Paradigma

WEBINAR - octubre, 20 2020

PoweR Py: R y Python en tus análisis de datos en Power BI.

ponente: Marco Russo

Quién soy.

- **Consultor en Data** en Paradigma Digital, con más de 8 años como docente para importantes escuelas de negocios y profesor colaborador en la UOC.
- **Especializado** en data mining, optimización de modelos y machine learning en área del Marketing, Retail y Banca-Finanzas entre otras. Además de especialista en analítica digital, SEO y PPC en digital marketing y visualización de datos - BI.
- **Apasionado** de IoT, datos y robótica, dedico el tiempo con mi familia y a mi deporte favorito, bici de carretera.

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marcusRB

Qué vamos a ver.

1. Configuración de los entornos (Windows)
2. Get Data (cloud, datasets, opendata)
3. Transformation (limpieza, imputaciones, manipulación)
4. Visualization (elementos nativos, librerías)
5. Limitation (Power BI PRO - Premium)
6. Conclusiones

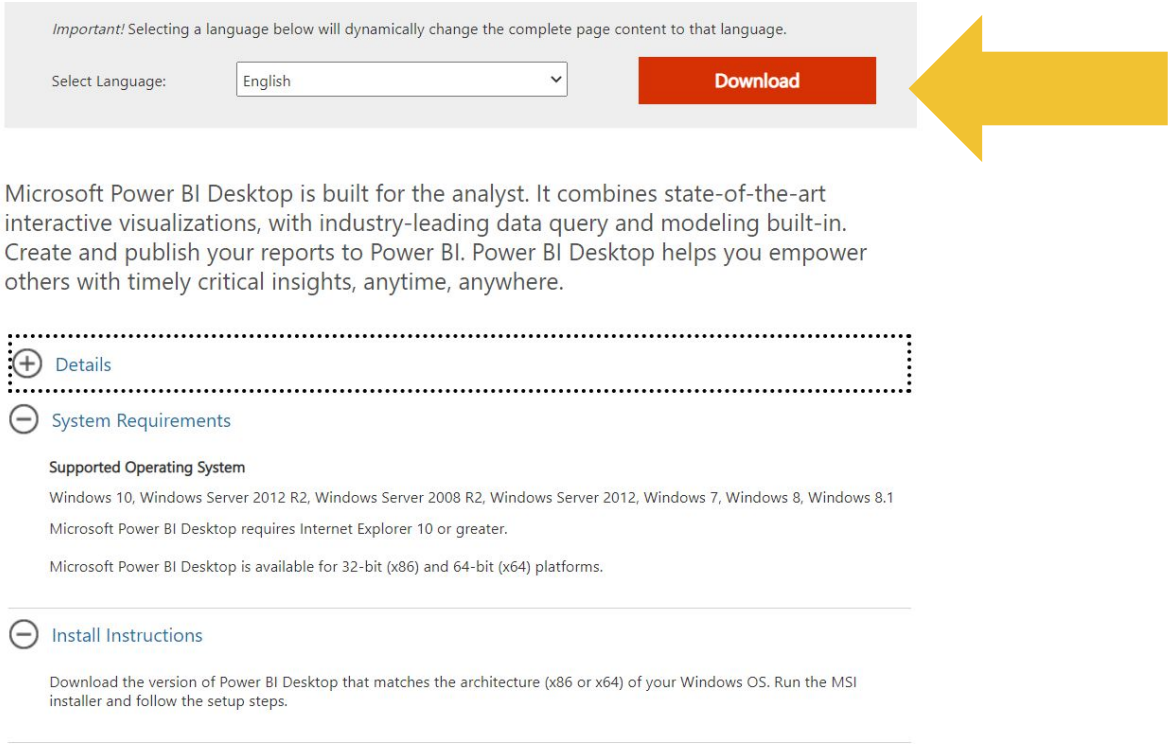
01.01

Introducción

Configuración entornos.

Power BI Desktop: entorno Windows

Power BI



Power BI Desktop: entorno virtual

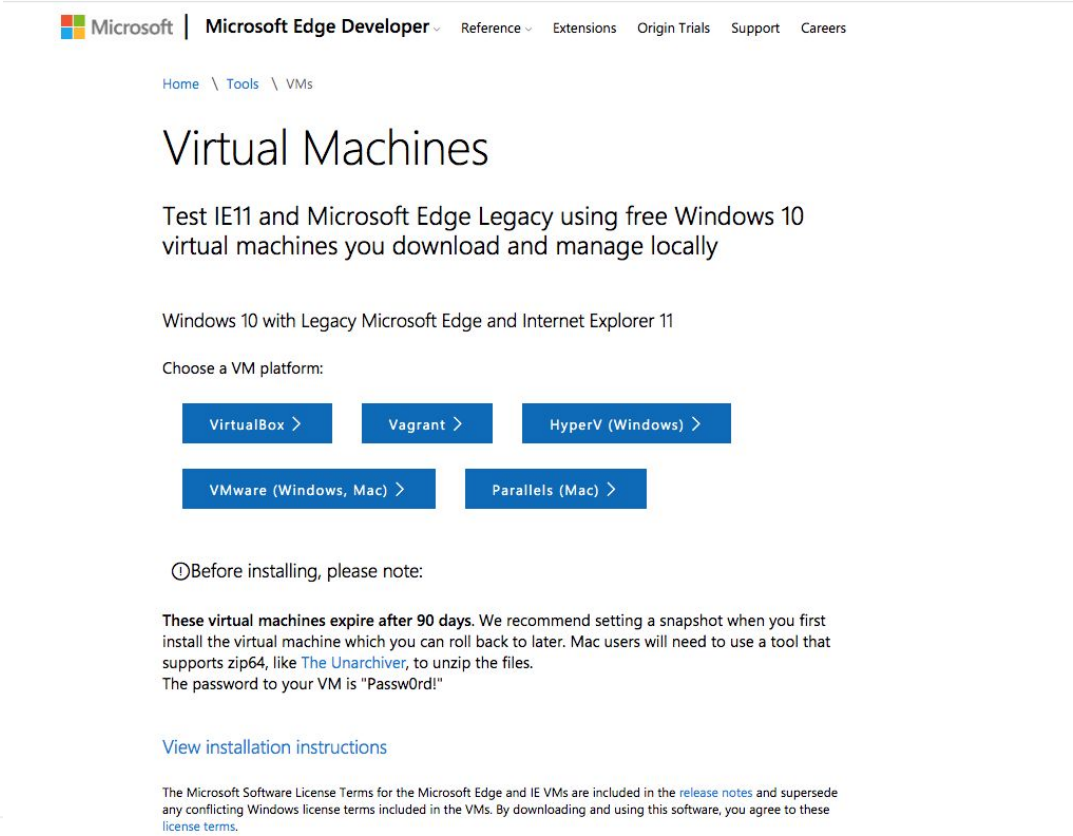
Power BI

Una máquina virtual replica un entorno Windows dentro de otro sistema operativo (sea Mac OS o Linux, e incluso otro Windows) y permite realizar test o pruebas como en este caso, de tener nuestra aplicación de Power BI .

Actualmente podemos instalar esta versión de Windows10 para las aplicaciones:

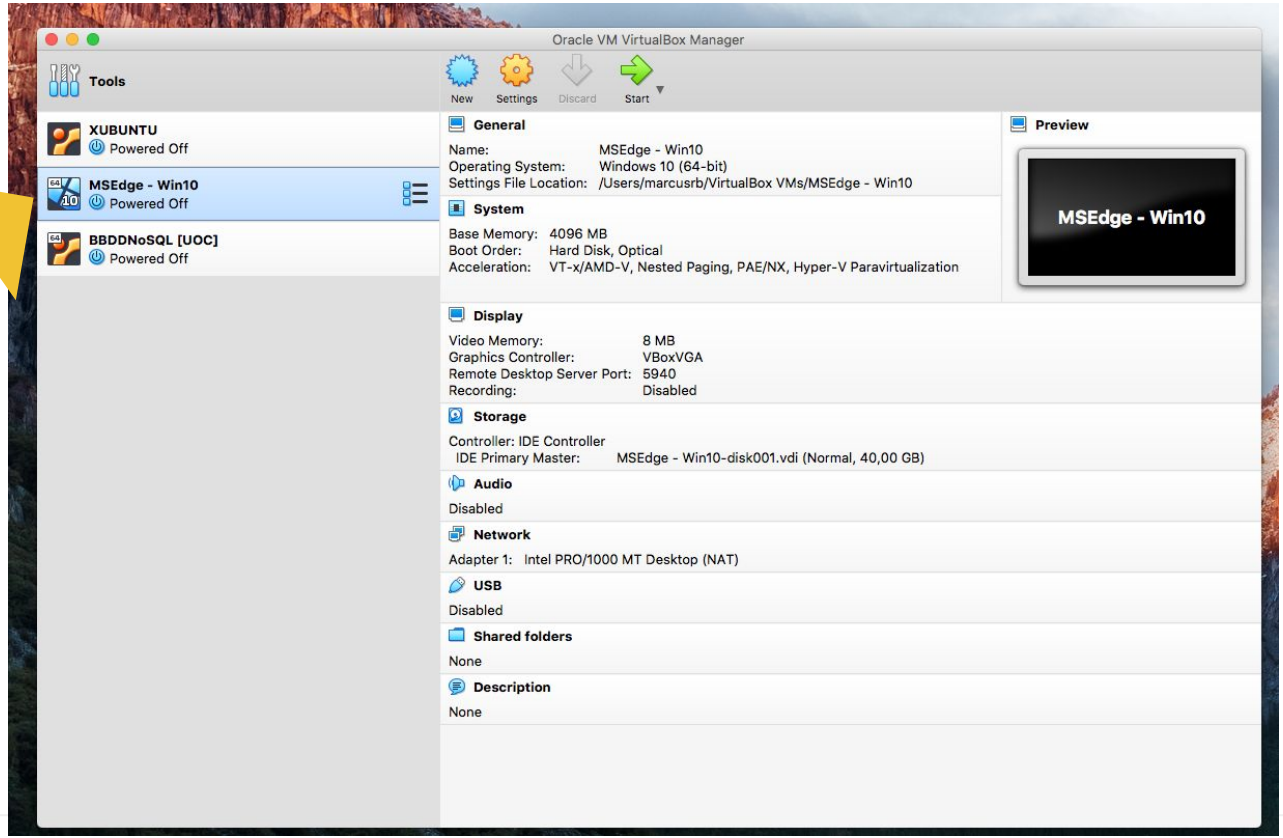
- Virtualbox
- VMware
- Parallels
- Vagrants
- HyperV

Y disponible a este enlace:
https://developer.microsoft.com/en-us/microsoft-edge/tools/vms/



Power BI Desktop: entorno virtual Virtualbox

Power BI



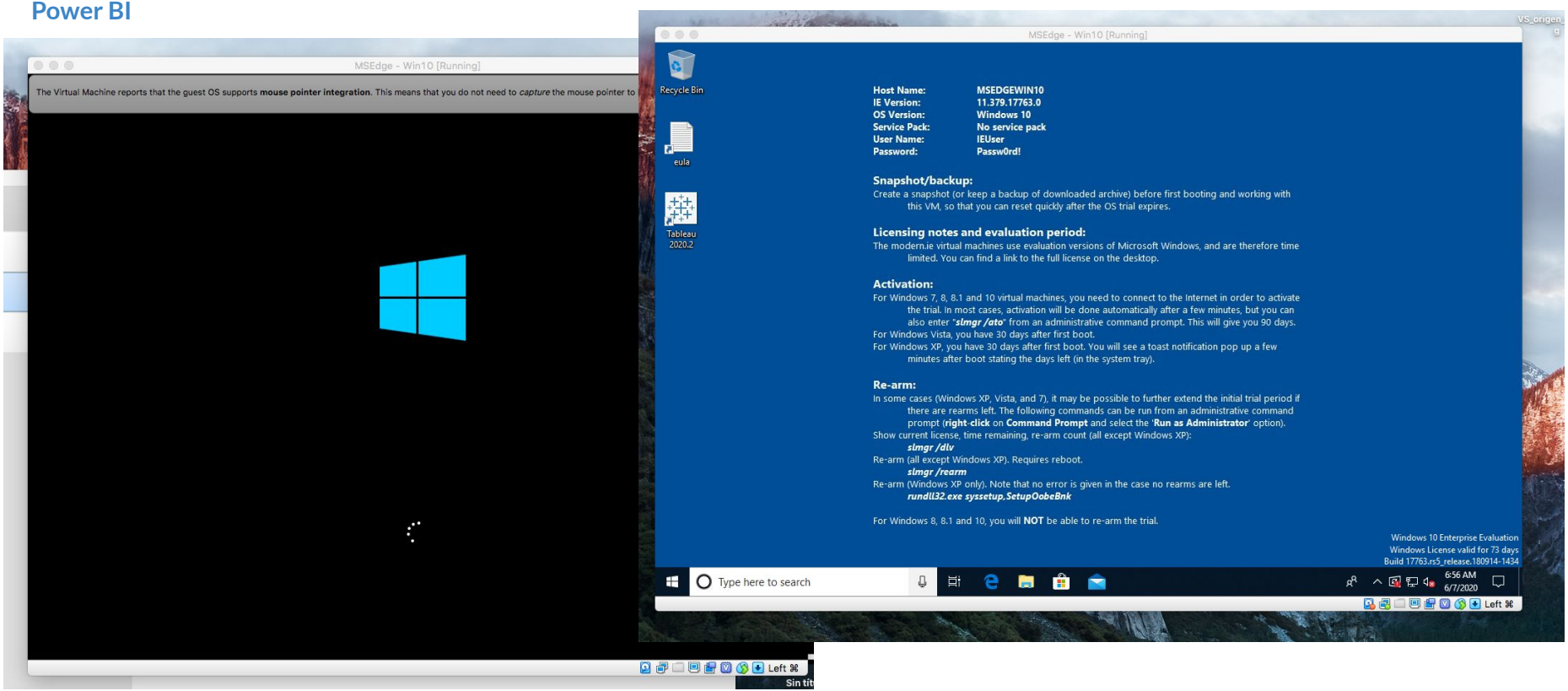
En caso de Virtualbox asignamos un mínimo de:

- 4gb de memoria RAM
- 2 CPU

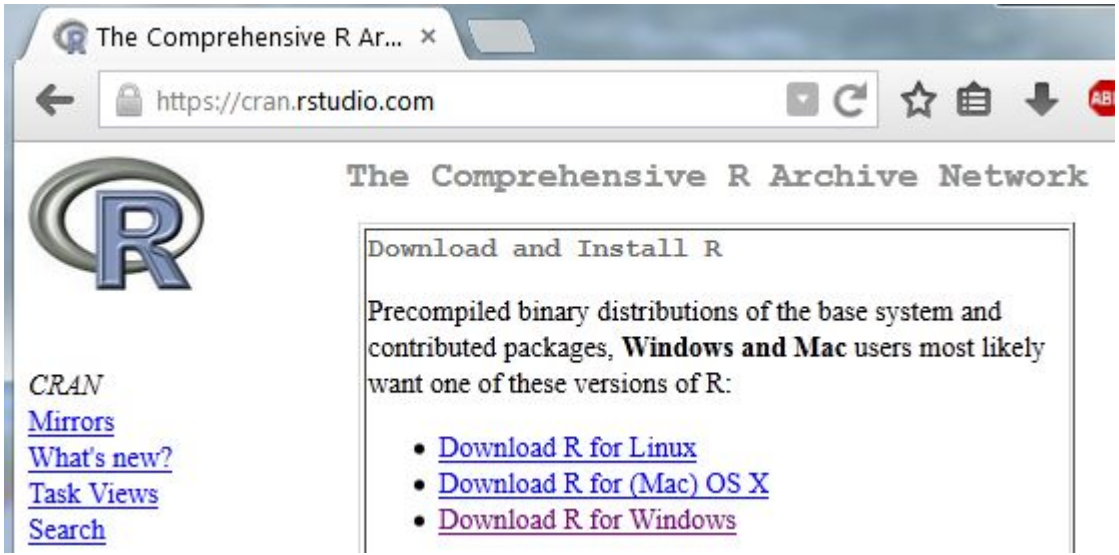
El resto de opciones vienen por defecto siendo el espacio disponible en disco duro de un mínimo de 50 gb

Power BI Desktop: entorno virtual Virtualbox

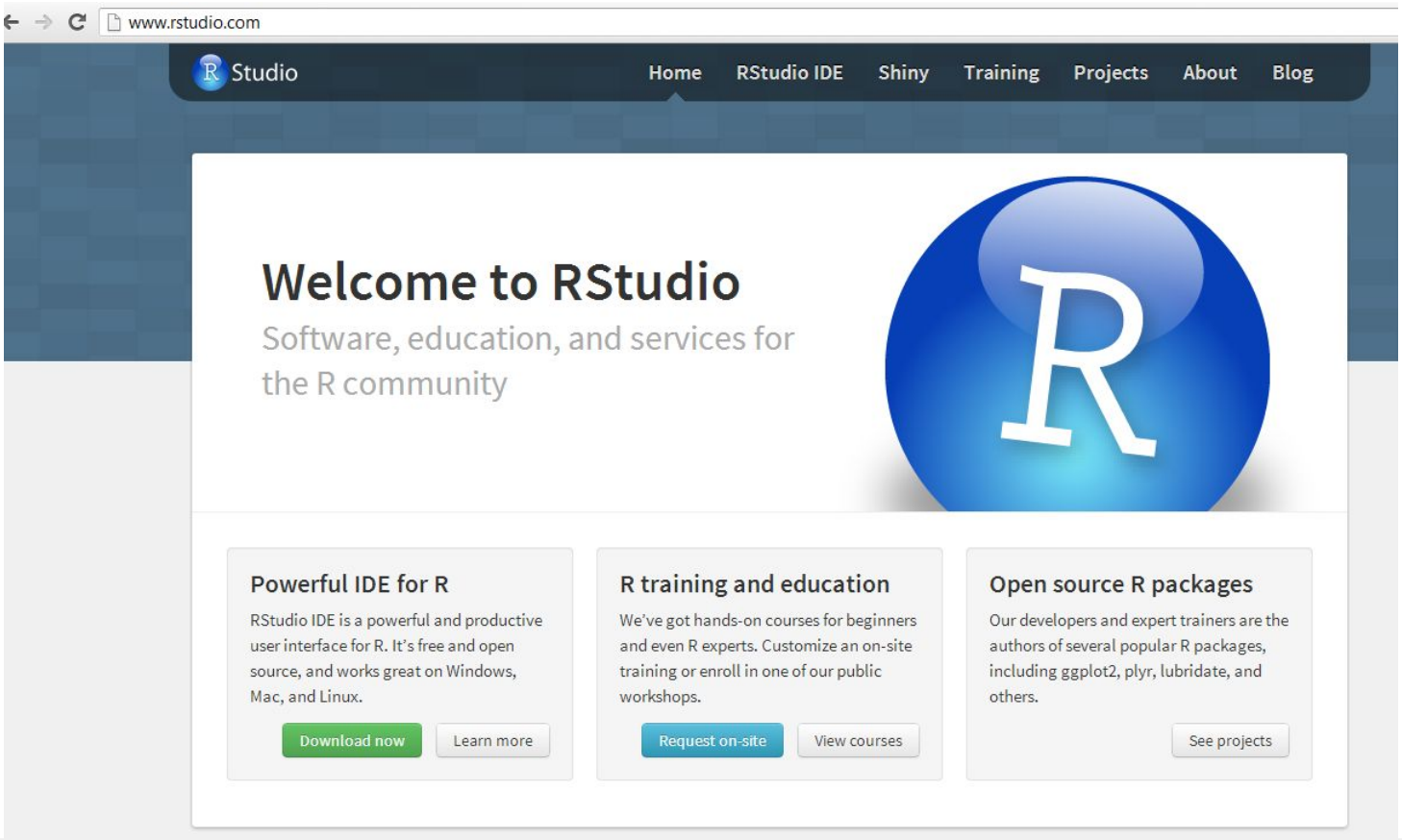
Power BI



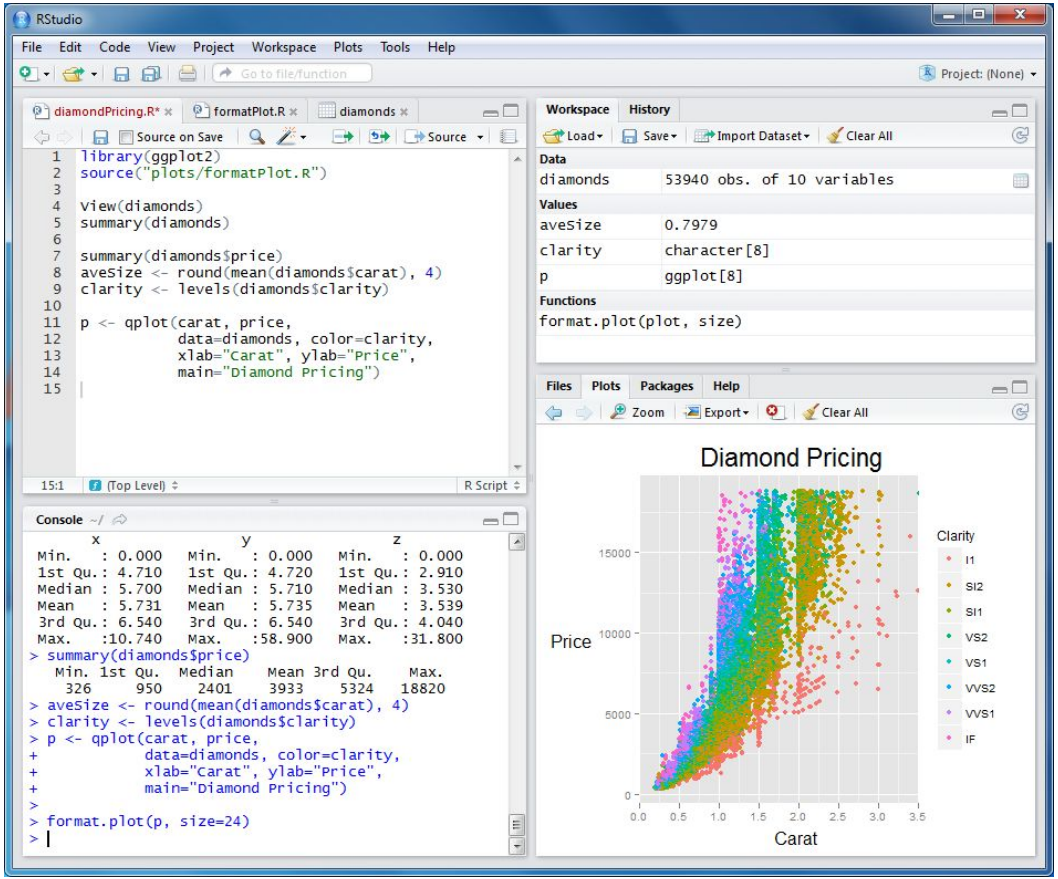
Configuración R commander.



Configuración Rstudio.



Comprobación de R Studio.



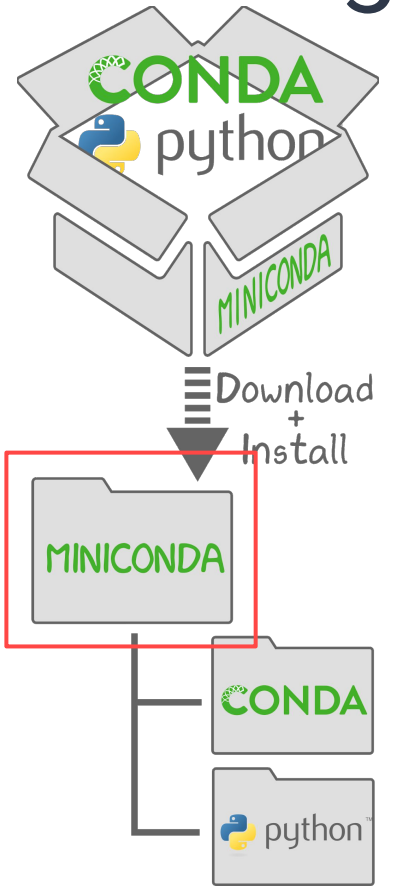
Power BI

Demo 1.

Configuración entorno Python.

https://www.microsoft.com/en-us/p/python-38/

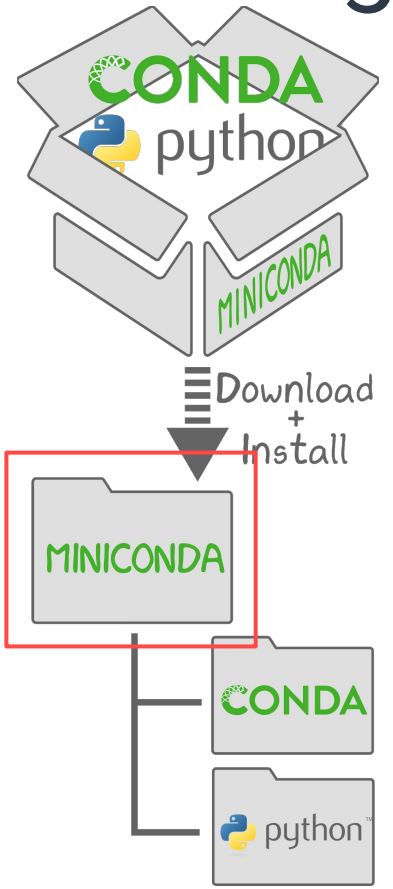
Configuración Miniconda for Win10.

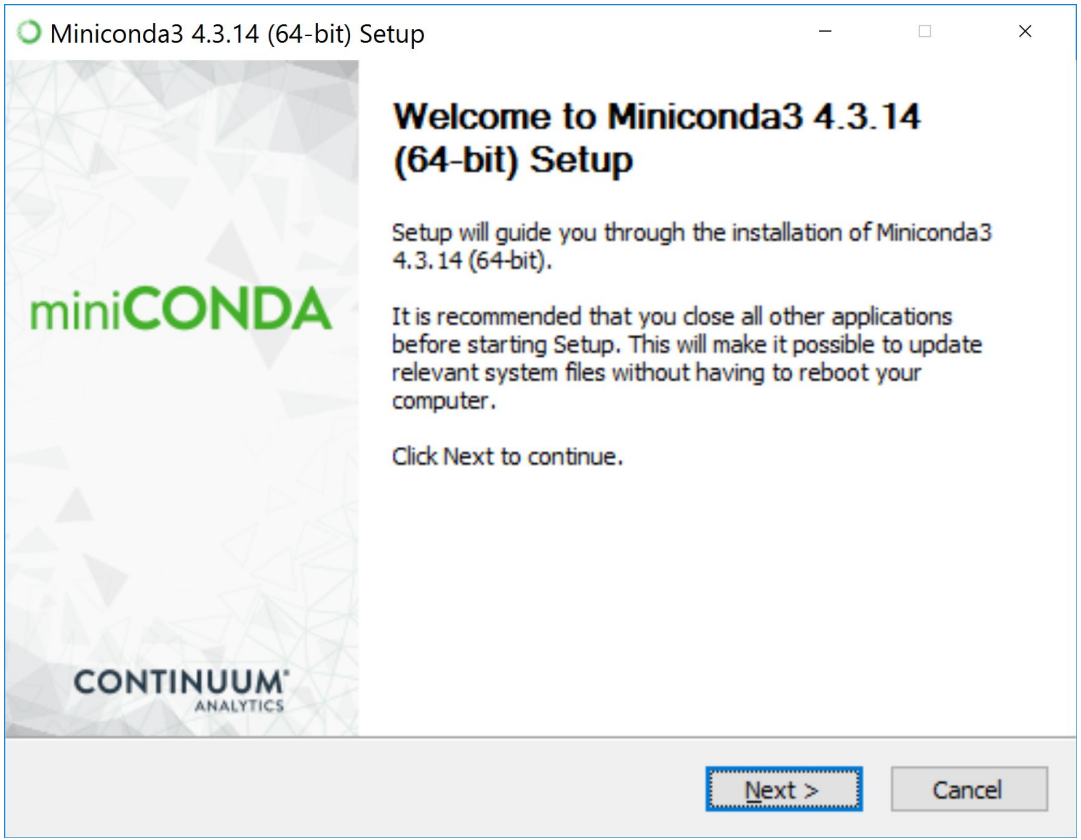


System requirements

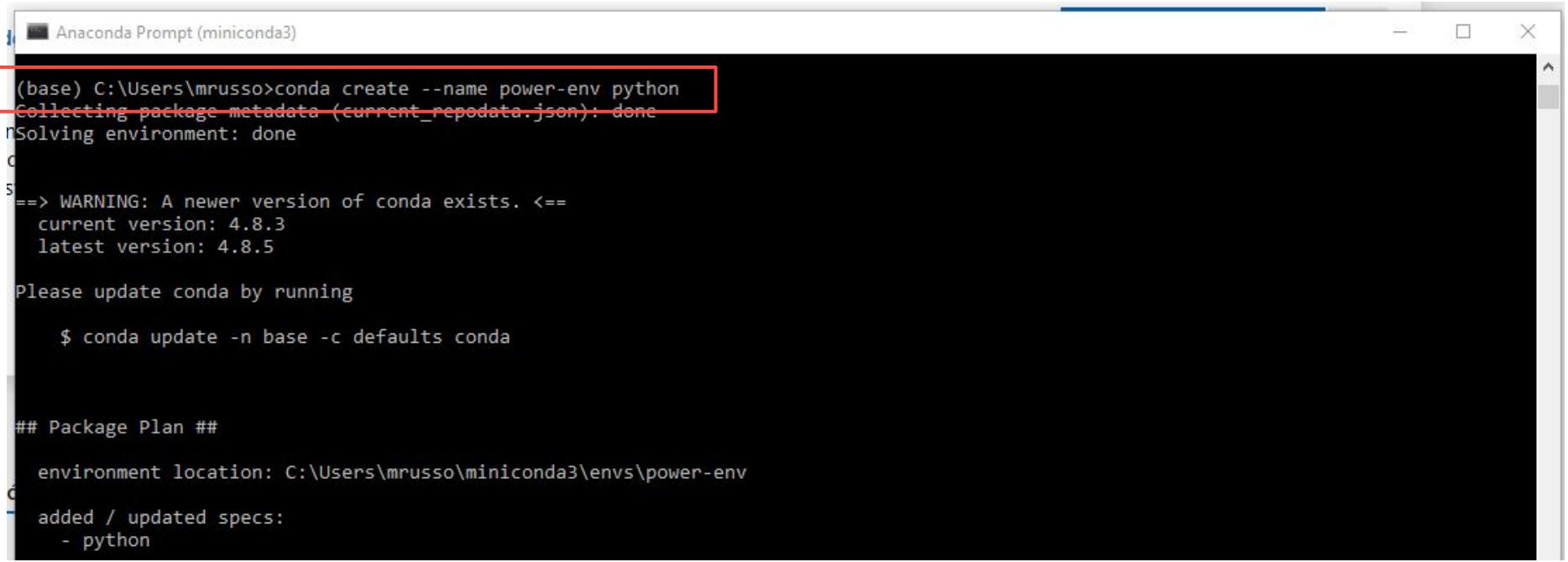
- 32- or 64-bit computer.
- For Miniconda---400 MB disk space.
- For Anaconda---Minimum 3 GB disk space to download and install.
- Windows, macOS, or Linux.

Configuración Miniconda for Win10.





Configuración Miniconda for Win10.



Configuración Miniconda for Win10.

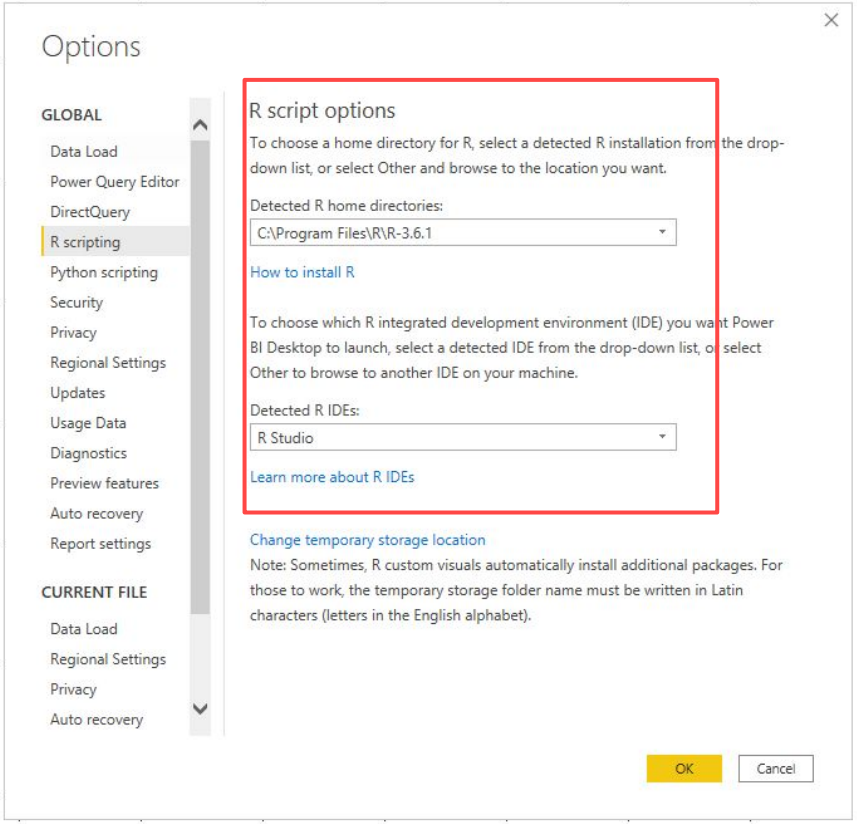
```
Proceed ([y]/n)? y


Downloading and Extracting Packages
python-3.8.5          | 15.7 MB   | ########################################################################## | 100%
sqlite-3.33.0         | 809 KB    | ########################################################################## | 100%
certifi-2020.6.20     | 157 KB    | ########################################################################## | 100%
openssl-1.1.1h        | 4.8 MB    | ########################################################################## | 100%
vs2015_runtime-14.16  | 1.2 MB    | ########################################################################## | 100%
wheel-0.35.1          | 37 KB     | ########################################################################## | 100%
setuptools-50.3.0     | 741 KB    | ########################################################################## | 100%
ca-certificates-2020  | 122 KB    | ########################################################################## | 100%
pip-20.2.3            | 1.8 MB    | ########################################################################## | 100%
Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#     $ conda activate power-env
#
# To deactivate an active environment, use
#
#     $ conda deactivate


(base) C:\Users\mrusso>conda activate power-env
```

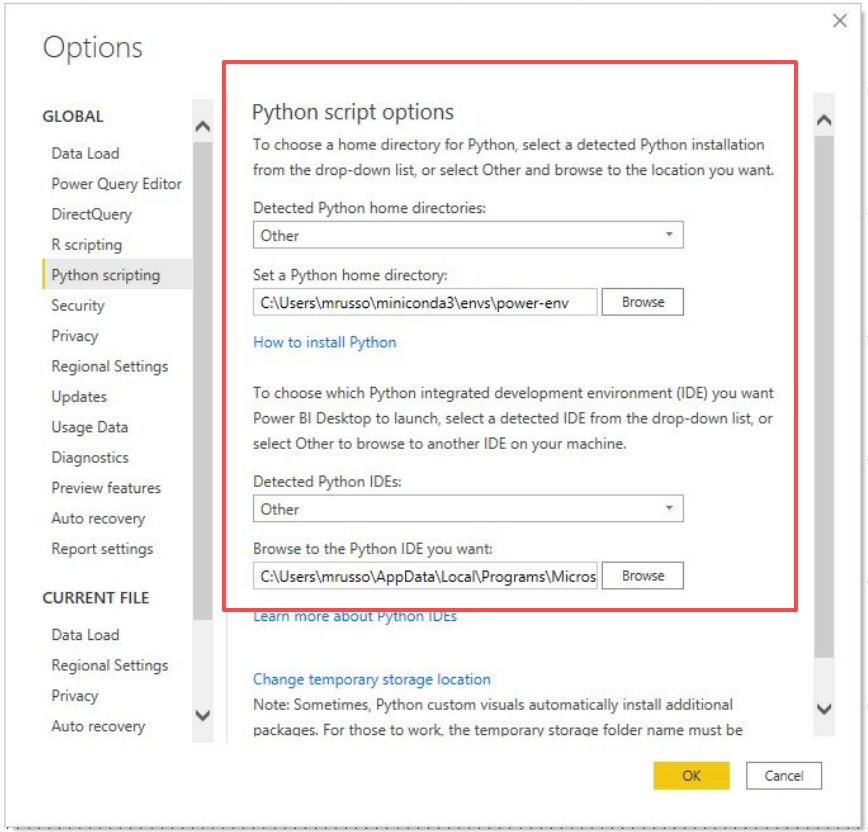
https://conda.io/projects/conda/en/latest/user-guide/tasks/**manage-environments.html**

Power BI

Demo 2.

Configuración en Power BI.





Power BI

Demo 3.

01.02

Power BI

Get Data con R.

Power BI

Demo 4.

01.03

Power BI

Get Data con Python.

Power BI

Demo 5.

02.01

Power BI

Transformation.

Transformación e imputaciones.

Power BI

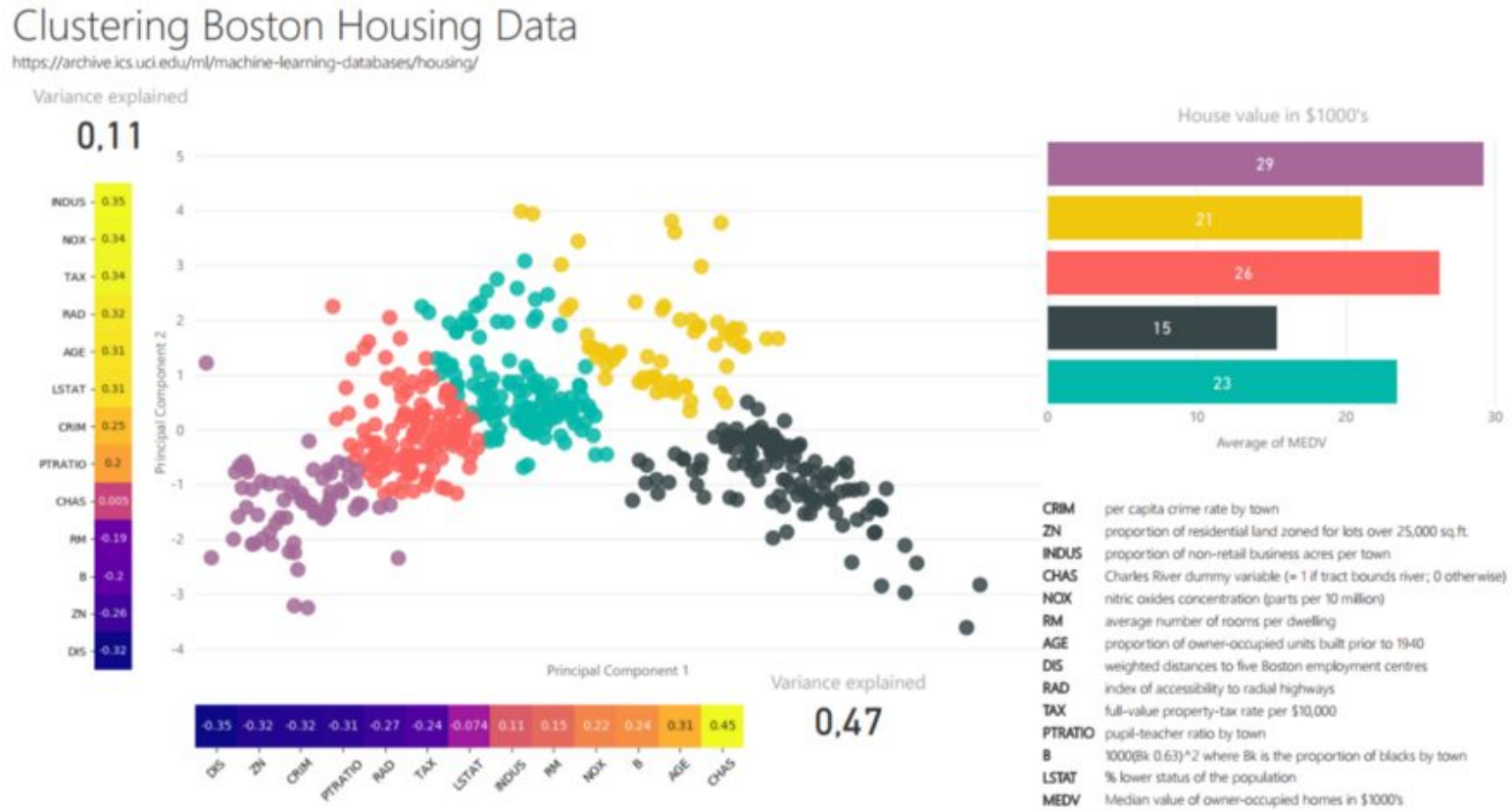
Demo 6.

03.01

Power BI

Visualization.

Visualización con R y Python.



05.01

Power BI

Limitation.

Limitaciones con Python.

The Power BI service also imposes other limits on Python script execution.

CONSTRAINT	LIMIT
Dataframe size	150,000 rows 250MB when serialized in CSV format
Execution time	60 seconds
Memory consumption	1 GB
Disk I/O	1 GB/sec
Image size for a visual in PNG format	2 MB

These limits ensure that user-provided scripts are performant, and moderate in the consumption of resources.

Limitaciones con R.

Known Limitations

R visuals in the Power BI service have a few limitations:

- R visuals support is limited to the packages identified in Learn which R packages are supported. There currently is no support for custom packages.
- Data size limitations – data used by the R visual for plotting is limited to 150,000 rows. If more than 150,000 rows are selected, only the top 150,000 rows are used and a message is displayed on the image. Additionally, the input data has a limit of 250 MB.
- Resolution - all R visuals are displayed at 72 DPI.
- Plotting device - only plotting to the default device is supported.
- Calculation time limitation – if an R visual calculation exceeds 60 seconds the script times out, resulting in an error.
- R visuals are refreshed upon data updates, filtering, and highlighting. However, the image itself is not interactive and does not support tool tips.
- R visuals respond to highlighting other visuals, but you cannot click on elements in the R visual in order to cross filter other elements.
- R visuals are currently not supported for the *Time* data type. Please use Date/Time instead.
- R visuals do not display when using **Publish to web**.
- R visuals do not support renaming input columns. Columns will be referred to by their original name during script execution.
- R visuals currently do not print with dashboard and reports printing
- R visuals are currently not supported in the DirectQuery mode of Analysis Services

uencers

https://docs.microsoft.com/en-us/power-bi/visuals/service-r-visuals#known-limitations

¡Muchas Gracias!

Recursos del webinar.

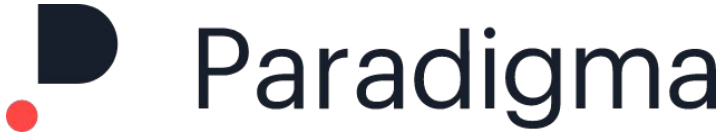
github.com/marcusRB/WEBINAR_PoweR_PY

https://docs.microsoft.com/en-us/power-bi/create-reports/desktop-r-visuals

https://powerbi.microsoft.com/es-es/blog/python-visualizations-in-power-bi-service/

https://powerbi.microsoft.com/en-us/blog/pythonblogepisode1/

https://powerbi.microsoft.com/fr-fr/blog/data-cleansing-with-r-in-power-bi/



- https://youtu.be/AFTanu_iBD4

- https://www.paradigmadigital.com/dev/5-tips-power-bi-sencillos-utiles/
- https://www.paradigmadigital.com/dev/bigquery-y-power-bi-emplatado-datos/
- https://www.paradigmadigital.com/techbiz/cocinando-datos-bigquery-powerbi-primeros-pasos/