

THIS DOCUMENT IS OUTDATED: Most of (hopefully all of) this information can now be found in the “External Tools” section of our API docs:

<https://canvas.beta.instructure.com/doc/api/index.html>

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I will keep the information below as an Archive.

IMPORTANT NOTE: This is not official Canvas documentation. Official docs can be found here in the External Tools section: <https://canvas.beta.instructure.com/doc/api/index.html>

Intro:

If you'd like to begin developing against the Canvas LTI 1.3 + Advantage feature set, this guide should help you get started:

Beyond understanding the spec, which is where most of the documentation lies, you'll need to know a few things specific to Canvas.

The feature flag for LTI 1.3 has been removed, so the following flow is available to all cloud-deployed accounts. You can do the following to configure an LTI 1.3 tool:

- 1) In the `/accounts/self` path, click "Developer Keys"
- 2) Click "+Developer Key" → "+LTI Key"
- 3) *LTI 1.3 Configuration*: Supply the configuration JSON. Here's an example:

```
{
  "title": "IMS LTI RI",
  "scopes": [
    "https://purl.imsglobal.org/spec/lti-ags/scope/lineitem",
    "https://purl.imsglobal.org/spec/lti-ags/scope/result.readonly",
    "https://purl.imsglobal.org/spec/lti-ags/scope/score",
    "https://purl.imsglobal.org/spec/lti-nrps/scope/contextmembership.readonly",
    "https://purl.imsglobal.org/spec/lti-ags/scope/lineitem.readonly"
  ],
  "extensions": [
    {
      "domain": "",
      "tool_id": "IMS LTI RI",
      "platform": "canvas.instructure.com",
      "privacy_level": "public",
      "settings": {
        "text": "IMS LTI RI Text",
        "icon_url": "https://static.thenounproject.com/png/131630-200.png",
        "placements": [
          {
            "text": "IMS LTI RI",
            "enabled": true,
            "icon_url": "https://static.thenounproject.com/png/131630-200.png",
            "placement": "user_navigation",
            "message_type": "LtiResourceLinkRequest",
            "target_link_uri": "https://lti-ri.imsglobal.org/lti/tools/281/launches"
          },
          {

```

```

        "text": "IMS LTI RI",
        "enabled": true,
        "icon_url": "https://static.thenounproject.com/png/131630-200.png",
        "placement": "migration_selection",
        "message_type": "LtiDeepLinkingRequest",

"target_link_uri": "https://lti-ri.msglobal.org/lti/tools/281/deep_link_launches"
    },
    {
        "text": "IMS LTI RI",
        "enabled": true,
        "icon_url": "https://static.thenounproject.com/png/131630-200.png",
        "placement": "link_selection",
        "message_type": "LtiDeepLinkingRequest",

"target_link_uri": "https://lti-ri.msglobal.org/lti/tools/281/deep_link_launches"
    },
    {
        "text": "IMS LTI RI",
        "enabled": true,
        "icon_url": "https://static.thenounproject.com/png/131630-200.png",
        "placement": "homework_submission",
        "message_type": "LtiDeepLinkingRequest",

"target_link_uri": "https://lti-ri.msglobal.org/lti/tools/281/deep_link_launches"
    },
    {
        "text": "IMS LTI RI",
        "enabled": true,
        "icon_url": "https://static.thenounproject.com/png/131630-200.png",
        "placement": "editor_button",
        "message_type": "LtiDeepLinkingRequest",

"target_link_uri": "https://lti-ri.msglobal.org/lti/tools/281/deep_link_launches"
    },
    {
        "text": "IMS LTI RI",
        "enabled": true,
        "icon_url": "https://static.thenounproject.com/png/131630-200.png",
        "placement": "course_navigation",
        "message_type": "LtiResourceLinkRequest",
        "target_link_uri": "https://lti-ri.msglobal.org/lti/tools/281/launches"
    },
    {
        "text": "IMS LTI RI",
        "enabled": true,
        "icon_url": "https://static.thenounproject.com/png/131630-200.png",
        "placement": "assignment_selection",
        "message_type": "LtiDeepLinkingRequest",

"target_link_uri": "https://lti-ri.msglobal.org/lti/tools/281/deep_link_launches"
    },
    {
        "text": "IMS LTI RI",
        "enabled": true,
        "icon_url": "https://static.thenounproject.com/png/131630-200.png",
        "placement": "account_navigation",

```

```

        "message_type": "LtiResourceLinkRequest",
        "target_link_uri": "https://lti-ri.msglobal.org/lti/tools/281/launches"
    },
    ],
    "selection_width": "1000",
    "selection_height": "1000"
}
}
],
"public_jwk": {
    "kty": "RSA",
    "alg": "RS256",
    "e": "AQAB",
    "kid": "8f796179-0ac4-48a3-a202-fa4f3d814fcd",

    "n": "nZD7QWcIwj-3N_RZ1qJjX6CdibU87y2l02yMay4KunambalP9g0fU9yILwLX9WYJINcXZDUf6QeZ-SSbblET-h8Q4OvfSQ7iuu0WqcvBGy8M0qoZ7I-NiChw8dyybMJHgpIP_AyxpCQnp3bQ6829kb3fopbb4cAkOilwVRBYPhRLboXma0cwc1lJHPLvMp1oGa7Ad8osmmJhXhM9qdFFASg_OCQdPnYVzp8gOFeOGw1XfSFEgt5vgeU25E-ycUOREcnp7BnMUk7wpwYqlE537LWGOV5z_1Dqcqc9LmN-z4HmNV7b23QZW4_mzKIOY4IqjmnUGgLU9ycFj5YGDcts7Q",
    "use": "sig"
},
    "description": "1.3 Test Tool",
    "custom_fields": {
        "module_id": "$Canvas.module.id",
        "foo": "$Canvas.user.id"
    },
    "target_link_uri": "https://lti-ri.msglobal.org/lti/tools/281/launches",
    "oidc_initiation_url": "https://lti-ri.msglobal.org/lti/tools/281/login_initiations"
}

```

4) *Redirect URI and login initiation*: The initial launch is part of an oidc third-party flow. Tools are expected to send back a response with a state to a well known endpoint in Canvas to [initiate login](#). Canvas will send <https://canvas.instructure.com> as the iss. So once you get the initial launch you should be sending back a payload to ``https://canvas.instructure.com/api/lti/authorize_redirect`` [via a GET or POST](#) (the domain should always be canvas.instructure.com). Canvas will then do what in 1.1 is usually called the "LTI Launch" by redirecting back via a form post in the User Agent to the endpoint specified in the Developer Key Redirect_uri field. The target_link_uri is then used on your side if you want to do yet another redirect, Canvas does nothing with it but pass it along.

5) Once configured, save the key and review the configuration. Admins can adjust the configuration if they want to disable any services before finalizing. **NOTE:** Currently, after saving, you must delete and re-add the tool if you want to adjust these settings.

6) Turn on the new key. Turning on the dev key finalizes the tool registration, but still it needs to be turned on for the account.

7) To turn on the tool, Go to `/accounts/self` → *settings* → *apps* → View App Configurations (top right) → +app → By Client ID → paste developer key ID from above steps.

Add App

Configuration Type

By Client ID

Client ID

To obtain a client ID, an account admin will need to generate an LTI developer key.

Cancel

Submit

6/7/2019: Some Canvas docs added to beta:

line items: https://canvas.beta.instructure.com/doc/api/line_items.html

results: <https://canvas.beta.instructure.com/doc/api/result.html>

Score: <https://canvas.beta.instructure.com/doc/api/score.html>

Names and Roles: http://canvas.docker/doc/api/names_and_role.html

6/4/2019:

Current bug with Advantage services: **Please enable the “Beta and Test Access For Students” if you want to use AGS or NRPS in beta.** Tools working in beta/test will get a **401 error** when attempting to use a client_credentials grant token if the “Beta and Test Access For Students” setting is disabled in the account. Canvas attempts to check this setting against a user, but since the client_credentials grant has no user, the check for this setting fails, giving a 401.

5/13/2019: There was a mistake in the example JSON below. The “url” field within a placement has been updated to be “target_link_uri” in the example. This should allow for placement-specific launch url’s

5/13/2019: BETA update: Updated step 7; UI for enabling a tool (in beta) has changed to require a developer key ID for installation. Manual configuration should now be usable. Deleting developer keys should now clean up any installed tools associated with the key. Disabling a developer key **will not yet** soft-delete and associated tools. Re-enabling a developer key **will not yet** re-activate previously installed tools.

5/6/2019: Updated step 7; UI for turning on the tool configuration after enabling a developer key was changed. We will be updating this again in the next release or 2 as well.

4/20/2019: Manual Configuration UI is not completed. You should now see an option for a manual LTI 1.3 dev key configuration in BETA, however, **the backend work for this is not complete**, so please ignore this option for now.

lti11_legacy_user_id has been removed as per the LTI 1.3 spec

Deep linking should now work in BETA in the assignment_selection placement

4/1/2019: The new field name “oidc_initiation_url” now replaces “oidc_login_uri”. You will want to update your JSON schema accordingly.

Clarified step 4 so that it’s clear that authorization payload always goes to https://canvas.instructure.com/api/lti/authorize_redirect (i.e. the domain is always canvas.instructure.com).

3/11/2019 NOTE: JSON Schema is updated in this doc. Please see new example below.

Changes:

- 1) settings now has an array field called placements and each value inside of placements is the usual hash but with a key called placement that is the value of the placement
- 2) launch_url has been renamed to target_link_uri

Upcoming changes: oidc_login_uri will be renamed to oidc_initiation_url