DITA Tool Chain

Notice

Imprint

${product.name}

Version: ${product.version}
Release Version: ${release.version}
Release Date: ${release.date_en}

Document Language: en
Document Status: ${document.status_en}
Security Level: ${document.security.level_en}

Last Change: ${document.last.change_en}

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Contents

Chapter

1

Introduction

Topics:

- *Context*
- *Scope*
- *Target Audience*

Getting started with *Darwin Information Typing Architecture (DITA)* and the *DITA Open Toolkit (DITA-OT)* is quite a challenge. Advantages over other documentation approaches can only be achieved once a complete infrastructure - a tool chain - is defined, established, and constantly managed.

This document is part of the {metæffekt} DITA Tool Chain. It demonstrates how content can be organized and transformed to different outputs, such as *Hypertext Markup Language, version 5 (HTML5)* and *Portable Document Format (PDF)*.

The content of this document is used as reference to demonstrate the features and capabilities of the tool chain. As such the content is often artificial.

This short introduction already illustrates the power of the toolchain to a great extend. Mind the references to the glossary. The glossary is context specific to the document that is produced and based on existing term definitions.

Glossary terms use key references. This means a reference that does not point directly to an existing file, but an identifier (key) that is then mapped to a file from the ditamap.

Context

The {metæffekt} DITA Tool Chain envisions to lower the hurdle for an organization to access a consistent and conceptually sound configuration that can be adapted to ogranization-specific requirements more easily.

Once the fundamentals are established the tool chain can be integrated deeper in the procedure and processes of the organization. By generating DITA content from other sources such as a issue tracker, development resources (such as Maven POMs or other project definitions) generated content can be integrated into the documents.

The ultimate goal of the {metæffekt} DITA Tool Chain is to automate the complete release documentation of a software development project. This supports incremental software development approaches.

Scope

The document scope is two-fold. On a general level the motivation for the {metæffekt} DITA Tool Chain is conveyed.

Second, and more prominent, features of the tool chain are explained and highlighted. The document is regarded as a reference and example for what can be done with tool chain.

Target Audience

This document is intended for technical writers and developers at the same sime. It is regarded as sessentail that in particular these two groups better collaborate on writing technical documentation about the software project in focus.

Chapter

2

Reference

Topics:

The document serves as reference for selected features of DITA and the metaeffekt DITA Tool Chain. Primarily it shows how DITA content can be organized. As the result can be rendered to a PDF document and HTML5 the reference also serves as test and demonstration of the resulting document styling.

Tables

There are several ways to create a table using *DITA-OT*. In general the simpletable is quite easy to use:

Column 1	Column 2
Monday	Get up early.
Tuesday	Get up late.
Wednesday	Stay in bed.

However, the CALS Table is much more flexible and gives you more options.

Table 1: CALS Table Title

Column 1	Column 2
Thursday	Visit Uncle Joe
Friday	Get back on track.
Saturday	Gain faith.

Please note that the CALS table has a title. This title can be included in the table references in the backmatter of the document. Check it out.

In case you are using an WYSIWYG[1] editor there is no reason to not use the CALS table.

Please also mind that both tables are rendered differently. Actually the {metæffekt} DITA-OT customization does currently not pay particular attention to using simple table.

Notes

Notes enable to highlight information.

Note: This is a note without further specified attributes.

Using a paragraph in a note is also possible and gives a nice result.

Yet another paragraph.

The importance attribute is currently not evaluated by the toolkit. However, the type of the note influences the graphics and the label.

Attention: This is note with type attention.

You should define a clear semantics of what the different types mean in your organization.

CAUTION: This is note with type caution.

You should define a clear semantics of what the different types mean in your organization.

DANGER: This is note with type danger.

You should define a clear semantics of what the different types mean in your organization.

Fastpath: This is note with type fastpath.

You should define a clear semantics of what the different types mean in your organization.

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[1] WYSIWYG: <u>W</u>hat <u>Y</u>ou <u>S</u>ee <u>I</u>s <u>W</u>hat <u>Y</u>ou <u>G</u>et.

⚠ **Important:** This is note with type attention.

You should define a clear semantics of what the different types mean in your organization.

References

When writing DITA content it is possible to use all kinds of references. For example it is possible to point to a link in the web using a href. For example *http://metaeffekt.org*. You can also point to another chapter. For example *Introduction* on page 9.

Really useful are key-based references (keyref). Basically you use an alias for the reference. This alias must be mapped within the ditamap. For example *Introduction* on page 9. This can be explicitly useful when content is made reusable. The reusable piece want's to introduce a reference. But the reference is dangling until the content is reused in a ditamap. Then the reference must of course exist. The ditamap has to specify how the link is to be resolved.

Figures

This chapter demonstrates the usage of figures.
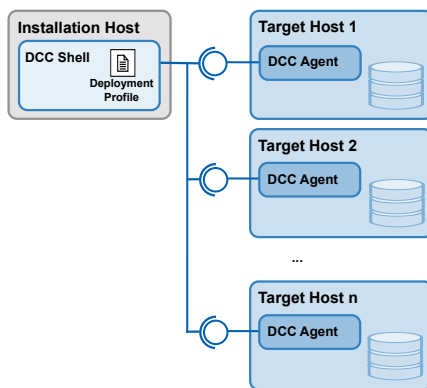

Figure 1: Using an SVG as figure.

SVGs - as these are XML files - can use placeholders as well. This way context specific replacements can be performed. In addition, this approach represents an option combine a custom layout with content without the need to write XSLT.

SVGs can be scaled as required. Giving best results with any print output.

Figure 2: Using an PNG as figure.

Non-scalable image formats have a defined resolution. On screen the resolution may still be sufficient (72dpi), but when zooming into or when printing low resolution pictures show artifacts.

Samples

This chapter shows how to embed snippets and code samples.

```
   _____     _____  _____    _____  _ _       _ _
  / __  \   / ___/ / ___/   / ___/ / / |     / // /
 / / \// / /    / /    \    \_\/   \ \/ / _ \ / // /
/ /_// // / /    / /    _  _/ //_/ /_/ // /
/_____/ \____/ \____/  /___//_/ /_/ \__//_//_/
```
Welcome to the DCC Shell.
Hit TAB to see a list of options, enter [help] for help and [exit] to exit.
dcc>

Figure 3: Showing the output of a command line tool.

```
<pluginManagement>
    <plugins>
        <plugin>
            <groupId>org.metaeffekt.dita</groupId>
            <artifactId>ae-dita-maven-plugin</artifactId>
            <version>0.1.0-SNAPSHOT</version>
        </plugin>
    </plugins>
</pluginManagement>
```

Figure 4: Showing some XML content.

Unfortunately no syntax-highlighting is intergrated yet.

```
</**
 * A {@link Binding} is capable of connecting two capabilities (usually a
 provided with a required
 * {@link Capability}) with each other. Please note that the compatibility
 of the {@link Capability}
 * (shared {@link CapabilityDefinition}) is not enforced. The implementation
 however expects that
 * the attribute keys of the target are covered by the source {@link
 Capability}.
 *
 * @author Karsten Klein
 */
public class Binding extends AbstractElement {
    ...
}
```

Figure 5: Showing some JAVA content.

Chapter

3

Reference Bill of Material

Topics:

- *Third-Party Artifacts*
- *Third-Party Components*
- *Licenses in Effect*
- *Copyright Notices*

The following chapters illustrates how content of a Bill of Material is rendered. The content was extracted from another metaeffekt project. The content is not relevant for the reference project, but is only used here for illustration purposes.

Third-Party Artifacts

Group Id	Artifact Id	Version	License
	bootstrap-theme (css)	3.3.2	*MIT License*
	bootstrap (css)	3.3.2	*MIT License*
	bootstrap (js)	3.3.2	*MIT License*
	glyphicons-halflings (eot)	3.3.2	*MIT License*
	glyphicons-halflings (svg)	3.3.2	*MIT License*
	glyphicons-halflings (ttf)	3.3.2	*MIT License*
	glyphicons-halflings (woff)	3.3.2	*MIT License*
	glyphicons-halflings (woff2)	3.3.2	*MIT License*
	jquery (js)	1.11.1	*MIT License*
ant-contrib	ant-contrib	1.0b3	*Apache License Version 1.1*
cglib	cglib	3.2.4	*Apache License Version 2.0*
com.google.guava	guava	19.0	*Apache License Version 2.0*
commons-codec	commons-codec	1.10	*Apache License Version 2.0*
commons-collections	commons-collections	3.2.2	*Apache License Version 2.0*
commons-fileupload	commons-fileupload	1.3.2	*Apache License Version 2.0*
commons-io	commons-io	2.5	*Apache License Version 2.0*
commons-lang	commons-lang	2.6	*Apache License Version 2.0*
jline	jline	2.12.1	*BSD 3-Clause License*
net.jcip	jcip-annotations	1.0	*Creative Commons Public Domain*
org.apache.ant	ant-commons-logging	1.9.7	*Apache License Version 2.0 (with-subcomponents)*
org.apache.ant	ant-launcher	1.9.7	*Apache License Version 2.0 (with-subcomponents)*
org.apache.ant	ant	1.9.7	*Apache License Version 2.0 (with-subcomponents)*
org.apache.camel	camel-core	2.16.2	*Apache License Version 2.0*
org.apache.camel	camel-restlet	2.16.2	*Apache License Version 2.0*

Group Id	Artifact Id	Version	License
org.apache.camel	camel-spring	2.16.2	*Apache License Version 2.0*
org.apache.commons	commons-exec	1.3	*Apache License Version 2.0*
org.apache.commons	commons-lang3	3.4	*Apache License Version 2.0*
org.apache.httpcomponents	httpclient	4.5.2	*Apache License Version 2.0*
org.apache.httpcomponents	httpmime	4.5.2	*Apache License Version 2.0*
org.apache.httpcomponents	httpcore	4.4.5	*Apache License Version 2.0*
org.apache.james	apache-mime4j-core	0.7.2	*Apache License Version 2.0*
org.apache.logging.log4j	log4j-api	2.7	*Apache License Version 2.0*
org.apache.logging.log4j	log4j-core	2.7	*Apache License Version 2.0*
org.apache.logging.log4j	log4j-slf4j-impl	2.7	*Apache License Version 2.0*
org.apache.velocity	velocity	1.7	*Apache License Version 2.0*
org.bouncycastle	bcpkix-jdk15on	1.55	*Bouncy Castle License*
org.bouncycastle	bcprov-jdk15on	1.55	*Bouncy Castle License*
org.ow2.asm	asm	5.0.4	*BSD 3-Clause License*
org.restlet.jee	org.restlet.ext.fileupload	2.3.1	*Apache License Version 2.0*
org.restlet.jee	org.restlet.ext.httpclient	2.3.1	*Apache License Version 2.0*
org.restlet.jee	org.restlet.ext.servlet	2.3.1	*Apache License Version 2.0*
org.restlet.jee	org.restlet	2.3.1	*Apache License Version 2.0*
org.slf4j	jcl-over-slf4j	1.7.21	*MIT License*
org.slf4j	jul-to-slf4j	1.7.21	*MIT License*
org.slf4j	slf4j-api	1.7.21	*MIT License*
org.springframework.shell	spring-shell	1.1.0. RELEASE	*Apache License Version 2.0*
org.springframework	spring-aop	4.3.2. RELEASE	*Apache License Version 2.0 (with-subcomponents)*
org.springframework	spring-beans	4.3.2. RELEASE	*Apache License Version 2.0 (with-subcomponents)*

Group Id	Artifact Id	Version	License
org.springframework	spring-context-support	`4.3.2. RELEASE`	*Apache License Version 2.0 (with-subcomponents)*
org.springframework	spring-context	`4.3.2. RELEASE`	*Apache License Version 2.0 (with-subcomponents)*
org.springframework	spring-core	`4.3.2. RELEASE`	*Apache License Version 2.0 (with-subcomponents)*
org.springframework	spring-expression	`4.3.2. RELEASE`	*Apache License Version 2.0 (with-subcomponents)*
org.springframework	spring-tx	`4.3.2. RELEASE`	*Apache License Version 2.0 (with-subcomponents)*

Third-Party Components

Component	File(s)	License
Apache Ant Contrib	`ant-contrib-1.0b3.jar`	*Apache License Version 1.1*

Apache Ant	`ant-commons-logging-1.9.7.jar`
	`ant-launcher-1.9.7.jar`
	`ant-1.9.7.jar`
		Apache License Version 2.0 (with-subcomponents)

Apache Camel	`camel-core-2.16.2.jar`
	`camel-restlet-2.16.2.jar`
	`camel-spring-2.16.2.jar`
		Apache License Version 2.0

Apache Commons Codec	`commons-codec-1.10.jar`	*Apache License Version 2.0*
Apache Commons Collections	`commons-collections-3.2.2.jar`	*Apache License Version 2.0*
Apache Commons Exec	`commons-exec-1.3.jar`	*Apache License Version 2.0*
Apache Commons File Upload	`commons-fileupload-1.3.2.jar`	*Apache License Version 2.0*
Apache Commons IO	`commons-io-2.5.jar`	*Apache License Version 2.0*
Apache Commons Lang	`commons-lang-2.6.jar` `commons-lang3-3.4.jar`	*Apache License Version 2.0*

Apache HTTP Components	`httpclient-4.5.2.jar`
	`httpcore-4.4.5.jar`
	`httpmime-4.5.2.jar`
		Apache License Version 2.0

Apache James Mime4J	`apache-mime4j-core-0.7.2.jar`	*Apache License Version 2.0*

Component	File(s)	License

Apache Log4J	`log4j-api-2.7.jar`
	`log4j-core-2.7.jar`
	`log4j-slf4j-impl-2.7.jar`
		Apache License Version 2.0

Apache Velocity	`velocity-1.7.jar`	*Apache License Version 2.0*
ASM	`asm-5.0.4.jar`	*BSD 3-Clause License*

Bootstrap	`bootstrap-theme-3.3.2.min.css`
	`bootstrap-3.3.2.min.css`
	`bootstrap-3.3.2.min.js`
	`glyphicons-halflings-regular.eot`
	`glyphicons-halflings-regular.svg`
	`glyphicons-halflings-regular.ttf`
	`glyphicons-halflings-regular.woff`
	`glyphicons-halflings-regular.woff2`
		MIT License

Bouncy Castle	`bcpkix-jdk15on-1.55.jar` `bcprov-jdk15on-1.55.jar`	*Bouncy Castle License*
GCLib	`cglib-3.2.4.jar`	*Apache License Version 2.0*
Google Guava	`guava-19.0.jar`	*Apache License Version 2.0*
JCip Annotations	`jcip-annotations-1.0.jar`	*Creative Commons Public Domain*
JLine	`jline-2.12.1.jar`	*BSD 3-Clause License*
JQuery	`jquery-1.11.1.min.js`	*MIT License*

Restlet	`org.restlet.ext.fileupload-2.3.1.jar`
	`org.restlet.ext.httpclient-2.3.1.jar`
	`org.restlet.ext.servlet-2.3.1.jar`
	`org.restlet-2.3.1.jar`
		Apache License Version 2.0

SLF4J	`jcl-over-slf4j-1.7.21.jar`
	`jul-to-slf4j-1.7.21.jar`
	`slf4j-api-1.7.21.jar`
		MIT License

Spring Framework	`spring-aop-4.3.2.RELEASE.jar`
	`spring-beans-4.3.2.RELEASE.jar`
	`spring-context-support-4.3.2.RELEASE.jar`
	`spring-context-4.3.2.RELEASE.jar`
	`spring-core-4.3.2.RELEASE.jar`
	`spring-expression-4.3.2.RELEASE.jar`
	`spring-tx-4.3.2.RELEASE.jar`
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Spring Shell	`spring-shell-1.1.0.RELEASE.jar`	*Apache License Version 2.0*

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BSD 3-Clause License

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ASM	org.ow2.asm / asm	5.0.4	This distribution includes ASM which is provided under the terms and conditions of the BSD 3-Clause License. Copyright (c) 2000-2011 INRIA, France Telecom. All rights reserved.

Bouncy Castle License

Component	Group Id / Artifact Id	Version	Notice
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Bootstrap	bootstrap	3.3.2	This distribution includes Bootstrap provided under the MIT License. Copyright (c) 2011-2016 Twitter, Inc.
Bootstrap	glyphicons-halflings	3.3.2	This distribution includes Bootstrap provided under the MIT License. Copyright (c) 2011-2016 Twitter, Inc.
JQuery	jquery	1.11.1	This distribution includes JQuery provided under the MIT License. Copyright (c) 2005, 2014 jQuery Foundation, Inc.
SLF4J	org.slf4j / jcl-over-slf4j	1.7.21	This distribution includes SLF4J. SLF4J is provided under the terms and conditions of the MIT License. SLF4J is Copyright (c) 2004-2014 QOS.ch. All rights reserved.

Part

I

Part Introduction

Topics:

- *Part Content*

This is the introduction of the part.

Part Content

This is a the content of a part. Usually there would be much more content, such that it is adequate to organize the document is parts.

Appendix

A

Appendix

Topics:

- *Maven Support*

Maven Support

Apache Maven is the supported way to use the metaeffekt DITA Toolchain. No further software prerequisites are required. A customized DITA-OT Toolkit is used implicitly when using the metaeffekt DITA Plugin.

Maven Configuration

Maven uses XML project model descriptors also known as POM files. The structure of these POM files is defined on LINK.

To enable the metaeffekt DITA Plugin specify the following plugin:

The configuration expects a ditamap at the location `src/main/dita/${project.artifactId}`

List of Tables

List of Figures

Glossary

PDF

Portable Document Format developed by Adobe®.

Darwin Information Typing Architecture (DITA)

OASIS defined standard promoting the creation of standard information types and domain specific markup. DITA defined content can be aggregated in a DITA map and rendered to different output formats such as PDF, HTML or RTF.

DITA Open Toolkit

The DITA-OT supports to render DITA-based content to different output formats. The DITA-OT is an open source endeavor that supports all available versions of the DITA specification.

HTML5

Hypertext Markup Language, version 5.

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P