

Web Application Development Lab 04

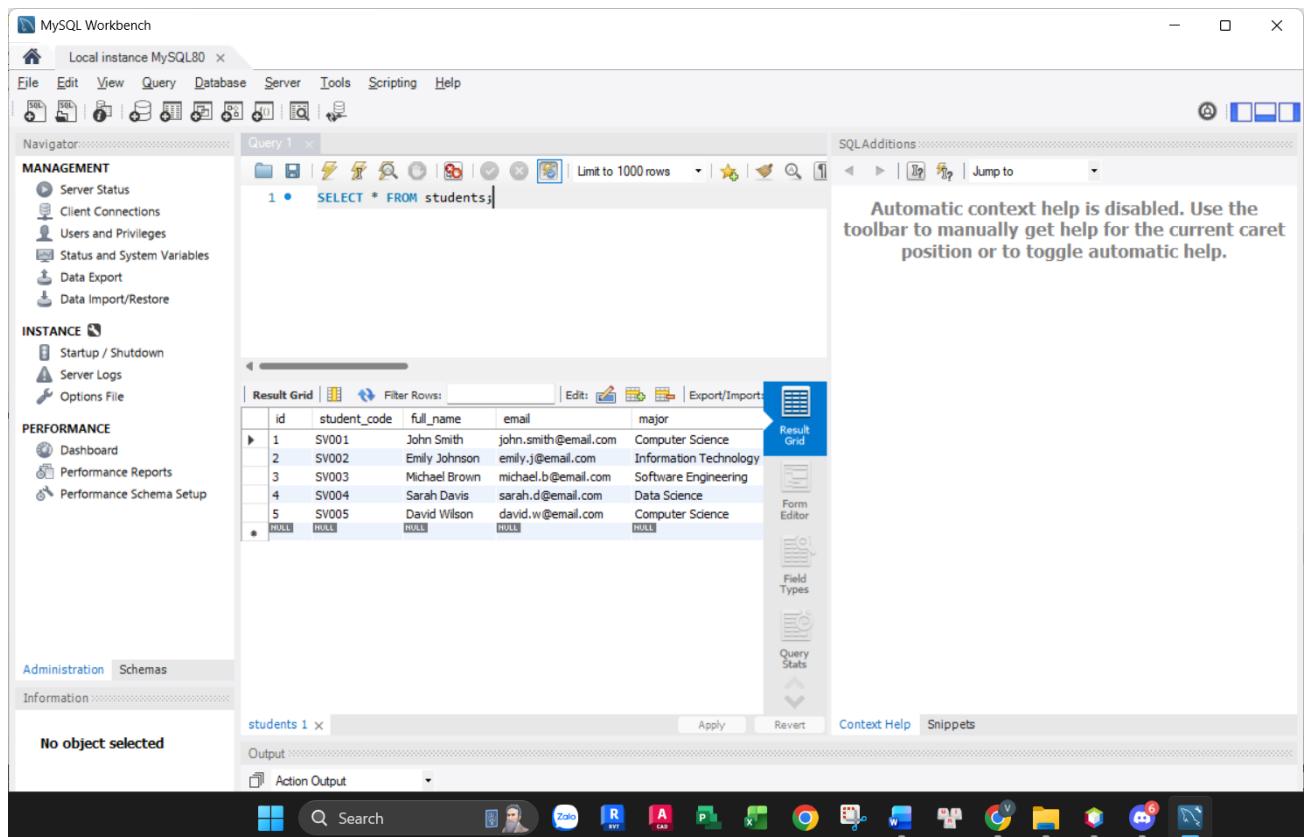
JSP + MySQL

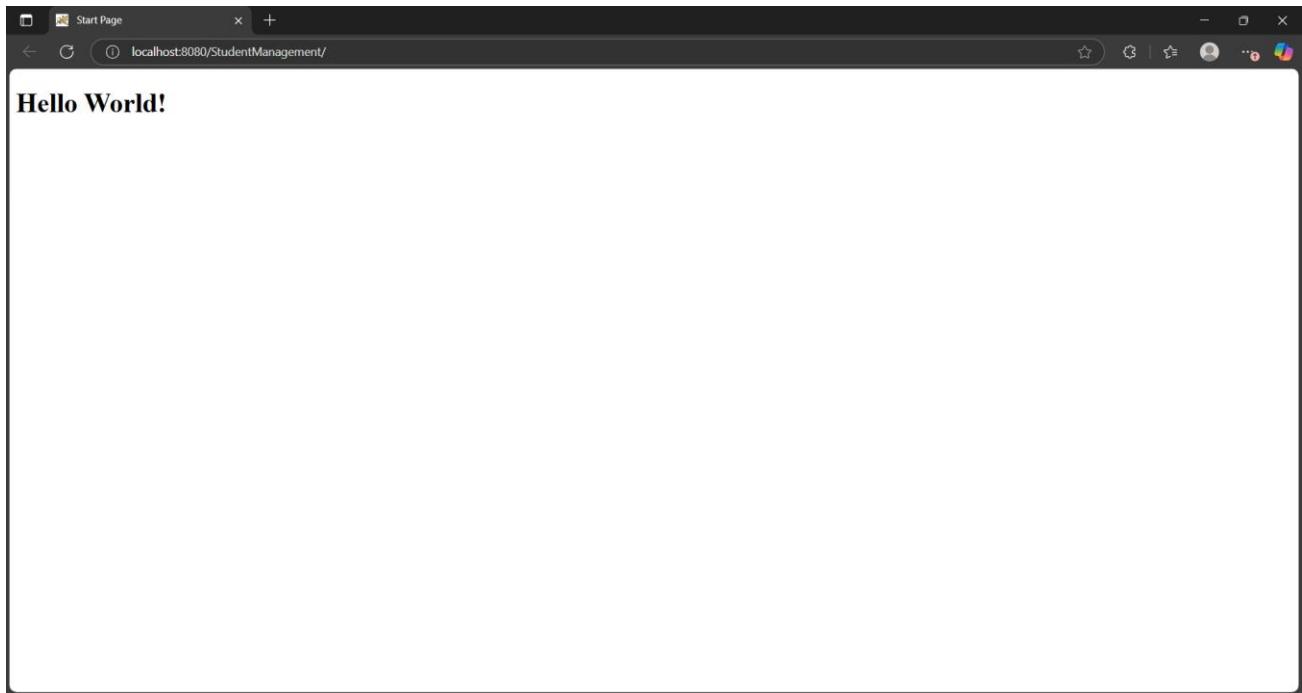
Part A – In-class practices and exercises

I. Exercise 1: SETUP AND DISPLAY

Task 1.1. - Setting up the DB and Project

- Database is set up with MySQL and executing “SELECT * FROM students;” returns exactly 5 students.
- NetBeans project configured with Tomcat sever runs smoothly.





Task 1.2 – Display Student List

A screenshot of a web browser window showing a student management system. The title bar says 'Student List'. The address bar shows 'localhost:8080/StudentManagement/list_students.jsp'. The main content area displays a table titled 'Student Management System' with the following data:

ID	Student Code	Full Name	Email	Major	Created At	Actions
5	SV005	David Wilson	david.w@email.com	Computer Science	2025-11-08 09:23:13.0	Edit Delete
4	SV004	Sarah Davis	sarah.d@email.com	Data Science	2025-11-08 09:23:13.0	Edit Delete
3	SV003	Michael Brown	michael.b@email.com	Software Engineering	2025-11-08 09:23:13.0	Edit Delete
2	SV002	Emily Johnson	emily.j@email.com	Information Technology	2025-11-08 09:23:13.0	Edit Delete
1	SV001	John Smith	john.smith@email.com	Computer Science	2025-11-08 09:23:13.0	Edit Delete

- Code walkthrough:
 - o First off, establish connection the database with JDBC connection
 - o Execute the query “SELECT * FROM students ORDER BY id DESC” in order to get all the student data in descending order of their ID
 - o Then, for each student in our data base, take their information and parse

them into a table.

II. EXERCISE 2: CREATE OPERATION

Task 2.1: Create Add Student Form

The screenshot shows a web browser window with the URL localhost:8080/StudentManagement/add_student.jsp. The page title is "Add New Student". The form contains the following fields:

- Student Code ***: Input field with placeholder "e.g., SV001".
- Full Name ***: Input field with placeholder "Enter full name".
- Email**: Input field with placeholder "student@email.com".
- Major**: Input field with placeholder "e.g., Computer Science".

At the bottom are two buttons: a green **Save Student** button and a grey **Cancel** button.

- Code walkthrough:
 - o Simple form in html with appropriate input
 - o Submit button process user's form with process_add.jsp in task 2.2

Task 2.2: Process Add Student

Add New Student

Student Code *

Full Name *

Email

Major

Save Student **Cancel**

Student Management System

Student added successfully

ID	Student Code	Full Name	Email	Major	Created At	Actions
7	SV006	lvp	beans@gmail.com	CompSci	2025-11-08 10:53:24.0	
5	SV005	David Wilson	david.w@email.com	Computer Science	2025-11-08 09:23:13.0	
4	SV004	Sarah Davis	sarah.d@email.com	Data Science	2025-11-08 09:23:13.0	
3	SV003	Michael Brown	michael.b@email.com	Software Engineering	2025-11-08 09:23:13.0	
2	SV002	Emily Johnson	emily.j@email.com	Information Technology	2025-11-08 09:23:13.0	
1	SV001	John Smith	john.smith@email.com	Computer Science	2025-11-08 09:23:13.0	

- Code walkthrough:
 - o Get parameters from form with `request.getParameters`
 - o Establish connection with database server
 - o Insert the user information in the current table
 - o Redirect the user to the student display website if successful and an error message at the add page if not.

- Error handling for form validation

The screenshot shows a web browser window with three tabs: "Add New Student", "Student List", and "Student List". The active tab is "Add New Student". The URL in the address bar is "localhost:8080/StudentManagement/add_student.jsp?error=Student%20code%20already%20exists". The page displays an "Add New Student" form with the following fields:

- Student Code ***: A text input field containing "e.g., SV001".
- Full Name ***: A text input field containing "Enter full name".
- Email**: A text input field containing "student@email.com".
- Major**: A text input field containing "e.g., Computer Science".

A red error message box at the top states "Student code already exists". Below the form are two buttons: a green "Save Student" button and a grey "Cancel" button.

The screenshot shows a web browser window with three tabs: "Add New Student", "Student List", and "Student List". The active tab is "Add New Student". The URL in the address bar is "localhost:8080/StudentManagement/add_student.jsp?error=Student%20code%20already%20exists". The page displays an "Add New Student" form with the following fields:

- Student Code ***: A text input field containing "e.g., SV001".
- Full Name ***: A text input field containing "Ivp". A red error message box next to it says "Please fill out this field."
- Email**: A text input field containing "beans@gmail.com".
- Major**: A text input field containing "CompSci".

Two error message boxes are visible: one for the student code and one for the full name field. Below the form are two buttons: a green "Save Student" button and a grey "Cancel" button.

III. EXERCISE 3: UPDATE OPERATION

The screenshot shows a web application window titled "Edit Student Information". The URL in the address bar is "localhost:8080/StudentManagement/edit_student.jsp?id=7". The form contains the following fields:

- Student Code**: SV006 (disabled, cannot be changed)
- Full Name ***: Ivp
- Email**: beans@gmail.com
- Major**: CompSci

At the bottom of the form are two buttons: a yellow "Update" button with a pencil icon and a grey "Cancel" button.

- Code walkthrough:
 - o Establish a connection to the database
 - o Retrieve user information based on their ID
 - o Parse them onto a form
 - o On submit form, process the form information make the necessary updates to the database.

Task 3.2: Process Update

The screenshot shows a web browser window with three tabs all titled "Student List". The active tab's URL is `localhost:8080/StudentManagement/list_students.jsp?message=Student%20updated%20successfully`. The page title is "Student Management System". A green success message bar at the top says "Student updated successfully". Below it is a blue button labeled "+ Add New Student". A table lists six student records:

ID	Student Code	Full Name	Email	Major	Created At	Actions
7	SV006	Ivp	beans@gmail.com	Computer Science	2025-11-08 10:53:24.0	Edit Delete
5	SV005	David Wilson	david.w@email.com	Computer Science	2025-11-08 09:23:13.0	Edit Delete
4	SV004	Sarah Davis	sarah.d@email.com	Data Science	2025-11-08 09:23:13.0	Edit Delete
3	SV003	Michael Brown	michael.b@email.com	Software Engineering	2025-11-08 09:23:13.0	Edit Delete
2	SV002	Emily Johnson	emily.j@email.com	Information Technology	2025-11-08 09:23:13.0	Edit Delete
1	SV001	John Smith	john.smith@email.com	Computer Science	2025-11-08 09:23:13.0	Edit Delete

The screenshot shows a web browser window with three tabs all titled "Student List". The active tab's URL is `localhost:8080/StudentManagement/list_students.jsp?error=Student%20not%20found`. The page title is "Student Management System". A pink error message bar at the top says "Student not found". Below it is a blue button labeled "+ Add New Student". A table lists the same six student records as the previous screenshot:

ID	Student Code	Full Name	Email	Major	Created At	Actions
7	SV006	Ivp	beans@gmail.com	Computer Science	2025-11-08 10:53:24.0	Edit Delete
5	SV005	David Wilson	david.w@email.com	Computer Science	2025-11-08 09:23:13.0	Edit Delete
4	SV004	Sarah Davis	sarah.d@email.com	Data Science	2025-11-08 09:23:13.0	Edit Delete
3	SV003	Michael Brown	michael.b@email.com	Software Engineering	2025-11-08 09:23:13.0	Edit Delete
2	SV002	Emily Johnson	emily.j@email.com	Information Technology	2025-11-08 09:23:13.0	Edit Delete
1	SV001	John Smith	john.smith@email.com	Computer Science	2025-11-08 09:23:13.0	Edit Delete

- Code walkthrough:
 - o Establish connection with the database
 - o Validate some critical information, namely student name and id
 - o Perform the necessary updates
 - o Redirect the user the appropriate next page.

IV. EXERCISE 4: DELETE OPERATION

ID	Student Code	Full Name	Email	Major	Created At	Actions
7	SV006	lvp	beans@gmail.com	Computer Science	2025-11-08 10:53:24.0	
5	SV005	David Wilson	david.w@email.com	Computer Science	2025-11-08 09:23:13.0	
4	SV004	Sarah Davis	sarah.d@email.com	Data Science	2025-11-08 09:23:13.0	
3	SV003	Michael Brown	michael.b@email.com	Software Engineering	2025-11-08 09:23:13.0	
2	SV002	Emily Johnson	emily.j@email.com	Information Technology	2025-11-08 09:23:13.0	
1	SV001	John Smith	john.smith@email.com	Computer Science	2025-11-08 09:23:13.0	

ID	Student Code	Full Name	Email	Major	Created At	Actions
5	SV005	David Wilson	david.w@email.com	Computer Science	2025-11-08 09:23:13.0	
4	SV004	Sarah Davis	sarah.d@email.com	Data Science	2025-11-08 09:23:13.0	
3	SV003	Michael Brown	michael.b@email.com	Software Engineering	2025-11-08 09:23:13.0	
2	SV002	Emily Johnson	emily.j@email.com	Information Technology	2025-11-08 09:23:13.0	
1	SV001	John Smith	john.smith@email.com	Computer Science	2025-11-08 09:23:13.0	

- Code walkthrough:
 - o Establish connection with the database
 - o Perform the delete update base on ID
 - o Redirect user to the appropriate web page with message