

# 1.8.2 Release Notes

## Table of Contents

1.8.2 Release Features.....	2
Highlight of Features .....	2
Top New Features .....	2
Detailed Documentation on New Features .....	4
Data Exporter extension for i2b2.....	4
ENACT-V4.2 Ontology .....	4
ACT Fast Totalnum Scripts .....	5
PM_USER_SESSION table rotation trigger .....	6
Changelog .....	6
Database Drivers.....	6
Supported Db Server versions .....	6
Supported software versions .....	6
Supported Operating Systems.....	6
i2b2 Server and Client Changes.....	7
New Features and Improvements.....	7
Web client .....	7
Core Server .....	7
i2b2 Database Changes .....	7
New Features and Improvements.....	7
Bug Fixes .....	7
Notes for Developers .....	8

Important links

### Relevant Documentation:

- [i2b2 1.8.2 Upgrade documentation: Upgrade to version 1.8.2 release](#)
- Data Export: [Data Exporter \(v 1.8.2\)](#)
- i2b2-omop install: [i2b2-on-OMOP With ENACT-OMOP Ontology v4.1](#)
- Totalnum counting scripts: [Patient Counting Scripts \("totalnum"\)](#)
- New Web client and references: [New Web Client Install Guide](#) and [Help](#)

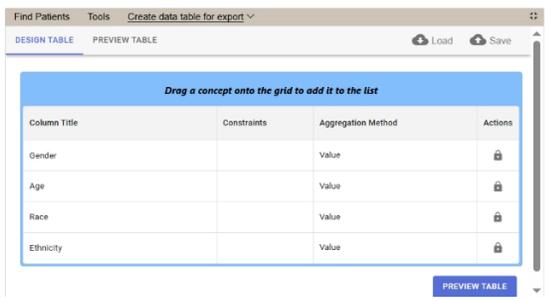
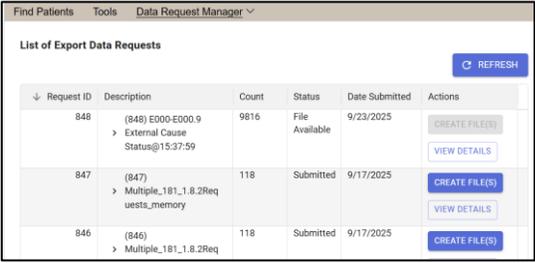
- Digital Twin Bundle (distributed separately): [Digital Twin Technologies](#)

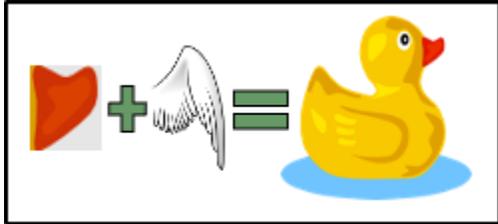
## 1.8.2 Release Features

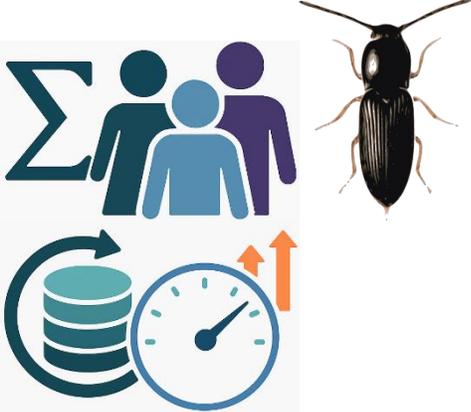
i2b2 1.8.2 Release introduces functionality of user-created data table definition and data download of limited data sets (LDS). The Data Request Management tool enables project managers to manage the data file exports. In addition, there are minor improvements in the Query tool, improvements to the fast "totalnum" patient counting scripts, and some bug fixes.

### Highlight of Features

#### Top New Features

Description		
<p>Export Extension: Create data table</p>		<p>The <b>Create data export table</b> tool allows the i2b2 user to create their own data table definitions with ontology variables and then request data exports in the Run Query dialog.</p>
<p>Export Extension: Data Request Manager</p>		<p>The <b>Data Request Manager</b> tool allows an i2b2 manager to manage and process the user data requests. Both custom table exports and exports of pre-defined tables defined by domain can be run and managed using the new tools.</p>

<p>ENACT Ontology v4.2</p>	<ul style="list-style-type: none"> <li>+  ACT COVID-19</li> <li>+  ACT Demographics</li> <li>+  ACT Diagnoses ICD-9-CM</li> <li>+  ACT Diagnoses ICD-10-CM</li> <li>+  ACT Diagnoses ICD10-ICD9</li> <li>+  ACT Laboratory Tests</li> <li>+  ACT Laboratory Tests (Provisional)</li> <li>+  ACT Medications Alphabetical</li> <li>+  ACT Medications VA Classes</li> <li>+  ACT Procedures ICD-9-Proc</li> <li>+  ACT Procedures CPT-4</li> <li>+  ACT Procedures HCPCS</li> <li>+  ACT Procedures ICD-10-PCS</li> <li>+  ACT Research</li> <li>+  ACT Social Determinants of Health</li> <li>+  ACT Vaccination</li> <li>+  ACT Visit Details</li> <li>+  ACT Vital Signs</li> <li>+  ACT Zip Code</li> </ul>	<p>Upgraded to UMLS 2025AA:</p> <ul style="list-style-type: none"> <li>• Lab (Provisional)</li> <li>• Medications grouped alphabetically</li> <li>• Medications grouped by VA Classification</li> <li>• Diagnosis ICD10CM</li> <li>• Procedures CPT4</li> <li>• Procedures HCPCS</li> <li>• Procedures ICD10PCS</li> </ul> <p>Other updates:</p> <ul style="list-style-type: none"> <li>• Lab (Common)</li> <li>• Demographics</li> <li>• Social Determinants of Health</li> <li>• Research Ontology</li> <li>• Vaccines</li> </ul>
<p>Update to new secure versions of software</p>		<p>The new server uses Java 17, Wildfly 37.01, and Axis2 v2</p>
<p><a href="#">Digital Twin Bundle</a> <i>(distributed separately)</i></p>		<p>Tools for computing loyalty cohorts and computational phenotypes in i2b2.</p>

<p>Bug fixes and minor feature updates</p>		<p>Totalnum (patient counting) scripts have been updated, and the PM cell has performance enhancements (a database trigger to rotate the pm_user_session table)</p>
--	---	---

## Detailed Documentation on New Features

### Data Exporter extension for i2b2

i2b2 data exporter functionality is now enhanced to enable i2b2 users to create their own Data table definitions from ontology elements using **Create data table for export** tool. The data table definitions are displayed as options that can be selected in the Run Query dialog. Users can submit multiple data requests with a query. The Manager user can manage the data requests and generate data files using a **Data Request Manager** console. Detailed documentation on set up can be found here: [Data Exporter Set-up](#)

The steps below describe the overall process:

- User logs into i2b2 webclient and creates Data table definition using the **Create data table export tool**, using desired Ontology elements
- User runs a regular i2b2 query, checking the **User-created Data request** option(s) when running the query.
- The manager logs in and views the data requests using the **Data Request Manager Console**.
- Manager users generate the data export files using the **Data Request Manager Console**.
- The generated data file is stored in a configurable location on the i2b2 server.

### ENACT-V4.2 Ontology

The V4.2 Ontology includes 19 ontologies- 12 updated and 7 unchanged

No Change	Upgrade to UMLS 2025AA	Updated
<ul style="list-style-type: none"> <li>• Diagnosis ICD9CM</li> <li>• Procedures ICD9PROC</li> <li>• Diagnosis ICD10CM/9CM*</li> <li>• Vital Signs</li> <li>• Visit Details</li> <li>• COVID</li> <li>• Zip Code Ontology</li> </ul>	<ul style="list-style-type: none"> <li>• Lab (Provisional)</li> <li>• Medications grouped alphabetically</li> <li>• Medications grouped by VA Classification</li> <li>• Diagnosis ICD10CM</li> <li>• Procedures CPT4</li> <li>• Procedures HCPCS</li> <li>• Procedures ICD10PCS</li> </ul>	<ul style="list-style-type: none"> <li>• Lab</li> <li>• Demographics</li> <li>• Social Determinants of Health</li> <li>• Research Ontology</li> <li>• Vaccines</li> </ul>

Metadata and CRC zip files provided in the NewInstall download. Load the latest ENACT Version-4.2 ontology into your db schema using ANT scripts.

The CPT4 ontology table is not included with i2b2 due to AMA restrictions on redistribution of CPT code information. Contact the ENACT team to get a copy if your institution is an AMA member.

### ENACT V4.2 data load process

1. Download and extract NewInstall zip package from "Download Binary Distribution" in the top section of <https://www.i2b2.org/software>
2. Edit edu.harvard.i2b2.data\Release\_1-8\NewInstall\Metadata\db.properties file to update the project properties to 'ACT' ; db.project=ACT in
3. From edu.harvard.i2b2.data\Release\_1-8\NewInstall\Metadata folder, run the ant command: ant -f data\_build.xml db\_metadata\_load\_data. This will execute the SQL scripts from edu.harvard.i2b2.data\Release\_1-8\NewInstall\Metadata\act\scripts\<db type> folder to create and load the metadata tables
4. From edu.harvard.i2b2.data\Release\_1-8\NewInstall\crldata folder, run the ant command: ant -f data\_build.xml db\_demodata\_load\_data. This will execute the SQL scripts from edu.harvard.i2b2.data\Release\_1-8\NewInstall\crldata\act\scripts\<db type> folder to create and load the concept\_dimension
5. Run the scripts from the edu.harvard.i2b2.data\Release\_1-8\NewInstall\Metadata\<dbtype>\scripts folder to load the Schemes, Table\_access tables
6. You can now verify v4.2 Ontology by logging into the webclient

Note: ENACT v4.2 ontology is distributed as a New Install only. If you are upgrading, install the v4.2 tables in a different schema from v4.1. Installing in the same schema will insert duplicate rows into the Ontology, Concept\_dimension and Table\_access tables

### ACT Fast Totalnum Scripts

The 5x faster totalnum scripts (patient counting scripts) are now available for all three database platforms!

[Patient Counting Scripts \("totalnum"\)](#)

**PM\_USER\_SESSION table rotation trigger**

When a user logs in, the PM\_USER\_SESSION table size is now checked. If it has over 1000, all the expired sessions after the first 100 are moved to a new PM\_USER\_SESSION\_ARC table. A large PM\_USER\_SESSION table causes performance problems, and this is especially problematic when using SHRINE, which frequently starts new sessions.

**Changelog**

**Database Drivers**

The JDBC drivers were updated to the following versions.

Server Type	Oracle	PostgreSQL	MS SQL
<b>Driver Version</b>	ojdbc11.jar	postgresql-42.7.8.jar	mssql-jdbc-12.8.1.jre8.jar

**Supported Db Server versions**

Server Type	SQL Server	Oracle	PostgreSQL
<b>Supported Version/s</b>	2012+ (tested with up to 2022)	23.3	11 to 14 (9 and 10 work for querying, but not data export)

**Supported software versions**

Application Type	Java	Wildfly	Apache HTD	Apache Ant	Apache Axis2	PHP
<b>Supported Version/s</b>	17	37.01	2.0 (RHEL 6) and 2.2 (RHEL 7)	1.9.6	2	7.2.27 or higher

**Supported Operating Systems**

- Rocky Linux 8 and 9, CentOS versions 7
- Windows 2016 -2019
- New PHP install process for IIS in the i2b2 install guide: [2.5.3.2 PHP for Windows](#)
- Unofficially, MacOS and other flavors of Linux are likely to work.

## i2b2 Server and Client Changes

### New Features and Improvements

<b>Web client</b>
WEBCIENT-368 1.8.2 Webclient update
<b>WEBCIENT-370 VERACODE Scan - 1.8.2 Webclient</b>
<b>Core Server</b>
CORE-456 Data Export: agg table
CORE-455 Data Export: Request Management admin tool
CORE-451 Enhanced Data Export - download file generation
CORE-459 upgrade to wildfly 34 with axis2 version2
CORE-460 Upgrade to JAVA 17
CORE-454 Upgrade Spring jar to version 6
CORE-447 Update JDBC drivers
CORE-458 Software maintenance - drivers, libraries
CORE-445 java code folder structure for 1.7 should be changed to refer to 1.8.2
CORE-473 VERACODE Scan - 1.8.2 Server

## i2b2 Database Changes

### New Features and Improvements

DATA-51 RPDO custom table export stored procedures
DATA-51 Data exporter (v1.8.2) - Add RPDO_Table_Request and Qt_breakdown_path change- add column
DATA-32 Faster Totalnum (patient counting) script!

## Bug Fixes

<b>Core-server / Data</b>
CORE-450 html injection in Queryname and workplace
CORE-249 Search by code fails ungracefully

## Notes for Developers

If you change the xsd (REST API message definitions), then you will need to regenerate gensrc via JAXB in Java 8. In the i2b2-core cell directory for which you're regenerating the XSD-Java, run the ant target "jaxb\_gen" on Java 8 and then build as usual using Java 17.

---