1. Creating Your First XML Document

1. **Create an XML Document**:

<library>

<book>

<title>The Great Gatsby</title>

<author>F. Scott Fitzgerald</author>

<year>1925</year>

<genre>Fiction</genre>

</book>

<book>

<title>To Kill a Mockingbird</title>

<author>Harper Lee</author>

<year>1960</year>

<genre>Fiction</genre>

</book>

<book>

<title>1984</title>

<author>George Orwell</author>

<year>1949</year>

<genre>Dystopian</genre>

</book>

</library>



1. Parsing XML in Java

import javax.xml.parsers.DocumentBuilderFactory;

import javax.xml.parsers.DocumentBuilder;

import org.w3c.dom.Document;

import org.w3c.dom.NodeList;

import org.w3c.dom.Node;

import org.w3c.dom.Element;

import java.io.File;

public class xmlPaeser {

public static void main(String[] args) {

try {

// Create a new DocumentBuilderFactory and DocumentBuilder

DocumentBuilderFactory factory = DocumentBuilderFactory.newInstance();

DocumentBuilder builder = factory.newDocumentBuilder();

// Parse the XML file

File xmlFile = new File("ListOfBooks.xml");

Document document = builder.parse(xmlFile);

// Normalize the document

document.getDocumentElement().normalize();

// Get the list of <book> elements

NodeList nodeList = document.getElementsByTagName("book");

// Loop through each <book> element

for (int i = 0; i < nodeList.getLength(); i++) {

Node node = nodeList.item(i);

if (node.getNodeType() == Node.ELEMENT\_NODE) {

Element element = (Element) node;

// Get and print details of each book

String title = element.getElementsByTagName("title").item(0).getTextContent();

String author = element.getElementsByTagName("author").item(0).getTextContent();

String year = element.getElementsByTagName("year").item(0).getTextContent();

String genre = element.getElementsByTagName("genre").item(0).getTextContent();

System.out.println("Title: " + title);

System.out.println("Author: " + author);

System.out.println("Year: " + year);

System.out.println("Genre: " + genre);

System.out.println("-----------");

}

}

} catch (Exception e) {

e.printStackTrace();

}

}

}

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1. **Modifying XML Data**

TransformerFactory transformerFactory = TransformerFactory.newInstance();

Transformer transformer = transformerFactory.newTransformer();

DOMSource source = new DOMSource(document);

StreamResult result = new StreamResult(new File("updated\_books.xml"));

transformer.transform(source, result);

System.out.println("XML file updated and saved as updated\_books.xml");

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A screenshot of a computer program

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