

Package ‘vvcanvas’

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Title 'Canvas' LMS API Integration

Version 0.0.3

Description

Allow R users to interact with the 'Canvas' Learning Management System (LMS) API (see https://canvas.instructure.com/doc/api/all_resources.html for details). It provides a set of functions to access and manipulate course data, assignments, grades, users, and other resources available through the 'Canvas' API.

URL <https://github.com/vusaverse/vvcanvas>,
<https://vusaverse.github.io/vvcanvas/>

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canvas_authenticate	<i>Authenticate with Canvas LMS API</i>
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Description

Handles authentication with the Canvas LMS API using the provided API key and base URL.

Usage

```
canvas_authenticate(api_key, base_url)
```

Arguments

api_key	The API key for authenticating with the Canvas LMS API.
base_url	The base URL of the Canvas instance.

Value

A list containing the authenticated 'api_key' and 'base_url'.

Examples

```
## Not run:  
# Authenticate with the Canvas LMS API  
api_key <- "your_api_key"  
base_url <- "https://canvas.example.com"  
canvas <- canvas_authenticate(api_key, base_url)  
  
## End(Not run)
```

```
create_assignment_group
```

Create an Assignment Group in Canvas LMS

Description

Creates a new assignment group in a specific course using the Canvas LMS API.

Usage

```
create_assignment_group(canvas, course_id, group_name, group_position = NULL)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course in which to create the assignment group.
group_name	The name of the assignment group.
group_position	The position of the assignment group in the course (optional).

Value

A confirmation message that the assignment group has been created.

create_course_datalake

Create a data lake for a course.

Description

This function retrieves data from various endpoints for a specific course in the Canvas LMS API and stores the data as JSON files in a specified storage location.

Usage

```
create_course_datalake(canvas, course_id, storage_location)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the <code>canvas_authenticate</code> function.
course_id	The ID of the course for which to create the data lake.
storage_location	The path to the storage location where the data files will be saved.

Value

NULL.

Note

This function retrieves data from various endpoints. Access to certain endpoints may require specific roles.

create_course_section *Create a Course Section in Canvas LMS*

Description

Creates a new course section in a specific course using the Canvas LMS API.

Usage

```
create_course_section(  
  canvas,  
  course_id,  
  section_name,  
  section_start_date = NULL,  
  section_end_date = NULL  
)
```

Arguments

- canvas A list containing the 'api_key' and 'base_url' for authentication.
- course_id The ID of the course in which to create the section.
- section_name The name of the section.
- section_start_date
 (Optional) The start date of the section.
- section_end_date
 (Optional) The end date of the section.

Value

A confirmation message that the section has been created.

create_folder *Create a Folder in Canvas LMS*

Description

Creates a new folder in a specific course using the Canvas LMS API.

Usage

```
create_folder(canvas, course_id, folder_name, parent_folder_id = NULL)
```

Arguments

- canvas A list containing the 'api_key' and 'base_url' for authentication.
- course_id The ID of the course in which to create the folder.
- folder_name The name of the folder.
- parent_folder_id
 (Optional) The ID of the parent folder in which to create the folder.

Value

A confirmation message that the folder has been created.

create_group_category *Create a Group Category in Canvas LMS*

Description

Creates a new group category in a specific course using the Canvas LMS API.

Usage

```
create_group_category(  
    canvas,  
    course_id,  
    category_name,  
    allow_self_signup = FALSE  
)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course in which to create the group category.
category_name	The name of the group category.
allow_self_signup	(Optional) Whether to allow self-signup for groups in the category. Defaults to FALSE.

Value

A confirmation message that the group category has been created.

create_page *Create a Page in Canvas LMS*

Description

Creates a new page in a specific course using the Canvas LMS API.

Usage

```
create_page(canvas, course_id, page_title, page_body, published = FALSE)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course in which to create the page.
page_title	The title of the page.
page_body	The body/content of the page.
published	(Optional) Whether the page should be published. Defaults to FALSE.

Value

A confirmation message that the page has been created.

download_course_file *Downloads a file from a given URL.*

Description

This function downloads a file from a specified URL and saves it locally.

Usage

```
download_course_file(canvas, file_url, download_path)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the canvas_authenticate function.
file_url	The URL of the file to download.
download_path	The path where the file should be downloaded.

Value

The path of the downloaded file.

Examples

```
## Not run:  
# Download a file from a given URL  
canvas <- canvas_authenticate(api_key, base_url)  
file_url <- "https://example.com/file.pdf"  
download_path <- "path/to/save/file.pdf"  
file_path <- download_course_file(canvas, file_url, download_path)  
  
## End(Not run)
```

get_accounts	<i>Get a list of accounts from the Canvas LMS API</i>
--------------	---

Description

Retrieves a paginated list of accounts that the current user can view or manage.

Usage

```
get_accounts(canvas, include = NULL, per_page = 100)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
include	A vector of additional information to include. Default is NULL.
per_page	Number of accounts to retrieve per page. Default is 100.

Value

A list of accounts retrieved from the Canvas LMS API.

get_all_courses	<i>Retrieves a paginated list of all courses visible in the public index.</i>
-----------------	---

Description

This function retrieves a paginated list of all courses visible in the public index using the Canvas LMS API. *NOTE* This function might take a while to finish.

Usage

```
get_all_courses(canvas, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the canvas_authenticate function.
per_page	(Optional) The number of courses to retrieve per page of results (default is 100).

Value

A data frame of courses visible in the public index.

get_assignments	<i>Get Assignments from Canvas LMS API</i>
-----------------	--

Description

Fetches a list of assignments within a specific course from the Canvas LMS API.

Usage

```
get_assignments(canvas, course_id)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course for which to retrieve the assignments.

Value

A list of assignments retrieved from the Canvas LMS API.

get_assignment_data	<i>Get course-level assignment data from the Canvas LMS API</i>
---------------------	---

Description

Retrieves the course-level assignment data for a specific course from the Canvas LMS API.

Usage

```
get_assignment_data(canvas, course_id, per_page = 100)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course for which to retrieve the assignment data.
per_page	Number of assignment data to retrieve per page. Default is 100.

Value

A list of assignment data retrieved from the Canvas LMS API.

`get_assignment_details`*Get Assignment Details from Canvas LMS API*

Description

Retrieves detailed information about a specific assignment from the Canvas LMS API.

Usage

```
get_assignment_details(canvas, course_id, assignment_id)
```

Arguments

<code>canvas</code>	A list containing the 'api_key' and 'base_url' for authentication.
<code>course_id</code>	The ID of the course in which the assignment resides.
<code>assignment_id</code>	The ID of the assignment for which to retrieve the details.

Value

A dataframe containing the detailed information about the assignment.

`get_assignment_submissions`*Lists assignment submissions for a course.*

Description

This function retrieves a list of assignment submissions for a specific course in the Canvas LMS API.

Usage

```
get_assignment_submissions(  
    canvas,  
    course_id,  
    assignment_id = NULL,  
    per_page = 100  
)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the canvas_authenticate function.
course_id	The ID of the course for which to list assignment submissions.
assignment_id	(Optional) The ID of a specific assignment for which to list submissions.
per_page	(Optional) The number of submissions to retrieve per page of results (default is 100).

Value

A data frame of assignment submissions for the specified course and assignment.

get_courses	<i>Get Courses from Canvas LMS API</i>
-------------	--

Description

Retrieves a list of courses from the Canvas LMS API.

Usage

```
get_courses(canvas, per_page = 100)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
per_page	Number of courses to retrieve per page. Default is 100.

Value

A list of courses retrieved from the Canvas LMS API.

get_course_announcements	<i>Retrieves course announcements.</i>
--------------------------	--

Description

This function retrieves a list of announcements for a specific course in the Canvas LMS API.

Usage

```
get_course_announcements(canvas, course_id, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the canvas_authenticate function.
course_id	The ID of the course for which to retrieve announcements.
per_page	(Optional) The number of announcements to retrieve per page of results (default is 100).

Value

A data frame of course announcements.

get_course_details	<i>Get Course Details from Canvas LMS API</i>
--------------------	---

Description

Retrieves detailed information about a specific course from the Canvas LMS API.

Usage

```
get_course_details(canvas, course_id)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course for which to retrieve the details.

Value

A dataframe containing the detailed information about the course.

get_course_enrollments	<i>Retrieves the course enrollments for a course.</i>
------------------------	---

Description

This function retrieves the enrollments of students and other roles in a specific course in the Canvas LMS API.

Usage

```
get_course_enrollments(canvas, course_id, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the <code>canvas_authenticate</code> function.
course_id	The ID of the course for which to fetch the enrollments.
per_page	(Optional) The number of enrollments to retrieve per page of results (default is 100).

Value

A data frame of course enrollments for the specified course.

<code>get_course_files</code>	<i>Retrieves a list of files within a course.</i>
-------------------------------	---

Description

This function retrieves a list of files within a specific course in the Canvas LMS API.

Usage

```
get_course_files(canvas, course_id, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the <code>canvas_authenticate</code> function.
course_id	The ID of the course for which to fetch the files.
per_page	(Optional) The number of files to retrieve per page of results (default is 100).

Value

A data frame of files within the specified course.

get_course_folders *Retrieves course folders.*

Description

This function retrieves a list of folders for a specific course in the Canvas LMS API.

Usage

```
get_course_folders(canvas, course_id, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the <code>canvas_authenticate</code> function.
course_id	The ID of the course for which to retrieve folders.
per_page	Number of courses to retrieve per page. Default is 100.

Value

A data frame of course folders.

get_course_groups *Retrieves the list of groups in a course.*

Description

This function retrieves the list of groups in a specific course in the Canvas LMS API.

Usage

```
get_course_groups(canvas, course_id, per_page = 100)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course for which to fetch the groups.
per_page	(Optional) The number of groups to retrieve per page of results (default is 100).

Value

A data frame of groups in the specified course.

get_course_pages	<i>Retrieves the pages within a course.</i>
------------------	---

Description

This function retrieves the pages within a specific course in the Canvas LMS API.

Usage

```
get_course_pages(canvas, course_id, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the <code>canvas_authenticate</code> function.
course_id	The ID of the course for which to fetch the pages.
per_page	(Optional) The number of pages to retrieve per page of results (default is 50).

Value

A list of pages within the specified course.

get_course_participation	<i>Get course-level participation data from Canvas LMS API</i>
--------------------------	--

Description

Fetches the participation data for a specific course from the Canvas LMS API.

Usage

```
get_course_participation(canvas, course_id)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course for which to retrieve the participation data.

Value

The participation data for the specified course retrieved from the Canvas LMS API.

get_course_quizzes *Retrieves course quizzes.*

Description

This function retrieves a list of quizzes for a specific course in the Canvas LMS API.

Usage

```
get_course_quizzes(canvas, course_id, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the canvas_authenticate function.
course_id	The ID of the course for which to retrieve quizzes.
per_page	(Optional) The number of quizzes to retrieve per page of results (default is 100).

Value

A data frame of course quizzes.

get_course_sections *Retrieves course sections.*

Description

This function retrieves a list of sections for a specific course in the Canvas LMS API.

Usage

```
get_course_sections(canvas, course_id, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the canvas_authenticate function.
course_id	The ID of the course for which to retrieve sections.
per_page	(Optional) The number of sections to retrieve per page of results (default is 100).

Value

A data frame of course sections.

get_course_students *Retrieves the list of students in a course.*

Description

This function retrieves the list of students enrolled in a specific course in the Canvas LMS API.

Usage

```
get_course_students(canvas, course_id, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the <code>canvas_authenticate</code> function.
course_id	The ID of the course for which to fetch the students.
per_page	(Optional) The number of students to retrieve per page of results (default is 100).

Value

A data frame of students enrolled in the specified course.

get_department_grade_data
Get department-level grade data from the Canvas LMS API

Description

Retrieves the department-level grade data for a specific account and term from the Canvas LMS API.

Usage

```
get_department_grade_data(  
  canvas,  
  account_id,  
  type = "current",  
  term_id = NULL,  
  per_page = 100  
)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
account_id	The ID of the account for which to retrieve the grade data.
type	The type of courses to include in the data. Can be 'current', 'completed', or 'term'.
term_id	The ID of the term for which to retrieve the grade data. Only used when type is 'terms/<term_id>'.
per_page	Number of grade data to retrieve per page. Default is 100.

Value

A data frame of grade data retrieved from the Canvas LMS API.

`get_department_participation_data`

Get department-level participation data from the Canvas LMS API

Description

Retrieves the department-level participation data for a specific account and term from the Canvas LMS API.

Usage

```
get_department_participation_data(
  canvas,
  account_id,
  type = "current",
  term_id = NULL,
  per_page = 100
)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
account_id	The ID of the account for which to retrieve the participation data.
type	The type of courses to include in the data. Can be 'current', 'completed', or 'term'.
term_id	The ID of the term for which to retrieve the participation data. Only used when type is 'terms/<term_id>'.
per_page	Number of participation data to retrieve per page. Default is 100.

Value

A data frame of participation data retrieved from the Canvas LMS API.

```
get_department_statistics
```

Get department-level statistics from the Canvas LMS API

Description

Retrieves department-level statistics for a specific account and term from the Canvas LMS API.

Usage

```
get_department_statistics(canvas, account_id, type = "current", term_id = NULL)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
account_id	The ID of the account for which to retrieve the statistics.
type	The type of courses to include in the data. Can be 'current', 'completed', or 'term'.
term_id	The ID of the term for which to retrieve the statistics. Only used when type is 'terms/<term_id>'.

Value

A list of department-level statistics retrieved from the Canvas LMS API.

```
get_department_statistics_by_subaccount
```

Get department-level statistics by subaccount from the Canvas LMS API

Description

Retrieves department-level statistics for a specific account and term from the Canvas LMS API.

Usage

```
get_department_statistics_by_subaccount(
  canvas,
  account_id,
  type = "current",
  term_id = NULL
)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
account_id	The ID of the account for which to retrieve the statistics.
type	The type of courses to include in the data. Can be 'current', 'completed', or 'term'.
term_id	The ID of the term for which to retrieve the statistics. Only used when type is 'terms/<term_id>'.

Value

A list of department-level statistics retrieved from the Canvas LMS API.

get_discussions	<i>Retrieves the discussion topics within a course.</i>
-----------------	---

Description

This function retrieves the discussion topics within a specific course in the Canvas LMS API.

Usage

```
get_discussions(canvas, course_id, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the canvas_authenticate function.
course_id	The ID of the course for which to fetch the discussion topics.
per_page	The number of entries to show

Value

A list of discussion topics within the specified course.

get_group_categories *Get group categories for a context*

Description

This function retrieves the group categories for a specific context (e.g., course) in the Canvas LMS API.

Usage

```
get_group_categories(canvas, course_id)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course for which to retrieve the group categories.

Value

A data frame of group categories in the specified context.

get_group_info *Get information about a single group*

Description

This function retrieves information about a specific group in the Canvas LMS API.

Usage

```
get_group_info(canvas, group_id)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
group_id	The ID of the group for which to retrieve the information.

Value

A list containing the information about the specified group.

get_group_memberships *Get group memberships*

Description

This function retrieves the memberships for a specific group in the Canvas LMS API.

Usage

```
get_group_memberships(canvas, group_id)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
group_id	The ID of the group for which to retrieve the memberships.

Value

A data frame of memberships in the specified group.

get_group_users *Get users in a group*

Description

This function retrieves the users in a specific group in the Canvas LMS API.

Usage

```
get_group_users(canvas, group_id)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
group_id	The ID of the group for which to retrieve the users.

Value

A data frame of users in the specified group.

get_modules	<i>Retrieves the modules within a course.</i>
-------------	---

Description

This function retrieves the modules within a specific course in the Canvas LMS API.

Usage

```
get_modules(canvas, course_id, per_page = 100)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the <code>canvas_authenticate</code> function.
course_id	The ID of the course for which to fetch the modules.
per_page	The number of entries to show

Value

A list of modules within the specified course.

get_module_items	<i>Retrieves the items within a specific module.</i>
------------------	--

Description

This function retrieves the items within a specific module of a course in the Canvas LMS API.

Usage

```
get_module_items(canvas, course_id, module_id)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the <code>canvas_authenticate</code> function.
course_id	The ID of the course containing the module.
module_id	The ID of the module for which to fetch the items.

Value

A list of items within the specified module.

get_page_content *Retrieves the content body of a specified page.*

Description

This function retrieves the content body of a specified page within a course in the Canvas LMS API.

Usage

```
get_page_content(canvas, course_id, page_id)
```

Arguments

canvas	An object containing the Canvas API key and base URL, obtained through the canvas_authenticate function.
course_id	The ID of the course to which the page belongs.
page_id	The ID of the page for which to fetch the content body.

Value

The content body of the specified page.

get_student_summaries *Get student summaries for a course from Canvas LMS API*

Description

Retrieves the student summaries for a specific course from the Canvas LMS API.

Usage

```
get_student_summaries(canvas, course_id, per_page = 100)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course for which to retrieve the student summaries.
per_page	Number of student summaries to retrieve per page. Default is 100.

Value

A list of student summaries retrieved from the Canvas LMS API.

get_user_course_assignment_data

Get user-in-a-course-level assignment data from the Canvas LMS API

Description

Retrieves user-in-a-course-level assignment data for a specific course and student from the Canvas LMS API.

Usage

```
get_user_course_assignment_data(canvas, course_id, student_id)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course for which to retrieve the assignment data.
student_id	The ID of the student for which to retrieve the assignment data.

Value

A list of user-in-a-course-level assignment data retrieved from the Canvas LMS API.

get_user_course_messaging_data

Get user-in-a-course-level messaging data from the Canvas LMS API

Description

Retrieves user-in-a-course-level messaging data for a specific course and student from the Canvas LMS API.

Usage

```
get_user_course_messaging_data(canvas, course_id, student_id)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course for which to retrieve the messaging data.
student_id	The ID of the student for which to retrieve the messaging data.

Value

A list of user-in-a-course-level messaging data retrieved from the Canvas LMS API.

get_user_course_participation_data

Get user-in-a-course-level participation data from the Canvas LMS API

Description

Retrieves user-in-a-course-level participation data for a specific course and student from the Canvas LMS API.

Usage

```
get_user_course_participation_data(canvas, course_id, student_id)
```

Arguments

canvas	A list containing the 'api_key' and 'base_url' for authentication.
course_id	The ID of the course for which to retrieve the participation data.
student_id	The ID of the student for which to retrieve the participation data.

Value

A list of user-in-a-course-level participation data retrieved from the Canvas LMS API.

post_new_discussion *Post a New Discussion in Canvas LMS*

Description

Creates a new discussion topic in a specific course using the Canvas LMS API.

Usage

```
post_new_discussion(  
    canvas,  
    course_id,  
    discussion_title,  
    discussion_message,  
    discussion_is_announcement = FALSE  
)
```

Arguments

- canvas A list containing the 'api_key' and 'base_url' for authentication.
- course_id The ID of the course in which to create the discussion.
- discussion_title The title of the discussion topic.
- discussion_message The initial message content of the discussion topic.
- discussion_is_announcement (Optional) Whether the discussion should be an announcement. Defaults to FALSE.

Value

A confirmation message that the discussion has been created.

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