Workshop Row Level Security

Exercise 1a: Static Row Level Security

Summary:

- Step 1 Create the report
  - Use a SQL server database as source
  - Model the data
  - Create the roles
  - Create visualizations

- Step 2 Publish to app.powerbi.com
  - Log in with the credentials provides to you
  - Create a workspace
  - Publish the report
  - Assign rights to the workspace and dataset
  - Let you neighbor test the report

Instructions:

Step 1 Create the report

Open Power BI Desktop

Connect to the Azure Database

Server: lssqlserver.database.windows.net
Database: AdventureWorksDW2017

The credentials to the SQL server will be provided at the workshop

Pull in the views:

vDimdate
vDimProducts
vDimSalesTerritory
vFactInternetSales

Check and/or create the relations between the tables

vFactInternetSales.Orderdate - vDimdate.date
vFactInternetSales.ProductKey - vDimProducts.ProductKey
vFactInternetSales.SalesTerritoryKey - vDimSalesTerritory.SalesTerritoryKey

Create three Roles:

1. Role “Admin” with no DAX expression
2. “America” with DAX expression on the table vDimSalesTerritory:
   `[SalesTerritoryGroup] = "North America"`

3. Role “EuropePacific” with Dax expression on the table vDimSalesTerritory
   `[SalesTerritoryGroup] = "Europe" || [SalesTerritoryGroup] = "Pacific"`

Create the following visuals:

- Clustered Column Chart with DimSalesTerritory.SalesTerritoryCountry on Axis and SalesAmount on Value
- Clustered Bar Chart with DimProducts.EnglishProductCategoryName on Axis and SalesAmount on Value
- Slicer on SalesTerritoryCountry
- Optional you can add more visuals.

Save the report with the name StaticRLS.pbix.

Test the report using the “View as” menu option. Select the role “America” or “EuropePacific”.

Step 2 Publish to app.powerbi.com

Log in to app.powerbi.com with the user assigned to you

Use the credentials provided at the workshop

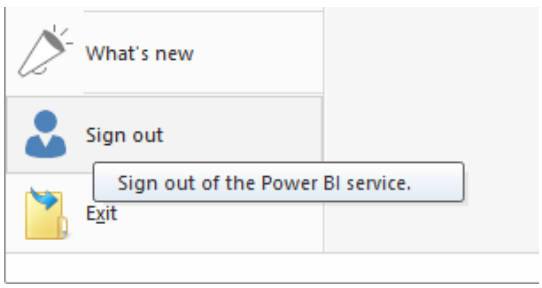
As there are only a limited number of accounts available for this workshop your accounts may also be used by other participants. Please be considerate and do not alter the workspace of the other participants who are using the same account.

Create a Workspace. Use your name as part of the workspace name to make the workspace stand out from the workspaces from the other participants.

Switch back to Power BI Desktop and log in with the same account

If you have not already done so, save the report with the name StaticRLS.pbix.

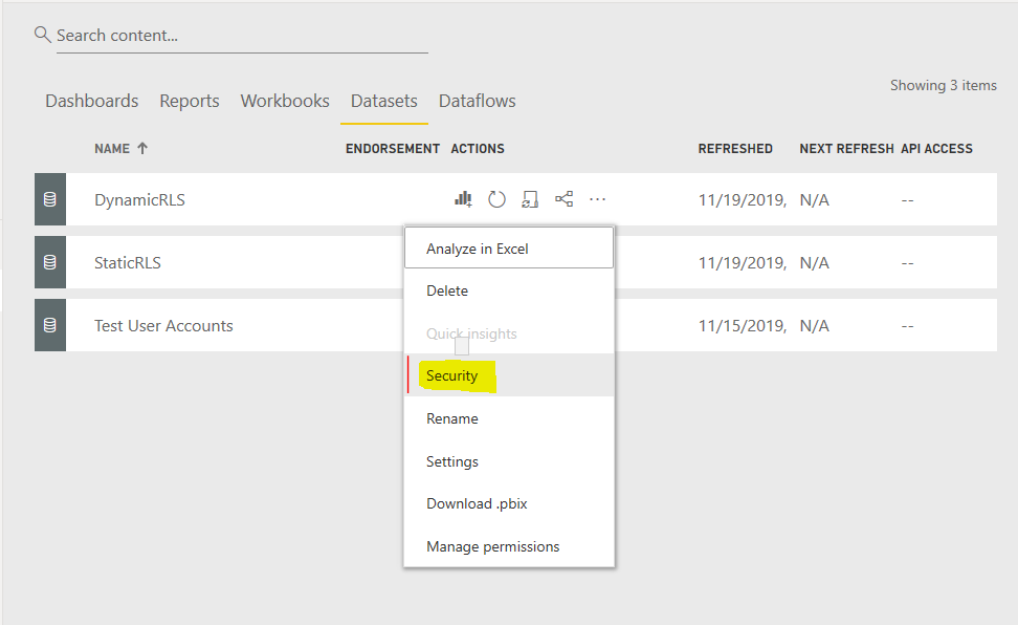
From Power BI Desktop log in with the same credentials as you use for the workspace. It might be necessary to sign out with your own account first. To sign out with your own account klick `File -> Sign out`



Publish your report to the workspace just created.

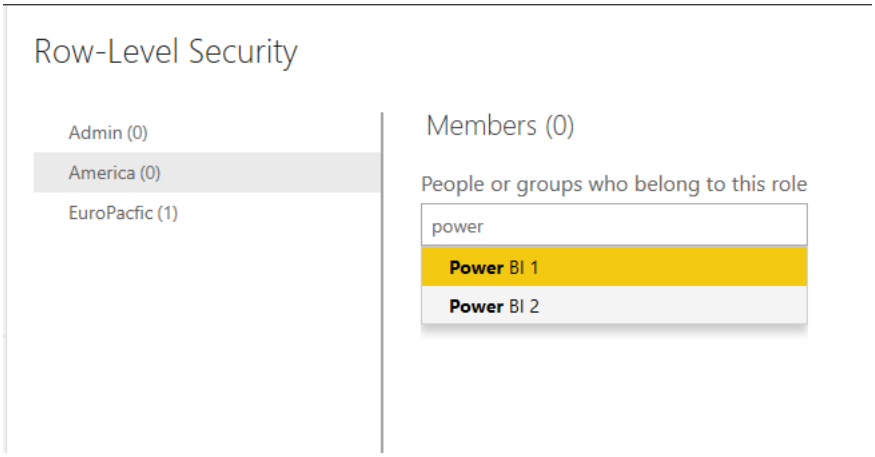
Switch to app.powerbi.com

Select the workspace just created
Select the Dataset tab
At the dataset just uploaded select “more options” (3 dots) and select “Security”



Assign the following groups to the roles:

America: Power BI 1
EuropePacific: Power BI 2



Klick “Save” when done

Go to the main screen of the workspace by selecting the workspace in the Menu on the left.
Klick “Access” in the right upper corner
Give “Viewer” rights to the groups “Power BI 1” and “Power BI 2”.

Ask your neighbor to test the report you just created.

(OPTIONAL) Exercise 1b: Different security settings

Additional exercise for the Power BI champions who are ahead of the pack

Go to the main screen of the workspace by selecting the workspace in the Menu on the left.
Klick “Access” in the right upper corner
Assign different roles (other than “Viewer”) to the groups “Power BI 1” and “Power BI 2”.
Ask your neighbor to test the RLS in the report.

Remove the access rights from “Power BI 1” and “Power BI 2” for the workspace. Leave the rights on the datasets as the where.
Can your neighbor still access the reports with only the rights on the dataset?

Assign the role “Viewer” to the groups “Power BI 1” and “Power BI 2”.
Add the user account of your neighbor as “Admin” on the dataset (and not the workspace).
Ask your neighbor to test the RLS in the report.

Exercise 2a: Dynamic Row Level Security

Summary:

- Step 1 Create the report
  - Use a SQL server database as source
  - Model the data
  - Create the roles
  - Create visualizations

- Step 2 Publish the workspace as App
  - Publish the report
  - Assign rights to the workspace and dataset
  - Publish the workspace as App
  - Let you neighbor test the report

Step 1 Create the report

Open Power BI Desktop

Connect to the Azure Database

Server:	lssqlserver.database.windows.net
Database:	AdventureWorksDW2017

The credentials to the SQL server will be provided at the workshop

Pull in the views:

vDimdate
vDimProducts
vDimSalesTerritory
vFactInternetSales
vRLSEmployee

Check and create the relations between the tables

vFactInternetSales.Orderdate - vDimdate.date
vFactInternetSales.ProductKey - vDimProducts.ProductKey
vFactInternetSales.SalesTerritoryKey - vDimSalesTerritory.SalesTerritoryKey
vDimSalesTerritory.SalesTerritoryKey - vRLSEmployee.SalesTerritoryKey

Check the relation between dbo.vDimSalesTerritory and dbo.vRLSEmployee. This should be set Cross filtering directions to “Both” and check “ Apply security filter for both directions.”

Create two Roles:

1. Admin with no DAX expression
2. RLSUsers with DAX expression on the table vRLSEmployee:

```
[UserPrincipalName] = userprincipalname()
```

Create the following visuals:

- Clustered Column Chart with vDimSalesTerritory.SalesTerritoryCountry on Axis and SalesAmount on Value
- Clustered Bar Chart with vDimProducts.EnglishProductCategoryName on Axis and SalesAmount on Value
- Slicer on SalesTerritoryCountry
- Create a Table visual with vRLSEmployee.UserPrincipalName
- Optional you can add more visuals.

Save the report with the name DynamicRLS.pbix.

Test the report using the “View as” menu option. Select the role “RLSusers” and “Other user”. Specify on of the other users from the workshop, but not the account you are using yourself.

Step 2 Publish to workspace as App

If you have not already done so, save the report with the name DynamicRLS.

From Power BI Desktop publish your report to the workspace created in the previous exercise.

Switch to app.powerbi.com

Select the workspace you published the report to.
Select the Dataset tab
At the dataset just uploaded select “more options” (3 dots) and select “Security”
At the Role “RLSUsers” add the groups “Power BI 1” and “Power BI 2”.

Publish the App

This time we are going to publish the workspace as an app. Firt we have to remove some existing rights on the workspace

Remove the access rights for “Power BI 1” and “Power BI 2” from the workspace. Leave the rights on the datasets as the where.

Klick on “Publish app” and set the following properties:

> On the tab “Setup” Fill out the name and description
> On the tab “Permissions” select Specific individuals or group.
> Specify the groups “Power BI 1” and “Power BI 2”.
> Deselect all 3 select boxes

Klick “Publish app”

Ask your neighbor to search for the App and test the report just created

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When done with the workshop sign out with the workshop credentials in Power BI desktop and the browser.

Exercise 2b: Dynamic Row Level Security - Advanced

This exercise is an advanced alternative on “Exercise 2a Dynamic Row Level Security” for the Power BI champions who are up for more challenging exercise

Step 1 Create the report

Open Power BI Desktop

Connect to the Azure Database

Server:	lssqlserver.database.windows.net
Database:	AdventureWorksDW2017

The credentials to the SQL server will be provided at the workshop

Pull in the views:

dbo.vDimdate
dbo.vDimProducts
dbo.vDimSalesTerritory
dbo.vFactInternetSales
dbo.RLSUSer
dbo.RLSUSerCountry

Check and create the relations between the tables

vFactInternetSales.Orderdate - vDimdate.date
vFactInternetSales.ProductKey - vDimProducts.ProductKey
vFactInternetSales.SalesTerritoryKey - vDimSalesTerritory.SalesTerritoryKey
vDimSalesTerritory.SalesTerritoryKey - RLSUSerCountry.SalesTerritoryKey
RLSUSerCountry.EmployeeKey - RLSUSer.EmployeeKey

Check the relation between vDimSalesTerritory and RLSUSerCountry. This should be set Cross filtering directions to “Both” and check “ Apply security filter for both directions.”

Create two Roles:

3. Admin with no DAX expression
4. RLSUsers with DAX expression on the table RLSUsers:

```
[UserPrincipalName] = userprincipalname()
```

Create some visuals to show data. Create at least a visual that shows sales by Country Code to test the report.

Save the report with the name DynamicRLS.pbix.

Test the report using the “View as” menu option. Select the role “RLSusers” and “Other user”. Specify on of the other users from the workshop, but not the account you are using yourself.

Step 2 Publish to workspace as App

If you have not already done so, save the report with the name DynamicRLS.

From Power BI Desktop publish you report to the workspace created in the previous exercise.

Switch to app.powerbi.com

Select the workspace you published the report to.
Select the Dataset tab
At the dataset just uploaded select “more options” (3 dots) and select “Security”
At the Role “RLSUsers” add the groups “Power BI 1” and “Power BI 2”.

Publish the App

This time we are going to publish the workspace as an app. Firt we have to remove some existing rights on the workspace

Remove the access rights from “Power BI 1” and “Power BI 2” for the workspace. Leave the rights on the datasets as the where.

Klick on “Publish app” and set the following properties:

On the tab “Setup” Fill out the name and description
On the tab “Permissions” select Specific individuals or group.
Specify the groups “Power BI 1” and “Power BI 2”.
Deselect all 3 select boxes

Klick “Publish app”

Ask your neighbor to search for the App and test the report just created

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When done with the workshop sign out with the workshop credentials in Power BI desktop and the browser.

(OPTIONAL) Exercise 3: Sticky Rights

Please complete exercise 2a or 2b prior to this exercise.

Before making any changes check the Permissions of the dataset DynamicRLS

Select the workspace
Select the Dataset tab
At the dataset DynamicRLS select “more options” (3 dots) and select “Manage Permissions”

Make note of the permissions for the groups “Power BI 1” and “Power BI 2”

Update the App with additional permissions

Klick on “Update app” and set the following properties:

On the tab “Setup” Fill out the name and description
On the tab “Permissions” select Specific individuals or group.
Check the list with groups but do leave it as is
Select “Allow all users to connect to the app’s underlying dataset using the Build permissions.” and “Allow users to make a copy of the reports in this app.”

Klick “Update App”

Check again the permissions on the dataset with “Manage Permissions”.

Have you neighbor check the menu options of the report DynamicRLS. It might be necessary to refresh the browser (F5) for the changes to be available.

Update the App and remove the additional permissions

Klick on “Update app” and set the following properties:

On the tab “Setup” Fill out the name and description
On the tab “Permissions” select Specific individuals or group.
Check the list with groups but do leave it as is
Again deselect all check boxes
Klick “Update App”

You get an additional screen. Why does I appear and what does it say and?

Can you revert the rights on the dataset as they were at the start of this exercise?

Workaround

To revert the rights the groups “Power BI 1” and “Power BI 2” must be added to the Workspace and removed again. Then the App can be updated again with the appropriate settings”.

Follow the steps:

Select the workspace

Klick “Access” in the right upper corner
Give rights to the groups “Power BI 1” and “Power BI 2” (Any rights will do).
Klick “Close”

Klick “Access” in the right upper corner
Remove the groups “Power BI 1” and “Power BI 2” by clicking on the 3 dots and select “Remove”
Klick “Close”

Update the app and make sure groups “Power BI 1” and “Power BI 2” are in the list.
uncheck all checkboxes
Klick “Update App”

Check the permissions on the dataset with “Manage Permissions”.

When done with the workshop sign out with the workshop credentials in Power BI desktop and the browser.

(OPTIONAL) Exercise 4: Active Directory Roulette

From the github repository download the Power BI Report “Test User Accounts.pbix”

Open this report in Power BI Desktop.

> What are the values shown?

Upload this report to workspace you created.

Open this report in app.powerbi.com

> Compare the values in the online and desktop version of the report.

Optionally sign out of the workspace with the workshop account and repeat these steps for the Power BI tenant at your company. Upload the report to My Workspace