# DiPro and Prism 3.3.1 Installation from Source Code

In this guide, the installation of DiPro with Prism 3.3.1 version will be shown.Keep in mind that, we use Eclipse Oxygen with JDK version 1.8 and JRE version Java-8-oracle.

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## 1 Overview

In order to install DiPro to our system we'll need to download **DiPro** source code from svn server of the University of Konstanz. This guide will show step by step installation of DiPro with Prism 3.3.1 in the following order.

• Installing **Subversion** to be able to download svn files from University of Konstanz's website using Eclipse

- Downloading the svn files from svn server to EclipseModifying source folders
- Jre set up
- How to run DiPro
- Frequently Asked Questions

### 2 Installation of Subversion to Eclipse

• Open Eclipse and change your view to workbench.



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#### If you get a security warning just continue with -Install Anyway- option

Once you are done with your installation restart your eclipse IDE again.

As for last step before we proceed with importing the svn files we should set up our **SVN INTERFACE** 

To do that,

• Click on **Window -> Preferences** in the Eclipse IDE



• Navigate to **Team —> SVN** and on the right hand side you might find svn interface set to "JAVAHL(JNI) Not Available. Change it to "SVNKit"

😣 🗊 Preferences

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Now we are ready to go and install svn files from the svn server of the University of Konstanz.

## 3 Importing the Source Code from SVN Server of the University of Konstanz

Open Eclipse again and jump into Workbench.

Now that we have installed the subversion, we should download the svn files respectively.

• Go and click the import from **File** -> **Import** 



• On import window , select SVN and Checkout Projects from SVN and click next

😣 🗊 Import Select Create a new project by checking out an existing project from a SVN repository. Select an import wizard: type filter text Ð General 🕨 🗁 Git Gradle 🕨 🗁 Install ► ➢ Maven Oomph ▶ 🧁 Run/Debug 🔻 🗁 SVN 🛒 Checkout Projects from SVN 2 ► Casks ? < Back Next > Cancel Finish

• Select Create a new Repository Location

😣 🗈 Checkout from SVN
Select/Create Location Select an existing repository location or create a new location.
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Free Subversion Repository Hosting from CloudForge Sign-up for CloudForge and get free Subversion repository hosting with unlimited users and repositories, plus free agile tracker tools.
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• Use https://svn.uni-konstanz.de/soft/DiPro address to checkout from svn file and click yes

😣 🗈 Checkout from SVN	
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Url: https://svn.uni-konstanz.de/soft/DiPro	
that would allow you to select your repository from a list.	
Click here to see the list of available providers.	
Sign-up for CloudForge and get free Subversion repository hosting with unlimited users and repositories, plus free agile tracker tools.	
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• Make sure to Expand **Svn Server** —> **trunk** —> **DiPro** and hit **Finish** 

😣 🗉 Checkout from SVN	
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? < Back Next > Cancel	Finish

• Download fro Svn server will start as you hit on **Finish** button, you can view the progress on the bottom right-hand side.



## 4 Modifying DiPro Project source folder for correct configuration

As we solved our errors now we must include our etc subfile to our project source folder in order to let it use required images(such as splash image of the dipro while opening) while using the visual gui for dipro, to do that navigate to **project explorer view** and right click on project and select **Properties** 



• Now navigate to **Java Build Path** and come to **Source Section** , folders marked with yellow should be modified to clean errors from the project.

Resource	Bource Source Projects Libraries & Order and Export	V- · · · · ·
<ul> <li>Java Build Path</li> <li>Java Compiler</li> <li>Java Editor <ul> <li>Java Editor</li> <li>Javadoc Location</li> <li>Project References</li> <li>Run/Debug Settings</li> <li>Subversion</li> </ul> </li> <li>Task Repository <ul> <li>Task Tags</li> <li>Validation</li> <li>WikiText</li> </ul> </li> </ul>	Source rolders on build path:	Add Folder Link Source Edit Remove
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• Click on Add Folder

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😣 🗉 Properties for DiPr	oTrace	
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ar ► Validation @ WikiText /	<ul> <li>Allow output folders for source folders</li> <li>Default output folder:</li> <li>DiProTrace/bin</li> </ul>	Browse Apply
.a ?		Cancel Apply and Close

• Initially **DiProTrace** is unchecked, so check the checkbox left next to it and click on **okey** 

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Subversion Task Repository Task Tags Validation	Create New Folder	
WikiText	Cancel OK	Browse
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• There is going to be informing view about folder source folder being added, just click on **okey** 

type filter text 🛛 🗨	Java Build Path	⟨¬ → ¬
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Validation WikiText	<ul> <li>Allow output folders for source folders</li> <li>Default output folder:</li> <li>DiProTrace/bin</li> </ul>	Browse Apply

• Once it is added we need to slightly modify it.



• Make sure that it is like above and click on **Included** and then hit on **Edit**.



• Click on Add for adding a new inclusion pattern.

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		Inclusion and Exclusion Patterns		
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• Type **etc/** and click on **okey** 

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• Now that you added the etc subfolder you can click on **finish** 

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• As we've finished our modifying, final view should be like this, if so, click on **Apply and close** 



## 5 Setting Jre System Library to Default( if neccesary)

Sometimes depending on the previous usage of the eclipse its JRE might be set to some other version than normally it is. In order to prevent this problem we can remove and re-add the default JRE library into our project. However, if its already set to default, you can skip this step.

• Right click on the project and select properties.

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• Come to Java Build Path and select the section Libraries and scroll down to navigate JRE System Library.



- Click on edit and see the settings.
- Make sure that it is selected as default workspace JRE

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I ► Validat WikiTe>	Cano	cel Finish

• Click on Finish

•

### 6 How to run DiPro

As we've fixed all errors and modified our project source folder now we are good to go and run DiPro. As a matter of fact, when we run the source code we should modify our running configurations so that everything can go smoothly. To do it, first we should create main and Visual Main. Lets start with creating the console based **main** 

• Click on the small little triangular next to run as and select \*\*Run Configurations.."

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• Double click on the **Java Application** section.

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v zza @a ari ar f @ Filter matched 7 of 7 items					
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• Name it as **Main**, Project should be selected as **DiProTrace** and below it, click on Search and search for **Main** 

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:.sime er !r usain. aliaz	<ul> <li>✓ Gradle Project</li> <li>✓ Java Applet</li> <li>✓ Java Application</li> <li>✓ New_configure</li> <li>Ju JUnit</li> <li>✓ Launch Group</li> <li>Maven Build</li> <li>Ju Task Context Te</li> </ul>	Workspace matches Main - org.apache.batik.apps.slideshow Main - org.apache.batik.apps.ttf2svg Main - pepa.compiler Main - org.apache.batik.apps.svgpp Main - org.apache.batik.apps.svgbrowser Main - org.apache.batik.apps.rasterizer	Browse
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• Once you add it it should look like this

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• Now click on arguments and as for arguments write : -prism embedded.sm embedded.csl

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Interpretation Interpretation Junit	Variables						
e 🖶 Launch Group	VM arguments:						
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az	Variables						
alj	Working directory:						
ja	O Default: \${workspace_loc:DiProTrace}						
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ec Di	Workspace File System Variables						
er - Filter matched 8 of 8 items	Revert Apply						
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• You dont have to change JRE,ClassPath,Source and Common sections, open the Environment section

😣 💷 Run Configurations				
Create, manage, and run co	onfigurations			
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Image: Second state     Image: Second state       Ima	Name: Main Main (M= Argum Environment varia	ients (🛋 JRE 🤷 Classpath (🗐 Source 🗖	EnvironmentCommon	
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Ju JUnit			Edit	511
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m² Maven Build			Kem <u>o</u> ve	
Jask Context lest	<ul> <li>Append enviro</li> <li>Replace native</li> </ul>	onment to native environment e environment with specified environment		
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• Click on **New** -> Name should be **LD\_LIBRARY\_PATH** and click on **variables** and then type **project\_loc**, add it.

• 🖶 🞯 • 🥭 🖨 🛷 • 🕌 •	😣 🗉 Select Variable		
	Choose a variable (? = any character, * = any string):		
Run Configurations	project_loc		
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<u>.</u>	Cancel     OK		
ner			
Filter matched 8 of 8 items		Revert	Арріу
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alj: 🕐		Close	Run
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Modify variable name as \${project\_loc}/ext/lib\_prism

😣 🗉 New Environment Variable								
Name:	LD_LIBRARY_PATH							
Value:	\${project_loc}/ext/lib_prism Variables							
	Cancel OK							

• It should be in such a form.

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	Create, manage, and run co	onfigurations			
l	Run a Java application				
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I	🗬 Gradle Project	Environment variables to	<u>s</u> et:		
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er	Filter matched 8 of 8 items			Revert	Apply
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#### • Now click on **Apply** and then **Run**

ZZi						
3@	😰 Problems @ Javadoc 😟 Declaration 💷 Console 🛿 📄 Coverage		×	×		R 🕒 🕞
ar	<terminated> Main [Java Application] /usr/lib/jvm/java-8-oracle/bin/java (Nov 27, 2017, 12:30:35 PM)</terminated>					
	Warning: PRISM setting "prism.fau.delta" is unknown.					
"e	Warning: PRISM setting "prism.fau.arraythreshold" is unknown.					
V	Warning: PRISM setting "prism.tau.intervals" is unknown.					
1	Warning: PRISM Setting "prism.Tau.initival" is unknown.					
r d	Warning: PRISM Setting "simulator.defaultwidth" is unknown.					
	Warning: PRIM setting simulator.decide is unknown					
	Warning, PRISM setting "simulator mayReward" is unknown					
	ERROR: Experiment failed!					
	ERROR: Experiment failed!					
za	java.io.FileNotFoundException: /home/dipro/eclipse-workspace2/DiProTrace/embedded.sm (No such file of	or d	dir	ecto	ry)	
150	at java.io.FileInputStream.open0(Native Method)					
11.6	<pre>at java.io.FileInputStream.open(FileInputStream.java:195)</pre>					
	at java.io.FileInputStream. <init>(<u>FileInputStream.java:138</u>)</init>					
	at prism.Prism.parseModelFile( <u>Prism.java:635</u> )					
	at prism.Prism.parseModelFile( <u>Prism.java:626</u> )					
	at dipro.stoch.prism.PrismRawModel.parseModel( <u>PrismRawModel.java:138</u> )					
	at dipro.stoch.prism.PrismRawModeL. <init>(PrismRawModeL.java:119)</init>					
	at dipro.stoch.prism.PrismDefaultModel. <a href="https://inite/prismDefaultModel.ava:81">https://inite/prismDefaultModel.ava:81</a> )					
	at dipro.such.pism.prismberadulmodet.sinits( <u>rismberadulmodet.java:75</u> )					
	at dipro run Abstract(ontext init(Abstract(ontext inva.74)					
	at dipro, run Main, run(Main, iava-282)					
	at dipro.run.Main.start(Main.java:135)					
	at dipro.run.Main.main(Main.java:431)					
	End					

- When you run the program if you getting above error it means everything is fine because as you can see it just simply says that you have no embedded.sm file for the experiment you should add it manually to project folder.
- Now we can create the visual GUI for the Dipro

• Click on the small little triangular next to run as and select \*\*Run Configurations.."

13 * □ □ □ ● * ○ * ○ * ○ * ○ * ○ * ○ * ○ * ○ * ○ *		Quick Access 🔡 🐯 🐉
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▶ ∰ visual		Find 🛛 🕨 All 🕨 Activate 🕐
▶ 🛋 JRE System Library [java-8-oracle]		
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S DiPro_gui.sh 40 12/25/10 3:57 PM husain.aljazzar@ar Warniga: BBISM setting "prism fau (alta" is unknown Warniga: BBISM setting "prism fau (alta" is unknown		
■ DiPro_gui64.sh 40 12/25/10 3:57 PM husain.aljazzar@ Warning: PRISM Setting "prism.fau.atraythreshold" is unknown.		

• Double Click on Java Application again.

•

• Name it as **VisMain** as for Project select the **DiProTrace** and for main class click on search and type **vis** and add it.

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eitner tner sain.a iin.alja	Filter matched 9 of 9	items Revert Close	Apply	ecto

• General view would be as following image.



• Change to Environment section and click on New

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Run a Java application				
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• As we did before, name should be LD\_LIBRARY\_PATH and for value click on variables write project\_loc and select that.

		and the second se	
Run Configurations	proj		
ate, manage, and run co	project classpath		
a Java application	project_loc		
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Task Context Test	Edit Variables		
	Argument:		
	Configure		
	Variable Description:		
	Returns the absolute file system path of a resource's project. The target resource is the selected resource when no argument is specified, or the resource identified by a		
	Cancel OK		
er matched 9 of 9 items		Revert	Apply

Modify variable name as \${project\_loc}/ext/lib\_prism

Run Configurations Create, manage, and run co Run a Java application	nfigurations	
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er • Filter matched 9 of 9 items		Revert Apply
ı.a Ilj; ?	(	Close Run

• At the end it should be as following:



• Apply it and click on Run

## 7 Demonstration of Running DiPro

Once you run the program you'll be welcomed by the program.



• Click on Load Model



- Now you should load your .sm file , in our case it is located at the default workspace so we navigate to it.
- Once we load the model, click on the row under the **value column** and enter value like 2, and then click under the column of **Type**. Then **Next** button should be activated.



• Again click on **Load Properties** and locate your **csl file** as first step. Secondly, enter a value as shown in the picture below, then click on Type variable such as double as shown in the picture. and lastly click a specific property and then next button should be activated again. Click on next to proceed.



• Now leave it default and continue with the Generate CX

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	Cancel	Back Generate CX

• As you can see program is running now.



## 8 FAQ(Frequently Asked Questions)

### 8.1 How can I use different version of the prism with Dipro?

In order to use different version of prism with Dipro we should make small changes in the project or else it is higly natural that we will get dependency errors based on library differences. Before getting into that, you should make sure to generate prism.jar file in the prism folder's lib directory.In order to avoid possible problems please make sure to follow these steps:

• Locate the prism folder you want to use and navigate inside the folder.



• Look inside to **bin** folder. If there are no files in that, open the terminal, enter the prism file with cd commands by navigating and run the command **make** 

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Places ⊘ Recent ♠ Home	bin	classes	cudd	doc		
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• It'll generate the binaries for you.



• Now check the content of lib folder, navigate inside the folder and control if there is a prism.jar exists. If not we have to generate it. In order to generate prism.jar file again open the project location inside the terminal and run command make binary and then you can make sure that **prism.jar** is generated inside the lib folder.

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ioco@dioco-VictualBox:~/Downloads/prism-3.3.1-srcs make binary
enerating jar file
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• Now once you complete all of these above steps, open your lib directory inside the prism folder and then copy everything.



- Now go to your eclipse workspace and project folder, open up the project folder navigate to /workspace/DiProTrace/ext/lib\_prism
- Here change everything by pasting the copied content of prism lib folder.
- As you finish your replacement, you can restart the eclipse ide and refresh the project by right clicking on it in the project explorer and hitting **refresh**
- If you still get any errors.Right click on the project ,navigate to Java Build Path -> Libraries and add them manually by clicking to Add Jars.. and selecting them from prism\_lib folder.

### 8.2 Java.lang.UnsatisfiedLinkError: no prism in java.library.path

This error occurs because you need to set your java library path with the corresponding prism directory where your actual prism version is located. As we already have our prism.jar file inside the **lib\_prism** folder ,we need to state it explicitly. For that , we can use **\${project\_loc}/ext/lib\_prism** value and variable name should be LD\_LIBRARY\_PATH for linux users and LYLD\_LIBRARY\_PATH for macOS users. Here what you need to keep in mind that, no matter where your prism.jar file is located, you should give the path as value for it. Therefore it should be something like /path/to/your/jar/file.

### 8.3 "Launching VisMain or Main" has encountered a problem. Variable references empty selection : \${project\_loc}

This specific error usually happens whenever our project folder on the project explorer is deselected for somereason or simply when we open the Eclipse ide for the very first time again project folder is deselected again. Afterward, when you want to run the program it wants to use project\_loc variable and since project is deselected it does not explicitly know how to load this variable. To fix this problem, before running the DiPro source code please make sure to select project folder on the project explorer. Once you select it, it should be selected and kinda highlighted by orange light before we run it.



### 8.4 The Project was not built since its build path is incomplete.Cannot find the class file for x.y.z.t

This is a very common error when changing libraries from one prism version to another. As the error says, it simply says all meaning that there is a missing library in your class path, first focuse on the second part of the error where it is state which class is missing. Dig into it, lets say x.y.z.t is missing here you can track that down to bottom and see what's exactly missing for project and that causes to compilation error. Try downloading the jar file causing to it. Once you download it right click on the project folder inside the Eclipse Project explorer view, and click on Properties. In the new window, click on Java Build Path and come to libraries. Here you should manually add the jar file by clickin on Add jar(if you put the jar file inside the project) or add external jar(if jar file is located for example in ur downloads folder). Once you add the required jar, let it rebuild and then it'll be error free.

### 8.5 Eclipse Java syntax error on token "enum", identifier expected and The declared package "" does not match the expected package "org.apache.commons.lang.enum" errors

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zzar liaz:		🖁 Problems 🛿 @ Javadoc 🚇 Declaration				7 € 4	
zar@		6 errors, 957 warnings, 1 other (Filter matched 107 of 964 items)					
azza	ā	Description	Resource	Path			Location
eon		🔻 🥹 Errors (6 items)					
юпо		Syntax error on token "enum", Identifier expected	Enum.java	/DiProTrace/	/src/org/apache/con	nmons/lang/ei	line 17
arco	c	Syntax error on token "enum", Identifier expected	EnumUtils.java	/DiProTrace/	/src/org/apache/con	mmons/lang/ei	line 17
		Syntax error on token "enum", Identifier expected	ValuedEnum.ja	/DiProTrace/	/src/org/apache/con	nmons/lang/ei	line 17
ar -		😼 The declared package "" does not match the expected package "org.apache.commons.lang.enum"	Enum.java	/DiProTrace/	/src/org/apache/con	nmons/lang/ei	line 1
		😼 The declared package "" does not match the expected package "org.apache.commons.lang.enum"	EnumUtils.java	/DiProTrace/	/src/org/apache/con	nmons/lang/ei	line 1
alja	а	😼 The declared package "" does not match the expected package "org.apache.commons.lang.enum"	ValuedEnum.ja	/DiProTrace/	/src/org/apache/con	nmons/lang/ei	line 1
jazz	0	A Warnings (100 of 957 items)					
ov		▶ i Infos (1 item)					

- We get this error because the usage of enum keyword is depricated by java 5 and replaced with the current one called enums. This project includes both **enum(depricated)** and **enums(updated one)** packages. Therefore easiest way to fix this problem is removing enum files from the project as we already have the current one called enums.
- To remove depricated enum in our system please follow the upcoming steps respectively.
- If you take a look at project explorer on the left hand side, there is still a red cross sign indicating the error causing this, therefore we should remove this folder causing to the error.
- First navigate to project folder and expand on the error causing to this. You can do this by simply expanding, **DiProTrace[trunk/DiPro]** -> **src** -> **org.apache.commons.lang** -> **enum**
- Now all we have to do is right click on this folder and delete it.

🔻 🚮 org.apache.commons.lang

NULLEI CONTRACTOR 17 10/15/10 11/2 AM florian.leit BitField.java 17 10/15/10 11:24 AM florian.leitne BooleanUtils.java 17 10/15/10 11:24 AM florian.l CharEncoding.java 17 10/15/10 11:24 AM florian CharRange.java 17 10/15/10 11:24 AM florian.lei CharSet.java 17 10/15/10 11:24 AM florian.leitne CharSetUtils.java 17 10/15/10 11:24 AM florian. CharUtils.java 17 10/15/10 11:24 AM florian.leitr ClassUtils.java 17 10/15/10 11:24 AM florian.leit Entities.java 17 10/15/10 11:24 AM florian.leitne IllegalClassException.java 17 10/15/10 11:24 AM IncompleteArgumentException.java 17 10/15/10 IntHashMap.java 17 10/15/10 11:24 AM florian.le LocaleUtils.java 17 10/15/10 11:24 AM florian.lei NotImplementedException.java 17 10/15/10 11:1 NullArgumentException.java 17 10/15/10 11:24 A NumberRange.java 17 10/15/10 11:24 AM floriar NumberUtils.java 17 10/15/10 11:24 AM florian.l ObjectUtils.java 17 10/15/10 11:24 AM florian.le RandomStringUtils.java 17 10/15/10 11:24 AM fl SerializationException.java 17 10/15/10 11:24 AN SerializationUtils.java 17 10/15/10 11:24 AM flor StringEscapeUtils.java 17 10/15/10 11:24 AM flo StringUtils.java 17 10/15/10 11:24 AM florian.leil SystemUtils.java 17 10/15/10 11:24 AM florian.le UnhandledException.java 17 10/15/10 11:24 AM 📲 valuate.java 🗤 тој тој тој 24 AM florian.leitn WordUtils.java 17 10/15/10 1:24 AM florian.leit 🔻 🚋 enum 🚜 Enum.java 17 10/15/10 11: 🗗 AM florian.leitner

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• When you click on okey and delete the depricated enum folder, notice that our project is now free of errors and also on the left hand side there are no more red cross on the project explorer view.

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