

Canvas

Overview

The Canvas Product Integration provides a grid-style live tile that aggregates a student's Canvas modules on the app homepage.

User Experience

The following section describes information relating to the user experience for the Canvas product integration.

User Activities

The live tile aggregates a number of different types of Canvas information into simple widgets for the user to read at a glance. These include:

- Number of enrolled (active) courses
- Number of unread conversations (Inbox)
- Assignments count
- Grades count
- Calendar events count
- Announcements count
- Discussions count
- Next assignment due (if any)

The live tile provides deep links to the Canvas Courses app for both mobile and web versions. Selecting Inbox links to the Canvas Inbox, and selecting all other components links to the Canvas Courses section. Additionally, users can view due dates for Canvas assignments in campusM calendars.

Authentication

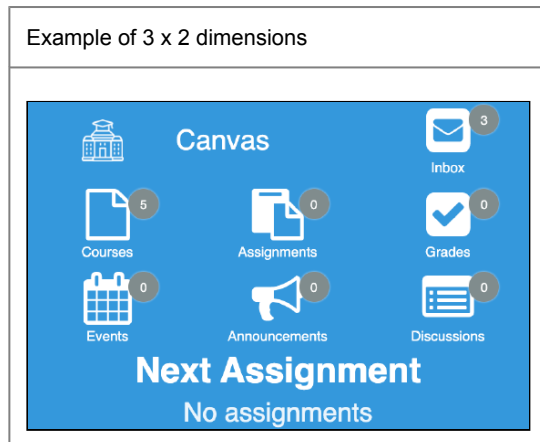
The Canvas authentication uses an OAuth Integration Profile (configured at **App Settings > Integration Profile > Add Integration Profile**). This must be configured before the product integration will work. See [OAuth Integration Profile Configuration](#).

Offline Support

Canvas data is not cached on the user's device. A Live Tile is intended to present fresh data, to configure the time between updates, see [Configuration](#).

Screenshots

The following is an overview of the Canvas product integration user interface for a reference when configuring it.



Live Tile Configuration Rules

The Canvas live tile is designed to work with the following tile sizes. The tile will attempt to display as many elements as possible regardless of the dimensions set, but we cannot guarantee the intended experience if you do not adhere to the following dimensions. The tile dimensions are set in the App Builder, while the widgets per row (and other details) are set in the Configuration page for this product integration.

- 1 wide x 1 high
 - This is a special case. The tile will only display one widget (the highest prioritized, enabled widget).
- 2 wide x 1 high
 - We recommend using 1 - 2 widget rows and using 1 - 3 widgets per row.
 - The Next Assignment area only displays if it is the only item enabled.
- 2 wide x 2 high
 - We recommend using 2 - 3 widget rows and using 1 - 3 widgets per row.
- 3 wide x 1 high
 - We recommend using 1 - 2 widget rows and using 2 - 4 widgets per row.
 - The Next Assignment area only displays if it is the only item enabled.
- 3 wide x 2 high
 - We recommend using 2 - 3 widget rows and using 2 - 4 widgets are used per row.
- 3 wide x 3 high
 - We recommend using 2 - 4 widget rows and using 2 - 4 widgets are used per row.

We recommend keeping the header text and widget labels for the live tile short.

Technical Overview

The following section describes technical information for the Canvas product integration.

Supported Versions

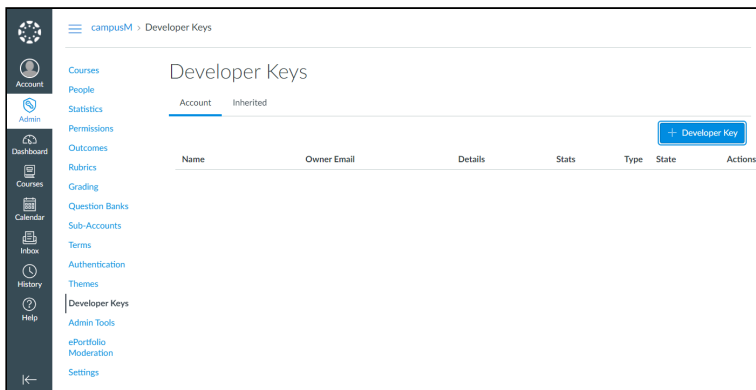
There are no version requirements. The prerequisites provided below are valid for the last three years of Canvas releases (at least). The only requirement is that when your Canvas administrator adds a developer key, the Redirect URIs field is available as well as the legacy Redirect URI field. We require the former (see [Prerequisites](#)).

Prerequisites

The following prerequisites are required to configure the Canvas product integration:

- Contact Ex Libris to add your Canvas Base URL to the proxy list.
- The Canvas hostname for the product integration from which to fetch information.
- A Canvas developer key with Redirect URLs set for your Sandbox, Preview, and Production app hostnames.
 - Each hostname must end in `/cmauth/oauth/callback`, for example, `https://my-app.name.com/cmauth/oauth/callback`.
 - This is not a URL that is meant to be accessible. It is used by our cloud platform to complete the OAuth authentication flow.
 - Scopes are not enabled by default, but you can enable them. See [OAuth Scopes](#).
 - Once the developer key is set up, you can use the client ID and the secret to set up an integration profile for the Canvas instance you want to use with the product integration.

To configure the key, from the Canvas Admin page, select **Admin > Developer Keys**:



Developer Keys

Enter the URI in the Redirect URI field and select **Save**.

URI Redirect

Authentication

The following is the authentication workflow:

1. The end-user opens the Canvas tile.
2. campusM requests a token from the Canvas token API.
3. The user logs into Canvas if they have not already done so.
4. If valid, Canvas sends a response with the user's access token.
5. campusM sends the access token with every Canvas API request made. It is automatically refreshed on expiry unless the user has logged out of the campusM app or their Canvas session.

Configuration

To configure the Canvas product integration, first configure an authentication integration profile (subtype OAuth) that you then select in the **Product Integration** configuration section.

OAuth Integration Profile Configuration

You add integration profiles from **App Settings > Integration Profile > Add Integration Profile** and edit integration profiles from **App Settings > Integration Profile**.

The following table describes the configuration options available on this page. All values are exactly as-is unless listed otherwise.

Note

Fields not listed can be left empty.

Configuration Option	Description
Name	Anything unique that describes the profile, for example, Canvas Sandbox.
Description	A description of the profile. Not required.
Type	Authentication
Subtype	OAuth
OAuth Client ID	The ID of the Developer Key created
OAuth Client Secret	The secret of the Developer Key created
Authorization Endpoint	https://CANVAS_HOST/login/oauth2/auth (CANVAS_HOST is your Canvas instance's hostname)
Access Token Endpoint	https://CANVAS_HOST/login/oauth2/token
Token Endpoint Auth	Basic
User Info Endpoint	https://CANVAS_HOST/api/v1/users/USER_ID
Extract OAuth Tokens	Yes
Username Mapping	name
Mail Mapping	name
First Name Mapping	name
Last Name Mapping	name

OAuth Scopes

Canvas does not enforce scopes by default on any new developer key created. However, you can enable scopes and then set them in the **OAuth Scope** field of the [Integration Profile](#).

This is the current list of scopes used by the Canvas product integration:

```
url:GET|/api/v1/users/:id
url:GET|/api/v1/users/:user_id/courses
url:GET|/api/v1/courses/:course_id/activity_stream/summary
url:GET|/api/v1/courses/:course_id/assignments
url:GET|/api/v1/conversations/unread_count
url:GET|/api/v1/calendar_events
```

Note

These scopes must be pasted into the field as-is. If you are entering them yourself, note that if you enter multiple scopes into the field, they must be separated by spaces. Any change to the scopes listed above, or their formatting, will result in a failed authentication attempt.

If you are also using the Data Export feature in Attendance, and you want to use the same Integration Profile for Data Export and a PI instance, the combined scopes look like this:

```
url:GET|/api/v1/courses/:id
url:GET|/api/v1/courses/:course_id/users
url:GET|/api/v1/sections/:id
url:GET|/api/v1/courses/:course_id/assignments
url:POST|/api/v1/courses/:course_id/assignments/:assignment_id/submissions/update_grades
url:POST|/api/v1/courses/:course_id/assignments
url:PUT|/api/v1/courses/:course_id/assignments/:id
url:GET|/api/v1/users/:id
url:GET|/api/v1/users/:user_id/courses
url:GET|/api/v1/courses/:course_id/activity_stream/summary
url:GET|/api/v1/conversations/unread_count url:GET|/api/v1/calendar_events
```

Product Integration Configuration

To configure the Canvas product integration, select **Product Integrations > Add Product Integration**.

Select **Canvas**. The following table describes the configuration options available on this page.

Configuration Option	Description	Mandatory	Data Type	Default	Example
Enable Product Integration	Select to enable the product integration on the user's campusM app.	No			
Product Integration Description	A description of the product integration for internal use.	Yes			
Vendor					
Integration Profile	The name of the Integration Profile created previously, selected from a list of available profiles.	Yes	String		
Text/Labels					
Text - "Redirecting..."	Displayed on the temporary redirect page, while the user is being redirected to Canvas.			Redirecting...	
Text - "This page should automatically redirect you to the login screen. Click the button below to go there now."	Displayed on the temporary redirect page, while the user is being redirected to Canvas.			This page should automatically redirect you to the login screen. Click the button below to go there now.	

Configuration Option	Description	Mandatory	Data Type	Default	Example
Text - "Login"	Displayed on the temporary redirect page, while the user is being redirected to Canvas.			Login	
Text - "Oops, something went wrong"	Displayed on the temporary redirect page, while the user is being redirected to Canvas.			Oops, something went wrong	
Text - "Retry"	Displayed on the temporary redirect page, while the user is being redirected to Canvas.			Retry	
API Configuration					
URL to retrieve the information	The encoded base URL of your Canvas instance, provided by Ex Libris.	Yes	URL		Provided by Ex Libris
Live Tile					
Enabled	Enables or disables the live tile itself.	Yes	Checkbox	Yes	
Badge Color	The color of all the icons on each Canvas widget on the live tile.	No	Color Code	#FFFFFF	#EEEEEE
Tile Error Background Color	Used when the tile displays an error.	No	Color Code	#AD0000	
Update Rate	Frequency of updates from Canvas to the live tile (in minutes). Has a minimum of 20 (minutes).	No	Integer	60	
Enrollment Type	Sets the Canvas enrollment type for the tile. This determines what course information is returned.	No	Array	Student	
Live Tile Items					
Show Live Tile Header Text	Select to display the header on the live tile. If cleared, the text does not appear in the header. If both the header text and the header logo are disabled, the header does not appear.	No	Checkbox	Yes	

Configuration Option	Description	Mandatory	Data Type	Default	Example
Show Live Tile Header Logo	Select to display the logo on the live tile. If disabled, the logo does not appear in the header. If both the logo and the header text are disabled, the header does not appear.	No	Checkbox	False	
URL for Header Logo	The URL of the image to be used as the logo in the header.	No	String		
Customise Live Tile Header Padding	If enabled, enables you to customise the blank space around the header block. All values have a minimum of 0.	No	Checkbox	No	
The First Widget(s) Should Display on the Same Row as the Header	If disabled, the first widget row will start below the header.	No	Checkbox	Yes	
Hide Widget Labels	If enabled, hides all labels for any configured widgets on the tile. Does not affect the Live Tile Header.	No	Checkbox	No	
Widgets Per Row	This sets the number of widgets to display per row. There is a minimum of 1 and a maximum of 5.	No	Integer	3	
Show Inbox	If disabled, the inbox widget will not appear on the live tile.	No	Checkbox	Yes	
Show Courses	If disabled, the courses widget will not appear on the live tile.	No	Checkbox	Yes	
Exclude Past Courses	Exclude courses that have already ended. This will also exclude all related course content.	No	Checkbox	Yes	
Include Courses With No End Date	Include courses that have no end date set. This will also include all related course content.	No	Checkbox	Yes	

Configuration Option	Description	Mandatory	Data Type	Default	Example
Show Assignments	If disabled, the assignments widget will not appear on the live tile.	No	Checkbox	Yes	
Assignment Options					
Assignment Buckets					
<i>Canvas filters assignments into 'buckets'. This PI fetches the 'upcoming' bucket by default - enable more below. Please note this will increase API load.</i>					
Return Past Assignments		No	Checkbox	No	
Return Overdue Assignments		No	Checkbox	No	
Return Undated Assignments		No	Checkbox	No	
Return Ungraded Assignments		No	Checkbox	No	
Return Unsubmitted Assignments		No	Checkbox	No	
Return Future Assignments		No	Checkbox	No	
Show Grades	If disabled, the grades widget will not appear on the live tile.	No	Checkbox	Yes	
Show Calendar Events	If disabled, the events widget will not appear on the live tile.	No	Checkbox	Yes	
Show Announcements	If disabled, the announcements widget will not appear on the live tile.	No	Checkbox	No	
Show Discussions	If disabled, the discussions widget will not appear on the live tile.	No	Checkbox	No	
Show Next Assignment Row	If disabled, the live tile will not display the next upcoming assignment.	No	Checkbox	Yes	

Configuration Option	Description	Mandatory	Data Type	Default	Example
Assignment Row Filters					
Hide Past Assignments	Hide past assignments from the upcoming assignment row.	No	Checkbox	No	
Filter Buckets					
<i>Canvas filters assignments into 'buckets'. If you've configured this PI to fetch additional buckets, you can exclude them from the Next Assignment row here.</i>					
Exclude Upcoming Assignments		No	Checkbox	No	
Exclude Past Assignments		No	Checkbox	No	
Exclude Overdue Assignments		No	Checkbox	No	
Exclude Undated Assignments		No	Checkbox	No	
Exclude Ungraded Assignments		No	Checkbox	No	
Exclude Unsubmitted Assignments		No	Checkbox	No	
Exclude Future Assignments		No	Checkbox	No	
Always Display Widget Count	If enabled, all widgets will display the count even if the count is 0.	No	Checkbox	Yes	
Prioritize Live Tile Items					
Priority	This ordered list prioritizes the items that appear on the live tile. The item at the top of the list appears first, while the last item appears last.	No	Ordered List		
Icons					

Configuration Option	Description	Mandatory	Data Type	Default	Example
Use Custom Icons	Select to use custom icons instead of the default live tile icons	No	Checkbox	No	
URL	Enter the URLs of custom images for the icons of the various widgets	No	String		
Web Links and Deep-Linking					
Always Prefer Action (URL)	If enabled, the live tile will always redirect to the target of the Action (URL) set in App Builder (if any), on all platforms.	No	Checkbox	No	
Use Web Links on Native Devices	If enabled, the live tile will not use the deep links into the Canvas app on native devices, and will open the Canvas website instead.	No	Checkbox	No	
App Store URLs					
Canvas Google Play Store Page URL	This is required for the fallback behavior in all deep links to third-party apps.	No	URI	https://play.google.com/store/apps/details?id=com.instructure.candroid	
Canvas Apple App Store Page URL	This is required for the fallback behavior in all deep links to third-party apps.	No	URI	https://itunes.apple.com/gb/app/canvas-by-instructure/id480883488	
Text/Labels					
Live Tile Header Text	This sets the text for the live tile header. It is displayed if the Show Live Tile Header Text checkbox is selected. It is recommended you keep this text short.	No	String	Canvas	
Text - "Inbox"	Displayed underneath the Inbox widget, if enabled.	No	String	Inbox	
Text - "Courses"	Displayed underneath the Courses widget, if enabled.	No	String	Courses	
Text - "Assignments"	Displayed underneath the Assignments widget, if enabled.	No	String	Assignments	

Configuration Option	Description	Mandatory	Data Type	Default	Example
Text - "Grades"	Displayed underneath the Grades widget, if enabled.	No	String	Grades	
Text - "Events"	Displayed underneath the Calendar Events widget, if enabled	No	String	Events	
Text - "Announcements"	Displayed underneath the Announcements widget, if enabled.	No	String	Announcements	
Text - "Discussions"	Displayed underneath the Discussions widget, if enabled.	No	String	Discussions	
Text - "Next Assignment"	The label for the Next Assignment Row block.	No	String	Next Assignment	
Text - "No assignments"	Displayed if 'Show Next Assignment Row' is enabled, but there are none returned by Canvas.	No	String	No assignments	
Date Format (long)	You can enter any ISO-standard date format here. For more information on LL, LLL and LLL, see Locale aware formats at Moment.js Documentation .	No	String	LL	
Text - "Error fetching courses from Canvas"	Displayed if Canvas does not return all of the required content needed for the live tile.	No	String	Error fetching courses from Canvas	
Due Dates Calendar					
Show Due Dates in Calendar	Enables Due Dates in the Calendar feed.	No	Checkbox	Yes	
Due label	The label text that appears before the name of the assignment in the calendar.	No	String	Due:	
Date format	The date format that appears in the event description.	No	String	EEE, MMM d, yyyy	Wed, Jul 4, 2021
Time format	The time format that appears in the event description.	No	String	HH:mm	15:45

Configuration Option	Description	Mandatory	Data Type	Default	Example
Due Date Event Description	The description of the event. Use %title, %date and %time to insert the relevant data for the specific event.	No	String	%title is due on %date at %time.	Philosophy Essay is due on Wed, Jul 4, 2021 at 15:45.
Link to Assignment label	The text that appears in the calendar event, linking to the Canvas assignment itself.	No	String	Link to assignment	