



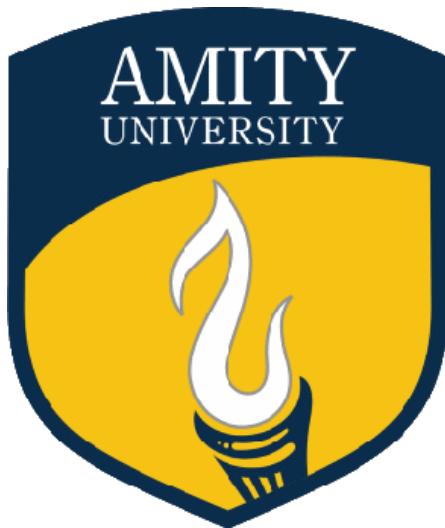
AMITY UNIVERSITY, MUMBAI

AMITY UNIVERSITY MAHARASHTRA

AMITY INSTITUTE OF INFORMATION TECHNOLOGY

DevOps

MCA – SEM I



Name of the Student: DHEERAJ KUMAR

Program/Semester: MCA / SEMESTER I

Enrolment Number: A710145025004

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Established vide Maharashtra Act No.13 of 2014, of Government of Maharashtra, and recognized under Section 2 (f) of UGC Act 1956.

Amity Institute of Information Technology

CERTIFICATE

This is to certify that, Mr./Ms. _____ Student of MCA Semester I (Batch 2025-27) has completed the _____ during the academic year 2025-26, under the internal guidance of Prof. _____.

Signed by Guide :

Date :



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Practical 1

Source code Management using Git & GitHub, GitLab in Collaborative teaming, Store, marge, version control of the code

Create new repo

The screenshot shows a GitHub user profile for 'Dheeraj2002kumar'. The profile picture is a circular portrait of a man in a suit. Below the picture, the name 'Dheeraj Kumar' is displayed, followed by the GitHub handle 'Dheeraj2002kumar · he/him' and a bio stating 'Minor in Computer Science & Advanced Technology from Indian Institute of Technology (IIT) Mandi'. There are buttons for 'Edit profile' and 'Edit bio'. Below the profile section, it says '12 followers · 10 following' and shows locations 'Mumbai' and an email address 'o2400106@cce.iitmandi.ac.in'. On the right side of the screen, there is a list of five repositories: 'BMI_Android_app' (Public, Java, updated 2 weeks ago), 'Simple_Android_app' (Public, Java, updated 2 weeks ago), 'books_fetch_using_json_reactApp' (Public, JavaScript, updated 2 weeks ago), 'JS_practice' (Private, JavaScript, updated 2 weeks ago), and 'JAVA_MCA_SEM_1' (Public, Java, updated 3 weeks ago). Each repository entry includes a 'Star' button. A large yellow arrow points diagonally upwards and to the right from the bottom left towards the 'New' button located at the top right of the repository list area.



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github.com/new

Create a new repository

Repositories contain a project's files and version history. Have a project elsewhere? [Import a repository](#). Required fields are marked with an asterisk (*).

1 General

Owner * Dheeraj2002kumar / Repository name * devops-git-lab devops-git-lab is available.

Great repository names are short and memorable. How about [congenital-computing-machine](#)?

Description

0 / 350 characters

2 Configuration

Choose visibility * Public

Start with a template No template

Add README On

Add .gitignore No .gitignore

Add license No license

Create repository

github.com/Dheeraj2002kumar/devops-git-lab

Dheeraj2002kumar / devops-git-lab

Type [] to search

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

devops-git-lab Public

main 1 Branch 0 Tags Go to file Add file Code

Dheeraj2002kumar Initial commit 99b6261 · now 1 Commit

README.md Initial commit now

README

devops-git-lab

About

No description, website, or topics provided.

Readme Activity 0 stars 0 watching 0 forks

Releases

No releases published Create a new release

Packages

No packages published Publish your first package

© 2025 GitHub, Inc. Terms Privacy Security Status Community Docs Contact Manage cookies Do not share my personal information



Copy the url and clone it

A screenshot of a GitHub repository page for 'Dheeraj2002kumar/devops-git-lab'. The page shows a single file, 'README.md', with the content 'devops-git-lab'. On the right side, there is a 'Clone' section with three options: 'HTTPS', 'SSH', and 'GitHub CLI'. The 'HTTPS' option is selected, and the URL 'https://github.com/Dheeraj2002kumar/devops-git-lab' is displayed. A yellow arrow points to the 'Copy URL to clipboard' button next to the URL. The GitHub interface includes a navigation bar at the top with links like 'Code', 'Issues', 'Pull requests', 'Actions', 'Projects', 'Wiki', 'Security', 'Insights', and 'Settings'. The sidebar on the left shows the repository structure and a commit history.

Clone the Repository for Collaboration

A collaborator would run:

```
git clone https://github.com/Dheeraj2002kumar/devops-git-lab.git  
cd devops-git-lab
```

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> git clone https://github.com/Dheeraj2002kumar/devops-git-lab.git  
Cloning into 'devops-git-lab'...  
remote: Enumerating objects: 3, done.  
remote: Counting objects: 100% (3/3), done.  
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)  
Receiving objects: 100% (3/3), done.  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker>
```



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Create your sample file:

```
echo "This is test.txt for Git lab." > test.txt
```

A screenshot of the Visual Studio Code (VS Code) interface. On the left is the Explorer sidebar showing a project structure with 'test.txt' and 'DEVOPS GIT LAB' (containing '.vscode' and 'README.md'). The main editor area shows the content of 'test.txt':

```
1 This is test.txt for Git lab.  
2
```

The bottom right corner of the editor shows the terminal output from a PowerShell session:

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> echo "This is test.txt for Git lab." > test.txt  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> [ ]
```

A screenshot of a GitHub repository page for 'devops-git-lab'. The repository has 1 branch and 0 tags. The README file contains the text:

```
devops-git-lab
```

The repository details on the right side show:

- About**: No description, website, or topics provided.
- Readme**
- Activity**
- 0 stars**
- 0 watching**
- 0 forks**
- Releases**: No releases published. Create a new release.
- Packages**: No packages published. Publish your first package.

At the bottom, there is a footer with links to GitHub's terms of service, privacy policy, security information, status, community, documentation, contact, and cookie management.



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Push the code txt file in github

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> echo "This is test.txt for Git lab." > test.txt
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> echo "This is test.txt for Git lab." > test.txt
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git add .
warning: in the working copy of '.vscode/c_cpp_properties.json', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of '.vscode/launch.json', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of '.vscode/settings.json', LF will be replaced by CRLF the next time Git touches it
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git commit -m "add test.txt file in gitHub"
[main dc4ff44] add test.txt file in gitHub
4 files changed, 101 insertions(+)
create mode 100644 .vscode/c_cpp_properties.json
create mode 100644 .vscode/launch.json
create mode 100644 .vscode/settings.json
create mode 100644 test.txt
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git push origin main
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 8 threads
Compressing objects: 100% (7/7), done.
Writing objects: 100% (7/7), 1.51 KiB | 1.51 MiB/s, done.
Total 7 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Dheeraj2002kumar/devops-git-lab.git
  99b8261..dc4ff44  main -> main
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab>
```

The screenshot shows a GitHub repository named "devops-git-lab". The repository has 2 commits, 0 issues, and 0 pull requests. The README file contains the text "devops-git-lab". The repository has 0 forks and 0 stars.

You can see the test.txt file



Create a New Branch for Editing test.txt

```
git checkout -b feature-update-testfile
```

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git branch
* main
• PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git checkout -b feature-update-testfile
Switched to a new branch 'feature-update-testfile'
• PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git branch
* feature-update-testfile
  main
• PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> []
```

Modify the file:

```
echo "New update: Version 2" >> test.txt
```

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git branch
* main
• PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git checkout -b feature-update-testfile
Switched to a new branch 'feature-update-testfile'
• PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git branch
* feature-update-testfile
  main
• PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> echo "New update: Version 2" >> test.txt
• PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> []
```



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Stage and commit:

```
git add test.txt  
git commit -m "Added version 2 update in test.txt"
```

Push the branch:

```
git push origin feature-update-testfile
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The Explorer sidebar on the left lists files and folders, including 'test.txt' which is currently selected. The terminal at the bottom shows the command-line steps for committing changes and pushing them to a GitHub repository. The status bar at the bottom right indicates the file is ready for Java development.

```
File Edit Selection View Go Run Terminal Help  
File Explorer  
OPEN EDITORS  
DEVOPS-GIT-LAB  
DEVOPS-GIT-LAB  
VS Code  
README.md  
test.txt  
test.txt  
1 This is test.txt for Git lab.  
2 New update: Version 2  
3  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS  
git branch  
* feature-update-testfile  
main  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> echo "New update: Version 2" >> test.txt  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git add test.txt  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git commit -m "Added version 2 update in test.txt"  
[feature-update-testfile bb2665] Added version 2 update in test.txt  
1 file changed, 0 insertions(+), 0 deletions(-)  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git push origin feature-update-testfile  
Enumerating objects: 5, done.  
Counting objects: 100% (5/5), done.  
Delta compression using up to 8 threads  
Compressing objects: 100% (3/3), done.  
Writing objects: 100% (3/3), 351 bytes | 351.00 KiB/s, done.  
total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)  
remote: Resolving deltas: 100% (1/1), completed with 1 local object.  
remote:  
remote: Create a pull request for 'feature-update-testfile' on GitHub by visiting:  
remote: https://github.com/Dheeraj2002kumar/devops-git-lab/pull/new/feature-update-testfile  
remote:  
To https://github.com/Dheeraj2002kumar/devops-git-lab.git  
 * [new branch] feature-update-testfile -> feature-update-testfile  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab>  
Ln 1, Col 1 Spaces: 4 UTF-16 LE CRLF Plain Text Go Live
```



Create a Pull Request (PR)

In GitHub:

1. Open the repo
2. Click **Compare & Pull Request**
3. Add title: “Update test.txt to version 2”
4. Add description
5. Submit PR
6. Another team member reviews
7. Click **Merge Pull Request**

Update your local repo after merge:

```
git checkout main  
git pull origin main
```

The screenshot shows a Microsoft Visual Studio Code interface. On the left is the Explorer sidebar with a tree view of files: 'OPEN EDITORS' (test.txt), 'DEVOPS-GIT-LAB' (VS Code icon, README.md), and a folder icon (test.txt). The main area is a code editor showing the content of 'test.txt':

```
1 This is test.txt for Git lab.  
2
```

Below the code editor is a terminal window displaying a PowerShell session with the following command history:

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git branch  
* feature-update-testfile  
  main  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> echo "New update: Version 2" >> test.txt  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git add test.txt  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git commit -m "Added version 2 update in test.txt"  
[feature-update-testfile bb2665] Added version 2 update in test.txt  
1 file changed, 0 insertions(+), 0 deletions(-)  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\devops-git-lab> git push origin feature-update-testfile  
Enumerating objects: 5, done.  
Counting objects: 100% (5/5), done.  
Delta compression using up to 8 threads  
Compressing objects: 100% (3/3), done.  
Writing objects: 100% (3/3), 351 bytes | 351.00 KiB/s, done.  
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)  
remote: Resolving deltas: 100% (1/1), completed with 1 local object.  
remote:  
remote: Create a pull request for 'feature-update-testfile' on GitHub by visiting:  
remote: https://github.com/Dheeraj2002kumar/devops-git-lab/pull/new/feature-update-testfile  
remote:  
To https://github.com/Dheeraj2002kumar/devops-git-lab.git  
 * [new branch] feature-update-testfile -> feature-update-testfile  
remote:  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git checkout main  
Switched to branch 'main'  
Your branch is up to date with 'origin/main'.  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\devops-git-lab>
```

The bottom status bar shows: Ln 1, Col 1 Spaces:4 UTF-16 LE CRLF Plain Text ⌂ Go Live



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File Edit Selection View Go Run Terminal Help

REPO test.txt

OPEN EDITORS

DEVOPS-GIT-LAB

VS Code README.md test.txt

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git add test.txt
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git commit -m "Added version 2 update in test.txt"
[feature-update-testfile bb26e05] Added version 2 update in test.txt
 1 file changed, 0 insertions(+), 0 deletions(-)
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 351 bytes | 351.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'feature-update-testfile' on GitHub by visiting:
remote:   https://github.com/Dheeraj2002kumar/devops-git-lab/pull/new/feature-update-testfile
remote:
To https://github.com/Dheeraj2002kumar/devops-git-lab.git
 * [new branch] feature-update-testfile -> feature-update-testfile
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\devops-git-lab> git pull origin main
From https://github.com/Dheeraj2002kumar/devops-git-lab
 * branch    main      -> FETCH_HEAD
Already up to date.
```

JAVA PROJECTS TASK EXPLORER

Ln 1, Col 1 Spaces: 4 UTF-16 LE CRLF Plain Text Go Live

github.com/Dheeraj2002kumar/devops-git-lab

Dheeraj2002kumar/devops-git-lab GitHub import · GitLab test.txt · main · dheeraj kumar

Dheeraj2002kumar / devops-git-lab

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

devops-git-lab Public

feature-update-testfile-1 had recent pushes 2 seconds ago

Compare & pull request

main 2 Branches 0 Tags

Dheeraj2002kumar update the changes 69f8786 - 15 minutes ago 5 Commits

vscode add test.txt file in GitHub 1 hour ago

README.md Initial commit 1 hour ago

test.txt update the changes 15 minutes ago

README

devops-git-lab

About No description, website, or topics provided.

Readme Activity 0 stars 0 watching 0 forks

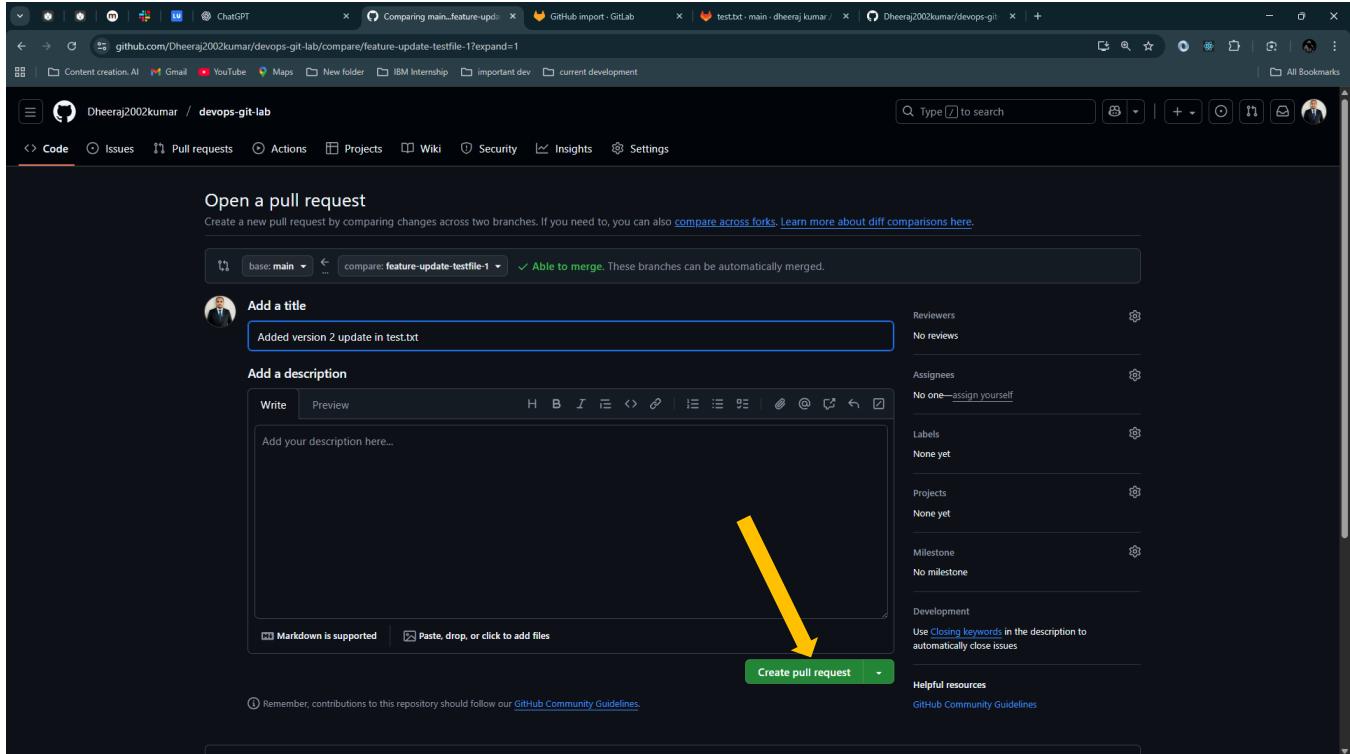
Releases No releases published Create a new release

Packages No packages published Publish your first package

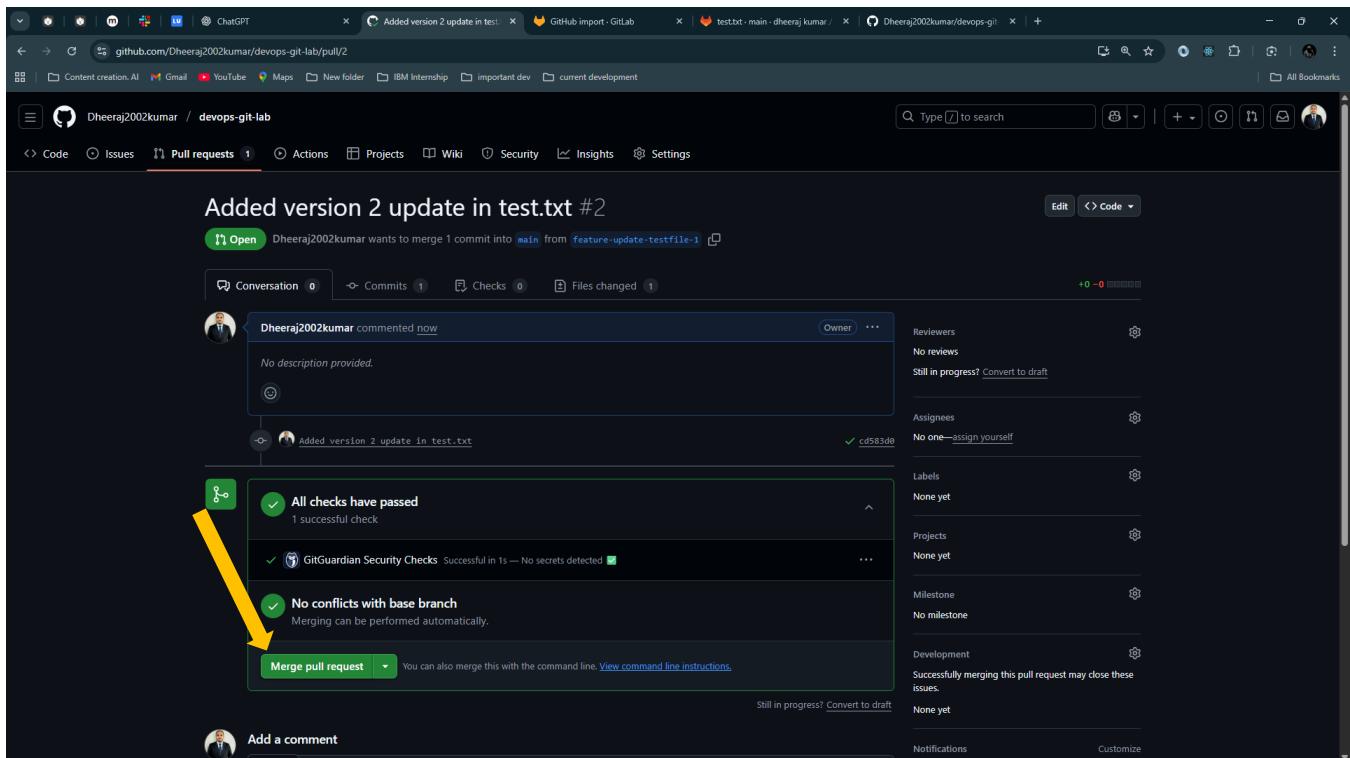
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A screenshot of a GitHub pull request creation interface. The top bar shows the URL: github.com/Dheeraj2002kumar/devops-git-lab/compare/feature-update-testfile-1?expand=1. The main area is titled "Open a pull request". It shows a comparison between the "main" branch and a branch named "feature-update-testfile-1". A yellow arrow points from the "Create pull request" button at the bottom right towards the "Add a title" input field, which contains the text "Added version 2 update in test.txt". To the right of the title input, there are sections for "Reviewers" (No reviews), "Assignees" (No one - assign yourself), "Labels" (None yet), "Projects" (None yet), "Milestone" (No milestone), and "Development" (Use Closing keywords in the description to automatically close issues). Below these sections is a "Helpful resources" link to GitHub Community Guidelines.



A screenshot of a GitHub pull request details page. The URL is github.com/Dheeraj2002kumar/devops-git-lab/pull/2. The pull request is titled "Added version 2 update in test.txt #2". It shows a comment from "Dheeraj2002kumar" stating "No description provided." A yellow arrow points from the "Merge pull request" button at the bottom right towards the "All checks have passed" section, which lists "1 successful check", "GitGuardian Security Checks: Successful in 1s — No secrets detected", and "No conflicts with base branch". The "Merge pull request" button also has a tooltip: "You can also merge this with the command line. [View command line instructions](#)". To the right of the pull request details, there are sections for "Reviewers" (No reviews), "Assignees" (No one - assign yourself), "Labels" (None yet), "Projects" (None yet), "Milestone" (No milestone), and "Development" (Successfully merging this pull request may close these issues). At the bottom right, there are "Notifications" and "Customize" buttons.



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Added version 2 update in test.txt #2

[Open](#) Dheeraj2002kumar wants to merge 1 commit into `main` from `feature-update-testfile-1`

Conversation 0 Commits 1 Checks 0 Files changed 1

Dheeraj2002kumar commented now
No description provided.

Added version 2 update in test.txt ✓ cd583d8

Commit message
Merge pull request #2 from Dheeraj2002kumar/feature-update-testfile-1

Extended description
Added version 2 update in test.txt

This commit will be authored by 114610396+Dheeraj2002kumar@users.noreply.github.com.

[Confirm merge](#) [Cancel](#)

Still in progress? Convert to draft

Reviewers
No reviews
Still in progress? Convert to draft

Assignees
No one—assign yourself

Labels
None yet

Projects
None yet

Milestone
No milestone

Development
Successfully merging this pull request may close these issues.
None yet

Notifications
[Unsubscribe](#)

You're receiving notifications because you authored the thread.

Add a comment

Dheeraj2002kumar commented now
No description provided.

Added version 2 update in test.txt ✓ cd583d8

Dheeraj2002kumar merged commit `93b2be5` into `main` now
1 check passed

[View details](#) [Revert](#)

Pull request successfully merged and closed
You're all set — the `feature-update-testfile-1` branch can be safely deleted.

[Delete branch](#)

Add a comment

Write Preview

Add your comment here...

Markdown is supported Paste, drop, or click to add files

[Comment](#)

Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

ProTip! Add comments to specific lines under [Files changed](#).

1 participant

A task management



Mirror GitHub Repository to GitLab

Create a GitLab repo:

- Go to <https://gitlab.com> → New Project → Import from GitHub

The screenshot shows the GitLab dashboard with the 'Projects' section selected in the sidebar. The main area displays a list of personal projects owned by 'dheeraj kumar'. A prominent yellow arrow points to the 'New project' button located at the top right of the project list. The dashboard also features a search bar, filter options, and a sidebar with various navigation links.

Project Name	Type	Status	Created
dheeraj kumar / XTable	Owner	0 stars, 0 forks, 0 issues, 0 merge requests	Created 3 months ago
dheeraj kumar / XStates	Owner	0 stars, 0 forks, 0 issues, 0 merge requests	Created 3 months ago
dheeraj kumar / XSpellCheck	Owner	0 stars, 0 forks, 0 issues, 0 merge requests	Created 3 months ago
dheeraj kumar / XPagination	Owner	0 stars, 0 forks, 0 issues, 0 merge requests	Created 3 months ago
dheeraj kumar / XModal	Owner	0 stars, 0 forks, 0 issues, 0 merge requests	Created 3 months ago
dheeraj kumar / XLogin	Owner	0 stars, 0 forks, 0 issues, 0 merge requests	Created 3 months ago
dheeraj kumar / XDisplayNames	Owner	0 stars, 0 forks, 0 issues, 0 merge requests	Created 3 months ago



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Screenshot of the GitLab 'Create new project' page:

The page shows four options for creating a project:

- Create blank project**: Create a blank project to store your files, plan your work, and collaborate on code, among other things.
- Create from template**: Create a project pre-populated with the necessary files to get you started quickly.
- Import project**: Migrate your data from an external source like GitHub, Bitbucket, or another instance of GitLab.
- Run CI/CD for external repository**: Connect your external repository to GitLab CI/CD.

A yellow arrow points from the 'Import project' section to the 'Import project' page below.

Screenshot of the 'Import project' page:

The page title is 'Import project'. It says 'Migrate your data from an external source like GitHub, Bitbucket, or another instance of GitLab.' Below that is a 'Import project from' section with a dropdown menu:

- Migrating GitLab projects? Migrating projects when you migrate groups by using direct transfer is recommended. What is direct transfer?
- GitLab export
- GitHub
- Bitbucket Cloud
- Bitbucket Server
- FogBugz
- Gitea
- Repository by URL
- Manifest file

A yellow arrow points from the 'Import project from' section to the 'GitHub' button.



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The screenshot shows the 'Import repositories from GitHub' page on GitLab. In the search bar, the repository name 'devops-git-lab' is entered. Below the search bar, there are three tabs: 'Owned', 'Collaborated', and 'Organization'. The 'Owned' tab is selected. A yellow arrow points to the search bar. On the right side, there is a section titled 'Advanced import settings' with several checkboxes. A second yellow arrow points to the 'Import' button at the bottom right of the main form area.

Write repository name and import it



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gitlab.com/import/github/status GitHub import - GitLab

Your work

- Home
- Projects
- Groups
- Issues
- Merge requests
- To-Do List
- Milestones
- Snippets
- Activity
- Import history
- Workspaces
- Environments
- Operations
- Security

New project / Import project / GitHub import

Import repositories from GitHub

Select the repositories you want to import

Owned Collaborated Organization

devops-git-lab

Advanced import settings

Are you sure you want to import the project to a personal namespace?

The more information you select, the longer it will take to import.

To import collaborators, or if your project has Git LFS files, you must use a classic personal access token with `read:org` scope. [Learn more](#).

Use alternative comments import method
The default method can skip some comments in large projects because of limitations of the GitHub API.

Import Markdown attachments (links)
Import Markdown attachments (links) from repository comments, release posts, issue descriptions, and pull request descriptions. These can include images, text, or binary attachments. If not imported, links in Markdown to attachments break after you remove the attachments from GitHub.

Import collaborators
Import direct repository collaborators who are not outside collaborators. Imported collaborators who aren't members of the group you imported the project into consume seats on your GitLab instance.

Cancel Continue import

From GitHub	To GitLab	Status
Dheeraj2002kumar/devops-git-lab	dheeraj1612 / devops-git-lab	<input type="radio"/> Not started Import ⚠

What's new Help Collapse sidebar

gitlab.com/import/github/status GitHub import - GitLab

Your work

- Home
- Projects
- Groups
- Issues
- Merge requests
- To-Do List
- Milestones
- Snippets
- Activity
- Import history
- Workspaces
- Environments
- Operations
- Security

New project / Import project / GitHub import

Import repositories from GitHub

Select the repositories you want to import

Owned Collaborated Organization

devops-git-lab

Advanced import settings

The more information you select, the longer it will take to import.

To import collaborators, or if your project has Git LFS files, you must use a classic personal access token with `read:org` scope. [Learn more](#).

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The default method can skip some comments in large projects because of limitations of the GitHub API.

Import Markdown attachments (links)
Import Markdown attachments (links) from repository comments, release posts, issue descriptions, and pull request descriptions. These can include images, text, or binary attachments. If not imported, links in Markdown to attachments break after you remove the attachments from GitHub.

Import collaborators
Import direct repository collaborators who are not outside collaborators. Imported collaborators who aren't members of the group you imported the project into consume seats on your GitLab instance.

From GitHub	To GitLab	Status
Dheeraj2002kumar/devops-git-lab	dheeraj1612/devops-git-lab	Complete Details Re-import ⚠

Labels 9/9

What's new Help Collapse sidebar



GitLab Collaboration Workflow

A teammate clones from GitLab:

```
git clone https://gitlab.com/dheeraj1612/devops-git-lab.git
```

```
cd devops-git-lab
```

A screenshot of a web browser window displaying a GitLab project page. The URL in the address bar is <https://gitlab.com/dheeraj1612/devops-git-lab>. The page shows a single commit titled "add test.txt file in GitHub" by "dheeraj kumar" 25 minutes ago. The commit details show files .vscode, README.md, and test.txt. The right sidebar contains project information such as 2 commits, 2 branches, 0 tags, and 3 KiB of project storage. It also includes links for README, LICENSE, CHANGELOG, CONTRIBUTING, Auto DevOps, Kubernetes cluster, CI/CD, Wiki, and Integrations. The bottom of the sidebar indicates the project was created on December 07, 2025.



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The screenshot shows the Visual Studio Code (VS Code) interface. The title bar says "git-test". The left sidebar has "EXPLORER", "OPEN EDITORS" (with "GIT-TEST" expanded), and "GIT-TEST" (with "devops-git-lab" selected). The main area is a terminal window with the following text:

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test> git clone https://gitlab.com/dheeraj1612/devops-git-lab.git
Cloning into 'devops-git-lab'...
remote: Enumerating objects: 13, done.
remote: Total 13 (delta 0), reused 0 (delta 0), pack-reused 13 (from 1)
Receiving objects: 100% (13/13), done.
Resolving deltas: 100% (2/2), done.
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test> cd .\devops-git-lab\
```

The status bar at the bottom shows "powershell - devops-git-lab".

Create a new branch:

```
git checkout -b feature-v3
echo "Version 3 changes" >> test.txt
git add test.txt
git commit -m "Added version 3 changes"
git push --set-upstream origin feature-v3
```

On GitLab:

- Create **Merge Request**
- Run CI/CD pipeline (optional)
- Review & merge

Sync changes back to GitHub (if mirroring enabled)



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The terminal window shows a series of git commands and their outputs:

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git add test.txt
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git add test.txt
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git commit -m "Added version 3 changes"
[feature-v3 e913537] Added version 3 changes
 1 file changed, 0 insertions(+), 0 deletions(-)
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git add test.txt
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git commit -m "Added version 3 changes"
[feature-v3 e913537] Added version 3 changes
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git add test.txt
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git commit -m "Added version 3 changes"
[feature-v3 e913537] Added version 3 changes
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git add test.txt
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git commit -m "Added version 3 changes"
[feature-v3 e913537] Added version 3 changes
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git add test.txt
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git commit -m "Added version 3 changes"
[feature-v3 e913537] Added version 3 changes
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git push --set-upstream origin feature-v3
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 338 bytes | 338.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: To create a merge request for feature-v3, visit:
remote: https://gitlab.com/dheeraj1612/devops-git-lab/-/merge_requests/new?merge_request%5Bsource_branch%5D=feature-v3
remote:
To https://gitlab.com/dheeraj1612/devops-git-lab.git
 * [new branch]      feature-v3 -> feature-v3
branch 'feature-v3' set up to track 'origin/feature-v3'.
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab>
```

A yellow arrow points to the 'Create merge request' button on the GitHub repository page.

The GitHub repository page for 'devops-git-lab' shows the following details:

- Project**: devops-git-lab
- Pinned**: 0
- Issues**: 0
- Merge requests**: 0
- Manage**: Plan, Code, Build, Secure, Deploy, Operate, Monitor, Analyze, Settings
- Code**: [main](#), [devops-git-lab](#)
- Build**: [test.txt file in GitHub](#) (dheeraj kumar authored 33 minutes ago)
- Secure**: [.vscode](#) (add test.txt file in GitHub), [README.md](#) (Initial commit), [test.txt](#) (add test.txt file in GitHub)
- Deploy**: [Last commit](#), [Last update](#)
- Operate**: [README.md](#)
- Monitor**: [devops-git-lab](#)
- Analyze**: [What's new](#) (3), [Help](#)
- Settings**: [Collapse sidebar](#)

Project information:

- 2 Commits
- 3 Branches
- 0 Tags
- 3 KiB Project Storage

README: Add LICENSE, Add CHANGELOG, Add CONTRIBUTING, Enable Auto DevOps, Add Kubernetes cluster, Set up CI/CD, Add Wiki, Configure Integrations

Created on: December 07, 2025



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The screenshot displays two consecutive screenshots of the GitLab interface, illustrating the process of creating and merging a pull request.

Screenshot 1: Creating a Merge Request

This screenshot shows the "New merge request" form. The "Title (required)" field contains "Added version 3 changes". The "Description" rich text editor has the text "good feature added". The "Assignee" dropdown is set to "Unassigned". The "Reviewer" dropdown is also set to "Unassigned". Under "Merge can start", the "Anytime" option is selected. In the "Merge options" section, both "Delete source branch when merge request is accepted" and "Squash commits when merge request is accepted" are checked. A yellow arrow points to the "Create merge request" button at the bottom.

Screenshot 2: Reviewing the Merge Request

This screenshot shows the "Added version 3 changes" merge request details page. The "Merge" button is highlighted with a yellow arrow. The "Activity" section at the bottom contains a rich text editor with the placeholder "Write a comment or drag your files here...".

Click on merge



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Project dheeraj kumar / devops-git-lab Merge requests / 1

Added version 3 changes

Merged dheeraj kumar requested to merge [feature-v3](#) into [main](#) just now

Overview 0 Commits 1 Pipelines 0 Changes 1 Add a to-do item

good feature added

0 Assignees Edit None - assign yourself

0 Reviewers Edit None - assign yourself

Labels Edit None

Milestone Edit None

Time tracking Edit No estimate or time spent

1 Participant

Try out GitLab Pipelines

Approve Approval is optional

Ready to merge!

Merge details

- 1 commit and 1 merge commit will be added to main (squashes 1 commit).
- Source branch will be deleted.

Activity

dheeraj kumar merged just now

dheeraj kumar mentioned in commit 0ffce5dc just now

Write a comment or drag your files here...

gitlab.com/dheeraj1612/devops-git-lab GitHub import · GitLab dheeraj kumar / devops-git-lab dheeraj2002kumar/devops-git-lab

Project dheeraj kumar / devops-git-lab

main devops-git-lab

Merge branch 'feature-v3' into 'main' 0ffce5dc dheeraj kumar authored 4 minutes ago

Name Last commit Last update

.vscode	add test.txt file in gitHub	42 minutes ago
README.md	Initial commit	51 minutes ago
test.txt	Added version 3 changes	10 minutes ago

README.md

devops-git-lab

Project information

- 4 Commits
- 2 Branches
- 0 Tags
- 4 kB Project Storage

README

- + Add LICENSE
- + Add CHANGELOG
- + Add CONTRIBUTING
- + Enable Auto DevOps
- + Add Kubernetes cluster
- + Set up CI/CD
- + Add Wiki
- + Configure Integrations

Created on December 07, 2025

What's new

Help

Collapse sidebar



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The screenshot shows a GitLab interface for a project named "devops-git-lab". The "main" branch is selected, and the "test.txt" file is being viewed. The file contains the following content:

```
1 This is test.txt for Git lab.  
2 Version 3 changes  
3
```

At the top right of the file view, there are buttons for "Find file", "Blame", "Edit", and a more options menu. Below the file content, there are download and copy icons. The sidebar on the left lists various project management and development tools like Manage, Plan, Code, Build, Secure, Deploy, Operate, Monitor, Analyze, and Settings. At the bottom of the sidebar, there are links for "What's new", "Help", and "Collapse sidebar".



Checking Git History & Version Control

Show commit log:

```
git log --oneline --graph --all
```

The screenshot shows a Microsoft Visual Studio Code interface. In the top right corner, there is a terminal window titled "powershell - devops-git-lab" containing the command "git log --oneline --graph --all". The output of this command is displayed in the terminal window, showing the commit history for the "devops-git-lab" repository. The commits are listed as follows:

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\git-test\devops-git-lab> git log --oneline --graph --all
* e913537 [HEAD -> feature-v3] Added version 3 changes
| * bb2665 (origin/feature-update-testfile) Added version 2 update in test.txt
|/
| * dc4ff44 (origin/main, origin/HEAD, main) add test.txt file in github
* 99b8261 Initial commit
```

The terminal window is part of a larger VS Code environment, with the Explorer, Open Editors, and Problems panes visible on the left and bottom respectively.

You can also merge using github



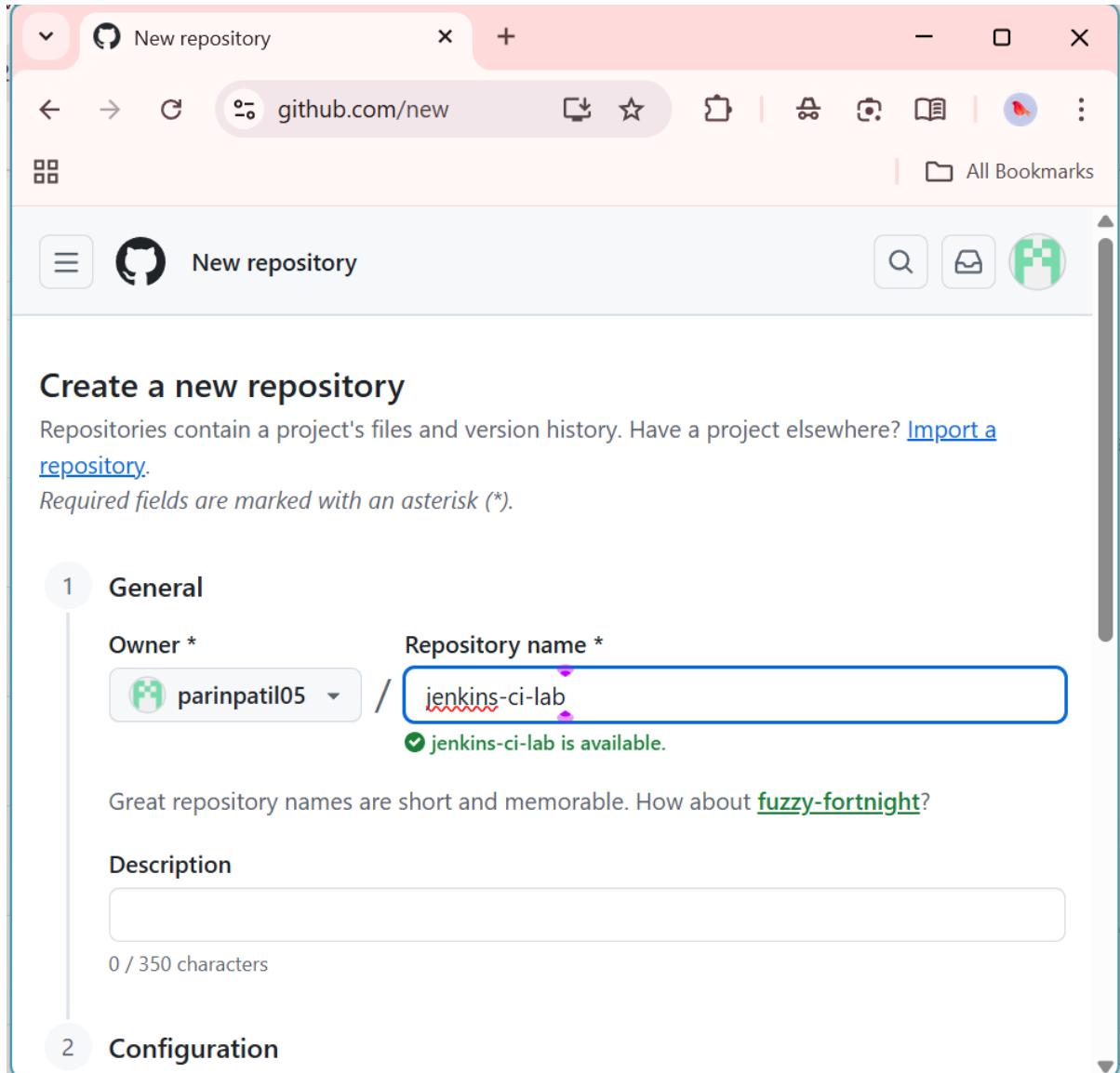
Practical 2

Lab on continuous Integration from different developers into a single piece of software using Jenkins.

using Jenkins.

A screenshot of a web browser displaying the GitHub Dashboard at github.com/dashboard. The dashboard features a sidebar on the left listing "Top repositories" such as "parinpatil05/testing", "parinpatil05/Demo3", and "parinpatil05/test1". The main area shows a search bar, a "Home" section with a "Try the new dashboard experience" link, and a "Feed" section showing trending repositories like "sarwarbeing-ai/Agentic_Design_Patterns". A context menu is open over the "Create issue" button in the top right, listing options like "New issue", "New repository", and "Import repository".

The screenshot shows the GitHub Dashboard interface. On the left, there's a sidebar titled "Top repositories" with a "New" button and a search bar. The main area has a "Home" section with a search bar and a "Feed" section showing trending repositories. A context menu is open over the "Create issue" button, listing options like "New issue", "New repository", and "Import repository".



A screenshot of a web browser showing the GitHub 'New repository' creation interface. The URL in the address bar is `github.com/new`. The main heading is 'Create a new repository'. Below it, a sub-instruction says 'Repositories contain a project's files and version history. Have a project elsewhere? [Import a repository](#)'. A note indicates 'Required fields are marked with an asterisk (*)'. The 'General' tab is selected, showing the 'Owner' field set to 'parinpatil05' and the 'Repository name' field containing 'jenkins-ci-lab', which is highlighted with a red underline and accompanied by the message 'jenkins-ci-lab is available.' Below these fields is a 'Description' input area with a placeholder 'Great repository names are short and memorable. How about [fuzzy-fortnight](#)?' and a character count of '0 / 350 characters'. The 'Configuration' tab is visible at the bottom left.

New repository

github.com/new

All Bookmarks

Create a new repository

Repositories contain a project's files and version history. Have a project elsewhere? [Import a repository](#).

Required fields are marked with an asterisk (*).

1 General

Owner * Repository name *

parinpatil05 / jenkins-ci-lab

jenkins-ci-lab is available.

Great repository names are short and memorable. How about [fuzzy-fortnight](#)?

Description

0 / 350 characters

2 Configuration



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```
Windows PowerShell + - x Copyright (C) Microsoft Corporation. All rights reserved. Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows PS C:\Users\Parin> git clone https://github.com/parinpatil05/jenkins-ci-lab.git Cloning into 'jenkins-ci-lab'... warning: You appear to have cloned an empty repository. PS C:\Users\Parin> cd jenkins-ci-lab PS C:\Users\Parin\jenkins-ci-lab> echo "print('Build Successful')" > app.py PS C:\Users\Parin\jenkins-ci-lab> dir Directory: C:\Users\Parin\jenkins-ci-lab Mode LastWriteTime Length Name ---- ----- ----- -a---- 08-12-2025 13:20 56 app.py PS C:\Users\Parin\jenkins-ci-lab>
```

Run this command in terminal / PowerShell:

```
docker run -d -p 9090:8080 -p 50000:50000 --name jenkins jenkins/jenkins:lts
```

```
PS C:\Users\Parin\jenkins-ci-lab> docker run -d -p 9090:8080 -p 50000:50000 --name jenkins jenkins/jenkins:lts
5bb58ba43ff21bfded491edd1f3ba35819ebb105ca55d0f09f6f1435b260904
PS C:\Users\Parin\jenkins-ci-lab> docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
5bb58ba43ff2 jenkins/jenkins:lts "/usr/bin/tini -- /u..." 13 seconds ago Up 13 seconds 0.0.0.0:50000->50000/tcp, [::]:50000->50000/tcp, 0.0.0.0:9090->8080/tcp, [::]:9090->8080/tcp jenkins
PS C:\Users\Parin\jenkins-ci-lab>
```

Open browser:

<http://localhost:8080>

A screenshot of a web browser window titled "Sign in - Jenkins". The address bar shows "localhost:9090/login?from=%2F". The main content is a "Getting Started" section with the heading "Unlock Jenkins". It instructs the user to ensure Jenkins is securely set up by an administrator, who has written a password to the log (link to "not sure where to find it?") and a file on the server. Below this, a red highlighted path is shown: "/var/jenkins_home/secrets/initialAdminPassword". A text input field labeled "Administrator password" is present, and a blue "Continue" button is at the bottom right.

Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log ([not sure where to find it?](#)) and this file on the server:

/var/jenkins_home/secrets/initialAdminPassword

Please copy the password from either location and paste it below.

Administrator password

Continue

To get the admin password:

```
docker exec jenkins cat /var/jenkins_home/secrets/initialAdminPassword
```

A screenshot of a web browser window. The address bar shows 'localhost:9090/login?from=%2F'. The main content is a 'Getting Started' section titled 'Unlock Jenkins'. It instructs the user to copy the password from '/var/jenkins_home/secrets/initialAdminPassword'. A password input field is shown with several dots, and a 'Continue' button is at the bottom right.

Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log ([not sure where to find it?](#)) and this file on the server:

`/var/jenkins_home/secrets/initialAdminPassword`

Please copy the password from either location and paste it below.

Administrator password

.....

Continue



A screenshot of a web browser window titled "Setup Wizard - Jenkins" at "localhost:9090". The page displays the "Getting Started" section, which explains that plugins extend Jenkins with additional features to support many different needs. It offers two main paths: "Install suggested plugins" (selected) and "Select plugins to install". The "Install suggested plugins" path is described as installing plugins the Jenkins community finds most useful. The "Select plugins to install" path is described as selecting and installing plugins most suitable for your needs. At the bottom of the page, it shows "Jenkins 2.528.2".

Getting Started

Plugins extend Jenkins with additional features to support many different needs.

Install suggested plugins

Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

Jenkins 2.528.2



parinpatil05/jenkins-ci-lab Setup Wizard - Jenkins localhost:9090

Getting Started

Getting Started

Formatter	Ant	Gradle
Timestamper	Workspace Cleanup	Ant
Pipeline	GitHub Branch Source	Pipeline: GitHub Groovy Libraries
		Pipeline Graph View

** commons-lang3 v3.x Jenkins API
** Ionicons API
Folders
OWASP Markup Formatter
** ASM API
** JSON Path API

** - required dependency

Jenkins 2.528.2

parinpatil05/jenkins-ci-lab Setup Wizard - Jenkins localhost:9090

Create First Admin User

Username: jenkins

Password:

Confirm password:

Jenkins 2.528.2 Skip and continue as admin Save and Continue



The screenshot shows the "Instance Configuration" step of the Jenkins Setup Wizard. The URL field contains "http://localhost:9090". A note explains that this URL is required for proper Jenkins operation and is generated from the current request if not saved. Buttons at the bottom right include "Not now" and "Save and Finish".

The screenshot shows the Jenkins Dashboard. It features a sidebar with "Jenkins" and "New Item" buttons, and a main area with sections for "Build Queue" (empty) and "Build Executor Status" (0/2). A "Welcome to Jenkins!" message and a "Start building your software project" button are also present.



Screenshot of a web browser showing the Jenkins 'New Item' creation interface. The URL is `localhost:9090/view/all/newJob`.

The page title is 'New Item - Jenkins'. The navigation bar includes links for 'All' and 'New Item'.

The main content area is titled 'New Item' and contains a form for entering a job name. The input field contains the value 'CI-Jenkins-Lab'.

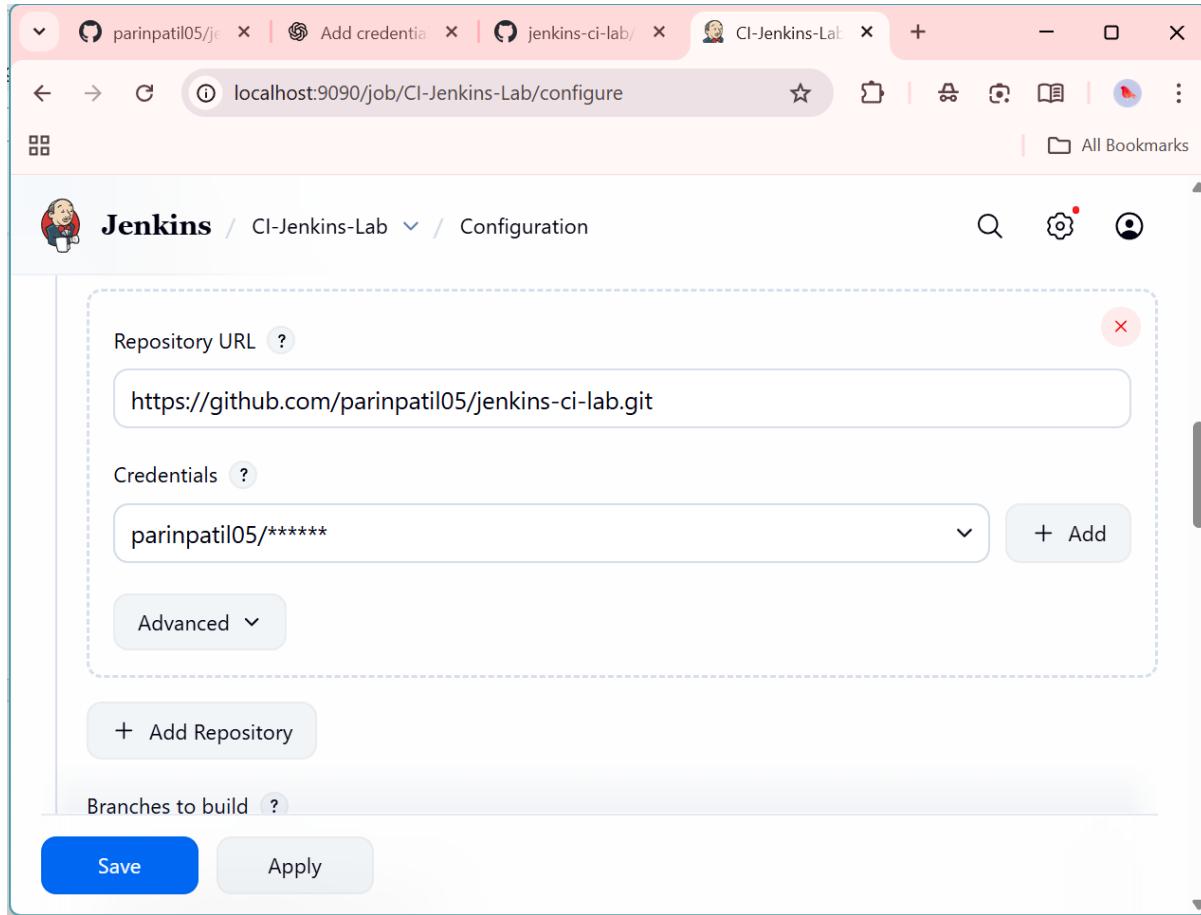
Below the input field, there is a section titled 'Select an item type' with two options:

- Freestyle project**: Described as a 'Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.'
- Pipeline**: Described as 'Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job'

A blue 'OK' button is located at the bottom left of the dialog.



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A screenshot of a web browser showing the Jenkins configuration page for the 'CI-Jenkins-Lab' job. The URL in the address bar is `localhost:9090/job/CI-Jenkins-Lab/configure`. The page displays the repository URL as `https://github.com/parinpatil05/jenkins-ci-lab.git` and the credentials as `parinpatil05/*****`. There is an 'Advanced' dropdown menu and a '+ Add Repository' button. At the bottom, there are 'Save' and 'Apply' buttons.

Repository URL ?

`https://github.com/parinpatil05/jenkins-ci-lab.git`

Credentials ?

`parinpatil05/*****`

Advanced ▾

+ Add Repository

Branches to build ?

Save Apply



A screenshot of a web browser displaying the Jenkins configuration page for the job "CI-Jenkins-Lab". The URL in the address bar is "localhost:9090/job/CI-Jenkins-Lab/configure". The page shows the "Build Steps" section, which allows users to automate their build process with ordered tasks like code compilation, testing, and deployment. A modal dialog is open, titled "+ Add build step", listing various build steps. The "Execute shell" option is selected and highlighted in grey. Other options listed include "Execute Windows batch command", "Invoke Ant", "Invoke Gradle script", "Invoke top-level Maven targets", "Run with timeout", and "Set build status to "pending" on GitHub commit". A tooltip for "Execute shell" indicates it can be used for sending notifications, archiving artifacts, or triggering other jobs.

parinpatil05/jc | Add credentials | jenkins-ci-lab/ CI-Jenkins-Lab | + - ☒ ×

localhost:9090/job/CI-Jenkins-Lab/configure

Jenkins / CI-Jenkins-Lab / Configuration

Build Steps

Automate your build process with ordered tasks like code compilation, testing, and deployment.

+ Add build step

Filter

- Execute Windows batch command
- Execute shell** sending notifications, archiving artifacts, or triggering other jobs.
- Invoke Ant
- Invoke Gradle script
- Invoke top-level Maven targets
- Run with timeout
- Set build status to "pending" on GitHub commit



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The screenshot shows a browser window with three tabs at the top: "parinpatil05/jenkins-ci-", "jenkins-ci-lab/ at main", and "CI-Jenkins-Lab Config". The active tab is "CI-Jenkins-Lab Config". The URL in the address bar is "localhost:9090/job/CI-Jenkins-Lab/configure". The page title is "Jenkins / CI-Jenkins-Lab / Configuration". A sub-header says "Automate your build process with various tasks like code compilation, testing, and deployment." Below this, there is a section titled "Execute shell" with a command input field containing "echo \"Jenkins pipeline is working\"". There is also an "Advanced" dropdown menu. At the bottom are "Save" and "Apply" buttons.

Execute shell ?

Command

See the list of available environment variables

```
echo "Jenkins pipeline is working"
```

Advanced ▾

Save Apply



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The screenshot shows a web browser window with three tabs open:

- parinpatil05/jenkins-ci-... (closed)
- jenkins-ci-lab/ at main (closed)
- CI-Jenkins-Lab - Jenkins (active)

The active tab URL is <localhost:9090/job/CI-Jenkins-Lab/>. The page displays the Jenkins interface for the 'CI-Jenkins-Lab' job. The left sidebar contains the following options:

- Status
- </> Changes
- Workspace
- ▷ Build Now
- ⚙ Configure
- trash Delete Project
- edit Rename

The main content area is titled 'Builds' and displays the message 'No builds'.

A red box highlights the URL in the address bar: <localhost:9090/job/CI-Jenkins-Lab/build?delay=0...>



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Jenkins / CI-Jenkins-Lab

Build Now

Configure

Delete Project

Rename

Builds

Filter

Today

#12 8:56 AM

#11 8:56 AM

Add description

```
PS C:\Users\Parin\jenkins-ci-lab> echo "print('Update from developer A')" >> app.py
PS C:\Users\Parin\jenkins-ci-lab> git add app.py
PS C:\Users\Parin\jenkins-ci-lab> git commit -m "Update A"
[main (root-commit) ed590ce] Update A
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 app.py
PS C:\Users\Parin\jenkins-ci-lab> git push
To https://github.com/parinpatil05/jenkins-ci-lab.git
 ! [rejected]      main --> main (fetch first)
error: failed to push some refs to 'https://github.com/parinpatil05/jenkins-ci-lab.git'
hint: Updates were rejected because the remote contains work that you do not
hint: have locally. This is usually caused by another repository pushing to
hint: the same ref. If you want to integrate the remote changes, use
hint: 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
PS C:\Users\Parin\jenkins-ci-lab> git pull origin main --rebase
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 955 bytes | 41.00 KiB/s, done.
From https://github.com/parinpatil05/jenkins-ci-lab
 * branch            main      -> FETCH_HEAD
 * [new branch]      main      -> origin/main
Successfully rebased and updated refs/heads/main.
PS C:\Users\Parin\jenkins-ci-lab> git push origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 360 bytes | 360.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
```



```
PS C:\Users\Parin\jenkins-ci-lab> git push  
Everything up-to-date
```

```
PS C:\Users\Parin\jenkins-ci-lab> echo "print('Update from developer B')" >> app.py  
PS C:\Users\Parin\jenkins-ci-lab> git add app.py  
PS C:\Users\Parin\jenkins-ci-lab> git commit -m "Update B"  
[main 1b8dfc3] Update B  
1 file changed, 0 insertions(+), 0 deletions(-)  
PS C:\Users\Parin\jenkins-ci-lab> git push  
Enumerating objects: 5, done.  
Counting objects: 100% (5/5), done.  
Delta compression using up to 8 threads  
Compressing objects: 100% (3/3), done.  
Writing objects: 100% (3/3), 313 bytes | 104.00 KiB/s, done.  
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)  
remote: Resolving deltas: 100% (1/1), completed with 1 local object.  
To https://github.com/parinpatil05/jenkins-ci-lab.git  
 62b00bd..1b8dfc3 main -> main
```

The screenshot shows a web browser window with the following details:

- Address Bar:** localhost:9090/job/Ci-Jenkins-Lab/scmPollLog/
- Page Title:** Jenkins / Ci-Jenkins-Lab / Git Polling Log
- Content Area:** A list of recent polls:
 - #13 9:06 AM
 - #12 8:56 AM
 - #11 8:56 AM
- Log Panel:** A large panel titled "Git Polling Log" containing the following log output:

```
Started on Dec 8, 2025, 9:05:59 AM
Using strategy: Default
[poll] Last Built Revision: Revision 699b6a82365508b83067682b72b6757c9cedc632
(refs/remotes/origin/main)
The recommended git tool is: NONE
using credential 776c1f94-0aad-47d8-a1fa-18d44a3f748c
> git --version # timeout=10
> git --version # 'git version 2.47.3'
using GIT_ASKPASS to set credentials
> git ls-remote -h -- https://github.com/parinpatil05/jenkins-ci-lab.git # timeout=10
```



Practical 3

Testing the application using Selenium

```
from selenium import webdriver
from selenium.webdriver.chrome.service import Service
from selenium.webdriver.chrome.options import Options
from webdriver_manager.chrome import ChromeDriverManager
import time

chrome_path = "C:\\\\Program Files\\\\Google\\\\Chrome\\\\Application\\\\chrome.exe"

options = Options()
options.binary_location = chrome_path

print("Starting Chrome browser...")
driver = webdriver.Chrome(service=Service(ChromeDriverManager().install()),
options=options)

driver.get("https://www.google.com")
print("Opened:", driver.title)

time.sleep(5)
driver.quit()
print("Program ended ✅")
```

Run the code “python file_name.py”



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```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\seleniumPython>
PS Focus folder in explorer (ctrl + click) \Semester-1\DevOps\seleniumPython>
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\seleniumPython>
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\seleniumPython> python Main.py
Starting Chrome browser...
Opened: Google
```

Browser will open for 5 second and it will close after 5 second

The screenshot shows a terminal window on the right and a web browser window on the left. The terminal window has the following text:

```
python Main.py
```

The browser window shows the Google homepage. The status bar at the bottom of the browser indicates "Chrome is being controlled by automated test software". The terminal window also shows the command:

```
python Main.py
```

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\seleniumPython> python Main.py
Starting Chrome browser...
```

Opened: Google

Program ended ✓

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\seleniumPython>
```



Practical 4

Testing the form using Selenium

```
from selenium import webdriver
from selenium.webdriver.support.ui import WebDriverWait
from selenium.webdriver.common.by import By
from selenium.webdriver.support.ui import WebDriverWait
from selenium.webdriver.support import expected_conditions as EC
from selenium.webdriver.chrome.service import Service

from webdriver_manager.chrome import ChromeDriverManager
import time

# step 1: launch browser
driver = webdriver.Chrome(service=Service(ChromeDriverManager().install()))
driver.get("https://www.w3schools.com/html/html_forms.asp")
driver.maximize_window()
time.sleep(2)

# step 2: scroll to the form
driver.execute_script("window.scrollTo(0, 800)")
time.sleep(1)

# step 3: fill out the example form
fname = driver.find_element(By.ID, "fname")
lname = driver.find_element(By.ID, "lname")

fname.clear()
lname.clear()

fname.send_keys("Dheeraj")
```



```
lname.send_keys("Kumar")

# step 4: submit the form (it opens in new tab)
submit_btn = driver.find_element(By.XPATH, "//input[@type='submit']")
submit_btn.click()

print("✅ Form filled and submitted successfully!")

time.sleep(4)
driver.quit()
```

Run the code “python file_name.py”

```
form_automation.py
15 time.sleep(2)
16
17 # step 2: scroll to the form
18 driver.execute_script("window.scrollTo(0, 800)")
19 time.sleep(1)
20
21 # step 3: fill out the example form
22 fname = driver.find_element(By.ID, "fname")
23 lname = driver.find_element(By.ID, "lname")
24
25 fname.clear()
26 lname.clear()
27
28 fname.send_keys("Dheeraj")
29 lname.send_keys("Kumar")
30
31 # step 4: submit the form (it opens in new tab)
32 submit_btn = driver.find_element(By.XPATH, "//input[@type='submit']")
33 submit_btn.click()
34
35 print("✅ Form filled and submitted successfully!")
```

PS C:\Users\hp\Desktop\WCA\Semester-1\DevOps\seleniumPython> python .\form_automation.py



The screenshot shows a browser window with two tabs open. The left tab displays the 'HTML Forms' page from w3schools.com, showing an example form with fields for First name, Last name, and a Submit button. The right tab shows a terminal window titled 'amityPython' with the following Python code:

```
b)


Below the terminal, the command python .\form_automation.py is visible. The browser status bar indicates 'Ln 18, Col 49'. The terminal status bar shows 'Line 1, Col 1' and 'Python'.


```

The screenshot shows the 'HTML Forms' page from w3schools.com. The left sidebar contains a 'HTML Tutorial' section with links to various HTML topics. The main content area displays the 'HTML Forms' page with the same form example as the previous screenshot. To the right, there is a sidebar with a 'SHOP NOW' button, a 'COLOR PICKER' tool, social media icons, and an advertisement for 'Python - Variable Names'.



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Submitted Form Data

Your input was received as:

```
fname=Dheeraj&lname=Kumar
```

The server has processed your input and returned this answer.

Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our [PHP tutorial](#).

```
form_automation.py
15 time.sleep(2)
16
17 # step 2: scroll to the form
18 driver.execute_script("window.scrollTo(0, 800)")
19 time.sleep(1)
20
21 # step 3: fill out the example form
22 fname = driver.find_element(By.ID, "fname")
23 lname = driver.find_element(By.ID, "lname")
24
25 fname.clear()
26 lname.clear()
27
28 fname.send_keys("Dheeraj")
29 lname.send_keys("Kumar")
30
31 # step 4: submit the form (it opens in new tab)
32 submit_btn = driver.find_element(By.XPATH, "//input[@type='submit']")
33 submit_btn.click()
34
35 print("✅ Form filled and submitted successfully!")
```

PS C:\Users\Vip\Desktop\MCA\Semester-1\DevOps\seleniumPython> python .\form_automation.py
✅ Form filled and submitted successfully!



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A screenshot of a terminal window from a code editor. The tabs at the top are PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL (which is underlined), and PORTS. The terminal output shows a command-line session:

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\seleniumPython> python .\form_automation.py
✓ Form filled and submitted successfully!
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\seleniumPython>
```

The output includes a green checkmark icon followed by the text "Form filled and submitted successfully!".



Practical 5

Testing automation and HTML report generation using selenium

```
import unittest
import time
import HtmlTestRunner
from selenium import webdriver
from selenium.webdriver.chrome.service import Service
from webdriver_manager.chrome import ChromeDriverManager

class TestWebsiteTitle(unittest.TestCase):

    def setUp(self):
        """Setup browser before each test"""
        self.driver =
webdriver.Chrome(service=Service(ChromeDriverManager().install()))
        self.driver.maximize_window()
        self.driver.get("https://concertcraze.netlify.app/")
        time.sleep(2)

    def test_title_verification(self):
        """Check if website title is correct"""
        driver = self.driver
        expected_title = "Landing Page" # correct title
        actual_title = driver.title

        self.assertEqual(expected_title, actual_title)
        print(f"Test Passed: Title matches -> {actual_title}")

    def tearDown(self):
        """Close browser after test"""
        self.driver.quit()
```



```
if __name__ == "__main__":
    unittest.main(
        testRunner=HTMLTestRunner.HTMLTestRunner(
            output='reports' # report folder will be created automatically
        )
    )
```

Run the code “Python file_name.py”

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\seleniumPython> python .\test_automation.py
Running tests...
-----
test_title_verification (__main__.TestWebsiteTitle.test_title_verification) ... OK (13.722435)s

-----
Ran 1 test in 0:00:13

OK

Generating HTML reports...
reports\TestResults__main__.TestWebsiteTitle_2025-12-07_22-53-03.html
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\seleniumPython>
```



A screenshot of a web browser showing the homepage of 'concertcraze.netlify.app'. The page has a dark background with a blurred image of a concert stage with lights and silhouettes of audience members' hands. The main text 'Feel the Beat' and 'Grab your Seat' is displayed in white and orange. A search bar with the placeholder 'Search by artist or venue' and a red 'Search' button is visible. Below the search bar, there is a section titled 'New upcoming Events'.

After completing the testing then it will generate the report

A screenshot of a browser window displaying a test results report titled 'Unittest Results'. The URL in the address bar is '127.0.0.1:5500/reports/TestResults__main__TestWebsiteTitle_2025-12-07_22-53-43.html'. The report shows a single test case: 'test_title_verification' under the category '__main__.TestWebsiteTitle'. The status of this test is 'Pass'. Below the table, a message states 'Test Passed: Title matches -> Landing Page'. At the bottom, it says 'Total: 1, Pass: 1 -- Duration: 27.83 s'.



Practical 6

Containerization using Docker

Write in terminal “npm init -y”

```
● PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> npm init -y
Wrote to C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker\package.json:

{
  "name": "docker",
  "version": "1.0.0",
  "description": "```bash\r docker pull nginx\r ```",
  "main": "server.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1",
    "start": "node server.js"
  },
  "keywords": [],
  "author": "",
  "license": "ISC",
  "type": "commonjs"
}
```

```
❖ PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> █
```



Create a file “Dockerfile” and write the code

```
# Use official Node.js LTS image
FROM node:18

# Create app directory
WORKDIR /app

# Copy package.json (for future npm installs)
COPY package.json .

# Install dependencies (if any in future)
RUN npm install

# Copy rest of the application files
COPY . .

# Expose port used by Node.js
EXPOSE 5000

# Start the application
CMD ["npm", "start"]
```



Create .dockerignore (recommended)

```
node_modules  
npm-debug.log
```

This keeps the image small.

Build the Docker image

From inside the project folder run:

```
docker build -t node-calculator .
```

The screenshot shows the VS Code interface with the terminal tab active. The command `docker build -t node-calculator .` is being run, and the terminal output is displayed. The output shows the build process, which is completed successfully with a status of "FINISHED". The build took approximately 1 minute and 11 seconds. The Dockerfile is located at `./Dockerfile`, and the .dockerignore file is located at `./.dockerignore`. The terminal also shows the Docker daemon running on port 4441.

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> docker build -t node-calculator .
[+] Building 90.0s (11/11) FINISHED
   => [internal] load build definition from Dockerfile
   => [internal] load metadata for docker.io/library/node:18
   => [internal] load metadata for docker.io/library/node:18
   => [auth] library/node:pull token for registry-1.docker.io
   => [internal] load .dockerignore
   => [internal] load build context
   => [internal] transfering context: 69B
   => [internal] load build context
   => [internal] transfering context: 319,4KB
-> [1/1] FROM docker.io/library/node:18@sha256:c6ae79e38498325db67193d391e6ec1d2d24d96c693a8a4d943498556716d3783
-> [internal] resolve docker.io/library@sha256:c6ae79e38498325db67193d391e6ec1d2d24d96c693a8a4d943498556716d3783
-> sha256:461077a72fb7fe40d34a37d6a19824d167724dd7f572ec50a1fdc41a3754d 4MB / 4MB
-> sha256:c6030cf16966552af16a06521669355017cf049a5c1200193587e2858ce7 45,68MB / 45,68MB
-> sha256:3697be50c9889d071df4637e1d491d00e769f3a32768c878d2309b3c5145 1,25MB / 1,25MB
-> sha256:cd7f44f2bddcc4b7514474024bf3705de0dd6355a33be5a5a7808e57125 3,32KB / 3,32KB
-> sha256:7902f47ad4443652b9b5cc81a95de249fd976310ef1bee159f29638783778c0 64,40MB / 64,40MB
-> sha256:e23f099911d692f62b851cf49a1e93294288a115fc2d2d014180e4d3684d34ab 211,36MB / 211,36MB
-> sha256:37927ed9011b2608b72796cc6881bf6d5480268eca4aca9a37b9219e05bbdd4a 24,02MB / 24,02MB
-> sha256:3eb05d1a95114e19f122624e8a59add1a10c7a8218adc0e05a200294964 48,49MB / 48,49MB
-> sha256:3eb05d1a95114e19f122624e8a59add1a10c7a8218adc0e05a200294964 3,35MB / 3,35MB
-> sha256:7902f47ad4443652b9b5cc81a95de249fd976310ef1bee159f29638783778c0 4,15MB / 4,15MB
-> sha256:e23f099911d692f62b851cf49a1e93294288a115fc2d2d014180e4d3684d34ab 26,95MB / 26,95MB
-> sha256:cd7f44f2bddcc4b7514474024bf3705de0dd6355a33be5a5c7808e57125 0,05MB / 0,05MB
-> sha256:c6030cf16966552af16a06521669355017cf049a5c1200193587e2858ce7 2,55MB / 2,55MB
-> sha256:3697be50c9889d071df4637e1d491d00e769f3a32768c878d2309b3c5145 0,15MB / 0,15MB
-> sha256:461077a72fb7fe40d34a376a1958c4016772dd7f572ec50a1fdc41a3754d 0,05MB / 0,05MB
-> [2/5] WORKDIR /app
-> [3/5] COPY package.json .
-> [4/5] RUN npm install
-> [5/5] COPY . .
-> exporting to image
-> exporting layers
-> exporting manifest sha256:abe7352fe4885077945a66370a56d00efcc94129dfbae13c3fc60487ca913abb
-> exporting config sha256:53ceba0f0cb5e70a272e4b1ee60200bee312ef42d9498fb51b630301df7f7
-> exporting attestation manifest sha256:1fc264658655f6073b1e99e16d7612284ef57b1b81dc44952abeb699146d9
-> exporting manifest list sha256:eed3d3005a146af570a33ebfa4a58ad1ececc85d673a5ff7d100818ece82f1
-> naming to docker.io/library/node-calculator:latest
-> unpacking to docker.io/library/node-calculator:latest
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker>
```



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docker desktop PERSONAL

Images [Give feedback](#) [Learn more](#)

View and manage your local and Docker Hub images.

Local Docker Hub repositories

0 Bytes / 1.02 GB in use 1 Images

Last refresh: 16 minutes ago

Name	Tag	Image ID	Created	Size	Actions
node-calculator	latest	eed3dd3005a1	2 seconds ago	1.56 GB	D ⋮ Delete

Showing 1 item

Engine running RAM 2.55 GB CPU 0.00% Disk: 3.90 GB used (limit 1006.85 GB)

> Terminal v4.41.2

docker desktop PERSONAL

Containers [Give feedback](#) [Learn more](#)

View all your running containers and applications.

Your running containers show up here

A container is an isolated environment for your code

 What is a container? 5 mins

 How do I run a container? 6 mins

[View more in the Learning center](#)

Engine running RAM 2.56 GB CPU 0.25% Disk: 3.90 GB used (limit 1006.85 GB)

> Terminal v4.41.2



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Run the container

```
docker run -d -p 5000:5000 --name calc-container node-calculator
```

Now your server is running inside Docker.



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The screenshot shows the Docker Desktop interface. On the left, a sidebar lists various sections: Ask Gordon (BETA), Containers (selected), Images, Volumes, Builds, Models (BETA), Docker Hub, Docker Scout, and Extensions. The main area is titled "Containers" with a sub-instruction "View all your running containers and applications. Learn more". It displays container CPU usage (0.00% / 800%) and memory usage (32MB / 3.63GB). A search bar and a filter button ("Only show running containers") are present. A table lists one container:

Name	Container ID	Image	Port(s)	CPU (%)	Last started	Actions
calc-container	513856c5ddc9	node-calculator	5000:5000	0%	1 minute ago	

A blue arrow points upwards from the table towards the container's status bar.

Showing 1 item

Walkthroughs

Multi-container applications 8 mins

docker init Containerize your application 3 mins

View more in the Learning center

Engine running RAM 2.58 GB CPU 0.25% Disk: 3.90 GB used (limit 1006.85 GB) Terminal v4.41.2

Now created the container “calc-container” Now click on the below of the port 5000:5000

The screenshot shows a web browser window with multiple tabs open. One tab is active and displays a simple calculator interface. The calculator has a numeric keypad (0-9, .) and arithmetic operators (+, -, ×, ÷, =) arranged in a grid. The operators +, - , ×, ÷, and = are highlighted in orange or green. The rest of the buttons are grey. The browser's address bar shows "localhost:5000". The browser interface includes a toolbar with icons for search, refresh, and other functions.

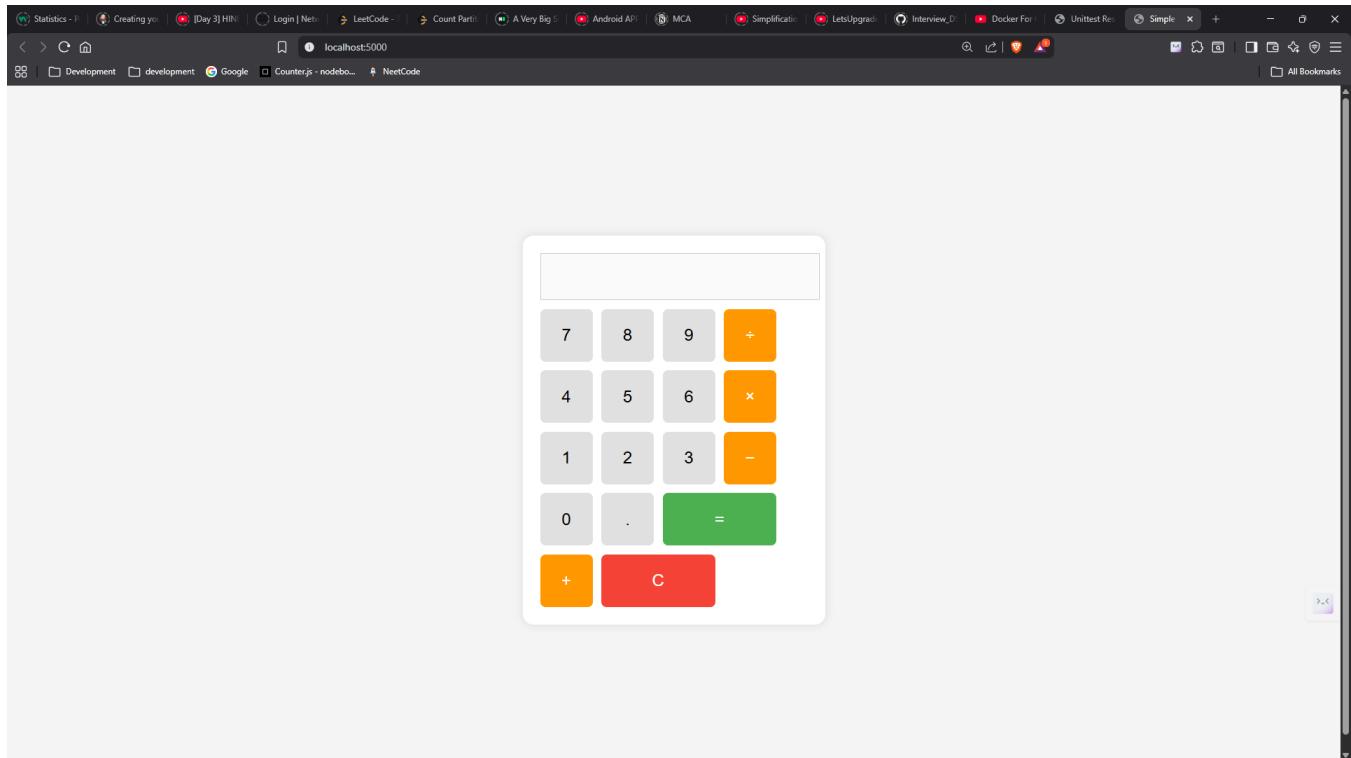


Test the application

Open in your browser:

`http://localhost:5000`

You should see **calculator.html** served by your node server from inside Docker.



You can also manually write <http://localhost:5000>

Now app is working fine



Optional: View logs

```
docker logs calc-container
```

The screenshot shows a terminal window with the following content:

```
File Edit Selection View Go Run Terminal Help
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
docker
0.1s
=> [2/5] WORKDIR /app
=> [3/5] COPY package.json .
=> [4/5] RUN npm install
=> [5/5] COPY . .
=> exporting to image
=> exporting layers
=> exporting manifest sha256:abe7352fe4885077945a66370a56d00efcc94129dfbae13c3fc60487ca913abb
=> exporting config sha256:53cebd0fcbe5700a272e74b1ee6702beeb3f12ef42d9498fs1bb30301ff677
=> exporting attestation manifest: sha256:1fc264658655f6073b1ee99e16d7612284ef57b1b81dc44952abeb699146d95
=> exporting manifest list sha256:eed3d3005a146af5767a33ebfa4a58ad1ecce85d673a5ff7d100818ece82f1
=> naming to docker.io/library/node-calculator:latest
=> unpacking to docker.io/library/node-calculator:latest

View build details: docker-desktop://dashboard/build/desktop_linux/desktop_linux/rdnmmwo82qzb39qzdvu7x5n8a
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> docker run -d -p 5000:5000 --name calc-container node-calculator
51385c5dc99ef0c20e5994a416bf7c0de3381c2512fa68334211c1486
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> docker logs calc-container

> docker@1.0.0 start
> node server.js

Server has been started on port 5000
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker>
```

The terminal shows the Docker logs for the 'calc-container'. It starts by building the image, then runs it with port mapping and naming. Finally, it logs the output of the running container's command.



Optional: Stop & remove container

```
docker stop calc-container  
docker rm calc-container
```

```
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> docker run -d -p 5000:5000 --name calc-container node-calculator  
513856c5dc99e9f0c20ee59964a16bfe7c0de63381c2512fab68334211c1486  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> docker logs calc-container  
  
> docker@1.0.0 start  
> node server.js  
  
Server has been started on port 5000  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> docker stop calc-container  
calc-container  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> docker images  
REPOSITORY      TAG      IMAGE ID      CREATED      SIZE  
node-calculator  latest   eed3dd3005a1  15 minutes ago  1.57GB  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> docker rm calc-container  
calc-container  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> docker images  
REPOSITORY      TAG      IMAGE ID      CREATED      SIZE  
node-calculator  latest   eed3dd3005a1  15 minutes ago  1.57GB  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker> docker ps -a  
CONTAINER ID  IMAGE      COMMAND      CREATED      STATUS      PORTS      NAMES  
PS C:\Users\hp\Desktop\MCA\Semester-1\DevOps\docker>
```

Docker ps -a # it will show all container

Docker images # it will show all images