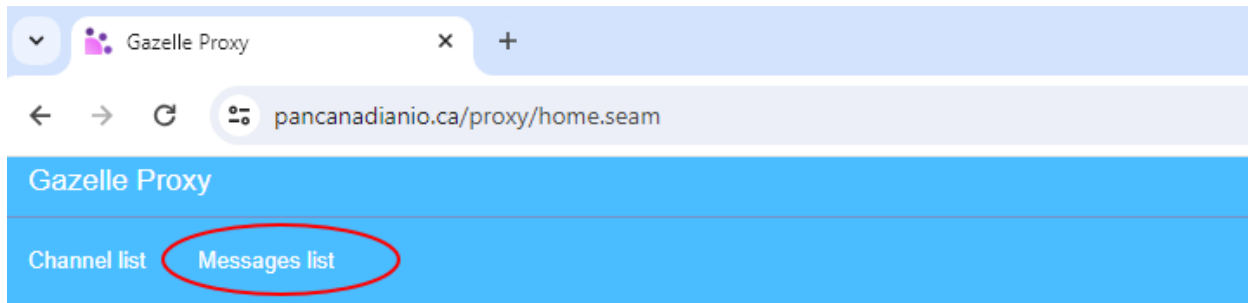
Note: It is strongly recommended to read through the entire test scenario before executing a test and ensure that the prerequisites are completed.

## Test Verification

The transactions executed during the test are sent through the Gazelle proxy that captures the transaction request and response for analysis.

To verify the test results, login to the Gazelle Proxy using the URL: <https://pancanadianio.ca/proxy>

In the top menu I click on Message list



## Welcome to Gazelle Proxy

Welcome to Gazelle Proxy. This application is used to capture messages exchanged between two systems under test.

Proxy is accessible at 149.202.25.56

Search your message in the Message list. Typically, there are multiple messages exchanged for a transaction, where the proxy is displaying an index that indicates the order that the messages were exchanged, for example:


- index 1 is the request message, and
- index 2 is the response message



To narrow down the search, use the filters available on the page as needed

Click on Details to inspect the details for both the request and response message and verify that the request and response are correct and conforming to the pan-Canadian specifications.

# Message List

Search Criteria





|                      |   |       |
|----------------------|---|-------|
| Message type         | HTTP  |       |
| Secure message       | --  | ✘     |
| Initiator's IP       |   | ✘     |
| Responder's IP       |   | ✘     |
| Proxy's port         | 0   | - + ✘ |
| Connection ID        | 15931   | - + ✘ |
| HTTP Message Type    | --  | ✘     |
| Date from            |  | ✘     |
| Rapid date selection | --  | ✘     |

| Connection Id | Index | Type | Details   | Date                              | Time (µs) | From      |
|---------------|-------|------|---|-----------------------------------|-----------|-----------|
| 15931         | 2     | ←    | Details  | 3/21/23 6:31:40 AM (EDT GMT-0400) | 721190    | 46.30.234 |
| 15931         | 1     | →    | Details  | 3/21/23 6:31:40 AM (EDT GMT-0400) | 364556    | 46.30.234 |

In the detailed page, click the + and – buttons to navigate through the messages within the transaction.

# HTTP Message

Message details

|                |   |
|----------------|---|
| Permanent link | <a href="https://pancanadianio.ca/proxy/messages/http.seam?id=33435">https://pancanadianio.ca/proxy/messages/http.seam?id=33435</a>  |
| ID             | 33435   |
| Connection ID  | 15931    |
| Index          | 1   /2  |
| Date Received  | 3/21/23 6:31:40 AM (EDT GMT-0400)   |

|                |
|----------------|
| IP             |
| Port           |
| Message length |

Inspect the information of the exchanged messages, such as HTTP headers and body.



Type Headers

application/fhir+json

```
DefaultHttpRequest(chunked: false)
POST /cafex/Bundle?_pretty=false&_format=application%2Ffhir%2Bjson HTTP/1.1
Host: pancanadianio.ca:10001
Connection: keep-alive
sec-ch-ua: "Google Chrome";v="111", "Not(A:Brand";v="8", "Chromium";v="111"
accept: application/fhir+json
Content-Type: application/fhir+json
sec-ch-ua-mobile: ?0
User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like G
sec-ch-ua-platform: "macOS"
Origin: https://ps-swagger.apibox.ca
Sec-Fetch-Site: cross-site
Sec-Fetch-Mode: cors
Sec-Fetch-Dest: empty
Referer: https://ps-swagger.apibox.ca/
Accept-Encoding: gzip, deflate, br
Accept-Language: cs,en;q=0.9,en-GB;q=0.8,de;q=0.7
Content-Length: 71678
```

Metadata


Message content



```
{
  "resourceType": "Bundle",
  "id": "Bundle-FulsomeClinicalScenario1",
  "meta": {
    "profile": [
      "http://fhir.infoway-inforoute.ca/io/psca/StructureDefinition/bundle-ca-ps"
    ]
  },
  "identifier": {
    "system": "http://fictional-identifier-system-uri.com",
    "value": "Bundle-Scenario1"
  },
  "type": "document",
  "timestamp": "2023-01-04T14:30:00+01:00",
  "entry": [
    {
      "fullUrl": "Composition/18fc14a1-303a-4c2e-9143-a8087cd3aeeb",
      "resource": {
        "resourceType": "Composition",
        "id": "18fc14a1-303a-4c2e-9143-a8087cd3aeeb",
        "meta": {
          "profile": [
            "http://fhir.infoway-inforoute.ca/io/psca/StructureDefinition/composition-ca-ps"
          ]
        },
        "text": {
          "status": "additional",
          "div": "
<div xmlns=\"http://www.w3.org/1999/xhtml\">Primary Problem: Right shoulder, arm and knee pain, with diag
</div>"

```

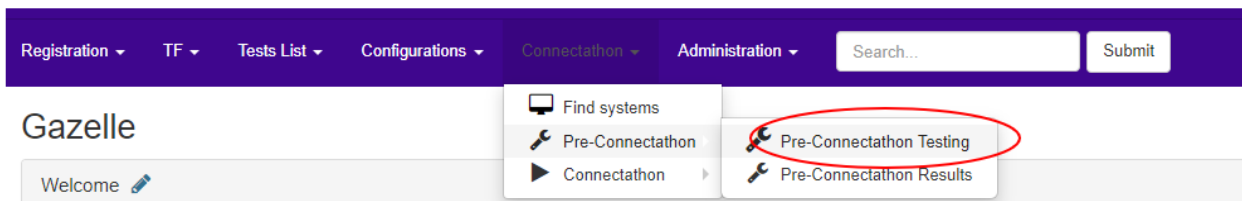
If you wish to save the evidence of the test execution, capture the Permanent link URL in the top corner for both the request and response message. You can also save the evidence by downloading the messages using the Download button.

|                |   |
|----------------|---|
| Permanent link | <a href="https://pancanadianio.ca/proxy/messages/http.seam?id=33435">https://pancanadianio.ca/proxy/messages/http.seam?id=33435</a> |
| ID             | 33435   |
| Connection ID  | 15931    |
| Index          | 1 - + /2  |
| Date Received  | 3/21/23 6:31:40 AM (EDT GMT-0400)   |

## Test Evidence


The activities described in this section are not mandatory to be executed for self-testing.

In the top menu, navigate to Connectathon > Pre-Connectathon > Pre-Connectathon Testing



Registration ▾ TF ▾ Tests List ▾ Configurations ▾ Connectathon ▾ Administration ▾ Search... Submit

Gazelle

Welcome 

- Find systems
- Pre-Connectathon
- Connectathon ▶
- Pre-Connectathon Testing
- Pre-Connectathon Results

















Click on your system that you registered for the Projectathon

Click on the Number of tests to do













| System keyword                   | System/Product name (Version) | Number of tests to do |
|----------------------------------|-------------------------------|-----------------------|
| <a href="#">OTHER_DHO_Demo3</a>  | Demo3                         | 19                    |
| <a href="#">TOOL_INFOWAY_PAT</a> | INFOWAY_PAT                   | 50                    |

This opens a page where you can see all the actors in all your test scenarios

Notice that the same test might be shown multiple times, in case the same test is executed by different actors. To open the test scenario, click on the Globe icon.

| Test   | Integration Profile | Actor             |
|--|---------------------|-------------------|
| 00_IUA-Registration[CA]          | IUA                 | AUTH_CLIENT       |
| 01_PS-CA_Validation[CA]          | CA:FeX              | CA:FeX - Source   |
| CA:Aud_Log_Creation[CA]          | CA:AUD              | ARR               |
| CA:Aud_Log_Retrieval[CA]         | CA:AUD              | ARR               |
| CA:FeX-1_DataSource[CA]          | CA:FeX              | CA:FeX - Source   |
| CA:FeX-1_DataSource_IUA[CA]      | CA:FeX              | CA:FeX - Source   |
| CA:FeX-2A_DataConsumer[CA]       | CA:FeX              | CA:FeX - Consumer |
| CA:FeX-2A_DataConsumer_IUA[CA]   | CA:FeX              | CA:FeX - Consumer |

Look for the test scenario that you executed earlier and select the test for the actor participant in your SUT. Click on the Return log file.

| Test  | Integration Profile | Actor           | Int Prof. option | Option | Status | Action          |
|---|---------------------|-----------------|------------------|--------|--------|-----------------|
| 00_IUA-Registration[CA]       | IUA                 | AUTH_CLIENT     | NONE             | R      |        | Return log file |
| 01_PS-CA_Validation[CA]       | CA:FeX              | CA:FeX - Source | NONE             | R      |        | Return log file |
| CA:Aud_Log_Creation[CA]       | CA:AUD              | ARR             | NONE             | R      |        | Return log file |
| CA:Aud_Log_Retrieval[CA]      | CA:AUD              | ARR             | NONE             | R      |        | Return log file |
| CA:FeX-1_DataSource[CA]       | CA:FeX              | CA:FeX - Source | NONE             | R      |        | Return log file |
| CA:FeX-1_DataSource_IUA[CA]   | CA:FeX              | CA:FeX - Source | NONE             | R      |        | Return log file |

This will take you to the page where you can upload your evidence. In the Comments section, copy and paste the permanent link that you captured earlier in the Gazelle proxy. Alternatively, use the Upload button to upload any files that contain evidence for the test results.

Uploaded files info

No files currently uploaded

You can download only files which have these extensions : jpg, gif, png, bmp, tiff , pdf, log ,txt, rtf , csv, zip, tar, xsd, xml, dtd , xls ,xlsx, doc, docx, dot.

Upload a file (click or drop)

Comments

1/29/24 11:21:13 PM (GMT-05:00) : mholitska (INFOWAY) Status changed to : Running

<https://pancanadianio.ca/proxy/messages/http.seam?id=33435>

Add description

Back to previous page

After verification is complete, test results are correct, and evidence is provided, you can change the status to "Verified by Vendor".