Developer's Guide

Version 1.2.1

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About this Guide

Informatics for Integrating Biology and the Bedside (i2b2) is one of the sponsored initiatives of the NIH Roadmap National Centers for Biomedical Computing (http://www.bisti.nih.gov/ncbc/). One of the goals of i2b2 is to provide clinical investigators broadly with the software tools necessary to collect and manage project-related clinical research data in the genomics age as a cohesive entity—a software suite to construct and manage the modern clinical research chart. This guide with the provided source code will help you to learn about the developing and understand the requirements for creating i2b2 cells.

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Prerequisites

Downloads and Installation

a. Java JDK 5.0

Download JDK 5.0 Update 11 (jdk-1_5_0_11-windows-i586-p.exe) from http://java.sun.com/products/archive/

Run the installer.

b. Eclipse

You will need to use version 3.2.1 of the Eclipse SDK (eclipse-SDK-3.2.1-win32.zip), available at http://archive.eclipse.org/eclipse/downloads. If you install Eclipse, be sure to install it in an area separate from any previous Eclipse installations.

To install, extract the zip file into a directory such as C:\

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Install & Configure

Setting up the i2b2Workbench within Eclipse 3.2.1

If launching eclipse for the first time, via either an eclipse application shortcut or eclipse.exe, you will be greeted by a Welcome page. Click on the arrow labeled Workbench to startup the eclipse SDK.

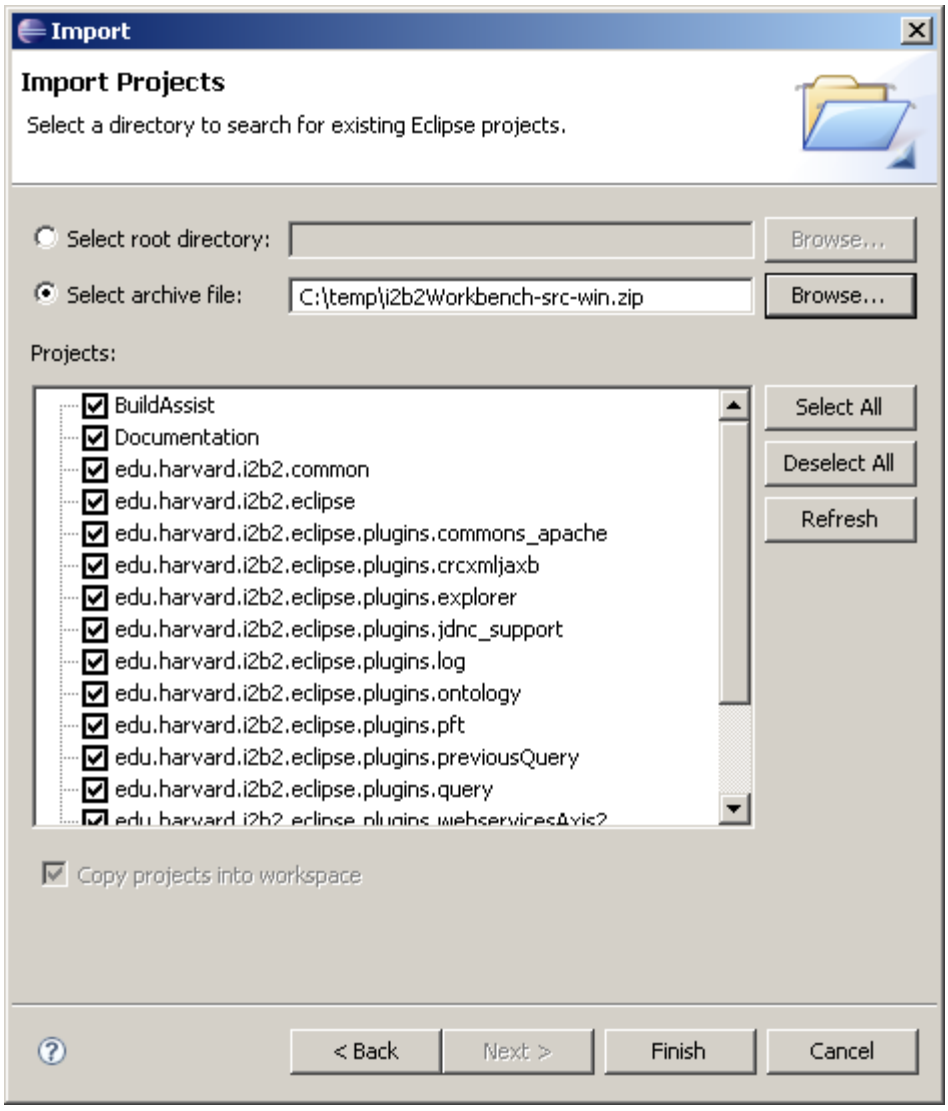
Importing the i2b2 Workbench projects

The project software is contained in the Eclipse "Archive" file called i2b2Workbench-src-win.zip, which can be downloaded from http://www.i2b2.org. In this file are the Eclipse projects:

1) BuildAssist
2) Documentation
3) edu.harvard.i2b2.common
4) edu.harvard.i2b2.eclipse
5) edu.harvard.i2b2.eclipse.plugins.commons_apache
6) edu.harvard.i2b2.eclipse.plugins.crcxmljaxb
7) edu.harvard.i2b2.eclipse.plugins.explorer
8) edu.harvard.i2b2.eclipse.plugins.jdnc_support
9) edu.harvard.i2b2.eclipse.plugins.log
10) edu.harvard.i2b2.eclipse.plugins.ontology
11) edu.harvard.i2b2.eclipse.plugins.previousQuery
12) edu.harvard.i2b2.eclipse.plugins.query
13) edu.harvard.i2b2.eclipse.plugins.webservicesAxis2
14) edu.harvard.i2b2.eclipse.plugins.xml_support_jaxb
15) edu.harvard.i2b2.eclipse.plugins.xml_support_jdom
16) edu.harvard.i2b2.xml

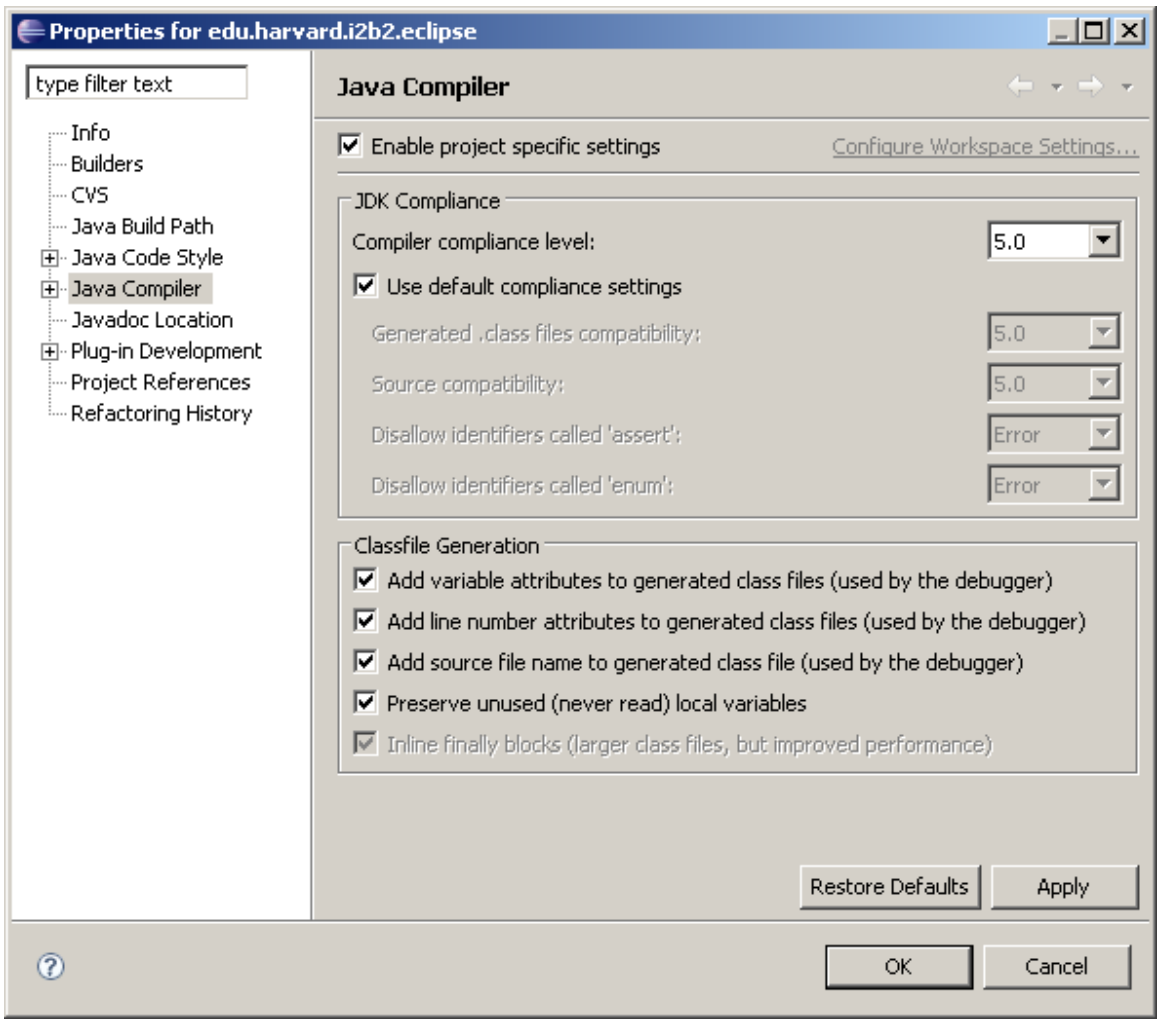
To import them into an Eclipse SDK workspace, first choose a workspace whose pathname does not contain spaces (i.e. C:\Workspace\i2b2Workbench, not C:\Eclipse Workspace\i2b2Workbench)

File->Import->General->Existing Projects into Workspace
and select the archive file i2b2Workbench-src-win.zip.

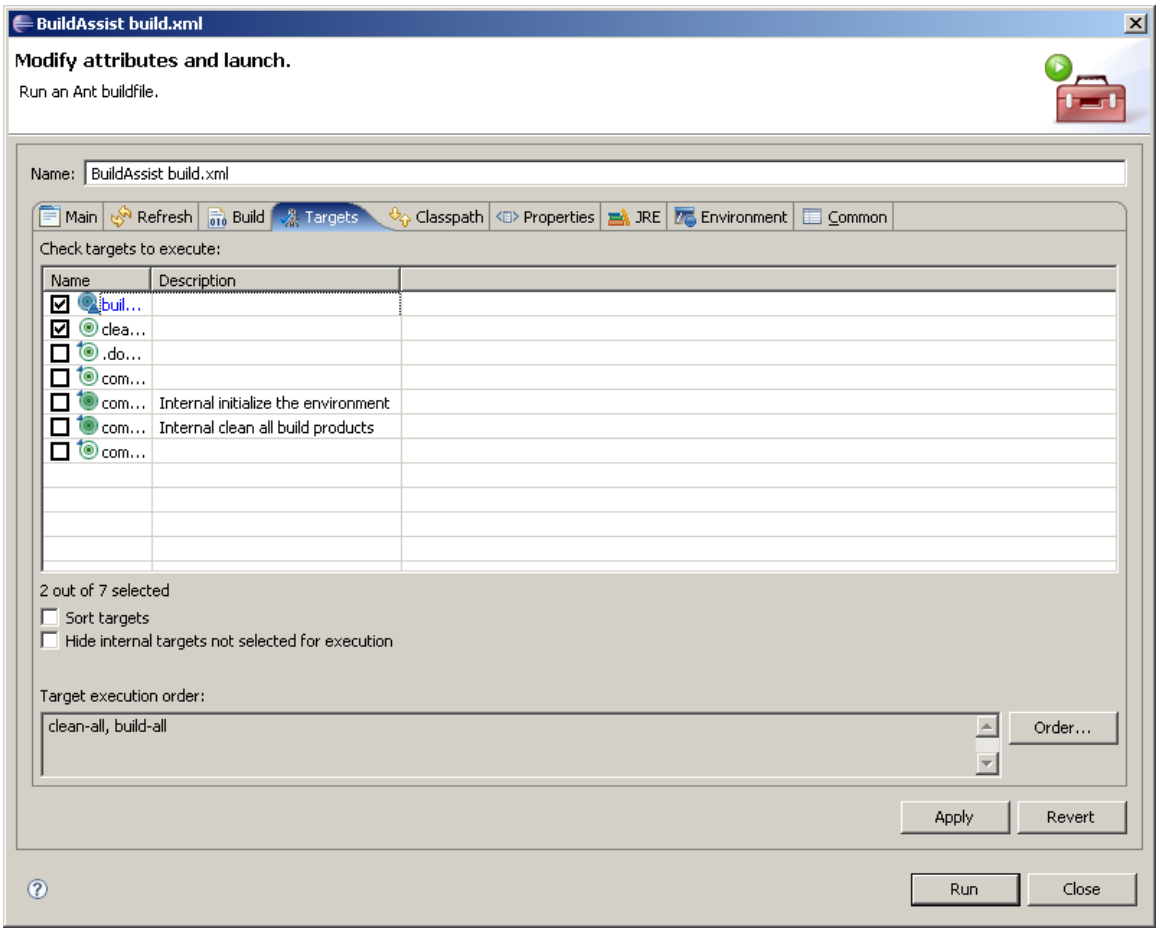


Building the i2b2Workbench within the Eclipse IDE

Check your Java Complier settings. Choose Project->Properties from the main drop down menu. Next click on 'Java Compiler'. Verify that Compiler compliance level is set to 5.0.



Open the project BuildAssist. Right click on the build.xml file.
Select RunAs->Ant Build (second occurrence).
Choose clean-all, build-all (in this target execution order) then execute via the Run button.



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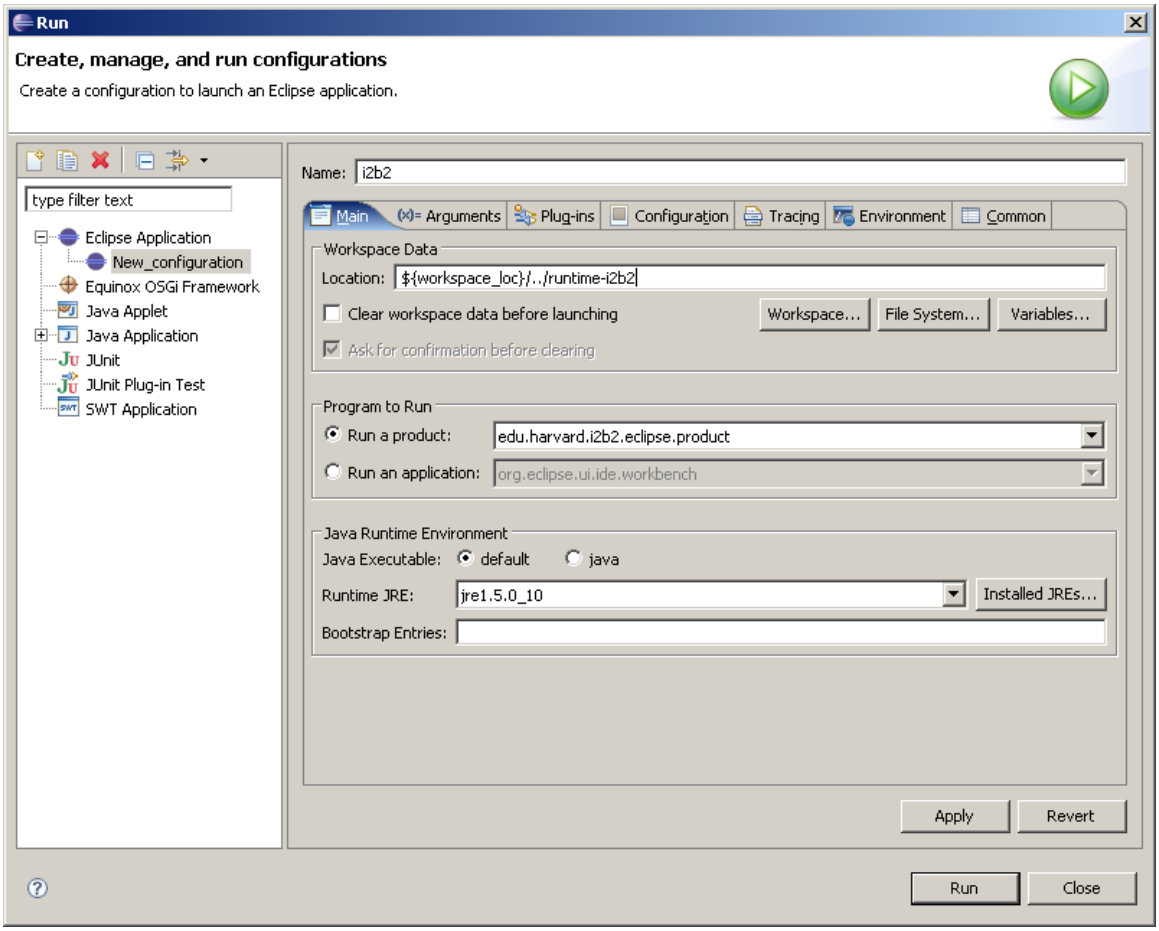
When this has completed, select all the projects and refresh, (Right Click and select Refresh).

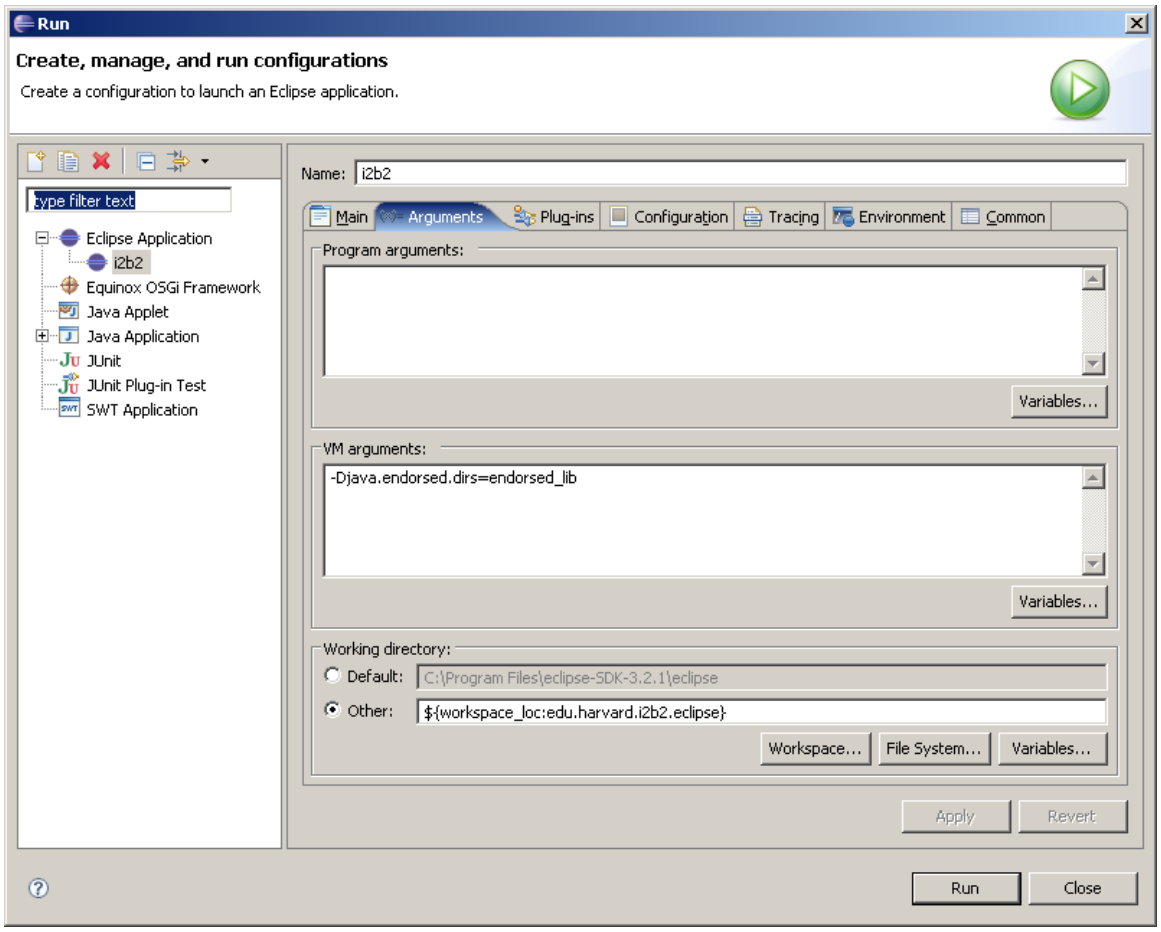
Running the i2b2Workbench within the Eclipse IDE

Right click the edu.harvard.i2b2.eclipse project -> Run As -> Run
Create a new Eclipse Application Configuration by double-clicking on “Eclipse Application”. Give the configuration a meaningful name: e.g. “i2b2”.
Select “Run a product:” and edu.harvard.i2b2.eclipse.product from the drop-down menu.



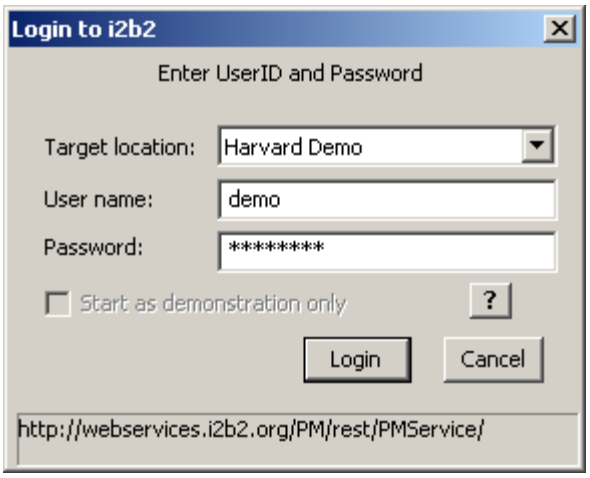
Go to the Arguments tab.
In Working directory: select ‘Other’ and click on ‘Workspace...’button. Select edu.harvard.i2b2.eclipse and click ‘OK’

In VM arguments include the term “-Djava.endorsed.dirs=endorsed_lib”.

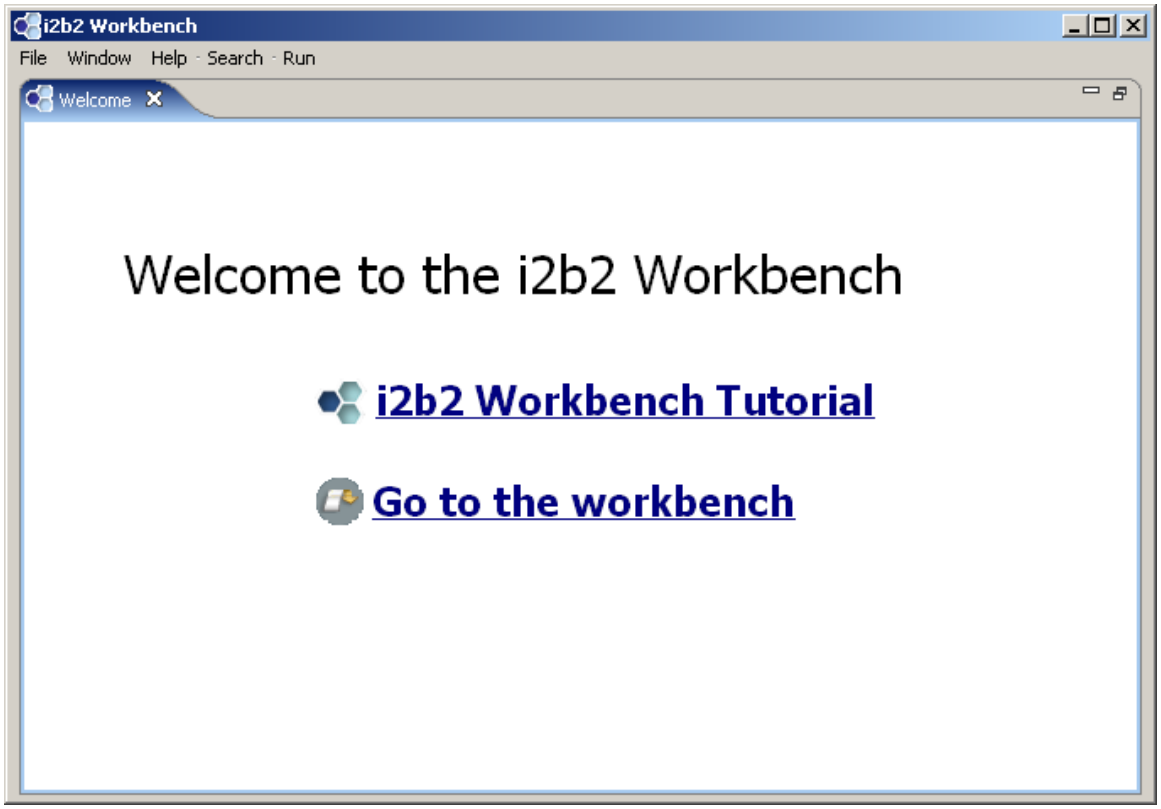


Go to the plug-ins tab.
You can configure any combination of workspace plug-ins and target platform plug-ins as your IDE configuration. Default is that all of the workspace and target platform plug-ins are selected. Select Apply; Run

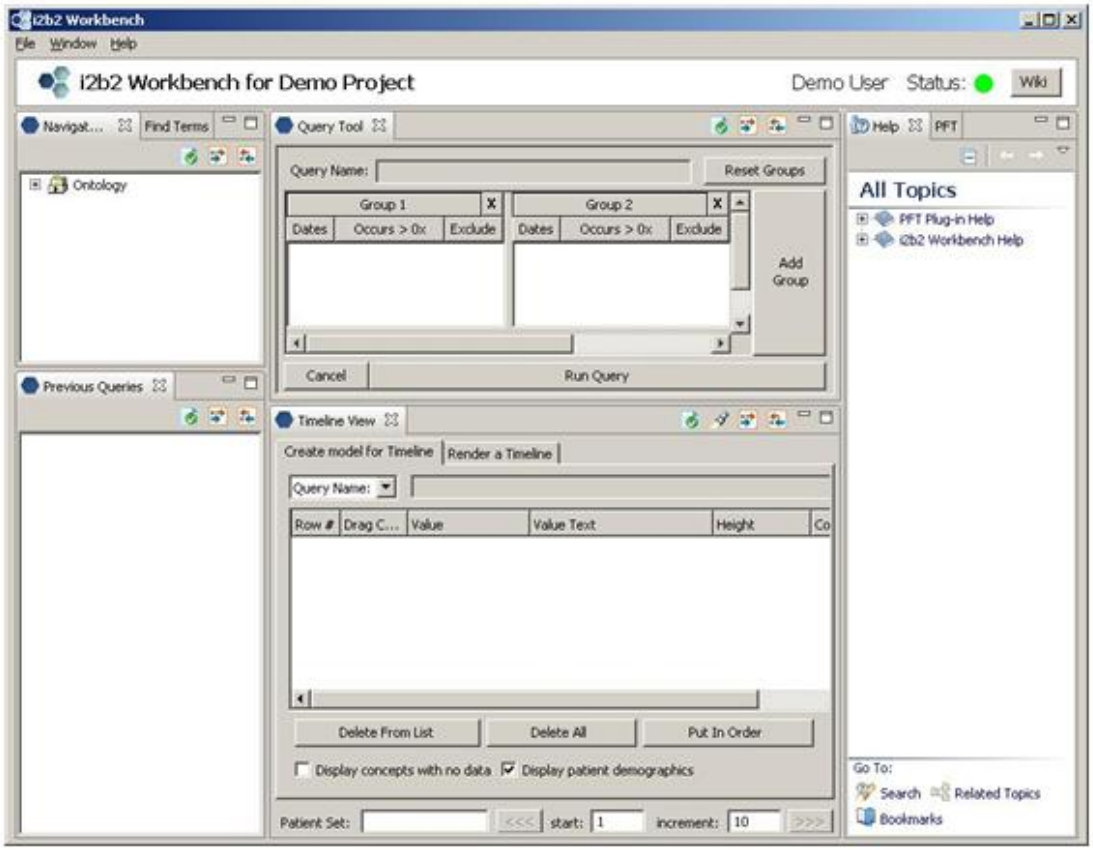
You are now running the i2b2 Workbench under control of the Eclipse IDE.
You will see a splash screen followed by a Login dialog box.
Log in; the User name is **demo** and the Password is **demouser**.



Select ‘Go to the workbench’
If at any time you wish to return to the welcome page select Help->Welcome from the menu bar.



If the default layout needs to be reconfigured, select Window->Show View and the view(s) you wish to add to the layout. Move the position of any view by clicking on the view tab and dragging to another position.



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Package Structure

The archive file contains the following projects. The project/directory edu.harvard.2b2.eclipse is considered the base plugin for the project and contains project property files and configuration files.

Directory	Description
edu.harvard.i2b2.eclipse	The base plug-in for our development (namely the UI for the top panel)
edu.harvard.i2b2.eclipse.plugins.commons_apache	Third party jars needed for common functions
edu.harvard.i2b2.eclipse.plugins.crcxmljaxb	Internal jars needed for jaxb/message processing
edu.harvard.i2b2.eclipse.plugins.explorer	UI for the Timeline view
edu.harvard.i2b2.eclipse.plugins.jdnc_support	Third party jars needed for UI support
edu.harvard.i2b2.eclipse.plugins.log	Third party jars needed for logging
edu.harvard.i2b2.eclipse.plugins.ontology	UI for the Ontology view
edu.harvard.i2b2.eclipse.plugins.previousQuery	UI for the Previous Query view
edu.harvard.i2b2.eclipse.plugins.query	UI for the Query view
edu.harvard.i2b2.eclipse.plugins.webservicesAxis2	Third party jars needed for web service support
edu.harvard.i2b2.eclipse.plugins.xml_support_jaxb	Third party jars needed for jaxb/message processing
edu.harvard.i2b2.eclipse.plugins.xml_support_jdom	Third party jars needed for jdom/message processing
edu.harvard.i2b2.xml	XSD for the hive
edu.harvard.i2b2.common	Common core exception, jaxb, and utilities used by i2b2 hive
BuildAssist	Files to build the workbench
Documentation	Project documentation files

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License

The i2b2 source code is licensed under the i2b2 Software License Software. This includes but is not limited to all code in the edu.harvard.i2b2.* package namespace.