IFS Business Reporter Designer's Guide

IFS Business Reporter Designer's Guide Version -22.1.0

Contents

1. Designing a Basic Report

When you start IFS Business Reporter and log in, the IFS Business Reporter client opens in the **Report Mode**. To design a report, you should switch to the **Design Mode** by clicking on **Go to Design** in either the ***Document Actions*** pane or in ***IFS Business Reporter*** ribbon .

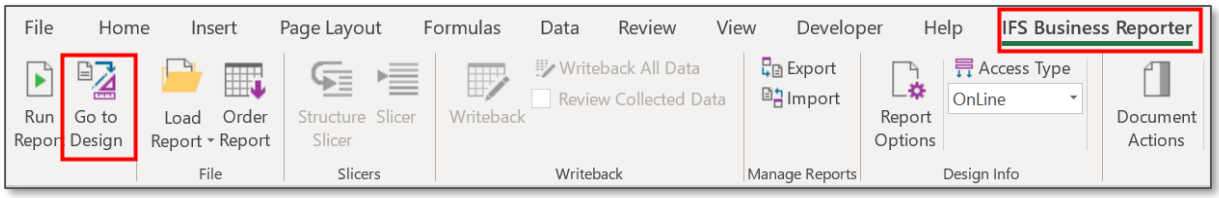


Figure 1.1

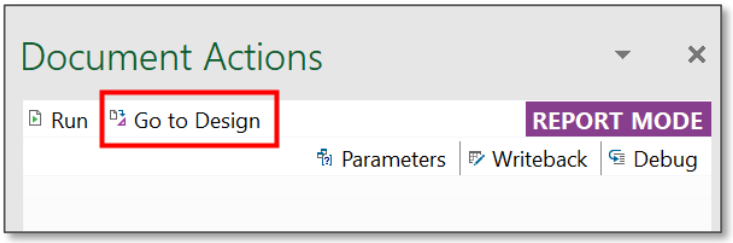


Figure 1.2

1.1 Selecting Information Sources

When you click on **Go to Design**, the dialog box for selecting Information Sources will appear. Select one or more Information Sources as required and then click OK.

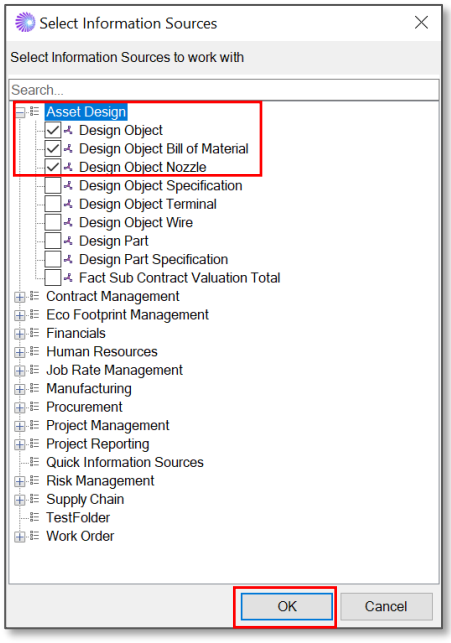


Figure 1.3

You can opt to click on cancel to move to design mode without selecting an Information Source. However, a new report cannot be created without selecting an Information Source. Once in the design mode, you can select a new Information Source or add/remove Information Sources in sheet or grid level using **Select Information Sources** icon.

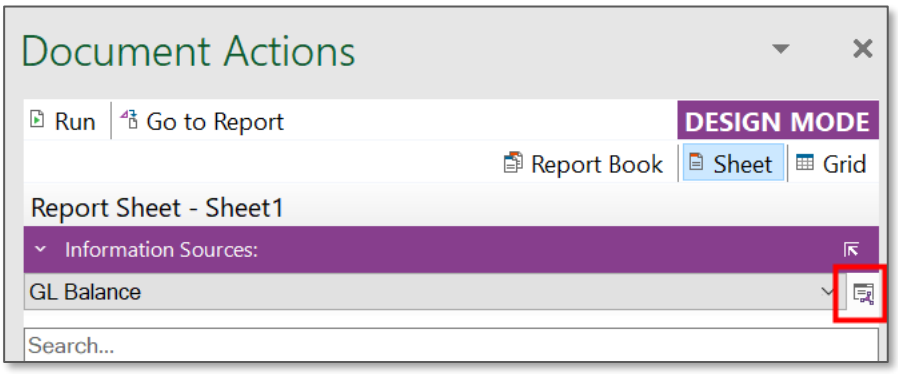


Figure 1.4

You can customize an Information Source folder by selecting an item folder or an item and right clicking to hide or show items. This customization will be applied only to the current report.

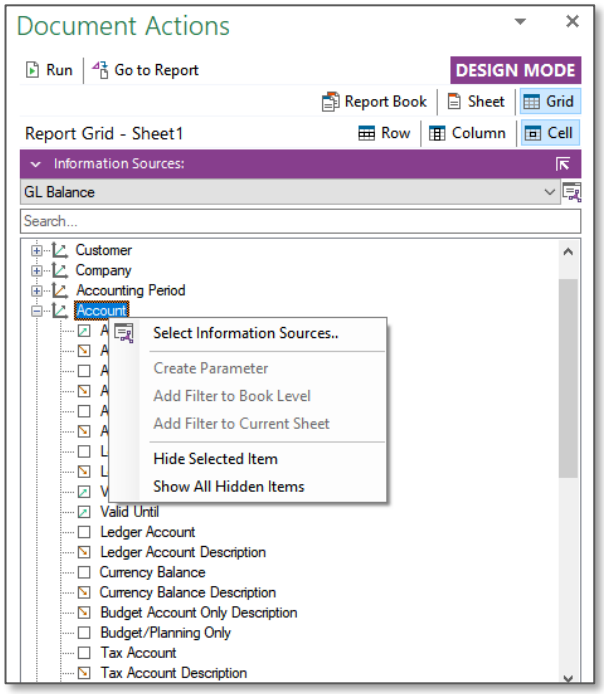


Figure 1.5

Note:

The ***Select Information Sources*** dialog box may appear empty or displaying only a subset of available Information Sources. The reason can be one of the following.

- Current user has not been granted access to some or all the non-visible Information Sources.
- *IFS Business Reporter Client Navigator* has not been properly configured. In most cases the navigator is configured during installation/upgrade. For more information, please refer **Setup BR Client Navigator** in the Technical Documentation.

1.2 Data Access Types

The data access type specifies whether Information Source related data should be fetched Online or from a Data Mart, where Data Mart means snapshot data. This can be selected from the dropdown menu in the **Design Options** section in the *IFS Business Reporter* ribbon. When there is more than one Information Source, ***Customize Data Access Type*** window (Obtained by clicking on **Access Type** in BR ribbon) can be used to specify different data access types for each Information Source.

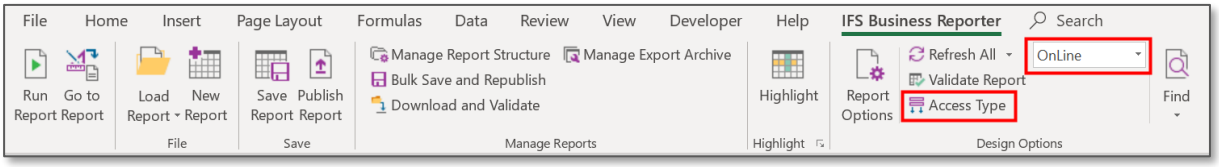


Figure 1.6

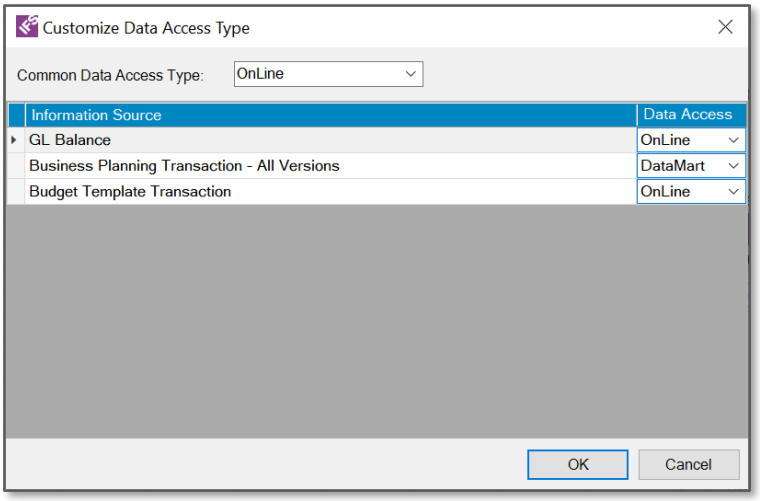


Figure 1.7

1.3 Creating a Design Row/ Column

Design rows and columns are fundamental design elements in any report created using IFS Business Reporter. They are used to define how the data should be categorized by adding Dimension Items or even Light Items to data sets. One design row/column can consist of one or more Microsoft Excel rows and columns.

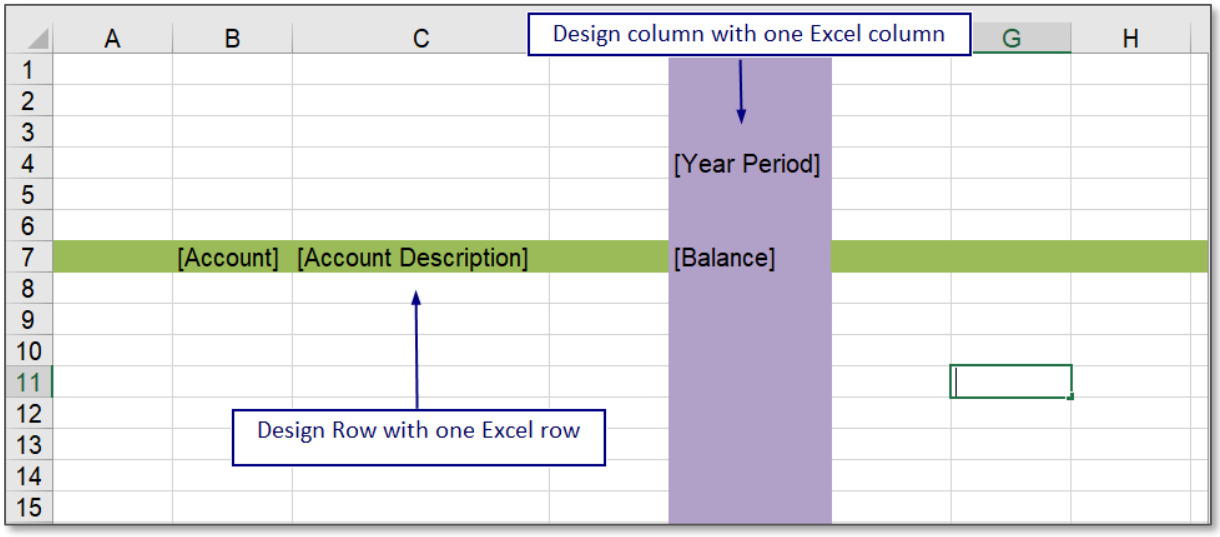


Figure 1.8

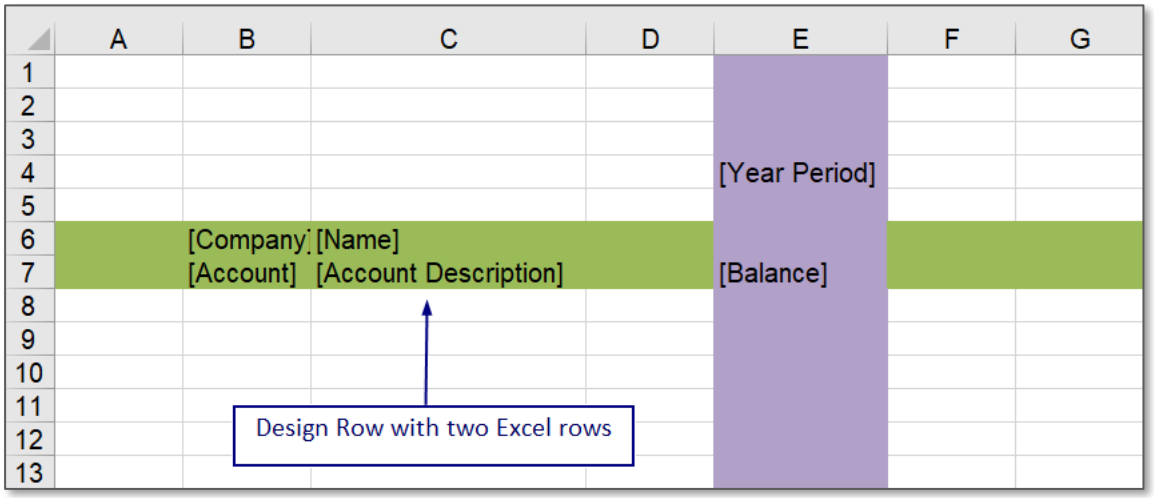


Figure 1.9

Creating a **Design Row** or a **Design Column** with one or several Excel rows or columns can be done using the procedure below.

1) Drag and drop the display items into the rows and columns in the Excel sheet as required for the report design.
2) Select the number of Excel rows or columns that need to be repeated.

3) Click on the **New Design Row/Column** icon in the ***Document Actions*** pane. Another method to do the same would be to use available RMB options.

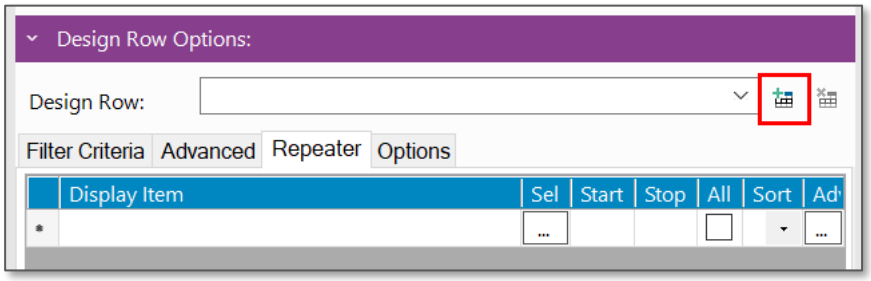


Figure 1.10

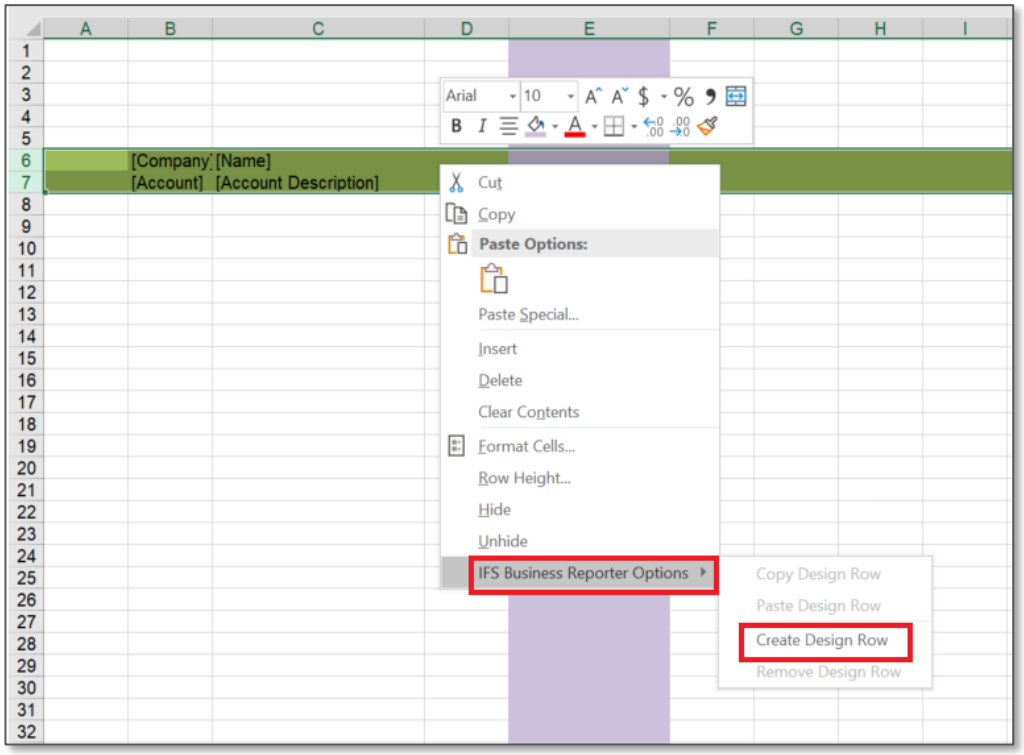


Figure 1.11

4) The action leads to creation of a design row/column, and the repeaters will be displayed in the ***Document Actions*** pane under the **Design Row Options** section. The display items, which the Design row/column will be repeated on and the repeater range will be automatically selected based on the selected range in Microsoft Excel and the dimension items in this range. The first dimension item in a row is automatically selected to create the repeater. However, these can be modified manually as well.

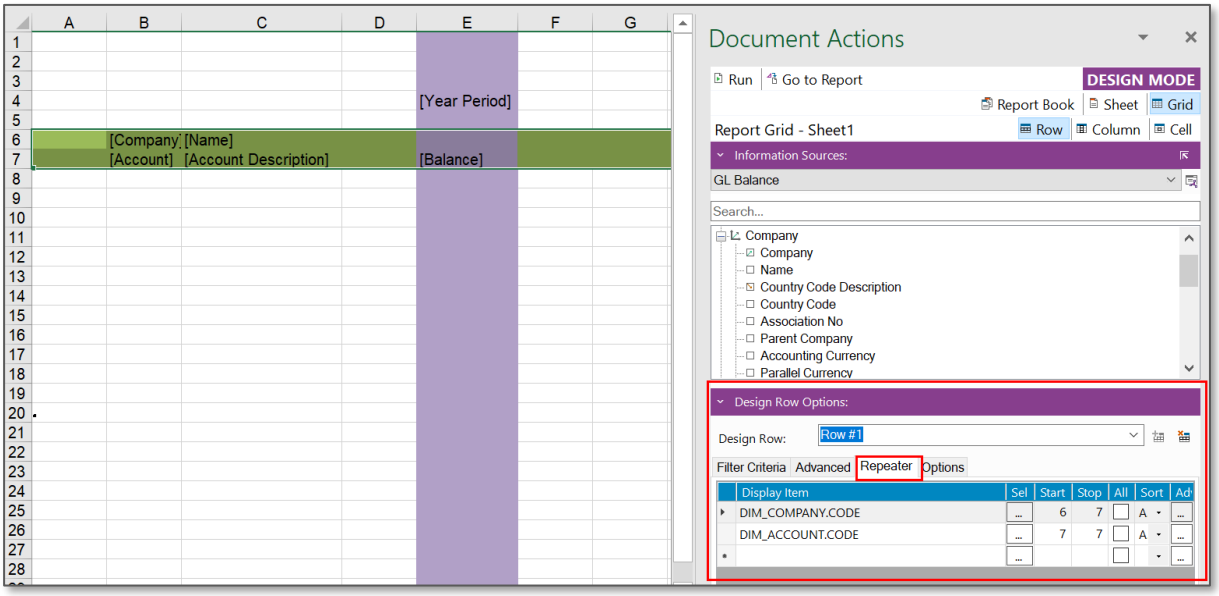


Figure 1.12

5) Selecting the **All** check box indicates that all basic display items, given the actual filter condition, will be used for repetition. Otherwise only the items represented in the item table will be used for repetition.

   Note: The **All** check box is enabled only if the repeater is based on an item from a dimension. If more than one repeater is applied to a single design row and if the **All** check box is selected for these repeaters it will result in an error. In order to correct this error, go to **IFS Solution Manager** and set the necessary parameter(s) to TRUE.

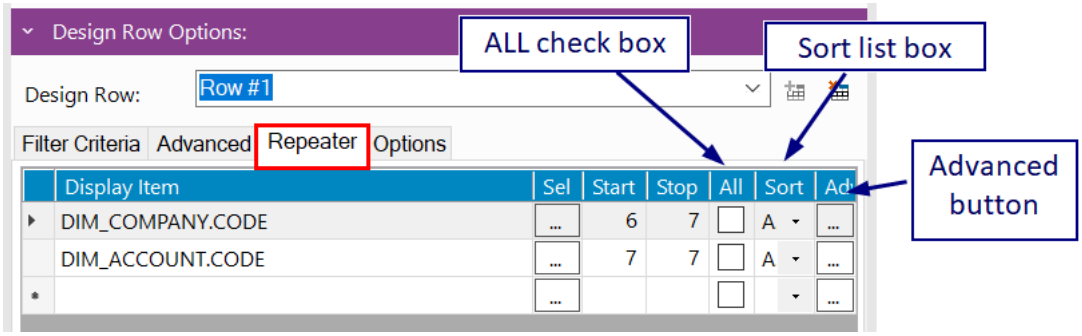


Figure 1.13

6) Select the sorting order from the **Sort** list box. Ascending (**Asc**) is selected by default.
7) To display a text when the repeater result is null, click the **Adv** button (Advanced) and go to ***Advanced Repeater Settings*** window. You can enter the relevant text which you want to display in the **Empty Repeater Null Value** field of the ***General*** tab.

8) It is also possible to add an inner repeater to the design, drag display items from the ***Display Items*** pane into a new line within the repeater range applied in step 4.

Note: Created repeater will be saved by the system automatically.

9) If you want to add an extended repeater to the design, click **Adv** button (Advanced) and go to ***Extended Repeater Connection*** tab of the ***Advanced Repeater Settings*** window. Enter the item you want to add as the extended repeater in the **Repeater Item ID** field. List of Values can be used to select the relevant item.

10) Execute the report.

1.4 Inserting a new repeater level

Inserting a new repeater level is important to allow easy change of the report design without redesigning it from the beginning. A new repeater level can be added by following the steps below.

The report shown in the diagram below has a design row with two Excel rows. The repeater levels are from 4 to 5 and 5 to 5.

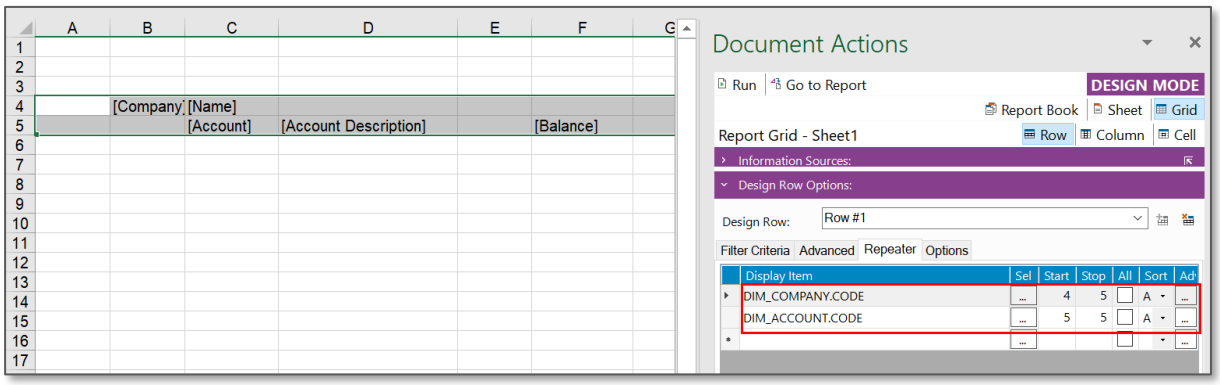


Figure 1.14

Suppose we need to add a new repeater level in between these two.

Then select the repeater level **DIM_ACCOUNT.CODE** and right click on it. Select **Insert**.

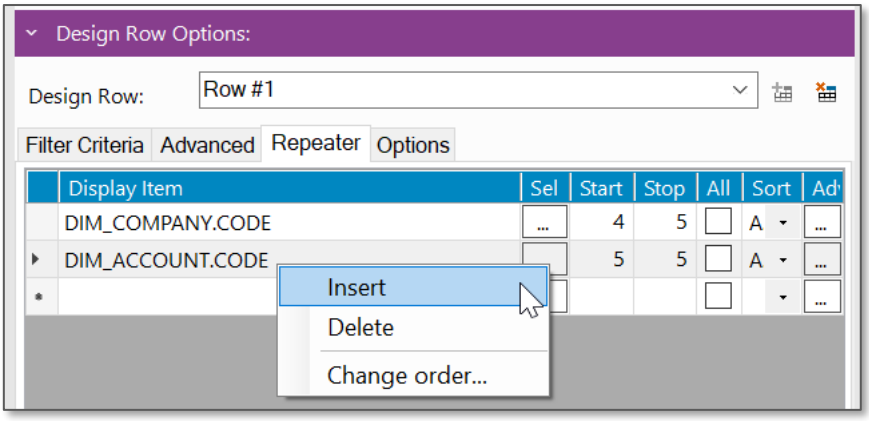


Figure 1.15

An empty row will be added inbetween the previous two repeater levels.

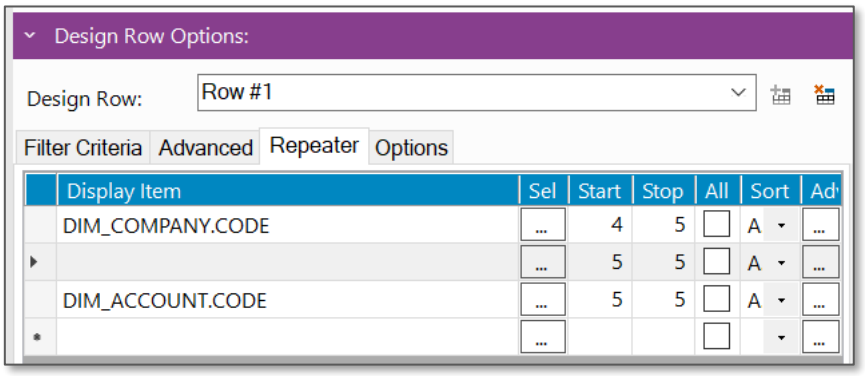


Figure 1.16

Now you can do two things. One is adding a new **Display Item** to the same repeater level. That is 5 to 5.

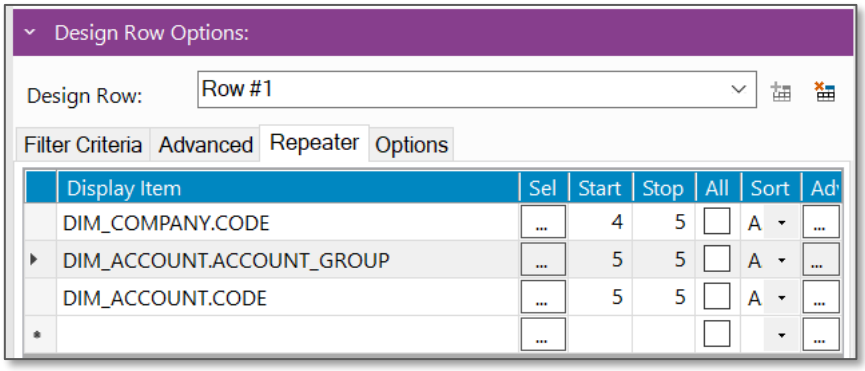


Figure 1.17

And then add it to the report design (if that is the intention).

	A	B	C	D	E	F	G
1							
2							
3							
4		[Company]	[Name]				
5			[Account]	[Account Description]	[Account Group]	[Balance]	
6							
7							
8							

Figure 1.18

Another possibility is to add a new repeater level to a new Excel row. To do that, select the row 5 in this example, right click on it and add a new Excel row.

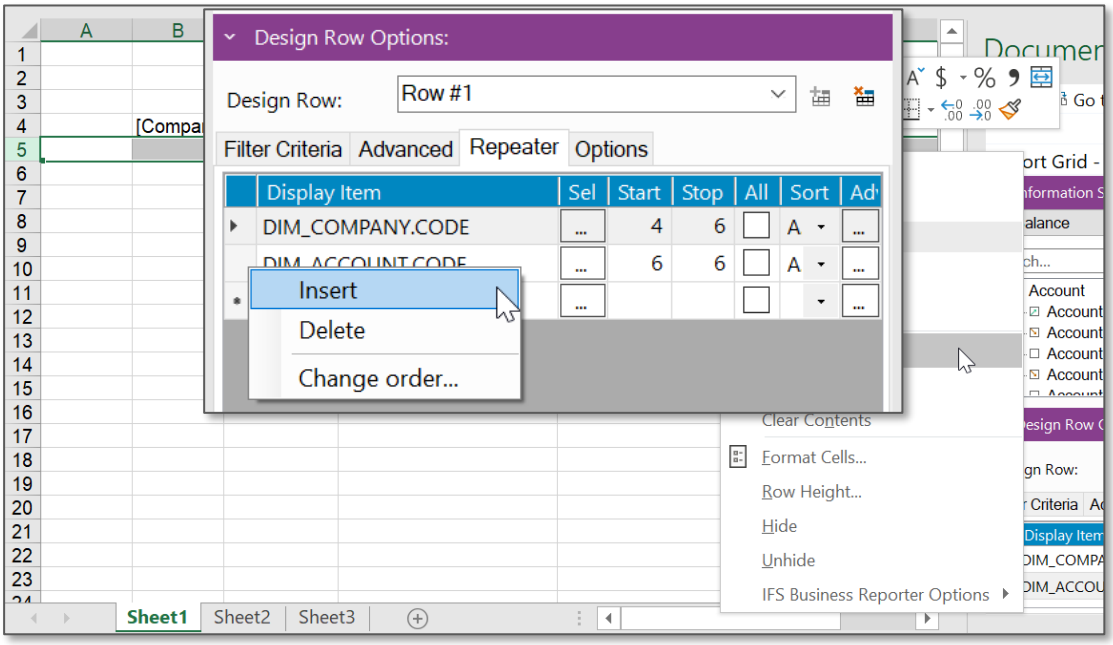


Figure 1.19

Then a new Excel row will be inserted in between row 4 and 5. Also notice that the start and stop rows in the repeater levels have automatically changed into 4 to 6 and 6 to 6.

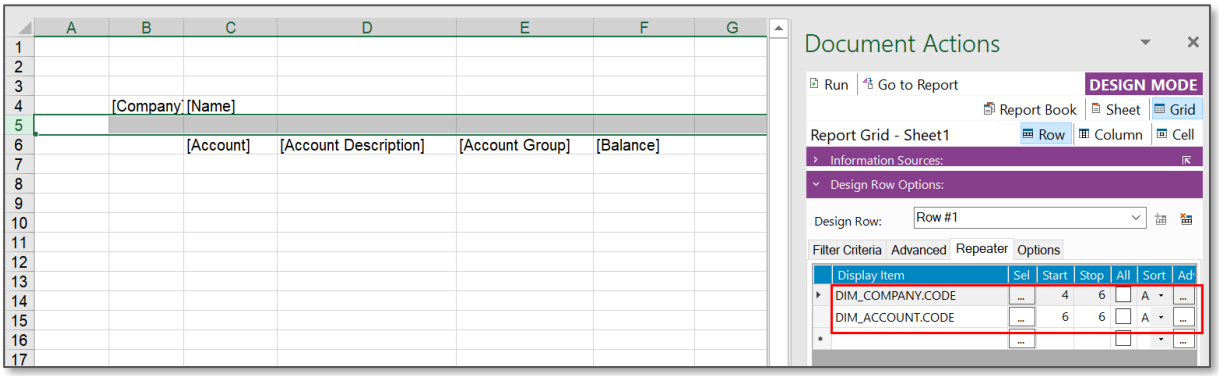


Figure 1.20

Next select the DIM_ACCOUNT.CODE repeater, right click on it and click on **Insert**. A new empty row will be added above the selected repeater level.

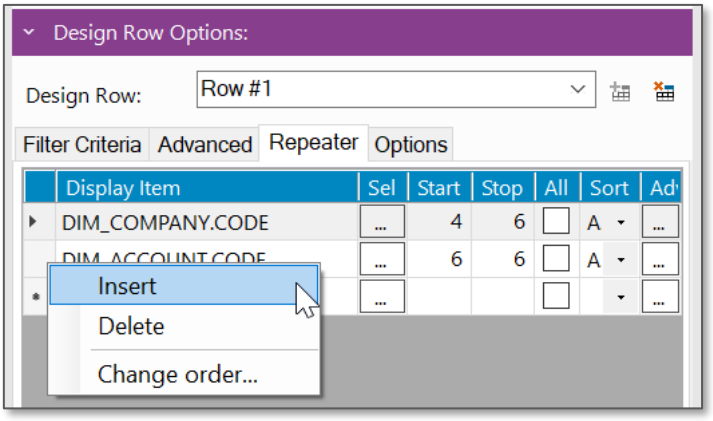


Figure 1.21

If needed, add the required display item to the new repeater level. In our example, it is DIM_ACCOUNT.ACCOUNT_GROUP. Manually edit the **Start** and **Stop** of repeater levels appropriately. In our case the start number should be changed from 5 to 6.

Also, drag and drop the necessary display items into the report design as well. In this case, the **Account Group** should be dragged and dropped onto the line 5 in the report design.

Now the report design will look like the below diagram.

Now you can execute the report with newly inserted repeater level.

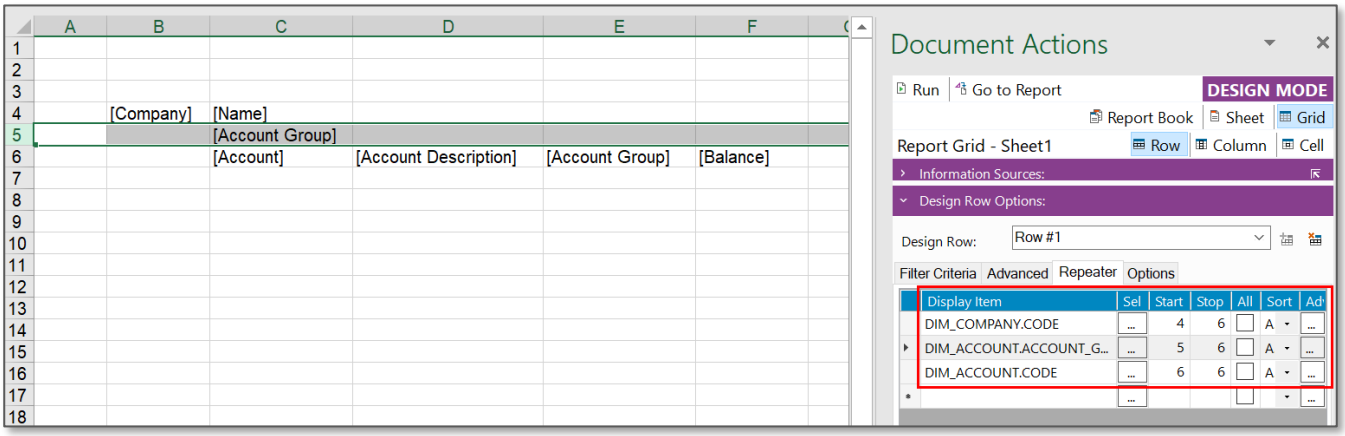


Figure 1.22

1.5 Change the order or repeaters

The order of the repeaters can be changed as follows.

- Right-click on the repeater pane and select **Change Order**.

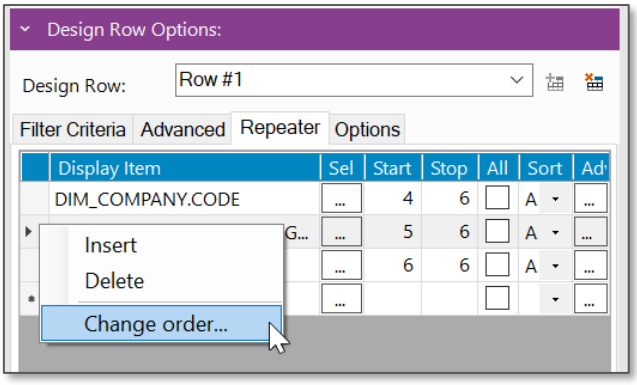


Figure 1.23

- ***Change Repeater Order*** dialog box will open.

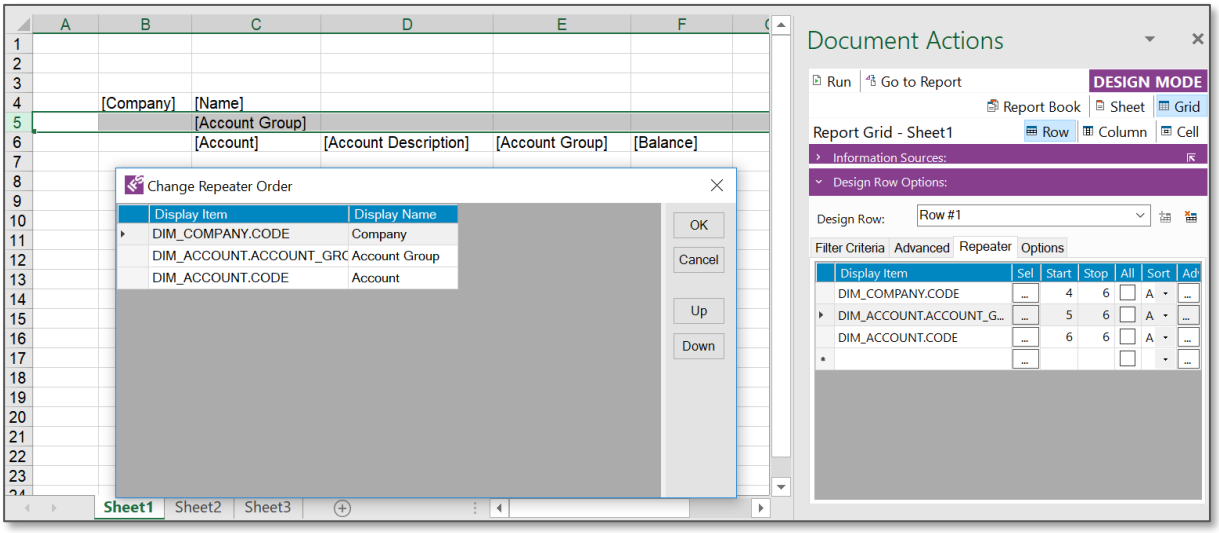


Figure 1.24

- Change the order of repeater items by pressing **Up** and **Down** buttons.
- Here in our example, suppose we want the DIM_COMPANY.CODE and DIM_ACCOUNT.ACCOUNT_GROUP to be inter-changed. Then select DIM_COMPANY.CODE and click on the **Down** button. Then the order or repeaters will be changed as follows.

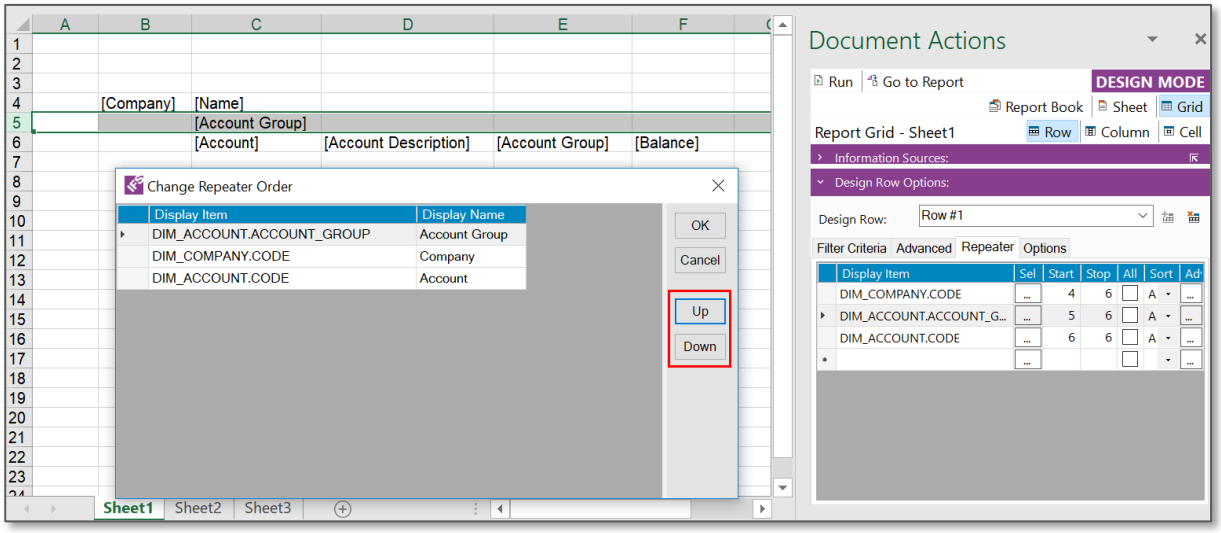


Figure 1.25

- Once the order has been changed accordingly, press the **OK** button to confirm the changes.

1.6 Removing a Design Row/Column

Use of one the methods mentioned below to remove a Design Row/Column:

1. Select the Excel rows related to the Design Row/Column in the report design. Then the **Repeater** tab will automatically appear with the repeater levels. Then select the **Remove Design Row/Column** icon marked in the image below.

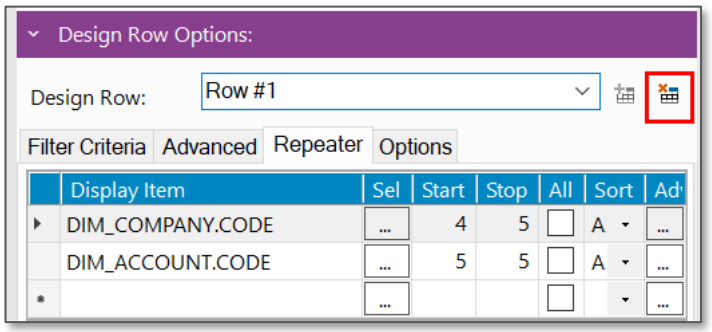


Figure 1.26

2. Select the rows or columns in the Microsoft Excel sheet defined as **Start** and **Stop** in the Design Row/Column, and then right click and select **Remove Design Row** option under the **IFS Business Reporter Options**.

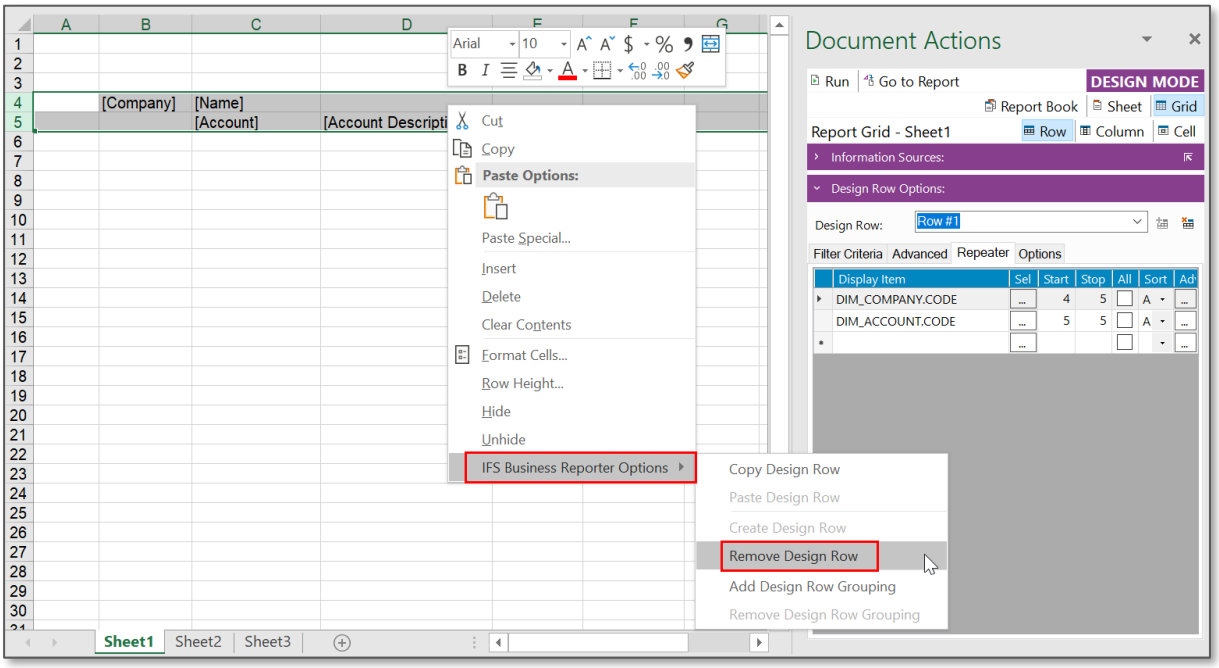


Figure 1.27

3. Select the line/lines from the ***Repeater*** tab (the same way a row or column is selected in Microsoft Excel) in the ***Design Row Options*** section in the ***Document Actions*** pane. Then click on it and select **Delete** option in the context menu. You can also just press the <Delete> key on the keyboard after selecting the line/lines on the ***Repeater*** tab.

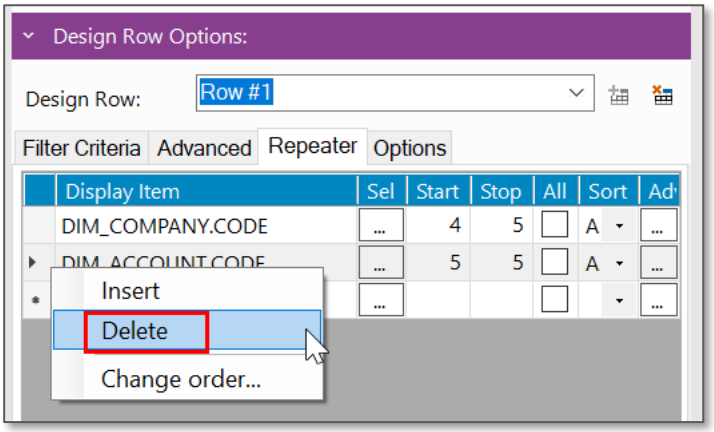


Figure 1.28

1.7 Copying a Design Row/ Column

Select the Excel rows/columns specific to the design row/column and right click on it. Then select the **Copy Design Row/Column** option under the **IFS Business Reporter Options** and the selected design row/column will be copied. Now you can select to the Excel row/column that

you want the copied design row/column to be pasted in and right click on it. Then select **Paste Design Row/Column** option under **IFS Business Reporter Options** and then the copied design row/column will be pasted there.

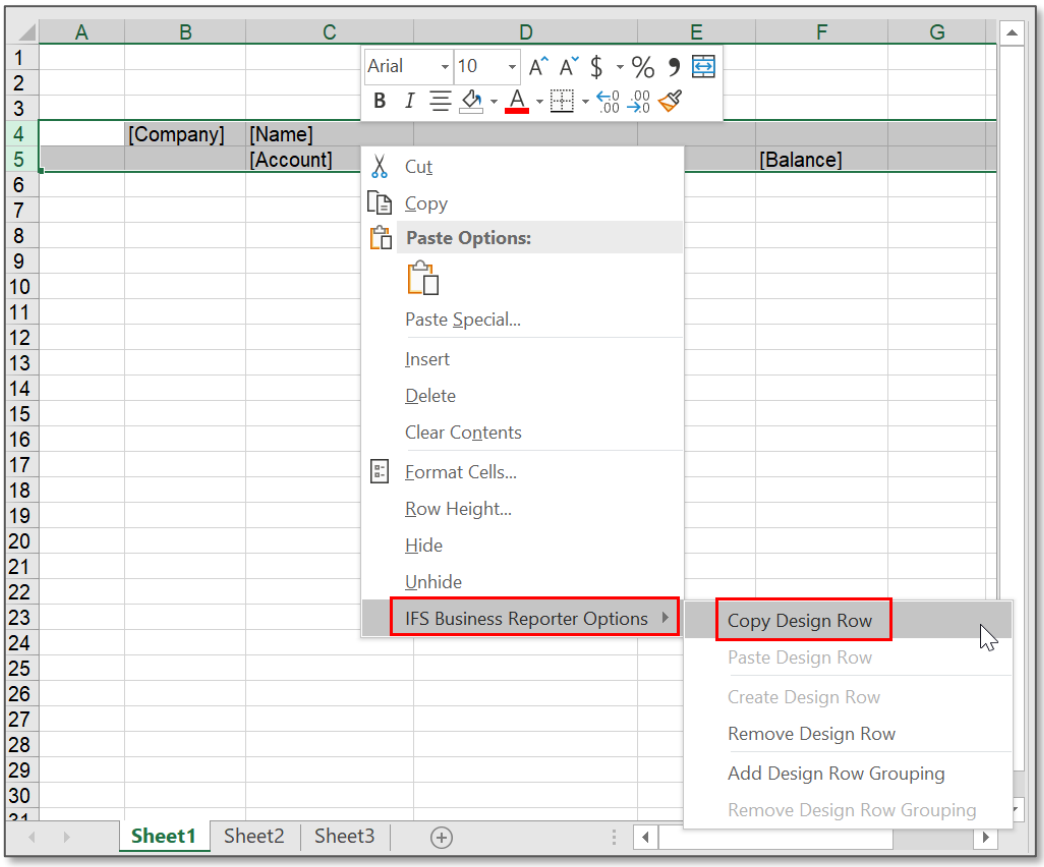


Figure 1.29

1.8 Design a Basic Report

A report design is created by selecting a combination of Measure, Light and/or Dimension Items and arranging them in a desired and a meaningful manner. Now let's see how to create a simple BR Report.

Suppose we want to display the list of accounts in a company and their respective balances. The expected result is similar to the report in the below image.

	A	B	C	D	E
1					
2					
3		**Account**	**Account Description**	**Balance**	
4		1010	Expenses carried forward	-100	
5		1510	Accounts receivable	1,693,138	
6		1910	Cash	-164,456	
7		2450	Preliminary supplier invoices	-1,678	
8		2610	Output VAT, not reduced	0	
9		2611	Output VATon sales in Sweden, not reduced	-156,928	
10		2910	Accrued wages and salaries	0	
11		3011	Sales, taxable	-37,785,032	
12		3012	Racing Suites, Pyrotech test	-12,036,956	
13		3013	Racing Suites, Impact	-6,598,844	
14		3014	Sales, not taxable	-555,410	
15		3022	Balaclavas, Nomex	-2,217,893	
16		3732	Volume discounts	1,276,348	
17		4021	Cost of goods sold	18,547,134	
18		5010	Rent for premises	14,880,100	
19		5800	Travel costs	68,991	
20		5810	Tickets	61,263	
21		6070	Business entertainment	107,468	
22		6200	Telecommunication and post (control account)	1,169,976	
23		6211	Telephone	32,063	
24		7000	Wages to blue-collar employees (control account)	11,424,288	
25		7200	Wages to managers and white-collar employees	4,077,588	
26		7300	Cost remuneration and benef in kind (control account)	2,139	
27		7999	Voucher rounding	6,176,801	
28					
29					
30					

Figure 1.30

The following step-by-step instructions will show how to create the above sample report. Start by making sure to be in the **Design Mode** of IFS Business Reporter.

1. In the ***Select Information Sources*** dialog, select **GL Balance** Information Source and click **OK**.
2. Now the **GL Balance** Information Source will load in the ***Document Actions*** pane.
3. To start creating the report, first expand the **Account** dimension from the **Information Sources** section in the ***Document Actions*** pane.

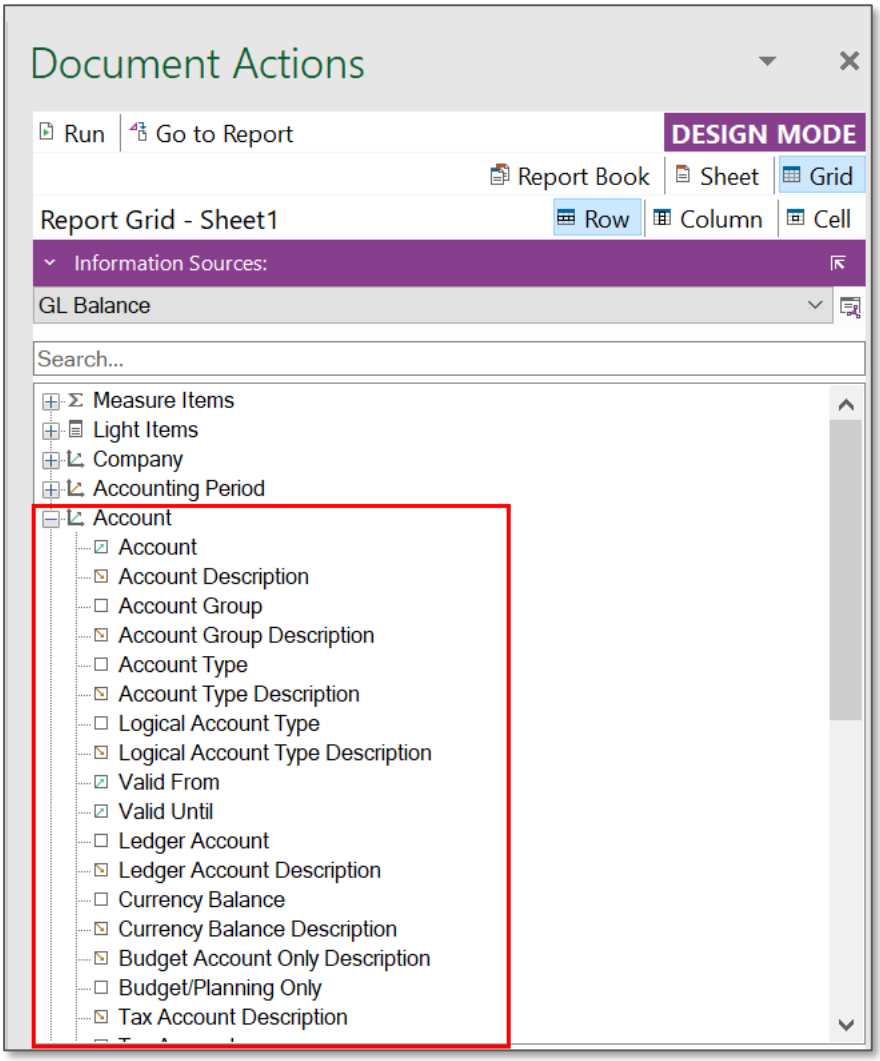


Figure 1.31

4. Drag and drop the display items **Account** to cell **B4** and **Account Description** to cell **C4** in the Microsoft Excel worksheet. You may adjust the width of the columns to match the item length.
5. Now expand the **Measure Items** folder from the **Information Sources** section in the ***Document Actions*** pane.
6. Drag and drop the display item **Balance** to cell **D4**.
7. Add column titles to cells B3, C3 and D3 as desired. Titles added in the example report are Account, Account Description and Balance. You can also format these cells with Excel Bold, Underline and Fill Color.

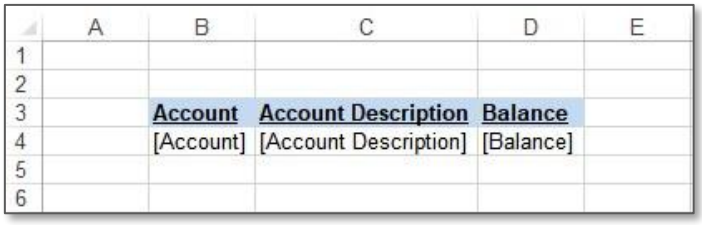


Figure 1.32

8. The next step is to add a repeater to create a design row. Details about Design Rows can be found in the section 1.3 of this chapter.

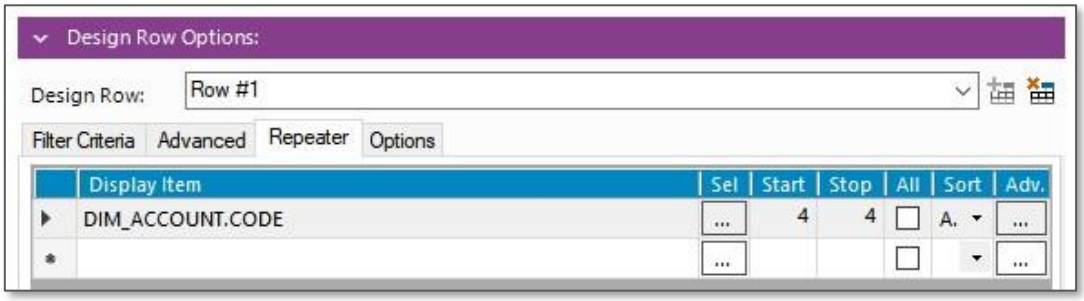


Figure 1.33

9. Now you have created the basic report design.
10. The next step is to run the report. To do this, either click the **Run Report** ( ) icon in the ***BR*** ribbon or the **Run** ( ) icon in the ***Document Actions*** pane.

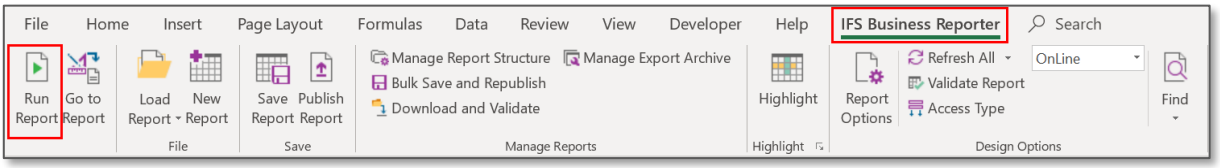


Figure 1.34

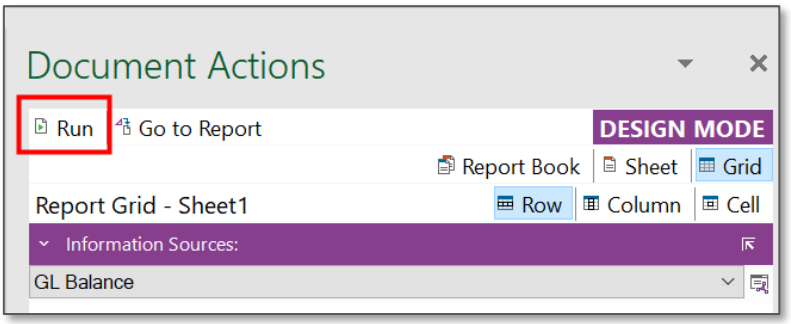


Figure 1.35

1.9 Sheet Repeaters

Sheet Repeaters are used to repeat Microsoft Excel sheets based on a specific data item. Consider the report design below (Figure 1.36), where Account details and their balances are listed. If you execute this report, account details related to all the companies will be listed in the resulting report. Suppose you need to have the account details specific to each company in a separate sheet. This is where **Sheet Repeaters** come into play. Follow the below steps to create a sheet repeater.

After creating the report design, select the ***Sheet*** tab in the ***Document Actions*** pane. Then select the ***Sheet Repeater*** tab in the **Report Sheet Options** section.

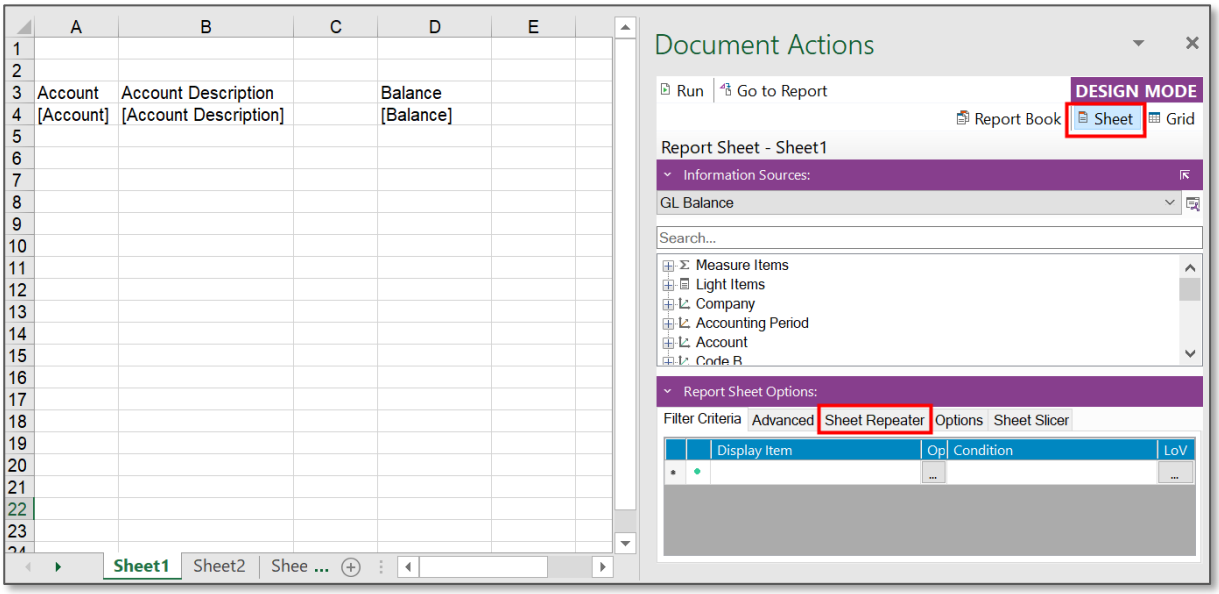


Figure 1.36

Next, drag and drop the display item that you need to use as the sheet repeater. In our example, **Company** will be the sheet repeating display item.

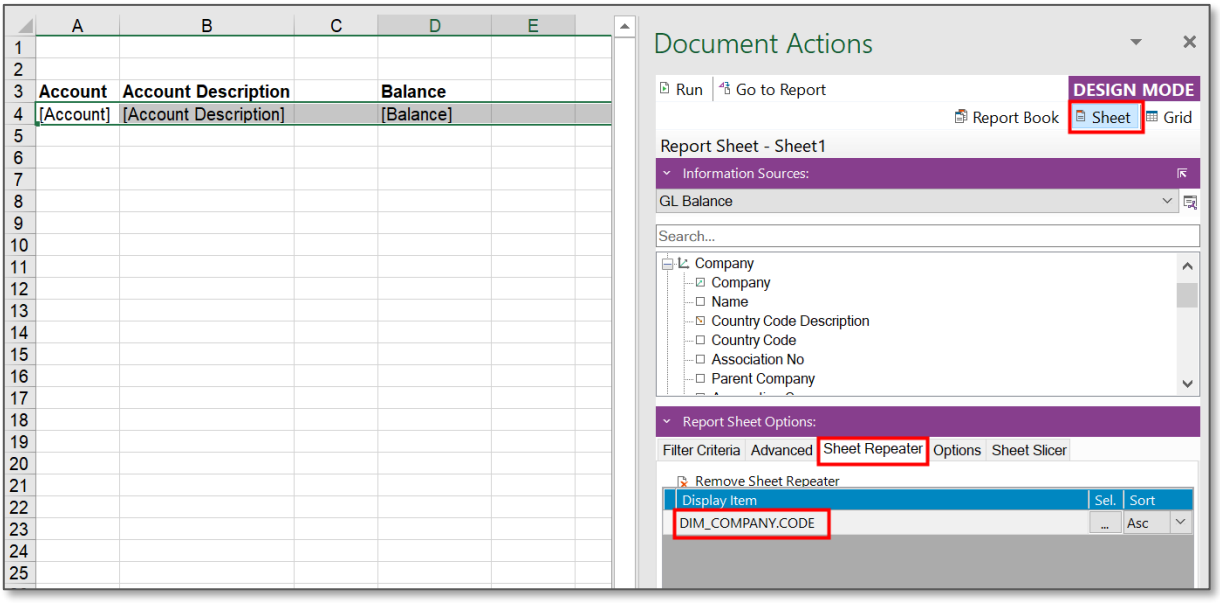


Figure 1.37

Now execute the report and you will see a result similar to the one shown in the below image.

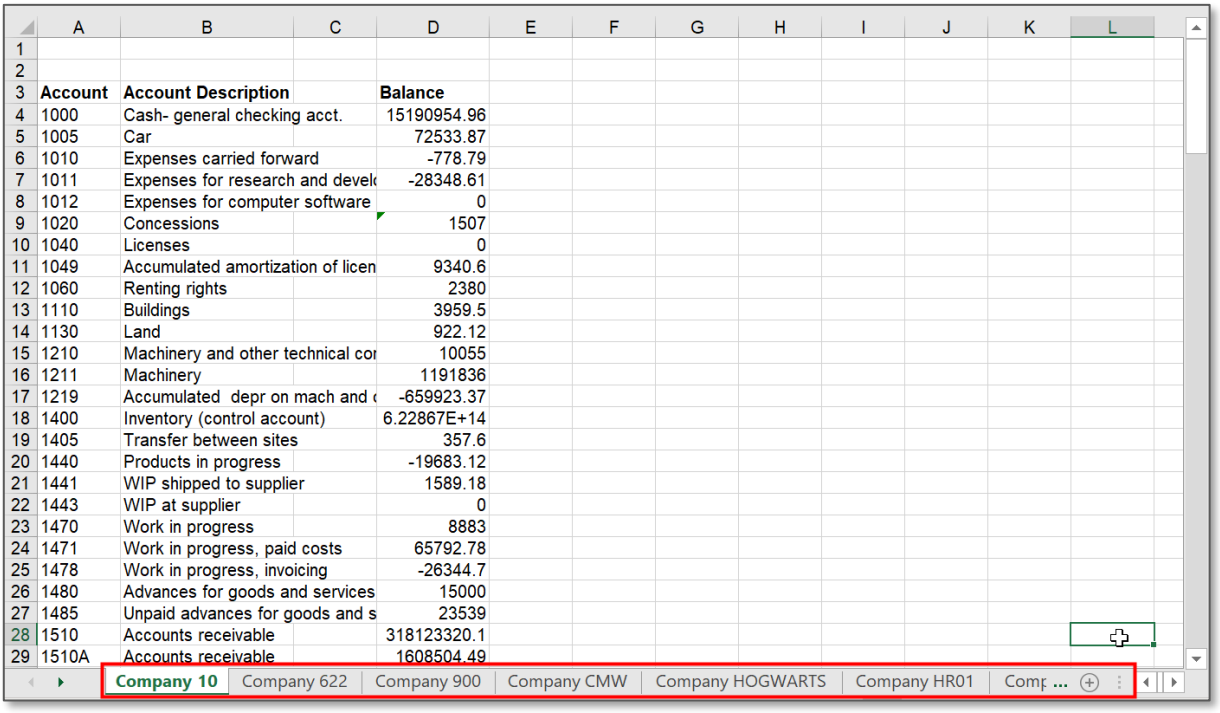


Figure 1.38

Here you can see that the report has many sheets and they are named based on the company names. A separate Excel sheet is created for each company with company specific details.

1.10 Filter Criteria

This feature enables users to execute reports by filtering out only the required data. A filter can be defined for a report book, design sheet, design row, design column, design cell and pivot table. A filter criterion applied to an upper level will automatically be defaulted to its lower levels. For example, a filter criterion applied to the report sheet will be applicable to design rows in the sheet as well. It is recommended to use filter criteria when designing a IFS Business Reporter report to ensure that correct data is retrieved as quickly as possible.

If you need to view the complete filter criteria for any given level in the report click the ***Advanced*** tab and select **Advanced Criteria**. The ***Advanced*** tab also allows you to write SQL commands directly to the application in order to assign a filter criterion. See chapter 2 to read about **Advanced Filter Criteria**.

Applying a Filter Criteria

1. Select the design section (**Report Book**, **Sheet** or **Grid (Row/Column/Cell)**) that you need to apply the filter to.

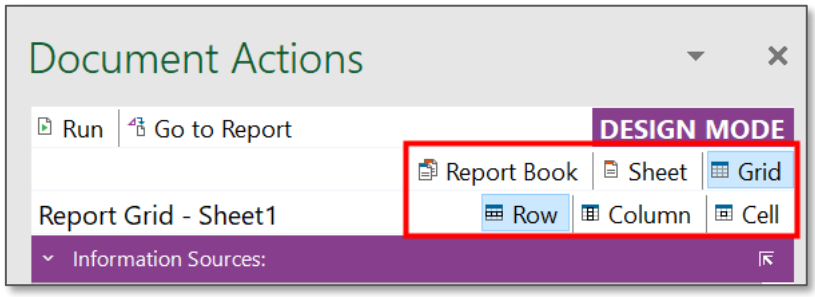


Figure 1.39

Suppose we need to apply a filter to the design row shown in the report below. Select the design row and then the Grid & Row tabs will be highlighted meaning that we are applying the filter to a row.

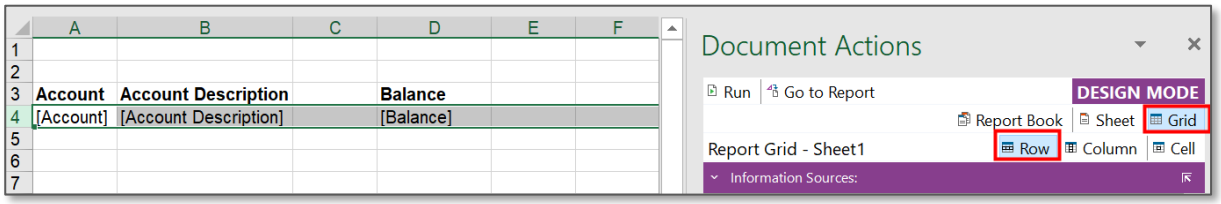


Figure 1.40

2. Select the ***Filter Criteria*** tab, and drag the required display item from the **Display Items** pane into the ***Filter Criteria*** tab.

In our example we will add a filter to the design row based on the **Company**.

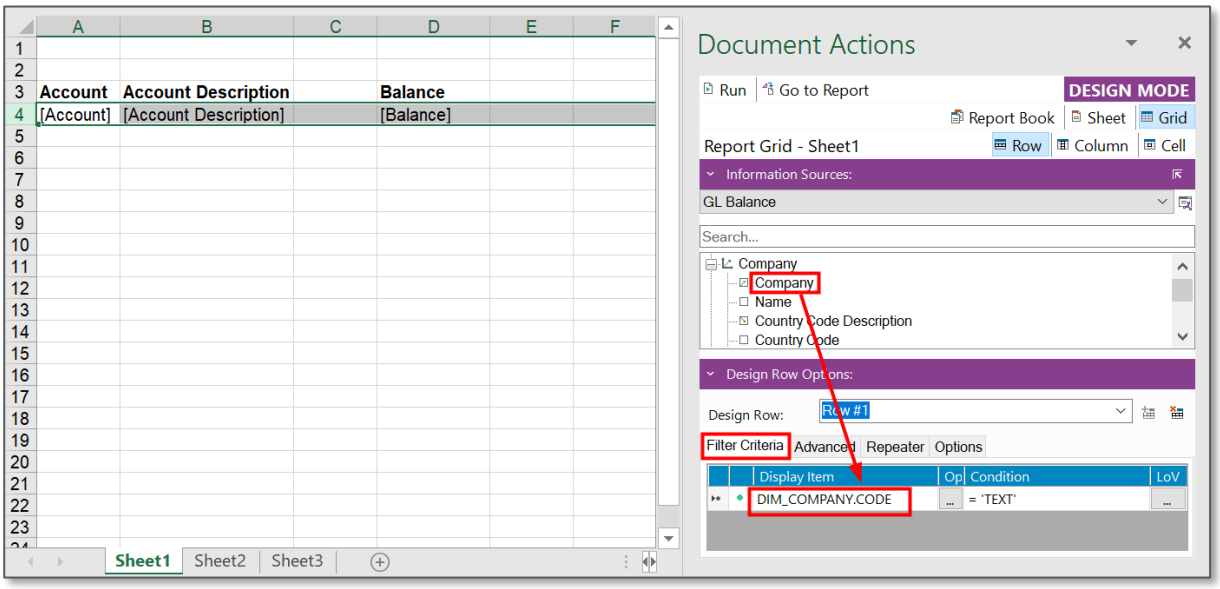


Figure 1.41

3. Click **Op** (Operator) and select an operator from the ***Select Operator*** list.

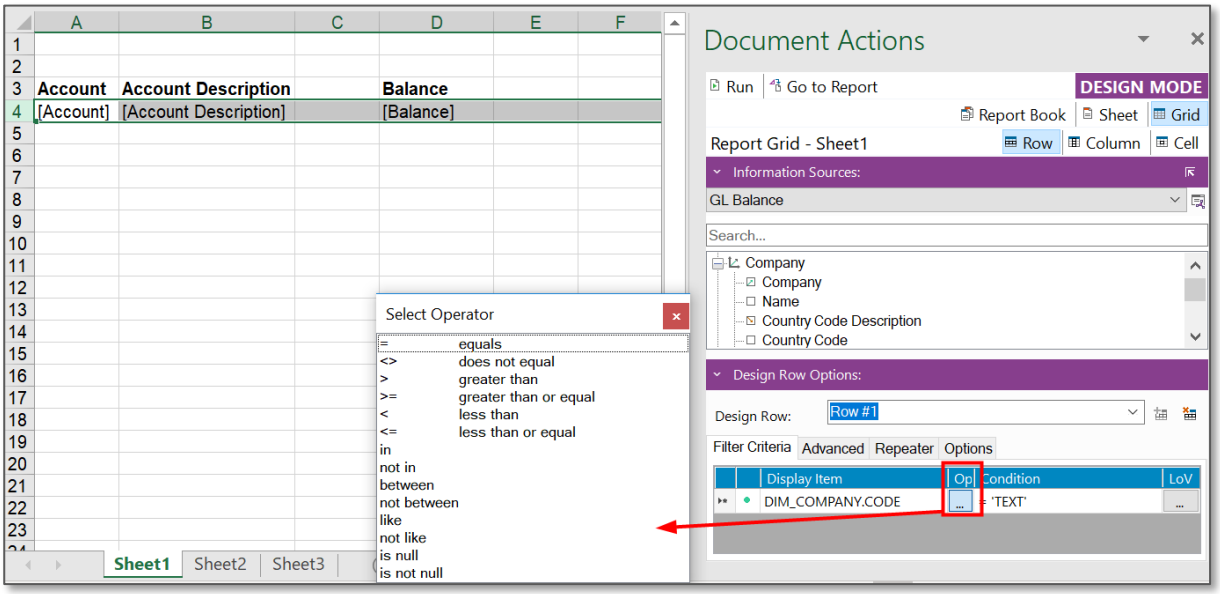


Figure 1.42

4. Click **LoV** (List of Values) to open the ***List of Values*** dialog box.

5. If parameters are defined for the display item, they will be listed in the ***Parameters*** tab of the ***List of Values*** dialog box.

6. If there are any global parameters defined matching the data type of the display item, they will be listed in the ***Parameters*** tab of the ***List of Values*** dialog box. **Global**

Parameters will be listed below the **Standard Parameters** and **Context Substitution Variables** only if available.

7. Select a value, parameter, context substitution variable or global parameter.
8. Click **OK**.
9. The filter has now been applied and will be applied next time the report is executed.

2. Designing an Advanced Report

This chapter covers the following advanced design features in IFS Business Reporter:

- Advanced Filter Criteria
- Report Parameters
- Zoom-In
- Drill Down
- Interactive Filtering
- Find
- Highlight
- Extended Repeater Connector

2.1 Advanced Filter Criteria

Filter criteria are used to make sure that only required data is retrieved when executing a report. However, the basic filter criteria only support the **AND** operator.

The example below shows a report where two filter conditions have been applied. When switching to the ***Advanced*** tab, the filter criteria that apply in the current context will be displayed. As you can see in Figure 2.1, the two filters defined in the ***Filter Criteria*** tab, appear in the ***Advanced*** tab as two filter conditions separated by the **AND** operator. Adding more filters in the ***Filter Criteria*** tab leads to further conditions separated by the **AND** operator.

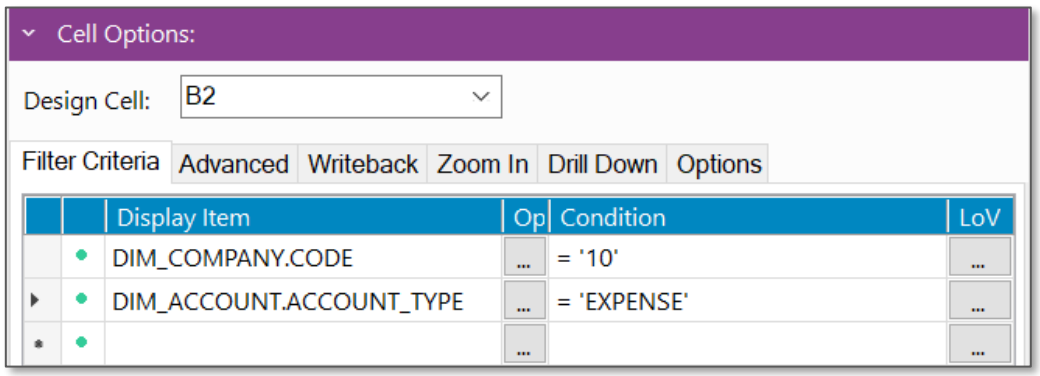


Figure 2.1

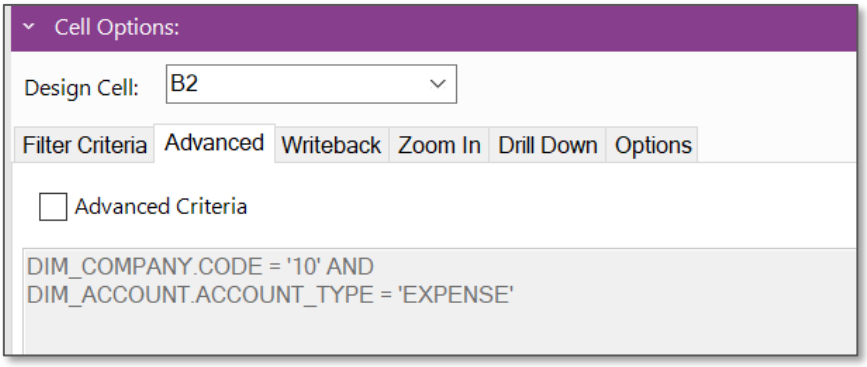


Figure 2.2

However, using only statements with the **AND** operator will not be sufficient when creating advanced reports. In order to enter more advanced filter criteria, switch to the ***Advanced*** tab under **Cell Options** and select the **Advanced Criteria** check box to enable advanced criteria editing.

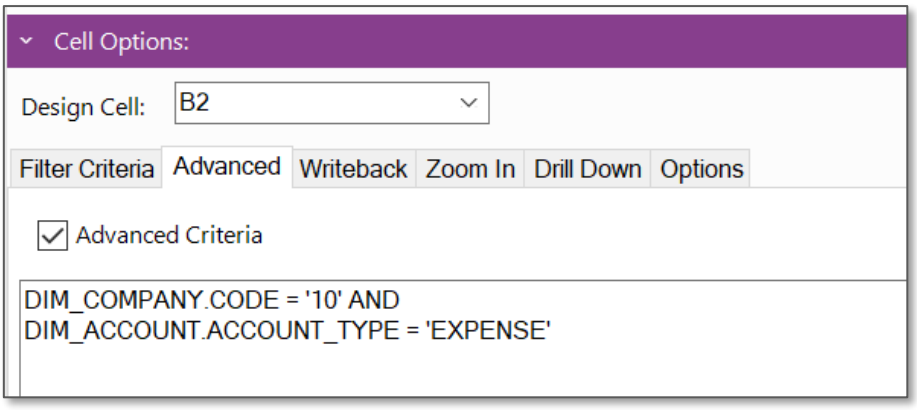


Figure 2.3

Usually, filter criteria applied for a higher level will be automatically applied to lower levels. For example, a filter applied to a report book will be applied to sheets, rows, columns and cells. When an advanced filter criterion is defined on a lower level, that level will stop inheriting criteria applied to higher levels. The ***Filter Criteria*** tab will be disabled for the level as soon as advanced filters are enabled. Therefore, it is recommended to enter the simple filters first and then switch to the advanced filter criteria.

An example for an advanced filter condition is shown below.

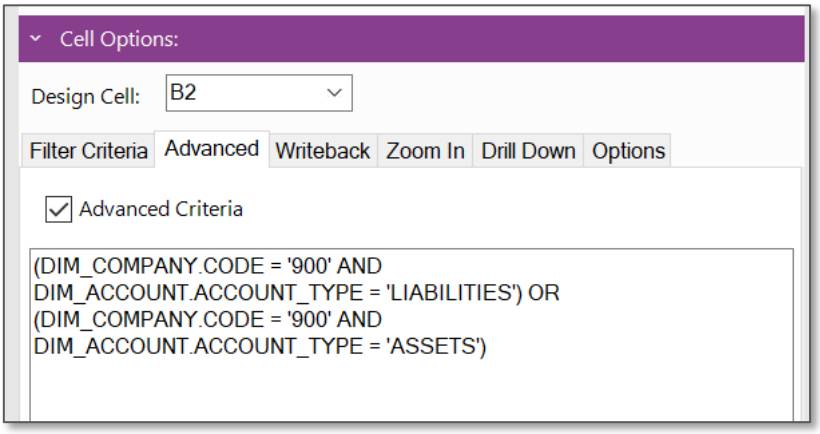


Figure 2.4

2.2 Report Parameters

Filter criteria are used to filter out only the required information when executing a report. For example, we can use a filter so that only the information related to a certain company (e.g. Company = 10) is shown in the report. Filters defined in the report design cannot be affected by end user. Thus, a filter on a specific company always applies and is not very practical for the end user, since it is likely that he wants to run the same report for another company. This is where the **Report Parameters** come into play. When a parameter is applied, the end user can execute the report for any value in the List of values of the specific parameter. After creating a parameter, it should be used as a filter condition value in the design. Parameters are more like dynamic filters where the value can be changed in the report mode.

There are three types of parameters.

1) Standard Parameters
2) Function Parameters
3) Global Parameters

How to add a Standard Parameter?

1. Select the **Editable** checkbox if you want the parameter value to be editable in the parameter dialog before the report is executed.
2. Select the **Multi Value** check box if you want to enter multiple values for a parameter. Multi value parameters can be used as a condition for a **Filter Criteria** with operator **IN** or **NOT IN**.

3. By default, a parameter is **Mandatory**, i.e. it must be supplied at report execution to ensure a meaningful report execution. Especially important when a publishing a BR report to IFS.

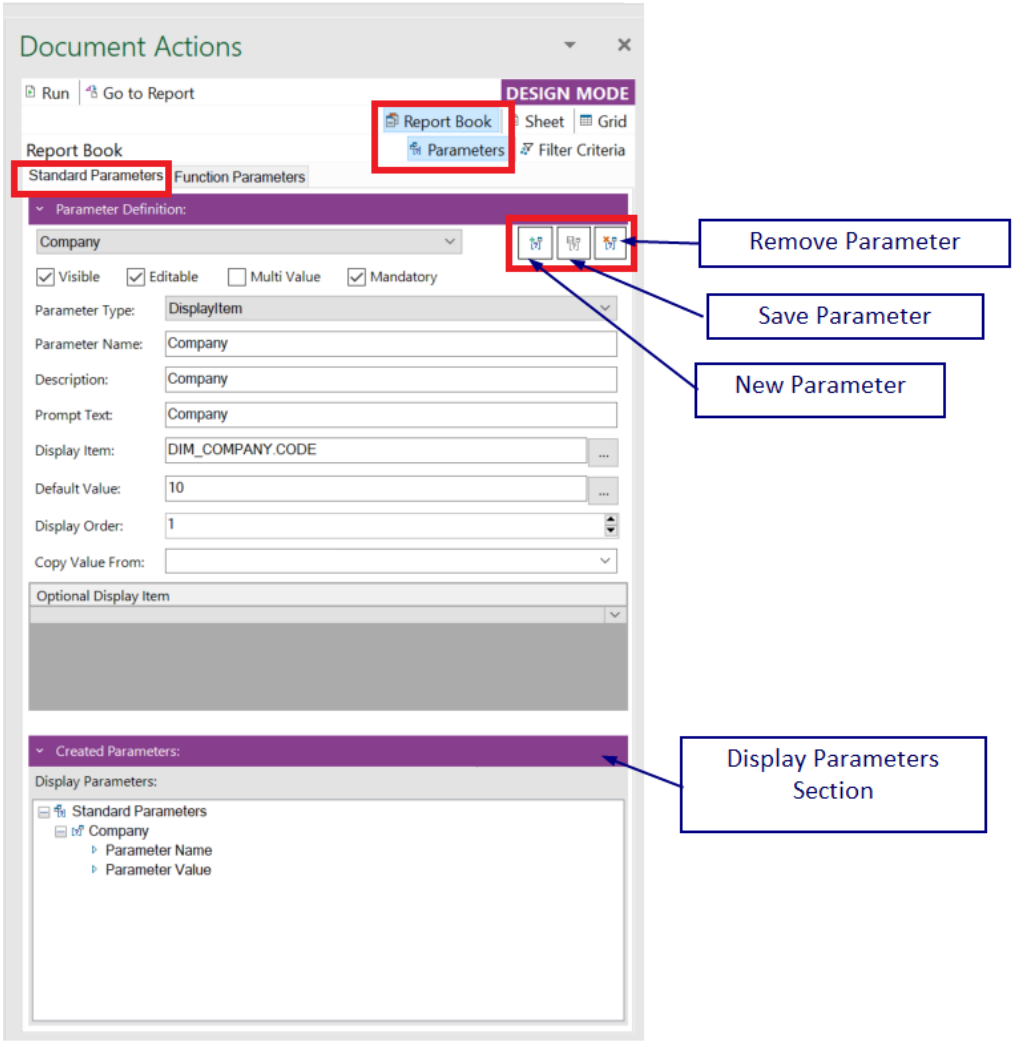


Figure 2.5

4. The parameter type will be set to **DisplayItem** by default but can be changed according to the needs. Selecting **DisplayItem** means the parameter is connected to a display Item. The parameter value can also be represented by:

   I. a constant string value by selecting **StringConstant**

   II. a constant number value by selecting **NumberConstant**

III. a constant date value by selecting **DateConstant**. Note that this type can be used to define a parameter that provides the date and time when the report was executed. Define the **Default Value** as **#NOW#** (Context Substitution Variable).

5. Enter a name for the parameter. Once the user enters a name for the **Parameter**, **Description** and **Prompt Text** fields will be automatically set to the **Parameter Name** which was entered.
6. Select a **Display Item** to represent the parameter.
7. Select a value, parameter, context substitution variable or global parameter from the **List of Values** dialog box for the **Default Value**, if required.
8. Select a value for the **Copy Value From** field to use a value of another parameter, if required. When a value is entered to this field, the **Default Value** which has been set to the parameter currently will be removed.
9. Save the added parameter by clicking **Save Parameter** 
10. If you need to remove a parameter, select the specific parameter from the Standard parameters list and click on **Remove Parameter**.

When a parameter is saved it becomes visible in the ***Display Parameters*** section. By expanding the parameter, it is possible to drag and drop the parameter name, parameter value and any additional display items into the design sheet.

About function parameters

Function parameters allow definition of parameter values based on calculations. There are simple and advanced functions. The simple ones are predefined and can be used to perform simple calculations, e.g. adding a number to another parameter to get a new value. If the user supplies the value 2020 for the parameter **Year**, we can calculate the function-based parameter **PrevYear** as **Year** – 1 and **NextYear** as **Year** + 1.
Advanced functions are normally related to business logic. Some advanced functions are provided in the Finance area, e.g. to returning the accounting year based on a company and a date, returning the current accounting year period for a company.

How to add a function parameter?

1. Click **Report Book**.
2. Click **Parameters**.
3. Select ***Function Parameters*** tab.
4. Click **New Parameter** to create a new parameter.
5. Supply the **Parameter Name** for the newly created parameter.
6. Select a **Function Id** from the available functions. If the **Advanced Function** check box is not selected, you will only get the available simple functions in the **List of Values** dialog box. If the **Advanced Function** check box is selected, you will also get set of advanced functions in the list as well.
7. **Function Argument** section will be updated after selecting the **Function Id** and will contain all possible function arguments.
8. Provide suitable values for function arguments. They can be a context substitution variable, other parameter or a direct value.

NOTE: It is recommended to test each function-based parameter by using the **Evaluate** button below ***Created Parameters.*** Supply values for prompted parameters and then examine the output in the **Value** column and make sure that all function-based parameters give the expected value.

Please refer the below example on Simple Function Parameter. IFS Business Reporter has provided you with a list of **Simple Functions**. You can use any of these functions to create a Simple Function Parameter.

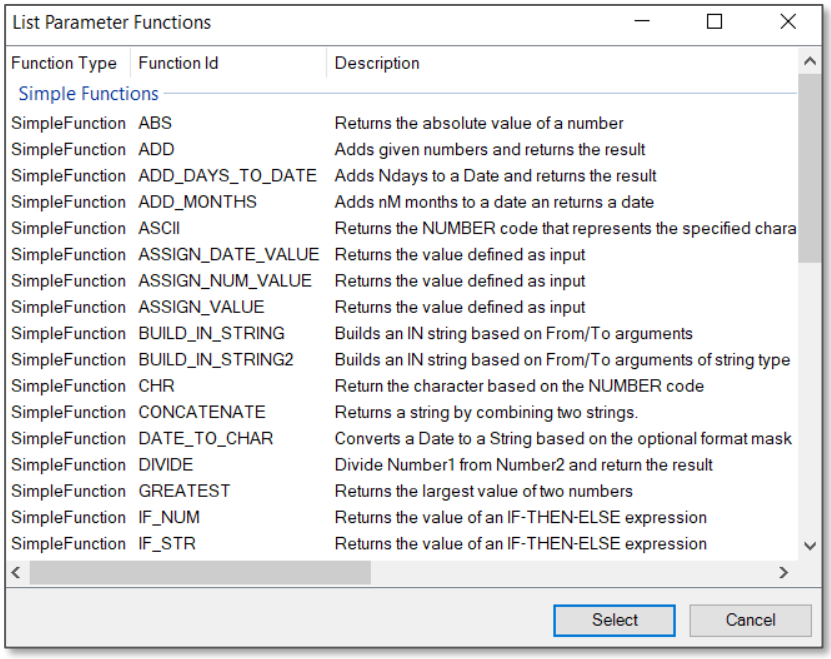


Figure 2.6

In this example, a parameter is created to obtain the value of last year based on this year. SUBSTRACT is selected as the function Id. #NUMBER_OF_THIS_YEAR# (2022) and Number 1 are given as the first and second function arguments respectively. Save the created parameter and then evaluate the parameter before applying it as a filter criteria.

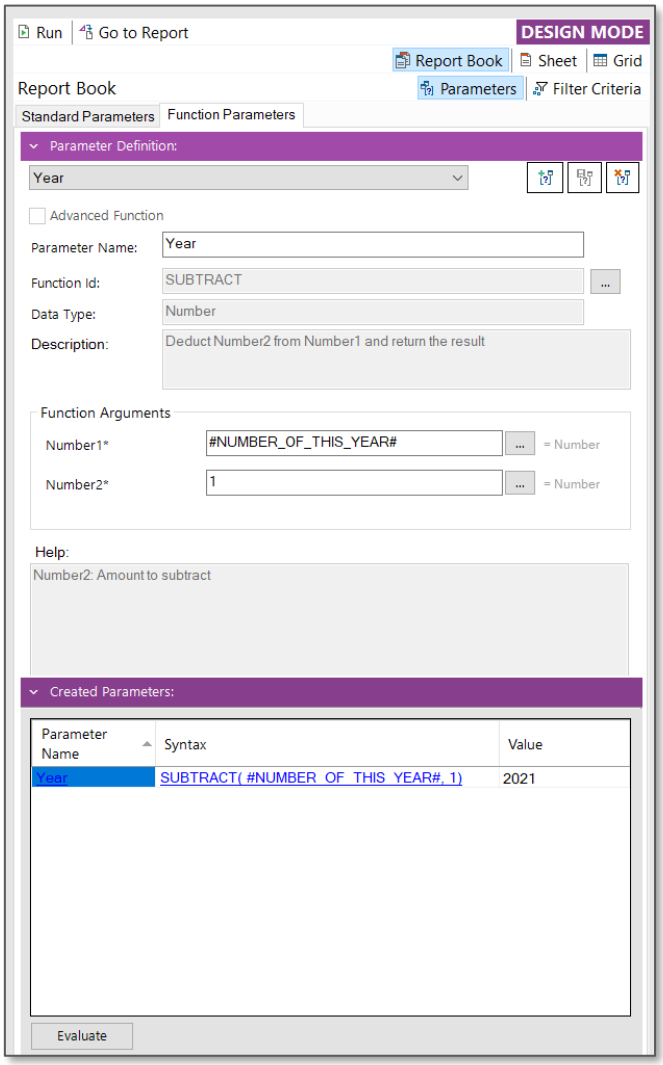


Figure 2.7

Likewise, you can create an Advance Function Parameter by enabling the Advance Function check box.

About global parameters

In general, global parameters are used when there are large number of reports to be filter out to a certain parameter value. Here the user will only need to change the global parameter value in IFS Cloud rather than changing the parameter values for each report individually.

How to add a global parameter?

1. In prior to the application of a global parameter in a report, it needs to be created in the IFS Cloud. This can be created by following the below given path. In this example a global parameter is created to filter out data to a particular company.

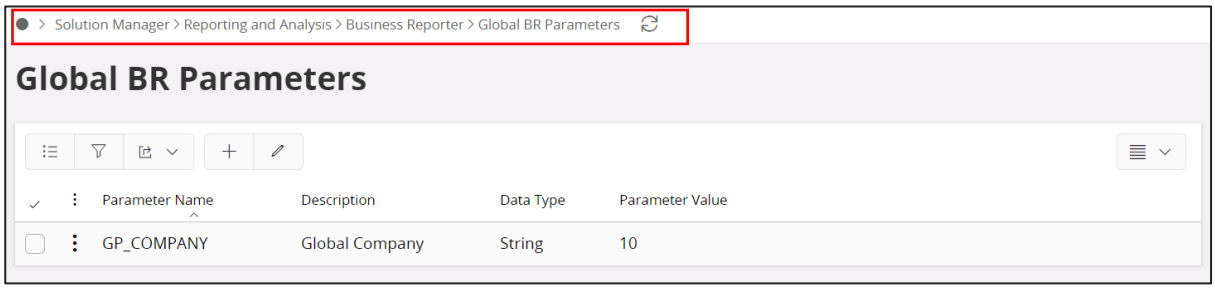


Figure 2.8

2. Once the global parameter is created or any update is done to the existing parameters, ensure to refresh IFS Business Reporter using the Refresh All icon in BR ribbon

Figure 2.9

3. Then, the defined parameter can be used in the report design by selecting from the filter criteria.

2.3 Zoom-In

This feature enables the user to get more details about the underlying data related to a specific cell in an executed report. **Zoom-In** performs a detailed breakdown within the **same data source**. The functionality is available only at cell level and applies to measure items that have been enabled for **Zoom-In** in the Information Source configuration (metadata).

Defining cells that should support **Zoom-In** is done when designing the report, i.e. in **Design Mode**.

The following example below shows how zoom-in can be applied to a report.

To give the end user a possibility to view detailed information related to e.g. the Gross Amount in cell F4, enable **Zoom-In** for the cell. Go to the cell F4 and click on the **Zoom In** tab under **Cell Options**.

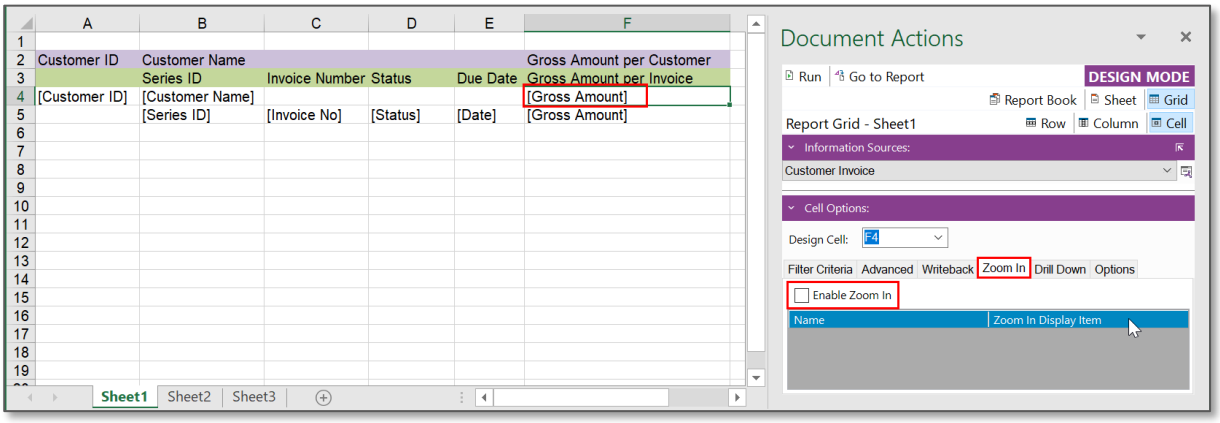


Figure 2.10

Select the check box **Enable Zoom In**. A list of display items will be shown, and it is possible to select which of the listed attributes that should be displayed when performing **Zoom-In** on the specific cell (Gross Amount).

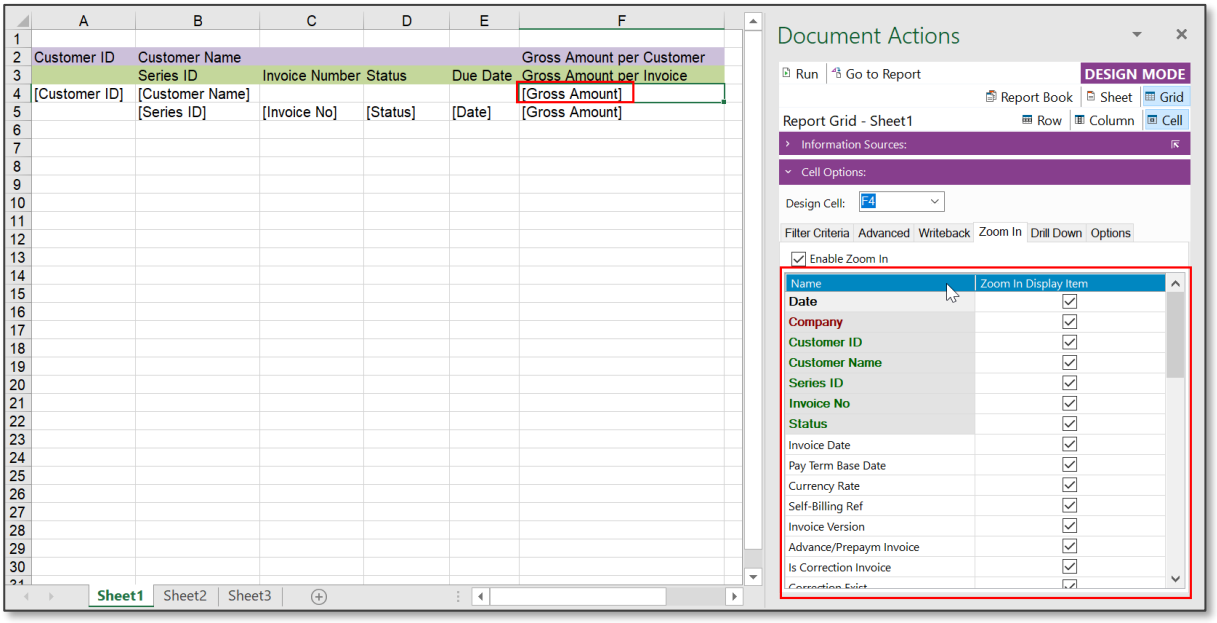


Figure 2.11

Execute the report by clicking on the **Run** button. Go to any cell in the **Gross Amount per Customer** column and click on right mouse button to open the context menu. Select **Zoom In** under **IFS Business Reporter Options**.

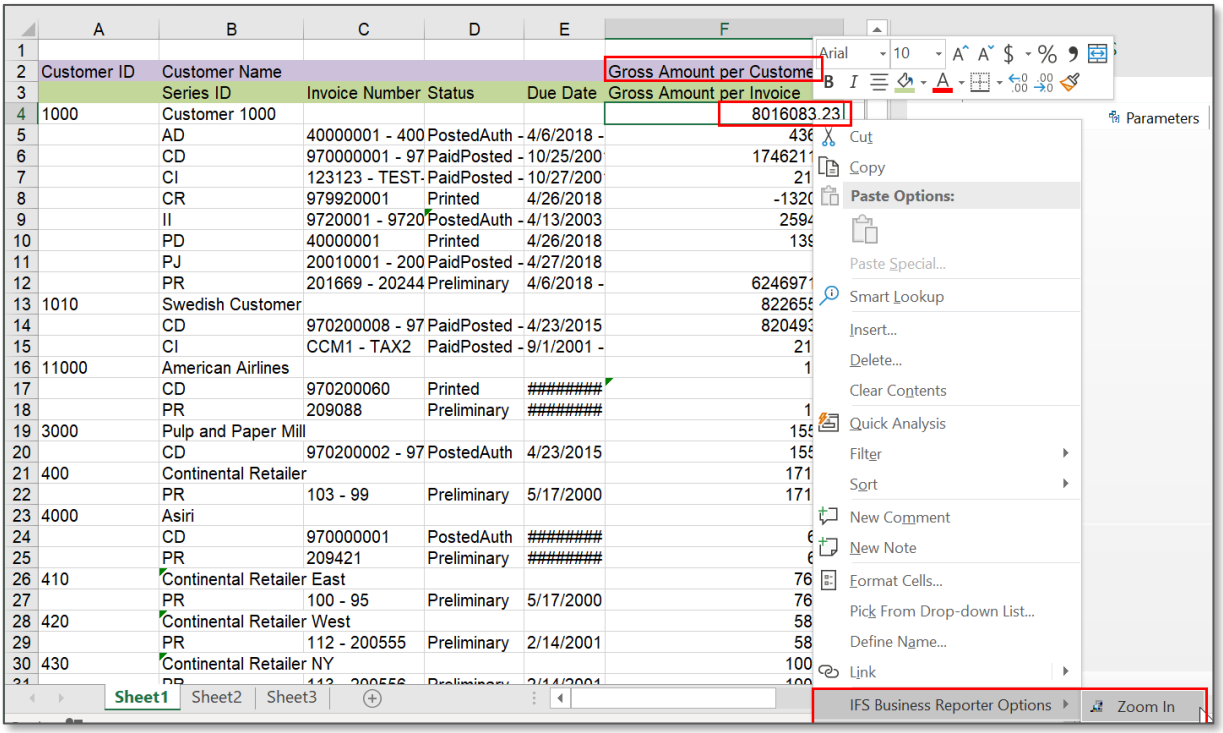


Figure 2.12

You will be directed to another sheet (Figure 2.9) where detailed information related to the **Gross Amount** source cell is displayed.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Date	Company	Customer ID	Customer Name	Series ID	Invoice No	Status	Invoice Date	Pay Term Base Date	Currency Rate	Self-Billing Ref	Invoice
2	10/25/2001 0:00	20	1000	Customer 1000	CD	970000001	PostedAuth	9/25/2001 0:00	9/25/2001 0:00	1		
3	10/27/2001 0:00	10	1000	Customer 1000	CI	CP 1	PostedAuth	9/27/2001 0:00	9/27/2001 0:00	1		
4	10/27/2001 0:00	10	1000	Customer 1000	CI	CP 2	PostedAuth	9/27/2001 0:00	9/27/2001 0:00	1		
5	10/27/2001 0:00	10	1000	Customer 1000	CI	CP 3	PostedAuth	9/27/2001 0:00	9/27/2001 0:00	1		
6	10/27/2001 0:00	10	1000	Customer 1000	CI	CBC 1	PostedAuth	9/27/2001 0:00	9/27/2001 0:00	1		
7	10/27/2001 0:00	10	1000	Customer 1000	CI	CBC 2	PostedAuth	9/27/2001 0:00	9/27/2001 0:00	1		
8	12/5/2001 0:00	70	1000	Customer 1000	CD	970100001	PostedAuth	11/15/2001 0:00	11/15/2001 0:00	1		
9	12/10/2001 0:00	70	1000	Customer 1000	CD	970100003	PostedAuth	11/20/2001 0:00	11/20/2001 0:00	1		
10	12/10/2001 0:00	70	1000	Customer 1000	CD	970100002	PostedAuth	11/20/2001 0:00	11/20/2001 0:00	1		
11	4/13/2003 0:00	20	1000	Customer 1000	II	9720001	PostedAuth	3/14/2003 0:00	3/14/2003 0:00	1		
12	12/25/2003 0:00	20	1000	Customer 1000	II	9720002	PostedAuth	11/25/2003 0:00	11/25/2003 0:00	1		
13	4/4/2018 0:00	10	1000	Customer 1000	CD	970200003	Printed	4/4/2018 0:00	4/4/2018 0:00	1		
14	4/4/2018 0:00	10	1000	Customer 1000	CD	970200001	Printed	4/4/2018 0:00	4/4/2018 0:00	1		
15	4/6/2018 0:00	10	1000	Customer 1000	AD	40000001	Printed	4/6/2018 0:00	4/6/2018 0:00	1		

Figure 2.13

2.4 Drill Down

Drill Down performs a detailed breakdown of a cell from one source to another. The requirement is that there exists a relation between a source and a target Information Source. Some examples:

- From Customer Payment to Customer Payment Transactions
- From GL Balance to GL Transactions

Applying the **Drill Down** to a cell in a report is similar to applying **Zoom-In** as described in the previous section 4.3.

Defining cells that should support **Drill Down** is done when designing the report, i.e. in **Design Mode**. The ***Drill Down*** tab under **Cell Options** is only enabled if the source measure belongs to an Information Source that has a relation to a detailed Information Source.

An example is given below.

In the example, the source will be the Information Source GL Balance and the detail target is GL Transaction.

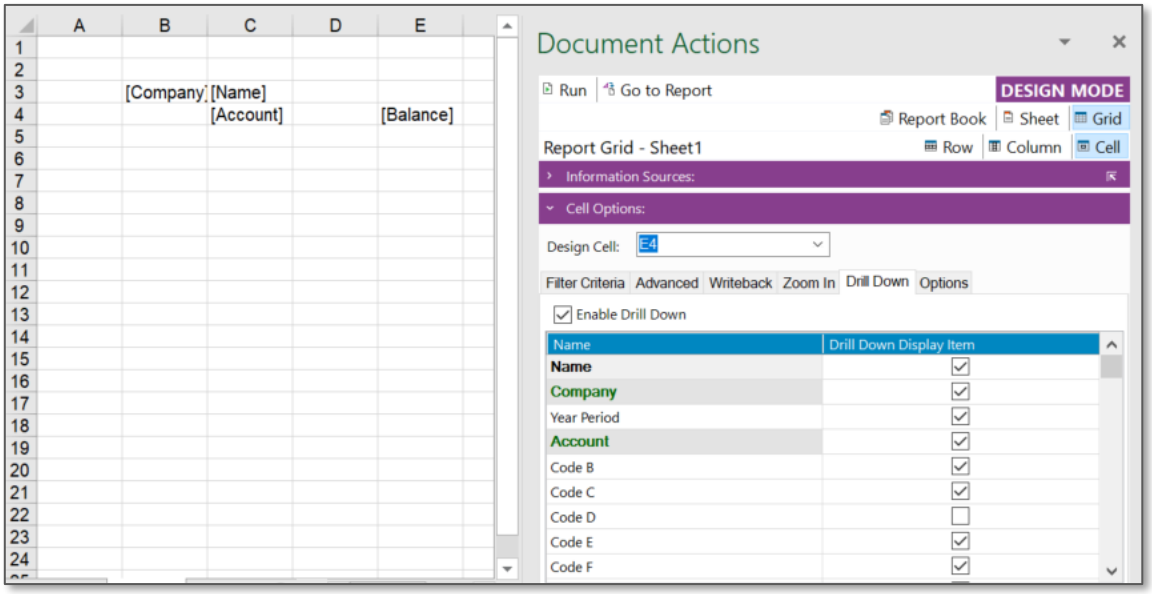


Figure 2.14

- Create a report, e.g. by displaying account balances per company. We want to make it possible to drill down from a cell to the corresponding transaction details.
- Go to the E4 cell and click on ***Drill Down*** tab under **Cell Options** section in the ***Document Actions*** pane.
- Select the **Enable Drill Down** check box. A list of available drill down display items will appear.
- Untick the items that you do not want to see when drilling down.
- Execute the report.
- Go to any balance call and click on right mouse button to open the context menu. Select **Drill Down** under **IFS Business Reporter**.

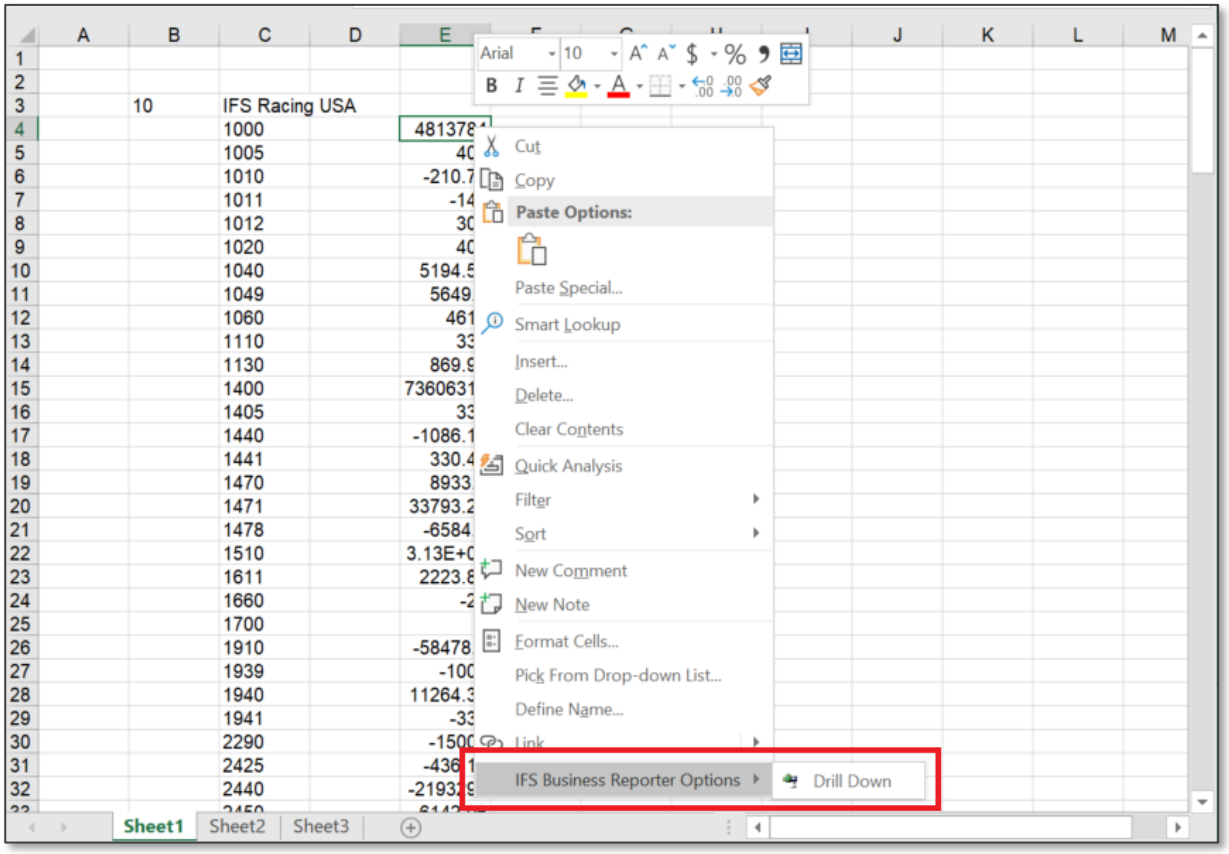


Figure 2.15

- You will be directed to a new sheet-Sheet1(1) where the transaction details related to the balance in the source cell will be displayed.

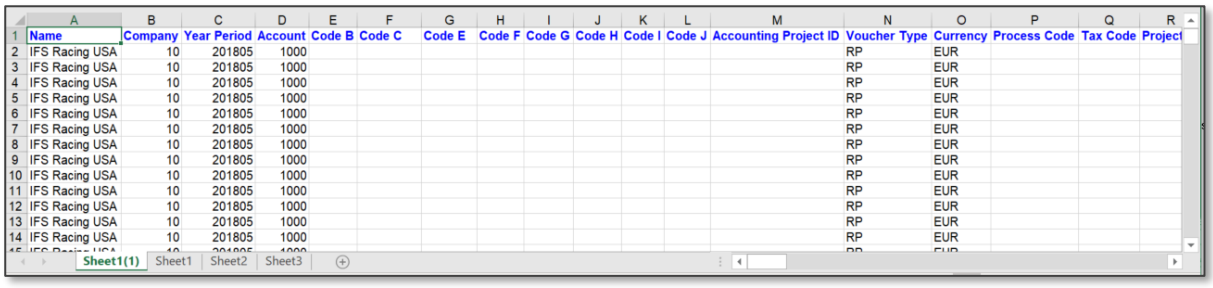


Figure 2.16

- In addition, you can navigate to IFS Cloud to obtain more details about a particular transaction. Right-click on a transaction row in the new sheet- Sheet1(1) and then select the required page in IFS Cloud from the given options under IFS Business Reporter Options.

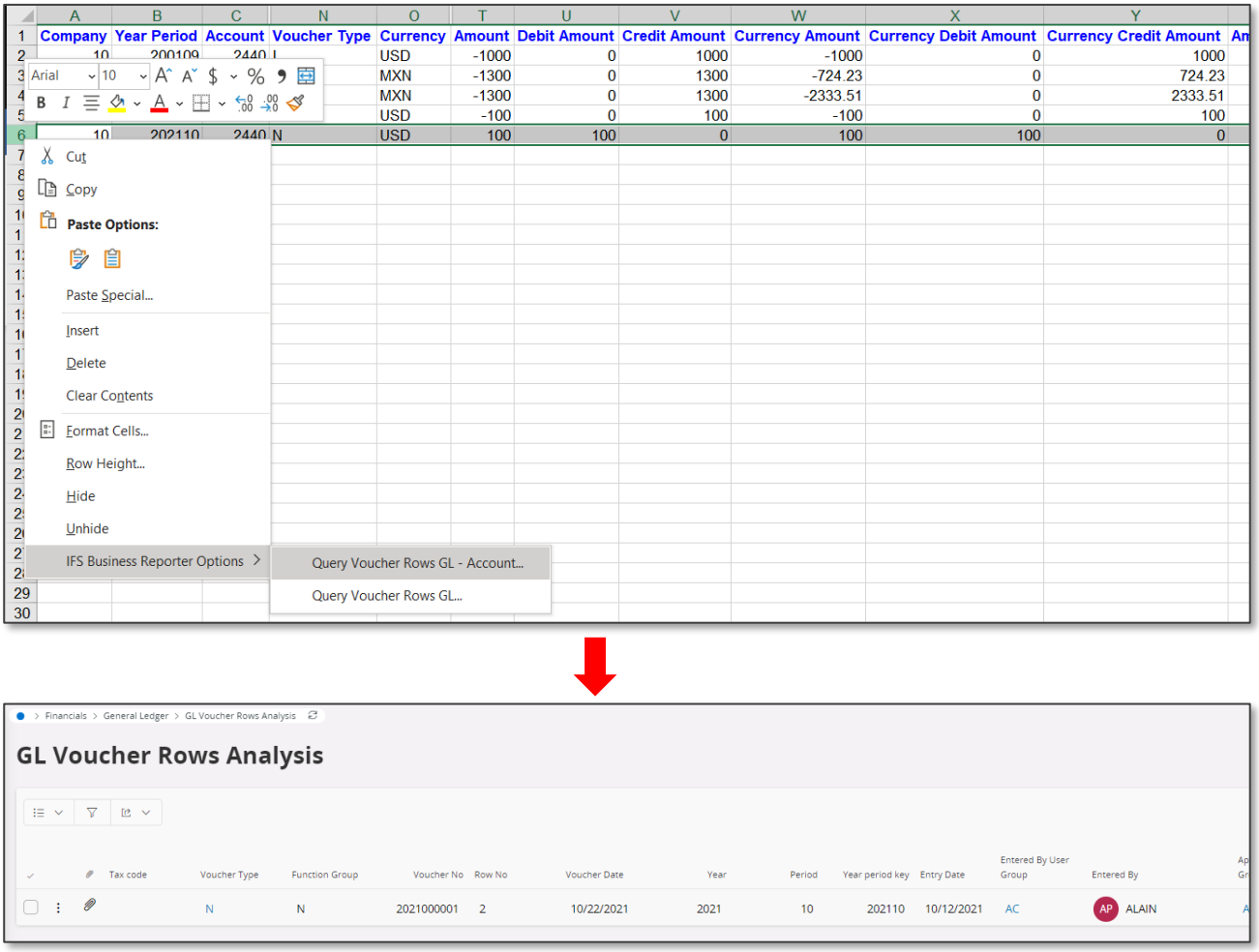


Figure 2.17

2.5 Interactive Filtering

IFS Business Reporter facilitates interactive filtering in **Report Mode** by using the MS Excel feature called slicers. The following types of slicers are available in BR:

- Workbook Slicers
- Sheet Slicers
- Structure Slicers

Structure slicers will be discussed in the chapter: Structure Reports.

Workbook Slicers

When a slicer is applied to workbook level, it will affect all the sheets in the workbook.

Below is an example on how to add a workbook slicer to a simple BR report.

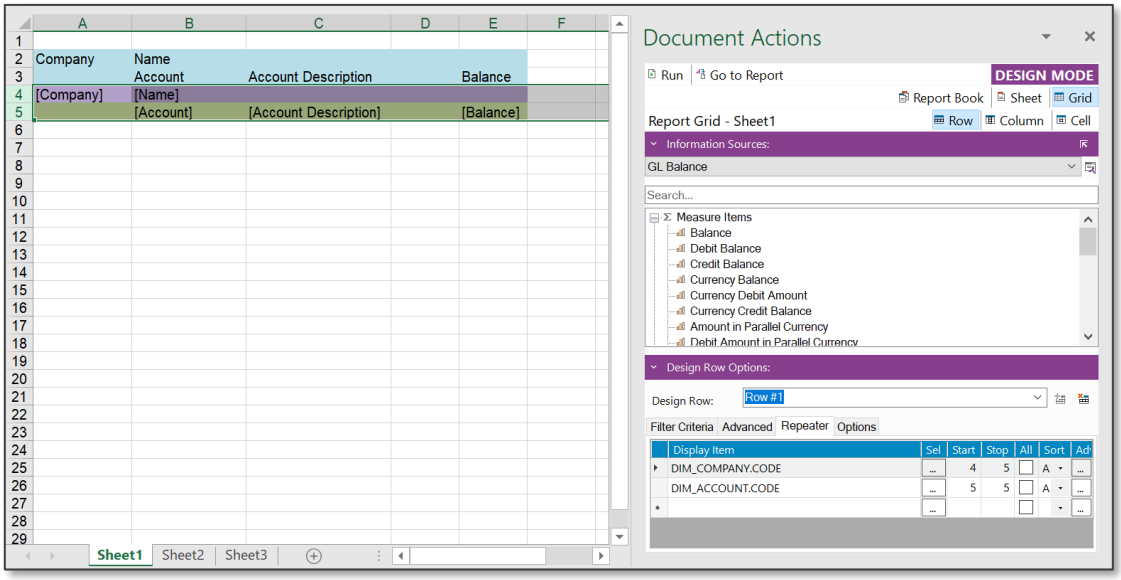


Figure 2.18: Sheet 1 of the report

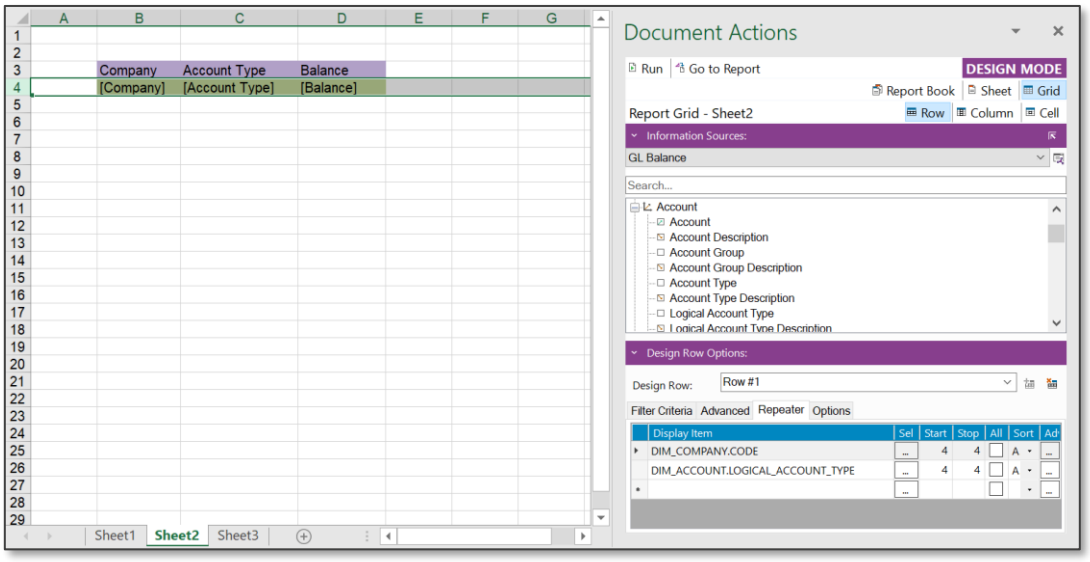


Figure 2.19: Sheet 2 of the report

The above simple BR report has been created using the GL Balance Information Source. In Sheet 1 of the workbook, one design row with two MS Excel rows has been added and repeated on Company and Account as shown in the Figure 2.13 above. Sheet 2 contains another design row with one MS Excel row which is repeated on Company and Logical Account Type (Figure 2.14). After creating the report, go to the ***Report Book*** tab in the **Design Mode** and click on **Filter Criteria** (next to **Parameters**). In **Report Book Options**, select the tab ***Workbook Slicer***. This tab can be used to define the slicer attributes on the workbook level.

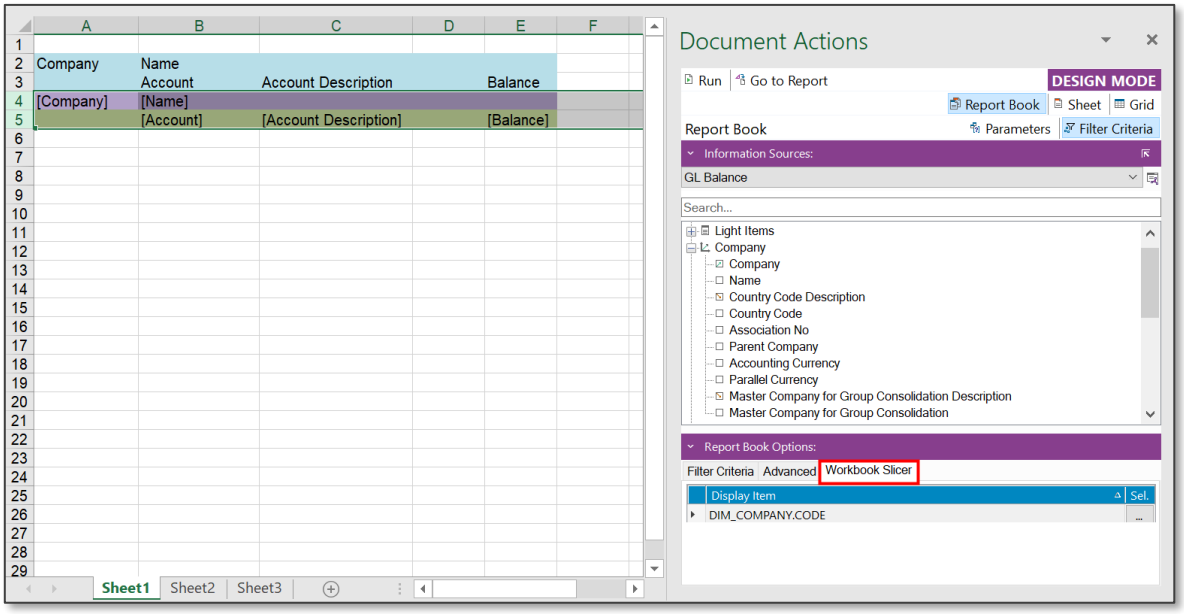


Figure 2.20

In our example, DIM_COMPANY.CODE is used as the attribute for the slicer. Drag and drop it to the ***Workbook Slicer*** section. One or more attributes can be selected depending on your design requirements. Now a Workbook slicer has been added to this report. Next, execute the report and the report will switch to the **Report Mode**. In the IFS Business Reporter ribbon, click on the button called **Slicer** to open the dialog named ***Slicer***. In our example, there are eight companies, and all are selected by default.

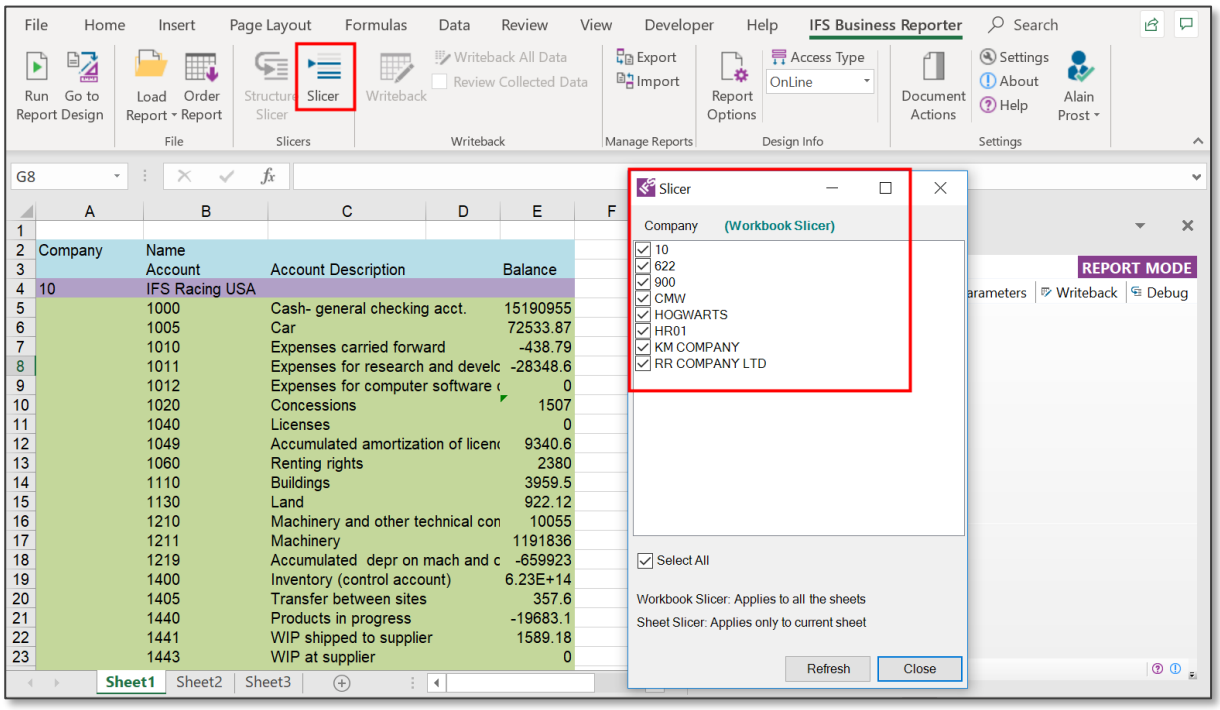
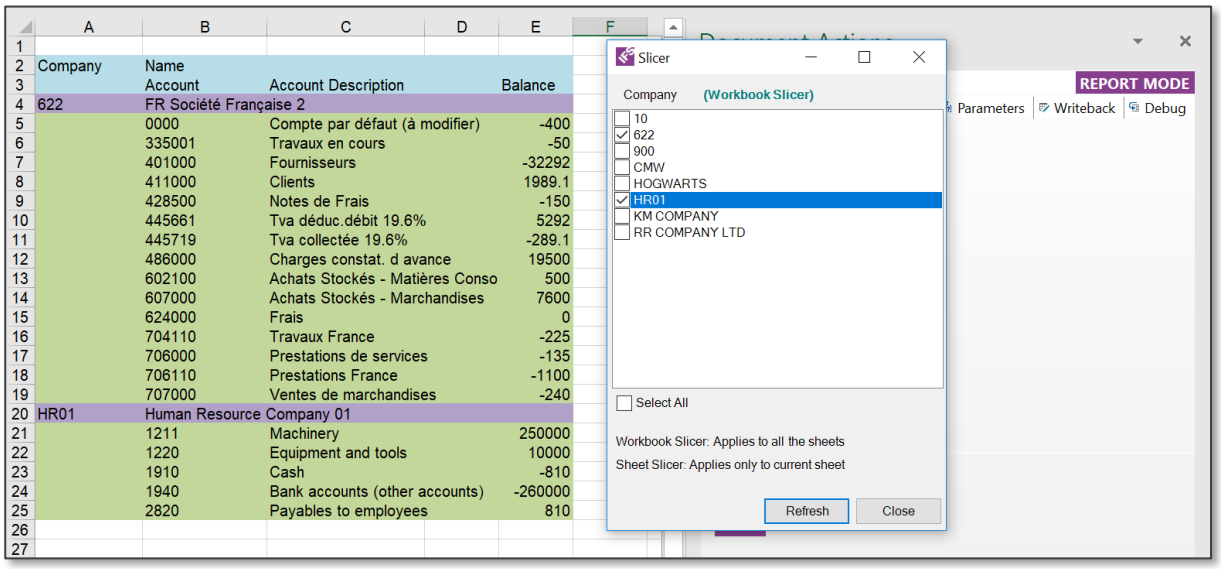


Figure 2.21

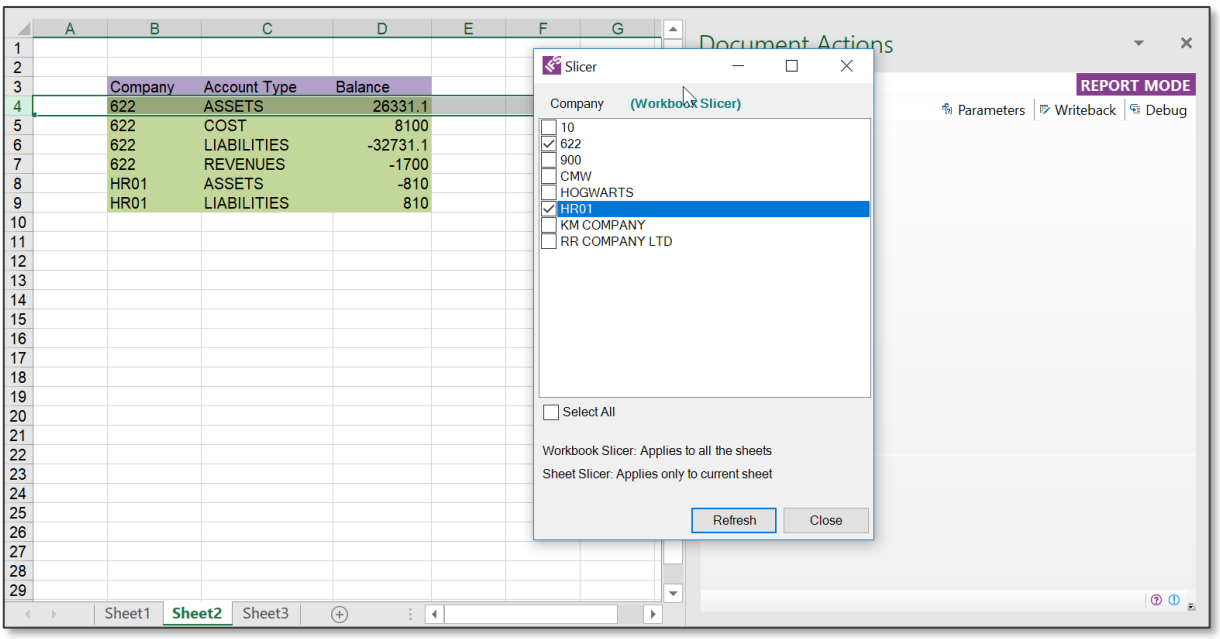
Select the companies that you want to slice on. Then click on the **Refresh** button. Since we have selected only the 622 and HR01 companies, only the data related to those companies are shown in the report.



	A	B	C	D	E
2	Company	Name			
3		Account	Account Description		Balance
4	622	FR Société Française 2			
5		0000	Compte par défaut (à modifier)		-400
6		335001	Travaux en cours		-50
7		401000	Fournisseurs		-32292
8		411000	Clients		1989.1
9		428500	Notes de Frais		-150
10		445661	Tva déduc.débit 19.6%		5292
11		445719	Tva collectée 19.6%		-289.1
12		486000	Charges constat. d avance		19500
13		602100	Achats Stockés - Matières Conso		500
14		607000	Achats Stockés - Marchandises		7600
15		624000	Frais		0
16		704110	Travaux France		-225
17		706000	Prestations de services		-135
18		706110	Prestations France		-1100
19		707000	Ventes de marchandises		-240
20	HR01	Human Resource Company 01			
21		1211	Machinery		250000
22		1220	Equipment and tools		10000
23		1910	Cash		-810
24		1940	Bank accounts (other accounts)		-260000
25		2820	Payables to employees		810

Figure 2.22

Next, if you go the Sheet 2 of the report, there also you will notice that only the data related to the selected two companies are shown.



	A	B	C	D
3		Company	Account Type	Balance
4		622	ASSETS	26331.1
5		622	COST	8100
6		622	LIABILITIES	-32731.1
7		622	REVENUES	-1700
8		HR01	ASSETS	-810
9		HR01	LIABILITIES	810

Figure 2.23

This procedure can be done as many times as you want by selecting different companies and clicking on **Refresh** button. As you can see from the example, the slicer applied to the workbook level applies to all the sheets in the workbook.

Sheet Slicers

Slicers applied to a sheet will only affect that specific sheet. The same example previously used will be used to show how a sheet slicer is applied.

In the sheet 1 of the workbook, click on the **Sheet** button in **Design Mode**. Under **Report Sheet Options** you will find the tab ***Sheet Slicer***. Use the tab to define the attributes to be used as slicers in this specific sheet. In our example, DIM_ACCOUNT.LOGICAL_ACCOUNT_TYPE is used as the sheet slicer attribute. Thus, the workbook has a workbook slicer on Company and sheet 1 has a sheet level slicer on Logical Account Type.

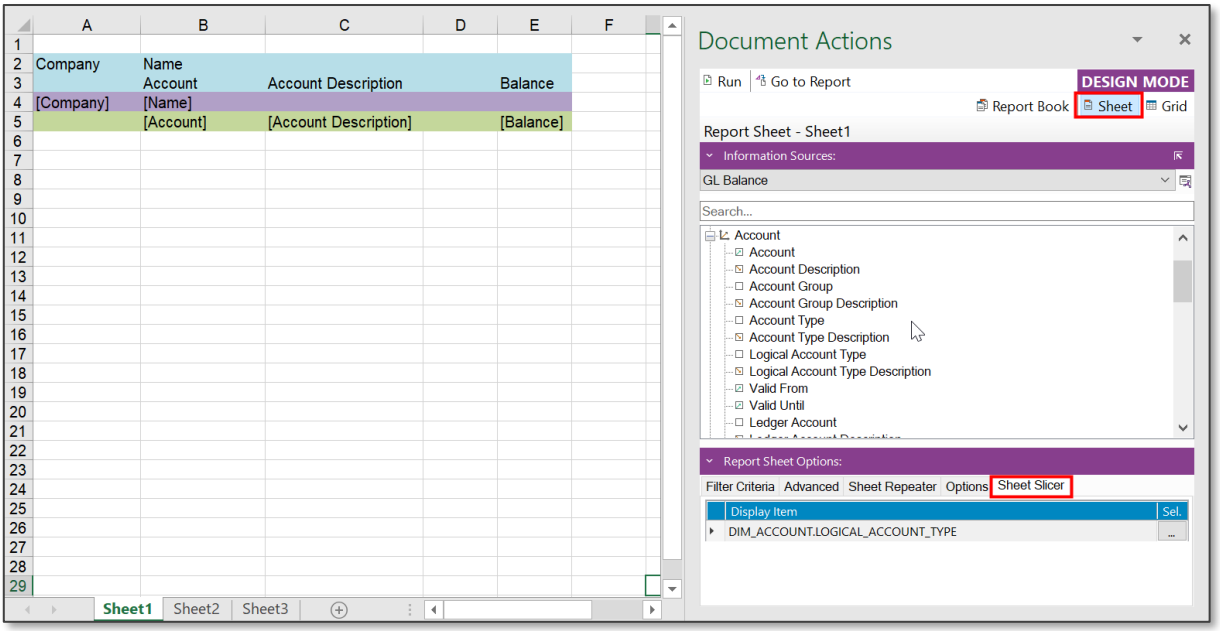


Figure 2.24

Run the report and click on the **Slicer** button in the ***IFS Business Reporter*** ribbon and a slicer dialog as shown below will appear.

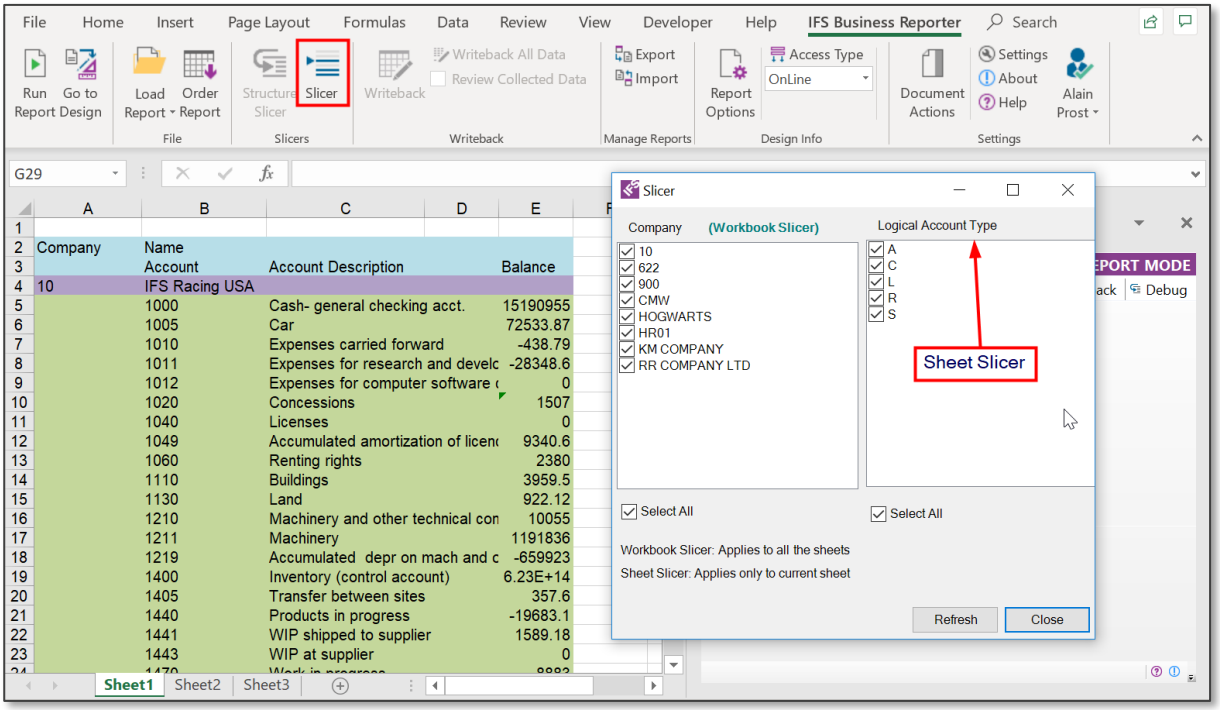


Figure 2.25

Now select the companies and the Logical Account Types that you wish to see in the executed report.

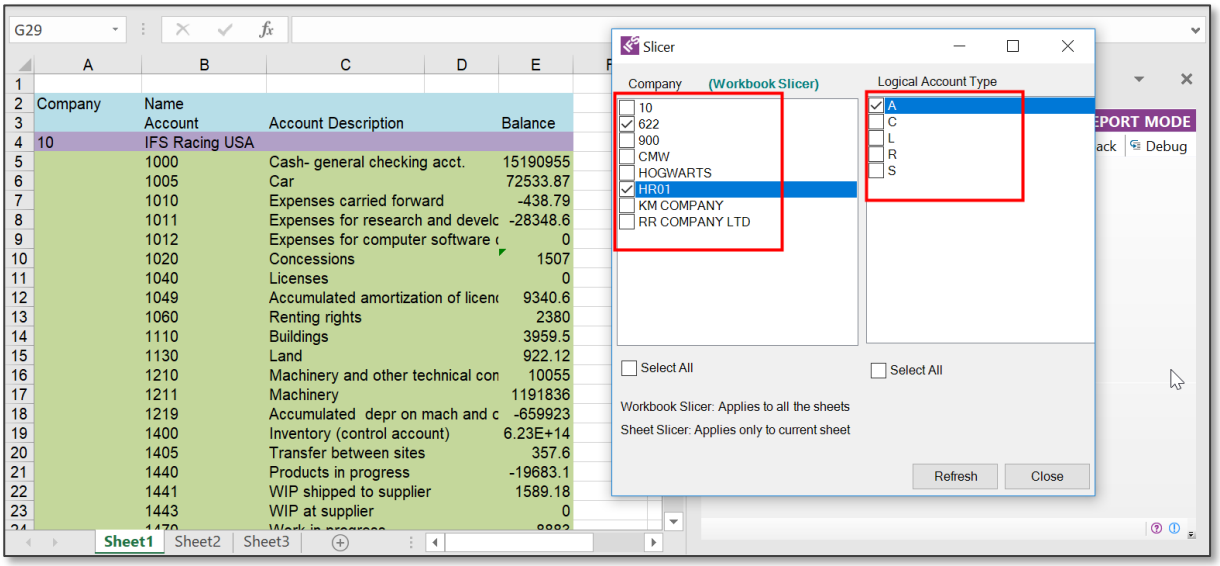


Figure 2.26

We will select the companies 622 and HR01 and the Logical Account Type=A (Assets). Next click on **Refresh** and the following output is shown in the report.

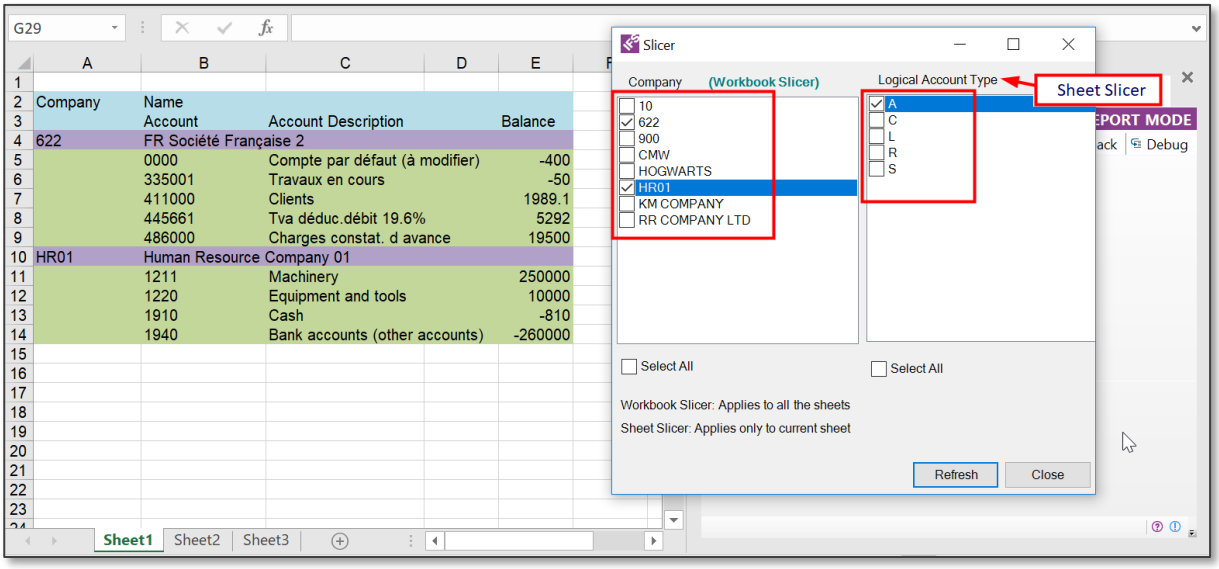


Figure 2.27

Since the Sheet 1 has both a workbook slicer on Company and a sheet slicer on Logical Account Type, it will only show the selected two companies and data related to the Logical Account Type =A (Assets) (Figure 2.22).

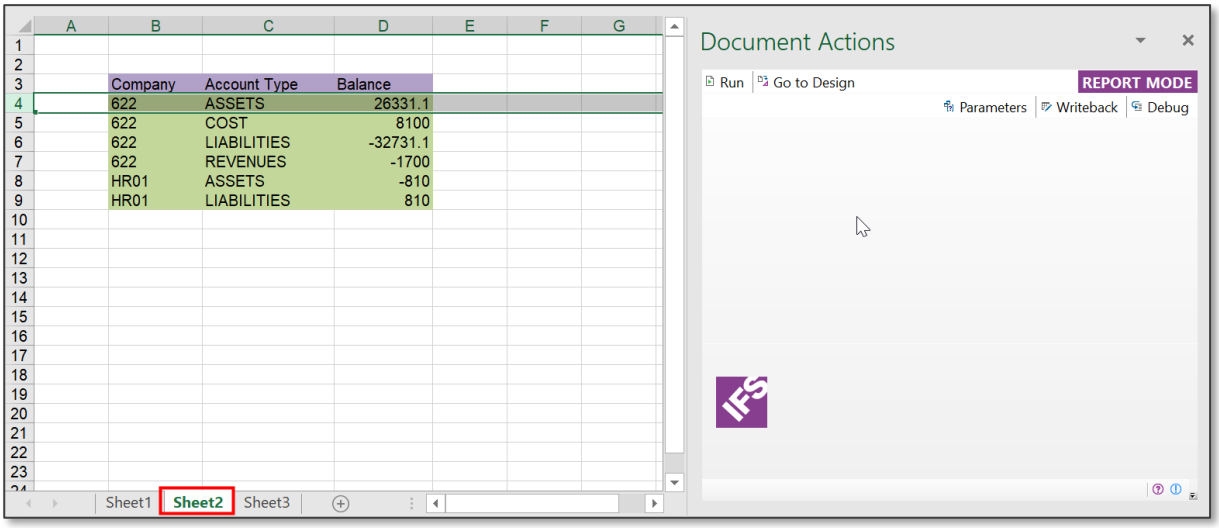


Figure 2.28

However, if you look at the Sheet 2, it shows data related to all logical account types since Sheet 2 does not have a sheet slicer (Figure 2.23). However, since Sheet 2 is affected only by the workbook level slicer, it shows data related to only the two selected companies.

Workbook Slicer combined with Sheet Repeaters

Workbook slicers can also be used in combination with the **Sheet Repeaters**. The example below shows how this works.

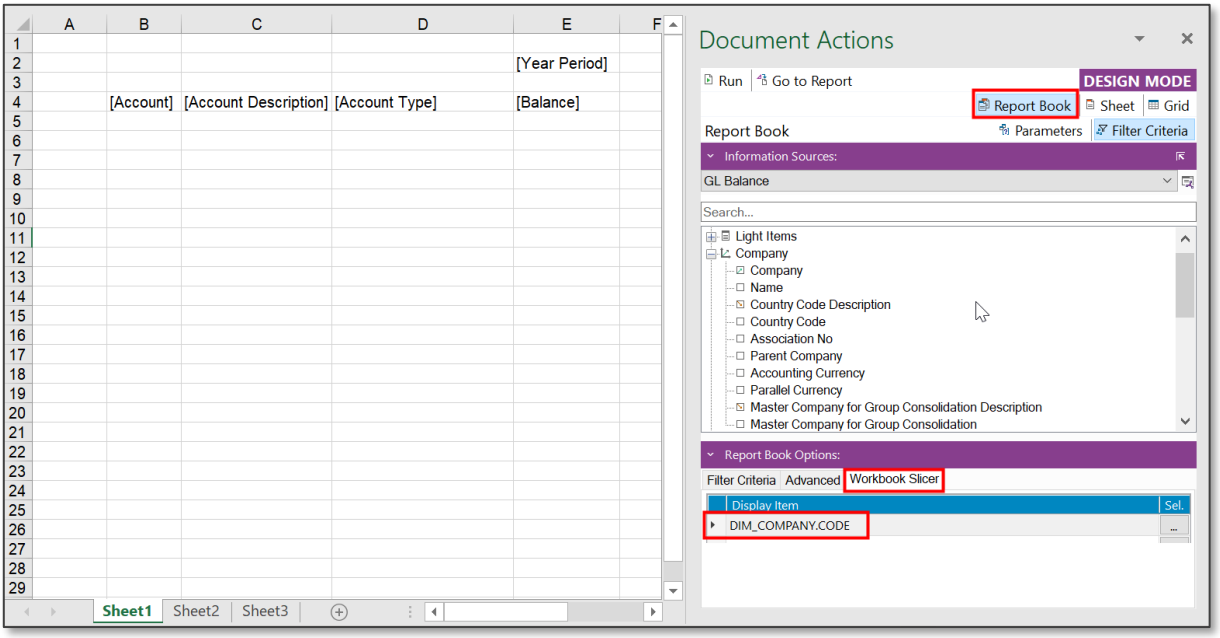


Figure 2.29

The above BR report contains a **Workbook Slicer** on Company. Sheet 1 also has a **Sheet Repeater** as shown below which is also on Company.

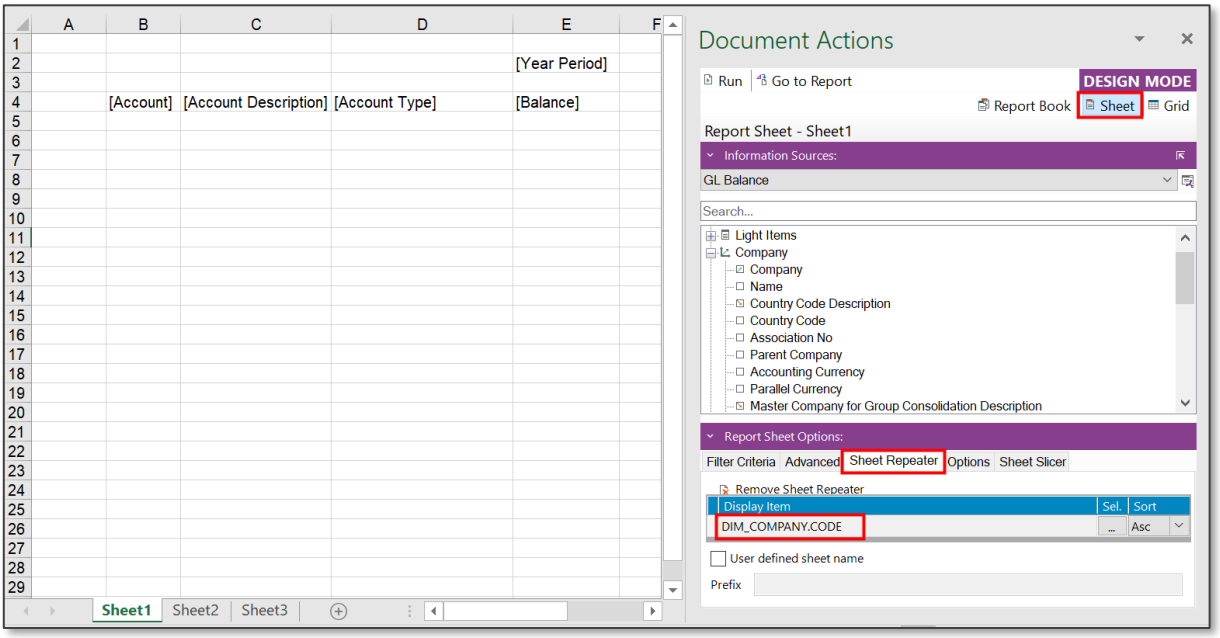


Figure 2.30

When you run this report, it will output one sheet per retrieved company as shown in Figure 2.26 below.

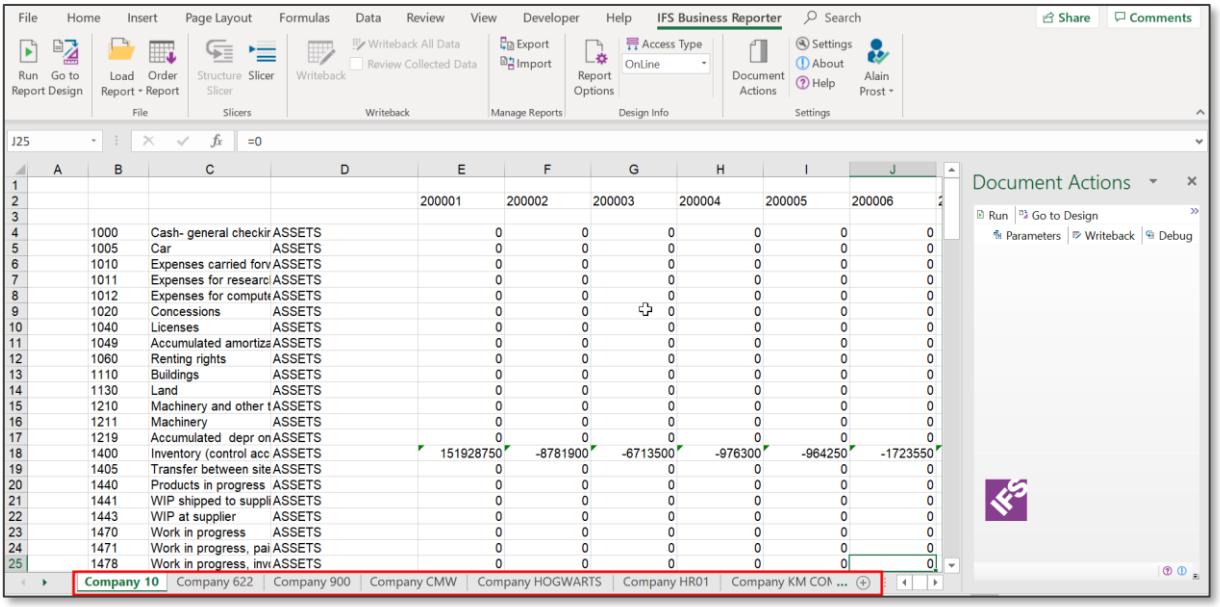


Figure 2.31

Now if you click on the **Slicer** button in the IFS Business Reporter ribbon, the ***Slicer*** dialog will appear.

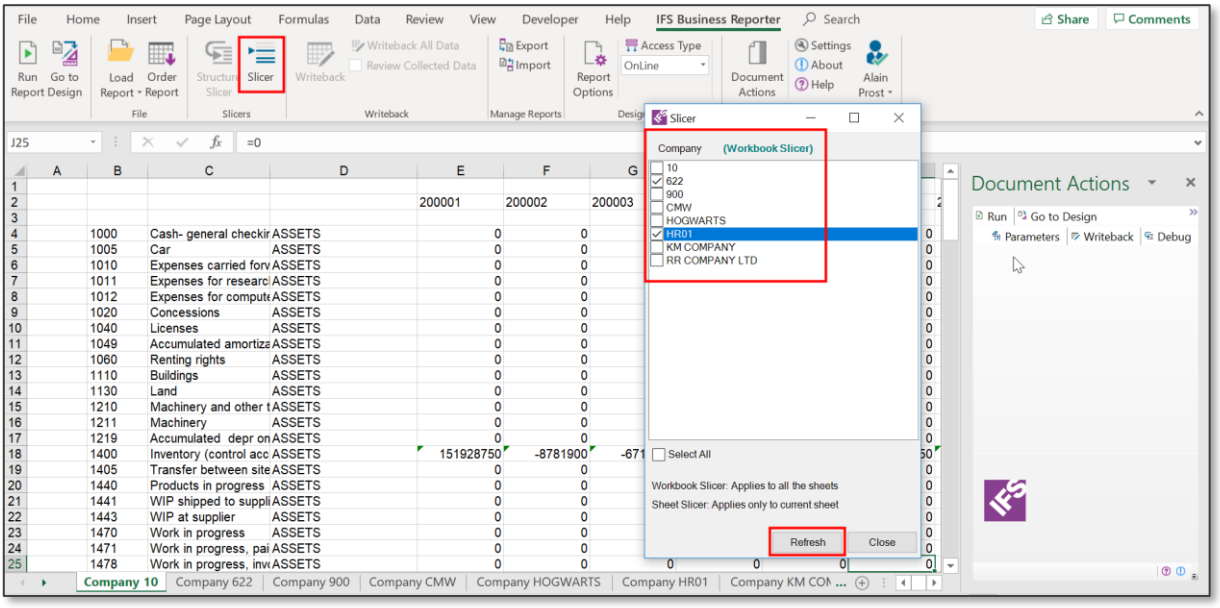


Figure 2.32

If we select only the two companies 622 and HR01 and click on **Refresh**, the output will have only two sheets for those two companies.

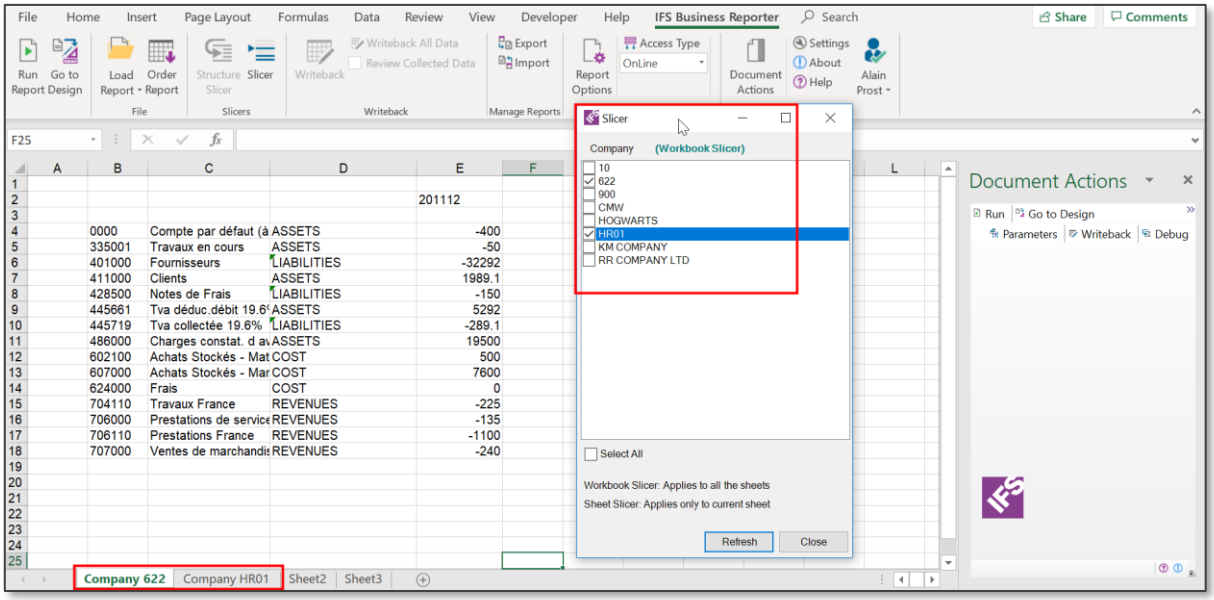


Figure 2.33

This procedure can be done as many times as you want.

2.6 Find

This option is available only in the **Design Mode**. The **Find** button in IFS Business Reporter ribbon provides the following functionality; **Find**, **Replace** and **Remove**.

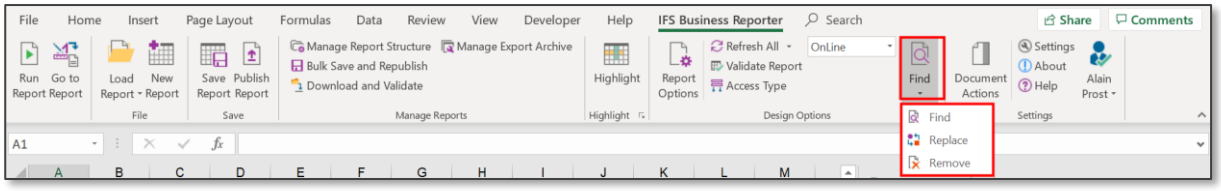


Figure 2.34

Using the **Find** option, you can either find a **Data Item** or a **Parameter** in the report design.

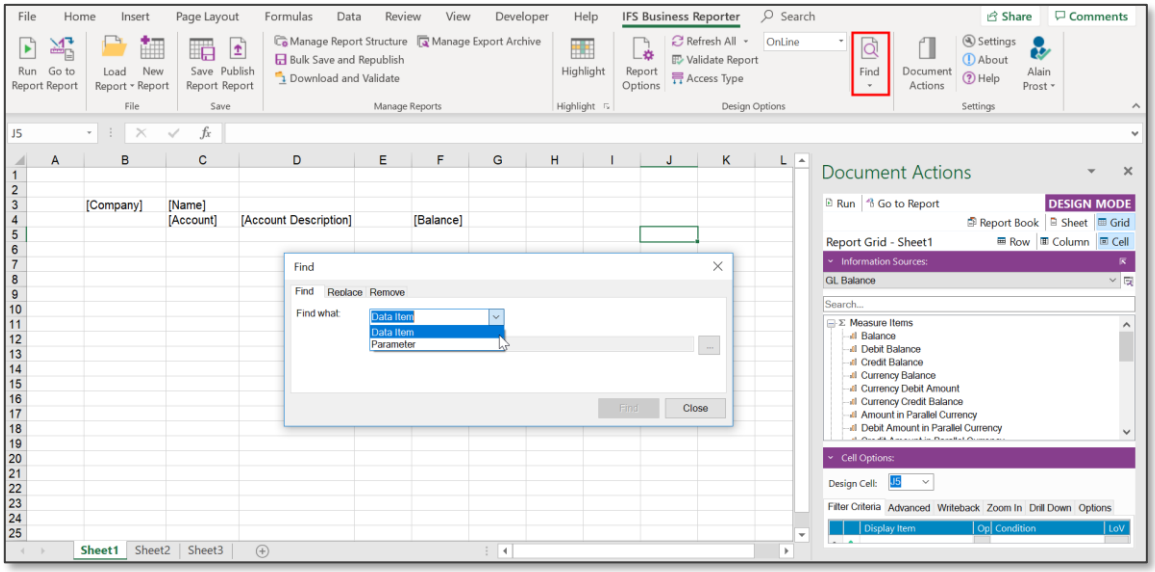


Figure 2.35

If you need to search for a data item in the report design, click on **Find** and select **Data Item** from the drop-down menu. Next select the data item to be searched from the list of values given under that and click on **Find**.

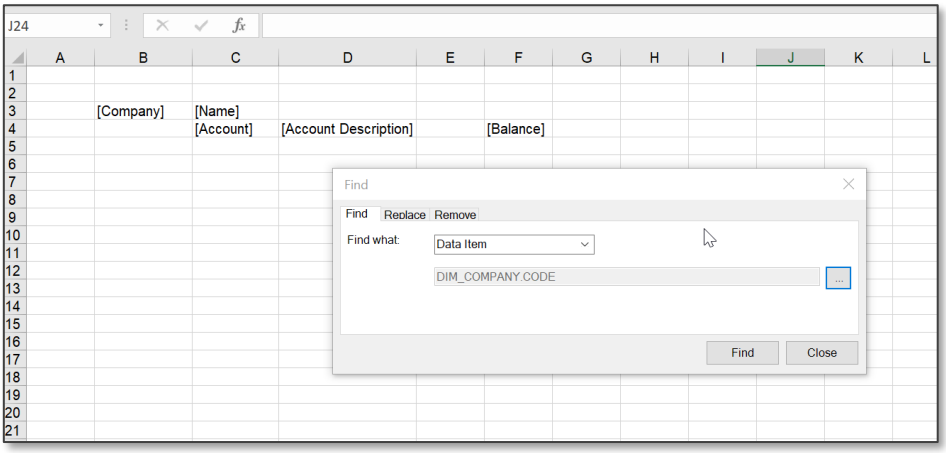


Figure 2.36

All places in the report design where the selected data item is used will be shown in a table along with their location references.

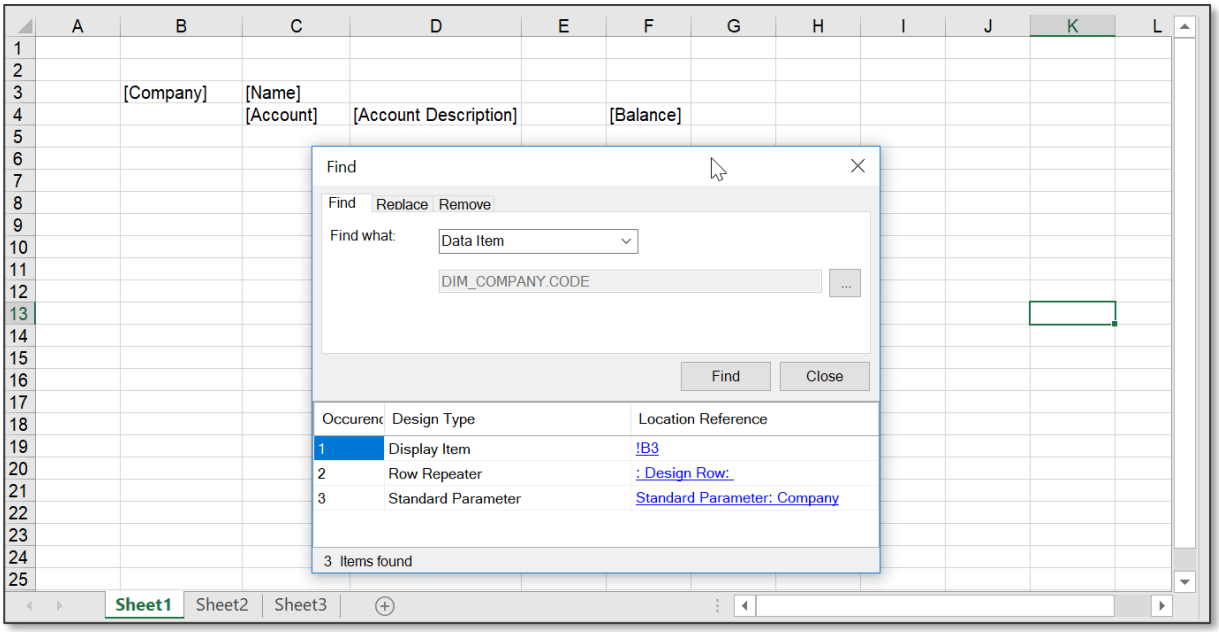


Figure 2.37

In the same manner, you can search for parameters applied in the report by selecting **Parameter** and then choosing the required parameter from the drop-down menu (Figure 2.33).

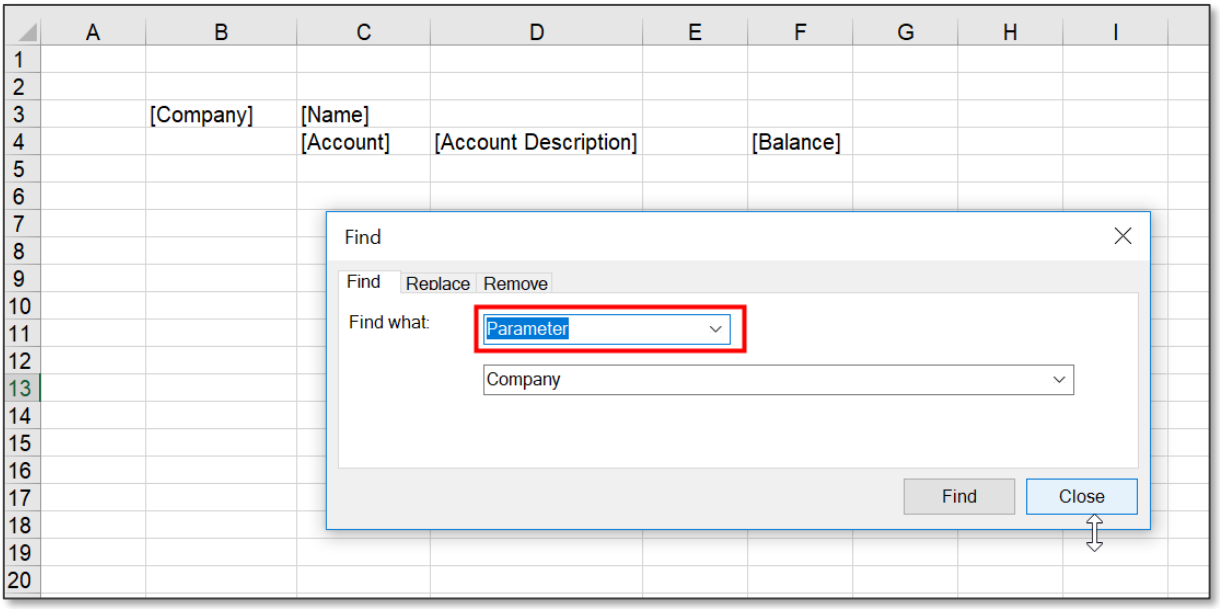


Figure 2.38

The ***Replace*** tab allows us to replace an existing **Data Item** or a **Parameter** with a new one. In order to replace a **Data Item**, from the specific list of values select the data item that you need to change and the data item that you need to replace the existing one with. Next click on **Find**. The dialog will provide a **Location Reference** to all places in the design where the selected item is found. If you need to proceed with the replacing, click on **Replace** button.

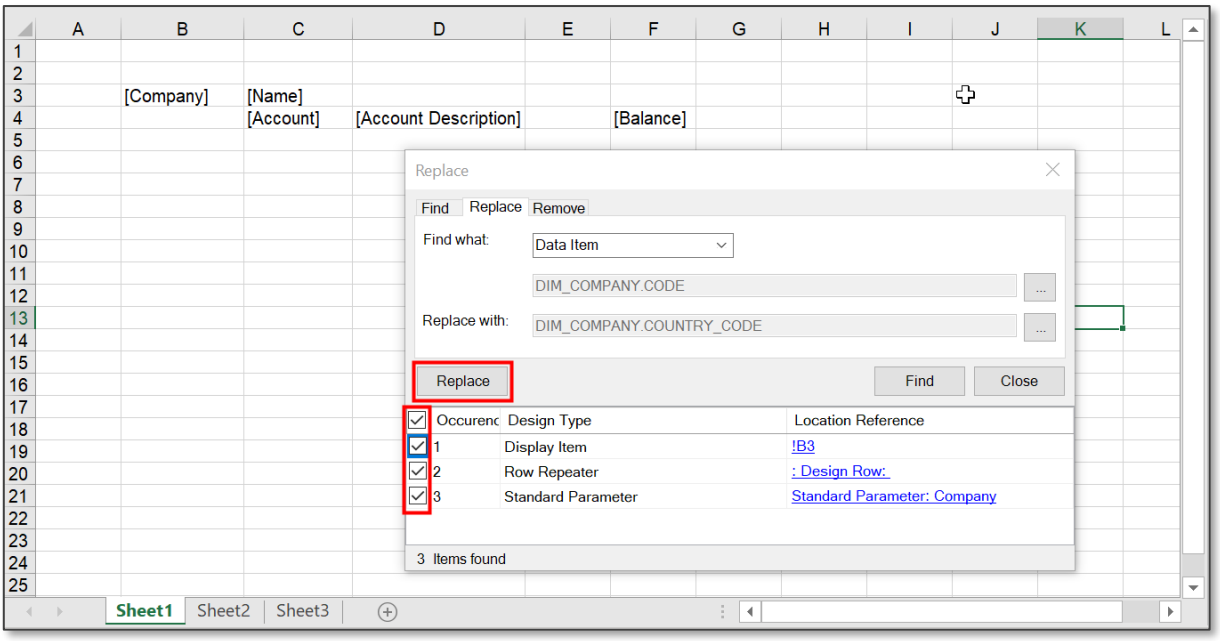


Figure 2.39

A pop-up message will appear saying that the replacement is completed and the data item in the report design will also be changed at the same time. It is also possible to select the specific locations where the replace should take place.

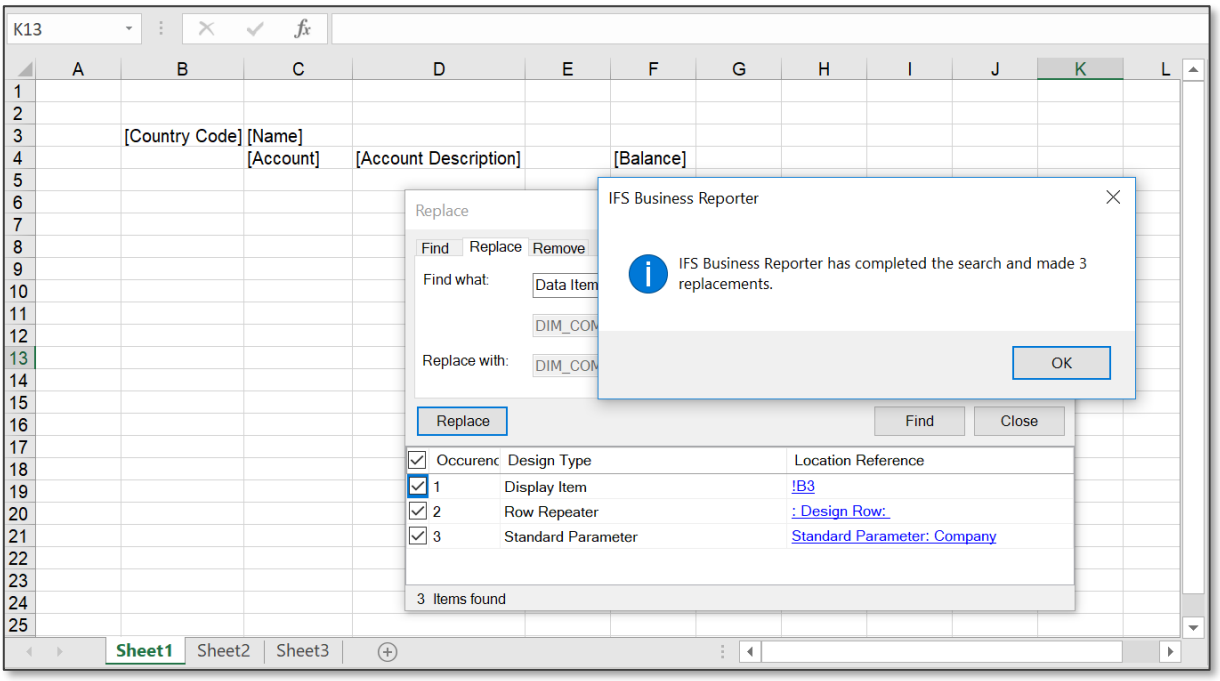


Figure 2.40

Replacing a parameter can also be done in the similar manner. Note that you first need to make sure that a replacement parameter is available.

Remove option allows you to easily remove a **Data Item** or a **Parameter** that is used in the report design.

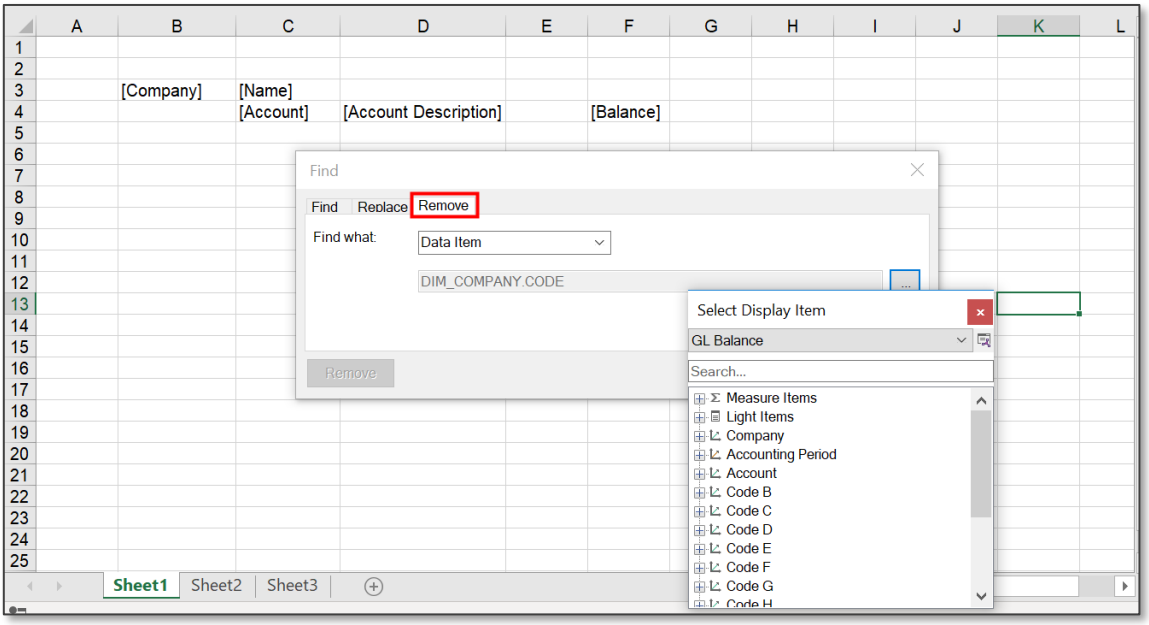


Figure 2.41

Select the data item or parameter to be removed as shown above and click on **Find**.

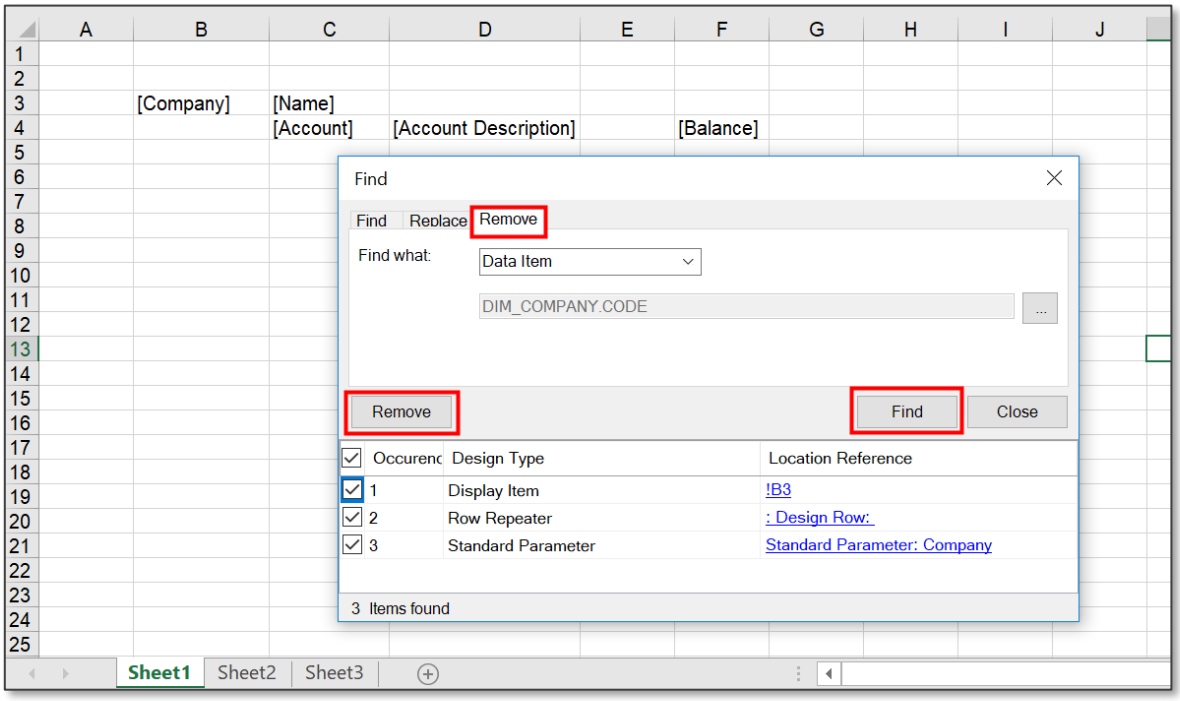


Figure 2.42

Then the dialog box will show a **Location Reference** to all the places where the selected data item/parameter was found in the report design. If you still wish to proceed with the removal, click on **Remove** and the item/parameter will be removed. It is also possible to select the specific locations where the removal should take place

2.7 Highlight

This is one of the features added to IFS Business Reporter to enhance the user experience for the Designer. The functionality enables the user to highlight the design elements added in a report design and is only available in the Design Mode.

The report below contains three design rows in the rows 7,9 and 11 and two design columns in the columns E and G. It also has a filter condition defined for the cell G9.

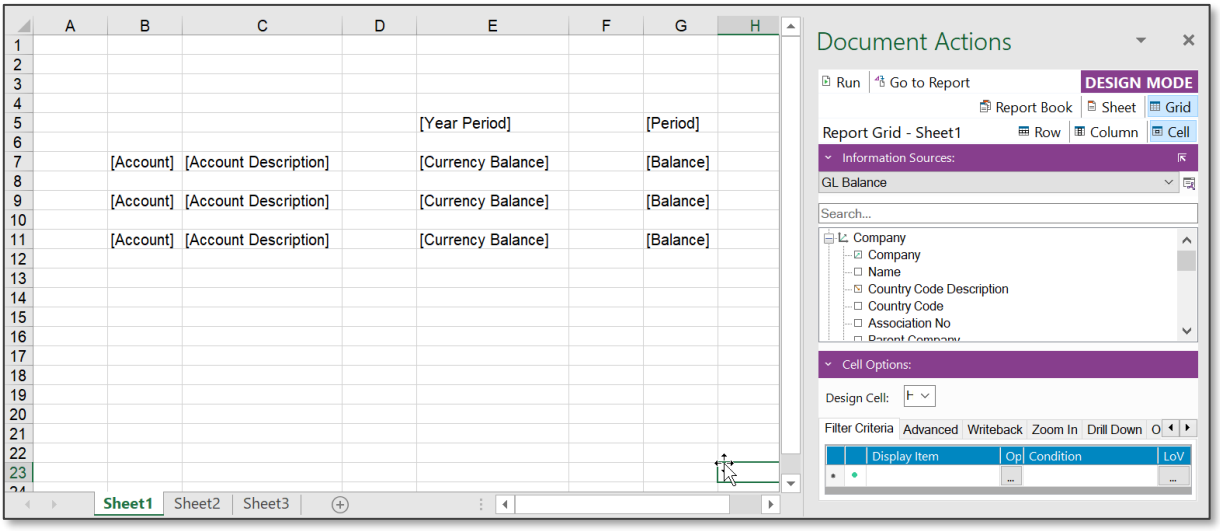


Figure 2.43

Now if you click on the **Highlight** button in the IFS Business Reporter ribbon, the design rows, design columns and the cell criteria will get highlighted in different colors. Only these three get highlighted by the default settings.

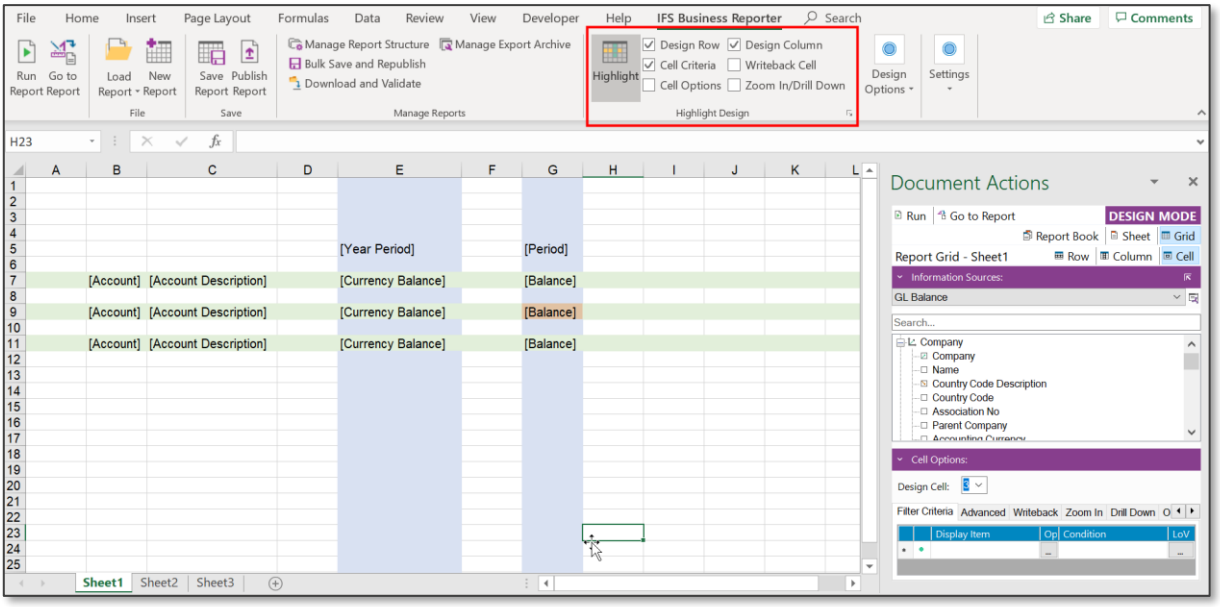


Figure 2.44

However, you have three more options that can be highlighted; **Writeback Cell**, **Cell Options** and **Zoom In/Drill Down**. Selections go back to default upon closing the ***Highlight*** design menu (by clicking on the **Highlight** button again).

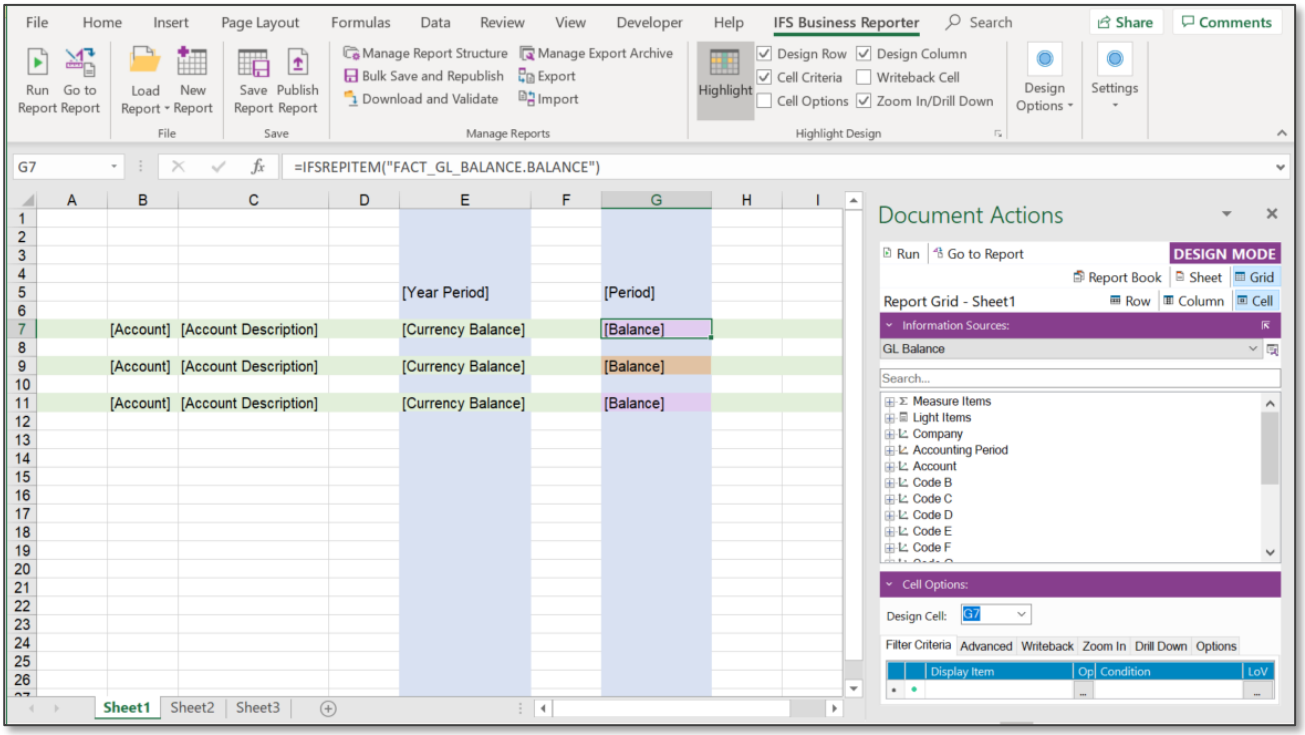


Figure 2.45

The Figure 2.40 above shows how the cells where **Zoom In/Drill Down** is applied are highlighted in a report (Purple color).

If the default colors given for highlighting are not good enough, a designer can set colors according to his own preferences by using the ***Global Color Settings*** dialog which can be opened as shown below.

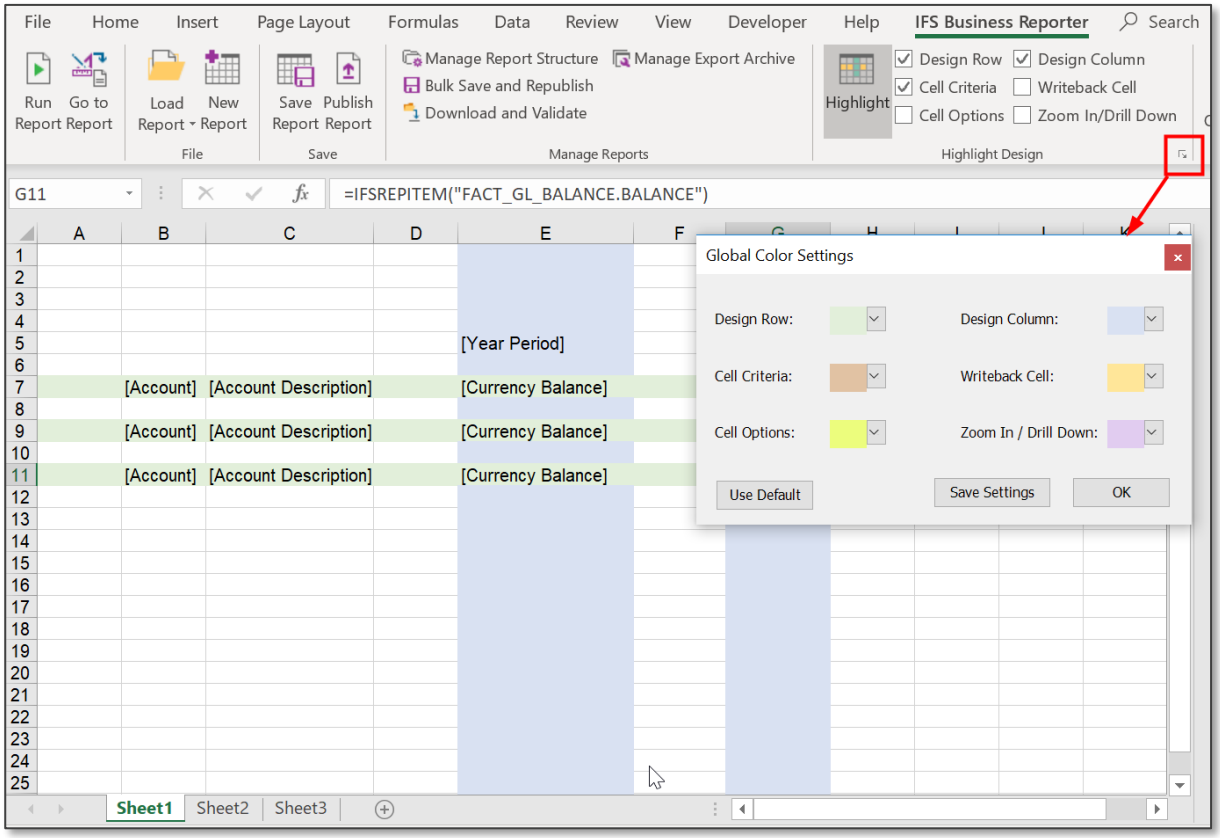


Figure 2.46

The user set colors can be changed back to default colors by clicking on the **Use Default** button in the same dialog box.

2.8 Extended Repeater Connection

A design row/column can be created with more than one Information Source if there are common dimensions available within the selected Information Sources. However, there can be instances where there are no common dimensions avaialbe but there can be related information items within selected Information Sources. This is where Extended Repeater Connection comes into play. Extended Repeater Connection will enable you to create design rows/columns with Information Sources which does not have common dimensions.

Refer the below given example

- Suppose information relating to customer invoices is available in Customer Invoice Information Source. Information related to the payments made for these invoices are available in the Customer Payment Transaction Information Source.

- You need to use both Customer Invoice and Customer Payment Transaction Information Sources, in order to see the gross invoice amount of the invoices and the payments made for these invoices.
- Assume that there are no common dimensions within these Information Sources. Hence, we need to identify a related information item to connect these Information Sources. In this example Invoice number from Customer Invoice Information Source and Inv/Prepayment number from Customer Payment Transaction Information Source are related to each other, thus have the same values.
- Using the Extended Repeater Connection feature we can command the system to equate the invoice number from Customer Invoice Information Source to the Inv/Prepayment number from Customer Payment Transaction Information Source.
- Accordingly, Invoice No is given as the Repeater Item and Inv/Prepayment number is given as the Connected Repeater Item.

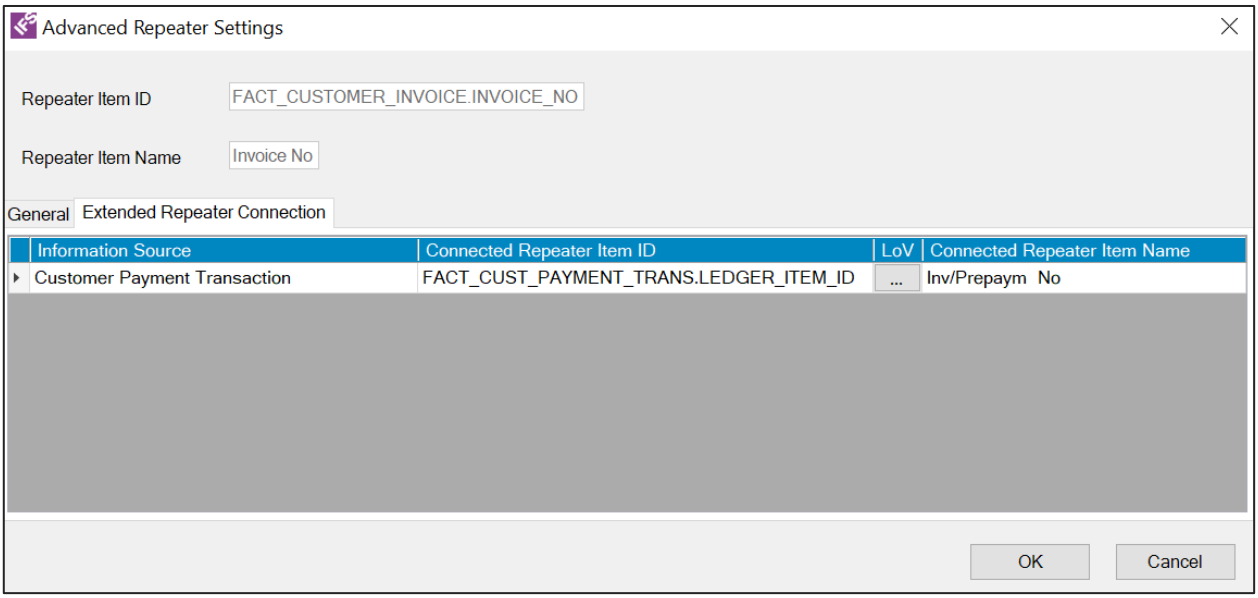
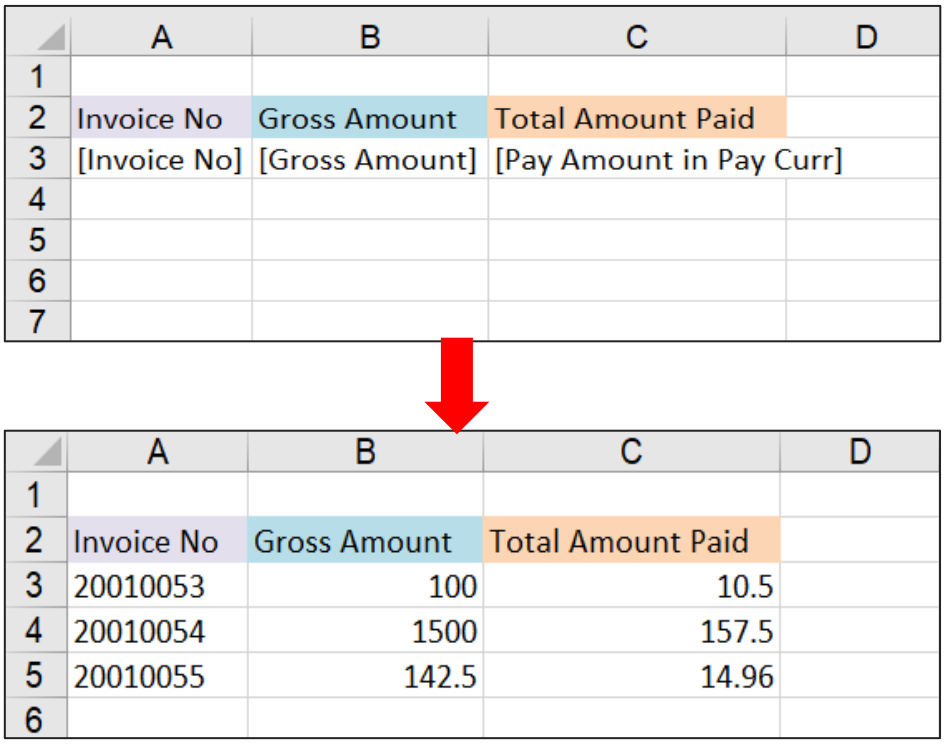


Figure 2.47

Now you can create a design row to show the gross amount of the invoices and the payments made for the respective invoices.



	A	B	C	D
1				
2	Invoice No	Gross Amount	Total Amount Paid	
3	[Invoice No]	[Gross Amount]	[Pay Amount in Pay Curr]	
4				
5				
6				
7				

	A	B	C	D
1				
2	Invoice No	Gross Amount	Total Amount Paid	
3	20010053	100	10.5	
4	20010054	1500	157.5	
5	20010055	142.5	14.96	
6				

Figure 2.48

3. Save, Publish & Access Reports

3.1 Saving a Report

Saving a report to the database can be done only in the **Design Mode**. After creating the report design, click on the **Save Report** icon in the **Save** group in the ***IFS Business Reporter*** ribbon to launch the ***Save Report*** dialog box.

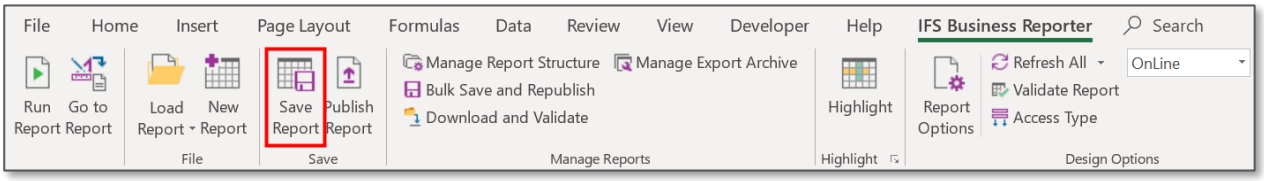


Figure 3.1

The dialog will display a tree structure with folders and included reports.

To create a new folder for the report to be saved, click on **Add Root Folder**. In the ***New Folder*** dialog, add the folder name and click **OK** to create the new folder.

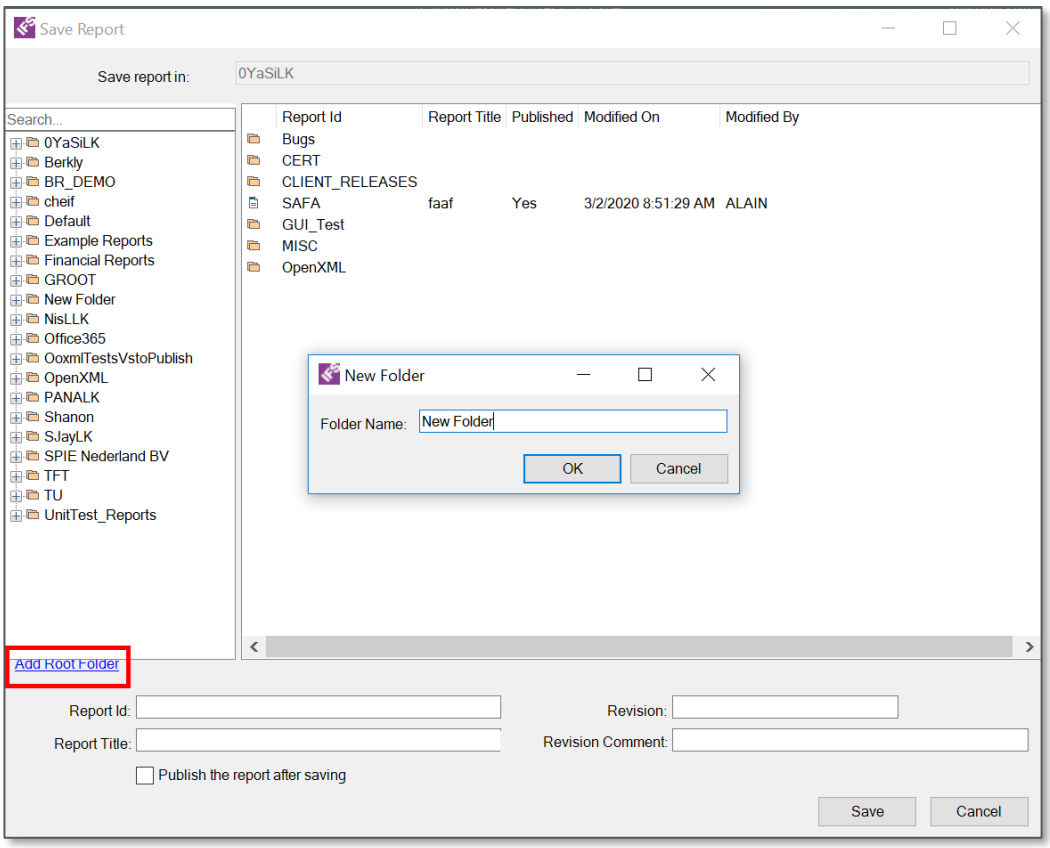


Figure 3.2

Select the newly created folder from the tree structure and fill in the fields **Report Id**, **Report Title**, **Revision** and click on **Save**. If the report is successfully saved the below message will be prompted.

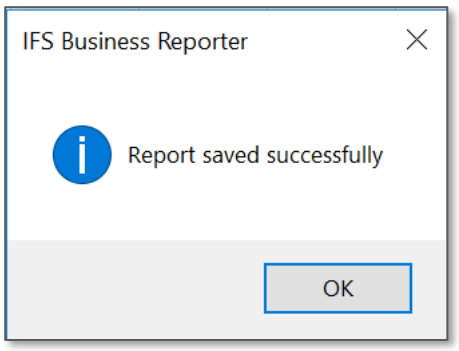


Figure 3.3

A report can also be saved to a folder using standard Excel save operations. This can be done in both **Design Mode** and **Report Mode**.

3.2 Publish a Report

Design Mode provides an option to publish a IFS Business Reporter report. Publishing a report means that it will be made available as an end user report in IFS, i.e. it can be ordered and scheduled using standard reporting functionality in the same way as any other report. A report can have many versions/revisions but only one of them can be published.

There are two ways of publishing a report:

1. Publish the report while saving
2. Publish a previously saved report

Publishing a BR Report While Saving

- Note that this is a non-standard option since it is not rather common to design a report and to directly both save and publish it.
- When the design of the report is done, click on the **Save Report** icon in the **Save** group in the ***IFS Business Reporter*** ribbon.
- Enter the necessary details in the ***Save Report*** dialog. Note that there is a check box at the bottom of the dialog named **Publish the report after saving**.
- Select the check box to make sure that the report is both saved and published.

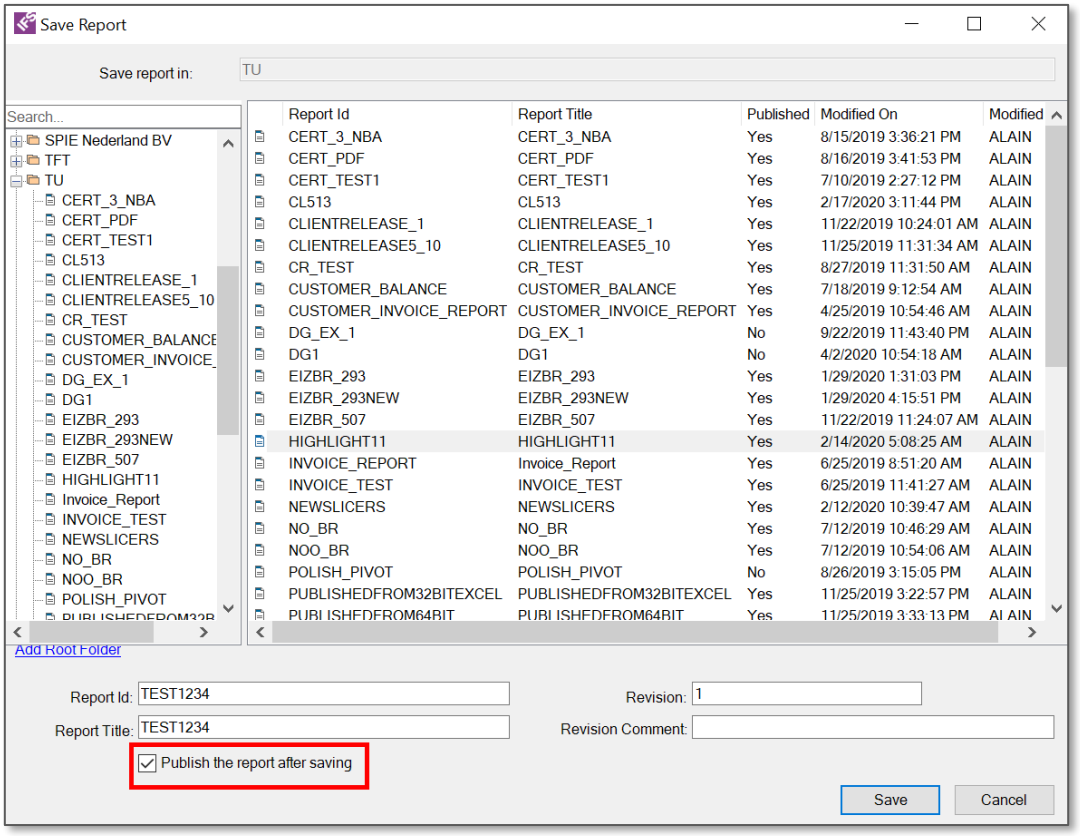


Figure 3.4

- Click on **Save.**

  The following dialog will be displayed.

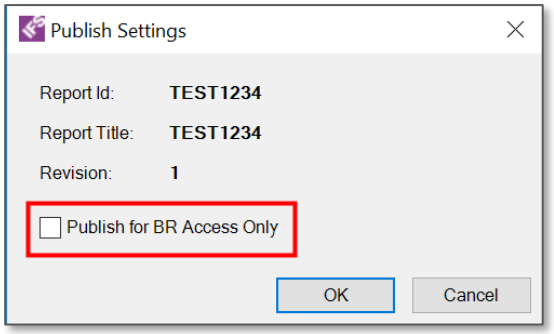


Figure 3.5

- If the check box **Publish for BR Access Only** is selected, the publishing leads to that the report is NOT available in IFS but it will be possible to run it from Order Report dialog in IFS Business Reporter **Report Mode** and to utilize server functionality to investigate number of data sets, timings etc.

- If the purpose is to publish the report to IFS, click **OK**. If the publishing is successful, the below message will be displayed.

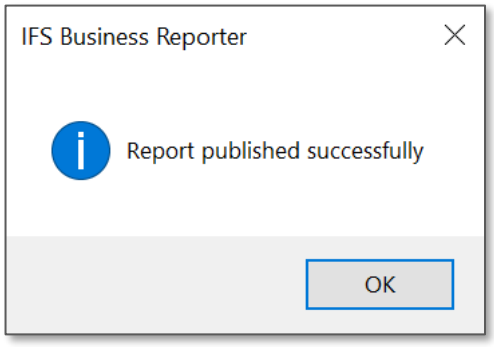


Figure 3.6

Publishing a Previously Saved BR Report

- This is the standard publishing option. When designing a BR report, it is rather common to develop several versions of the report and saving them and finally pick the one that should be published for the end users.
- Click on the **Publish Report** icon in the **Save** group in the ***IFS Business Reporter*** ribbon.

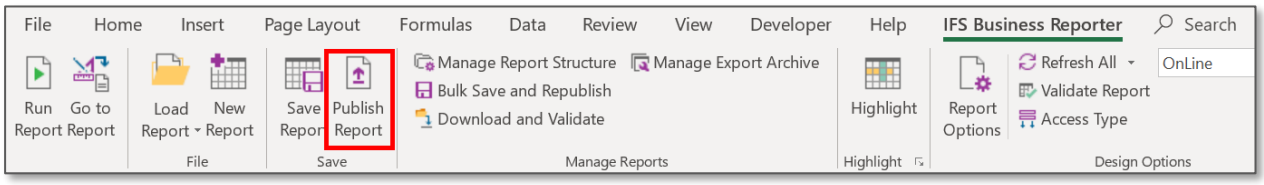


Figure 3.7

- In the ***Publish Report*** dialog, select the report version to be published, decide if the published report should only be accessible by Business Reporter or not and finally click **Publish**.

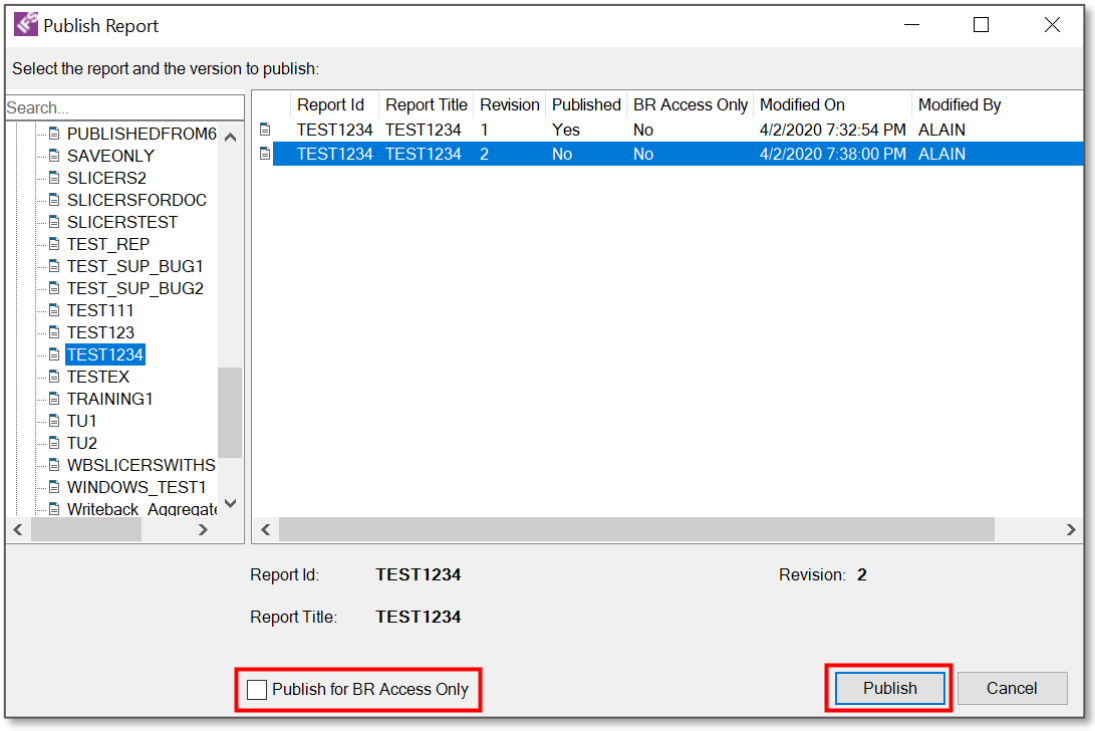


Figure 3.8

To **Unpublish** or **Delete** a published/saved report, use the ***Publish Report*** dialog.

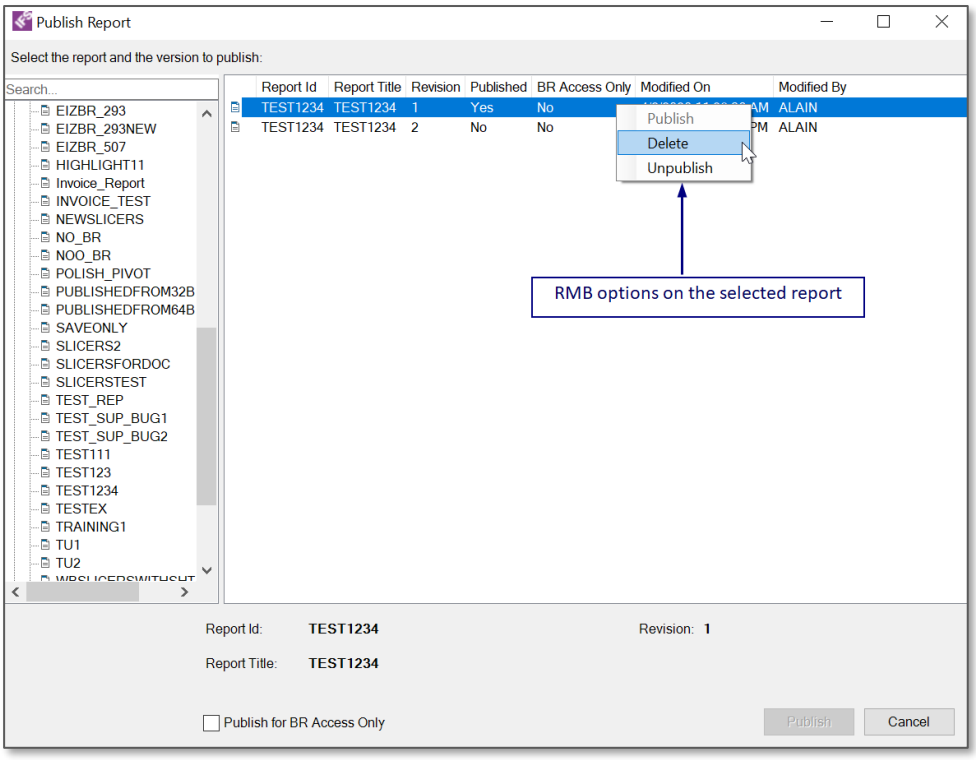


Figure 3.9

- Select the report version to be deleted or unpublished. If the report version is published it will not be possible to delete it.
- When unpublishing a report version, it will be necessary to confirm that the action is ok since unpublishing will affect already created schedules based on the report.

3.3 Loading a Report

A BR report can be loaded either from the database or from a folder or drive.

Loading a saved report

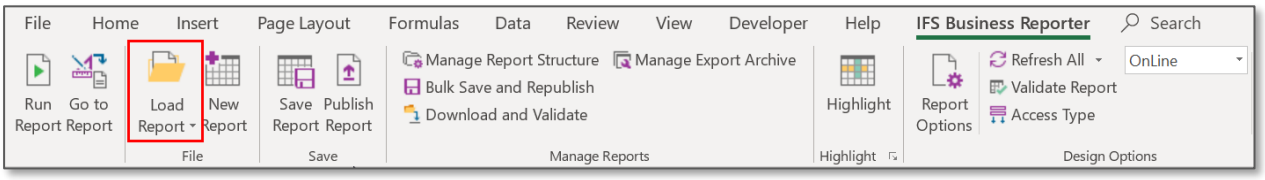


Figure 3.10

Click in the **Load Report** icon in the **File** group in the ***IFS Business Reporter*** ribbon. **Load Report** is available in **Report Mode** as well as in **Design Mode** for users with report designer authorization. In the ***Load Report from Database*** dialog, select the report version/revision to load and then click on **Load**.

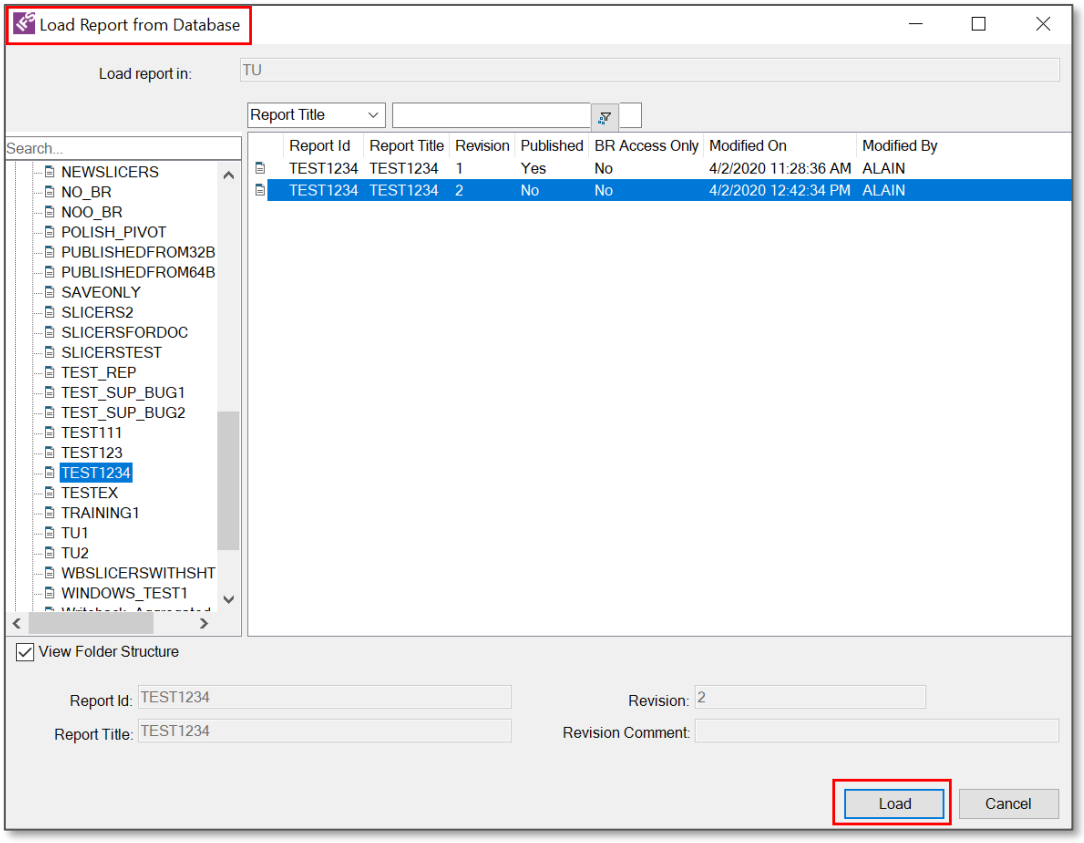


Figure 3.11

Loading a report from folder/drive

Opening a IFS Business Reporter report previously saved in a folder/drive can be done in two ways. Either use the standard file browser to locate the report or use **Open** option in Excel to browse and locate the report. Once located, open the report by clicking on it. If not already logged on to an environment it will be necessary to provide connection details, i.e. user account and environment.

3.4 Refresh Information Sources

When loading a previously saved or published report from the database, there is a chance that the metadata of Information Sources used in the report (as stored in the BR client) is not in synced with the current installed metadata for the same Information Sources. To refresh a report with the Information Source metadata, click on **Refresh Information Sources** available under **Refresh All** in the **Design Options** group in the ***IFS Business Reporter*** ribbon.

Refreshing Information Source specific metadata can only be made in **Design Mode**.

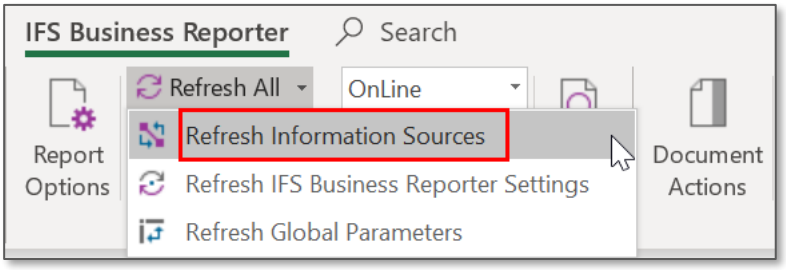


Figure 3.12

3.5 Order Reports

The **Order Report** option provides the possibility to execute a published report. The report has either been published for BR access only or published to be available for end users in IFS. The option is available only in **Report Mode** and can be found in the **File** group in the ***IFS Business Reporter*** ribbon.

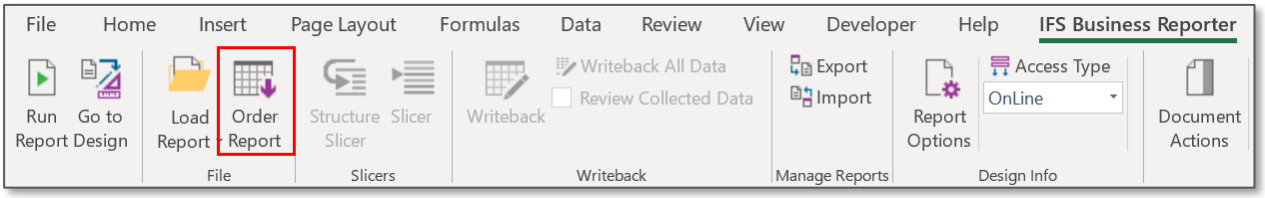


Figure 3.13

Clicking on **Order Report** opens the ***Order Report*** dialog box that displays all published reports.

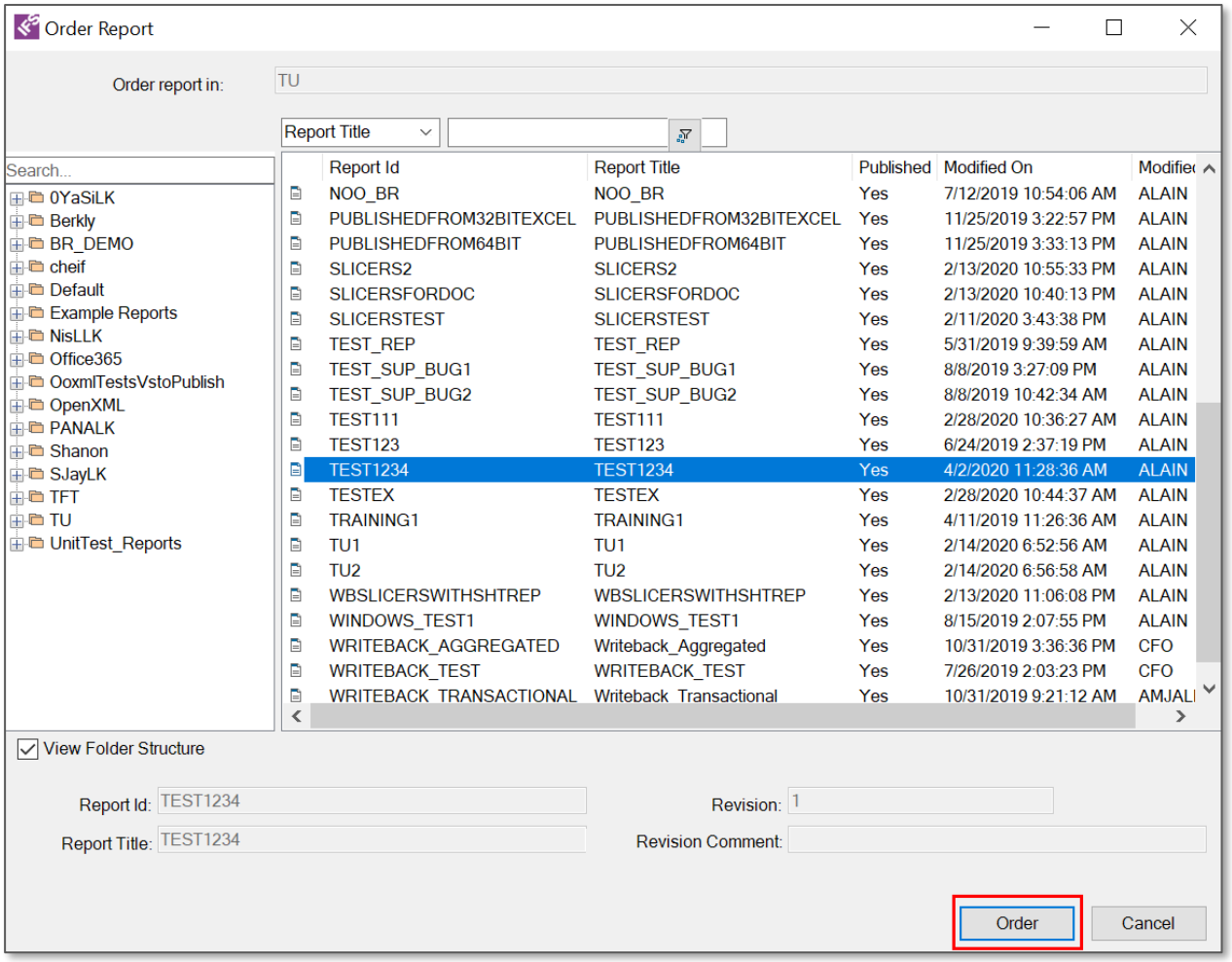


Figure 3.14

Select the report to be ordered and click on **Order** to start the execution. If the report has parameters, the ***Enter Parameter Values*** dialog box will be opened to support parameter input. The report will open in a separate Microsoft Excel Workbook.

3.6 Schedule & Order Reports

A published BR report can be either ordered or scheduled. Ordering a report means that the report is executed right away, and the resulting report will be made available for the end user when the execution has finalized.

Scheduling a report means that an execution schedule is defined that will start at a given time. The schedule can be set to execute on any calendar day, week or month or at regular intervals along with time stamping. After a scheduled report is executed, it can be viewed through the ***Report Archive*** in IFS Clouds. Scheduling provides the possibility to define an E-mail to which the completed report should be sent to.

Scheduling a BR Report

- Login to IFS Clouds.
- Go to **Order Report** form.
- Select the report that you need to schedule.

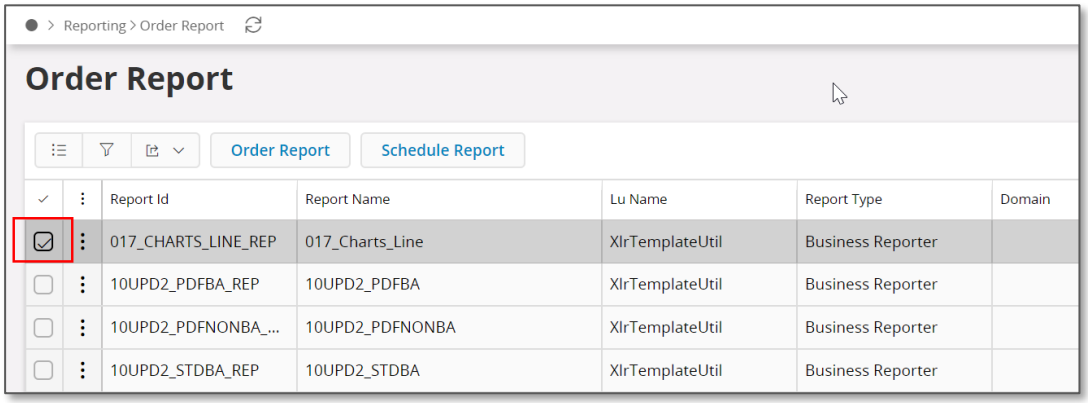


Figure 3.15

- Next, the **Schedule Report** will get enabled. Click on that. You can alternatively click on the three dots next to the check box to find the **Schedule Report** option.

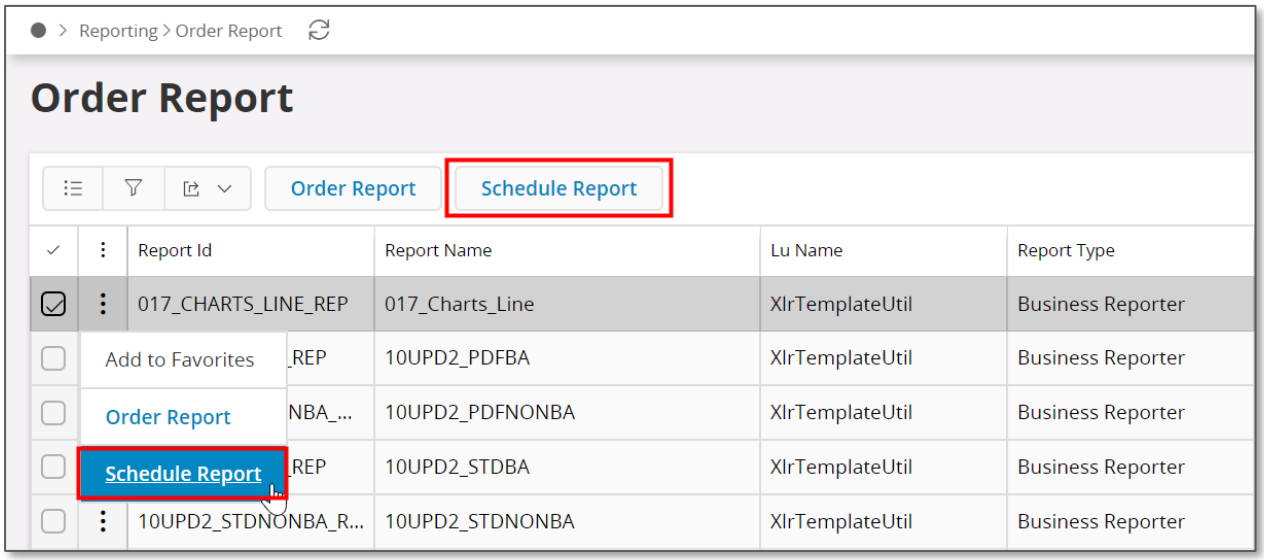


Figure 3.16

- You will be directed to the **Schedule Report** form.
- If the report contains any **Parameters**, enter them and click on **Next.**

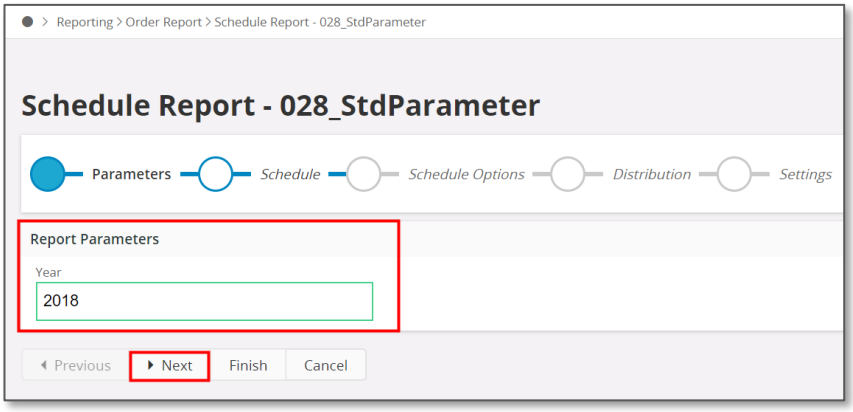


Figure 3.17

- Then you will be directed to **Schedule** dialog where the **Recurrence Pattern** (Daily, weekly, monthly etc. and the Time) and the **Range of Recurrence** (Start and End Dates) must be entered. Click on **Next** to proceed to the next dialog.

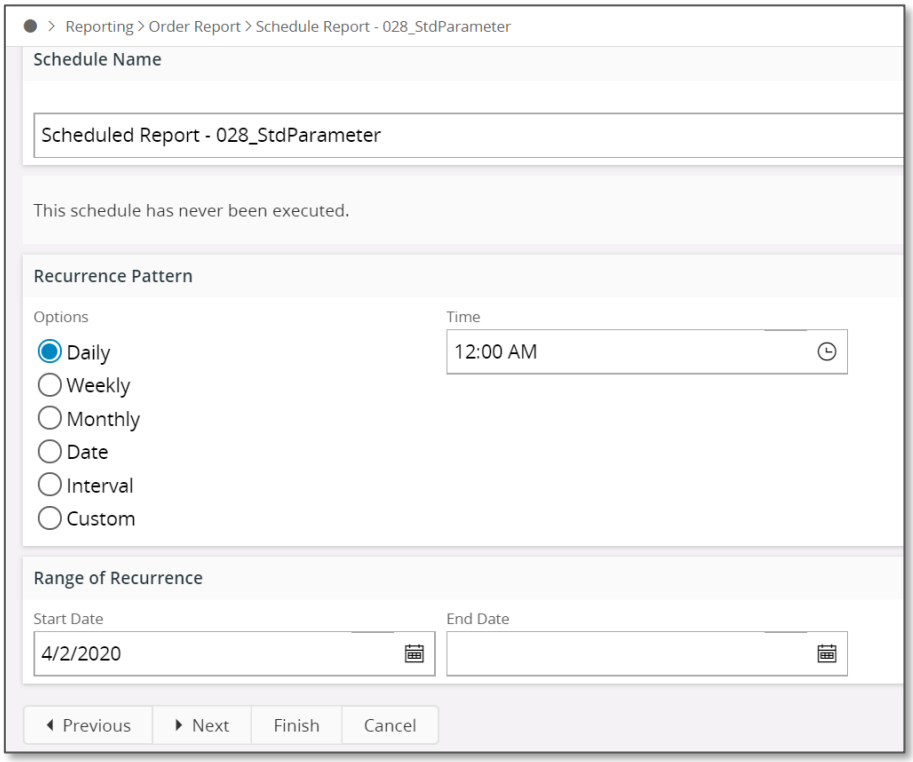


Figure 3.18

- Next dialog is ***Schedule Options***. Here you can select the language code, set the report schedule to active or inactive state and send a stream notification upon the execution of the report at the scheduled time.

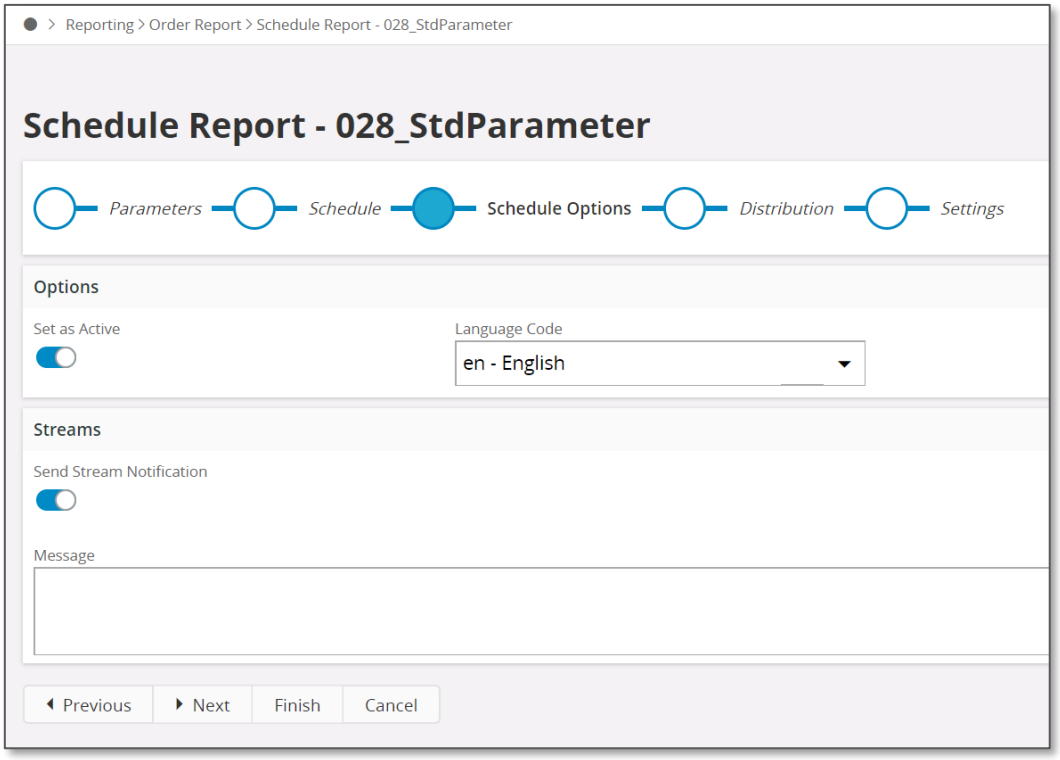


Figure 3.19

- Click on **Next** and you will be directed to the ***Distribution*** dialog. By default, only the person who creates the schedule will get access to the report after it is executed and saved to the ***Report Archive***. However, if you need other users/user groups also to access the report, you can set it here. Click on **Next** to proceed to the final step.

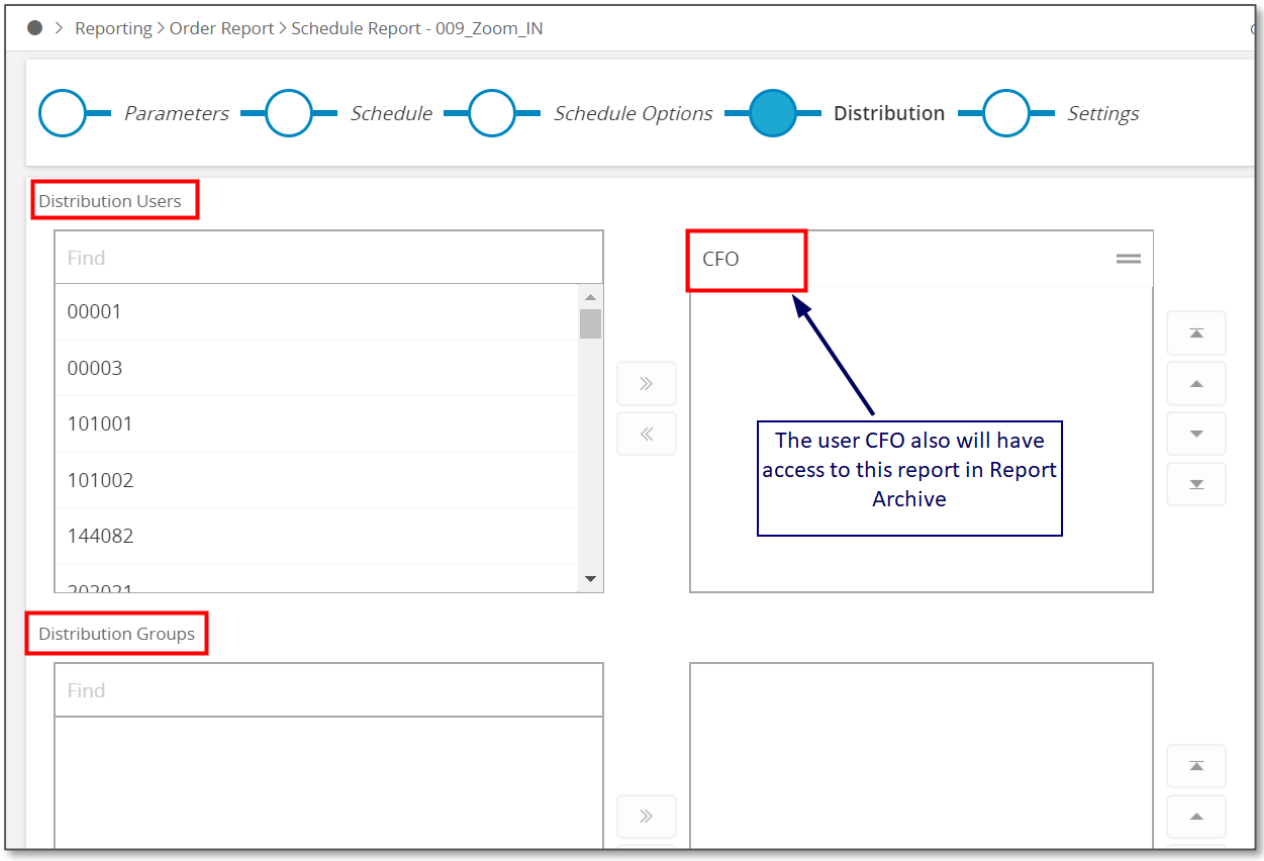


Figure 3.20

- Final step is the **Settings dialog**.
  When the scheduled report is executed, you can send an Email notification to a specific address by typing the address under the **Email to** option under the When **Scheduled Report is finished** section.

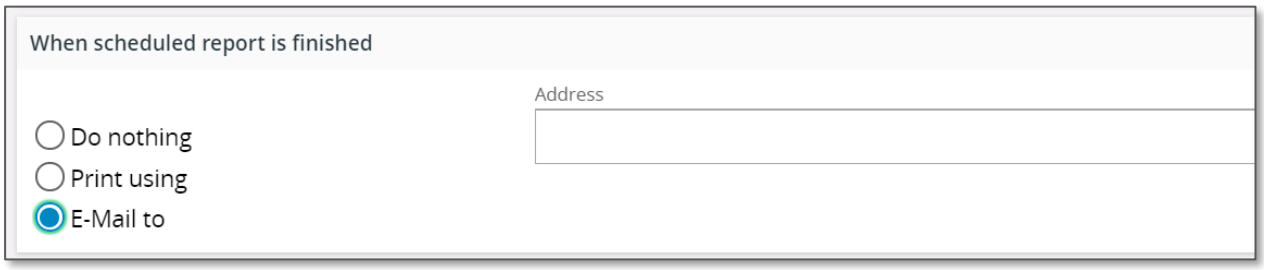


Figure 3.21

- If you need to receive an e-mail with the report attached, set the **E-mail to** toggle button to Yes and type in an e-mail address in the box in front of it.
  If you need to save the report to **Document Management,** set the **Archive the report as a document** toggle button to yes and type in a Document number.

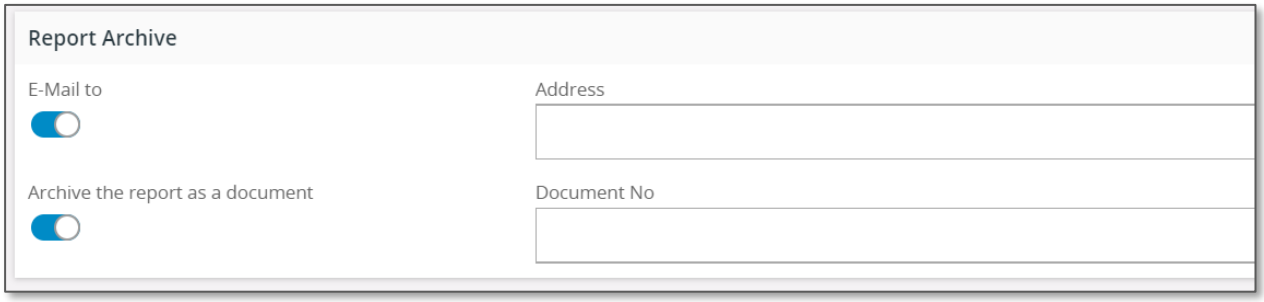


Figure 3.22

- Finally click on **Finish** and you will see a message as shown below if your report was scheduled successfully.

Figure 3.23

3.7 Save Report Options

There are two special options users can go for when saving an IFS Business Reporter report. You can find them by clicking on the **Report Options** icon in the ***IFS Business Reporter*** ribbon. These options are explained in detail below.

Converting to PDF

An IFS Business Reporter report can be converted to a PDF file when ordering it from IFS Clouds. To handle this, it is necessary to do a configuration in **Design Mode**.

- Click on **Report Options** in the **Design Options** group in the ***IFS Business Reporter*** ribbon to open the **Report Options** dialog.

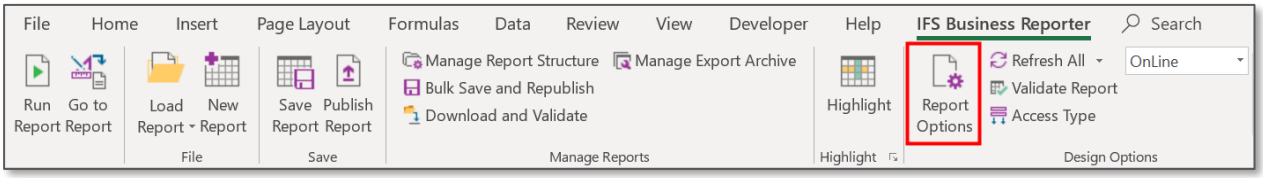


Figure 3.24

- Go to the **Save** tab.

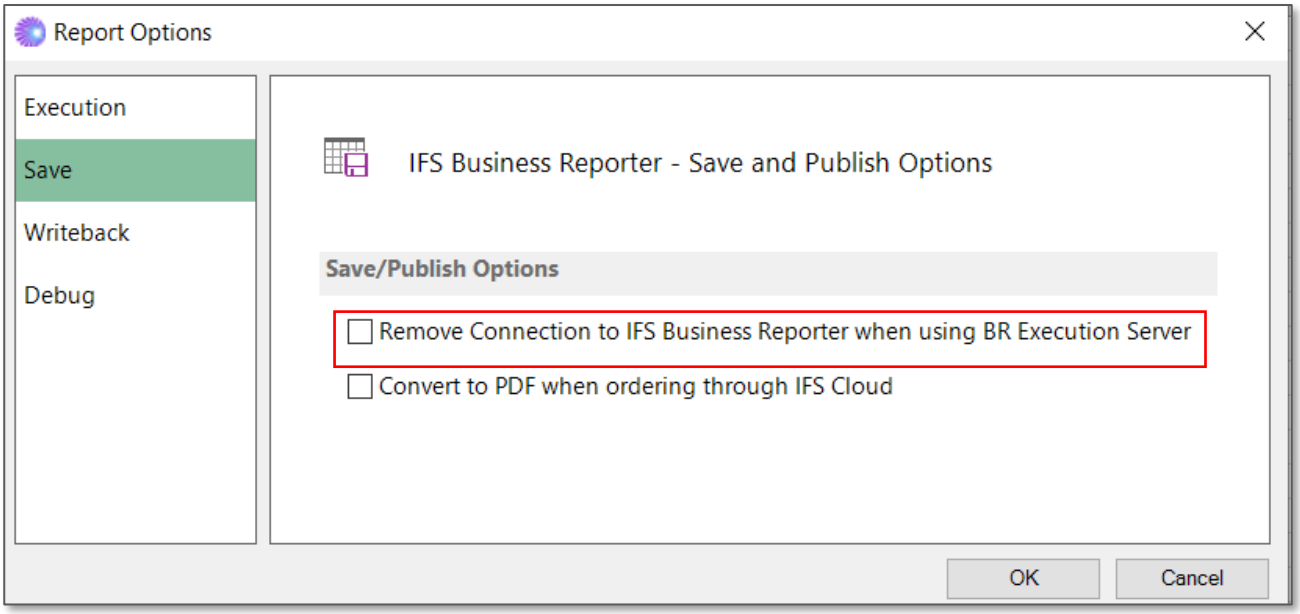


Figure 3.25

- Select the check box **Convert to PDF when ordering through IFS Clouds** and click **OK**.
- Save and Publish the report.
- Next go to the ***Order Report*** page.
- Select the report previously saved with the option of converting to PDF and complete the ordering.
- When the report is ready, open it and it will be converted to a PDF document. The same thing happens if the executed report is opened from the ***Report Archive***.

Remove connection to IFS Business Reporter

The other **Save Report Option** is **Remove Connection to IFS Business Reporter when using the Execution Server**. This can also be found under the **Report Options** button in the ***IFS Business Reporter*** ribbon.

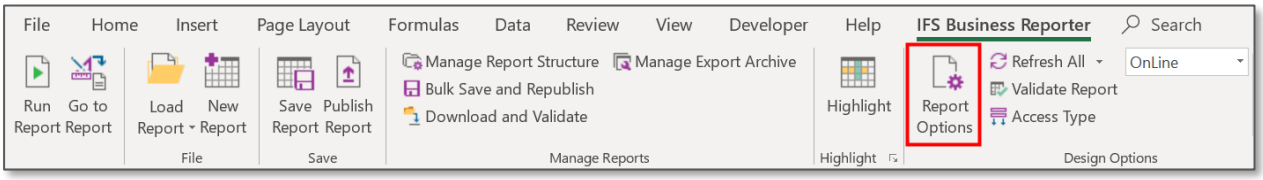


Figure 3.26

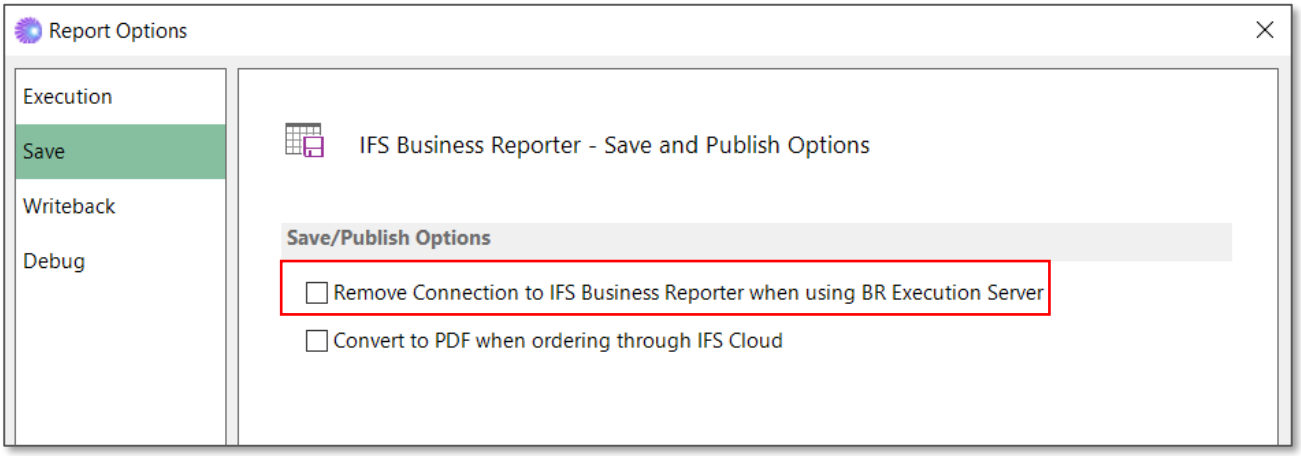


Figure 3.27

This option is used to save a BR report in standard MS Excel file format when ordered through the **IFS Business Reporter Execution Server**. When the executed report is viewed from the ***Report Archive*** it will open as a MS Excel worksheet which will not require IFS Business Reporter.

4. Report Manager

The ***Report Manager*** in IFS Business Reporter is part of **Manage Reports** related functionality and handles the following actions:

- Download and Validate
- Bulk Save and Republish

4.1 Benefits of the Report Manager

- Provides the possibility to download one or many saved/published BR reports to a folder.
- Provides the possibility to validate one or many saved/published BR reports.
- Downloaded BR reports can be saved or republished as a bulk action.

The actions related to the ***Report Manager*** can be found in ***Business Reporte***r ribbon in the **Manage Reports** group.

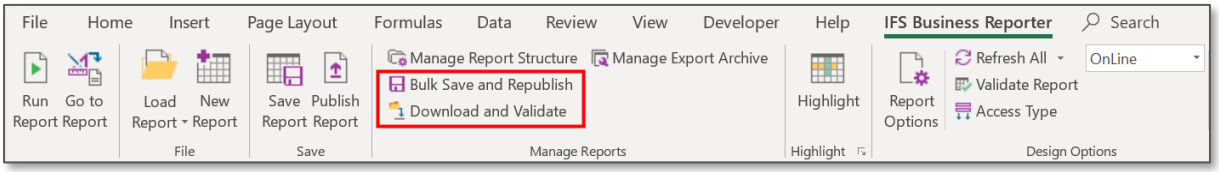


Figure 4.1

4.2 Downloading and Validating Reports

Prerequisites

- Saved or Published BR reports must exist.

Validate Reports

- The **Validate** action can be used to validate if the Information Source metadata in a BR report matches the metadata as currently stored in the database.
- The **Validate** action can be used to validate several reports. However, the validation time will increase with increased number of reports.
- If any metadata mismatches are found, the validation process will indicate an error status for the affected reports.
- Reports with error status should preferably be investigated and corrected. Downloading them to a folder is one option.

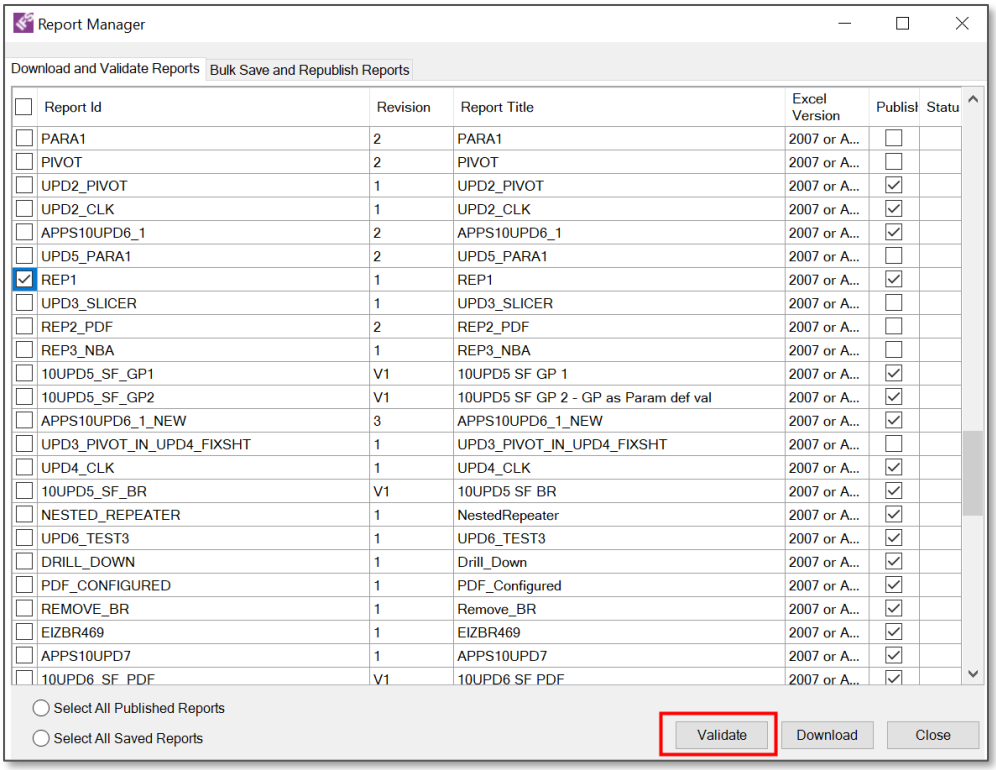


Figure 4.2

After the validation:

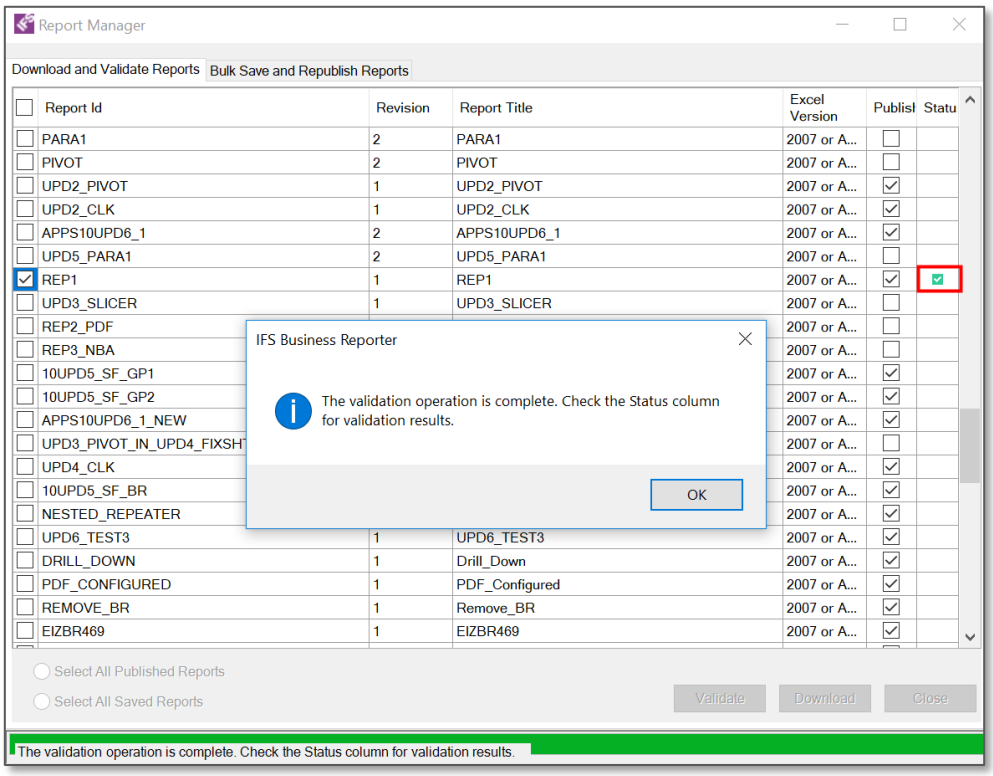


Figure 4.3

Download Reports

- The **Download** action is used to download one or many BR reports to a folder.
- The download might be time consuming depending on number of selected reports.
- Download is typically made after having found validation errors in reports, thus downloading a set of reports in one go. Downloaded reports can then be analyzed, corrected and tested.
- Download can of course also be made in order to save reports in a folder or to be able to zip and send them to a receiving part.

Usage

- Use the check box to the left of the **Report Id** to select reports you want to validate/download.
- If you click **Download**, it will be required to select the target download folder.
- If you click **Validate**, Information Source metadata in all selected reports will be validated and the status will change to red to indicate any found errors.

4.2 Bulk Save and Republish

Prerequisites

- Saved or Published BR reports must exist.
- The ***Report Manager*** must previously have been used to download the BR reports to be re-saved/re-published.

Bulk Save and Republish

Re-saving/Re-publishing BR reports is not a frequently used action, but it can be useful in some cases e.g.:

- Validation of saved/published BR reports has reported errors to be investigated.
- An upgrade of BR version might require that all saved and/or published reports are re-saved/re-published.
- A bug correction requires re-save/re-publishing of reports.

Usage

- The ***Bulk Save and Republish Reports*** tab displays all Excel reports found in the selected folder.

- If a selected report is NOT a previously saved/published BR report it will be indicated with error status.
- The **Published** check box is indicated for reports that exist as published reports in the database.
- Use the check box to the left of the **File Name** to select reports to be resaved/republished.
- The action is started by clicking **Save/Republish** button.
- Once a report is resaved/republished, the report status indicates whether the action was successful or if any errors have occurred.

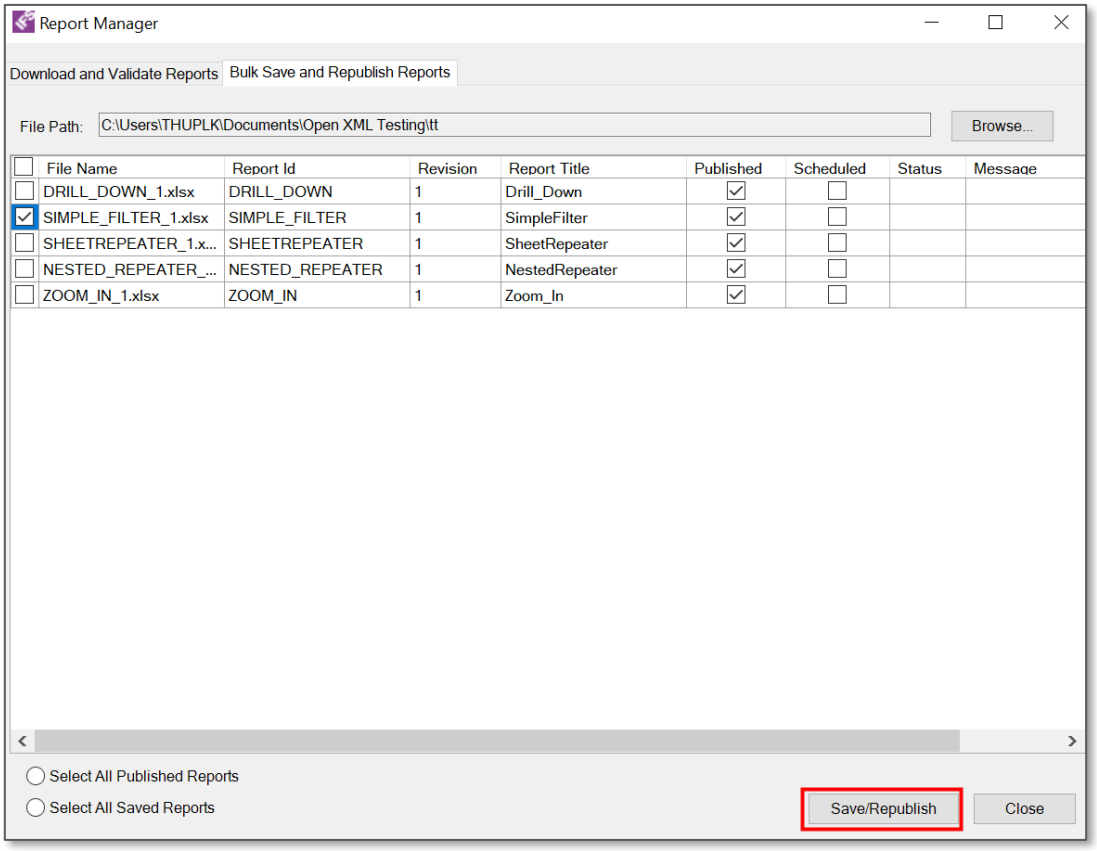


Figure 4.4

5. Writeback

Writeback is a generic function in IFS Business Reporter. In order to perform this function, relevant information source needs to support the writeback configurations. There are two types of writeback:

- Complete writeback
- Modified writeback

5.1 Complete Writeback

Complete writeback is where all the values in writeback enabled cells will be written back to the database regardless of them being modified or not. This option can be selected from the Report Options pane.

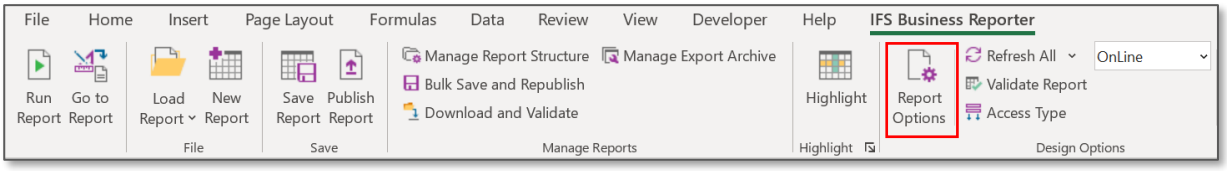


Figure 5.1

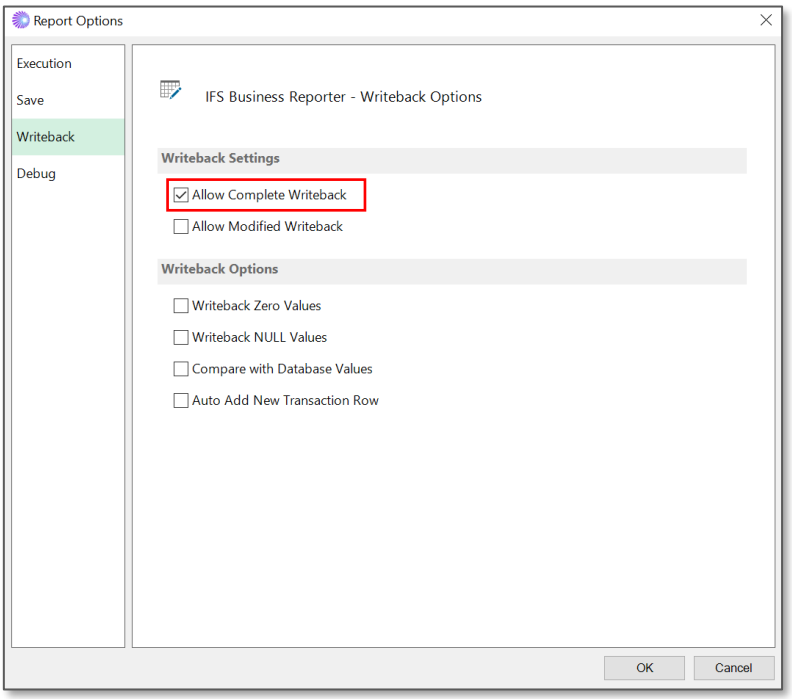


Figure 5.2

A complete writeback can be performed by following the below given steps.

1) First, go to the design mode and select the required information source. For this example, Business Planning Drivers-All Versions Information source is selected. In this example the target is to writeback sales quantity per product per year period.
2) Drag and drop the display items to the Excel sheet as required and create the necessary design rows and columns.

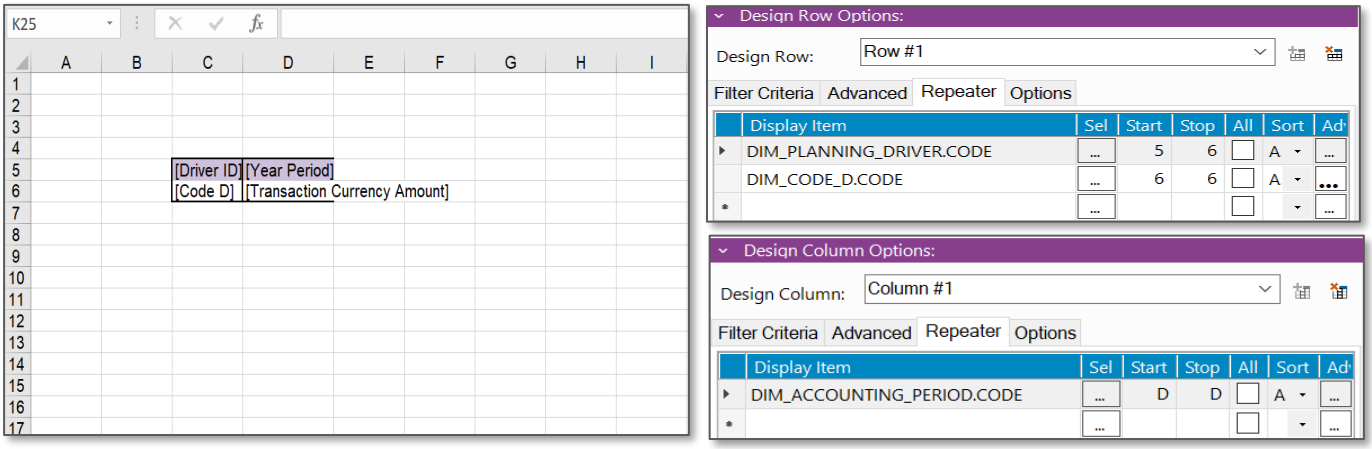


Figure 5.3

3) Select the display item that needs to be written back from the excel sheet and select the writeback icon under cell options

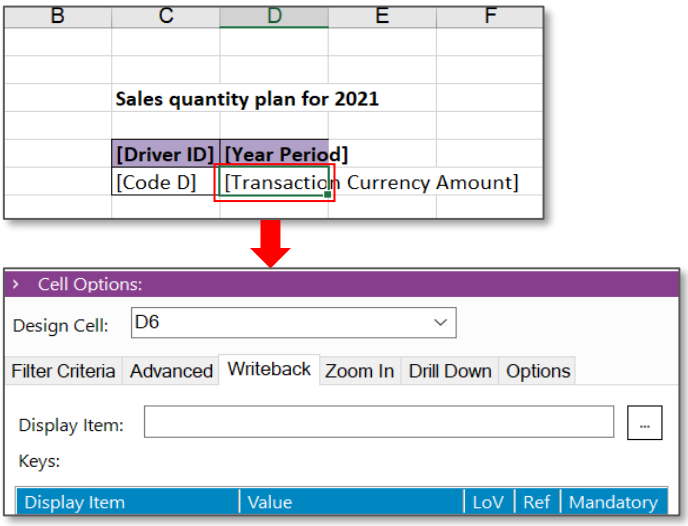


Figure 5.4

4) Using the list of values, select the item that needs to be written back as the Display item. In this example it will be Transaction Currency Amount.

5) To enable writeback, there are some mandatory fields that must be filled in. These fields will be automatically captured, if they are used in a repeater or a filter in the report, if not they can be entered manually.

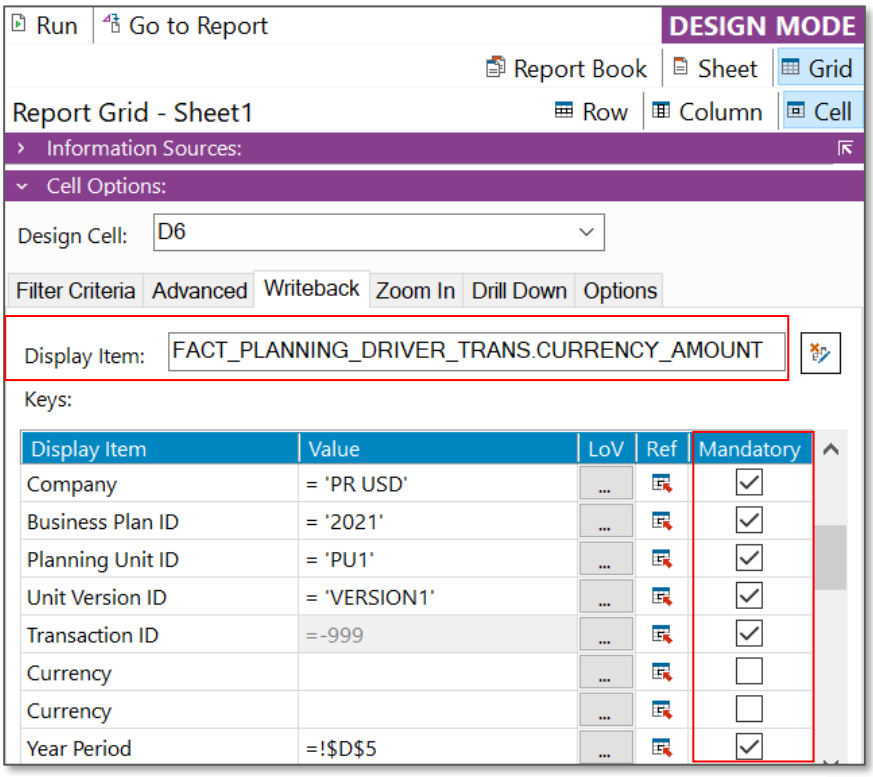
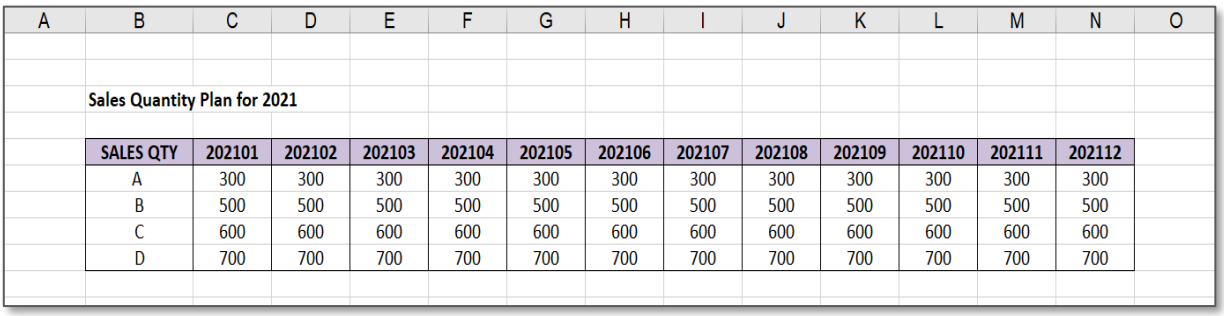


Figure 5.5

6) Ensure that the check box to Allow Complete Writeback is ticked in Report Options.

7) Execute the report. Report will be generated as below.

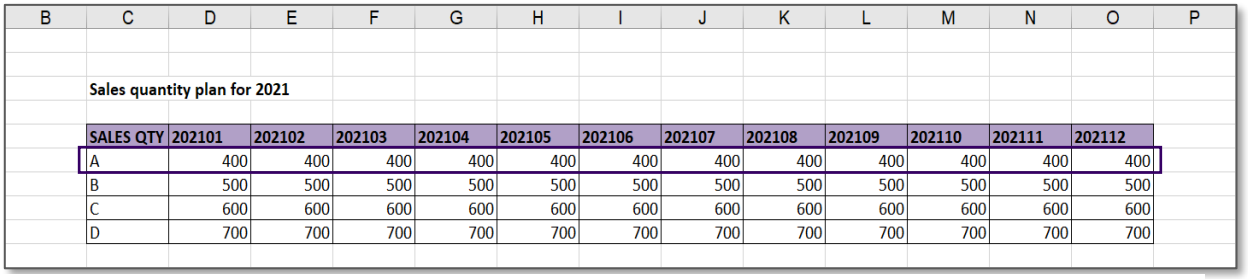


Sales Quantity Plan for 2021

SALES QTY	202101	202102	202103	202104	202105	202106	202107	202108	202109	202110	202111	202112
A	300	300	300	300	300	300	300	300	300	300	300	300
B	500	500	500	500	500	500	500	500	500	500	500	500
C	600	600	600	600	600	600	600	600	600	600	600	600
D	700	700	700	700	700	700	700	700	700	700	700	700

Figure 5.6

8) In the report mode, change the values of as per the requirement. In the example Sales quantity values of Product A is changed from 300 units to 400 units.



Sales quantity plan for 2021

SALES QTY	202101	202102	202103	202104	202105	202106	202107	202108	202109	202110	202111	202112
A	400	400	400	400	400	400	400	400	400	400	400	400
B	500	500	500	500	500	500	500	500	500	500	500	500
C	600	600	600	600	600	600	600	600	600	600	600	600
D	700	700	700	700	700	700	700	700	700	700	700	700

Figure 5.7

9) Then click writeback icon Writeback from the document action pane and select Get All icon Get All .The resulting data set includes all the values regardless of being modified or not.

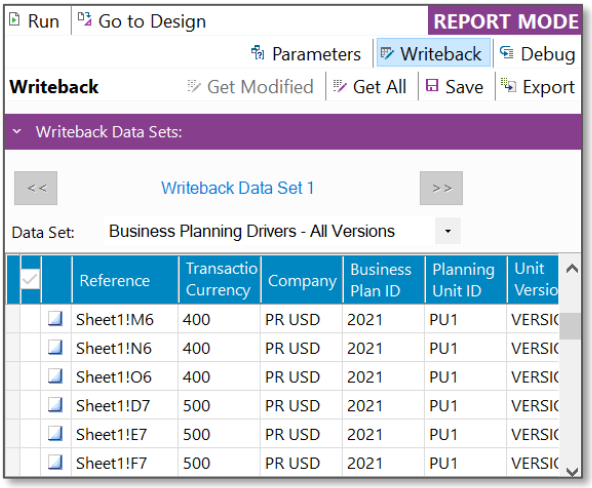


Figure 5.8

10) Click save icon Save to update the values to the database.

11) Execute the report again, to see the updated values.

12) Another way to writeback the values to the database is by using the following icons in the report ribbon.

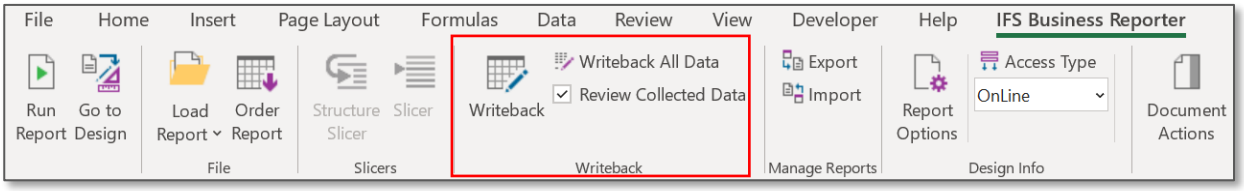


Figure 5.9

5.2 Modified Writeback

In modified writeback only the modified values will be written back to the database. This is also enabled from the Report Options pane.

Note: The modified writeback option compares the values that are on the writeback cells with the values that you retrieved when executing the report. Please note that, it does not compare with the values that are there in the database tables.

A modified writeback can be performed by following the below given steps.

1) Follow up to the 5th step in the above given example
2) Ensure the check box to **Allow Modified Writeback** is ticked in Report Options.

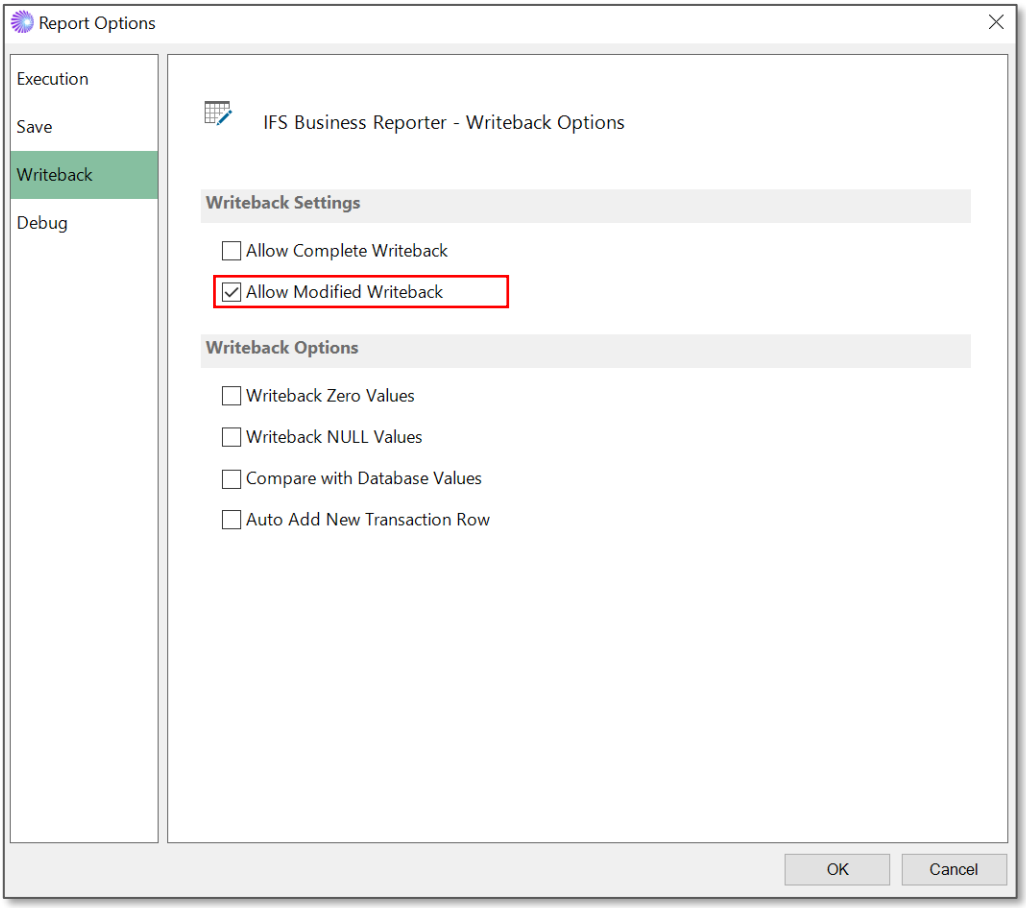


Figure 5.10

3) Execute the report and change the values as per the requirement. In the given example sales quantity values of Product A is changed from 400 units to 450 units for the period 202101 and 202102.

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
		Sales quantity plan for 2021													
		SALES QTY	**202101**	**202102**	**202103**	**202104**	**202105**	**202106**	**202107**	**202108**	**202109**	**202110**	**202111**	**202112**	
		A	450	450	400	400	400	400	400	400	400	400	400	400	
		B	500	500	500	500	500	500	500	500	500	500	500	500	
		C	600	600	600	600	600	600	600	600	600	600	600	600	
		D	700	700	700	700	700	700	700	700	700	700	700	700	

Figure 5.11

4) Then click writeback icon Writeback from the document action pane and select Get Modified icon Get Modified. The resulting data set includes only the modified values.

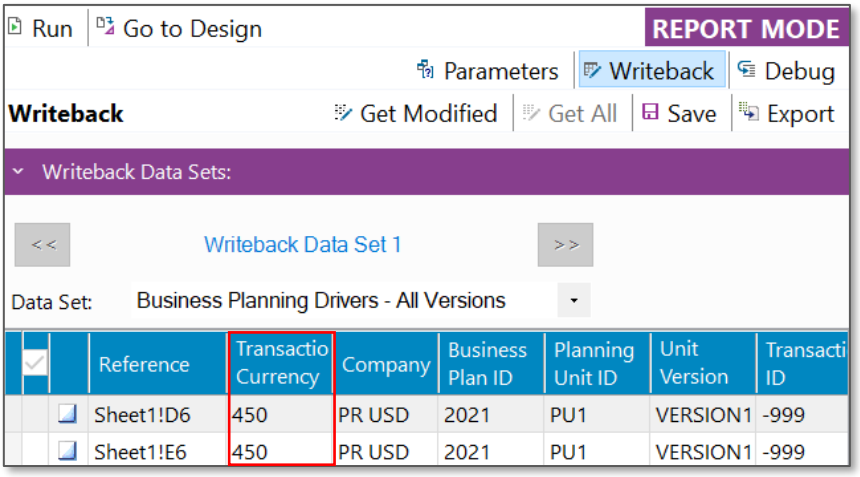


Figure 5.12

5) Click save icon Save to update the values directly to the database.

6) Execute the report again, to see the updated values.

5.3 Writeback zero and null values

IFS Business Reporter cater to writeback zero values and null values. These features can be enabled by following the below steps.

1) Design a report enabling the writeback option to a selected cell

2) Tick the check box to enable **Writeback Zero Values** and **Writeback NULL Values** in the Report Options pane in the design mode.

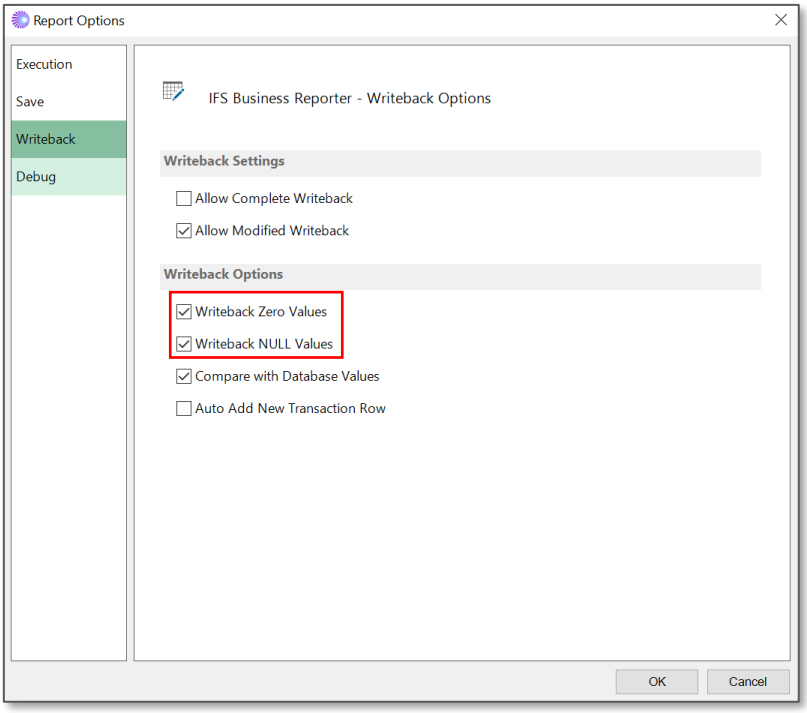


Figure 5.13

3) Execute the report and change the values to zero and to null (Blank) as required. In this example sales quantity values of product A are changed to 0 units and null for the periods 202101 and 202102 respectively.

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Sales quantity plan for 2021													
	SALES QTY	**202101**	**202102**	**202103**	**202104**	**202105**	**202106**	**202107**	**202108**	**202109**	**202110**	**202111**	**202112**	
	A	0		400	400	400	400	400	400	400	400	400	400	
	B	500	500	500	500	500	500	500	500	500	500	500	500	
	C	600	600	600	600	600	600	600	600	600	600	600	600	
	D	700	700	700	700	700	700	700	700	700	700	700	700	

Figure 5.14

4) Then click writeback icon Writeback from the document action pane and select Get Modified icon Get Modified . The resulting data set includes the zero value and the null value.

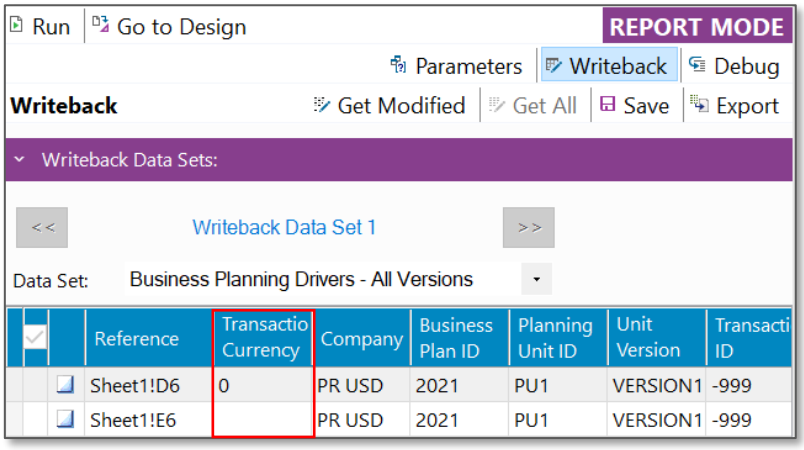


Figure 5.15

5.4 Insert New Values for Writeback

This functionality assists users to insert new records via Business Reporter itself without navigating to IFS Cloud. However, users can only insert values that is already defined as basic data in IFS Clouds.

To insert new values for writeback in the report mode. **Enable Insert of New Values for Writeback** check box needs to be selected for the relevant repeater item.

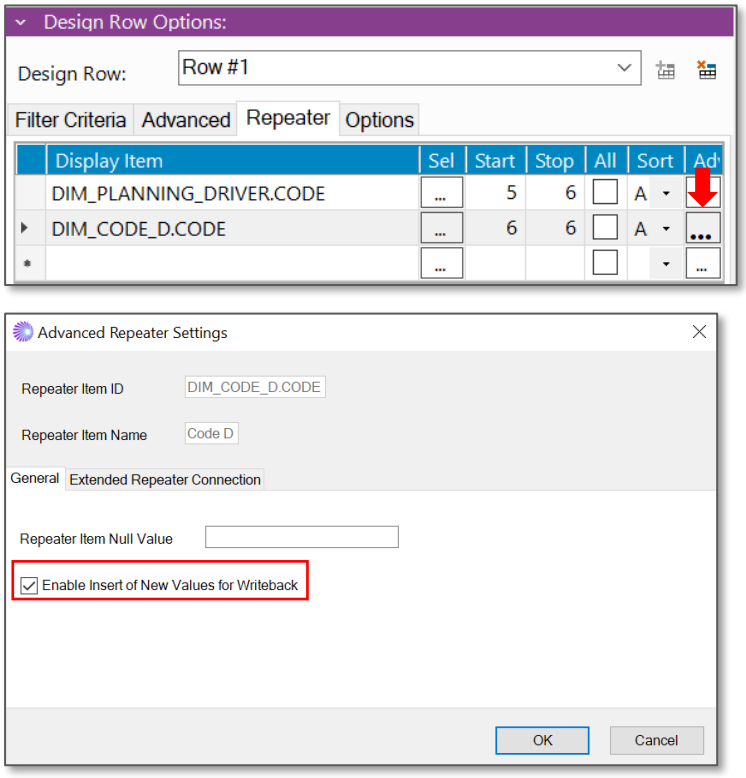


Figure 5.16

In the Report Mode, select the row/column for which the new value needs to be inserted. Right click and Select **Insert New Rows/Columns for BR Writeback** to insert new rows/columns to Writeback.

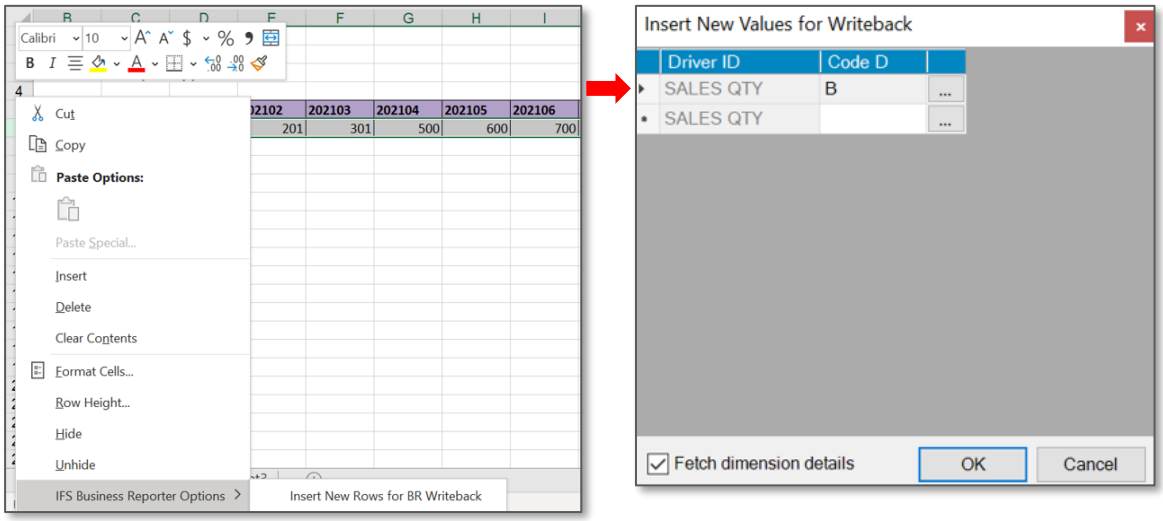


Figure 5.17

The new row will be displayed as below

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1															
2															
3		Sales quantity plan for 2021													
4															
5		SALES QTY	202101	202102	202103	202104	202105	202106	202107	202108	202109	202110	202111	202112	
6		A	100	201	301	500	600	700	800	900	1000	1100	1200	1300	
7		B	0	0	0	0	0	0	0	0	0	0	0	0	
8															
9															
10															
11															
12															
13															

Figure 5.18

5.5 Levels of Writeback

There are two types of levels of writeback namely.

- Transaction Level - detail level writeback
- Aggregate Level - higher level writeback

Relevant writeback level needs to be supported by the information source. This can be viewed in Solution Manager, under information source details. Below given is an example for such

configuration. You can configure the information source to enable either one of the writeback levels or both.

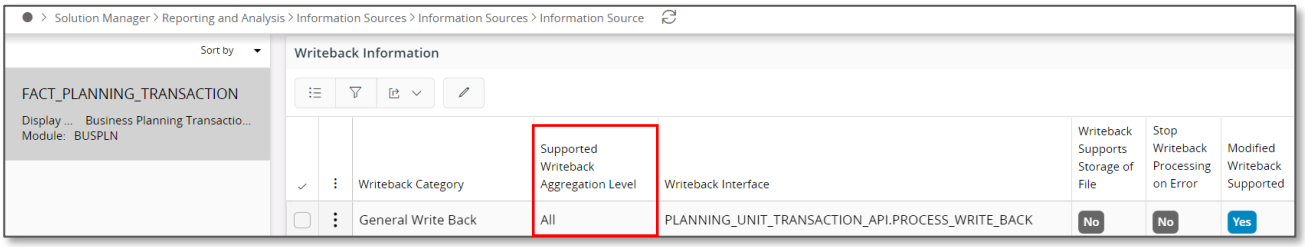


Figure 5.19

5.6 Transaction level Writeback

Transaction level writeback enables to view the information on aggregate level and enter or update information on detail level.

Below given is the procedure to execute a transaction level writeback.

1) Design a report enabling the writeback option to a selected cell.

2) Transaction level writeback can be performed in design column or row level. It is enabled when the design cell is configured for writeback and the information source supports transaction level writeback. Select the row/column which you have enabled the writeback function. Under design row/column options, Transaction level writeback can be enabled under the “Options” category.

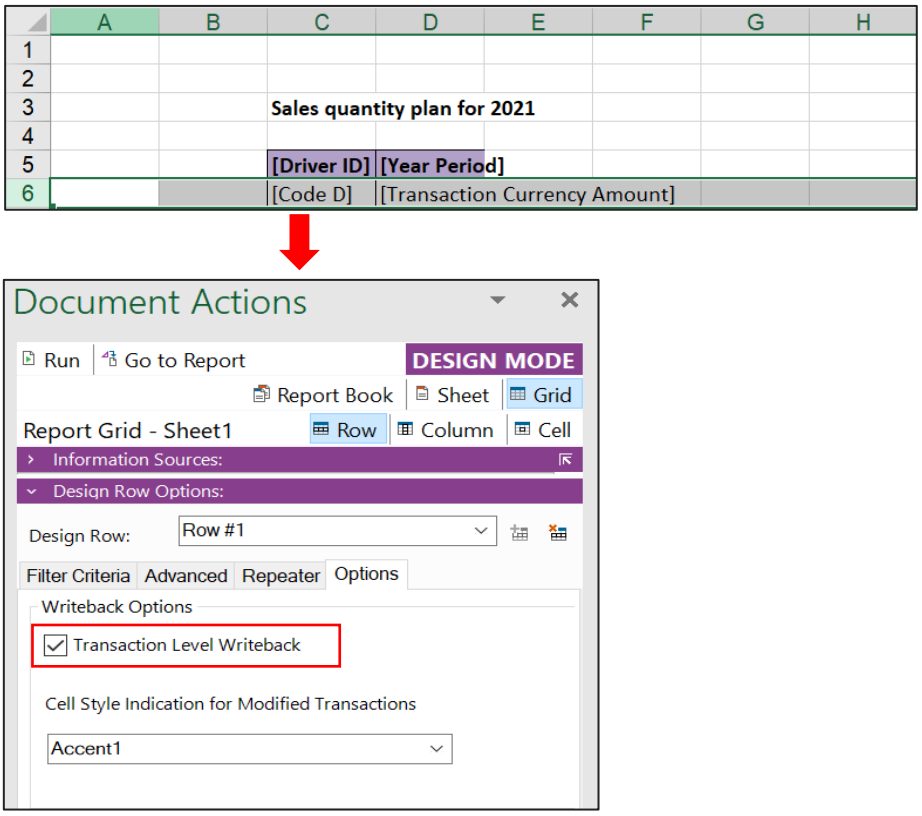


Figure 5.20

3) A cell style can be applied to indicate the modified transactions. All the excel cell styles are available in the combo box and cell style can also be customized. This function is only available for transaction level writeback.

4) Once the transaction level writeback option is enabled a new checkbox column will appear in the writeback configuration pane. This can be used to control the additional items that can be included and edited in transaction level.

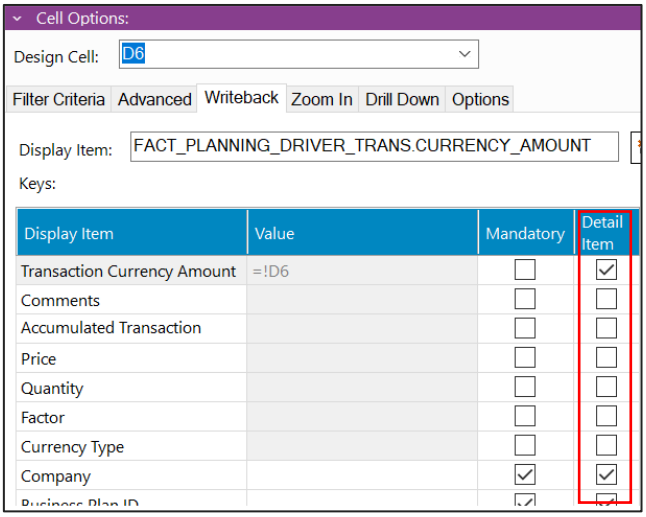


Figure 5.21

5) Execute the report. Underlying transactions of an aggregate level transaction can be viewed via a separate dialog box by clicking on any writeback enabled cell. Transactions can be modified, deleted, and added using this dialog box. When editing the transactions on detail level, it will be reflected in the report and the cell style used for modified cells will be displayed in the report. Further, it is possible to move the focus on other cells in the report while keeping the dialog box open.

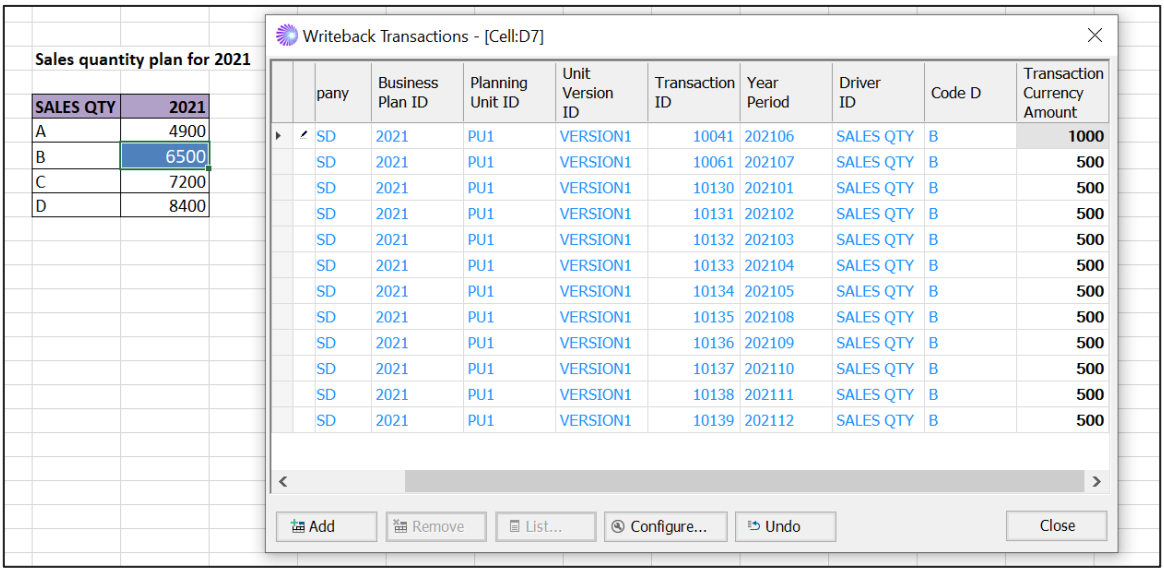


Figure 5.22

Configuration of writeback transaction dialog box

All the columns in the detail dialog box might not be needed. Therefore, user has the ability to customize the dialog box as per the requirement. The detail dialog box has an icon to configure 

. By clicking this icon, the user will be led to another dialog box listing all columns. Through this dialog box user will be able to change the column visibility, column order and the display name. Column configuration will be saved in the report level, enabling the user to reuse the saved configuration.

Please note that the column configuration will only be available to the users who have the design privileges.

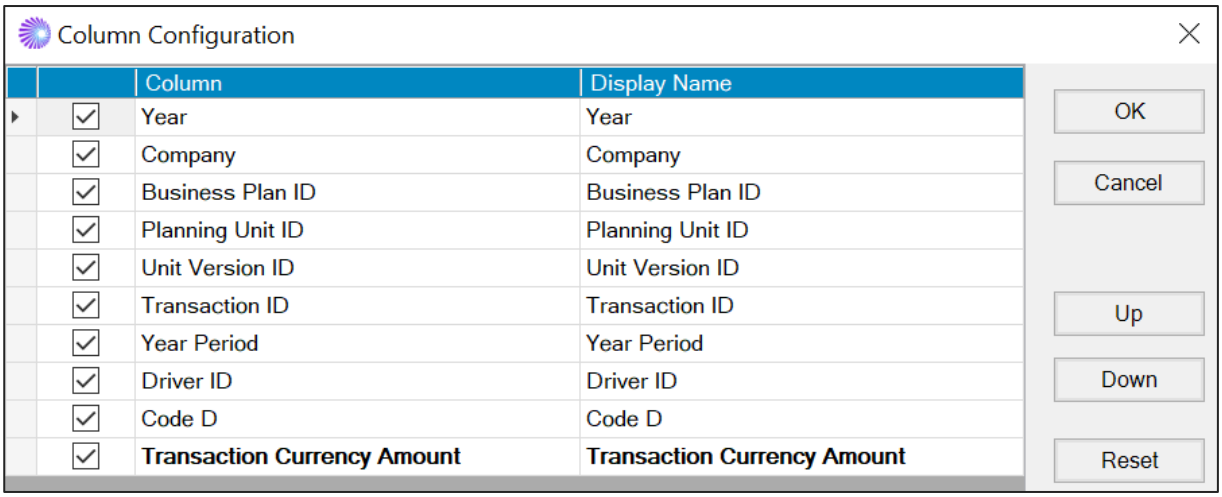


Figure 5.23

5.7 Auto add new transaction row

This option is used along with the transaction level writeback. In some instances, initially there will be no values for transactions. In such situation, when the **Auto Add New Transaction Row** option is selected, system will automatically add a new transaction with the basic details in the writeback transaction dialog box. Accordingly, user will only need to add the value for the particular transaction.

Below given is the procedure to execute a report with Auto Add New Transaction Row option.

Note: Since this option is used when there are zero values for transaction, it is required to have a dataset with transactions with zero values.

1) Design a report enabling the Transaction Level writeback option.

2) Tick the check box to enable **Auto Add New Transaction Row** in the Report Options pane in the design mode.

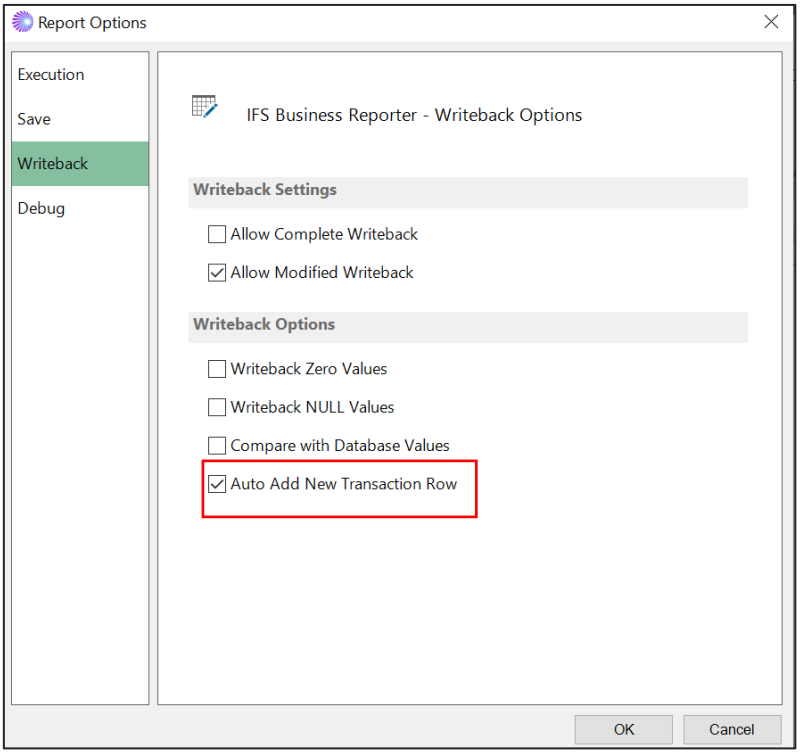


Figure 5.24

3) Execute the report. In this example, there is no value for Product A for the period 202101.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1															
2															
3		SALES QTY	202101	202102	202103	202104	202105	202106	202107	202108	202109	202110	202111	202112	
4		A	0	200	300	400	500	600	700	800	900	1000	1100	1200	
5		B	2000	1400	1500	1600	1700	1000	1900	2000	2100	2200	2300	2400	
6		C	7200	2600	2700	2800	2900	1000	3100	3200	3300	3400	3500	3600	
7		D	9600	3800	3900	4000	4100	1000	4300	4400	4500	4600	4700	4800	
8															

Figure 5.25

4) Click on the cell which as has a zero value. You'll be able to see an automatically added transaction in the writeback transaction dialog box.

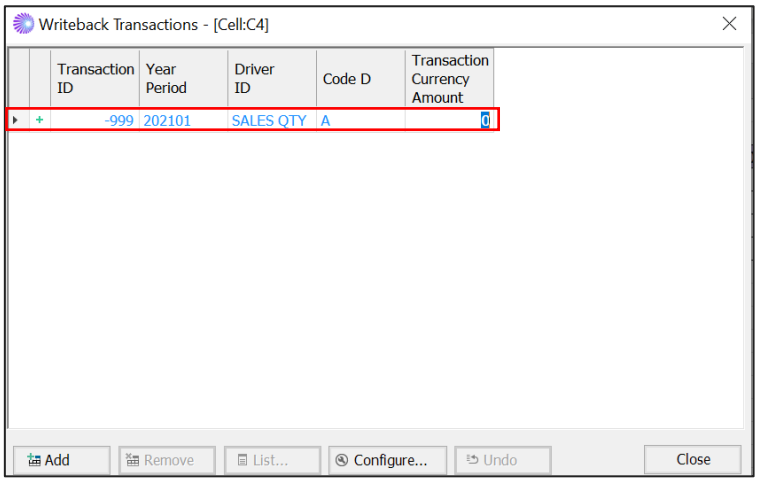


Figure 5.26

For further understanding execute the report without the Auto Add New Transaction Row option. You will get a blank writeback transaction dialog box.

5.8 Design Limitations

- **Compare with database value** option is not supported when Transaction level writeback is enabled.
- When the Transaction level writeback is enabled, **Insert New Rows for BR Writeback** function is not allowed.
- Below interactive features are not supported if the report output is generated by the BR execution server. In that case users needs to execute the report again from Business Reporter client to perform these operations.
  - Transaction level writeback
  - Any of the writeback options with Structure repeaters
  - Insert New Rows for BR Writeback option

6. Structure Reports

Structures are used to group data in multiple ways. Below given are some of the examples for structures supported by Information Sources in Business Reporter

- Accounting structures in IFS Financials
- Project structures in IFS Engineering

A Structure can have levels, nodes and leaves. Nodes and leaves are mandatory. Use of levels in a structure is optional.

In the given example structure levels, nodes and leaves can be identified as below.

- levels: Company, Department and Group
- Nodes: Company ABC, Dep 1, Group 1 etc
- Leaves: 102, 103, 104, 202, etc

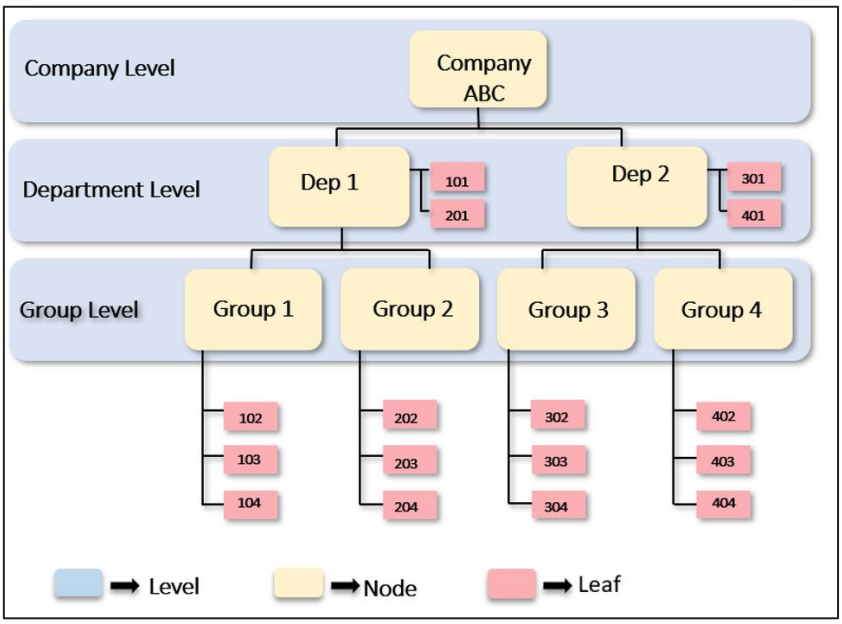


Figure 6.1

A structure repeater can be designed in two ways.

1. Static Structure Repeater
2. Dynamic Structure Repeater

6.1 Static Structure Repeater

A report with a Static Structure Repeater will have a fixed format with specific number of levels in the structure. Any change required for the output of the structure report will need to be done in the design mode.

Below given is the procedure to include a static structure in a report.

1) First, go to the design mode and select the information source as per the requirement. In this example GL Balance information source is selected.

2) Next step is to create design rows with structure repeater items. Structure repeater items are included in dimensions. These are added to a folder named “Structure Repeater Items”. Structure ID, Structure description, Node ID and Node description are mandatory items that needs to be included in a dimension

   In this example, we are using an accounting structure, therefore Account dimension is selected.

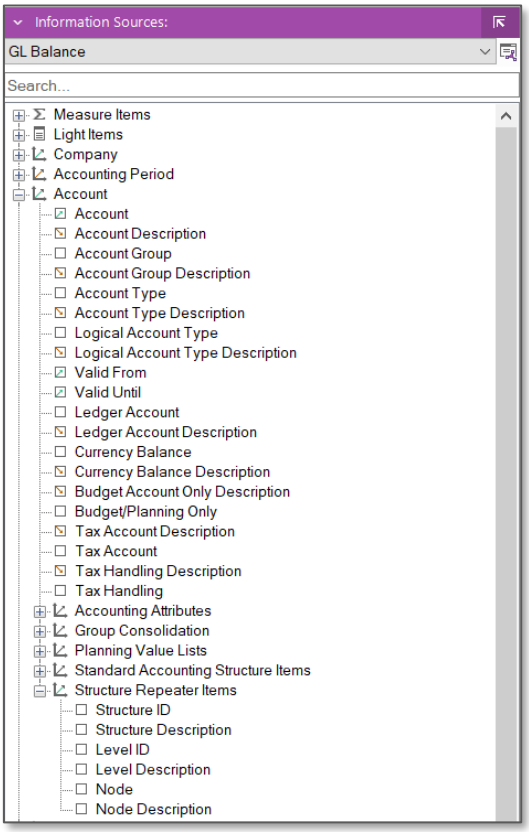


Figure 6.2

3) Drag and drop the display items into the rows and columns in the Excel sheet as required for the report design.

   In this example we are creating a report with three structure levels, therefore Node is set as the first, three repeater items. Account is selected as the fourth repeater. Further, Balance is selected as the measure item.

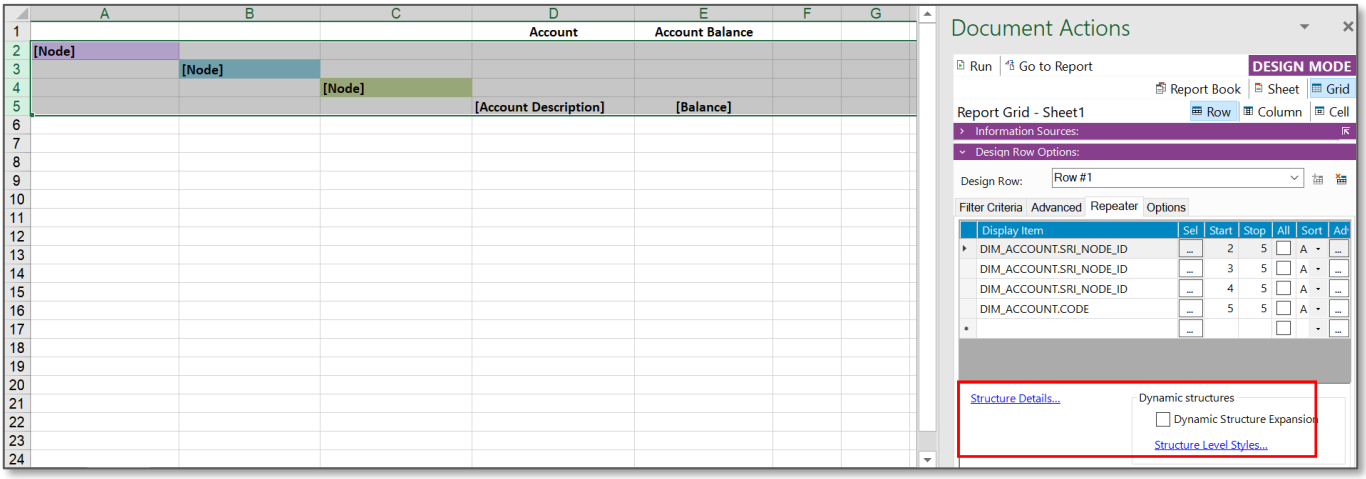


Figure 6.3

Note: Structure Repeaters can be added to both design columns and rows.

4) Once you create the design rows and columns Structure Details will be separately displayed in the document action pane. By clicking on the Structure Details, required structure can be selected. For this example, we have selected the BSTEMPLATE structure.

5) Execute the report. Final report will be displayed as below.

	A	B	C	D	E	F
1				Account	Account Balance	
2	BALANCE SHEET NET					
3		ASSETS				
4			CURRENT ASSETS			
5				Inventory (control account)	$ 157,361,432.47	
6				Transfer between sites	$ 679.17	
7				Products in progress	$ 10,092.61	
8				WIP shipped to supplier	$ 3.80	
9				WIP at supplier	$ 1.00	
10				Work in progress, paid costs	$ 2,259.60	
11				Work in progress, invoicing	$ (1,050.00)	
12				Accounts receivable	$ 2,598,898.55	
13				Travel advances	$ 2,397.12	
14				Cash	$ (2,782.12)	
15				Bank accounts (other accounts)	$ 5,310.00	
16			NON-CURRENT ASSETS			
17				Expenses carried forward	$ 715.00	
18				Concessions	$ 205.00	
19				Trademarks	$ 977.50	
20		EQUITY & LIABILITIES				
21			CURRENT LIABILITIES			
22				Unpaid advances from customers	$ (102.50)	
23				Accounts payable - trade	$ (3,016.80)	
24				Preliminary supplier invoices	$ 1,000.00	
25				Delivered, not invoiced	$ (47,314.48)	
26				Delivered, not invoiced (non inventory)	$ 12.00	
27				Acc. payable - trade, subsidiaries	$ (2,000.00)	
28				Output VAT, not reduced	$ (968.99)	
29				Input VAT	$ 301.18	
30				Charged input VAT	$ -	
31				Contra Acc. Output Tax, Adv. Paym	$ -	
32				Payables to employees	$ (569,175.87)	
33				Travel claims	$ (4,485.90)	

Figure 6.4

Configuration options available for Static Structures Repeaters

1. Selection of the entry point

Entry point is the starting point of a structure level. You have the option to select the entry point as:

- Structure Level
- Structure Node
- Level or Node Parameter

➢ **Structure Level**

A structure level can be selected by highlighting a node that represent a level of the structure. In this example, Balance Sheet Net is selected as the highest level of the structure. When you select the entry point for the first structure level, entry points for the following structure levels will be automatically captured.

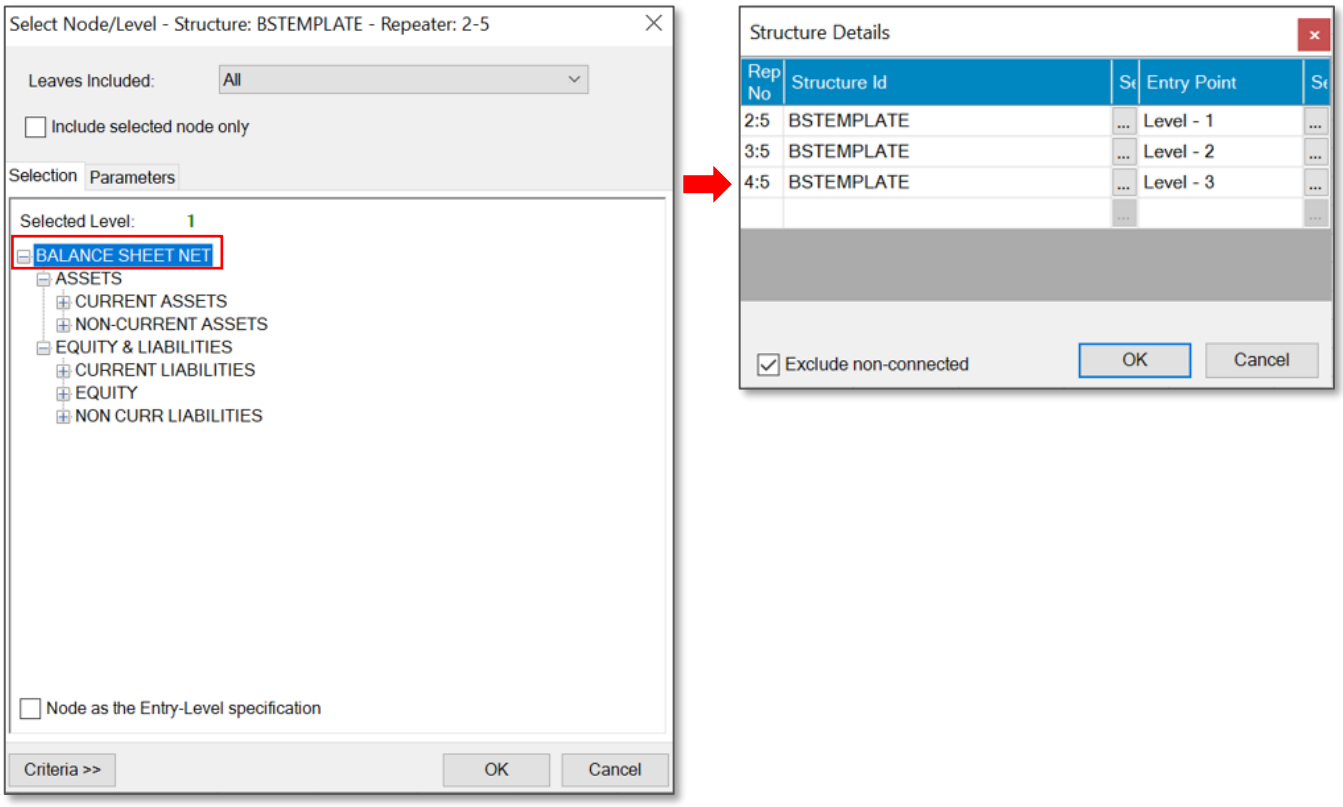


Figure 6.5

➢ Structure Node

A structure node can be selected by highlighting a node and enabling "Node as the Entry-level specification". As given below the node, Assets is selected for the first level of the structure. Likewise, you can select nodes as the entry points for the rest of the structure levels in the report design as well.

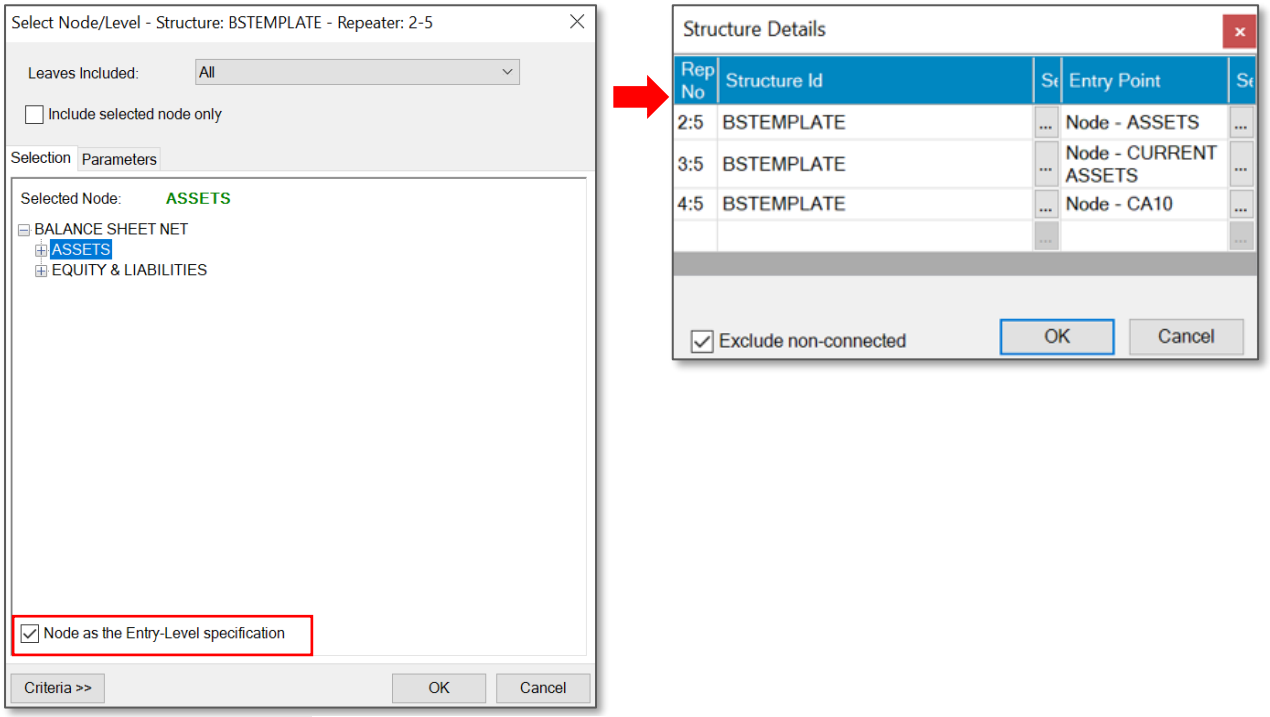


Figure 6.6

➢ Parameter

A parameter can be created for a structure level or a node. First a parameter needs to be created. Then, the created parameter needs to be selected as the entry point from the parameter tab. The benefit of using a parameter as the entry point is that the same report design can be used to generate reports starting at different levels and nodes.

In the below example, a parameter is created for a level in a structure, and it is selected as the entry point of the structure. Since the structure level is parameterized, you are able to select different structure levels at the execution of the report.

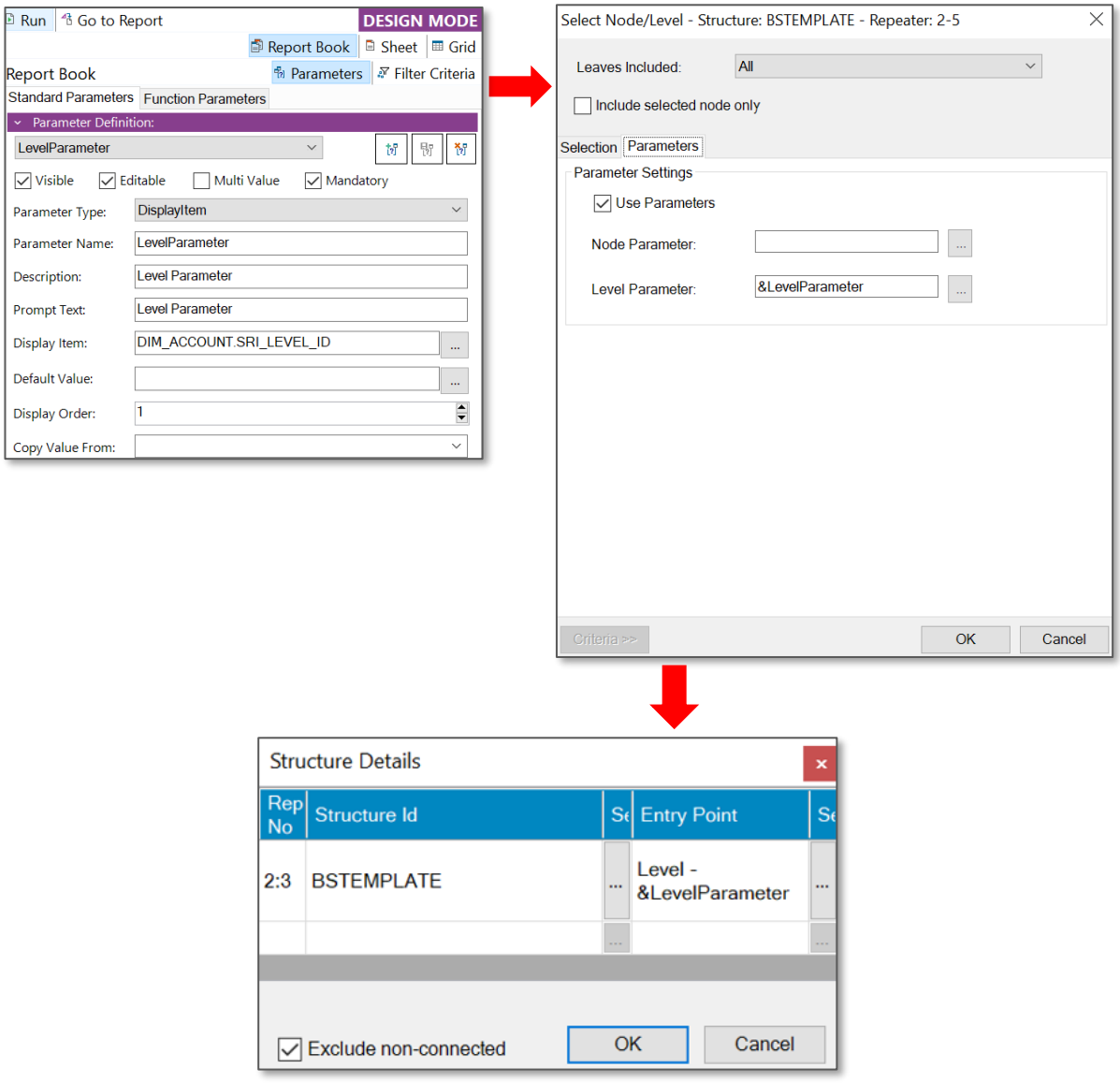


Figure 6.7

2. Indicating empty repeater items

In some instances, not all the repeater items will have data. In such situation, you can indicate these empty repeater items by using **Repeater Item Null Value** option in the **Advance Repeater Settings**. You can decide on how these items need to be indicated. In the below example, "-" symbol is used as the Repeater Item Null Value.

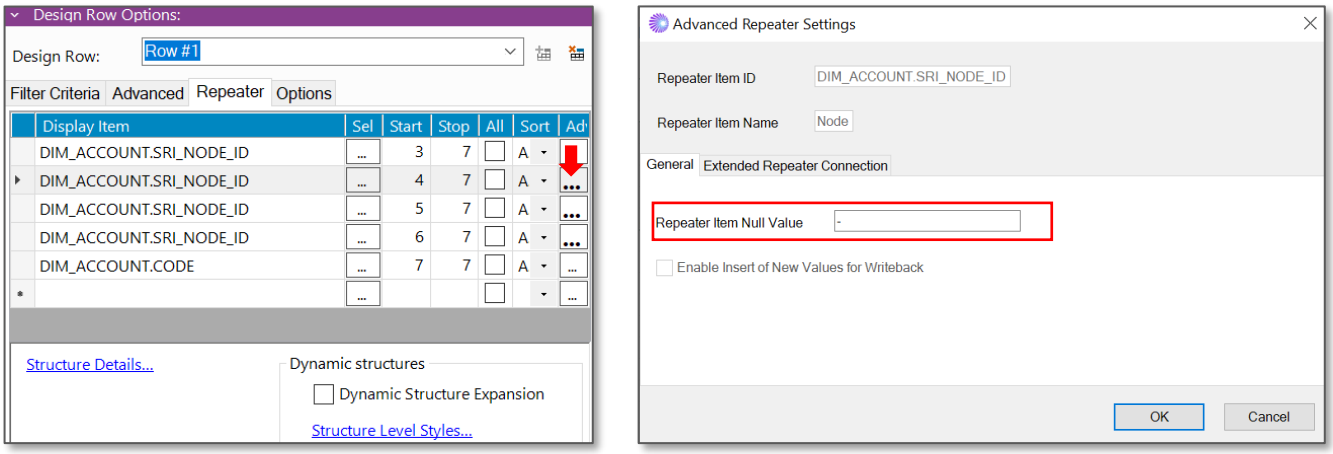


Figure 6.8

The executed report will be displayed as below

	A	B	C	D	E	F	G
1							
2					Account	Balance	
3	ACME						
4		ADMIN					
5			-				
6				-			
7					1000	$ 450.00	
8					1010	$ 715.00	
9					1011	$ 927.50	
10					1012	$ (100.00)	
11			PURCHASE				
12				-			
13					1441	$ 3.80	
14					1443	$ 1.00	
15					4021	$ 13,561.40	
16				PETER			
17					1611	$ 2,397.12	

Figure 6.9

In a dynamic structure repeater if there are empty repeater items, these rows will be hidden in the report output.

	A	B	C	D
1				
2				
3	ACME			
4	ADMIN			
7		1000	$ 450.00	
8		1010	$ 715.00	
9		1011	$ 927.50	
10		1012	$ (100.00)	
11	PURCHASE			
13		1441	$ 3.80	
14		1443	$ 1.00	
15		4021	$ 13,561.40	
16	PETER			
17		1611	$ 2,397.12	

Figure 6.10

3. Selection of which leaves need to be included in the report

User will come across requirements, where it is needed to view the leaves entailed to a certain structure level/node directly and indirectly. To cater this requirement, IFS Business Reporter has provided the option to choose the leaves included in the reports from the below given options available in the Select Node/Level dialog box.

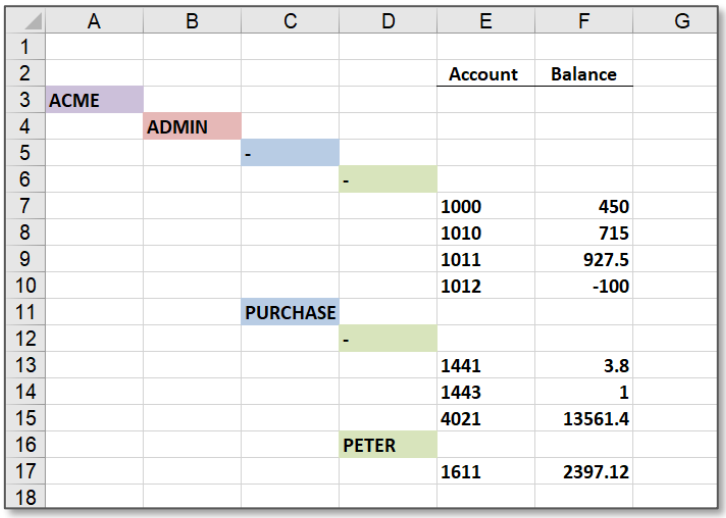
- All
- Only attached to the current level
- Only attached to the levels below

Consider the below given example, there are accounts that are directly connected to higher level nodes.

	A	B	C	D	E	F	G
1							
2					Account	Balance	
3	ACME						
4		ADMIN					
5			-				
6				-			
7					1000	450	
8					1010	715	
9					1011	927.5	
10					1012	-100	
11			PURCHASE				
12				-			
13					1441	3.8	
14					1443	1	
15					4021	13561.4	
16				PETER			
17					1611	2397.12	
18		SALES					
19			-				
20				-			
21					1020	205	
22					1050	977.5	
23					1400	157361432	
24					1405	679.17	
25					1440	10092.61	
26			OTHER				
27				-			
28					1471	2259.6	
29					1478	-1050	
30				KATE			
31					2440	-3016.8	
32					2450	1000	
33					2455	-47314.48	
34					2456	12	
35					2462	-2000	
36					3011	-3716	

Figure 6.11

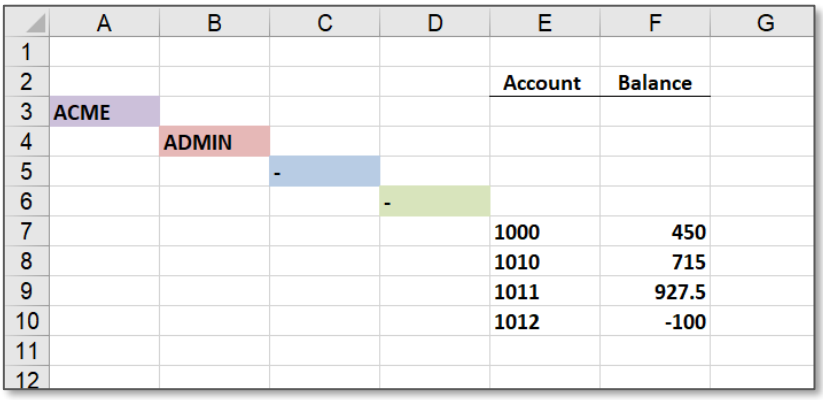
If the option “All” is selected then, all the leaves entailed to the selected node will be displayed. In this example, the node Admin is selected. Thus, all the leaves entailed to the Admin node are displayed.



	A	B	C	D	E	F	G
1							
2					Account	Balance	
3	ACME						
4		ADMIN					
5			-				
6				-			
7					1000	450	
8					1010	715	
9					1011	927.5	
10					1012	-100	
11			PURCHASE				
12				-			
13					1441	3.8	
14					1443	1	
15					4021	13561.4	
16				PETER			
17					1611	2397.12	
18							

Figure 6.12

If the option “Only attached to the current level” is selected, leaves connected to the selected node will be displayed. If we consider the Admin node again, only the leaves connected to the Admin node are displayed.



	A	B	C	D	E	F	G
1							
2					Account	Balance	
3	ACME						
4		ADMIN					
5			-				
6				-			
7					1000	450	
8					1010	715	
9					1011	927.5	
10					1012	-100	
11							
12							

Figure 6.13

If the option “Only attached to the levels below” is selected, leaves connected to levels below the selected node will be displayed. In the example, levels below the Admin node are Purchase node and the node representing Peter. Accordingly, leaves connected only to these two nodes are displayed.

	A	B	C	D	E	F	G
1							
2					Account	Balance	
3	ACME						
4		ADMIN					
5			PURCHASE				
6				-			
7					1441	3.8	
8					1443	1	
9					4021	13561.4	
10				PETER			
11					1611	2397.12	
12							

Figure 6.14

4. Selection of which nodes need to be included in the report

It is possible to include or exclude specific nodes in a structure. This dialog box will appear when you click on the criteria box.

In the below example, only the Current Assets, Non-Current Assets and Current Liabilities nodes are selected from the third structure level.

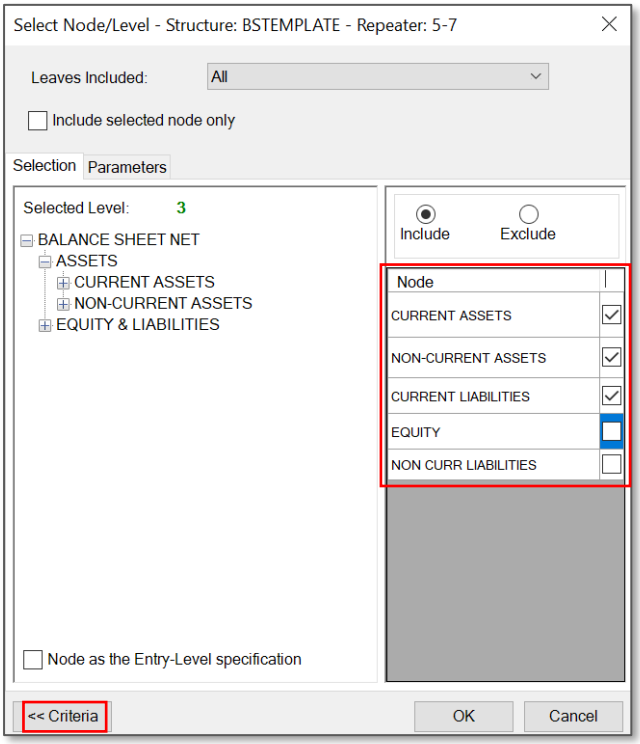


Figure 6.15

The executed report will be displayed as below

	A	B	C	D	E	F
1						
2				Account	Balance	
3	BALANCE SHEET NET					
4		ASSETS				
5			CURRENT ASSETS			
6				1400	$ 157,361,432.47	
7				1405	$ 679.17	
8				1440	$ 10,092.61	
9				1441	$ 3.80	
10				1443	$ 1.00	
11				1471	$ 2,259.60	
12				1478	$ (1,050.00)	
13				1510	$ 2,598,898.55	
14				1611	$ 2,397.12	
15				1910	$ (2,782.12)	
16				1940	$ 5,310.00	
17			NON-CURRENT ASSETS			
18				1010	$ 715.00	
19				1020	$ 205.00	
20				1050	$ 977.50	
21		EQUITY & LIABILITIES				
22			CURRENT LIABILITIES			
23				2425	$ (102.50)	
24				2440	$ (3,016.80)	
25				2450	$ 1,000.00	
26				2455	$ (47,314.48)	
27				2456	$ 12.00	
28				2462	$ (2,000.00)	
29				2610	$ (968.99)	
30				2640	$ 301.18	
31				2641	$ -	
32				2679	$ -	
33				2820	$ (569,175.87)	
34				2822	$ (4,485.90)	

Figure 6.16

Include selected node only option can also be used to include a specific node in the structure report. This option is mainly used when a parameter is selected as the entry point.

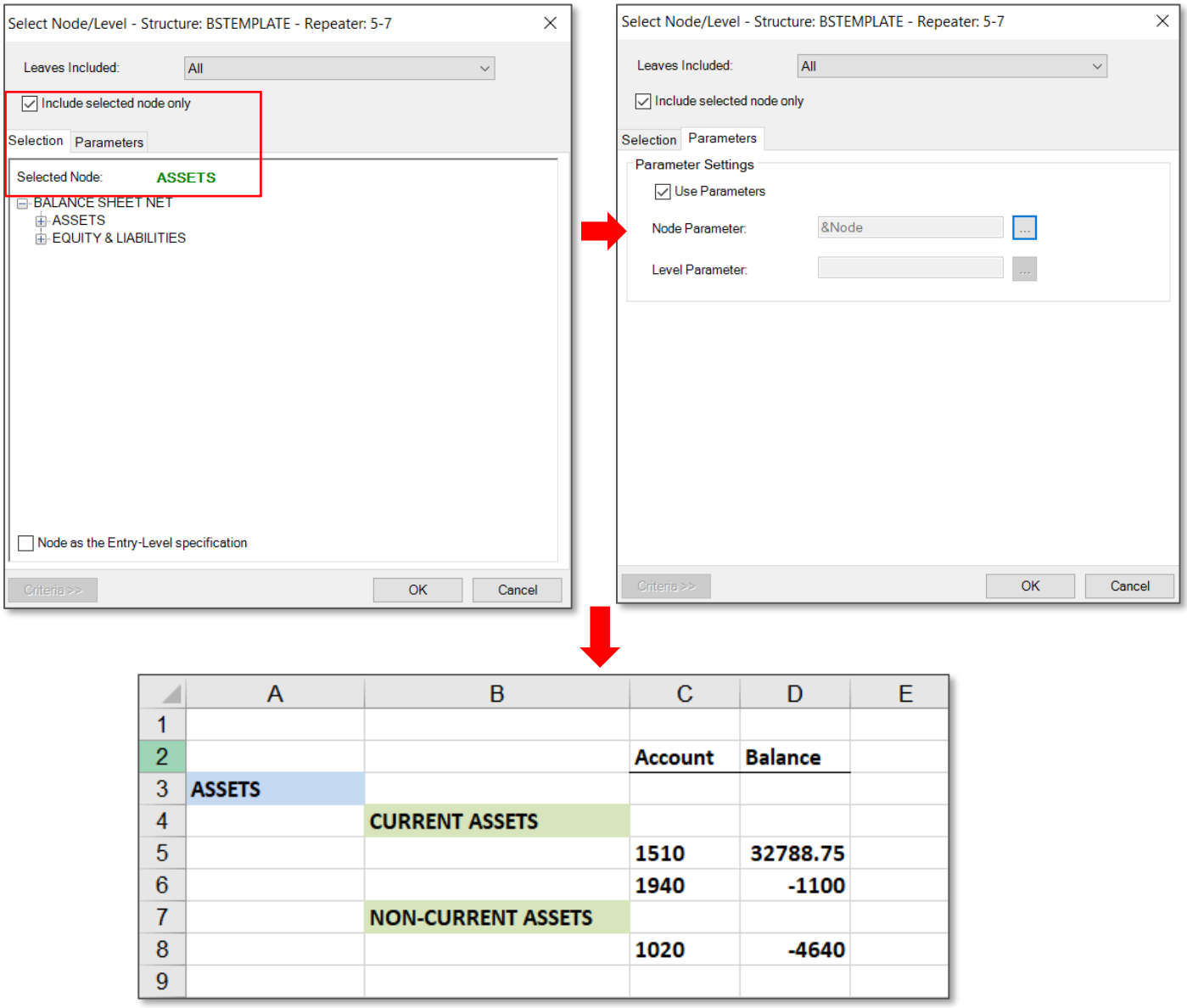
Consider the below given structure. In this structure there are two nodes in the first level as Assets and Equity & Liability.

	A	B	C	D
1				
2			Account	Balance
3	ASSETS			
4		CURRENT ASSETS		
5			1510	32788.75
6			1940	-1100
7		NON-CURRENT ASSETS		
8			1020	-4640
9	EQUITY & LIABILITIES			
10		CURRENT LIABILITIES		
11			2425	-8.75
12			2440	-3600
13			2444	1000
14			2456	2600
15			2610	0
16			2640	174.19
17			2641	0
18			2679	0
19			2822	-2788

Figure 6.17

Suppose you have set a parameter for a node as the entry point of the structure, and it is only required to see the Assets node in the report outcome. Excluding the Equity & Liability from the structure will not give you the expected result. In such situation, first select the required node from the structure and then enable the **Include selected node only** option. Next, set the created parameter as the entry point of the structure.

Once the report is executed, only the selected node will be displayed.



	A	B	C	D	E
1					
2			Account	Balance	
3	ASSETS				
4		CURRENT ASSETS			
5			1510	32788.75	
6			1940	-1100	
7		NON-CURRENT ASSETS			
8			1020	-4640	
9					

Figure 6.18

6.2 Dynamic Structure Repeater

By enabling the Dynamic Structure Expansion feature, you can create a Dynamic Structure Repeater. Dynamic Structure Expansion feature is a new design capability introduced to overcome the complexities in designing a static structure repeater. This allows you to expand and collapse a structure in the report mode, enabling you to view information in both aggregate and detail level.

Follow the below steps to create a dynamic structure

1) Go to the design mode, select the required information source.

2) When creating a dynamic structure, it is not necessary for you to add multiple structure repeaters. These are automatically added by the system, and you will be able to view the full structure in the report mode.

   Thus, drag and drop the structure repeater items as the first repeater and the relevant dimension items as the second repeater.

   In this example, an accounting structure is created. Account and account description are included as the second repeater. Account balance is selected as the measure item. Sum of the account balances is calculated in structure level.

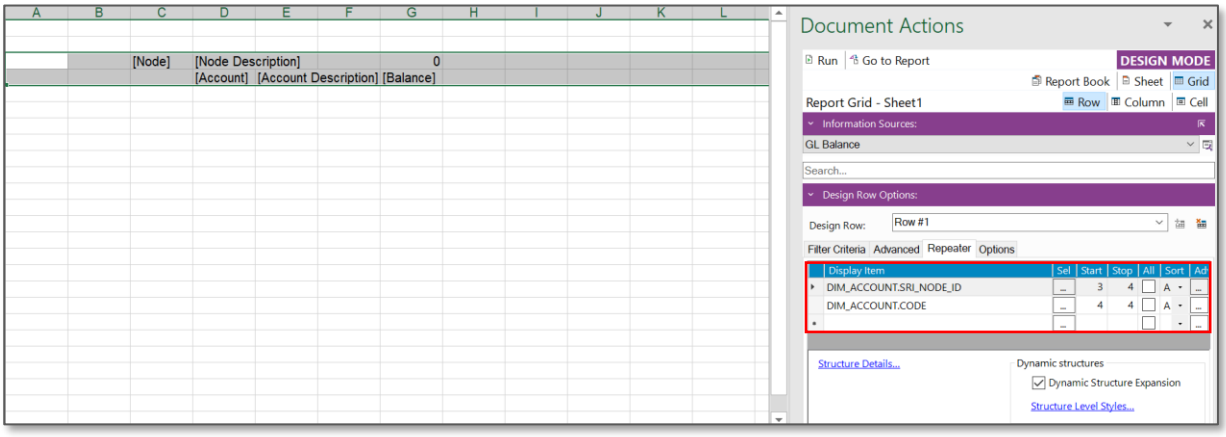


Figure 6.19

3) Now, select the required the structure by clicking on Structure Details. At this point you can also configure the structure as per requirement by changing the entry points of the structure, including and excluding leaves and nodes etc.

4) Then, tick the check box below Dynamic Structures to enable the function Dynamic Structure Expansion.

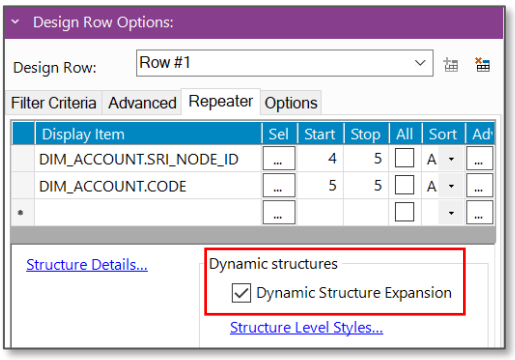


Figure 6.20

5) Select the structure level styles to apply predefined Excel styles for each level of the structure. Excel grouping function support only eight levels in a structure. Therefore, Business Reporter has enabled you to apply styles up to eight levels.

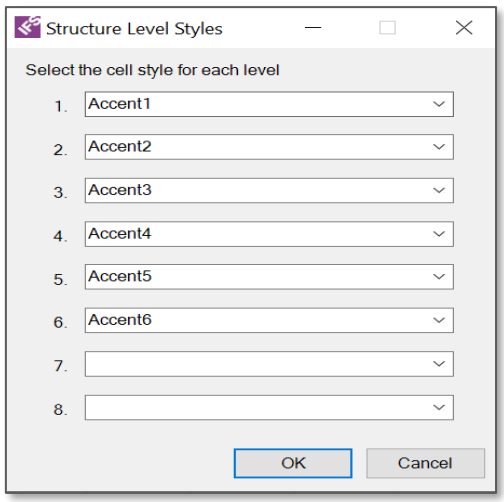


Figure 6.21

6) Execute the report. Final report will be displayed as below. Structure can be expanded and collapsed using the + icon and the number boxes given in the left side of the report.

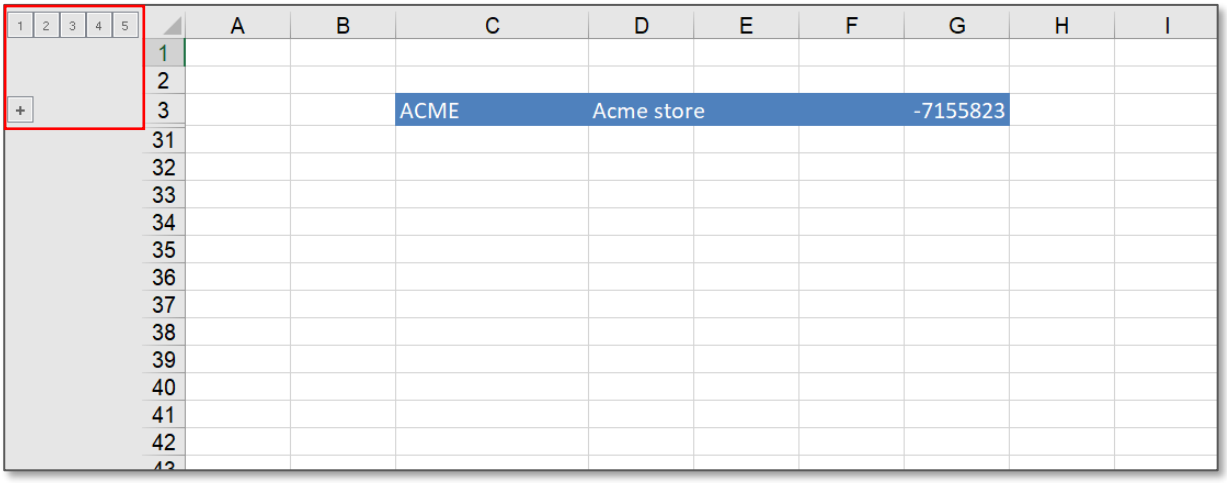


Figure 6.22

Expanded report will be displayed as below.

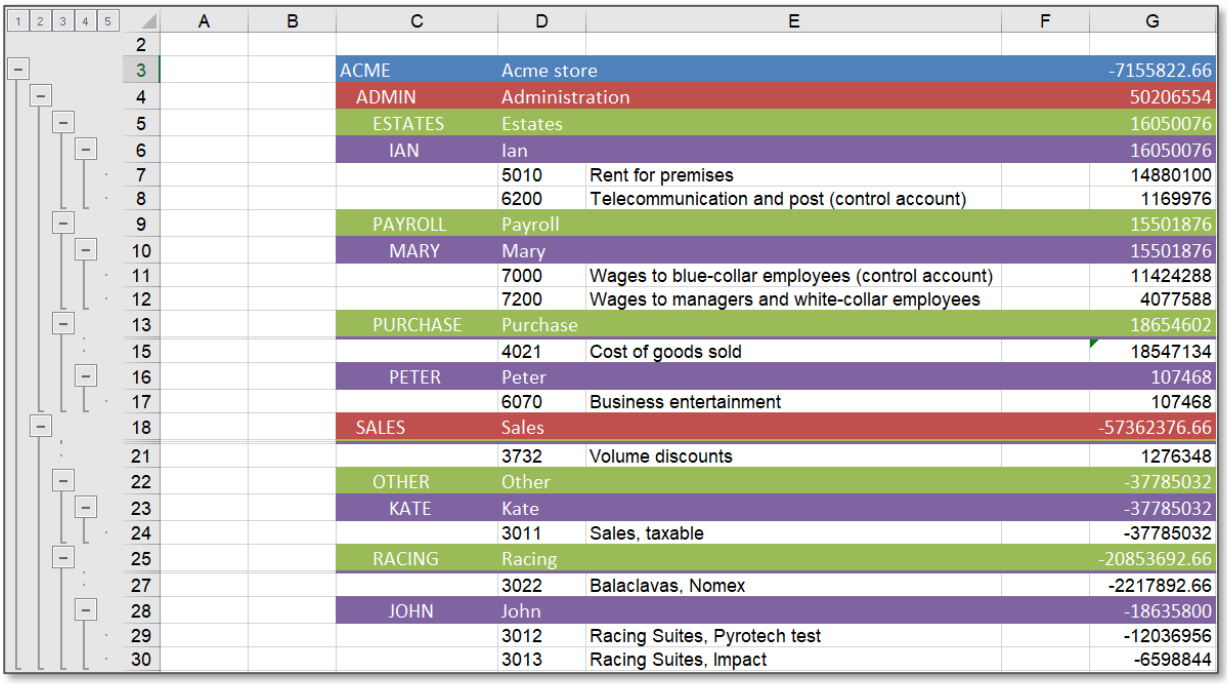


Figure 6.23

8) Once the designed structure report is executed, for further analysis Structure Slicer function is available in the report mode. This function enables you to select parts of the structure and analyze the structure more interactively.

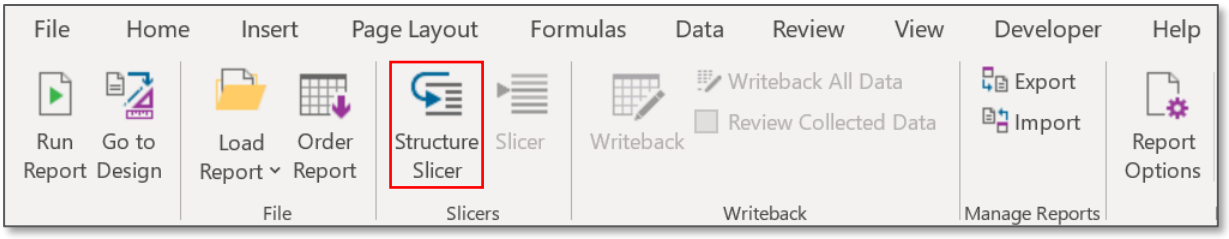


Figure 6.24

Following options are available in the structure slicer dialog

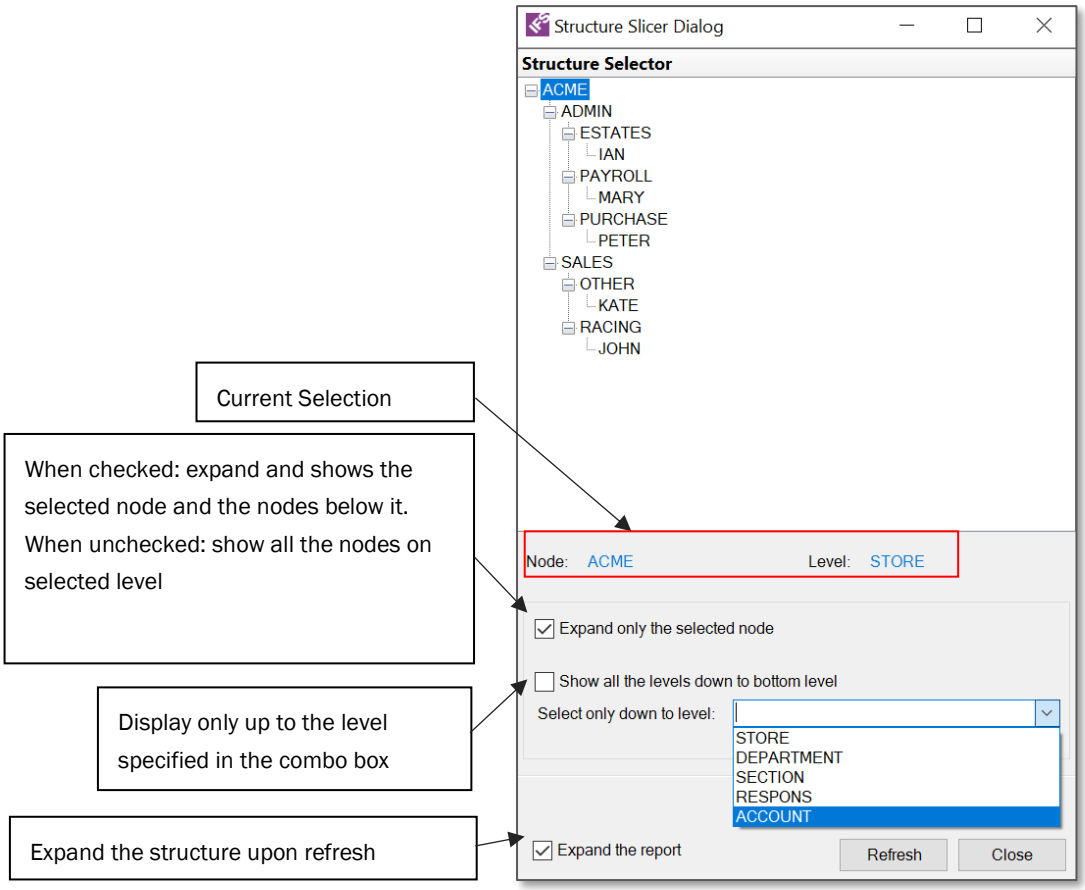


Figure 6.25

In the below example, structure slicer dialog box is used to display only the sales node and **Expand the report** option is selected to automatically expand the report upon refresh.

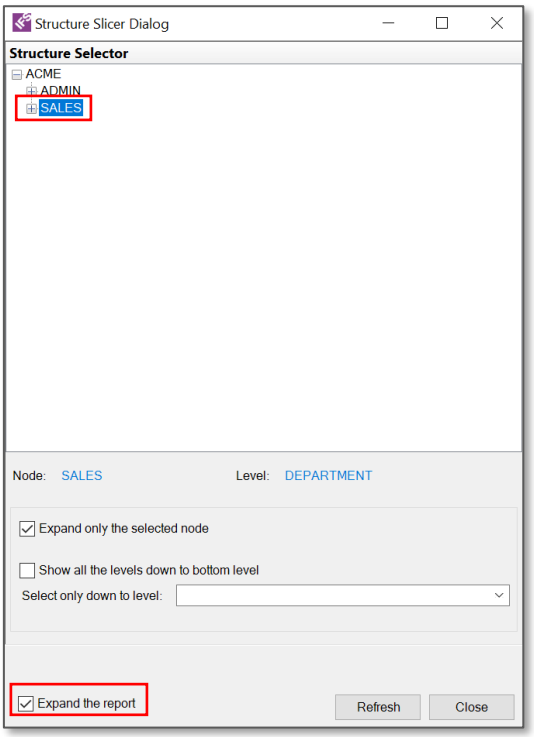


Figure 6.26

Report will be displayed as below

	A	B	C	D	E	F	G
1							
2							
3			SALES	Sales			-57362376.66
6				3732	Volume discounts		1276348
7			OTHER	Other			-37785032
8			KATE	Kate			-37785032
9				3011	Sales, taxable		-37785032
10			RACING	Racing			-20853692.66
12				3022	Balaclavas, Nomex		-2217892.66
13			JOHN	John			-18635800
14				3012	Racing Suites, Pyrotech test		-12036956
15				3013	Racing Suites, Impact		-6598844
16							

Figure 6.27

If it is needed to display only up to a certain level in the structure, specific level can be selected using the combo box in the structure slicer dialog box. In the below example “Department” is selected as the bottom level.

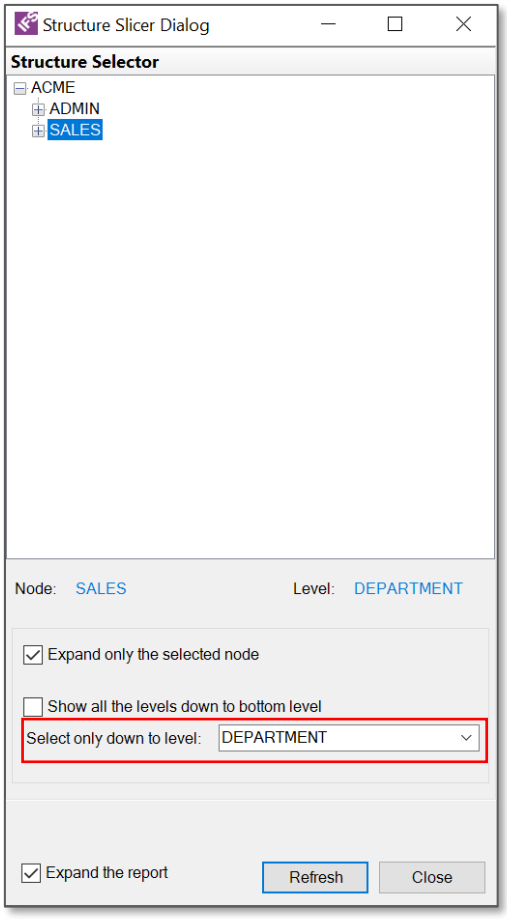


Figure 6.28

Report will be displayed as below

	A	B	C	D	E	F	G
1							
2							
3			SALES	Sales			-57362376.66
5				3732	Volume discounts		1276348
6			OTHER	Other			-37785032
7				3011	Sales, taxable		-37785032
8			RACING	Racing			-20853692.66
9				3012	Racing Suites, Pyrotech test		-12036956
10				3013	Racing Suites, Impact		-6598844
11				3022	Balaclavas, Nomex		-2217892.66
12							

Figure 6.29

Dynamic Structure Expansion function is supported to add another structure in parallel. In such instances, repeater items are needed to be arranged as below;

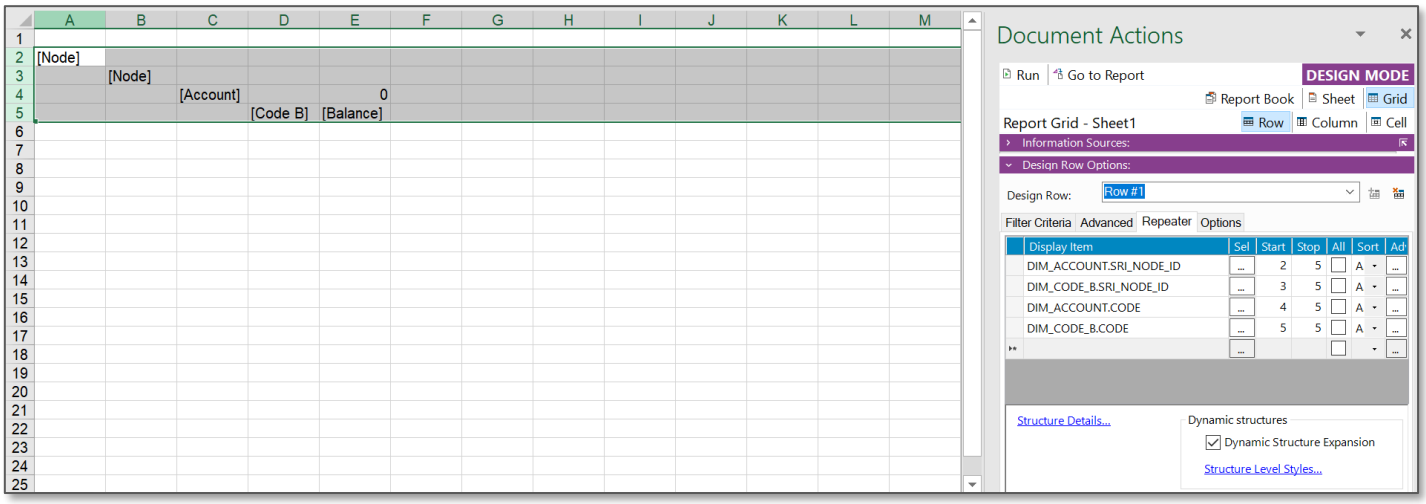


Figure 6.30

Row 2 to 5- dynamic structure expansion based on Account Structure

Row 3 to 5- dynamic structure expansion based on Code B Structure

Row 4 and 5- repeated on Account and Code B

6.3 Design Limitations

- It is not allowed to use more than two structures in single design row when dynamic structure expansion is enabled.
- A design sheet can only have one design row along with dynamic structure expansion.
- Microsoft Excel supports only eight levels of grouping. If a structure has more than eight levels, the additional levels will get grouped together with the 7th level.
- Dynamic structure expansion is not supported for designed columns.
- Any of the writeback options and structure slicer option are not supported for an ordered report from IFS Cloud with **structure repeaters**. As a work around you can execute the ordered report to perform writeback.

7. Using Microsoft Excel functions in IFS Business Reporter

IFS Business Reporter is an add-on to Microsoft Excel. Thus, majority of the features of Microsoft Excel can be used to design reports via IFS Business Reporter. Configuring your report design with Microsoft Excel function could slightly vary when using IFS Business Reporter. This chapter will guide you on how to use some of the commonly used Microsoft Excel functions in IFS Business Reporter.

7.1 Array in Excel

An array in Excel is a collection of values. It can be a row of values, a column of value or a combination of rows and columns with values. Arrays are referred in the format of First Cell:Last Cell in excel. Below given is an example of two vertical arrays.

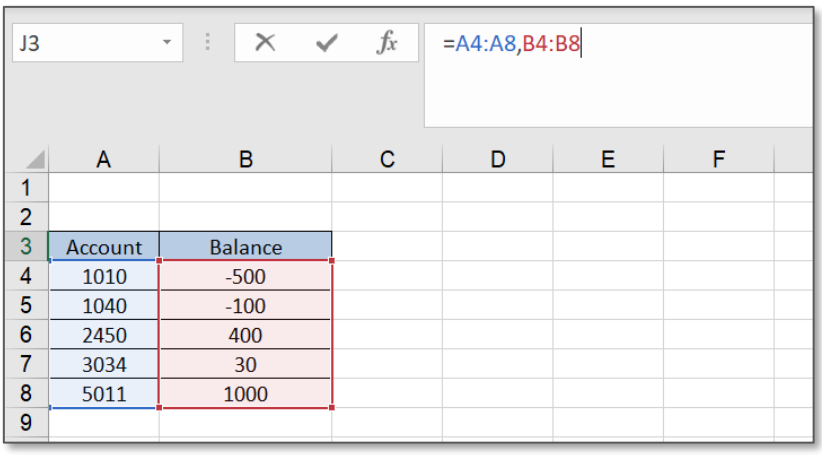


Figure 7.1

Note: When incorporating such arrays in formulas, it is recommended to provide them as a **Name Range** in IFS Business Reporter. This would result in reducing the time spent on rendering results in IFS Business Reporter.

Name Range in excel is a range that has been given a name for future reference. Name ranges can be created by selecting the Define Name icon in Excel Formulas tab.

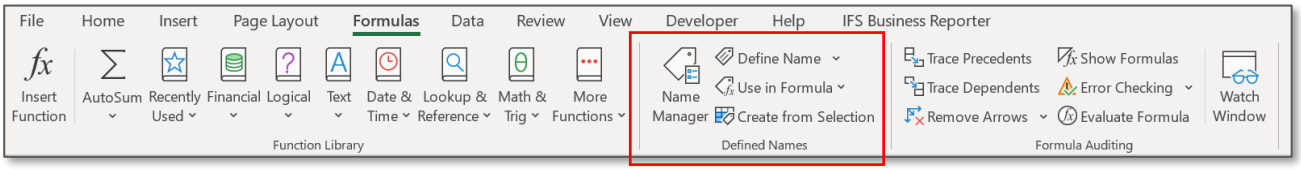


Figure 7.2

Below image depicts how the array is displayed when Name Ranges are given for the vertical arrays in the above example.

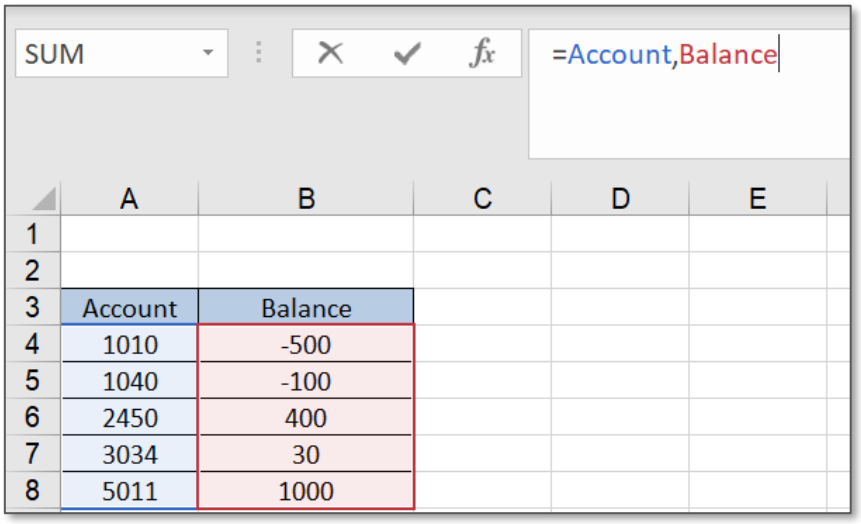


Figure 7.3

Name Ranges can be applied for repeaters as well. In the below example, a Name Range is defined as Account, including the values of Account and Balance. Here A9 and B9 is selected as the first and the last cell of the range in report design.

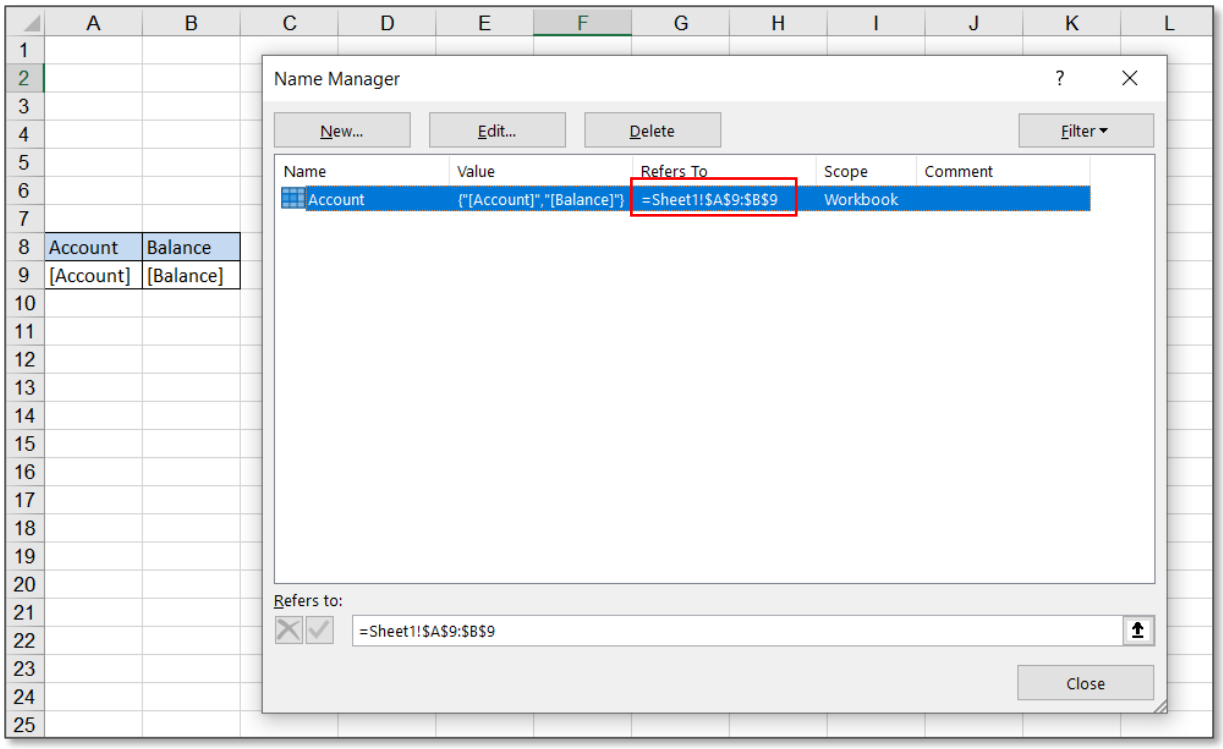
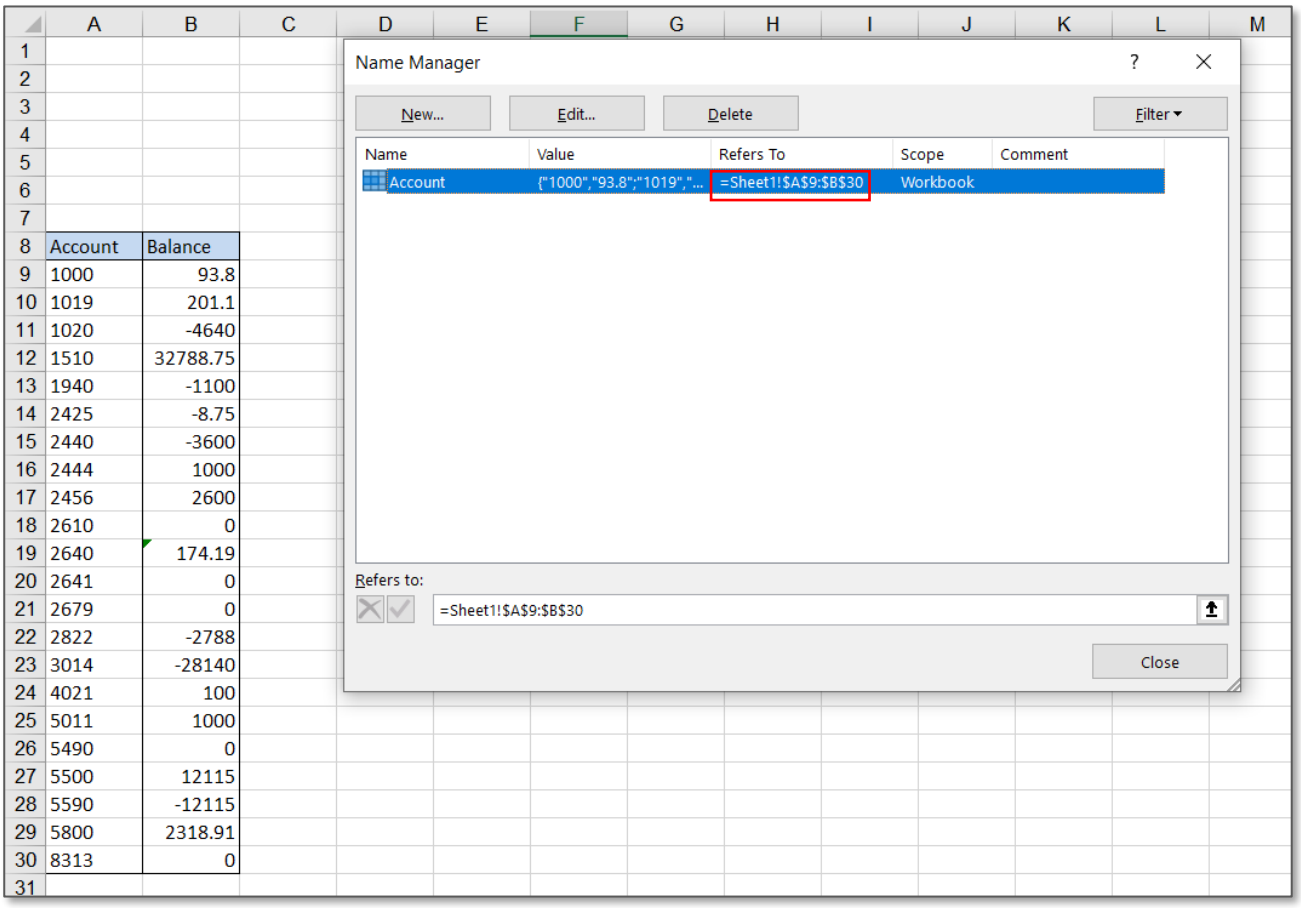


Figure 7.4

Once the report is executed, specified range will get expanded only up to the row with data. IFS Business Reporter repeater expansion logic is designed in such way. As you can see, the Name Range Account has expanded from A9 to B30 (expanded up to the 30th row which is the last row with data).



	Account	Balance
9	1000	93.8
10	1019	201.1
11	1020	-4640
12	1510	32788.75
13	1940	-1100
14	2425	-8.75
15	2440	-3600
16	2444	1000
17	2456	2600
18	2610	0
19	2640	174.19
20	2641	0
21	2679	0
22	2822	-2788
23	3014	-28140
24	4021	100
25	5011	1000
26	5490	0
27	5500	12115
28	5590	-12115
29	5800	2318.91
30	8313	0

Figure 7.5

7.2 LOOKUP Function

It is possible to perform LOOKUP functions within IFS Business Reporter. These functions can be used within the same sheet, between worksheets and between workbooks.

Note: When you execute a report, the values will be displayed within inverted commas in the report mode. Therefore, when you look up for such value in the LOOKUP function, you will not get the expected result. In order to overcome this issue, select the lookup items and then convert them to **absolute values**. You can select this option under **cell options** in the document action pane.

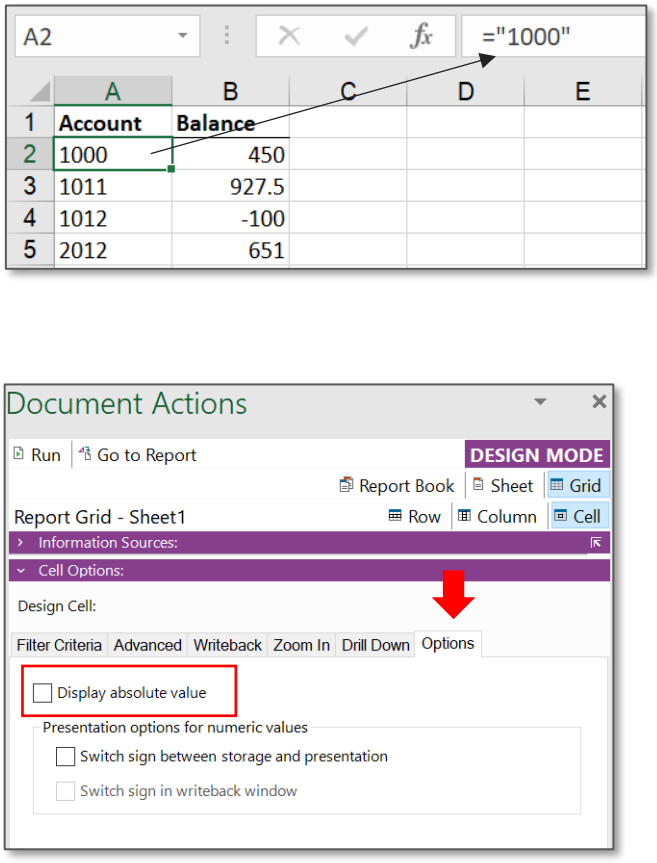


Figure 7.6

a) Lookup for a fixed table within the same sheet using VLOOKUP

VLOOKUP is an Excel function to look up data in a table organized vertically. In the below example, the objective is to obtain the budgeted values for the respective accounts from a fixed table to a separate table with a repeater within the same sheet.

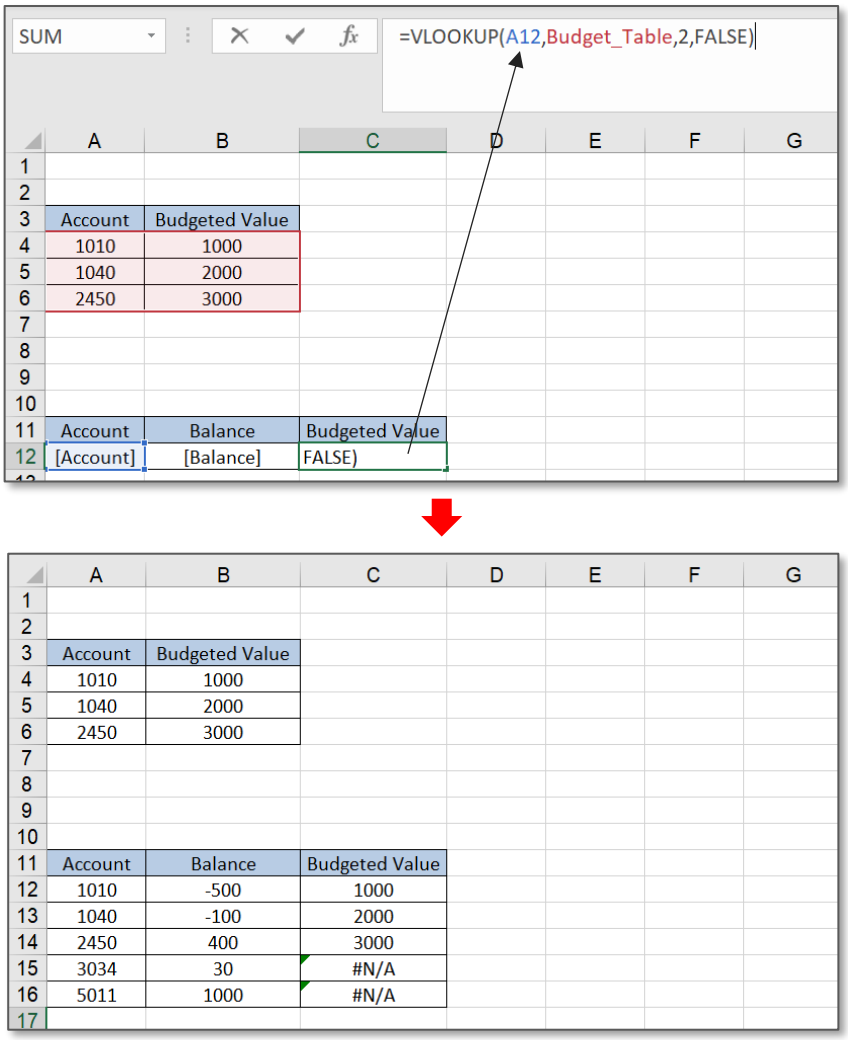


Figure 7.7

b) **Lookup for a repeater within the same sheet using VLOOKUP**

In this example we will be looking up for a repeater. Objective is to obtain balances of the respective accounts from a repeater to a fixed table.

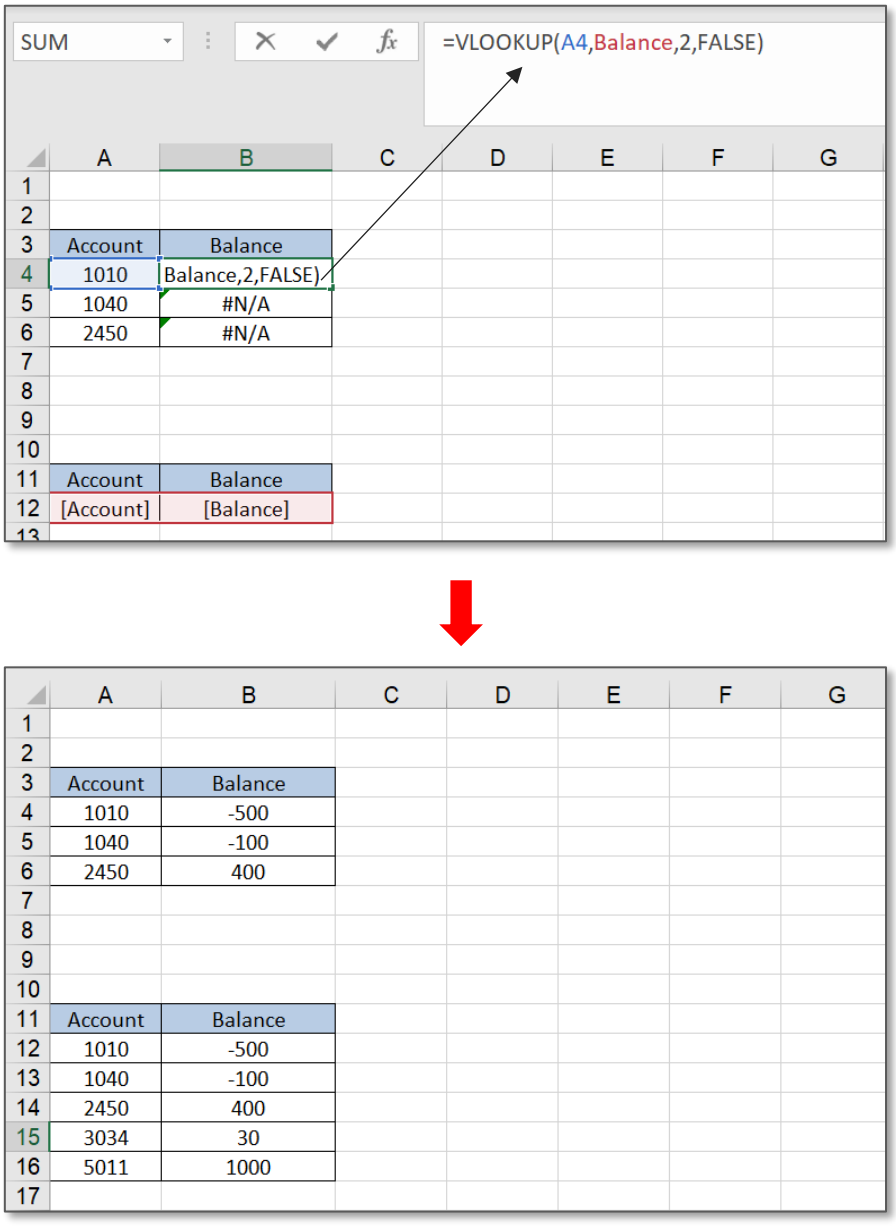


Figure 7.8

c) Lookup for a repeater in a different sheet using HLOOKUP

HLOOKUP is an Excel function to look up data in a table organized horizontally. In this example we will look up for a repeater in a different sheet to get the account type of the given accounts.

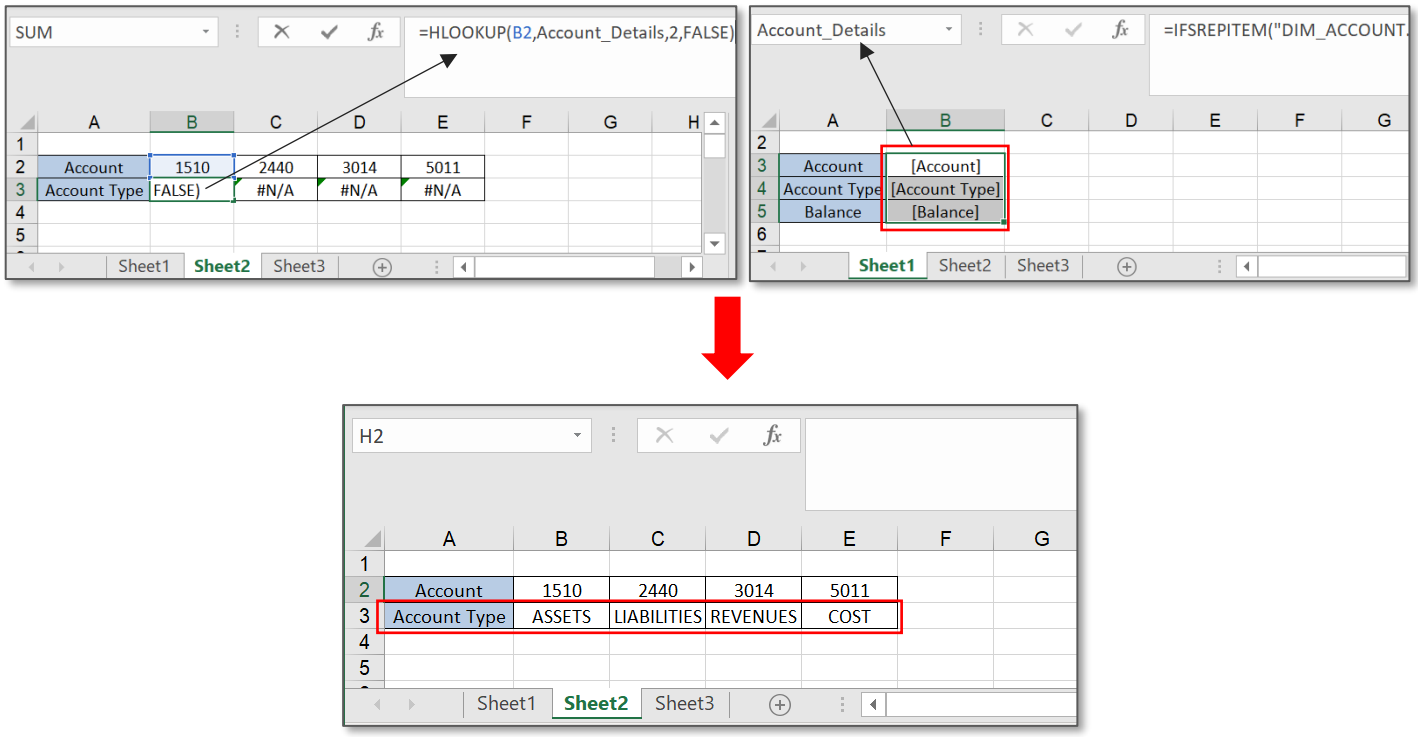


Figure 7.9

7.3 OFFSET Function

OFFSET is used to get the values in a row, a column, or a range of cells by specifying the row and the column number with reference to a particular cell value. This function will start counting the rows and the columns considering the reference cell as the starting point.

In IFS Business reporter, OFFSET function is executed just as in Microsoft Excel. It can be given to a fixed table or a repeater.

Note: The reference cell of the formula needs to be a cell outside the design row/column.

In the given example, objective is to find out the average gross amount of customer invoices based on the number of years. Here OFFSET function is used to create a dynamic range. i.e. formula is created in a way that number of years is variable.

Accordingly, B5 is the reference cell. Number of rows is set as 1, therefore one row should be moved down from the starting point and number of columns is set as zero, since there is no column change. E2 is given as the height and 1 is given as the width.

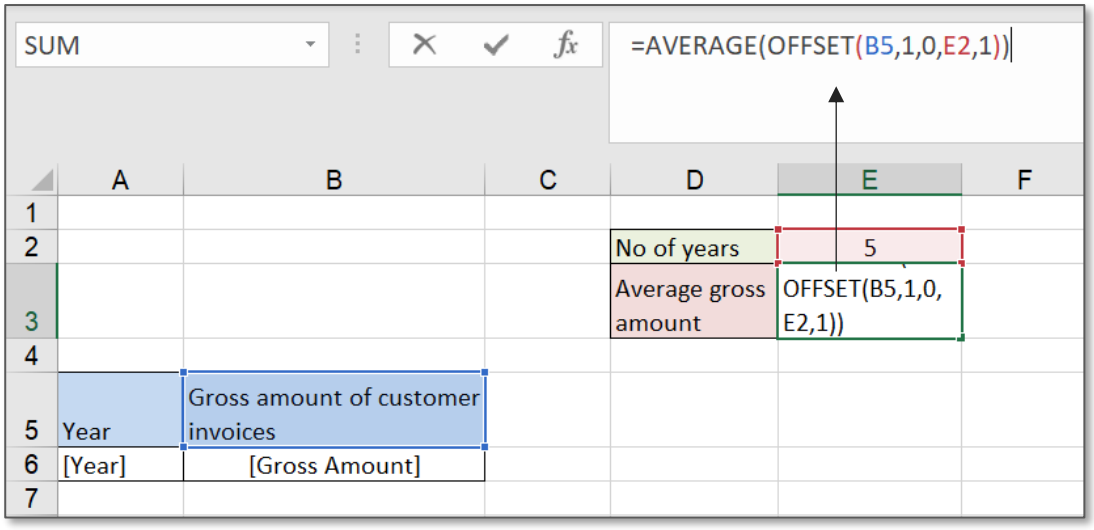
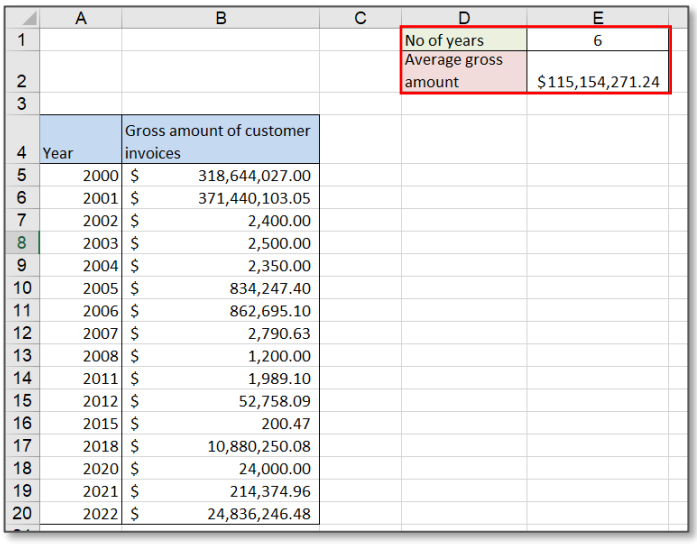


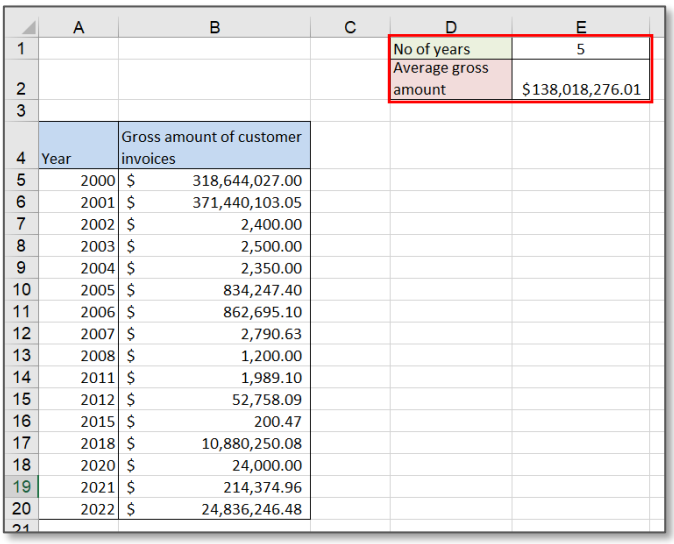
Figure 7.10

Once the report is executed, you can change the number of years (E2 cell) and calculate the average accordingly.



No of years	6	
Average gross amount	$115,154,271.24	

Year	Gross amount of customer invoices
2000	$ 318,644,027.00
2001	$ 371,440,103.05
2002	$ 2,400.00
2003	$ 2,500.00
2004	$ 2,350.00
2005	$ 834,247.40
2006	$ 862,695.10
2007	$ 2,790.63
2008	$ 1,200.00
2011	$ 1,989.10
2012	$ 52,758.09
2015	$ 200.47
2018	$ 10,880,250.08
2020	$ 24,000.00
2021	$ 214,374.96
2022	$ 24,836,246.48



No of years	5	
Average gross amount	$138,018,276.01	

Year	Gross amount of customer invoices
2000	$ 318,644,027.00
2001	$ 371,440,103.05
2002	$ 2,400.00
2003	$ 2,500.00
2004	$ 2,350.00
2005	$ 834,247.40
2006	$ 862,695.10
2007	$ 2,790.63
2008	$ 1,200.00
2011	$ 1,989.10
2012	$ 52,758.09
2015	$ 200.47
2018	$ 10,880,250.08
2020	$ 24,000.00
2021	$ 214,374.96
2022	$ 24,836,246.48

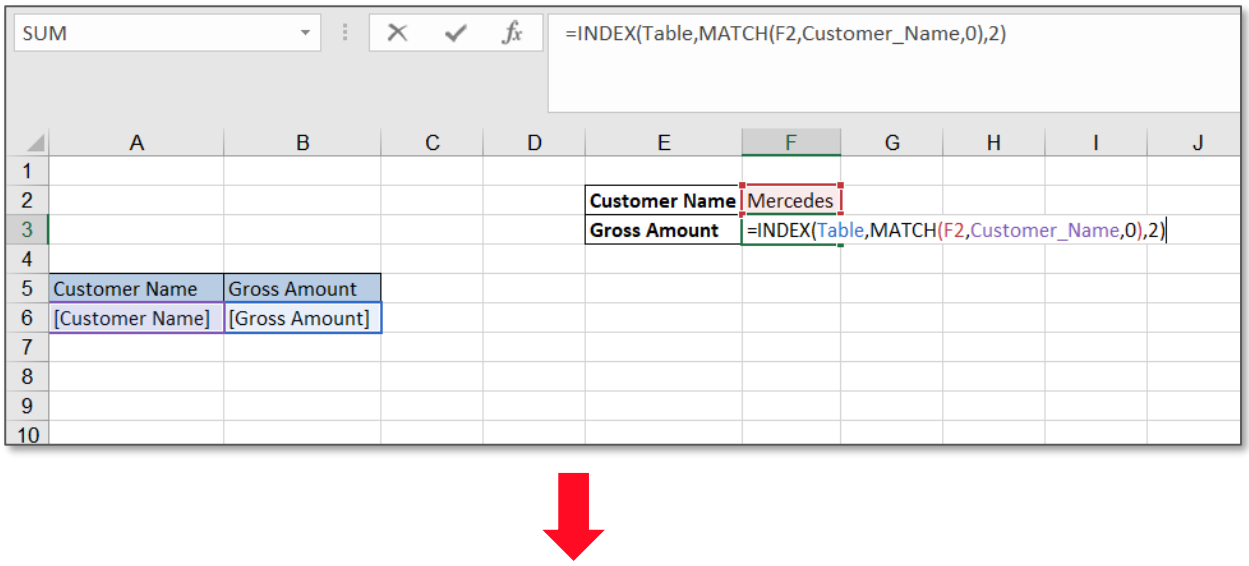
Figure 7.11

7.4 MATCH Function

The MATCH function searches for a specified item in a range of cells, and then returns the relative position of that item. This is used to identify the position of an item either in one row or one column. Therefore, this function cannot be used in a range that includes more than one row or a column. i.e. if the report is designed in a manner that a measure item is used in both row repeater and column repeater, MATCH function will not give the expected result.

MATCH Function is often used with the INDEX function as an alternative to LOOKUP functions. INDEX function will return the value of a cell at a given position in a range or an array and the MATCH Function is used to search a specific item in a range and then return the relative position of that item.

In the following example, MATCH and the INDEX function is used to lookup for the gross amount of the customers. Here the MATCH function is used to create a dynamic lookup item. You can change the customer name in F2 cell and get the respective gross amount on to F3 cell.



F3 =INDEX(Table,MATCH(F2,Customer_Name,0),2)

	A	B	C	D	E	F	G
1							
2					**Customer Name**	Mercedes	
3					**Gross Amount**	171281054.3	
4							
5	Customer Name	Gross Amount					
6	CUST123	276.12					
7	Customer 1000	15840037056					
8	Ferrari	112254857.7					
9	Harley Davidson	13285750					
10	Hendrick Motorsports	14723875					
11	Honda	17969750					
12	Internal Customer (MIT) - Sweden	25000					
13	McLaren	165950990.4					
14	Mercedes	171281054.3					
15	Newman/Haas Racing	14691125					
16	NJ-1020	11.8					
17	NJ-1020(COPY1)	3602.68					
18	Robert Yates Racing	163526532.2					
19	Swedish Customer	37925					
20	Team Rahal	16359250					
21							

Figure 7.12

Note: In the design mode, when MATCH function is used with inner repeaters, the lookup array of the formula needs to capture the immediate row above and below the design row.

In the below example objective is to locate the position of the exact account balance $1000. However, in this example, an inner repeater is used (design exists from row 3 to row 4), thus the lookup array should contain immediate rows above and below the design row (row 2 to row 5). Name range Balance_1 is created to capture the range D$2:$D$38.

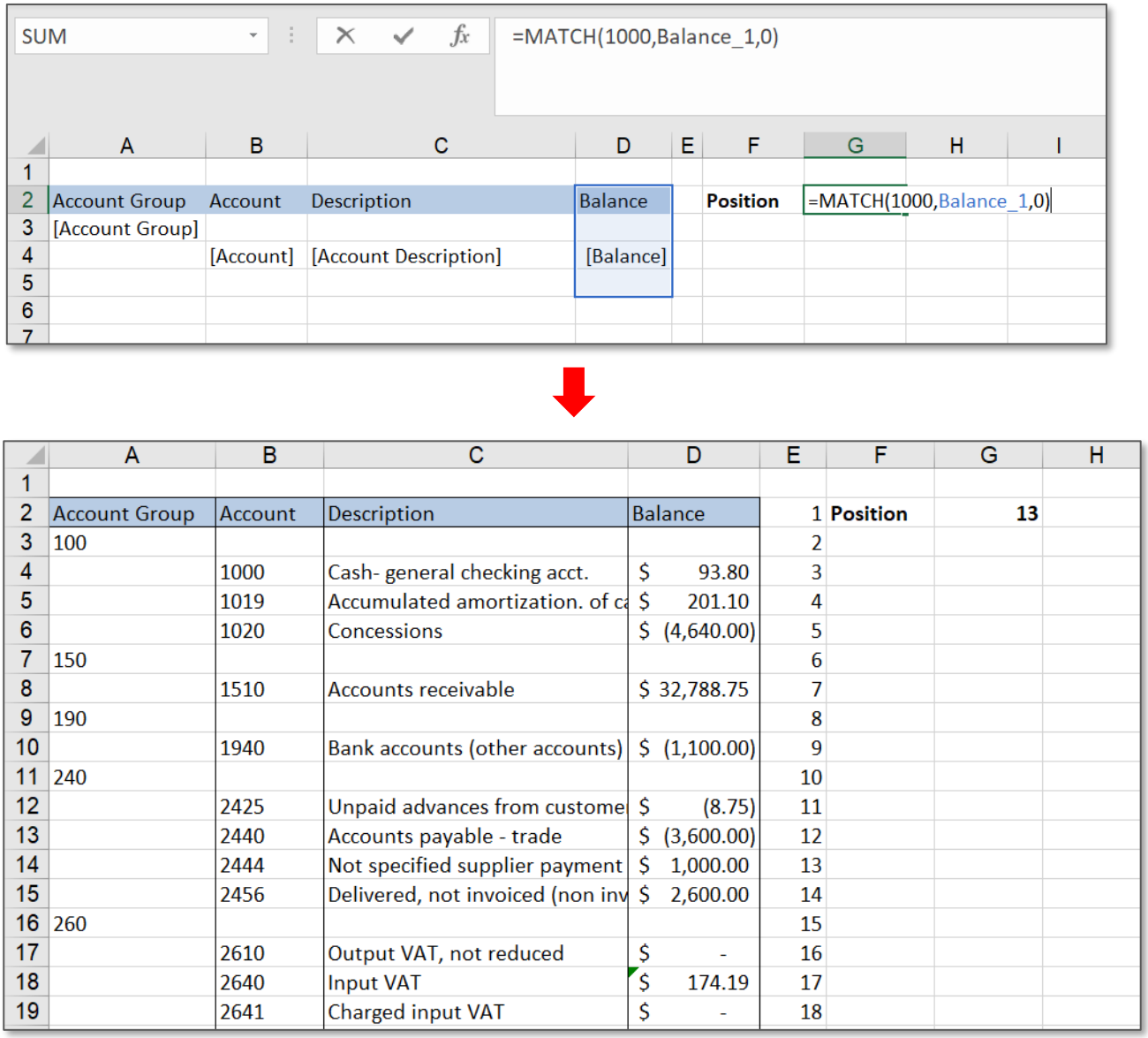


Figure 7.13

In IFS Business Reporter, data will be automatically sorted based on how the repeater items are included. Therefore, it is not possible to give further ascending/descending sorting instructions for columns/rows in the design mode. Accordingly, only “exact matching” is facilitated via the design mode. If the requirement is to search for a value less than or more than the lookup value, data set is required to be sorted into ascending/descending order. This can be executed in the report mode.

7.5 SUBTOTAL function

The SUBTOTAL function is used to return an aggregate result for a defined range of cells. This function allows users to create groups and then perform various other Excel functions such as SUM, COUNT, AVERAGE, PRODUCT, MAX, etc. In IFS Business Reporter, the SUBTOTAL function can be used in the design mode, but the formula needs to be given in a way that it will only include one cell as the reference cell of the formula. When executed, the referred cell will expand appropriately and will display the correct ranges. In the below example, subtotal for each account type is obtained. “C3” is the reference cell and row repeaters are configured as below.

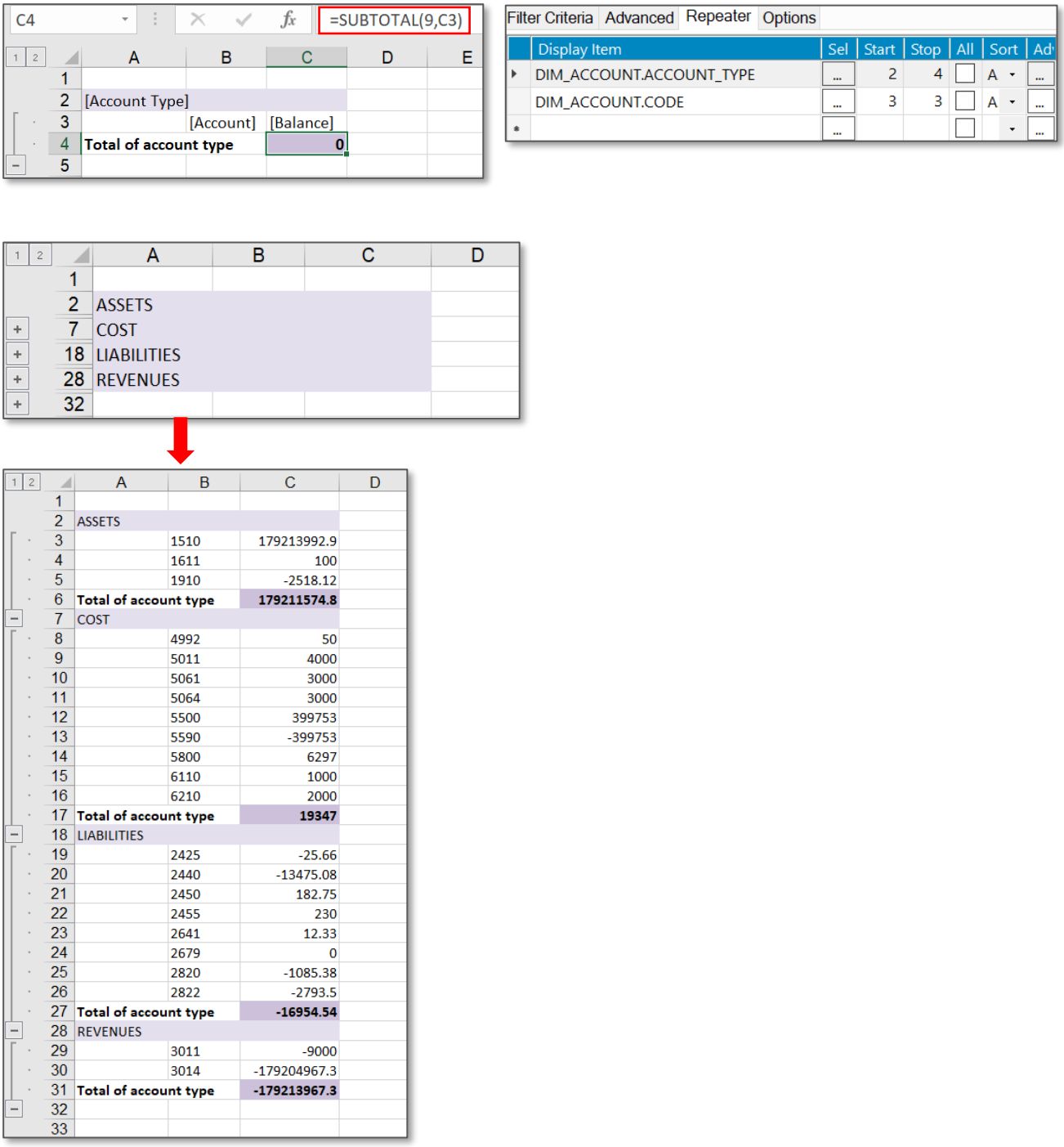


Figure 7.14

7.6 INDIRECT Function

This function is used to obtain the value stored in the Excel address of a cell. INDIRECT function accepts a text string entered as an argument and converts it into a valid cell address. Then, it goes to the given cell address and returns its value.

To obtain the address of a cell, you can use the ADDRESS function. The ADDRESS function returns the absolute address of a cell based on a specified row and a column number.

As the repeaters gets expanded at report execution, it is difficult to specify a row and a column number of a cell when designing a report. Thus, a dynamic approach needs to be taken to use ADDRESS function in IFS Business Reporter. Accordingly, you can use the ROW and the COLUMN function to obtain the row number and the column number of a cell reference.

In the below given example, ROW, COLUMN, ADDRESS, and INDIRECT functions are used to obtain the aggregate value for each Accounting Period.

In C4 cell, a formula is formed using ADDRESS, ROW and COLUMN functions. Objective is to obtain the address of the cell which contains the aggregated balance, as the balance for the period gets repeated for each accounting period.

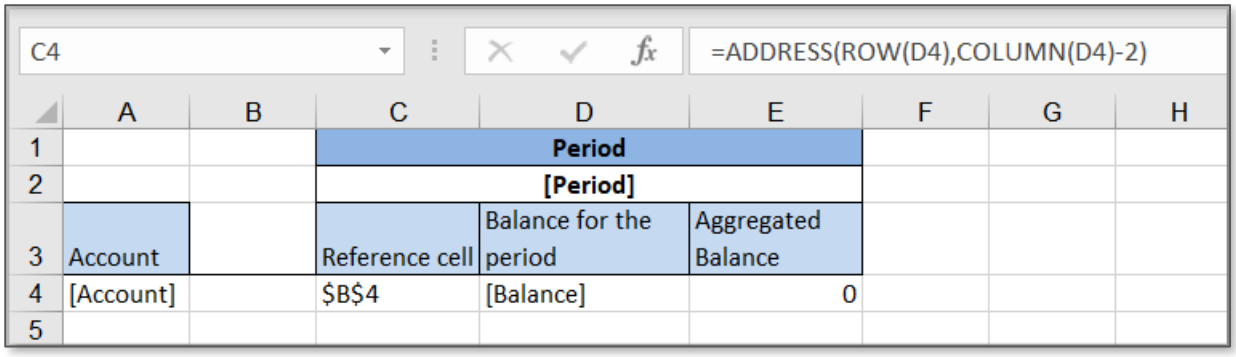


Figure 7.15

In E4, SUM function is used to obtain the total of the balance for the respective accounting period and aggregated balance of the previous period. INDIRECT function would refer to C4 which contains the Excel address of the reference cell and then it will go to the given cell address and returns its value.

E4 =SUM(D4,INDIRECT(C4))

	A	B	C	D	E	F	G	H
1			Period					
2			[Period]					
3	Account		Reference cell	Balance for the period	Aggregated Balance			
4	[Account]		B4	[Balance]	0			
5								

Figure 7.16

Once the report is executed, the outcome will be shown as below.

	A	B	C	D	E	F	G	H	I	J	K
1			Period			Period			Period		
2			1			2			3		
3	Account		Reference cell	Balance for the period	Aggregated Balance	Reference cell	Balance for the period	Aggregated Balance	Reference cell	Balance for the period	Aggregated Balance
4	5010		B4	1240000	1240000	E4	1240000	2480000	H4	1240000	3720000
5	5800		B5	7931	7931	E5	5320	13251	H5	7014	20265
6	5810		B6	6583	6583	E6	4670	11253	H6	6333	17586
7	6070		B7	10368	10368	E7	9592	19960	H7	7872	27832
8	6200		B8	84192	84192	E8	90336	174528	H8	93828	268356
9	6211		B9	2550	2550	E9	2537	5087	H9	2671	7758
10	7000		B10	977340	977340	E10	994220	1971560	H10	1004896	2976456
11	7200		B11	360020	360020	E11	357376	717396	H11	354632	1072028
12	7300		B12	1157	1157	E12	0	1157	H12	982	2139
13	7999		B13	604744	604744	E13	655332.66	1260076.66	H13	605352	1865428.66
14											

Figure 7.17