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Projectathon Tooling

IUA Client & Server Simulators

What are the IUA Client & Server Simulators?

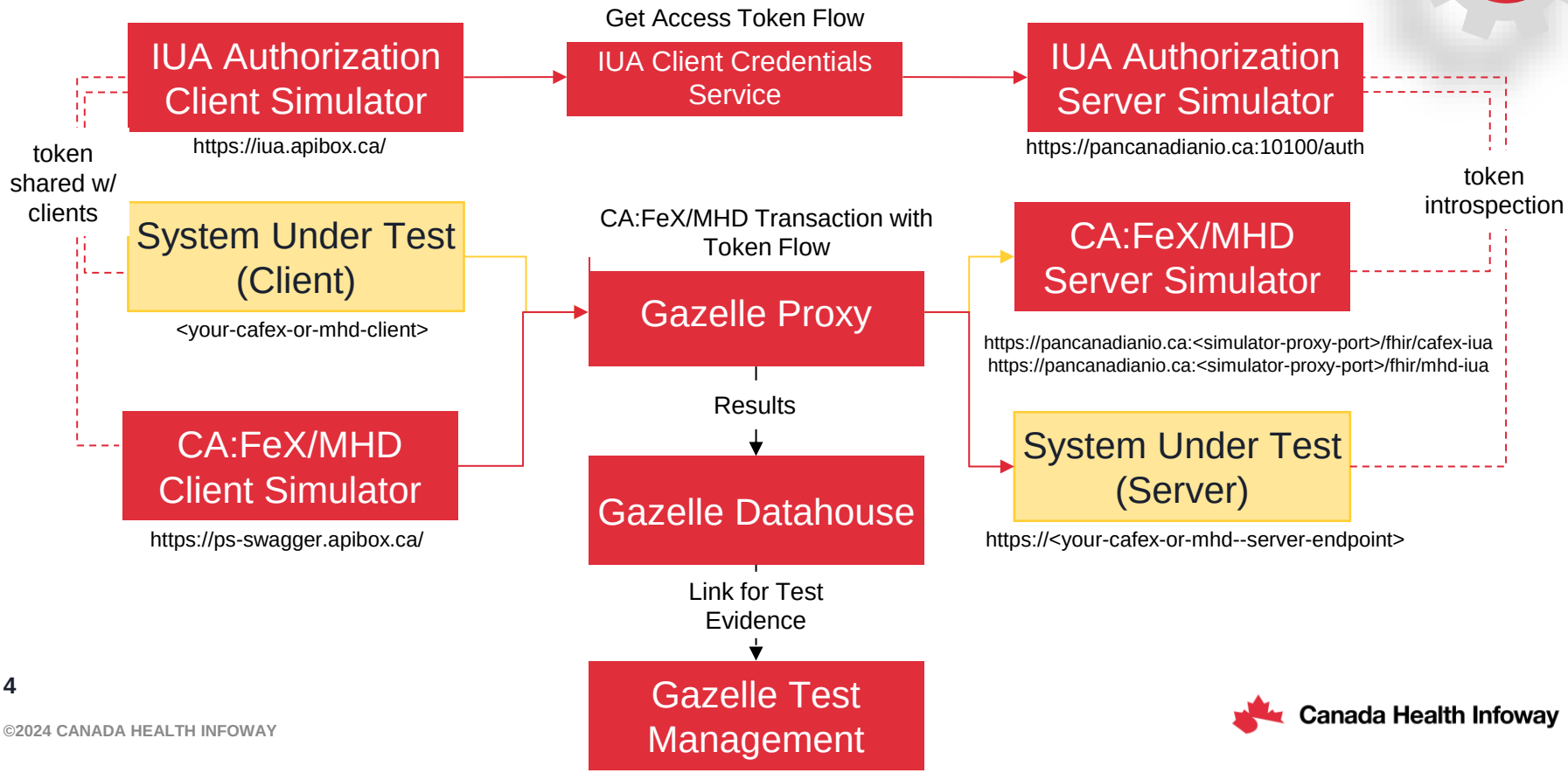
- **IUA Authorization Client Simulator:** A user interface that executes IUA transactions to simulate an IUA conformant authorization client
- **IUA Authorization Server Simulator:** A server-side simulator, based on the Open Source Keycloak Identity and Access Management (IAM) solution, used to simulate an IUA conformant authorization server
- **IUA Resource Server Simulator:** A server-side simulator, that interacts with IUA Authorization Clients and IUA Authorization Servers to utilize and introspect access tokens in exchange workflows

Training Objectives

This training aims to meet the following objectives:

- ✓ Provide an understanding of the **IUA Authorization Client Simulator, when** to use it, **how** to use it, and **where** to access it
- ✓ Provide an understanding of the **IUA Authorization Server Simulator, when** to use it, **how** to use it, and **where** to access it
- ✓ Provide an understanding of the **IUA Resource Server Simulator, when** to use it, **how** to use it, and **where** to access it

IUA Simulators Architectural Overview



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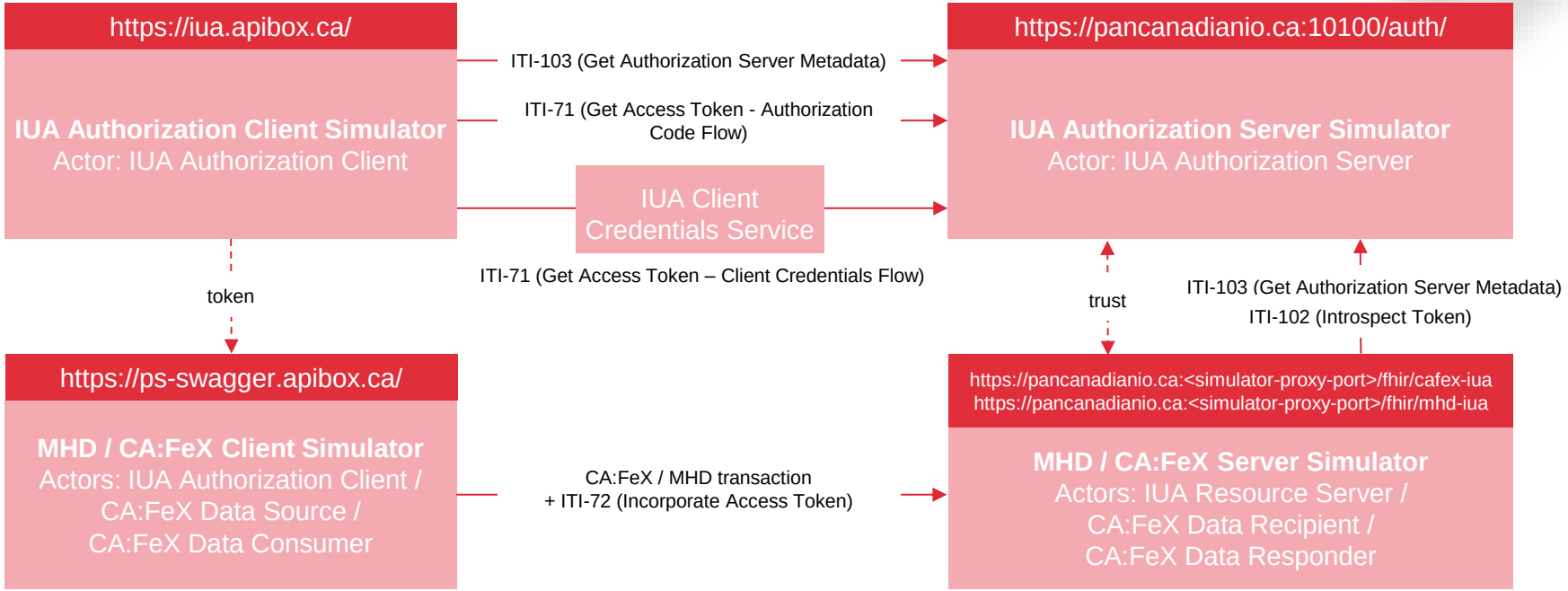
IUA Transaction Flows



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What are the IUA Simulators' Capabilities?

The **IUA Authorization Client Simulator and IUA Authorization Server Simulator** are configured to support all the IUA options recommended in the pan-Canadian Reference Architecture guidance:

- ❖ OAuth2 / OIDC (Authorization Code and Client Credential grant types)
- ❖ JSON Web Tokens (JWT)
- ❖ Extended Security Features: Proof Key for Code Exchange (PKCE), State and Nonce

The **IUA Resource Server Simulator** is also configured to support all the IUA options

When to use the IUA Authorization Client Simulator

The **IUA Authorization Client Simulator** is used in Pre-Projectathon and No Peer testing when a participant wants to test that their Authorization Server (System Under Test) can supply and validate access tokens as part of the exchange workflow

- The Authorization Client Simulator UI is organized into pages by IUA Transaction (Authorization Code Flow, Client Credentials Flow, Authorization Server Metadata)
- The user designates the Authorization Server endpoint that the Authorization Client Simulator will interact with, typically entering the proxied endpoint that allows traffic to be logged for test evidence
- Responses to the transactions (e.g., Authorization tokens) are viewable in the UI and stored in the Gazelle Datahouse-Proxy to use for test evidence

When to use the IUA Authorization Server Simulator

The **IUA Authorization Server Simulator** is used in Pre-Projectathon and No Peer testing when a participant wants to test that their a) System Under Test can retrieve Authorization Server metadata and access tokens, or b) that their IUA Resource Server can retrieve, accept, and introspect access tokens and protect resources as part of the exchange workflow

- The Authorization Server Simulator has no UI but is configured to support the required all transactions under IUA Canadian Guidance (ITI-71, ITI-72, ITI-102, ITI-103). Participants can test some or all of the IUA transactions using this tool
- Responses to the transactions are returned to the System Under Test and stored in the Gazelle Datahouse-Proxy to use for test evidence

When to use the IUA Resource Server Simulator

The **IUA Resource Server Simulator** is used in Pre-Projectathon and No Peer testing when a participant wants to test that their a) Client can incorporate access tokens in the exchange workflow, or b) that their Authorization Server can respond to metadata and token introspection requests

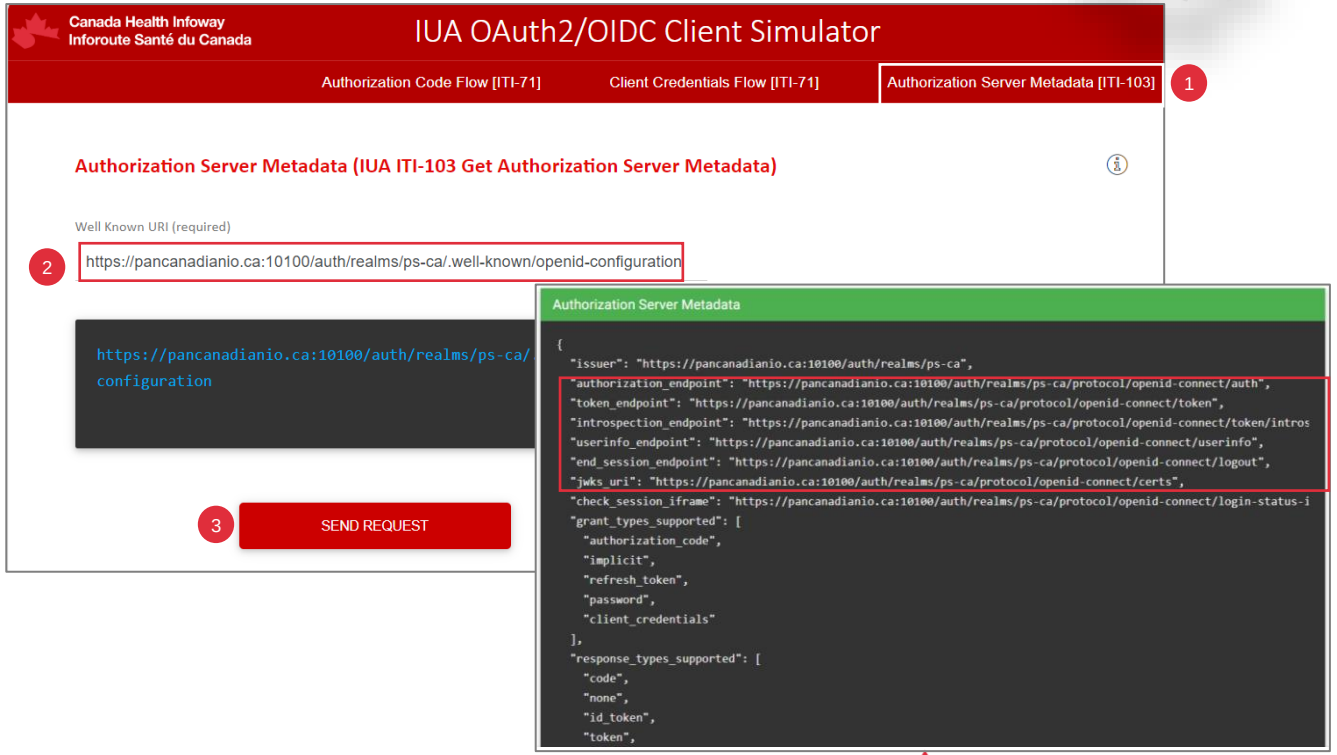
- The Resource Server Simulator has no UI but is configured to support the required all relevant IUA transactions (ITI-72, ITI-102, ITI-103). Participants can test some or all of the IUA transactions using this tool
- Responses to the transactions are returned to the System Under Test and stored in the Gazelle Datahouse-Proxy to use for test evidence

Tool Demonstration – Authorization Client Simulator UI

If Executing ITI-103:

1. Navigate to the page of the transaction you would like to simulate
2. Enter your authorization server's (SUT) proxied endpoint information

   See instructions for setting up proxy: https://pancanadianio.ca/gazelle-documentation/Proxy/user.html
3. Click "Send Request"
4. Authorization server's metadata (i.e., Endpoints, JWKS) is returned



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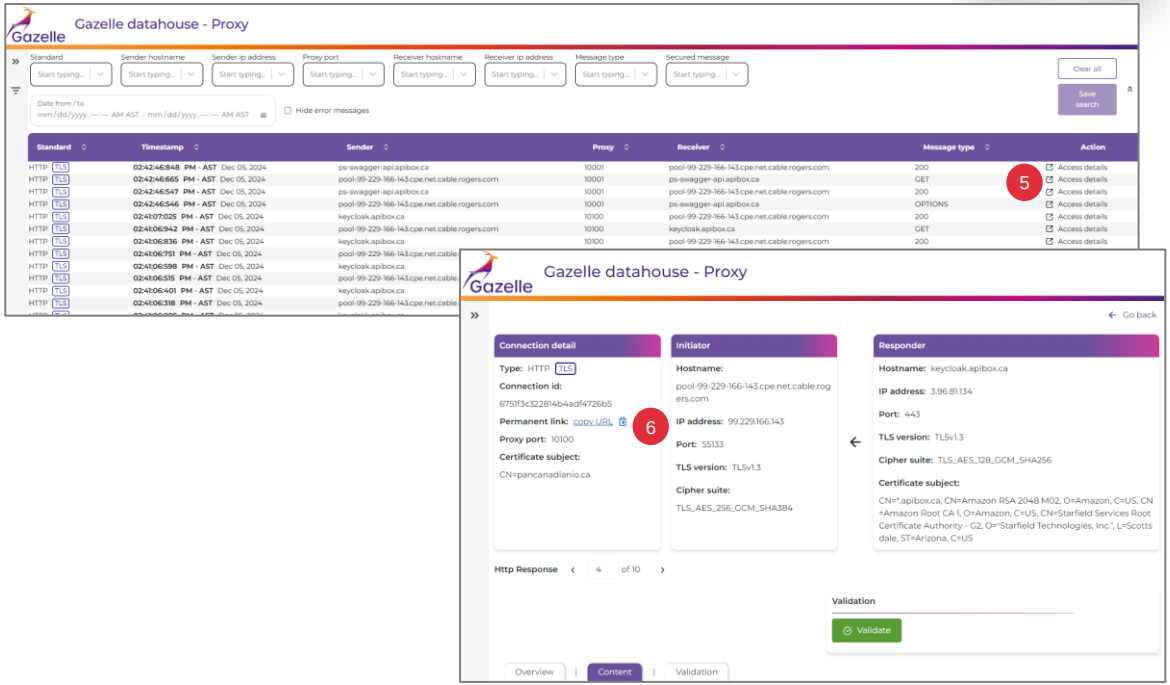
Tool Demonstration – Gazelle Datahouse

After Executing Any Transaction:

5 After successfully executing the request against your proxied authorization server, navigate to the Gazelle Datahouse to select the "Access detail" you would like to use for evidence

6 Copy the permanent link for pasting into Gazelle Test Instance



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Tool Demonstration – Authorization Client Simulator UI

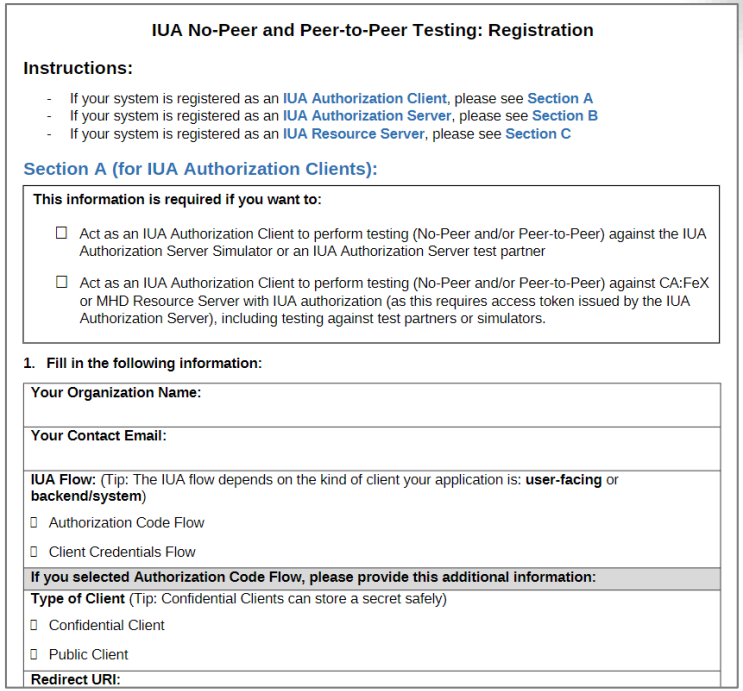
If Executing ITI-71 or ITI-72:

IUA actors who participate in No-Peer and Peer-to-Peer testing have mandatory prerequisites.

See the IUA Authorization Registration Form for details on how to register systems acting as an:

- IUA Authorization Client
- IUA Authorization Server
- IUA Resource Server

Link to Form: https://infoscribe.infoway-inforoute.ca/display/PCI/Actions+for+Participants%3A+Projectathon+2025?preview=/266960954/266960946/IUA_Registration_Form_Projectathon_Testing_v1.docx



IUA No-Peer and Peer-to-Peer Testing: Registration

Instructions:

- If your system is registered as an **IUA Authorization Client**, please see **Section A**
- If your system is registered as an **IUA Authorization Server**, please see **Section B**
- If your system is registered as an **IUA Resource Server**, please see **Section C**

Section A (for IUA Authorization Clients):

This information is required if you want to:

☐ Act as an IUA Authorization Client to perform testing (No-Peer and/or Peer-to-Peer) against the IUA Authorization Server Simulator or an IUA Authorization Server test partner

☐ Act as an IUA Authorization Client to perform testing (No-Peer and/or Peer-to-Peer) against CA:FeX or MHD Resource Server with IUA authorization (as this requires access token issued by the IUA Authorization Server), including testing against test partners or simulators.

1. **Fill in the following information:**

Your Organization Name:

Your Contact Email:

IUA Flow: (Tip: The IUA flow depends on the kind of client your application is: **user-facing** or **backend/system**)

☐ Authorization Code Flow

☐ Client Credentials Flow

If you selected Authorization Code Flow, please provide this additional information:

Type of Client (Tip: Confidential Clients can store a secret safely)

☐ Confidential Client

☐ Public Client

Redirect URI:

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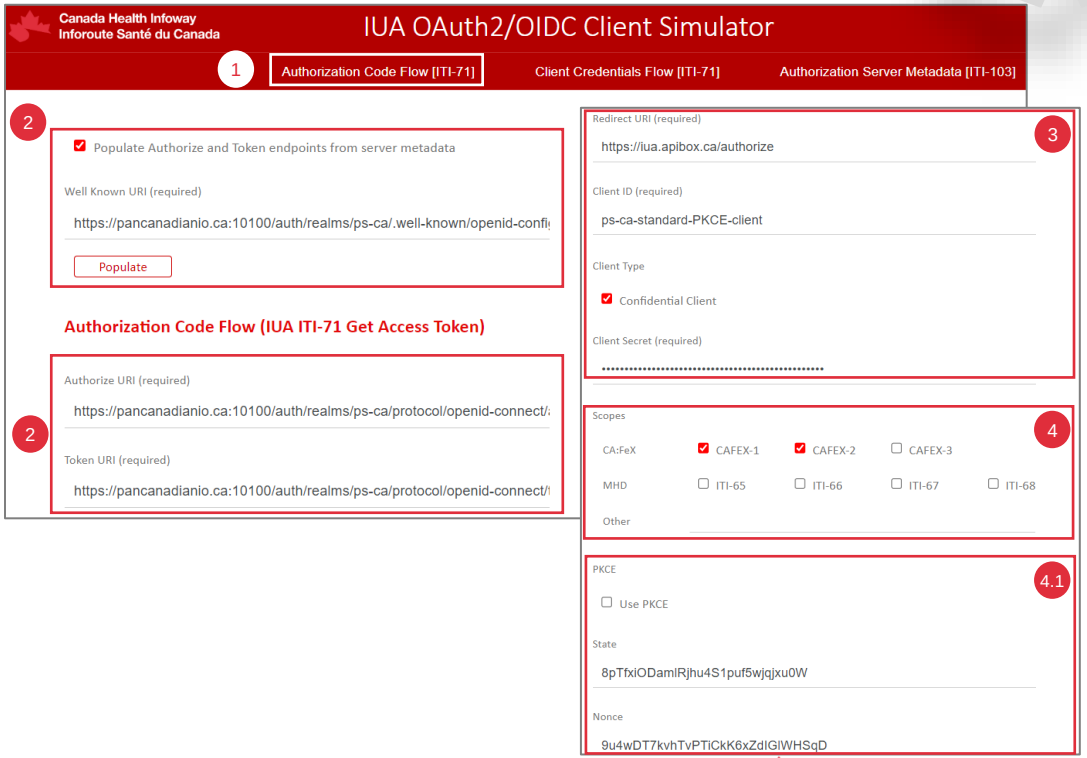
Tool Demonstration – Authorization Client Simulator UI

ITI-71 – Authorization Code Flow:

1. Navigate to the page of the transaction you would like to simulate
2. Populate your authorization server (SUT) url to pre-populate authorize and token endpoints, or enter them manually
3. Enter the Client ID (Confidential Client is recommended) and Redirect URI as registered with the authorization server
4. Indicate the Scopes to be included in the access token
4.1. *Recommended:* Populate additional details if using additional security features (e.g., PKCE, State, Nonce)



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Tool Demonstration – Authorization Client Simulator UI

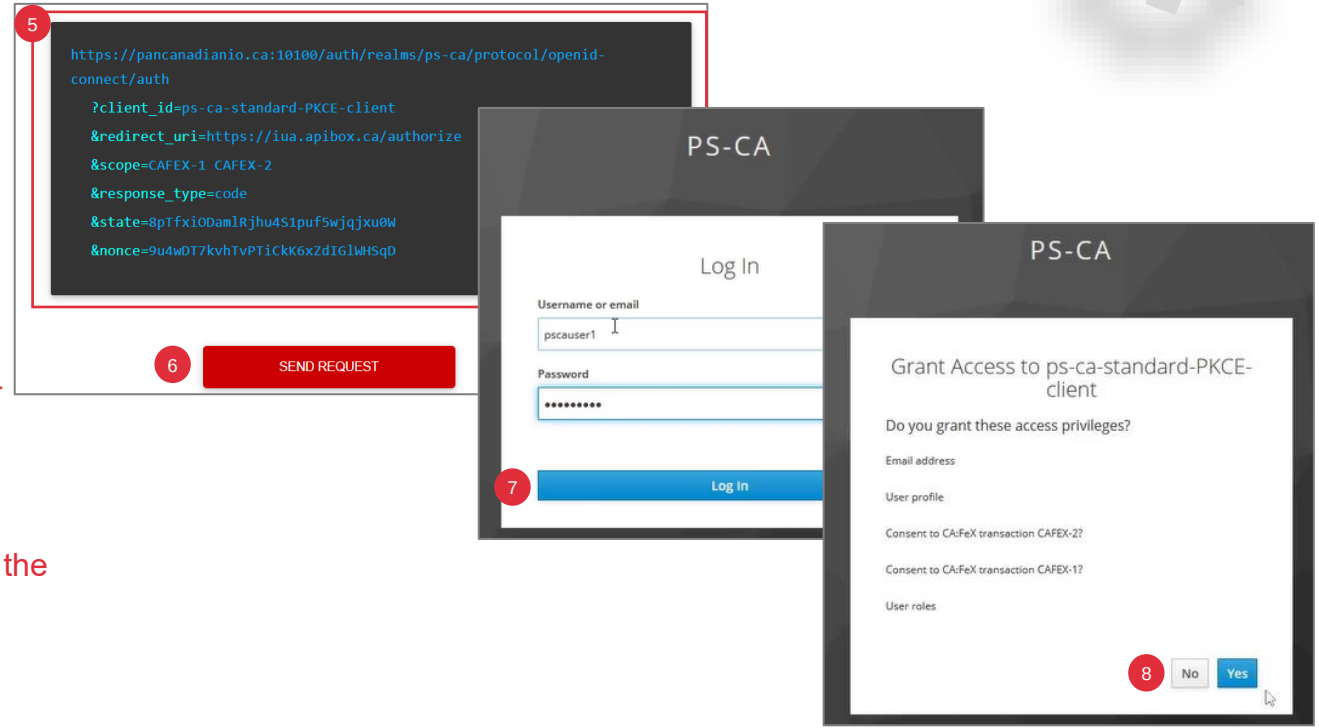
ITI-71 – Authorization Code Flow:

5 Review the HTTP request with provided parameters

6 Click “Send Request”

7 You will be redirected to the authorization server to enter your user credentials, Click “Log in”

8 Click “Yes” to provide consent to the requested scopes



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Tool Demonstration – Authorization Client Simulator UI

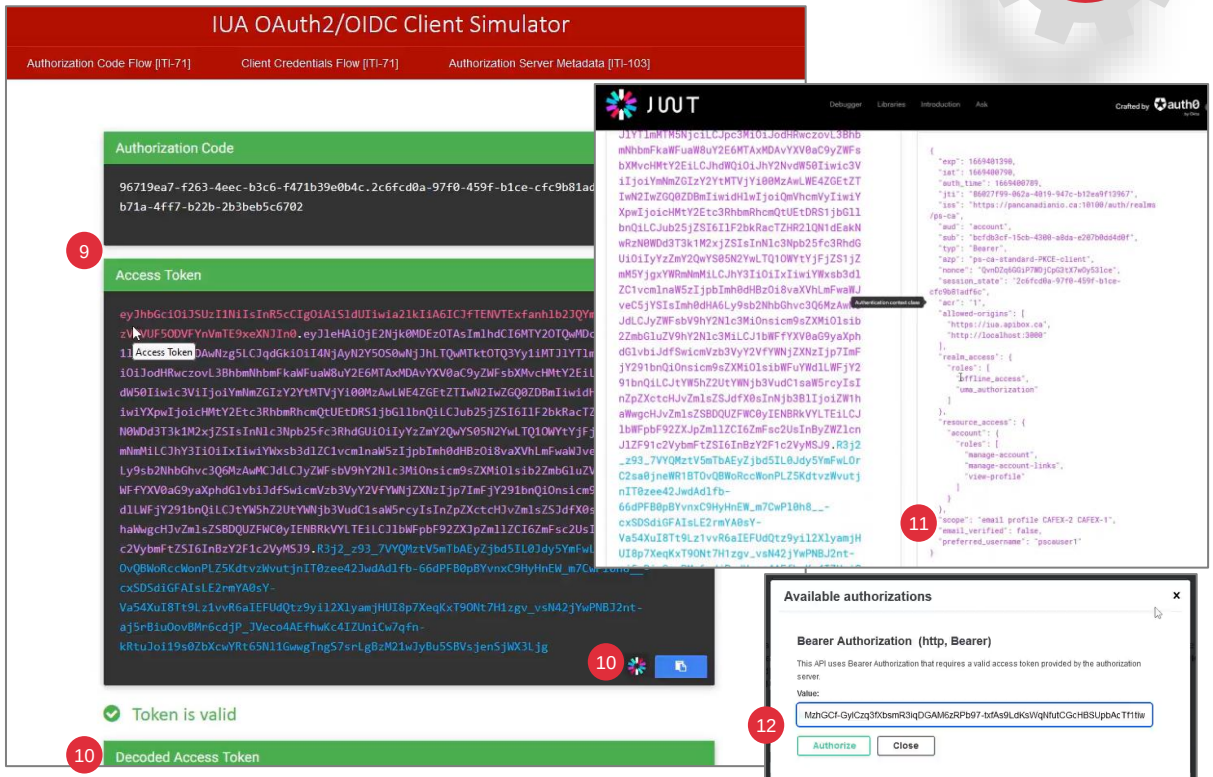
ITI-71 – Authorization Code Flow:

9 You will be redirected to requested Client redirect URI to review the results of the ITI-71 transaction

10 Token is decoded in the User Interface and can also be inspected using JWT.io widget

11 Review decoded token details and confirm scopes are as provided in the request

12 Copy access token for use in CA:FeX-IUA/MHD-IUA exchange workflows that incorporate IUA Access Token (ITI-72)



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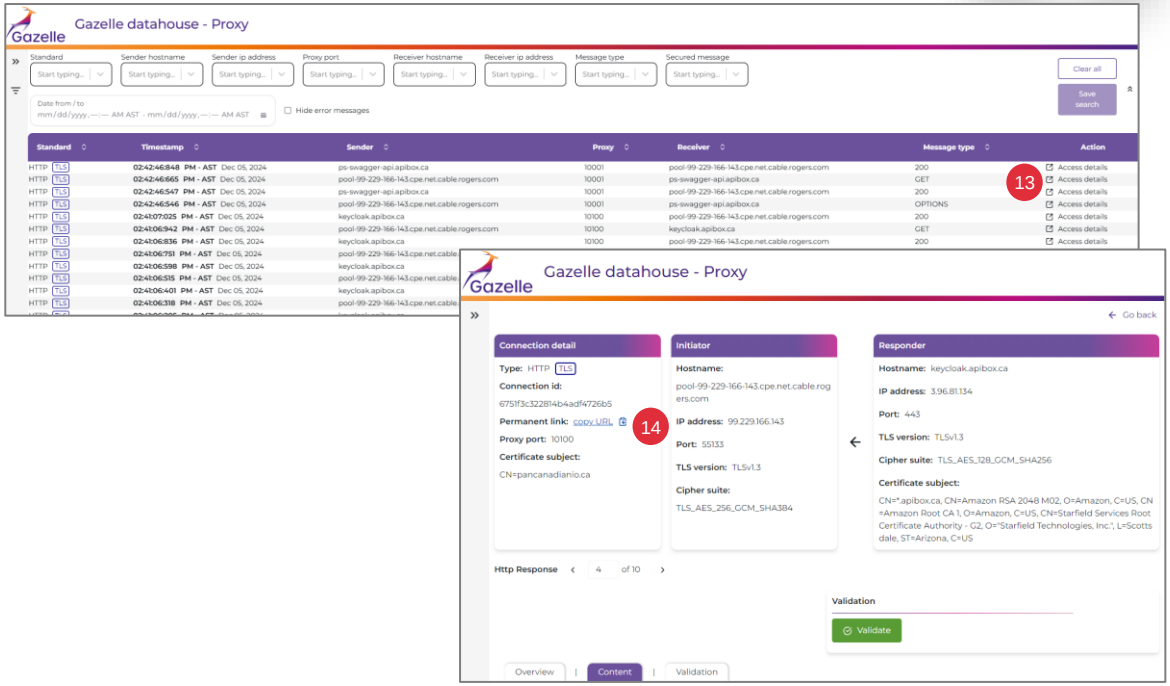
Tool Demonstration – Gazelle Datahouse

After Executing Any Transaction:

13 After successfully executing the request against your proxied authorization server, navigate to the Gazelle Datahouse to select the "Access detail" you would like to use for evidence

14 Copy the permanent link for pasting into Gazelle Test Instance



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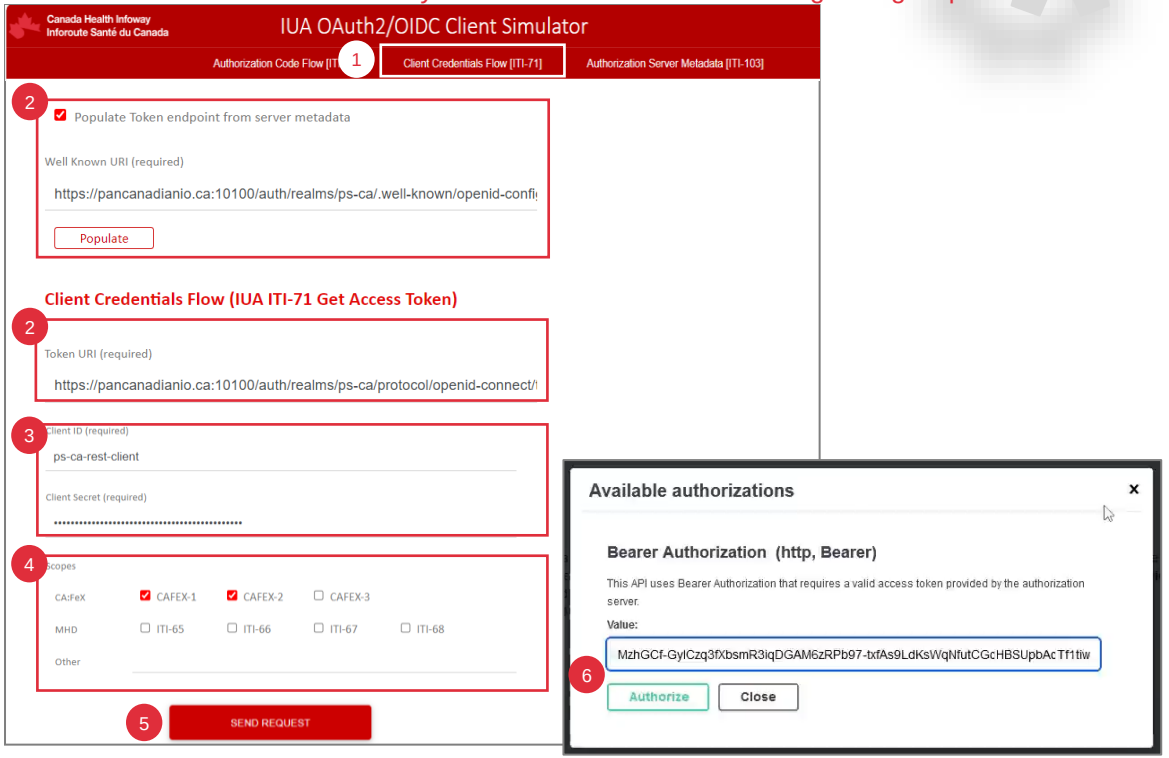
Tool Demonstration – Authorization Client Simulator UI

ITI-71 – Client Credentials Flow:

1. Navigate to the page of the transaction you would like to simulate
2. Populate your authorization server (SUT) url to pre-populate token endpoint, or enter it manually
3. Enter the Client ID and Client Secret as registered with the authorization server
4. Indicate the Scopes to be included in the access token
5. Click “Send Request”
6. Copy access token for use in CA:FeX-IUA/MHD-IUA exchange workflows that incorporate IUA Access Token (ITI-72)

Note: This flow does not include any user authentication or consent granting steps



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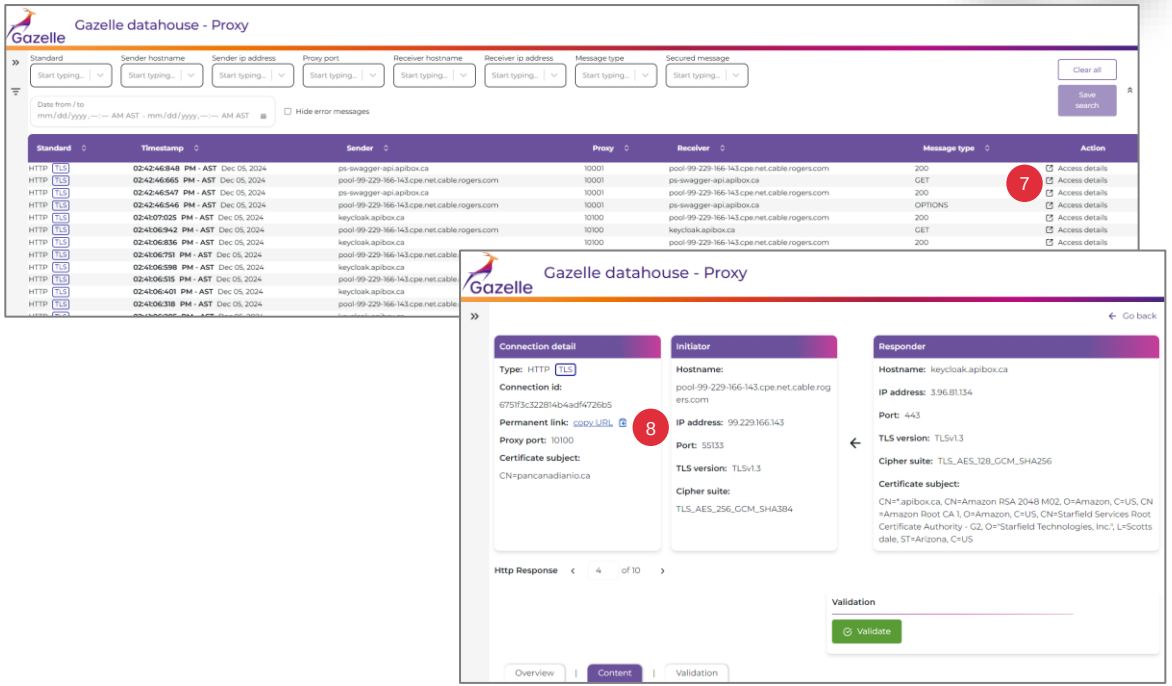
Tool Demonstration – Gazelle Datahouse

After Executing Any Transaction:

7 After successfully executing the request against your proxied authorization server, navigate to the Gazelle Datahouse to select the "Access detail" you would like to use for evidence

8 Copy the permanent link for pasting into Gazelle Test Instance



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Where to Access the IUA Simulators

Simulator	URL
IUA Authorization Client Simulator	https://iua.apibox.ca/
IUA Authorization Server Simulator	https://pancanadianio.ca:10100/auth/realms/ps-ca/
IUA Resource Server (CA:FeX)	https://pancanadianio.ca:10001/fhir/cafex-iua (Option A) https://pancanadianio.ca:10002/fhir/cafex-iua (Option B) https://pancanadianio.ca:10003/fhir/cafex-iua (Option C) https://pancanadianio.ca:10004/fhir/cafex-iua (Option D)
IUA Resource Server (MHD)	https://pancanadianio.ca:10005/fhir/mhd-iua
IUA Client Simulator (grouped with CA:FeX and MHD, for ITI-72)	https://ps-swagger.apibox.ca/index.html

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Thank you!

To learn more about the Projectathon 2025, visit:

https://infoscribe.infoway-inforoute.ca/display/PCI/Scope%3A+Projectathon+2025

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