

## **Mobileye Devops-IT home Assignment:**

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### **Tools Used in This Assignment**

This assignment leverages a variety of industry-standard tools to facilitate efficient development, testing, and deployment. Below is a brief overview of each tool and its role in my work assignment

**Postman:** API testing tool used to design, build and test the GitLab document APIs provided. It allows me sending HTTP requests (e.g., GET, POST, PUT, DELETE) to API endpoints and verifying the responses before writing the code

**Docker:** A platform for developing, shipping, and running applications in lightweight on my Mac Laptop, portable containers. Docker packages software and its dependencies into a single uni

**Docker Desktop:** application for macOS environments that allows me to build and share containerized applications and microservice

**GitHub:** platform for version control and collaboration. It is used for hosting my code repository to be share as part of the work assignment

**GitLab:** Personal account that is used for DevOps lifecycle tool that provides Git repository management, CI/CD

**Visual Studio Code (VS Code):** source code editor to write the script. It allows me to debugging and write the script

#### **Mac Operating System Dependencies :**

- **Requests** module use to send the API call using the ready token and gitlab URL and use by the Python scripts
- **curl** to run the API command using Terminal

**GitLab Simulation Environment on Docker** provided in the assignment.

<https://archives.docs.gitlab.com/15.11/ee/install/docker.html#install-gitlab-using-docker-engine>

# Environment Setup

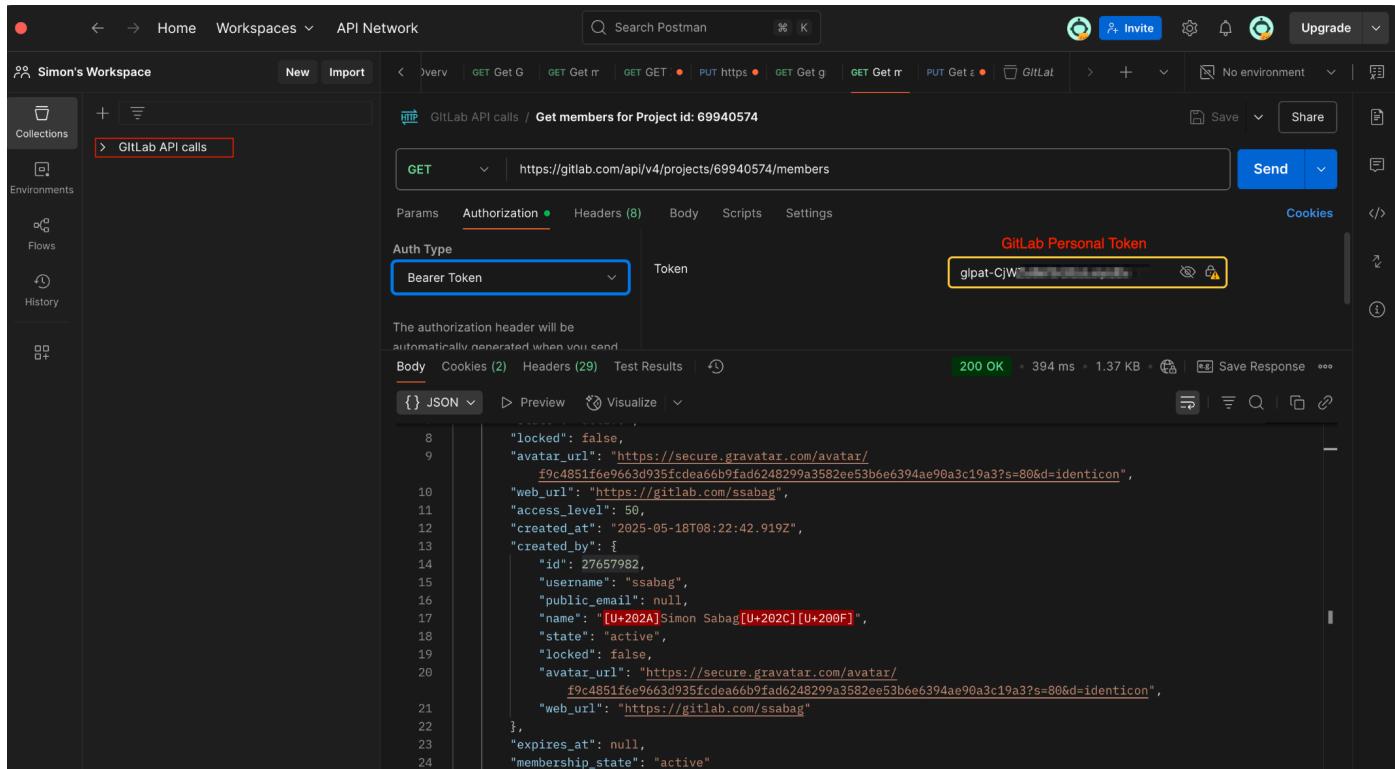
## Postman

### 1. Installation:

- **Download Postman:**
  - Go to the official Postman website:  
<https://www.postman.com/downloads/>
- **Launch Postman:** Open the Postman application and create account

### 2. Setting up Environments in Postman:

- **Create an Environment:**
  - Setting up the request API call base on the Doc API provided
  - Setting up the Token create in Git lab (will be explained later in this doc)



The screenshot shows the Postman application interface. The left sidebar displays 'Simon's Workspace' with sections for Collections, Environments, Flows, and History. The main workspace shows a collection named 'GitLab API calls' with one item: 'Get members for Project id: 69940574'. The request details are as follows:

- Method:** GET
- URL:** https://gitlab.com/api/v4/projects/69940574/members
- Authorization:** Bearer Token (selected)
- Token:** glpat-CjW... (redacted)

The response status is 200 OK, with a response time of 394 ms and a size of 1.37 KB. The response body is displayed in JSON format:

```
8   "locked": false,
9   "avatar_url": "https://secure.gravatar.com/avatar/
10  f9c4851f6e9663d935fcdeaa66b9fad6248299a3582ee53b6e6394ae90a3c19a3?s=80&d=identicon",
11   "web_url": "https://gitlab.com/ssabag",
12   "access_level": 50,
13   "created_at": "2025-05-18T08:22:42.919Z",
14   "created_by": {
15     "id": 27657982,
16     "username": "ssabag",
17     "public_email": null,
18     "name": "[U+202A]Simon Sabag[U+202C][U+200F]",
19     "state": "active",
20     "locked": false,
21     "avatar_url": "https://secure.gravatar.com/avatar/
22  f9c4851f6e9663d935fcdeaa66b9fad6248299a3582ee53b6e6394ae90a3c19a3?s=80&d=identicon",
23     "web_url": "https://gitlab.com/ssabag"
24   },
25   "expires_at": null,
26   "membership_state": "active"
```

## Docker & Docker Desktop

Below is a screen capture of my personal docker hub account will help me to analyze the ready docker image

The screenshot shows the Docker Desktop application interface. On the left, a sidebar includes options like Ask Gordon, Containers, Images (selected), Volumes, Builds, Docker Hub, Docker Scout, and Extensions. The main area is titled 'Images' and shows a list of local images and Docker Hub repositories. The local section has 6 GB / 6.95 GB in use and lists 7 images:

Name	Tag	Image ID	Created	Size
node-app	1.0	5faa06ece374	6 days ago	258.83 MB
ssabag/simon-repo	latest	5faa06ece374	6 days ago	258.83 MB
mongo	latest	2e018e386e89	17 days ago	1.17 GB

The Docker Hub section shows 7 images from various repositories. On the right, there's a profile section for 'ssabag' with options for Account Settings, Upgrade, and Sign out.

Running Docker environment on my laptop:

```
Last login: Sun May 18 22:17:35 on ttys014
[simonsabag@MacBook-Air-s1-Simon ~ % docker images
REPOSITORY          TAG      IMAGE ID      CREATED        SIZE
gitlab/gitlab-ee    latest   4d7x2f7d774   4 days ago   6.23GB
node:8              1.0      5faa06ece374   5 days ago   259MB
ssabag/simon-repo  latest   5faa06ece374   5 days ago   259MB
mongo               latest   2e018e386e89   2 weeks ago  1.17GB
nginx               latest   c15da6c91d8b   4 weeks ago  281MB
gcr.io/k8s-minikube/kicbase
<none>             v0.0.44  4dbba0d8d747   4 months ago  1.72GB
gcr.io/k8s-minikube/kicbase
<none>             <none>   fd20445ddcc3   4 months ago  1.72GB
dockerswarm/hello-world
<none>             latest   e6739b946772   7 years ago   43.3MB
[simonsabag@MacBook-Air-s1-Simon ~ % docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS
38f1fb8cd66        gitlab/gitlab-ee:latest "/assets/init-contai... 11 hours ago       Up 11 hours (healthy)   0.0.0.0:22->22/tcp, 0.0.0.0:80->80/tcp, 0.0.0.0:443->443/tcp
[simonsabag@MacBook-Air-s1-Simon ~ % docker
Usage: docker [OPTIONS] COMMAND
A self-sufficient runtime for containers

Common Commands:
  run      Create and run a new container from an image
  exec    Execute a command in a running container
  ps      List containers
  build   Build an image from a Dockerfile
```

## GitHub

using my GitHub account for delivery the work assignment files:

<https://github.com/ssabag4/Home-Assignment-/tree/main>

## GitLab

To effectively simulate API calls, I'm using my personal GitLab account and it's also been configured. And I have populated it with data. This allows for realistic testing and validation using various tools and methods:

The API Doc link use:<https://archives.docs.gitlab.com/15.11/ee/api/members.html#roles>

Below is a screen capture of my GitLab account with the populated data:

The screenshot shows a GitLab pipeline interface for a project named "my-gitlab-app". The pipeline consists of several stages:

- Docker in Docker**: Passed, 0:00:55, 1 day ago.
- Building Docker Image Job**: Passed, 0:00:56, 1 day ago.
- Create Dockerfile**: Failed, 0:00:18, 1 day ago. Status message: "branch: fork".
- correcting stage**: Passed, 0:00:15, 1 day ago.
- update the main for docker session**: Failed, 1 day ago. Status message: "error branch: fork".
- adding app version control and name**: Passed, 0:00:20, 1 day ago.
- adding app version control and name**: Passed, 0:00:49, 1 day ago. Status message: "latest merge request branch: fork".

The interface includes a sidebar with navigation links like Project, Pipelines, Jobs, Environments, Manage, Plan, Code, Build, Secure, Deploy, Operate, Monitor, and Analyze. At the bottom, there are navigation buttons for 'Previous' and 'Next'.

## Generate Personal Access token

I have generated a GitLab personal **Access token** with the full suite of scopes for the purpose of work assignment. However, for optimal security, it is advisable to configure the token with only the necessary permissions.

The screenshot shows the 'User Settings' interface in GitLab. On the left, a sidebar lists various settings: Profile, Account, Billing, Applications, Chat, **Access tokens** (which is selected and highlighted with a red box), Emails, Password, Notifications, SSH Keys, GPG keys, Preferences, Comment Templates, Active Sessions, Authentication Log, and Usage Quotas. The main content area is titled 'Personal access tokens' and contains a table of active tokens. The table has columns for Token name, Description, Scopes, Created, Last Used, Last Used IPs, Expires, and Action. Two tokens are listed: 'new\_token\_2' and 'New\_token'. A red arrow points to the 'New\_token' row. The 'Add new token' button is located at the top right of the table area.

Token name	Description	Scopes	Created	Last Used	Last Used IPs	Expires	Action
new_token_2		api, read_api, read_user, create_runner, manage_runner, read_repository, write_repository, read_registry, write_registry, read_virtual_registry, write_virtual_registry, ai_features	May 21, 2025	Never	-	in 4 weeks	
New_token		api, read_api, read_user, create_runner, manage_runner, k8s_proxy, self_rotate, read_repository, write_repository, read_registry, write_registry, read_virtual_registry, write_virtual_registry, ai_features	May 21, 2025	30 minutes ago	89.138.180.136	in 2 months	

**Note:** the personal key is kept locally and not exposed by the code utilizing the os python module, later on I have provided guide how to setup it in this doc

## Creating Project and Group in GitLab for Testing the code

My **Group and Projects** Overview of GitLab Groups and Projects Structure:

The screenshot shows the 'Groups' page in GitLab. On the left, a sidebar lists 'Your work': Projects, **Groups** (selected and highlighted with a red box), and Issues. The main content area is titled 'Groups' and shows a table of existing groups. The table has columns for Name, Description, Members, and Actions. Two groups are listed: 'ssabag76-group' (Developer) and 'ssabag-group' (Owner). Both groups have 0 members and 2 projects. The 'Explore groups' and 'New group' buttons are located at the top right.

Name	Description	Members	Actions
ssabag76-group	Developer	0	
ssabag-group	Owner	0	

# Creating Pipeline and Populate it - Merge Request & Issues

Branch	Last Commit	Status	Action Buttons
main (default, protected)	3a09eb4b · using the build we creat in our deployment · 1 day ago	30/4	[Green Checkmark] [New] [More]
feature/mysite	d6474aad · fixing code · 1 day ago	31/1	[Green Checkmark] [New] [More]
feature/simple-pipeline	1dca5a39 · simplify pipeline · 2 days ago	32/1	[Green Checkmark] [New] [More]
feature/lint4	cce19b50 · new merge request · 2 days ago	32/1	[Green Checkmark] [New] [More]
feature/lint3	b4d7e4a8 · adding comment · 2 days ago	32/1	[Green Checkmark] [New] [More]
feature/newtest	867fc1f1 · adding lint 2 · 2 days ago	32/2	[Green Checkmark] [New] [More]
feature/lint	351471e1 · revert · 2 days ago	32/4	[Red X] [12] [More]

Status	Job	Pipeline	Coverage
Passed	#10066939398: notify_prod	#1822909502	
Passed	#10066939396: build_website	#1822909502	
Passed	#10066909230: notify_prod	#1822902149	
Passed	#10066909228: notify_staging	#1822902149	
Passed	#10066909225: unit_tests	#1822902149	
Passed	#10066909223: test_artifacts	#1822902149	

populated my GitLab account with four issues:

Issue Type	Title	Description	Created By	Created Date
Open	This is Test issue 3	#3 · created 10 hours ago by Simon Sabag	Simon Sabag	10 hours ago
Open	This is Test issue 2	#2 · created 10 hours ago by Simon Sabag	Simon Sabag	10 hours ago
Open	This is a test issue 1	#1 · created 10 hours ago by Simon Sabag	Simon Sabag	10 hours ago

## Creating Test Project to build the Docker Image

For this work assignment, the "**Test**" project within my GitLab environment functions as the primary repository during the work for hosting the application's codebase and building the ready docker image

The screenshot shows a GitLab project page for a repository named 'test'. The left sidebar includes links for Project, Issues, Merge requests, Pipelines, Jobs, Environments, Manage, Plan, Code, Build, Secure, and DevOps. The main area displays a commit history:

Name	Last commit	Last update
cl	test7	1 day ago
.gitlab-ci.yml	adding env	11 hours ago
README.md	Initial commit	2 days ago
main.py	test image	11 hours ago
requirements.txt	test3	1 day ago
README.md		

On the right, the 'Project information' sidebar shows:

- 28 Commits
- 1 Branch
- 0 Tags
- 323 KIB Project Storage

Below this are buttons for README, CI/CD configuration, and various documentation and integration options.

Utilizing the integrated IDE within GitLab, and code changes will be committed to both **branches** and the **main** branch.

### Visual Studio Code (VS Code)

- Development of the **main.py** script will be carried out in Visual Studio Code

### Operating System Dependencies:

The following dependencies need to be installed on my operating system:

- brew install jq:** Installs jq, a command-line JSON processor used here to format the output of curl requests for better readability.
- pip3 install requests:** Installs the requests Python library, which is a necessary module for the Python script:  
<https://github.com/ssabag4/Home-Assignment-/blob/main/main.py>
- pip3 install python-dotenv** need it for implanting of keeping the access token locally

# Environment Testing validation Using Postman, Curl, Code (POC)

- Getting ALL Merge Request in my account
- [https://gitlab.com/api/v4/merge\\_requests](https://gitlab.com/api/v4/merge_requests)
- curl --header "PRIVATE-TOKEN: glpat--xxxxxx..." "https://gitlab.com/api/v4/merge\_requests" | JQ .

The screenshot shows the Postman interface with the following details:

- Method:** GET
- URL:** https://gitlab.com/api/v4/merge\_requests
- Auth Type:** Bearer Token
- Body:** JSON
- Response Status:** 200 OK
- Response Time:** 613 ms
- Response Size:** 4.48 KB
- Response Content:** A table showing two merge requests. The first has an ID of 384133796, title "adding app version control and name", state "merged", and was created at 2025-05-17T15:27:36.711Z. The second has an ID of 384132421, title "e2e job cleanout", state "merged", and was created at 2025-05-17T14:43:40.356Z.

```
simonsabag@MacBook-Air-sl-Simon ~ % curl --header "PRIVATE-TOKEN: glpat-CjWZz... " "https://gitlab.com/api/v4/merge_requests" | JQ .
% Total    % Received % Xferd  Average Speed   Time   Time  Current
          Dload Upload Total Spent   Left Speed
100 43867  100 43867    0     0 76148      0 ---:---:---:--- 76290
[ {
  "id": 384133796,
  "iid": 21,
  "project_id": 69905560,
  "title": "adding app version control and name",
  "description": "",
  "state": "merged",
  "created_at": "2025-05-17T15:27:36.711Z",
  "updated_at": "2025-05-17T15:30:07.474Z",
  "merged_by": {
    "id": 27657982,
    "username": "ssabag",
    "public_email": "",
    "name": "Simon Sabag",
    "state": "active",
    "locked": false,
    "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
    "web_url": "https://gitlab.com/ssabag"
  },
  "merge_user": {
    "id": 27657982,
    "username": "ssabag",
    "public_email": "",
    "name": "Simon Sabag",
    "state": "active",
    "locked": false,
    "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
    "web_url": "https://gitlab.com/ssabag"
  },
  "merged_at": "2025-05-17T15:30:06.884Z",
}
```

- **Getting ALL members in GroupID: 106969600 (with Token)**
- <https://gitlab.com/api/v4/groups/106969600/members/all>
- curl --header "PRIVATE-TOKEN: glpat-xxxxxx.." "<https://gitlab.com/api/v4/groups/106969600/members/all>" | JQ .

**Authorization** (selected) Headers (8) Body Scripts Settings Cookies

Auth Type: Bearer Token

The authorization header will be automatically generated when you send the request. Learn more about [Bearer Token](#) authorization.

Body Cookies (2) Headers (29) Test Results ⚡

200 OK 405 ms 1.55 KB ⏱ Save Response ⚙️

	id	username	public_email	name	state	locked	avatar_url
0	27657982	ssabag		Simon Sabag	active	false	<a href="https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png">https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png</a>
1	27953483	ssabag76	null	Shimon Sabag	active	false	<a href="https://secure.gravatar.com/avatar/bd49fb91e3d46451768a609c8602611f78ead43&amp;s=80&amp;d=identicon">https://secure.gravatar.com/avatar/bd49fb91e3d46451768a609c8602611f78ead43&amp;s=80&amp;d=identicon</a>

ssabag-group

S ssabag-group

Subgroups and projects Shared projects Shared groups Inactive

Copy group ID 106969600

Group settings

Pinned

```

simonsabag@MacBook-Air-s1-Simon ~ % curl --header "PRIVATE-TOKEN: glpat-CjWZz8kf3r2GJlxiyUEx" "https://gitlab.com/api/v4/groups/106969600/members/all" | jq .
% Total    % Received % Xferd  Average Speed   Time   Time   Time  Current
          Dload Upload Total Spent   Left Speed
100  1638  100  1638    0     0  4000      0 --:--:-- --:--:-- 4004
[ {
  "id": 27657982,
  "username": "ssabag",
  "public_email": "",
  "name": "Simon Sabag",
  "state": "active",
  "locked": false,
  "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
  "web_url": "https://gitlab.com/ssabag",
  "access_level": 50,
  "created_at": "2025-05-05T20:19:20.879Z",
  "expires_at": null,
  "membership_state": "active"
},
{
  "id": 27953483,
  "username": "ssabag76",
  "public_email": null,
  "name": "Shimon Sabag",
  "state": "active",
  "locked": false,
  "avatar_url": "https://secure.gravatar.com/avatar/bd49fb91e3d46481768a609c8602611f78ead4385073535adcfb7829ffd45167?s=80&d=identicon",
  "web_url": "https://gitlab.com/ssabag76",
  "access_level": 10,
  "created_at": "2025-05-18T13:55:01.015Z",
  "created_by": {
    "id": 27657982,
    "username": "ssabag",
    "public_email": "",
    "name": "Simon Sabag",
    "state": "active",
    "locked": false,
    "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
    "web_url": "https://gitlab.com/ssabag"
  },
  "expires_at": null,
  "membership_state": "active"
}
]

```

- **Getting ALL members in Project ID 69940574 (with Token)**
- <https://gitlab.com/api/v4/projects/69940574/members>
- `curl --header "PRIVATE-TOKEN: glpat-xxxxxx..."`

The authorization header will be automatically generated when you send.

	<code>id</code>	<code>username</code>	<code>public_email</code>	<code>name</code>	<code>state</code>	<code>locked</code>	<code>avatar_url</code>
0	27657982	ssabag		Simon Sabag	active	false	<a href="https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png">https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png</a>
1	27657981	samydifallah	null	Samy DIFALLAH	active	false	<a href="https://secure.gravatar.com/avatar/55246888c74877410e9e618b4a502b649f214?s=80&amp;d=identicon">https://secure.gravatar.com/avatar/55246888c74877410e9e618b4a502b649f214?s=80&amp;d=identicon</a>

```

simonsabag@MacBook-Air-sl-Simon ~ % curl --header "PRIVATE-TOKEN: glpat-6XXXXXXXXXXXXX" "https://gitlab.com/api/v4/groups/106969600/members/all" | jq .
% Total    % Received % Xferd  Average Speed   Time   Time     Time Current
          Dload Upload Total Spent   Left Speed
100  1638  100  1638    0      0  4140      0 --:--:-- --:--:-- --:--:--  4136
[
  {
    "id": 27657982,
    "username": "ssabag",
    "public_email": "",
    "name": "Simon Sabag",
    "state": "active",
    "locked": false,
    "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
    "web_url": "https://gitlab.com/ssabag",
    "access_level": 50,
    "created_at": "2025-05-06T20:19:20.879Z",
    "expires_at": null,
    "membership_state": "active"
  },
  {
    "id": 27953483,
    "username": "ssabag76",
    "public_email": null,
    "name": "Shimon Sabag",
    "state": "active",
    "locked": false,
    "avatar_url": "https://secure.gravatar.com/avatar/bd49fb91e3d46451768a609c8602611f78ead4385073535adcfb7829ffd45167?s=80&d=identicon",
    "web_url": "https://gitlab.com/ssabag76",
    "access_level": 10,
    "created_at": "2025-05-18T13:55:01.015Z",
    "created_by": {
      "id": 27657982,
      "username": "ssabag",
      "public_email": "",
      "name": "Simon Sabag",
      "state": "active",
      "locked": false,
      "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
      "web_url": "https://gitlab.com/ssabag"
    },
    "expires_at": null,
    "membership_state": "active"
  },
  {
    "id": 27657981,

```

- **Getting ALL MR for given year 2025**

- curl --header "PRIVATE-TOKEN: <your\_access\_token>"  
[https://gitlab.example.com/api/v4/projects/123/merge\\_requests?created\\_after=2024-01-01T00:00:00Z&created\\_before=2025-01-01T00:00:00Z](https://gitlab.example.com/api/v4/projects/123/merge_requests?created_after=2024-01-01T00:00:00Z&created_before=2025-01-01T00:00:00Z)
- curl --header "PRIVATE-TOKEN: glpat--xxxxxx..."  
[https://gitlab.com/api/v4/merge\\_requests?created\\_after=2025-01-15T15:27:36.711Z&created\\_before=2025-12-01T00:00:00Z](https://gitlab.com/api/v4/merge_requests?created_after=2025-01-15T15:27:36.711Z&created_before=2025-12-01T00:00:00Z)

GitLab API calls

- `PUT` Change ProjectID value - restrict\_user\_defin...
- `GET` Get GitLab ProjectID Info 69940574
- `GET` Get members for Project id: 69940574
- `GET` Get groups members for id 106969600
- `GET` Get all groups members
- `GET` Get member by user\_id on project
- `GET` get ALL merge\_requests for year2025
- `GET` Listing Issues Created in 2025
- `GET` ALL merge\_requests in my account

HTTP GitLab API calls / get ALL merge\_requests for year2025

GET https://gitlab.com/api/v4/merge\_requests?created\_after=2025-01-15T15:27:36.711Z&created\_before=2025-12-C... Send Cookies </>

Params Authorization Headers (8) Body Scripts Settings

Query Params

Key	Value	Description	Bulk Edit
<input checked="" type="checkbox"/> created_after	2025-01-15T15:27:36.712		
<input checked="" type="checkbox"/> created_before	2025-12-01T00:00:00Z		
Key	Value	Description	

Body Cookies (2) Headers (29) Test Results 200 OK · 551 ms · 4.77 KB · Save Response

{ JSON Preview Visualize

```

1811     "references": {
1812         "short": "12",
1813         "relative": "12",
1814         "full": "ssabag-group/learn-gitlab-app!2"
1815     },
1816     "web_url": "https://gitlab.com/ssabag-group/learn-gitlab-app/-/merge_requests/2",
1817     "time_stats": {
1818         "time_estimate": 0,
1819         "total_time_spent": 0,
1820         "human_time_estimate": null,
1821         "human_total_time_spent": null
1822     },
1823     "squash": true,
1824     "squash_on_merge": true,
1825     "task_completion_status": {
1826         "count": 0,
1827         "completed_count": 0
1828     }

```

You've made new changes Post an update to inform others.

```

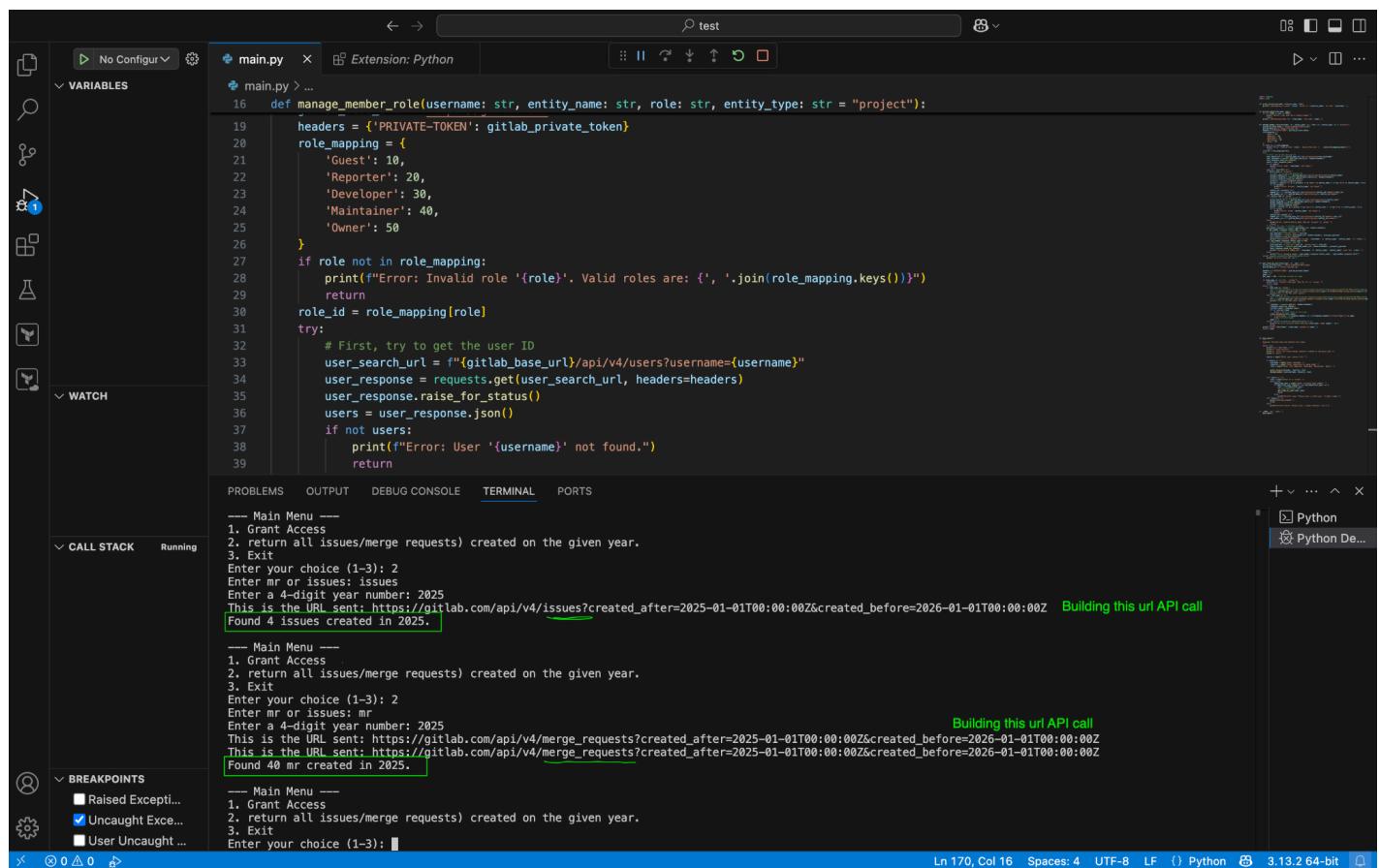
simonsabag@MacBook-Air-s1-Simon ~ % curl --header "PRIVATE-TOKEN: gipat-CjWZ..." "https://gitlab.com/api/v4/merge_requests?created_after=2025-01-01T00:00:00Z&created_before=2025-12-01T00:00:00Z"
" | jq .
% Total    % Received % Xferd  Average Speed   Time   Time  Current
          Dload Upload Total   Spent    Left Speed
100 43867  100 43867    0      0  70529      0 --:--:-- 0:--:-- 70412
[
  {
    "id": 384133796,
    "iid": 21,
    "project_id": 69905560,
    "title": "adding app version control and name",
    "description": "adding app version control and name",
    "state": "merged",
    "created_at": "2025-05-17T15:27:36.711Z",
    "updated_at": "2025-05-17T15:30:07.474Z",
    "merged_by": {
      "id": 27657982,
      "username": "ssabag",
      "public_email": "",
      "name": "Simon Sabag",
      "state": "active",
      "locked": false,
      "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
      "web_url": "https://gitlab.com/ssabag"
    },
    "merge_user": {
      "id": 27657982,
      "username": "ssabag",
      "public_email": "",
      "name": "Simon Sabag",
      "state": "active",
      "locked": false,
      "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
      "web_url": "https://gitlab.com/ssabag"
    },
    "merged_at": "2025-05-17T15:30:06.884Z"
  }
]

```

- checking user name
- curl --header "PRIVATE-TOKEN: glpat-xxxxx..." "https://gitlab.com/api/v4/users?username=ssabag" | jq .

```
simonsabag@MacBook-Air-sl-Simon ~ % curl --header "PRIVATE-TOKEN: glpat-CjWzz8kf3r2GJLxiyUE" "https://gitlab.com/api/v4/users?username=ssabag" | jq .
% Total    % Received % Xferd  Average Speed   Time   Time  Current
          Dload  Upload Total Spent   Left Speed
100  238  100  238    0     0  541      0 --:--:-- --:--:-- 542
[{
  "id": 27657982,
  "username": "ssabag",
  "public_email": "",
  "name": "Simon Sabag",
  "state": "active",
  "locked": false,
  "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
  "web_url": "https://gitlab.com/ssabag"
}]
simonsabag@MacBook-Air-sl-Simon ~ %
```

The code will be simulated using the debugger in Visual Studio Code (VSC).



'Grant Role' access to Project 'Test4' for user 'ssabag76'. (using the code)

The screenshot shows a terminal window within a code editor interface. The code editor has tabs for 'main.py 1' and 'manage\_member\_role'. The code itself is a Python script that defines a function `manage_member_role` which takes parameters like `username`, `entity_name`, `role`, and `entity_type`. It uses a mapping of roles to IDs and makes API requests to GitLab to update the user's role in a specific project.

The terminal output shows the script being run:

```
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3): 1
Enter username: ssabag76
Enter repository or group name: Test4
Enter role (Reporter, Developer, Maintainer, Owner): Developer
Attempting to grant 'Developer' access to 'Test4' for user 'ssabag76'.
Successfully updated role of user 'ssabag76' in project 'Test4' to 'Developer'.
```

Below the terminal, a 'Main Menu' is displayed with options 1, 2, and 3, and the user is prompted to enter their choice again.

- **Listing Issues Created in Year 2025**
- **Example:** curl --header "PRIVATE-TOKEN: <your\_access\_token>"  
[https://gitlab.example.com/api/v4/issues?created\\_after=2024-01-01T00:00:00Z&created\\_before=2025-01-01T00:00:00Z](https://gitlab.example.com/api/v4/issues?created_after=2024-01-01T00:00:00Z&created_before=2025-01-01T00:00:00Z)
- curl --header "PRIVATE-TOKEN: glpat-xxxx"  
[https://gitlab.com/api/v4/issues?created\\_after=2025-01-01T00:00:00Z&created\\_before=2025-12-01T00:00:00Z](https://gitlab.com/api/v4/issues?created_after=2025-01-01T00:00:00Z&created_before=2025-12-01T00:00:00Z)

GET https://gitlab.com/api/v4/issues?created\_after=2025-01-01T00:00:00Z&created\_before=2025-12-01T00:00:00Z Send

Params Authorization Headers (8) Body Scripts Settings

Query Params

Key	Value	Description	Bulk Edit
created_after	2025-01-01T00:00:00Z		
created_before	2025-12-01T00:00:00Z		

Body Cookies (2) Headers (29) Test Results ⏪

200 OK 428 ms 2.32 KB ⏪ Save Response ⏪

{ JSON Preview Visualize ⏪

id	id	project_id	title	description	state	created_at	updated_at	closed_at	closed_by																
167524843	4	69905560	This is Test issue 4	This is Test issue 4	closed	2025-05-19T08:57:35.855Z	2025-05-19T08:58:18.454Z	2025-05-19T08:58:18.440Z	<table border="1"><tr><td>id</td><td>27657982</td></tr><tr><td>username</td><td>ssabag</td></tr><tr><td>public_email</td><td></td></tr><tr><td>name</td><td>Simon Sabag</td></tr><tr><td>state</td><td>active</td></tr><tr><td>locked</td><td>false</td></tr><tr><td>avatar_url</td><td>https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar</td></tr><tr><td>web_url</td><td>https://gitlab.com/ssabag</td></tr></table>	id	27657982	username	ssabag	public_email		name	Simon Sabag	state	active	locked	false	avatar_url	https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar	web_url	https://gitlab.com/ssabag
id	27657982																								
username	ssabag																								
public_email																									
name	Simon Sabag																								
state	active																								
locked	false																								
avatar_url	https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar																								
web_url	https://gitlab.com/ssabag																								
0																									
167524820	3	69905560	This is a test issue 3	This is a test issue 3	opened	2025-05-19T08:57:00.367Z	2025-05-19T08:57:00.367Z	null	null																

The screenshot shows a Python development environment with the following interface elements:

- Top Bar:** Includes file navigation (Back, Forward, Home), search bar, and various tool icons.
- Left Sidebar:** Contains sections for **VARIABLES**, **WATCH**, and **CALL STACK**. The **CALL STACK** section is currently active and displays the following stack trace:

```
--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3): 2
Enter mr or issues: issues
Enter a 4-digit year number: 2025
This is the URL sent: https://gitlab.com/api/v4/issues?created_after=2025-01-01T00:00:00Z&created_before=2026-01-01T00:00:00Z Building this url API call
Found 4 issues created in 2025.

--- Main Menu ---
1. Grant Access
2. Return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3): 2
Enter mr or issues: mr
Enter a 4-digit year number: 2025
This is the URL sent: https://gitlab.com/api/v4/merge_requests?created_after=2025-01-01T00:00:00Z&created_before=2026-01-01T00:00:00Z Building this url API call
This is the URL sent: https://gitlab.com/api/v4/merge_requests?created_after=2025-01-01T00:00:00Z&created_before=2026-01-01T00:00:00Z
Found 40 mr created in 2025.

--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3):
```

- Code Editor:** Shows a Python script named `main.py` with code related to managing member roles on GitLab. The code includes imports for `requests` and `os`, and uses `gitlab_private_token` as a header key.
- Terminal:** Shows the output of the script execution, including URLs for API calls and counts of issues and merge requests found in 2025.
- Bottom Status Bar:** Displays line and column numbers (Ln 170, Col 16), spaces used (Spaces: 4), encoding (UTF-8), and file type (Python).

- **Getting ALL MR for given year 2025 with projectId**
  - **Example:** curl --header "PRIVATE-TOKEN: <your\_access\_token>" "https://gitlab.example.com/api/v4/projects/123/merge\_requests?created\_after=2024-01-01T00:00:00Z&created\_before=2025-01-01T00:00:00Z"
  - curl --header "PRIVATE-TOKEN: glpat-CjWZz8kf3r2GJLxiyUEx" "[https://gitlab.com/api/v4/projects/69905560/merge\\_requests?created\\_after=2024-01-01T00:00:00Z&created\\_before=2025-12-01T00:00:00Z](https://gitlab.com/api/v4/projects/69905560/merge_requests?created_after=2024-01-01T00:00:00Z&created_before=2025-12-01T00:00:00Z)"

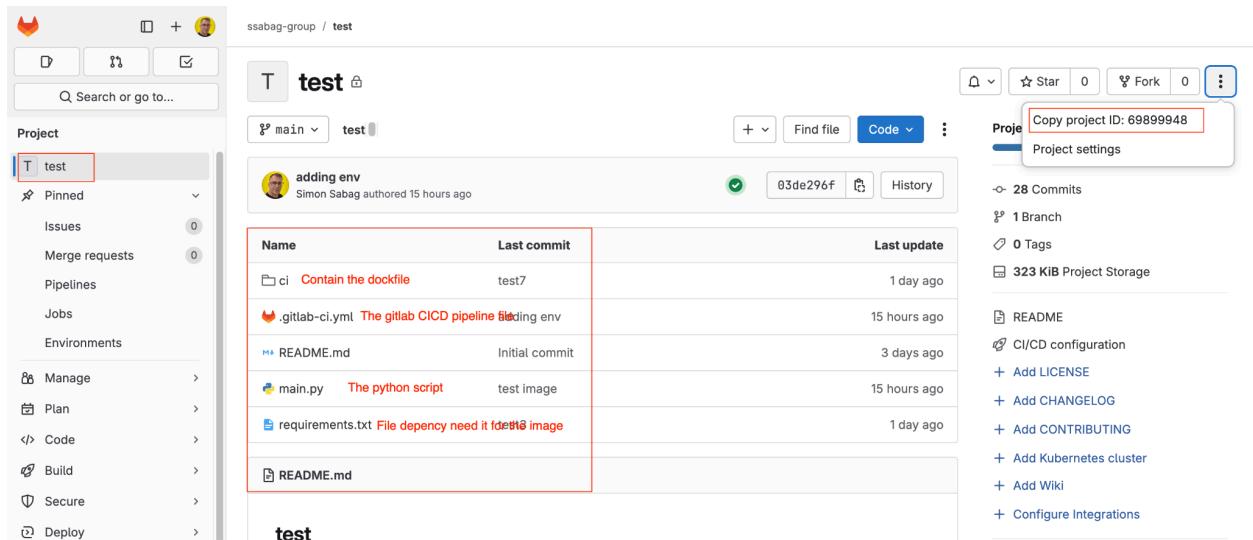
```
simonbabag@MacBook-Air-s1-Simon ~ % curl -H "PRIVATE-TOKEN: gplat-C" https://gitlab.com/api/v4/projects/6998556/merge_requests?created_after=2024-01-01T00:00:00Z&created_before=2025-01-01T00:00:00Z --output merge_requests.json
simonbabag@MacBook-Air-s1-Simon ~ % jq . merge_requests.json
simonbabag@MacBook-Air-s1-Simon ~ %
```

## Creating the Dockerfile

This stage involves leveraging the GitLab project, specifically the "**Test**" project I have created, as a repository for all the essential files required to build the Docker image for my application. The process includes the following steps

**Creating a New Project:** A new GitLab project named "**Test**" has been created

**Uploading Files:** The relevant files, such as the Dockerfile, application code, and any configuration files, will be uploaded to the "**Test**" project repository. These files will then be used by the Docker build process



The screenshot shows the GitLab web interface for a project named "test". The sidebar on the left lists various project management sections like Issues, Merge requests, Pipelines, and Environments. The main area displays a list of files in the "main" branch. The "Dockerfile" is highlighted with a red box. Other visible files include ".gitlab-ci.yml", "requirements.txt", "main.py", and "README.md". The right sidebar provides project statistics and links for CI/CD configuration and integrations.

Name	Last commit	Last update
ci Dockerfile	test7	1 day ago
.gitlab-ci.yml	The gitlab CICD pipeline building env	15 hours ago
README.md	Initial commit	3 days ago
main.py	The python script	test image
requirements.txt	File dependency need it for the image	1 day ago
README.md		

## Creating the CI Pipeline:

- A pipeline created by committing the necessary configuration files, including the **Dockerfile** provided below, directly to the main branch of the GitLab repository using the GitLab Web IDE. ( files will share in the repo)
- The **dockerfile** can be found on the repo  
<https://github.com/ssabag4/Home-Assignment-/blob/main/Dockerfile>
- Dockerfile **requirements.txt**  
<https://github.com/ssabag4/Home-Assignment-/blob/main/requirements.txt>
- Gitlab Pipeline file **.gitlab-ci.yml** located here  
<https://github.com/ssabag4/Home-Assignment-/blob/main/.gitlab-ci.yml>
- The ready python script **main.py**  
<https://github.com/ssabag4/Home-Assignment-/blob/main/main.py>

## Creating the Pipeline in GitLab Project:

### build new image with fixed code

Passed Simon Sabag created pipeline for commit e26b22e3 46 minutes ago, finished 42 minutes ago  
For main  
latest branch 3 jobs 4.27 4 minutes 15 seconds, queued for 7 seconds

Pipeline Jobs 3 Tests 0

```
graph LR; subgraph .pre; build_docker_image; end --> build[build]; build --> deploy[deploy];
```

Status	Pipeline	Created by	Stages	Actions
Passed 00:01:15 25 minutes ago	Building the ready Image #1824698921 [main] < d67d18fc	Simon Sabag	.pre, build, deploy	<button>↓</button>

Below is the a screen of the worker creating the build:

the full file can be found in the Repo link below

[https://github.com/ssabag4/Home-Assignment-/blob/main/creating\\_docker\\_image\\_Gitlab\\_log](https://github.com/ssabag4/Home-Assignment-/blob/main/creating_docker_image_Gitlab_log)

```
ssabag-group / my-gitlab-app / Jobs / #10115668443
$ docker push $CI_REGISTRY_IMAGE/myapp2
Using default tag: latest
The push refers to repository [registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2]
589 6ef3476b6b07: Preparing
590 3844661af24f: Preparing
591 1225038c1cd1: Preparing
592 07f3f38ac2df: Preparing
593 69beb2787ffc: Preparing
594 b1e89496ceb6: Preparing
595 ace34d1d784c: Preparing
596 b1e89496ceb6: Waiting
597 16b1c710f703: Preparing
598 b1e89496ceb6: Waiting
599 ace34d1d784c: Waiting
600 b1e89496ceb6: Waiting
601 16b1c710f703: Waiting
602 b1e89496ceb6: Waiting
603 ace34d1d784c: Waiting
604 1225038c1cd1: Pushed
605 07f3884c32df: Pushed
606 6ef3476b6b07: Pushed
607 3844661af24f: Pushed
608 b1e89496ceb6: Pushed
609 16b1c710f703: Pushed
610 b1e89496ceb6: Pushed
611 ace34d1d784c: Pushed
612 69beb2787ffc: Pushed
613 latest: digest: sha256:891bbcd56d97c22d37ae21c16b65e83bbe15a08b01c91e2ee8ab37e235a7dc size: 228
614 5
615 Cleaning up project directory and file based variables
616 Job succeeded
```

Duration: 1 minute 29 seconds  
Finished: 27 minutes ago  
Queued: 0 seconds  
Timeout: 1h (from project)  
Runner: #12270807 (jiaL-DqxS) - blue.saas-linux-small-amd64.runners-manager.gitlab.com/default  
Source: Push  
Commit e26b22e3 build new image with fixed code  
Pipeline #1830797954 Passed for main  
.pre

Related jobs  
→ build\_docker\_image

The image has been pushed to GitLab container registry:

The screenshot shows the GitLab Container Registry interface. On the left, there's a sidebar with options like Manage, Plan, Code, Build, Secure, Deploy, Releases, Feature flags, and Package registry. Below these is a 'Container registry' section which is highlighted with a red box. The main area is titled 'myapp2'. It shows '1 tag' (latest), '156.73 MiB' size, 'Cleanup disabled', 'Created May 22, 2025 08:32', and 'Last published at May 22, 2025 08:32'. There's a search bar, a 'Published' dropdown, and a 'Delete selected' button. A message at the bottom right says 'Published 48 minutes ago' and 'Digest: 891bbcd'.

## Pulling and Running the Image

- running the following commands:
- [`docker images`](#)
- [`docker login registry.gitlab.com`](#)
- (*use my personal user name account*)

```
simonsabag@MacBook-Air-sl-Simon test % docker login registry.gitlab.com
Authenticating with existing credentials... [Username: ssabag]

Info : To login with a different account, run 'docker logout' followed by 'docker login'

Login did not succeed, error: Error response from daemon: Get "https://registry.gitlab.com/v2/": unauthorized: HTTP Basic: Access denied. If a password was provided for Git authentication, the password was incorrect or you're required to use a token instead of a password. If a token was provided, it was either incorrect, expired, or improperly scoped. See https://gitlab.com/help/user/profile/account/two_factor_authentication_troubleshooting.md#error-http-basic-access-denied-if-a-password-was-provided-for-git-authentication-Username (ssabag): ssabag

Info : A Personal Access Token (PAT) can be used instead.
To create a PAT, visit https://app.docker.com/settings

[Password:
Login Succeeded]
```

- [`docker pull registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2`](#)

```
simonsabag@MacBook-Air-sl-Simon test % docker pull registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2
Using default tag: latest
latest: Pulling from ssabag-group/learn-gitlab-app/myapp2
567335d51235: Pull complete
09c4893e5320: Pull complete
9d545c45fb8c: Pull complete
fa70febde0f6: Pull complete
c069d04e7109: Pull complete
3dae71ba6b94: Pull complete
1188209dfa2c: Pull complete
9e66e6dc2729: Pull complete
27ad0a948300: Pull complete
Digest: sha256:891bbcdbb56d97c22d37ae21c16b65e83bbe15a08b01c91e2ee8ab37e235a7dc
Status: Downloaded newer image for registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2:latest
registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2:latest
```

- **docker images**

```
simonsabag@MacBook-Air-s1-Simon test % docker images
REPOSITORY                                     TAG      IMAGE ID      CREATED        SIZE
registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2    latest   891bbcd5b6d  About an hour ago  676MB
registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp     latest   9a23285db5b2  14 hours ago   690MB
<none>                                         <none>  bca7b6a028e1  14 hours ago   690MB
```

## Running the docker container using the ready image myapp2

- `docker run --rm -it --volume /Users/simonsabag/mobScript/test/.env:/.env registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2`

### Command details:

This command is running a container using image

**registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2**

I make the container interactive and allocate a terminal to interact with **-it**.

Mount to my local **.env** file having the gitlab personal token from my **/Users/simonsabag/mobScript/test/.env** directly into the root of the container as **/.env**.

the **.env** holds the my gitlab personal token

Automatically remove the container once you stop or exit it by using the flag **-rm**.

```
simonsabag@MacBook-Air-s1-Simon test % docker run --rm -it --volume /Users/simonsabag/mobScript/test/.env:/.env registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2
--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
[Enter your choice (1-3): 2
[Enter me or issues: issues
[Enter a 4-digit year number: 2025
[

{
  "id": 167524843,
  "iid": 4,
  "project_id": 69905560,
  "title": "This is Test issue 4",
  "description": "This is Test issue 4",
  "state": "closed",
  "created_at": "2025-05-19T08:57:35.855Z",
  "updated_at": "2025-05-19T08:58:18.454Z",
  "closed_at": "2025-05-19T08:58:18.440Z",
  "closed_by": {
    "id": 27657982,
    "username": "ssabag",
    "public_email": "",
    "name": "\u202aSimon Sabag\u202c\u200f",
    "state": "active",
    "locked": false,
    "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
    "web_url": "https://gitlab.com/ssabag"
  },
  "labels": [],
  "milestone": null,
  "assignees": [],
  "author": {
    "id": 27657982,
    "username": "ssabag",
    "public_email": "",
    "name": "\u202aSimon Sabag\u202c\u200f",
    "state": "active",
    "locked": false,
    "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
    "web_url": "https://gitlab.com/ssabag"
  }
}
```

## Setup my Gitlab private token locally for Protection

- `pip3 install python-dotenv`
- `cd /Users/simonsabag/mobScript/test`

Creating the .env file and update the KEY=Value

- `touch .env`
- `vi .env`

In my code case I have creating the following key:

```
GITLAB_PRIVATE_TOKEN="my token value"
```

```
[simonsabag@MacBook-Air-sl-Simon test % pwd  
/Users/simonsabag/mobScript/test  
[simonsabag@MacBook-Air-sl-Simon test % cat .env  
GITLAB_PRIVATE_TOKEN="glpat [REDACTED]"  
simonsabag@MacBook-Air-sl-Simon test %
```

Created new file called `.gitignore` on the same directory and update it with the name for the env file: e.g `.env`

- `touch .env`
- `vi .gitignore`

```
[simonsabag@MacBook-Air-sl-Simon test % cat .gitignore  
.env  
simonsabag@MacBook-Air-sl-Simon test %
```

# Testing the Code using Ready Container to Retrieve and update Data

Below are some use case testing the code using the container:

## Use case 1:

Getting all merge requests for year 2025

- `docker run --rm -it --volume /Users/simonsabag/mobScript/test/.env:/.env registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2`

```
Last login: Wed May 21 20:52:11 on ttys006
simonsabag@MacBook-Air-sl-Simon ~ % docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS
S
01eba3db66a3      registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2   "python main.py"   9 minutes ago    Up 9 minutes       8000/tcp
```

- type 2
- type 'mr'
- type '2025'

```
simonsabag@MacBook-Air-sl-Simon test % docker run --rm -it --volume /Users/simonsabag/mobScript/test/.env:/.env registry.gitlab.com/ssabag-group/learn-gitlab-app/myapp2
--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
|Enter your choice (1-3): 2
|Enter mr or issues: mr
|Enter a 4-digit year number: 2025
[  
  {
    "id": 385023095,
    "iid": 2,
    "project_id": 69899948,
    "title": "new brance",
    "description": "",
    "state": "merged",
    "created_at": "2025-05-21T12:05:48.315Z",
    "updated_at": "2025-05-21T12:06:04.059Z",
    "merged_by": {
        "id": 27657982,
        "username": "ssabag",
        "public_email": "",
        "name": "\u202aSimon Sabag\u202c\u200f",
        "state": "active",
        "locked": false,
        "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
        "web_url": "https://gitlab.com/ssabag"
    },
    "merge_user": {
        "id": 27657982,
        "username": "ssabag",
        "public_email": "",
        "name": "\u202aSimon Sabag\u202c\u200f",
        "state": "active",
        "locked": false,
        "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
        "web_url": "https://gitlab.com/ssabag"
    },
    "merged_at": "2025-05-21T12:06:01.520Z",
    "closed_by": null,
    "closed_at": null,
    "target_branch": "main",
    "source_branch": "feature/new",
    "user_notes_count": 0,
}
```



```
        },
        "web_url": "https://gitlab.com/ssabag-group/learn-gitlab-app/-/merge_requests/4",
        "time_stats": {
            "time_estimate": 0,
            "total_time_spent": 0,
            "human_time_estimate": null,
            "human_total_time_spent": null
        },
        "squash": true,
        "squash_on_merge": true,
        "task_completion_status": {
            "count": 0,
            "completed_count": 0
        },
        "has_conflicts": false,
        "blocking_discussions_resolved": true,
        "approvals_before_merge": null
    }
]
Found 40 mr created in 2025.
```

```
--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
```

```
Enter your choice (1-3):
```

## Use case 2:

Getting all issues for year 2025 ( created 4 reacods dummy data)

- type 2
- type 'issues'
- type '2025'

```
Found 40 MR created in 2025.

--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
[Enter your choice (1-3): 2
[Enter mr or issues: issues
[Enter a 4-digit year number: 2025
[
  {
    "id": 167524843,
    "iid": 4,
    "project_id": 69905560,
    "title": "This is Test issue 4",
    "description": "This is Test issue 4",
    "state": "closed",
    "created_at": "2025-05-19T08:57:35.855Z",
    "updated_at": "2025-05-19T08:58:18.454Z",
    "closed_at": "2025-05-19T08:58:18.440Z",
    "closed_by": {
      "id": 27657982,
      "username": "ssabag",
      "public_email": "",
      "name": "\u202aSimon Sabag\u202c\u200f",
      "state": "active",
      "locked": false,
      "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
      "web_url": "https://gitlab.com/ssabag"
    },
    "labels": [],
    "milestone": null,
    "assignees": [],
    "author": {
      "id": 27657982,
      "username": "ssabag",
      "public_email": "",
      "name": "\u202aSimon Sabag\u202c\u200f",
      "state": "active",
      "locked": false,
      "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
      "web_url": "https://gitlab.com/ssabag"
    },
    "type": "ISSUE",
    "assignee": null,
    "user_notes_count": 1,
    "merge_requests_count": 0,
    "upvotes": 1,
    "downvotes": 0,
    "due_date": null,
    "confidential": false,
    "discussion_locked": null,
    "issue_type": "issue",
    "web_url": "https://gitlab.com/ssabag-group/learn-gitlab-app/-/issues/4",
    "time_stats": {
      "time_estimate": 0,
      "total_time_spent": 0,
      "human_time_estimate": null,
      "human_total_time_spent": null
    }
  }
]
```



```

    "has_tasks": true,
    "task_status": "0 of 0 checklist items completed",
    "_links": {
        "self": "https://gitlab.com/api/v4/projects/69905560/issues/1",
        "notes": "https://gitlab.com/api/v4/projects/69905560/issues/1/notes",
        "award_emoji": "https://gitlab.com/api/v4/projects/69905560/issues/1/award_emoji",
        "project": "https://gitlab.com/api/v4/projects/69905560",
        "closed_as_duplicate_of": null
    },
    "references": {
        "short": "#1",
        "relative": "#1",
        "full": "ssabag-group/learn-gitlab-app#1"
    },
    "severity": "UNKNOWN",
    "moved_to_id": null,
    "imported": false,
    "imported_from": "none",
    "service_desk_reply_to": null
}
]
Found 4 issues created in 2025.

--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3): 
```

## Grant access to username on a Project

Role	access_level
Guest	10
Reporter	20
Developer	30
Maintainer	40
Owner	50

## Use case 3:

- Type 1 for granat access
  - type **ssabag76** for username
  - type **Test4** for project
  - Type: **Owner**

```
--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3): 1
Enter username: ssabag76
Enter repository or group name: Test4
Enter role (Reporter, Developer, Maintainer, Owner): Owner
Successfully updated role of user 'ssabag76' in project 'Test4' to 'Owner'

--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3):
```

## verification using postman

HTTP GitLab API calls / Get members for Project id: 69940574

GET https://gitlab.com/api/v4/projects/69940574/members

Params Authorization ● Headers (8) Body Scripts ● Settings

Pre-request

```
1 var template = `2 <style type="text/css">3   .tftable {font-size:14px;color:#333333;width:100%;border-width: 1px; border-color: #87ceeb; border-collapse: collapse; border-radius: 5px; border: 1px solid #87ceeb; padding: 10px; margin: auto;}</style>4   .tftable tr {border-top: 1px solid #87ceeb; border-bottom: 1px solid #87ceeb; background-color: #f2f2f2;}
```

Post-response

Body Cookies (2) Headers (29) Test Results | ⏱ 200 OK · 371 ms

{ } JSON ▾ ▷ Preview 🖥 Visualization

```
1 var template = `2 <style type="text/css">3   .tftable {font-size:14px;color:#333333;width:100%;border-width: 1px; border-color: #87ceeb; border-collapse: collapse; border-radius: 5px; border: 1px solid #87ceeb; padding: 10px; margin: auto;}</style>4   .tftable tr {border-top: 1px solid #87ceeb; border-bottom: 1px solid #87ceeb; background-color: #f2f2f2;}`5   .tftable td {padding: 10px; text-align: center; vertical-align: middle; font-weight: bold; font-size: 1em; color: black; border: none; border-collapse: collapse;}
```

43     "locked": false,  
44     "avatar\_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",  
45     "web\_url": "https://gitlab.com/ssabag"  
46 },  
47 "expires\_at": null,  
48 "membership\_state": "active"  
49 },  
50 {  
51     "id": 27953483,  
52     "username": "ssabag76",  
53     "public\_email": null,  
54     "name": "Shimon Sabag",  
55     "state": "active",  
56     "locked": false,  
57     "avatar\_url": "https://secure.gravatar.com/avatar/bd49fb91e3d46451768a609c8602611f78ead4385073535adcfb7829fffd45167?s=80&d=  
58     "web\_url": "https://gitlab.com/ssabag76",  
59     "access\_level": 50,  
60     "created\_at": "2025-05-18T14:59:13.421Z",  
61     "created\_by": {  
62         "id": 27657982,

#### Use case 4:

- Type 1 for granat access
- type **ssabag76** for username
- type **Test4** for project
- Type: **Maintainer**

```
Successfully updated role of user 'ssabag76' in project 'Test4' to 'Owner' .  
  
--- Main Menu ---  
1. Grant Access  
2. return all issues/merge requests) created on the given year.  
3. Exit  
Enter your choice (1-3): 1  
Enter username: ssabag76  
Enter repository or group name: Test4  
Enter role (Reporter, Developer, Maintainer, Owner): Maintainer  
Successfully updated role of user 'ssabag76' in project 'Test4' to 'Maintainer'.  
  
--- Main Menu ---  
1. Grant Access  
2. return all issues/merge requests) created on the given year.  
3. Exit  
Enter your choice (1-3): █
```

HTTP GitLab API calls / Get members for Project id: 69940574

GET https://gitlab.com/api/v4/projects/69940574/members

Params Authorization Headers (8) Body Scripts ● Settings

Pre-request 1 var template = '  
2 <style type="text/css">  
3 | .tftable {font-size:14px;color:#333333;width:100%;border-width: 1px; border-color: #87ceeb; border-collapse: c  
Post-response 200 OK 350 ms

Body Cookies (2) Headers (29) Test Results

{ } JSON ▶ Preview Visualization

```
43 |     "locked": false,  
44 |     "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",  
45 |     "web_url": "https://gitlab.com/ssabag"  
46 | },  
47 |     "expires_at": null,  
48 |     "membership_state": "active"  
49 | },  
50 | {  
51 |     "id": 27953483,  
52 |     "username": "ssabag76",  
53 |     "public_email": null,  
54 |     "name": "Shimon Sabag",  
55 |     "state": "active",  
56 |     "locked": false,  
57 |     "avatar_url": "https://secure.gravatar.com/avatar/bd49fb91e3d46451768a609c8602611f78ead4385073535adcfb7829ffd45167?s=80&d=mm",  
58 |     "web_url": "https://gitlab.com/ssabag76",  
59 |     "access_level": 40,  
60 |     "created_at": "2025-05-18T14:59:13.421Z",  
61 |     "created_by": {  
62 |         "id": 27657982,  
63 |         "username": "ssabag",
```

## Use case 5:

- Type 1 for granat access
- type **ssabag76** for username
- type **Test4** for project
- Type: **Developer**

```
Successfully updated role of user 'ssabag76' in project 'Test4' to 'Maintainer'.
```

```
--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
[Enter your choice (1-3): 1
[Enter username: ssabag76
[Enter repository or group name: Test4
[Enter role (Reporter, Developer, Maintainer, Owner): Developer
Successfully updated role of user 'ssabag76' in project 'Test4' to 'Developer'.
```

```
--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3): 
```

The screenshot shows a Postman API client interface. The URL in the header is `https://gitlab.com/api/v4/projects/69940574/members`. The response status is `200 OK` with a response time of `359 ms`. The response body is displayed in JSON format:

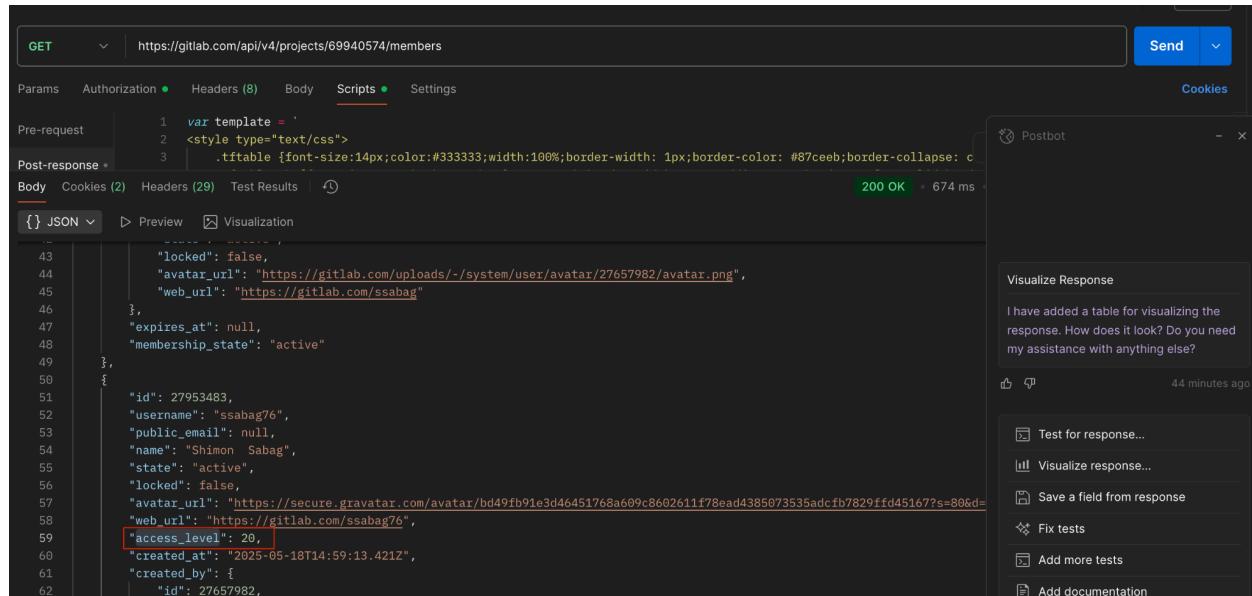
```
{ "id": 27953483, "username": "ssabag76", "public_email": null, "name": "Shimon Sabag", "state": "active", "locked": false, "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png", "web_url": "https://gitlab.com/ssabag" }, { "id": 27953483, "username": "ssabag76", "public_email": null, "name": "Shimon Sabag", "state": "active", "locked": false, "avatar_url": "https://secure.gravatar.com/avatar/bd49fb91e3d46451768a609c8602611f78ead4385073535adcfb7829ffd45167?s=80&d=https://gitlab.com/ssabag76", "web_url": "https://gitlab.com/ssabag76", "access_level": 30, "created_at": "2025-05-18T14:59:13.421Z", "created_by": { "id": 27657982, "username": "ssabag" } }
```

The right panel of the Postman interface includes a sidebar with various tools and documentation links.

## Use case 6:

- Type 1 for granat access
- type **ssabag76** for username
- type **Test4** for project
- Type: **Reporter**

```
Successfully updated role of user 'ssabag76' in project 'Test4' to 'Developer' .  
--- Main Menu ---  
1. Grant Access  
2. return all issues/merge requests) created on the given year.  
3. Exit  
[Enter your choice (1-3): 1  
[Enter username: ssabag76  
[Enter repository or group name: Test4  
[Enter role (Reporter, Developer, Maintainer, Owner): Reporter  
Successfully updated role of user 'ssabag76' in project 'Test4' to 'Reporter'.  
  
--- Main Menu ---  
1. Grant Access  
2. return all issues/merge requests) created on the given year.  
3. Exit  
Enter your choice (1-3): █
```



The screenshot shows a POSTMAN interface with the following details:

- Method:** GET
- URL:** https://gitlab.com/api/v4/projects/69940574/members
- Headers:** (8)
- Body:** (raw) JSON

```
1 var template = '  
2 <style type="text/css">  
3 | .tftable {font-size:14px;color:#333333;width:100%;border-width: 1px;border-color: #87ceeb; border-collapse: collapse; border: none; }  
4 | .tftable tr {border-top: 1px solid #87ceeb; border-bottom: 1px solid #87ceeb; border: none; }  
5 | .tftable tr:last-child {border-bottom: 1px solid #87ceeb; border: none; }  
6 | .tftable td {width: 100%; padding: 5px; border: none; }  
7 | .tftable th {background-color: #87ceeb; color: white; text-align: center; width: 100%; padding: 5px; border: none; }  
8 | .tftable th:after {content: " "; display: block; clear: both; }  
9 | .tftable tr th {border-bottom: 1px solid #87ceeb; border: none; }  
10 | .tftable tr th:after {border-bottom: 1px solid #87ceeb; border: none; }  
11 | .tftable tr td {border-bottom: 1px solid #87ceeb; border: none; }  
12 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
13 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
14 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
15 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
16 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
17 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
18 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
19 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
20 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
21 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
22 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
23 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
24 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
25 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
26 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
27 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
28 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
29 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
30 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
31 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
32 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
33 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
34 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
35 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
36 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
37 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
38 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
39 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
40 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
41 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
42 | .tftable tr td:after {border-bottom: 1px solid #87ceeb; border: none; }  
43 | | | "locked": false,  
44 | | | "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",  
45 | | | "web_url": "https://gitlab.com/ssabag"  
46 | | },  
47 | | "expires_at": null,  
48 | | "membership_state": "active"  
49 | | },  
50 | | {  
51 | | | "id": 27953483,  
52 | | | "username": "ssabag76",  
53 | | | "public_email": null,  
54 | | | "name": "Shimon Sabad",  
55 | | | "state": "active",  
56 | | | "locked": false,  
57 | | | "avatar_url": "https://secure.gravatar.com/avatar/bd49fb91e3d46451768a609c8602611f78ead4385073535adcfcf7829ffd45167?&s=80&d=  
58 | | | "web_url": "https://gitlab.com/ssabag76",  
59 | | | "access_level": 20,  
60 | | | "created_at": "2025-05-18T14:59:13.421Z",  
61 | | | "created_by": {  
62 | | | | "id": 27657982,
```
- Headers:** (8)
- Body:** (raw) JSON
- Response Status:** 200 OK
- Response Time:** 674 ms

On the right side of the interface, there is a sidebar titled "Postbot" with the following options:

- Visualize Response
- I have added a table for visualizing the response. How does it look? Do you need my assistance with anything else?
- Test for response...
- Visualize response...
- Save a field from response
- Fix tests
- Add more tests
- Add documentation

## Use case 7:

- Type 1 for granat access
  - type **ssabag76** for username
  - type **Test4** for project
  - Type: **Guest**

```
Successfully updated role of user 'ssabag76' in project 'Test4' to 'Reporter'.  
--- Main Menu ---  
1. Grant Access  
2. return all issues/merge requests) created on the given year.  
3. Exit  
[Enter your choice (1-3): 1  
[Enter username: ssabag76  
[Enter repository or group name: Test4  
[Enter role (Reporter, Developer, Maintainer, Owner): Guest  
Successfully updated role of user 'ssabag76' in project 'Test4' to 'Guest'.  
  
--- Main Menu ---  
1. Grant Access  
2. return all issues/merge requests) created on the given year.  
3. Exit  
Enter your choice (1-3):
```

GET https://gitlab.com/api/v4/projects/69940574/members

Params Authorization Headers (8) Body Scripts Settings Cookies

Pre-request

```
1 var template = `2 <style type="text/css">3   .tfftable {font-size:14px;color:#333333;width:100%;border-width: 1px; border-color: #87ceeb; border-collapse: collapse;}`
```

Post-response

Body Cookies (2) Headers (29) Test Results ⏱ 200 OK • 393 ms

{ } JSON ▾ Preview Visualization

```
43   "locked": false,
44   "avatar_url": "https://gitlab.com/uploads/-/system/user/avatar/27657982/avatar.png",
45   "web_url": "https://gitlab.com/ssabag"
46 },
47 "expires_at": null,
48 "membership_state": "active"
49 },
50 {
51   "id": 27953483,
52   "username": "ssabag76",
53   "public_email": null,
54   "name": "Shimon Sabag",
55   "state": "active",
56   "locked": false,
57   "avatar_url": "https://secure.gravatar.com/avatar/bd49fb91e3d46451768a609c8602611f78ead4385073535adcfb7829ffd45167?s=80&d=web",
58   "web_url": "https://gitlab.com/ssabag76",
59   "access_level": 10,
60   "created_at": "2025-05-18T14:59:13.421Z",
61   "created_by": {
62     "id": 27657982,
63     "username": "ssabag",
64     "public_email": ""
65   }
66 }
```

Postbot

Visualize Response

I have added a table for visualizing the response. How does it look? Do you need my assistance with anything else?

47 minutes ago

Test for response... Visualize response... Save a field from response Fix tests Add more tests Add documentation

### Use case 8:

Testing user name that doesn't exist:

```
--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
[Enter your choice (1-3): 1
[Enter username: ssabag10
[Enter repository or group name: Test4
[Enter role (Reporter, Developer, Maintainer, Owner): Reporter
Error: User 'ssabag10' not found.

--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3):
```

wornged role name:

```
--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3): 1
[Enter username: 1
[Enter repository or group name: ssabag76
[Enter role (Reporter, Developer, Maintainer, Owner): Developerr
Error: Invalid role 'Developerr'. Valid roles are: Guest, Reporter, Developer, Maintainer, Owner

--- Main Menu ---
1. Grant Access
2. return all issues/merge requests) created on the given year.
3. Exit
Enter your choice (1-3):
```

The code and files are share on public GitHub repo

<https://github.com/ssabag4/Home-Assignment-/tree/main>

the file called README.pdf

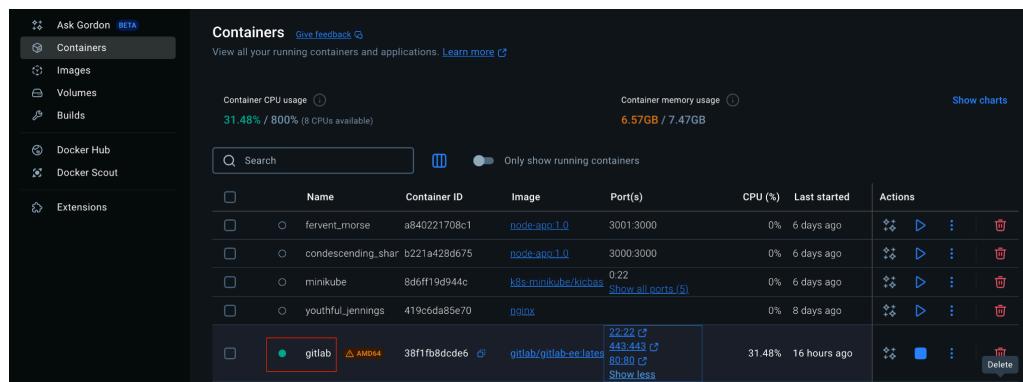
Thank you for the opportunity. 😊

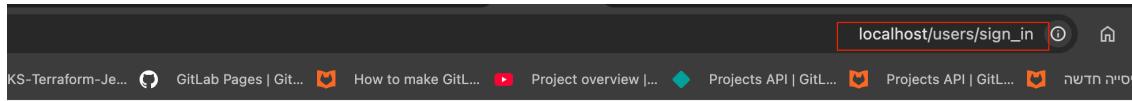
# Gitlab Docker Simulator Incase I will need another environment for testing ( eventually it was not in use )

- **Pull the Docker Image:** Begin by retrieving the official GitLab Docker image using the **docker login/pull** commands. This will download the necessary files to run GitLab locally.
- **Extract the Initial Root Password:** After the container starts, I retrieve the initial root password. This is typically found in the container's logs.
- **Populate Data:** populating my GitLab environment with projects, users, groups, and any other necessary data for my work assignment.

```
simonsabag@MacBook-Air-sl-Simon ~ % docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
simonsabag@MacBook-Air-sl-Simon ~ % sudo docker run --detach \
--hostname gitlab.example.com \
--publish 443:443 --publish 80:80 --publish 22:22 \
--name gitlab \
--restart always \
--volume $GITLAB_HOME/config:/etc/gitlab \
--volume $GITLAB_HOME/logs:/var/log/gitlab \
--volume $GITLAB_HOME/data:/var/opt/gitlab \
--shm-size 256m \
gitlab/gitlab-ce:latest
Unable to find image 'gitlab/gitlab-ce:latest' locally
latest: Pulling from gitlab/gitlab-ce
f1693e13474a: Pull complete
e/b27b55dcfc: Pull complete
7ce07e0e9c07: Pull complete
5e642901bc45: Pull complete
7a23267a2251: Pull complete
0622fa788ed1: Pull complete
bf5b3bdd7179: Pull complete
2dec9c729e44: Pull complete
ee5bc962d9b: Pull complete
Digest: sha256:4d7a2f20d77d211f1fd8be64653af6a4b74f89f153fa0eb6a0faa8f6273ca48e
Status: Downloaded newer image for gitlab/gitlab-ce:latest
WARNING: The requested image's platform (linux/amd64) does not match the detected host platform (linux/arm64/v8) and no specific platform was requested
38ff1fb8dcd6e8f7db58f499accd5356e030e0b7b7488a2b7dcc184cad7622b
simonsabag@MacBook-Air-sl-Simon ~ % docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
38ff1fb8dcd6e gitlab/gitlab-ce:latest "/assets/init-contai..." 11 seconds ago Up 10 seconds (health: starting) 0.0.0.0:22->22/tcp, 0.0.0.0:80->80/tcp, 0.0.0.0:443->443/tcp gitlab
simonsabag@MacBook-Air-sl-Simon ~ %
simonsabag@MacBook-Air-sl-Simon ~ % docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
38ff1fb8dcd6e gitlab/gitlab-ce:latest "/assets/init-contai..." 50 seconds ago Up 49 seconds (health: starting) 0.0.0.0:22->22/tcp, 0.0.0.0:80->80/tcp, 0.0.0.0:443->443/tcp gitlab
simonsabag@MacBook-Air-sl-Simon ~ %
zsh: command not found: pingn
simonsabag@MacBook-Air-sl-Simon ~ % ping gitlab.example.com
ping: cannot resolve gitlab.example.com: Unknown host
simonsabag@MacBook-Air-sl-Simon ~ % docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
38ff1fb8dcd6e gitlab/gitlab-ce:latest "/assets/init-contai..." 3 minutes ago Up 3 minutes (healthy) 0.0.0.0:22->22/tcp, 0.0.0.0:80->80/tcp, 0.0.0.0:443->443/tcp gitlab
simonsabag@MacBook-Air-sl-Simon ~ %

simonsabag@MacBook-Air-sl-Simon Day-17-start % docker exec -it gitlab bash -c 'cat /etc/gitlab/initial_root_password' | grep -i password
#           1. If provided manually (either via '$GITLAB_ROOT_PASSWORD' environment variable or via 'gitlab_rails['initial_root_password']' setting in 'gitlab.rb', it was provided before or the first time (usually, the first reconfigure run).
#           2. Password hasn't been changed manually, either via UI or via command line.
#           If the password shown here doesn't work, you must reset the admin password following https://docs.gitlab.com/ee/security/reset_user_password.html#reset-your-root-password.
Password: h7JSE1vB1lr9hanNw
```





A screenshot of the User Settings / Access tokens page. It shows a message "Your new personal access token has been created." Below this is a modal titled "Your new personal access token" containing a long string of characters and two copy buttons. The main table lists one active token: "new\_token" with scopes "api, read\_api, read\_user, create\_runner, manage\_runner, k8s\_proxy, self\_rotate, read\_repository, write\_repository, read\_virtual\_registry, write\_virtual\_registry, ai\_features, sudo, admin\_mode, read\_service\_ping". The token was created on May 18, 2025, last used on May 18, 2025, and expires in 4 weeks.

A screenshot of a project details page for "Test1" in the "docker\_test\_group" namespace. The page shows a file tree with "main" and "test" branches. The "test" branch has files "ci", "gitlab-ci.yml", "README.md", "main.py", and "requirements.txt". The "main" branch has a file "README.md". The right sidebar displays "Project information" including 5 commits, 1 branch, 0 tags, 9 KIB Project Storage, and links to README, CI/CD configuration, LICENSE, CHANGELOG, CONTRIBUTING, Auto DevOps enabled, Add Kubernetes cluster, Add Wiki, and Configure Integrations.

