

## Introduction

This document outlines the procedure for adding a new field to the CHIRIS Client Registry application.

For the purpose of this example, a field entitled “email” will be added to the client model, UI, and generated HL7 message.

This document assumes a working understanding of the IRIS deployment.

## Modifying the ADT Java Source

On a PC with the IRIS software installed as described in the installation documentation, the source code will be located at the following path:

```
/home/iris/src/code/SourceCode/chiR1/
```

## Updating the Data Model

The first step in the process is to modify the java source code, as well as the corresponding hibernate descriptor file for each module which requires modification. Each module will contain its model in a directory named:

```
[module name]/src/chi/[module name]/container
```

Using the ADT module as an example, the following Java file must be modified:

```
Client.java
```

A field, and corresponding accessor and mutator method are added:

```
private String email = null;

/**
 * @return The email address
 */
public String getEmail() {
    if (email == null) {
        return "";
    }
    return email;
}

/**
 * @param theEmail the email address
 */
public void setEmail(String theEmail) {
```

```
    email = theEmail;
}
```

The hibernate descriptor (a configuration file which essentially maps the bean property to a column in the database) is in a file with the same name, but with the extension “.hbm.xml”

```
Client.hbm.xml
```

A simple “property” tag is added anywhere inside the “class” tag.

```
<hibernate-mapping>
  <class name="chi.adt.container.Client" table="CLIENTS">
    ... Other Tags ...
    <property name="email" column="EMAIL" />
  </class>
</hibernate-mapping>
```

## ***Updating the Java Action class***

The java source also contains an “action” class, which receives updates to the email field from the UI. Action class source for the ADT module are located in the directory:

```
/adt/src/chi/adt/action/
```

The action source file for modifying demographic information is titled:

```
EditClientDemographics.java
```

The method “setClientDemographicsData(Client)” is responsible for accepting demographic information. Add the following line:

```
inClient.setEmail( request.getParameter("EMAIL"));
```

## **Modifying the Database**

CHIRIS uses MySQL as a database layer. Using a MySQL client, connect to the appropriate database. For instance, to modify the ADT database, use the following connection settings:

```
Port:      3310
Username:  adtu
Password:  newuser
```

The “ADTM01” database contains a table called “CLIENTS”. To this table, add a column entitled “EMAIL”.

## Modifying the HL7 Message Template

IRIS generates HL7 messages using XML templates. The ADT module keeps its XML templates in the following directory:

```
/home/iris/src/code/SourceCode/chiR1/adt/config/xmlTransform
```

Each XML file in this directory defines a different message. For instance, the HL7 v2 message which is used to add a client is called “sendAddClient24.xml”. In this template, the following element must be added to create a leaf node for the EMAIL field:

```
<leaf>
  <leafName>cpEmailLeaf</leafName>
  <defaultValue>jagnew@toronto.ca</defaultValue>
  <xmlType>text</xmlType>
  <beanParmType>String</beanParmType>
  <beanGetMethod>getEmail</beanGetMethod>
</leaf>
```

The appropriate “node” element is then modified to add the leaf to a segment in the HL7 message:

```
<node>
  <nodeId>PID</nodeId>
  <xmlType>element</xmlType>
  <subNodes></subNodes>
  <mandatory>true</mandatory>
  <subNodes>cpExtern, [...] ,cpEmail</subNodes>
  <leaves></leaves>
</node>
```

A new “node” element is added to define where in the segment this node will be placed:

```
<node>
  <nodeId>cpEmail</nodeId>
  <xmlName>PID.23</xmlName>
  <xmlType>element</xmlType>
  <leaves>cpEmailLeaf</leaves>
</node>
```

## Modifying the UI

The UI layer uses JSP files. For instance, client demographic information is stored in a file called “ClientDemographics.jsp” in the following directory:

```
/home/iris/src/code/SourceCode/chiR1/adt/jsp
```

The following code should be added near the start of the file:

```
String email = "";  
email = StringUtils.defaultString((String) client.getEmail());
```

In the table section of the file used to modify demographic information, add the following cells:

```
<td>Email</td>  
<td><input type="text" name="EMAIL" tabindex="5"  
value="<%=email%>"></td>
```

## Building the ADT project

To build the project, execute the following commands:

```
export SDE_PROJ_LOCAL=/home/iris/src/code/SourceCode/chiR1  
cd /home/iris/src/code/SourceCode/chiR1/adt  
ant
```

Copy the and deploy the resulting WAR file:

```
cp ./dist/chiadt-1.0.war ~/pkgs/CHIAdtR1.0-08/dist/  
cd ~/pkgs/CHIInstallR1.0-10/scripts/  
./CHI_Deploy.sh 10 ADT 1
```

## Redeploy Web Services

If your changes involved a modification to the Web Services layer, the following commands must be executed as well. These do not apply to the changes above, but might be involved to a change for incoming messages.

```
cd ~/pkgs/CHIInstallR1.0-10/ws  
./deploy.sh localhost:8080/chicr-1.0 \  
~/pkgs/CHICrR1.0-10/ws/deploy.wsdd
```