

Mentorship Program - Smart Assignment Engine

Category: Cloud Application Development

The Business Problem

SMART aims for a driving force that will innovate the education system including education environment, method and evaluation. To bring innovation to the overall school education system, a comprehensive measure should be implemented based on improvement of the system and teachers' capabilities, which require active support.

Smart Assignment is a web-based application designed to streamline the process of assignment management and enhance collaboration among students, teachers, and administrators. This project aims to leverage web development technologies to create an intelligent platform that automates assignment creation, submission, grading, and feedback, thereby improving the efficiency and effectiveness of the assignment process. Students can access the platform to view and submit assignments. The application allows for secure file uploads, ensuring the integrity and confidentiality of submitted work. The system provides notifications and reminders to students about upcoming assignment due dates and any updates or clarifications from teachers.

Smart Assignment aims to enhance the assignment management process, promote collaboration, and improve educational outcomes. By leveraging intelligent technologies and providing a user-friendly interface, the application streamlines administrative tasks, enhances student-teacher communication, and facilitates a more efficient and engaging learning experience.

Business Requirements

- Robustness
- Backward and Forward compatibility with LMS systems
- Good User Experience and Interface
- Automated Assessment System

Literature Survey

The growth of education is dynamically changing along with emerging technology. Learning management systems (LMS) takes an essential place regarding support its process. By many kinds of improvement aspect within technology, adaptive user interface (AUI) has a significant role to maintain students engagement in learning activities. However, it is very significant to analyze the development of AUI in education 4.0 to understand its significant challenge at this stage. This paper discusses AUI in learning system which has been proposed and implemented by other researchers. We apply a comparative perspective between technology and heutagogical aspect in evaluating their approaches. By delivering this perspective, the paper presents a short review of LMS adaptivity trends and development challenges in the field of learning services for education 4.0.

UI Design

AUI technologies which offer more automation regarding learning process affect more changes to users. In a perspective of AI technologies, the changes also make systems to learn based on

some inputs recover in adaptability. However, automation to generate UI design also gives impact to UI consistency.

- Proper evaluation Evaluating an adaptive LMS with a multifunctional way of learning should cover more approaches. The evaluation leads to the success of adaptation implementation to achieve goals for better learning.

Social Impact and Business Impact

Social Impact: It will make the life of a student on campus much easier. Professors also no need to carry the big pile of notebooks submitted by students and the transparency of marks allotment also will be there.

1. Development and application of digital learning management systems.
2. Strengthening teachers' capabilities & trainings for implementing SMART Education
3. Online classes and establishment of real-time online assessment system.
4. Application of modern assessment techniques aiming at evaluating student ideas and constructive feedback mechanism.
5. Greater Transparency in assessment.

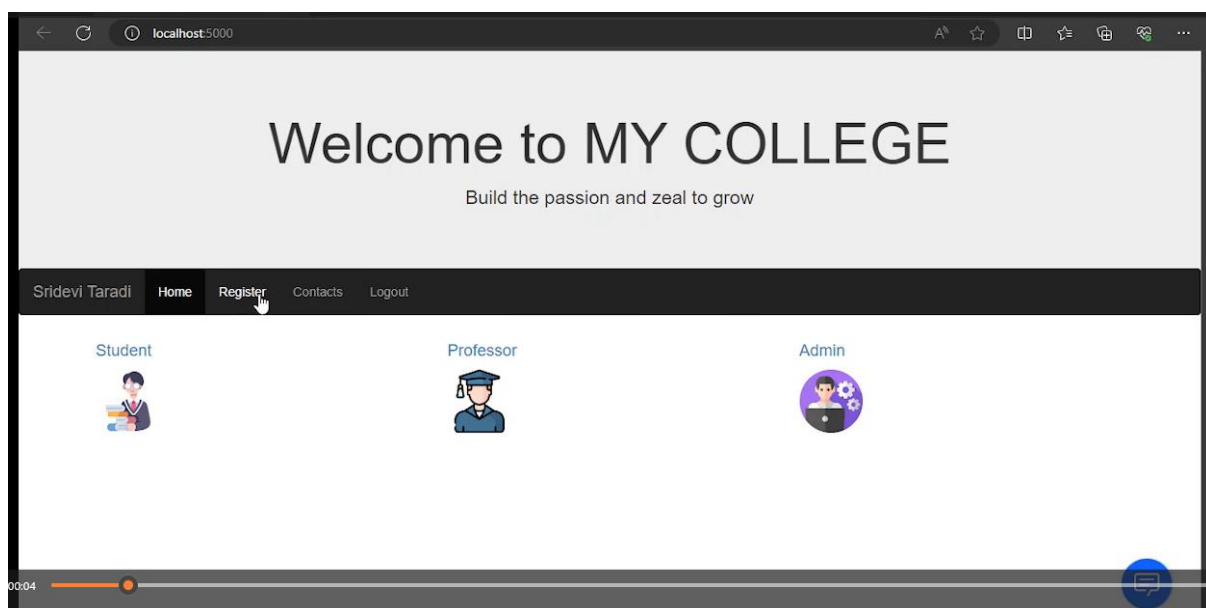
Business Model/Impact: It will also give a positive impression about the university around the time of admissions and can be made by digitizing the campus.

The adoption of technology in education has led to an unprecedented transformation from teacher-centric education towards student-centric education. It enhances the engagement between the teacher and students as close to the classroom type experience. Going forward, smart classrooms are making everything possible from teachers and parent meetings to staff/management meetings, providing the necessary interactivity.

IMPLEMENTATION

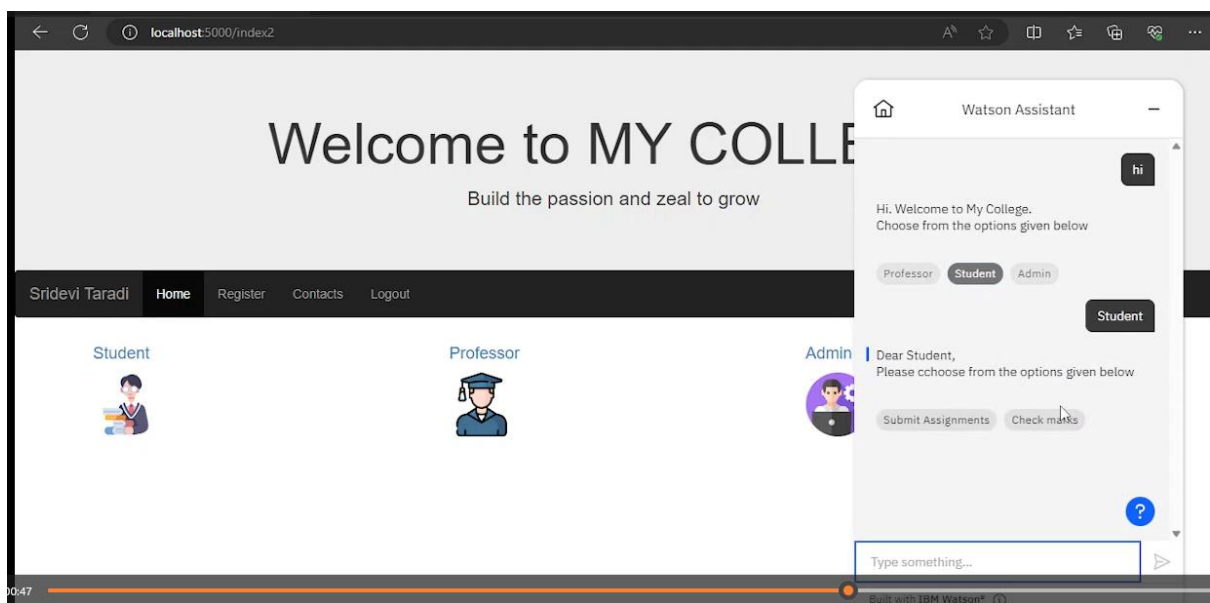
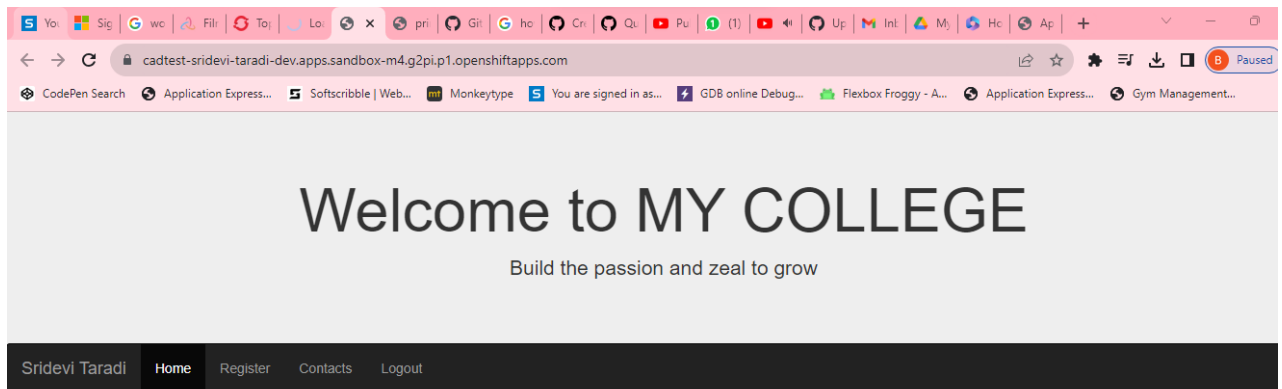
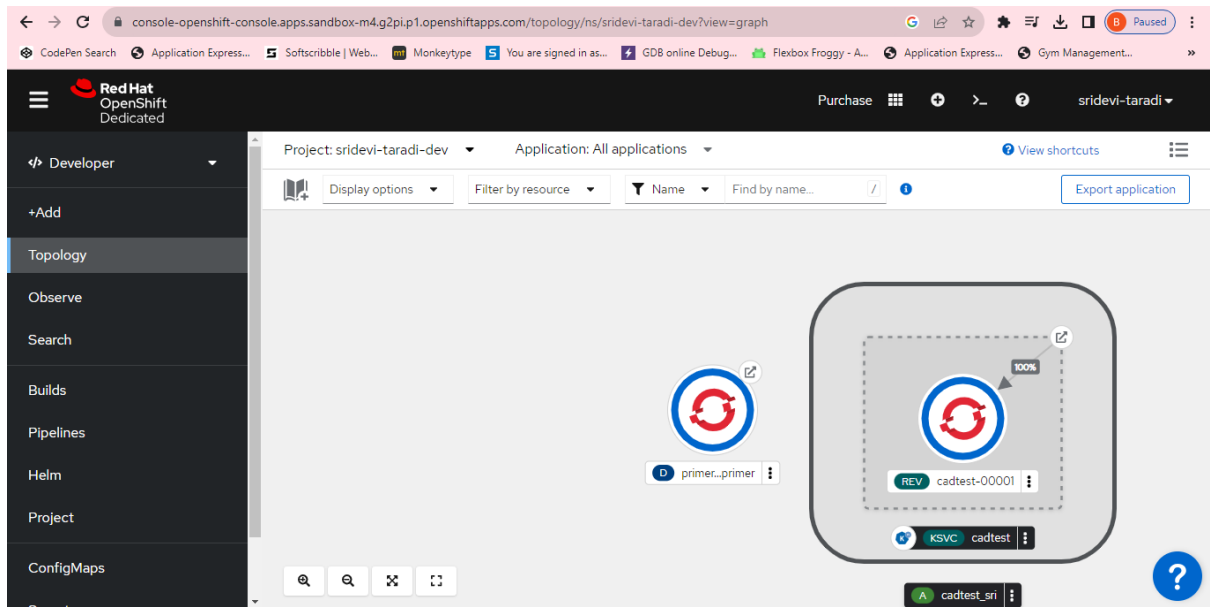
Redhat link - [My College \(openshiftapps.com\)](https://mycollege.openshiftapps.com)

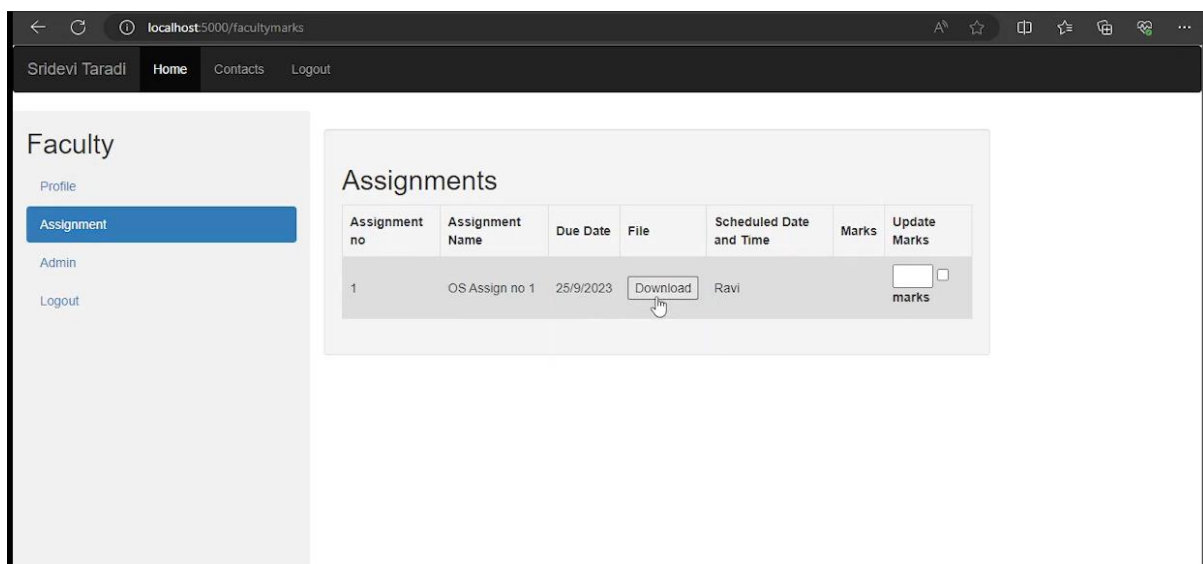
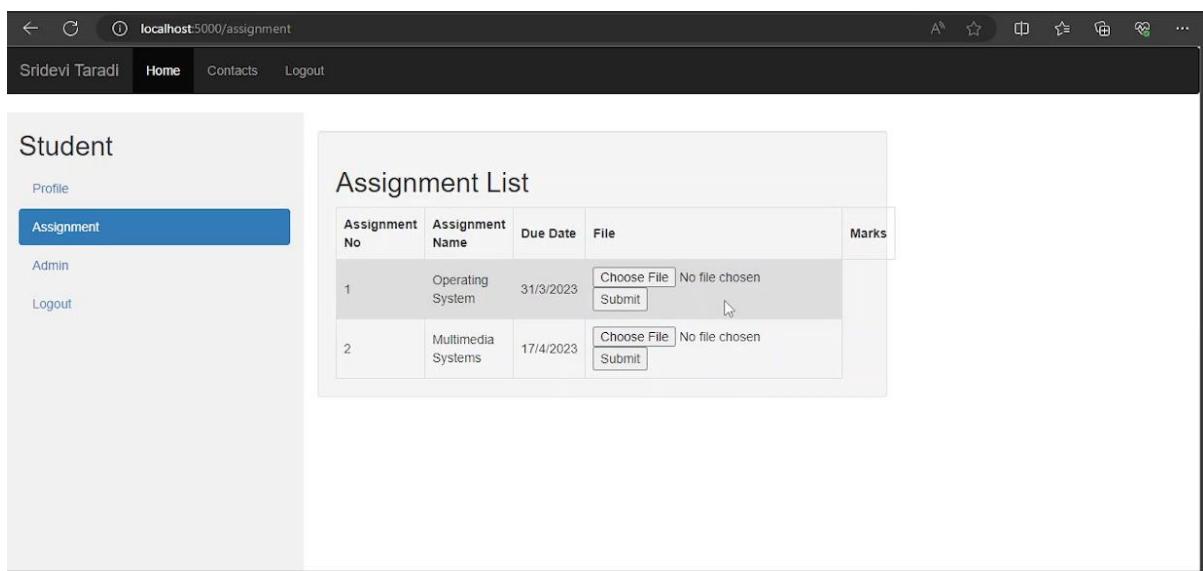
Application Screenshots



Redhat Screenshots

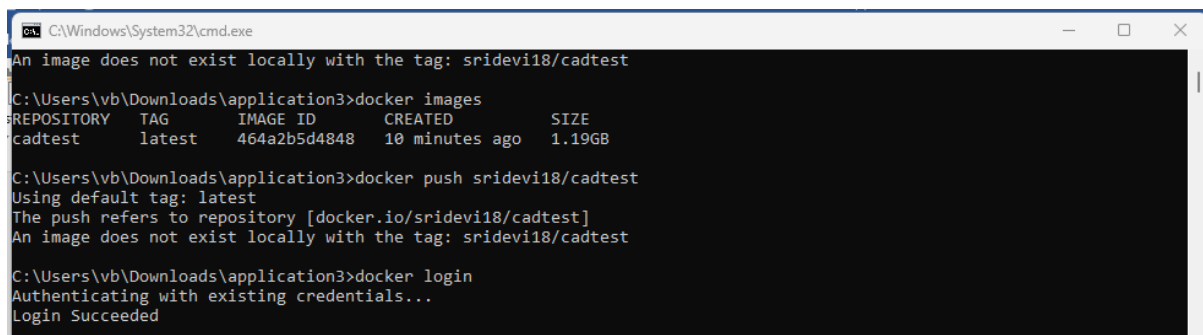
Deployment link - [My College \(openshiftapps.com\)](https://mycollege.openshiftapps.com)





Docker Screenshots

Docker Images and Login



Docker Push

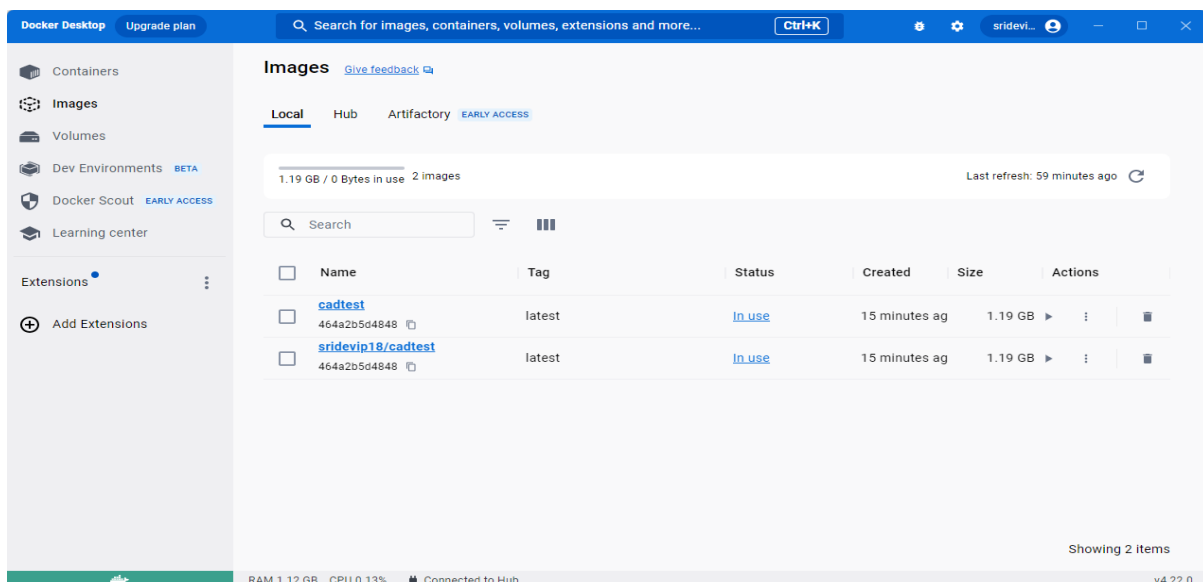
```
C:\Windows\System32\cmd.exe - docker push sridevip18/cadtest
C:\Users\vb\Downloads\application3>docker push sridevip18/cadtest
Using default tag: latest
The push refers to repository [docker.io/sridevip18/cadtest]
An image does not exist locally with the tag: sridevip18/cadtest

C:\Users\vb\Downloads\application3>docker push sridevip18/cadtest
Using default tag: latest
The push refers to repository [docker.io/sridevip18/cadtest]
An image does not exist locally with the tag: sridevip18/cadtest

C:\Users\vb\Downloads\application3>docker tag cadtest sridevip18/cadtest

C:\Users\vb\Downloads\application3>docker push sridevip18/cadtest
Using default tag: latest
The push refers to repository [docker.io/sridevip18/cadtest]
aca8dbacd946: Pushing [====>] 11.6MB/166.6MB
bfb503e48285: Pushing [=====>] 12MB
b53d29dcaf8b: Pushed
d565bc93c635: Pushing [=====>] 17.03MB/113.3MB
90280ab54d99: Pushed
aa4c808c19f6: Mounted from library/python
8ba9f690e8ba: Mounted from library/python
3e607d59ef9f: Mounted from library/python
1e18e7e1fcc2: Mounted from library/python
c3a0d593ed24: Mounted from library/python
26a504e63be4: Mounted from library/python
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11936051f93b: Mounted from library/python
```

Docker Hub

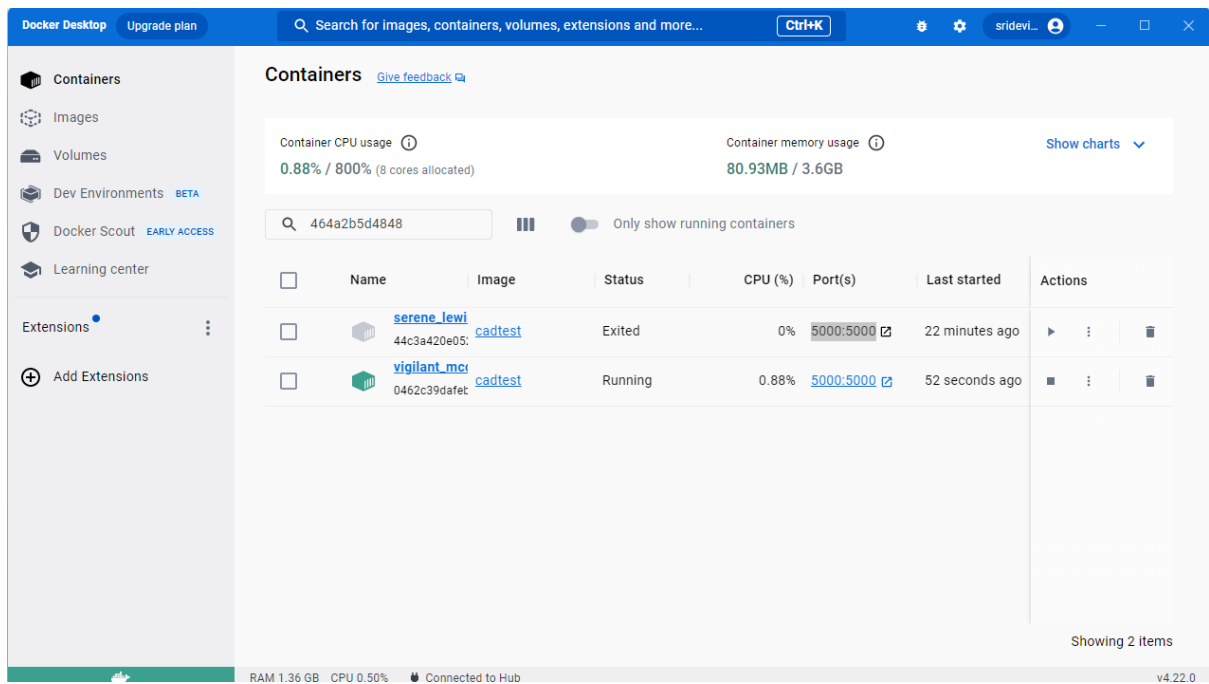


Docker run

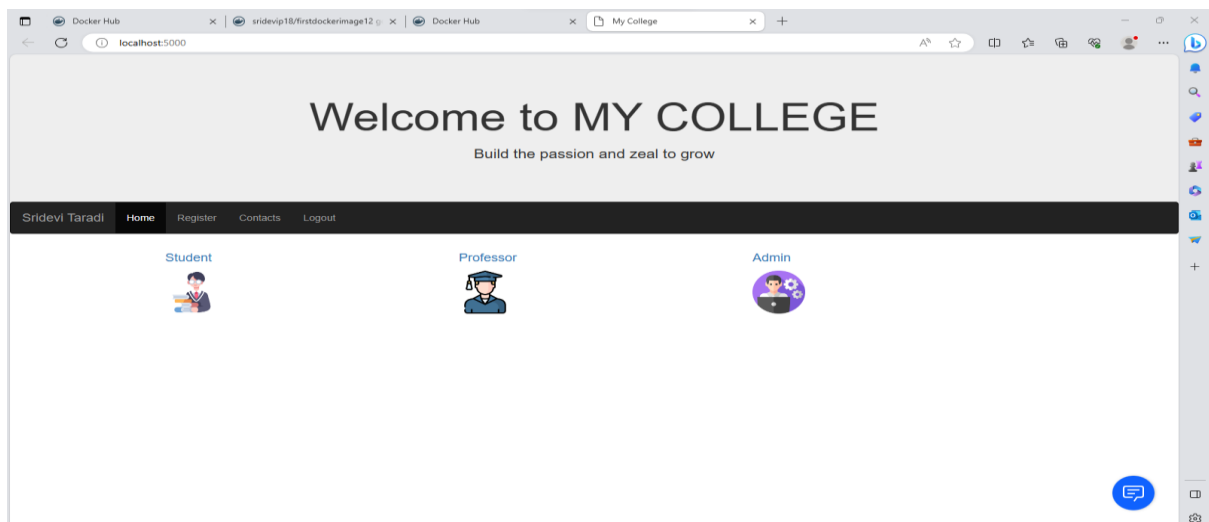
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C:\Windows\System32\cmd.exe - docker run -p 5000:5000 cadtest
The push refers to repository [docker.io/sridevip18/cadtest]
aca8dbacd946: Pushed
bfb503e48285: Pushed
b53d29dcaf8b: Pushed
d565bc93c635: Pushed
90280ab54d99: Pushed
aa4c808c19f6: Mounted from library/python
8ba9f690e8ba: Mounted from library/python
3e607d59ef9f: Mounted from library/python
1e18e7e1fcc2: Mounted from library/python
c3a0d593ed24: Mounted from library/python
26a504e63be4: Mounted from library/python
8bf42db0de72: Mounted from library/python
31892cc314cb: Mounted from library/python
11936051f93b: Mounted from library/python
latest: digest: sha256:64fa68f7c7a4890a8702e4a15db2c308231c410e8fd845ed346c44dc6ef42fd6 size: 3267

C:\Users\vb\Downloads\application3>docker run -p 5000:5000 cadtest
<ibm_db.IBM_DBConnection object at 0x7f656b72ad50>
connection successful...
* Serving Flask app 'app' (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: on
* Running on all addresses.
  WARNING: This is a development server. Do not use it in a production deployment.
* Running on http://172.17.0.2:5000/ (Press CTRL+C to quit)
* Restarting with stat
```

Docker running



Docker output



Docker pull

