

Java DOM4J Parser - Overview

DOM4J is an open source, Java-based library to parse XML documents. It is a highly flexible and memory-efficient API. It is Java-optimized and uses Java collections like List and Arrays.

DOM4J works with DOM, SAX, XPath, and XSLT. It can parse large XML documents with very low memory footprint.

Environment Setup

In order to use DOM4J parser, you should have dom4j-2.1.4.jar in your application's classpath. You can download the jar file from [here](#).

When to Use DOM4J?

You should use a DOM4J parser when –

- You need to know a lot about the structure of an XML document.
- You need to move parts of an XML document around (you might want to sort certain elements, for example).
- You need to use the information in an XML document more than once.
- You are a Java developer and want to leverage Java-optimized parsing of XML.

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What is the Result of Parsing?

When you parse an XML document with a DOM4J parser, you get the flexibility to get back a tree structure that contains all of the elements of your document without impacting the memory footprint of the application.

DOM4J provides a variety of utility functions that you can use to examine the contents and structure of an XML document. XPath expressions can also be used to navigate through an XML document.

Advantages

Following are some advantages of DOM4J –

- Flexible and easily maintainable

- Open source, lightweight and quick API
- Random access of elements is possible

DOM4J Interfaces

The package 'org.dom4j' defines several Java interfaces. Here are the most commonly used interfaces –

Interface	Description
Document	Represents the entire XML document. A Document object is often referred to as a JDOM tree.
Element	Represents an XML element. Element object has methods to manipulate its child elements, text, attributes, and namespaces.
Attribute	Represents an attribute of an element. Attribute has methods to get and set the values of attributes.
Node	Represents Element, Attribute, or ProcessingInstruction.

DOM4J methods

When you are working with DOM4J, there are several methods you'll often use. Some of them are as follows –

Method	Description
SAXReader.read(xmlSource)	Builds a DOM4J document from an XML source.
Document.getRootElement()	Returns the root element of an XML document.
Element.node(index)	Returns the XML node at a particular index in an element.
Element.attributes()	Returns all the attributes of an element.
Node.valueOf(@Name)	Returns the values of an attribute with the given name of an element.