

# DITA Open Toolkit Installation Guide

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# DITA Open Toolkit Installation Guide

Authored by Comtech Services, Inc.

## About the installation guide

This set of information is based on using DITA methodologies. The main point of the guide is created using tasks. The concepts and reference topics to support these tasks are also included.

If you are interested in this information, and you want to eliminate some tasks, such as HTML Help or Java Help installation, you can filter them out in the map using a .ditaval file or the print attribute.

There are some updates in HTML style sheet delivered with DITA Open toolkit, such as the spacing between each step, and the format of the tables. These updates are made to the stylesheet by adding CSS and basic html tags to the stylesheet within the open toolkit. The HTML Help.chm build file helps in producing this information.

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## About the DITA Open Toolkit for Windows

**Navigation title:** DITA Open Toolkit for Windows

**Search title:** DITA Open Toolkit for Windows

The DITA Open Toolkit is an implementation of the OASIS DITA Technical Committee's specification for Darwin Information Typing Architecture (DITA) DTDs and schemas. The Toolkit transforms DITA XML source content into deliverable formats such as PDF, HTML, and help systems.

This guide explains how to install the DITA Open Toolkit and provides background and reference information to help you understand the process.

### Installation Requirements

To successfully install the DITA Open Toolkit, you must have a Windows operating system running on your workstation.

## DITA Open Toolkit Installation

**Search title:** DITA Open Toolkit Installation (Windows)

This section contains the instructions for installing DITA Open Toolkit from the SourceForge Web site for Windows.

The background and reference information about the DITA Open Toolkit installation process is included in this guide. You can install the items in any order. If you already have some of the items (JavaHelp, SAXON, etc.) installed on your computer, skip to another section and proceed until all required items are installed.

The guide does not include instructions for using the Toolkit.

### Installing the DITA Open Toolkit

**Search title:** Installing the DITA Open Toolkit (Windows)

The DITA Open Toolkit is downloaded from the SourceForge web site. For this installation, you will access the web sites for each of the required installation items, including Ant, Java Development Toolkit, JavaHelp, Apache FOP, SAXON XSLT

Processor, and Microsoft HTML Help.

1. Enter the URL: <http://sourceforge.net/projects/dita-ot>
2. On the SourceForge.net page, click **Download DITA Open Toolkit**
3. Select and download the latest version of DITA OT.

The table with all packages in the release displays.

4. Select the appropriate package.

There are three distribution types for DITA OT packages. Full package distribution contains the Toolkit and most of the basic tools required for doing Toolkit transformation. Small package distribution contains only DITA Toolkit. Source distribution contains the source and executable code for the Toolkit (it also contains the source code for this document).

The download will start automatically.

5. Click **Save** to download the package file and unzip it to your C:\ directory as ditaot.
6. Set the *CLASSPATH* environment variable on page 6 for dost.jar

#### Installing Ant

**Search title:** Installing Ant (Windows)

Apache Ant is a build tool that is Java-based and uses Java classes. Ant configuration files are XML based. You can use them to build all output files such as HTML, PDF, and help systems.

1. Enter the URL: <http://ant.apache.org/bindownload.cgi>
2. On the Apache Ant Project page, find the heading **Current Release of Ant**
3. Select **apache-ant-1.7-bin.zip [PGP] [SHA1] [MD5]**
4. Click **Save** to download the apache-ant-1.7-bin.zip [PGP] [SHA1] [MD5] file and unzip it to your C:\ directory as ant.
5. Add the bin directory to your *PATH* environment variable on page 6 .
6. Add the *ANT\_HOME* environment variable on page 6 .

#### Installing JDK (Java Development Kit)

**Search title:** Installing JDK (Windows)

Java Development Kit (JDK) is a Sun product targeted for Java developers. You can use it to write, compile, debug, and run Java applets and applications.

1. Enter the URL: [http://java.sun.com/products/archive/j2se/1.4.2\\_08/index.html](http://java.sun.com/products/archive/j2se/1.4.2_08/index.html)
2. From the Sun Developer Network page, scroll to find the heading **J2SE v 1.4.2\_08 SDK**
3. Select **Download J2SE SDK**
4. From the Sun Developer Network page, accept the license agreement and scroll to the heading "Windows Platform - Java(TM) 2 SDK, Standard Edition 1.4.2\_08"
5. Select and download **Windows Installation, Multi-language**.
6. Save and install the .exe file.
7. If prompted, install the JDK to C:\j2sdk1.4.2\_08.
8. Set the environment variable on page 6 for *JAVA\_HOME*.

#### Installing JavaHelp

**Search title:** Installing JavaHelp (Windows)

You can use JavaHelp to incorporate online help in applications, components, operating systems, applets, and devices.

1. Enter the URL: [http://java.sun.com/products/javahelp/download\\_binary.html](http://java.sun.com/products/javahelp/download_binary.html)
2. From the Sun Developer Network page, scroll to find the heading **JavaHelp 2.0\_04 (Zip)**
3. Select **Download**.
4. From the Sun Developer Network page, accept the license agreement and scroll to the heading "Platform - JavaHelp API 2.0\_04 FCS"

5. Select **javahelp-2\_0\_04.zip, 6.49 MB**

The File Download window opens.

6. Click **Save** to download the javahelp-2\_0\_04.zip file and unzip it to the C:\ directory as javahelp.
7. Set the *JHHOME* environment variable on page 6 .

#### Installing Apache FOP

**Search title:** Installing Apache FOP (Windows)

Formatting Objects Processor (FOP) is a print formatter. It uses XSL formatting objects (XSL-FO) to produce portable document format (PDF) or direct-printable files. You can use it to format and produce PDF output from XML.

1. Enter the URL: <http://archive.apache.org/dist/xmlgraphics/fop/binaries/>
2. From the FOP page, in the Name column, select  **"fop-0.20.5-bin.zip"**
3. Click **Save** to download the fop-0.20.5-bin.zip file and unzip it to the C:\ directory as fop-0.20.5
4. Set the *CLASSPATH* environment variable on page 6 for the following jar files:

```
\build\fop.jar  
\lib\batik.jar  
\lib\avalon-framework-cvs-20020806.jar
```

#### Installing SAXON XSLT Processor

**Search title:** Installing SAXON XSLT Processor (Windows)

You can use the SAXON XSLT Processor to import stylesheets and queries into an XML schema, validate XML data against a schema, and select the elements and attributes in your XML documents according to their schema-defined type.

1. Enter the URL: <http://saxon.sourceforge.net/>
2. From SAXON: The XSLT and XQuery Processor page, scroll to find the heading **Saxon 6.5.3**
3. Select **Download (3265 Kbytes)**.

The SourceForge.net page opens with a list of download options.

4. Select any of the  images to start the download.

If SAXON does not appear to be downloading, wait a few minutes before selecting another  image. You may have to select more than one  image until you find one that works.

**Note:** If you are an Internet Explorer user and a yellow bar appears at the top of the screen with the message, "To help protect your security, Internet Explorer blocked this site from downloading files to your computer. Click here for options...", click on the bar and select "Download File."

5. Click **Save** to download the Saxon 6.5.3.zip file and unzip it to the C:\ directory as saxon.
6. Set the *CLASSPATH* environment variable on page 6 for following saxon.jar files:

#### Installing XALAN XSLT Processor

**Search title:** Installing XALAN XSLT Processor (Windows)

You can alternatively use the XALAN XSLT Processor to import stylesheets and queries into an XML schema, validate XML data against a schema, and select the elements and attributes in your XML documents according to their schema-defined type.

1. Enter the URL: <http://archive.apache.org/dist/xml/xalan-j/>
2. From SAXON: The Xalan Processor page, scroll to find the heading **xalan-j\_2\_6\_0-bin.zip**. Click to download.
3. Save and unzip the xalan-j\_2\_6\_0-bin.zip file to C:\ directory as xalan.
4. Set the *CLASSPATH* environment variable on page 6 for following .jar files:

xalan.jar file and the xercesImpl.jar file

**Installing Microsoft HTML Help**

**Search title:** Installing Microsoft HTML Help (Windows)

Microsoft HTML Help is an online help authoring tool. You can use it to develop and author online help for software applications or web sites.

1. Enter the URL:  
<http://msdn.microsoft.com/library/default.asp?url=/library/en-us/htmlhelp/html/hwmicrosofthtmlhelpdo>
2. From the MSDN page, scroll to find the heading **HTML Help Workshop**
3. Select **Download Htmlhelp.exe**.
4. Click **Run** and navigate to a C:\ directory as C:\Program Files\HTML Help Workshop.
5. Follow the steps in the HTML Help install guide wizard to complete the installation.

**Setting Environment Variables**

**Search title:** Setting Environment Variables (Windows)

This section helps you find and set the environment variables. Set your system environment variables after all DITA Open Toolkit items are installed. The environment variables must be set for each item installed in this guide.

1. From the Start Menu, select **Start > Settings > Control Panel**.
2. Double-click *System* to open the System Properties window.
3. On the Advanced tab, select *environmental variables*.
4. Modify each *environmental or system variable*.

<p>Set the <i>PATH</i> environment variable to include the directory where you installed the Ant bin directory.</p>	<p>#. Find the <i>PATH</i> environment variable in the list. If <i>PATH</i> is not listed, click on New under the System variables section.</p> <p>#. Type %ANT_HOME%\bin;%JAVA_HOME%\bin; &gt; Important: If there are other variables listed, create a new variable separated by a semicolon. Ensure there are no spaces before or after the semicolon.</p>
<p>Set the <i>ANT_HOME</i> environment variable to the directory where you installed Ant.</p>	<p>#. Click on New under the System variables section.</p> <p>#. Type ANT_HOME in the variable name field.</p> <p>#. Type C:\ant in the variable value field.</p>
<p>Set the <i>JAVA_HOME</i> environment variable to the directory where you installed the J2SE SDK application.</p>	<p>#. Click on New under the System variables section.</p> <p>#. Type JAVA_HOME in the variable name field.</p> <p>#. Type C:\j2sdk1.4.2_08 in the variable value field.</p>
<p>Set the <i>JHHOME</i> environment variable to the directory where you installed the JavaHelp application.</p>	<p>#. Click on New under the System variables section.</p> <p>#. Type JHHOME in the variable name field.</p> <p>#. Type C:\javahelp\jh2.0 in the variable value field.</p>
<p>Set the <i>CLASSPATH</i> environment variable for DITA-OT.</p>	<p>#. Find the <i>CLASSPATH</i> environment variable in the list. If <i>CLASSPATH</i> is not listed, click on New under the System variables section.</p> <p>#. Type C:\ditaot\lib;C:\ditaot\lib\dot.jar;C:\ditaot\lib\</p> <p>&gt; Important: If there are other variables listed, create new variable separated by a semicolon. Ensure there are no spaces before or after the semicolon.</p>
<p>Set the <i>CLASSPATH</i> environment variable for the Apache FOP application.</p>	<p>#. Find the <i>CLASSPATH</i> environment variable in the list. If <i>CLASSPATH</i> is not listed, click on New under the System variables section.</p>

	<p>#. <b>Type</b>  <code>C:\fop-0.20.5\build\fop.jar;C:\fop-0.20.5\lib\batik-avalon-framework-cvs-20020806.jar</code>  <b>&gt; Important:</b> If there are other variables listed, create new variable separated by a semicolon. Ensure there are no spaces before or after the semicolon.</p>
<p><b>Set environment variables for Saxon.</b></p>	<p>If you use the Saxon,</p> <p>#. Find the <b>CLASSPATH</b> environment variable in the list. If <b>CLASSPATH</b> is not listed, click on <b>New</b> under the <b>System variables</b> section.</p> <p>#. <b>Type</b> <code>C:\saxon\saxon.jar</code>  <b>&gt; Important:</b> If there are other variables listed, create a new variable separated by a semicolon. Ensure there are no spaces before or after the semicolon.</p> <p>#. <b>Set up ANT_OPTS.</b> For example:</p> <pre>set ANT_OPTS=%ANT_OPTS% -Djavax.xml.transform.TransformerFactory=com.icl.sax</pre>
<p><b>Set the <i>CLASSPATH</i> environment variable for Xalan.</b></p>	<p>If you use the Xalan,</p> <p>#. Find the <b>CLASSPATH</b> environment variable in the list. If <b>CLASSPATH</b> is not listed, click on <b>New</b> under the <b>System variables</b> section.</p> <p>#. <b>Type</b> <code>C:\xalan\bin</code>  <b>&gt; Important:</b> If there are other variables listed, create a new variable separated by a semicolon. Ensure there are no spaces before or after the semicolon.</p>

## Testing DITA Installation

**Search title:** Testing DITA Installation (Windows)

Test your DITA Open Toolkit installation to ensure it installed correctly.

1. From the toolbar, click *Start > Run*.
2. In the Open field, type `cmd`.
3. Change the command prompt to **C:\>** according to the following table.

If this prompt displays,	type the following command
D:\>	<pre>C:</pre>
H:\>	<pre>C:</pre>
C:\My Documents\...>	<pre>cd \</pre>

4. At the prompt, type `cd ditaot`  
The command prompt changes to `C:\ditaot`
5. Type `ant all` and press **Enter** to begin testing.  
The testing process completes in 3-10 minutes depending on the speed of your

machine. When testing completes, the confirmation message "BUILD SUCCESSFUL" displays.

**Note:** To read more about the DITA Open Toolkit options and functions, see `C:\ditaot\doc\DITA-readme.html` on your local hard drive.

## About the DITA Open Toolkit for Linux

**Navigation title:** DITA Open Toolkit for Linux

**Search title:** About DITA Open Toolkit for Linux

The DITA Open Toolkit is an implementation of the OASIS DITA Technical Committee's specification for Darwin Information Typing Architecture (DITA) DTDs and schemas. The Toolkit transforms DITA XML source content into deliverable formats such as PDF, HTML, and help systems.

This guide explains how to install the DITA Open Toolkit and provides background and reference information to help you understand the process.

### Installation Requirements

To successfully install the DITA Open Toolkit, you must have a Linux operating system running on your workstation.

## DITA Open Toolkit Installation

**Search title:** DITA Open Toolkit Installation (Linux)

This section contains the instructions for installing DITA Open Toolkit from the SourceForge Web site for Linux.

The background and reference information about the DITA Open Toolkit installation process is included in this guide. You can install the items in any order. If you already have some of the items (Ant, SAXON, etc.) installed on your computer, skip to another section and proceed until all required items are installed.

The guide does not include instructions for using the Toolkit.

### Installing the DITA Open Toolkit

The DITA Open Toolkit is downloaded from the SourceForge web site. For this installation, you will access the web sites for each of the required installation items, including Ant, Java Development Toolkit, JavaHelp, Apache FOP, and SAXON XSLT Processor.

1. Enter the URL: <http://sourceforge.net/projects/dita-ot>
2. On the SourceForge.net page, find **dita-ot 1.2**
3. Select **dita-ot 1.2**.

The `Dita-ot` table displays.

4. Select **DITA-OT1.2\_bin.tar.gz**

The SourceForge.net page opens with a list of `download options`.

5. Save and extract the package file into a Linux home directory.

**Note:** You can extract all package files and toolkits either to your private home directory for exclusive usage or to `/usr/local/share/` directory for sharing.

6. Set the `CLASSPATH` [environment variable](#) on page 10 for `dost.jar`

### Installing Ant

**Search title:** Installing Ant (Linux)

Apache Ant is a build tool that is Java-based and uses Java classes. Ant configuration files are XML based. You can use them to build all output files such as HTML, PDF, and

help systems.

1. Enter the URL: <http://ant.apache.org/bindownload.cgi>
2. On the Apache Ant Project page, find the heading **Current Release of Ant**
3. Select **apache-ant-1.7-bin.tar.gz [PGP] [SHA1] [MD5]**
4. Save and extract the package file into a Linux home directory.
5. Add the `bin` directory to your *PATH environment variable* on page 10 .
6. Add the *ANT\_HOME environment variable* on page 10 .

#### Installing JDK (Java Development Kit)

**Search title:** Installing JDK (Linux)

Java Development Kit (JDK) is a Sun product targeted for Java developers. You can use it to write, compile, debug, and run Java applets and applications.

1. Enter the URL: [http://java.sun.com/products/archive/j2se/1.4.2\\_08/index.html](http://java.sun.com/products/archive/j2se/1.4.2_08/index.html)
2. From the Sun Developer Network page, scroll to find the heading **J2SE v 1.4.2\_08 SDK**
3. Select **Download J2SE SDK**
4. From the Sun Developer Network page, accept the license agreement and scroll to the heading "Linux Platform - Java(TM) 2 SDK, Standard Edition 1.4.2\_08"
5. Select and download **RPM in self-extracting file** .
6. Run and install into a Linux home directory.
7. Set the *environment variable* on page 10 for *JAVA\_HOME*.

#### Installing JavaHelp

**Search title:** Installing JavaHelp (Linux)

You can use JavaHelp to incorporate online help in applications, components, operating systems, applets, and devices.

1. Enter the URL: [http://java.sun.com/products/javahelp/download\\_binary.html](http://java.sun.com/products/javahelp/download_binary.html)
2. From the Sun Developer Network page, scroll to find the heading **JavaHelp 2.0\_04 (Zip)**
3. Select **Download**.
4. From the Sun Developer Network page, accept the license agreement and scroll to the heading "Platform - JavaHelp API 2.0\_04 FCS"
5. Select **javahelp-2\_0\_04.zip, 6.49 MB**

The `File Download` window opens.

6. Click **Save** to download the `javahelp-2_0_04.zip` file and unzip it to a Linux home directory.
7. Add the *JHHOME environment variable* on page 10 .

#### Installing Apache FOP

**Search title:** Installing Apache FOP (Linux)

Formatting Objects Processor (FOP) is a print formatter. It uses XSL formatting objects (XSL-FO) to produce portable document format (PDF) or direct-printable files. You can use it to format and produce PDF output from XML.

1. Enter the URL: <http://archive.apache.org/dist/xmlgraphics/fop/binaries/>
2. From the FOP page, in the Name column, select  **"fop-0.20.5-bin.tar.gz"**
3. Save and extract the package file into a Linux home directory.
4. Set the *CLASSPATH environment variable* on page 10 for the following jar files:

```
build/fop.jar
lib/batik.jar
lib/avalon-framework-cvs-20020806.jar
```

#### Installing SAXON XSLT Processor

**Search title:** Installing SAXON XSLT Processor (Linux)

You can use the SAXON XSLT Processor to import stylesheets and queries into an XML

schema, validate XML data against a schema, and select the elements and attributes in your XML documents according to their schema-defined type.

1. Enter the URL: <http://saxon.sourceforge.net/>
2. From SAXON: The XSLT and XQuery Processor page, scroll to find the heading **Saxon 6.5.3**
3. Select **Download (3265 Kbytes)**.

The SourceForge.net page opens with a list of download options.

4. Select any of the  images to start the download.

If SAXON does not appear to be downloading, wait a few minutes before selecting another  image. You may have to select more than one  image until you find one that works.

**Note:** If you are an Internet Explorer user and a yellow bar appears at the top of the screen with the message, "To help protect your security, Internet Explorer blocked this site from downloading files to your computer. Click here for options...", click on the bar and select "Download File."

5. Download and unzip the Saxon 6.5.3.zip file and save it to a Linux home directory.
6. Set the *CLASSPATH* environment variable on page 10 for following saxon.jar files:

**Installing XALAN XSLT Processor**

**Search title:** Installing XALAN XSLT Processor (Linux)

You can alternatively use the XALAN SXL T Processor to import stylesheets and queries into an XML schema, validate XML data against a schema, and select the elements and attributes in your XML documents according to their schema-defined type.

1. Enter the URL: <http://archive.apache.org/dist/xml/xalan-j/>
2. From SAXON: The Xalan Processor page, scroll to find the heading **xalan-j\_2\_6\_0-bin.tar.gz**. Click to download.
3. Save and unzip the xalan-j\_2\_6\_0-bin.tar.gz file to a linux home directory.
4. Set the *CLASSPATH* environment variable on page 10 for following .jar files: xalan.jar file and the xercesImpl.jar file

**Setting Environment Variables**

**Search title:** Setting Environment Variables (Linux)

This section helps you find and set the environment variables. Set your system environment variables after all DITA Open Toolkit items are installed. The environment variables must be set for each item installed in this guide.

1. Type in the Linux Console.
2. Modify each *environmental or system variable*.

Set the <i>PATH</i> environment variable to include the directory where you installed the Ant bin directory.	#. export PATH=\${ANT_HOME}/bin:\${JAVA_HOME}/bin:\${PATH}
Set the <i>ANT_HOME</i> environment variable to the directory where you installed Ant.	#. export ANT_HOME=\${ant_dir}
Set the <i>JAVA_HOME</i> environment variable to the directory where you installed the J2SE SDK application.	#. export JAVA_HOME=\${java_dir}
Set the <i>JHHOME</i> environment variable to the directory where you installed the JavaHelp application.	#. export JHHOME=\${javahelp_dir}
Set the <i>CLASSPATH</i> environment variable for DITA-OT.	#. set up your environment variable CLASSPATH to include the library file like dost.jar. For example:

	<pre>export CLASSPATH=\${ditaot_dir}/lib:\${ditaot_dir}/lib/dost.</pre>
Set the <i>CLASSPATH</i> environment variable for the Apache FOP application.	<p>#. set up your environment variable <i>CLASSPATH</i> to include the <i>fop.jar</i>, <i>batik.jar</i> and <i>avalon.jar</i> files in the FOP directory. For example:</p> <pre>export CLASSPATH=\${fop_dir}/build/fop.jar:\${fop_dir}/lib/b</pre>
Set environment variables for Saxon.	<p>If you use the Saxon,</p> <p>#. Set up <i>CLASSPATH</i> to include the <i>saxon.jar</i> file. For example:</p> <pre>export CLASSPATH=\${CLASSPATH}:\${saxon_dir}/saxon.jar</pre> <p>#. Set up <i>ANT_OPTS</i>. For example:</p> <pre>export ANT_OPTS=\${ANT_OPTS} -Djavax.xml.transform.TransformerFactory=com.icl.sax</pre>
Set the <i>CLASSPATH</i> environment variable for Xalan.	<p>If you use the Xalan,</p> <p>#. Set up <i>CLASSPATH</i> to include the <i>xalan.jar</i> file and the <i>xercesImpl.jar</i> file. For example:</p> <pre>export CLASSPATH=\${CLASSPATH}:\${xalan_dir}/bin</pre>

## Testing DITA Installation

**Search title:** Testing DITA Installation (Linux)

Test your DITA Open Toolkit installation to ensure it installed correctly.

1. In the console, type `cd {ditaot_dir}`.
2. Type `ant all` and press Enter to begin testing.

The testing process completes in 3-10 minutes depending on the speed of your machine. When testing completes, the confirmation message "BUILD SUCCESSFUL" displays.

**Note:** To read more about the DITA Open Toolkit options and functions, see `{ditaot_dir}/doc/DITA-readme.html` on your local hard drive.