FFI Workshop Protocol Manager Exercises

This training session includes 16 exercises that address Database Administration, Using Protocol Manager, and Using Protocol Manager protocols in FFI.

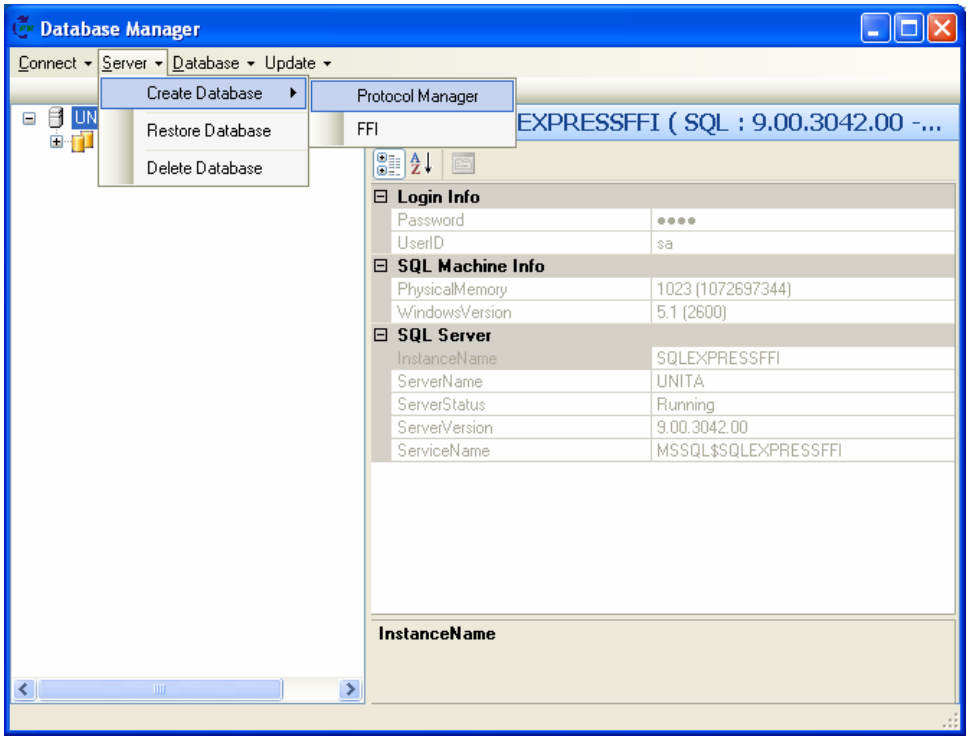
- Exercise 1: Create a new Protocol Manager database
- Exercise 2: Import protocols
- Exercise 3: Explore protocols
- Exercise 4: Plan method and protocol development
- Exercise 5: Create the new program
- Exercise 6: Create new protocols
- Exercise 7: Create the Doors method
- Exercise 8: Add sample attributes for the Doors method
- Exercise 9: Add method attributes for the Doors method
- Exercise 10: Create the Exit Lights method and attributes
- Exercise 11: Assign the methods to the protocol
- Exercise 12: Promote the new methods and the protocol
- Exercise 13: Assign the protocol to the project
- Exercise 14: Export the new project to FFI
- Exercise 15: Assign the protocol to an FFI sample event
- Exercise 16: Test the new protocol in FFI Data Entry

Exercise 1: Create a New Protocol Manager Database

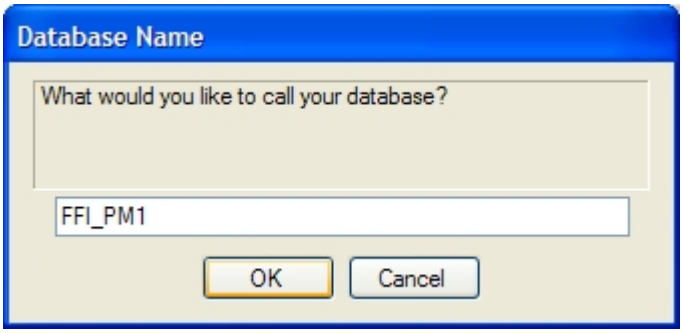
1-1 Launch the FFI DB Administration program.

1-2 Connect to a SQL Server database.

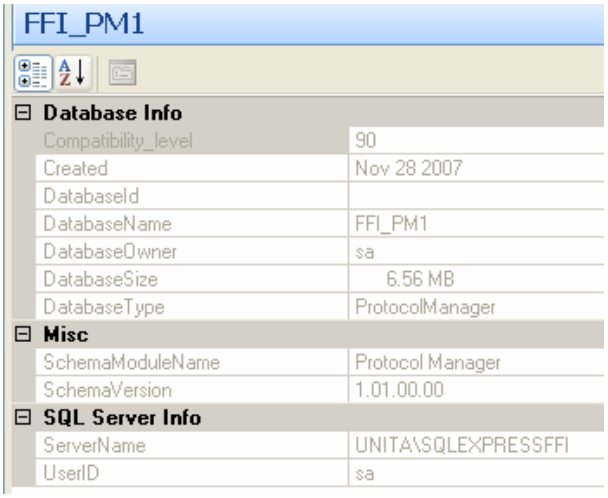
1-3 Create a new Protocol Manager database.



1-4 Name the database **FFI_PM1**. Click *OK* to create the database. This will take a few minutes.



1-5 Review the database properties, shown below.

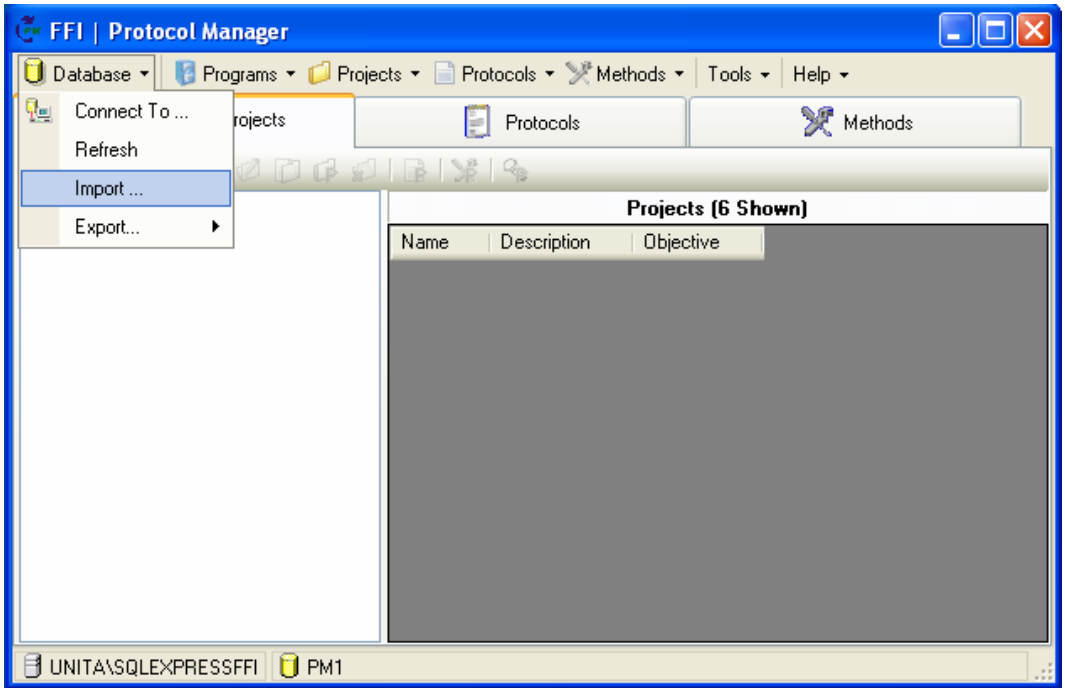


Exercise 2: Import Protocols

2-1 Launch Protocol Manager.

2-2 Connect to a SQL Server database and your newly created Protocol Manager database.

2-3 Select *Database, Import…*



2-4 Navigate to a supplied Protocol Manager .pmd export file.

2-5 Import the .pmd file. This will take a few moments.

Exercise 3: Explore Protocols

3-1 In the **Programs and Projects** tab, expand the FFI program.

3-2 Explore the hierarchy down through Programs, Projects, Protocols, and Methods.

Exercise 4: Plan Method and Protocol Development

Problem: Consider this proposed new method and protocol structure:

Program: Public Safety

Project Unit: Montana Infrastructure

Protocol: Structure Condition

Method 1: Doors

Method 2: Exit Lighting

Doors: As a government door inspector, you will visit each building. For each building, you will record the **Street Address** and the nominal **Square Footage**. Then, for each door in the building, you will record:

- Whether it is an interior or exterior door.
- Its construction type: metal, wood, or other.
- Which floor of the building it is on.
- Its width in decimal inches.
- Its height in decimal inches.
- Its condition: New, Good, Poor, or Missing.

Exit Lighting: As the government emergency exit lighting inspector, you will visit each building and record the **Street Address** and the nominal **Square Footage**. Then you will conduct a lengthy test, but the only data you are required to record are the number of emergency lights in the building and whether they passed or failed your test.

Consider these questions:

- What attributes will each method require?
- Which are sample attributes, and which are method attributes?
- What are the best data types for each attribute?
- Should any of these values be part of the macro plot instead?
- Is either of these a “single record” method?

Try to develop these protocols without referring to the solution below and then test your methods in Protocol Manager. Then promote your methods to “production” status and try them out in FFI.

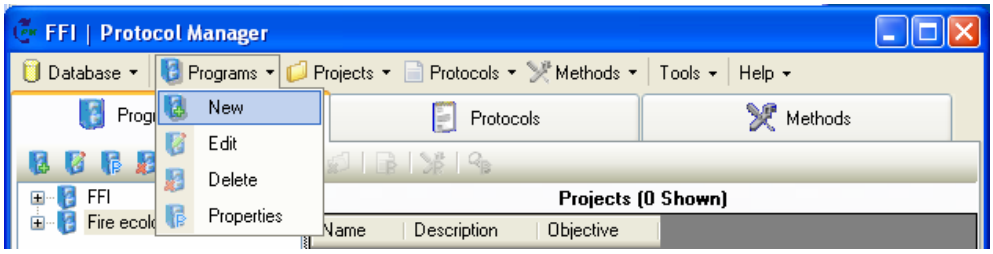
Solution: See Exercises 5 through 16 below.

Exercise 5: Create the New Program

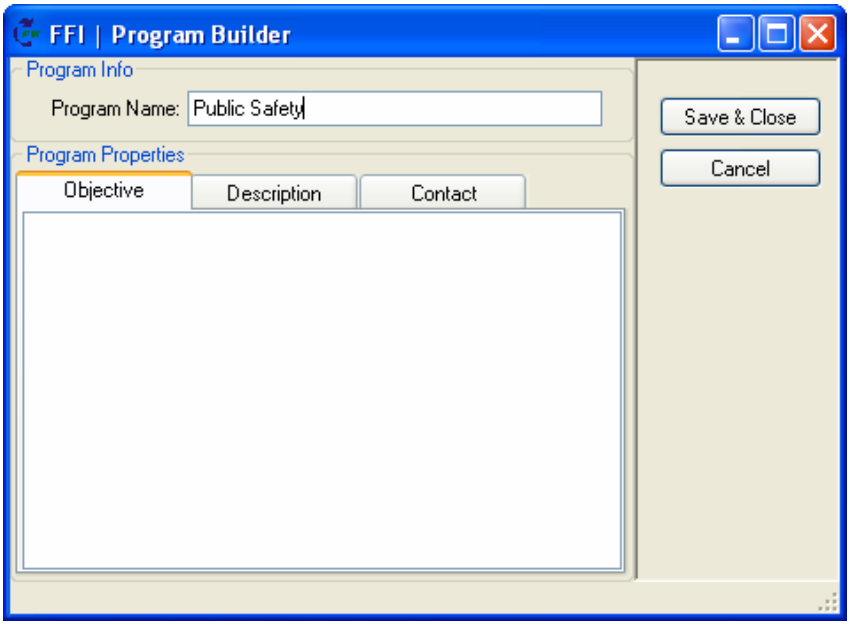
5-1 Log in to the Protocol Manager FFI_PM1 database that you created in Exercise 1.

5-2 Open the *Programs* pull-down menu.

5-3 Select *New…* to create a new program.

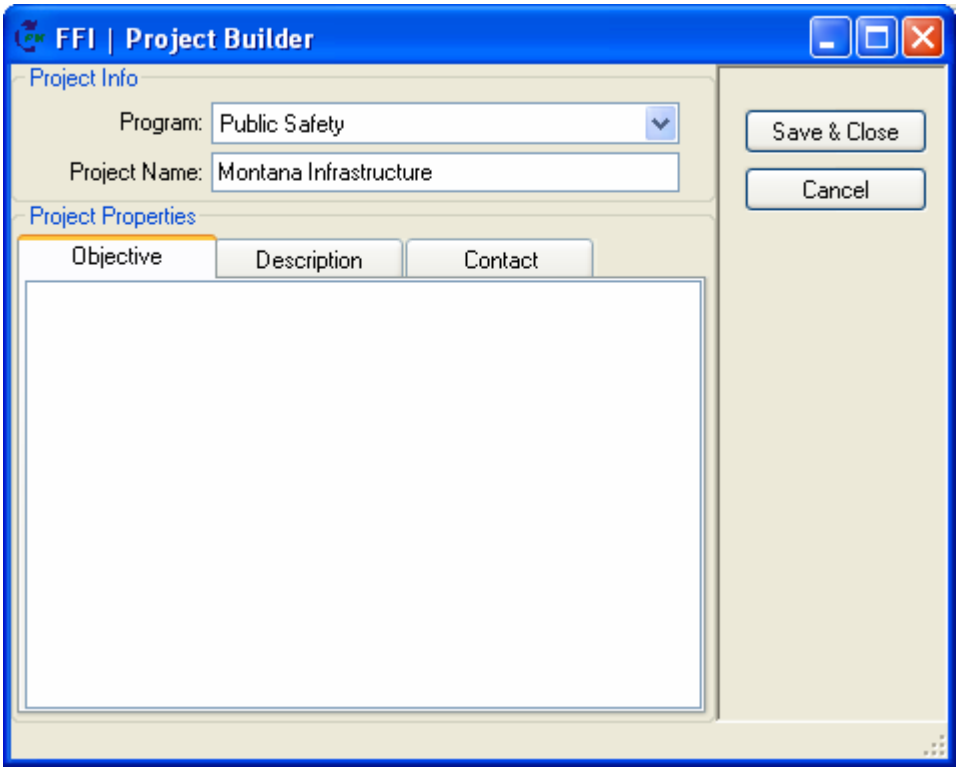


5-4 Name the new program **Public Safety**.



5-5 Highlight the new program in the tree view and select *Projects, New* to create a new project.

5-6 Name the new project **Montana Infrastructure** and close the window.

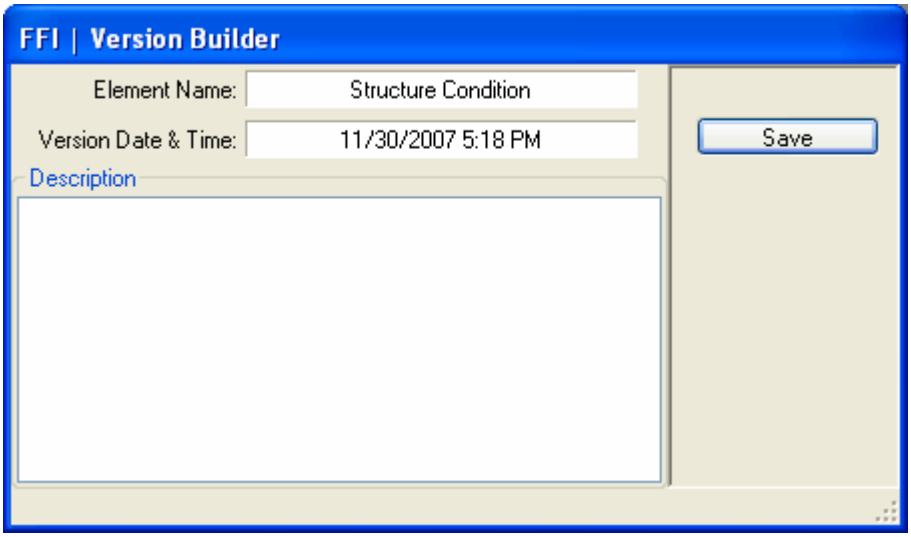


Exercise 6: Create New Protocols

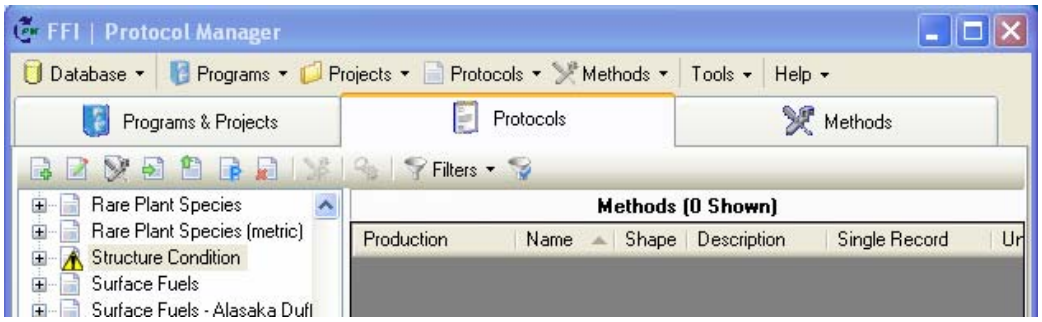
6-1 To create a protocol within the new project, click the *Protocols* tab. Select *Protocols, New*.

6-2 Name the new protocol **Structure Condition**.

6-3 Click **Save** in the *Version Builder* dialog.



Note that the new protocol appears in the tree view as a “development” protocol with no attached methods.



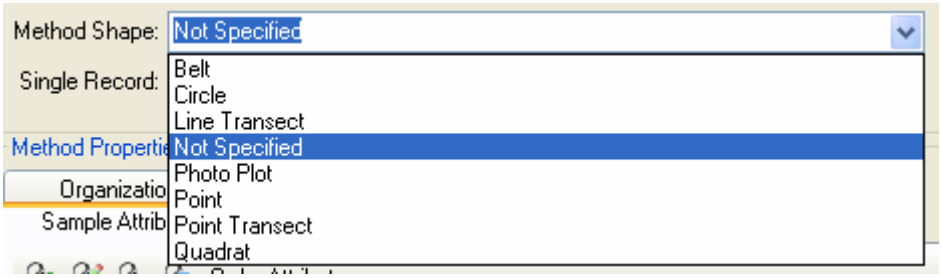
Exercise 7: Create the Doors Method

7-1 To create the **Doors** method, click the *Methods* tab.

7-2 In the *Method Builder* dialog, name the method **Doors**.

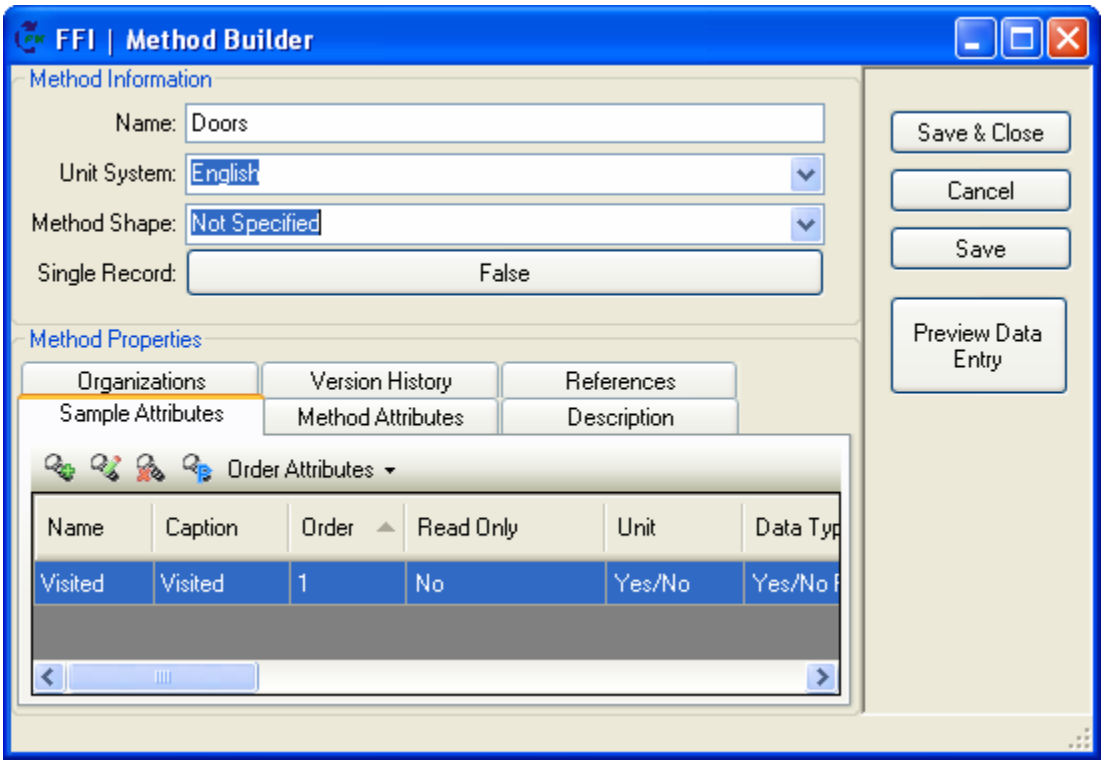
7-3 Set the *Unit System* to **English**.

7-4 Review the choices for **Method Shape**. For a real sampling method, you would choose the appropriate geometry. For this example, leave it as **Not Specified**.



7-5 Leave *Single Record* as **False** because you will record data for multiple doors at each macro plot (building).

7-6 Click *Save* (**not** "Save & Close". We are not done with the Method Builder.)

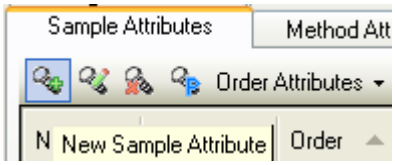


Exercise 8: Add Sample Attributes for the Doors Method

8-1 In the *Method Builder,* click the *Sample Attributes* tab.

*Note that the attribute **Visited** is already created. This attribute is used in analysis for calculations such as total area, and cannot be deleted or changed.*

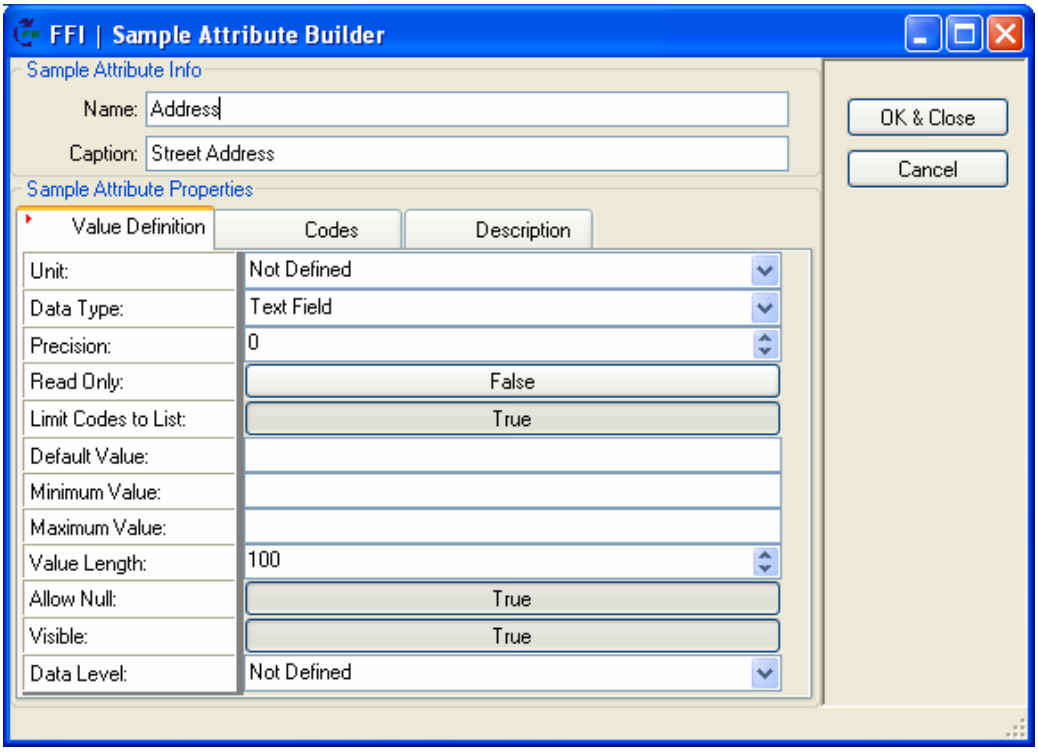
8-2 Click the *New Sample Attribute* icon in the *Sample Attributes* tab.



8-3 The *Sample Attribute Builder* dialog opens. Assign the name **Address** (this will be the name of the field in the database).

8-4 Assign the caption **Street Address**. This will be the caption that the FFI user sees during data entry and analysis.

8-5 Set the *Value Length* to **100**.



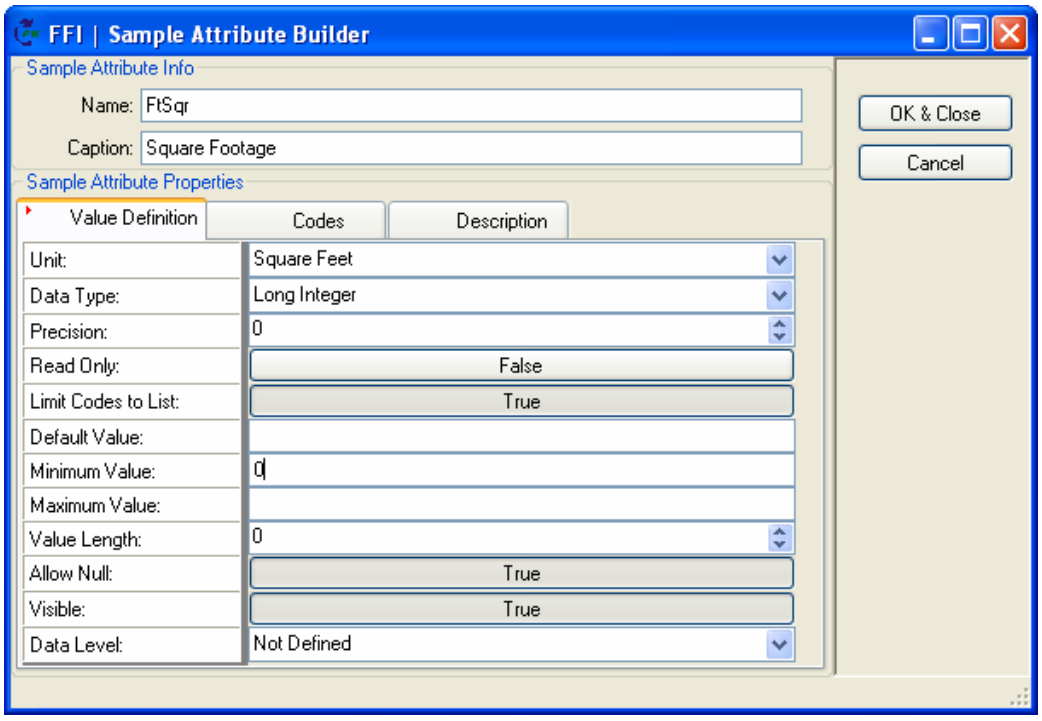
8-6 Click *OK & Close.*

8-7 Create another sample attribute named **FtSqr** with the caption **Square Footage**.

8-8 Set the units to **Square Feet**.

8-9 Set the *Data Type* to **Long Integer**.

8-10 Set the *Minimum Value* to zero.



8-11 Click *OK & Close* on the Sample Attribute Builder.

8-12 Click *Save* on the Method Builder. (**Don't** click "Save & Close", because we are not done with the Method Builder.)

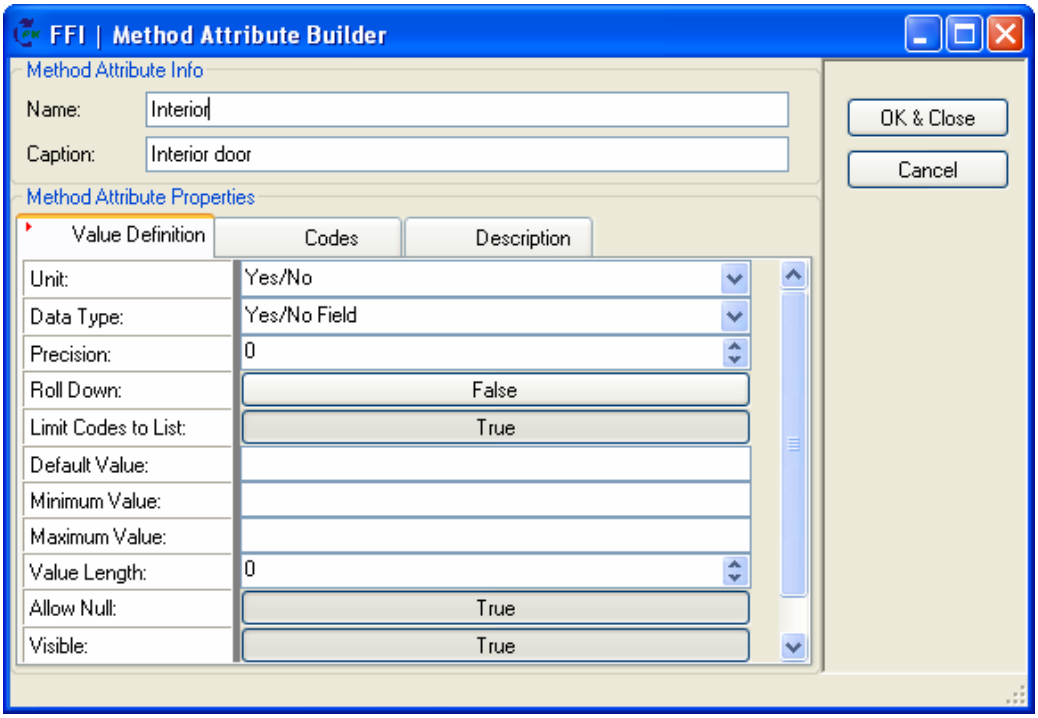
Exercise 9: Add Method Attributes for the Doors Method

9-1 Click the *Method Attributes* tab.

Note that the Index attribute has already been created. This attribute is used by the FFI data entry form to display rows in the order in which they were entered, and cannot be edited or deleted.

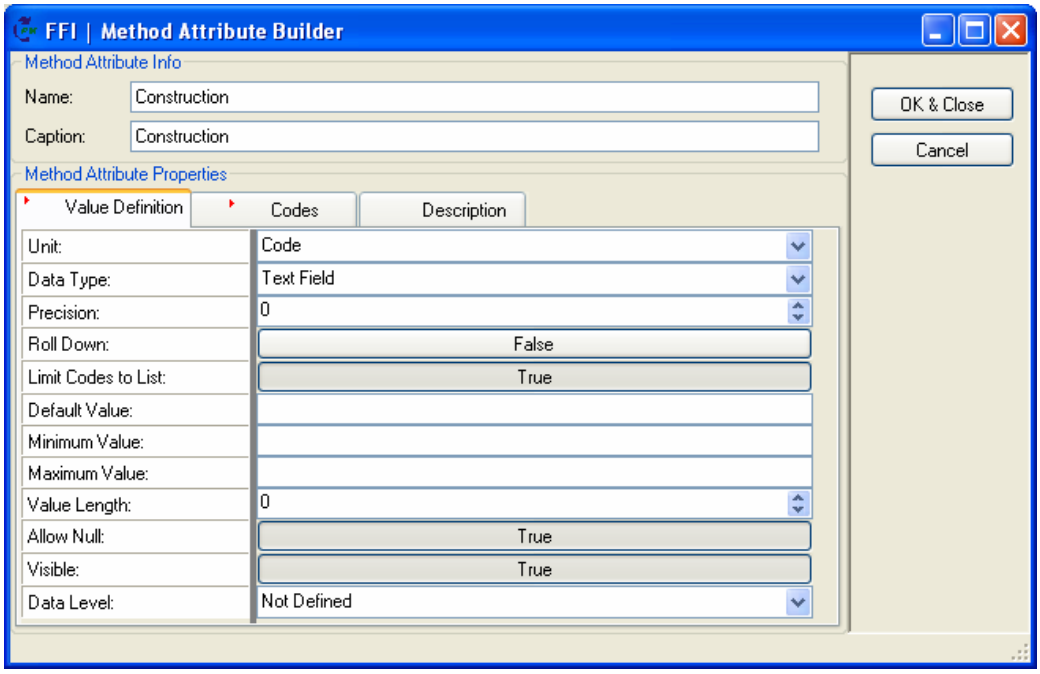
9-2 Click the *Add Method Attribute* icon on the *Method Attributes* tab.

9-3 Create a Boolean attribute named **Interior** with a caption of **Interior door**.

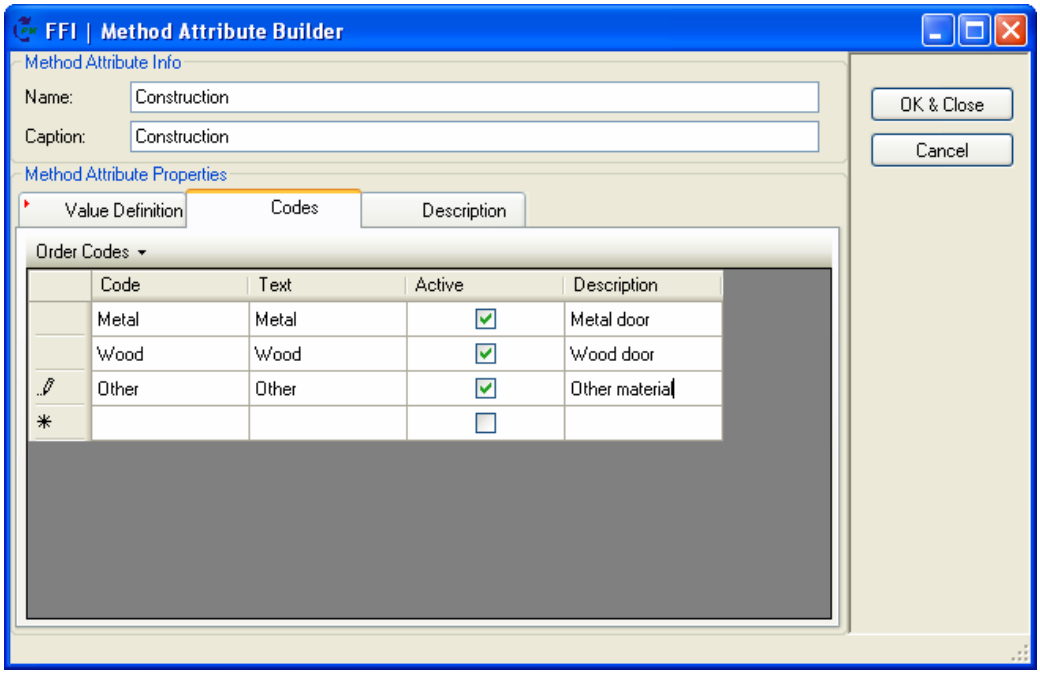


9-4 Create a coded value field named **Construction** with the caption **Construction**.

9-5 Set *Limit Codes to List* to **True** so that the FFI user cannot enter other values.

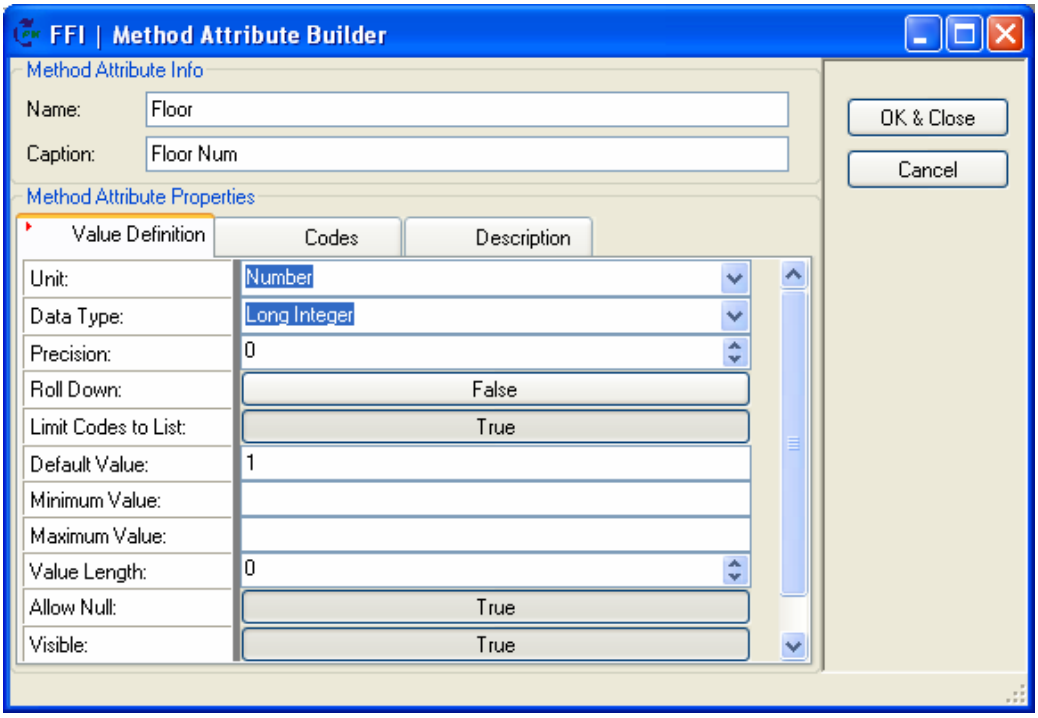


9-6 Click the *Codes* tab and enter the available values: **Metal**, **Wood**, and **Other**.

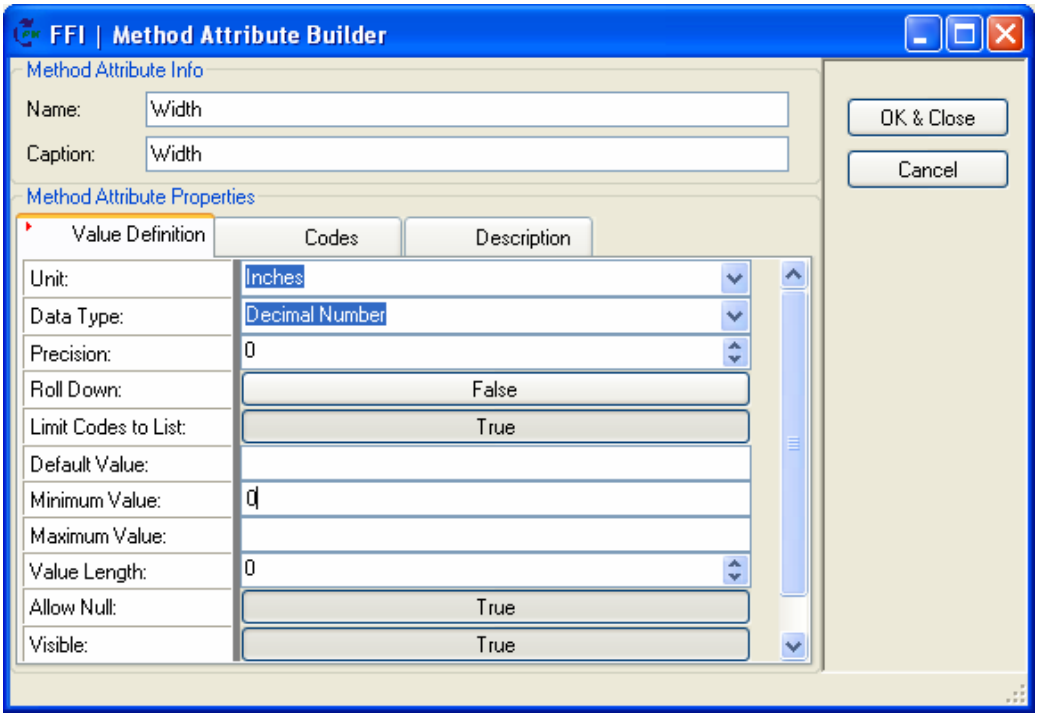


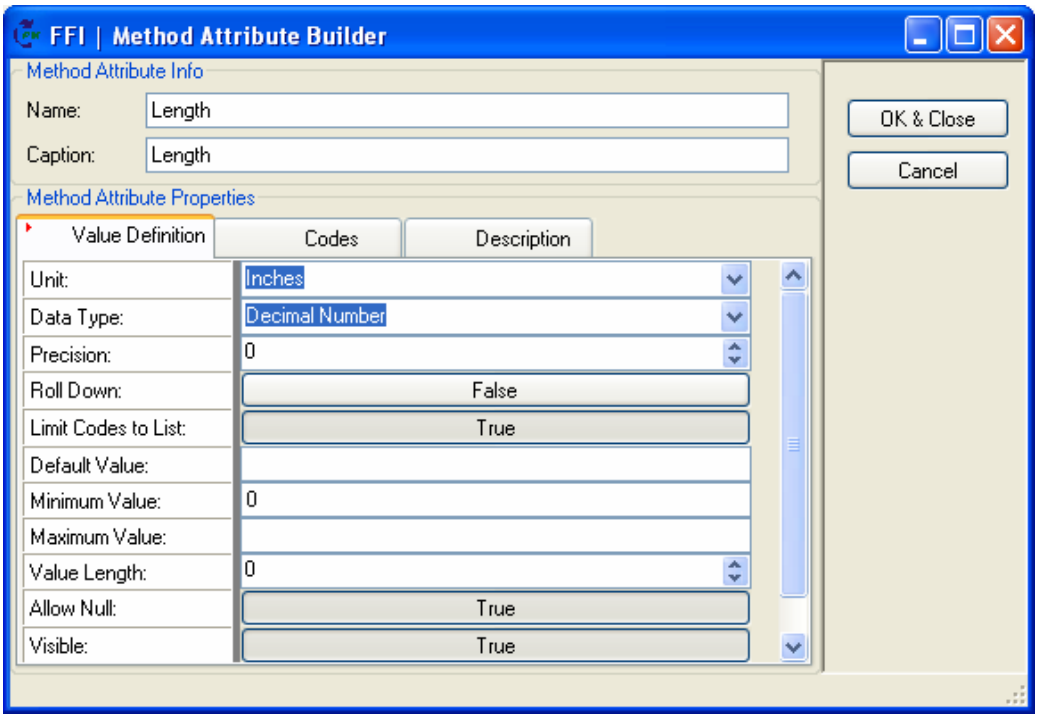
9-7 Create an integer field called **Floor** with a caption of **Floor Num**.

9-8 The units are **Number** with a data type of **Long Integer**. There is no minimum number to allow for negative numbers for basements.

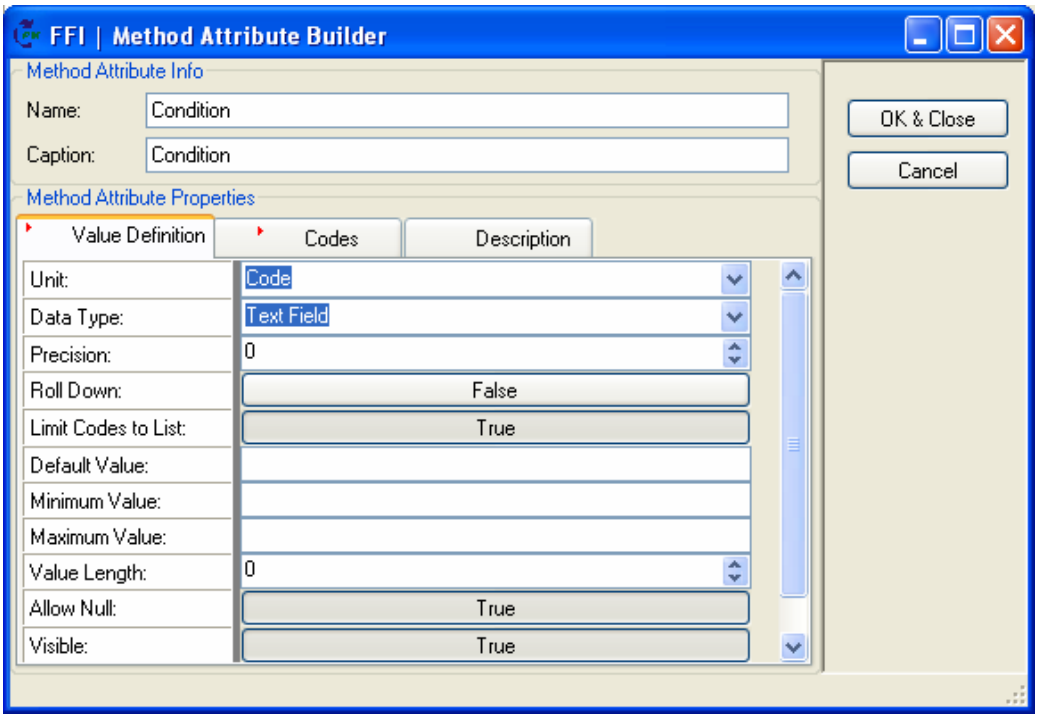


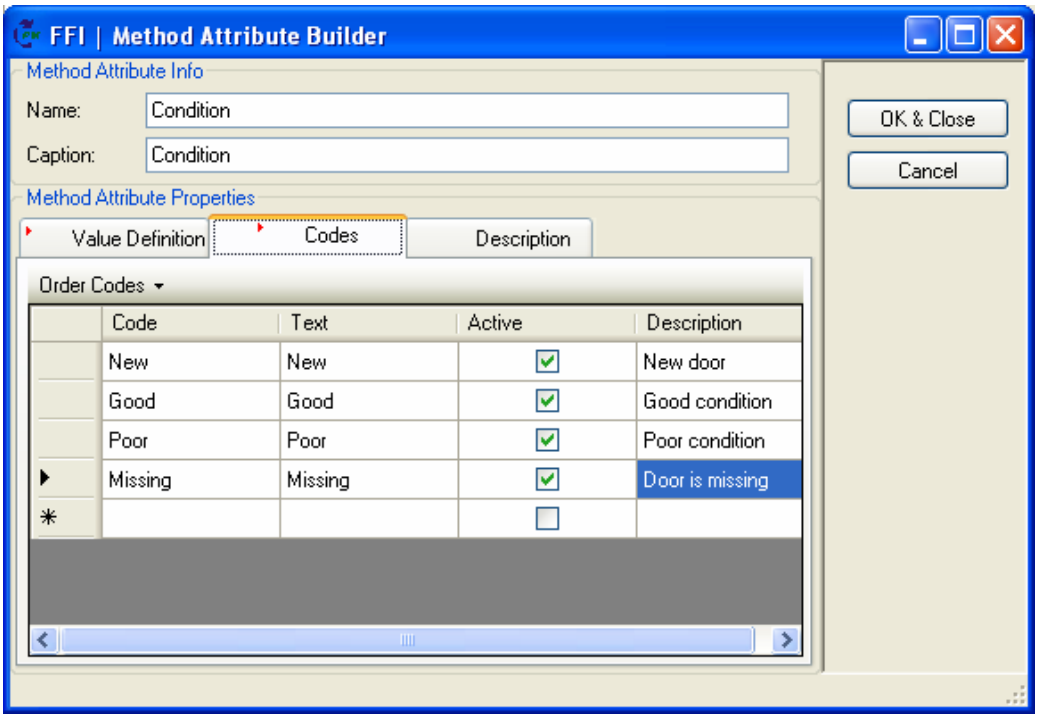
9-9 Add width and length attributes with unit of **Inches**, data type as **Decimal Number**, and minimum value of **Zero**.



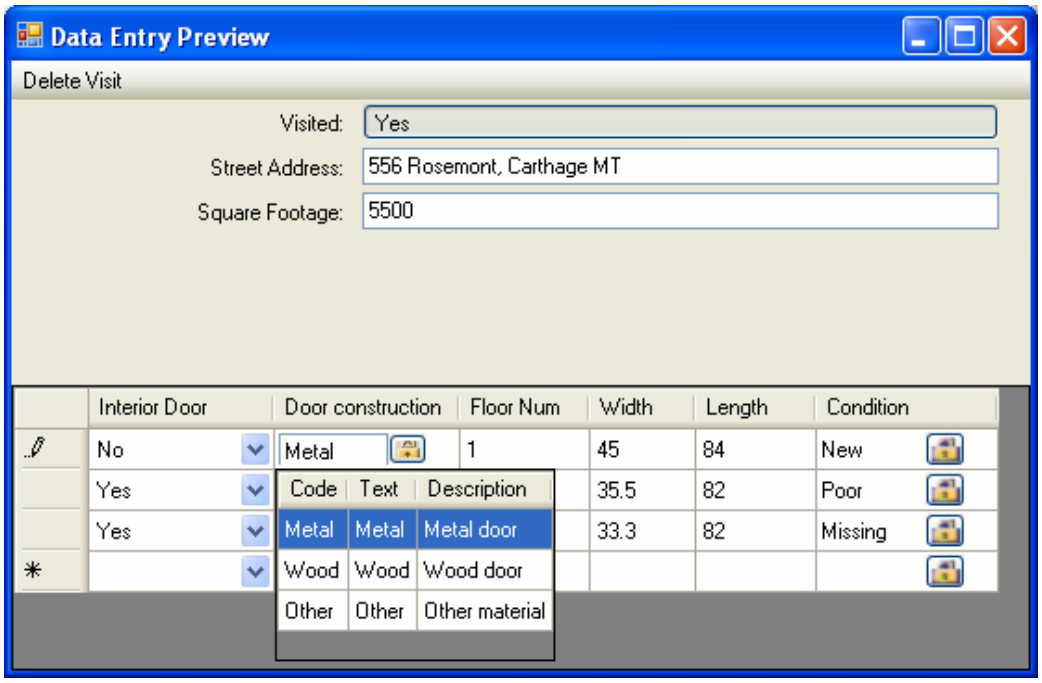


9-10 Create a coded value field called **Condition**.

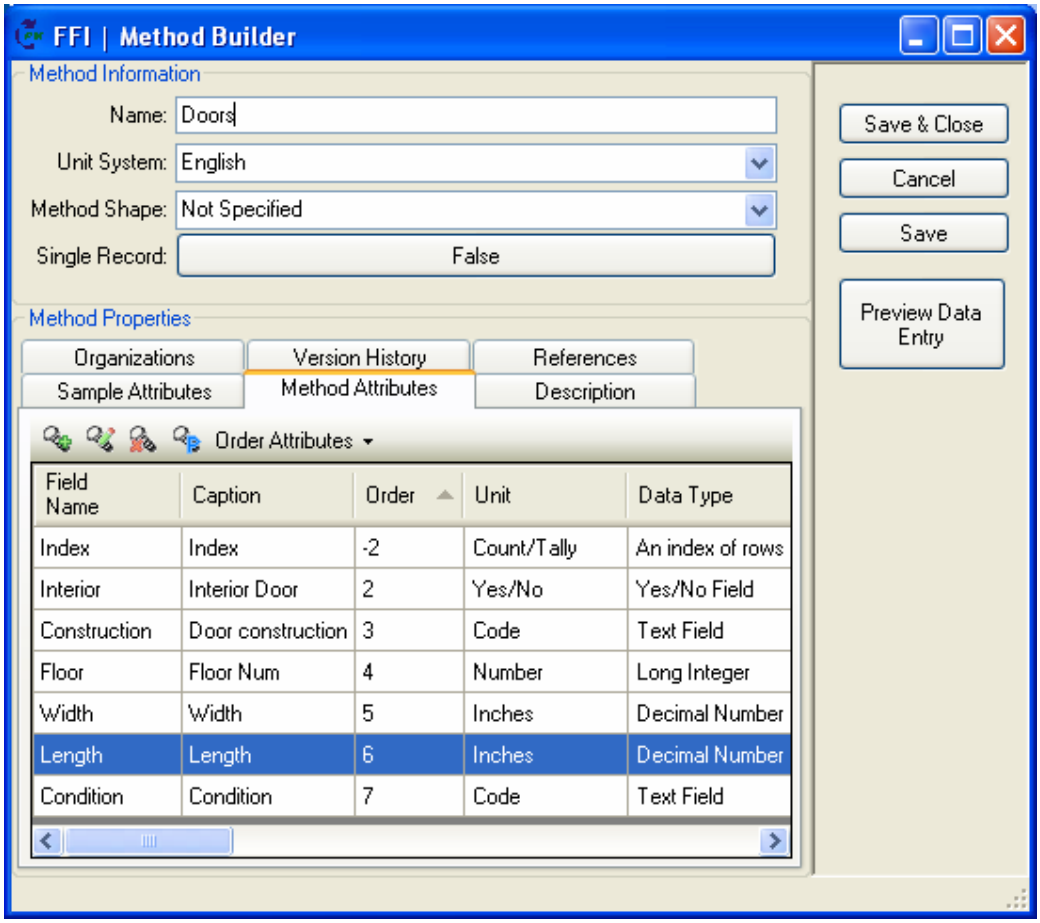




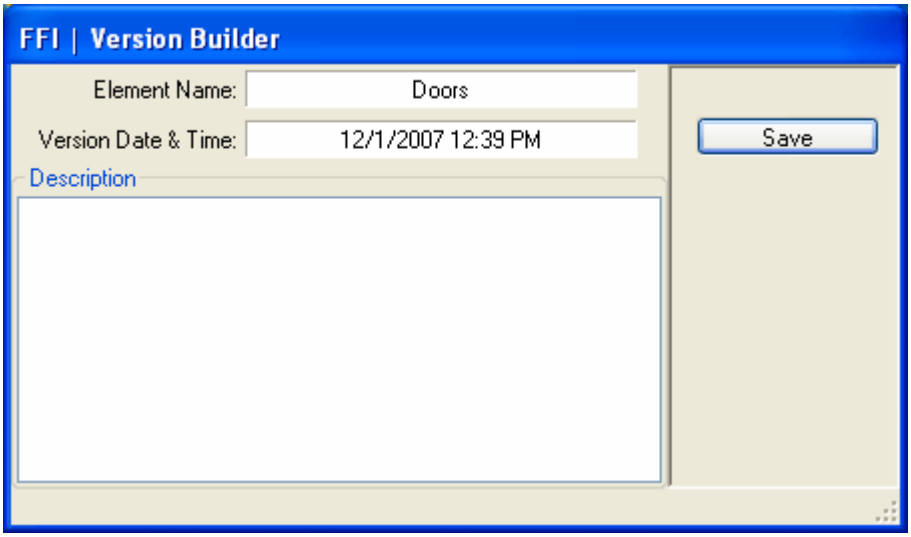
9-11 Test the new method by clicking the *Preview Date Entry* button in the *Method Builder* dialog.



9-12 Save the new method.



9-13 In the *Version Builder* dialog that pops up, click *Save.*



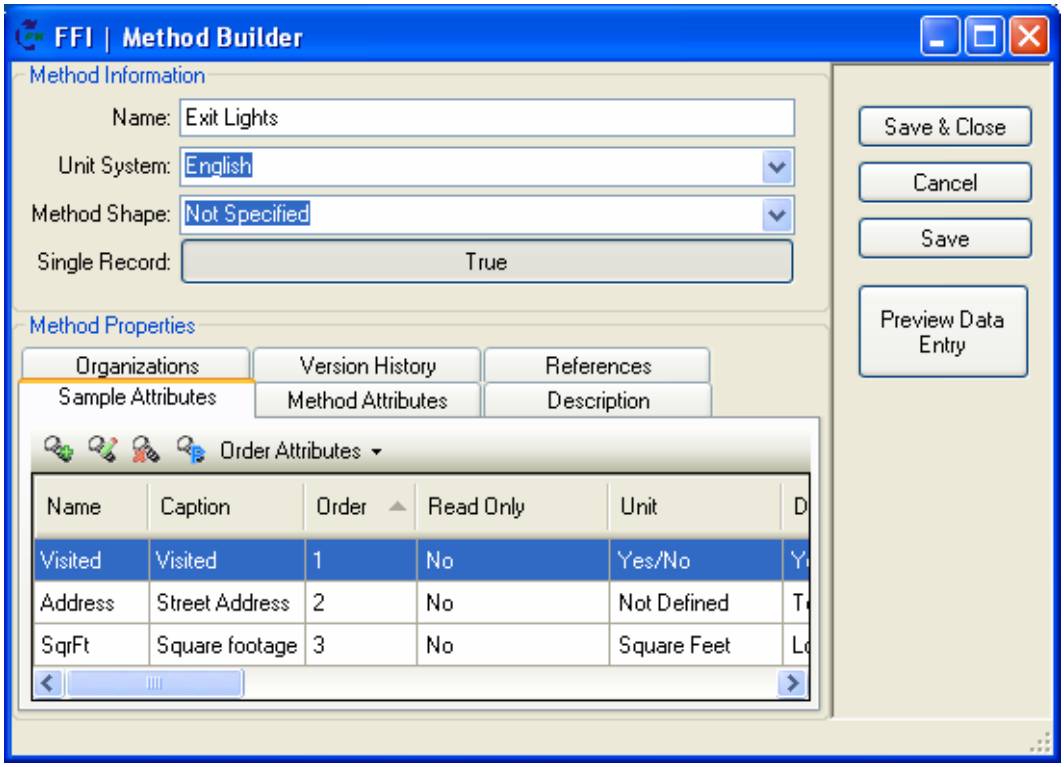
Exercise 10: Create the Exit Lights Method and Attributes

10-1 To create the **Exit Lights** method, click the *Methods* tab.

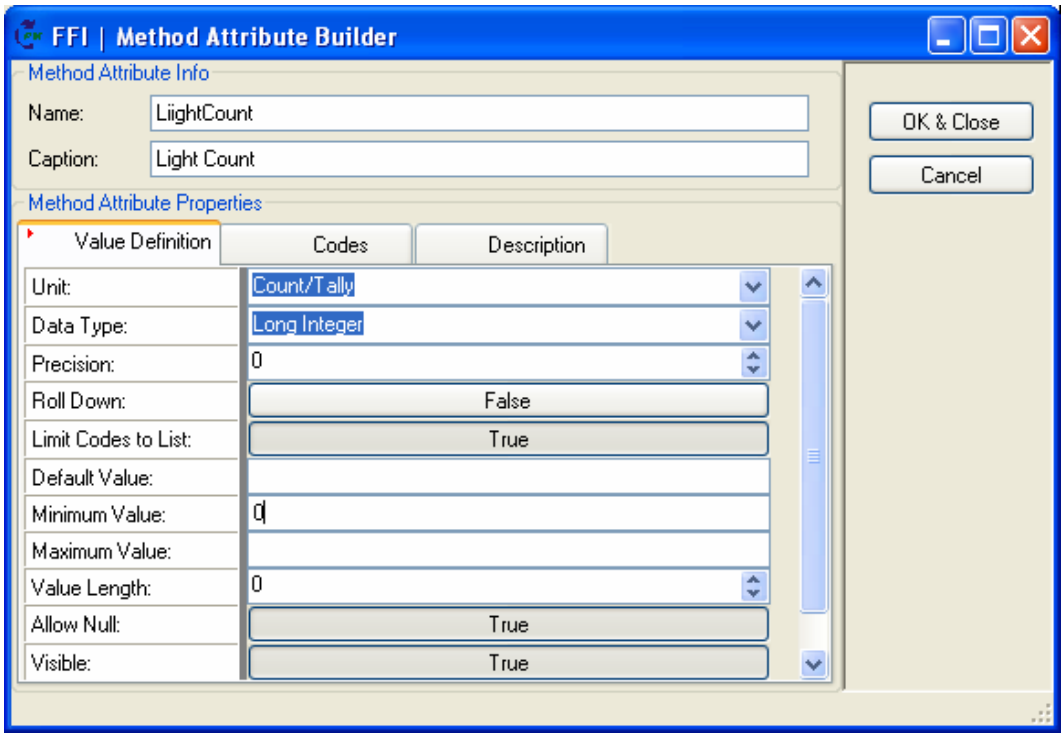
10-2 In the *Method Builder* dialog, name the method **Exit Lights**.

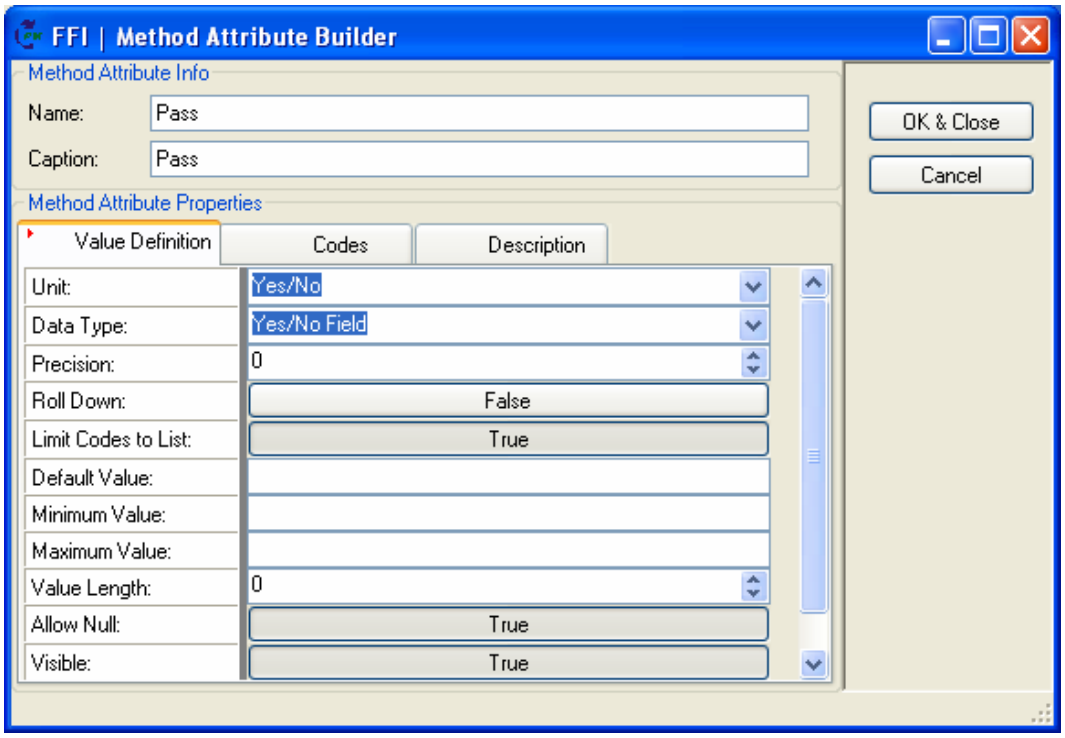
10-3 Set *Single Record* to **True** because only one observation will be recorded for each building.

10-4 Add the same sample attributes as shown in Exercise 7.

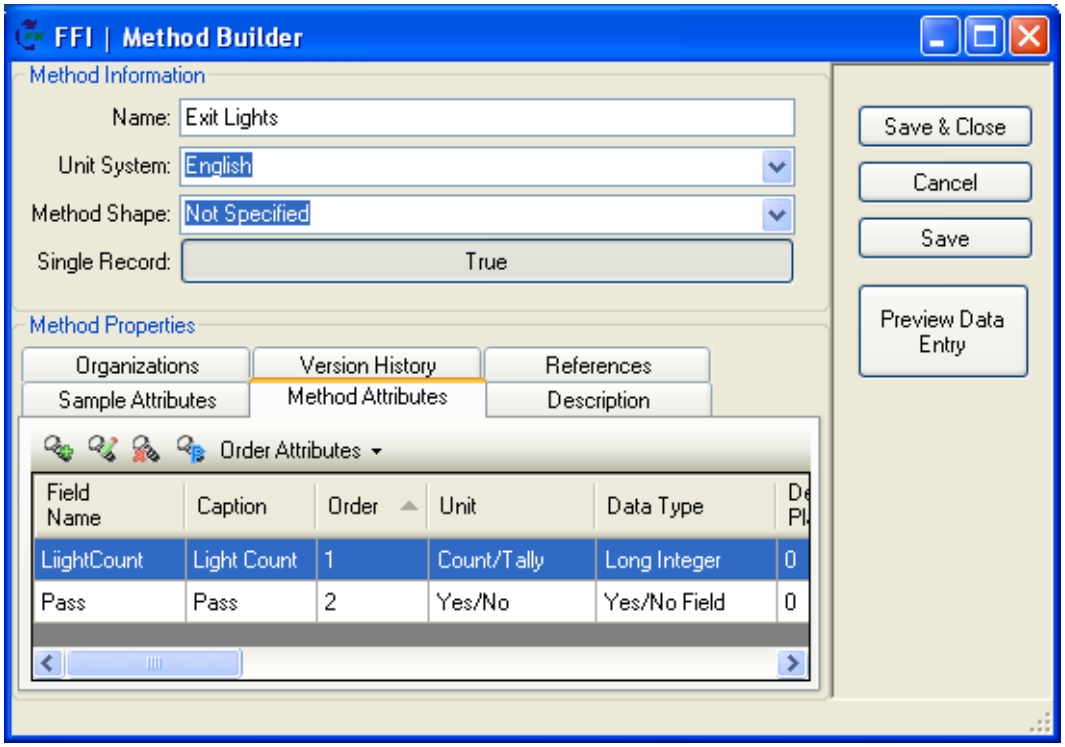


10-5 Add an integer method attribute for the number of lights and a Boolean attribute for pass/fail.

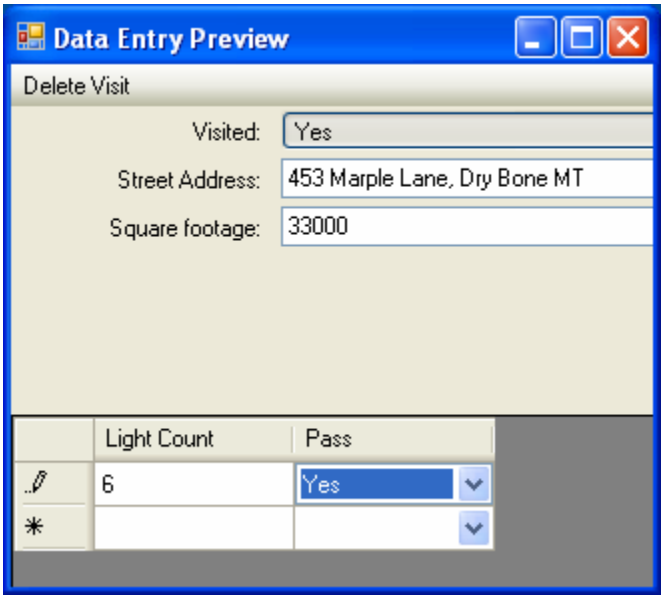




*Note that no **Index** field is required since **Exit Lights** is a single-record method.*

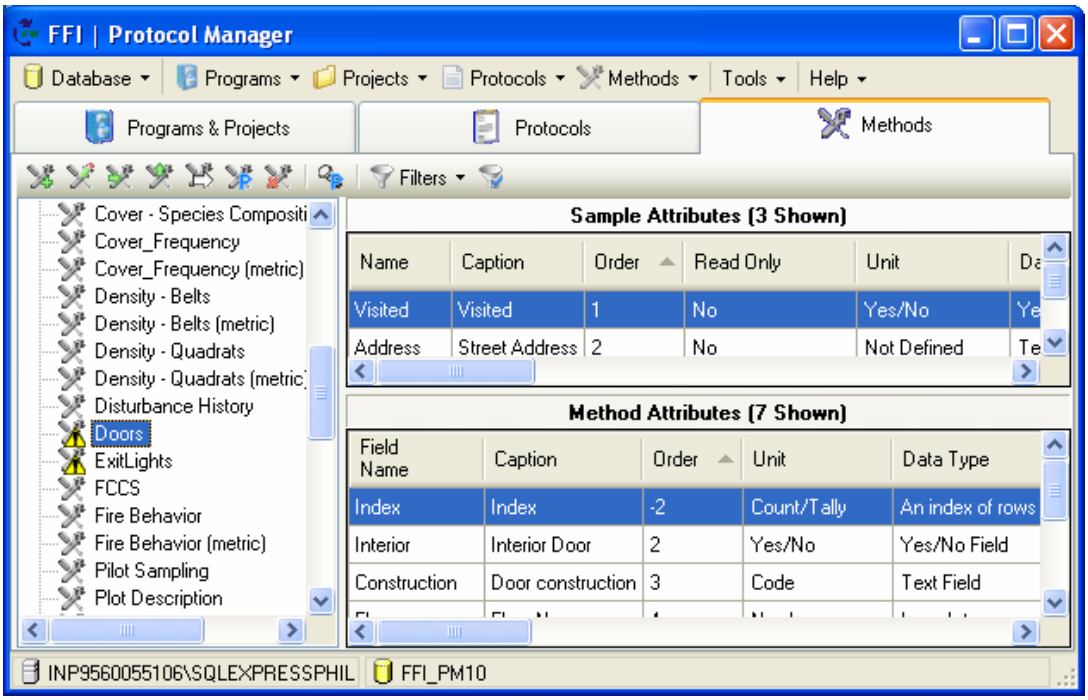


10-6 Test the method.



10-7 On the *Methods* tab, locate the new **Doors** and **ExitLights** methods. The yellow triangles indicate that the methods are in **Development**. This means that they can be edited, but not exported to FFI.

In another exercise, you will promote the methods and then promote the protocol.



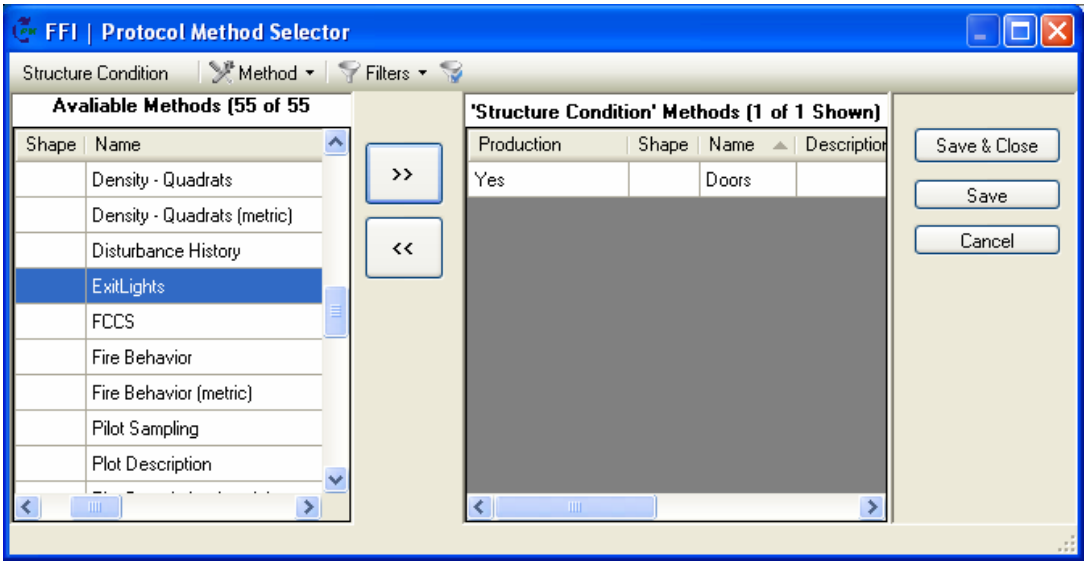
Exercise 11: Assign the Methods to the Protocol

11-1 Click the *Protocols* tab.

11-2 Highlight the **Structure Condition** protocol in the tree view.

11-3 Select *Protocols, Add/remove protocol methods.*

11-4 In the *Protocol Method Selector,* shift the **Doors** and **ExitLights** methods from the left-hand list to the right-hand list.



11-5 Click *Save & Close.*

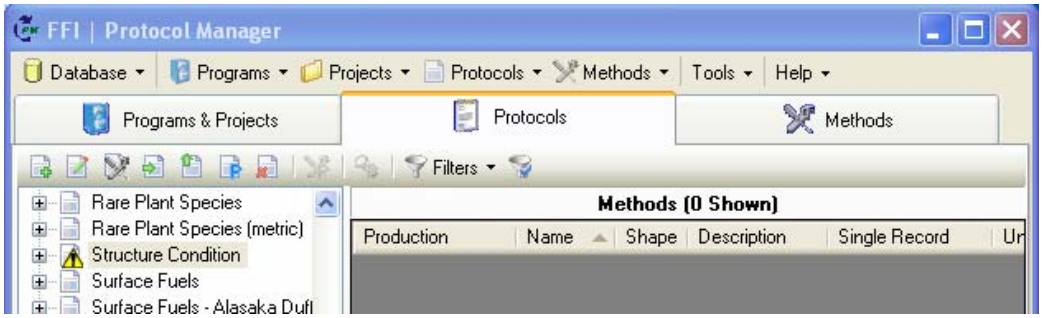
Exercise 12: Promote the New Methods and the Protocol

12-1 Click the *Methods* tab.

12-2 Right-click the **Doors** method and select *Promote Method*.

12-3 Promote the **Exit Lights** method in the same manner.

12-4 Click the *Protocols* tab and highlight the **Structure Condition** protocol. Note that it has a yellow triangle, indicating that it is in Development.

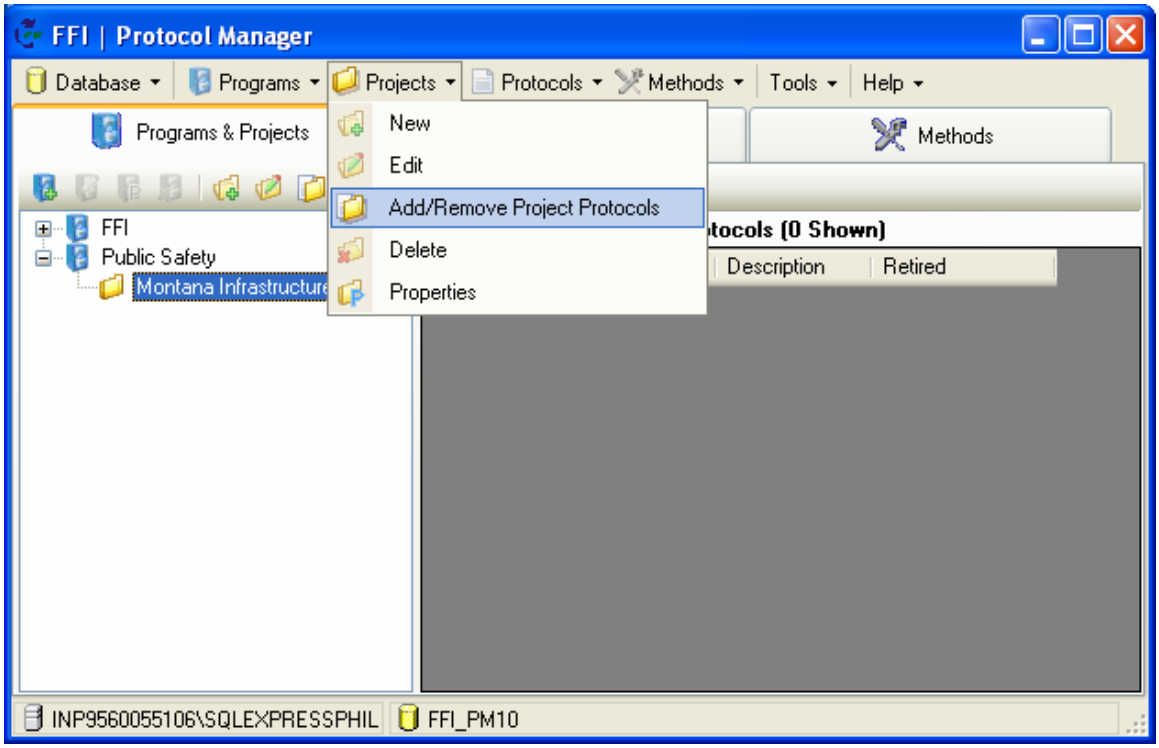


12-5 Right-click the protocol name and select *Promote Protocol*.

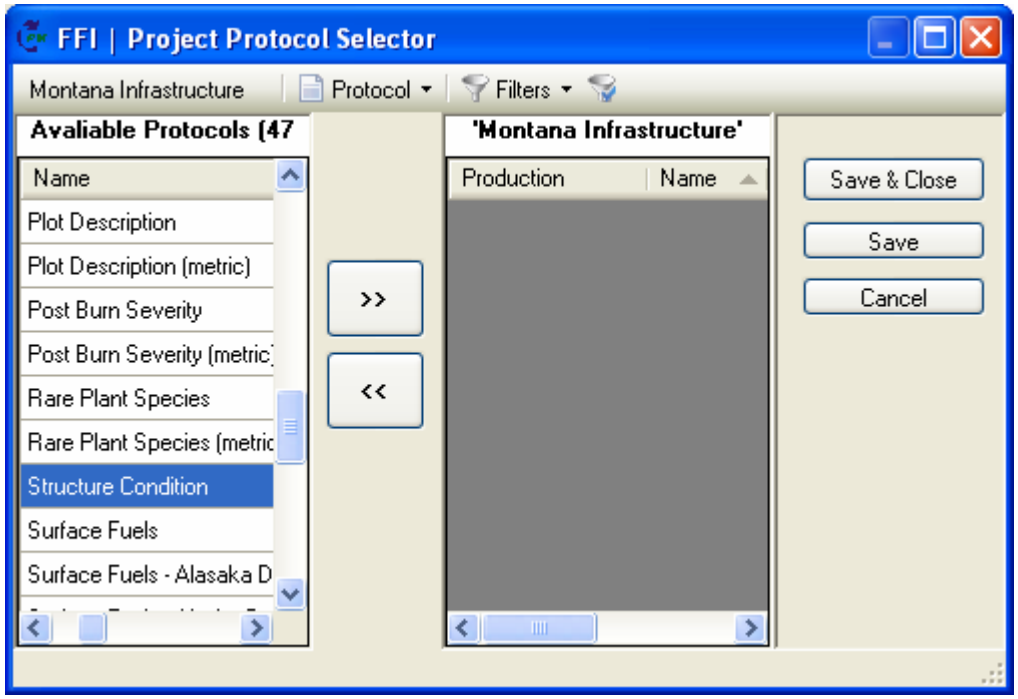
Exercise 13: Assign the Protocol to the Project

13-1 In the *Programs & Projects* tab, highlight the **Montana Infrastructure** project.

13-2 Select *Projects, Add/Remove Project Protocols.*



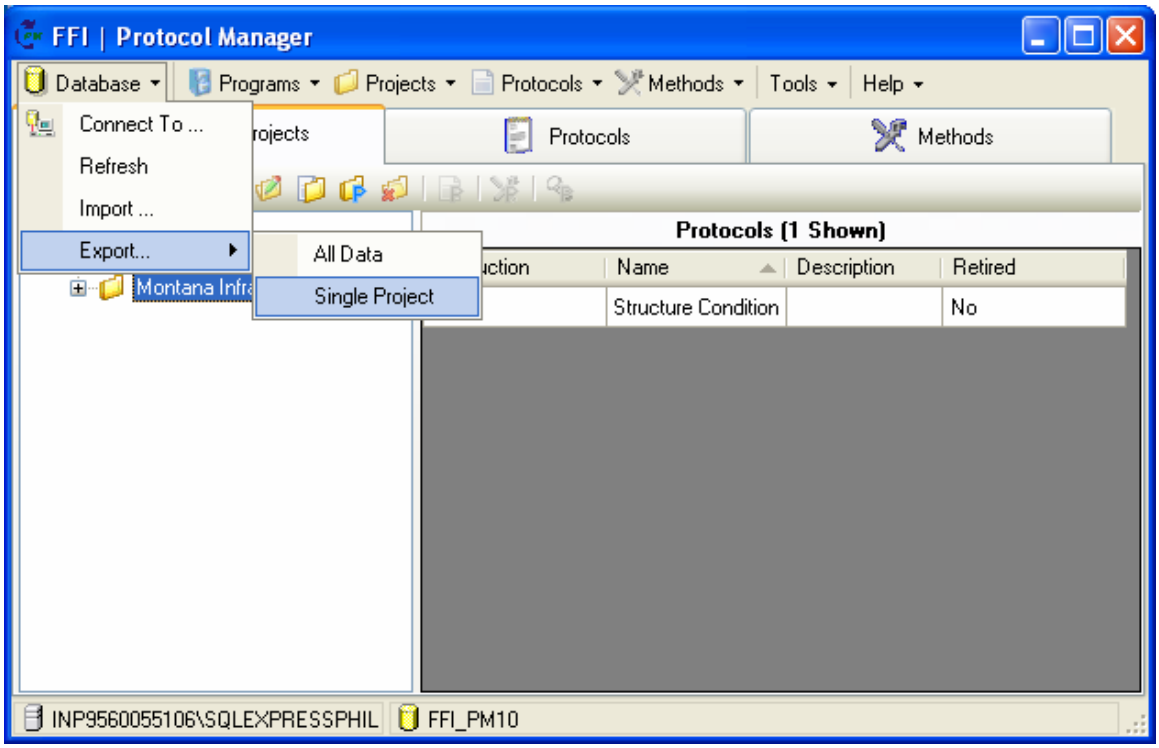
13-3 In the *Project Protocol Selector* dialog, highlight **Structure Condition** and shift it to the right-hand box.



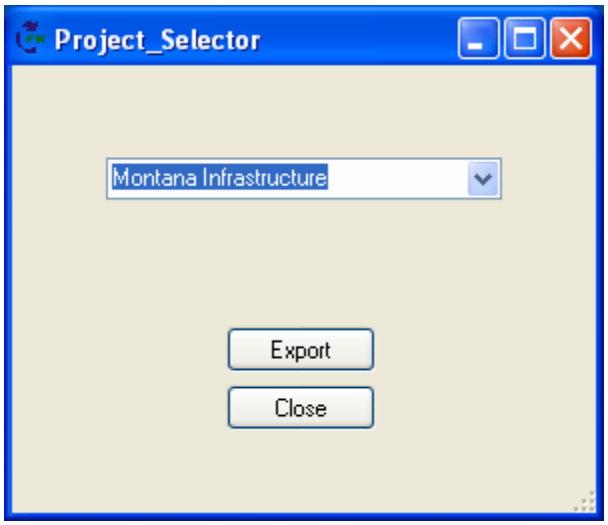
13-4 Click *Save & Close.*

Exercise 14: Export the New Protocol to FFI

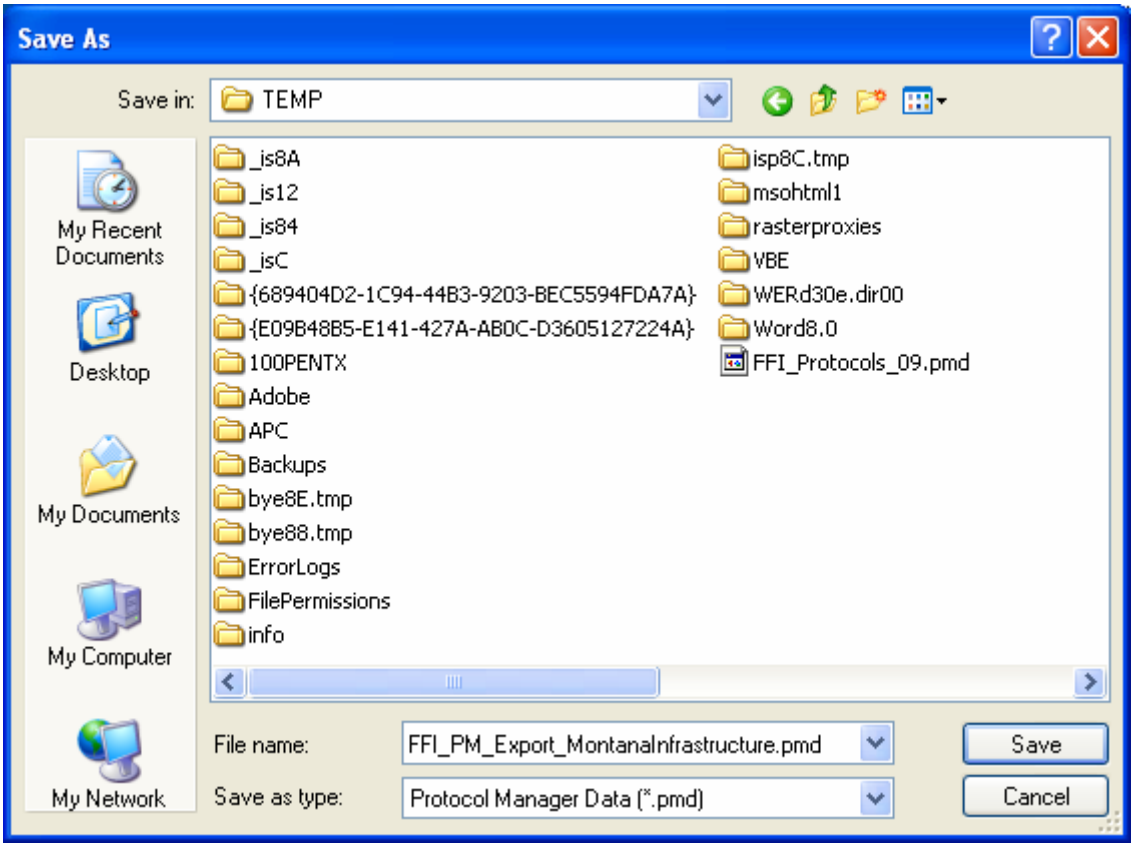
14-1 Select *Database, Export…,Single Project.*



14-2 In the *Project Selector* dialog, select the **Montana Infrastructure** and click **Export**.

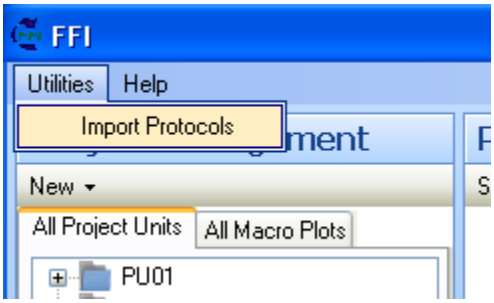


14-3 Save the .pmd export file in a convenient place.



14-4 Launch FFI and log in to an FFI database.

14-5 In FFI, select *Utilities, Import Protocols.*



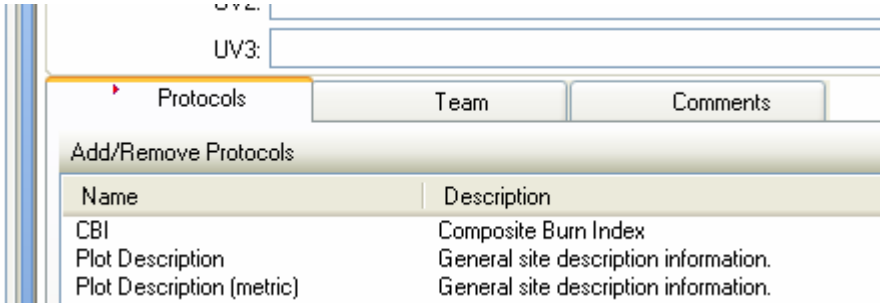
14-6 Navigate to the new .pmd file and click *Open.*

FFI will notify you when it has imported the protocol.

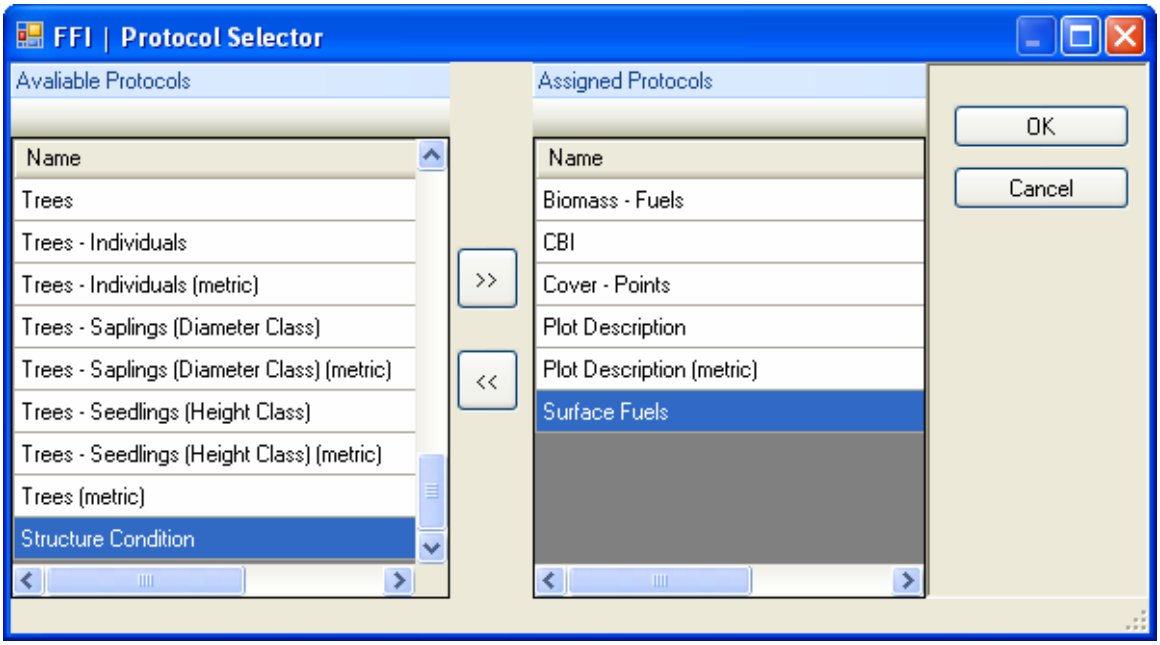
Exercise 15: Assign the Protocol to an FFI Sample Event

15-1 If necessary, create a new macro plot and sample event in FFI.

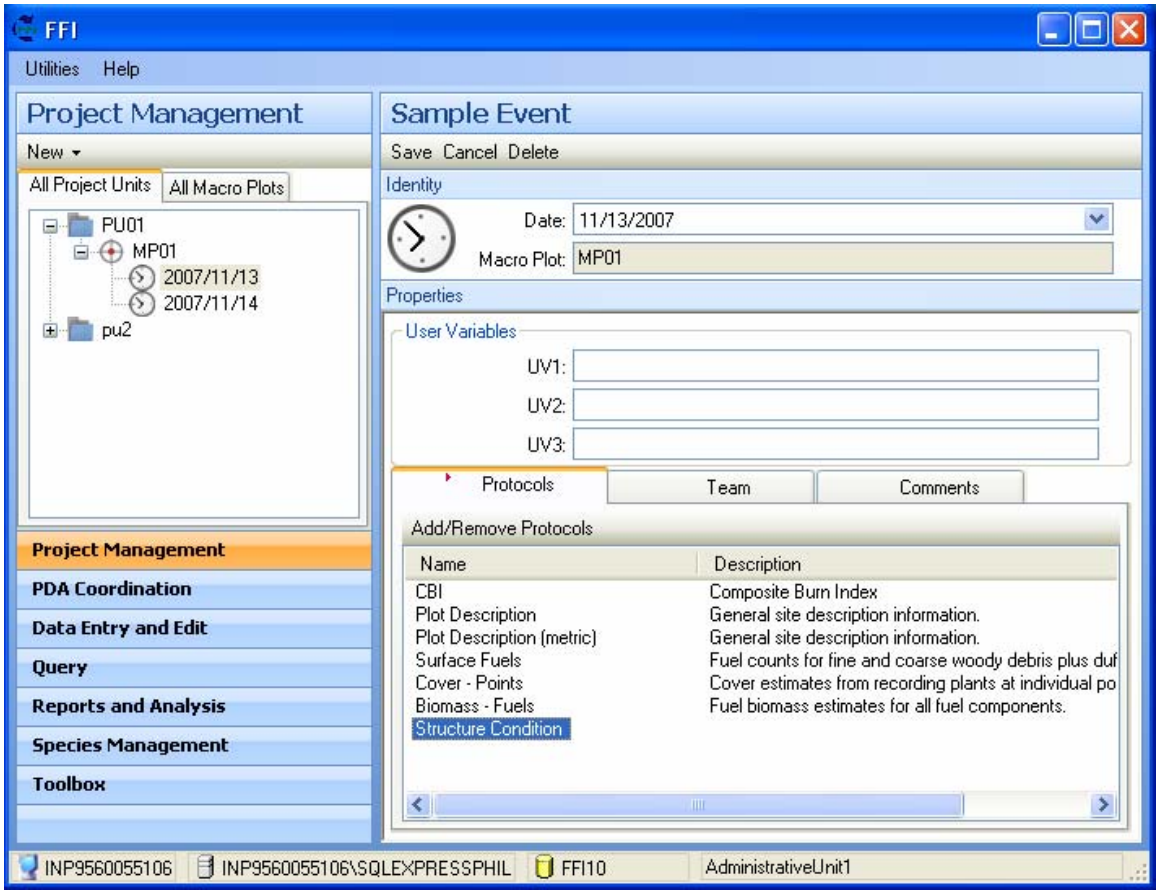
15-2 Assign your new protocol to the sample event by clicking the *Add/Remove protocols* on the *Protocols* tab of the *Sample Event* pane.



15-3 In the *Protocol Selector* dialog, highlight the **Structure Condition** protocol and shift it to the right.



The *Sample Event* pane will now show your new protocol.



Exercise 16: Test the New Protocol in FFI Data Entry

16-1 In the FFI *Data Entry & Edit* pane, select the macro plot and sample event for the new protocol.

16-2 Try entering data for the new methods. Experiment with invalid data. In this example, an error occurred when trying to save a record that contained a negative width.