# **IBM Integration Bus**

## Message Modeling with DFDL

Lab 4 Record-oriented, tagged, delimited text (advanced)

## June, 2013

Hands-on lab built at product code level Version 9.0

### 1. Introduction

#### 1.1 Lab scenario

In this lab you are going to extend the message model you created in the previous (basic) lab, Lab3.

In the basic lab, you created a message model to parse this data file:

Company.txt - Notepad	- 🗆 🗙
File Fdit Format View Help	
<pre>[Compoary[CompName=My Company [Employee(empNum=11111]dept=500]empName=Alice Wong Addr:8200 Warden Ave, "Markham, Ont",LiG 1H/ te1=905-347-5649 sal=135599.95) Employee(empNum=11111]dept=500]empName=James May Addr:23 The cuttings,Chatham, CH2 2PR[te1=208-203=1321]sal=189599.95) Employee(empNum=141141]dept=310]empName=Richard Hammond Addr:16 Great Windmill,London,W2 3RJ[te1=207-445-295]sal=599.95) Employee(empNum=141141]dept=310]empName=Fichard Hammond Addr:Rose Cottage, Pea Dr",Gloucester,GL01 ZMM[te1=713-123-1567]sal=7559 Employee(empNum=555555]dept=650]empName=Humphrey Littleton Addr:416 Regent Street,London,Nw1 1QT[te1=207-883-1238]sal=99999.95) ]</pre>	)9.95) •
	▶ <sub>ad</sub>

So you defined the following DFDL structure like this:

🖃 🖻 Company
ess sequence
E CompanyName
😑 😑 Employee
sequence
e EmpNo
e Dept
e EmpName
😑 😑 Address
🖃 🚥 sequence
e StreetName
: e City
e ZipCode
e Tel
: e Salary

In this lab, you will extend this DFDL structure so that it can parse the following data file which contains multiple Company records:



So you will need to create a structure like this:

	🖃 🖻 Companies					
	🖃 🚥 sequence					
$\pm$	🖃 🖻 Header					
	🖃 🚥 sequence					
$\pm$	e RecordDescription					
3	e CompanyCount					
1	🖃 📌 Company					
i	🖃 🚥 sequence					
	e CompanyName					
	🖃 🖻 Employee					
	🖃 🚥 sequence					
	e EmpNo					
	e Dept					
	e EmpName					
	🗈 🖻 Address					
	e Tel					
	e Salary					
÷	🖃 🖻 Trailer					
	🖃 🚥 sequence					
÷	e chksum					

Then you are going to test it against a corresponding data file.

Page 3

Message Modeling - Record Oriented Text - Advanced Lab

### 2. Create the Message Model in the Library

1. In the "MessageModelingLibrary library, click New->Message Model to create a new DFDL Schema.



2. In the "New Message Model" wizard, select "Record-oriented text" and click Next.

New Message Model	
Create a new message	e model file 🛛 🗖 🗖
Select the message model ty	pe or format
XML	
SOAP XML	XML data for use in Web Services.
🔿 Other XML	All other XML data.
Text and binary	Conversion Compared the base dates on definition dates in formation and an
O LSV text	an export format by spreadsheets and databases.
C Record-oriented text	Text data formats where delimited fields are grouped into records.
C COBOL	Data for COBOL programs
Other text or binary	All other text or binary data formats.
Fabruarian Information C	
C SAP	Data from SAP systems including IDoc and BAPI
C Siebel	Data from Siehel systems
O PeopleSoft	Data from PeopleSoft
C JD Edwards	Data from JD Edwards systems
Other	
C CORBA IDL	Data from CORBA
O Database record	Records from relational databases
	Data for extended email format
IBM supplied	Predefined data format
?	< Back Next > Finish Cancel

🚺 New Message Model 📃 🔲 >
Record-oriented text         Choose how you would like to create your text data message model.
WebSphere Message Broker requires a message model in order to parse, serialize and validate record-oriented text data. A message model also speeds up development of your message broker applications by enabling ESQL content assist and graphical maps.
Create a DFDL schema file using this wizard to guide you Create an empty DFDL schema file, 1 will model my data using the DFDL schema editor
Import or replace the IBM supplied DFDL schema property defaults for Record-oriented text. The first option is suitable if you have a text format that consists of a number of records or segments (optional beader).
Image: Contract of the second of the seco
(?) < Back Next > Finish Cancel

4. Enter "Companies" as the DFDL Schema file name and click Next.

🜔 New Message Mode	2l					<u>- 🗆 ×</u>
Create a Data Forn Specify the location and	n <b>at Descripti</b> I name of the DFC	<b>on Language</b> DL schema, and s	e (DFDL) Sch pecify the name	ema e of the mes	ssage.	s O
Project: Folder: DFDL schema file name Message name:	MessageModell <specifying a="" companies="" companies<="" f="" td=""><td>ingLibrary older is optional&gt;</td><td></td><td></td><td>Browse</td><td>New</td></specifying>	ingLibrary older is optional>			Browse	New
•		< Back	Next >	Finish		ancel

Note that the Message name will auto complete based on the DFDL schema file name.

Page 7

5. Leave the "End of record character" default value (carriage return, line feed).

Also leave the "The first record is a header" and "The last record is a trailer" checked.

In the Header fields tab, enter "Header{" as the Header initiator, and 2 as the "Number of fields"  $% \left[ 1 + \frac{1}{2} \right] = 1 + \frac{1}{2} \left[ 1 + \frac{1}{2} \right] \left[$ 

DNew Message Model								
<b>Configure schema for data formatted as records and fields</b> Provide setting for new DFDL schema that represent record-oriented data.								
Record settings End of record character: Carriage Return & Line Feed - (Blank records will be skipped) The first record is a header The last record is a trailer	%CR;%LF;			T				
Header fields   body fields   Trailer fields   Header initiator:   Header{ Number of fields:   2				*				
Field settings         Separated by:       I - %#124; (UTF-8)         Fixed length         All fields have an initiator         Create default values for fields	: 0x7C) (UTF-16	: 0×007C)		T				
Encoding code page options: Dynamic (provided to the p Fixed UTF-8	rocessor by the	application at run	time)	<b>_</b>				
Global settings Escape scheme: Default escape scheme				•				
?	< Back	Next >	Finish	Cancel				

6. Click on the "Trailer fields" tab, and enter "Trailer{" as the Trailer initiator and 1 as the Number of fields.

Click on the Finish button.

New Message Model	<u>_ D ×</u>
onfigure schema for data formatted as records and fields	
rovide setting for new DFDL schema that represent record-oriented data.	ST
	0
Record settings	
End of record character: Carriage Return & Line Feed - %CR;%LF;	
(Blank records will be skipped)	
The last record is a trailer	
Header fields   Body fields   Trailer fields	
Trailer initiator: Trailer{	
Number of fields: 1	3
Field settings	
Separated by:   - %#124; (UTF-8: 0x7C) (UTF-16: 0x007C)	<b>_</b>
O Fixed length	
All fields have an initiator	
Create default values for fields	
Encoding code page options:	
Oynamic (provided to the processor by the application at runtime)	
O Fixed UTF-8	<u></u>
Global settings	
Escape scheme: Default escape scheme	•
	1
<pre>Seck Next &gt; Finish</pre>	Cancel

3.

## 4. Refine the Message Model

1. The DFDL editor will open with the generated DFDL Schema.

Click on the "Show all sections" icon.

0 Companies.xsd 🛛						- 0
Test Parse Model Test Serialize M	10del Hide properties Show advance	ed Stow all sections	ta ed Show quick outline C	ireate logical instance		
▼Messages 🖉 🖉	↑ ↓ <b>X B B</b>		<b>_</b>	Representation Properties	(X)= Variables (not supporte	d in cur
A message is a global element that	at models an entire document of data.			Companies (Element)		?
Name	Type Min Occurs Max Occurs	Default Value Sample Value		<type filter="" text=""></type>	* 🔌 🔒	E E
🖃 🖻 Companies				Property	Value	(?)
🖃 🚥 sequence	1 1			Comment		
: 💿 e header	1 1			🖃 General		
: 💿 e body	1 unbounded			Encoding (code page)	🛃 <dynamically set=""></dynamically>	
E trailer	1 1			Byte Order	🛃 <dynamically set=""></dynamically>	
Add a Local Element				🖃 Content		
				Length Kind	🛃 delimited	
				Occurrences		
				Min Occurs	累 1	
				Max Occurs	晃1	
				Delimiters		
				Initiator	🛼 <no initiator=""></no>	
				Terminator	🔜 <no terminator=""></no>	
			•			
•						

2. Click on the twisty next to the "Schema References" section to expand the references (Includes and Imports) of the DFDL Schema file.

Cor	mpanies.xsd	×							
	E	E			†¶r A	A			Ë
Test P	arse Model	Test Serialia	ze Model	Hide properties	Show advanced	d Hide empty se	ections Focu	s on selected	Show quick out
<u>*5</u>	thema	<b>P P</b>	<b>e 5</b>	두 수 🚯	D 🗗 🗄	e 🖪 🖥 🖡	È E		
	lamespace	<null names;<="" td=""><td>oace&gt;</td><td></td><td></td><td></td><td></td><td>Change nam</td><td>espace</td></null>	oace>					Change nam	espace
	'Schema R	eferences	-	1 🗙					
╞╴┡┙	, scheina file	in the same r	namespace	e uses an include	e. A schema file in	a different nam	espace uses a	n import.	
	Imports IE	Mdefined/Re	cordSepar	atedFieldFormal	.xsd http://w	ww.ibm.com/dfc	dl/RecordSepa	ratedFieldForr	nat
₹M	essages		🛃 仓	+ 🗙 🗄	. 🔓				
Am	essage is a g	jobal elemen	t that mod	, lels an entire do	cument of data.				
								89	
[	Name		Тур	e Min Occurs	Max Occurs	Default Value	Sample Val	R	
	🗆 🖻 C	Iompanies							
		•• sequence		1	1				
	1	🗄 💽 header		1	1				
	1	🗄 🖻 body		1	unbounded				
	1	🛨 💼 trailer		1	1				
	Add a Local	Element							
•									•

Message Modeling - Record Oriented Text - Advanced Lab

3. This message model is going to build on the message model from the basic lab, by creating a reference to that model.

Click on the "Add a reference to another schema" icon.

Cor	mpanies.xsd	X							
	E	Ei				<b>A</b>			Ŀ
Test F	arse Model	Test Serialize Mo	odel Hi	de properties	Show advance	d Hide empty se	ctions Focu	s on selected	Show quick outline
<u>*5</u>	chema	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	<b>L</b>	3 <b>t</b> 🖞	🔊 🗐 🗄	13 E E [	ÈÈ		<u>+</u>
Ν	lamespace	<null namespace)<="" td=""><td>&gt;</td><td></td><td></td><td></td><td></td><td>Change nam</td><td>espace</td></null>	>					Change nam	espace
	•Schema R	eferences	Ŗ	×					
	schema file	in the same name	space u	ses an include	. A schema file ir	i a different name	espace uses a	n import.	
	Imports IE	3Mdefined/Record:	Separati	edFieldFormat	xsd http://v	ww.ibm.com/dfd	l/RecordSepa	ratedFieldFori	mat
τM	essages			× E	<b>.</b>				
Am	essane is a r	Jobal element that	t models	an entire dor	ument of data.				
	oorago is a i	giobal olonione ena					(	89	
	Name		Туре	Min Occurs	Max Occurs	Default Value	Sample Valu	R	
	🖃 🖻 C	Iompanies							
		•• sequence		1	1				
	1	🗄 官 header		1	1				
	1	🗄 🖻 body		1	unbounded				
	1	표 💼 trailer		1	1				
	Add a Local	Element							-

4. In the "Add Schema Reference" window, leave the default "Reference a file in the workspace" option and click the Browse button.



5. Select the "Company.xsd" file you created in the previous (basic) lab.

#### Click OK

File Selection	<u>_ 0 ×</u>
Choose a file:	
MessageModellingLibrary  MessageModellingLibrary  Company.xsd  Employee.xsd  Method  PURCHASES.xsd  Method  PURCHASES.xsd  Method  PURCHASES.xsd  Company.xsd  Co	
	OK Cancel

6. Back in the "Add Schema Reference" window click OK.



7. Click on the "Show all sections" icon to see the whole schema file.

0	*Companies.xsc	I X						
Те	st Parse Model	F Test Serialize Model	Hide properties	_ Show advanced	A Show all sections	Focus on selected	읍 Show quick outline	
	<b>▼Schema</b>	14 15 15 15 14 15 15 15 15 15 15 15 15 15 15 15 15 15	F 4 4.	<b>)</b> 🗐 🔚	6 🖡 🖬 ቤ	E		
	Namespace          Change namespace							
	▶Schema References (1 include, 1 import)							
	A schema file in the same namespace uses an include. A schema file in a different namespace uses an import.							

- 8. Note that you have two Schema References:
  - 1. Company.xsd (which you've just added): you are going to reuse this message model to create a more complex one.
  - 2. RecordSeparatedFieldFormat.xsd (which was automatically added by the wizard): It contains Record Separated specific defaults for DFDL properties.

E.	E6			A	<b>_</b>	E.
Test Parse Model	Test Serialize Model	Hide properties	Show advanced	Show all sections	Focus on selected	Show quick outline
<b>▼Schema</b>	a = = =	F 🖓 🏭 4	<b>9</b> 📳 🗄 1	H 🖬 🖬 🐚	Ê	
Namespace         Change namespace						
<b>▼S</b> chema R	eferences 🛛 🚦	3 X				
A schema file	in the same namespac	e uses an include	. A schema file in a	a different namesp	ace uses an import.	
Includes (	Company.xsd					
Imports 1	(BMdefined/RecordSepa	aratedFieldForma	t.xsd http://w	ww.ibm.com/dfdl/R	ecordSeparatedField	Format

9. Click anywhere inside the Messages section, and click on the "Focus on selected" icon.

*Companies.xsd	- 8						
Test Prase Model Test Serialize Model Hidg properties Show advanced Show all section Focus on selected Show quick outline Cre-	ate logical instance						
Namespace <null namespace=""></null>	Representation Properties     N= Variables (not supported in current						
- Schema References       Image: A schema file in the same namespace uses an include. A schema file in a different namespace uses an import.         - Schema file in the same namespace uses an include. A schema file in a different namespace uses an import.							
Property Value     Comment       Property Value     Comment       Comment       Comment							
▼Messages 🗿 @ 🕆 🖏 👪 👪	Content     Occurrences						
A message is a global element that models an entire document of data.           Name         Type         Min Occurs         Max Occurs         Default Value         Sample Value	Delimiters						
e Companies							
E e header 1 1							
E to body 1 unbounded							
Add a Local Element							
li II							

10. Expand the header element by clicking on the "+".

Name	Туре	Min Occurs	Max Occurs	Default Value	Sample Value
🖃 🖻 Companies					
🖃 🚥 sequence		1	1		
: e header		1	1		
E body		1	unbounded		
: 💿 e trailer		1	1		
Add a Local Element					

11. Change the header element's name to "Header" (capital "H") by clicking on it, and overtyping.

Name	Туре	Min Occurs	Max Occurs	Default Value	Sample Value
🖃 🖻 Companies					
🖃 🚥 sequence		1	1		
: 🖃 🖻 Header		1	1		
sequence		1	1		
e head_elem1	string	1	1		head_value1
e head_elem2	string	1	1		head_value2
: 💿 e body		1	unbounded		
: 💿 trailer		1	1		
Add a Local Element					

12. Change the 2 elements under Header to "RecordDescription" and "CompanyCount".

Name		Туре	Min Occurs	Max Occurs	Default Value	Sample Value
🖃 🖻 Compan	ies					
🖃 🚥 sequ	ience		1	1		
🗄 🖃 🕒 Header			1	1		
	e sequence		1	1		
÷	e RecordDescription	string	1	1		head_value1
1	e CompanyCount	string	1	1		head_value2
: e t	ody		1	unbounded		
🕀 🖻 trailer			1	1		
Add a Local Element						

13. Delete the "body" element by right-clicking on the line of the element and selecting Delete. (Do not right-click on the text of the element name ... you will see a different context menu).

Name		Туре	Min Occurs	Max Occurs [
= e	Companies			
-	••• sequence		1	1
1	🖃 🖻 Header		1	1
	🖃 🚥 sequence		1	1
:	e RecordDescription	string	1	1
1	e CompanyCount	string	1	1
1	. E pody		1	unbounded
:	Make Local Element Global	Alt+Shift+E		1
Add a Loc	Move to a New Model Group	. Alt+Shift+G		
	😚 Move Up	Alt+Up		
	🕂 Move Down	Alt+Down		
	of Cut	Ctrl+X		
	Сору	Ctrl+C		
	Paste			
	💥 Delete 🛛 🛛			
	🔂 Add Choice	Ctrl+L, C		

14. Change the trailer element's name to "Trailer" (capital "T").

Change the name of the element under Trailer to "chksum".

Name	Туре	Min Occurs	Max Occurs	Default Value	Sample Value
🖃 🖻 Companies					
🖃 🚥 sequence		1	1		
😑 😑 Header		1	1		
🖃 🚥 sequence		1	1		
e RecordDescription	string	1	1		head_value1
E CompanyCount	string	1	1		head_value2
: e Trailer		1	1		
🖃 🚥 sequence		1	1		
e chksum	string	1	1		trailer_value1
Add a Local Element					

15. Now you are going to define a reference to the Company.xsd model. To do this, you must first create a new sequence element in the Companies model. Right-click on the Companies element and select "Add Sequence".

Na	me	Туре	Min Occurs	Max Occurs	Default Value
			-		
	Paste	⊂trl+V		1	
÷	💢 Delete	Delete		1	
	Add Sequence	Ctrl+L, S		1	
÷	🔁 Add Choice	Ctrl+L, C		1	
1	E Test Parse Model	Ctrl+T. P		1	
1	E Tost Sovializa Madal	CHUT S		1	
	Eg rest benalize Moder	Cur+1, 5		1	
÷	E Create a Logical Instance From Model	Ctrl+T, L		1	
Ad	Show In		•		

Name	Туре	Min Occurs	Max Occurs	Default Value	Sample Val
🖃 🖻 Companies					
sequence		1	1		
: 😑 🖻 Header		1	1		
e eee sequence		1	1		
e RecordDescription	string	1	1		head_value
e CompanyCount	string	1	1		head_value
: 🖃 🖻 Trailer		1	1		
🖃 🚥 sequence		1	1		
e chksum	string	1	1		trailer_valu
Image: Sequence       Add a Loc			1		Alt+Up Alt+Down Ctrl+V Delete
<ul> <li>Add a Local Element</li> <li>Add Complex Local Element</li> <li>Add Sequence</li> <li>Add Choice</li> <li>Add Element Reference</li> <li>Add Group Reference</li> </ul>					Ctrl+L, E Ctrl+L, X Ctrl+L, S Ctrl+L, C Ctrl+L, R Ctrl+L, G
Add Hidden Group Reference (	(not suppo	rted in current i	IBM DFDL impl	ementation)	Ctrl+L, H

#### 16. Right-click the new sequence element and select "Add Element Reference".

Click OK.

🜔 Add Element F	Reference		
Select an element:	Companies :		Browse
	Companies :		
	Company :		
		ОК	Cancel

Name	Туре	Min Occurs	Max Occurs	Default Value	Samp	le Valu
🖃 🖻 Companies						
🖃 🚥 sequence		1	1			
😑 😑 Header		1	1			
sequence		1	1			
e RecordDescription	string	1	1		head_	value
e CompanyCount	string	1	1		head_	value
😑 😑 Trailer		1	1			
sequence		1	1			
e chksum	string	1	1		trailer	_value
		1	1		Mital In	
Move Down				,	Alt+Dowr	
Add al					TERLEY	
				, T	Delete	
					Pelece	_
🥵 Add a Local Element				0	Otrl+L, E	
🥵 Add Complex Local Element				(	Etrl+L, X	
••• Add Sequence	(	Etrl+L, S				
🔂 Add Choice	(	Etrl+L, C				
📌 Add Element Reference	(	Etrl+L, R				
2 Add Group Reference	(	Etrl+L, G				
Add Hidden Group Reference (not	supported	in current IBN	1 DFDL implem	entation) (	Strl+L, H	

18. Right-click on the newly created sequence and select "Move Up".

Note that the added element reference has a different icon to differentiate from a regular element (this is only a reference to an existing element in other DFDL schema).

Also note that the element reference's name is greyed out because it is read-only. To modify it you will need to open the DFDL schema where it was defined clicking on the yellow arrow that appears when you hover over the element.(  $\Rightarrow$  )

Name	Туре	Min Occurs	Max Occurs	Default Value
🖃 🖻 Companies				
sequence		1	1	
😑 😑 Header		1	1	
🖃 🚥 sequence		1	1	
e RecordDescription	string	1	1	
e CompanyCount	string	1	1	
: 🖃 🚥 sequence 😜		1	1	
E Se Compart		1	1	
i 🖃 🚥 seque Go to Company		1	1	
e CompanyName	string	1	1	
🕒 💽 Employee		1	unbounded	

Page 21

19. Finally with the new sequence, you have to make an adjustment to the Delimiters Separator property.

Highlight the new sequence, and remove the default value of the Separator property. Click Return to make sure the new value is properly recognized by the editor.

▶Schema References (1 include, 1 import)					<type< th=""><th>filter text&gt;</th><th></th></type<>	filter text>	
A schema file in the same namespace uses an include	e. A schema f	ile in a differen	t namespace use	es an ii	Prope	rty	Value
					🖃 G(	eneral	
Messages 🛛 🗐 🔒 🕂 😫 目	- Fa					Data Format Reference	<pre><default format=""></default></pre>
	• <b>EU</b>					Encoding (code page)	🛛 🛃 <dynamically set:<="" td=""></dynamically>
message is a global element that models an entire do	cument or da	a.				Byte Order	🔜 🛃 <dynamically set:<="" td=""></dynamically>
	-					Ignore Case	搹 no
Name	Туре	Min Occurs	Max Occurs	Def		Fill Byte	昂。
Companies				- 1	. ⊕ Co	ontent	
🖃 🚥 sequence		1	1		+ Al	ignment	
🗄 🖻 Header		1	1		🖃 D(	elimiters	
🗄 🖃 🚥 sequence 🛶		1	1			Separator	<no separator=""></no>
: 🖂 🐙 Company		1	unbounded			Initiator	🛃 <no initiator=""></no>
i 🖃 🚥 sequence		1	1			Terminator	💂 <no terminator=""></no>
e CompanyName	string	1	1			Output New Line	
🖃 🖻 Employee		1	unbounded				
🖃 🚥 sequence		1	1				
e EmpNo	integer	1	1				
e Dept	integer	1	1				
e EmpName	string	1	1				

20. Expand both the Header and Trailer elements by clicking on the "+" next to them.

Name	Туре	Min Occurs	Max Occurs	Default Value	Sample Value
🖃 🖻 Companies					
see sequence		1	1		
: 主 e Header		1	1		
E see sequence		1	1		
E Trailer		1	1		
Add a Local Element					

21. Change the CompanyCount element's type to "integer" by clicking on its type column and selecting "integer".

Name	Туре	Min Occurs	Max Occurs	Default Value	Sample Value
e Companies					
sequence		1	1		
😑 🖻 Header		1	1		
sequence		1	1		
e RecordDescription	string	1	1		head_value1
E CompanyCount	string	1	1		а
: 🕀 🚥 sequence	⊨ hexBin	ary			
: e Trailer	integer	r			
E chksum	<ul> <li>nonNeg</li> <li>short</li> <li>string</li> <li>time</li> <li>unsigne</li> <li>unsigne</li> </ul>	gativeInteger edByte edInt edLong	- - -		trailer_value1

22. Click on the CompanyCount element again, and look at the "Delimiters" section in the Representation Properties.

0 *	Companies.xsc	183												- 0
Test	E Parse Model	Test Serialize Model	Hide proper	ties Sh	⇒ now advanced	A Show all sections	Show all content	in section SI	ti how quick outline	Create	logical instance			
	Nama			Tuno	Min Occu	May Occure	Default Value	Sample Val	a lug	F III	epresentation Prope	🛛 📘 Asserts and [	Discrimi <sup>39</sup> 1	
		mpanies		Type	Minoccu	IS Max Occurs	Dei ault value	Dampie vai		Com	panyCount (Eleme	nt)		?
		sequence			1	1				L etv	ne filter text>			
	: E	e Header			1	1					permiter texts			
		🖃 🚥 sequence			1	1				Pro	perty	Value		<u>?</u>
		e RecordDe:	scription	string	1	1		head_value	e1		Comment		<u>د</u>	
	1	e Company(	ount	integer	r 1	1		1		÷	General			
	÷	💂 Company			1	1				۰	Content	integer		
	Н Б	e Trailer			1	1				÷	Text Content			
		sequence			1	1				÷	Occurrences			
		e chksum		string	1	1		trailer_valu	ue1	╢▣	Delimitors			
	Add a Local E	lement									Initiator	iHead2	<u>-</u>	•••
											Terminator	涡 <no td="" term<=""><td>nator&gt;</td><td></td></no>	nator>	
										Đ	Validation	inter gen		_

23. Change the Initiator's value ("iHead2") to "compCount:" (don't miss out the : (colon) ).

ompanyCount (Element)	(
<type filter="" text=""></type>	¥ 🔌 🗉
Property	Value (?)
Comment	
🖃 General	
Encoding (code page)	🛃 <dynamically set=""></dynamically>
Byte Order	Advision and the set >
Content	integer
Representation	昇 text
Length Kind	🛃 delimited 📃
Default Value	<unset></unset>
Text Content	
Text Number Representation	🛃 standard
Escape Scheme Reference	R         recSepFieldsFmt:RecordEscapeScheme
Occurrences	
Min Occurs	<b>昆</b> 1
Max Occurs	昂 1
Delimiters	
Initiator	compCount:
Terminator	🛃 <no terminator=""></no>
Validation	integer

24. Repeat the previous step for the "RecordDescription" and chksum fields with the following values:

RecordDescription	recDesc:
chksum	chksum:

#### Again, do not miss the colon characters.



25. Now click on the <sequence> content of the Companies element. In the Delimiters section of the Representation Properties, delete the value of the Separator property. Click Return to make sure the value is updated.

(this is a separator automatically added by the wizard, which is not needed in this case)

Companies.xsd					
Test Parse Model Test Serialize Model Hide proper	ties Show advanced	A Show all sections	Show all content in section	E n Show quick outline	e Create logical instance
A message is a global element that models an entire	document of data.				Representation Prope     Asserts and Discrimi     Y1
Name	Type Min Oco	urs Max Occurs	Default Value Samp	e Value	sequence
Companies					<type filter="" text=""> 🗱 🙀 🖪 🗉</type>
	1	1			Property Value (?)
	1	1			General
E RecordDescription	string 1	1	head	value1	Separator O
E CompanyCount	integer 1	1	1		Initiator 💂 <no initiator=""></no>
E gel Company	1	1			Terminator 🛛 🔤 <no terminator=""></no>
: <u>e</u> Trailer	1	1			
i en sequence	I fring 1	1	traila	today	
Add a Local Element	soring 1	1	ti dilei	_value1	

26. Click on the Header element. In the Delimiters section of the Representation Properties, set the Terminator property to "}%CR;%LF;"

ame		Туре	Min Occurs	Max Occurs	Default Value	Sample Value	Header (Element)		
- e	Companies						<type filter="" text=""></type>	× %	見
E	···· sequence		1	1			 Duranauku	Unive	
			1	1			Comment	value	_
	<u> </u>		1	1			 🕀 General		
	e RecordDescription	string	1	1		head_value1	 Content		
	CompanyCount	integer	1	1		1	Occurrences		
	🗉 📌 Company		1	1			Delimiters		
	🖃 🖻 Trailer		1	1			Initiator	Header{	
	sequence		1	1			Terminator	}%CR;%LF;	-
	e chksum	string	1	1		trailer_value1		**	_
Add a Lo	cal Element								

27. Then click on the <sequence> content of the Header element and in the Delimiters section of the Representation Properties, set the Separator property to "," (comma)

						sequence		
Name	Туре	Min Occurs	Max Occurs	Default Value	Sample Test Data			
🖃 🖻 Companies						<pre><search></search></pre>		* 18 4
🖃 🚥 sequence		1	1			Property	Value	
e Header		1	1			General		
see sequence		1	1			Encoding (code page)	🛃 <dynamically set<="" th=""><th>:&gt;</th></dynamically>	:>
e RecordDescription	string	1	1	head_value1	head_value1	Byte Order	🛃 <dynamically set<="" td=""><td>:&gt;</td></dynamically>	:>
e CompanyCount	integer	1	1		1	Delimiters		
E Company	-	1	1			Separator	j.	
🖃 e Trailer		1	1			Initiator		
a sequence		1	1			Terminator		
e chksum	string	1	1	trailer_value1	trailer_value1			
Add a Local Element								

28. Click on the Trailer element, and in the Delimiters section of the Representation Properties, set the Terminator property to "}".

🚺 *Companies.xsd 🛛								
Test Parse Model Test Serialize Model	Hide properties Show	oasic Show all sections	Focus on selected	녆 Show quick outline	Create logical in	stance		
▶Schema					<b>_</b>	🔲 Representation Prope 🛛 📘	Asserts and Discrimi 🔭	
-Massages					Trailer (Element)		?	
A message is a global element that model	s an entire document of	data.				<type filter="" text=""></type>	× 🔆 🗖	•
						Property	Value	0
Name	Type Min Occurs	Max Occurs Defa	ult Value Sample Va	alue		Comment 🛐		
🖃 🖻 Companies								
sequence	1	1				E Content     E		
e Header	1	1				⊕ Occurrences		
E P Company	1	unbounded				<ul> <li>Alignment</li> </ul>		
🖃 💽 Trailer	1	1				<ul> <li>Delimiters</li> </ul>		
= eve sequence	1	1				Initiator	Trailer{	
: e chksum	string 1	1	trailer va	luet		Terminator	}	
Add a Local Element	song t					Document Final Terr	🛃 yes	
						Empty Value Delimiter Pc	🛼 initiator	
▶Data Formats (1 format)						Output New Line	鼎 %CR;%LF;	

29. Then click on the <sequence> content of the Trailer element and in the Delimiters section of the Representation Properties, delete the Separator property's value.

ime	Туре	Min Occurs	Max Occurs	Default Value	Sample Value	-	Representation Prope \	Asserts and Discrimi "1	
e Companies							sequence		
🖃 🚥 sequence		1	1			- 11	ale and Others have dee	₩ ¥.   =	
🖃 🖻 Header		1	1			- 11	<cype rilter="" text=""></cype>	A % 1	
sequence		1	1			- 11	Property	Value	0
e RecordDescription	string	1	1		head_value1	- 11			
e CompanyCount	integer	1	1		1		Delimiters		-
🗉 🐙 Company		1	1				Separator	<no separator=""></no>	
🖃 [ Trailer	1	1	1				aniciacor	22 Sho madeory	
sequence		1	1			- 11	Terminator	器 <no terminator=""></no>	
el chksum	string	1	1		trailer_value1				

30. Click on the "Max Occurs" column of the Company element reference, and change it from "1" to "unbounded".

This will allow the Company element reference to have infinite occurrences.

Name	Туре	Min Occurs	Max Occurs	Default Value	Sample Value
🖃 e Companies					
sequence		1	1		
e Header		1	1		
e sequence		1	1		
e RecordDescription	string	1	1		head_value1
e CompanyCount	integer	1	1		1
e e e sequence		1	1		
: 🖃 📌 Company		1	1		
i 🖃 🚥 sequence		1	unbounded		
e CompanyName	string	1	1		
🗉 🖻 Employee		1	unbounded		
: e Trailer		1	1		
see sequence		1	1		
e chksum	string	1	1		trailer_value1
Add a Local Element					

Messag	ges 🛛 🐺 🖉 🕆 🐺 🛛	E					<u> </u>	Representation Propert	ies 🔪 🔠 Asserts and Dis	riminators
messag	e is a global element that models an entir	e document of	data.					Company (Element)		
Name		Turne	Min Occurs	Max Occurs	Default Value	Sample Value	-	<type filter="" text=""></type>		**
Filter	- = [e] Companies	Type	Partoccara	Max Occurs >	Derduic value	Sumple Value		Property	Value	
	sequence		1	1				Comment		
-	el Header		1	1			-	General		
-			1	1				Content		
:	e RecordDescription	string	1	1		head value1	-	Occurrences		
1	e CompanyCount	integer	1	1		1		Delimiters		
1	sequence		1	1			-	Initiator	The Company [	
1	E Company		1	unbounded				Terminator	掃]%CR;%LF;	
i	🖃 🚥 sequence		1	1						
	CompanyName	string	1	1		a				
	🗈 💽 Employee		1	unbounded					1	
1	🖃 🖻 Trailer		1	1						
	«»» sequence		1	1						
	e chksum	string	1	1		trailer_value1				
Add a	a Local Element									

31. Click on the "Show Advanced" icon to show the advanced Representation Properties.

32. Click on the Company element reference, and in the Occurrences section of the Representation Properties, change the "Occurs Count Kind" from "fixed" to "expression".

You may need to Save the model and close and reopen the schema to update the Representation Properties, so that the "Occurs Count Kind" property appears.

🔲 Representation Prope	Asserts and D	iscrimi	<b>"</b> 1		
Company (Element)					?
<type filter="" text=""></type>		×	*	8	Ē
Property	Value				?
Comment S					
🕀 General					
Content					
Occurrences					
Min Occurs 📓	昂 1				
Max Occurs 💲	unbounded				
⊕ Occurs Count Kind	expression			-	
Floating	fixed				
Alignment	expression				
Delimiters					
Sample Test Data					

33. Expand the "Occurs Count Kind" property to show the "Occurs Count" property.

Leave the field empty and save your XSD by pressing Ctrl+S or File->S.

Representation Prope	Asserts and Discrimi *1	
Company (Element)		?
<type filter="" text=""></type>	× 🔆	
Property	Value	(?)
Byte Order	🛃 <dynamically set=""></dynamically>	
Ignore Case	뤎 no	
Fill Byte	昇0	
<ul> <li>Content</li> </ul>		
Length Kind	🛃 delimited	
🖃 🔕 Occurrences		
Min Occurs 📓	昂1	
Max Occurs 💲	unbounded	
🖃 😣 Occurs Count Kind	expression	
😣 Occurs Count	<unset></unset>	
Floating	뤎 no	
Alignment		
Alignment	暑 1	-
Sample Test Data	-	

When saving, the DFDL Editor also validates the schema file.

34. Note that an error icon has appeared next to the Company element and 'Occurrences'.

0 C	mpanies.xsd 🛛							
Test	Parse Model Test Serialize Model Hide propert	ies Show basic	: Show all	sections Show	all content in sect	ion Show quick out	tline Create logical instance	
	Name	Type f	Min Occurs	Max Occurs	Default Value	Sample Value		Representa
	🖃 e Companies							Company (Ele
	e Header	1		1			-	<type filter<="" td=""></type>
	E model	1		1				Property
	O E 👷 Company 🗡	1		unbounded				B
Г	CTDV1200E : When 'occursCountKind' is 'expre	ssion', DFDL pro	perty 'occu	rsCount' must be	e set. Element: #x	scd(/schemaElement	t::Companies/type::0/model::sequence/part	ide::*[2]). F
	🗈 🖻 Employee	1		unbounded				E Cont
	😑 😑 Trailer	1		1				
	sequence	1		1				E S OCCO
	e chksum	string 1		1		trailer_value1		
•							•	, sample re

Hover over the icon to display the error description. It states that the OccursCount property can't be empty.

Message Modeling - Record Oriented Text - Advanced Lab

35. Click on the Problems tab.



Double-click on the error and the representation property of the problematic element will open.

🔲 Representation Prope	Asserts and Discrimi	» <u>1</u>	
Company (Element)			?
<type filter="" text=""></type>		× 🔆   💈	
Property	Value		(?)
Comment S			
🛨 General			
Content			
🖃 🔇 Occurrences			
Min Occurs 📓	冕 1		
Max Occurs 📓	unbounded		
🖃 🔇 Occurs Count Kind	expression		
😢 Occurs Count	<unset></unset>		
Floating	昂 no		
<ul> <li>Alignment</li> </ul>			
Delimiters			

Click on the button next to the OccursCount property.

You may need to close and reopen the model to ensure the "Occurs Count" property appears.

36. A message bubble will appear. Check "Do not display this message again" and close it by clicking on the "X".

🕕 Tip - Simple values can be entered in property tree 🛛 🛛
A simple value can be set directly in the property tree for this property.
The button for this property launches the DFDL XPath expression builder that allows a more complex property value to be set.
The DFDL XPath expression builder will open after this tip dialog closes.
Do not display this message again

37. In the XPath Expression Builder window expand the Header element and double-click on the CompanyCount element.

Click on the Finish button.

🚺 XPath Expression Builder			
XPath Expression Builder Select the target from the Schema viewer, Fund in the source viewer below.	ction viewer or Operator viewer and drag and	d drop the nodes	55
Data Types Viewer Companies Performed RecordDescription : string Performed RecordDescription : string Pe	XPath Functions String Boolean Mumeric NodeSet ModeSet Axes	Operators	
Show XML Schema groups XPath Expression /Companies/Header/CompanyCount			×
Namespace settings			
?		Finish	Cancel

This will indicate that the number of occurrences of the Company element is dictated by the CompanyCount element in the Header.

Message Modeling - Record Oriented Text - Advanced Lab

38. Finally, the input file may, or may not, have a Carriage Return Line Feed as the last character. In some cases, the last record may be missing the final "new line" character.

To handle this situation, we will change the default values for this model so that it will be able to handle both scenarios (ie. it will parse successfully, irrespective of whether the final character is present or not).

In the editor, collapse the Companies model, and then click "Show all sections".

Test F	Parse Model	Test Serialize Model	Hide propertie	⇒ s Show basi	≜ Show all s	ections	Show al	content in section	5 Show quick outline
<u>▼M</u> A m	lessages nessage is a g	Record and a final a	→ ¥   dels an entire	document of d	ata.				
	Name			Туре	Min Occurs	Max Occ	urs	Default Value	Sample Value
	🗆 e C	Companies							
		••• sequence			1	1			
	1	🛨 🖻 Header			1	1			
	1	🖃 🚥 sequence			1	1			
	1	표 📌 Company			1	unbound	led		
	1	🛨 🖻 Trailer			1	1			
	Add a Local	Element							

39. To make the display a little less busy, click "Hide empty sections".

				_			
		4	<u> </u>			E	E
Test Parse Model Test Serialize Model Hide properti	es Show bas	ic Hide emp	ty sections	Fo	us on selected	Show quick outline	Create logical
▼Schema 🛛 📮 📮 📮 📮	à 🔊 🗐			E			
Namespace <null namespace=""></null>				Ch	ange namespace		
Schema References (1 include, 1 import	)						
A schema file in the same namespace uses an ind	ude. A schem	a file in a diffe	erent names	pace	e uses an import.		
►Messages     □    □    □    □    □    □    □	document of	data. Min Occurs	Max Occur	2	Default Value	Sample Value	
		1	1				-
: 🗈 e Header		1	1				
: 🖃 🚥 sequence		1	1				
: 🛨 📌 Company		1	unbounded	ł			_
: e Trailer		1	1				_
Add a Local Element							
) (label (lamasta (laborata)							
r Giobal clements (v elements)							
A global element represents a named instance of a c	complex or sim	ple type.					

Message Modeling - Record Oriented Text - Advanced Lab

40. Expand the Data Formats section.

Highlight the <default format> field. This is where you can define many default values for the message model.

In the Representation Properties, expand the Delimiters section, and locate the property DocumentFinalTerminatorCanBeMissing. Set this property to "yes". Ensure you press the Return key to ensure the property is correctly updated.

Companies.xsd 🛛		
E E ***	A     Bertons Equipion selected Show quick outline. Create	
Schema	Representation Properties	
Messages (1 message) A message is a global element that models an entire document of data.	<default format=""> (Data Format) Sample Test Data</default>	
	Property	Value
🕶 Data Formats 🔄 🏭 🚂 🗱	Comment S	
A data format is a container of DFDL properties.	General	
Name Type	Text Content	
<pre><default format=""> Definition Format</default></pre>	Binary Content	
Variables (4 variables)	Occurrences	
A variable holds a value that can be used in DFDL expressions.		
	Delimiters	
	Separator	昂,
	Separator Policy	🛃 suppressed
	Separator Position	🛃 infix
	Initiator	🛃 <no initiator=""></no>
	Terminator	🔜 🛃 <no terminator=""></no>
	Document Final Terminator Can Be Missing	yes
	Nil Value Delimiter Policy	🛃 initiator
	Empty Value Delimiter Policy	🛃 initiator
	Output New Line	🛃 %CR;%LF;

41. Press Ctrl+S or File->Save to save your work.

Check that the error has gone and the Problems view is clean.

### 5. Testing the Message Model

1. Now that the Message Model is complete, you will test it against a delimited file.

Click on the Test Parse Model icon.

Companies.xsd 🖾								- 6
Test Parse Model est Serialize Model Hide prope	erties Show basic Shor	▲ w all sections Fo	cus on selected	년 Show quick outline	Create logical	instance		
					<u> </u>	Representation Properties	(X)= Variables (not support	ted in current
vMessages 🗿 🖗 🕆 🗱 🗟 Companies (Element)				(?)				
A message is a global element that models an entire	document or data.				1	<type filter="" text=""></type>	× %	
Name	Type Min Occurs	s Max Occurs	Default Value	Sample Value 2		Property	Value	(?)
🖃 🖻 Companies						Comment 🛐		
- ••• sequence	1	1				General     General		
: 🕀 e Header	1	1						
: 🗈 🐙 Company	1	unbounded				⊕ Occurrences		
: E Trailer	1	1				<ul> <li>Alignment</li> </ul>		
Add a Local Element					-	Delimiters		
					-	Initiator	霿 <no initiator=""></no>	
Data Formats (1 format)						Terminator     Terminator	🛃 <no terminator=""></no>	
A data format is a container of DEDL properties						Empty Value Delimiter	Po 🚬 initiator	
reader of the bit of or bit						Output New Line	🛃 %CR;%LF;	
P¥ariahles (4 variahles) ↓					• •			

2. In the Parser Input section, select "Content from a data file" and click the Browse button.

Message         Select message for testing. Image:         Parser Input         Select content to be parsed against schema.         Content from DFDL Test - Serialize' view         Content from a data file         Input file name:*         Select runtime configuration.         Runtime encoding options         Provide runtime values for properties which have been configured in the model to be dynamically set. More         Encoding (code page):       UTF-8         Floating point format:       IEEE Non-Extended         Byte order:       Little endian         Validate data against schema       More         Restore Defaults       Kestore Defaults	💽 Test Parse Model	<u>_ D ×</u>
Select message for testing. More  Message name: * Companies  Parser Input Select content to be parsed against schema. Content from DEDL Test - Serialize' view Content from a data file Input file name: *  Specify runtime configuration.  Runtime encoding options Provide runtime values for properties which have been configured in the model to be dynamically set. More Encoding (code page): UTF-8 Floating point format: IEEE Non-Extended Eyte order: C Little endian C Big endian Runtime validation Validate data against schema More Restore Defaults	Message	
Message name:*       Companies         Parser Input         Select content to be parsed against schema.         Content from DFDL Test - Serialize' view         Content from a data file         Input file name:*         Select content configuration.         Runtime encoding options         Provide runtime values for properties which have been configured in the model to be dynamically set. More         Encoding (code page):       UTF-8         Floating point format:       IEEE Non-Extended         Byte order: ^       Little endian ^         Byte order: ^       Little endian ^         Restore Defaults	Select message for testing, More	
Parser Input         Select content to be parsed against schema.         Content from DEPL Test - Serialize' view         Content from a data file         Input file name:*         Browse         Specify runtime configuration.         Runtime encoding options         Provide runtime values for properties which have been configured in the model to be dynamically set. More         Encoding (code page):       UTF-8         Floating point format:       IEEE Non-Extended         Byte order:       Little endian  Big endian         Runtime validation       If validate data against schema More         Restore Defaults       OK	Message name: * Companies	•
Select content to be parsed against schema. Content from DEDL Test - Serialize' view Content from a data fil Input file name:* Browse Specify runtime configuration. Runtime encoding options Provide runtime values for properties which have been configured in the model to be dynamically set. More Encoding (code page): UTF-8 Floating point format: IEEE Non-Extended Byte order: C Little endian C Big endian Runtime validation V Validate data against schema More Restore Defaults	Parser Input	
Content from 'DFDL Test - Serialize' view Content from a data fil Input file name: Provide runtime configuration. Runtime encoding options Provide runtime values for properties which have been configured in the model to be dynamically set. More Encoding (code page): UTF-8 Floating point format: IEEE Non-Extended Byte order: C Little endian C Big endian Runtime validation V Validate data against schema More Restore Defaults OK Cancel	Select content to be parsed against schema.	
Imput file name:*       Imput file name:*         Specify runtime configuration.         Runtime encoding options         Provide runtime values for properties which have been configured in the model to be dynamically set. More         Encoding (code page):       UTF-8         Floating point format:       IEEE Non-Extended         Byte order:       Little endian         ® Big endian         Runtime validation         ✓ Validate data against schema More         Restore Defaults	C Content from 'DFDL Test - Serialize' view	
Input file name:*	Content from a data file	
Specify runtime configuration.          Runtime encoding options         Provide runtime values for properties which have been configured in the model to be dynamically set. More         Encoding (code page):       UTF-8         Floating point format:       IEEE Non-Extended         Byte order:       Little endian         Byte order:       Little endian         Runtime validation         ✓         Validate data against schema         More	Input file name: *	Browse
Specify runtime configuration.          Runtime encoding options         Provide runtime values for properties which have been configured in the model to be dynamically set. More         Encoding (code page):       UTF-8         Encoding point format:       IEEE Non-Extended         Byte order:       C Little endian         ® Big endian         Runtime validation         Validate data against schema More         Restore Defaults		
Runtime encoding options Provide runtime values for properties which have been configured in the model to be dynamically set. More Encoding (code page): UTF-8 Floating point format: IEEE Non-Extended Byte order: C Little endian C Big endian Runtime validation V Validate data against schema More Restore Defaults OK Cancel	Specify ruptime configuration.	
Provide runtime values for properties which have been configured in the model to be dynamically set. More Encoding (code page): UTF-8 Floating point format: IEEE Non-Extended Byte order: Little endian I Big endian Runtime validation Validate data against schema More Restore Defaults	Runtime encoding options	
Encoding (code page): UTF-8 Floating point format: IEEE Non-Extended Byte order: C Little endian C Big endian Runtime validation Validate data against schema More Restore Defaults OK Cancel	Provide runtime values for properties which have been configured in the model to be dynamically set. More	<u>.</u>
Floating tools page, Find C   Floating point format:   IEEE Non-Extended   Byte order:   C Little endian   ® Big endian     Runtime validation   Validate data against schema   More     Restore Defaults     OK     Cancel	Encoding (code page):	
Floating point format: IEEE Non-Extended   Byte order:     Little endian     Big endian     Runtime validation   Validate data against schema   More     Restore Defaults     OK   Cancel		
Byte order: C Little endian C Big endian          Runtime validation         Validate data against schema More         Restore Defaults	Floating point format:  IEEE Non-Extended	
Runtime validation          Image: Validate data against schema More         Restore Defaults    OK Cancel	Byte order: 🔿 Little endian 💿 Big endian	
Restore Defaults         OK		
Restore Defaults OK Cancel		
Restore Defaults OK Cancel		
OK Cancel	Pactore Defaults	
OK Cancel		
	ОК	Cancel

3. Check the "Select an input file from the file system" and browse to "C:\student\MessageModeling\data" and select the "Companies.txt" file.

Click OK.

File Selection	
Select an input file:	
🖃 😂 BARfiles	
Customer.b	ar
WXS_Reque	est.bar
E-CUSTOMER	
SAMPLES1.d	dbm
🖻 🖓 Customer_App	
ProcessCust	tomerGold.msgflow
ProcessCust	tomerRegular.msgflow
ProcessCust	tomerSilver.msgflow
Customer_Lib	
samples1	
getCustome	r.subriow
esql detCustome	r Retrieve_ustomer.esal
Select an input file fr	rom the file system
C:\student\Message	eModeling\data\Companie: Browse

4. Leave all the default values and click OK.

D Test Parse Model		
		<b>_</b>
Message		
Select message for t	testing. <u>More</u>	
Message name:*	Companies	┚
Parser Input		
Select content to be	parsed against schema.	
C Content from 'DF	-DL Test - Serialize' view	
Content from a con	data file	
Input file name:*	C:\student\MessageModeling\data\Companies.txt  Browse.	
Specify runtime config Runtime encoding of Provide runtime valu <u>More</u>	juration. ptions les for properties which have been configured in the model to be dynamically set.	
Encoding (code page	e): UTF-8	J
Floating point forma	t: IEEE Non-Extended	J
Byte order: C Little	e endian 💿 Big endian	
Runtime validation -		
Validate data ag	ainst schema More	
Restore Defaults		
	OK Can	cel

5. A message bubble with a "Parsing completed successfully" should appear.

Check the "Do not display this message again" and close it by clicking on the "X", or click anywhere on the test parse window.

😵 Navigator 💽 Problems 🕒 DFDL Test - Parse 🕴 🔓 DFDL Test - Serialize 🐚 DFDL Test - Trace				
DFDL Test - Parse: Runs the DFDL parser with the provided physical input data and selected message root, and updates the logic	③ Parsing completed successfully.			
Status: Parsing completed: Tue Jun 07 11:08:49 CDT 2011				
Data: C:\student\MessageModeling\data\Companies.txt	Tips: • Selecting an element in the DFDL editor will cause the parsed input to focus only on data pertaining to the selected element.			
Parsed Input     Characters	The logical instance that was created by the DFDL parser can be viewed by clicking on the Open DFDL Logical Instance Wew toobar button or by clicking <u>here</u> .     The trace captured while running the DFDL parser can be viewed by clicking on the Open DFDL Trace Wew toobar button or by clicking <u>here</u> .			
1 Header{recDesc:Wy Company records.compCount:5} 2 Company[compName=BBC 3 Employee(empNum=1111111dept=500[empName=Alice Wong]Addr:8200 Wy	🗹 Do not display this message again			
4 Employee (empNum=22222 dopt=500 empName=James May/Andrz 33 The Cuttings_Unchatom_ CH2 2PR[[col=205-205-1332]sale5189599.95] 5 Employee (empNum=33333] dopt=310 empName=Richard Hommond[Addrz16 Great Windmill St_London_W2 SRJ [tol=207-455-2955] sal=599.95] 6 Employee (empNum=44444 dopt=2310 imenName=Prenw Clarkesen Naddrz Rose Cottage, Pea br discusser din 12 200 (tot=745-2955] sal=599.95] 2 Employee (empNum=44444 dopt=2310 imenName=Frank Clarkesen Naddrz Rose Cottage, Pea br discusser din 12 200 (tot=745-123-4557) sal=5599.95]				
1:1 Offset: 0 Repeating index: 1 V Show line numbers Show whitespace Show hex Selection in	DFDL Editor = Companies : <anonymous> (complex) Range of selection: 0 - 2346</anonymous>			

6. Review the Parsed input and the Logical Instance view to verify the parsing was correct.

				×		
🖬 DFDL Test - Logical Instanc	ie X			6		
Data source: <from 'dfdl<="" td=""><td colspan="6">Data source: <from 'dfdl="" -="" parse'="" test="" view=""></from></td></from>	Data source: <from 'dfdl="" -="" parse'="" test="" view=""></from>					
<b>Message:</b> Companies (/workspaces/web_patterns/MessageModellingLibrary/Companies.xsd)						
Tree View XML View						
Name	Туре	Value		<b>▲</b>		
Employee						
Employee						
🖃 Employee						
EmpNo	xs:integer	100005				
Dept	xs:integer	4400				
EmpName	xs:string	Gordon Tracy				
Tel	xs:string	207-883-1238				
Salary	xs:decimal	666.67				
🗆 Trailer						
chksum	xs:string	1234567890				
				<b>•</b>		

This concludes the Advanced Record-oriented Text Message Modeling lab.