

## XML Document

Book xml

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<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>
```

## Java XmlParser

```
import java.io.File;
import java.io.InputStream;
import javax.xml.parsers.*;
import javax.xml.transform.Transformer;
import javax.xml.transform.TransformerFactory;
import javax.xml.transform.dom.DOMSource;
import javax.xml.transform.stream.StreamResult;
import org.w3c.dom.*;

public class XmlParser {
    public static void main(String[] args) {
        try {
            // Load XML from the src/xmlproject folder
            InputStream inputStream = XmlParser.class.getResourceAsStream("books.xml");

            if (inputStream == null) {
                System.out.println("File not found in package xmlproject!");
                return;
            }

            // Create a DocumentBuilderFactory and parse the XML content
            DocumentBuilderFactory factory = DocumentBuilderFactory.newInstance();
            DocumentBuilder builder = factory.newDocumentBuilder();
            Document document = builder.parse(inputStream);
        }
    }
}
```

```

// Normalize document
document.getDocumentElement().normalize();

// Get all <book> elements
NodeList nodeList = document.getElementsByTagName("book");

// Loop through each book
for (int i = 0; i < nodeList.getLength(); i++) {
    Node node = nodeList.item(i);

    if (node.getNodeType() == Node.ELEMENT_NODE) {
        Element element = (Element) node;

        // Extract values for 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();

        // Print book details
        System.out.println("Title: " + title);
        System.out.println("Author: " + author);
        System.out.println("Year: " + year);
        System.out.println("Genre: " + genre);
        System.out.println("-----");
    }
}

Element firstBook = (Element) nodeList.item(0);

```

```

        firstBook.getElementsByTagName("year").item(0).setTextContent("2023");

        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);

    } catch (Exception e) {
        e.printStackTrace();
    }
}
}
}

```

