



## Department of Computer Technology

### Vision of the Department

To be a well-known centre for pursuing computer education through innovative pedagogy, value-based education and industry collaboration.

### Mission of the Department

To establish learning ambience for ushering in computer engineering professionals in core and multidisciplinary area by developing Problem-solving skills through emerging technologies.

### Session 2025-2026

<b>Vision:</b> Dream of where you want.	<b>Mission:</b> Means to achieve Vision
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**Program Educational Objectives of the program (PEO):** (broad statements that describe the professional and career accomplishments)

PEO1	<b>Preparation</b>	<b>P: Preparation</b>	<b>Pep-CL abbreviation pronounce as Pep-si-IL easy to recall</b>
PEO2	<b>Core Competence</b>	<b>E: Environment (Learning Environment)</b>	
PEO3	<b>Breadth</b>	<b>P: Professionalism</b>	
PEO4	<b>Professionalism</b>	<b>C: Core Competence</b>	
PEO5	<b>Learning Environment</b>	<b>L: Breadth (Learning in diverse areas)</b>	

**Program Outcomes (PO):** (statements that describe what a student should be able to do and know by the end of a program)

#### Keywords of POs:

Engineering knowledge, Problem analysis, Design/development of solutions, Conduct Investigations of Complex Problems, Engineering Tool Usage, The Engineer and The World, Ethics, Individual and Collaborative Team work, Communication, Project Management and Finance, Life-Long Learning

**PSO Keywords:** Cutting edge technologies, Research

"I am an engineer, and I know how to apply engineering knowledge to investigate, analyse and design solutions to complex problems using tools for entire world following all ethics in a collaborative way with proper management skills throughout my life." to contribute to the development of cutting-edge technologies and Research.

**Integrity:** I will adhere to the Laboratory Code of Conduct and ethics in its entirety.

#### Name and Signature of Student and Date

(Signature and Date in Handwritten)



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Session	2025-26 (ODD)	Course Name	Web Technology Lab
Semester	3	Course Code	23CT1301
Roll No	B-173	Name of Student	Vedant H. Kapgate

Practical Number	<b>6</b>
Course Outcome	<ol style="list-style-type: none"><li>Understand various internet technologies.</li><li>Design the web pages using HTML and CSS.</li><li>Implement the XML technology to store the data.</li><li>Develop the interactive web pages using JavaScript.</li></ol>
Aim	Parsing a file cd_catalog.xml and use the response as an XML DOM objects and extracts the info from it with JavaScript.
Problem Definition	<p>A] To create XML documents for storing structured data. First, demonstrate the use of <b>Internal and External DTD</b> through an XML file containing employee information (ID, Name, Department, Designation, Email, Salary).</p> <p>B] design an XML file for employee information and use <b>DOM parsing</b> to access and display the data of the <b>second employee</b>.</p>
Theory (100 words)	<p>XML (Extensible Markup Language) is a markup language used to store and transport data. Unlike HTML, which is designed to display data, XML focuses on describing the structure and meaning of data using custom tags. In this experiment, we parse an XML file named <i>cd_catalog.xml</i> containing details of music CDs and display the data in a tabular format using HTML, CSS, and JavaScript.</p> <p>The XML file is created with tags such as &lt;TITLE&gt;, &lt;ARTIST&gt;, &lt;COUNTRY&gt;, &lt;COMPANY&gt;, &lt;PRICE&gt;, and &lt;YEAR&gt;. To read this data, JavaScript uses the XMLHttpRequest object to send a request to the server. Once the request is completed and the response is ready, the XML DOM object is accessed. The data is extracted using tag names and dynamically inserted into an HTML table. CSS is used to style the table for better presentation. On clicking a button, the details are displayed neatly in tabular form.</p>



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Procedure and Execution (100 Words)	<p><b>Step for Implementation:</b></p> <ol style="list-style-type: none"><li><b>Create XML file (cd_catalog.xml):</b><ul style="list-style-type: none"><li>Define &lt;CATALOG&gt; as the root element.</li><li>Add &lt;CD&gt; entries with tags like &lt;TITLE&gt;, &lt;ARTIST&gt;, &lt;COUNTRY&gt;, &lt;COMPANY&gt;, &lt;PRICE&gt;, &lt;YEAR&gt;.</li></ul></li><li><b>Create HTML file (index.html):</b><ul style="list-style-type: none"><li>Add a button to fetch CD details.</li><li>Add an empty table structure for displaying data.</li></ul></li><li><b>Add CSS styling:</b><ul style="list-style-type: none"><li>Style table, rows, and button for better readability.</li></ul></li><li><b>Write JavaScript functions:</b><ul style="list-style-type: none"><li>Use XMLHttpRequest in loadXMLDoc() to fetch the XML file.</li><li>Check if response is ready and status is "OK".</li><li>Parse XML DOM using getElementsByTagName().</li><li>Extract data and insert into the HTML table.</li></ul></li><li><b>Run the project:</b><ul style="list-style-type: none"><li>Open index.html in a browser.</li><li>Click the button to display CD details in tabular form.</li></ul></li></ol>
	<p><b>Code:</b></p> <p>Index.html</p> <pre>&lt;!DOCTYPE html&gt; &lt;html lang="en"&gt; &lt;head&gt; &lt;meta charset="UTF-8"&gt; &lt;meta name="viewport" content="width=device-width, initial-scale=1"&gt; &lt;title&gt;CD Catalog Viewer&lt;/title&gt; &lt;style&gt; body {     font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;     background-color: #f9f9f9;     margin: 0;     padding: 40px;     color: #333; } h1 {     text-align: center;     color: #444;     margin-bottom: 30px; } table {     width: 100%;     border-collapse: collapse;     box-shadow: 0 2px 8px rgba(0,0,0,0.1);     background-color: #fff;</pre>



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---

```
        }
    th, td {
        padding: 12px 16px;
        border-bottom: 1px solid #ddd;
        text-align: left;
    }
    th {
        background-color: #4CAF50;
        color: white;
        font-weight: 600;
    }
    tr:hover {
        background-color: #f1f1f1;
    }
    @media (max-width: 600px) {
        table, thead, tbody, th, td, tr {
            display: block;
        }
        th {
            position: sticky;
            top: 0;
            background-color: #4CAF50;
        }
        td {
            border: none;
            padding: 10px;
            position: relative;
        }
        td::before {
            content: attr(data-label);
            font-weight: bold;
            display: block;
            margin-bottom: 5px;
            color: #555;
        }
    }
}
</style>
</head>
<body>

<h1>🎵 CD Catalog</h1>
<table id="cdTable">
    <thead>
        <tr>
            <th>Title</th>
```



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```
<th>Artist</th>
<th>Country</th>
<th>Company</th>
<th>Price</th>
</tr>
</thead>
<tbody></tbody>
</table>

<script>
fetch('cd_catalog.xml')
.then(response => response.text())
.then(data => {
  const parser = new DOMParser();
  const xmlDoc = parser.parseFromString(data, 'application/xml');
  const cds = xmlDoc.getElementsByTagName('CD');
  const tableBody = document.querySelector('#cdTable tbody');

  for (let i = 0; i < cds.length; i++) {
    const title = cds[i].getElementsByTagName('TITLE')[0]?.textContent || '';
    const artist = cds[i].getElementsByTagName('ARTIST')[0]?.textContent || '';
    const country = cds[i].getElementsByTagName('COUNTRY')[0]?.textContent || '';
    const company = cds[i].getElementsByTagName('COMPANY')[0]?.textContent || '';
    const price = cds[i].getElementsByTagName('PRICE')[0]?.textContent || '';

    const row = document.createElement('tr');
    row.innerHTML =
      `<td data-label="Title">${title}</td>
       <td data-label="Artist">${artist}</td>
       <td data-label="Country">${country}</td>
       <td data-label="Company">${company}</td>
       <td data-label="Price">${price}</td>`;
    tableBody.appendChild(row);
  }
})
.catch(error => console.error('Error loading XML:', error));
</script>

</body>
</html>
```



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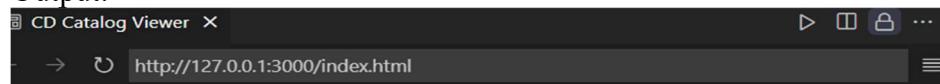
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```
cd_catalog.xml

<CATALOG>
<CD>
<TITLE>Empire Burlesque</TITLE>
<ARTIST>Bob Dylan</ARTIST>
<COUNTRY>USA</COUNTRY>
<COMPANY>Columbia</COMPANY>
<PRICE>10.90</PRICE>
</CD>
<CD>
<TITLE>Hide your heart</TITLE>
<ARTIST>Bonnie Tyler</ARTIST>
<COUNTRY>UK</COUNTRY>
<COMPANY>CBS Records</COMPANY>
<PRICE>9.90</PRICE>
</CD>
</CATALOG>
```

### Output:



## ♫ CD Catalog

Title	Artist	Country	Company	Price
Empire Burlesque	Bob Dylan	USA	Columbia	10.90
Hide your heart	Bonnie Tyler	UK	CBS Records	9.90



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Output Analysis	<ol style="list-style-type: none"><li>1. The output of this experiment is the successful parsing and display of XML file data in tabular form using JavaScript. When the user opens the index.html file in the browser, a button labeled “Get CD details” is shown. On clicking this button, the JavaScript code sends an XMLHttpRequest to load the cd_catalog.xml file. The XML data is then parsed into an XML DOM object, and details such as Title, Artist, Country, Company, Price, and Year are extracted using their respective tag names.</li><li>2. The extracted data is dynamically inserted into an HTML table and displayed on the screen. Each &lt;CD&gt; entry from the XML file appears as one row in the table, making the information easy to read. The CSS styling ensures that the table has clear borders, padding, and alignment for neat presentation. This confirms that the XML file has been successfully read, parsed, and displayed using JavaScript.</li></ol>
Link of student Github profile where lab assignment has been uploaded	<b><a href="https://github.com/vedant0517/Web-Technology-SEC-B-173">https://github.com/vedant0517/Web-Technology-SEC-B-173</a></b>
Conclusion	In this experiment, we successfully demonstrated how to parse an XML file and display its data in a structured tabular format using HTML, CSS, and JavaScript. The use of XMLHttpRequest allowed us to fetch and process XML data efficiently. This practical implementation shows how XML can be used to store and transport data, while JavaScript helps in dynamically extracting and presenting the information on a web page.



Nagar Yuwak Shikshan Sanstha's

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NAAC A++

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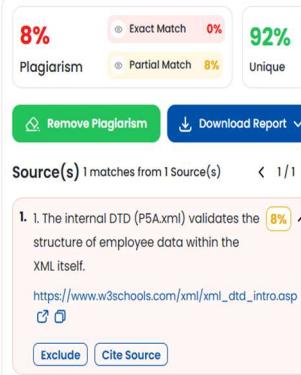
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