Oregon State University

- OSU has approximately 28,000 full-time students
- One main campus, with two campuses in Bend and Newport OR
  - Cascades (Bend) is a four-year college as of Fall 2016
  - Newport houses the Hatfield Marine Center
- Initially adopted Canvas January 2015, fully transitioned by January 2016
- Over 10,000 courses taught per year in Canvas

Overview

- Do you sometimes need specific data that's not provided by Canvas Reports?

- Have you seen Canvas' Live API?

Reports I wish I had

- Students who have been deleted from a current term course

- View SIS Import status

- Print the course roster

- Get the Grade Change Log for in course in CSV form

- Not a report, but be able to add a student to a course without emailing them an invitation

What is the Live API?

- It is an interactive version of the Application Programming Interface for Canvas, which allows you to try out API calls

- For each institution, it is simply https://institutioname.instructure.com/doc/api/live

Ours is https://oregonstate.instructure.com/doc/api/live

Where to find ID values in Canvas URLs

- The Live API needs ID values for your account, a course, a user, and other things like assignments; where do you find these?

- Course ID: yourinst.instructure.com/courses/1500000

- Account ID: yourinst.instructure.com/accounts/90000

- User ID: yourinst.instructure.com/accounts/90000/users/6111111

Get Access Token

- Go to Account -> Settings
- Scroll down to +New Access Token (below Approved Integrations)
- Click +New Access Token, fill in the Purpose (Live API Access) and leave the Expires field blank for no expiration
- Generate Token
- Record the Token as displayed in the Access Token Details window – this is your only chance, the full token cannot be retrieved later
- Can be deleted and a new one generated if needed
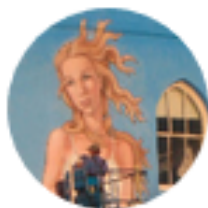
Account

Admin

Dashboard

Courses

Calendar

Inbox

Lindy Foster

Logout

Profile

Settings

Notifications

Files

ePortfolios

Test Studio Lindy
TEST STUDIO LINDY (ORG_1000)

Home

Profile

Notifications

Files

Settings

ePortfolios

Logout

My Studio Sites

Turning Account
Registration

Lindy Foster's Settings

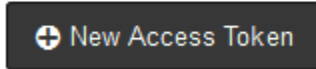|	
Full Name:	Lindy Foster
	This name will be used for grading.
Display Name:	Lindy Foster
	People will see this name in discussions, messages and comments.
Sortable Name:	Foster, Lindy
	This name appears in sorted lists.
Default Email:	fosterl@oregonstate.edu
Language:	System Default (English (US))
Time Zone:	Pacific Time (US & Canada)

Web Services

Course Information	Expires: never Last Used: Mar 8 at 7:42am	details 🗑
OSU Admin Tools	Expires: never Last Used: Mar 11 at 2:54pm	details 🗑
Manage Assistants	Expires: never Last Used: Feb 11 at 9:52am	details 🗑

⊕ New Access Token

Feature Options

New Access Token   ✕

Generate an Access Token

Access tokens are what allow third-party applications to access Canvas resources on your behalf. These tokens are normally created automatically for applications as needed, but if you're developing a new or limited project you can just generate the token from here.

Purpose: | Live API access |

Expires: | |

leave blank for no expiration

Cancel   Generate Token

Commons

Expires: never
Last Used: Apr 26 at 11:51am

details 🗑

Cengag

Access Token Details   ✕

Pearson

Access tokens can be used to allow other applications to make API calls on your behalf. You can also generate access tokens and *use the Canvas Open API* to come up with your own integrations.

OSU Ad

Course

Token:	1002~Vcm9JRd4ghkNyGBxjySjc8c22oKATl1gegTBXBZT85FkPdyX57Jf6klEYlOuwATk
	Copy this token down now. Once you leave this page you won't be able to retrieve the full token anymore, you'll have to regenerate it to get a new value.
App:	User-Generated
Purpose:	Live API access
Created:	May 26 at 10:11am
Last Used:	--
Expires:	never

Manage

Studio

User-Ge

Regenerate Token

➕ New Access Token

Feature Options

Find deleted enrollments in a course

- Use Live API! Go to Enrollments
- You need the Canvas course ID, get this from the URL when you visit the course site

Enrollment Terms

List   Expand   Raw

Enrollments

List   Expand   Raw

GET	/v1/courses/{course_id}/enrollments	List enrollments
GET	/v1/sections/{section_id}/enrollments	List enrollments
GET	/v1/users/{user_id}/enrollments	List enrollments
GET	/v1/accounts/{account_id}/enrollments/{id}	Enrollment by ID
POST	/v1/courses/{course_id}/enrollments	Enroll a user
POST	/v1/sections/{section_id}/enrollments	Enroll a user
DELETE	/v1/courses/{course_id}/enrollments/{id}	Conclude or deactivate an enrollment
PUT	/v1/courses/{course_id}/enrollments/{id}/reactivate	Re-activate an enrollment

Error Reports

List   Expand   Raw

External Tools

List   Expand   Raw

Favorites

List   Expand   Raw

Feature Flags

List   Expand   Raw

Course Quiz Extensions   List   Expand   Raw

Courses   List   Expand   Raw

Custom Gradebook Columns   List   Expand   Raw

Discussion Topics   List   Expand   Raw

Document Previews   List   Expand   Raw

Enrollment Terms   List   Expand   Raw

Enrollments   List   Expand   Raw

| GET | /v1/courses/{course_id}/enrollments | List enrollments |

Implementation Notes

Depending on the URL given, return either (1) all of the enrollments in a course, (2) all of the enrollments in a section or (3) all of a user's enrollments. This includes student, teacher, TA, and observer enrollments. If a user has multiple enrollments in a context (e.g. as a teacher and a student or in multiple course sections), each enrollment will be listed separately. note: Currently, only an admin user can return other users' enrollments. A user can, however, return his/her own enrollments.

Response Class

Model Model Schema

Enrollment {
  id (integer, *optional*): The ID of the enrollment.,
  course_id (integer, *optional*): The unique id of the course.,
  sis_course_id (string, *optional*): The SIS Course ID in which the enrollment is associated. Only displayed if present. This field is only included if the user has permission to view SIS information.,
  course_integration_id (string, *optional*): The Course Integration ID in which the enrollment is associated. This field is only included if the user has permission to view SIS information.,
  course_section_id (integer, *optional*): The unique id of the user's section.,

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html_url (string, *optional*): The URL to the Canvas web UI page for the user's grades, if this is a student enrollment.,
current_grade (string, *optional*): The user's current grade in the class. Only included if user has permissions to view this grade.,
final_grade (string, *optional*): The user's final grade for the class. Only included if user has permissions to view this grade.,
current_score (string, *optional*): The user's current score in the class. Only included if user has permissions to view this score.,
final_score (string, *optional*): The user's final score for the class. Only included if user has permissions to view this score.
}

Response Content Type application/json ⌄

Parameters

Parameter	Value	Description	Parameter Type	Data Ty
course_id	1582498 ID		path	string
type		A list of enrollment types to return. Accepted values are 'StudentEnrollment', 'TeacherEnrollment', 'TaEnrollment', 'DesignerEnrollment', and 'ObserverEnrollment.' If omitted, all enrollment types are returned. This argument is ignored if `role` is given.	query	array[st
role		A list of enrollment roles to return. Accepted values include course-level roles created by the {api:RoleOverridesController#add_role Add Role API} as well as the base enrollment types accepted by the `type` argument above.	query	array[st
state	deleted ⌄	Filter by enrollment state. If omitted, 'active' and 'invited' enrollments are returned. When querying a user's enrollments (either via user_id argument or via user enrollments endpoint), the following additional synthetic states are supported: "current_and_invited"|"current_and_future"|"current_and_concluded"	query	array[st
include	⌄	Array of additional information to include on the enrollment or user records. "avatar_url" and "group_ids" will be returned on the user record.	query	array[st
user_id		Filter by user_id (only valid for course or section enrollment queries). If set to the current user's id, this is a way to determine if the user has any enrollments in the course or section, independent of whether the user has permission to view other people on the roster.	query	string
grading_period_id		Return grades for the given grading_period. If this parameter is not specified, the returned grades will be for the whole course.	query	integer

Try it out!   Hide Response

Try it out!   Hide Response

Request URL

https://oregonstate.instructure.com:443/api/v1/courses/1582498/enrollments?state[]=deleted

Response Body

```
[
  {
    "id": 27053796,
    "user_id": 6110379,
    "course_id": 1582498,
    "type": "StudentEnrollment",
    "created_at": "2016-03-09T12:13:18Z",
    "updated_at": "2016-03-25T23:07:23Z",
    "associated_user_id": null,
    "start_at": null,
    "end_at": null,
    "course_section_id": 1782705,
    "root_account_id": 97009,
    "limit_privileges_to_course_section": false,
    "enrollment_state": "deleted",
    "role": "StudentEnrollment",
    "role_id": 2441,
    "last_activity_at": null,
    "total_activity_time": 0,
    "sis_import_id": 7642806,
    "grades": {
      "html_url": "https://oregonstate.instructure.com/courses/1582498/grades/6110379",
      "current_score": null,
      "current_grade": null,
      "final_score": null,
      "final_grade": null
    },
    "sis_source_id": "CH_232_001_S2016:932684270:2441:GENERAL CHEMISTRY (CH_232_001_S2016)",
    "sis_course_id": "CH_232_001_S2016",
```

- The Response Body shows the result in JSON format, which is not very readable
- Use a JSON converter to view the data more easily
- Copy the entire Response Body, then paste into a JSON converter
- Try http://jsonviewer.stack.hu for a simple formatter
- Convert JSON to CSV
  - Easy to view in Excel or other spreadsheet program
  - Try http://konklone.io/json/

konklone.io/json/

Convert JSON to CSV

Click your JSON below to edit. Create a permalink any time. Please report bugs and send feedback on GitHub. Made by @konklone.
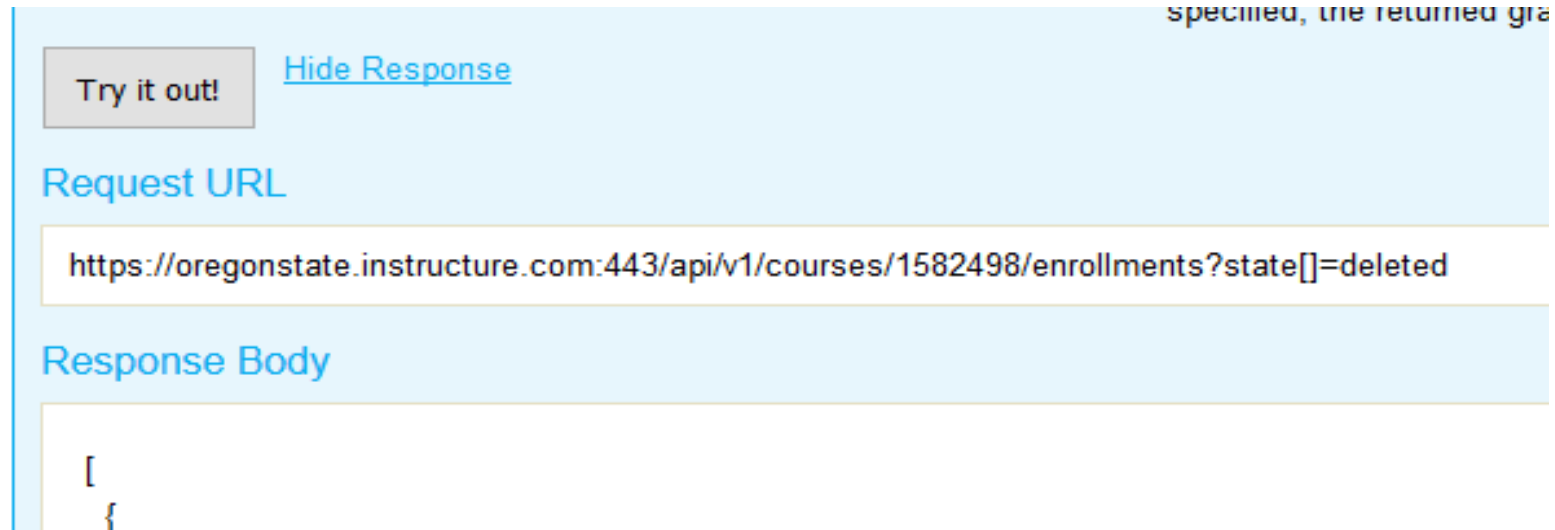
```
[
  {
    "id": 27053796,
    "user_id": 6110379,
    "course_id": 1582498,
    "type": "StudentEnrollment",
    "created_at": "2016-03-09T12:13:18Z",
    "updated_at": "2016-03-25T23:07:23Z",
    "associated_user_id": null,
    "start_at": null,
    "end_at": null,
    "course_section_id": 1782705,
```

Extremely large files may cause trouble — the conversion is done inside your browser.

Below are the first few rows (10 total). Download the entire CSV, or show the raw data.

id	user_id	course_id	type	created_at	updated_at	associated_user_id	start_at	end_at	course_section_id	root_account_id	limit_privileges_to_course
27053796	6110379	1582498	StudentEnrollment	2016-03-09T12:13:18Z	2016-03-25T23:07:23Z				1782705	97009	
27022952	6172250	1582498	StudentEnrollment	2016-03-02T12:15:51Z	2016-03-25T21:07:27Z				1782705	97009	
27005982	6091290	1582498	StudentEnrollment	2016-03-01T12:24:13Z	2016-03-24T06:03:54Z				1782705	97009	
27022937	6172394	1582498	StudentEnrollment	2016-03-02T12:15:50Z	2016-03-09T13:14:01Z				1782705	97009	
26984380	6086831	1582498	StudentEnrollment	2016-02-29T11:58:31Z	2016-03-02T13:40:24Z				1782705	97009	
26934449	6177144	1582498	StudentEnrollment	2016-02-25T12:21:50Z	2016-04-04T19:23:32Z				1782705	97009	
26984375	6070104	1582498	StudentEnrollment	2016-02-29T11:58:31Z	2016-03-29T19:09:08Z				1782705	97009	

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GET requests in the Live API return at most 10 results; what if you need more?

Use the Request URL (found just above the Response Body)

Copy and paste this URL into a browser window, but first add "&per_page=100"

File Edit View History Bookmarks Tools Help

‹ eVie... | User Setti... | User Setti... | Space: Ca... | Mail :: In... | GENERAL... | User Setti... | Account ... | M Inb

https://oregonstate.instructure.com/api/v1/courses/1582498/enrollments?state[]=deleted&per_page=100

Most Visited Mail :: Welcome to We... Weather Forecast Phil... WorkForce Software E... QueueView :: Ticket :: ... start [OSU En...

while(1);
[{"id":27053796,"user_id":6110379,"course_id":1582498,"type":"StudentEnrollment","created_at":"2016-
11,"start_at":null,"end_at":null,"course_section_id":1782705,"root_account_id":97009,"limit_privileg
llment","role_id":2441,"last_activity_at":null,"total_activity_time":0,"sis_import_id":7642806,"grad
/6110379","current_score":null,"current_grade":null,"final_score":null,"final_grade":null},"sis_sour
(CH_232_001_S2016)","sis_course_id":"CH_232_001_S2016","course_integration_id":null,"sis_section_id"
ure.com/courses/1582498/users/6110379","user":{"id":6110379,"name":"Salim Al-Maqbali","sortable_name
Al-Maqbali","sis_user_id":"932684270","integration_id":null,"sis_login_id":"almaqbas@oregonstate.edu
{"id":27022952,"user_id":6172250,"course_id":1582498,"type":"StudentEnrollment","created_at":"2016-0
1,"start_at":null,"end_at":null,"course_section_id":1782705,"root_account_id":97009,"limit_privilege
lment","role_id":2441,"last_activity_at":null,"total_activity_time":0,"sis_import_id":7642802,"grade
/6172250","current_score":null,"current_grade":null,"final_score":null,"final_grade":null},"sis_sour
(CH_232_001_S2016)","sis_course_id":"CH_232_001_S2016","course_integration_id":null,"sis_section_id"
ure.com/courses/1582498/users/6172250","user":{"id":6172250,"name":"Erika Anderson","sortable_name":
Anderson","sis_user_id":"932472515","integration_id":null,"sis_login_id":"anderse9@oregonstate.edu",
{"id":27005982,"user_id":6091290,"course_id":1582498,"type":"StudentEnrollment","created_at":"2016-0
1,"start_at":null,"end_at":null,"course_section_id":1782705,"root_account_id":97009,"limit_privilege
lment","role_id":2441,"last_activity_at":null,"total_activity_time":0,"sis_import_id":7642686,"grade
/6091290","current_score":null,"current_grade":null,"final_score":null,"final_grade":null},"sis_sour
(CH_232_001_S2016)","sis_course_id":"CH_232_001_S2016","course_integration_id":null,"sis_section_id"
ure.com/courses/1582498/users/6091290","user":{"id":6091290,"name":"Lauren Anderson","sortable_name"
Anderson","sis_user_id":"932678651","integration_id":null,"sis_login_id":"andersla@oregonstate.edu",

Convert JSON to CSV

Click your JSON below to edit. Create a permalink any time. Please report bugs and send feedback on GitHub. Made by @konklone.

```
[
  {
    "id": 27053796,
    "user_id": 6110379,
    "course_id": 1582498,
    "type": "StudentEnrollment",
    "created_at": "2016-03-09T12:13:18Z",
    "updated_at": "2016-03-25T23:07:23Z",
    "associated_user_id": null,
    "start_at": null,
    "end_at": null,
    "course_section_id": 1782705,
```

Extremely large files may cause trouble — the conversion is done inside your browser.

Below are the first few rows (55 total). Download the entire CSV, or show the raw data.

id	user_id	course_id	type	created_at	updated_at	associated_user_id	start_at	end_at	course_section_
27053796	6110379	1582498	StudentEnrollment	2016-03-09T12:13:18Z	2016-03-25T23:07:23Z				1782705
27022952	6172250	1582498	StudentEnrollment	2016-03-02T12:15:51Z	2016-03-25T21:07:27Z				1782705
27005982	6091290	1582498	StudentEnrollment	2016-03-01T12:24:13Z	2016-03-24T06:03:54Z				1782705
27022937	6172394	1582498	StudentEnrollment	2016-03-02T12:15:50Z	2016-03-09T13:14:01Z				1782705
26984380	6086831	1582498	StudentEnrollment	2016-02-29T11:58:31Z	2016-03-02T13:40:24Z				1782705
26934449	6177144	1582498	StudentEnrollment	2016-02-25T12:21:50Z	2016-04-04T19:23:32Z				1782705
26984375	6070104	1582498	StudentEnrollment	2016-02-29T11:58:31Z	2016-03-29T19:09:08Z				1782705

Check your SIS imports

- Ever wonder what's going on with your SIS imports, but the GUI only shows the most recent one?

- Use Live API!

- GET SIS Import list

- Can limit to certain dates

Quizzes

Roles

SIS Imports

| GET | /v1/accounts/{account_id}/sis_imports | Get SIS import list |

| POST | /v1/accounts/{account_id}/sis_imports | Import SIS data |

| GET | /v1/accounts/{account_id}/sis_imports/{id} | Get SIS import status |

SIS Integration

Search

Parameters

Parameter	Value	Description	Parameter Type	Data Type
account_id	97009	ID	path	string
created_since		If set, only shows imports created after the specified date (use ISO8601 format)	query	DateTime

Try it out!   Hide Response

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Convert JSON to CSV

Click your JSON below to edit. Create a permalink any time. Please report bugs and send feedback on GitHub. Made by @konklone.

```
{
  "sis_imports": [
    {
      "created_at": "2016-06-02T15:45:06Z",
      "started_at": "2016-06-02T15:45:06Z",
      "ended_at": "2016-06-02T15:45:46Z",
      "updated_at": "2016-06-02T15:45:46Z",
      "progress": 100,
      "id": 7646666,
      "workflow_state": "imported",
      "data": {
        "import_type": "instructure_csv",
```

Extremely large files may cause trouble — the conversion is done inside your browser.

Below are the first few rows (10 total). Download the entire CSV, or show the raw data.

created_at	started_at	ended_at	updated_at	progress	id	workflow_state	data/impo
2016-06-02T15:45:06Z	2016-06-02T15:45:06Z	2016-06-02T15:45:46Z	2016-06-02T15:45:46Z	100	7646666	imported	instructure_
2016-06-02T15:24:35Z	2016-06-02T15:24:35Z	2016-06-02T15:24:36Z	2016-06-02T15:24:36Z	100	7646665	imported	instructure_
2016-06-02T15:00:05Z	2016-06-02T15:00:06Z	2016-06-02T15:00:46Z	2016-06-02T15:00:46Z	100	7646664	imported	instructure_
2016-06-02T14:54:31Z	2016-06-02T14:54:31Z	2016-06-02T14:54:32Z	2016-06-02T14:54:32Z	100	7646663	imported	instructure_
2016-06-02T14:45:02Z	2016-06-02T14:45:03Z	2016-06-02T14:45:44Z	2016-06-02T14:45:44Z	100	7646662	imported	instructure_
2016-06-02T12:05:17Z	2016-06-02T12:05:17Z	2016-06-02T12:05:18Z	2016-06-02T12:05:18Z	100	7646661	imported	instructure_
2016-06-02T12:00:15Z	2016-06-02T12:00:15Z	2016-06-02T12:00:16Z	2016-06-02T12:00:16Z	100	7646660	imported	instructure_

‹

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Enroll a User in a course

- Can also use the POST APIs to add data to Canvas
- No invitation sent to student
- No need to construct a CSV file and SIS Import

Enrollments

GET	/v1/courses/{course_id}/enrollments	List enrollments
GET	/v1/sections/{section_id}/enrollments	List enrollments
GET	/v1/users/{user_id}/enrollments	List enrollments
GET	/v1/accounts/{account_id}/enrollments/{id}	Enrollment by ID
POST	/v1/courses/{course_id}/enrollments	Enroll a user

Parameters

Parameter	Value	Description	Parameter Type	Data Type
course_id	1591106	**ID**	path	string
enrollment[user_id]	6027666	**The ID of the user to be enrolled in the course.**	form	string
enrollment[type]	StudentEnrollment	Enroll the user as a student, teacher, TA, observer, or designer. If	form	string

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Response Body

```json
{
    "id": 27312752,
    "user_id": 6027666,
    "course_id": 1591106,
    "type": "StudentEnrollment",
    "created_at": "2016-06-02T16:26:50Z",
    "updated_at": "2016-06-02T16:26:50Z",
    "associated_user_id": null,
    "start_at": null,
    "end_at": null,
```

Limitations

- More than 100 lines in the response body
- No way to look up IDs in the Live API itself
- Can't just get a count of something (courses, enrollments, subaccounts, etc.)

Questions?

Links

- Your Live API: http://myinstitution.instructure.com/doc/api/live

- JSON to CSV converter: http://konklone.io/json/

- JSON formatter: http://jsonviewer.stack.hu/

- Complete documentation of the Canvas API: https://api.instructure.com

Contact: lindy.foster@oregonstate.edu

Tips and Tricks

- You can get to a course page without searching by using the course_id: https://yourinst.instructure.com/courses/sis_course_id:your_course_id

- You can get a user's profile, including their Canvas ID, by using the user ID or login ID: https://yourinst.instructure.com/api/v1/users/sis_user_id:999999999 https://yourinst.instructure.com/api/v1/users/sis_login_id:loginname@yourinst.edu

while(1);{"id":6666666,"name":"Lindy Foster","sortable_name":"Foster, Lindy","short_name":"Lindy Foster","sis_user_id":"999999999","integration_id":null,"sis_login_id":"myname@oregonstate.edu","sis_import_id":7648806,"login_id":"myname@oregonstate.edu","avatar_url":"https://oregonstate.instructure.com/images/thumbnails/62990073/5qDYBO7cJ6YBVG2WRJSCFvOlwEGY0SmsEjSdt4Fq","locale":null,"permissions":{"can_update_name":false,"can_update_avatar":true}}

while (1);{
 "id": 6666666,
 "name": "Lindy Foster",
 "short_name": "Lindy Foster",
 "sis_user_id": "999999999",
 "integration_id": null,
 "sis_login_id": "myname@oregonstate.edu",
 "sis_import_id": 7648806,
 "login_id": "myname@oregonstate.edu",
 "avatar_url": "https://oregonstate.instructure.com/images/thumbnails....
 "locale": null
 "permissions": {
   "can_update_name": false,
   "can_update_avatar": true
 }
}