

Microsoft Power BI : Write Back

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Requirement

Write to the Power BI Report or Dashboard Data Source from the Power BI Report or Dashboard.

Approach

1. Using Power Apps to write data to the Data Source.
2. Embedding a Power App to the Power BI Report or Dashboard connected to the same data source as of the Power BI Report or Dashboard.
3. Integration of Power BI Report or Dashboard Data with the Power App.

Using Power Apps to write data to the Data Source

1. Connect to the data source.
2. Use Power Apps Controls such as textinput etc to input data.
3. Using In-built Power Apps function “Patch” to edit existing records or add new records to the data Source.

Patch :

New Record : `Patch(DataSource, Defaults(DataSource), ChangeRecord1 [, ChangeRecord2, ...])`

Existing Record : `Patch(DataSource, BaseRecord, ChangeRecord1 [, ChangeRecord2, ...])`

Embedding Power Apps with Power BI:

1. Drag and drop the Power App visual in the canvas area of a Power BI Report.
2. Add the data fields used in the application to the fields pane.
3. Create a new Power Apps application or choose an already created Power Apps application with same data source as that of the Power BI Report.

Integration of PowerBI with Power Apps

1. Go to Power Apps Studio to edit the application. A new data source called “PowerBIIntegration” will be available due to the embedding process.
2. Use PowerBIIntegration as our Data Source for Power Apps Controls like Forms, Gallery etc. This will make our application interact with the Power BI Report or Dashboards where it is embedded.

Case Study

1. A Power BI Report is generated using Excel(Online) as the data source.
2. The same data source is used to create a Power Apps Application.
3. The data is represented using a table visualisation in Power BI.
4. The Power App is integrated using the Power Apps visual in Power BI.

The screenshot displays a Power BI report interface. At the top, there is a table with 16 columns: Id, Period, Account, CoCde, Group, Exp 1, Exp 2, Practice, Cur, Total, AR - On%, AR - Off%, TOS%, AR - On, AR - Off, and TOS. The table contains 11 rows of data, all with a 'Total' value of 10.63, 37.75, 51.87, 10.85, 6.83, 6.83, 13.73, 13.88, 22.16, and 22.16 respectively. Below the table is a Power Apps form with three input fields labeled 'AR - On %', 'AR - Off %', and 'TOS %'. The 'AR - On %' field is pre-filled with '100'. At the bottom of the form are 'Reset' and 'Submit' buttons. The bottom navigation bar shows 'Go back', 'Transactional Da...', and 'Data updated 4/29/21'.

Id	Period	Account	CoCde	Group	Exp 1	Exp 2	Practice	Cur	Total	AR - On%	AR - Off%	TOS%	AR - On	AR - Off	TOS
2	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	10.63	100			10.63	0	0
3	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	37.75	100	0	0	37.75	0	0
4	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	51.87	100	0	0	51.87	0	0
5	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	10.85	100	0	0	10.85	0	0
6	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	6.83	100	0	0	6.83	0	0
7	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	6.83	100	0	0	6.83	0	0
8	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	13.73	100	0	0	13.73	0	0
9	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	13.88	100	0	0	13.88	0	0
10	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	22.16	100	0	0	22.16	0	0
11	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	22.16	100	0	0	22.16	0	0

Case Study[Contd.] :

1. On clicking on any row in the table visual the Power Apps gallery also gets filtered as the gallery runs from the data source PowerBIIntegration.Data.
2. Make the required edits in the Power App Visual and click on Submit.

The screenshot displays a Power BI report interface. At the top, there is a table with 15 columns: Id, Period, Account, CoCde, Group, Exp 1, Exp 2, Practice, Cur, Total, AR - On%, AR - Off%, TOS%, AR - On, AR - Off, and TOS. The table contains 11 rows of data. Below the table, a Power Apps form is visible, which is filtered to show only the first row of the table. The form has three input fields labeled 'AR - On %', 'AR - Off %', and 'TOS %'. The 'AR - On %' field contains the value '100'. At the bottom of the form, there are two buttons: 'Reset' and 'Submit'. The bottom navigation bar of the report shows 'Go back', 'Transactional Da...', and 'Data updated 4/29/2021'.

Id	Period	Account	CoCde	Group	Exp 1	Exp 2	Practice	Cur	Total	AR - On%	AR - Off%	TOS%	AR - On	AR - Off	TOS
2	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	10.63	100			10.63	0	0
3	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	37.75	100	0	0	37.75	0	0
4	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	51.87	100	0	0	51.87	0	0
5	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	10.85	100	0	0	10.85	0	0
6	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	6.83	100	0	0	6.83	0	0
7	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	6.83	100	0	0	6.83	0	0
8	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	13.73	100	0	0	13.73	0	0
9	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	13.88	100	0	0	13.88	0	0
10	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	22.16	100	0	0	22.16	0	0
11	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	22.16	100	0	0	22.16	0	0

Case Study[Contd.]

1. The application does any data validation required before submitting and then displays a submission confirmation dialog box
2. On clicking on yes. The row is edited in the data source.

The screenshot shows a data table with 15 columns: Id, Period, Account, CoCde, Group, Exp 1, Exp 2, Practice, Cur, Total, AR - On%, AR - Off%, TOS%, AR - On, AR - Off, and TOS. The table contains 11 rows of data. Below the table, a confirmation dialog box is displayed with the text "Submit? Please confirm if you would like to proceed." and "Yes" and "No" buttons. The dialog box is overlaid on a form with input fields for "AR - On %", "AR - Off %", and "TOS %". The "AR - Off %" and "TOS %" fields contain the value "50". At the bottom of the dialog box, there are "Reset" and "Submit" buttons. The bottom navigation bar shows "Go back", "Transactional Da...", and "Data updated 4/29/21".

Id	Period	Account	CoCde	Group	Exp 1	Exp 2	Practice	Cur	Total	AR - On%	AR - Off%	TOS%	AR - On	AR - Off	TOS
2	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	10.63	100			10.63	0	0
3	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	37.75	100	0	0	37.75	0	0
4	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	51.87	100	0	0	51.87	0	0
5	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	10.85	100	0	0	10.85	0	0
6	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	6.83	100	0	0	6.83	0	0
7	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	6.83	100	0	0	6.83	0	0
8	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	13.73	100	0	0	13.73	0	0
9	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	13.88	100	0	0	13.88	0	0
10	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	22.16	100	0	0	22.16	0	0
11	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	22.16	100	0	0	22.16	0	0

Case Study[Contd.]

1. On refreshing the Power BI report we can see the changes in the table visual.

The screenshot displays a Power BI report interface. At the top, a table visual shows data for various personnel entries. Below the table, a filter control is visible, allowing users to adjust 'AR - On %', 'AR - Off %', and 'TOS %' for the selected row (ID 2). The filter control shows 'AR - On %' set to 0, 'AR - Off %' set to 50, and 'TOS %' set to 50. The bottom navigation bar includes a 'Go back' button, a dropdown menu for 'Transactional Da...', and a 'Data updated 4/29/21' timestamp.

Id	Period	Account	CoCde	Group	Exp 1	Exp 2	Practice	Cur	Total	AR - On%	AR - Off%	TOS%	AR - On	AR - Off	TOS
2	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	10.63	0	50	50	10.63	0	0
3	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	37.75	100	0	0	37.75	0	0
4	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	51.87	100	0	0	51.87	0	0
5	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	10.85	100	0	0	10.85	0	0
6	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	6.83	100	0	0	6.83	0	0
7	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	6.83	100	0	0	6.83	0	0
8	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	13.73	100	0	0	13.73	0	0
9	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	13.88	100	0	0	13.88	0	0
10	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	22.16	100	0	0	22.16	0	0
11	2020/07	622020	N006	B - Personnel - Direct	03- People	Salary Cost		USD	22.16	100	0	0	22.16	0	0

AR - On %: 0, AR - Off %: 50, TOS %: 50

Reset Submit

Go back Transactional Da... NIIT POC | Data updated 4/29/21

Conclusion

Using the capability of Power Apps to write to the data source and that of Power BI to embed Power Apps in its report or Dashboards we can add write back functionalities to our Power BI Reports and Dashboards. This will help the users of the Power BI Report or Dashboards to directly make changes in the data source in case of any changed business scenarios like targets etc, without involving data stewards or data analysts.

Thank You

