



Excel: Next Level Skills  
Power Query, the Data Model & More

With Melissa Esquibel  
Author of Dirty Data



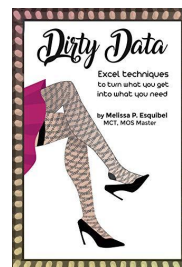
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## Roadmap

- ▲ Setting yourself up for success: clean data
- ▲ The Data Model: connecting this with that
- ▲ Power Query: Merge and Append Queries
- ▲ Tips for fixing what's broken
- ▲ Pivoting a Data Model

## Setting Yourself up for Success: Clean Data

- ▲ One row: one record
- ▲ No merged cells
- ▲ Single-row column titles
- ▲ Consistent data types
- ▲ No completely blank rows or columns



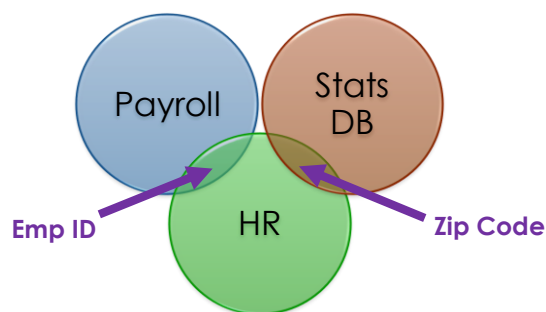
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## Shortcuts to Test the Wholeness of Your Data

- ▲ From the 1<sup>st</sup> cell, Ctrl+↓
  - Should go to the last row of data
  - It will stop at a blank cell
- ▲ From the leftmost column, Ctrl+→
  - Should go to the last column of data
  - It will stop at a blank cell
- ▲ From any cell, Ctrl+A
  - Should select your entire dataset
  - Even with blank cells in the middle

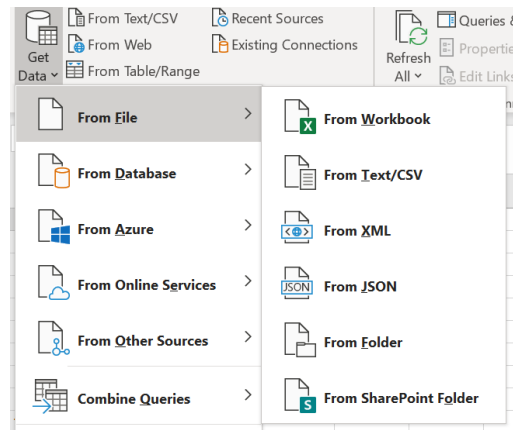
## The Data Model: Connecting This with That

- ▲ Data model is a structure that you can
- ▲ Use to create reports and insights.
- ▲ You don't have to see it to know it's there.



## How to Get Data for Your Model

- ▲ From within a workbook
- ▲ Between workbooks
- ▲ From almost anywhere!

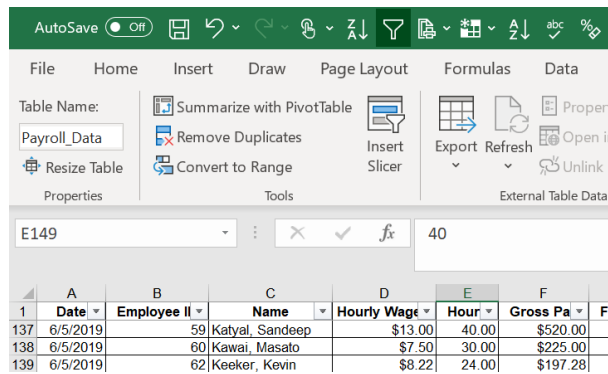


### From almost anywhere!

- ▲ Azure
- ▲ IBM DB2
- ▲ SQL Server
- ▲ Facebook
- ▲ Oracle
- ▲ Salesforce
- ▲ Sybase
- ▲ SharePoint
- ▲ SAP
- ▲ Text files

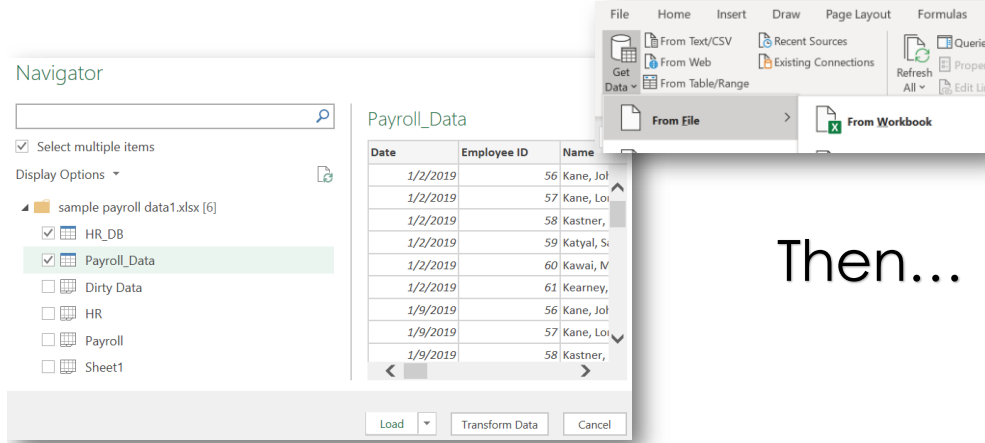
## From Within a Workbook

- ▲ Make data into tables (Ctrl+T)
- ▲ Name tables
- ▲ Get & Transform: From Table/Range



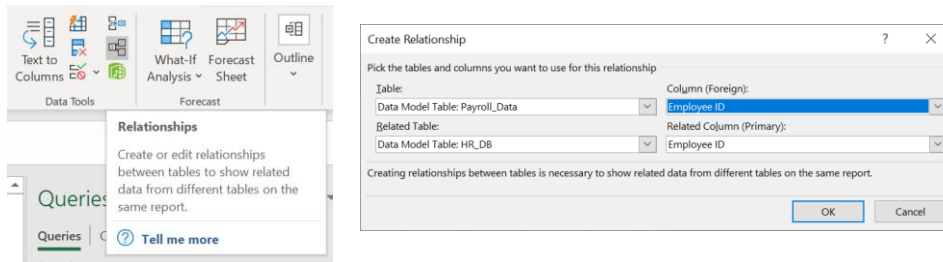
## Between Workbooks

- ▲ Convert ranges to tables
- ▲ Get & Transform, Get Data, From File
- ▲ Select tables, Load or Load to...

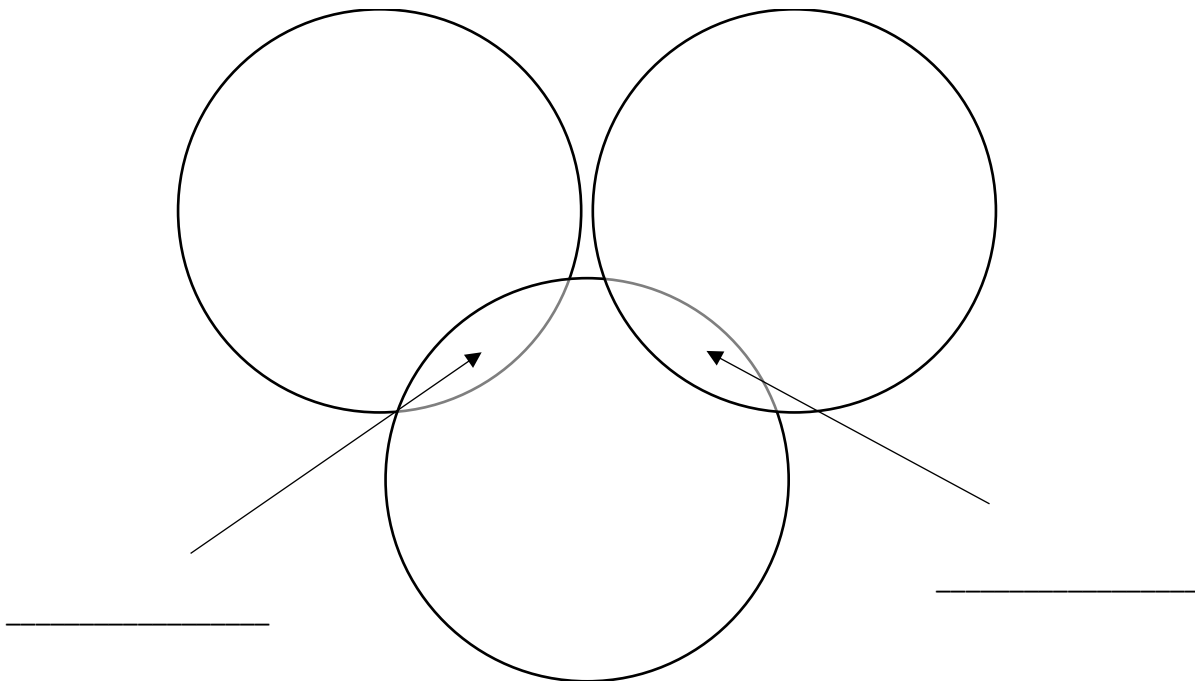


## Create Relationships

- ▲ From ribbon
- ▲ From Power Query – Edit and create merge query

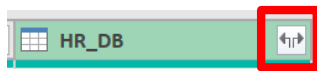


## Diagram Your Data Model



## From Power Query

- ▲ Select table
- ▲ Click Merge Queries
- ▲ Select related field in each dataset
- ▲ Expand connected table
- ▲ Choose all or some fields



### Merge

Select a table and matching columns to create a merged table.

#### Payroll\_Data

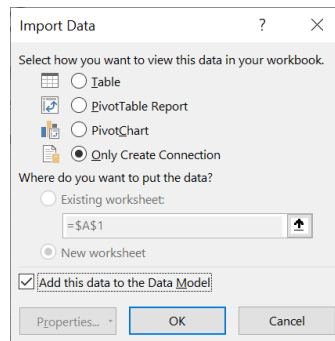
Date	Employee ID	Name	Hourly Wage	Hours	Gross
1/2/2018	56	Kane, John	13.25	40	
1/2/2018	57	Kane, Lori	25	40	
1/2/2018	58	Kastner, Steven H.	31	39	
1/2/2018	59	Katyal, Sandeep	13	40	
1/2/2018	60	Kawai, Masato	7.5	30	

HR\_DB

Employee ID	Name	Office	E/N	Start Date	Title
56	Kane, John	Central	E	1/2/2007	EVP
57	Kane, Lori	District A	N	11/19/2018	Manager
58	Kastner, Steven H.	District B	N	4/8/2014	Manager
59	Katyal, Sandeep	Central	E	8/20/2014	VP HR
60	Kawai, Masato	District A	N	5/9/2019	Operator

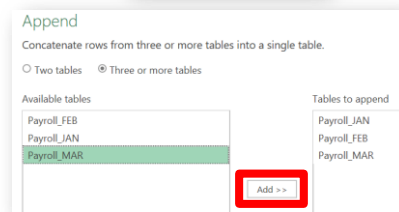
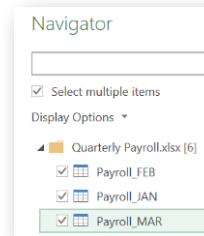
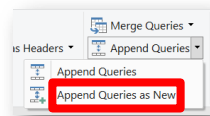
## Close & Load

- ▲ Close & Load – may create “extra” tables
- ▲ Close & Load To... – creates connection and/or adds to Data Model



## Append Queries

- ▲ Get data from “like” datasets
  - Like column titles
  - Like structure
- ▲ Transform
- ▲ Click Append Queries, ...as New
- ▲ Close & Load or Load To...
- ▲ New Worksheet

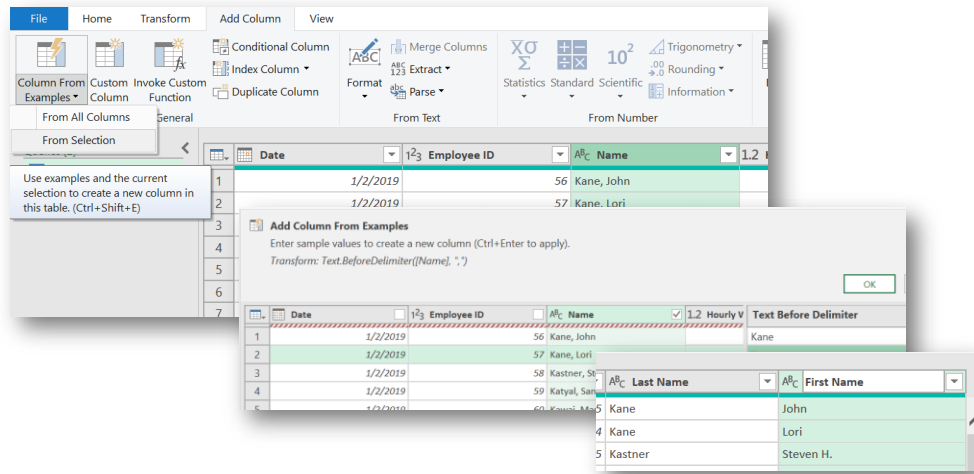


## Tips for Fixing What's Broken

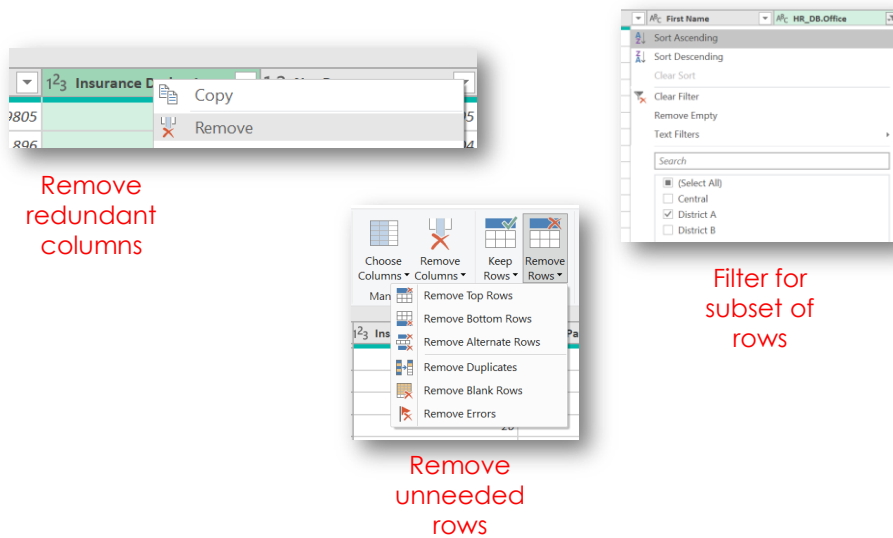
- ▲ Doing the hard work once
  - Steps get recorded
  - Refresh reruns the steps
- ▲ Using the New Columns feature
- ▲ Removing columns and rows



## Using the New Columns Feature



## Removing Columns and Rows

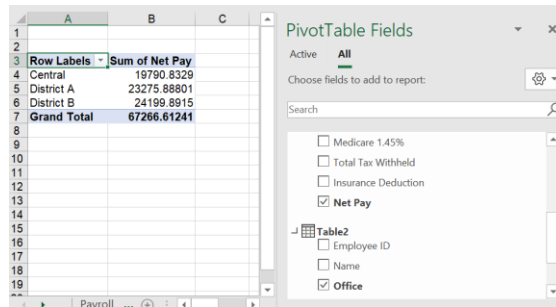


## Pivoting a Data Model

- ▲ Using fields with multiple datasets
- ▲ The importance of relationships

### Pivot Table 101

- Insert tab
- Tables group
- Pivot Table
- This workbook's Data Model



What types of reports can you generate with your data in this configuration?

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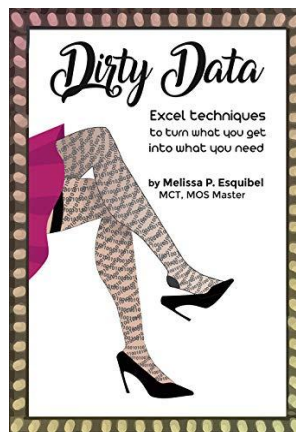
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