

Integrating R Scripts into Power BI Desktop



Agenda

- Power BI Desktop Integration with R
- Importing Data using an R Script
- Integrating an R Script as a Query Applied Step
- Extending Reports using the R Script Visual
- Adding Interactive Filtering to an R Script Visual



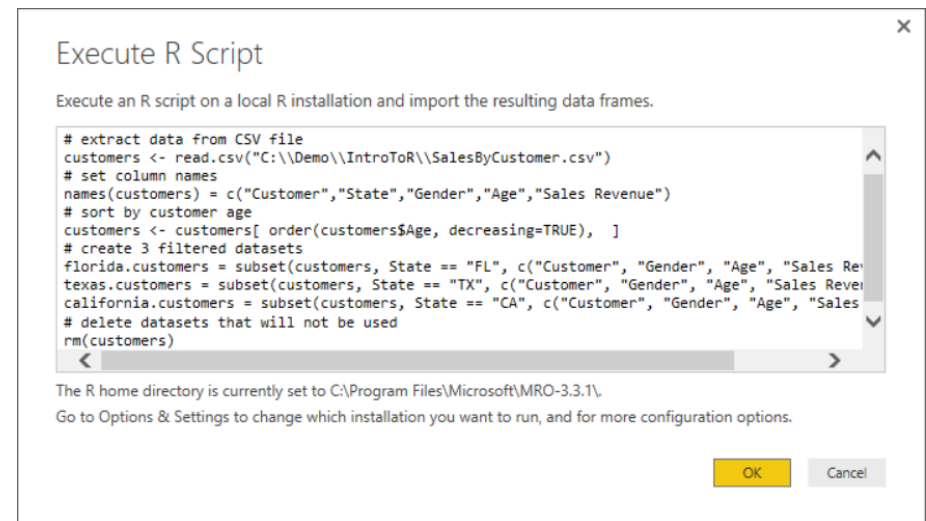
Where Can You Use R Code in PBIDT?

- As a data source to a query
 - You can use R code to import and reshape data
- Within a Query Applied Step
 - You can use R code to add transforms to a query
- Inside an R Visual in a Power BI Report
 - You can use R code to creates charts from your data



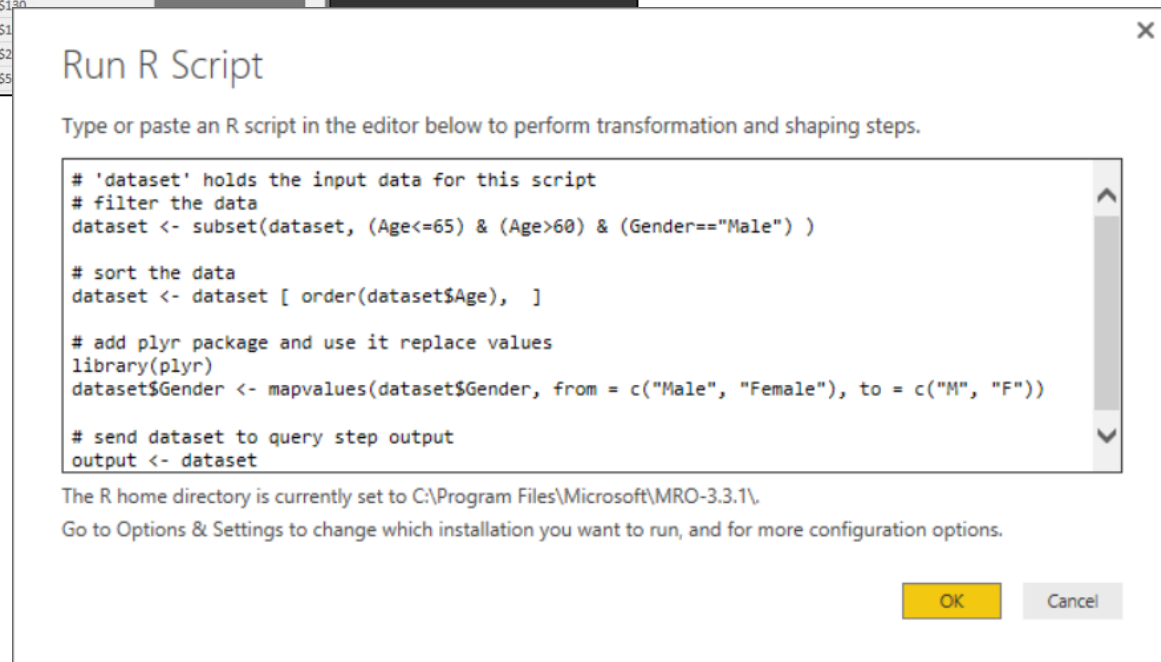
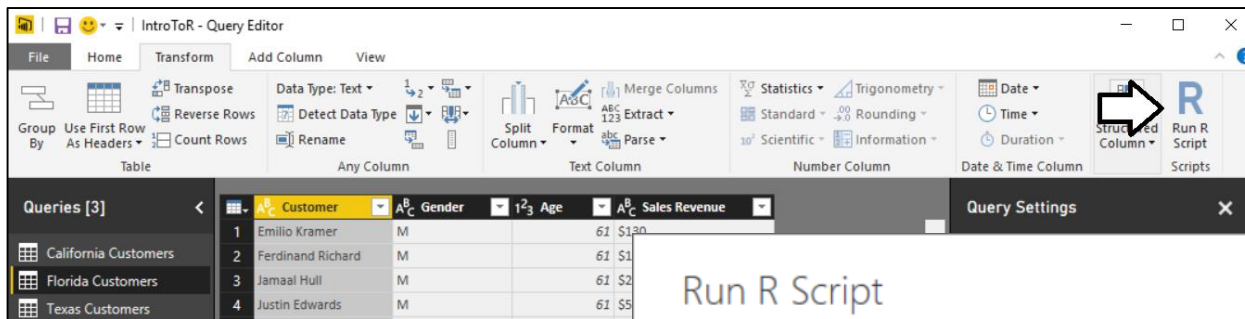
Using R Code as a Query Data Source

- Create new query based on R script
 - Copy and paste code from RStudio into PBIDT



Using R Code as an Applied Query Step

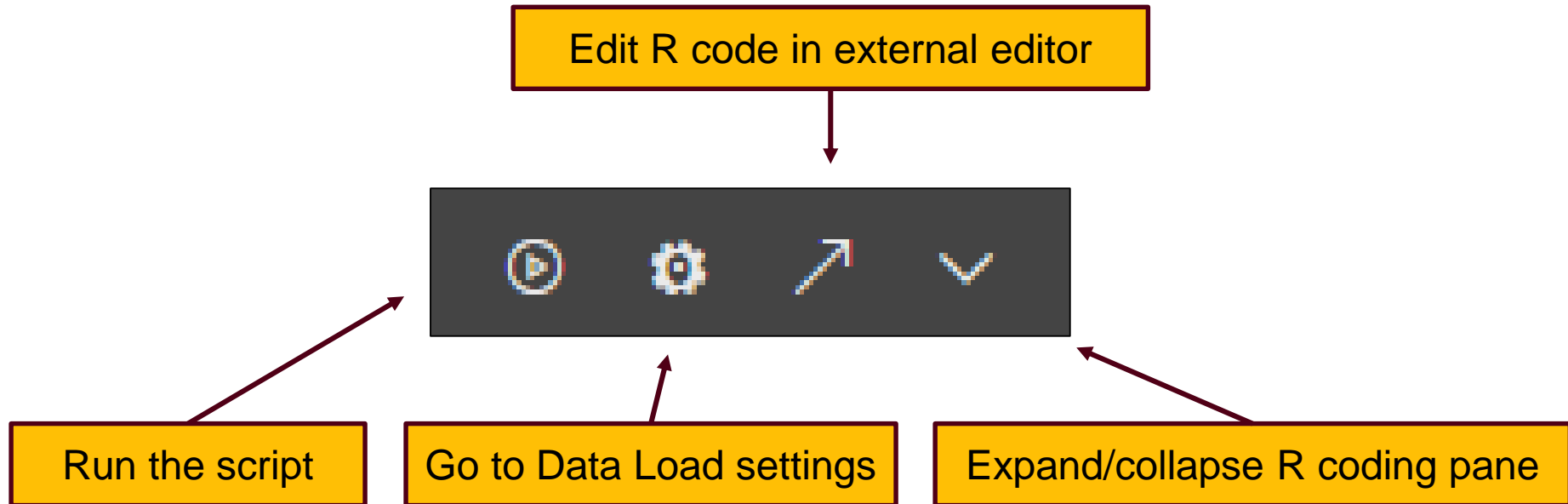
- Add new Run R Script step to query
 - Use R code and R packages to transform data



R Visuals in Power BI



New R Features in September Release



The screenshot shows the R script editor interface. At the top, the title bar reads "R script editor". Below the title bar, there is a yellow message box with a warning icon and the text "Duplicate rows were removed from the data." and a close button (X). Below the message box, the R code is displayed in a light gray background:

```
# Create dataframe
# dataset <- data.frame(Division, Average Experience)

# Remove duplicated rows
# dataset <- unique(dataset)
dataset = dataset[ order(dataset$'Average Experience', decreasing=TRUE), ]
```

R Integration Limitations with Power BI

- Power BI Desktop R Limitations
 - Only data frames are imported
 - Complex columns and Vector columns are not imported
 - Values that are N/A are translated to NULL values
 - Prompting for user input halts script
 - R visual data for plotting is limited to 150,000 rows
 - R visual calculation times out with error after 5 minutes
 - R visual is not interactive – no highlighting support
 - Plots can only be displayed to R default display device



Summary

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