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## ADBMS Exp7

Aim: Query Execution on an XML database

### Theory:

ADBMS  
Exp7

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Aim: Query Execution on XML Database

Theory:

- XML Database is used to store huge amount of information in XML format.
- As the use of XML is increasing in every field, it is required to have a secured place to store XML documents.
- The data stored in db can be queried using XQuery, serialized & exported into a desired format.
- There are 2 major types of XML databases.
- A) XML-enabled - The extension provided for conversion of XML document. It is a relational database.
- B) Native XML - Based on the container rather than table format. It can store large amount of XML document & data.
- XML makes it easier to express metadata in a portable, reusable format.
- Also XML stores the data in plain text format.
- It does this, so that the data can be easily understood by its users.
- For this we have to make sure <sup>multiple</sup> browsers can manage XML documents just like

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- HTML documents
- XML provides a software & hardware independent way of storing, transporting & sharing data.
- XML also makes it easier to expand or upgrade to new OS.

#### Conclusion:-

A book catalog, consisting of information about books was initially an HTML file.

Using XMLHttpRequest(), it was displayed in HTML Table.

The data was further converted to JSON & then search queries were performed on data. Then we used xrt tags to represent separate entities in XML db.

## Code:

```
<html>
<head>
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
    margin: 5px;
}
th, td {
    padding: 5px;
}
input {
    margin-bottom: 5px;
}
</style>
</head>
<body>

<button type="button" onclick="loadXMLDoc()">View
Information about the Books</button>
<br><br>

<table id="data-table"></table>

<script>

function loadXMLDoc() {
    var xmlhttp = new XMLHttpRequest();
    xmlhttp.onreadystatechange = function() {
        if (this.readyState == 4 && this.status == 200) {
```

```

        myFunction(this);
    }
};
xmlhttp.open("GET", "books.xml", true);
xmlhttp.send();
}
function myFunction(xml) {
    var i;
    var xmlDoc = xml.responseXML;
    var
table="<tr><th>Title</th><th>Author</th><th>Genre</th>
><th>Price</th><th>Publish
Date</th><th>Description</th></tr>";
    var x = xmlDoc.getElementsByTagName("book");

    for (i = 0; i <x.length; i++) {

        table += "<tr><td>" +

x[i].getElementsByTagName("title")[0].childNodes[0].n
odeValue +
        "</td><td>" +

x[i].getElementsByTagName("author")[0].childNodes[0].
nodeValue +
        "</td><td>" +

x[i].getElementsByTagName("genre")[0].childNodes[0].n
odeValue +
        "</td><td>"+

x[i].getElementsByTagName("price")[0].childNodes[0].n

```

```

odeValue +
    "</td><td>" +

x[i].getElementsByTagName("publish_date")[0].childNodes[0].nodeValue +
    "</td><td>" +

x[i].getElementsByTagName("description")[0].childNodes[0].nodeValue +
    "</td></tr>";

    }

    document.getElementById("data-table").innerHTML =
table;

}

</script>

</body>
</html>

```

### XML used:

```

<?xml version="1.0"?>
<catalog>
  <book id="bk101">
    <author>Gambardella, Matthew</author>
    <title>XML Developer's Guide</title>
    <genre>Computer</genre>
    <price>44.95</price>
    <publish_date>2000-10-01</publish_date>
    <description>An in-depth look at creating applications
with XML.</description>
  </book>
  <book id="bk102">
    <author>Ralls, Kim</author>

```

```
<title>Midnight Rain</title>
<genre>Fantasy</genre>
<price>5.95</price>
<publish_date>2000-12-16</publish_date>
<description>A former architect battles corporate zombies,
an evil sorceress, and her own childhood to become queen
of the world.</description>
</book>
<book id="bk103">
  <author>Corets, Eva</author>
  <title>Maeve Ascendant</title>
  <genre>Fantasy</genre>
  <price>5.95</price>
  <publish_date>2000-11-17</publish_date>
  <description>After the collapse of a nanotechnology
society in England, the young survivors lay the
foundation for a new society.</description>
</book>
<book id="bk104">
  <author>Corets, Eva</author>
  <title>Oberon's Legacy</title>
  <genre>Fantasy</genre>
  <price>5.95</price>
  <publish_date>2001-03-10</publish_date>
  <description>In post-apocalypse England, the mysterious
agent known only as Oberon helps to create a new life
for the inhabitants of London. Sequel to Maeve
Ascendant.</description>
</book>
<book id="bk105">
  <author>Corets, Eva</author>
  <title>The Sundered Grail</title>
  <genre>Fantasy</genre>
  <price>5.95</price>
  <publish_date>2001-09-10</publish_date>
  <description>The two daughters of Maeve, half-sisters,
battle one another for control of England. Sequel to
Oberon's Legacy.</description>
</book>
<book id="bk106">
  <author>Randall, Cynthia</author>
  <title>Lover Birds</title>
  <genre>Romance</genre>
  <price>4.95</price>
  <publish_date>2000-09-02</publish_date>
  <description>When Carla meets Paul at an ornithology
conference, tempers fly as feathers get ruffled.</description>
</book>
<book id="bk107">
  <author>Thurman, Paula</author>
  <title>Splish Splash</title>
  <genre>Romance</genre>
  <price>4.95</price>
  <publish_date>2000-11-02</publish_date>
  <description>A deep sea diver finds true love twenty
thousand leagues beneath the sea.</description>
</book>
<book id="bk108">
```



```
<author>Knorr, Stefan</author>
<title>Creepy Crawlies</title>
<genre>Horror</genre>
<price>4.95</price>
<publish_date>2000-12-06</publish_date>
<description>An anthology of horror stories about roaches,
centipedes, scorpions and other insects.</description>
</book>
<book id="bk109">
  <author>Kress, Peter</author>
  <title>Paradox Lost</title>
  <genre>Science Fiction</genre>
  <price>6.95</price>
  <publish_date>2000-11-02</publish_date>
  <description>After an inadvertant trip through a Heisenberg
  Uncertainty Device, James Salway discovers the problems
  of being quantum.</description>
</book>
<book id="bk110">
  <author>O'Brien, Tim</author>
  <title>Microsoft .NET: The Programming Bible</title>
  <genre>Computer</genre>
  <price>36.95</price>
  <publish_date>2000-12-09</publish_date>
  <description>Microsoft's .NET initiative is explored in
  detail in this deep programmer's reference.</description>
</book>
<book id="bk111">
  <author>O'Brien, Tim</author>
  <title>MSXML3: A Comprehensive Guide</title>
  <genre>Computer</genre>
  <price>36.95</price>
  <publish_date>2000-12-01</publish_date>
  <description>The Microsoft MSXML3 parser is covered in
  detail, with attention to XML DOM interfaces, XSLT processing,
  SAX and more.</description>
</book>
<book id="bk112">
  <author>Galos, Mike</author>
  <title>Visual Studio 7: A Comprehensive Guide</title>
  <genre>Computer</genre>
  <price>49.95</price>
  <publish_date>2001-04-16</publish_date>
  <description>Microsoft Visual Studio 7 is explored in depth,
  looking at how Visual Basic, Visual C++, C#, and ASP+ are
  integrated into a comprehensive development
  environment.</description>
</book>
</catalog>
```

## Output:

[View Information about the Books](#)

Search a title

Search an author

Search a genre

Search a price

Search a Publish Date

Title	Author	Genre	Price	Publish Date	Description
XML Developer's Guide	Gambardella, Matthew	Computer	44.95	2000-10-01	An in-depth look at creating applications with XML.
Midnight Rain	Ralls, Kim	Fantasy	5.95	2000-12-16	A former architect battles corporate zombies, an evil sorceress, and her own childhood to become queen of the world.
Maeve Ascendant	Corets, Eva	Fantasy	5.95	2000-11-17	After the collapse of a nanotechnology society in England, the young survivors lay the foundation for a new society.
Oberon's Legacy	Corets, Eva	Fantasy	5.95	2001-03-10	In post-apocalypse England, the mysterious agent known only as Oberon helps to create a new life for the inhabitants of London. Sequel to Maeve Ascendant.
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### Result

Title	Author	Genre	Price	Publish Date	Description
Midnight Rain	Ralls, Kim	Fantasy	5.95	2000-12-16	A former architect battles corporate zombies, an evil sorceress, and her own childhood to become queen of the world.

## Conclusion:

Thus, we studied and implemented Query Execution on XML database.