

Joget DX

Preparing Development Environment

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Prerequisites

 Basic application development management know-hows. (i.e. svn/versioning, Maven project etc)



Content

- 1. Introduction
- 2. Prepare development tools
- 3. Checking out source code
- 4. Prepare dependency libraries
- 5. Building from source



Introduction



Introduction

- In this module, we will be learning about the followings:
 - Prepare development tools
 - Checking out source code
 - Prepare dependency libraries
 - Building from source

Alternatively, you may also refer to <u>https://dev.joget.org/community/display/DX7/Joget+Open+Source</u>



Preparing Development Tools



Tools

- Download the following tools or get it in your Developer Training Materials and install.
 - Install JDK 8. Please make sure "JAVA_HOME" is set.
 - Install MySQL 5 or above.
 - Install Apache Maven 3.6.1 or above.
 - (e.g. apache-maven-3.6.3-bin.zip)
 - Please make sure "mvn" command is able to be executed from the command line.
 - Optional Install Subversion Client or Github Client.
 - Optional IDE such as Netbeans.



- For Windows
 - Open Window
 System Properties

 dialog. Search for
 Edit Environment
 Variables for your
 account





- For Windows
 - 2. Selecting the "Advanced" tab, and the "Environment Variables" button.

| /stem Properties X | Environment Variables | | × |
|--|-----------------------------------|--|---|
| Computer Name Hardware Advanced System Protection Remote | User variables for Hugo | | |
| You must be logged on as an Administrator to make most of these changes. | Variable | Value | |
| Visual effects, processor scheduling, memory usage, and virtual memory | OneDrive | C:\Users\Hugo\OneDrive | |
| Settings | Path | C:\Users\Hugo\AppData\Local\Microsoft\WindowsApps; C:\Users\Hugo\AppData\Local\Temp | |
| User Profiles | TMP | C:\Users\Hugo\AppData\Local\Temp | |
| Desktop settings related to your sign-in | | The second constrained and the | |
| Settings | | New Edit Delete | |
| Startup and Recovery | | | |
| System startup, system failure, and debugging information | System variables | | |
| Cattions | Variable | Value | ^ |
| Settings | ComSpec | C:\WINDOWS\system32\cmd.exe | |
| Environment Variables | DriverData | C:\Windows\System32\Drivers\DriverData o | |
| | OS | o Windows NT | |
| | Path | C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wb | |
| OK Cancel Apply | PATHEXT PROCESSOR ARCHITECTURE | .COM; EXE; BAT; .CMD; .VBS; .VBE; JS; JSE; .WSF; .WSH; .MSC AMD64 | ~ |
| | | New Edit Delete | |
| | | OK Const | |



- For Windows
 - Add new System Variable named "JAVA_HOME", and set its value to JDK installation directory.
 E.g. "C:\Program Files\Java\jdk1.8"

| er variables for Hugo | | | |
|--|---|--|--|
| /ariable | Value | | |
| OneDrive | C:\Users\Hugo\OneDrive | | |
| OneDriveConsumer | C:\Users\Hugo\OneDrive | | |
| Path | C:\Users\Hugo\AppData\Local\Microsoft\WindowsApps; | | |
| (EMP | C:\Users\Hugo\AppData\Local\Temp | | |
| IMP | C:\Users\Hugo\AppData\Local\Temp | | |
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| Variable ComSpec DriverData | C:\WiNDOWS\system32\cmd.exe C:\Windows\System32\DriverS\DriverData | | |
| Variable ComSpec DriverData VUMBER_OF_PROCESSORS | C:\WINDOWS\system32\cmd.exe C:\Windows\System32\Drivers\DriverData 8 | | |
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| Variable ComSpec DriverData VUMBER_OF_PROCESSORS DS Path PATHEXT PROCESSOR ARCHITECTURE | C:\WINDOWS\system32\cmd.exe C:\Windows\System32\Drivers\DriverData 8 Windows_NT C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wb .COM;.EXE;.BAT;.CMD;.VBS;.VBE;JS;JSE;.WSF;.WSF;.MSC AMD64 | | |
| Variable ComSpec DriverData VUMBER_OF_PROCESSORS DS Path Path PATHEXT PROCESSOR ARCHITECTURE | C:\WINDOWS\system32\crud.exe C:\Windows\System32\Drivers\DriverData 8 Windows_NT C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wb .COM;.EXE;.BAT;.CMD;.VBS;.VBE;JS;JSE;.WSF;.WSF;.MSC AMD64 New Edit Delete | | |
| Variable ComSpec DriverData VUMBER_OF_PROCESSORS DS | C:\WINDOWS\system32\cmd.exe C:\Windows\System32\Drivers\DriverData 8 Windows_NT | | |



- For Windows
 - 4. Add new System Variable named "M2_HOME", and set its value to Apache Maven installation directory.
 E.g. "C:\Program Files\apache-maven-3.6.3"

| er variables for Hugo | | | | |
|---|--|--|--|--|
| Variable | Value | | | |
| OneDrive | C:\Users\Hugo\OneDrive | | | |
| OneDriveConsumer | C:\Users\Hugo\OneDrive | | | |
| Path | C:\Users\Hugo\AppData\Local\Microsoft\WindowsApps; | | | |
| TEMP | C:\Users\Hugo\AppData\Local\Temp | | | |
| TMP | C:\Users\Hugo\AppData\Local\Temp | | | |
| | New Edit Delete | | | |
| stem variables Variable | Value | | | |
| ComSpec | C:\WINDOWS\system32\cmd.exe | | | |
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| Path PATHEXT PROCESSOR ARCHITECTURE | .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSF;.MSC AMD64 | | | |
| Path PATHEXT PROCESSOR ARCHITECTURE | .COM;EXE;BAI;CMD;VBS;VBE;JS;JSE;WSF;WSH;MSC AMD64 | | | |
| Path PATHEXT PROCESSOR ARCHITECTURE | AMD64 Edit Delete | | | |



- For Windows
 - 5. Edit "Path" system variable.
 - 6. Add
 - %JAVA_HOME%\bin
 - %M2_HOME%\bin
 - Open Command Prompt and run "mvn –version" to verify.

| | | | - |
|--|--|---|-----------|
| ronment Variables | | %SystemRoot%\system32 | New |
| | | %SystemRoot% | |
| ser variables for Hugo | | %SystemRoot%\System32\Wbem | Edit |
| Variable | Value | %SYSTEMROOT%\System32\WindowsPowerShell\v1.0\ | |
| OneDrive | C:\Users\Hugo\ | %SYSTEMROOT%\System32\OpenSSH\ | Browse |
| OneDriveConsumer | C:\Users\Hugo\ | C:\Program Files (x86)\ZeroTier\One\ | |
| Path | C:\Users\Hugo\ | | Delete |
| TEMP | C:\Users\Hugo\ | | |
| TMP | C:\Users\Hugo\ | | |
| | | | Move Up |
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| vstem variables | | | Edit text |
| Variable | Value | | |
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| OS Path PATHEAT PROCESSOR_ARCHITECTURE PROCESSOR_IDENTIFIER | C:\WINDOWS\s .COM;.EXE;.BAI AMD64 Intel64 Family 6 | | Cancel |
| OS Path PATHEAT PROCESSOR_ARCHITECTURE PROCESSOR_IDENTIFIER PROCESSOR_LEVEL | C:\WINDOWS\s .COM;EXE;BAT AMD64 Intel64 Family 6 6 | OK | Cancel |
| OS Path PATHEAT PROCESSOR_ARCHITECTURE PROCESSOR_IDENTIFIER PROCESSOR_LEVEL PROCESSOR REVISION | C:\WINDOWS\s .COM;.EAE;.BAT AMD64 Intel64 Family 6 6 2a07 | OK | Cancel |
| OS Path PATHEAT PROCESSOR_ARCHITECTURE PROCESSOR_IDENTIFIER PROCESSOR_LEVEL PROCESSOR_REVISION | C:\WINDOWS\s .CONJ:EAE;BAT AMD64 Intel64 Family 6 6 2a07 | OK New, Edit, Delete | Cancel |
| OS Path PATHEAT PROCESSOR_ARCHITECTURE PROCESSOR_IDENTIFIER PROCESSOR_LEVEL PROCESSOR_REVISION | C:\WINDOWS\s AMD64 Intel64 Family 6 6 2a07 | OK New Edit Delete | Cancel |



- For Linux
 - 1. Open Command Terminal.
 - 2. Set environment variable "JAVA_HOME" to the location of your JDK.
 - E.g. "export JAVA_HOME=/usr/java/jdk1.8"
 - 3. Set environment variable "M2_HOME" to the location of your Apache Maven.
 - E.g. "export M2_HOME=/usr/apache-maven-3.6.1"
 - Run "export PATH=\$PATH:\$JAVA_HOME/bin: \$M2_HOME/bin" to add both into environment variable named "PATH".
 - 5. Run "mvn –version" to verify.



Chapter Review

• Install and set up required development tools.



Checking Out Source Code



Getting And Building Joget Source Code

- Checkout the source from public mirror at GitHub at https://github.com/jogetworkflow/jw-community/tree/7.0-SNAPSHOT
- Checkout using Subversion Client svn co https://github.com/jogetworkflow/jw-community/branches/7.0-SNAPSHOT
- Clone using Github Client git clone https://github.com/jogetworkflow/jw-community.git --branch 7.0-SNAPSHOT



Preparing Dependency Libraries



Install Third Party Libraries

- Unzip the "16-install-libraries.zip" or obtain it from https://dev.joget.org/community/display/DX7/Joget+Ope n+Source
- In the extracted folder, run
 "install_linux.sh" for Linux and Mac or
 "install_win.bat" for Windows.



Sample output

C:\Joget\install-libraries\install-libraries>install_win.bat C:\Joget\install-libraries\install-libraries>./apache-ant-1.7.1/bin/ant.bat -f lib/setup-maven_win.xml Buildfile: lib\setup-maven_win.xml setup-maven: [exec] [INFO] Scanning for projects... [exec] [INF0] [exec] [INF0] [exec] [INFO] --- maven-install-plugin:2.4:install-file (default-cli) @ standalone-pom ---[exec] [INF0] Installing E:\Doc\Downloads\install-libraries\install-libraries\lib\sqlidbc-4.0.jar to C:\Users\user\.m2\repository\com\microsoft\sqljdbc\4.0\sqljdbc-4.0.jar [exec] [INF0] BUILD SUCCESS [exec] [INFO] -----[exec] [INFO] Total time: 1.035 s [exec] [INF0] Finished at: 2016-02-01T15:18:06+08:00 [exec] [INFO] Final Memory: 6M/243M [exec] [INFO] Scanning for projects... [exec] [INF0] [exec] [INFO] Using the builder org.apache.maven.lifecycle.internal.builder.singlethreaded.SingleThreadedBuilder with a thread count of 1 [exec] [INF0] [exec] [INFO] ------[exec] [INFO] Building Maven Stub Project (No POM) 1 [exec] [INF0] --maven-install-plugin:2.4:install-file (default-cli) @ standalone-pom ---[exec] [INF0] Installing C:\Joget\install-libraries\install-libraries\lib\ojdbc6-12.1.0.2.jar to C:\Users\user\.m2\repository\com\oracle\ojdbc6\12.1.0.2\ojdbc6-12.1.0.2.jar [exec] [INFO] BUILD SUCCESS



Building From Source



Preparing Test Database

- Before you can build the project, you will need to configure the Datasource profile to a active Joget database for the test cases to run.
- You may reuse your existing Joget's database for this purpose.
- Locate your home folder and create a "wflow" folder. (To find out your current user folder on Windows, execute echo %HOMEPATH%)
- Copy the "wflow" folder's app_datasource.properties and app_datasource-default.properties files from your existing Joget installation folder into the new "wflow" folder.



Building From Source

- Navigate to /wflow-app from your command prompt/terminal and execute the following:mvn clean install
- A full build cycle may take up to 10 minutes to complete depending on your machine's performance and the Internet connectivity.



Module Review

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Recommended Further Learning

• Extend the usability of Joget by building a plugin.



Stay Connected with Joget

- http://www.joget.org
- http://community.joget.org
- http://twitter.com/jogetworkflow
- http://facebook.com/jogetworkflow
- http://youtube.com/jogetworkflow
- http://slideshare.net/joget