



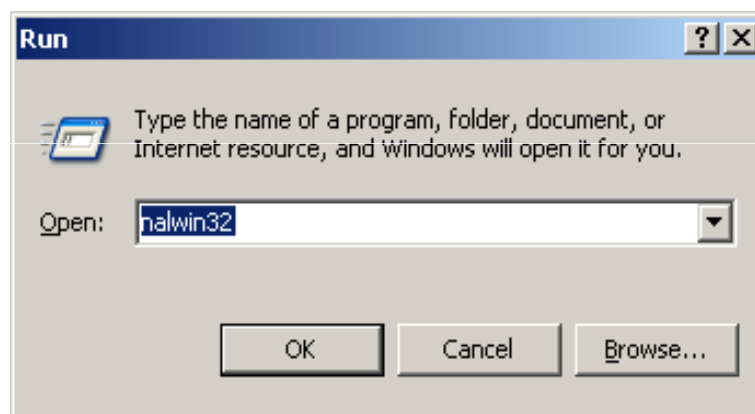
# COMP5323

Web Databases & Applications

Use of XMLSpy

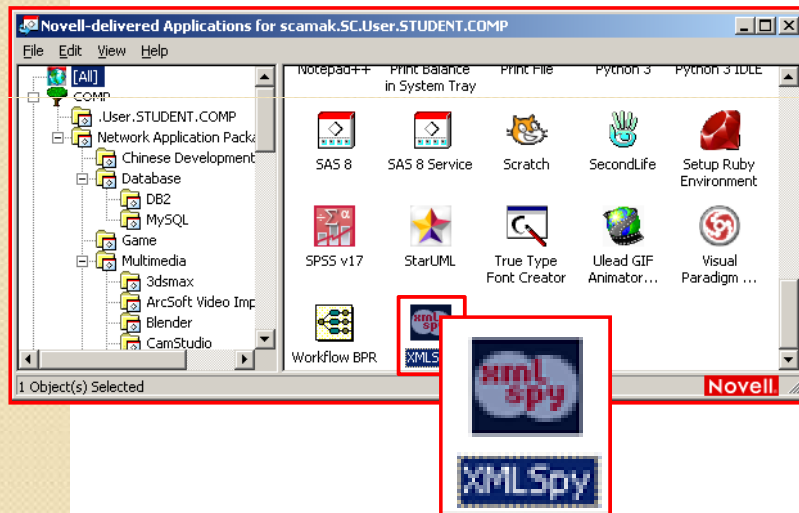
## Start XMLSpy in Lab

- Run [nalwin32]



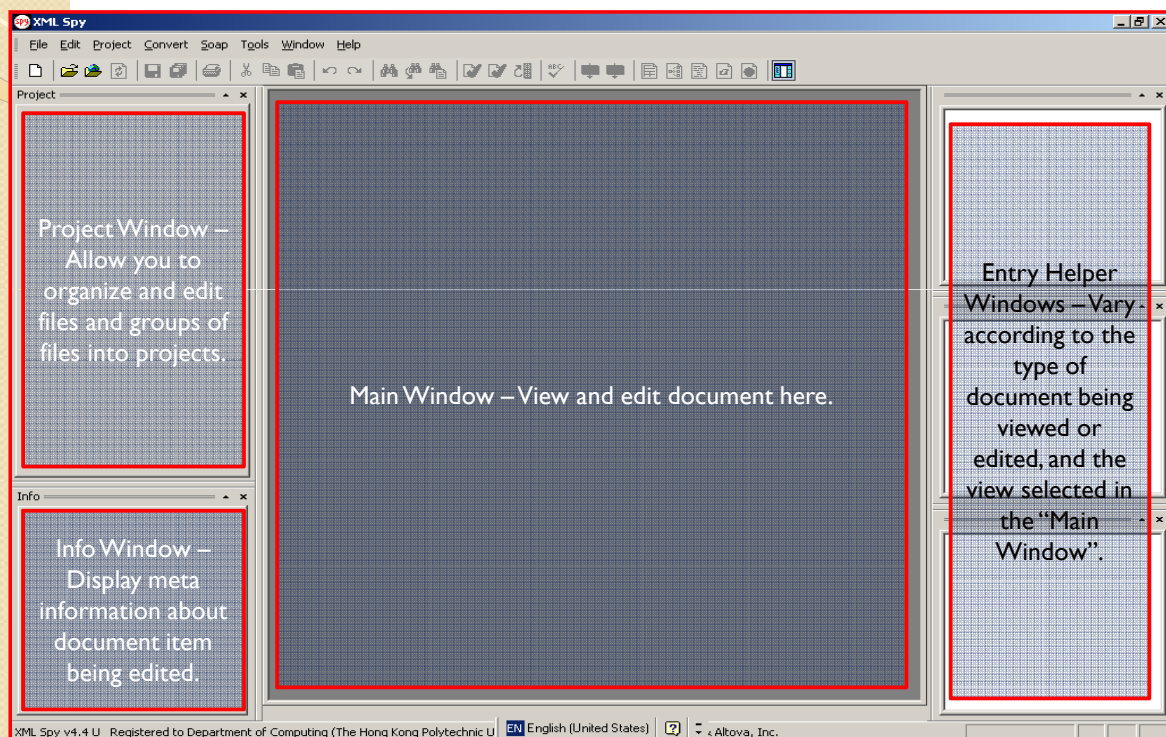
## Start XMLSpy in Lab (2)

- In the Novell Desktop, double click the “XMLSpy”.



3

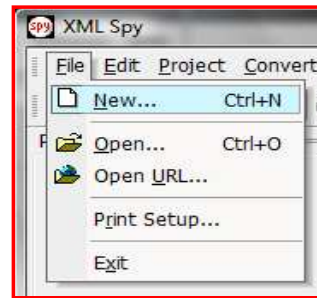
## User Interface



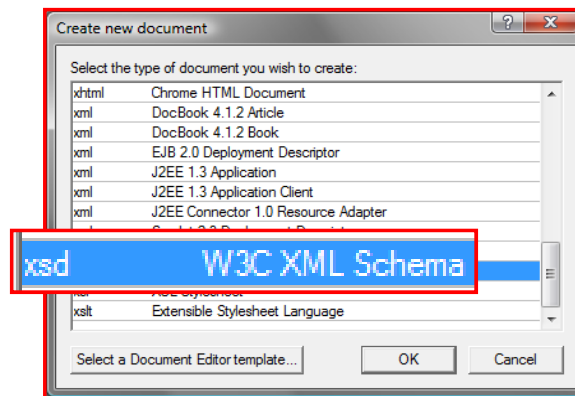
4

# Create New XML Schema File (1)

- [File] → [New]

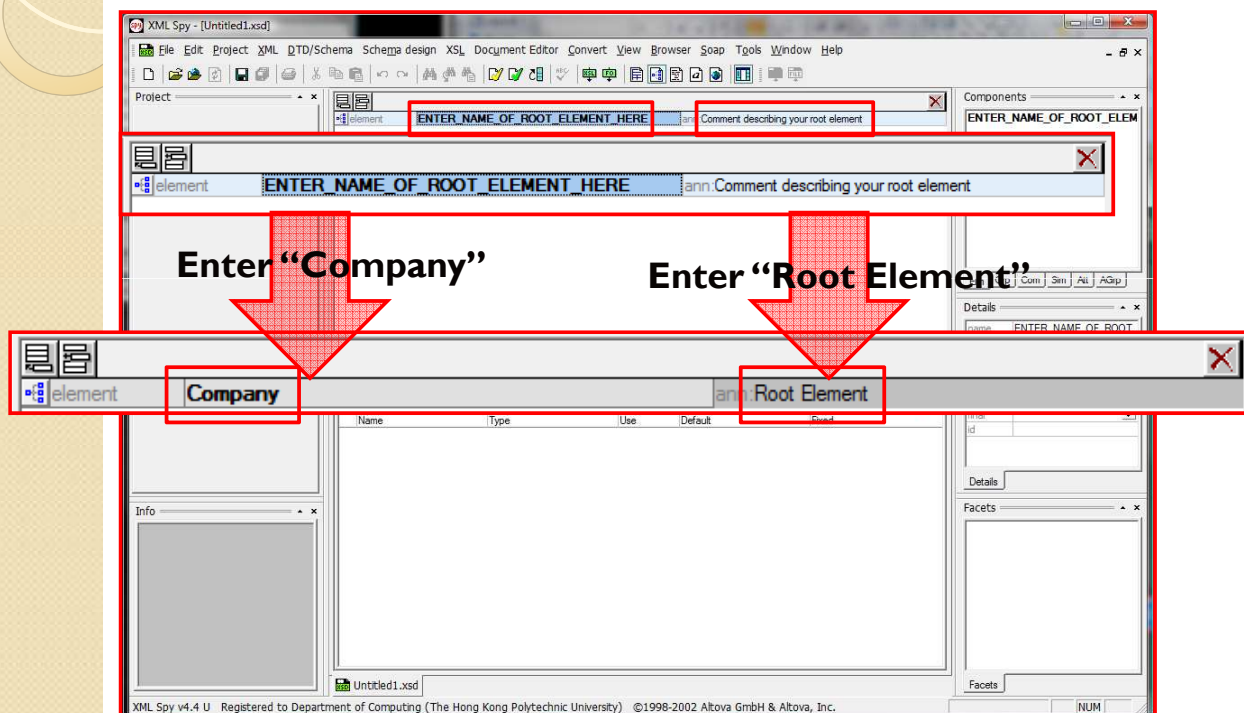


- Choose [xsd W3C XML Schema] → [OK]



5

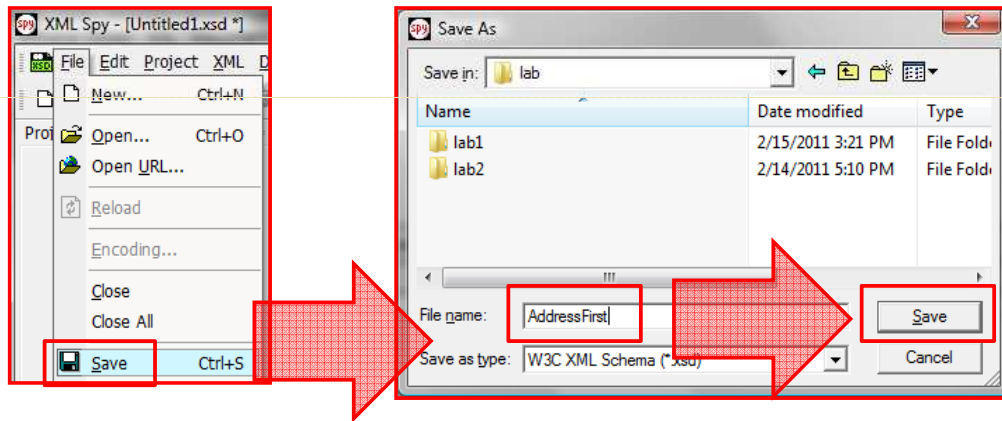
# Create New XML Schema File (2)



6

## Create New XML Schema File (3)

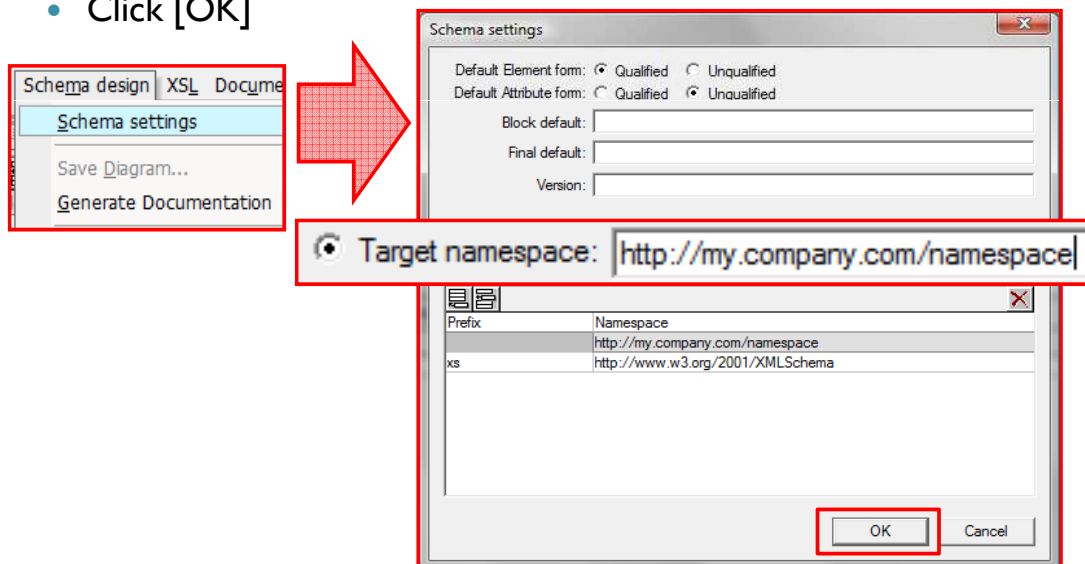
- Save it with the name, “AddressFirst”.



7

## Define Namespaces

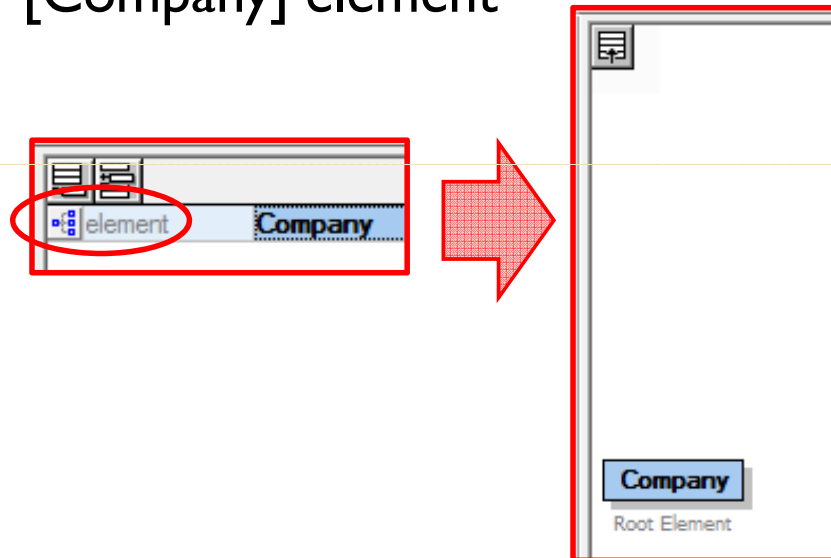
- Select [Schema design] → [Schema settings]
- Check [Target namespace:]
- Enter “http://my.company.com/namespace” in the box
- Click [OK]



8

## Define Content Model (1)

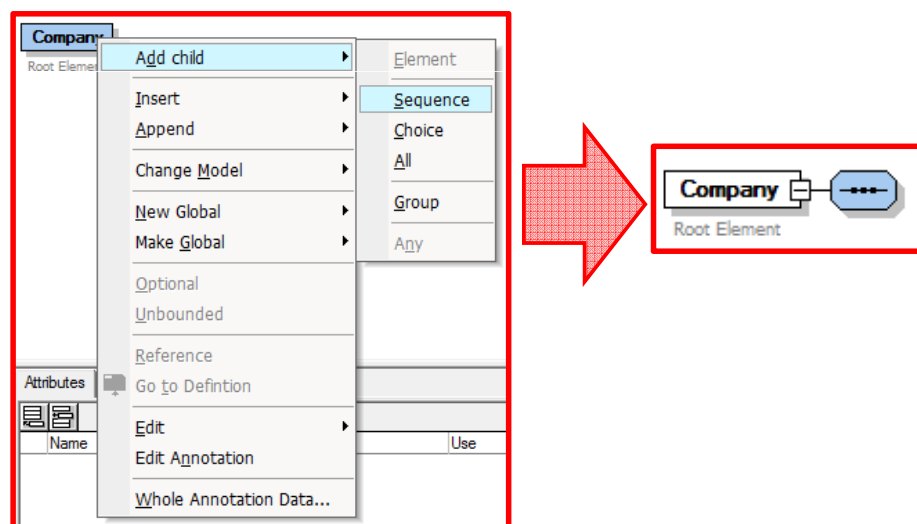
- Click [Display Diagram] icon of the [Company] element



9

## Define Content Model (2)

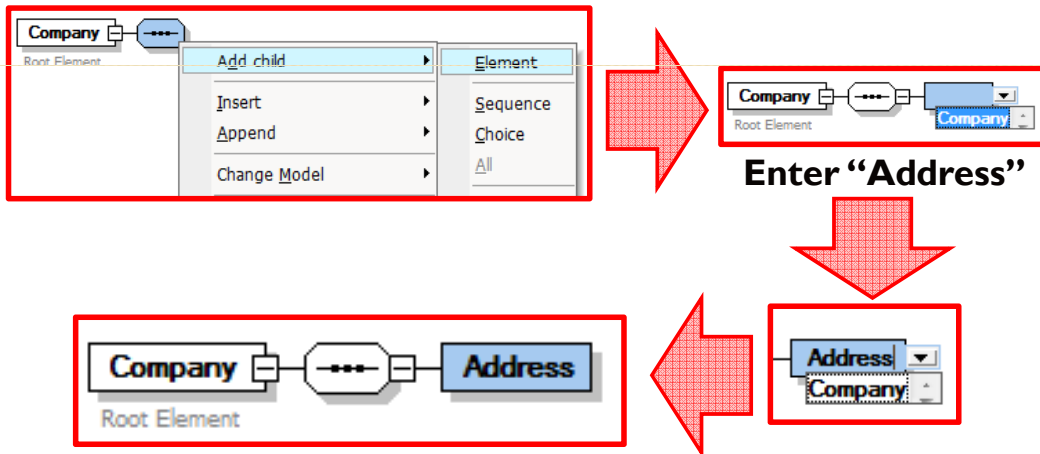
- Add [Sequence] compositor
  - Right click on [Company] → [Add child] → [Sequence]



10

## Define Content Model (3)

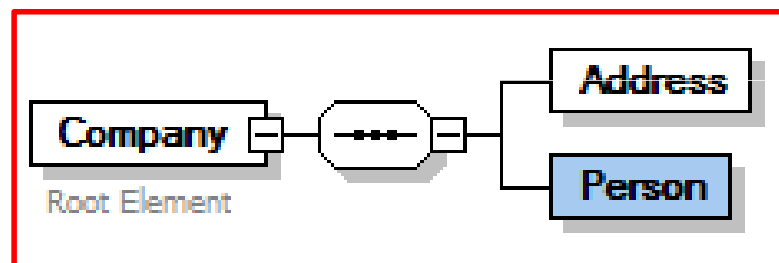
- Add [Element]
  - Right click [Sequence] → [Add child] → [Element]



11

## Define Content Model (4)

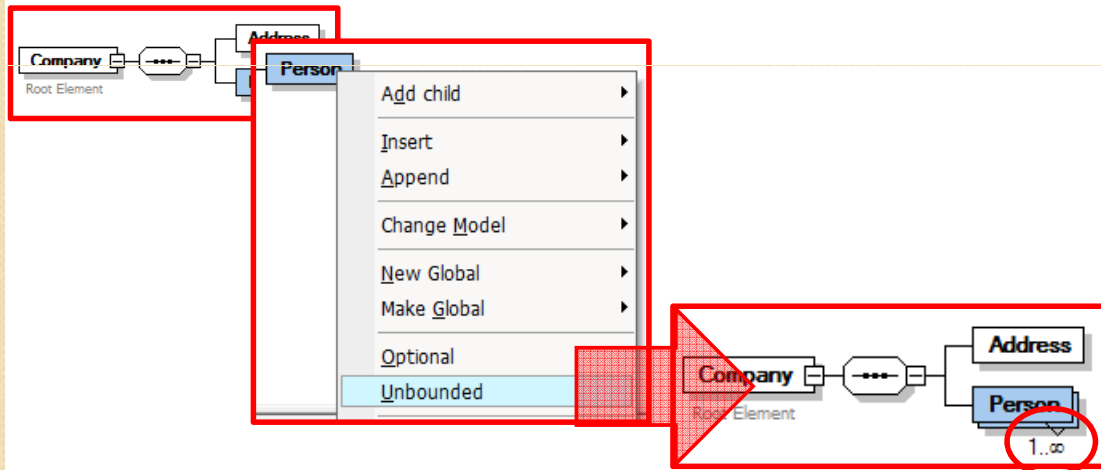
- Exercise
  - Add an element – [Person]



12

## Define Content Model (5)

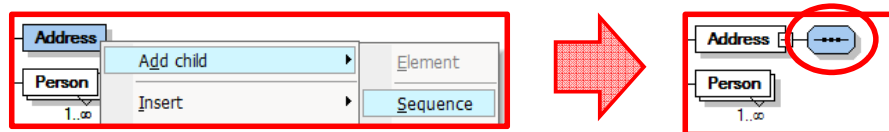
- Set element's occurrence, e.g. "1 to infinity"
  - Right click [Person] → [Unbounded]



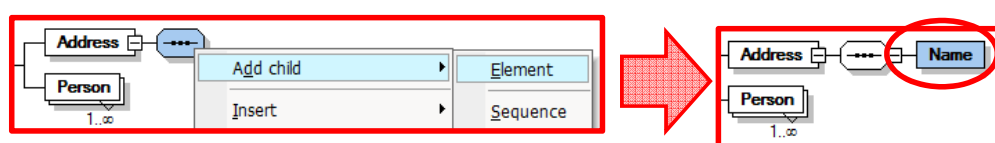
13

## Adding Additional Levels

- Add [Sequence] to [Address]



- Add [Element] to the [Sequence] and name the [Element] – [Name]

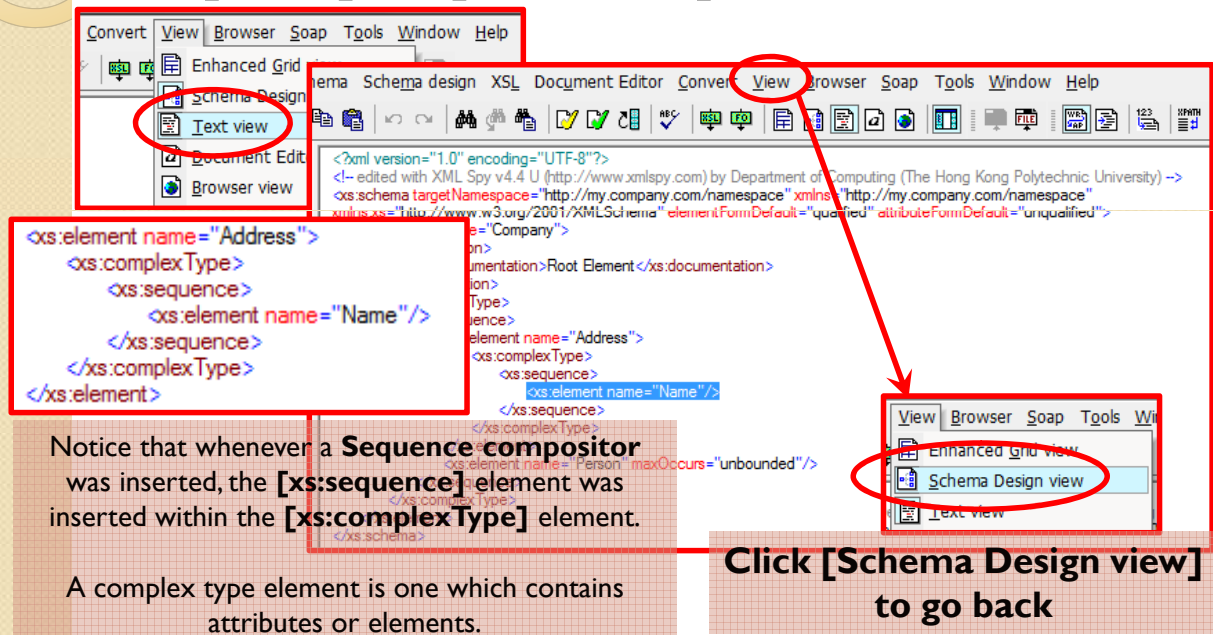


14



# View Schema in TEXT Mode

- [View] → [Text view]



Notice that whenever a **Sequence compositor** was inserted, the **[xs:sequence]** element was inserted within the **[xs:complexType]** element.

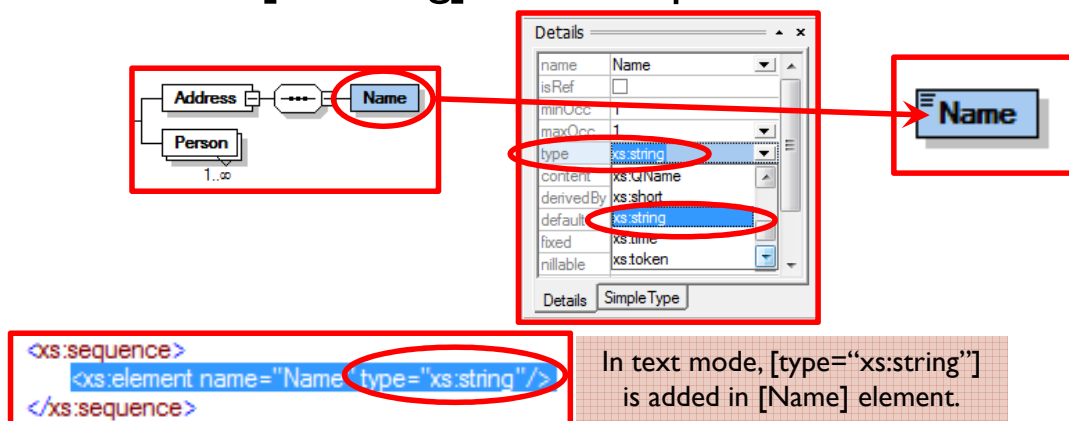
A complex type element is one which contains attributes or elements.

Click [Schema Design view] to go back

15

## Define [Name] as [xs:string]

- Click the [Name] element
- Click on [type] combo box of the middle entry helper
- Select [xs:string] from drop down list



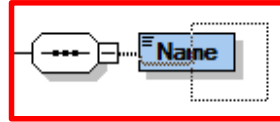
In text mode, [type="xs:string"] is added in [Name] element.

16

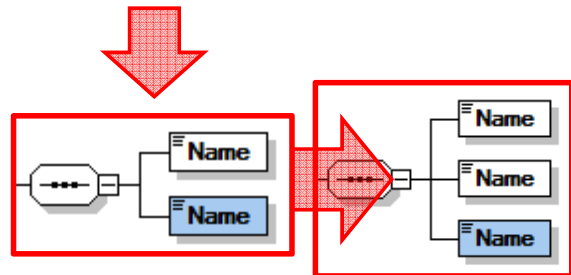


## Add Element with Drag-and-Drop

- Click [Name] element and hold down [Ctrl] key
- Drag-and-drop the element box with mouse
- [Name] is duplicated



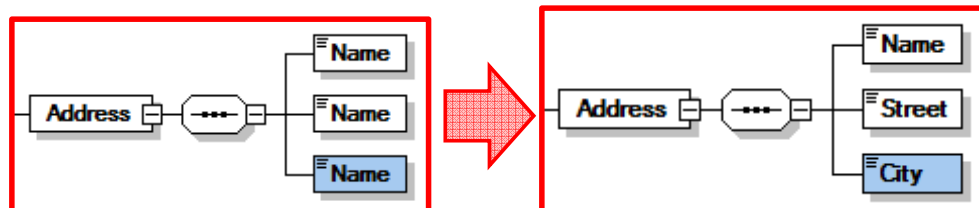
- Do it once again!



17

## Name the Duplicated Elements

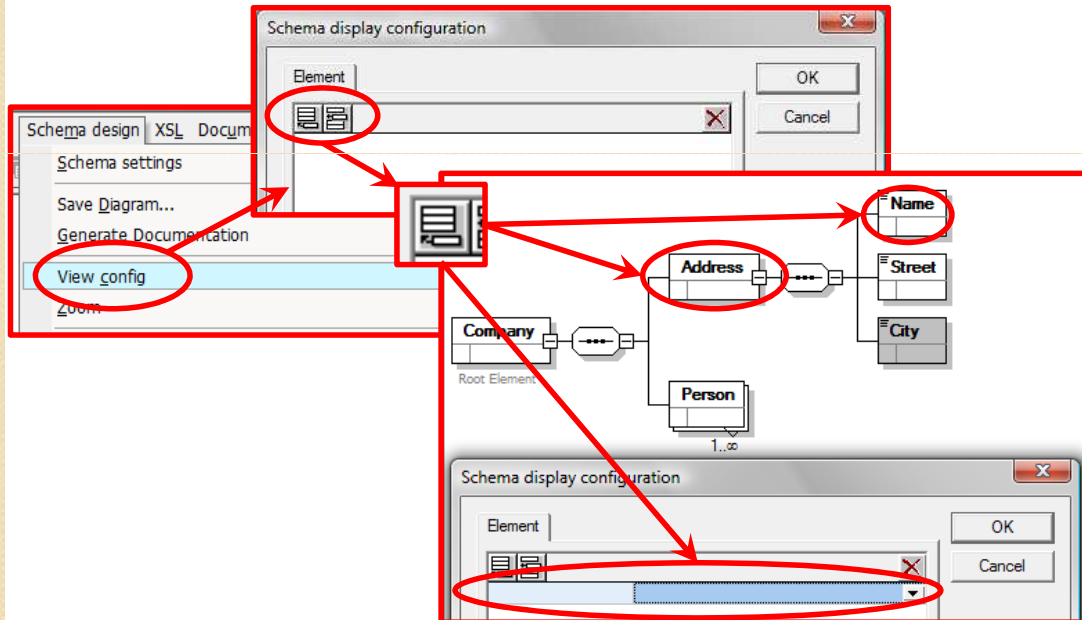
- Double click the duplicated elements one by one and name them [Street] and [City] respectively
- [Address] element has a sequence of [Name], [Street] and [City] elements



18

# Configure Content Model View (1)

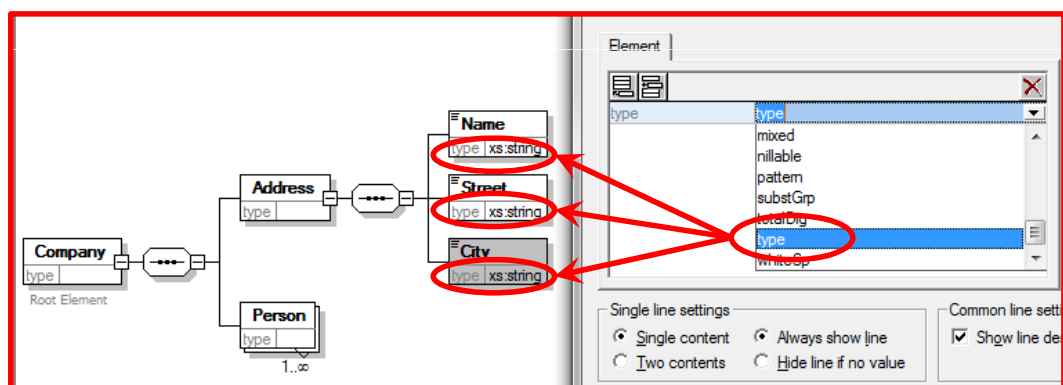
- [Schema design] → [View config]
- Click [Append] icon



19

# Configure Content Model View (2)

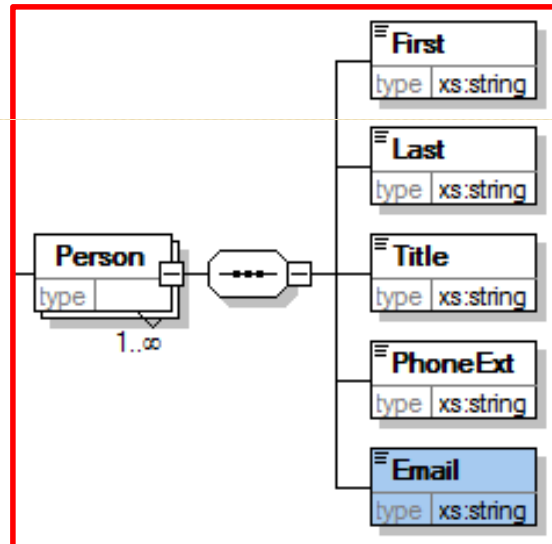
- Select [type] from dropdown list
- [xs:string] appear in defined element box



20

# Complete the Basic Schema (1)

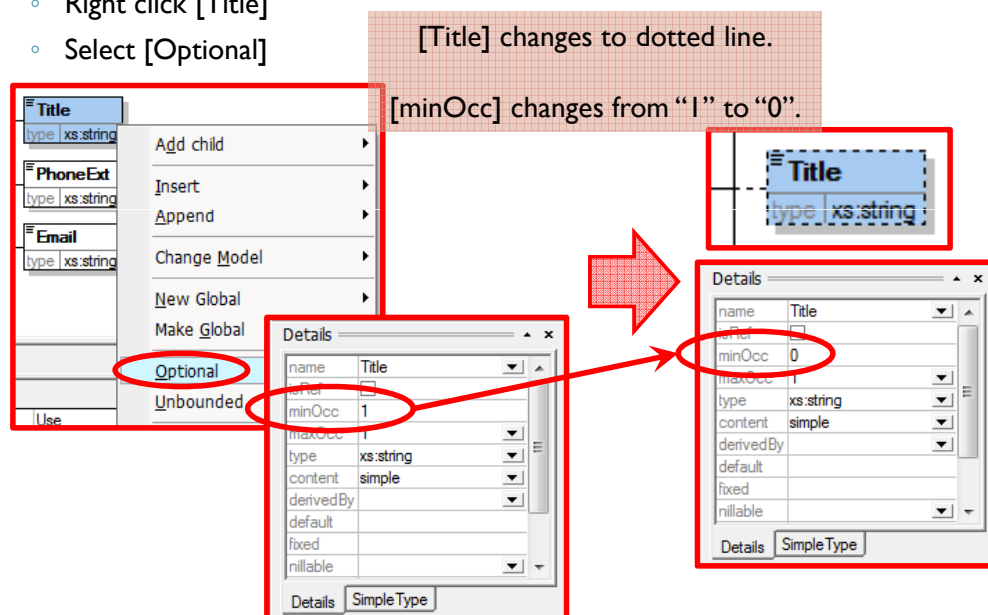
- Add a [Sequence] to [Person]
- Add elements: [First], [Last], [Title], [PhoneExt] and [Email]
- Set [type] = [xs:string]



21

# Complete the Basic Schema (2)

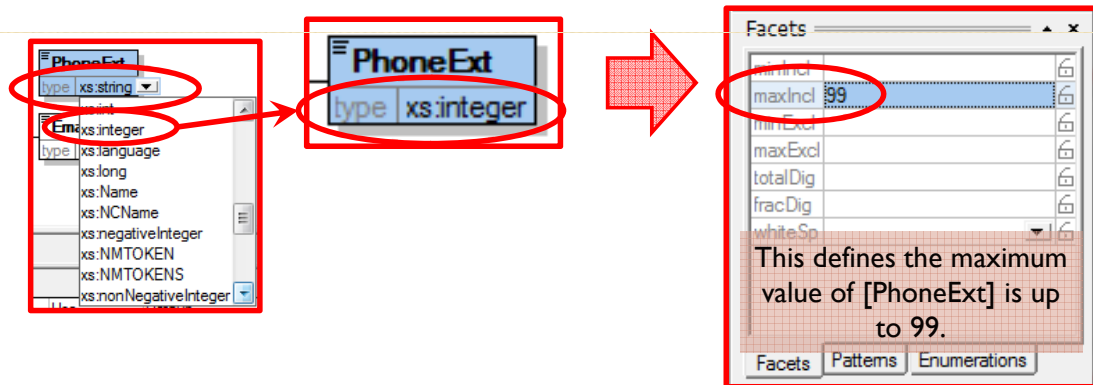
- Make an element optional
  - Right click [Title]
  - Select [Optional]



22

## Complete the Basic Schema (3)

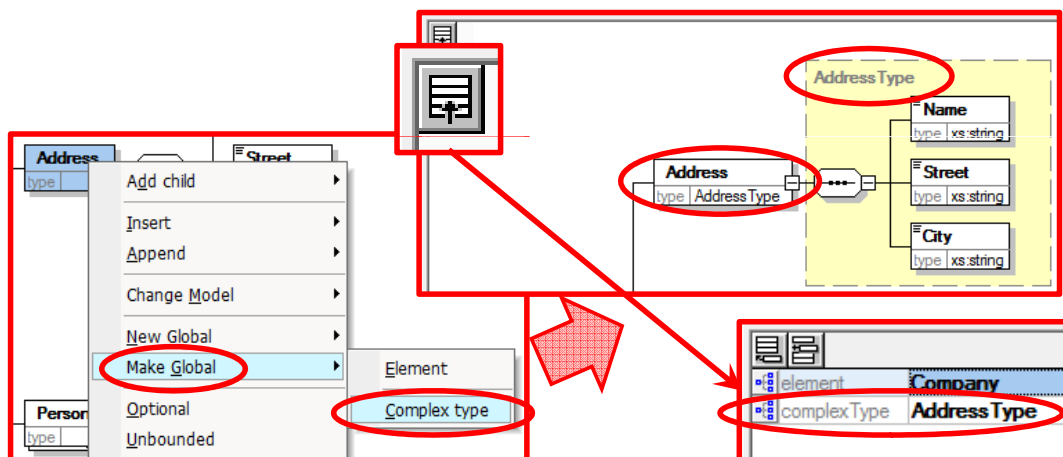
- Change data type from [xs:string] to [xs:integer]
  - Select [PhoneExt]
  - Click open dropdown list of [type]
  - Select [xs:integer] from the list
  - In “Entry Helper”, under [Facets], set [maxIncl] to “99”



23

## Work with Complex Type

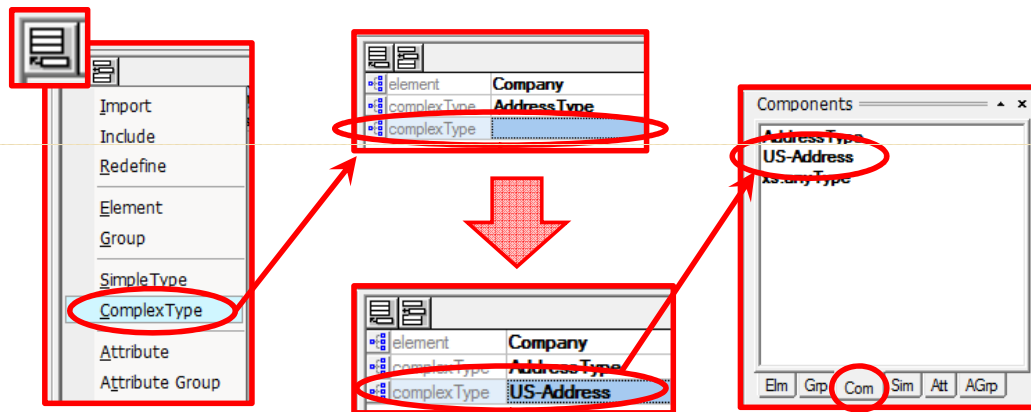
- Right click [Address] → [Make Global] → [Complex type]
- A global complex type called [AddressType] is created.



24

# Extend Complex Type (1)

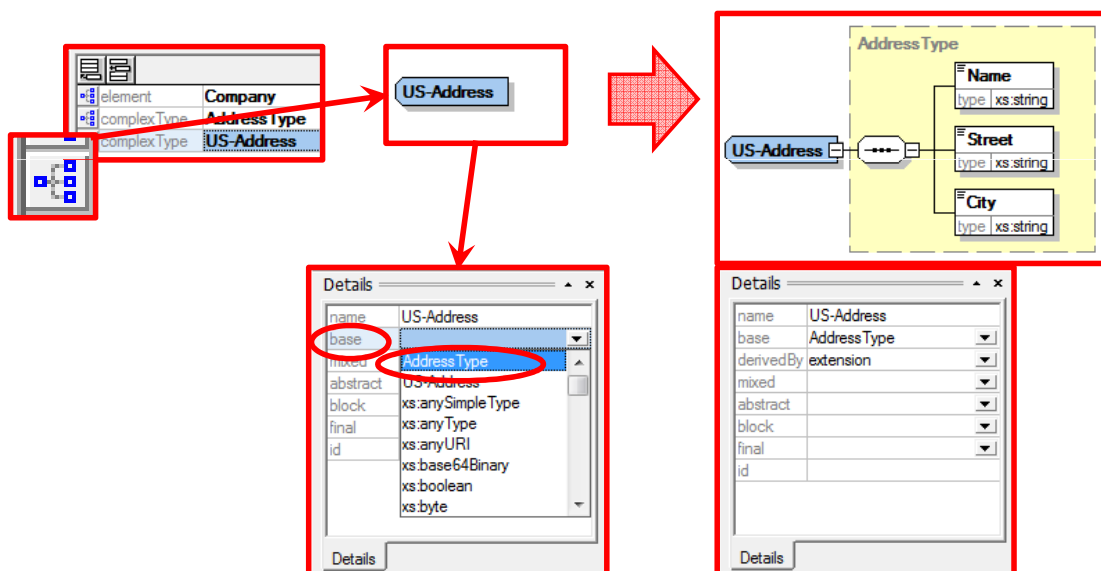
- Click [Append] → [ComplexType] to create a component
- Name the new component, [US-Address]



25

# Extend Complex Type (2)

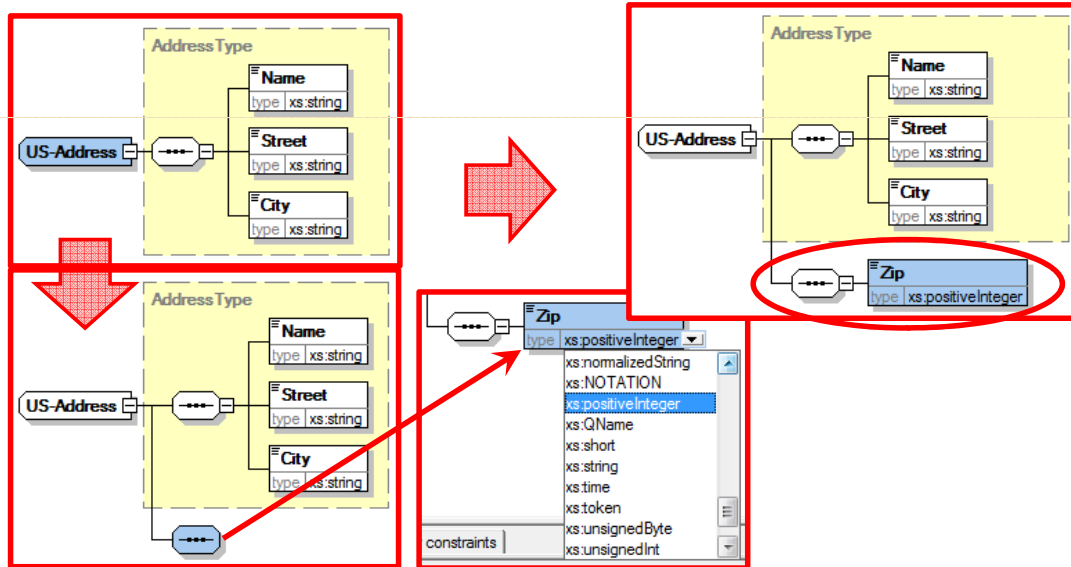
- Click [Content Model View] icon of [US-Address]
- In [Details], select [AddressType] from the dropdown list of [base]



26

# Extend Address Type

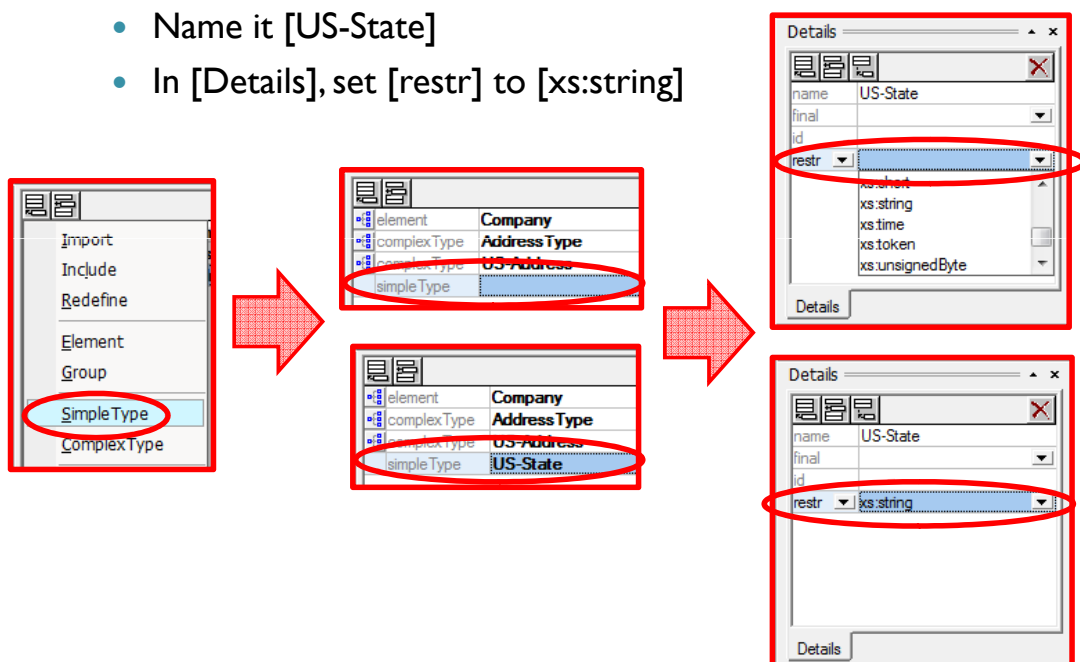
- Add [Sequence] to [US-Address]
- Add element, [Zip]
- Set [type] to [xs:positiveInteger]



27

# Create Global Simple Type

- Click [Append] → [Simple Type]
- Name it [US-State]
- In [Details], set [restr] to [xs:string]

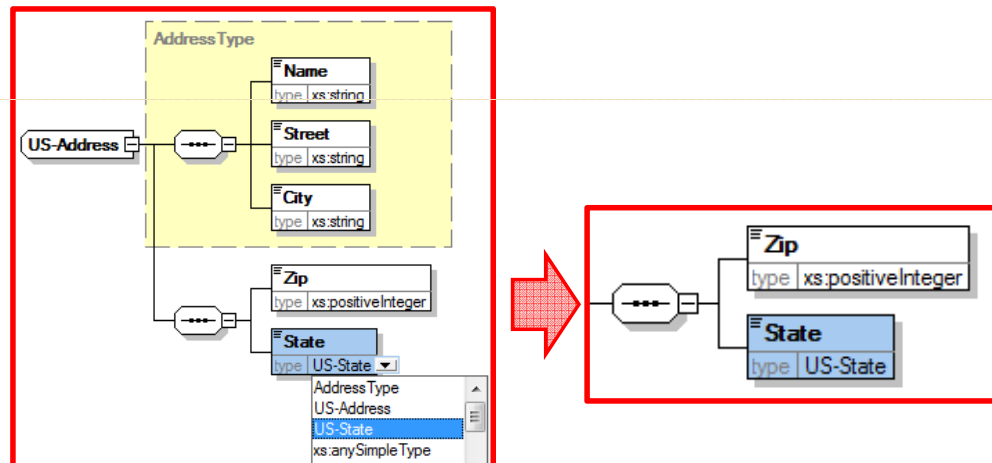


28



## Apply [US-State] in [US-Address]

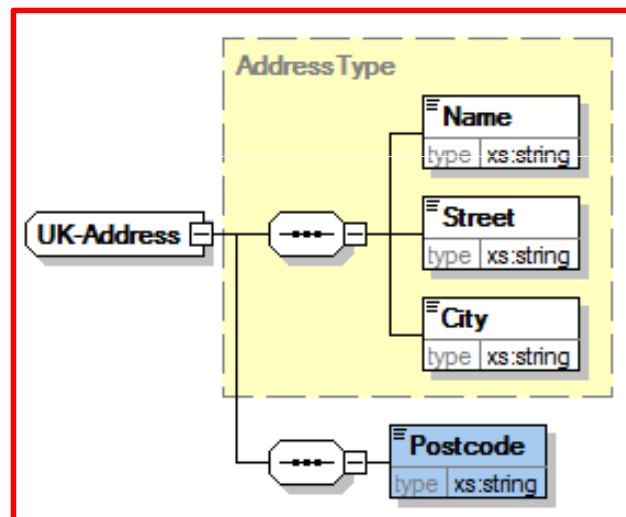
- Add an element to [US-Address]
- Name it [State]
- Set [type] to [US-State]



29

## Create Another Complex Type

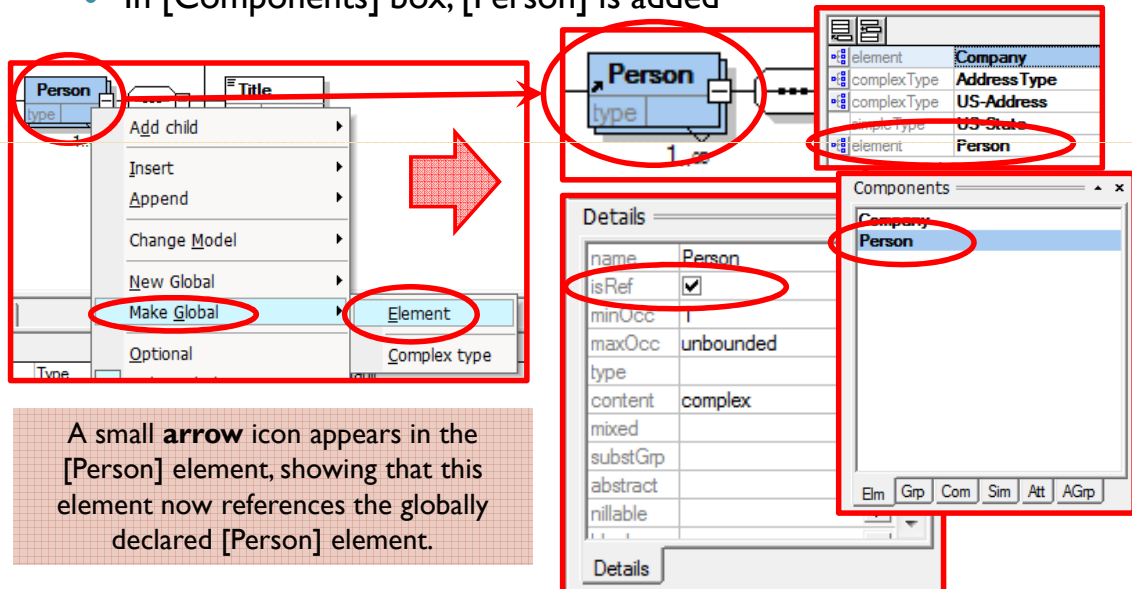
- Try this out by **YOURSELF**
- Name this component, [UK-Address] (as shown below)



30

# Reference Global Element (I)

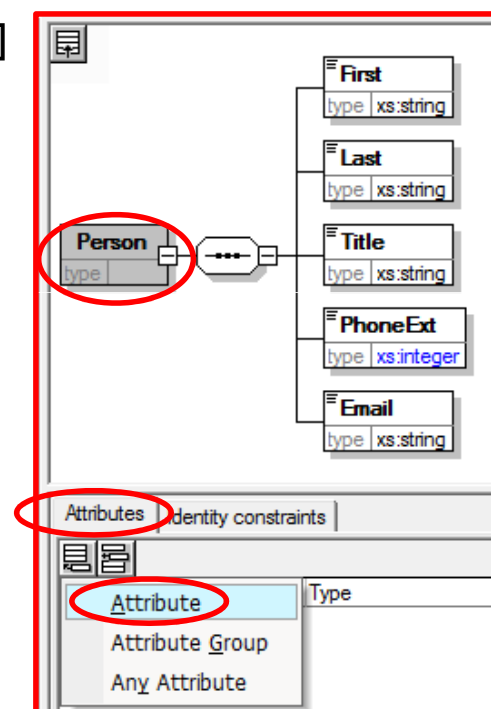
- Right click [Person] → [Make Global] → [Element]
- In [Details], [isRef] is checked automatically
- In [Components] box, [Person] is added



31

# Attributes & Attribute Enumerations (I)

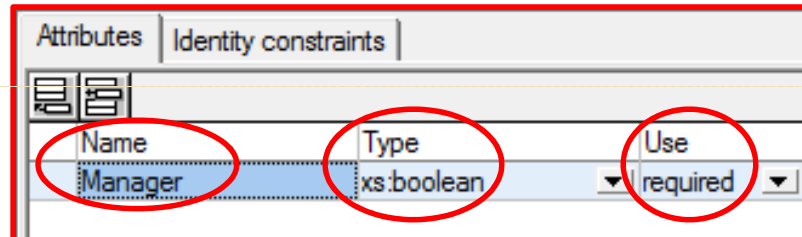
- Switch to [Schema Overview]
- Click [Person]
- Choose [Attributes] tag
- Click [Append]
- Select [Attribute]



32

## Attributes & Attribute Enumerations (2)

- Name the new attribute, [Manager]
- Choose [xs:boolean] from dropdown list of [Type]
- Choose [required] from dropdown list of [Use]

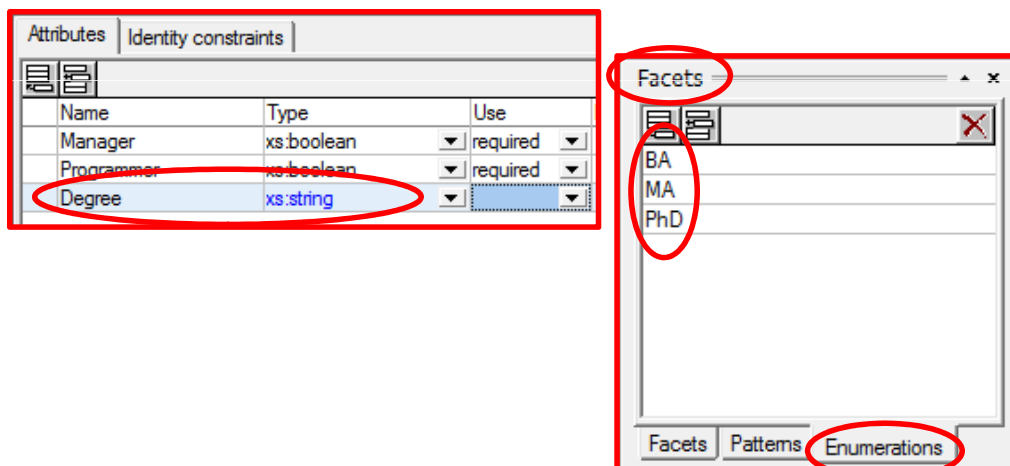


- Repeat steps, add attribute, [Programmer]

33

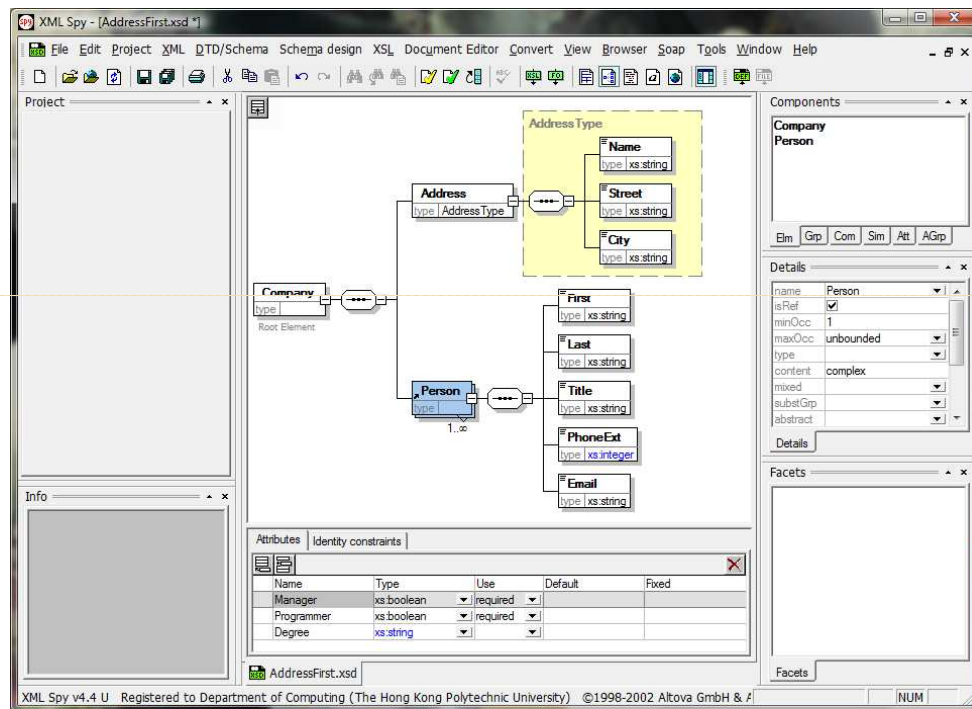
## Attributes & Attribute Enumerations (3)

- Add attribute [Degree], but with [Type] = [xs:string]
- In [Facets], change tag to [Enumerations]
- Add [BA], [MA] & [PhD] as enumeraton values



34

# Review



35

## Schema Documentation

- Add attribute [Degree], but with [Type] = [xs:string]
- In [Facets], change tag to [Enumerations]
- Add [BA], [MA] & [PhD] as enumeraton values

Select [HTML], if an html document is required.

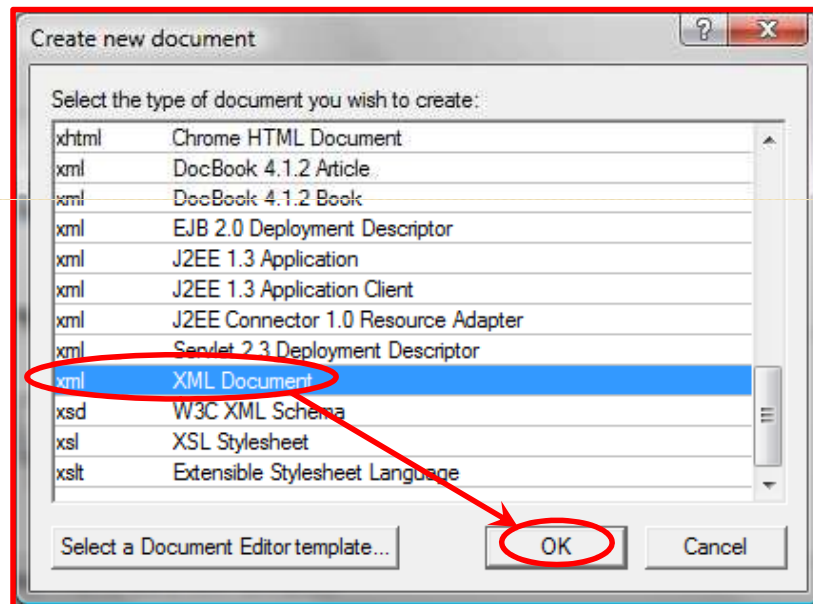
Or, a Microsoft Word file can be generated if necessary.

Example: [HTML] file is saved as AddressFirst.html.

36

# Create XML File (1)

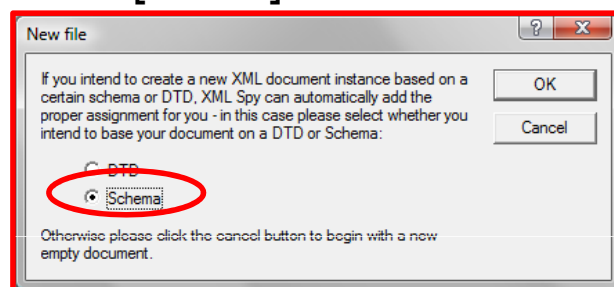
- [File] → [New] → [XML Document]



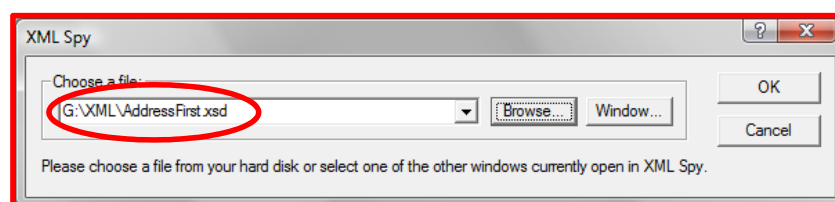
37

# Create XML File (2)

- Check [Schema]



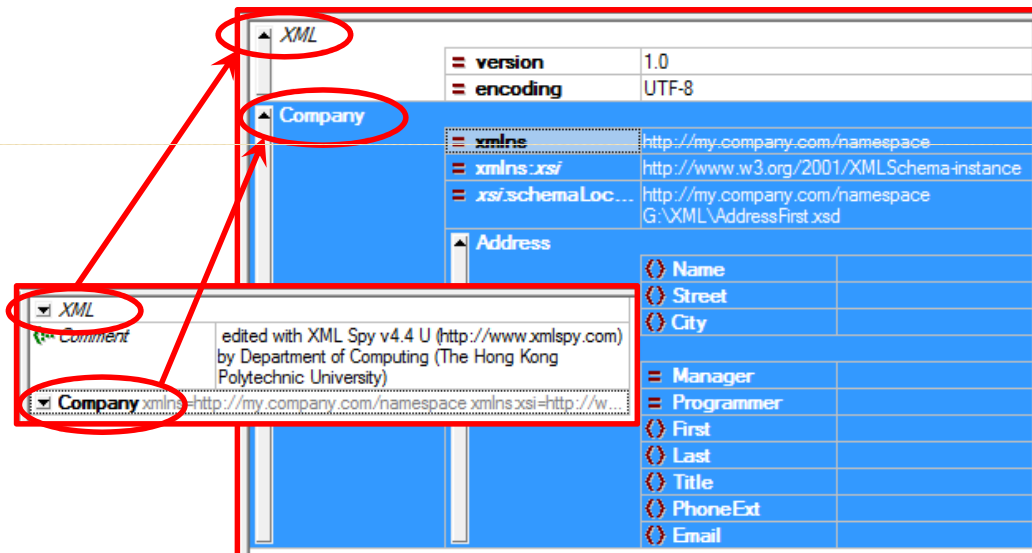
- Choose [AddressFirst.xsd] as the schema file



38

## Create XML File (3)

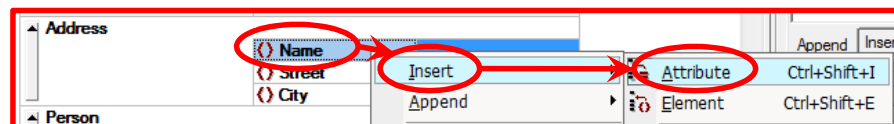
- Click [Down] arrow to expand and view details
- Click [Up] arrow to close the expanded details



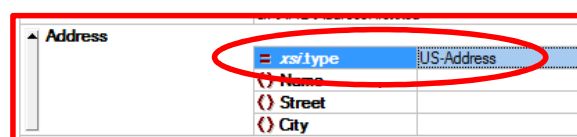
39

## Create XML File (4)

- Add attribute
  - Right click [Name] → [Insert] → [Attribute]



- [xsi:type] is added
- Enter [US-Address] as below

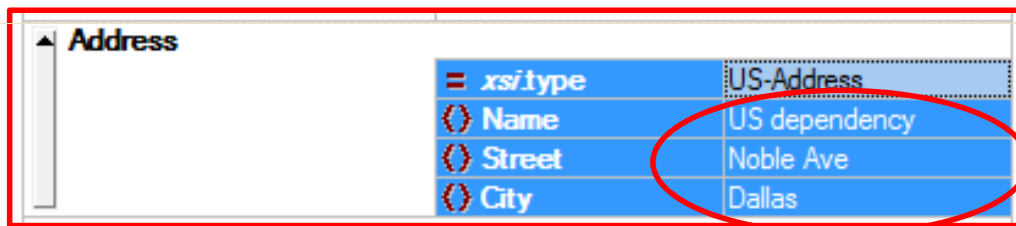


40



## Create XML File (5)

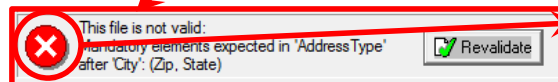
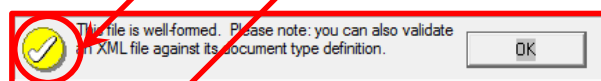
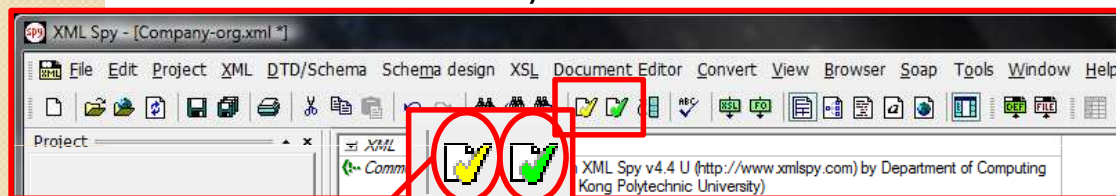
- Input other details
  - [<> Name] = [US dependency]
  - [<> Street] = [Noble Ave]
  - [<> City] = [Dallas]



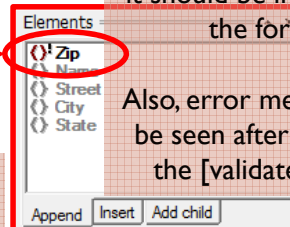
41

## Create XML File (6)

- Validate the file
  - Check “Well-formedness” [F7] and “Validate XML” [F8] by pressing the icon or function key



Simply double click the element [<?! Zip] to add back this missing element



Element with [!] means it should be included in the form.

Also, error message can be seen after pressing the [validate] icon.

42

## Create XML File (7)

- Correction

Note that [<>! State] should be added too.

Input [Zip] = [04812]  
[State] = [Texas]

xs:type	US-Address
Name	US dependency
Street	Noble Ave
City	Dallas
Zip	04812
State	Texas

43

## Create XML File (8)

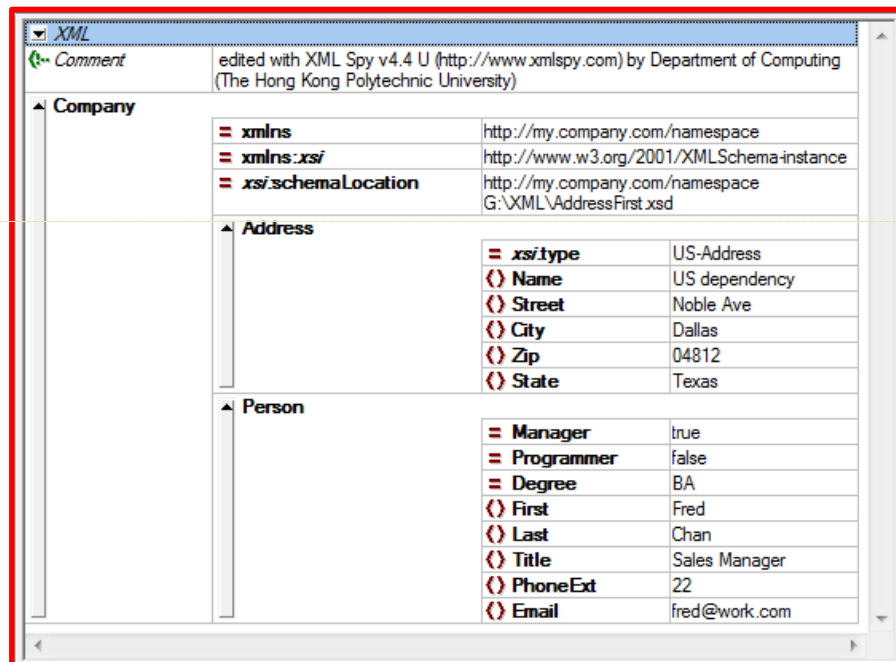
- Enter data in [TextView]

- When "<" is entered, [Person] appears on the list. Click on it to add the element.
- Type "t" for [Manager] and choose "true" from the list.
- Repeat procedure for [Programmer]. Select "false".
- Press a space, [Degree] appears, choose it.
- Type "b" and select "BA" from the list.
- When ">" is entered, all elements for [Person] are added automatically.
- Enter the following to complete this task.
  - First = Fred
  - Last = Chan
  - Title = Sales Manager
  - PhoneExt = 22
  - Email = fred@work.com

44

# Create XML File (9)

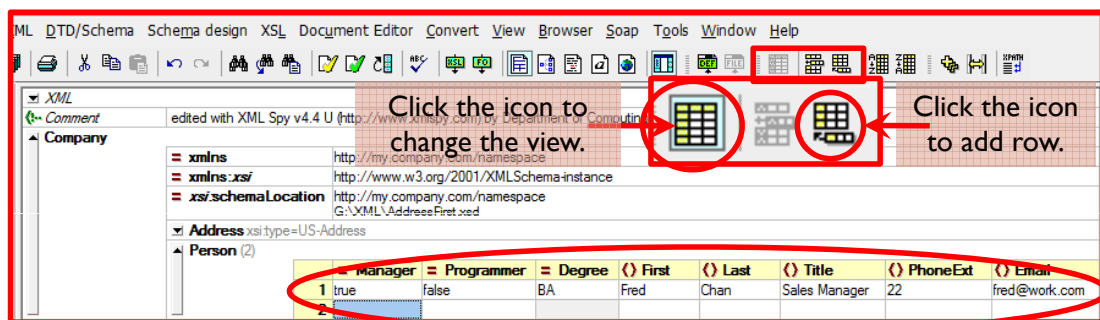
- Check inputs



45

# Create XML File (10)

- Add more [Person] in [Table view]



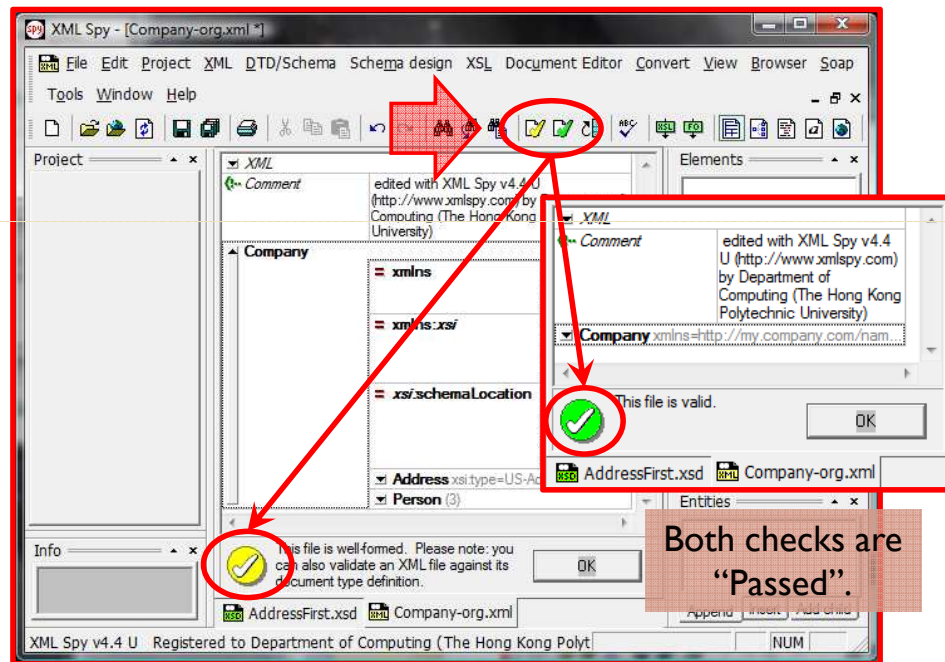
Add more data as below.

	= Manager	= Programmer	= Degree	() First	() Last	() Title	() PhoneExt	() Email
1	true	false	BA	Fred	Chan	Sales Manager	22	fred@work.com
2	false	true	MA	Alan	Lee		33	alan@work.com
3	true	false	PhD	Tom	Cheng		44	tom@work.com

46

# Create XML File (11)

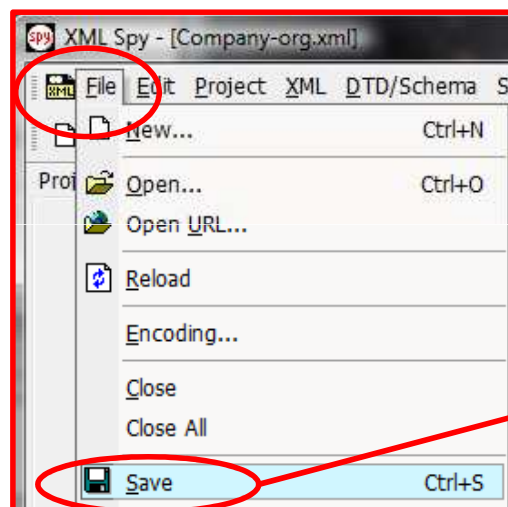
- Re-Validate the file



47

# Create XML File (12)

- Save the file



Don't forget to **SAVE** your work.

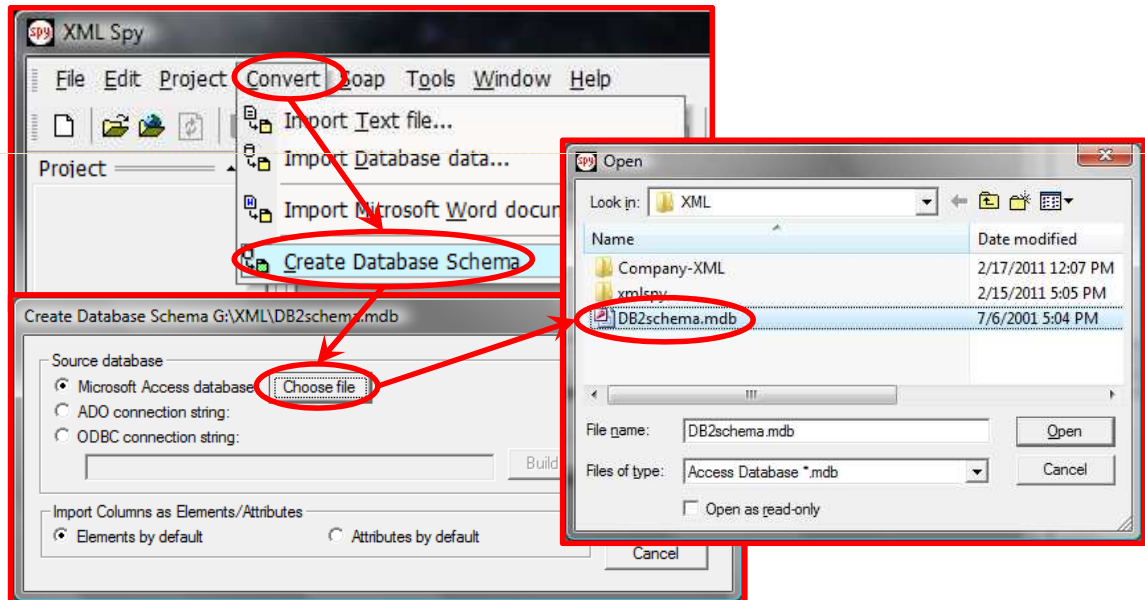
For example, save it as "Company-org.xml"

48



# Create XML File from Database – Microsoft Access (1)

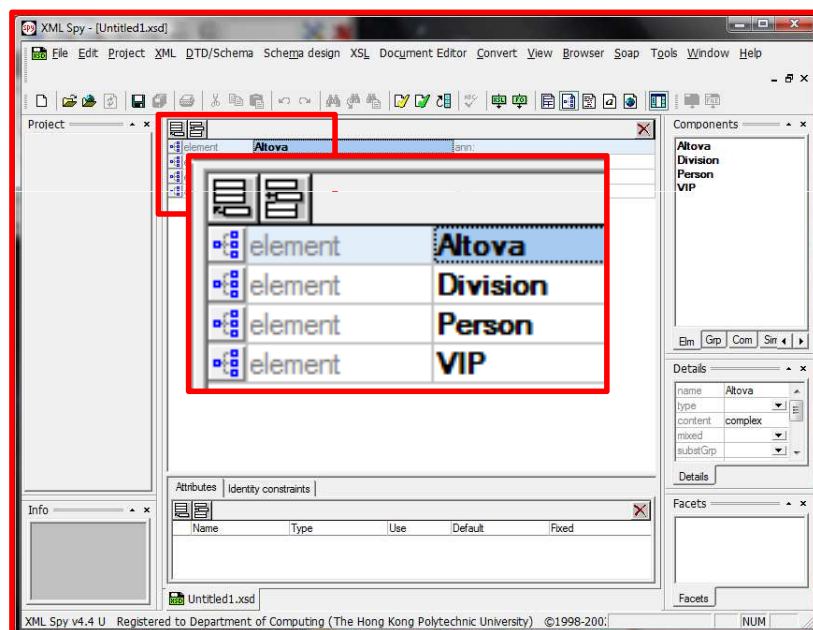
- [Convert] → [Create Database Schema] → [Microsoft Access database] → [Choose file]
- Select [DB2schema.mdb]



49

# Create XML File from Database – Microsoft Access (2)

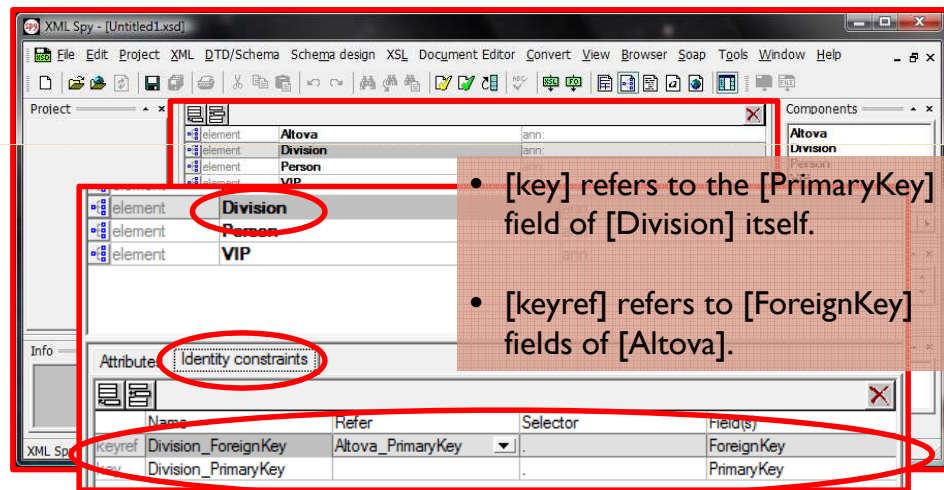
- Four tables of the database are converted into four elements in the XML schema



50

## Create XML File from Database – Microsoft Access (3)

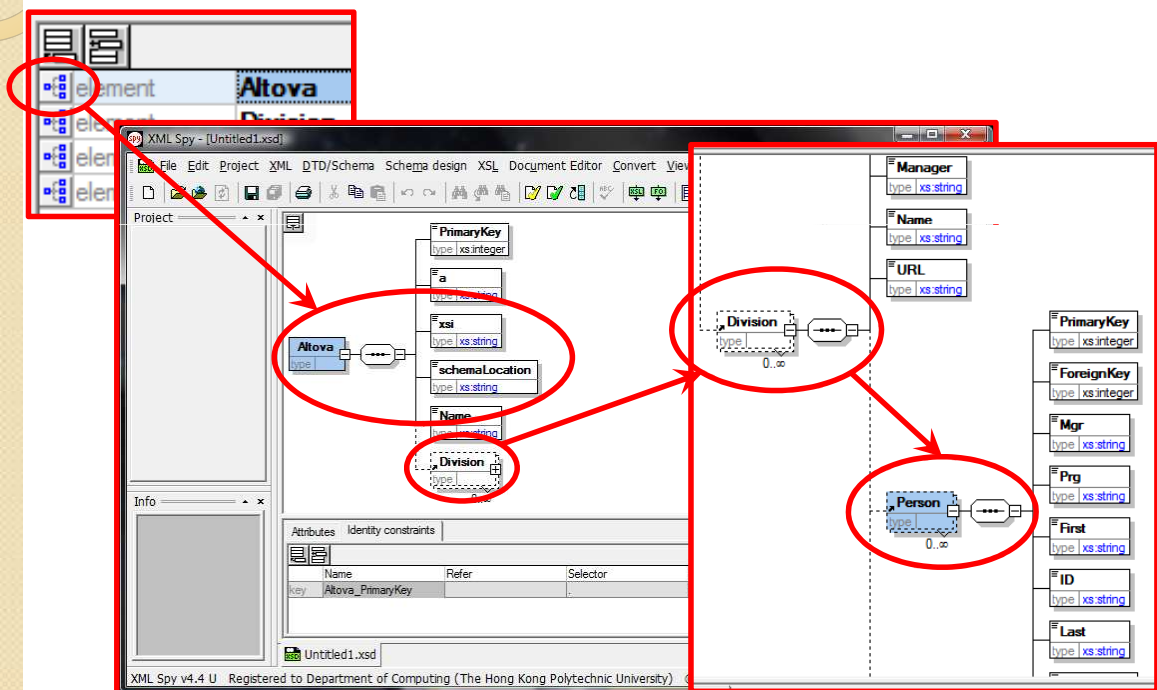
- Check element [Division]
- Change tag to [Identity constraints]



51

## Create XML File from Database – Microsoft Access (4)

- View the content model of [Altova], and the lower levels







## More on XMLSpy

- Current use: XMLSpy 4.4, XML Spy IDE Tutorial, 2002 Altova
- For latest version of XMLSpy, it provides more functions and supports more database type, for example, IBM-DB2.
- Please visit the web site to have your trial version.
- <http://www.altova.com/download.html>



## XML Tutorial

- Questions?