

# WEB ESSENTIAL

## Assignment-2

1. Create a JSP page that displays the current date and time. Use JSP declarations, directives, and expressions to achieve this. in javascript programming language

```
<%@ page language="java" contentType="text/html; charset=UTF-8" pageEncoding="UTF-8"%> <%@ page import="java.util.Date" %>
<%!
    public String getCurrentDateTime() {
return new Date().toString();
    }
%>
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Current Date and Time</title>
</head>
<body>
    <h2>Current Date and Time (from JSP):</h2>
    <p>
        <%-- Expression: Outputs result of method call --%>
        <%= getCurrentDateTime() %>
    </p>

    <hr>
    <h2>Current Date and Time (from JavaScript):</h2>
```

```

<p id="jsTime"></p>

<script>    function updateTime() {        const now = new
Date();    document.getElementById("jsTime").innerText =
now.toString();

        }

        updateTime();

setInterval(updateTime, 1000);

</script>

</body>

```

### Example Output (Rendered in Browser)

Current Date and Time (from JSP):

Wed Oct 08 15:42:10 GMT+0530 2025

2. Write a PHP program that validates user input (e.g., name, email, password) using built-in functions and regular expressions.

```

<?php

$name = $email = $password = ""; $nameErr =

$emailErr = $passwordErr = ""; f

($_SERVER["REQUEST_METHOD"] == "POST") {

    if (empty($_POST["name"])) {

        $nameErr = "Name is required.";

    } else {

        $name = test_input($_POST["name"]);

        if (!preg_match("/^[a-zA-Z\s]+$/", $name)) {

            $nameErr = "Only letters and spaces are allowed in name.";

```

```

    }
}

if (empty($_POST["email"])) {

    $emailErr = "Email is required.";

} else {

    $email = test_input($_POST["email"]);    if

(!filter_var($email, FILTER_VALIDATE_EMAIL)) {

        $emailErr = "Invalid email format.";

    }

}

if (empty($_POST["password"])) {

    $passwordErr = "Password is required.";

} else {

    $password = test_input($_POST["password"]);    if

(!preg_match("/^(?=.*[a-z])(?=.*[A-Z])(?=.*\d){8,}$/", $password)) {

        $passwordErr = "Password must be at least 8 characters and include a number,
a lowercase and an uppercase letter.";

    }

}

}

function test_input($data) {    return

htmlspecialchars(stripslashes(trim($data)));

}

```

```
?>

<!DOCTYPE html>

<html>

<head>

    <title>PHP Input Validation</title>

</head>

<body>

<h2>User Registration</h2>

<form method="post" action="<?php echo htmlspecialchars($_SERVER["PHP_SELF"]);
?>">

    Name: <input type="text" name="name" value="<?php echo $name; ?>">

    <span style="color:red">* <?php echo $nameErr; ?></span><br><br>

    Email: <input type="text" name="email" value="<?php echo $email; ?>">

    <span style="color:red">* <?php echo $emailErr; ?></span><br><br>

    Password: <input type="password" name="password">

    <span style="color:red">* <?php echo $passwordErr; ?></span><br><br>

    <input type="submit" value="Register">

</form>

<?php

if ($_SERVER["REQUEST_METHOD"] == "POST" && !$nameErr && !$emailErr &&
!$passwordErr) {    echo "<h3>成功 Registration

Successful!</h3>";    echo
```

```
"<strong>Name:</strong> $name<br>";    echo  
  
"<strong>Email:</strong> $email<br>";  
  
}  
  
?>  
  
</body>
```

### Initial Page Load (before submission)

#### User Registration

Name:    [        ]  
Email:    [            ]  
Password: [            ]  
[ Register ]

#### Successful Submission

You enter:

- Name: John Doe
- Email: john.doe@example.com
- Password: Secure123

#### User Registration

Name:    [ John Doe    ]  
Email:    [ john.doe@example.com ]  
Password: [            ]  
[ Register ]

🎉 Registration Successful! Name: John Doe

Email: [john.doe@example.com](mailto:john.doe@example.com)

3. Create a JSP page that connects to a database and displays data from a table.

## 1. Database Setup (MySQL)

```
CREATE DATABASE testdb;
```

```
USE testdb; CREATE TABLE users (  id
INT PRIMARY KEY AUTO_INCREMENT,
name VARCHAR(100),  email
VARCHAR(100)
);
INSERT INTO users (name, email) VALUES
('Alice', 'alice@example.com'),
('Bob', 'bob@example.com'),
('Charlie', 'charlie@example.com');
```

## 2. JSP Page: displayUsers.jsp

```
<%@ page import="java.sql.*" %>
<%@ page contentType="text/html; charset=UTF-8" language="java" %>
<!DOCTYPE html>
<html>
<head>
  <title>Display Users</title>
  <style>
    table {
      border-collapse: collapse;
width: 50%;
    }
    th, td {
      border: 1px solid #999;
padding: 8px;
```

```

    }
th {
    background-color: #f2f2f2;
}
</style>
</head>
<body>
<h2>User List</h2>
<%
    String url = "jdbc:mysql://localhost:3306/testdb";
    String username = "root"; // change if your MySQL user is different
    String password = ""; // add your password here
    Connection conn = null;
    Statement stmt = null;
ResultSet rs = null;
    try {
        Class.forName("com.mysql.cj.jdbc.Driver");
        conn =
DriverManager.getConnection(url, username, password);
        stmt
= conn.createStatement();
        String sql = "SELECT id, name, email FROM users";
rs = stmt.executeQuery(sql);
    %>
<table>
    <tr>
        <th>ID</th>
        <th>Name</th>
        <th>Email</th>

```

```

        </tr>
    <%
        while (rs.next()) {
    %>

    <tr>

        <td><%= rs.getInt("id") %></td>

        <td><%= rs.getString("name") %></td>

        <td><%= rs.getString("email") %></td>

    </tr>

    <%
        }

        } catch (Exception e) {    out.println("<p>Error: "
+ e.getMessage() + "</p>");

        } finally {

            // Close resources    if (rs != null) try { rs.close(); } catch
(SQLException ignored) {}    if (stmt != null) try { stmt.close(); }
catch (SQLException ignored) {}    if (conn != null) try {
conn.close(); } catch (SQLException ignored) {}

        }
    %>
</table>
</body>
</html>

```

### Sample Output HTML (Rendered)

```

<h2>User List</h2>

<table>

    <tr>

```



```

        <th>ID</th><th>Name</th><th>Email</th>
    </tr>
    <tr>
        <td>1</td><td>Alice</td><td>alice@example.com</td>
    </tr>
    <tr>
        <td>2</td><td>Bob</td><td>bob@example.com</td>
    </tr>
    <tr>
        <td>3</td><td>Charlie</td><td>charlie@example.com</td>
    </tr>
</table>

```

4. Develop a RESTful web service using PHP that provides data in JSON format.

#### 1. Create Database Connection

```

<?php
$host = "localhost";
$user = "root";
$pass = "yourpassword";
$db = "college_db";
$conn = new mysqli($host, $user, $pass, $db);
if ($conn->connect_error) {
    die(json_encode(["error" => "Database connection failed: " . $conn->connect_error]));
}
?>

```

#### 2. Create REST API Endpoint

```

<?php
header("Content-Type: application/json");
header("Access-Control-Allow-Origin: *");
include 'db.php';
if (isset($_GET['id'])) {
    $id = intval($_GET['id']);
    $sql = "SELECT * FROM students WHERE id = $id";
} else {
    // Otherwise return all students
    $sql = "SELECT * FROM students";
}
$result = $conn->query($sql);
if ($result->num_rows > 0) {
    $students = array();
    while ($row = $result->fetch_assoc()) {
        $students[] = $row;
    }
    echo json_encode($students, JSON_PRETTY_PRINT);
} else {
    echo json_encode(["message" => "No records found"]);
}
$conn->close();
?>

```

### 3. Test the API

<http://localhost/restapi/getStudents.php>

Response:

```
[ {  
    "id": "1",  
    "name": "Prem Kumar",  
    "course": "Java",  
    "marks": "95"  
 }, {  
    "id": "2",  
    "name": "Asha Rani",  
    "course": "Python",  
    "marks": "89"  
 } ]
```

5. Create a JSP application that uses session tracking to store user preferences (e.g., username, language).

Step 1: index.jsp

```
<!DOCTYPE html>  
  
<html>  
  
<head>  
  
    <title>User Preferences</title>  
  
    <style>  
        body {  
            font-family: Arial;  
            background: #f2f2f2;  
            text-align: center;  
            margin-top: 100px;  
        }  
    }
```

```
form {  
    background: white;  
    display: inline-block;  
    padding: 30px;  
    border-radius: 12px;  
    box-shadow: 0 0 10px rgba(0,0,0,0.2);  
}  
  
input, select {  
    padding: 10px;  
    margin: 10px;  
    width: 200px;  
}  
  
button {  
    background-color: #0078d7;  
    color: white;  
    border: none;  
    padding: 10px 20px;  
    border-radius: 5px;  
    cursor: pointer;  
}  
  
button:hover { background-color: #005bb5; }  
  
</style>  
</head>  
<body>  
  
    <h2>Set Your Preferences</h2>
```

```

<form action="savePreferences.jsp" method="post">

    <input type="text" name="username" placeholder="Enter your name"
required><br>

    <select name="language" required>

        <option value="">-- Select Language --</option>

        <option value="English">English</option>

        <option value="Tamil">Tamil</option>

        <option value="Hindi">Hindi</option>

        <option value="Telugu">Telugu</option>

    </select><br>

    <button type="submit">Save Preferences</button>

</form>

</body>

</html>

```

## Step 2: savePreferences.jsp

```

<%@ page language="java" contentType="text/html; charset=UTF-8" %>
<%
    String username = request.getParameter("username");
    String language = request.getParameter("language");
    session.setAttribute("username", username);
    session.setAttribute("language", language);
%>

<!DOCTYPE html>
<html>
<head>
    <title>Preferences Saved</title>
</head>
<body style="font-family: Arial; text-align:center; margin-top:80px;">
    <h2>Preferences Saved Successfully!</h2>

```

```

    <p><b>Username:</b> <%= username %></p>
    <p><b>Language:</b> <%= language %></p>
    <a href="showPreferences.jsp">View Preferences</a>
</body>
</html>

```

### Step 3: showPreferences.jsp

```

<%@ page language="java" contentType="text/html; charset=UTF-8" %>
<%
    String username = (String) session.getAttribute("username");
    String language = (String) session.getAttribute("language");
%>

<!DOCTYPE html>
<html>
<head>
    <title>Show Preferences</title>
</head>
<body style="font-family: Arial; text-align:center; margin-top:80px;">

<%
    if (username != null && language != null) {
%>
        <h2>Welcome Back, <%= username %>!</h2>
        <p>Your preferred language is: <b><%= language %></b></p>
        <a href="index.jsp">Change Preferences</a>
<%
    } else {
%>
        <h3>No session data found!</h3>
        <a href="index.jsp">Set Preferences</a>
<%
    }
%>

</body>
</html>

```