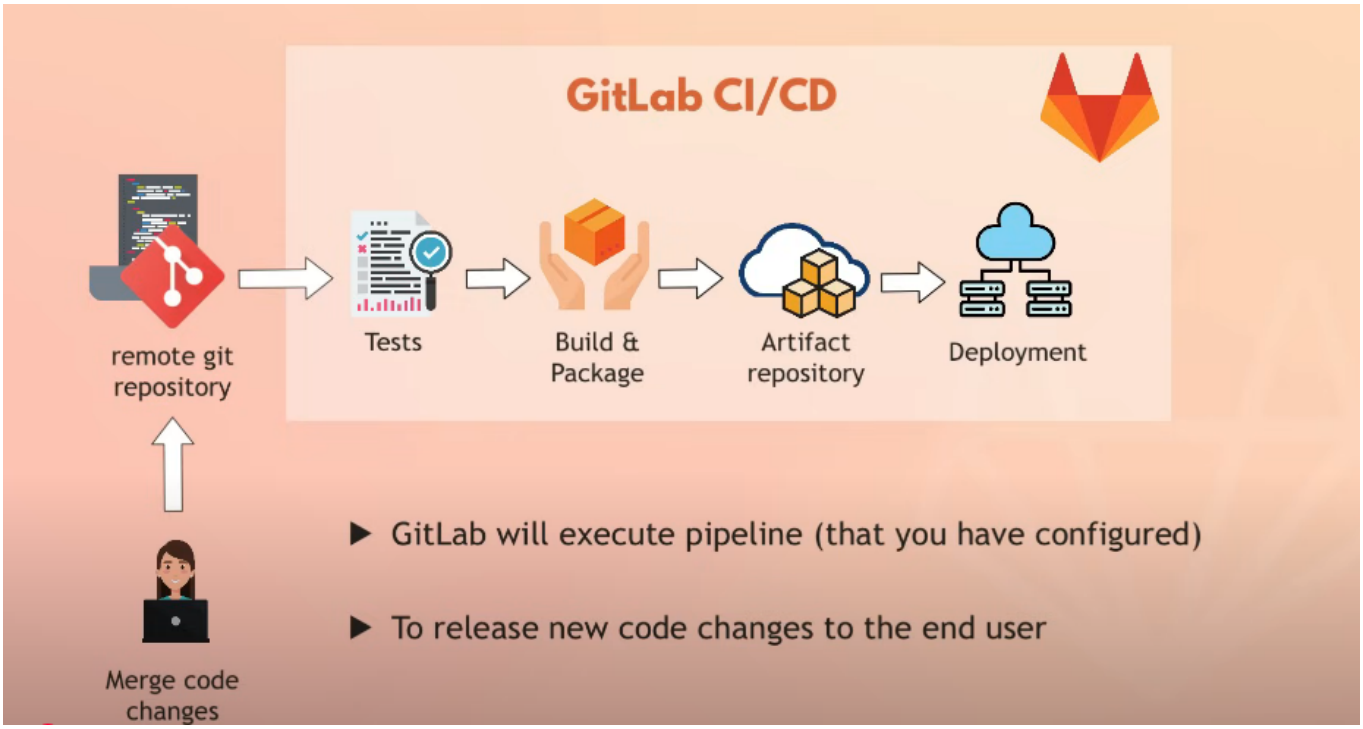
python app ->Run Test->Docker Image ->push to Docker Registry->Deploy on Server

Gitlab is platform which manges complete DevOps workflow

CI/CD It means continuously building testing release
![[Pasted image 20250703093256.png



continuously release code changes to end environment.
user ->changes into remote git repository ->test->build &package ->artifact repository ->deploy to dev ->deploy to staging ->deploy to production

Multiple CI/CD tools : Azure Pipelines , AWS Pipeline , Travis CI ,Jenkins most widely used

Benefit Gitlab : Allows keeping Ci/CD & code management in the same place
Email notfication , can easy display build stage test through editor ,Self managed

Architecture :

Gitlab Instances or Gitlab Server where we can store manage , host application and CI/CD pipelines.
there are multiple machines are connected to server Gitlab Runners
server assigns jobs to available Runners
WWW.gitlab.com is actually instances that manages Runners -easy
available on gitlab to all users

www.gitlab.mycompany.com

Runners , Gitlab

For creating CI/CD pipeline
create file with name .gitlab-ci.yml

Runners are responsible for running your pipelines
Docker container -Image Of Ruby -execute in this env all this file

Stages-which sequence should follow

before-script:

- echo " Before build Step"

after-script:
- echo "cleaup activity"

bash-execute:
script:
- bash ./basic.sh

artifacts : To store the files
paths:
- "./myfolder"
when : on_success
access : all
expire_in : 30 days

we can create Environment Variables
and can use with $

Pipeline Schedule : There is feature of creating build and pipeline with specific time and schedule and can deploy manually.

Working With Git:
Create Project

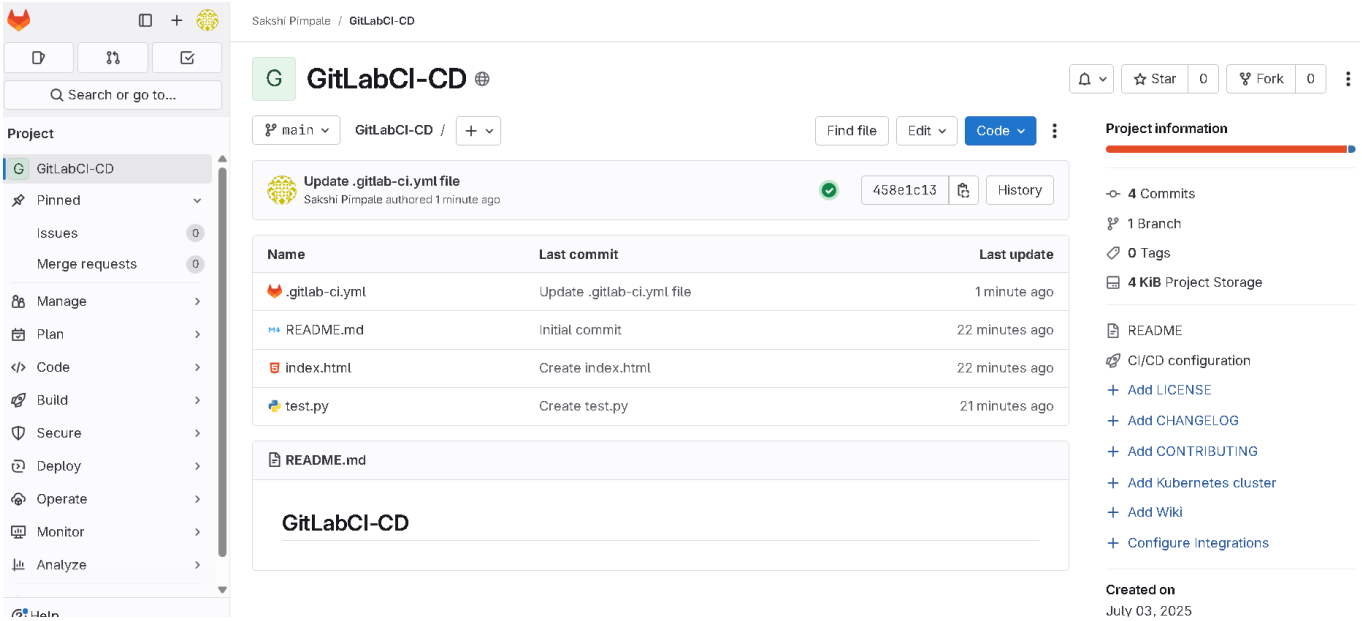
build:

image: python:latest

script:

- python test.py

```
image: alpine:latest

  pages:

    script:

      - mkdir public

      - cp index.html public/

    artifacts:

      paths:

        - "public"

    only:

        - main
```



on Left side there is Deploy option ->pages ->link

https://my-static-resume-15a01f.gitlab.io/