
OPENMRS INTEGRATION HANDBOOK

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Installation

TBD – Detailed install text...

Modules:

- FormEntry
- Remoteformentry
- Formimportexport

CREATING A NEW FORM IN OPENMRS

Although the OpenMRS site has information on how to create a form¹, here are some instructions that cater to this integration process. From the Administration page, click “Manage Forms” in the Forms section.

Forms

- [Manage Forms](#)
- [Manage Fields](#)
- [Manage Field Types](#)

To create a form in OpenMRS, one must first duplicate a current form. The “Basic form” is the starter form in OpenMRS; therefore, Choose “Basic form” and press the “Duplicate” button.

[Admin](#) | [Manage Forms](#) | [Manage Fields](#) | [Manage Field Types](#)

Manage Forms

Add Form or Duplicate Form: | [Rebuild All XSNs](#) | [Upload an XSN](#)

Forms				Toggle Retired
Name	Version	Buttons	Description	Published
Basic Form	0.1	1	This form contains only the common/core elements needed for most forms	Published
Initial Visit	0.1	13	Collects background information about the patient.	
Zcore test form 1a	(v. 0.1.6)			

Edit the text fields in the form and click the “Create form...” button.

¹ http://openmrs.org/wiki/Administering_FormEntry#Design_Form

Edit Metadata

Name

Description

Version

Published

Encounter Type

[View XSLT](#)

XSLT Upload new

Retired

Created By Super User - 18 July 2006 00:00:00 CAT

Changed By Super User - 18 July 2006 00:00:00 CAT

Click the link to the new form that now appears in the form listing.

Manage Forms

[Add Form](#) or Duplicate Form: | [Rebuild All XSNs](#) | [Upload an XSN](#)

Forms				Toggle Retired
Name	Version	Build	Description	Published
Basic Form	0.1	1	This form contains only the common/core elements needed for most forms	
Initial Visit	0.1	13	Collects background information about the patient.	
Routine Antenatal	0.1	1	This form is used for Routine Antenatal visits.	

You must only add fields that appear within the HL7 specification. Use the “Find field elements” widget to find the appropriate fields for the form. You may also find fields using the “Dictionary” link at the top of the page.

In this example, the user enters the first part of the word “diastolic”.

Find Field Elements

Results for "dias". Viewing 1-3 of 3

1. CONCEPT.DIASTOLIC
2. CONCEPT.DIASTOLIC RUMBLE
3. CONCEPT.DIASTOLIC DESCRESENDO MURMUR

[Add New Field](#) or [Add New Concept](#)

Drag the “CONCEPT DIASTOLIC” field onto the OBS section:

Schema Design

- 1. PATIENT ✕
- 2. ENCOUNTER ✕
- 3. OBS DIASTOLIC (0 forms) ✕
- WEIGHT (KG) (5089) ✕
- 4. PROBLEM LIST (1284) ✕

Find Field Elements

Results for "dias". Viewing 1-3 of 3

1. DIASTOLIC (0 forms) - CONCEPT.DIASTOLIC BLOOD PRESSURE
2. CONCEPT.DIASTOLIC RUMBLE
3. CONCEPT.DIASTOLIC DESCRESENDO MURMUR

[Add New Field](#) or [Add New Concept](#)

Clicking on the link to "CONCEPT DIASTOLIC" adds the field to the form; however, this does not add the field to the correct location. Fields should be added to the Obs section. Once it is added, the page will display an edit section for the form. Click "Save."

1. PATIENT ✕

2. ENCOUNTER ✕

3. OBS (1238) ✕

Edit FormField:

Field Name: # Forms: 1

Description:

Field Type:

Concept:

Default Value:

Select Multi?

Field #	Field Part	Page #	Min	Max (-1 for infinite)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Required?

Check "Required" to make the field required.

Field #	Field Part
<input type="text"/>	<input type="text"/>

Required?

Note: Some fields are not to be used for data entry – they are of the class "Diagnosis" or "Finding" – see screenshot below for an example. Do not add these to the form.

Viewing Concept ANEMIA

[Previous](#) | [Edit](#) | [Stats](#) | [Next](#) | [New](#)

Search

Id	3
Locale	English
Name	ANEMIA
Short Name	
Description	Anemia not due to other causes listed within the system.
Synonyms	ANEMIA NOS ANAEMIA
Class	Diagnosis
Datatype	N/A
Mappings	
Version	
Retired	false
Created By	Super User - 01 January 2004 00:00:00 CAT
Changed By	Super User - 12 May 2005 00:00:00 CAT

The field “Feeding Plan” is a multi; the user may check more than one value.

Edit FormField:

Field Name	<input type="text" value="FEEDING PLAN"/>	# Forms: 1
Description	<input type="text" value="Question on encounter form. Gathers information about the dietary plan for"/>	
Field Type	<input type="text" value="Concept"/>	
Concept	<input type="text" value="FEEDING PLAN"/>	<input type="button" value="Change"/>
Default Value	<input type="text"/>	
Select Multi?	<input checked="" type="checkbox"/>	

For reference, here is the OpenMRS Concept page from the OpenMRS Dictionary for “Feeding Plan.”

Viewing Concept FEEDING PLAN

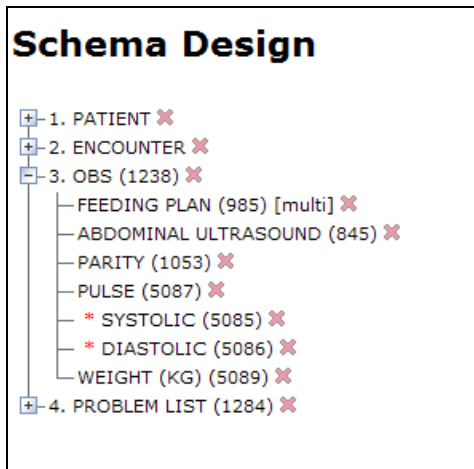
[Previous](#) | [Edit](#) | [Stats](#) | [Next](#) | [New](#)

Search

Id	985
Locale	English
Name	FEEDING PLAN
Short Name	
Description	Question on encounter form. Gathers information about the dietary plan for a child following a clinical encounter.
Synonyms	
Class	Question
Datatype	Coded
Answers	BREASTFED PREDOMINATELY (1150) WEANED (1152) EXPRESSED BREASTMILK (1173) INFANT FORMULA (5254) BREASTFED EXCLUSIVELY (5526) MIXED FEEDING (6046) COW MILK (968)

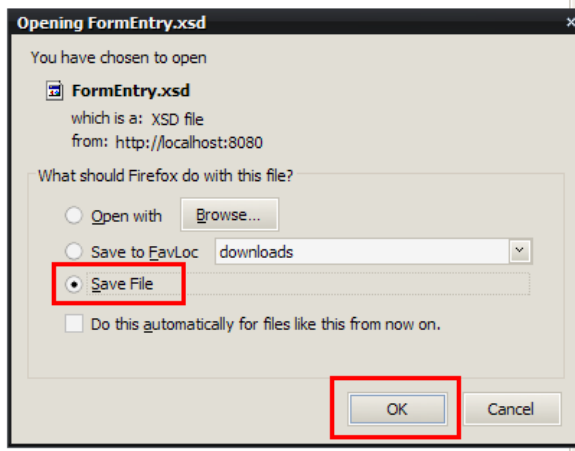
At the point, it is not necessary to order the fields. Field ordering and display will be edited when working in Zcore.

Continue to add fields to the form until complete.

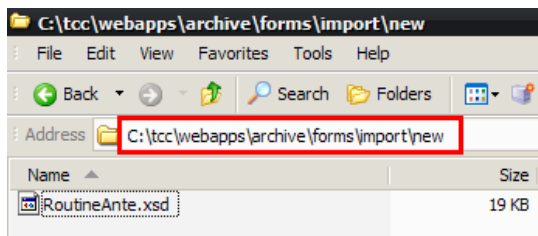


Click the “Download Schema” link to download the file that will be used to import into Zcore.

[Download Schema](#) | [Download Template](#) | [Download XSN](#) | [Rebuild](#)



Copy the .xsd file to the new import location, which is located at the zcore_install_dir\webapps\archive\forms\import\new directory.



IMPORTING THE FORM INTO ZCORE

From the left nav strip, click “FormAdmin” and then the “Form Import” link.

Administration

Application Administration

- [Form Administration](#)
 - [Create a new form](#)
 - [Generate Form Changes](#)
 - [Form Import](#)
 - [Field import](#) - Imports a list of fields export
 - [View Field List](#)
 - [View List of Rules](#)
 - [Manage Flows](#)
- [SQL console](#)
- [Application Update Job Log](#)
- [Reload TCC web application](#)

Click the link to the filename that corresponds to the new form created in OpenMRS.

Form Import

Please place the forms you wish to import in C:\tcc\webapps\archive\forms\import\new\

Here is a list of the forms available for import into the system.
Click on the desired name to import.

Form label

[RoutineAnte.xsd](#)

Note: You may get the following error message if one of your fields is not used for form entry.

Error

The field **oedema** does not have a data type and is not used for form entry. Please remove this field from the form.

Click the link to Edit and preview the new form:

Form Import

Import successful. This form's xml file has been backed up to C:\tcc\webapps\archive\forms\import\complete\
[Edit and Preview New Form](#)

EDITING AND PREVIEWING THE IMPORTED FORM

The Items listing provide s a list of form elements. The import process automatically wraps the form field elements in a two column table.

Admin: Form Admin: Edit Items for Routine Antenatal

[Refresh page](#) | [Add new field...](#) | [Add Shared Field](#) | [Reload](#)

|

Items on this form

/ --- *BEGIN TABLE (0) *2160* ---
FEEDING PLAN (1) **header**
EXPRESSED BREASTMILK (2)
MIXED FEEDING (3)
BREASTFED PREDOMINATELY (4)
INFANT FORMULA (5)
WEANED (6)
COW MILK (7)
BREASTFED EXCLUSIVELY (8)
spacer (9)
ULTRASOUND, ABDOMEN (10)
PARITY (11)
PULSE (12)
SYSTOLIC BLOOD PRESSURE (13)
DIASTOLIC BLOOD PRESSURE (14)
WEIGHT (KG) (15)
--- *END TABLE (16) *2168* --- /

Click on an item in the list to summon an edit form. All of the items are called PageItems internally. A PageItem has fields that are used for rendering data entry elements (input widgets) or html elements such as a table tag. The “Begin Table” item is a Display data type, which is an element that does not persist data but instead is used for presentation. Its widget is a “Begin table” widget, which is the html code that starts a table. Note that the “Cols” field is set to “2” – this is a two-column table.

Items on this form

/ --- *BEGIN TABLE (0) *2160* --- (X)
FEEDING PLAN (1) **header** (X)
EXPRESSED BREASTMILK (2) (X)
MIXED FEEDING (3) (X)
BREASTFED PREDOMINATELY (4) (X)
INFANT FORMULA (5) (X)
WEANED (6) (X)
COW MILK (7) (X)
BREASTFED EXCLUSIVELY (8) (X)
spacer (9) (X)
ULTRASOUND, ABDOMEN (10) (X)
PARITY (11) (X)
PULSE (12) (X)
SYSTOLIC BLOOD PRESSURE (13) (X)
DIASTOLIC BLOOD PRESSURE (14) (X)
WEIGHT (KG) (15) (X)
--- *END TABLE (16) *2168* --- / (X)

Editing Field ID: 2160, PageItem ID: 5002

Label: Enabled: Required: Shared:

Column Name (for database): Validation - Min: Max:

Data Type: Units:

Widget: Visible: Highlight: Colspan: Close Row:

Rows: Cols:

Dropdown Table: Dropdown Column:

Dropdown Constraint:

Order by Clause:

Selected Enum Id:

Field Dependencies 1:

BEGIN TABLE
FEEDING PLAN
EXPRESSED BREASTMILK
MIXED FEEDING
BREASTFED PREDOMINATELY
INFANT FORMULA
WEANED
COW MILK
BREASTFED EXCLUSIVELY

Trigger:

Field Dependencies 2:

BEGIN TABLE
FEEDING PLAN
EXPRESSED BREASTMILK
MIXED FEEDING
BREASTFED PREDOMINATELY
INFANT FORMULA
WEANED
COW MILK
BREASTFED EXCLUSIVELY

Trigger:

Update Field

[Create rule](#) | [Edit Rules](#)

Feeding plan is a multiple entry concept in OpenMRS. Zcore imports “Feeding plan” as a section header and the rest of its elements as checkboxes. All of the elements that will be rendered as checkboxes are highlighted in red. A spacer follows the multiple entry fields. Note the values in the Data Type and Widget fields as well as the column name.

Items on this form

/ --- *BEGIN TABLE (0) *2160* --- (X)
FEEDING PLAN (1) **header** (X)
EXPRESSED BREASTMILK (2) (X)
MIXED FEEDING (3) (X)
BREASTFED PREDOMINATELY (4) (X)
INFANT FORMULA (5) (X)
WEANED (6) (X)
COW MILK (7) (X)
BREASTFED EXCLUSIVELY (8) (X)
spacer (9) (X)

Editing Field ID: 2673, PageItem ID: 5004

Label: Enabled: Required: Shared:

Column Name (for database): Validation - Min: Max:

Data Type: Units:

Widget: Visible: Highlight: Colspan: Close Row:

Dropdown Table: Dropdown Column:

Dropdown Constraint:

Order by Clause:

The import process preserves some of the OpenMRS form field attributes such as Required, Max, and Min validation values. For Systolic BP, the Max and Min validation values are 0-250. It is a required field. Since the data type is an integer, the input widget size and Maxlength are set.

Items on this form

/ --- *BEGIN TABLE (0) *2160* --- (X)
FEEDING PLAN (1) **header** (X)
EXPRESSED BREASTMILK (2) (X)
MIXED FEEDING (3) (X)
BREASTFED PREDOMINATELY (4) (X)
INFANT FORMULA (5) (X)
WEANED (6) (X)
COW MILK (7) (X)
BREASTFED EXCLUSIVELY (8) (X)
spacer (9) (X)
ULTRASOUND, ABDOMEN (10) (X)
PARITY (11) (X)
PULSE (12) (X)
SYSTOLIC BLOOD PRESSURE (13) (X)
DIASTOLIC BLOOD PRESSURE (14) (X)
WEIGHT (KG) (15) (X)
--- *END TABLE (16) *2168* --- / (X)

Editing Field ID: 2684, PageItem ID: 5015

Label: SYSTOLIC BLOOD PRESSURE Enabled: Required: Shared:

Column Name (for database): systolic Validation: Min: 0 Max: 250

Data Type: Integer Units:

Widget: Text Visible: Highlight: Colspan: 0 Close Row:

Size: 3 Maxlength: 4

Dropdown Table: Dropdown Column:

Dropdown Constraint:

Order by Clause:

Selected Enum Id: 0

Field Dependencies 1:

Field Dependencies 2:

BEGIN TABLE	*BEGIN TABLE*
FEEDING PLAN	FEEDING PLAN
EXPRESSED BREASTMILK	EXPRESSED BREASTMILK

Click the "Preview Form" button to view the form:

Admin: Form Admin: Edit Items for Routine Antenatal

[Refresh page](#) | [Add new field...](#) | [Add Shared Field](#) |

Save Field Order | **Preview Form**

Items on this form

Editing Field ID: 2684

/ --- *BEGIN TABLE (0) *2160* --- (X)	Label: EXPRESSED BREASTMILK
FEEDING PLAN (1) **header** (X)	Column Name (for database):
EXPRESSED BREASTMILK (2) (X)	Data Type: Boolean
MIXED FEEDING (3) (X)	
BREASTFED PREDOMINATELY (4) (X)	

Example of a form imported from OpenMRS that has a multiple selection concept (Feeding plan):

Routine Antenatal

FEEDING PLAN

<input type="checkbox"/> EXPRESSED BREASTMILK	<input type="checkbox"/> MIXED FEEDING
<input type="checkbox"/> BREASTFED PREDOMINATELY	<input type="checkbox"/> INFANT FORMULA
<input type="checkbox"/> WEANED	<input type="checkbox"/> COW MILK
<input type="checkbox"/> BREASTFED EXCLUSIVELY	

ULTRASOUND, ABDOMEN: -- Select --	PARITY: <input type="text"/>
PULSE: <input type="text"/>	SYSTOLIC BLOOD PRESSURE: * <input type="text"/>
DIASTOLIC BLOOD PRESSURE: * <input type="text"/>	WEIGHT (KG): <input type="text"/>

Submit Reset

If you are happy with the form, restart the application. Zcore generates and needed java and xml files when it is restarted, which enables use of the new form for record entry. If you're using the standalone Zcore application, you may either exit the application completely and re-open it or click the "Reload web application link," which is highlighted in red below. (User/password: zepadmin/zepadmin11)

Admin: Form Admin: Edit Items for Routine Antenatal

[Refresh page](#) | [Add new field...](#) | [Add Shared Field](#) | [Reload TCC web application](#) | [Instructions](#)

|

Items on this form Editing Field ID: 2684, PageItem ID: 5015

/ --- *BEGIN TABLE (0) *2160* --- (X)	Label: <input type="text" value="SYSTOLIC BLOOD PRESSURE"/> Enabled: <input checked="" type="checkbox"/> Re
FEEDING PLAN (1) **header** (X)	Column Name (for database): <input type="text" value="systolic"/> Validation - Mi
EXPRESSED BREASTMILK (2) (X)	

FORM METADATA

The import process also creates default settings for the form and creates a new database table named routineantenatal as well as the form's field elements as columns in the new database. The form is placed in the Intake flow. The user may access this form by clicking the "Intake" link when viewing a patient record.

To access this form metadata, from the side nav click Form Admin -> Form Administration page.

Administration

Application Administration

- [Form Administration](#)
 - [Create a new form](#)
 - [Generate Form Changes](#)
 - [Form Import](#)
 - [Field Import](#) - Imports a list of
 - [View Field List](#)
 - [View List of Rules](#)
 - [Manage Flows](#)
- [SQL console](#)
- [Application Update Job Log](#)
- [Reload TCC web application](#)

Admin: Form Admin

Enabled Forms | [All forms](#) | [Create a new form](#) | [Form Import](#)

Double-click a value to edit. Click the "Items" link to edit the items in a page. [More Instructions.](#)

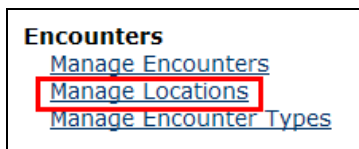
Form	Delete?	Items	Table	Enabled?	Auth?	Patient?	Flow	Order	Form Display	Form Domain	Max Subs	Start New Event?	Event Type	Records Per Encounter	Source (UUID)
User Data	<input checked="" type="checkbox"/>	Items	user_info	1	0	0	Admin	1	Admin	All Patients	0			0	bad28812-9cfb-4539-999e-e3a969a7835f
Routine Antenatal	<input checked="" type="checkbox"/>	Items	RoutineAntenatal	1	0	1	Intake	1	Basic Form	All Patients	0			0	2d3ed1da-ad54-4d16-bace-660d45197ffe
Initial Visit	<input checked="" type="checkbox"/>	Items	InitialVisit	1	0	1	Intake	5	Basic Form	All Patients	0			0	a5e67b36-84db-4f3b-a69a-c7c5900dfb2b
Client Registration and Identification	<input checked="" type="checkbox"/>	Items	patientRegistration	1	0	0	New Patient	0	Basic Form	All Patients	1			0	62a908f7-1018-102c-98d2-00c0c185582b

To view the imported fields, click the "Items" link.

Form	Delete?	Items	Table	Enabled?
User Data	X	Items	user_info	1
Routine Antenatal	X	Items	RoutineAntenatal	1
Initial Visit	X	Items	InitialVisit	1
Client Registration and Identification	X	Items	patientRegistration	1

CREATING MATCHING SITES IN ZCORE

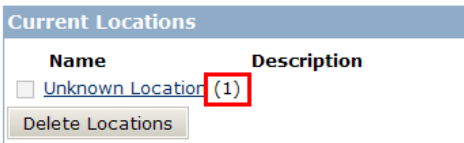
The sites in Zcore must correspond to the locations in OpenMRS. In OpenMRS, go to “Manage Locations in the Encounters section of the Administration page.



The location id’s must match.

Location Management

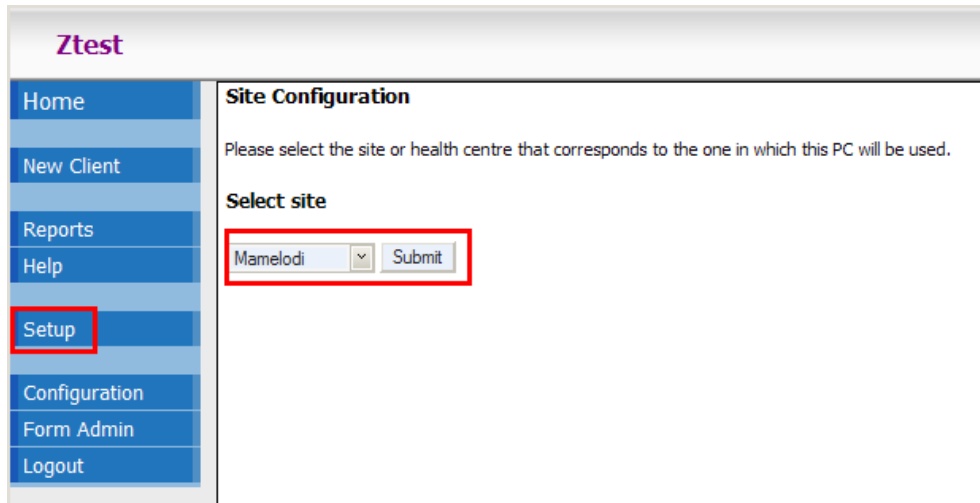
[Add Location](#)



To access Sites in Zcore, go to “Config” on the left nav strip and select “Edit sites.” Unfortunately the site id’s are autogenerated in both OpenMRS and Zcore; therefore, they must be manually inserted via sql. For the short-term, it is important that the Zcore site be configured to “Mamelodi.”

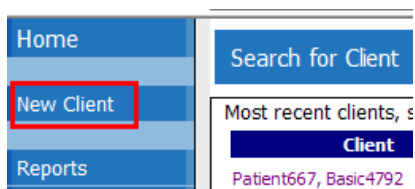
CONFIGURING ZCORE SITES

From the Home page, click “Setup” on the left nav strip. Select “Mamelodi” from the dropdown. This is usually pre-configured – you may not need to make this change.



CREATE A NEW PATIENT IN ZCORE

Click the “New Client” link on the left nav strip:



Complete the fields highlighted in the screenshot below. Click the “Get new ID” link to generate a unique identifier for the patient.

Client Registration and Identification

DATE OF VISIT: *

PERSONAL DATA

Forenames: *

Timbo

Surname: *

Dennis

SA Id No.:

Passport No.:

Nationality:

-- Select --

TCC ID

Select the first two parts of the ID from the dropdowns. If you need a new ID, press "Get New ID." If patient already has an ID, enter last 5 digits of Patient ID and click "Check ID".

Province:

* 1000 - Gauteng*

TCC:

* 100 - Mamelodi*

Get New ID

TCC ID: *

New

D: 1000-100-00119-1

New TCC ID: 1000-100-00119-1

Birth Date:

Age at First Attendance: *

32

Gender:

Female

Male

CONTACT DATA

Cell:

Tel:

E-mail:

Physical address:

123 Jump St.

Scroll and hit Submit.

COMPLETE INITIAL VISIT FORM.

This is a form imported from OpenMRS:

Initial Visit	
X-RAY, CHEST: <input type="text" value="EVIDENCE OF CARDIAC ENLARGEMENT"/>	WEIGHT (KG): <input type="text" value="78.3"/>
PREVIOUS IMMUNIZATIONS ADMINISTERED: <input type="text" value="HEMOPHILUS INFLUENZA B VACCINATION"/>	HEMOGLOBIN: <input type="text"/>
TUBERCULOSIS DRUG TREATMENT START DATE: 02/08/2009	ESTIMATED DATE OF CONFINEMENT: 21/10/2009
HEIGHT (CM): <input type="text" value="180"/>	<input checked="" type="checkbox"/> DIZZINESS
LARYNGITIS: <input type="text" value="Profound."/>	
<input type="button" value="Submit"/>	<input type="button" value="Reset"/>

Examples of error message when submitting a form with empty required fields:

Routine Antenatal

FEEDING PLAN

EXPRESSED BREASTMILK MIXED FEEDING

BREASTFED PREDOMINATELY INFANT FORMULA

WEANED COW MILK


BREASTFED EXCLUSIVELY

ULTRASOUND, ABDOMEN: PARITY:

PULSE: SYSTOLIC BLOOD PRESSURE: *


DIASTOLIC BLOOD PRESSURE: * WEIGHT (KG):

The page at http://localhost:8088 says:

 SYSTOLIC BLOOD PRESSURE is required.
DIASTOLIC BLOOD PRESSURE is required.

Example of dialog box when user enters values out-of-range:

The page at http://localhost:8088 says:

 SYSTOLIC BLOOD PRESSURE is not in the range 0 through 250.
DIASTOLIC BLOOD PRESSURE is not in the range 0 through 150.

To view the record, click the "Date Modified" link.

Form	Status	Staff Member	Site	Date Modified
<input checked="" type="checkbox"/> Routine Antenatal	Done	User, Admin	Mamelodi	11 Aug 2009 15:14
<input type="checkbox"/> Routine Antenatal	Available			
<input checked="" type="checkbox"/> Initial Visit	Done	User, Admin	Mamelodi	11 Aug 2009 14:02
<input type="checkbox"/> Initial Visit	Available			

Example of record view:

Routine Antenatal (X)

RECORD CREATED:	RECORD MODIFIED	SITE:
11 Aug 2009 15:14 User, Admin	11 Aug 2009 15:14 User, Admin	Mamelodi

FEEDING PLAN	
EXPRESSED BREASTMILK: Yes	MIXED FEEDING:
BREASTFED PREDOMINATELY:	INFANT FORMULA:
WEANED: Yes	COW MILK:
BREASTFED EXCLUSIVELY:	
ULTRASOUND, ABDOMEN: NORMAL	PARITY: 2
PULSE:	SYSTOLIC BLOOD PRESSURE: 180
DIASTOLIC BLOOD PRESSURE: 70	WEIGHT (KG): 68.0

AUTO-GENERATING PATIENTS IN ZCORE

Go to Admin on the left nav strip, scroll to "Test patient generation" and select "Simple client -> Intake. This will create a patient. You will still need to manually create records for any new forms. (It should be pretty easy to automate this process further so that records can be pre-populated w/ random data.)

EXPORT RECORDS

Click the Admin link on the left nav strip, and then the Site publishing link:

TCC

Administration

Application Administration

- [Form Administration](#)
 - [Create a new form](#)
 - [Generate Form Changes](#)
 - [Form Import](#)
 - [Field Import](#) - Imports a list of fields exported from Excel in xml format. Must use field names from FormField class.
 - [View Field List](#)
 - [View List of Rules](#)
 - [Manage Flows](#)
- [SQL console](#)
- [Application Update Job Log](#)
- [Reload TCC web application](#)

User Administration

After creating a new user, you must assign the user to a User Group.

- [Users](#)
- [View and modify User Group Assignments](#)

Report Administration

- [Build HIV Report Table](#) - used for Reflex Register (full) reports to provide comprehensive patient HIV visit records.

Data Center Maintenance

- [Site Subscriptions](#) - Subscribe to data from other sites.
- [Site Publishing](#) - Make your site data available to other sites.
- [Master Site Server](#) - Setup location of Master server from which you may import records.
- [Create/Refresh Archive Directories](#)
- [Clean Archive Directories](#) - Deletes all files in the archive directory, except for appupdates and formUpdates dirs.
- [Backup Database](#)
- [Restore Patient](#) - imports a patient from xml file, which must be placed in patients_deleted directory in the archive file system
- [View or Compact Derby database](#) - after deleting alot of records, it is useful to compact the database. This listing will show the estimated savings from compacting.

On the Publishing page, click the “Create OpenMRS archive” link to create the zip file used to import patients:

Admin: Publisher

This server is currently publishing the site **Mamelodi**.

[Site Subscriptions](#)

If you want to share data from this application with other pc's or servers on your network, sele the Save button.

Site to publish:
Location:

Manual record export

OpenMRS: Export any patient records that have not been exported yet.

[Create OpenMRS archive](#)

The following link will export any patient records that have been modified since the last export t

[Update exported records](#)

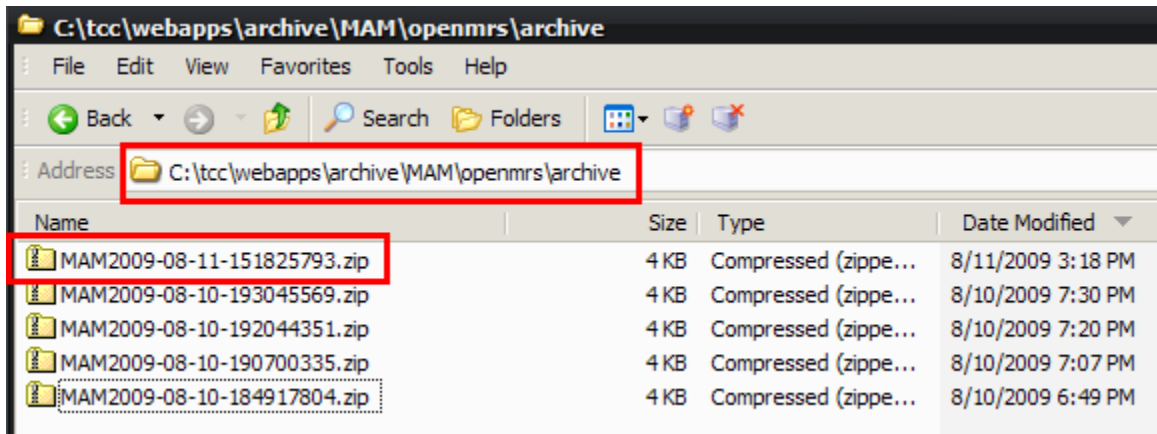
The following link will export any patient records that have been modified since the last export.

Creating an OpenMRS archive creates an XML-formatted file for each patient record. Results of Export:

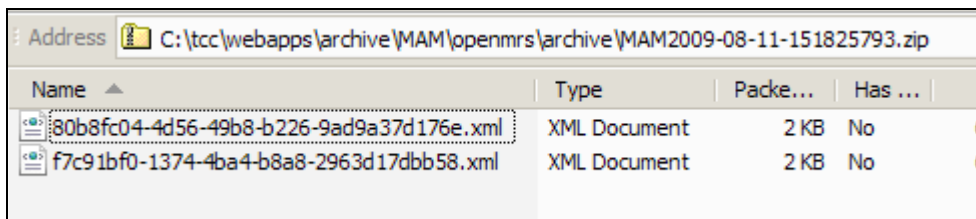
Export Patient Records

Number of Archived Records: 2

The archive is located at Install-dir/archive/site-abbrev/openmrs/archive. In this example, the archive is located in C:\tcc\webapps\archive\MAM\openmrs\archive – MAM is the abbreviation for Mamelodi, the site at which data entry is being conducted. In explorer you may view the archive:

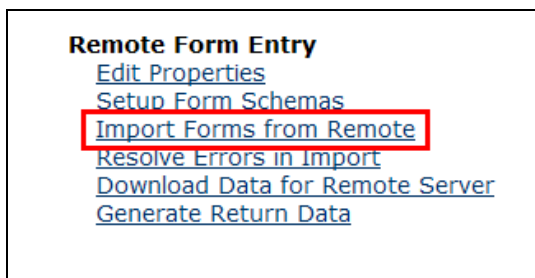


If you peek inside the archive, you'll see two files. The filename is the guid of the record assigned by Zcore:



IMPORT INTO OPENMRS

In OpenMRS go to Admin and click the "Import Forms from Remote" link.



Click the Browse button:

OPENMRS Home

[Admin](#) | [Edit Properties](#) | [Setup Form Schemas](#) | **Import Forms from Remote** | [Download Data for](#)

Remote Form Entry Import

Import Form Entry Zip File:

Select a zip file generated at the remote location to import to this central server:

Past Imported Files in C:\Application Data\OpenMRS\remoteformentry\importedFilesIntoCentral:

File Name	Date Modified
27a7bbb5-d61e-48f0-b82e-a2dc60671471.zip	04 August 2009 15:43:07 CAT
locationId-1-27a7bbb5-d61e-48f0-b82e-a2dc60671471.zip	04 August 2009 15:48:35 CAT
locationId-1.zip	04 August 2009 17:05:26 CAT
MAM2009-08-04-173653515.zip	04 August 2009 17:38:01 CAT
MAM2009-08-04-174151015.zip	04 August 2009 17:43:51 CAT
MAM2009-08-04-175342437.zip	04 August 2009 17:54:16 CAT

Browse to the archive:

OPENMRS Home | Find/Cre

[Admin](#) | [Edit Properties](#) | [Setup Form Schemas](#) | **Import Forms from Remote** | [Download Data for Remote Server](#) | [Ge](#)

Remote Form Entry Import

Import Form Entry Zip File:

Select a zip file generated at the remote location to import to this central server:

Past Imported Files in C:\Application Data\OpenMRS\remoteformentry\importedFilesIntoCentral:

File Upload

Look in: local

Name	S...	Type	Date Mod
MAM2009-08-04-184158843.zip	2 KB	Compressed (zipped) Folder	8/4/2009 €
f441f51f-9a03-4a3a-8ea9-d77131c0649f.xml	6 KB	XML Document	8/4/2009 €

File name:

Files of type: All Files

Click the Browse button:

Remote Form Entry Import

Import Form Entry Zip File:

Select a zip file generated at the remote location to import to this central server:

C:\tcc\webapps\archive\MAM\...

Development note: When viewing the logs during an import, the following text will be displayed:

WARN - ImportFormController.onSubmit(144) |2009-08-19 08:11:58,718| Unable to find location with id:

OpenMRS import expects a manifest file with the site id. Zcore currently does not export such a file. This omission does not cause any errors in the import process.

Once import is complete, click the "Find/create a Patient" link. Enter the surname of the patient you imported:

CONFIRM IMPORT

Currently logged in as Super User | [Log out](#) | [My Profile](#) | [Help](#)

Home | [Find/Create Patient](#) | [Dictionary](#) | [Administration](#)

Patient Search

Find Patient(s)

Patient Identifier or Patient Name: Include Verbose

Results for "Trnbo". Viewing 1-1 of 1

Identifier	Given	Middle	Family Name	Age	Gender	Birthdate
1 <input type="text" value="1000-100-00119-1"/>	Trnbo		Dennis	32		04/08/1977

[Add New Patient](#)

or

Create Patient

To create a new person, enter the person's name and other information below first to double-check that they don't already have a record in the system.

Name


Birthdate or Age

(Format: dd/mm/yyyy)

Gender Male Female


Click the link and view the record. The encounters will not show up immediately – they are processed in a queue every thirty seconds.

View of encounters listing:


Currently logged in as Super User | [Log out](#) | [My Profile](#) | [Help](#)

[Home](#) | [Find/Create Patient](#) | [Dictionary](#) | [Administration](#)

Trnbo Dennis
Old Identification Number: 1000-100-00119-1

 32 yrs (04-Aug-1977)

BMI: 24.1 (Weight: 78.3 kg , Height: 180.0 cm) CD4: | Regimen:



Last encounter: **ADULTINITIAL @ Mamelodi, 04-Aug-2009**

Overview
Regimens
Encounters
Demographics
Graphs
XForms

Enter Form

Encounters

Show 20 entries

Edit	View	Encounter Date	Encounter Type	Provider	Form	Location	Enterer
		04/08/2009	ADULTINITIAL	Super User	Initial Visit	Mamelodi	Super User

Showing 1 to 1 of 1 entries ◀ ▶

Record detail:

Trnbo Dennis | 32 yrs | Old Identification Number: 1000-100-00119-1

Encounter: ADULTINITIAL on 04/08/2009 at Mamelodi
[[Close Window](#)]

Form: Initial Visit
[[Edit](#)]

-- PREVIOUS IMMUNIZATIONS ADMINISTERED: **HEMOPHILUS INFLUENZA B VACCINATION**

-- ESTIMATED DATE OF CONFINEMENT: **21 October 2009 00:00:00 CAT**

-- WEIGHT (KG): **78.3**

-- TUBERCULOSIS DRUG TREATMENT START DATE: **02-Aug-2009**

-- HEIGHT (CM): **180.0**

-- X-RAY, CHEST: **EVIDENCE OF CARDIAC ENLARGEMENT**

-- DIZZINESS: **true**

-- LARYNGITIS: **Profound.**

Record detail that includes values entered using multi-input widget (checkboxes):

Basic4792 Patient667 | 34 yrs | Old Identification Number: 1000-100-00130-4

Encounter: ADULTINITIAL on 12/08/2009 at Mamelodi
[[Close Window](#)]

Form: Routine Antenatal
[[Edit](#)]

-- FEEDING PLAN: **EXPRESSED BREASTMILK** on 11/08/2009
INFANT FORMULA on 11/08/2009

-- WEIGHT (KG): **67.0** on 11/08/2009

-- PARITY: **2.0** on 11/08/2009

-- DIASTOLIC BLOOD PRESSURE: **70.0** on 11/08/2009

-- SYSTOLIC BLOOD PRESSURE: **180.0** on 11/08/2009

INTEGRATION NOTES

The goal has been to do as little modification to OpenMRS as possible – let Zcore do any heavy lifting necessary.

The OpenMRS code (formimportexport module?) that renders the .xsl files used for importing into zcore assigns Boolean values a "1" or "0" instead of a true or false, which does de-serialise an accurate value into a java Boolean. I had to modify the code from the Apache Commons XLTSchema project (Schemabuilder class) to accommodate this condition. At some point I'll track down the error in the OpenMRS module and notify the module's maintainer.

My version of Tomcat, the latest version, has issue w/ the jsp code in Remote form entry module - remoteformentry-2.7.0mod -file localHeader.jsp. I have created a local version of this module that works around this problem. Need to discuss w/ this module's maintainer. It's a surprising problem - didn't happen w/ previous version.

More integration notes tbd...

- *most of the OpenMRS encounter processing happens in ORUR01Handler*
- *Discussion of custom data converters used in Xstream, which de-serialises the Zcore records to OpenMRS-friendly xml.*