# DIAD cheat sheet and flow

1. Review PBI Desktop (give a short tour of where everything lives).
   1. Not part of official DIAD but I find it helps orient students to the environment.
   2. **Deck: Tour of PBI Desktop deck**
   3. **Video: 10\_DIAD\_TTT\_DeskTopOverview1.mp4 and 20\_DIAD\_TTT\_DESKTopOverView2.mp4**
   4. Home, view modeling help what each does
   5. Visual canvas
   6. Filter, visualizations and layout well, field well (empty)
   7. Left side visual, data and relationships
   8. 3 products in 1 – an data store, etl and visualization
      1. Explain that PBI is more than a visualization tool.
         1. Visualization layer
         2. Data layer aka Sematic model
         3. ETL tool for data preparation
2. Review data files – have open but shut down excel before loading data
   1. Section Power BI Desktop – Accessing data
   2. **Video: 30\_DIAD\_TTT\_Datafiles.mp4**
   3. Each file has different issues users will have to address to load the data
   4. BI\_dimensions.xlsx has several sheets and each sheet has different data issues
      1. Columns need to be split, blanks in data, data needs to be pivoted and so forth
   5. Sales.csv is a big file (millions of rows)
   6. International Sales has several files that need to be merged into one
3. Import us sales data – csv file
   1. File is large so doing 200 rows as a sample.
      1. Power Query works on a sample for performance
   2. Change zip to text, and rev to fixed decimal
      1. Power BI is strongly typed – each column has a set data type.
      2. This can impact performance on large data sets- select the smallest data type possible for the data. (See follow up on performance, design and tuning session)
   3. **Video: 40\_DIAD\_TTT\_USSales.mp4**
4. Import dimension excel file
   1. Explain product sheet vs table
      1. Sheets are bound less and might have to scan THE ENTIRE sheet vs a table which is limited.
   2. Video: **50\_DIAD\_TTT\_Sheetsvtables.mp4**
5. Load all remaining files (dimensions and International Sales)
   1. Note: This class has all the files loaded at once and then transformed. This is an iterative process.
   2. From Power Query, just after loading US Sales
   3. **Video: 60\_DIAD\_TTT\_LoadRemainingFiles.mp4**
   4. New Source, Excel and select BI\_Dimensions in the USSales Folder
   5. Select Product\_table, Geo and Manufacturer
   6. Click Load
      1. Almost always we will transform first but following the script
   7. Next, new Source Folder
      1. C:\DIAD\Data\InternationalSales
   8. Combine and transform
      1. Zip is text, rev is fixed dec
      2. Remove source col
   9. Show list of countries
      1. Sow the load more option at the bottom of the filter
6. Append international sales to sales
   1. Show filter of country (load more) to show the caching
   2. Add computed column (conditional)
   3. Delete country column (as redundant)
   4. Disable load of international sales
7. Rename Tables
   1. Video: **65\_DIAD\_TTT\_RenameTables.mp4**
8. Transform dimension (1 video per sheet)
   1. **Video:70\_DIAD\_TTT\_Prod.mp4, 80\_DIAD\_TTT\_GEO.mp4, 90\_DIAD\_TTT\_MANUFACTURER.MP4**
      1. Product split name by pipe |
      2. Remove prod.1 to product and rename prod.2 to segment
      3. Rename bi\_product
      4. Category fill down
      5. Fix price with column by example – select price, column by example, do number and make sure it is fixed decimal
      6. Applied steps
      7. Add currency from price – using columns from example
      8. Do we need price? Nope, explain order of operations
         1. In PQ, each step builds on the prior step so you can remove a column
         2. Point out you can see the data at each step
   2. Geo
      1. Remove top 2 rows
      2. Promote headers
      3. Make zip text again and replace current
   3. Manufacturer
      1. Remove bottom 3 rows
      2. Transpose (on transform tab)
      3. Promote first line to header (home tab)
   4. Don’t forget to rename all data sources
9. Appending query
   1. **Video: 100\_DIAD\_TTT\_Append.mp4**
   2. Append 2 tables sales and international sales
      1. Notice country and nulls
      2. Add conditional columns Country name
      3. If country equals null then usa
   3. Filter data sales
   4. Keep data in last 3 years
10. Show query dependencies for the heck of it
11. Disable load of international sales
    1. Again, in PQ, once you make a copy of something the source column or table is not needed.
12. Load and save it !!!
13. Show scrolling of data (speed) and filters
14. Relationships
    1. **Video: 110\_DIAD\_TTT\_Relationships\_first.mp4**
    2. Show relations and note that geo is missing
       1. We’ll show why here in a second.
15. Playing with the desktop
    1. **Video: 120\_DIAD\_TTT\_BadRelationship.mp4 (including fix). This could be long so might need to break it up.**
    2. Add Clustered column chart
       1. Country to axis and revenue to values
          1. Note the data issue
       2. Go relationship tab
          1. Add relationship and see issue. Many to many joins
             1. In this case, two countries can have the same zip code which would mean the same data for a zip code would show up in two countries (double counting data)

I like to demos the many to many and show the issue

* + - 1. Add columns zipcountry zipcountry = sales[zip] & “,” sales[country] to both geo and sales
      2. Build relationship
         1. See many to 1 and report looks right
      3. Sort revenue (use …)
    1. Add Manufacturer on legend
       1. Change to stacked to better visualize the data
    2. To top 5 Manufacturer using filters
    3. And then using Q+A
       1. Top 5 Manufacturer by country by revenue as stacked column start
    4. Delete extra one
  1. Create group (right click on legend)
     1. **Video: 130\_DIAD\_TTT\_Groups.mp4**
     2. Aliquie, currus, natura, and pirum as top competitior
        1. Add vanArsdel as group
        2. Include other groups
     3. Use group in legend.
     4. Title for axis color fonts, etc
     5. Turn on see records under data/drill
        1. Select values and see data
        2. Show see data option
  2. Add new visual
     1. **Video: 140\_DIAD\_TTT\_ShowInteractions.mp4**
     2. Click on canvas fields, revenue
        1. Manufacturer to fields
     3. Choose treemap
     4. Show interactions
     5. Add many groups to page filter (top and Ard)
  3. Add date by revenue
     1. **Video: 145\_DIAD\_TTT\_ImplicitDates.mp4**
     2. Note automatic date visual
        1. Date can do that – some limits
           1. Names, calendar (not fiscal)
  4. Show edit interactions
     1. Highlight, filter or none
     2. Set all to filter
  5. Show cntl click
  6. Show drill down on date
     1. Drill click, down next level

1. Clone page
   1. **Video: 150\_DIAD\_TTT\_Slicer\_ChangeVisual.mp4**
   2. Rename first page to Market
   3. Rename new page to manufacturer.
      1. Add manufacturer and change to slicer
      2. Update down dropdown and select 1
      3. Move top manufacturer from filters on this page to filters on allpages
      4. Tree view isn’t useful change to card visual
2. Calc date - everything has their own look up date. We could create a new excel sheet with the data for date but will show some extra features
   1. **Video: 160\_DIAD\_TTT\_CalculateDateTable.mp4 (might need deck)**
   2. Data icon, modeling new table
      1. Date= calendar(Date(2012,1,1), date(2018,12,31))
      2. Set to date datatype
      3. Add relationship
      4. Show hierarchy and just dates
   3. Hide unneeded fields (zipcoutry, date in sales, produd and manufacturer ID fields)
   4. **Video: 170\_DIAD\_TTT\_hidefields.mp4**
   5. Create revenue by country
      1. **Video: 180\_DIAD\_TTT\_Hierarchies.mp4**
      2. Nest state and district
      3. Hierarchy and show drill
      4. Create a predefined hierarchy on product cat, segment, product
3. Add revenue and product hierarchy as matrix
   1. **Video: 190\_DIAD\_TTT\_Drillandvisualoptions.mp4**
      1. Show drill
      2. Show format
      3. Turn on +/-
      4. Add new revenue field and show as % of gt
      5. Drill and change sort
   2. DAX
      1. **Video: 200\_DIAD\_TTT\_WhatisDax.mp4 (deck?)**
      2. PY sales= calculate(sum(sales[revenue]), sameperiodlastyear(‘date’[date]))
      3. Need a year object on the page or filter
      4. % growth – divide(sum(sales[revenue]), -[py sales]), [py sales])
      5. Format as %
      6. Icons conditional formatting
         1. Gt 0 and lt 33 percent then red
         2. Gt 44 and lt 67 then yellow
         3. Gt 67 and lt 100 green
            1. Or do background colors
4. Create report in image **(Check step in the PPTX)**
   1. Remove history filter on sales to get all the years
   2. Add revenue by country as column
   3. Add revenue and % growth by year as mixed column and line
   4. Grid as product hierarchy, revenue, %gt rev, py sales and % growth
   5. Add slicer for date
      1. Show options before, after, list and relative
   6. Add or use manufacturerfacture slicer
      1. **Video: 210\_DIAD\_TTT\_Sliceroptions.mp4**
      2. Point at paint roller
         1. Change to horizontal from orientation
         2. Resize – and show selection controls
      3. Logos
         1. Data model, find logo and set to data category image url
            1. Put logo only in field
   7. Rev and Py rev
      1. Import new visual gauge visual – show custom visuals
   8. Themes - just touch on it
      1. Themes are color and styling that can be reused across reports
   9. Add play visual for playing an axis
5. Bookmarking
   1. **Video:220\_DIAD\_TTT\_Bookmarks.mp4**
   2. You often hit on the last 5 years in the report
   3. Save state to get there fast
   4. Select 2017-2013
   5. Bring up the ribbon in spotlight
   6. View bookmarks and add
   7. Rename bookmark
   8. Clear year selectors, add bookmark rename default
   9. Toggle between them in view view
   10. Hide bookmarks (mention using icons, buttons etc to trigger bookmarks
6. Security
   1. **230\_DIAD\_TTT\_PBIRLS.mp4**
   2. Modeling manage roles
      1. Add US role, add filter country = “USA”
      2. Mexico, Australia, France, japan Mexico
      3. Save
      4. View as roles, will add users to roles later….
7. Service (Page 88)
   1. **Video: 240\_DIAD\_TTT\_PBIService.mp4**
   2. Sign in to PBI in browser
   3. Review favorites, recent,apps, workspaces, my workspace (new home)
   4. There are several ways to publish – this is just one
   5. Get data import pbix file (use reportfinal.pbix)
      1. 3 pages now
      2. Dashboard, report dataset
      3. Dashboards can be confusing – they are a navigation aid among reports.
   6. Show quick insights (data must be imported but can be valuable)
      1. Show pinning
   7. Rename dashboard \*remove.pbix
   8. Click tile -goes to report
   9. Use line chart and pin, keep current thme (sales overview page)
   10. Pin logo, sales overview, 2017 kpi
   11. Pin stacked area chart
   12. And by geog
8. Go to vanarsel sales overview.
   1. Interesting report and gives a global overview but could be more useful
   2. Edit, under geog add country to drill through filter, note arrow gets added
   3. Test drill , report viewing now
   4. Sales overview from map
      1. Filtered
      2. Pin title, tree map, stacked bar chart, all three line charges, line and stacked column
   5. Dashboard, delete original link
   6. Rearrange as you like
9. Show Q+A
   1. Total units for vanarsdel in 2017
   2. Remember the synonyms
      1. Total Quantity for vanarsel in 2017, Pin it!!!
10. Set alerts
    1. Set alert on card tile, threshold to 69000
    2. Do an insight on the ribbon
11. Last page, grid, focus
    1. Show explorer options,
       1. Show next level, drill up
       2. Expand next level, drill up
       3. Drill option on
12. Show assigning users to roles

**Additional features I like to show**

**(one thing at a time)**

Create a simple drill through page based on country

Hiding pages used with drill through

Show that drill through works on any place country is referenced

Tool tips

1. Add new page
   1. Set page size to tooltip, set page info to tooltip
   2. Add card for rev
   3. Add kpi for rev and month
   4. Duplicate and change to units
   5. Set tooltip to product
   6. Rename Page
   7. Goto us sales details
      1. On grid, paint brush, tooltip settings
      2. Demo
2. Create new reports off common dataset
   1. Click on dataset to create report
   2. Data in sync
3. Add custom visuals
   1. Point out some good ones
4. Desktop
   1. Explain the difference and distribution is different
5. Data modeling
   1. Star vs flat
   2. Relationship types