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04/09/2024

BIDD 330A

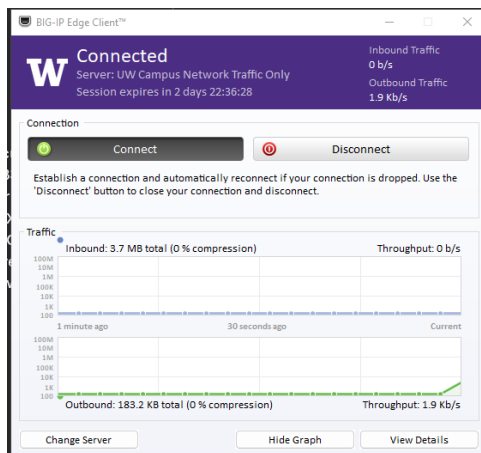
Module 1

Power BI Application Development

Introduction:

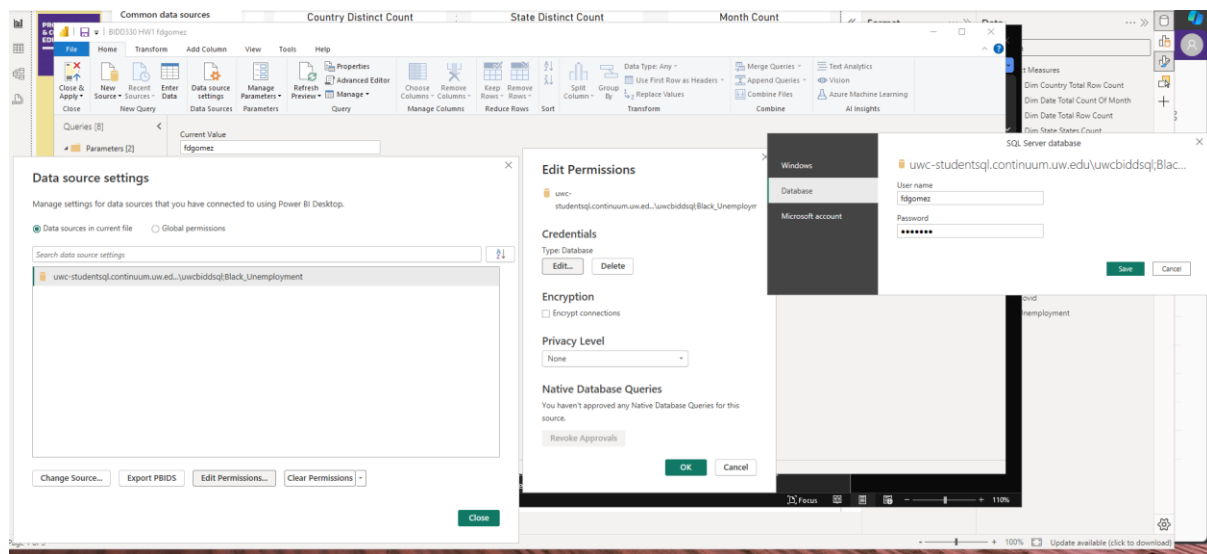
For module 1, we focus on developing a Power BI report that is then uploaded to the Power BI Service in the BIDD 330A Power BI Workspace. The development of this Power BI report was more so to learn the Power BI settings and configurations to properly set up the data model for Power BI and write correct DAX for our visualizations. The process involves many steps, which includes running BIG-IP Edge Client to connect to our data warehouse in SQL Server from Power BI. Once we configure all the correct settings and have our data connections set up, we focus on developing our DAX equations that we use for our visualizations.

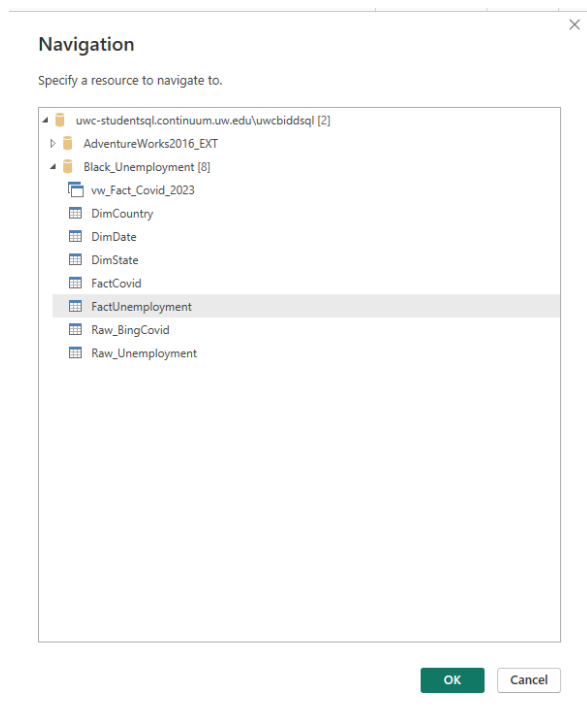
The first part of our Power BI application development is to download and run the BIG-IP Edge Client, which is a VPN service provided by University of Washington for us to connect to our SQL Server database. Once this is established, we will get something that looks similar to the screenshot below:



We then turn our attention to Power BI, where we create a new report and focus on connecting to our sql server database that we now have access to. This SQL Server database, called Black_Unemployment contains our Dimension and Fact tables that we will use for our Power BI report. We can obtain this by selecting “Get data” from our Data tab in our Ribbon and select the option for “SQL Server”. This is where we enter our SQL Server name, which is “uwc-studentsql.continuum.uw.edu\uwcbiddsql”. Once this is entered we can then enter our credentials, which is based on our username and password provided to us by University of Washington. Once this is configured, we then are able to select the databases and tables we want

to select to import into our data model. At this point, we focus on importing the correct Dimension and Fact tables into our data model. We also have to remember that one of our fact tables is coming from a View “vw_Fact_Covid_2023” in our Black_Unemployment database. After selecting our 5 dimension and fact tables, we focus on transforming our data in Power BI to inspect our data. Below I provide screenshots of our process of configuring our data model. The first screenshot illustrates the settings we configure to connect to our SQL Server database. The second screenshot focuses on the navigation to select our data, and our last screenshot illustrates the interface we receive when we successfully load our data into our data model.

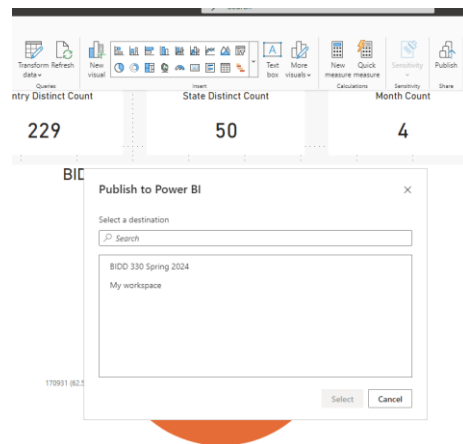




	FactUnemployment_Key	State	Filed week ended	Initial Claims	Reflecting Week Ended	Continued Claims
1	1	Alabama	1/4/2020	4578	12/28/2019	18523
2	2	Alabama	1/11/2020	3629	1/4/2020	21143
3	3	Alabama	1/18/2020	2483	1/11/2020	17402
4	4	Alabama	1/25/2020	2129	1/18/2020	18390
5	5	Alabama	2/1/2020	2170	1/25/2020	17284
6	6	Alabama	2/8/2020	2176	2/1/2020	16745
7	7	Alabama	2/15/2020	1981	2/8/2020	16571
8	8	Alabama	2/22/2020	1735	2/15/2020	16059
9	9	Alabama	2/29/2020	1575	2/22/2020	14721
10	10	Alabama	3/7/2020	1663	2/29/2020	13657
11	11	Alabama	3/14/2020	1819	3/7/2020	13070
12	12	Alabama	3/21/2020	10892	3/14/2020	12487
13	13	Alabama	3/28/2020	80984	3/21/2020	18083
14	14	Alabama	4/4/2020	106739	3/28/2020	52176
15	15	Alabama	4/11/2020	77515	4/4/2020	95325
16	16	Alabama	4/18/2020	66432	4/11/2020	144327
17	17	Alabama	4/25/2020	74966	4/18/2020	173855
18	18	Alabama	5/2/2020	28985	4/25/2020	214684
19	19	Alabama	5/9/2020	26666	5/2/2020	216856
20	20	Alabama	5/16/2020	25150	5/9/2020	203677
21	21	Alabama	5/23/2020	27919	5/16/2020	190205
22	22	Alabama	5/30/2020	21335	5/23/2020	183565

After we close and load our data from Power Pivot, we then focus on setting up our data model, where we establish our connections between our fact tables and dimension tables. Below is a screenshot of our final data model:

After we develop our data model, we Publish our report to our Workspace in the Power BI Service. The location of this Power BI app is: [BIDD330 HW1 fdgomez - Power BI](https://app.powerbi.com/groups/777f92d5-bef3-4145-92de-7ca2a66d192b/reports/469e98aa-6209-493d-b1a7-9ff7928d4d43/ReportSection?experience=power-bi) (<https://app.powerbi.com/groups/777f92d5-bef3-4145-92de-7ca2a66d192b/reports/469e98aa-6209-493d-b1a7-9ff7928d4d43/ReportSection?experience=power-bi>). Below is what our interface looks like when we are getting ready to publish to our workspaces.



Summary:

Developing our Power BI report requires many steps. This does not even include the data engineering to even clean up and transform our data. This only included connecting to our data sources and developing our Power BI report properly. The hardest part is always the foundation, which is our data model and DAX code. Everything else comes easily once everything is configured properly.