LECTURE 2 report.

gitlab repo: https://gitlab.com/kaanzapkinus/sbatools-gitlab-repo
github repo: https://github.com/kaanzapkinus/Software-Build-Automation-Tools

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TASK 1

Created a new GitLab repository with a README, providing a brief introduction and license information.

Task 1.1

Cloned the repository locally under the GitHub repo, making it ready for direct development on my machine.

TASK 2

I've created a .gitlab-ci.yml file with a basic build stage

Task 2.1: I've pushed the pipeline to GitLab

```
○ PS C:\Users\zapkinus\Desktop\githubtools\Software-Build-Automation-Tools\lecture2\gitlab repository> git add .
○ PS C:\Users\zapkinus\Desktop\githubtools\Software-Build-Automation-Tools\lecture2\gitlab repository> git commit -m "basic GitLab CI pipeline added"
  [main eeedd23] basic GitLab CI pipeline added
   1 file changed, 7 insertions(+)
   create mode 100644 .gitlab-ci.yml
○ PS C:\Users\zapkinus\Desktop\githubtools\Software-Build-Automation-Tools\lecture2\gitlab repository> git remote
  origin
○ PS C:\Users\zapkinus\Desktop\githubtools\Software-Build-Automation-Tools\lecture2\gitlab repository> git push -u origin main
  Enumerating objects: 4, done.
  Counting objects: 100% (4/4), done.
  Delta compression using up to 12 threads
  Compressing objects: 100% (3/3), done.
  Writing objects: 100% (3/3), 371 bytes | 371.00 KiB/s, done.
  Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
  To https://gitlab.com/kaanzapkinus/sbatools-gitlab-repo.git
     12c301f..eeedd23  main -> main
  branch 'main' set up to track 'origin/main'.
○ PS C:\Users\zapkinus\Desktop\githubtools\Software-Build-Automation-Tools\lecture2\gitlab repository> 
```
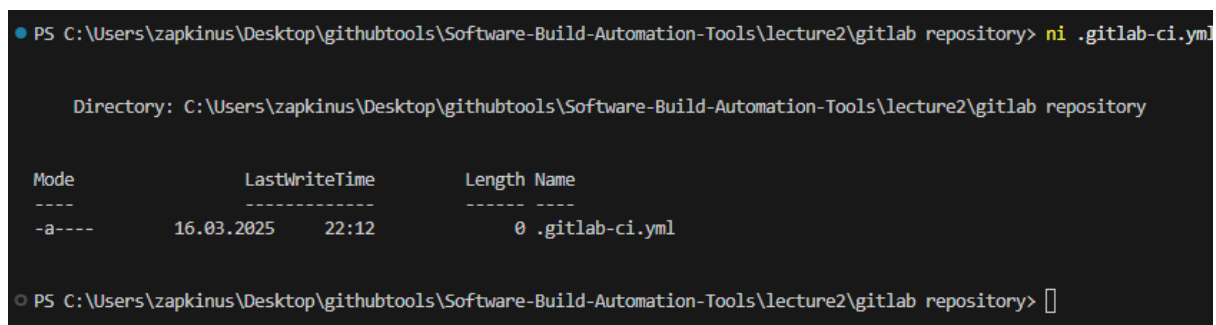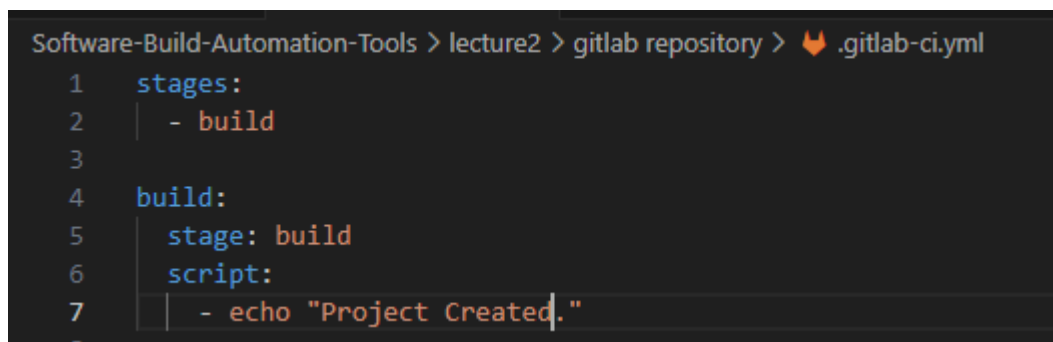
Task 2.2: Then i got an e-mail says its failed.

Task 2.3: It seems like it happened because i didnt verify my account.

Task 2.4: I've verified my account and tried to push again. Now it worked and Pipeline passed.

TASK3

Task 3.1:

Added automated tests using PyTest, updated **.gitlab-ci.yml** with a new test stage, and pushed changes to the GitLab repo.

```
Software-Build-Automation-Tools > lecture2 > gitlab repository > calculator.py > ...
1    def add(x, y):
2        return x + y
3
4    def subtract(x, y):
5        return x - y
6
```

```
Software-Build-Automation-Tools > lecture2 > gitlab repository > test_calculator.py > ...
1    from calculator import add, subtract
2
3    def test_add():
4        assert add(2, 3) == 5
5        assert add(-1, 1) == 0
6
7    def test_subtract():
8        assert subtract(10, 5) == 5
9        assert subtract(-1, -1) == 0
10
```

```
Software-Build-Automation-Tools > lecture2 > gitlab repository > .gitlab-ci.yml
1    stages:
2      - build
3      - test
4
5    build:
6      stage: build
7      script:
8        - echo "Building project"
9        - pip install pytest
10
11    test:
12      stage: test
13      script:
14        - echo "Running tests"
15        - pytest
16
```

Task 3.2: Then, it failed.

Issue: CI pipeline failed due to incorrect Docker environment configuration. The pipeline attempted to execute Python commands (pip, pytest) within a Ruby-based Docker image, causing command failures.

Task 3: Added pytest tests and updated the CI pipeline for testing

-o- parent `098d4281`

Branches `main`

No related tags found

No related merge requests found

Pipeline **#1719158842** failed
2 minutes ago

Changes 3   Pipelines 1

Showing **3 changed files** ∨ with **23 additions** and **1 deletion**   [Hide whitespace changes] [Inline] [Side-by-side]

∨ 📄 **.gitlab-ci.yml** 📋   +9 −1 💬 [View file @ cb322586]

```
 1    1    stages:
 2    2      - build
      3  +   - test
 3    4
 4    5    build:
 5    6      stage: build
 6    7      script:
 7         -     - echo "Test 2 Project Created."
      8  +     - echo "Building project"
      9  +     - pip install pytest
     10  +
     11  + test:
     12  +   stage: test
     13  +   script:
     14  +     - echo "Running tests"
     15  +     - pytest
```

∨ 📄 **calculator.py** 📋 0 → 100644   +5 −0 💬 [View file @ cb322586]

```
 1  + def add(x, y):
 2  +     return x + y
 3  +
 4  + def subtract(x, y):
 5  +     return x - y
```

∨ 📄 **test_calculator.py** 📋 0 → 100644   +9 −0 💬 [View file @ cb322586]

```
 1  + from calculator import add, subtract
 2  +
 3  + def test_add():
 4  +     assert add(2, 3) == 5
 5  +     assert add(-1, 1) == 0
 6  +
 7  + def test_subtract():
 8  +     assert subtract(10, 5) == 5
```

Task 3.3:
Solution: Changed the Docker image to a Python environment (python:latest) in the .gitlab-ci.yml file, then pushed.

```
1    image: python:3.11
2
3    stages:
4      - build
5      - test
6
7    build:
8      stage: build
9      script:
10       - echo "Building project"
11       - pip install pytest
12
13   test:
14     stage: test
15     script:
16       - echo "Running tests"
17       - pip install pytest
18       - pytest
19
```

Now, it works 🙂

| Status	Pipeline	Created by
✓ Passed ⏱ 00:01:04 🗓 37 seconds ago	Updated CI environment to Python #1719162049 ⌥ main ⦿ c1997432 🐱 latest branch	🔵
✗ Failed ⏱ 00:00:28	Task 3: Added pytest tests and updated the CI ... #1719158842 ⌥ main ⦿ cb322506 🐱 branch	🔵
	basic GitLab CI pipeline added for second time #1719155877 ⌥ main ⦿ 098d4201 🐱 branch	🔵
	basic GitLab CI pipeline added #1719152659 ⌥ main ⦿ eeedd234 🐱 error branch	🔵

All 4 Finished Branches Tags

Filter pipelines

✔ Pipeline has been fixed and #1719162049 has passed!

Project	kaanzapkinus / Sbatools Gitlab Repo
Branch	🔀 main
Commit	⦿ c1997432 Updated CI environment to Python
Commit Author	🐱 kaanzapkinus

Pipeline #1719162049 triggered by 🐱 kaanzapkinus

successfully completed 2 jobs in 2 stages.

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