



**GIAX™**  
Granularity Information Architecture, Inc.  
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## Overview

GIAX™ is an Allaire ColdFusion extension (CFX) written in Sun Microsystems's Java 2™ which allows ColdFusion 4.5 programmers to take advantage of any XML document in a ColdFusion Markup Language environment. GIAX™ parses XML documents and converts them to a Document Object Model (DOM) based WDDX document, thereby allowing ColdFusion programmers to manipulate the XML document in a known and native fashion. GIAX™ also abstracts the direct use of Java based XML parsing classes from popular third party XSL Transformation tools, namely Apache Software Foundation's Xerces, James Clark's XT, IBM's LotusXSL, and others, allowing for modular use of XSL parsers in Allaire ColdFusion.

Use of GIAX™ assumes some knowledge of XML (Extensible Markup Language), Allaire ColdFusion, and familiarity with WDDX, ColdFusion Structures and Arrays.

## Usage Syntax

Once installed, any XML document can be imported into ColdFusion as a ColdFusion variable for access in CFML documents. The ColdFusion variable result follows the WDDX/DOM specification below. An example syntax is:

```
<cfx_giaX    URI="kitten.xml"
            OUT="myWDDXDOM" />
```

In this example usage, the XML file `kitten.xml` will be read in via the URI attribute, converted to a WDDX/DOM Structure, and placed in ColdFusion variable `myWDDXDOM`, which can then be accessed via common ColdFusion methods, such as array references and structure references.

Additionally, GIAX™ provides stream or string input for XML, via passing an XML document to GIAX™ via that XML attribute. For example:

```
<cffile action="read" file="d:\temp\kitten.xml" variable="myXML" />

<cfx_giaX    XML="#myXML#"
            OUT="myWDDXDOM" />
```

## WDDX/DOM

The WDDX/DOM is Granularity Information Architecture's ColdFusion-accessible data structure representation of any XML document that can be consistently traversed to retrieve the maximum amount of information, conforming as close as possible to W3C's [DOM Level 1](#).

Having an XML file accessible as a WDDX structure allows ColdFusion programmers to treat XML documents as native ColdFusion Structures and Arrays.

For example, using the built-in CFWDDX tag:

## GIAX™: XML Processing for Allaire ColdFusion Specification Sheet

```
<cf_wddx action="wddx2cfml" input="#myWDDXDOM#" output="myXMLdoc" />
```

Will allow the ColdFusion programmer to utilize common structure/array references to retrieve element, attribute, and text nodes of the XML document:

```
<cfoutput>#myXMLdoc.document.root.node[4].node[2].text#</cfoutput>
```

This example retrieves the text node of the 2<sup>nd</sup> element of the 4<sup>th</sup> element from the XML document. For a further discussion, see *giaX: WDDX/DOM Specification*.

### Requirements

GIAXT requires

- Allaire ColdFusion 4.5 or higher
- Sun Java2™ Standard Edition (JSE) 1.2 / Sun JDK 1.2.2 / Sun JRE 1.2.2
- An XML parser Java class package (Apache Software Foundation's Xerces)
- GIAX base Java2™ classes, provided as a Java Archive (jar)

## Contents of GIAX Download

GIAX version 1.0 r6 contains the following in the zip archive when downloaded:

- `giax.jar` – a Java2™ CFX XML parser interface
- `kitten.xml` – an example XML document
- `ReleaseNotes.html` – latest release notes in HTML format
- `test.cfm` – an example of usage
- `Licence-GIA-GIAX-Evaluation.txt` - Granularity Information Architecture, Inc.'s End User License Agreement for Evaluation use; 30 day trial license (by downloading GIAX, you are agreeing to terms contained within this license)  
For full commercial pricing, please contact Granularity Information Architecture, (contact information below)
- `xerces.jar` – version 1.2 of Apache Software Foundation's Xerces/Java XML parser.

## Installation

1. Create a directory to hold GIA related java jars, ex. `d:\CFAS\Java\gia`  
We'll refer to this as `[gia_class]`
2. Place `giax.jar` and `xerces.jar` into `[gia_class]`
3. In the CFAS Administrator, set up java (Server->Java)
  - Java JVM Path: `[path_to_JDK]\jre\bin\classic\jvm.dll`  
Where `[path_to_JDK]` is the location of the JRE/JSE on your system.
  - Class Path: `[gia_class]\giax.jar;[gia_class]\xerces.jar`
4. In the CFAS Administrator, set up GIAX (Extensions->CFX Tags)
  - Tag Name: `CFX_giaX`
  - Class Name: `com.gia.x.giaX`

The Allaire ColdFusion Application Server may need to be restarted to take effect.

## Known Issues

GIAX's speed in transformation is determined in part by the speed of the underlying 3<sup>rd</sup> party XML parsing classes.

Large XML files (4 Mb >) may cause out of memory conditions.

## Future Improvements

GIAX is continually being improved for speed and for ease of use. Currently, in consideration for future improvements are:

- A fast JDOM-based parsing option
- A fast SAX-based parsing option
- More intuitive error handling via standard Allaire ColdFusion methodologies

## Contact Information

Information regarding GIAX can be found at the URL: <http://www.granularity.net/technologies/> and comments, questions, licensing requests, and suggestions can be directed to: [xmltechnologies@granularity.net](mailto:xmltechnologies@granularity.net)

## References

Allaire ColdFusion <http://www.allaire.com/>  
XML <http://www.w3c.org/TR/REC-xml>  
Granularity Information Architecture, Inc. <http://www.granularity.net/technologies/>

## About Granularity Information Architecture

Granularity Information Architecture, Inc. is an Internet development, consulting, and venture technology firm specializing in Electronic Commerce, Enterprise Application Integration (EAI), legacy-to-web integration, leveraging ERP systems on the web, healthcare technology, and XML/EDI. Granularity provides high-quality service for startups to medium and large companies requiring effective and innovative implementation of existing and emerging Internet technologies. Services include developing Internet-based electronic commerce Internet-based EDI, XML, and Enterprise Resource Planning and Internet technologies integration, and evaluating/implementing emerging technologies.

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Although the giaX™ suite is compatible with Xalan and Xerces XML processors (<http://xml.apache.org>), this fact does not imply endorsement of giaX™ by those products or by [xml.apache.org](http://xml.apache.org).

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