# XLr8Reporter

BUILT ON eclipse

## Subroutine

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# XLr8 Report Subroutine Users Guide

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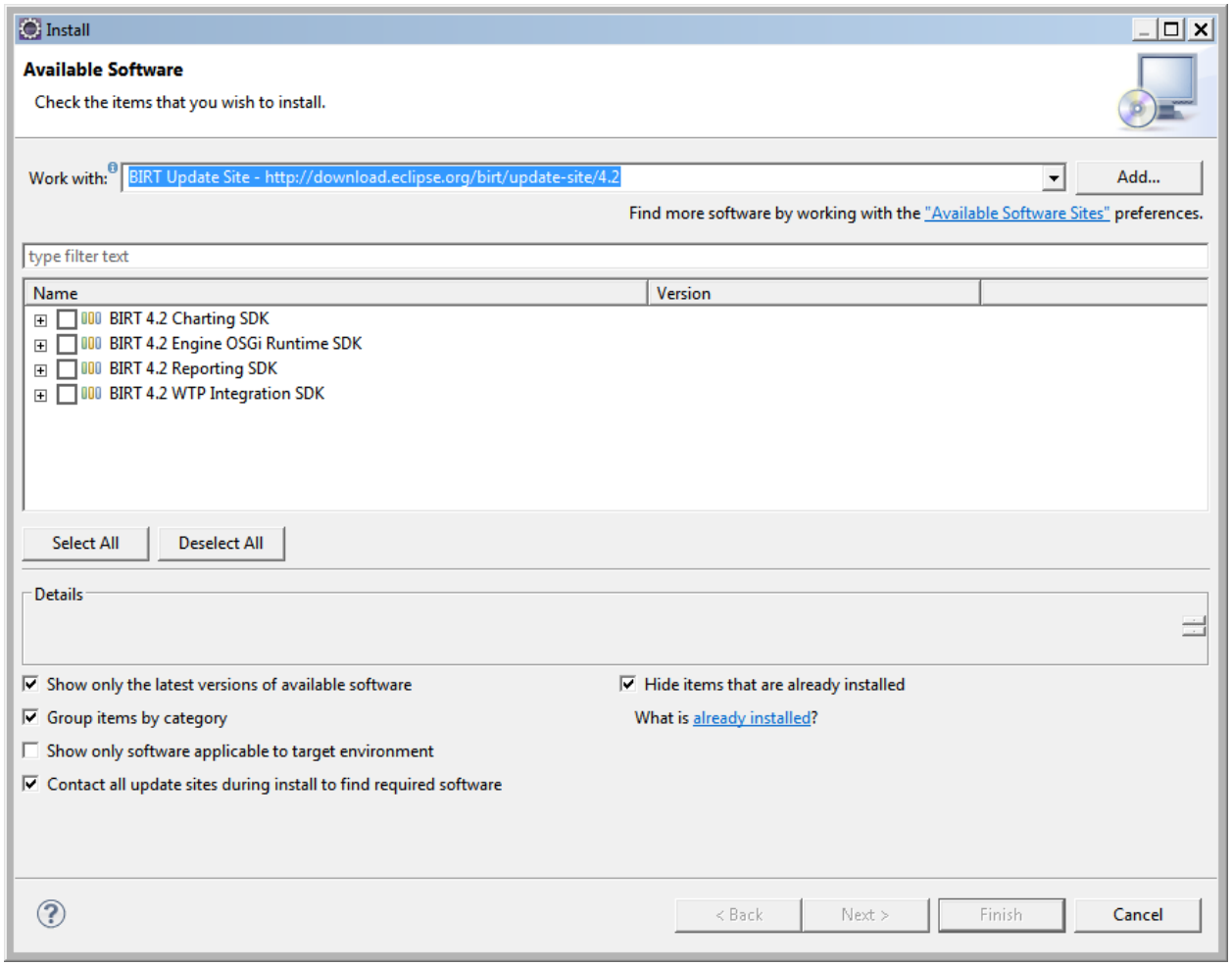
# I. Business Information Report Tool (BIRT)

Business Information Reporting Tool (BIRT) is an open source software project that provides the BIRT technology platform to create data visualizations and reports that can be embedded into rich client and web applications, especially those based on Java and Java EE. BIRT is a top-level software project within the Eclipse Foundation, an independent not-for-profit consortium of software industry vendors and an open source community.

U2logic has created the ODA Data Source element represents a type of Open Data Access (ODA) connection. It is described by an extension ID and optional set of driver-specific connection properties. An ODA driver may support one or more ODA data source extensions. In this case we are supporting Universe and UniData natively.

Install new software: BIRT Update Site - [http://download.eclipse.org/birt/downloads/build.php](http://download.eclipse.org/birt/downloads/build.php)

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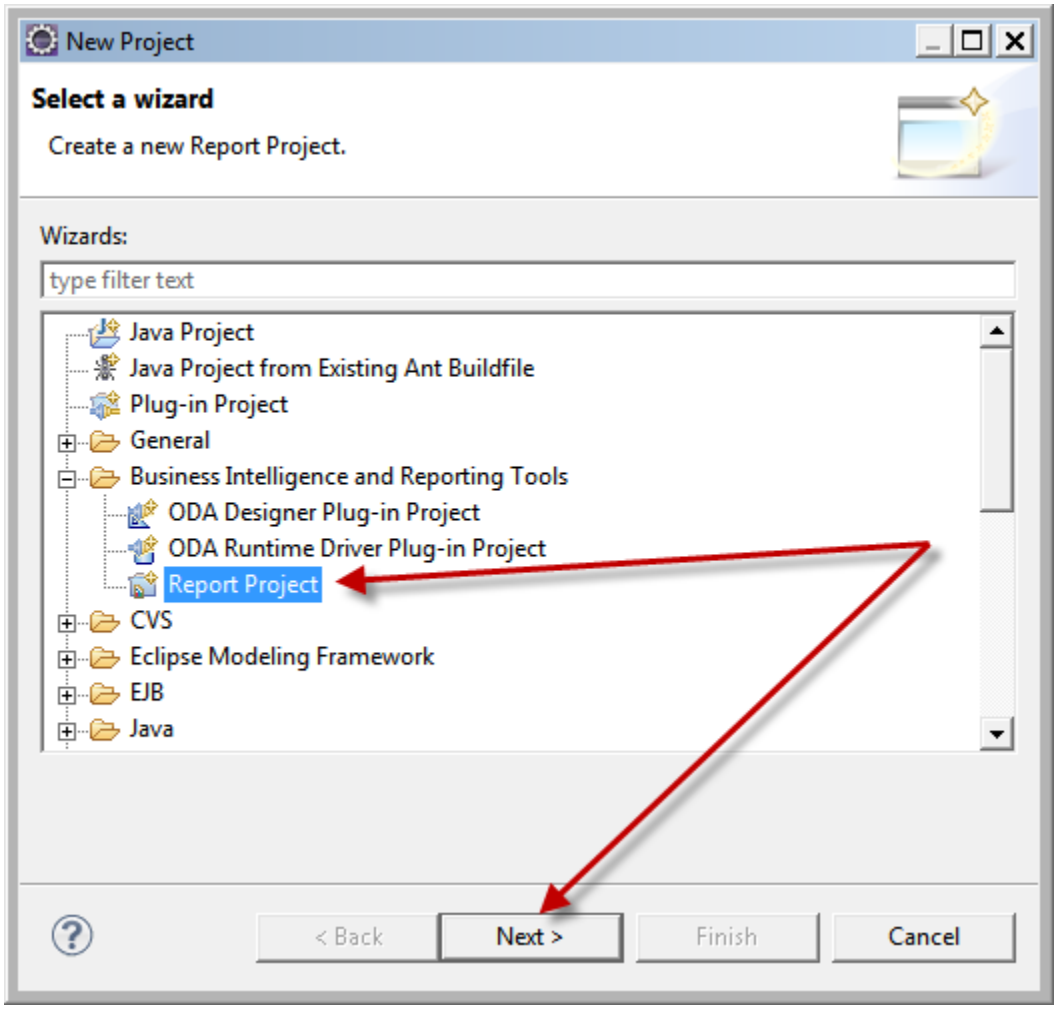
# II. Create a BIRT Project

In Eclipse menus File->New->Project:

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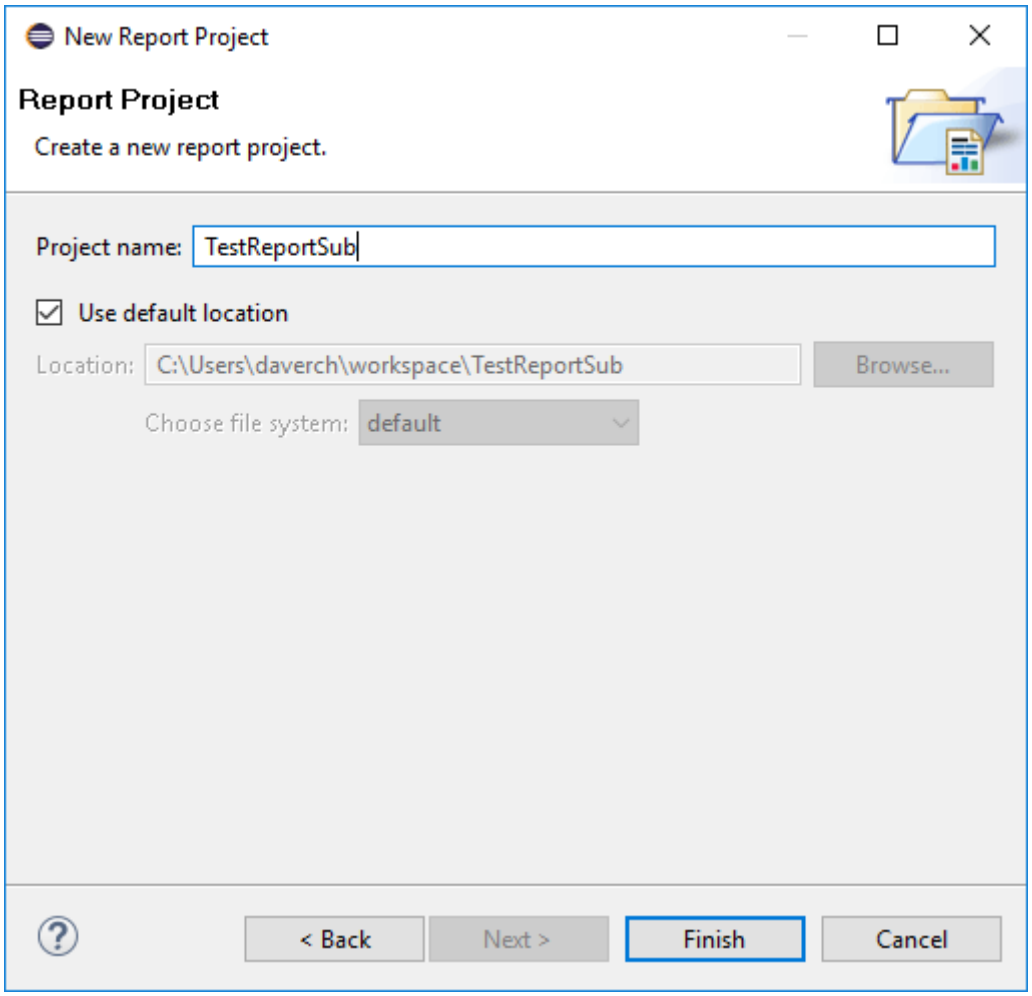


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Right Click on the TestReportSub project to get this menu:

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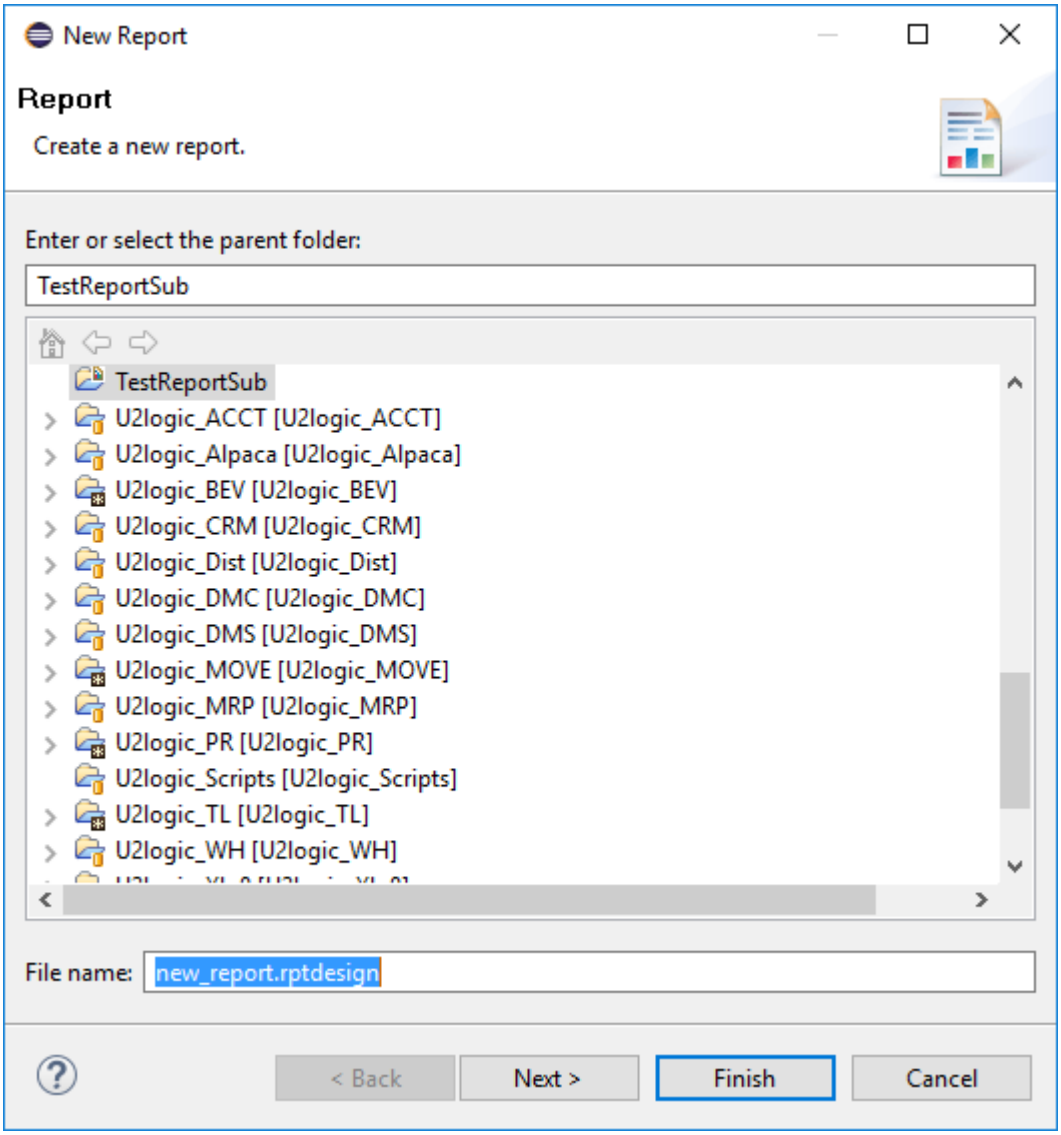
You can change the name of the report design and press Next Button:

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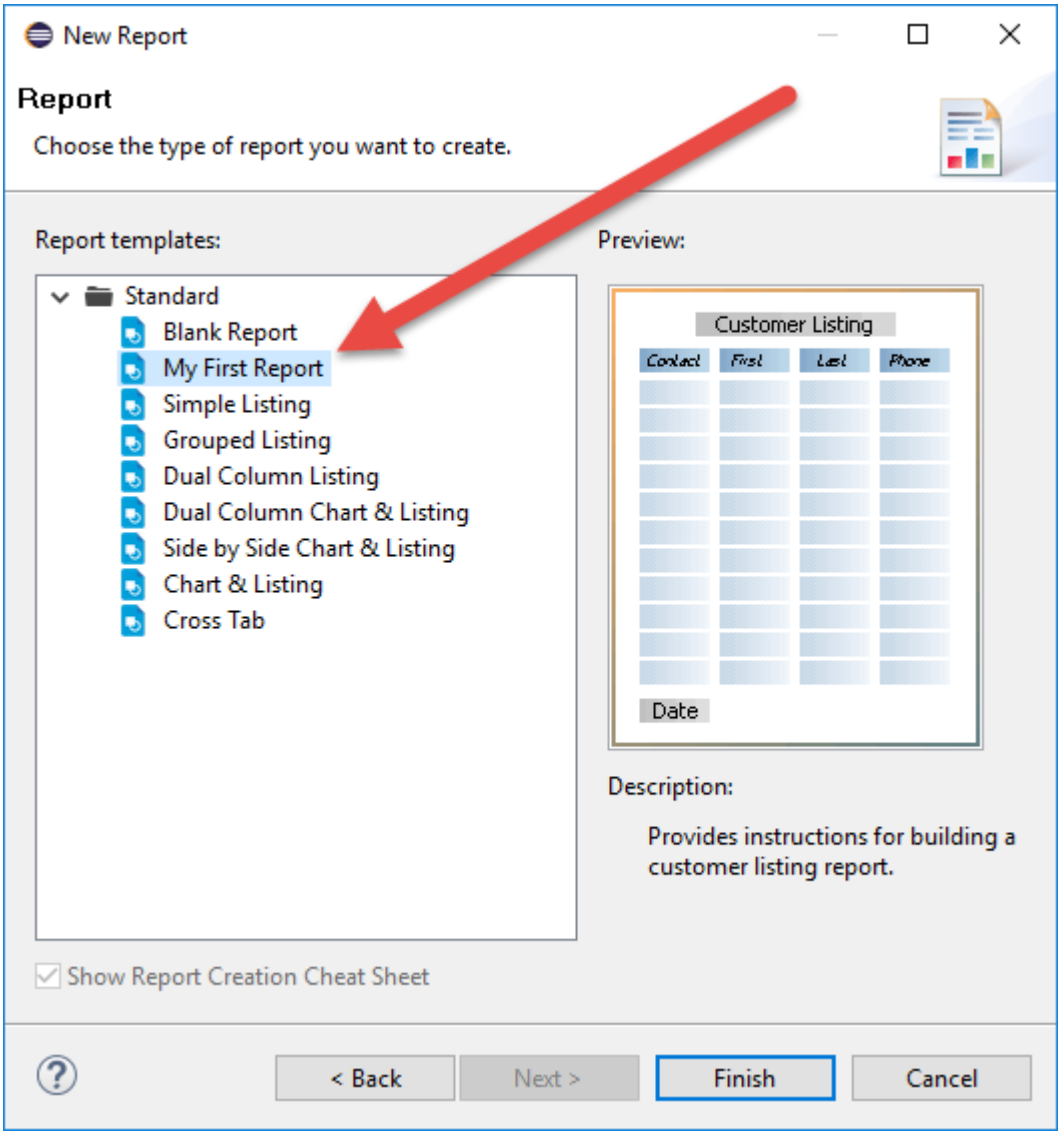
Now pick the report type and press the Finish button.

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# III. Create a UniBasic Subroutine

Create a basic subroutine program. All BIRT data is passed using JSON, so you will have to write your own UniBasic subroutine for parsing and for passing data back to BIRT.

MySubroutineSub | *new_report.rptdesign

```
      SUBROUTINE MySubroutineSub(PARAM1,PARAM2,PARAM3,PARAM4,RETURN.ID,METHOD)
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*******************************************************************************
      PGM.NAME = "MySubroutineSub"
      $INCLUDE XLr8Includes XLr8Param5.EQUATE
      $INCLUDE XLr8Includes XLr8Company.EQUATE
      $INCLUDE LOCAL.XLr8Includes CRM.CUSTOMERS.EQUATE
      CALL XLr8OpenFilesSub(0,'CRM.CUSTOMERS',CRM.CUSTOMERS,PARAM5,RETURN.ID,PGM.NAME) ; IF RETURN.ID THEN RETURN
      CALL XLr8OpenFilesSub(0,'XLr8Company',XLr8Company,PARAM5,RETURN.ID,PGM.NAME) ; IF RETURN.ID THEN RETURN
      CALL XLr8PropertySub(PARAM1,'','XLr8Company',COMPANY.NO,PARAM5,'getPropertyJSON')
      CALL XLr8PropertySub(PARAM1,'','Method',BIRT.METHOD,PARAM5,'getPropertyJSON')
      READ XCO.ITEM FROM XLr8Company,COMPANY.NO ELSE XCO.ITEM = ""
      ARRAY = "" ; CNT = 0
      BEGIN CASE
         CASE BIRT.METHOD = 'CreateReport' ; SAMPLED = @FALSE ; GOSUB CREATE.REPORT
         CASE BIRT.METHOD = 'getMetaData'  ; SAMPLED = @TRUE  ; GOSUB CREATE.REPORT
         CASE 1                            ; SAMPLED = @FALSE ; GOSUB CREATE.REPORT
      END CASE
      RETURN
CREATE.REPORT:*
      LINE = 'SELECT CRM.CUSTOMERS WITH COMPANY = "':COMPANY.NO:'" BY CUS.NAME'
      IF SAMPLED THEN LINE := ' SAMPLE 20'
      EXECUTE LINE CAPTURING OUTPUT
      LOOP WHILE READNEXT CUS.ID
         READ CUS.ITEM FROM CRM.CUSTOMERS,CUS.ID ELSE CONTINUE
         CNT += 1
         ARRAY<1,CNT> = CUS.ID
         ARRAY<2,CNT> = CUS.ITEM<CUS.ADD.CITY.AMC>
         ARRAY<3,CNT> = OCONV(CUS.ITEM<CUS.YTD.SALES.AMC>,'MD2')
      REPEAT
      GOSUB JSON.FORMAT
      RETURN
JSON.FORMAT:*
      FILTER = \Company: \ : COMPANY.NO
      JSON.FIELD = "Filter"              ; JSON.DATA = FILTER
      JSON.FIELD := @FM:"ProgramHeading" ; JSON.DATA := @FM:"Customer Listing"
      JSON.FIELD := @FM:"Copyright"      ; JSON.DATA := @FM:CHAR(169):"2016, U2logic, Inc. All Rights Reserved."
      JSON.FIELD := @FM:"RecordCount"    ; JSON.DATA := @FM:CNT:\ record(s) listed.\
      PARAM5.TEMP = PARAM5
      CALL XLr8PropertySub(JSON.FIELD,JSON.DATA,'','',PARAM5.TEMP,"setPropertyJSON")
      JSON = \{"REPORT_INFO":\:PARAM5.TEMP:\,"DATA":\
      JSON.FIELD = \CustomerNo\          ; JSON.DATA = ARRAY<1>
      JSON.FIELD := @FM:\City\       ; JSON.DATA := @FM:ARRAY<2>
      JSON.FIELD := @FM:\YTDSales\       ; JSON.DATA := @FM:ARRAY<3>
      PARAM5.TEMP = PARAM5
      CALL XLr8PropertySub(JSON.FIELD,JSON.DATA,'','JSONARRAY',PARAM5.TEMP,"setPropertyJSON")
      JSON := PARAM5.TEMP:\}\
      RETURN.ID = JSON
      RETURN
   END
```

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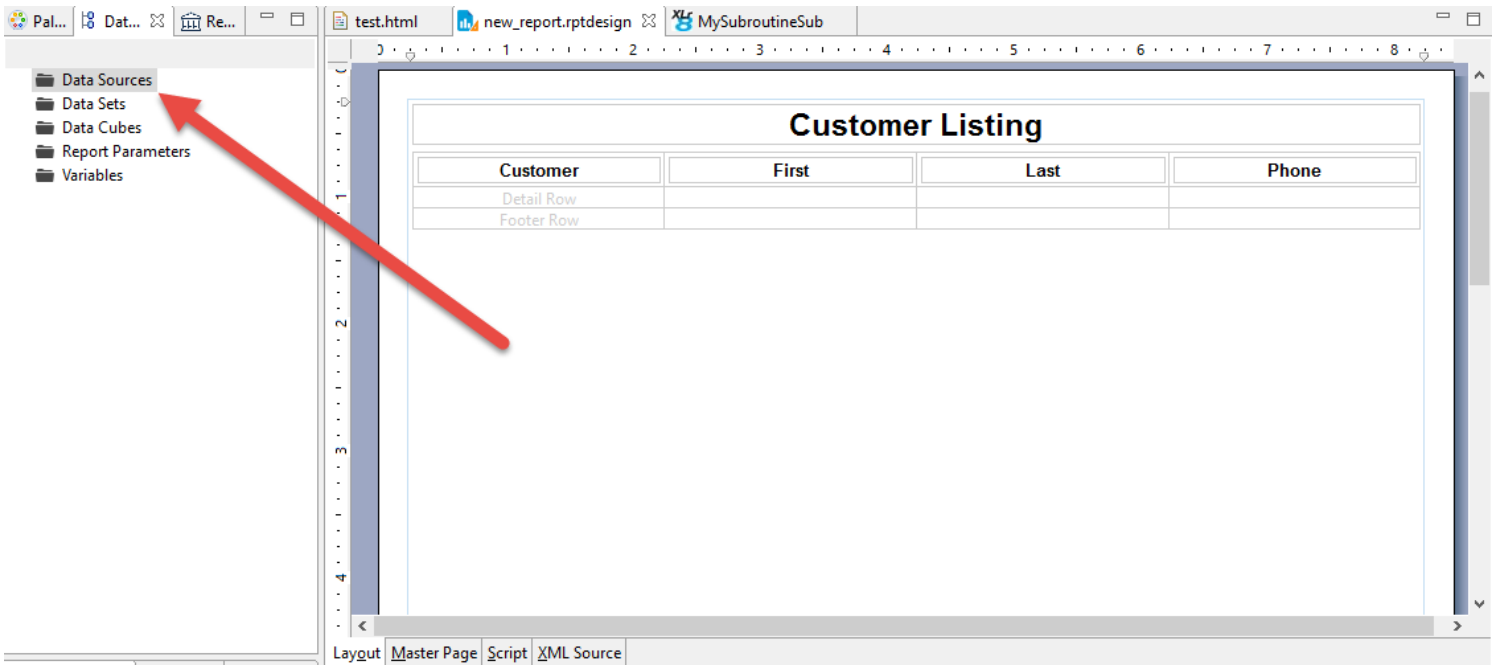
# IV. Finish your BIRT Project

Click back to BIRT new_report.rptdesign tab and right click on the “Data Sources” and create a new data source:

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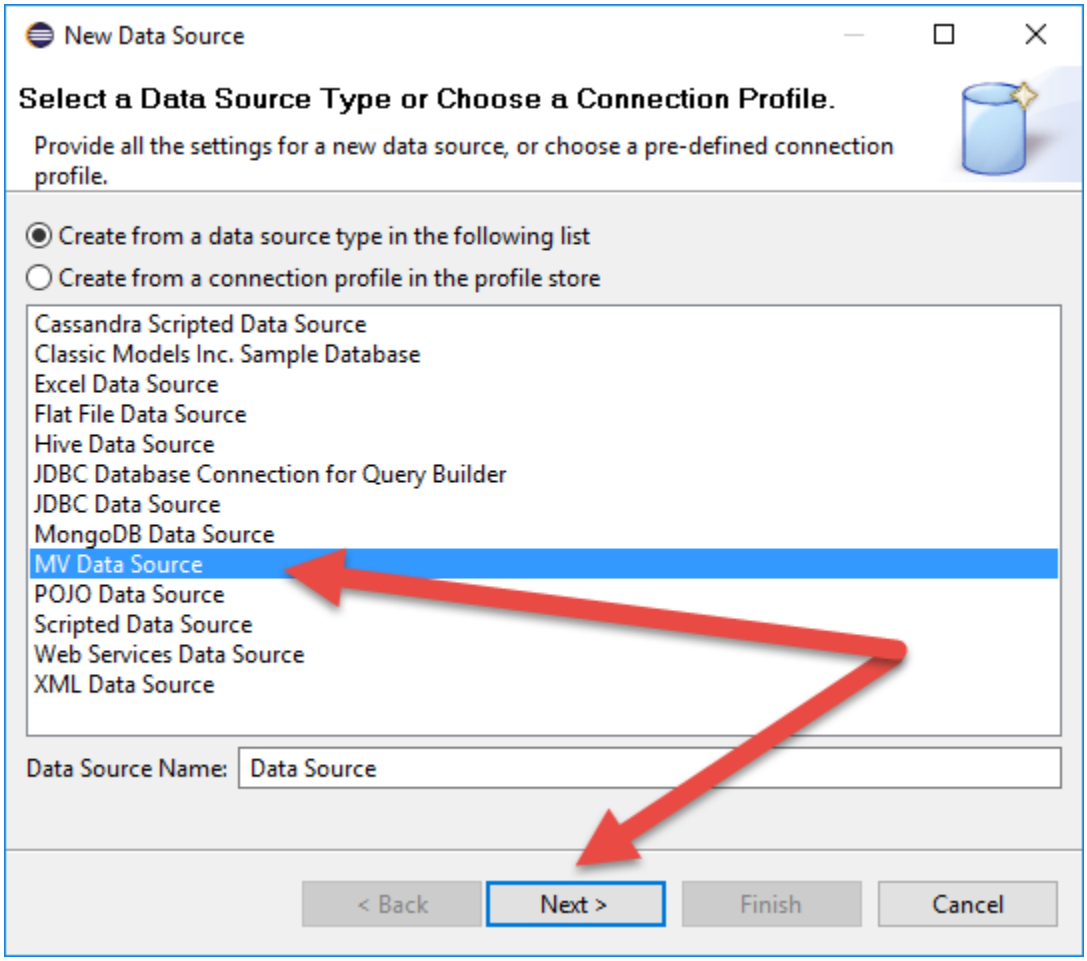
This wizard comes up and you must pick MV Data Source press the Next button:

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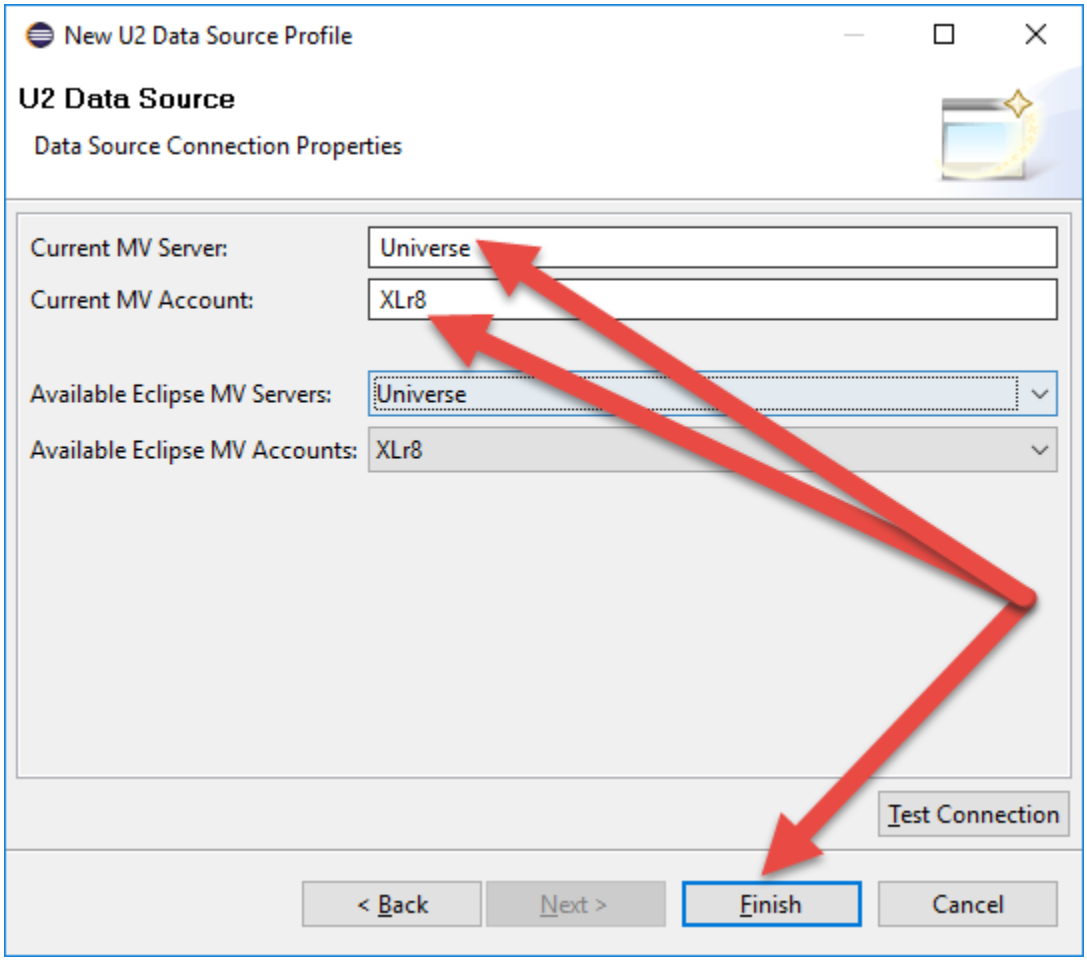
Your U2 Data Source wizard comes up and asks for you to pick a MV Server and MV Account. These should be setup in your Servers project that you used to create and edit your UniBasic Code.

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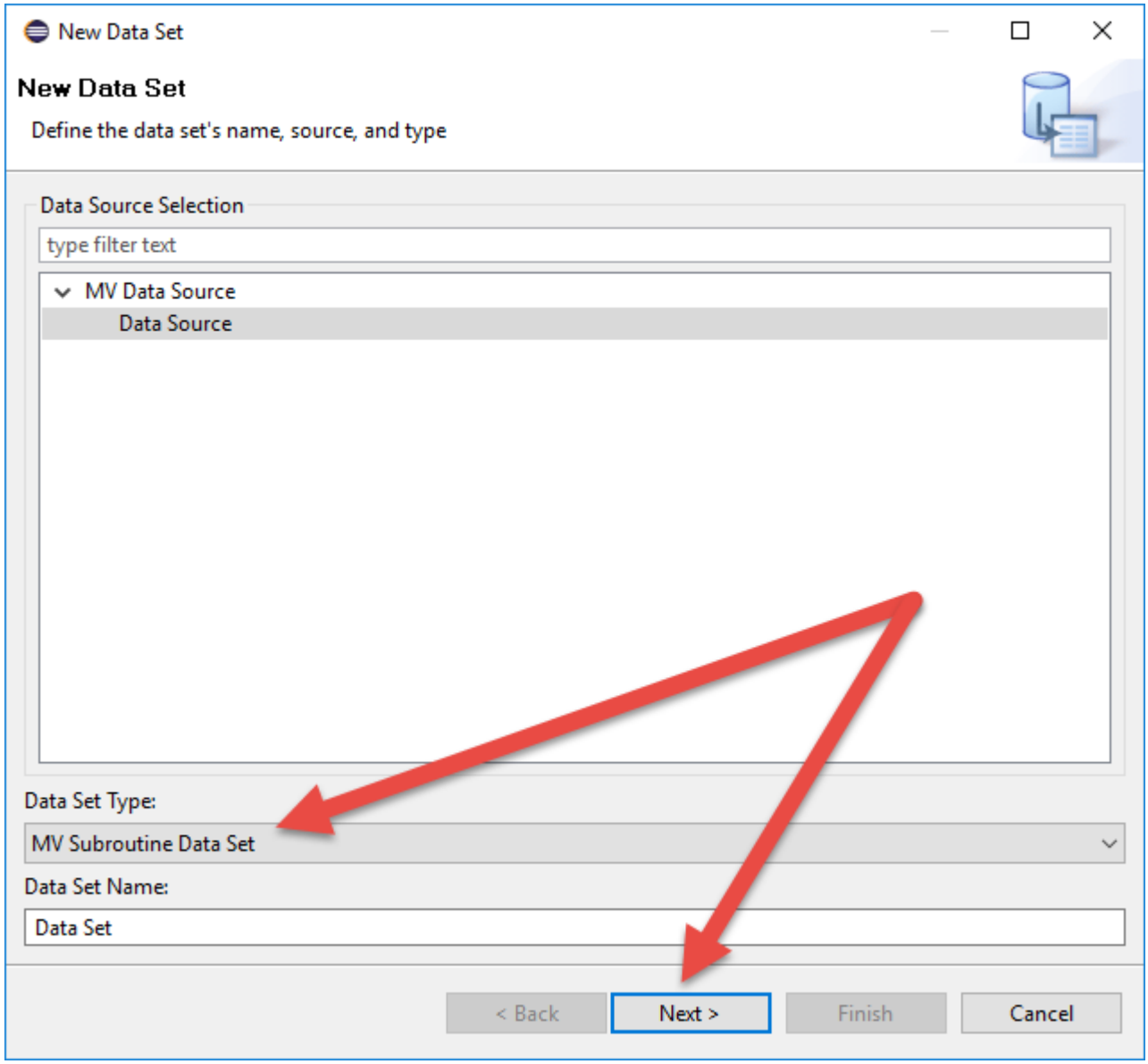
Now right click on your Data Set and pick the new Data Set option to get this wizard:

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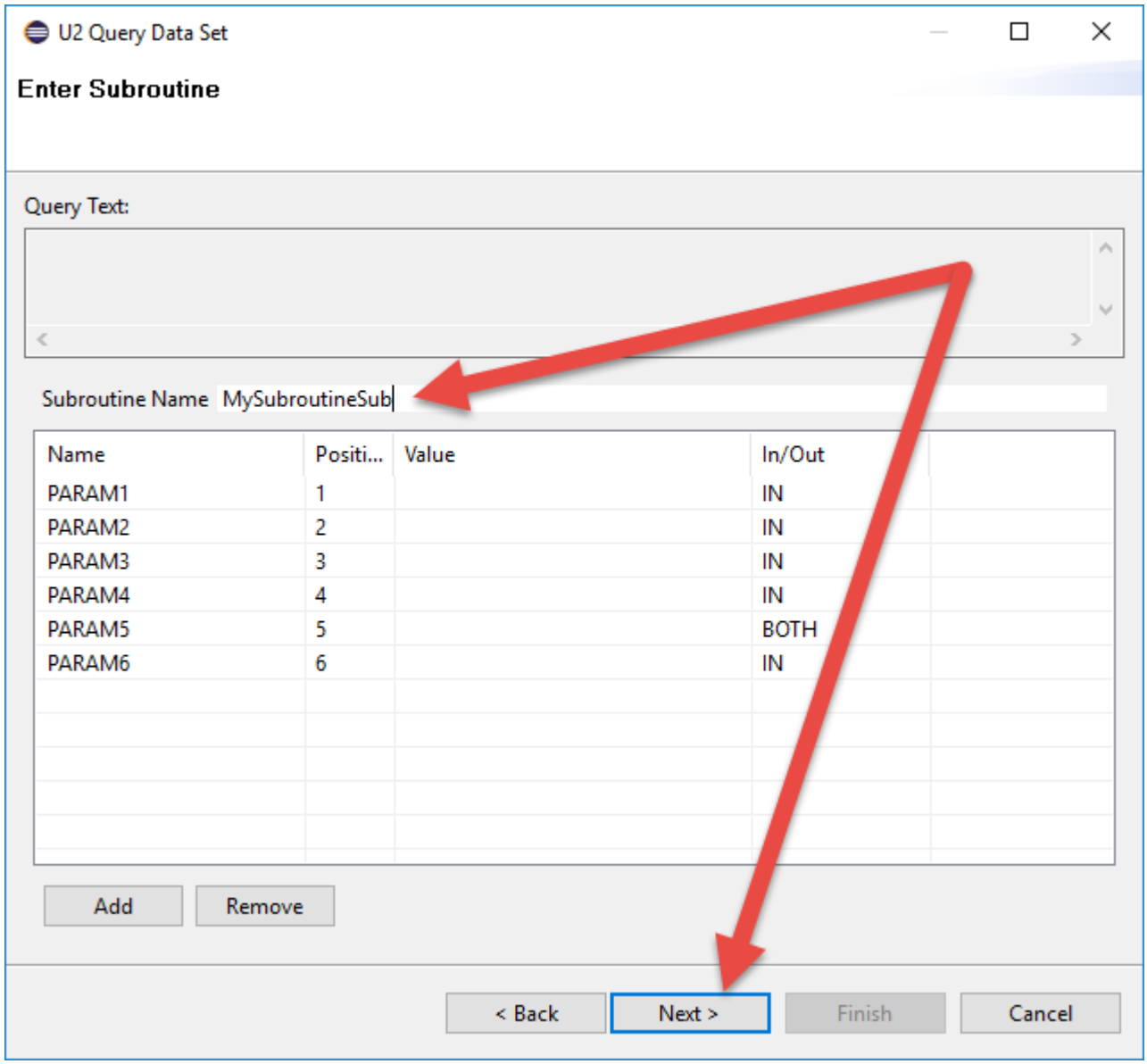
Enter the subroutine name and press the next button.  If you have not cataloged the subroutine you will not get the next button.

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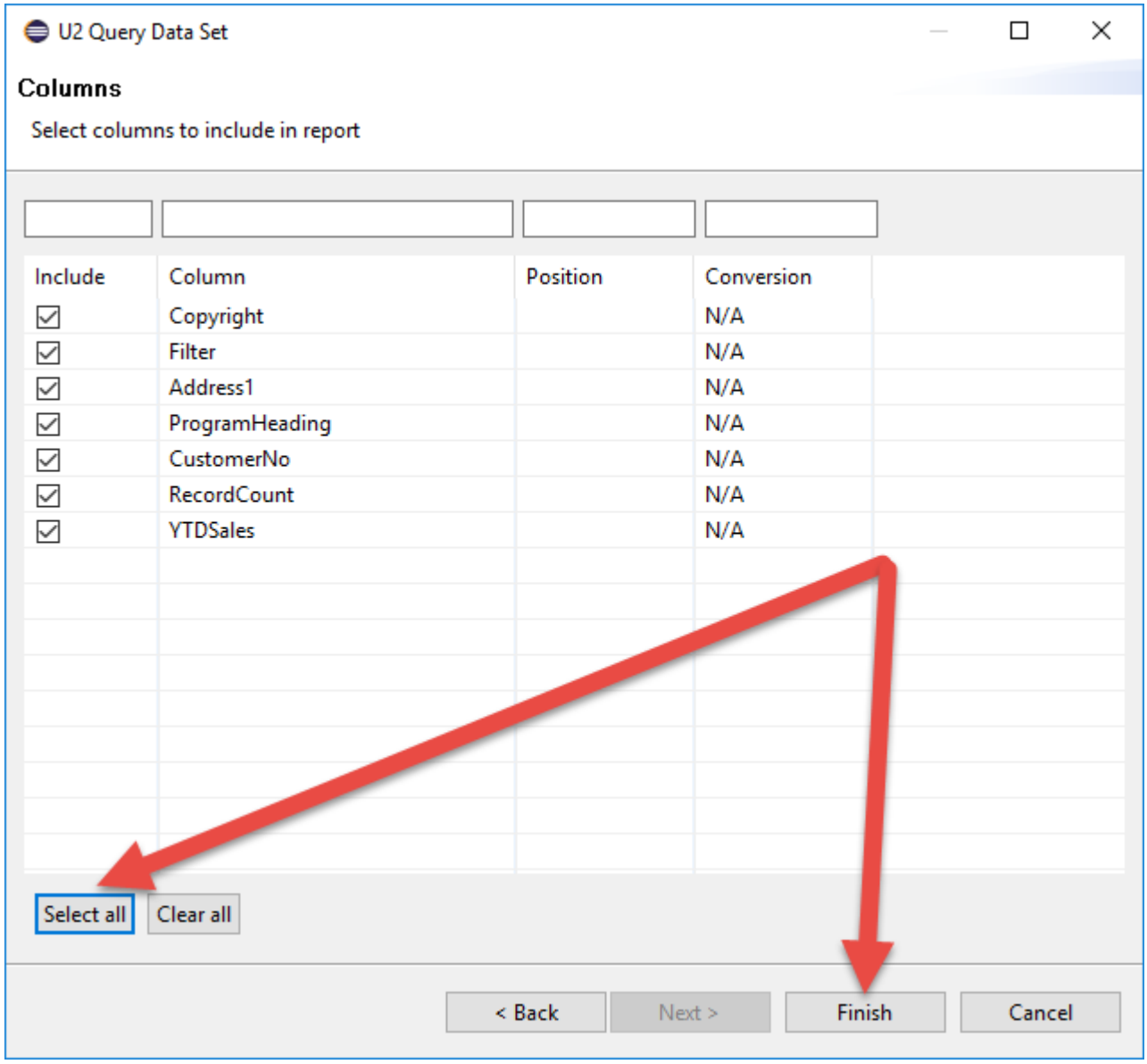
Pick all of the columns you would like for this data set and press the Finish button.

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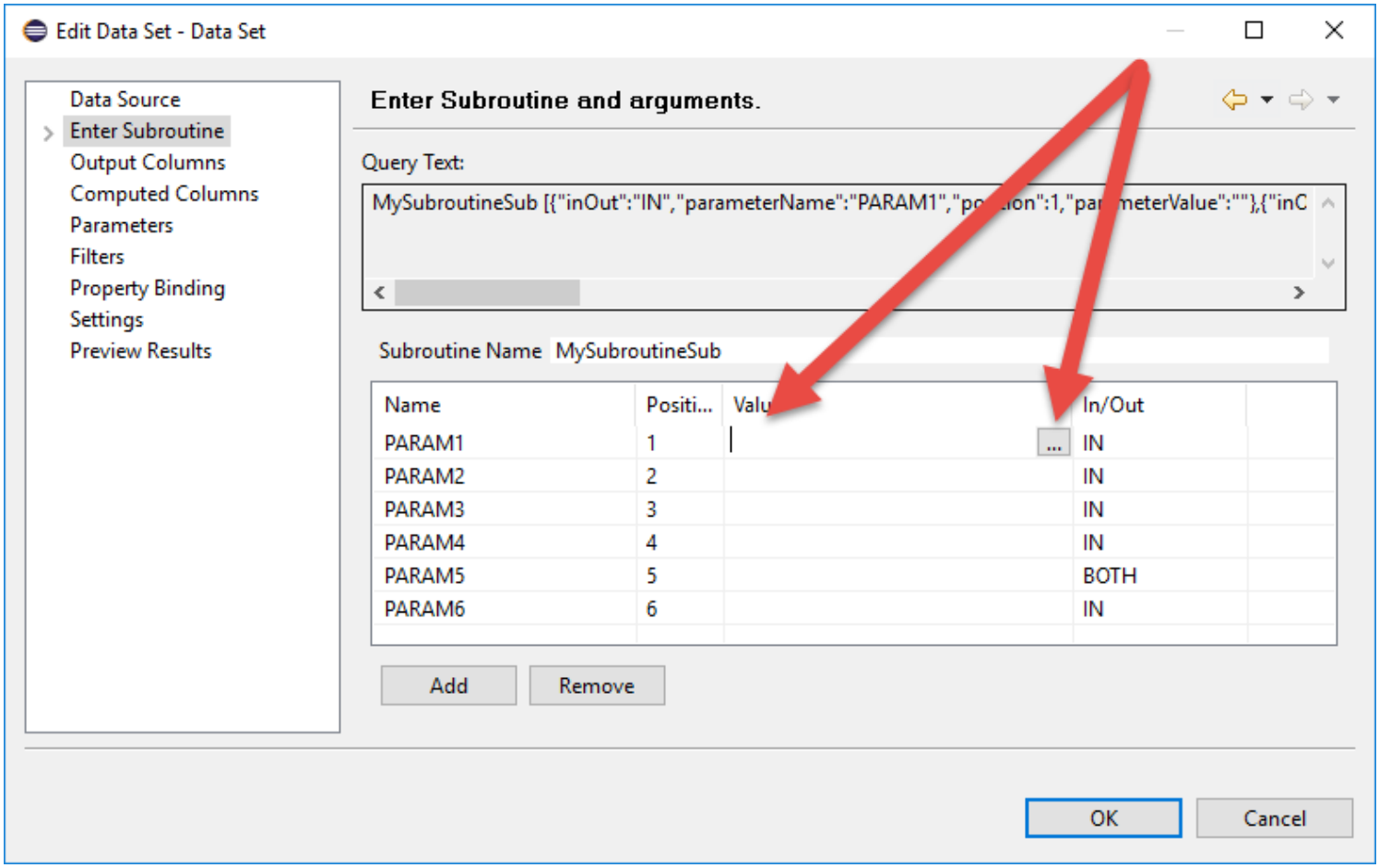
Click in PARAM1 Value to see the three dot button which you press next.

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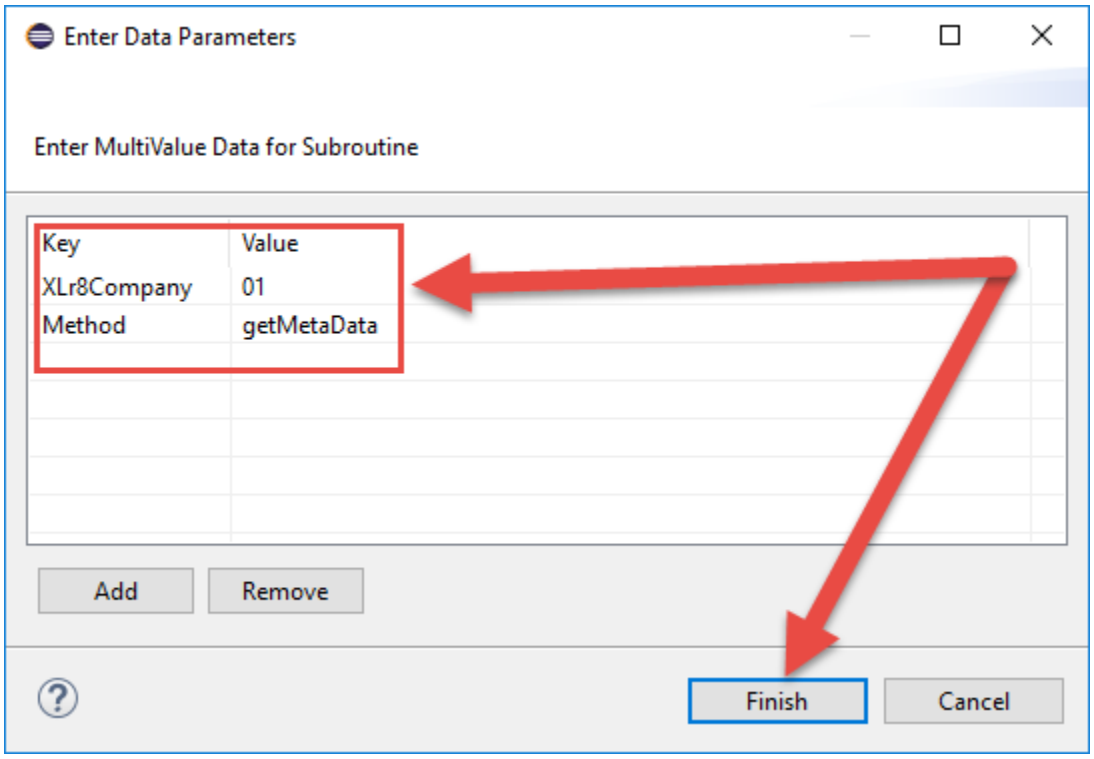
This parameter wizard is how you tell your UniBasic program what to run.  Add or subtract additional parameters as necessary and press finish when you are done.

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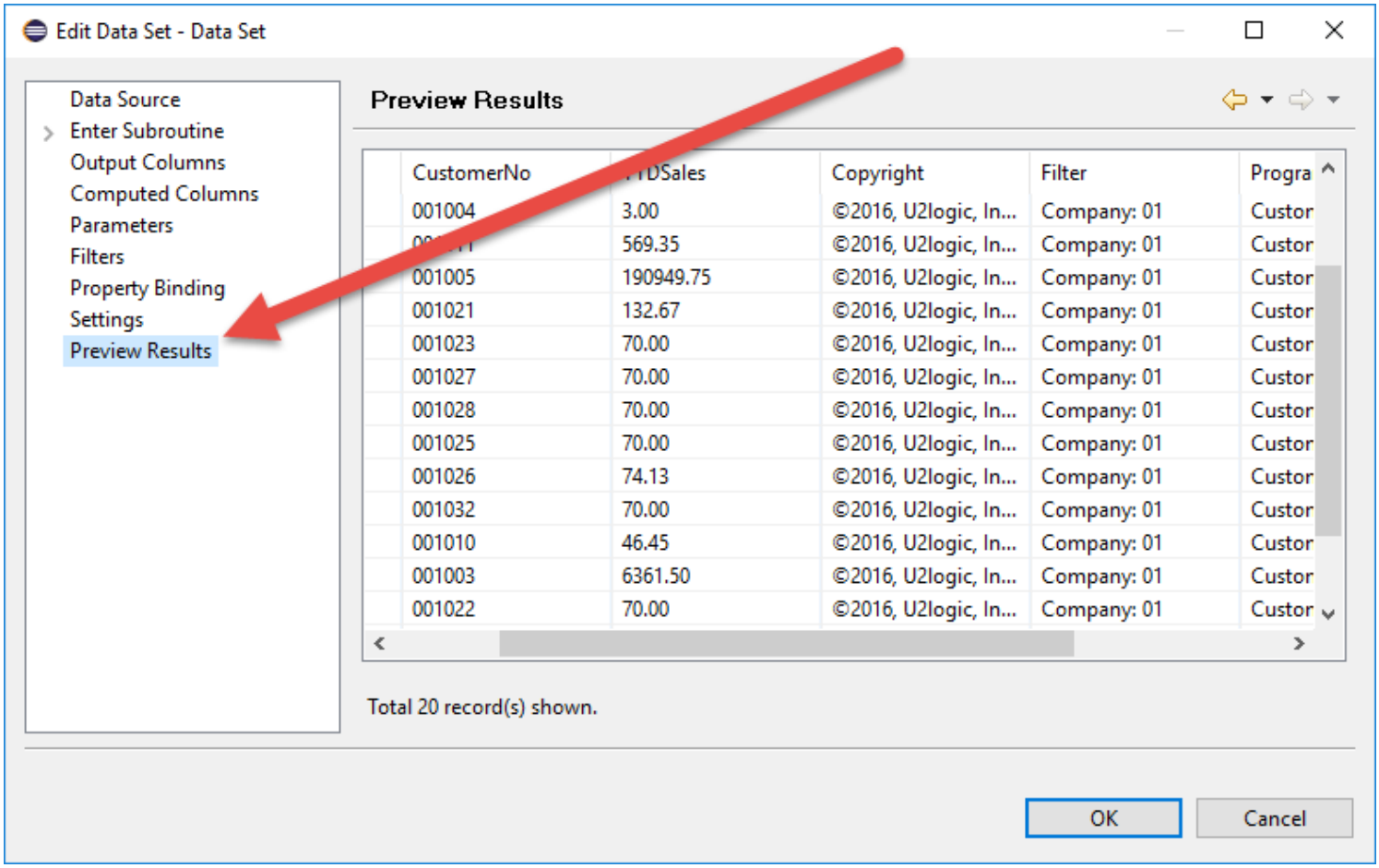
Press the Preview Results menu to see that your subroutine works:

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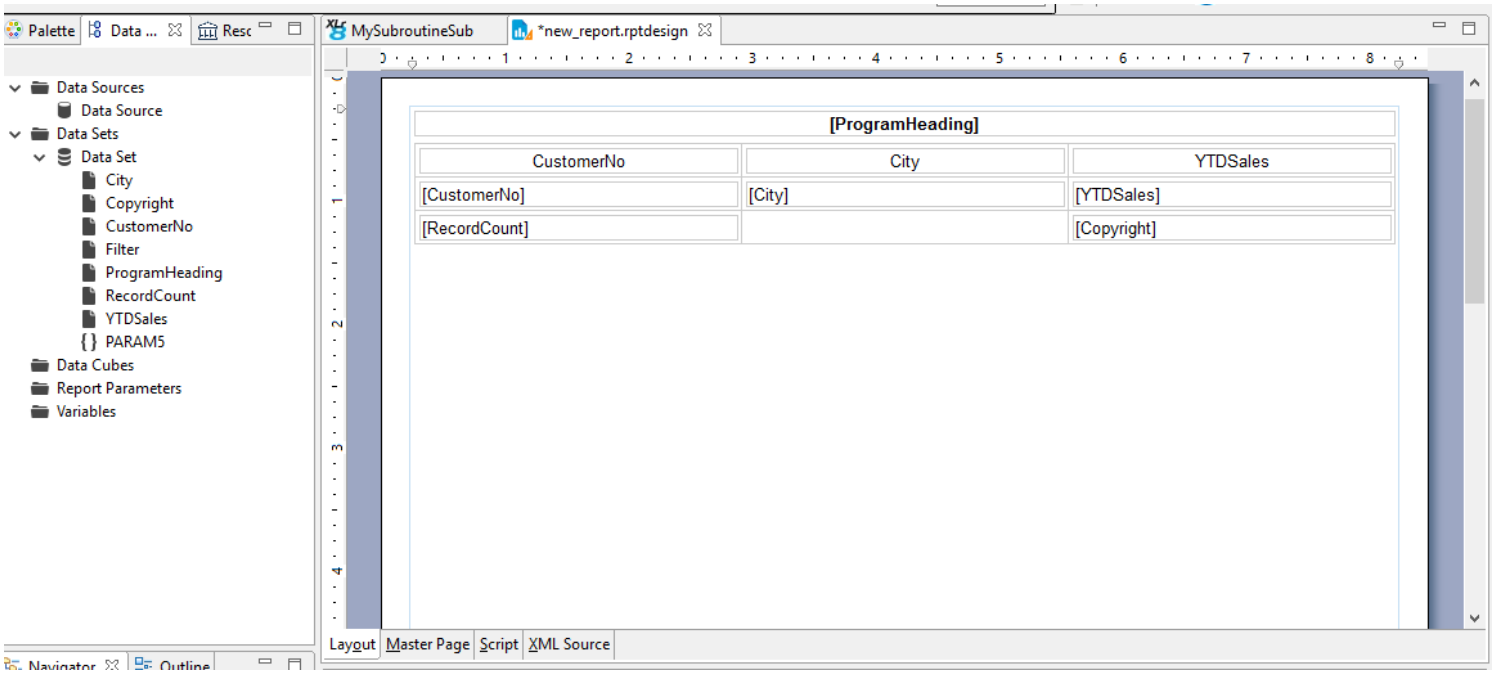
Remove all of the prior data and drag and drop your Data Set fields on this form:

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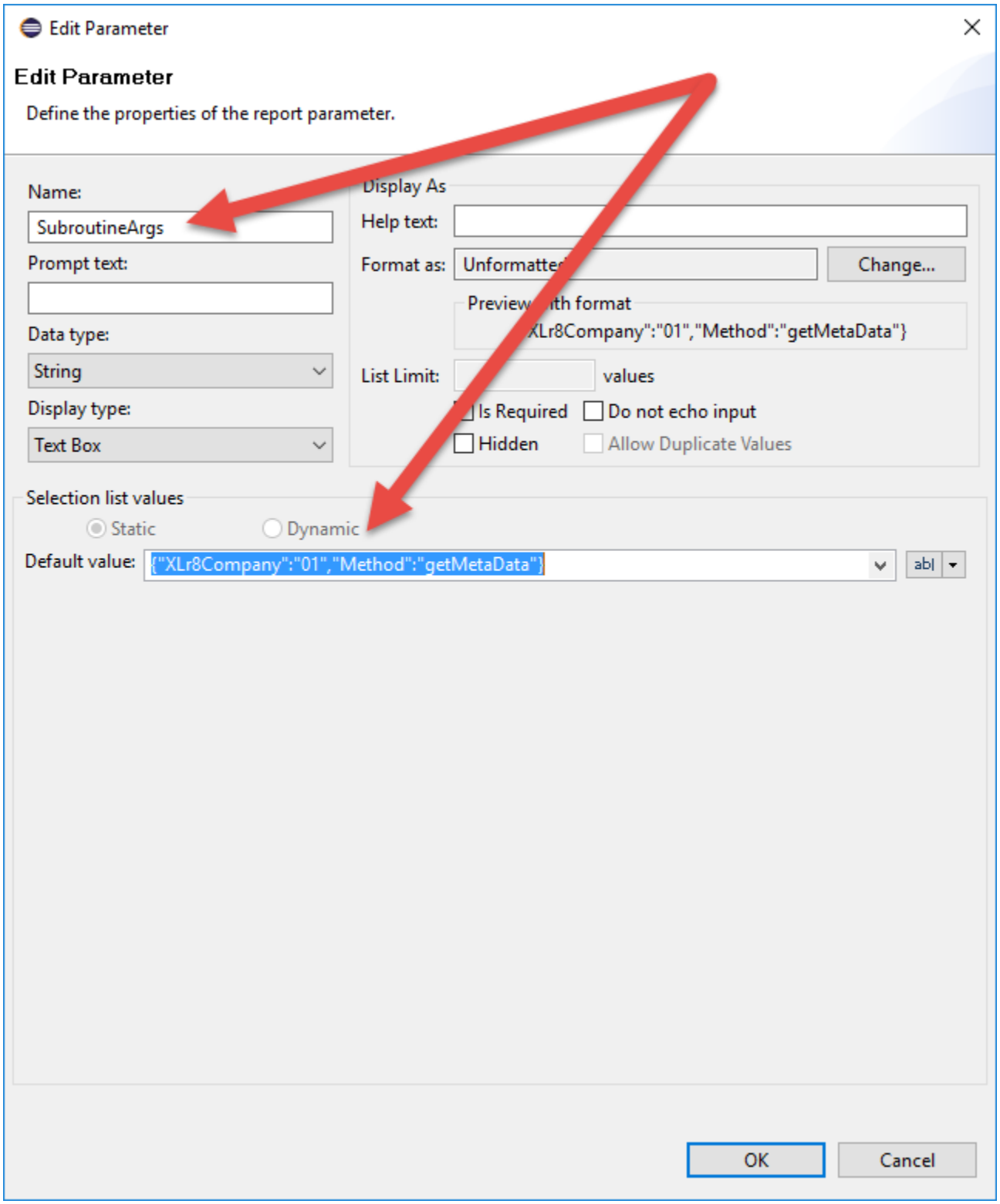
Right click on the Report Parameters to get this wizard. The name must be called SubroutineArgs. Paste in your parameters from the data set like below:

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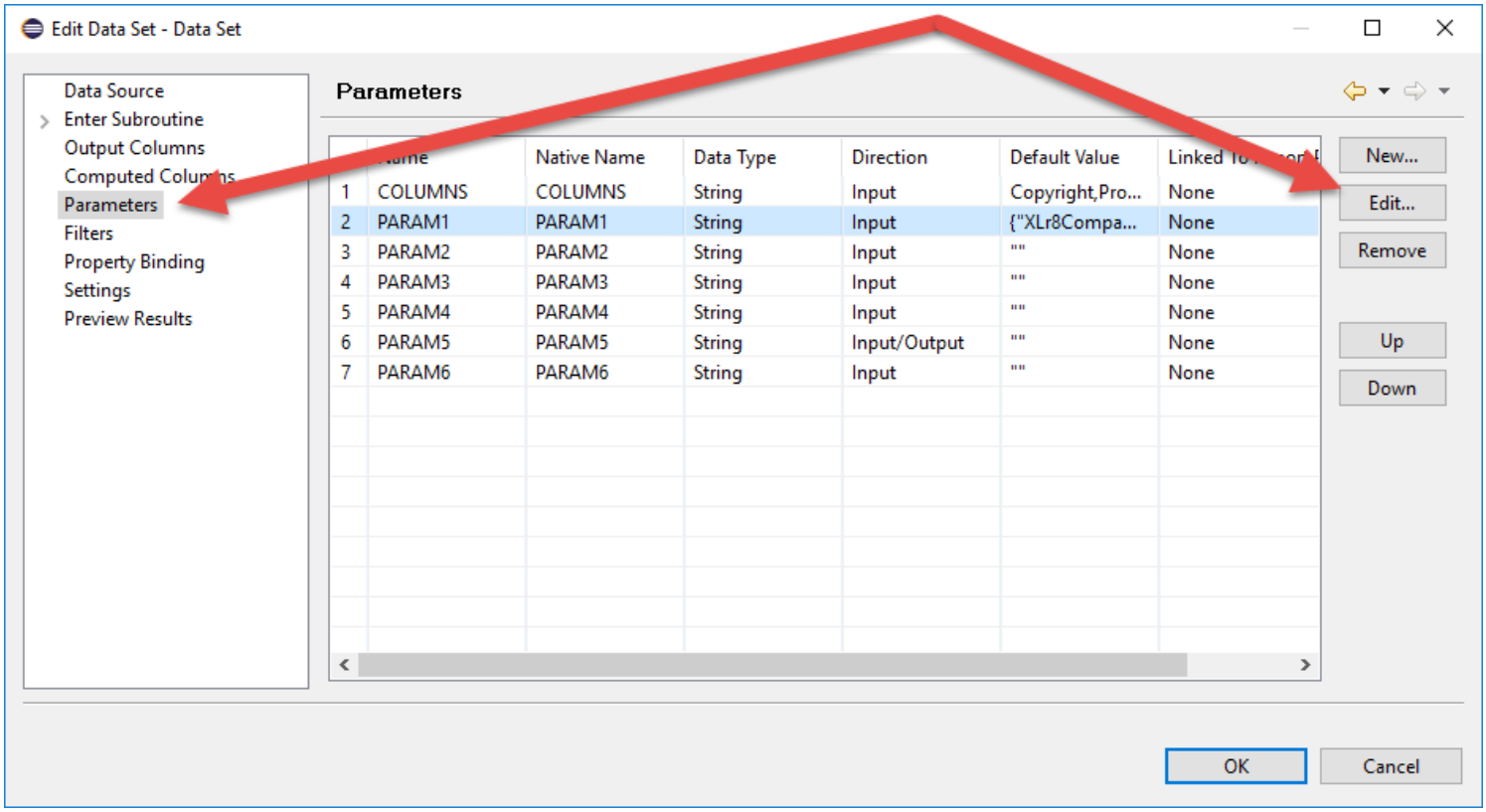
Click back on the Data Set so that we can link the Report Parameters to this data set:

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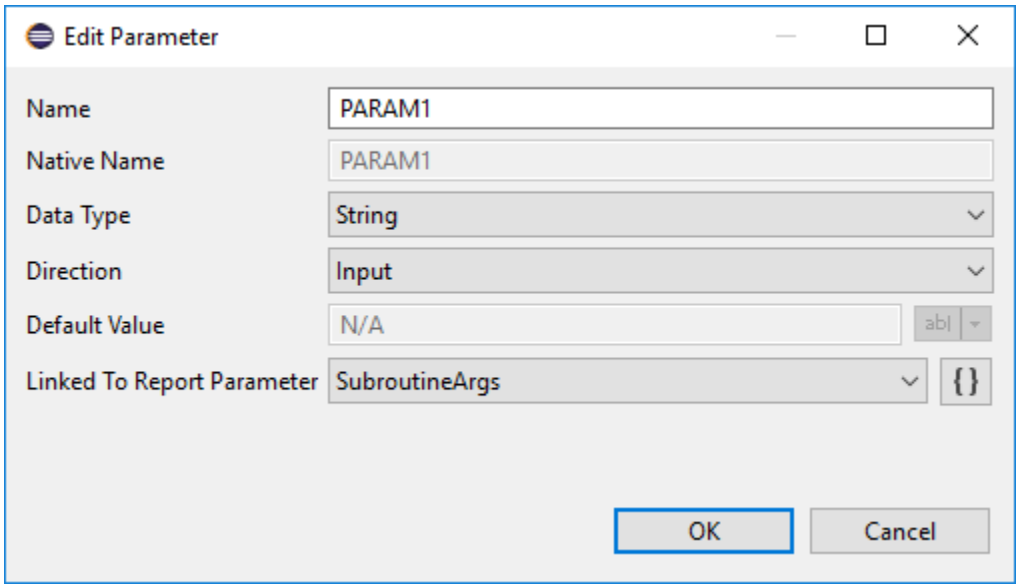
Make you PARAM1 file look like this so that your UniBasic subroutine can know what parameters it needs to run:

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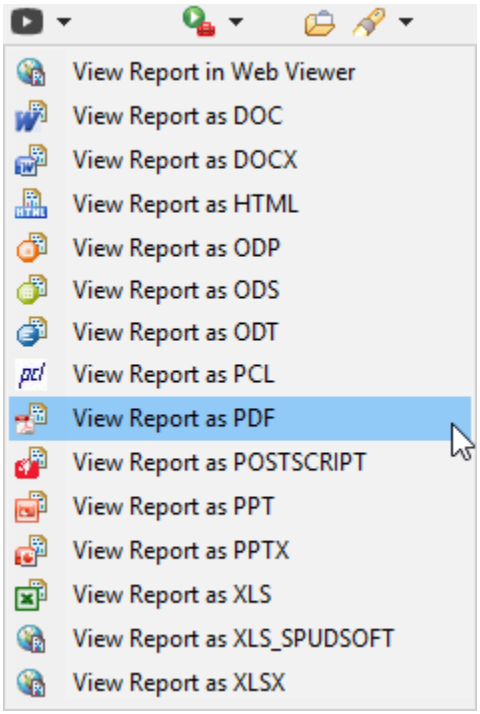
After you have save the prior wizard you can run this report in this case in PDF format:

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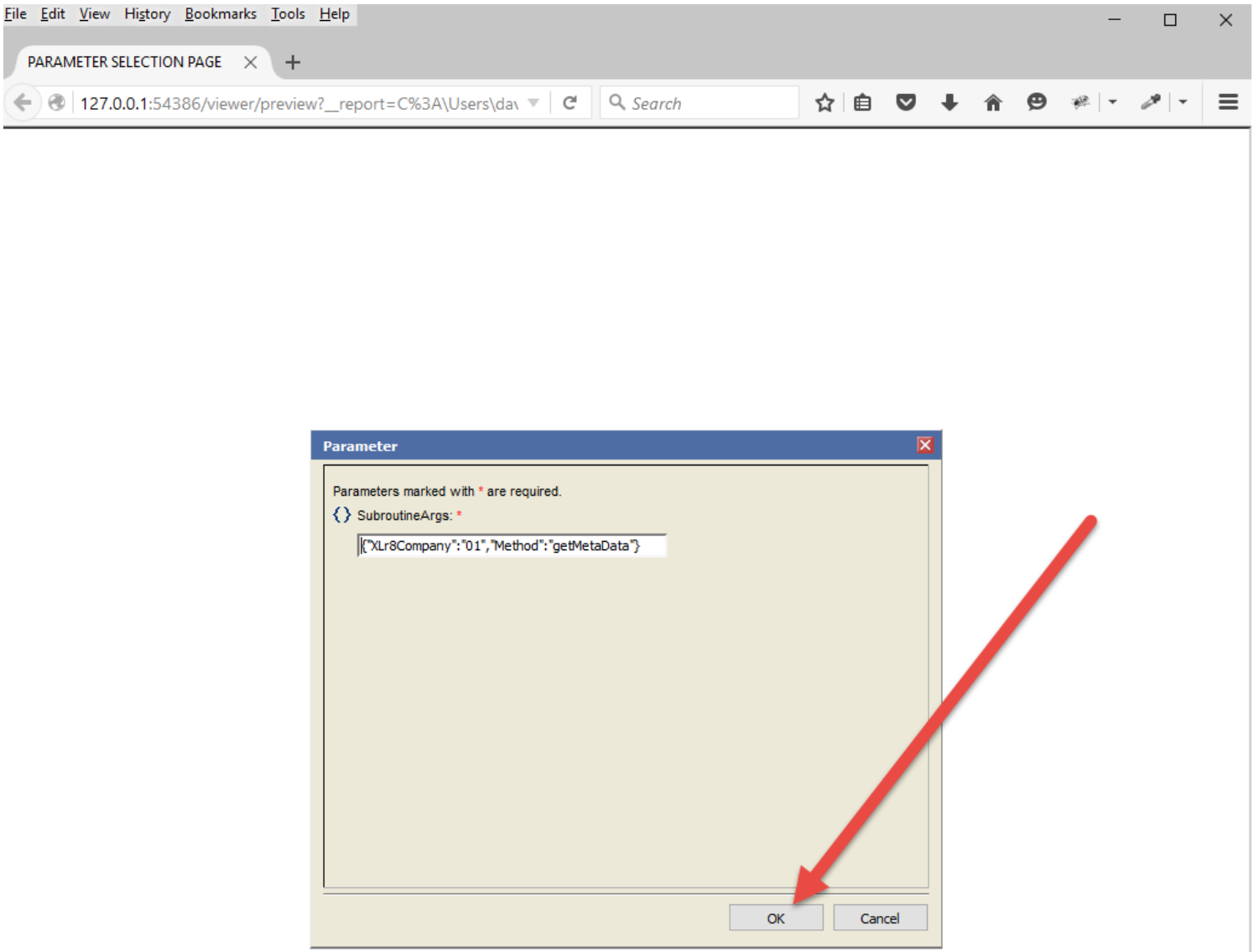
Your default browser will be opened by Eclipse and the parameter wizard will show. Press OK to run this report.

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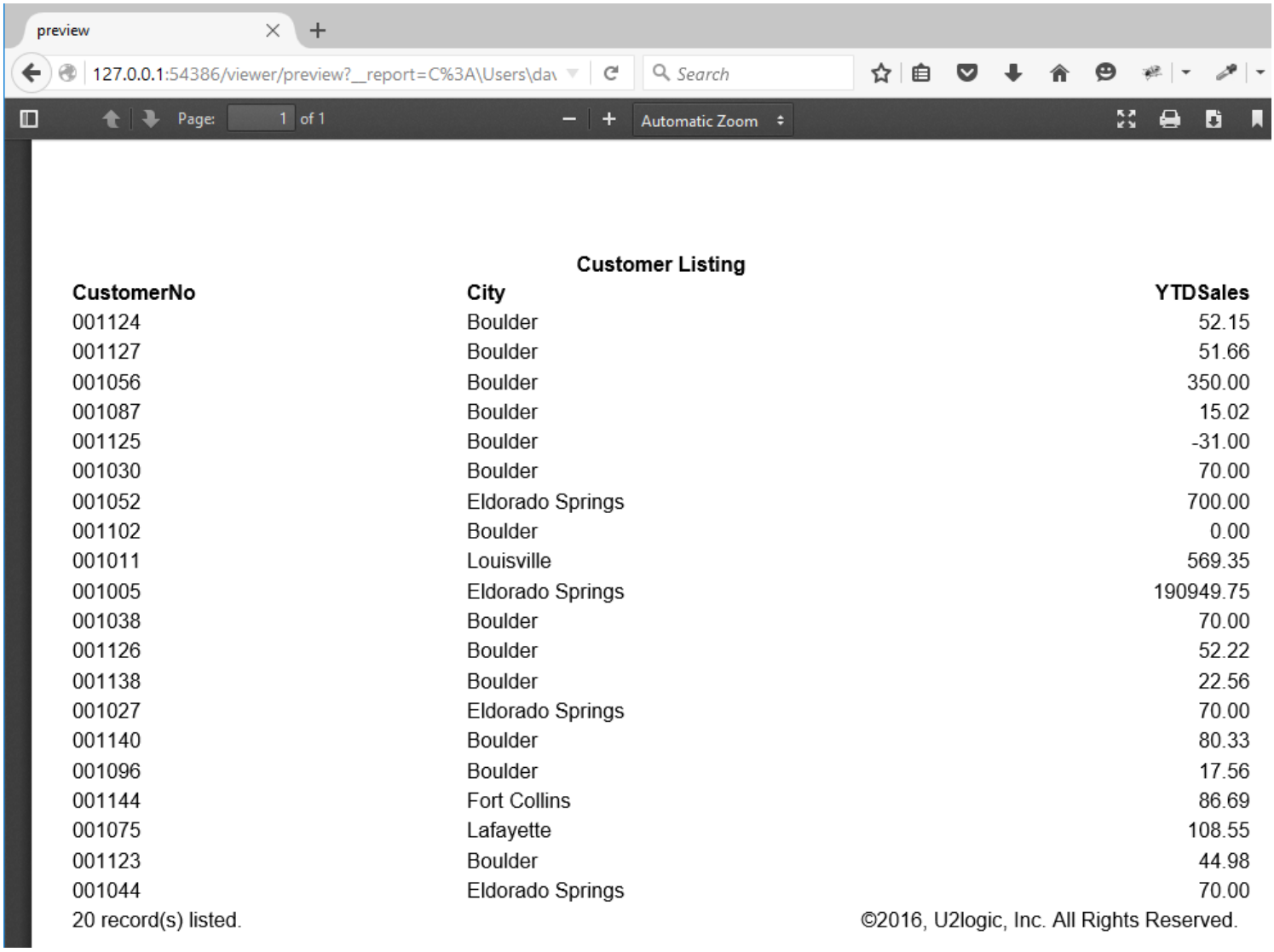
After a little bit for formatting in BIRT the report looks like this.  Of course, you can add aggregations and many other formatting that BIRT supports.




**Customer Listing**

| CustomerNo | City | YTDSales |
|---|---|---|
| 001124 | Boulder | 52.15 |
| 001127 | Boulder | 51.66 |
| 001056 | Boulder | 350.00 |
| 001087 | Boulder | 15.02 |
| 001125 | Boulder | -31.00 |
| 001030 | Boulder | 70.00 |
| 001052 | Eldorado Springs | 700.00 |
| 001102 | Boulder | 0.00 |
| 001011 | Louisville | 569.35 |
| 001005 | Eldorado Springs | 190949.75 |
| 001038 | Boulder | 70.00 |
| 001126 | Boulder | 52.22 |
| 001138 | Boulder | 22.56 |
| 001027 | Eldorado Springs | 70.00 |
| 001140 | Boulder | 80.33 |
| 001096 | Boulder | 17.56 |
| 001144 | Fort Collins | 86.69 |
| 001075 | Lafayette | 108.55 |
| 001123 | Boulder | 44.98 |
| 001044 | Eldorado Springs | 70.00 |

20 record(s) listed.

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