

SRML Editor Practice (I)

“EasyBank” Extension

CO7205 Advanced System Design

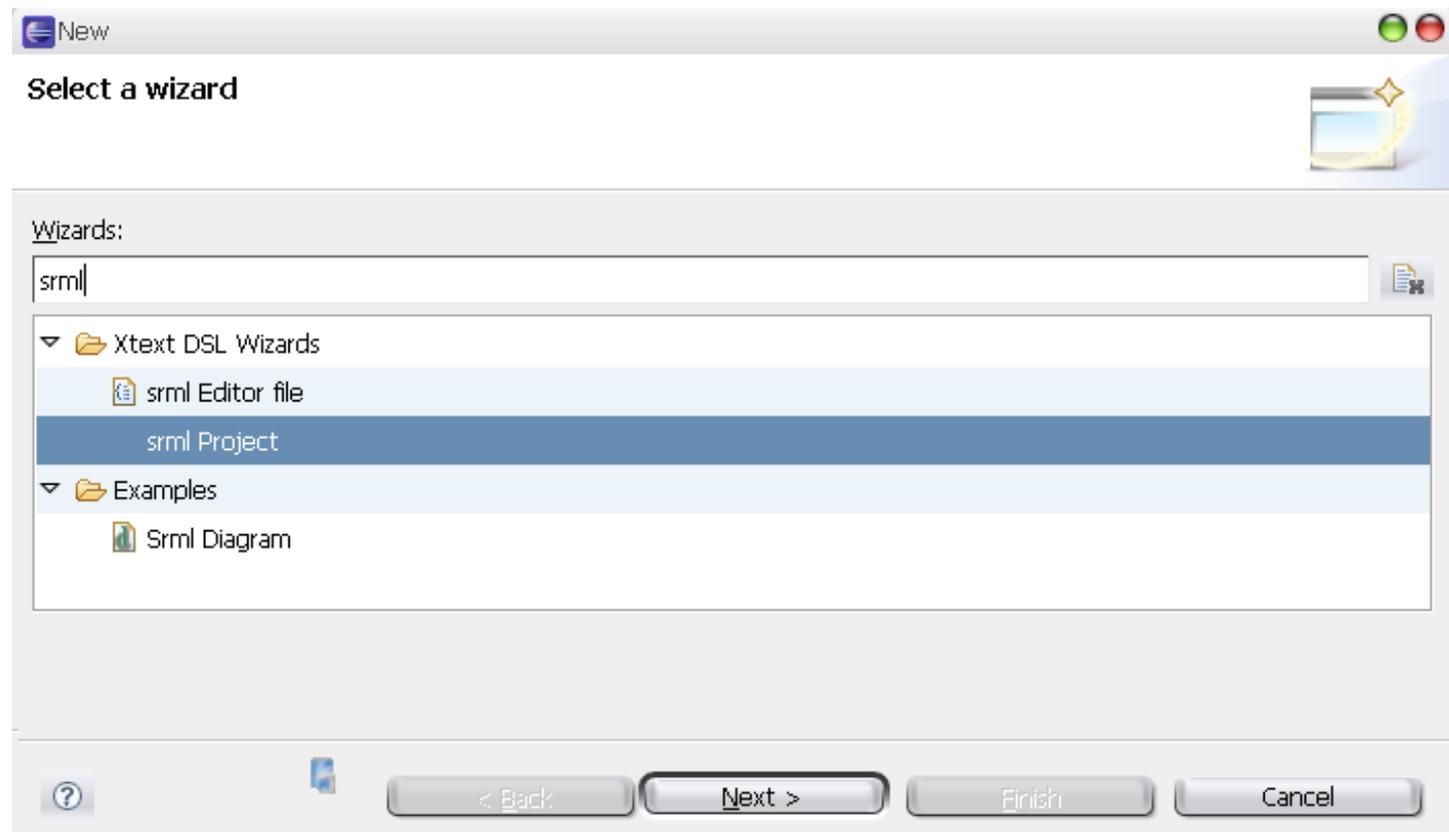
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Lab sheet and materials

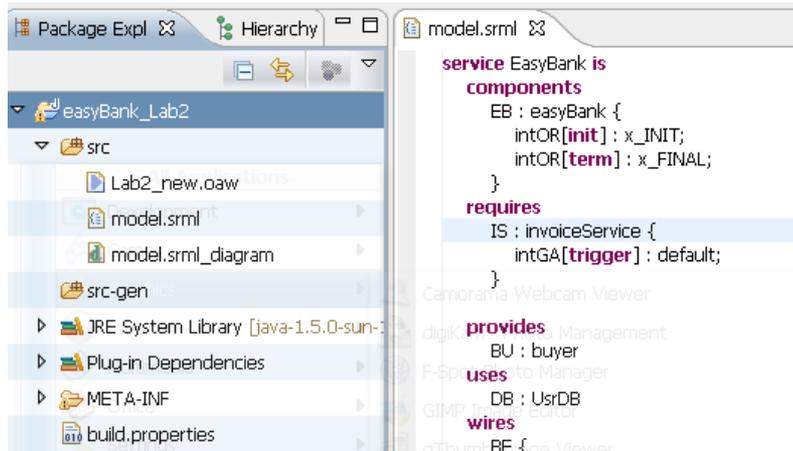
<http://www.cs.le.ac.uk/srml/>

Practice

- (1) Select **File->New->Other** from eclipse menu to open a project wizard,
- (2) type **SRML** to shortlist the options
- (3) select **srml Project** then click “next”.
- (4) use **easyBank_Lab2** as project name.



EasyBank extension



(1) Double click ***src/model.srml*** to open SRML textual editor

(2) Copy and paste all content from ***easybank_lab2.srml*** (***download***) to the editor

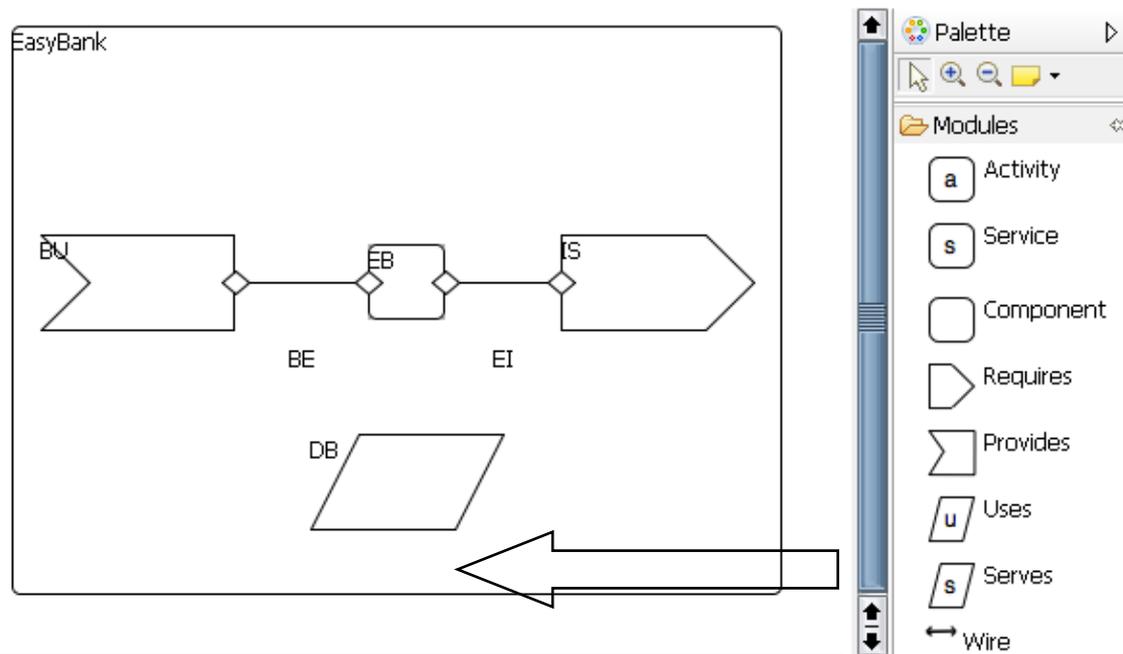
(3) Save the project

(4) right click ***model.srml*** and select ***initialise srml_diagram_file*** to initialise SRML diagram from Graphical Editor (GE)

(If you find an error in META-INF/MAINIFEST.IMF, (1) right click it and select “Open with Text Editor” (2) delete unresolved Require-Bundle, (3) save the document.)

EasyBank extension with Graphical Editor

(1) Open “model.srml_diagram” in the Graphical Editor (GE)

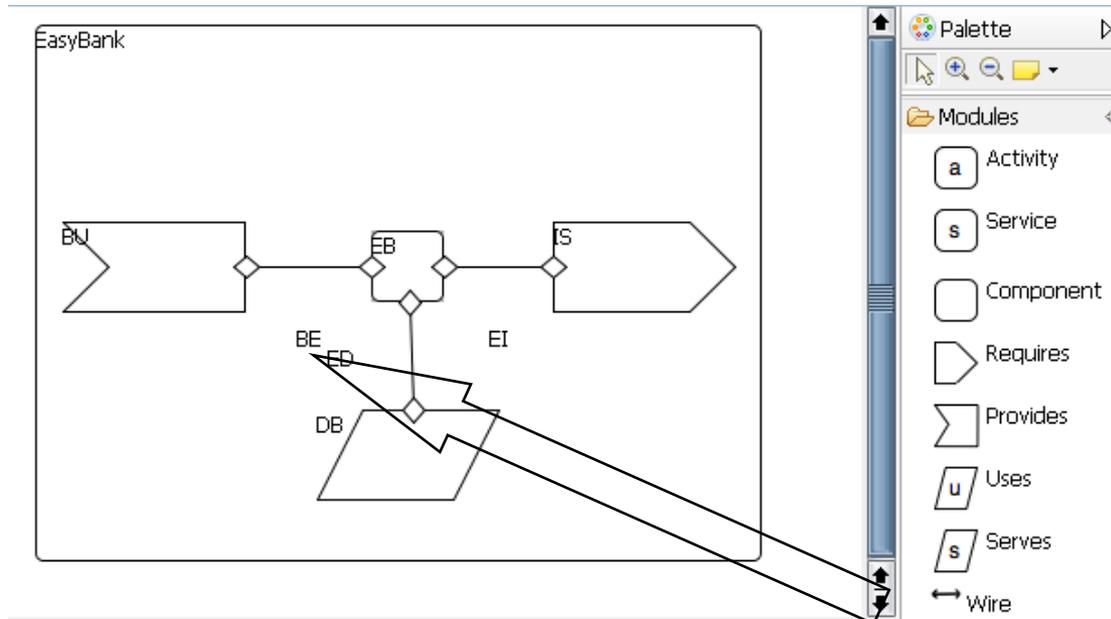


Firstly rearrange the layout (normally these icons are overlapped)

Add new Component (*Uses*) To easyBank

- (2) Drag and drop  icon from Palette to the Graph editor
- (3) Change the name to “DB”
- (4) Save the project

EasyBank extension with Graphical Editor



Create a wire
Between EB and
DB

- (2) Connect "EB" and "DB" with a wire
- (3) Change the name of wire to "ED"
- (4) Save the project

EasyBank extension

(1) open *model.srml* to switch back to textual editor (TE)

Datatype

```
datatype EasyBankType is  
  sort ProductType;  
  sort BillType mappedTo Int;
```

```
  sort usrname mappedTo String;  
  sort password mappedTo String;  
  sort DBInfo mappedTo String;
```

```
endd
```

Add 3 new data types to datatype section:

- (1) username
- (2) password
- (3) DBInfo

Click [here](#)
to download the source code (S1)

EasyBank extension

specifications

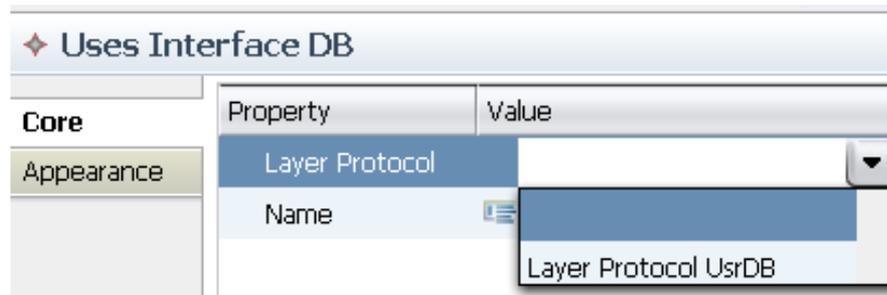
```
layerProtocol UsrDB is
  imports EasyBankType;
  interactions
    rpl authUser
      name : username,
      pwd : password,
      return result : DBInfo;
endlp
```

LayerProtocol

- (1) Within *specification* section Add a LayerProtocol *UsrDB*
- (2) Complete interaction *authUser* which takes two parameters : *name* and *pwd* and returns *DBInfo* as the result.
- (3) Save the project

Click [here](#) to download the source code (S2)

- (3) Double click *model.srml_diagram* to open GE again
- (4) Click "DB" and select "Layout Protocol UsrDB" from property view,
- (5) Save project.



EasyBank extension

Interaction Protocol

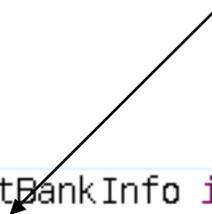
(1) Double click “model.srml” to switch back to Text Editor

In the Text Editor

(2) Add a interaction protocol *straightBankInfo* to the end of the document

(3) Save the document

```
interaction protocol straightBankInfo is
  imports EasyBankType;
  roleA
    snd S
      request i : DBInfo;
  roleB
    rcv R
      request i : DBInfo;
endip
```



Click [here](#) to download the source code (S3)

EasyBank extension

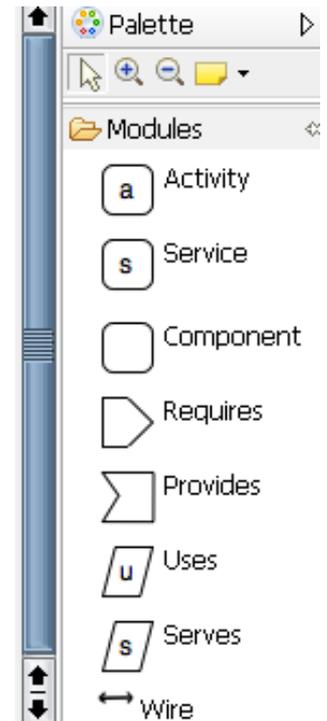
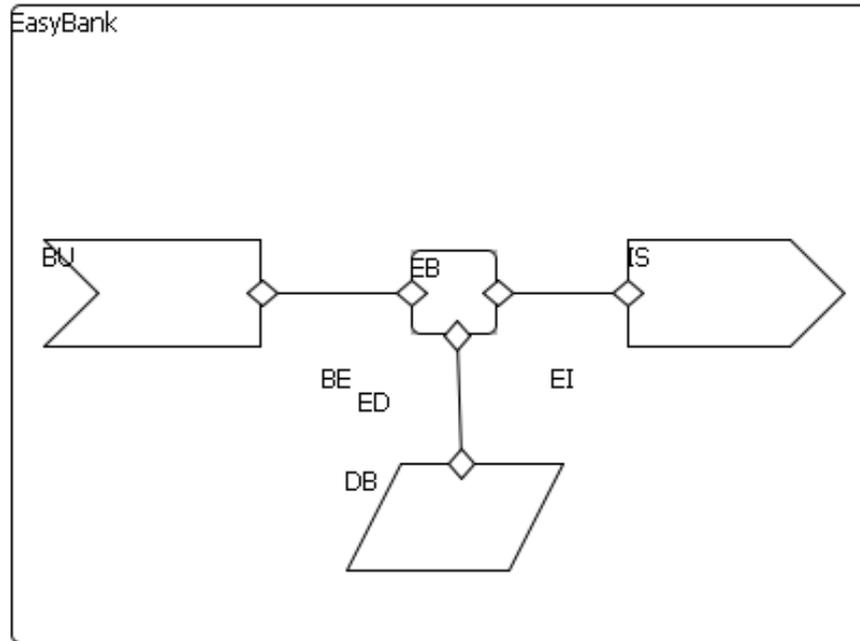
Wires

```
ED {  
  nodeA EB;  
  nodeB DB;  
  
  connector {  
    attachmentA {  
      authUser=>S;  
    }  
    attachmentB {  
      authUser=>R;  
    }  
    interaction protocol straightBankInfo;  
  }  
}
```

- ←
- (1) Complete Wire ED by adding one connector
 - (2) Save the project

Click [here](#) to download the source code (S4)

EasyBank extension



A Completed version can be download from :

http://www.cs.le.ac.uk/srml/tutorial/easybank_lab2_completed.txt

EasyBank extension

- **Your task**

- Add a new **requires** interface “*creditReportService*” and complete following sections:

- Business Protocol
 - Interactions
- Datatype
 - i.e. *CreditReportType*
- Wires
 - connector
- Interaction Protocol

