# Measure Authoring Tool Installation

The Measure Authoring Tool (MAT) utilizes the Google Web Toolkit (GWT) framework. GWT allows one to write client side code in Java and then converts it to JavaScript while running. Also, the MAT uses MySQL as its backend database server. The IDE used by the MAT development team is Eclipse 3.6 (Helios). Finally, the MAT is deployed on the Glassfish 3.1.1 application server.

The sections below describe each of the above mentioned components in detail.

Java

You need to have Java 6 (JDK) on your machine for successfully running the MAT. Also, verify that your JAVA\_HOME and PATH system variables are pointing to the Java 6 JDK.

Eclipse

Eclipse IDE is a free, open source IDE for writing Java applications. Download Eclipse 3.6 (Helios) for Java EE developers from the Eclipse download site at <http://www.eclipse.org/downloads/index-helios.php> . There is no installation involved. You download a zip file and extract it to wherever you want Eclipse to reside on your hard drive.

Google Web Toolkit (GWT)

Google Web Toolkit is a free, open-source development toolkit used for developing complex browser based applications. More about GWT can be found at <https://developers.google.com/web-toolkit/>. MAT uses GWT version 2.0.4 currently.

Instead of installing GWT separately, we recommend using the Google Plugin for Eclipse which allows you to write, compile and run your code all through Eclipse.

After starting Eclipse IDE, navigate to the workbench and select,

Help 🡪 Install New Software

Enter the following URL:

<http://dl.google.com/eclipse/plugin/3.6>

You will need:

* Google Plugin for Eclipse
* SDK’s – Google Web Toolkit SDK.

Google App Engine content isn’t needed.

The version of GWT that you will receive with this download is 2.4.\* or higher, but currently MAT requires version 2.0.4. This version is downloaded from:

<https://developers.google.com/web-toolkit/versions>

Extract the version 2.0.4 to a folder of your choice.

Go back to Eclipse and select,

Window 🡪Preferences 🡪 Google 🡪 Web Toolkit 🡪 Add

Browse to the folder where you previously extracted GWT 2.0.4 and select this version.

MySQL

MAT currently uses MySQL community version 5.5, but there is no reason why a newer version won’t work with MAT as long as it is accompanied by the appropriate MySQL JDBC driver jar. Download MySQL community server installer for your Operating System from <http://dev.mysql.com/downloads/>. Installing MySQL workbench (which comes with the download) can be useful.

Take note of the MySQL username and password when installing.

Under the ‘mat’ folder find ‘Blank DB Scripts.zip’ and extract it. This file will contain the .sql files to create an initial database. Within this zip is also a file called ‘ReadMe.txt’ which will indicate the order in which you would need to run the .sql files. The first time you login to the MAT tool you may use the credentials, User: Admin and Password: Admin.

Code Base

Extract the code base into your Eclipse workspace folder.

Import the code base into an Eclipse project,

File 🡪 Import 🡪 General 🡪 Existing Project Into Workspace 🡪 Browse to and Select <<workspace>> 🡪 Finish

Compile the code,

Google Services and Development Tools (Google Icon button) 🡪 GWT Compile Project

Run the build to create a war file:

build.xml (right click and Run As 🡪 Ant Build)

After the build has run, the war file will be placed in,

mat/work/artifacts/MeasureAuthoringTool.war

Setting up your development environment

You need to make some changes to some of the files in the code base so that MAT will connect to your local MySQL db.

Go to mat/war/WEB-INF/mat-persistance.xml

In this file set the “dataSource” bean to point to your local MySQL database.

<bean id=*"dataSource"* class=*"org.apache.commons.dbcp.BasicDataSource"* destroy-method=*"close"*>

<property name=*"driverClassName"* value=*"com.mysql.jdbc.Driver"*/>

<property name=*"url"* value=*"jdbc:mysql://localhost:3306/MAT\_APP"*></property>

<property name=*"username"* value=*"****<<your db user name>>****"*></property>

<property name=*"password"* value=*"****<<your db password>>****"*></property>

</bean>

Next go to,

mat/war/WEB-INF/applicationContext-security.xml

Make the change as marked in black below.

<http use-expressions=*"true"*>

<intercept-url pattern=*"/Mat.html"* access=*"isAuthenticated()"* />

<form-login default-target-url=*"****/Mat.html?gwt.codesvr=127.0.0.1:9997"* login-page=*"/Login.html?gwt.codesvr=127.0.0.1:9997****"*/>

<logout />

<session-management invalid-session-url=*"/Login.html"*>

<concurrency-control max-sessions=*"1"* error-if-maximum-exceeded=*"true"* />

</session-management>

<custom-filter after=*"SECURITY\_CONTEXT\_FILTER"* ref=*"preventCachingFilter"*/>

</http>

Run MAT

Make sure that your database server is running.

In the Eclipse IDE select,

Run 🡪 Run Configurations 🡪 Web Application 🡪 New

Set Main class:

com.google.gwt.dev.DevMode

Select Apply and then Run.