



SEM 4 MICRO-PROJECT VIRTUAL PROGRAMING LAB

PROJECT BY:

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ABSTRACT

- VPL-Virtual Programming Lab is the easy way to manage programming assignments. Its features of editing, running and evaluation of programs makes learning process for students, and the evaluation task for teachers, easier than ever. Virtual labs is a web development technology. It does not require any additional infrastructural setup for conducting experiments at user premises. The simulations-based experiments can be accessed remotely via internet. This would help students in learning basic and advanced concepts through remote experimentation. VPL is an activity module that manage programming assignments and whose salient features are:
 - Enable to edit the programs source code in the browser.
 - Students can run interactively programs in the browser.
 - Students can test their knowledge through online quiz and assignments.
 - Even faculty members can do continuous assessment as per defined timeline and get feedback of conducted lab session

INTRODUCTION

- The teaching of programming is essential for the development of computer applications and for evolution of technology. The assignments of the early programming courses usually present difficulties for students and need teacher's strong monitoring, for correction and overall orientation towards correct assessment. In this context, virtual learning environment is an important tool on how to teach (and learn) programming, One of these tools is VPL (Virtual Programming Lab) a plug-in developed specifically for Moodle (Modular Object-Oriented Dynamic Learning Environment). This tool allows to edit and execute programs, in a large range of languages, and enables automatic assessment and prompt feedback VPL stores historic results about compilation and implementation of the proposed problems, tracking the student's submissions.



PROBLEM STATEMENT

- To develop a centralized system which will help students in their academics, as well as integrate a platform over which students, teachers from all departments can interact with each other for the overall growth of students.



OBJECTIVE OF PROPOSED SYSTEM

- To reduce the work of students as they keep on writing manuals which takes ample of time.
- The efficient way is after assignments, less effort is required as the student does not need so much attention and assignments grading is much easier using this VPL.

HARDWARE AND SOFTWARE DESIGN

HARDWARE REQUIREMENTS

- RAM : 512 MB RAM
- Hard Drive : 40 GB Hard Drive
- Processor : Intel Core 2 Processor

SOFTWARE REQUIREMENTS

- Languages Used:- CSS,HTML
- Platform:- Windows 10
- The above specified requirements are minimum to run the application.

DESIGN DETAILS:

Functional Requirements:

- In functional requirement, we describe the module we require to develop this project. Functional requirements should include functions performed by specific screens, outlines of workflows performed by the system and other business or compliance requirements the system must meet.

Interface Requirements:

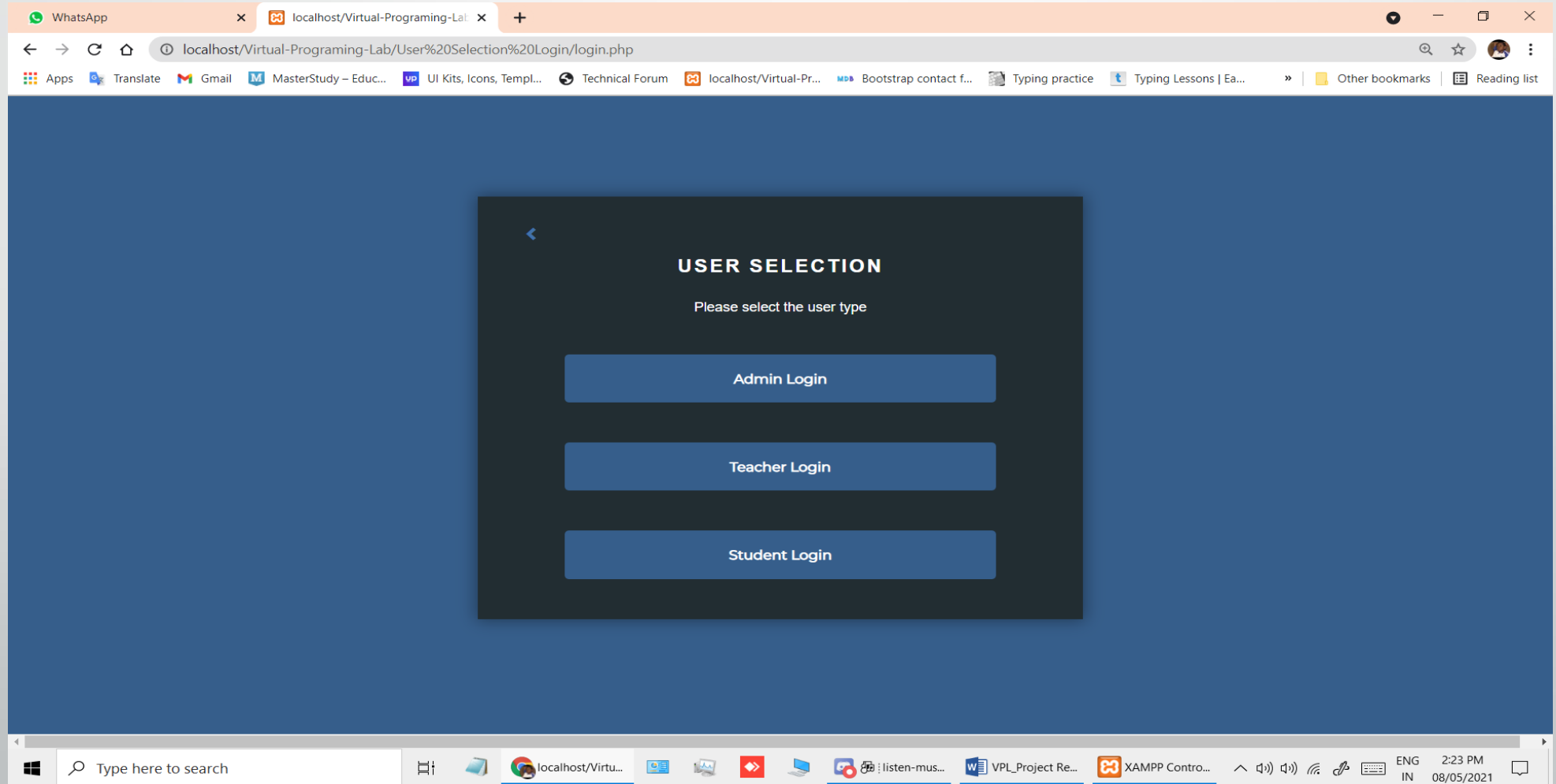
- Field accepts valid data like in password entry it should be more than 8 character-length
- Field accepts numeric data entry
- Field only accepts dates before the current date

Security Requirements:

- Students, Teachers and Admin can use their own username and password for login.
- Admins and teachers can view the the experiments performed by students and can change the introduction related to experiments accordingly

IMPLEMENTATION & RESULT

LOGIN FORM:



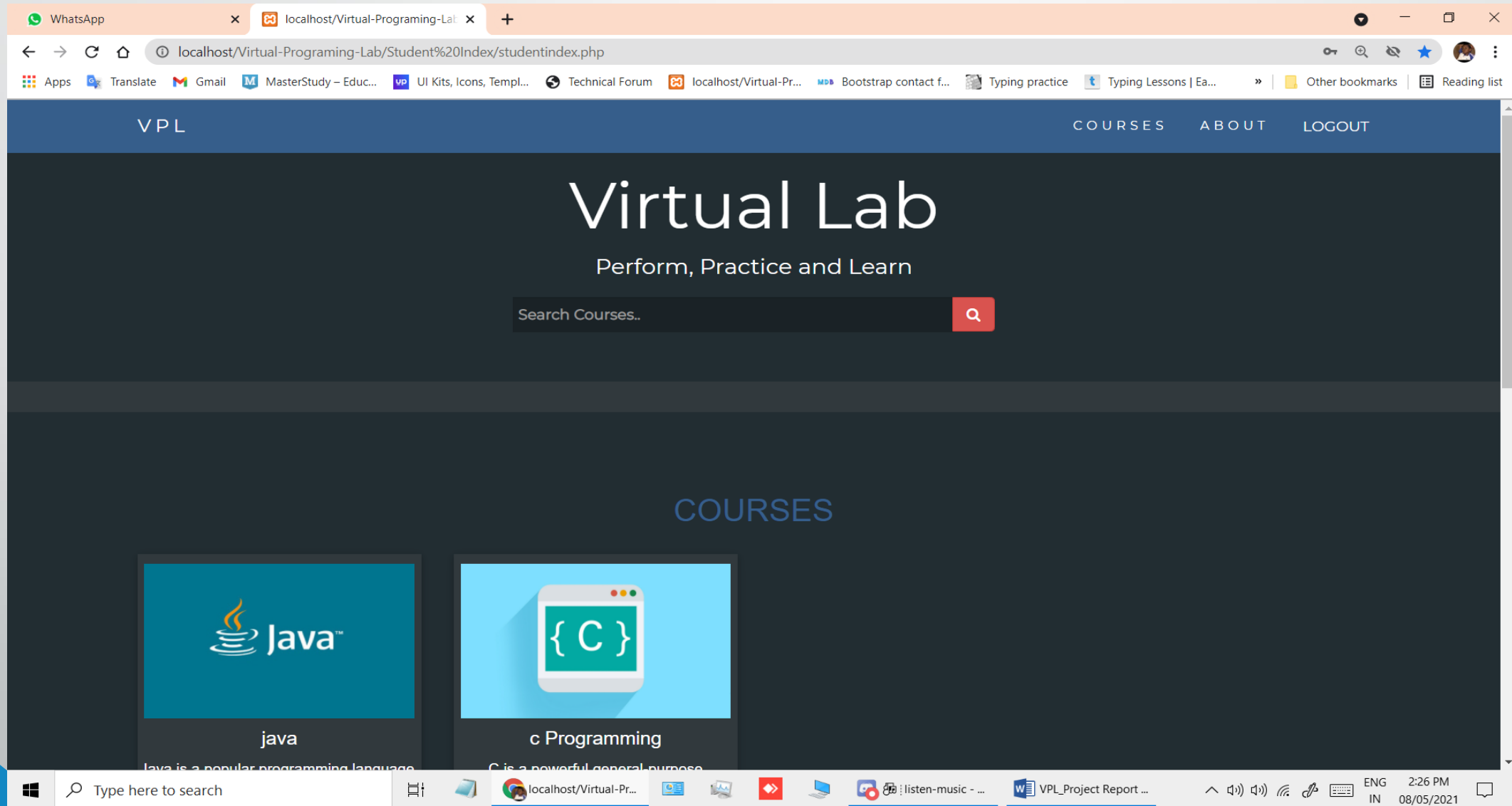
The screenshot displays a web browser window with the address bar showing the URL: `localhost/Virtual-Programing-Lab/User%20Selection%20Login/login.php`. The browser's address bar also includes navigation icons (back, forward, refresh, home) and a search icon. Below the address bar, there is a bookmarks bar with various links such as 'Apps', 'Translate', 'Gmail', 'MasterStudy - Educ...', 'UI Kits, Icons, Templ...', 'Technical Forum', 'localhost/Virtual-Pr...', 'Bootstrap contact f...', 'Typing practice', 'Typing Lessons | Ea...', 'Other bookmarks', and 'Reading list'.

The main content area of the browser shows a dark blue background with a central black box containing the following text and buttons:

- USER SELECTION**
- Please select the user type
- Admin Login**
- Teacher Login**
- Student Login**

The Windows taskbar at the bottom of the screen shows the search bar with the text 'Type here to search', several open applications (including 'localhost/Virtu...', 'listen-mus...', 'VPL_Project Re...', and 'XAMPP Contro...'), and the system clock indicating the time as 2:23 PM on 08/05/2021.

STUDENT HOME PAGE:



The screenshot displays a web browser window with two tabs: 'WhatsApp' and 'localhost/Virtual-Programing-Lab'. The active tab shows the URL 'localhost/Virtual-Programing-Lab/Student%20Index/studentindex.php'. The browser's address bar and bookmarks are visible. The webpage itself has a dark blue header with 'VPL' on the left and 'COURSES', 'ABOUT', and 'LOGOUT' on the right. The main content area features the title 'Virtual Lab' and the tagline 'Perform, Practice and Learn'. Below this is a search bar with the placeholder text 'Search Courses..' and a red search button. The 'COURSES' section is partially visible, showing two course cards: 'java' with the Java logo and 'c Programming' with a C logo. The Windows taskbar at the bottom shows the search bar, task view button, and several open applications including the browser, a music player, and a Word document.

WhatsApp localhost/Virtual-Programing-Lab

localhost/Virtual-Programing-Lab/Student%20Index/studentindex.php


VPL COURSES ABOUT LOGOUT

Virtual Lab

Perform, Practice and Learn


Search Courses..

COURSES



java

Java is a popular programming language



c Programming

C is a powerful general purpose

Type here to search

localhost/Virtual-Pr... listen-music - ... VPL_Project Report ...

ENG IN 2:26 PM 08/05/2021

JAVA COMPILER PAGE:

The screenshot shows a web browser window with two tabs: 'WhatsApp' and 'Java Console'. The active tab is 'Java Console', displaying a web page titled 'Java' with a dark blue header. The page layout includes a 'Code' editor on the left, an 'Input' field on the right, and an 'Output' area at the bottom left. The 'Code' editor contains the placeholder text 'Write Your Code here'. The 'Input' field contains the placeholder text 'Enter Your Input'. The 'Output' area contains the placeholder text 'Output appears here'. The browser's address bar shows the URL 'localhost/Virtual-Programing-Lab/Online-Compiler-Windows-Server-master/javaConsole.php'. The Windows taskbar at the bottom shows the search bar 'Type here to search' and several open applications: 'Java Console - G...', '326811143 - Any...', 'listen-music...', and 'VPL_Project Rep...'. The system clock in the bottom right corner indicates the time is 2:58 PM on 08/05/2021.

WhatsApp x Java Console x +

localhost/Virtual-Programing-Lab/Online-Compiler-Windows-Server-master/javaConsole.php

Apps Translate Gmail MasterStudy - Educ... UI Kits, Icons, Templ... Technical Forum localhost/Virtual-Pr... Bootstrap contact f... Typing practice Typing Lessons | Ea... Other bookmarks Reading list

VL HOME SUBMIT

Java

Code

Write Your Code here

Input

Enter Your Input

Output

Output appears here

Type here to search

Java Console - G... 326811143 - Any... listen-music... VPL_Project Rep...

ENG IN 2:58 PM 08/05/2021

C PROGRAMMING COMPILER:

The screenshot shows a web browser window with two tabs: 'WhatsApp' and 'C Console'. The active tab is 'C Console', displaying the URL `localhost/Virtual-Programing-Lab/Online-Compiler-Windows-Server-master/cConsole.php`. The browser's address bar and bookmarks are visible. The webpage itself has a dark blue header with 'VL' on the left and 'Exit HOME' on the right. The main content area is titled 'c Programing' and features three sections: 'Code' with a text area labeled 'Write Your Code here', a red 'Run Code' button, and an 'Output' section labeled 'Output appears here'. To the right of the 'Code' section is an 'Input' section labeled 'Enter Your Input'. The Windows taskbar at the bottom shows the search bar, task view icon, and several open applications including 'C Console - Goo...', '326811143 - Any...', 'listen-music...', and 'VPL_Project Rep...'. The system clock indicates 3:00 PM on 08/05/2021.

WhatsApp x C Console x +

localhost/Virtual-Programing-Lab/Online-Compiler-Windows-Server-master/cConsole.php

Apps Translate Gmail MasterStudy – Educ... UI Kits, Icons, Templ... Technical Forum localhost/Virtual-Pr... Bootstrap contact f... Typing practice Typing Lessons | Ea... Other bookmarks Reading list

VL Exit HOME

c Programing

Code

Write Your Code here

Run Code

Output

Output appears here

Input

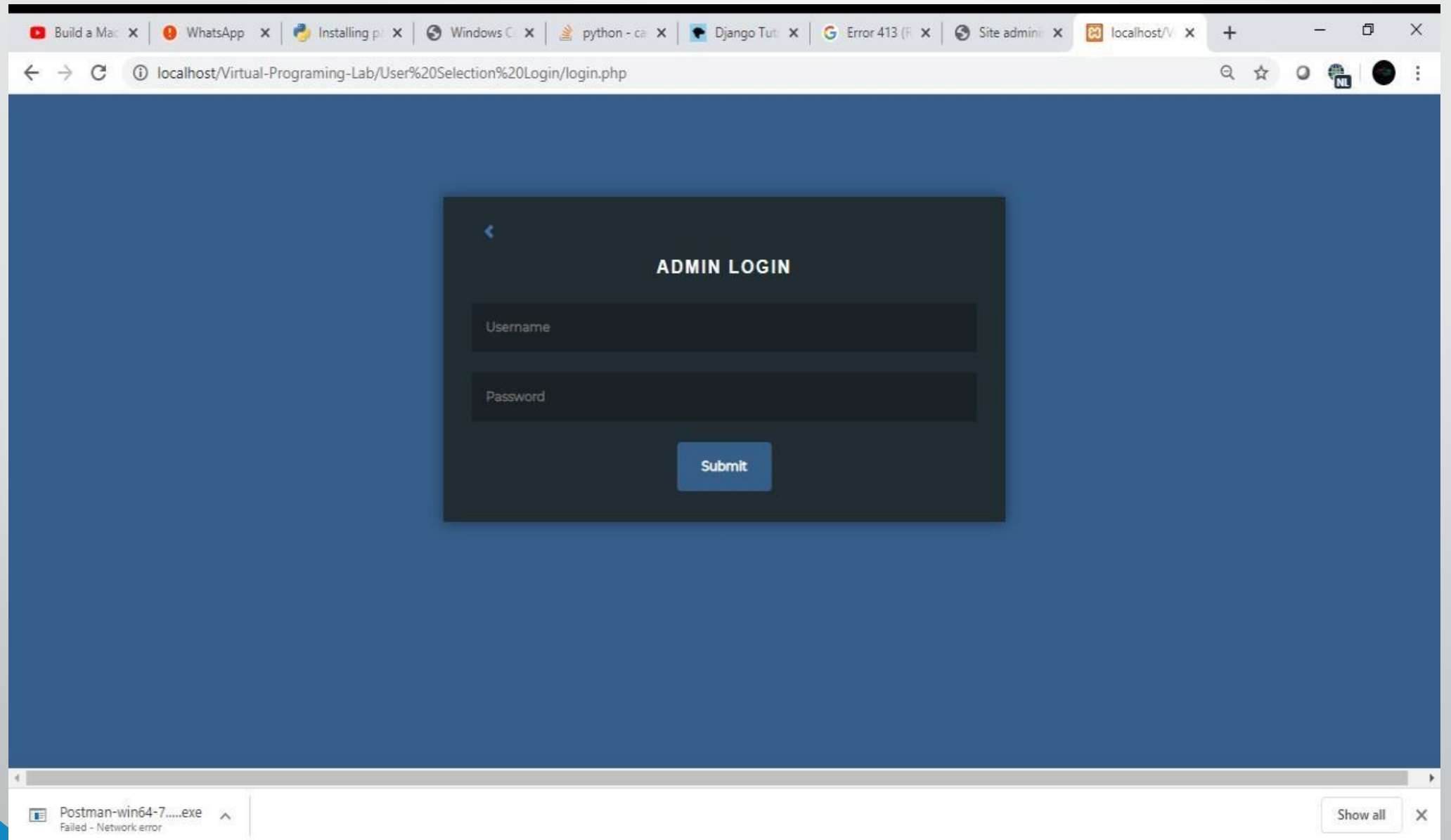
Enter Your Input

Type here to search

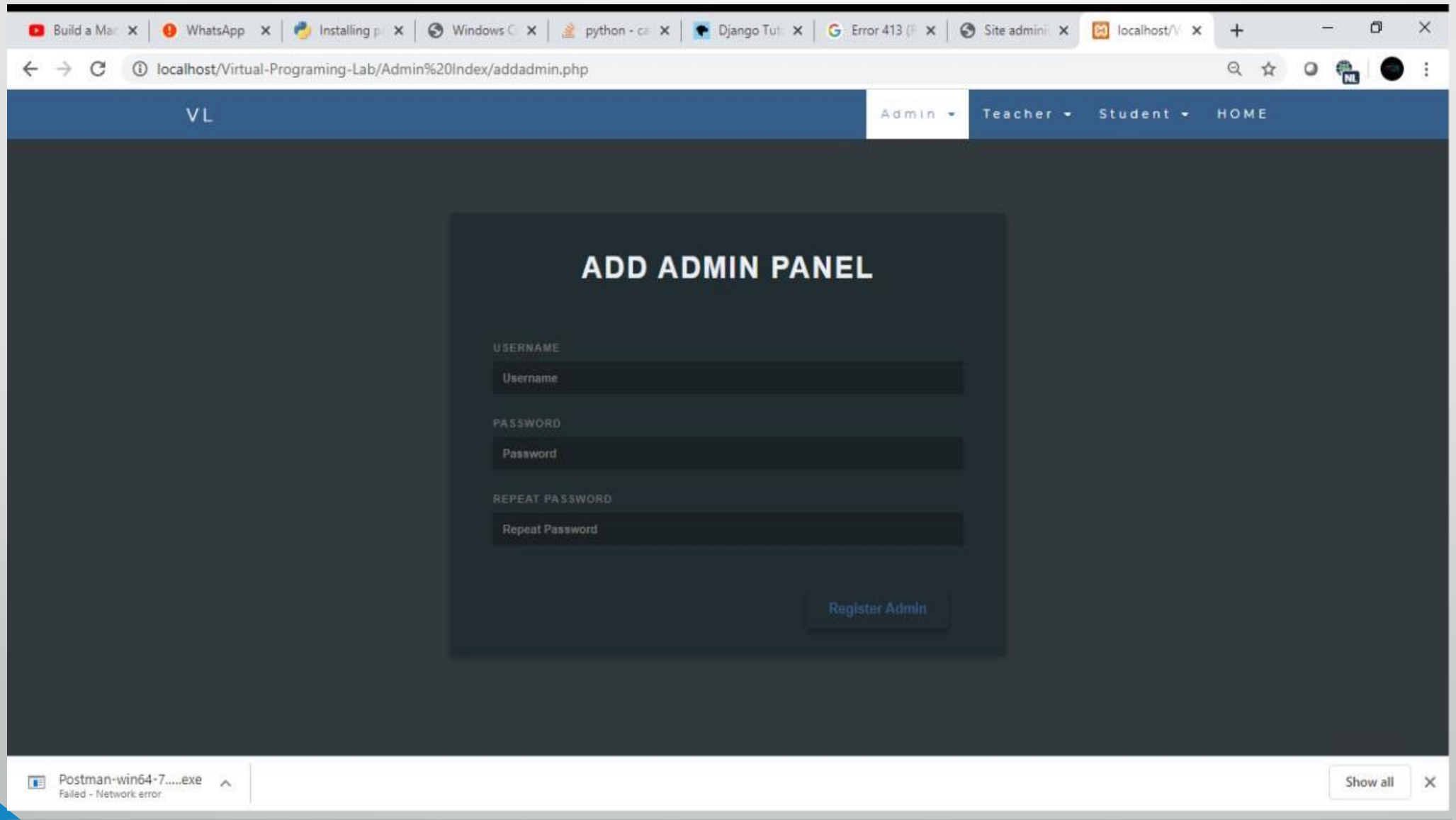
C Console - Goo... 326811143 - Any... listen-music... VPL_Project Rep...

ENG IN 3:00 PM 08/05/2021

ADMIN LOGIN:



ADMIN PANEL:



The screenshot shows a web browser window with multiple tabs. The active tab is titled 'localhost/V' and the address bar shows the URL 'localhost/Virtual-Programing-Lab/Admin%20Index/addadmin.php'. The browser's top navigation bar is blue and contains the text 'VL' on the left and a series of dropdown menus: 'Admin', 'Teacher', 'Student', and 'HOME'. The main content area is dark gray and features a central white box with the title 'ADD ADMIN PANEL' in bold. Below the title are three input fields: 'USERNAME' with a placeholder 'Username', 'PASSWORD' with a placeholder 'Password', and 'REPEAT PASSWORD' with a placeholder 'Repeat Password'. A blue button labeled 'Register Admin' is positioned at the bottom right of the white box. At the bottom of the browser window, a Windows taskbar is visible, showing a notification for 'Postman-win64-7.....exe' with the status 'Failed - Network error' and a 'Show all' button.

Build a Mac x WhatsApp x Installing p x Windows C x python - c x Django Tut x Error 413 (F x Site admini x localhost/V x

localhost/Virtual-Programing-Lab/Admin%20Index/addadmin.php

VL Admin Teacher Student HOME

ADD ADMIN PANEL

USERNAME
Username

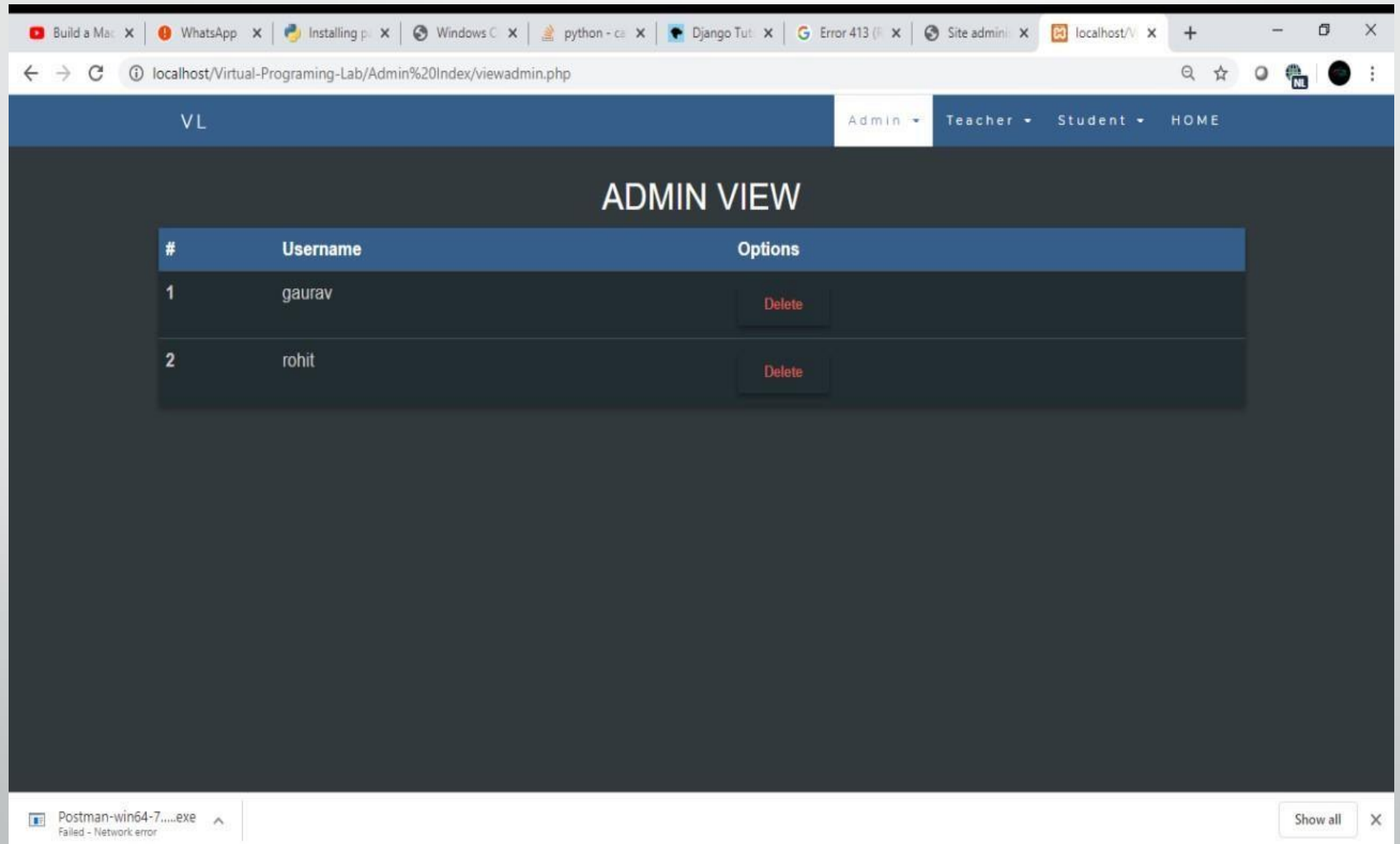
PASSWORD
Password

REPEAT PASSWORD
Repeat Password

Register Admin

Postman-win64-7.....exe
Failed - Network error

Show all x



TEACHER PANEL:

Build a Mac x WhatsApp x Installing p x Windows C x python - ca x Django Tut x Error 413 (P x Site admini x localhost/V x

localhost/Virtual-Programing-Lab/Admin%20Index/viewteacher.php

VL Admin Teacher Student HOME

TEACHER VIEW

#	Username	Options
1	gaurav	Delete

Postman-win64-7.....exe Failed - Network error Show all x

VL						Student ▾	HOME
STUDENT PROGRESS VIEW							
#	Exp-Name	Code	Input	Output	View All		
1	exp1-palindrome	View	View	View	View		
2	exp2-Simple Interest	View	View	View	View		
3	exp3-arrays1	View	View	View	View		
4	exp5	View	View	View	View		
11	exp22	View	View	View	View		
12	exp12345678	View	View	View	View		
13	name	View	View	View	View		
14	TestExp1	View	View	View	View		

CONCLUSION:

- Thus, using these technologies VPL i.e. Virtual Programming Lab was developed for helping students increase their productivity and efficiency.
- With the help of VPL it will reduce the work of writing manuals which takes lot of time and also teachers can view the Student Progress.

FUTURE SCOPE:

- The student and mainly for the teacher. This is because the teacher must plan its activities accordingly, in order to prepare assignments, configure testing environments, and validation parametrization. These tasks take a lot of time. However, after assignments, less effort is required as the student does not need so much attention and assignments grading are much easier. With this system Prospects for all these systems would include to increase their efficiency and to improve their security.

REFERENCES:

- <https://getbootstrap.com/docs/4.0/examples/>
- https://codepen.io/?cfchl captcha tk=6dc9d91c3of6b3eee674c1c12c6cdb1796ec 2cd7-1588451736-o-ARNBgooOlwCe7CPgEvWqBNLDVEF35m7lztNyui1QGTrqt6ZBDIYJVB2BDv5mCoxjT-TxwiCScFsyoj5Fs WPvYDZvmJ6ohQ3RkhdoHXzegcSkIF6k89gN5HovXNHZ3E6UdTU Z4j_6rtSZtumwElUL53D2ow949lJRHPmVmXuX3ZfD6bHpFJrAUq3QDlDe-1cj2LVacUITl7_fogEa5G3kZzCZJxL-cqH518QUgaUnTmntuZG6M4Fj5cm8xk1DggQ5yAUS5uVTENfpmLK6biCRMeBWoi748KLKKfosdqpdVcvfUia7nYRL2b5yCC8Lc1KHGaXohXJ753xgODEMuDTT8-AFGAS4ORYbM3CdZruPpXyRTOHETJ_G_V9R7G_jAo-6w1XAwe5LmUKpVtyjMNMwXCQfmyo8j1krIHlz7lR7YVviK8qOlubPPDQ81tFz-5bS-BxXRcXz5bLKPqYBpe2WGjti77TOZDbeYTzYbJ6d7ZxSbUizk5pwBAwo5g9XHZ2kXHf ohqFOy1kcwpfus_jhRcgUcqX8QYDUrC_YP-FkPld



THANK YOU