# Mechatronic Engineering

Object Oriented Programing and Software Engineering Laboratory instruction 13 Git - distributed version control system - Part 2

AGH Kraków, 2020

Materials created for educational purposes.

Dedicated for students attending Software Engineering course.

Author would apreaciate any feedback regarding errors of any kind found in the instruction script.

Please report those to the following email address: danielt@agh.edu.pl

## Contents

1	GitLab							
	1.1	Account						
	1.2	Starting a project						
	1.3	Pushing repository to the GitLab remote						
	1.4	Adding members						

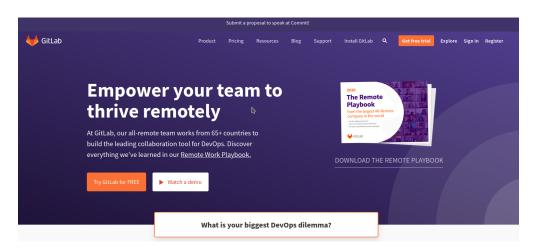


Figure 1: Main screen of GitLab website

### 1 GitLab

Until now, the git system has been used on @mops AGH servers. In order to facilitate group work, this manual will present the GitLab service and how to use it in class.

https://gitlab.com/

#### 1.1 Account

To get started, create a user account on the website. To do this, click the Register button in the upper right corner of the main page (Fig. 1). This will take you to the registration page (Fig. 2). Please fill the required fields (for the purpose of the course, please use the address in the domain **student.agh.edu.pl**) and press the green register button. You must also confirm your willingness to register by clicking the link that will come to the email address provided and you can start working on the GitlLab website. You just need to sign in to your account.

Speed up your DevOps	Regist	er for GitLab
with GitLab	First name	Last name
GitLab is a single application for the entire software development lifecycle. From project planning and source code management to CI/CD, monitoring, and security.	Username	
	Email	
	Password	
	Minimum length is	8 characters
	I accept the Term	s of Service and Privacy Policy
	I'd like to receive GitLab.	updates via email about
	Nie jestem	robotem
		Register

Figure 2: Main screen of GitLab website

#### 1.2 Starting a project

After successfully logging into the GitLab website, the project preview should be displayed (Fig. 3). If you didn't get there automatically, you can go to it by clicking **Projects** in the upper left corner of the screen and select the **Your projects** option from the drop-down menu. To create a new project, press the green button **New project**.

iitLab	Projects ~	Groups ~	More ~	<b>•</b> ~	Search or jump to		۹ (	D	n	R	0 ×	۲
ase ensure	e your acco	unt's recover	y settings are up to date.									
			Free Trial of GitLab.com Gold Try all GitLab has to offer for 30 days. No credit card required.			Start your trial	×					
		Projec	ts			New	v projec	ct			h.	
		Your proj	ects 1 Starred projects 0 Explore projects	Filter	oy name	Last updated		~				
		All Perso	nal									
			course / lab4-git Q Maintainer po for AGH students attending Software Engineering course	ko ⊻o	ľho D∙o	Updated 11 m	onths a	ago				

Figure 3: Main screen of GitLab website

The page for creating new projects (Fig. 4) is very intuitive. Enter the name you want to give the repository in the **Project name** field. **Project URL** and **Project slug** fields are generated automatically and do not require editing. Optionally, you can add a description to the project you are creating.

An important setting option regarding the visibility of our repository is un-

GitLab	Projects 🗸	Groups 🗸 More 🗸			😫 🖌 🦳 Search or jump	to ۹ D	່ມ 🖻 🙆
Please ensu	re your acco	unt's recovery settings are up to date.					
		New project	Blank project	Create from template	Import project	CI/CD for external repo	
		A project is where you house your files (repository), plan your work (issues), and publish your documentation (wiki), among	Project name	_			
	other things.	Your project name					
		All features are enabled for blank projects, from templates, or when importing, but you can disable them afterward in the project settings.	Project URL		Project slug		
			https://gitlab.com/se_imir/		your-project-name		
			Want to house several depend				
		To only use CI/CD features for an external repository, choose CI/CD for external	Project description (optional	)			
		repo. Information about additional Pages templates and how to install them can be found in our Pages getting started guide.	Description format				
						1.	
		Tip: You can also create a project from the command line. Show command	Visibility Level 😡				
			Private Project access must be group.	granted explicitly to each user. If thi	s project is part of a group, access	will be granted to members of the	
			Public     The project can be acce	essed without any authentication.			
			Initialize repository with a Allows you to immediately o	a README clone this project's repository. Skip th	iis if you plan to push up an existin	ig repository.	
			Create project			Cancel	

Figure 4: Main screen of GitLab website

der section **Visibility Level**. It determines the privacy of the repository. **Private** - sets a private level, authorization will be required for gitlab account data to make changes.

Public - sets a public level, such a repository does not require authorization.

To create a repository, one needs to press the green **Create project** button

#### 1.3 Pushing repository to the GitLab remote

Having created a project on gitlab, all you have to do is upload the local repository files. To do this, you can use the commands given in manual 4. The necessary commands are also displayed on the page that appears after creating a new project. As a reminder, I also provide them below:

```
git remote -v //used to check if any remote macros are implemented
git remote rename origin old-origin // renames remote macros
storen under 'origin' name
git remote add origin https://gitlab.com/project_addres //adding
macro for repo address under 'origin' name
git push -u origin // pushing repo to 'origin' address
```

Figure 5 presents the project overview after a repo has been pushed into it.

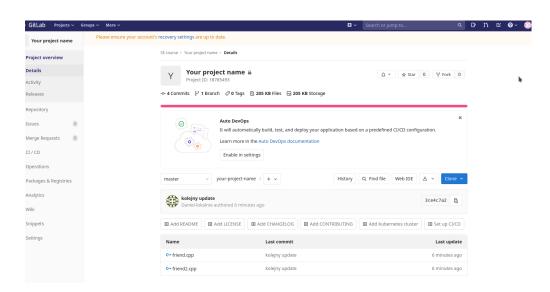


Figure 5: Main screen of GitLab website

#### 1.4 Adding members

To provide access to a private project to other GitLab users, add them as project members. To do this, select the **Setting** option from the menu on the left of the screen and click **Members** from the context menu (Fig. 6).

GitLab Projects ~	Groups 🗸 More 🗸			<b>8</b> ~	Search or jump to	(	۹. D	n n	
Your project name	Please ensure your accourt	nt's recovery settings are up to date.							
Project overview		SE course > Your project name > Det	ails						
Details		V Your project n			û ∽ 🕁 Star	0 Y Fork	)		
Activity		Project ID: 18785493	Project ID: 18785493						
Releases		-0- 4 Commits 🖓 1 Branch 🧷	0 Tags 🗈 205 KB Files 🗔 205	KB Storage					
Repository									
Issues			DevOps				ĸ		
Merge Requests			l automatically build, test, and dep n more in the Auto DevOps docum		a predefined CI/CD config	juration.			
CI / CD	General .	Learn more in the Auto DevOps documentation Enable in settings							
Operations	Integrations Members		bie in second						
Packages & Registries	Webhooks	master v your-p	roject-name / + ~	History	Find file Web IDE	초 👻 Clone	<b>.</b>		
5	Repository								
Analytics	CI / CD	kolejny update Daniel-lokalnie authore	d 9 minutes ago			3ce4c7a2 🛱			
Wiki	Operations		~						
Snippets	Pages	Add README Add LIC	ENSE 🕑 Add CHANGELOG	■ Add CONTRIBUTING	Add Kubernetes cluster	B Set up CI/CE			
Settings	Audit Events	Name	Last commit			Last updat	e		
		C++ friend.cpp	kolejny update			9 minutes ag	0		
		C++ friend2.cpp	kolejny update			9 minutes ag	0		

Figure 6: Main screen of GitLab website

On the Project members page that opens (Fig. 8) we can add participants of our project. This can be done by entering the email address or GitLab username in the **GitLab member or Email address** field. The **Choose a role permission** field is used to grant appropriate permissions to the invited user. The **Access expiration date** field allows you to set a time limit for the entered permissions. After setting all options to finalize the user adding process, press the green **Invite** button.

A list of all project members is displayed at the bottom of the page (Fig. 7).

GitLab Projects ~	Groups ~ More ~	🛢 🗸 Search or jump to Q D 11 🗹	@~ 🌖
Your project name	Please ensure your account's recovery settings are up to date.		
Project overview	SE course > Your project name > Members		
Repository	Project members		
Issues 0	You can invite a new member to <b>Your project name</b> or invite another group.		
Merge Requests 0	Invite member	Invite group	
CI / CD	GitLab member or Email address	-	Ξ.
Operations	Search for members to update or invite		
Packages & Registries	Choose a role permission		
Analytics	Maintainer		~
Wiki	Read more about role permissions Access expiration date		
Snippets	Expiration date		
Settings	Invite Import		
General	anne annox		
Members	Existing members and groups		
Integrations	Members of Your project name 1	Find existing members by nam Q Sort by Name, ascending	~
Webhooks	SE course @se_imir Its you	Maintain	er.
Repository	Given access 15 minutes ago	(Weatin Carry	9
CI / CD			

Figure 7: Main screen of GitLab website

GitLab Projects ~ Grou	ps v More v	Search or jump to	୍ ଦ ମ ଅ ଅ 🖉 v 🍕
Your project name	O Users were successfully added.		×
Project overview	Project members		
Repository	You can invite a new member to <b>Your project name</b> or invite another group.		
Issues 0	Invite member	Invite group	
Merge Requests 0	GitLab member or Email address		
CI / CD	Search for members to update or invite		
Operations	Choose a role permission		
Packages & Registries	Guest		~
Analytics	Read more about role permissions Access expiration date		
Wiki	Expiration date		
Snippets	Invite Import		1
Settings			
General	Existing members and groups		
Members	Members of Your project name 2	Find existing members by nam Q So	rt by Name, ascending $\vee$
Integrations	Given access just now	Maintainer v Expirati	on date
Webhooks			
Repository	SE course @se_imir It's you Given access 16 minutes ago		Maintainer
CI / CD			

Figure 8: Main screen of GitLab website

### Task

Based on the informations provided in this manual, please create a project on GitLab and push your repository from @mops server.

Add your laboratory supervisor as a member of the project (can be added by agh email address).

Also please update all your previously created tasks and examples into your original repository before pushing it to GitLab.