

XIDE Development Environment Installation Instructions

Document Name	XIDE Development Environment Installation Instructions
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Version	Version 2.1
Date of Last Change	01.07.2010

Table of contents

1	Introduction.....	3
1.1	Purpose of the document.....	3
1.2	Version information.....	3
1.3	Configuration details	3
1.3.1	Optional.....	3
1.3.2	Obligatory	3
1.3.3	Prerequisites.....	4
2	XIDE Development Environment Installation	6
3	XIDE deployment archive creation	11

1 Introduction

1.1 Purpose of the document

This document contains installation instructions for XIDE development project. Using this document it is possible to set up XIDE development environment and run the project locally.

XIDE project main technology is Java and Google Web Toolkit (GWT). However, other technologies as HTML, JavaScript, SQL, etc. are used. This document covers project checkout, setting run configurations and running.

This document is targeted for developers, who need to continue development of XIDE project and set up XIDE development environment.

For information about XIDE deployment on the server please see XIDE Deployment Instructions available on <http://code.google.com/p/xformsdb-ide/wiki/Deployment>

1.2 Version information

This document was last updated on 30.06.2010 and is up-to-date with XIDE project version published on XIDE open source project page <http://code.google.com/p/xformsdb-ide/> on 01.06.2010.

Before using this document, please make sure there is no newer version of it on the project page.

1.3 Configuration details

1.3.1 Optional

This installation manual is written and tested with the following configurations. They are used in this document, but are not obligatory.

- Eclipse IDE Version: 3.5.2 is used. There is no strict requirement to use Eclipse; it is used because it is popular and free. Generally, any Java IDE can be used.
- Subclipse 1.2.4 plugin for Eclipse is responsible for working with SVN revision control system. Any SVN client can be used.
- Windows 7 operating system is used. There is no strict requirement to use Windows 7. Moreover, during development XIDE was installed on Windows XP, OS X 10.6 and Linux. Further platform-related details will be highlight with **bold font**.

1.3.2 Obligatory

This installation manual is written and tested with the following configurations. They are obligatory to use.

Applications to be installed:

1. Apache Tomcat 6.x.

There should be an ability to create a directory, where Tomcat has a right to read and write. Check this possibility with system administrator of your server.

Let us refer to the path where Apache Tomcat is installed as TOMCAT_HOME and to the URL it runs as TOMCAT_URL

You will also need a administrator account for the Apache Tomcat in order to be able to deploy the application.

2. eXist-db Open Source Native XML Database 1.4 or later

In order to run XIDE, you need Exist-db database server running locally or remotely. There should be a user, who has a right to create collections and have read/write access to them

- to URL where Exist-db server is running (use localhost:correct_port if it runs locally) as XIDE_EXIST_URL
- to the username and password of the user who has right to view and modify the schema as XIDE_EXIST_USERNAME and XIDE_EXIST_PSWD

3. MySQL database

In order to run XIDE, you need MySQL database server running either locally or remotely. There should be a user, who has a right to create schemas and have read/write access to them

- to URL where MySQL server is running (use localhost:correct_port if it runs locally) as XIDE_SQL_URL
- to the username and password of the user who has right to view and modify the schema as XIDE_SQL_USERNAME and XIDE_SQL_PSWD

4. Java JRE 1.6

Libraries need to be downloaded:

- xformsdb.jar file. The XFormsDB project can be found in <http://code.google.com/p/xformsdb/>
- **XIDE library package** is published in the project sources under /. The package is platform-specific. Please, pay attention for selecting appropriate package.

1.3.3 Prerequisites

- Eclipse IDE should be installed.
- All requirements from section 1.3.2 should be fulfilled

- CATALINA_HOME environment variable should be set. It should point to the root of the Apache Tomcat folder (e.g. /Applications/apache-tomcat/). Variable should be set globally (for the current user of the system) if you are going to run as a .war file under your local Tomcat. Otherwise it is enough to set the variable in run configurations in the Eclipse
- xformsdb.jar should be placed in Tomcat's CATALINA_HOME/lib folder

2 XIDE Development Environment Installation

Step 1: Check out XIDE as a new Java project

Check out XIDE project from XIDE open source repository. See instructions on <http://code.google.com/p/xformsdb-ide/source/checkout>

In Eclipse with Subclipse you need to perform the following actions:

1. Create new repository with the URL described in instructions
2. Select root folder, right mouse click and select "Check out" option from the menu
3. "Check out" wizard appears. Select the following options and click "Finish"
4. "Check out as new project" wizard appears. Select "Java Project" and click "Next"
5. Enter desired name for the project, check that the other options are selected as the following and click "Finish". Let us refer to the project name as PROJECT_NAME
6. Now the project appears in the workbench, but it shows a lot of errors

Step 2: Download library package

Select appropriate library package and export it from SVN.

Step 3: Set up project build path

In order to set up the build path you need to add all required libraries. To do in Eclipse this follow the instructions:

1. Go to your project's properties and select "Java Build Path". Then select the "Libraries" tab.
2. Click the "Add External JARs" button and select all the .jar files you've exported in previous step except:

dev-windows.jar for Windows

gwt-dev-linux.jar for Linux

gwt-dev-mac.jar for OS X

Let us refer to the file corresponding to your operating system as DEV_GWT_FILE

3. Click “OK” button
4. Now there should be no errors in the project

Step 4: Set up Run Configurations

This step is responsible for setting up configurations for project to run.

This instruction covers setting configurations in Eclipse. In you use another IDE, please check Google Web Toolkit web site <http://code.google.com/webtoolkit/> to get details about running GWT application.

In order to set up Run Configuration in Eclipse, please do the following:

1. Go to the Run Configurations
2. Create a new launch configuration, give it a name
3. Select PROJECT_NAME as a project
4. Enter the following as a main class name and check “Include system libraries when searching for a main class” checkbox
Main class: com.google.gwt.dev.HostedMode
5. Go to the Arguments Tab and enter the following settings
Program Arguments: -startupUrl fi.tkk.media.xide.Main/Main.html fi.tkk.media.xide.Main -style PRETTY
VM Arguments: -Xmx512m
6. Go to the Classpath tab. While the “User Entries” selected, click the “Advanced” button on the right and select “Add Folders”.
7. Select the source folder of the project and click “OK”
8. While the “User Entries” selected click the “Add External JARs” button. Select the DEV_GWT_FILE file (see previous step)
9. Check the order of the items under “User Entries” and change it if necessary to fit the following
10. Press “OK” button

Step 5: Test run

Run the project to check if everything works correctly so far. In Eclipse you should select newly created Run Configuration from the Run menu.

Check if you can see two windows and one of them contains XIDE welcome page.

Step 6: Organize XIDE files

XIDE files contain folder structure for XIDE working files (e.g. components and application's sources) and some XIDE internal files. You need to have XIDE files folder structure stored somewhere on the server you are going to run the XIDE

To copy the file structure, please follow the steps:

1. Download XIDE file structure archive from XIDE project page (<http://xformsdb-ide.googlecode.com/files/xidefiles.zip>)
2. Unpack the archive to the place, where your Apache Tomcat has access to (see section 1.3.2)
Let us refer to the path where the root folder of the unpacked structure is saved as XIDE_FILES

Step 7: Set up MySQL database and connection

MySQL database should have a schema with required tables. If you don't have tables yet, you can create them by running in order SQL scripts from MySQL database setup pack from XIDE project page (<http://xformsdb-ide.googlecode.com/files/DB%20Initialization.zip>). There are instructions in the package.

Let us refer to the schema where XIDE tables are stored as XIDE_SQL_SCHEMA.

After the database is configured, you need to set up connection to the database and username/password.

1. Open context.xml file from /META-INF/
2. Enter the following settings

```
<Resource name="jdbc/xidedb" auth="Container" type="javax.sql.DataSource"

    driverClassName="com.mysql.jdbc.Driver"

    maxActive="100" maxIdle="30" maxWait="10000" username="XIDE_SQL_USERNAME"

    password=" XIDE_SQL_PSWD" validationQuery="select 1"

    url="jdbc:mysql:// XIDE_SQL_URL/

    XIDE_SQL_SCHEMA?zeroDateTimeBehavior=convertToNull&autoReconnect=true" />
```

Step 8: Set up Exist-db database and connection

Exist-db database should have the following collections (create, if not):

- /db/xide/

- /db/xide/published
- /db/xide/temp

After the database is configured, you need to set up connection to the database and username/password.

Update constant.properties file from /WEB_INF/ to match the following:

<i>xide.exist.user</i>	=	<i>XIDE_EXIST_USERNAME</i>
<i>xide.exist.password</i>	=	<i>XIDE_EXIST_PSWD</i>
<i>xide.exist.dbPublished</i>	=	<i>/db/xide/published/</i>
<i>xide.exist.dbTemp</i>	=	<i>/db/xide/temp/</i>
<i>xide.exist.uri</i>	=	<i>xmldb:exist:// XIDE_EXIST_URL /exist/xmlrpc</i>

Step 9: Update other settings according to your local configurations

Update constant.properties file from /war/WEB_INF/ to match the following:

<i>xide.tomcat.home</i>	=	<i>TOMCAT_HOME</i>
<i>xide.serverUrl</i>	=	<i>TOMCAT_URL</i>
<i>xide.fileSystemPath</i>	=	<i>XIDE_FILES</i>

Step 10: Run the XIDE in Hosted Mode

Run the project to check if everything works correctly. In Eclipse you should select newly created Run Configuration from the Run menu.

Check if you can see XIDE welcome page, log in to XIDE and see the applications.

Step 11: Run the XIDE in Web Mode

If order to run XIDE in browser you need to run it in Web Mode and run Apache Tomcat server.

1. Run Apache Tomcat. Execute TOMCAT_INSTALLATION_FOLDER/bin/startup.sh (for OS X and Linux) or TOMCAT_INSTALLATION_FOLDER/bin/startup.bat (for Windows)
2. Click "Compile/Browse" button in the window where XIDE is run

If you do have some problems with installing the project, please refer to the GWT Troubleshoot http://code.google.com/webtoolkit/doc/latest/FAQ_Troubleshooting.html or contact samochadina@gmail.com

3 XIDE deployment archive creation

This section covers process of XIDE deployment archive creation. This archive can be deployed either on local Apache Tomcat used previously in this document or on production server. For more information about production server deployment please refer to XIDE Installation Instructions document.

In this section it is assumed, that development environment is successfully installed as it is described in previous section. Follow those step-by-step instructions in order to create a deployment archive.

You should have Ant installed under your Eclipse.

Step 1: Compile the project

You need to clean the project and compile it in order to get up-to-date appropriate files for the deployment archive (.war file). Follow the steps:

1. Select Project -> Clean option from Eclipse menu and then select your XIDE project
2. Repeat steps 10 and 11 from the previous section to run the XIDE

Step 2: Organize folder structure of the archive

You need to create a folder structure and copy necessary files by hands or using Ant Build Script.

Ant script can be found under project root folder. Please check the settings in the build.properties and build.xml files before running. Then run the Ant script "war". The .war file will be created under the path specified in build.properties.

In this document manual .war file creation will be covered.

Folder structure should be the following:

