Appendix B – i2b2 Installation Checklist

Appendices · https://i2b2.org/docs/appendix-b-i2b2-installation-checklist/

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This checklist is designed to assist you in the installation of the i2b2 Server and Clients. It is organized to coincide with the installation chapters. The items appear in the checklist in the order in which they need to occur during the installation.

Note

This checklist is not a replacement for the i2b2 Installation Guide. The guide itself contains detailed information, important notes and warnings as well as helpful tips.

Installation Overview

Environment:	*Demo / Test / Production / Other*	**Version of i2b2:**	
Domain ID:		**Domain Name:**	
Setup Date:		**Setup By:**	

Installation Order and Resources

Installation Order	Checklist Name	Install Guide Resource

1. System and Software Requirements	Requirements Checklist	Chapter 2. Requirements
2. Data Installation	Data Checklist	Chapter 3. Data Installation
3. Deploying the server-common	Server-Common Checklist	Chapter 4. i2b2 Server-Common Install
4. PM Cell Installation	PM Checklist	Chapter 5. Project Management (PM) Cell Install
5. i2b2 Admin Installation	i2b2 Admin Checklist	2. i2b2 Administration Module Install
6. i2b2 Web Client Installation	i2b2 Web Client Checklist	1. i2b2 Web Client Install
7. i2b2 Workbench Installation	i2b2 Workbench Checklist	3. i2b2 Workbench Install (optional)
8. ONT Cell Installation	ONT Checklist	Chapter 9. Ontology Management (ONT) Cell Install
9. CRC Cell Installation	CRC Checklist	Chapter 10. Data Repository (CRC) Cell Install
10. WORK Cell Installation	WORK Checklist	Chapter 11. Workplace (WORK) Cell Install
11. FR Cell Installation	FR Checklist	Chapter 12. File Repository (FR) Cell Install
12. IM Cell Installation	IM Checklist	Chapter 13. Identity Management (IM) Cell Install
13. Setting up i2b2	Initial i2b2 Setup Checklist	Chapter 6. Initial Setup of i2b2 in Admin

Things To Keep In Mind

For the most part the installation of the different i2b2 Core Cells involves steps that are very similar. For instance, they all have a build.properties file where you will need to set the *jboss.home* and *axis2.war.name* properties for the cell you will be deploying.

Based on feedback provided by our users, a common area for confusion and errors seems to be around the configuration of the data sources for each cell. Here are some things to keep in mind that will hopefully eliminate or at least minimize any confusion around defining your datasources.

1. The PM, ONT, CRC, WORK, and IM cells each have a ds.xml file that needs to be updated before deploying the cell. *(pm-ds.xml, ont-ds.xml, crc-ds.xml, work-ds.xml, and im-ds.xml)*

2. At least two **datasources** have to be defined in the ds.xml files for the ONT, CRC, WORK, and IM Cells.

- The **BootstrapDS** datasource points to the DB_LOOKUP tables that are part of the Hivedata tables.
- The **DemoDS** datasource points to the tables for the cell you are configuring.

3. The PM Cell has only one datasource *(PMBootsrapDS)* defined and it points to the location of the **Pmdata** tables.

Note

Depending on how you have setup your database environment the Pmdata tables may or may not be in the same location as your Hivedata tables.

4. The for every defined in each ds.xml file needs to be updated with information that is specific to your environment.

- Update the with the correct JDBC information for your type of database.
- The address in the URL needs to point to either the location of your hivedata tables *(BootstratpDS)* or the tables for your cell *(DemoDS)*.

5. The and for each needs to be defined correctly for the type of database you are connecting to.

Important

Depending on your environment, the default of ***localhost*** may not be appropriate for you. Some systems require the I.P. address instead of the alias name.

6. The and for each needs to match the database users you setup during the data installation.

The following table shows the usernames and passwords for the i2b2 demo environment.

Data Package	Cell Owner	Database / Schema Name	User Name	Password
Crcdata	Data Repository (CRC)	i2b2demodata	i2b2demodata	demouser
Hivedata	Project Management (PM)	i2b2hive	i2b2hive	demouser
Imdata	Identity Management (IM)	i2b2imdata	i2b2imdata	demouser
Metadata	Ontology Management (ONT)	i2b2metadata	i2b2metadata	demouser
Pmdata	Project Management (PM)	i2b2pm	i2b2pm	demouser
Workdata	Workplace (WORK)	i2b2workdata	i2b2workdata	demouser

Tip

Obviously the passwords and possible the usernames will be different for those databases that contain your real patient data. The **Install Worksheet** *(Appendix A)* can be used to document and organize the settings for your environment. The worksheet is particularly useful if you are setting up multiple environments and need to keep track of the settings for each environment.

7. Multiple projects with different data sources.

- Need to add an additional section for each project data source.
- In addition to updating the connection-url, drivers and database user information you also need to update both the **jndi-name** and **pool-name** to reflect the name of the other projects.

Important

Any changes made to a cell's ds.xml file **after** it has been deployed will require you to re-deploy the cell in order for the changes to take effect.

In addition to the ds.xml files, several cells have additional "data configurations" defined in their property files. These additional data configurations are typically defining the schema / database name and location of your Hivedata tables so the cells can lookup relevant information.

Installation Checklists

Requirements Checklist

Step	File Name or *Comment*	Completed
Database Requirements		
Installed a Database Management System supported by i2b2	*Oracle / PostgreSQL / SQLServer*	
Browser Requirements		
Installed a web browser supported by i2b2	*Firefox / Internet Explorer / Safari*	
i2b2 Server Requirements		
Installed Java JDK 8.0 on your i2b2 Server		
Installed WildFly 17.0.0 Application Server on your i2b2 Server		
Set WildFly logging level to INFO		
Documented WildFly port; if other than 9090 then install scripts have to be updated		
Setup WildFly to run as either a Linux or Windows service		
Installed Apache Ant 1.9.6 on your i2b2 Server		
Installed Apache Axis2 1.6.2 on your i2b2 Server		
Set your system environment variables on your i2b2 Server		
Web Server Requirements		
Installed/Configured cURL on your web server	*Only required for Linux Machines*	

Installed IIS on your web server	*Only required for Windows Machines*	
Installed Php: Hypertext Preprocessor on your web server	*Required for both Linux and Windows Machines*	
i2b2 Software Requirements	*Downloaded zip files from i2b2.org*	
i2b2 data installation scripts		
i2b2 core source code		
i2b2 Web Client code		
i2b2 Workbench application for Macintosh or Windows		
i2b2 VMWare image of the i2b2 Core Server	*Optional*	

Data Checklist

Step	File Name or Comment	Completed
Extracted the i2b2 data package to a directory of your choice	*YOUR_I2B2_DATA_DIR*	
Created database user accounts for all the i2b2 schemas		
Crcdata		
Set the database properties	db.properties	
Created the Crcdata tables		

Created the stored procedures		
Loaded the data into the Crcdata tables	***Type of data loaded:*** *i2b2 demo data* or *your local data*	
Hivedata		
Set the database properties	db.properties	
Created the Hivedata tables		
Loaded the data into the Hivedata tables	***Type of data loaded:*** *i2b2 demo data* or *your local data*	
Imdata	***Optional Cell***	
Set the database properties	db.properties	
Created the Imdata tables		
Loaded the data into the Imdata tables	***Type of data loaded:*** *i2b2 demo data* or *your local data*	
Metadata		
Set the database properties	db.properties	
Created the Metadata tables		
Loaded the data into the Metadata tables	***Type of data loaded:*** *i2b2 demo data* or *your local data*	

Pmdata		
Set the database properties	db.properties	
Created the Pmdata tables		
Created the PM triggers		
Loaded the data into the Pmdata tables	***Type of data loaded:*** *i2b2 demo data* or *your local data*	
Workdata		
Set the database properties	db.properties	
Created the Workdata tables		
Loaded the data into the Workdata tables	***Type of data loaded:*** *i2b2 demo data* or *your local data*	

Server-Common Checklist

Step	**File Name or *Comment***	**Completed**
Extracted the i2b2 source code to a directory of your choice	*YOUR_I2B2_SRC_DIR*	
Configured the build properties	build.properties	
Deployed edu.harvard.i2b2.server-common		

PM Checklist

Step	File Name or *Comment*	Completed
Configured the PM build properties	build.properties	
Configured the datasources for the PM Cell	pm-ds.xml	
Deployed edu.harvard.i2b2.pm		
Verified the installation of the PM Cell		

i2b2 Admin Checklist

Warning

The Admin Module and the Web Client each have their own folder that contains the necessary files to run the respective application. Both the admin and webclient folders contain files with similar names which can be a source of confusion. Therefore it is important to make sure you are editing the files in the **admin folder** and **not** the ones that reside in the webclient folder.

In addition to the above, you also want to make sure you are editing the admin files in your **webserver directory** and **not** the ones that reside in YOUR_I2B2_SRC_DIR.

Step	File Name or *Comment*	Completed
Copied Admin files to your web server directory		
Configured the Domain information for your Admin Module	*See note at end of this table*	

Commented out or removed the pre-configured domain of *i2b2demo*	*See note at end of this table*	
Added the domain information for your environment	*i.e. test and production*	
Verified the installation of the i2b2 Admin		

Note

The i2b2 Admin is pre-configured with the following domain information:

The ***domain*** is **i2b2demo**

The ***URL*** points to the **local PM** in your i2b2 demo environment

If you comment out or remove this domain then i2b2 will not work in your demo environment.

i2b2 Web Client Checklist

Warning

The Admin Module and the Web Client each have their own folder that contains the necessary files to run the respective application. Both the admin and webclient folders contain files with similar names which can be a source of confusion. Therefore it is important to make sure you are editing the files in the **webclient folder** and **not** the ones that reside in the admin folder.

In addition to the above, you also want to make sure you are editing the web client files in your **webserver directory** and **not** the ones that reside in YOUR_I2B2_WC_DIR.

Step	File Name or *Comment*	Completed
Extracted the i2b2 Web Client code to a directory of your choice	*YOUR_I2B2_WC_DIR*	
Copied Web Client files to your web server directory		
Configured the Proxy information for your environment		
***Using** the default PHP proxy file that is included with the i2b2 Software*		
Update security configurations in the PHP proxy		
Verified the correct proxy is defined in the Web Client's config file *(i2b2_config_data.js)*		
***Not using** the default PHP proxy file that is included with the i2b2 Software*		
Write your own proxy file		
Update the urlProxy in the Web Client's config file to reflect the correct proxy *(i2b2_config_data.js)*		
Configured the Domain information for your Web Client	*See note at end of this table*	
Commented out, or removed the default domain of *HarvardDemo*	*Optional*	
Added the i2b2demo domain for your i2b2 demo environment		
Added the domain information for your environment	*i.e. test and production*	
Verified the installation of the i2b2 Web Client		

Note

The i2b2 Web Client is pre-configured with the following domain information:

The ***domain*** is **HarvardDemo**

The ***URL*** points to the **public i2b2** in your i2b2.org site

If you comment out or remove this domain then i2b2 Web Client will not be able to connect to the public i2b2 site.

i2b2 Workbench Checklist

Step	**File Name or *Comment***	**Completed**
Extracted the i2b2 Workbench files to a directory of your choice	*YOUR_I2B2_WB_DIR*	
Configured the Workbench properties with the location of your hive	i2b2workbench.properties	
Verified the installation of the i2b2 Workbench		

ONT Checklist

Step	**File Name or *Comment***	**Completed**
Configured the Ontology build properties	build.properties	
Configured the Ontology application directory properties	ontology_application_directory.properties	

Configured the following Ontology properties	ontology.properties	
Set the Metadata Schema Name	*Location of the Hivedata tables*	
Set the Project Management Cell Integration Properties	*Settings to locate and communicate with the PM Cell*	
Set the File Management Cell Properties	*Settings to locate and communicate with the FRC Cell*	
Set the CRC Cell Properties	*Settings to locate and communicate with the CRC Cell*	
Set the Ontology Service Account Properties		
Set the metadata delimiter property		
Configured the data sources for the Ontology Cell	ont-ds.xml	
Deployed edu.harvard.i2b2.ontology		
Updated the ONT Cell Data in the i2b Admin Module		
Verified the installation of the Ontology Cell		

CRC Checklist

Step	File Name or *Comment*	Completed
Configured the CRC build properties	build.properties	
Configured the CRC application directory properties	crc_application_directory.properties	
Configured the following CRC Loader properties	edu.harvard.i2b2.crc.loader.properties	
Set the File Management Cell Properties	*Settings to locate and communicate with the FRC cell*	
Set the Project Management Cell Properties	*Settings to locate and communicate with the PM Cell*	
Configured the datasource lookups for the CRC Loader	CRCLoaderApplicationContext.xml edu.harvard.i2b2.crc.loader.properties	
Configured the following CRC properties	crc.properties	
Set the Project Management Cell Properties	*Settings to locate and communicate with the PM Cell*	
Set the CRC Datasource Lookup Properties	*Location of your hivedata tables and the type of database*	
Set the Ontology Cell Properties	*Settings to locate and communicate with the ONT Cell*	
Set the CRC Service Account Properties		
Set the PDO paging properties	*Optional performance property*	

Set the Analysis plug-in: Queue properties	*Optional performance property*	
Set the Setfinder query: Timeout properties	*Optional performance property*	
Set the Setfinder query: Lockout properties	*Optional performance property*	
Set the Setfinder query: Temp table properties	*Optional performance property*	
Configured the data sources for the CRC Cell	crc-ds.xml	
Deployed edu.harvard.i2b2.crc		
Updated the CRC Cell Data in the i2b Admin Module		
Updated the metadata key in the CRC Tables	*QT_BREAKDOWN_PATH table*	
Verified the installation of the CRC Cell		

WORK Checklist

Step	**File Name or *Comment***	**Completed**
Configured the Workplace build properties	build.properties	
Configured the Workplace application directory properties	workplace_application_directory.properties	

Configured the following Workplace properties	workplace.properties	
Set the Metadata Schema Name	Location of the Hivedata tables	
Set the Project Management Cell Integration Properties	*Settings to locate and communicate with the PM Cell*	
Configured the data sources for the Workplace Cell	work-ds.xml	
Deployed edu.harvard.i2b2.workplace		
Updated the WORK Cell Data in the i2b Admin Module		
Verified the installation of the Workplace Cell		

FR Checklist

Step	**File Name or *Comment***	**Completed**
Configured the File Repository build properties	build.properties	
Configured the File Repository application directory properties	fr_application_directory.properties	
Configured the following File Repository properties	edu.harvard.i2b2.fr.properties	
Set the Project Management Cell Integration Properties	*Settings to locate and communicate with the PM Cell*	

Deployed edu.harvard.i2b2.fr		
Updated the FRC Cell Data in the i2b Admin Module		

IM Checklist

Step	**File Name or *Comment***	**Completed**
Configured the IM build properties	build.properties	
Configured the IM application directory properties	im_application_directory.properties	
Configured the following IM properties	ontology.properties	
Set the Metadata Schema Name	*Location of the Hivedata tables*	
Set the Project Management Cell Properties	*Settings to locate and communicate with the PM Cell*	
Set the Patient in Project Property		
Set the EMPI Service Properties	*Optional 3rd party EMPI Service*	
Configured the data sources for the IM Cell	im-ds.xml	
Deployed edu.harvard.i2b2.im		
Updated the IM Cell Data in the i2b Admin Module		

Initial i2b2 Setup Checklist

Step	File Name or *Comment*	Completed
Hive Data Management		
Updated the Help URL for your environment	*Optional*	
Verified Domain Name is entered correctly in i2b2 Admin		
Defined the type of environment		
Cell Data Management		
Verified the information for each of your cells is entered correctly; particularly the **cell id** and **cell url**		
Defined any *cell specific* parameters		
User Management		
Entered at least one i2b2 user in i2b2 Admin		
Defined any *user specific* parameters		
Project Management		
Entered at least one project in i2b2 Admin		
Defined any *project specific* parameters	*i.e. Unit Conversion for Numerical Observations or Enable Process Timing*	

At least one user given access to the project and defined their level of access		
Defined any *project-user* parameters		
Setup i2b2 Authentication Method of Active Directory	***Optional***	
Added parameter for authentication method		
Added parameter for PDC Domain of your NT domain		
Added parameter for the connection URL of your NT domain		
Setup i2b2 Authentication Method of LDAP	***Optional***	
Added parameter for authentication method		
Added parameter for the connection URL of your LDAP server		
Added parameter for search base		
Added parameter for distinguished name		
Added parameter for security authentication		
Added parameter for ssl		
Added parameter for security layer		
Added parameter for privacy strength		
Added parameter for max buffer		