



IMS Japan Society

日本IMS協会

教育関連データのデータ連携の実現に向けた実証調査研究

LTI 1.3 実装説明会

2022/12/05

IMS Global Certified Trainer: IMS認定 訓練/実装支援管理士

秦 隆博

内容

- LTI 1.3 開発支援リソース
 - LTI 1.3 日本語ガイダンス資料
 - 開発実装に向けた解説
- 1EdTech LTI 1.3 実装支援ツール
 - Reference Implementation : リファレンス・インプリメンテーション : RI
 - Conformance Test Tool : コンフォーマンス・テスト・ツール

開発実装に向けた解説

LT1 1.3 開発支援リソース

LTI 1.3 開発支援リソース

「信頼できる唯一の情報源 (Single Source of Truth; SSOT)」

オープンソース
Moodle
Tao
Sakai



Platform

IMS Conformance Test Tool
適合テスト・システム

Reference Implementation Test Tool: RI
参照実装テストツール

LTI Bootcamp Materials
オープンソース・ライブラリ

仕様: LTI 1.3 Core, Advantage
データモデル: Claim(JSON)

IMS Security Framework
業界標準技術: OAuth2.0, OIDC

オープンソース
IMS Global
Github
Bootcamp



Tool

LTI Bootcamp Materials

<https://github.com/IMSGlobal/ltibootcamp>

•Code Libraries

- [PHP Library: 1.3 core + services](#)
- Open Assessment Technologies, TAO's PHP Libraries
 - [1.3 core](#)
 - [Deep Linking](#)
 - [Names & Roles](#)
 - [Symfony Bundle](#)
- Open University of Catalonia's Java libraries
 - [LTI 1.3 & LTI Advantage Java Library](#)
 - [Spring Boot LTI Advantage library](#)
 - [Java LTI 1.3 Example App](#)
- [Unicon Spring Boot Java LTI Advantage Demo/starter](#)
- [Node JS Library 1.3 Core and Services](#)
- [PyLTI 1.3: Python library](#)

PyLTI1p3 1.9.1

`pip install PyLTI1p3`

✓ Latest version

Released: May 25, 2021

**Example of usage PyLTI1p3 library
within Flask framework**

オープンスタンダード

コミュニティ

オープンソース

LTI 1.3 実装エンジニアからの共通した質問

**LTI®v1.3の資料は、どこにありますか？
英語ではなく日本語の資料はありませんか？
システム連携の標準知識
(OAuth2.0やOpen ID Connect)は必要ですか？
どのような手順で実装を進めるのが良いですか？
開発用のツールはありますか？**

LTI 1.3 日本語ガイドンス資料(案)

2022 年 12 月 5 日

教育関連データ
のデータ連携の
実現
実証調査研究

LTI®v1.3 に準拠した接続を実
現するためのガイドンス文書

【第3章】IMS Global LTI®v1.3実装手順ベストプラクティス

日本 IMS 協会

タスクフォース

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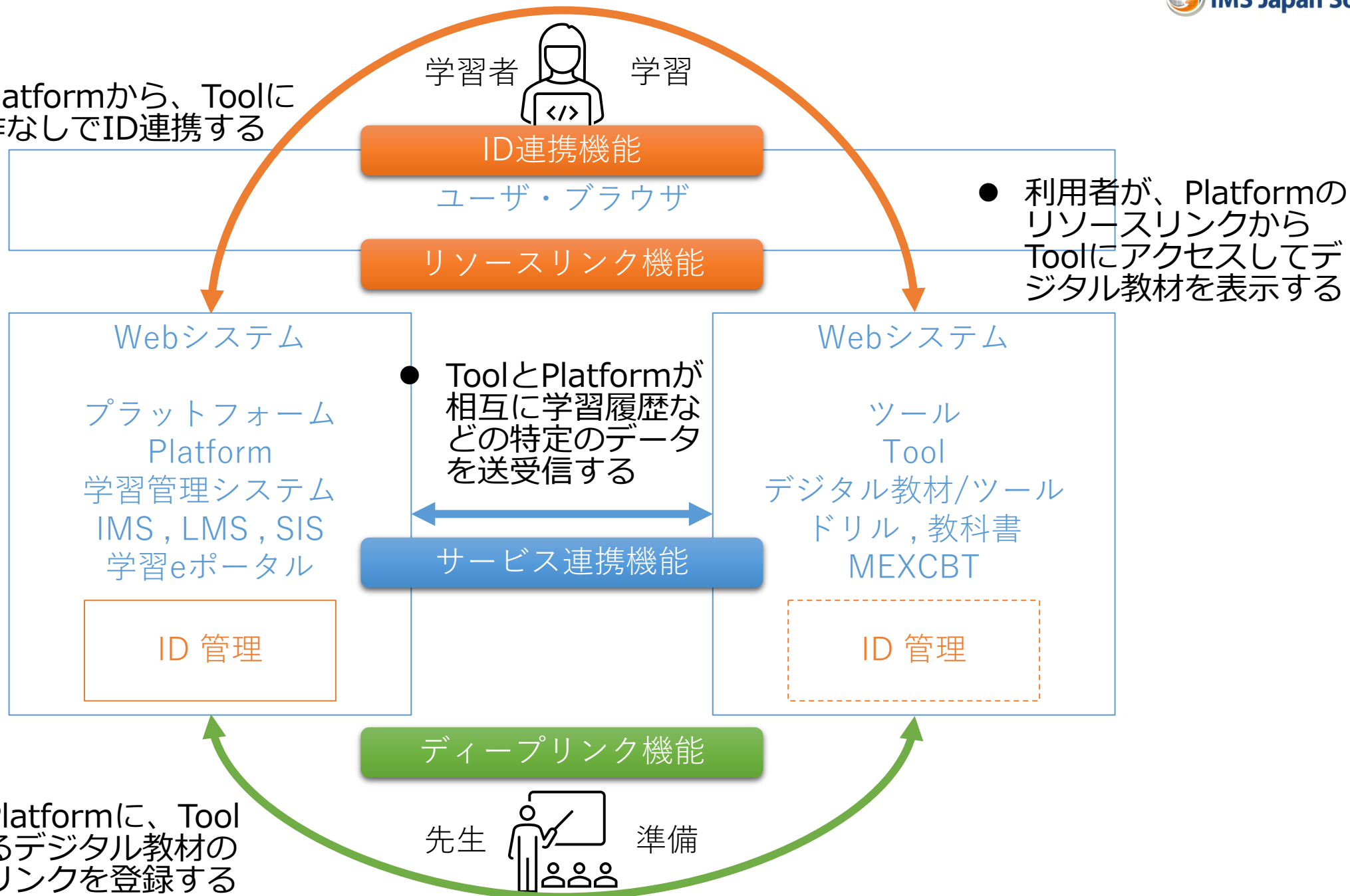
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- 利用者が、Platformから、Toolにログイン操作なしでID連携する



ユーザ・ブラウザ

セキュリティ認証モデル

IMS認定
プラットフォーム
必須項目

プラットフォーム
Platform
学習管理システム

メッセージ
サービス
CORE機能

ツール
Tool
デジタル教材/ツール

IMS認定
ツール
区分



リソースリンク(SSO, 起動)

Certified

Deep Linking v2.0 (DL)機能

ADVANTAGE機能

Completed

Assignment and Grade Services v2.0 (AGS)機能

Names and Role Provisioning Services v2.0 (NRPS)機能

CORE機能

ADVANTAGE機能

LTlv1.3仕様

リソースリンク
(SSO, 起動)

Deep Linking
v2.0 (DL)機能

Assignment and
Grade Services
v2.0 (AGS)機能

Names and Role
Provisioning
Services v2.0
(NRPS)機能

ISFv1.1仕様

メッセージ・セキュリティと
署名
Message Security and
Message Signing

セキュアWebサービス
Securing Web Services

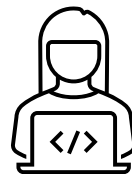
ISF: IMS Security Framework

OpenID Connect仕様

OpenID Connect
with JWT-based
message
exchanges

OAuth 2.0
Authorization
Code Grant

OAuth 2.0 Client
Credential Grant



ユーザ・ブラウザ

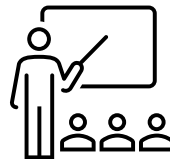
プラットフォーム
Platform
学習管理システム
IMS, LMS, SIS
学習eポータル

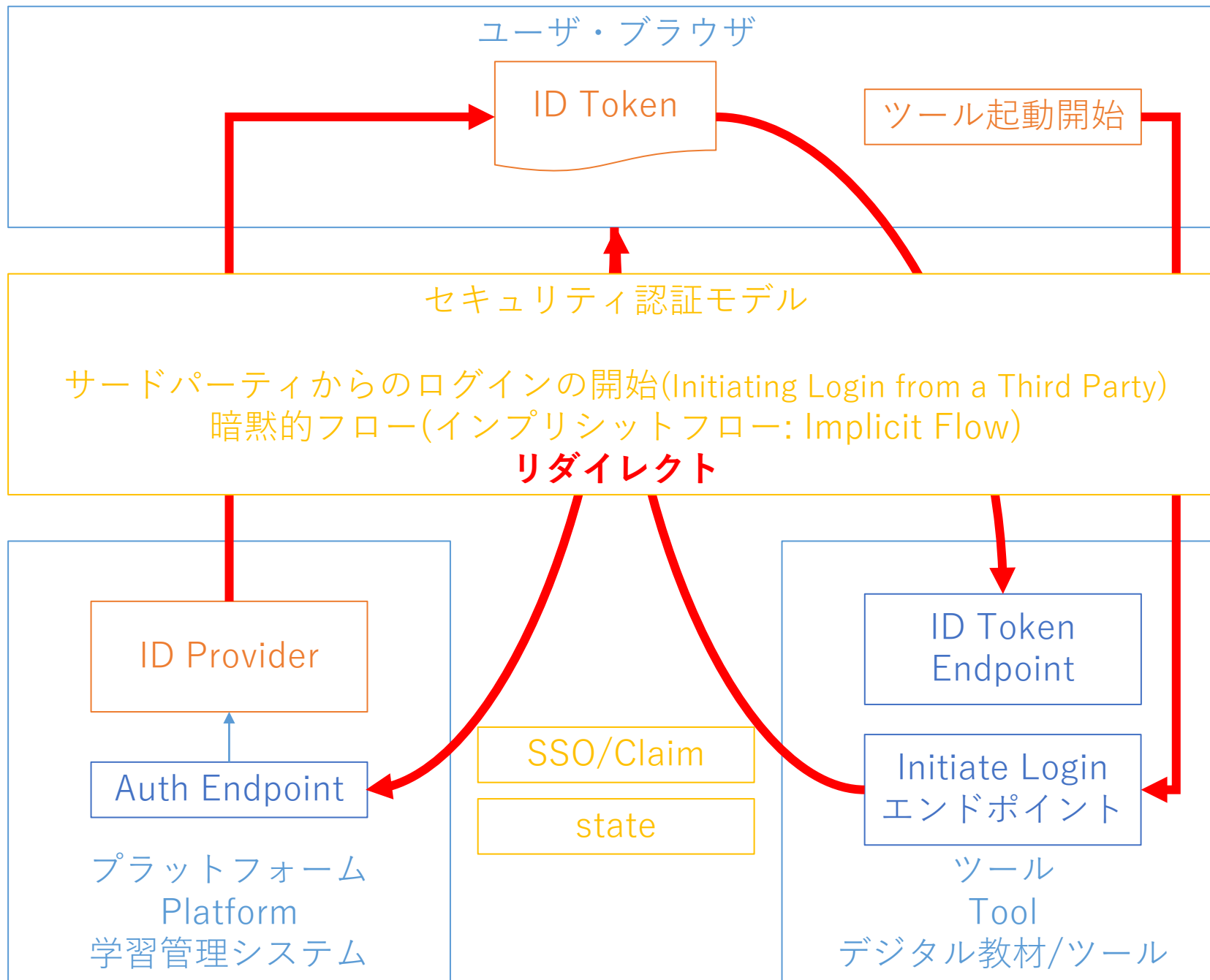
ID Provider



ツール
Tool
デジタル教材/ツール
ドリル, 教科書
MEXCBT

事前連携設定 : 事前の信頼関係に基づく連携





『プラットフォームとツールとブラウザが、OpenID Connectの「サードパーティからのログインの開始」と「暗黙的フロー」により安全に、JWTでメッセージ(id_token)やサービスを送受信して連携する仕組み』



「サードパーティからのログインの開始」と「暗黙的フロー」の具体的なシーケンス

プラットフォームとツールの事前連携設定値

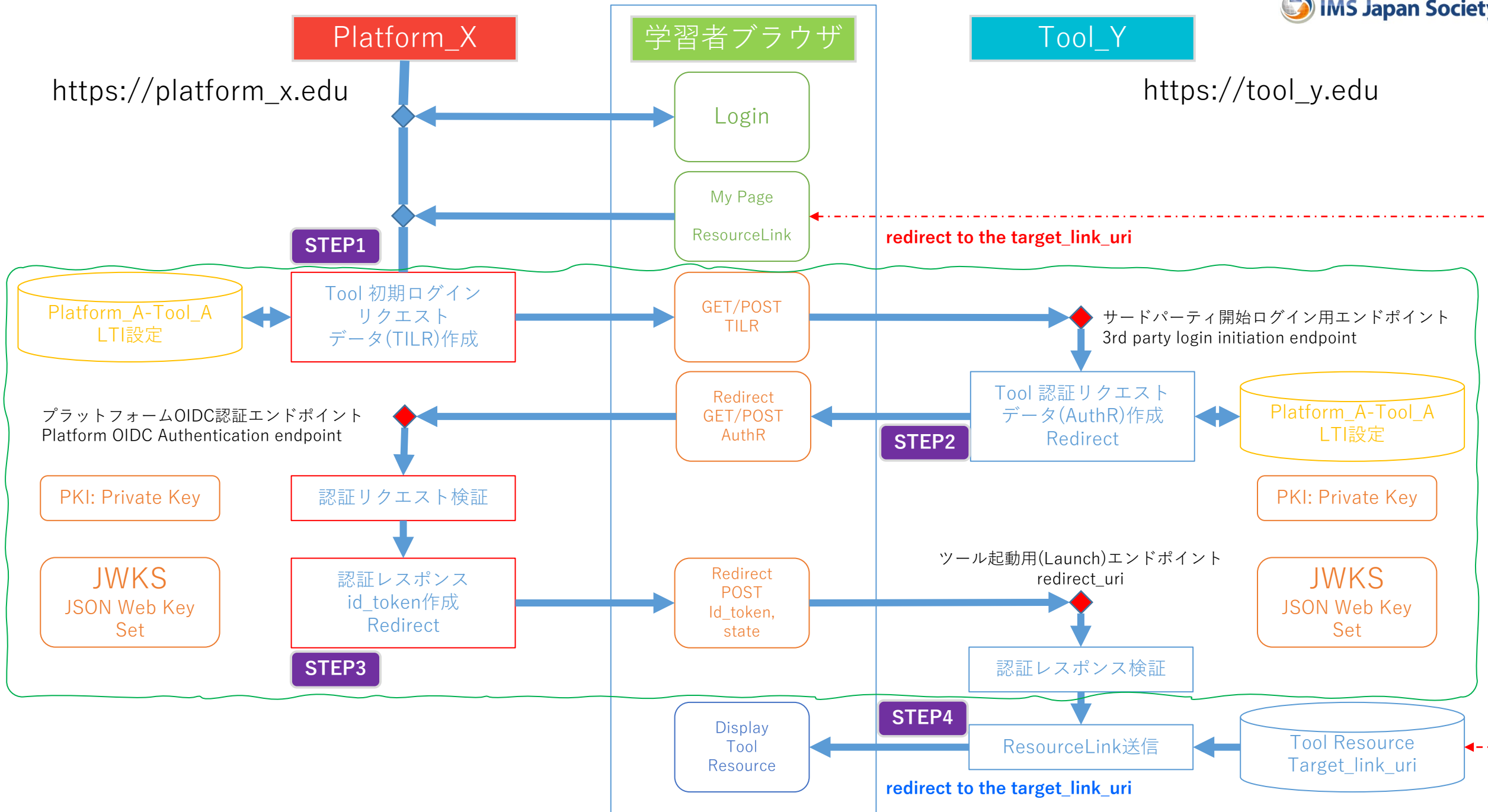
サードパー
ティからの
ログインの
開始

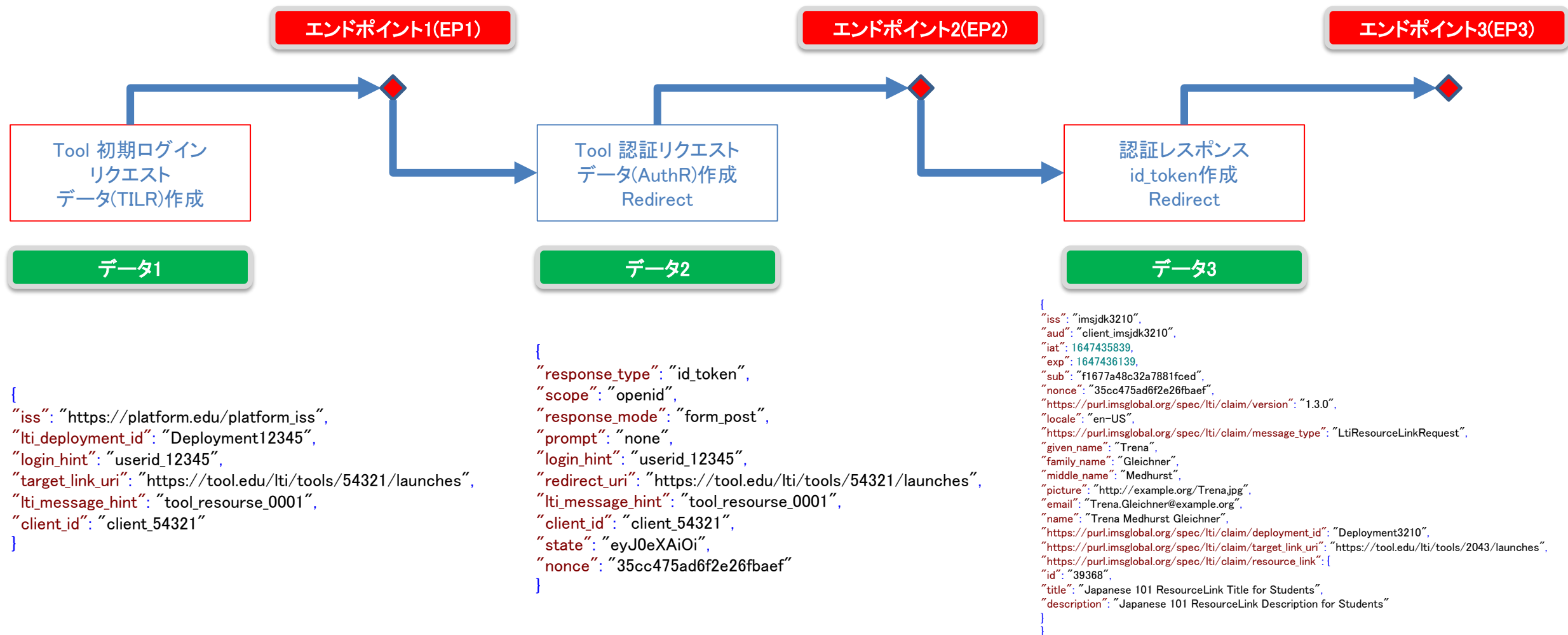
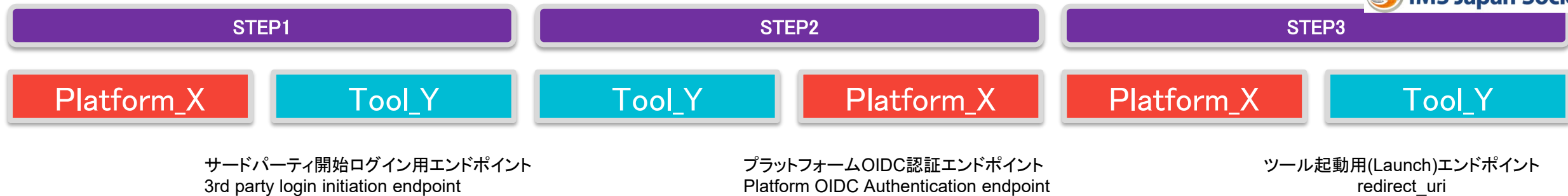
ログイン認
証リクエス
トの作成と
リダイレク
ト送信

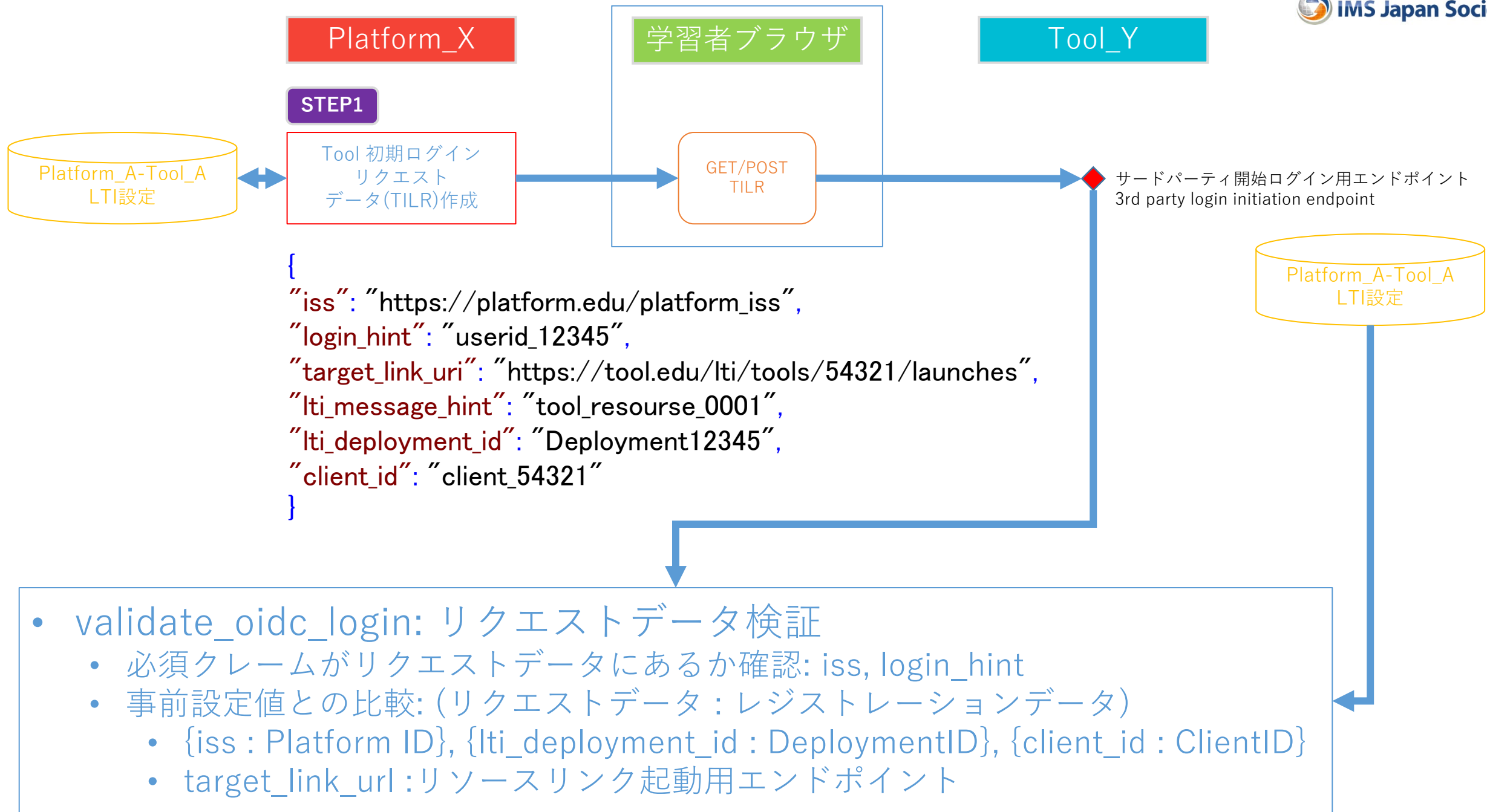
CORE機能、
Advantage
機能に対応
した認証レ
スポンス・
クレームの
作成

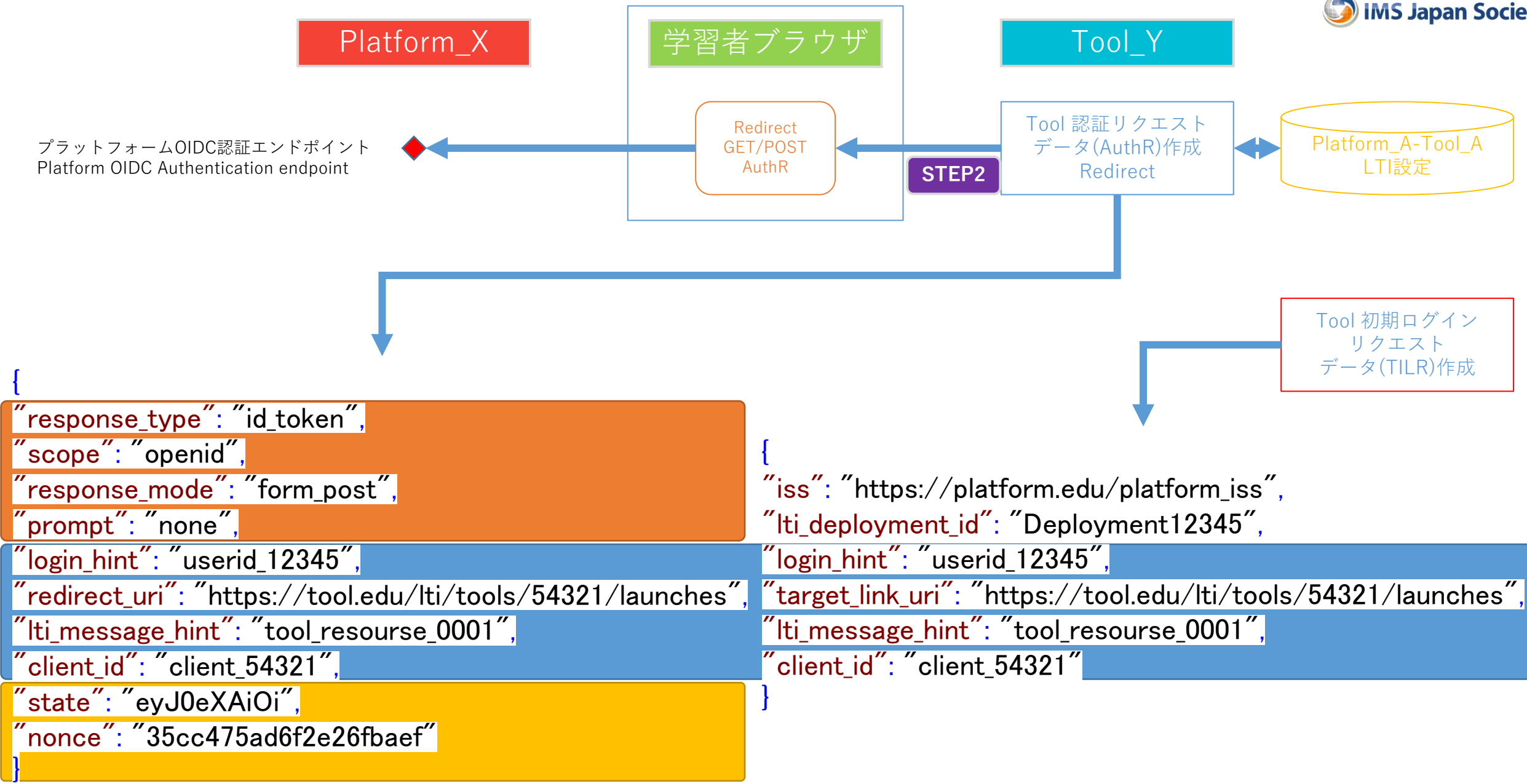
id_token形
式に変換
(JWS)した
認証レスポ
ンスをツールにPOST

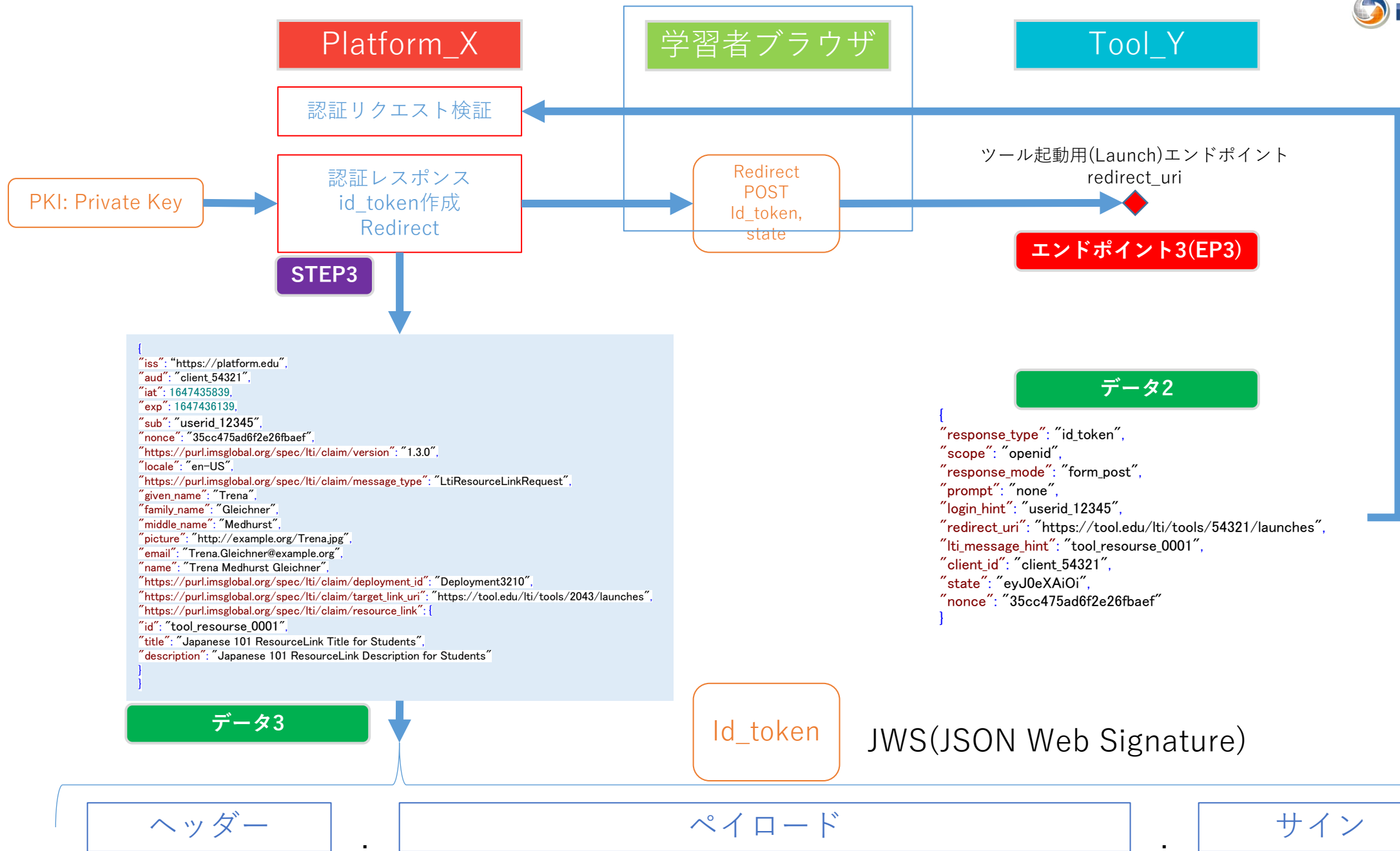
認証レスポ
ンスを検証
しリソース
リンクの起
動



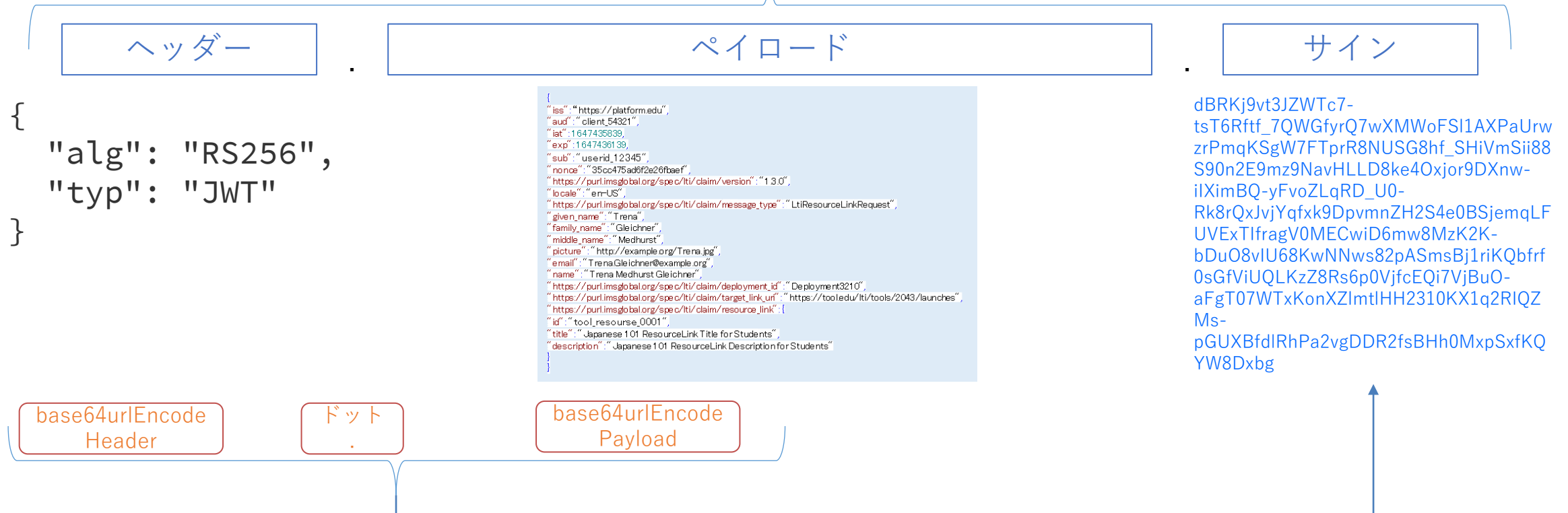








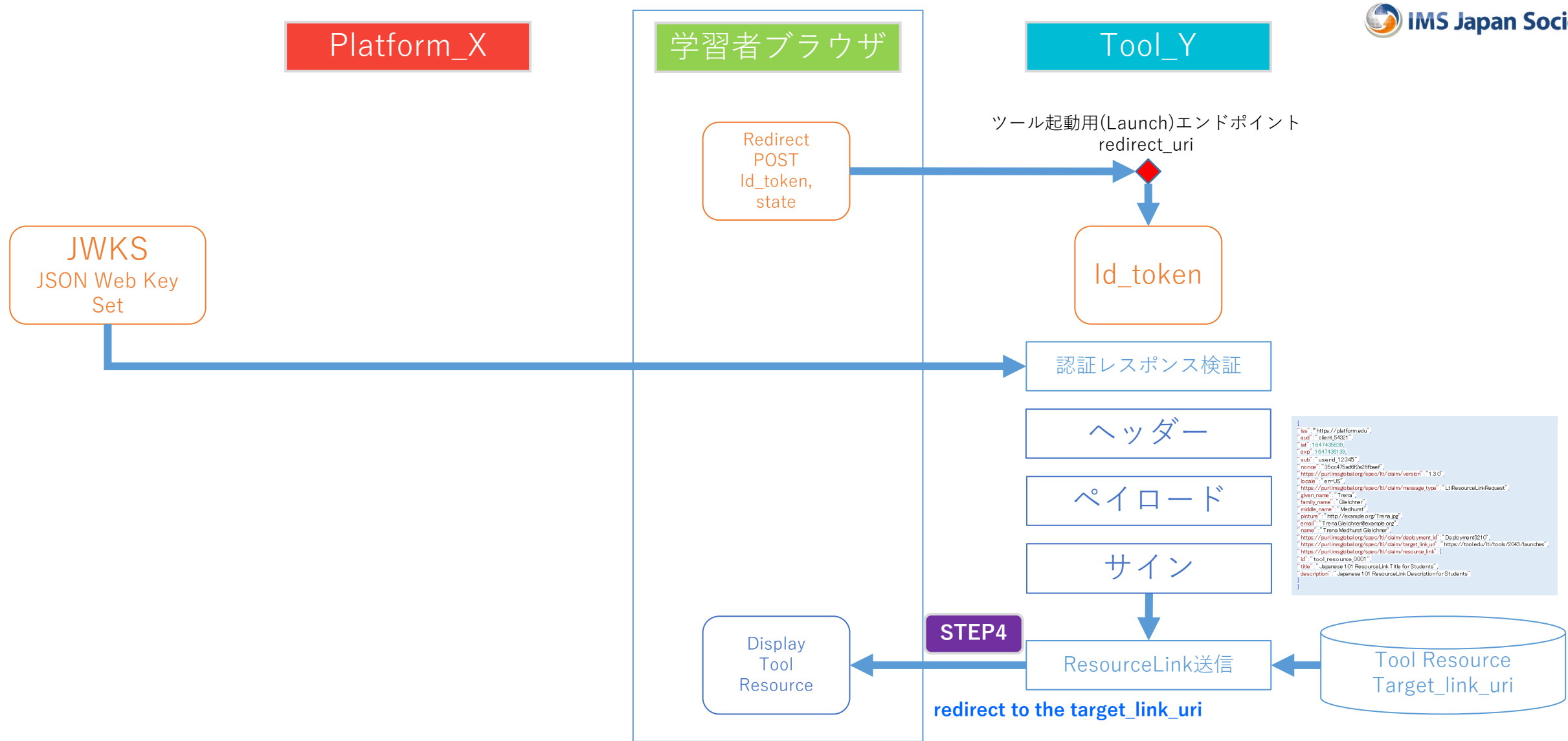
JWS(JSON Web Signature)
JWT(JSON Web Token)
<https://jwt.io/>

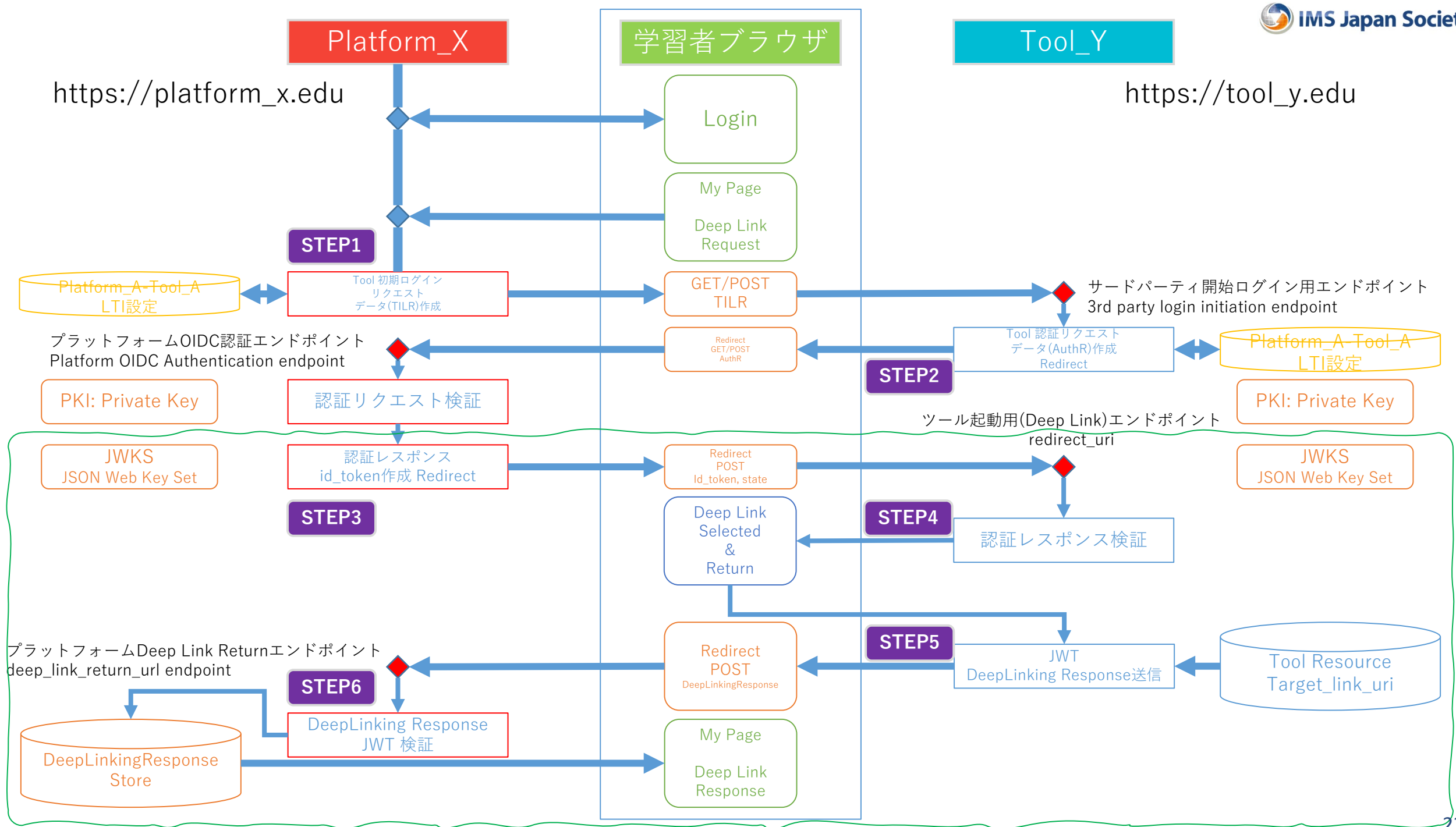
[illegible]

- ペイロード

平文

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RI : Reference Implementation

リファレンス・インプリメンテーション

1EDTECH LTI 1.3 実装支援ツール

LTI® v1.3 Reference Implementation Test Tool

1EdTech 公式開発テストツール

<https://lti-ri.imsglobal.org/>

Platform & Tool

Core & Advantage

本プロジェクト用 ID

RI Tool

設定

設定

開発Platform

RI Platform

設定

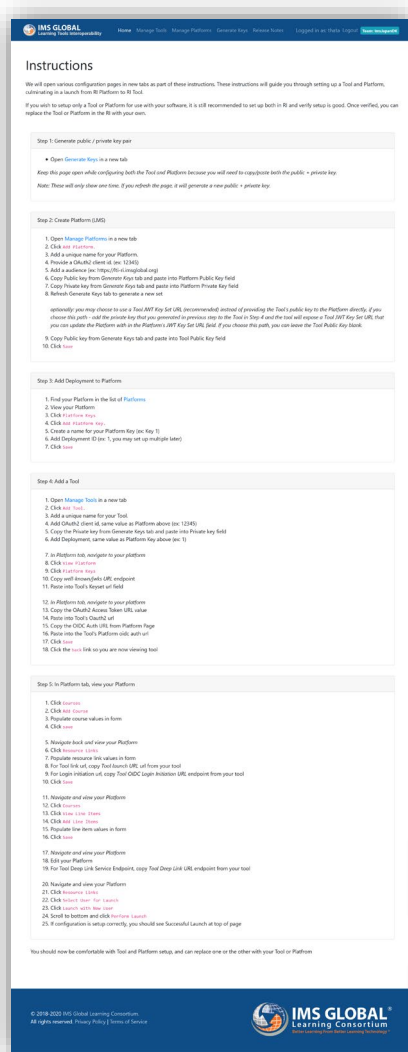
設定

開発Tool

LTI® v1.3 Reference Implementation Test Tool

Home Manage Tools Manage Platforms Generate Keys Release Notes Logged in as: thata Logout Team: ImsJapanDK

<https://lti-ri.imsglobal.org/>



- LTI 1.3のシミュレーション/テストが可能
 - Manage Tools
 - Manage Platforms
 - Generate Keys
- Instructions
 - Step 1: Generate public / private key pair
 - Step 2: Create Platform (LMS)
 - Step 3: Add Deployment to Platform
 - Step 4: Add a Tool
 - Step 5: In Platform tab, view your Platform

RI Tool

設定

設定

開発Platform

RI Platform

設定

設定

開発Tool

Conformance Test Tool

コンFORMANCE・テスト・ツール

1EDTECH LTI 1.3 実装支援ツール

Conformance Test Results

<https://ltiadvantagevalidator.imsmsglobal.org/ltiadv/certification.html>

- Tests for LTI v1.3 Core:
 - 30 Test Cases
- Tests for Deep Linking:
 - 8 Test Cases
- Tests for Names and Role Provisioning Services
 - 5 Test Cases
- Tests for Assignment and Grade Services

Section: LTI Core

Total Test % Done: 9

Previous Test

Next Test

Results

Test Description: No LTI Version Passed in JWT

Test Delivers Launch Without LTI Version

Test Status: PASSED

Test Options

Test Payload

Test Results

Submit Result Log From Your Tool Logs

Test Passed? ☒

Please Insert Your Log Messages Demonstrating Success or Failure:

```

raise ValueError('The \'var/task/task/app.py\' file 150, in dispatch_request\n
File \'var/task/flask_debugtoolbar/_init_.py\' line 125, in dispatch_request\n
return view_func(**req.view_args)\n
File \'var/task/app.py\' line 174, in launch\n
message_launch_data = message_launch.get_launch_data()\n
File \'var/task/pylti1p3/message_launch.py\' line 437, in get_launch_data\n
return self._get_jwt_body()\n
File \'var/task/pylti1p3/message_launch.py\' line 290, in _get_jwt_body\n
self.validate()\n
File \'var/task/pylti1p3/message_launch.py\' line 275, in validate\n
return self.validate_state()\n
File \'var/task/pylti1p3/message_launch.py\' line 654, in validate_message\n
res = validator.validate(jwt_body)\n
File \'var/task/pylti1p3/message_validators/resource_message.py\' line 8, in validate\n
self.run_common_validators(jwt_body)\n
File \'var/task/pylti1p3/message_validators/abstract.py\' line 21, in run_common_validators\n
raise LtiException('Incorrect version, expected 1.3.0')\n
pylti1p3.exception.LtiException: Incorrect version, expected 1.3.0')

```

Submit Log

If You Are Unable To Retrieve Log Messages

Upload Your Screenshot Of The Tool Running To Indicate SUCCESS ONLY:

参照...

ファイルが選択されていません。

Submit Screenshot

If Your Testing Shows a Failure For This Test, Please Input Message in the Log Above and Set the Switch to OFF

IMS GLOBAL LTI Advantage

Section: LTI Core

Total Test % Done: 9

Previous Test

Next Test

Results

Test Description: No LTI Version Passed in JWT

Test Delivers Launch Without LTI Version

Test Status: PASSED

Test Options

Test Payload

Test Results

Submit Result Log From Your Tool Logs

Test Passed? ☒

Please Insert Your Log Messages Demonstrating Success or Failure:

```

raise ValueError('The \'var/task/task/app.py\' file 150, in dispatch_request\n
File \'var/task/flask_debugtoolbar/_init_.py\' line 125, in dispatch_request\n
return view_func(**req.view_args)\n
File \'var/task/app.py\' line 174, in launch\n
message_launch_data = message_launch.get_launch_data()\n
File \'var/task/pylti1p3/message_launch.py\' line 437, in get_launch_data\n
return self._get_jwt_body()\n
File \'var/task/pylti1p3/message_launch.py\' line 290, in _get_jwt_body\n
self.validate()\n
File \'var/task/pylti1p3/message_launch.py\' line 275, in validate\n
return self.validate_state()\n
File \'var/task/pylti1p3/message_launch.py\' line 654, in validate_message\n
res = validator.validate(jwt_body)\n
File \'var/task/pylti1p3/message_validators/resource_message.py\' line 8, in validate\n
self.run_common_validators(jwt_body)\n
File \'var/task/pylti1p3/message_validators/abstract.py\' line 21, in run_common_validators\n
raise LtiException('Incorrect version, expected 1.3.0')\n
pylti1p3.exception.LtiException: Incorrect version, expected 1.3.0')

```

Submit Log

If You Are Unable To Retrieve Log Messages

Upload Your Screenshot Of The Tool Running To Indicate SUCCESS ONLY:

参照...

ファイルが選択されていません。

Submit Screenshot

If Your Testing Shows a Failure For This Test, Please Input Message in the Log Above and Set the Switch to OFF

IMS RI: LTI Platform properties for setting

Web Service : Platform X

Platform Name	imsjdkpl3210
Platform Tool Client ID	client_imsjdk3210
Platform Tool Deployment ID	Deployment3210
Platform OIDC Auth URL	https://lti-ri.imsglobal.org/platforms/2292/authorizations/new
Platform launch return_url URL	https://lti-ri.imsglobal.org/platforms/2292/returns
Platform OAuth2 Access Token URL	https://lti-ri.imsglobal.org/platforms/2292/access_tokens
Platform Private Key	Ref. Platform's Private Key
Platform Public Key	Ref. Platform's Public Key
Platform JWT Key Set URL	https://lti-ri.imsglobal.org/platforms/2292/platform_keys/2124.json
Platform User Info	login_hint: 347462
Platform Context Info	lti_message_hint: 39368

IMS RI: LTI Tool properties for setting

Web Service : Tool X

Tool Name	imsjdk3210
Tool Client ID	client_imsjdk3210
Tool Deployment ID	Deployment3210
Tool OIDC Login Initiation URL	https://lti-ri.imsglobal.org/lti/tools/2043/login_initiations
Tool launch URL	https://lti-ri.imsglobal.org/lti/tools/2043/launches
Tool Deep Link URL	https://lti-ri.imsglobal.org/lti/tools/2043/deep_link_launches
Tool Private Key	Ref. Tool's Private Key
Tool Public Key	Ref. Tool's Public Key
Tool JWT Key Set URL	https://lti-ri.imsglobal.org/lti/tools/2043/.well-known/jwks.json
Tool Context Info(Resource)	lti_message_hint: 39368

Platform – Tool Properties Pair Comparison

Web Service : Platform X

Web Service : Tool X

Platform Name	Tool Name
Tool Client ID	
Tool Deployment ID	
Platform OIDC Auth URL	Tool OIDC Login Initiation URL
Platform launch return_url URL	Tool launch URL
Platform OAuth2 Access Token URL	Tool Deep Link URL
Platform Private Key	Tool Private Key
Platform Public Key	Tool Public Key
Platform JWT Key Set URL	Tool JWT Key Set URL
Platform User Info	N/A
Platform Context Info	Tool Context Info(Resource)

Input value
 Generate Keys
 RI Generate & Assigned

分類	Platform : プラットフォーム			Tool : ツール		
	名称	例	説明	名称	例	説明
ID	iss registration.issuer	http://platform.edu	Platform識別URL	ID/Name	http://tool.edu	識別URL
	deployment ID	plat001	サブ識別子	Client ID	client001	サブ識別子
エンドポイント URL				OIDC Login Initiation URL	https://tool.edu/login_i nitiations	①初期ログイン URL
	authorization_reque st_endpoint		OIDC 認証エンドポイント			
				target_link_url	https://tool.edu/launch	リソースリンク起動用 エンドポイント
				target_link_url	https://tool.edu/dl_lau nch	DeepLink起動用 エンドポイント
	launch return_url URL					
	OAuth2 Access Token URL					
PKI	JWT Key Set URL		jwks_uri	JWT Key Set URL		jwks_uri

Platform_X

Tool_Y

STEP1

LTI®v1.3 RI プラットフォーム

LTI®v1.3 RI ツール

事前登録設定確認

ツール設定1

プラットフォーム設定1

New platform

Name

Client

Audience

Tool Deep Link Service Endpoint

Platform Public Key

Platform Private Key

Must include either a Tool Public Key or JWT Key Set URL

Tool Public Key

JWT Key Set URL

Save


IMS GLOBAL
Learning Tools Interoperability

Home

Manage Tools

Manage Platforms

Generate Keys

Release Notes

Login

LTI Platforms

Add or manage Platform configurations.

Add Platform

LTI Tools

Add or manage Tool configurations.

Add Tool

New Tool

Name

Client

Private key

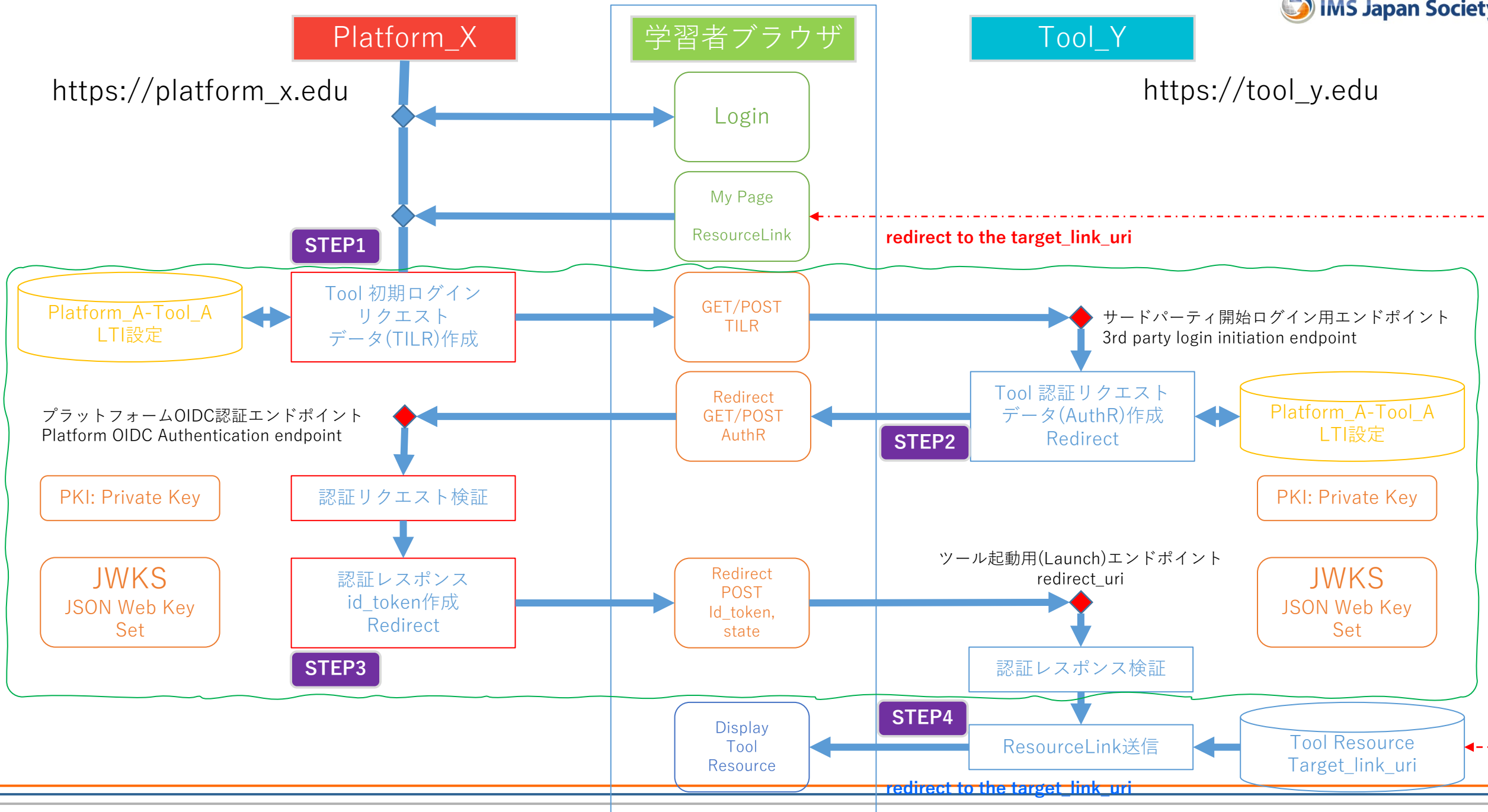
Deployment

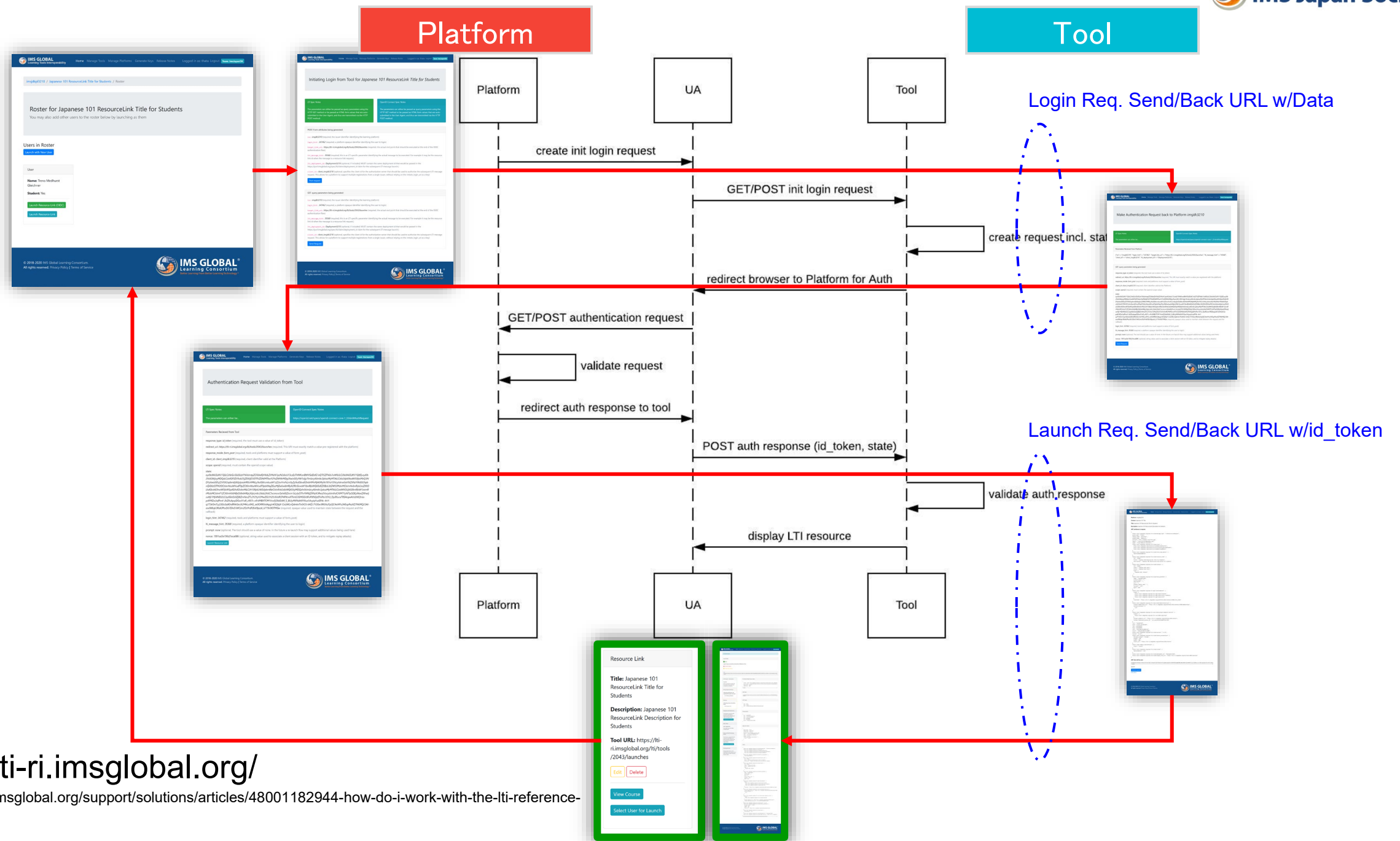
Keyset url

Oauth2 url

Platform oidc auth url

Create Tool



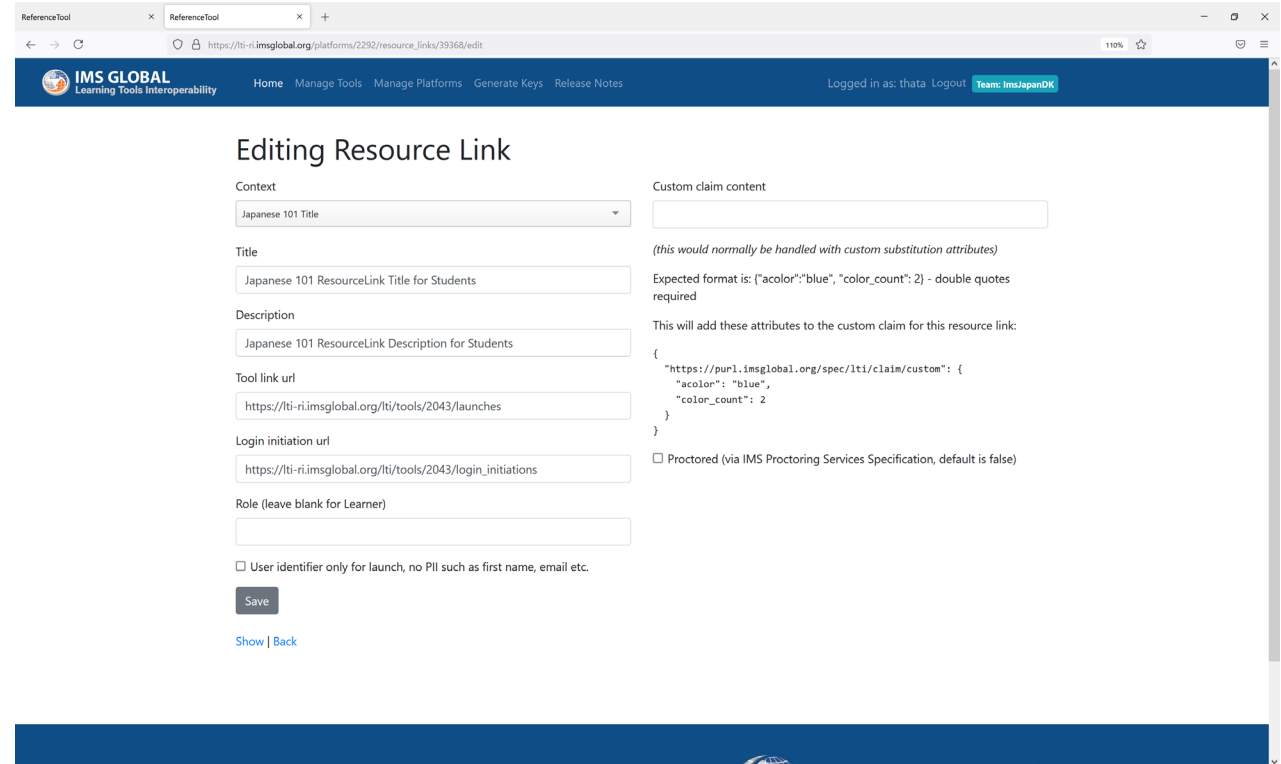


<https://lti-ri.imsglobal.org/>

<https://support.imsglobal.org/support/solutions/articles/48001182944-how-do-i-work-with-the-lti-reference-implementation->

STEP1~3: Tool Resource Link

- STEP1:
 - Tool link url
 - <https://lti-ri.msglobal.org/lti/tools/2043/launches>
 - Login initiation url
 - https://lti-ri.msglobal.org/lti/tools/2043/login_initiations
- STEP2:
 - Tool link url
 - <http://3.113.82.107:8080/launch/>
 - Login initiation url
 - <http://3.113.82.107:8080/login/>
- STEP3:
 - Tool link url
 - <https://35aqbwtzjl.execute-api.ap-northeast-1.amazonaws.com/dev/launch/>
 - Login initiation url
 - <https://35aqbwtzjl.execute-api.ap-northeast-1.amazonaws.com/dev/login/>



The screenshot shows the 'Editing Resource Link' interface in the IMS GLOBAL Learning Tools Interoperability system. The form is divided into two main sections: 'Context' and 'Custom claim content'.

Context Section:

- Context:** A dropdown menu showing 'Japanese 101 Title'.
- Title:** A text input field containing 'Japanese 101 ResourceLink Title for Students'.
- Description:** A text input field containing 'Japanese 101 ResourceLink Description for Students'.
- Tool link url:** A text input field containing 'https://lti-ri.msglobal.org/lti/tools/2043/launches'.
- Login initiation url:** A text input field containing 'https://lti-ri.msglobal.org/lti/tools/2043/login_initiations'.
- Role (leave blank for Learner):** An empty text input field.
- ☐ User identifier only for launch, no PII such as first name, email etc.
- Save:** A button to save the changes.
- Show | Back:** Links to show more details or return to the previous screen.

Custom claim content Section:

- Custom claim content:** A text input field for custom claim content.
- (this would normally be handled with custom substitution attributes)*
- Expected format is:** {"acolor":"blue", "color_count": 2} - double quotes required
- This will add these attributes to the custom claim for this resource link:**
- JSON Example:**

```
{
  "https://purl1.msglobal.org/spec/lti/claim/custom": {
    "acolor": "blue",
    "color_count": 2
  }
}
```
- ☐ Proctored (via IMS Proctoring Services Specification, default is false)

Tool

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STEP2: 'RI Platform' to 'Python Sample Tool'

Example of usage PyLT1p3 library within Flask framework

Editing Resource Link

Context

Japanese 101 Title

Title

Python Sample Tool: pylti1.3-flask-example/game

Description

Python Sample Tool: pylti1.3-flask-example/game

Tool link url

http://3.113.82.107:8080/launch/

Login initiation url

http://3.113.82.107:8080/login/

Role (leave blank for Learner)

☐ User identifier only for launch, no PII such as first name, email etc.

Save

[Show](#) | [Back](#)

Resource Link

Title: Python Sample Tool:
pylti1.3-flask-example/game

Description: Python Sample
Tool: pylti1.3-flask-
example/game

Tool URL:

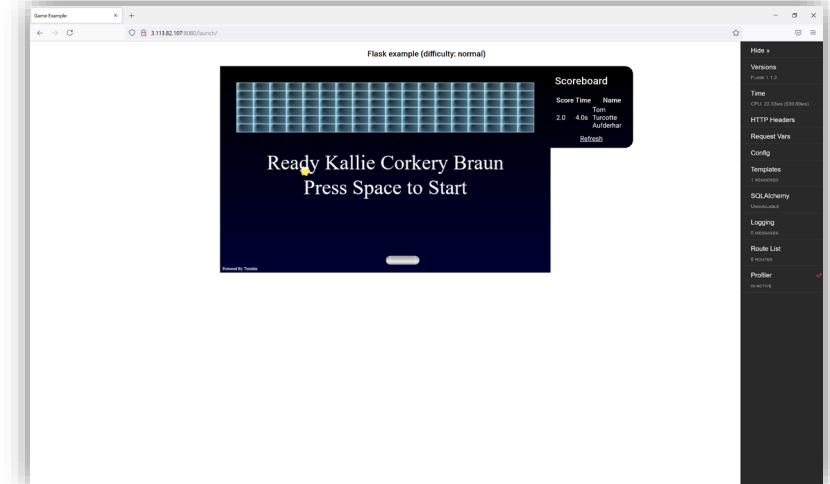
http://3.113.82.107:8080
/launch/

Edit

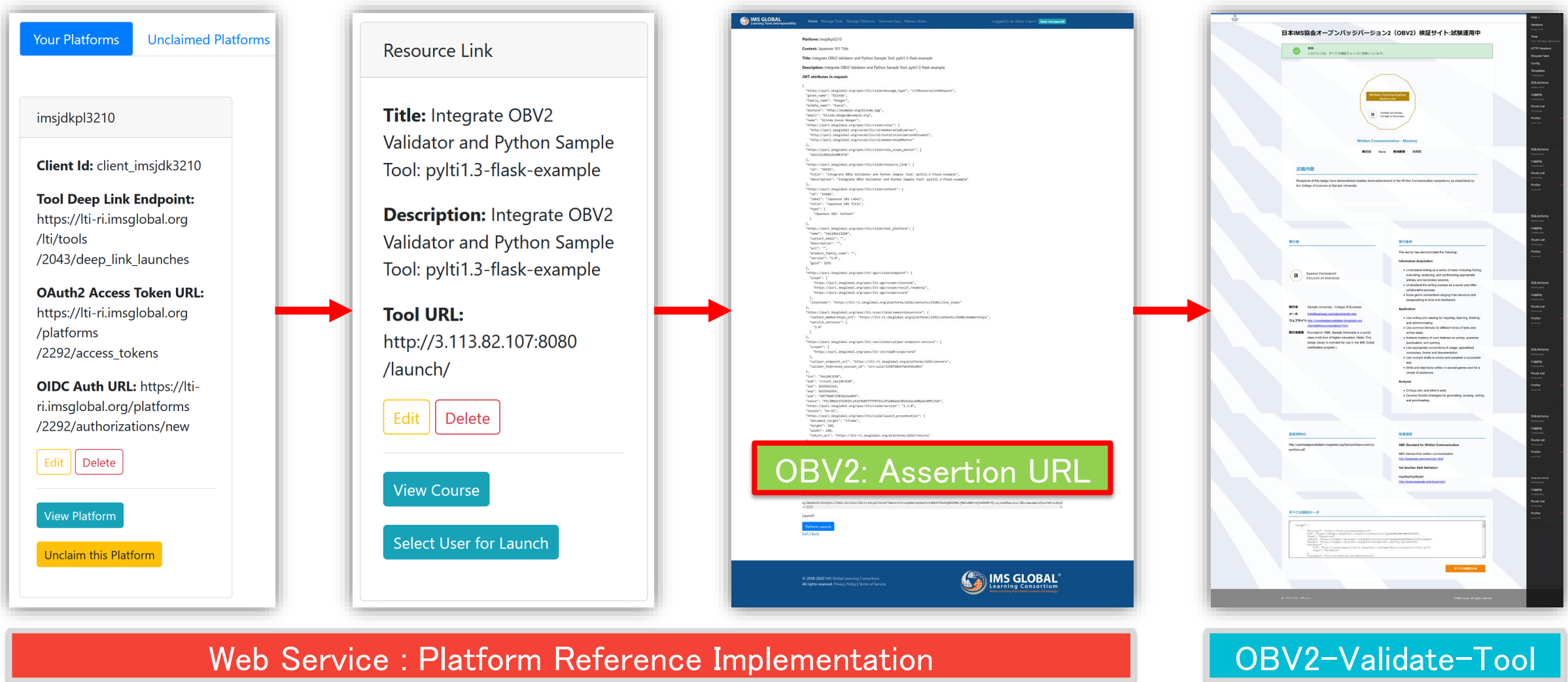
Delete

View Course

Select User for Launch



STEP3: 'RI Platform' to 'OBV2 Validator Tool'



```
{
  "https://purl.msglobal.org/spec/lti/claim/custom": {
    "obv2": "https://badges.msglobal.org/public/assertions/1geQXkWnQnW0BkWcO3jSPA"
  }
}
```

Generate Keys

<https://lti-ri.msglobal.org/keygen/index>

Platform Public Key

```
-----BEGIN PUBLIC KEY-----
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEA9DGQ2GpzBUYmO1SXblcf
rEk6IADVhSTsN0xstJYzSpzypM/DVa/0AP6Wb1FIOAlfo3wDKCwFMCAOra2GlXmk
OMn7Yg4mR7Ew3johbgxCJTgCmb7+XlvRF9IWqf1WSrbUbqRUcj0vDi+nh/Nj/X34
bZPa18qQMkBEq4S+qplCi1JRlc9lYM1JN03MsLWk937oY5v32jAaZ07cffXeW7H
nsdgtOmsyzw9VtMYF/YsBaOpv1joHT1nuF/tTOMUkEj8dJAL0RbwjITVoxoMfLgy
T059NsingJXNu4SWmuW8EQ9n2UONrFpugkZF/vDHyQTveu4fJcVWYU9Sui4COH5
zQIDAQAB
-----END PUBLIC KEY-----
```

Platform Private Key

```
-----BEGIN RSA PRIVATE KEY-----
MIIEpQIBAAKCAQEA9DGQ2GpzBUYmO1SXblcfEk6IADVhSTsN0xstJYzSpzypM/D
Va/0AP6Wb1FIOAlfo3wDKCwFMCAOra2GlXmkOMn7Yg4mR7Ew3johbgxCJTgCmb7+
XlvRF9IWqf1WSrbUbqRUcj0vDi+nh/Nj/X34bZPa18qQMkBEq4S+qplCi1JRlc9l
jYM1JN03MsLWk937oY5v32jAaZ07cffXeW7HnsdgtOmsyzw9VtMYF/YsBaOpv1jo
HT1nuF/tTOMUkEj8dJAL0RbwjITVoxoMfLgyT059NsingJXNu4SWmuW8EQ9n2UON
rFpugkZF/vDHyQTveu4fJcVWYU9Sui4COH5zQIDAQABAoIBAFAp0EcdYhwqpfXhc
uU5yEpVq+pDoPi93odhKApRyOYWhPrvytduud+0bl0Fqs63Ciwvwaqbw8Az37wN
zxEhemdeyJNkMmHUDNoEhmWRPN80hCIXUXn6YNWGCmCnBFPgrYfebzx2IBUvqXp
TlyT0PYmEqZkbk1u6QDvwxC/3Rllx3NpTV4L4I97rOP+rUY3klitZhAqsmvXvxA
GYd5rVjuEK6UzuvCgTmuqPyk0CNTetCmiKhX4ZmUuMPVN8QY+nRiXesKd5G6yJ
OPm5NmnNz7UrP3OTQJV3Ig42icM1GfskV/TbO/eRWvnM3wMY/H1t8I62aEszKqhlp
SboiZbECgYEA/8HElIi93KTR90JGWZ5t9gNPbxMedq7M+v5kL5C3C2rRofW0Zaa8
1D6AnQK6ZGluwP/R7eJXZHiYz5GLyX4pgjbLGQUdikvWZ3wVTaNRvtk7+9w4cSe8k
wA57Bfu3IgE9zfAAE03b1G5oJ8qwmru29nWWesQeZ58Gxvxo+itSsosCgYEA9Gz7
927XerdSiF5ftPdpRfbrdGa1fH1VBM6KBQzq+iQBCaLBVmw/NDGO1xL8Z5Mfuth
qQJlmB17yV+2le5bePvbQwmVC+oQf4U3gFH/rXLAOA4I7JmKzzWAXI44AjqCSqZB
PRadbeDCLaGvu/cMDh1nMiTiXBxvmF9DSAcCgYEA2qvvy6SAYQDDTSdrQwDE
f82AwzWTnGIEfK25NzoCZ06glip7I/Nb6MpEBXfDCkvm98LgqT03+xmveUj2JBu
MzMjE3IXfNNiBlxiXoLUKcoNEWsNIOHJiDRZV1pK0FZDY6rKRbcSN+VVRH921DWf
T8ZmlP02Cd7cSpJRp2QYidUCgYEA7CCdCdW6roKLaNJA0BAoZSWwky25xztFuey
bk6ccip2Fij1PdrPVG0cFByGAVU78SDTp8J5Awr4mwGsEgvCso4ctBZ9tpTYe1jm
1UBiD93k6B00KEggC4UqUR/TW8oumu8h9zHxxESHQ/ORGMAQVZgAfuLmNzTxuKp/
5GOjS+ECgYEA/t9Dgt0nuEaH4EW7Le3TSPc1Whp6jrJMIJ/tITW4fNfJCS/7MpeL
ckij0uXfsy5seyyiQ2l3jtRM06odcmn8Dg1ZPlGJhNZPozAyby2SQOLVEvW7rMD
24KUhrDxBfCvrtQgJfWpBGK91b258+TckVJC3NdnH0BDGitoMpU2Be8=
-----END RSA PRIVATE KEY-----
```

Tool Public Key

```
-----BEGIN PUBLIC KEY-----
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEApt9yDqsKMSywZd7dm22e
MPm3poPjaKJhzv0zcg9zrZAvpbE2ZoRC/fXSDi6dt7JSDKeBjAm6WoCERc0BpePQ
Wp2HGFuu+USBKXo+fsWSSnqcVFW0S1OppGMfzLkrvXSwDyJm2pu6C/fbSun5Kzan
iWh1nkvebaMtBiPhF6rR60ltn3aULviZAgMtD41JQKnzouTFU2cCAmzONb7I9zd
U5KfBhpb3X++bAqZDt3F0+mYRvdtU8njJO09kbCbuGRHd/UuPi3F9ghqOeC0ndyM
mLpdxKvCgLD0QJhVRV7gvE4IBVoLBTkAs7XSP7kV8uHjehhHnem9MO+B5dPRWJ+
EwIDAQAB
-----END PUBLIC KEY-----
```

Tool Private Key

```
-----BEGIN RSA PRIVATE KEY-----
MIIEowIBAAKCAQEApt9yDqsKMSywZd7dm22eMPm3poPjaKJhzv0zcg9zrZAvpbE2
ZoRC/fXSDi6dt7JSDKeBjAm6WoCERc0BpePQWp2HGFuu+USBKXo+fsWSSnqcVFW0
S1OppGMfzLkrvXSwDyJm2pu6C/fbSun5KzaniWh1nkvebaMtBiPhF6rR60ltn3a
ULviZAgMtD41JQKnzouTFU2cCAmzONb7I9zdU5KfBhpb3X++bAqZDt3F0+mYRvdt
U8njJO09kbCbuGRHd/UuPi3F9ghqOeC0ndyMmLpdxKvCgLD0QJhVRV7gvE4IBVo
LBTkAs7XSP7kV8uHjehhHnem9MO+B5dPRWJ+EwIDAQABAoIBAQCibTO72NGGZKam
hpZ4A+ZjtNrb5zlkvD1sHISGyUyrDho+DvzYClwDOVNgndPajJuMUe46Llaga3E1
ZTMycJk98hZADnvaPpCX8HDN6fJet1JQBLTbf/pqB6ZLCRxb6Eij7QZGXIJdU/e
5y4NKeRScszO/XVmiPMITCzSU6tGpGcCPBNM5PFfynsGAeOt1YN4D+3EXZOIXZiyO
DNN+Yso814W8ubGRadn+5zzQy3CEIH4QIJGovHKfkzyhgQtXcoGiIRZGXthCNUx3
gJL0eyxAkcv3BrIUSUxTHLZ1arzjmKO3KzBG4/NS/7DlleTxK8Z4ECbzuLJWvoYI
A8/HjVMJAoGBAN3NqQMmLwfbMAVbnOtJB7VurLadu8lZOmHJNxsyZonJfY/UTwSE
5w2+Cad1/n3X06z6euCZlet9CykjufAZ0HT6U8TLSPv96aBGDPsAEMnHLFvIgDtQ
HYgIFP20taCmW0HJn5iDWhqTyW3go11U/IWpMeQSEgyve2azgBVPgV39AoGBAMCZ
vJLiWLCoIAH9ih2aqfSY8dbe8U2R70U1Vuc6YaARXsZe0Eb8QL570pEpP8xxcNUD
DUUFh7HRLa6r2Az0q6gzVB/ddbJInbyyquhL/G/IJlvideWMjI8nbanUO4QSBcmz
yp8N/8vYainGmZVhKfyER025ayuKI/3aYlHkwoFPaOGAlt7wB70LUvplC39z4y+
xWkLgvJpXRPazL+VBZU6QFV2a3H2qUmp/SLs6YDF6oINH1aOkVX/2r7gTirrQI0M
chYVrEw2wEP7v9DC4dvux4eiFRrB7JB+065Rfj40fXcnylMjrhiWxK6NbdNsWXL0
NjBNQwcEBzJdNprnenHwZxECgYA1B9+ZXgNnmO/iBGqMHJLfq2Ejdb1hS2ZjWv1z
q2qlBWBgJGkasogtKrDe0UnExBN6Q13a/FvRhTQb3Sse3huJs6BdKcAneAeblmJi
dGLCcBXGnk14s6supGCanJ8ue2oDP4kb1IVW8lJeWp+bB+wqadsajptAbs55XAs
az13FwKBgEIZHwG0FMO/YFBU+ItMb14Mz9x/SHVEGwxCjvv2l8yibSfpoTHZNmLf
xISx5CHTEtKs4AnRhG5ZqiZSekntgm+QJ2IBtrVRkw/H/kUo8M0L4CSN6AGMqqiS
zv/+ZXRRAagRed13RcWN6Z88w0sZr5YZV8Zn+8NR3bGTD5h/p69h0
-----END RSA PRIVATE KEY-----
```




HOME

Log in

Log in | Create new account | Reset your password

Username or email address. *

thata

Enter your username or email address

Password *

Enter the password that accompanies your username.

Log in

- Member User Setup
- Member Company Setup
- Product Setup



About

Test Configuration

LTI Advantage Certification Suite (Tool Testing)

Please Insert URL's Below for your Tool Setup

Your Tool Configuration

Tool End-Point to Receive Launches
(Note: this is the target_link_url that the cert suite will send in OIDC initiation.)
https://35aqbwtzjl.execute-api.ap-northeast-1.amazonaws.com/dev/launch/

OIDC Login Initiation URL
(Note: this is your tool's OIDC initiation URL.)
https://35aqbwtzjl.execute-api.ap-northeast-1.amazonaws.com/dev/login/

Tool OIDC Launch Redirect URL
(Note: this should be the REGISTERED URL for your Tool. The cert suite POSTs launches here!)
https://35aqbwtzjl.execute-api.ap-northeast-1.amazonaws.com/dev/launch/

Tool End-Point to Receive Deep Link Launches
(Note: this is the target_link_url that the cert suite will send in OIDC initiation for Deep Linking.)
https://35aqbwtzjl.execute-api.ap-northeast-1.amazonaws.com/dev/launch/

Tool OIDC Redirect Deep Linking URL
(Note: this is the REGISTERED URL in OIDC for your Tool's Deep Linking. The cert suite POSTs launches here!)
https://35aqbwtzjl.execute-api.ap-northeast-1.amazonaws.com/dev/launch/

Start Testing With:
(Note: You Should Know What You Are Doing to Skip Core Testing!)

☐ Deep Linking Linking UI Flow

☐ Names and Roles Service

☐ Assignments and Grades Service

Next >



About

Testing Instructions

LTI Advantage Certification Instructions (Tool Testing)

Please Print the Below if this is your First Attempt

Tool Testing Instructions

LTI® Advantage Certification Suite Instructions

For Tool testing the Certification Suite is emulating a Learning Platform. As a result we will be recording your Tool's setup so that we may call your software product. A few things to remember:

- You will be inputting setup information for your Tool that will dictate how we call your Tool. It is imperative that you input the access data correctly - the early setup screens set the parameters for all testing that is done later
- You will be recording the setup data from the Certification Suite as you would a new Learning Platform
- If you already have a Course, a Teacher, and a Student in your testing environment you may insert those values in the setup screens and the suite will attempt to use your pre-existing values to do the launches

The first setup screen requires you to input the OIDC and launch URL values that are required for launching your Tool. Input each of the required URLs as shown below:

Next >



About

Member User Setup

LTI Advantage Certification Suite - v 1.1.1g

Confirm your contact information below

Your Name

Takahiro Hata

Your Email

t-hata@digital-knowledge.co.jp

Next >



About

Member Company Setup

LTI Advantage Certification Suite

Confirm your Company/Group Name below

Company/Group Name

DK

Next >



About

Product Setup

LTI Advantage Certification Suite

Setup your test configuration data below

Product Name

OBV2LTI

Product Version

0.5

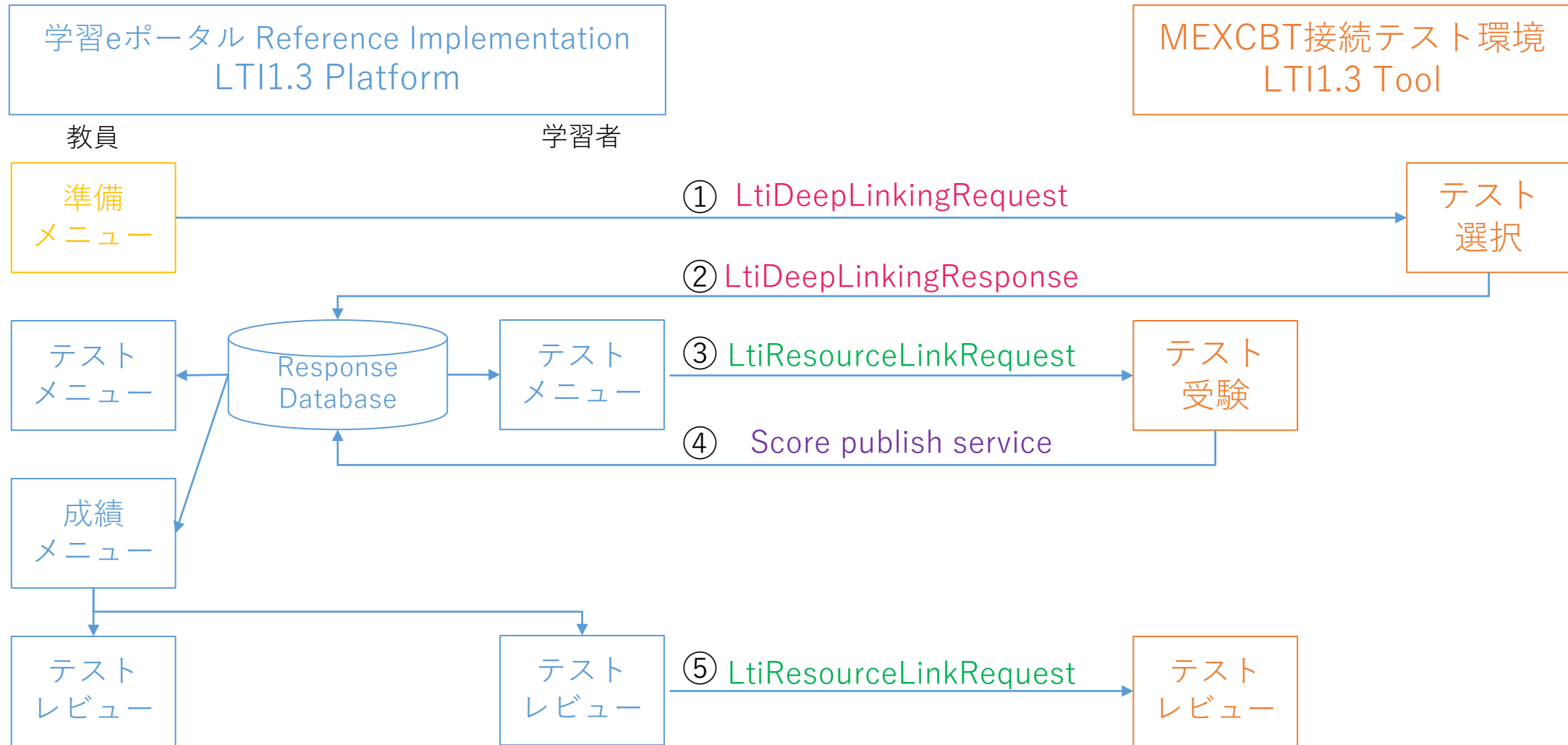
Product Type

☐ Platform ☒ Tool

Next >

ユースケース

- ①②MEXCBTのテストを検索し、学習eポータルに登録
- ③ 学習eポータルに登録されたテストを起動
- ④テスト結果(点数)をeポータルに返却
- ⑤テストレビュー(テスト結果詳細表示)を起動



APPENDIX

LTI Tools: Add or manage Tool

<https://lti-ri.imsglobal.org/lti/tools>

STEP 1

configurations.

- Name: **imsjdk3210**
- Client: NOT YET KNOWN
- Private key: **Ref. Tool Private key**
- Deployment: NOT YET KNOWN
- Keyset url: NOT YET KNOWN
- OAuth2 url: NOT YET KNOWN
- Platform oidc auth url: NOT YET KNOWN

Create Tool

[Back](#)

Tool Step1

New Tool

Name

imsjdk3210

Client

NOT YET KNOWN

Private key

zv/+ZXRAagReD13RcWN6Z88w0sZr5YZV8Zn+8NR3bGTD5h/p69h0
-----END RSA PRIVATE KEY-----

Deployment

NOT YET KNOWN

Keyset url

NOT YET KNOWN

Oauth2 url

NOT YET KNOWN

Platform oidc auth url

NOT YET KNOWN

Create Tool

[Back](#)

Tool was successfully created.

Name: imsjdk3210

Client: NOT YET KNOWN

Private Key: -----BEGIN RSA PRIVATE KEY----- MIIEowIBAAKCAQEApT9yDqsKMsywZd7dm22eMPm3poPjaKJhzv0zcg9zrZAvpbE2
ZoRC/fXSDi6dt7JSDKeBjAm6WoCERc0BpePQWp2HGFuu+USBkXo+fsWSSnqcVFw0
S1OppGMfzLkrvXSwDyJm2pu6C/fbSun5KzaniWh1nkvebaMt/BiPhF6rR60ltn3a
ULviZAgMtD41JQKnzouTFU2cCAmzONb7l9zdU5kFbhp3X++bAqZDt3F0+mYRvdt
U8njJO09kbCbuGRHd/UuPi3F9ghqOeC0ndyMmLpdxKvCgLDOqJjhVRV7gvE4IBVo
LBTKAs7XSP7kV8uHjehnHnem9MO+B5dPRwJ+EwiDAQABAolBAQCIBtO72NGGZKam
hpZ4A+ZjtNrb5zlkvD1sHISGyUyrDho+DvzYClwDOVNgndPajJuMUe46Llaga3E1 ZTMycJk98hZADnvaPpCX8HDN6fzJett1JQBLTbf/pqB6ZLCRxb6Eti7QZGXIJdU/e
5y4NKeRScszO/XVmiPMITCzSU6tGpGcCPBNM5PFynsGAeOt1YN4D+3EXZOIXZiyO
DNN+Yso814W8ubGRadn+5zzQy3CEIH4QIJGovHKfkzyhgQtXcoGiilRZGXthCNUs3 glJ0eyxAkcv3BrIUSUxTHLZ1arzjmKO3KzBG4/NS/7DlleTxK8Z4ECbzuLJWwoYI
A8/hjvMJAOGBAN3NqQMmLwfbMAVbnOtJB7VurlAdu8lzOMhJNxsyZonJFy/UTwSE
5w2+Cad1/n3X06z6euCZlet9CykjuFAZ0HT6U8TLSPv96aBGDpSAEMnHLFvlgDtQ
HYglFP20taCmW0HJn5iDWhqTyW3go11U/IWpMeQSEgyve2azgBVPgV39AoGBAMCZ
vJLiWLCoIAH9ih2aqfSY8dbe8U2R70U1Vuc6YaARXsZe0Eb8QL570pEpP8xxcNUD
DUUFh7HRLa6r2Az0q6gzVB/ddbJJnbyyquhL/G/UlvideWMjI8nbanUO4Q5Bcmz yp8N/8EyainGmZVhkFyER025ayuKI/3aYLHkwoFPAoGAItv7wB70LUvpIC39z4y+
xWkLgvJpXRPazL+VBZU6QFV2a3H2qUMp/SLs6YDF6oINH1aOkVX/2r7gTirrQi0M
chYVrEw2wEP7v9DC4dvux4eiFRrB7JB+065Rfj40fXcnylMjrhiWxK6NbdNsWXLO
NjBNQwcEBzJdNprnenHwZxECgYA1B9+ZXgNnmO/iBGqMHJLfQ2Ejdb1hS2ZjVw1z
q2qlBW8gJGkasogtKrDe0UnExBN6Q13a/FvRhTQb3Sse3huJs6BdKcAneAeblmJi
ldGLCcBXGnK14s6supGCanJ8ue2oDP4kb1IVW8IJeWp+bB+wqadsajptAbs55XAs
az13FwKBgElZHWG0FMO/YFBU+ltMb14Mz9x/SHVEGwxCjvv2I8yibSfpoTHZNmLf
xISx5CHTeTkS4AnRhG5ZqiZSekntgm+QJ2lBtrVRkw/H/KuO8M0L4CSN6AGMqqiS zv/+ZXRAagReD13RcWN6Z88w0sZr5YZV8Zn+8NR3bGTD5h/p69h0 -----END
RSA PRIVATE KEY-----

Deployment ID: NOT YET KNOWN

Keyset URL: NOT YET KNOWN

OAuth2 URL: NOT YET KNOWN

Platform OIDC Auth URL NOT YET KNOWN

[Edit](#) | [Back](#)

LTI Tools

Add or manage Tool configurations.

Add Tool

Your Tools

Unclaimed Tools

Please claim your existing Tool by clicking "Unclaimed Tools", or add a new Tool with "Add Tool" button above.

You must be logged in to claim a Tool.

imsjdk3210

Client Id: NOT YET KNOWN

Tool launch URL: https://lti-ri.msglobal.org/lti/tools/2043/launches

Tool Deep Link URL:
https://lti-ri.msglobal.org/lti/tools/2043/deep_link_launches

Tool OIDC Login Initiation URL: https://lti-ri.msglobal.org/lti/tools/2043/login_initiations

Tool JWT Key Set URL:
https://lti-ri.msglobal.org/lti/tools/2043/.well-known/jwks.json

Edit

Delete

View Tool

View Tool Launches

Claim this Tool

Your Tools

Unclaimed Tools

imsjdk3210

Client Id: NOT YET KNOWN

Tool launch URL: https://lti-ri.msglobal.org/lti/tools/2043/launches

Tool Deep Link URL:
https://lti-ri.msglobal.org/lti/tools/2043/deep_link_launches

Tool OIDC Login Initiation URL: https://lti-ri.msglobal.org/lti/tools/2043/login_initiations

Tool JWT Key Set URL:
https://lti-ri.msglobal.org/lti/tools/2043/.well-known/jwks.json

Edit

Delete

View Tool

View Tool Launches

Unclaim this Tool

LTI Tools: Add or manage Tool

STEP2

Configurations.

<https://lti-ri.imsglobal.org/lti/tools>

- Name: **imsjdk3210**
- Client: NOT YET KNOWN
- Private key: **Ref. Tool Private key**
- Deployment: NOT YET KNOWN
- Keyset url: NOT YET KNOWN
- OAuth2 url: NOT YET KNOWN
- Platform oidc auth url: NOT YET KNOWN
- Tool unique Info: Call Url from Platform (RI: generate by RI)
 - Tool launch URL:
 - <https://lti-ri.imsglobal.org/lti/tools/2043/launches>
 - Tool Deep Link URL:
 - https://lti-ri.imsglobal.org/lti/tools/2043/deep_link_launches
 - Tool OIDC Login Initiation URL:
 - https://lti-ri.imsglobal.org/lti/tools/2043/login_initiations
 - Tool JWT Key Set URL:
 - <https://lti-ri.imsglobal.org/lti/tools/2043/.well-known/jwks.json>

STEP1 / platform

- Name: **imsjdkpl3210**
- Client: **client_imsjdk3210**
- Audience: **imsjdk3210** ← Tool Name
- Tool Deep Link Service Endpoint
 - https://lti-ri.msglobal.org/lti/tools/2043/deep_link_launches
- Platform Public Key: **Ref. Tool Private key**
- Platform Private Key: **Ref. Tool Private key**
- Must include either a Tool Public Key or JWT Key Set URL
 - Tool Public Key
 - JWT Key Set URL ← Tool JWT Key Set URL
 - <https://lti-ri.msglobal.org/lti/tools/2043/.well-known/jwks.json>

Platform Sten1

New platform

Name

imsjdkpl3210

Client

client_imsjdk3210

Audience

imsjdk3210

Tool Deep Link Service Endpoint

https://lti-ri.msglobal.org/lti/tools/2043/deep_link_launches

Platform Public Key

T059NslngJXNu4SWmuW8EQ9n2UONrFpugkZF/vDHyQTveu4fJlcVWYU9Sui4COH5
zQIDAQAB
-----END PUBLIC KEY-----

Platform Private Key

```
ckij0uXfsy5seyyiQ2l3jtRM06odcmn8Dg1ZPlEGhJhNZpZAyby2SQOLVEvW7rMD
24KUhrDxBfCvrtQgJfWpBGK91b258+TCKVJC3NdnH0BDGItoMpU2Be8=
-----END RSA PRIVATE KEY-----
```

Must include either a *Tool Public Key* or *JWT Key Set URL*

Tool Public Key

JWT Key Set URL

<https://lti-ri.msglobal.org/lti/tools/2043/.well-known/jwks.json>

Save

[Back](#)

Platform was successfully created.

Platforms / imsjdkpl3210

imsjdkpl3210

[Edit Platform](#)

Platform Keys

Courses

Resource Links

For Line Items view courses

Results

Client Id: client_imsjdk3210

Tool Deep Link Endpoint: https://lti-ri.imglobal.org/lti/tools/2043/deep_link_launches

OAuth2 Access Token URL: https://lti-ri.imsglobal.org/platforms/2292/access_tokens

OIDC Auth URL: <https://lti-ni.msglobal.org/platforms/2292/authorizations/new>

[illegible][illegible]

Tool's public key:

Tool's JWT Key Set URL: <https://lti-ri.imglobal.org/lti/tools/2043/.well-known/jwks.json>

Claim Platform: imsjdkpl3210

LTI Platforms

Add or manage Platform configurations.

Add Platform

Your Platforms

Unclaimed Platforms

Please claim your existing Platform by clicking "Unclaimed Platforms", or add a new Platform with "Add Platform" button above.

You must be logged in to claim a Platform.

imsjdkpl3210

Client Id: client_imsjdk3210

Tool Deep Link Endpoint:

https://lti-ri.msglobal.org
/lti/tools
/2043/deep_link_launches

OAuth2 Access Token URL:

https://lti-ri.msglobal.org
/platforms
/2292/access_tokens

OIDC Auth URL: https://lti-ri.msglobal.org/platforms
/2292/authorizations/new

Edit

Delete

View Platform

Claim this Platform

Your Platforms

Unclaimed Platforms

imsjdkpl3210

Client Id: client_imsjdk3210

Tool Deep Link Endpoint:

https://lti-ri.msglobal.org
/lti/tools
/2043/deep_link_launches

OAuth2 Access Token URL:

https://lti-ri.msglobal.org
/platforms
/2292/access_tokens

OIDC Auth URL: https://lti-ri.msglobal.org/platforms
/2292/authorizations/new

Edit

Delete

View Platform

Unclaim this Platform

Step 2 / platform

- Name: **imsjdkpl3210**
- Client: **client_imsjdk3210**
- Audience: **imsjdk3210** ← Tool Name
- Tool Deep Link Service Endpoint
 - https://lti-ri.msglobal.org/lti/tools/2043/deep_link_launches
- Platform Public Key: **Ref. Tool Private key**
- Platform Private Key: **Ref. Tool Private key**
- Must include either a Tool Public Key or JWT Key Set URL
 - Tool Public Key
 - JWT Key Set URL ← Tool JWT Key Set URL
 - <https://lti-ri.msglobal.org/lti/tools/2043/.well-known/jwks.json>
- OAuth2 Access Token URL:
 - https://lti-ri.msglobal.org/platforms/2292/access_tokens
- OIDC Auth URL:
 - <https://lti-ri.msglobal.org/platforms/2292/authorizations/new>

IMS GLOBAL
Learning Tools Interoperability

HomeManage ToolsManage PlatformsGenerate KeysRelease NotesLogged in as: thataLogout

Search:

Platforms / imsjdkpl3210

imsjdkpl3210

Edit Platform

Platform Keys

Courses

Resource Links

For Line Items view courses

Results

Client Id: client_imsjdk3210

Tool Deep Link Endpoint: https://lti-ri.imsglobal.org/lti/tools/2043/deep_link_launches

OAuth2 Access Token URL: https://lti-ri.imsglobal.org/platforms/2292/access_tokens

OIDC Auth URL: https://lti-ri.imsglobal.org/platforms/2292/authorizations/new

Platform's public key: -----BEGIN PUBLIC KEY-----
MIIBjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBcGKCAQEA9DGO2GpzBUYmO1SXBicf
rE6sADVhStANdsU7Z5pypM/DVwOAPWb1FOALic3wDKwFMCACra2GxmK
OMn7Iq4mR7Ew3johbgC/TpCmb7+XvRF9Wqf1W5tUbgRUg0vbi+nh/Nj
/X24Zp918qQM8BEq4S+qplC1RiC9jYm1JN3M4Wk937o15v32AaZ07c7P
eW7HnsdgtOmeyzw9VVMYf7sBaOpv1JOHT1nuFATomUJEj8dJALORWj
TVoxoMLggyT059NsingIXNu45WmuWBEQ9n2UONfrpugZF/VdHyQTveu4f
lcVWYU55u4COH5xQIDAQAB-----END PUBLIC KEY-----

Platform's private key: -----BEGIN RSA PRIVATE KEY-----
MIIEpQIBAAKCAQEA9DGO2GpzBUYmO1SXBicfE6sADVhStANdsU7Z5pyp
M/DVwOAPWb1FOALic3wDKwFMCACra2GxmKOMn7Iq4mR7Ew3johbgC/Tp
Cmb7+XvRF9Wqf1W5tUbgRUg0vbi+nh/Nj/X24Zp918qQM8BEq4S+q
plC1RiC9jYm1JN3M4Wk937o15v32AaZ07c7PeW7HnsdgtOmeyzw9VVMY
f7sBaOpv1JOHT1nuFATomUJEj8dJALORWjTVoxoMLggyT059NsingIXNu
45WmuWBEQ9n2UONfrpugZF/VdHyQTveu4fIcVWYU55u4COH5xQIDAQAB
AIAFAgEcdYhmqpF3Kc
uUyEpVq+PDoP93odhKaupRyOYWhPrytdaud+0bIDFq63CioWwaqbW8A
237wN
zxEHemdeyJNkMmHlUDNoEhmWRPN80hCXLUxnYnWGCmCnBPgYfEzbx2
3BluvqXp
TlyTOYmEqZkbb1u6QDvxc/3RliK3NpTV4L4897OP+rUY3kltZlAqsmx
XvthA
GydsVjUeK6ZuZvCgTmuqPyKOCNtCmikhX4ZmJUMPVNBQY+nRlXesik
D5G6yJOPm5NmnNz7U/P3OTQJV3lg42icM1GfskVtBoeRWmN3wMY
/H18lG2aEszKqHlpSboZBECgYEA/BHEli93KTR9JGWZ5t9gNPbvMedq7M
+v5KL5C3C2zRoFwZaa8
1D6AnQK6ZGlvP/R7e/XZhiYzGlyX4pgblGQUdikwZ3wVlaNRvk7+9w4c
S68k
wA578hJ3lgE9HAAE03b1G5oI8qwmu29nWWeQeZ58Gvxxx+HtSocCgYEA
9Gz7
927Xend5f5R9hPpFvrdGa1H1VBMK8Czq+QBKALBvntw/NDGCOVJL8Z3
Mfuth
qQimbiTy/+2e4ePpKQumyC+oQKLU3gH1XKKAQ4477mkczpWMA44ACQ5
q2B
PRadwDdCLaGvuc6MDh1nMiNTXbvmP9D5AcYgA2qvy65AYQDDT5d
QwDE
B2AwcWfTNGIEK25NzcC206gilp7L/Nb6MpE8XIDCkm98LgG03+xmve
LJ2BU
MZMJE3XNNIBixXoLUKcoNEW5NIOHJDRZV1pK0FZDY6KfRbc5N+VWRH
9J2DWf
TR2mLP02Cd7CspR2QYldUcYgEA7CCdCdw6roKLaNIDA0BAoZ5Wkly2
5xztFuey
bk6ccip2Fij1PdrVG0cfByGAUV78SDfp85Aw4mwGsEgYCsoc4ctB29tp
YtE1jm1UBID93k6B00KEggC4UqUR/TW8oumu8h9zHxcESHQ
/ORGMQAVZqAkfuLNzkuKp/SGOJS+ECgYEA/Y9Dgt9muEaH4EW7Le3TS
Pc1Whp6jrJMU/ntTW4RNFCS/7Mpel
ckijDuXly5seyyIQ2I3jRMO6odcmn8DgIZPieGJhNhZPzAzybZ5QOLV
EW7MD24KUhRDXBfCvTqGjWp8GK91b258+TCKVJC3NdhH8BDGitoM
pU28eB=-----END RSA PRIVATE KEY-----

Tool's public key:

Tool's JWT Key Set URL: https://lti-ri.imsglobal.org/lti/tools/2043/well-known/jwks.json

imsjdkpl3210 / Platform Keys

LTI Platform Keys

Add or manage Platform Key configurations.

Add Platform Key

New platform_key

Name

Deployment3210

Deployment ID

Deployment3210

Save

Back

Platform key was successfully created.

Name: Deployment3210

Platform: 2292

Deployment ID: Deployment3210

EditBack

Deployment3210

Platform: imsjdkpl3210

Deployment ID: Deployment3210

well-known/jwks URL

https://lti-ri.imsglobal.org/platforms/2292/platform_keys/2124.json

EditDelete

View Platform

View Platform Key

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Better Learning from Better Learning Technology

Step 2 / platform

- Name: imsjdkpl3210
- Client: client_imsjdk3210
- Audience: imsjdk3210 ← Tool Name
- Tool Deep Link Service Endpoint
 - https://lti-ri.msglobal.org/lti/tools/2043/deep_link_launches
- Platform Public Key: Ref. Tool Private key
- Platform Private Key: Ref. Tool Private key
- Must include either a Tool Public Key or JWT Key Set URL
 - Tool Public Key
 - JWT Key Set URL ← Tool JWT Key Set URL
 - <https://lti-ri.msglobal.org/lti/tools/2043/.well-known/jwks.json>
- OAuth2 Access Token URL:
 - https://lti-ri.msglobal.org/platforms/2292/access_tokens
- OIDC Auth URL:
 - <https://lti-ri.msglobal.org/platforms/2292/authorizations/new>
- Deployment ID: **Deployment3210**
- well-known/jwks URL
 - https://lti-ri.msglobal.org/platforms/2292/platform_keys/2124.json

Your Platforms

Unclaimed Platforms

imsjdkpl3210

Client Id: client_imsjdk3210

Tool Deep Link Endpoint:

https://lti-ri.msglobal.org/lti/tools/2043/deep_link_launches

OAuth2 Access Token URL:

https://lti-ri.msglobal.org/platforms/2292/access_tokens

OIDC Auth URL: <https://lti-ri.msglobal.org/platforms/2292/authorizations/new>

Edit

Delete

View Platform

Unclaim this Platform

OAuth2 Access Token URL:

https://lti-ri.msglobal.org/platforms/2292/access_tokens

OIDC Auth URL:

<https://lti-ri.msglobal.org/platforms/2292/authorizations/new>

Editing Tool

Name

imsjdk3210

Client

client_imsjdk3210

Private key

-----BEGIN RSA PRIVATE KEY-----
MIIeowIBAAKCAQEapt9yDqsKMsyWzd7dm22eMPm3poPjaKJhZv0zcg9zrZAvpbE2

Deployment

Deployment3210

Keyset url

https://lti-ri.msglobal.org/platforms/2292/platform_keys/2124.json

Oauth2 url

https://lti-ri.msglobal.org/platforms/2292/access_tokens

Platform oidc auth url

https://lti-ri.msglobal.org/platforms/2292/authorizations/new

Update Tool

[Show](#) | [Back](#)

Tool was successfully updated.

Name: imsjdk3210

Client: client_imsjdk3210

Private Key: -----BEGIN RSA PRIVATE KEY----- MIIeowIBAAKCAQEapt9yDqsKMsyWzd7dm22eMPm3poPjaKJhZv0zcg9zrZAvpbE2
ZoRC/fXSDi6dt7JSDKeBjAm6WoCERc0BpePQWp2HGFuu+USBkXo+fsWSSnqcVFw0
S1OppGMfzLkrvXSwDyJm2pu6C/fbSun5KzaniWh1nkvebaMt/BiPhF6rR60ltn3a
ULviZAgMtD41JQKnzouTFU2cCAmzONb7l9zdU5kFbhpb3X++bAqZDt3F0+mYRvdt
U8njJO09kbCbuGRHd/UuPi3F9ghqOeC0ndyMmLpdxKvCgLDOqJhVRV7gvE4lBVo
LBTKAs7XSP7kV8uHjehnHnem9MO+B5dPRwJ+EwlDAQABAoIBAQCIBTO72NGGZKam
hpZ4A+ZjtNrb5zlkvD1sHISGyUyrDho+DvzYClwDOVNgndPajJuMUe46Llaga3E1 ZTMycJK98hZADnvaPpCX8HDN6fzJet1JQBLTbf/pqB6ZLCRxb6Ety7QZGXlJdU/e
5y4NKeRScszO/XVmiPMITCzSU6tGpGcCPBNM5PFynsGAeOt1YN4D+3EXZOIXZiyO
DNN+Yso814W8ubGRadn+5zzQy3CEIH4QIJGovHKfkzyhgQtXcoGiIRZGXthCNUs3 gLJ0eyxAkc3BrIUSUxTHLZ1arzjmKO3KzBG4/NS/7DIleTxK8Z4ECbzuLJWvoYl
A8/HjVMJAoGBAN3NqQMmLwfbMAVbnOtJB7VurLadu8lzOMhJNxsyZonJFy/UTwSE
5w2+Cad1/n3X06z6euCZlet9CykjufAZOHT6U8TlSPv96aBGDpSAEMnHLFvlgDtQ
HYglFP20taCmW0HJn5iDWWhqTyW3go11U/IWpMeQSEgyve2azgBVPgV39AoGBAMCZ
vJLiWLCoiAH9ih2aqfSY8dbe8U2R70U1Vuc6YaARXsZe0Eb8QL570pEpP8xxcNUD
DUUFh7HRLa6r2Az0q6gzVB/ddbJnbyyquhL/G/UlvideWMjl8nbanUO4QSBcmz yp8N/8EyainGmZVhkFyER025ayuKI/3aYLHkwoFPaAGAltv7wB70LUvplC39z4y+
xWkLgvJpXRPazL+VBZU6QFV2a3H2qUMp/SLs6YDF6oINH1aOkVX/2r7gTirrQi0M
chYVrEw2wEP7v9DC4dvux4eiFRrB7JB+065Rfj40fXcnylIMjrhiWxK6NbdNsWXLO
NjBNQwcEBzJdNprnenHwZxECgYA1B9+ZXgNnmO/iBGqMHjlfq2Ejdb1hS2ZjWv1z
q2qlBWBgJGkasogtKrDe0UnExBN6Q13a/FvRhTQb3Sse3huJs6BdKcAneAeblmJi
ldGLCcBXGnK14s6supGCanJ8ue2oDP4kb1lVW8lJeWp+bB+wqadsajptAbs55XAs
az13FwKBgEIZHwG0FMO/YFBU+ltMb14Mz9x/SHVEGwxjvv2l8yibSfpoTHZNmLf
xISx5CHTeTkS4AnRhG5ZqiZSekntgm+QJ2IBtrVRkw/H/kUo8MOL4CSN6AGMqqiS zv/+ZXRAagReD13RcWN6Z88w0sZr5YZV8Zn+8NR3bGTD5h/p69h0 -----END
RSA PRIVATE KEY-----

Deployment ID: Deployment3210

Keyset URL: https://lti-ri.msglobal.org/platforms/2292/platform_keys/2124.json

OAuth2 URL: https://lti-ri.msglobal.org/platforms/2292/access_tokens

Platform OIDC Auth URL https://lti-ri.msglobal.org/platforms/2292/authorizations/new

[Edit](#) | [Back](#)

Your Tools

Unclaimed Tools

imsjdk3210

Client Id: client_imsjdk3210

Tool launch URL: https://lti-ri.imsglobal.org/lti/tools/2043/launches

Tool Deep Link URL:
https://lti-ri.imsglobal.org/lti/tools/2043/deep_link_launches

Tool OIDC Login Initiation URL: https://lti-ri.imsglobal.org/lti/tools/2043/login_initiations

Tool JWT Key Set URL:
https://lti-ri.imsglobal.org/lti/tools/2043/.well-known/jwks.json

Edit

Delete

View Tool

View Tool Launches

Unclaim this Tool

imsjdkpl3210 / Courses

Courses for imsjdkpl3210

These are LTI Courses setup in the platform.

Add Course

Course

Label: Japanese 101 Label

Title: Japanese 101 Title

Type: Japanese 101: Context

View

Edit

Delete

View Line Items

Launch Deep Link Flow (OIDC)

Launch Deep Link Flow

New platform_resource_link

Resource Links for

Add Resource Link

Japanese 101 Title

Japanese 101 ResourceLink Title

Japanese 101 ResourceLink Description

<https://lti-ri.imsiglobal.org/lti/tools/2043/launches>

https://lti-ri.msglobal.org/lti/tools/2043/login_initiations

Instructor

Save

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Select User for Launch

New platform_resource_link

Context

Japanese 101 Title

Title

Japanese 101 ResourceLink Title for Students

Description

Japanese 101 ResourceLink Description for Students

Tool link url

<https://lti-ri.imsglobal.org/lti/tools/2043/launches>

Login initiation url

https://lti-ri.imsglobal.org/lti/tools/2043/login_initiations

Role (leave blank for Learner)

☐ User identifier only for launch, no PII such as first name, email etc.

Save

[Back](#)

[illegible]

Resource Link

Title: Japanese 101
ResourceLink Title for
Students

Description: Japanese 101
ResourceLink Description for
Students

Tool URL: <https://lti-ri.msglobal.org/lti/tools/2043/launches>

Edit

Delete

[View Course](#)

Select User for Launch

Resource Link

Title: Japanese 101
ResourceLink Title

Description: Japanese 101
ResourceLink Description

Tool URL: <https://lti-ri.msglobal.org/lti/tools/2043/launches>

Edit

Delete

[View Course](#)

Select User for Launch

Execute Resource Link 1

Resource Link

Title: Japanese 101 ResourceLink Title

Description: Japanese 101 ResourceLink Description

Tool URL: <https://lti-ri.msglobal.org/lti/tools/2043/launches>

Edit

Delete

View Course

Select User for Launch

[imsjdkpl3210](#) / [Japanese 101 ResourceLink Title](#) / Roster

Roster for Japanese 101 ResourceLink Title

You may also add other users to the roster below by launching as them

Users in Roster

Launch with New User

User

Name: Zella Borer Trantow

Student: No

Launch Resource Link (OIDC)

Launch Resource Link

Initiating Login from Tool for Japanese 101 ResourceLink Title

LTI Spec Notes

The parameters can either be passed as query parameters using the HTTP GET method or be passed as HTML form values that are auto-submitted in the User Agent, and thus are transmitted via the HTTP POST method.

OpenID Connect Spec Notes

The parameters can either be passed as query parameters using the HTTP GET method or be passed as HTML form values that are auto-submitted in the User Agent, and thus are transmitted via the HTTP POST method.

POST: Form attributes being generated:

iss: [imsjdk3210](#) (required, the issuer identifier identifying the learning platform)
login_hint: [347461](#) (required, a platform opaque identifier identifying the user to login)
target_link_uri: <https://lti-ri.msglobal.org/lti/tools/2043/launches> (required, the actual end point that should be executed at the end of the OIDC authentication flow)
lti_message_hint: [39367](#) (required, this is an LTI specific parameter identifying the actual message to be executed. For example it may be the resource link id when the message is a resource link request)
lti_deployment_id: [Deployment3210](#) (optional, if included, MUST contain the same deployment id that would be passed in the https://purl.msglobal.org/spec/lti/claim/deployment_id claim for the subsequent LTI message launch)
client_id: [client_imsjdk3210](#) (optional, specifies the client id for the authorization server that should be used to authorize the subsequent LTI message request. This allows for a platform to support multiple registrations from a single issuer, without relying on the initiate_login_uri as a key)

Post request

GET: query parameters being generated:

iss: [imsjdk3210](#) (required, the issuer identifier identifying the learning platform)
login_hint: [347461](#) (required, a platform opaque identifier identifying the user to login)
target_link_uri: <https://lti-ri.msglobal.org/lti/tools/2043/launches> (required, the actual end point that should be executed at the end of the OIDC authentication flow)
lti_message_hint: [39367](#) (required, this is an LTI specific parameter identifying the actual message to be executed. For example it may be the resource link id when the message is a resource link request)
lti_deployment_id: [Deployment3210](#) (optional, if included, MUST contain the same deployment id that would be passed in the https://purl.msglobal.org/spec/lti/claim/deployment_id claim for the subsequent LTI message launch)
client_id: [client_imsjdk3210](#) (optional, specifies the client id for the authorization server that should be used to authorize the subsequent LTI message request. This allows for a platform to support multiple registrations from a single issuer, without relying on the initiate_login_uri as a key)

Send Request

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Make Authentication Request back to Platform *imsjdk3210*

LTI Spec Notes

The parameters can either be...

OpenID Connect Spec Notes

https://openid.net/specs/openid-connect-core-1_0.html#AuthRequest

Parameters Retrieved from Platform

("iss">"[imsjdk3210](#)", "login_hint">":347461", "target_link_uri">":http://ti-ri.imsjglobal.org/ti/tools/2043/launches", "ti_message_hint">":39367", "ti_deployment_id">":Deployment3210", "client_id">":<i>client_imsjdk3210</i>")

GET: query parameters being generated:

response_type: id_token (required, the tool must use a value of id_token)

redirect_uri: https://ti-ri.imsjglobal.org/ti/tools/2043/launches (required, This URI must exactly match a value pre-registered with the platform)

response_mode: form_post (required, tools and platforms must support a value of form_post)

client_id: client_imsjdk3210 (required, client identifier valid at the platform)

scope: openid (required, must contain the openid scope value)

state:
eYJ0AUAOUKVYQQLCBGcIOUSUzINlHmZtpCf6kXqLdVZNvNlTpnZnGRgNjdMfmFiliwicGFyYWY1bWp1bmVUZjpOLUwMLCipc3MOUpbnNgZSzmEwlwhBg9nwWSf oGLScICIMjNMQMZSMInRrhmIdP9AWSSxGVysS6ImndBhBCoibhBRLXptmlnc26zNDIocSvwcvchBRL3Rmc2xlLnNDMWF7TernMc2XMILChwJGib WxzTrzc2Vlc3R5eWlmMksKqCLCbzdGE2ZWVudG9yb3RhIGVkbWVudDpjb25ldmVudG9yb3RkaHR0RCmxsdGdtktmtuV1zZZvYmfSLmyZybwGrZFznmGVMjSm9hYZ2Ni NjNG5GSZVLiwleWFOJoXNIjMIjODGMALCIeHAQEIZjYwYkpcMjcaEdspnoOdsiG6jSZDDYMjOGMMNmMSNSNZYTz13rdVerLybQCdaaduf, obmrPiGFLAF HwDb8TLieULreSUuOfck-QSboVAmbDrBhWCXqziVaZoDnOIvkfwfmhx2dclyghydkeHBKQBAILRXOROTRWZHWHqmWZTSZY-W-y9FQAucOOil- GCFAIE:ICTIUEcmvgPzIBbhkhkISZHYTHJAfy:lpkblm:3BmBA:IVCuqijZLpJhRIPLRPWCWYIJSGCA.GFYXDOn3GDplwygb3BmBYAf.
AJKCFdzq3LUsmpfsg5zTWlwCYwZVfWp9kVnqPqCQZLYsbwFrwGBSVBLZxc2WBNBnbikajGlnDngdyzh (required, opaque value used to

maintain state between the request and the callback)

login_hint: 347461 (required, tools and platforms must support a value of form_post)

ti_message_hint: 39367 (required, a platform opaque identifier identifying the user to login)

prompt: none (optional, The tool should use a value of none. In the future a re-launch flow may support additional values being used here)

nonce: dflc217icbb38df67ezab (optional, string value used to associate a client session with an ID token, and to mitigate replay attacks)

Send Request

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Authentication Request Validation from Tool

LTI Spec Notes

The parameters can either be...

OpenID Connect Spec Notes

https://openid.net/specs/openid-connect-core-1_0.html#AuthRequest

Parameters Retrieved from Tool

`response_type:` `id_token` (required, the tool must use a value of id_token)

`redirect_uri:` `/ti-/iti-.imsglobal.org/ti/tools/2043/launches` (required, This URI must exactly match a value pre-registered with the platform)

`response_mode:` `form_post` (required, tools and platforms must support a value of form_post)

`client_id:` `client_imsjdk327io` (required, client identifier valid at the Platform)

`scope:` `openid` (required, must contain the openid scope value)

state:
`y9bj0AJOIQUKVYJlQhCgkzOjSUDt1NhlmtmZClGikdQVXdlZYvhtNi1Prn2dieU13ceEtHNKNbnWWGDgdGtxQTISZFNNbiTwUlJCIOxJAOUKYVIQfyoEyb0`
`Z9xcZXlpjqMDQztCxIdGF0Zr9ubz5ZS36lrnmRnlJaNuNyYmrOG8/NjdMImFwllivieGFyY1JpZW7lnYOZZjpOI.LMiL.Cjc3M.QldUpIxNgqZMcEwiilwbG9noWsf`
`aGludCI6IGMONoQM2MSltntcmddIF3soVS0X3YaSl6tmhdHfBzObibhFRXdPLmticDsbzbGsCvmcnvbHRPdzLRbvbzczrlWNDMbfGBfbmnNoXMZMLCbzdSJlb`
`WVzcFrNZvSoV5ojjaMrklzChsdGIzGVnbGS5VVwdFspYCIZGLIRGiveWTlibrqzMJEfwelwiyZxpZSVSOX2tklozyZwpZSVSOX2bkpzakMyMTALICjb2Ita`
`XIQOUQuJo3NOhmIkvtLCvIJQLCZdvScmbGvjyfHoibHPgLzvZXlxucXXRpXrbpbZslwimYWduWaXujfoytYJIYXRlliwidG9vbFP3CZl6ljwaNDMMfwioxNxjljozw`
`IzmhbIMdxMClsinUYifSImlNmNaVWvdFppXNbGcSzmcMEwilviXYVkjoiadRHMGlyszdgktcknuvaWtzZzxVmFsLmnyZywbgFOZmmbyAbmaMJJSiM9hYZlc`
`Sjn3Gj9ZsvSilawWF0lpajNI1MIjODMdLIclleAHQIE2mjuyMycmZEsmnpdsSt6kgzZdmYGOMZNwmZMSN2yzTZY3hh.VvvLyocQAAdusBF_o8nnPHGTAFc`
`HJVDBTrhuUEVRVCsuflCuQCRC_C5bbvymOlpsHWPCRIxzokndSpagoTVhwfmhz24hyggdkHGKBQalBRZORRTWZhHQazWmizTC5Cy-w.pPFQagzoOdIL-`
`OCPfc14CTTECWghF3bhahMRFSZTH13BA6-vsaULe..IlbmBAUVCSglgzurpjRLRPDCVDYGCAC_GYYUCen3Dofmydyab3nmRAY-`
`AIXAKxFoz4Z)NWUewUsgpmv57jWeLUWegZnvFWNhprKQZLSyvbwfrQQH5SDVLnCZw2wBNblidyGKxdzhz2qpw` (required, opaque value used to maintain state between the request and the callback)

`login_hint:` `347467` (required, tools and platforms must support a value of form_post)

`lt_message_hint:` `39367` (required, a platform opcode identifier identifying the user to login)

`prompt:` `none` (optional, The tool should use a value of none. In the future a re-launch flow may support additional values being used here)

`nonce:` `dfe27f9cb3bd6fec7aba2` (optional, string value used to associate a client session with an ID token, and to mitigate replay attacks)

Launch Resource Link

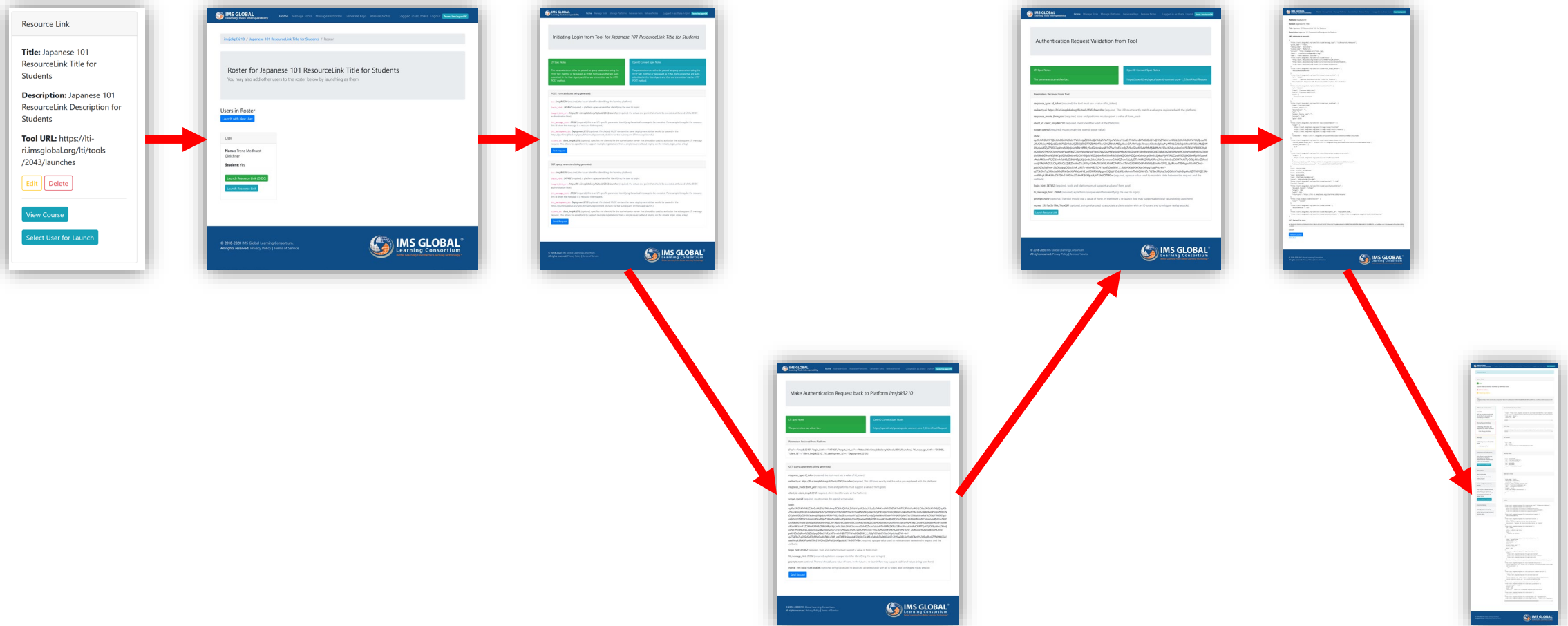


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Platform to Tool Student Resource Link Flow

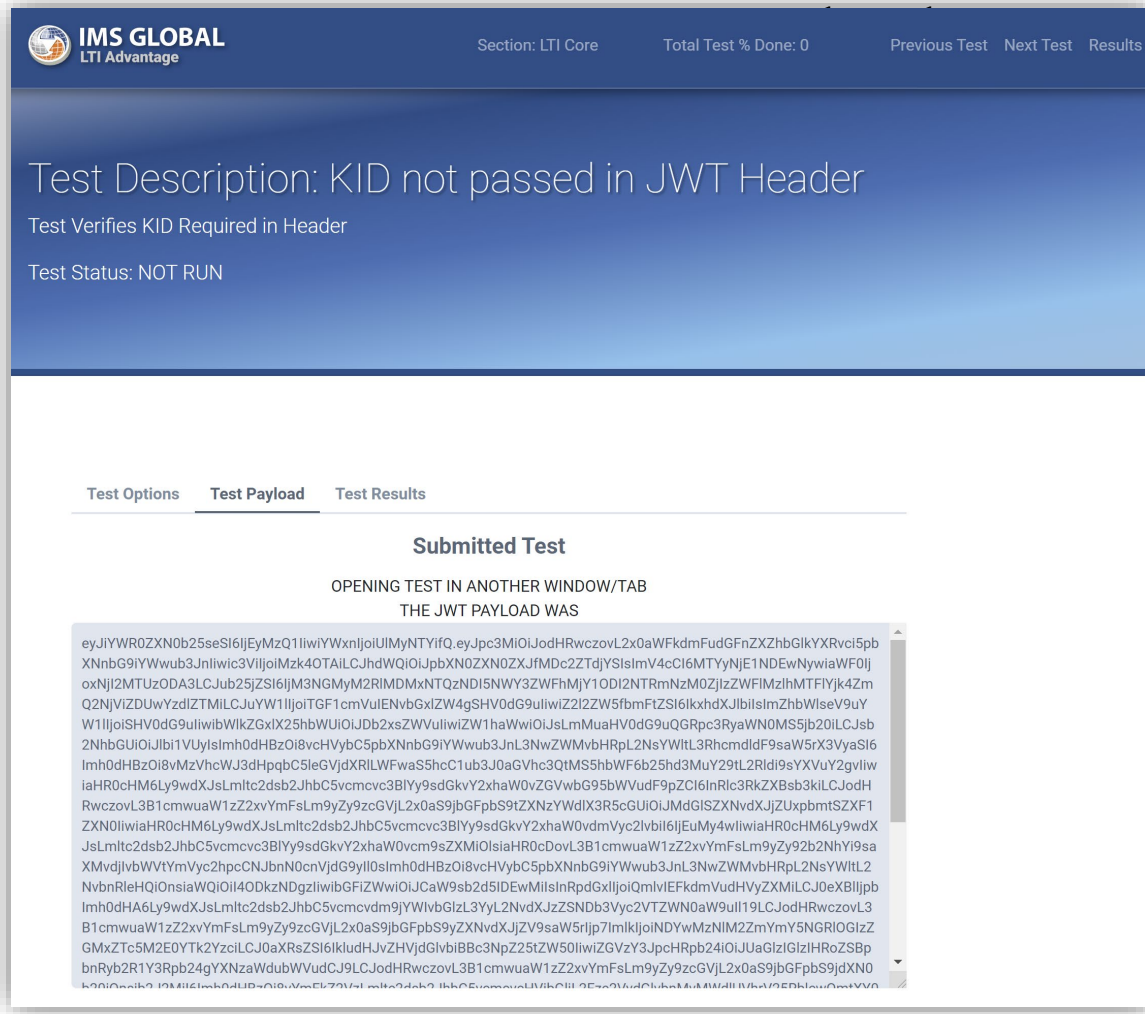


Authentication Request: Parameters

Received from Tool

- scope: *openid* (required, must contain the openid scope value)
- response_type: *id_token* (required, the tool must use a value of id_token)
- response_mode: *form_post* (required, tools and platforms must support a value of form_post)
- prompt: *none* (optional, The tool should use a value of none. In the future a re-launch flow may support additional values being used here)
- client_id: *client_imsjdk3210* (required, client identifier valid at the Platform)
- redirect_uri: *https://35aqbwztjl.execute-api.ap-northeast-1.amazonaws.com/dev/launch/* (required, This URI must exactly match a value pre-registered with the platform)
- login_hint: *347983* (required, tools and platforms must support a value of form_post)
- lti_message_hint: *39399* (required, a platform opaque identifier identifying the user to login)
- state: *state-c2dd39dc-e57b-4bff-b4a5-c50dc8f71bf3* (required, opaque value used to maintain state between the request and the callback)
- nonce: *633a8b6595074d96a8fa9b455ce7199ab2d4d1c6e2e711eba88bfa98254733f2* (optional, string value used to associate a client session with an ID token, and to mitigate replay attacks)

<https://itiadamagevalidator.msglobal.org/itiadv/certification>



Test Description: KID not passed in JWT Header

Test Verifies KID Required in Header

Test Status: NOT RUN

13	JWT KID not found LMS didn't send required parameter in launch request	LMS Administrator should contact LMS Technical Support to troubleshoot.	n/a
----	---	--	-----

<https://opennccchelp.nccommunitycolleges.edu/support/solutions/articles/42000082518-lti-1-3-troubleshooting-and-technical-documentation-for-opennccc>

<https://community.brightspace.com/s/article/LTI-Advantage-Developer-FAQ-s>

Jwt.io Decode Header

```
{
  "badtestonly": "12345",
  "alg": "RS256"
}
```

LTI v1.3 and LTI Advantage Certification Test Suite

<https://ltiadvantagevalidator.msglobal.org/ltiadv/certification.html>

Learning Tools Interoperability Advantage Conformance Certification
Guide

IMS Final Release

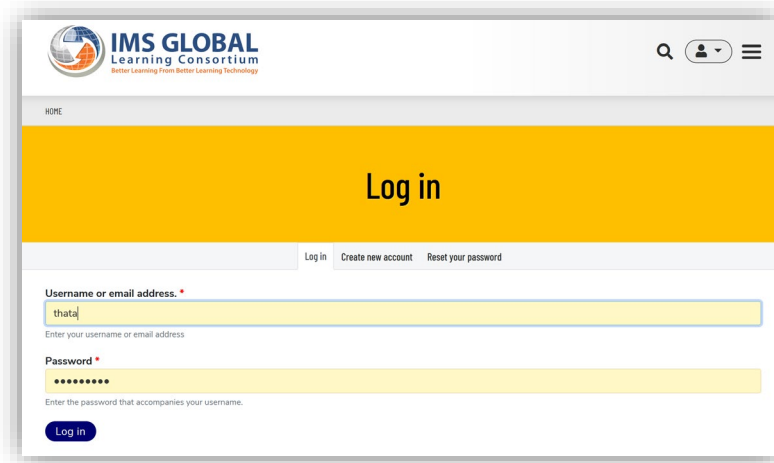
Version 1.3

• Tests for LTI v1.3 Core
<https://www.msglobal.org/spec/lti/v1p3/cert/>

- 30 Test Cases
- Tests for Deep Linking:
 - 8 Test Cases
- Tests for Names and Role Provisioning Services
 - 5 Test Cases
- Tests for Assignment and Grade Services

LTI Conformance Test: Setting 1

<https://ltiadvantagevalidator.ims-global.org/ltiadv/certification.html>



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Log in

Username or email address. *

thata

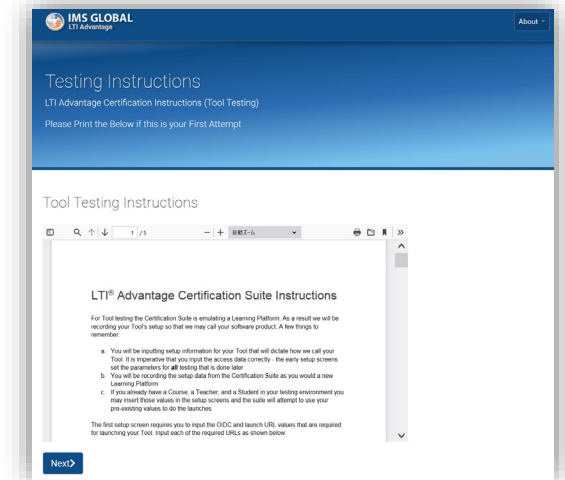
Enter your username or email address

Password *

Enter the password that accompanies your username.

Log in

- Member User Setup
- Member Company Setup
- Product Setup



IMS GLOBAL
LTI Advantage

Testing Instructions
LTI Advantage Certification Instructions (Tool-Testing)
Please Print the Below if this is your First Attempt

Tool Testing Instructions

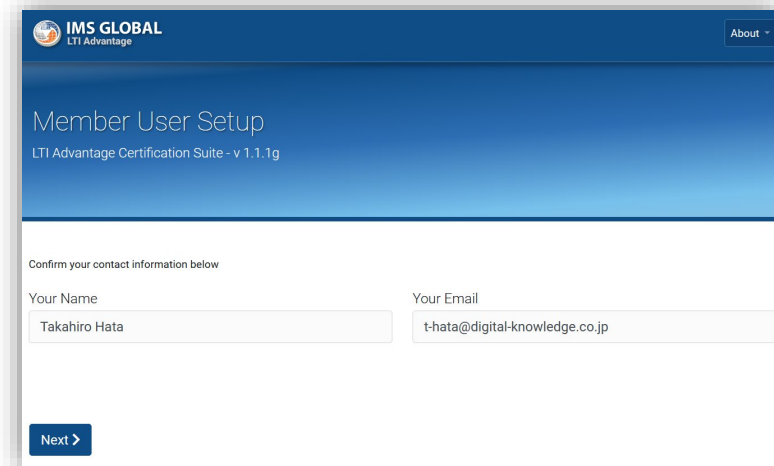
LTI® Advantage Certification Suite Instructions

For Tool testing the Certification Suite is emulating a Learning Platform. As a result we will be recording your Tool's setup so that we may call your software product. A few things to remember:

1. You will be inputting setup information for your Tool that will dictate how we call your Tool. It is imperative that you input the access data correctly - the early setup screens will the parameters for all testing that is done later
2. You will be recording the setup data from the Certification Suite as you would a new Learning Platform
3. If you already have a Course, a Teacher, and a Student in your testing environment you may insert those values in the setup screens and the suite will attempt to use your pre-existing values to do the launches

The first setup screen requires you to input the OGC and launch URL values that are required for launching your Tool. Input each of the required URLs as shown below.

Next >



IMS GLOBAL
LTI Advantage

Member User Setup
LTI Advantage Certification Suite - v 1.1.1g

Confirm your contact information below

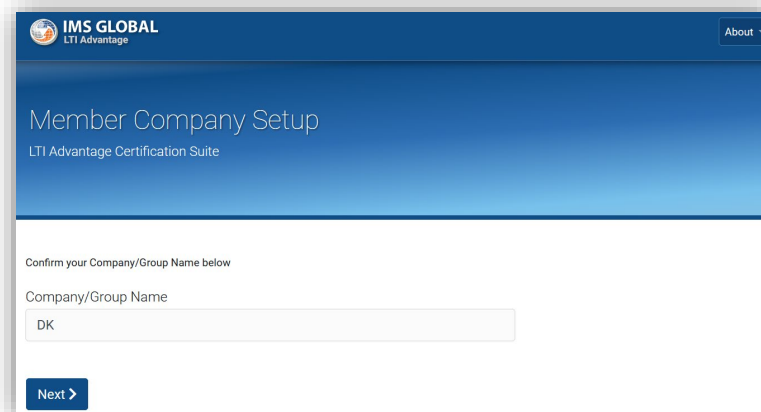
Your Name

Takahiro Hata

Your Email

t-hata@digital-knowledge.co.jp

Next >



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LTI Advantage

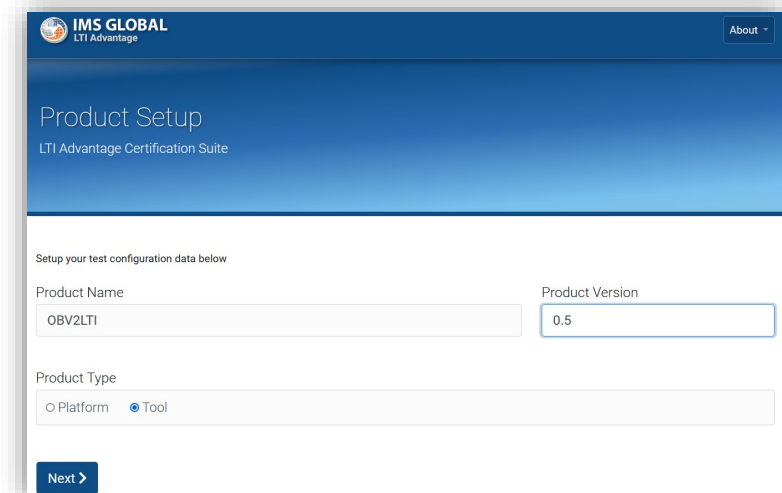
Member Company Setup
LTI Advantage Certification Suite

Confirm your Company/Group Name below

Company/Group Name

DK

Next >



IMS GLOBAL
LTI Advantage

Product Setup
LTI Advantage Certification Suite

Setup your test configuration data below

Product Name

OBV2LTI

Product Version

0.5

Product Type

☐ Platform ☒ Tool

Next >

LTI Conformance Test: Setting 2

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LTI Advantage

Test Configuration

LTI Advantage Certification Suite (Tool Testing)

Please Insert URLs Below for your Tool Setup

Your Tool Configuration

Tool End-Point to Receive Launches
(Note: this is the target_link_url that the cert suite will send in OIDC initiation.)

OIDC Login Initiation URL
(Note: this is your tool's OIDC initiation URL.)

Tool OIDC Launch Redirect URL
(Note: this should be the REGISTERED URL for your Tool. The cert suite POSTs launches here!)

Tool End-Point to Receive Deep Link Launches
(Note: this is the target_link_url that the cert suite will send in OIDC initiation for Deep Linking.)

Tool OIDC Redirect Deep Linking URL
(Note: this is the REGISTERED URL in OIDC for your Tool's Deep Linking. The cert suite POSTs launches here!)

Start Testing With:
(Note: You Should Know What You Are Doing to Skip Core Testing!)

☐ Deep Linking Linking UI Flow

☐ Names and Roles Service

☐ Assignments and Grades Service

Next >

<https://35aqbwtzjl.execute-api.ap-northeast-1.amazonaws.com/dev/login/>
<https://35aqbwtzjl.execute-api.ap-northeast-1.amazonaws.com/dev/launch/>

Start Testing With: None

Certification Configuration Details
Testing Iss Value:

<https://ltiadvantagevalidator.msglobal.org>

OIDC Auth URL:

<https://ltiadvantagevalidator.msglobal.org/ltitool/oidcauthurl.html>

Platform Well-Known/JWKS URL:

<https://oauth2server.msglobal.org/jwks>

OAuth2 Access Token URL:

<https://ltiadvantagevalidator.msglobal.org/ltitool/authcodejwt.html>

Your Client Id (Record this Value!):

Ver. 0.5 == imstester_b926442

Ver. 0.6 == imstester_eb058e7

Enter Your Tool's JWKS Server:

<https://35aqbwtzjl.execute-api.ap-northeast-1.amazonaws.com/dev/jwks/>

Deployment Id:

testdeploy

LTI v1.3 Core Test Cases: 12 False, 18 True

#	Test Name	#	Test Name	#	Test Name
1	No KID Sent	11	Launch No resource_link_id	21	Valid Instructor Email Without Context
	KID not passed in JWT Header		Launch With Missing resource_link_id		Launch Instructor With Email No Context
2	Incorrect KID Sent	12	User Claim Invalid	22	Valid Student Launch
	Incorrect KID passed in JWT Header		user Claim Missing		Launch LTI 1.3 Message as Student
3	Wrong LTI Version	13	Valid Instructor Launch	23	Valid Student Launch with Roles
	LTI version passed is not 1.3		Launch LTI 1.3 Message as Instructor		Launch Student with Multiple Role Values
4	Missing LTI Version	14	Valid Instructor Launch with Roles	24	Valid Student Launch Short Role
	No LTI version passed in claim/version		Launch Instructor with Multiple Role Values		Launch Student with Short Role Value
5	Invalid LTI Message	15	Valid Instructor Launch Short Role	25	Valid Student with Unknown Role
	Message passed is NOT LTI 1.3 JWT		Launch Instructor with Short Role Value		Launch Student with Unknown Role
6	Missing JWT Fields	16	Valid Instructor Launch Unknown Role	26	Valid Student with No Role
	One or more JWT fields missing		Launch Instructor with Unknown Role		Launch Student With No Role
7	JWT Timestamps Invalid	17	Valid Instructor Launch No Role	27	Valid Student No Names
	Exp and lat Fields invalid		Launch Instructor With No Role		Launch Student Only Email
8	Message Type Invalid	18	Valid Instructor Launch Email Only	28	Valid Student Launch Names Only
	message_type Claim Missing		Launch Instructor Only Email		Launch Student Only Names
9	Role Claims Invalid	19	Valid Instructor Launch Names Only	29	Valid Student Launch No PII
	role Claim Missing		Launch Instructor Only Names		Launch Student No PII
10	Deployment Claim Invalid	20	Valid Instructor No PII	30	Launch Student Resource Link Only
	deployment_id Claim Missing		Launch Instructor No PII		Launch Student Only Resource Link

Test Results: No 1 No 12 (Error Cases)

#	Test Name	Error Message	Error Log
1	No KID Sent	pylti1p3.exception.LtiException: JWT KID not found	"{\"message\": \"An uncaught exception happened while servi
	KID not passed in JWT Header		
2	Incorrect KID Sent	pylti1p3.exception.LtiException: Unable to find public key	"{\"message\": \"An uncaught exception happened while servi
	Incorrect KID passed in JWT Header		
3	Wrong LTI Version	pylti1p3.exception.LtiException: Incorrect version, expected 1.3.0	"{\"message\": \"An uncaught exception happened while servi
	LTI version passed is not 1.3		
4	Missing LTI Version	pylti1p3.exception.LtiException: Incorrect version, expected 1.3.0	"{\"message\": \"An uncaught exception happened while servi
	No LTI version passed in claim/version		
5	Invalid LTI Message	pylti1p3.exception.LtiException: Invalid id_token, JWT must contain 3 parts	"{\"message\": \"An uncaught exception happened while servi
	Message passed is NOT LTI 1.3 JWT		
6	Missing JWT Fields	pylti1p3.exception.LtiException: Invalid message type	"{\"message\": \"An uncaught exception happened while servi
	One or more JWT fields missing		
7	JWT Timestamps Invalid	pylti1p3.exception.LtiException: Can't decode id_token: Signature has expired	"{\"message\": \"An uncaught exception happened while servi
	Exp and lat Fields invalid		
8	Message Type Invalid	pylti1p3.exception.LtiException: Invalid message type	"{\"message\": \"An uncaught exception happened while servi
	message_type Claim Missing		
9	Role Claims Invalid	pylti1p3.exception.LtiException: Missing Roles Claim	"{\"message\": \"An uncaught exception happened while servi
	role Claim Missing		
10	Deployment Claim Invalid	pylti1p3.exception.LtiException: deployment_id is not set in jwt body	"{\"message\": \"An uncaught exception happened while servi
	deployment_id Claim Missing		
11	Launch No resource_link_id	pylti1p3.exception.LtiException: Missing Resource Link Id	"{\"message\": \"An uncaught exception happened while servi
	Launch With Missing resource_link_id		
12	User Claim Invalid	pylti1p3.exception.LtiException: Must have a user (sub)	"{\"message\": \"An uncaught exception happened while servi
	user Claim Missing		

pyl1p3.exception.LtiException: JWT KID



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Section: LTI Core

Total Test % Done: 0

[Previous Test](#) [Next Test](#) [Results](#)

[illegible]

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Decoded EDIT THE PAYLOAD AND SECRET

```

HEADER: ALGORITHM & TOKEN TYPE

{
  "badtestonly": "12345",
  "alg": "RS256"
}

PAYLOAD: DATA

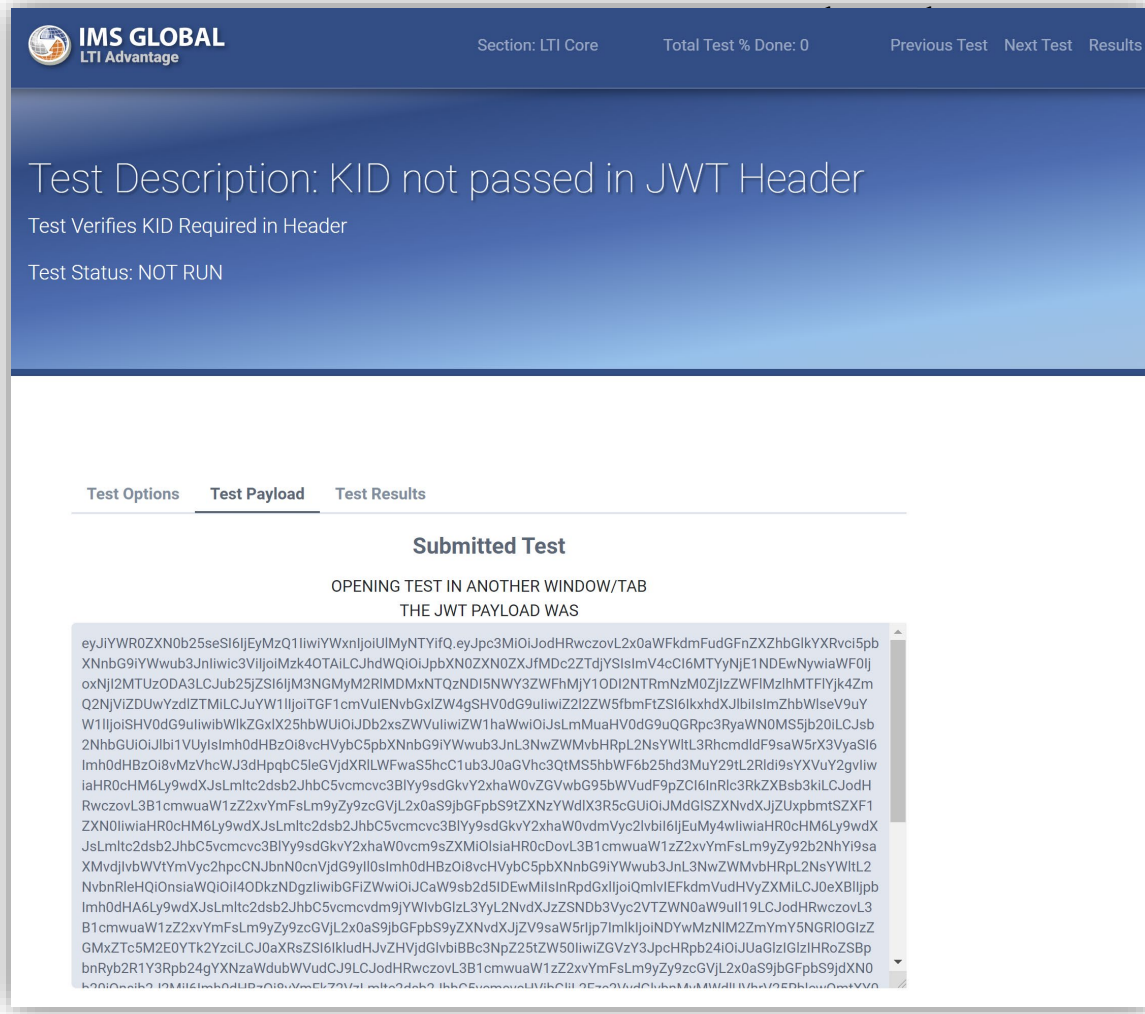
{
  "iss": "https://ltiadvantagevalidator.imglobal.org",
  "sub": "40899",
  "aud": "imstester_b926442",
  "exp": 1626699340,
  "iat": 1626699040,
  "nonce":
    "7a85f7c120ff4e2c989b011851faa1c5eb5be9f0e88f11eba0491e
    5afca8f6ea",
  "name": "Carrie Test Lowell",
  "given_name": "Carrie",
  "family_name": "Lowell",
  "middle_name": "Test"
}

```

```
{'message': 'An uncaught exception happened while servicing this request.
You can investigate this with the 'zappa tail' command.', 'traceback':
['Traceback (most recent call last):', 'File %"/var/task/handler.py"', line
540, in handler', 'Response.from_app(self.wsgi_app, environ) as
response:', 'File %"/var/task/werkzeug/wrappers/base_response.py"',
line 287, in from_app', 'return cls(*_run_wsgi_app(app, environ,
buffered))', 'File %"/var/task/werkzeug/test.py"', line 1096, in
run_wsgi_app', 'app_rv = app(environ, start_response)', 'File
%"/var/task/zappa/middleware.py"', line 55, in _call', 'response =
self.application(environ, encode_response)', 'File
%"/var/task/flask/app.py"', line 2464, in _call', 'return
self.wsgi_app(environ, start_response)', 'File %"/var/task/app.py"', line
33, in _call', 'return self.app(environ, start_response)', 'File
%"/var/task/flask/app.py"', line 2450, in wsgi_app', 'response =
self.handle_exception(e)', 'File %"/var/task/flask/app.py"', line 1867,
in handle_exception', 'reraise(exc_type, exc_value, tb)', 'File
%"/var/task/flask/_compat.py"', line 39, in reraise', 'raise value', 'File
%"/var/task/flask/app.py"', line 2447, in wsgi_app', 'response =
self.full_dispatch_request()', 'File %"/var/task/flask/app.py"', line 1952,
in full_dispatch_request', 'rv = self.handle_user_exception(e)', 'File
%"/var/task/flask/app.py"', line 1821, in handle_user_exception',
reraise(exc_type, exc_value, tb)', 'File %"/var/task/flask/_compat.py"',
line 39, in reraise', 'raise value', 'File %"/var/task/flask/app.py"', line
1950, in full_dispatch_request', 'rv = self.dispatch_request()', 'File
%"/var/task/flask_debugtoolbar/_init_.py"', line 125, in
dispatch_request', 'return view_func(**req.view_args)', 'File
%"/var/task/app.py"', line 174, in launch', 'message_launch_data =
message_launch.get_launch_data()', 'File
%"/var/task/pyltp3/message_launch.py"', line 437, in
get_launch_data', 'return self.get_jwt_body()', 'File
%"/var/task/pyltp3/message_launch.py"', line 290, in _get_jwt_body',
self.validate()', 'File %"/var/task/pyltp3/message_launch.py"', line
275, in validate', 'return self.validate_state()', 'File
%"/var/task/pyltp3/message_launch.py"', line 614, in
validate_jwt_signature', 'public_key = self.get_public_key()', 'File
%"/var/task/pyltp3/message_launch.py"', line 512, in get_public_key',
raise LtiException("JWT KID not found")',
'pyltp3.exception.LtiException: JWT KID not
found']}]"
```

```
IMS ITI Advantag - Certification Su X 35aqbwptj.execute-api-ap-northeast-X +  
← → ↺ https://35aqbwptj.execute-api-ap-northeast-1.amazonaws.com/dev/launch/  
JSON ビュー データ ヘルパー  
保存 コピー すべて折り返し すべて展開 関数 JSON を検索  
  
"message": "An uncaught exception happened while servicing this request. You can investigate this with the 'zappa tail' command." : [Traceback (most recent call last):\n', File "/var/task/handler.py", line 540, in handler\n    with response.from_app(self.wsgi_app, environ) as response:\n', File "/var/task/verkeuze/wrappers  
base_response.py", line 287, in from_app\n    return self.call_wsgi_app(environ, buffered=True)\n', File "/var/task/base_response.py", line 109, in call_wsgi_app\n    app = app(environ, start_response)\n', File "/var/task/zappa/middleware.py", line 55, in __call__\n    response = self.application(environ, encode_response)\n', File "/var/task/flask/app.py", line 2464, in __call__\n    return self.wsgi_app(environ, start_response)\n', File "/var/task/flask/app.py", line 33, in __call__\n    return self.app(environ, start_response)\n', File "/var/task/flask/app.py", line 2450, in wsgi_app\n    response = self.handle_exception(e)\n', File "/var/task/flask/app.py", line 1867, in handle_exception\n    raise(exc_type, exc_value, tb)\n', File "/var/task/flask_compat.py", line 39, in raise\n    raise value()\n', File "/var/task/flask/app.py", line 2447, in wsgi_app\n    response = self.full_dispatch_request()\n', File "/var/task/flask/app.py", line 1952, in full_dispatch_request\n    rv = self.handle_user_exception(e)\n', File "/var/task/flask/app.py", line 1821, in handle_user_exception\n    raise(exc_type, exc_value, tb)\n', File "/var/task/flask_compat.py", line 39, in raise\n    raise value()\n', File "/var/task/flask/app.py", line 1950, in full_dispatch_request\n    rv = self.dispatch_request()\n', File "/var/task/flask/debugtoolbar/_init_.py", line 125, in dispatch_request\n    return view_func(*req.view_args)\n', File "/var/task/message_launch.py", line 174, in launch\n    get_jwt_body() if self.validate()\n', File "/var/task/pyjwt/messages_message_launch.py", line 275, in validate\n    message_launch_data=message_launch.get_launch_data()\n', File "/var/task/pyjwt/messages_message_launch.py", line 437, in get_launch_data\n    return self.get_jwt_body()\n', File "/var/task/pyjwt/messages_message_launch.py", line 290, in get_jwt_body\n    self.validate()\n', File "/var/task/pyjwt/messages_message_launch.py", line 614, in validate\n    public_key = self.get_public_key()\n', File "/var/task/pyjwt/messages_message_launch.py", line 512, in get_public_key\n    LIEException("JWT kid not found")\n', pyjwt.exceptions.LIEException: JWT kid not found()']
```

<https://itiadamagevalidator.msglobal.org/itiadv/certification>



Test Description: KID not passed in JWT Header

Test Verifies KID Required in Header

Test Status: NOT RUN

13	JWT KID not found LMS didn't send required parameter in launch request	LMS Administrator should contact LMS Technical Support to troubleshoot.	n/a
----	---	--	-----

<https://opennccchelp.nccommunitycolleges.edu/support/solutions/articles/42000082518-lti-1-3-troubleshooting-and-technical-documentation-for-opennccc>

<https://community.brightspace.com/s/article/LTI-Advantage-Developer-FAQ-s>

Jwt.io Decode Header

```
{
  "badtestonly": "12345",
  "alg": "RS256"
}
```

IMS GLOBAL
LTI Advantage

About ▾

Member User Setup
LTI Advantage Certification Suite - v 1.1.1g

Confirm your contact information below

Your Name

Takahiro Hata

Your Email

t-hata@digital-knowledge.co.jp

Next >

IMS GLOBAL
LTI Advantage

About ▾

Member Company Setup
LTI Advantage Certification Suite

Confirm your Company/Group Name below

Company/Group Name

DK

Next >

Product Setup
LTI Advantage Certification Suite

Setup your test configuration data below

Product Name

OBV2LTILocal

Product Version

0.5

Product Type

☐ Platform ☒ Tool

Next >

Your Tool Configuration

Tool End-Point to Receive Launches

(Note: this is the target_link_url that the cert suite will send in OIDC initiation.)

http://3.113.82.107:8080/launch/

OIDC Login Initiation URL

(Note: this is your tool's OIDC initiation URL.)

http://3.113.82.107:8080/login/

Tool OIDC Launch Redirect URL

(Note: this should be the REGISTERED URL for your Tool. The cert suite POSTs launches here!)

http://3.113.82.107:8080/launch/

Tool End-Point to Receive Deep Link Launches

(Note: this is the target_link_url that the cert suite will send in OIDC initiation for Deep Linking.)

http://3.113.82.107:8080/launch/

Tool OIDC Redirect Deep Linking URL

(Note: this is the REGISTERED URL in OIDC for your Tool's Deep Linking. The cert suite POSTs launches here!)

http://3.113.82.107:8080/launch/

Start Testing With:

(Note: You Should Know What You Are Doing to Skip Core Testing!)

☐ Deep Linking Linking UI Flow

☐ Names and Roles Service

☐ Assignments and Grades Service

Next >

Cert Suite (Platform) Configuration - PART I

LTI Advantage Certification Suite (Tool Testing)

Please Record the General Details of Platform Settings for Certification Suite

Certification Configuration Details

Testing iss Value

(Note: the cert suite will send this value in the OIDC initialization)

https://ltiadvantagevalidator.imsglobal.org

OIDC Auth URL

(Note: this is the URL value for your Tool's OIDC auth call)

https://ltiadvantagevalidator.imsglobal.org/ltitool/oidcauthurl.html

Platform Well-Known/JWKS URL

https://oauth2server.imsglobal.org/jwks

OAuth2 Access Token URL

https://ltiadvantagevalidator.imsglobal.org/ltitool/authcodejwt.html

Cert Suite Platform Configuration (PART II)

LTI Advantage Certification Suite (Tool Testing)

Please Choose the Details of the Testing Setup - Platform Test Emulation

Platform Configuration Details

Your Client Id (Record this Value!)

imstester_fbe1c43

Service Key Setup:

(Note: You MUST Choose ONE of the options below!)

☐ We Require a Private Key From the Platform

☒ We Deploy a Tool JWKS

☐ We Provide a PEM Public Key To Platforms

Enter Your Tool's JWKS Server:

(This must provide RS256 JWK values for the provided KID)

https://lti-ri.imsglobal.org/platforms/2292/platform_keys/2124.json

Next >

Certification Configuration Details

Testing iss Value

(Note: the cert suite will send this value in the OIDC initialization)

https://ltiadvantagevalidator.imsglobal.org

OIDC Auth URL

(Note: this is the URL value for your Tool's OIDC auth call)

https://ltiadvantagevalidator.imsglobal.org/ltitool/oidcauthurl.html

Platform Well-Known/JWKS URL

https://oauth2server.imsglobal.org/jwks

OAuth2 Access Token URL

https://ltiadvantagevalidator.imsglobal.org/ltitool/authcodejwt.html

Platform Configuration Details

Your Client Id (Record this Value!)

imstester_fbe1c43

Service Key Setup:

(Note: You MUST Choose ONE of the options below!)

Enter Your Tool's JWKS Server:

(This must provide RS256 JWK values for the provided KID)

https://lti-ri.imsglobal.org/platforms/2292/platform_keys/2124.json

Platform Configuration (PART III)

LTI Advantage Certification Suite (Tool Testing)
Please Record the DeploymentId for this Cert Suite Testing

Platform Configuration Details

Please Record the Deployment ID

We are *only* modeling a single-tenant deployment model. The Cert Suite has Provisioned the deployment fo Record the Deployment ID below.
Deployment Id (Provisioned for Tool Testing)

testdeploy

Next >

Testing Values Setup

Please Insert Your Testing Values for Learner, Instructor, and Context

User Setup Generate!

Input Teacher Details

Teacher Id (LIS guid): 39890

Teacher First Name: Lauren

Teacher Middle Name: Colleen

Teacher Last Name: Hutton

Teacher Email: l.c.hutton@district1.com

Input Student Details

Student Id (LIS guid): 40899

Student First Name: Carrie

Student Middle Name: Test

Student Last Name: Lowell

Student Email: c.lowell@district1.com

Course Setup

Course Title: Bio Adventures

Course Label: Biology 102

Course Id: 8893483

Course Type: Select type: Course Section

(Optional) Resource Id: 22f7b9445df0422aba95615

Save Settings

Test Description: KID not passed in JWT Header

Test Verifies KID Required in Header
Test Status: NOT RUN

Test Options Test Payload Test Results

Please Select "Test Options" Above to Run the Test

Custom Tool Variables Configuration

LTI Advantage Certification Suite (Tool Testing)
Please Insert Required Custom Values For Your Tool

Your Tool Configuration

Custom Variable Name 1

obv2

Custom Variable Value 1

.bal.org/public/assertions/1geQXkWnQnW0BkWcO3jSPA

Custom Variable Name 2

Custom Variable Value 2

Custom Variable Name 3

Custom Variable Value 3

Custom Variable Name 4

Custom Variable Value 4

Custom Variable Name 5

Custom Variable Value 5

Next >