

Enhancing Group Management in Keycloak: A Flexible Extension for Dynamic Membership Control

March 2025



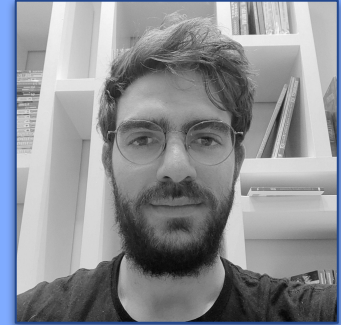


- Team in Directorate of European and International Infrastructure Projects of **GRNET**
- Providing facilitating seamless access to research resources for diverse stakeholders within the European Open Science Cloud (EOSC) based on Keycloak
- Researchers, academics, policy makers, funders, innovators, citizens and public actors could securely access Open Science services across infrastructures

CORE TEAM



- Konstantinos Georgilakis
DEVELOPER (SPEAKER)



- Andreas Kozadinos
DEVELOPER (SPEAKER)



- Nick Mastoris
DEVELOPER



- Nicolas Liampotis
SERVICE MANAGER

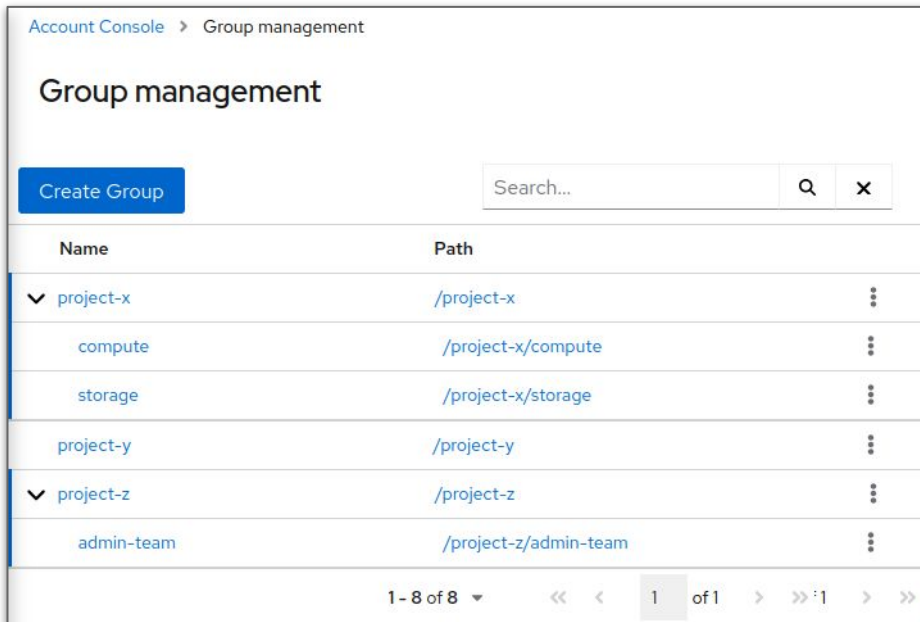


RCIAM

Enhancing Group Management in
Keycloak: A Flexible Extension for
Dynamic Membership Control

Introducing Advanced Group Management

- Beyond User Collections: **Structured membership management for complex access**
- Advanced Workflows: **Tailored enrollment for precise control**
- Hierarchical Organization:
 - Parent groups include subgroups
 - **Expiration/suspension** cascades to child memberships
- Delegated Administration: **Secure, simplified** group management
- Shared Access: **Groups used across multiple services/resources**



Account Console > Group management

Group management

Create Group

Search...

Name	Path	
▼ project-x	/project-x	⋮
compute	/project-x/compute	⋮
storage	/project-x/storage	⋮
project-y	/project-y	⋮
▼ project-z	/project-z	⋮
admin-team	/project-z/admin-team	⋮

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Group Management Features

User-driven group enrollment flows:

- Users can request membership in groups
- Accept group Terms & Conditions
- Provide comment/justification
- Optionally admin-reviewed enrollment requests

Time-based group membership:

- Automatic expiration of group membership
- Support for scheduled activation of membership

Group Admin Management Tools:

- Invite group members or admins
- Edit group details and roles
- Suspend, activate, or remove members
- Edit individual memberships

Group Hierarchy Management:

- Create and manage group hierarchies
- Manage memberships through top-level groups

<https://github.com/rciam/keycloak-group-management>



How Advanced Group Management Transforms Keycloak

Advanced Group Management:

- Automated and user-driven workflows (requests, approvals).
- Expiration, activation, and scheduling for memberships.
- Roles in groups
- Parent-to-child cascading rules for admin actions.
- Delegated group management.
- Email notifications

Base Keycloak:

- Hierarchical groups but manual membership management.
- No expiration or time-based memberships.
- No membership suspension
- No user-driven workflows.
- Admin-centric group management only via admin console.

Group Management

 Group Admins oversee the group and its subgroups, controlling access and structure.

◆ Role Management

- Assign and update roles to define user permissions.

Membership Control

- Add or remove members.
- Assign roles based on needs or requests.
- Extend memberships for continued access.
- Suspend or activate memberships as needed.

Enrollment Configuration

- Define how users can join the group.
- Manage approval settings and membership conditions.

Group Structure

- Create and delete subgroups within the hierarchy

Editing group details and roles


Account Console > Group management > project-x

project-x


Project X is all about computing and storage ✎



Group Details | Group Members | Group Admins | Group Enrollment Configuration | Group Attributes | Sub Groups

Path /project-x

Enrollment Discovery Page Link 

Group Roles



Role Name
member 
admin 

Manage Admins

Account Console > Group management > project-x

project-x


Project X is all about computing and storage ✎

Group Details Group Members **Group Admins** Group Enrollment Configuration Group Attributes Sub Groups

Unique Identifier	Name / email	Direct Admin	
a7e3bld4-0c5f-42b9-987a-1f8e4d2c6b59	Felix Marlowe felixmarlowe@mail.com	☑	✖
7a6ae5617ea76389401e3c3839127fd2a01	Andreas Kozadinos andreaskoza@admin.grnet.gr	☑	✖
8f6d9c27-3e4b-4d5b-a0b6-3c9f7e5ald2e	Orion Vega danielmercerc@mail.com	☑	✖

Add New Group Admin

Use the input to search for a user to add as a group admin, or type a valid email address to send an invitation.

Felix Marlowe ✕ ▾ 

Viewing Group Members

project-x

Project X is all about computing and storage 

[Group Details](#) [Group Members](#) [Group Admins](#) [Group Enrollment Configuration](#) [Group Attributes](#) [Sub Groups](#)

Direct Members

Add Member

Search...



Unique Identifier	Name / email ↓	Roles <small>all</small>	Member Since	Membership Expiration <small>▼</small> ⓘ	Status <small>all</small>
f13a5e82-7c1d-4e29-b9f8-2d4730c8e6a5	Lena Calder lenacalder@mail.com	member	2025-02-25	Direct: 2026-02-25	
a7e3b1d4-0c5f-42b9-987a-1f8e4d2c6b59	Felix Marlowe felixmarlowe@mail.com	member	2025-02-25	Direct: 2026-02-25	
c5d92f0a-9b6e-4f73-89d1-0e24b68b3c7f	Dmitri Solis dmitrisolis@mail.com	member	2025-02-25	Direct: 2025-03-12 ⚠	
8f6d9c27-3e4b-4d5b-a0b6-3c9f7e5ald2e	Orion Vega danielmercer@mail.com	member	2025-02-25	Direct: 2026-02-25	

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of 1



Viewing Group Members

Account Console > Group management > project-x

project-x

Project X is all about computing and storage 






Group Details **Group Members** Group Admins Group Enrollment Configuration Group Attributes Sub Groups

Direct Members Toggle to also see indirect members

Add Member

Search...



Unique Identifier	Name / email ↓	Roles <small>all</small>	Member Since	Membership Expiration <small>?</small>	Status <small>all</small>
f13a5e82-7c1d-4e29-b9f8-2d4730c8e6a5	Lena Calder lenacalder@mail.com	member	2025-02-25	Direct: 2026-02-25	
a7e3b1d4-0c5f-42b9-987a-1f8e4d2c6b59	Felix Marlowe felixmarlowe@mail.com	member	2025-02-25	Direct: 2026-02-25	
c5d92f0a-9b6e-4f73-89d1-0e24b68b3c7f	Dmitri Solis dmitrisolis@mail.com	member	2025-02-25	Direct: 2025-03-12 	
8f6d9c27-3e4b-4d5b-a0b6-3c9f7e5ald2e	Orion Vega danielmercerc@mail.com	member	2025-02-25	Direct: 2026-02-25	

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of 1



Viewing Indirect Group Members

project-x
Project X is all about computing and storage

Group Details **Group Members** Group Admins Group Enrollment Configuration Group Attributes Sub Groups

Direct Members [Add Member](#)

Unique Identifier	Name / email ↓	Roles <small>all</small>	Member Since	Membership Expiration <small>▼</small>	Status <small>all</small>	Group Path	Direct Member	
f13a5e82-7c1d-4e29-b9f8-2d4730c8e6a5	Lena Calder lenacalder@mail.com	contributor manager	2025-03-26	Direct: 2025-04-27		/project-x/storage	<input type="checkbox"/>	
f13a5e82-7c1d-4e29-b9f8-2d4730c8e6a5	Lena Calder lenacalder@mail.com	member	2025-02-25	Direct: 2026-02-25		/project-x	<input checked="" type="checkbox"/>	
a7e3bd4-0c5f-42b9-987a-1f8e4d2c6b59	Felix Marlowe felixmarlowe@mail.com	member	2025-02-25	Direct: 2026-02-25		/project-x	<input checked="" type="checkbox"/>	
c5d92f0a-9b6e-4f73-89d1-0e24b68b3c7f	Dmitri Solis dmitrisolis@mail.com	manager	2025-02-25	Effective: 2025-02-25 Direct: Never		/project-x/compute	<input type="checkbox"/>	
c5d92f0a-9b6e-4f73-89d1-0e24b68b3c7f	Dmitri Solis dmitrisolis@mail.com	member	2025-02-25	Direct: 2025-03-12		/project-x	<input checked="" type="checkbox"/>	
8f6d9c27-3e4b-4d5b-a0b6-3c9f7e5ald2e	Orion Vega danielmercer@mail.com	manager	2025-02-25	Effective: 2026-02-25 Direct: Never		/project-x/compute	<input type="checkbox"/>	
8f6d9c27-3e4b-4d5b-a0b6-3c9f7e5ald2e	Orion Vega danielmercer@mail.com	member	2025-02-25	Direct: 2026-02-25		/project-x	<input checked="" type="checkbox"/>	

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Types of Membership Status

Active

Membership is active.

Suspended

Admin-enforced restriction for security reasons.
Membership is retained, but all entitlements are revoked.
Can be reactivated by an admin.

Pending


Membership is scheduled to start on a future date.
Defined by the enrollment configuration.
Can be manually activated by an admin.

- ◆ **Suspension/Activation affects all subgroups of the target group.**

Remove Member from Group

Account Console > Group management > project-x

project-x

Project X is all about computing and storage 

Group Details **Group Members** Group Admins Group Enrollment Configuration Group Attributes Sub Groups

Direct Members

Add Member

Search...



Unique Identifier	Name / email ↓	Roles <small>all</small>	Member Since	Membership Expiration <small>?</small>	Status <small>all</small>	Remove Member
f13a5e82-7c1d-4e29-b9f8-2d4730c8e6a5	Lena Calder lenacalder@mail.com	member	2025-02-25	Direct: 2026-02-25		
a7e3b1d4-0c5f-42b9-987a-1f8e4d2c6b59	Felix Marlowe felixmarlowe@mail.com	member	2025-02-25	Direct: 2026-02-25		
c5d92f0a-9b6e-4f73-89d1-0e24b68b3c7f	Dmitri Solis dmitrisolis@mail.com	member	2025-02-25	Direct: 2025-03-12		
8f6d9c27-3e4b-4d5b-a0b6-3c9f7e5ald2e	Orion Vega danielmercerc@mail.com	member	2025-02-25	Direct: 2026-02-25		

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Suspend Member from Group

Account Console > Group management > project-x

project-x

Project X is all about computing and storage ✎

Group Details **Group Members** Group Admins Group Enrollment Configuration Group Attributes Sub Groups

Direct Members

Add Member

Search...



Unique Identifier	Name / email ↓	Roles <small>all</small>	Member Since	Membership Expiration <small>📅</small>	Status <small>all</small>
f13a5e82-7c1d-4e29-b9f8-2d4730c8e6a5	Lena Calder lenacalder@mail.com	member	2025-02-25	Direct: 2026-02-25	🟢 Suspend User Membership 🔒
a7e3b1d4-0c5f-42b9-987a-1f8e4d2c6b59	Felix Marlowe felixmarlowe@mail.com	member	2025-02-25	Direct: 2026-02-25	🔴 ✖ ✎ 👤
c5d92f0a-9b6e-4f73-89d1-0e24b68b3c7f	Dmitri Solis dmitrisolis@mail.com	member	2025-02-25	Direct: 2025-03-12 ⚠	🟢 ✖ ✎ 🔒
8f6d9c27-3e4b-4d5b-a0b6-3c9f7e5ald2e	Orion Vega danielmercerc@mail.com	member	2025-02-25	Direct: 2026-02-25	🟢 ✖ ✎ 🔒

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Activate Suspended Member

Account Console > Group management > project-x

project-x

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Group Details **Group Members** Group Admins Group Enrollment Configuration Group Attributes Sub Groups

Direct Members

Add Member

Search...



Unique Identifier	Name / email ↓	Roles <small>all</small>	Member Since	Membership Expiration <small>📅</small>	Status <small>all</small>
f13a5e82-7c1d-4e29-b9f8-2d4730c8e6a5	Lena Calder lenacalder@mail.com	member	2025-02-25	Direct: 2026-02-25	
a7e3b1d4-0c5f-42b9-987a-1f8e4d2c6b59	Felix Marlowe felixmarlowe@mail.com	member	2025-02-25	Direct: 2026-02-25	Reactivate User Membership
c5d92f0a-9b6e-4f73-89d1-0e24b68b3c7f	Dmitri Solis dmitrisolis@mail.com	member	2025-02-25	Direct: 2025-03-12	
8f6d9c27-3e4b-4d5b-a0b6-3c9f7e5ald2e	Orion Vega danielmercerc@mail.com	member	2025-02-25	Direct: 2026-02-25	



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Activate Pending Membership



storage 
This is the storage group 

Group Details Group Members Group Admins Group Enrollment Configuration Group Attributes Sub Groups



Direct Members [Add Member](#) Search...  






Unique Identifier	Name / email ↓	Roles 	Member Since	Membership Expiration 	
f13a5e82-7c1d-4e29-b9f8-2d4730c8e6a5	Lena Calder lenacalder@mail.com	contributor manager	2025-03-26	Direct: 2025-04-27	   

User Membership is Pending

storage 
This is the storage group 

Group Details Group Members Group Admins Group Enrollment Configuration Group Attributes Sub Groups

Direct Members [Add Member](#) Search...  

Unique Identifier	Name / email ↓	Roles 	Member Since	Membership Expiration 	Status 	
f13a5e82-7c1d-4e29-b9f8-2d4730c8e6a5	Lena Calder lenacalder@mail.com	contributor manager	2025-03-26	Direct: 2025-04-27		

Enable Pending Membership Now


Managing Memberships


Edit Membership ✕


Group Roles *

manager	<input type="checkbox"/>
member	<input checked="" type="checkbox"/>
operator	<input type="checkbox"/>

Member Since *

2024-09-11 

Membership Expiration * 

2024-10-13 

[Save](#) [Cancel](#)

Edit User Roles

Edit Membership Duration

Enrollment Configuration

What is an Enrollment Configuration?

Managed by Group Admins, they define how new members can join a group, including the rules and options for their membership.

Key Attributes

- **Enrollment Name:** Identifies the enrollment.
- **Membership Expiration:** Sets the duration of memberships.
- **Start Date:** Schedules when memberships begin.
- **Approval Required:** Admin review needed for user requests.
- **Roles:** Defines available roles for members.
- **Acceptable Use Policy (AUP):** URL to the policy users must accept.
- **Visibility:** Controls if the enrollment is discoverable to users.
- **Active Status:** Only active enrollments can be used.

Manage Enrollment Configurations

Account Console > Group management > project-x

project-x

Project X is all about computing and storage 

Group Details

Group Members

Group Admins

Group Enrollment Configuration

Group Attributes

Sub Groups

Name	Status	Aup	Default	Visible	
Join project-x	Active	Not Available	<input checked="" type="checkbox"/>		
Join Project X (admins)	Active	Not Available	<input type="checkbox"/>		

How Can Users Join Groups?

1. Admin Invitation:

- The admin sends an invitation via email to the user.
- Admin selects the roles based on an enrollment configuration

2. Direct Add:

- Admin adds an existing user directly.
- Admin selects the roles based on an enrollment configuration

3. Enrollment Discovery Link:

- User selects from available enrollments .
- Submit an enrollment request.
 - **Approval-Based**: Admin reviews the request before granting membership.
 - **Automatic Acceptance**: Membership is granted immediately (based on configuration).

Group Enrollment: Add User (By Invitation/Direct Add)

Account Console > Group management > project-x

project-x

Project X is all about computing and storage ✎

Group Details **Group Members** Group Admins Group Enrollment Configuration Group Attributes Sub Groups

Direct Members Add Member Search...

Unique Identifier	Name / email ↓	Roles <small>all ▾</small>	Member Since	Membership Expiration ▾	Status <small>all ▾</small>	
f13a5e82-7c1d-4e29-b9f8-2d4730c8e6a5	Lena Calder lenacalder@mail.com	member	2025-02-25	Direct: 2026-02-25		<input type="button" value="X"/> <input type="button" value="✎"/> <input type="button" value="🔒"/>
a7e3b1d4-0c5f-42b9-987a-1f8e4d2c6b59	Felix Marlowe felixmarlowe@mail.com	member	2025-02-25	Direct: 2026-02-25		<input type="button" value="X"/> <input type="button" value="✎"/> <input type="button" value="🔒"/>
c5d92f0a-9b6e-4f73-89d1-0e24b68b3c7f	Dmitri Solis dmitrisolis@mail.com	member	2025-02-25	Direct: 2025-03-12 ⚠️		<input type="button" value="X"/> <input type="button" value="✎"/> <input type="button" value="🔒"/>
8f6d9c27-3e4b-4d5b-a0b6-3c9f7e5ald2e	Orion Vega danielmercerc@mail.com	member	2025-02-25	Direct: 2025-03-01 ⚠️		<input type="button" value="X"/> <input type="button" value="✎"/> <input type="button" value="🔒"/>

1 - 4 of 4 ▾ << < 1 of 1 > >>

Group Enrollment: Add User (By Invitation/Direct Add)

Add Member to Group "/project-x" ×

- 1 Select Group Enrollment Configuration
- 2 Add or Invite Member

1. Select Enrollment Configuration

Select Enrollement Configuration ▾

- Select Enrollement Configuration
- Join project-x
- Join Project X (admins)

Next Back Cancel

Group Enrollment: Add User (By Invitation/Direct Add)

Add Member to Group "/project-x" ✕

- Select Group Enrollment Configuration
- Add or Invite Member

Join Project X (admins) ▾

Membership Duration ⓘ 32 Days

Select Roles

member	<input checked="" type="checkbox"/>
admin	<input checked="" type="checkbox"/>

2. Select Group Roles

[Next](#) [Back](#) [Cancel](#)

Group Enrollment: Add User (By Invitation/Direct Add)

Add Member to Group "/project-x"

×

- 1 Select Group Enrollment Configuration
- 2 Add or Invite Member
3. Select User/Provide Recipient Details

Search for a User or Enter an Email

- Orion Vega
danielmercer@mail.com
- Felix Marlowe
felixmarlowe@mail.com
- Andrikos Katsantonis
koza-sparrow@hotmail.com

Group Enrollment: Add User (By Invitation/Direct Add)

Add Member to Group "/project-x"

×

- Select Group Enrollment Configuration
- Add or Invite Member

Search for a User or Enter an Email

Choose Action

Invite Member

Add Member Directly

5. Confirm Action

Enrollment Discovery Page

The Enrollment Discovery Page allows users to view and choose from available enrollment flows for:

- **Joining a Group**
- **Updating Existing Memberships**

View Enrollment Options: Lists visible enrollments for the group.

Preselected Default Flow: The default enrollment flow is auto-selected.

Access via URL:

`https://kc-example/account/#//enroll?groupPath=/group/path/example`

Group Enrollment: Creating Enrollment Request

project-x
Project X is all about computing and storage

1. Select Enrollment Configuration

Group Enrollment *
Default Enrollment

⚠ The membership will expire on 32 days after activation

Comments *

Explain why you want to join the group

Select Your Group Role *

member

manager

Before submitting, you must review the [acceptable use policy \(AUP\)](#) and accept it.

I have read the terms and conditions and accept them.

1 Submit your request to join this group. An administrator will review and notify you by email. You can track your request status under "View My Enrollment Requests"

Submit

project-x
Project X is all about computing and storage

Group Enrollment *
Default Enrollment

⚠ The membership will expire on 32 days after activation

2. Provide Additional Details

Comments *
Example justification message from user

Explain why you want to join the group

Select Your Group Role *

member

manager

Before submitting, you must review the [acceptable use policy \(AUP\)](#) and accept it.

I have read the terms and conditions and accept them.

1 Submit your request to join this group. An administrator will review and notify you by email. You can track your request status under "View My Enrollment Requests"

Submit

Group Enrollment: Creating Enrollment Request

project-x
Project X is all about computing and storage

Group Enrollment *

Default Enrollment

⚠ The membership will expire on 32 days after activation

Comments *

Example justification message from user

Explain why you want to join the group

Select Your Group Role *

member

manager

3. Select Group Role(s)

Before submitting, you must review the [acceptable use policy \(AUP\)](#) and accept it.

I have read the terms and conditions and accept them.

1 Submit your request to join this group. An administrator will review and notify you by email. You can track your request status under "View My Enrollment Requests"

Submit

project-x
Project X is all about computing and storage

Group Enrollment *

Default Enrollment

⚠ The membership will expire on 32 days after activation

Comments *

Example justification message from user

Explain why you want to join the group

Select Your Group Role *

member

manager

4. Read and Accept AUP

Before submitting, you must review the [acceptable use policy \(AUP\)](#) and accept it.

I have read the terms and conditions and accept them.

1 Submit your request to join this group. An administrator will review and notify you by email. You can track your request status under "View My Enrollment Requests"

Submit

Group Enrollment: Reviewing Enrollment Requests

[Account Console](#) > Review Enrollment Requests

Review Enrollment Requests



Submitted Date ↓	Group Path	Enrollment Name	Name / email	State <small>all ▾</small>	
2025-02-27	/project-y	Join project-y	Orion Vega danielmerc@rmail.com	Pending Approval	Review
2025-02-27	/project-y	Join project-y	Orion Vega danielmerc@rmail.com	Rejected	View
2025-02-27	/project-z/admin-team	Join admin-team	Orion Vega danielmerc@rmail.com	Accepted	View
2025-01-20	/project-z/admin-team	Join admin-team	Felix Marlowe felixmarlowe@mail.com	Accepted	View
2025-01-20	/project-y	Join project-y	Felix Marlowe felixmarlowe@mail.com	Accepted	View
2025-01-13	/project-z/admin-team	Join admin-team	Lena Calder lenacalder@mail.com	Self Approved	View

1 - 10 of 59 ▾



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Group Enrollment: Reviewing Enrollment Requests

Review Enrollment Request

x

Submitted: 2025-02-27 14:55:01

Status: Pending Approval

User Details 

Full Name: Orion Vega

Email: danielmercer@mail.com

Username: 8f6d9c27-3e4b-4d5b-a0b6-3c9f7e5a1d2e

Authentication Provider(s): Not Available

Assurance	Value	Description
	No Assurance Available	

[Show current user details](#)

Membership Details

Group Enrollment: Reviewing Enrollment Requests

Membership Details

Group Name: project-y

Enrollment Name: Join project-y

Group Roles: member

Acceptable User Policy: Not Available

Membership Duration (Days): This membership will not expire ⓘ

Comments: Comment left from the user requesting to join the group

Reviewer Response

Comment

Approve Deny

Group List View for Members

📌 Group List View Displays:

- 🏷️ **Roles** – Assigned group roles
- 📅 **Expiration Date** – Membership end date
- ⚠️ **Expiration Warnings** – Alerts for upcoming expirations
- 🔗 **Expiration Dependencies** – Expirations due to a membership in a higher group

◆ Actions:

- 📝 **Update Membership** – Modify roles or extend duration through enrollment request
- 🚪 **Leave Group** – Exit the group

Name ▾	Group Path	Roles	Membership Expiration Date ▾	
admin-team	/project-z/admin-team	member	2025-03-02 ⚠️	⋮
compute	/project-x/compute	manager	2026-02-25 ⓘ	⋮
project-x	/project-x	member	2026-02-25	⋮

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Update Membership for this Group
Leave Group

This membership will expire soon **X**
Extend

The membership expiration date is inherited from a higher level group. **X**
View

Group Membership View

[Account Console](#) > [Groups](#) > [project-x](#) > [compute](#)

compute

This is the computing group

Update Membership

Leave Group

Membership Details

Group Path /project-x/compute

Group Roles manager

Membership Expiration 2025-03-01 ⚠

manage-groups account role



Permissions:

- View - update all groups
- Create top level group
- Access to all realm users



Prohibitions:

- Delete group
- Manage group members
- Accept / reject enrollment request

Admin REST API

Extends Keycloak Admin REST Api. No admin theme extension.

- POST /admin/group => create top level group
- POST /admin/configuration-rules => create group enrollment configuration rule
- POST /admin/effective-expiration-date/calculation => update user group membership effective expiration date for all realms
- DELETE /admin/user/{id} => delete user
- DELETE /admin/group/{groupId} => delete group
- POST /admin/group/{groupId}/children => create child group

Group admin REST Api

REST Api for group admins and manage-groups account role

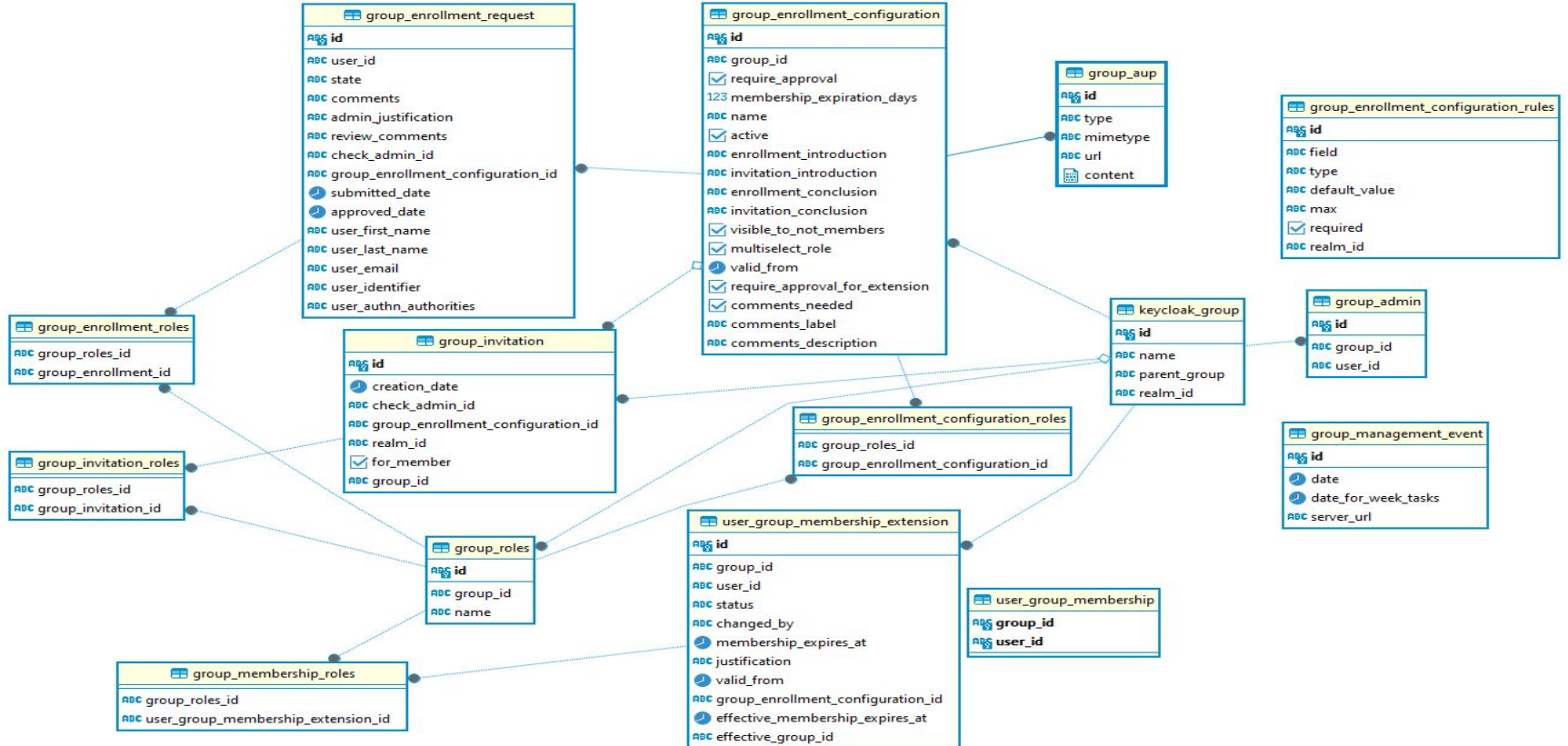
- GET /account/group-admin/groups => get all groups that this user has admin rights
- /account/group-admin/group/{groupId}/configuration/{id} => crud operations to enrollment configuration
- GET /account/group-admin/group/{groupId}/members => search all group members pager
- POST /account/group-admin/group/{groupId}/members/invitation => send invitation to a user based on email
- /account/group-admin/group/{groupId}/member/{memberId}/{x} => crud actions to member
- POST /account/group-admin/group/{groupId}/admin => add user as admin
- /account/group-admin/enroll-request/{enrollId} => crud actions to enrollment request

User REST Api

REST Api for group members

- GET /account/user/groups => get all user groups
- POST /account/user/invitation/{id}/{x} => accept/reject invitation
- GET /account/user/groups/configurations => get all available group enrollment configurations
- DELETE /account/user/group/{groupId}/member => leave user group membership
- GET /account/user/enroll-requests => get all user enrollment requests
- POST /account/user/enroll-request => create new enrollment request

Group Management ERD



Keycloak extension code

- This feature has been developed as a Keycloak extension
- Realm attributes for configuration
- Extended themes : account, email
- Email Notifications for user/admin actions
- Database & JPA Enhancements with Liquibase
- Scheduled actions (eg remove expired members)
- User events for admin / user actions

[https://github.com/rciam/
keycloak-group-managem
ent](https://github.com/rciam/keycloak-group-management)



Future plans

- ❖ Add to official Keycloak Extensions :
 - ★ Limitation : Extend core Keycloak only for having new group user event types (enum in Keycloak core)
 - ★ Now group membership and role entitlement => extend Group membership mapper for roles
 - ★ Based on Keycloak version 22 => Upgrade to latest 26.x.x
- ❖ Alternative : Gradually implementing functionality into the Keycloak core

Thanks!

Does anyone have any questions?

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