

PROJECT DEVELOPMENT PHASE

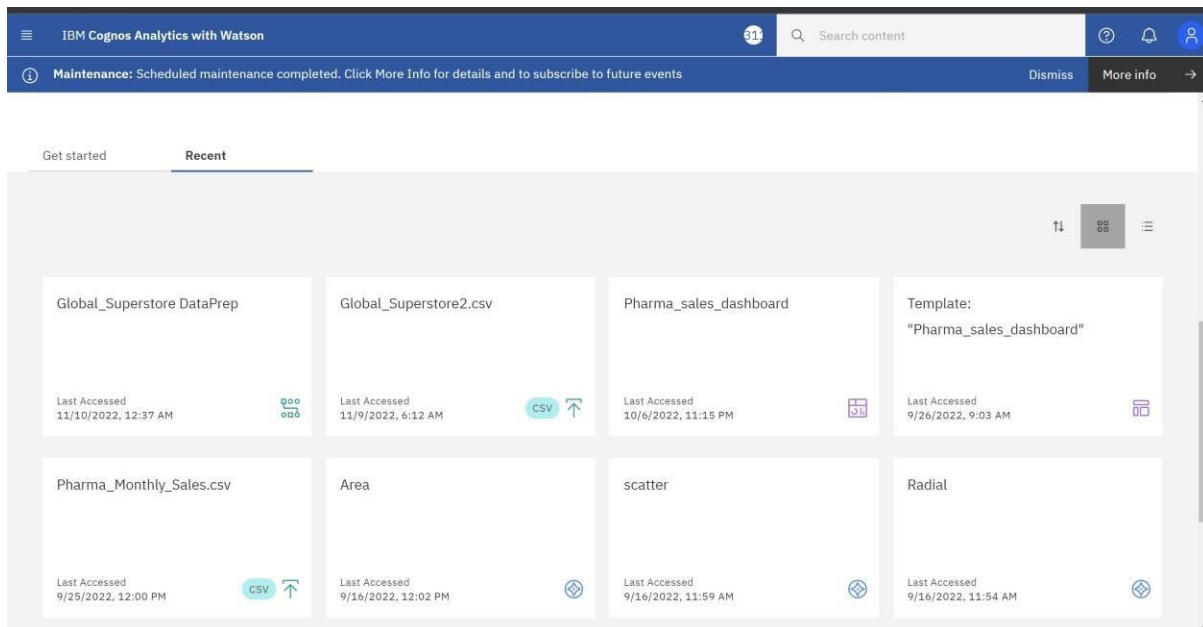
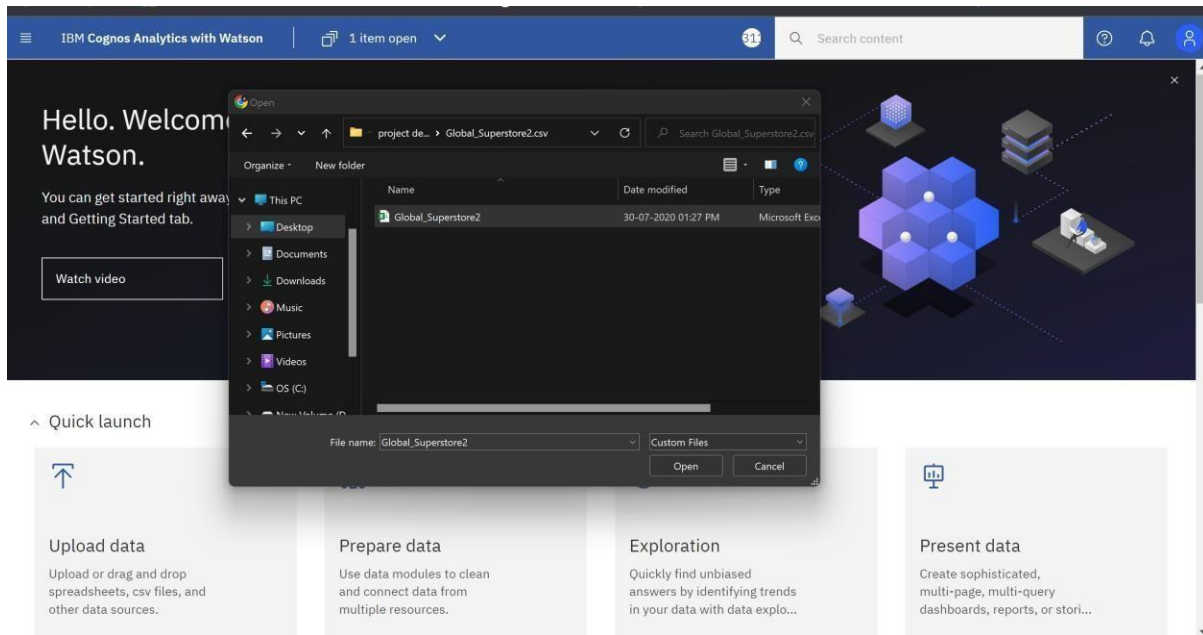
SPRINT -2

Date	27 October 2022
Team ID	PNT2022TMID09634
Project Name	Global Sales Data Analytics

Dataset:

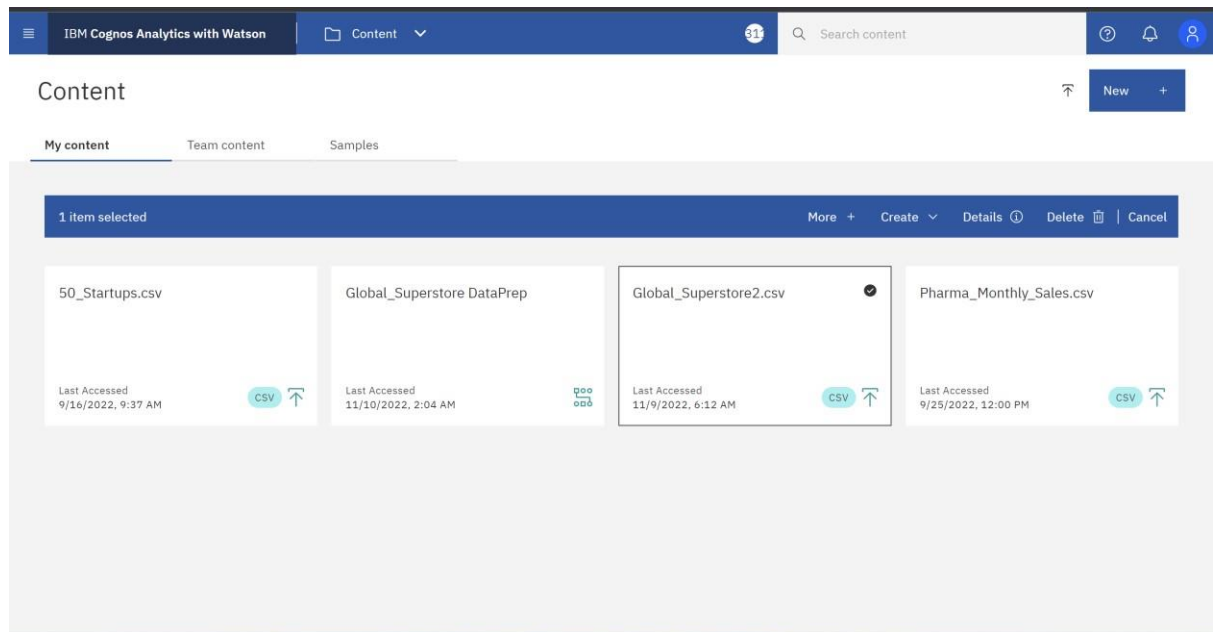
Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer	Customer Segment	City	State	Country	Postal Code	Market	Region	Product ID	Category	Sub-Category	Product Name	Sales	Quantity	Discount	Profit	Shipping Cost
1	32298	CA-2012-1	2012-01-01	Standard	Rick Hans Consumer	Consumer	New York	New York	United States	10024	US	East	TEC-AC-1C	Technology	Accessories	Plantronic	2309.65	7	0	762.1845	933.57
2	26341	IN-2013-7	2013-07-01	Second Class	Justin Ritts Corporate	Corporate	Wollongong	New South Wales	Australia		APAC	Oceania	FUR-CH-1C	Furniture	Chairs	Novimex E	3709.395	9	0.1	-288.765	923.63
3	25330	IN-2013-7	2013-07-01	First Class	Craig Reite Consumer	Consumer	Brisbane	Queensland	Australia		APAC	Oceania	TEC-PH-1C	Technology	Phones	Nokia Sma	5175.171	9	0.1	919.971	915.49
4	13524	ES-2013-1	2013-01-01	First Class	Katherine Home	Home Office	Berlin	Berlin	Germany		EU	Central	TEC-PH-1C	Technology	Phones	Motorola	2892.51	5	0.1	-96.54	910.16
5	47221	SG-2013-4	2013-04-01	Same Day	Rick Hans Consumer	Consumer	Dakar	Dakar	Senegal		Africa	Africa	TEC-SHA-1	Technology	Copiers	Sharp Wire	2832.96	8	0	311.52	903.04
6	22732	IN-2013-4	2013-04-01	Second Class	Jim Mitchi Corporate	Corporate	Sydney	New South Wales	Australia		APAC	Oceania	TEC-PH-1C	Technology	Phones	Samsung S	2862.675	5	0.1	763.275	897.35
7	30570	IN-2011-8	2011-08-01	First Class	Toby Swin Consumer	Consumer	Porirua	Wellington	New Zealand		APAC	Oceania	FUR-CH-1C	Furniture	Chairs	Novimex E	1822.08	4	0	564.84	894.77
8	31192	IN-2012-8	2012-08-01	Standard	Mick Brown Consumer	Consumer	Hamilton	Waikato	New Zealand		APAC	Oceania	FUR-TA-1C	Furniture	Tables	Chromcraft	5244.84	6	0	996.48	878.38
9	40155	CA-2014-1	2014-01-01	Standard	Jane Wacc Corporate	Corporate	Sacramento	California	United States	95823	US	West	OFF-BI-10x	Office Supplies	Binders	Fellowes P	5083.96	5	0.2	1906.485	867.69
10	40936	CA-2012-1	2012-01-01	Second Class	Joseph Ho Consumer	Consumer	Concord	North Carolina	United States	28027	US	South	FUR-TA-1C	Furniture	Tables	Chromcraft	4297.644	13	0.4	-1862.31	865.74
11	34577	CA-2011-1	2011-01-01	Second Class	Greg Max Corporate	Corporate	Alexandria	Virginia	United States	22304	US	South	OFF-SU-1C	Office Supplies	Supplies	Martin Yal	4164.05	5	0	83.281	846.54
12	28879	ID-2012-1	2012-01-01	First Class	Anthony Ji Corporate	Corporate	Kabul	Kabul	Afghanistan		APAC	Central Asia	FUR-TA-1C	Furniture	Tables	Bevis Conf	4626.15	5	0	647.55	835.57
13	45794	SA-2011-1	2011-01-01	Second Class	Magdeleni Consumer	Consumer	Jizan	Jizan	Saudi Arabia		EMEA	EMEA	TEC-CIS-1C	Technology	Phones	Cisco Sma	2616.96	4	0	1151.4	832.41
14	4132	MX-2012-1	2012-01-01	Same Day	Vicky Frey Home	Home Office	Toledo	Parana	Brazil		LATAM	South	FUR-CH-1C	Furniture	Chairs	Harbour C	2221.8	7	0	622.02	810.25
15	27704	IN-2013-7	2013-07-01	Second Class	Peter Fulle Consumer	Consumer	Mudanjiang	Heilongjiang	China		APAC	North Asia	OFF-AP-10	Office Supplies	Appliances	KitchenAid	3701.52	12	0	1036.08	804.54
16	13779	ES-2014-5	2014-05-01	Second Class	Ben Peteri Corporate	Corporate	Paris	Ile-de-France	France		EU	Central	OFF-AP-10	Office Supplies	Appliances	Breville Re	1869.588	4	0.1	186.948	801.66
17	36178	CA-2014-1	2014-01-01	Second Class	Thomas Bi Corporate	Corporate	Henderson	Kentucky	United States	42420	US	South	TEC-AC-1C	Technology	Accessories	Logitech d	2249.91	9	0	517.4793	780.72
18	12069	ES-2014-1	2014-01-01	Standard	Patrick Jor Corporate	Corporate	Prato	Tuscany	Italy		EU	South	OFF-AP-10	Office Supplies	Appliances	Hooover St	7958.58	14	0	3979.08	778.32
19	22096	IN-2014-1	2014-01-01	First Class	Jim Sink Corporate	Corporate	Townsville	Queensland	Australia		APAC	Oceania	TEC-CO-1C	Technology	Copiers	Brother Fa	2565.594	9	0.1	28.404	766.93
20	49463	TZ-2014-8	2014-08-01	Second Class	Ritsa Hight Consumer	Consumer	Uvinza	Kigoma	Tanzania		Africa	Africa	OFF-KIT-1C	Office Supplies	Appliances	KitchenAid	3409.74	6	0	818.28	763.38
21	46630	PL-2012-7	2012-07-01	First Class	Ann Blume Corporate	Corporate	Bytom	Silesia	Poland		EMEA	EMEA	FUR-HON-1	Furniture	Tables	Hon Comp	1977.72	4	0	276.84	759.47
22	31784	CA-2011-1	2011-01-01	First Class	Sue Ann Ri Consumer	Consumer	Chicago	Illinois	United States	60610	US	Central	TEC-PH-1C	Technology	Phones	Apple iPho	2735.952	6	0.2	341.994	752.51
23	21586	IN-2011-4	2011-04-01	First Class	Jason Klan Corporate	Corporate	Suzhou	Anhui	China		APAC	North Asia	FUR-CH-1C	Furniture	Chairs	SAFCO Exe	2754	6	0	358.02	752.47
24	13528	ES-2013-2	2013-02-01	Second Class	Laurel Belt Home	Home Office	Edinburgh	Scotland	United Kingdom		EU	North	OFF-AP-10	Office Supplies	Appliances	KitchenAid	5273.7	10	0	1898.4	730.91
25	1570	US-2014-1	2014-01-01	First Class	Naresj Pat Consumer	Consumer	Juarez	Chihuahua	Mexico		LATAM	North	TEC-PH-1C	Technology	Phones	Motorola	1713.84	4	0	445.52	728.97
26	3484	MX-2014-1	2014-01-01	First Class	Valerie Do Consumer	Consumer	Soyapang	San Salvador	El Salvador		LATAM	Central	FUR-TA-1C	Furniture	Tables	Hon Comp	2106.496	8	0.2	526.496	728.39
27	30191	IN-2011-1	2011-01-01	First Class	Phillip Bre Corporate	Corporate	Taipei	Taipei City	Taiwan		APAC	North Asia	FUR-TA-1C	Furniture	Tables	Lesro Conl	1715.16	2	0	720.36	725.57

Uploading the dataset:



Data Preparation:

- First understand and load the dataset.



- Since there is only one single file, there need not be any relationships or custom tables for the data.

The screenshot shows the 'Data module' in IBM Cognos Analytics. The top navigation bar includes 'IBM Cognos Analytics with Watson', a 'New data module' dropdown, a search bar, and user icons. Below the navigation bar, a maintenance message is displayed. The 'Data module' section has tabs for 'Grid', 'Relationships', and 'Custom tables'. The 'Grid' tab is active, showing a table with 10 rows and 8 columns. The left sidebar shows a tree view of the data module, with 'Global_Superstore2.csv' selected. The table data is as follows:

Row Id	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID
1	32298	CA-2012-124891	2012-07-31	2012-07-31	Same Day	RH-19495
2	26341	IN-2013-77878	2013-02-05	2013-02-07	Second Class	JR-16210
3	25330	IN-2013-71249	2013-10-17	2013-10-18	First Class	CR-12730
4	13524	ES-2013-1579342	2013-01-28	2013-01-30	First Class	KM-16375
5	47221	SG-2013-4320	2013-11-05	2013-11-06	Same Day	RH-9495
6	22732	IN-2013-42360	2013-06-28	2013-07-01	Second Class	JM-15655
7	30570	IN-2011-81826	2011-11-07	2011-11-09	First Class	TS-21340
8	31192	IN-2012-86369	2012-04-14	2012-04-18	Standard Class	MB-18085
9	40155	CA-2014-135909	2014-10-14	2014-10-21	Standard Class	JW-15220
10	40936	CA-2012-116638	2012-01-28	2012-01-31	Second Class	JH-15085

- To prepare the data, we need to verify it is clean. There must be no null values. If there are null values, there will be empty data.

The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Data module' pane lists various fields: Order ID, Order Date, Ship Date, Ship Mode, Customer ID, Customer Name, Segment, City, State, Country, Postal Code, Market, Region, Product ID, Category, and Sub-Category. The main area displays a data grid with columns: Row ID, Order ID, Ship Date, Ship Mode, and Customer ID. A context menu is open over the 'Order ID' column, showing options: Filter..., Create data group..., Create navigation path..., Split..., Hide from users, Remove, Format data..., Clean..., Sort descending, Sort ascending, and Properties.

Row ID	Order ID	Ship Date	Ship Mode	Customer ID
1	32298	2012-07-31	Same Day	RH-19495
2	26341	2013-02-07	Second Class	JR-16210
3	25330	2013-10-18	First Class	CR-12730
4	13524	2013-01-30	First Class	KM-16375
5	47221	2013-11-06	Same Day	RH-9495
6	22732	2013-07-01	Second Class	JM-15655
7	30570	2011-11-09	First Class	TS-21340
8	31192	2012-04-14	Standard Class	MB-18085
9	40155	2014-10-14	Standard Class	JW-15220
10	40936	2012-01-28	Second Class	JH-15985

The screenshot shows the same IBM Cognos Analytics interface, but with a 'Filter - Order ID' dialog box open. The dialog box has a search bar and a list of Order IDs with checkboxes next to them. The 'Add a filter condition +' button is visible at the top. The 'Clear all' and 'Invert' buttons are at the bottom left, and 'Cancel' and 'OK' buttons are at the bottom right.

Filter - Order ID

Add a filter condition +

Search

- ☐ AE-2011-9160
- ☐ AE-2013-1130
- ☐ AE-2013-1530
- ☐ AE-2014-2840
- ☐ AE-2014-3830
- ☐ AE-2014-4120
- ☐ AG-2011-1070
- ☐ AG-2011-1390

Clear all Invert

Cancel OK

- Once cleaned save the data.

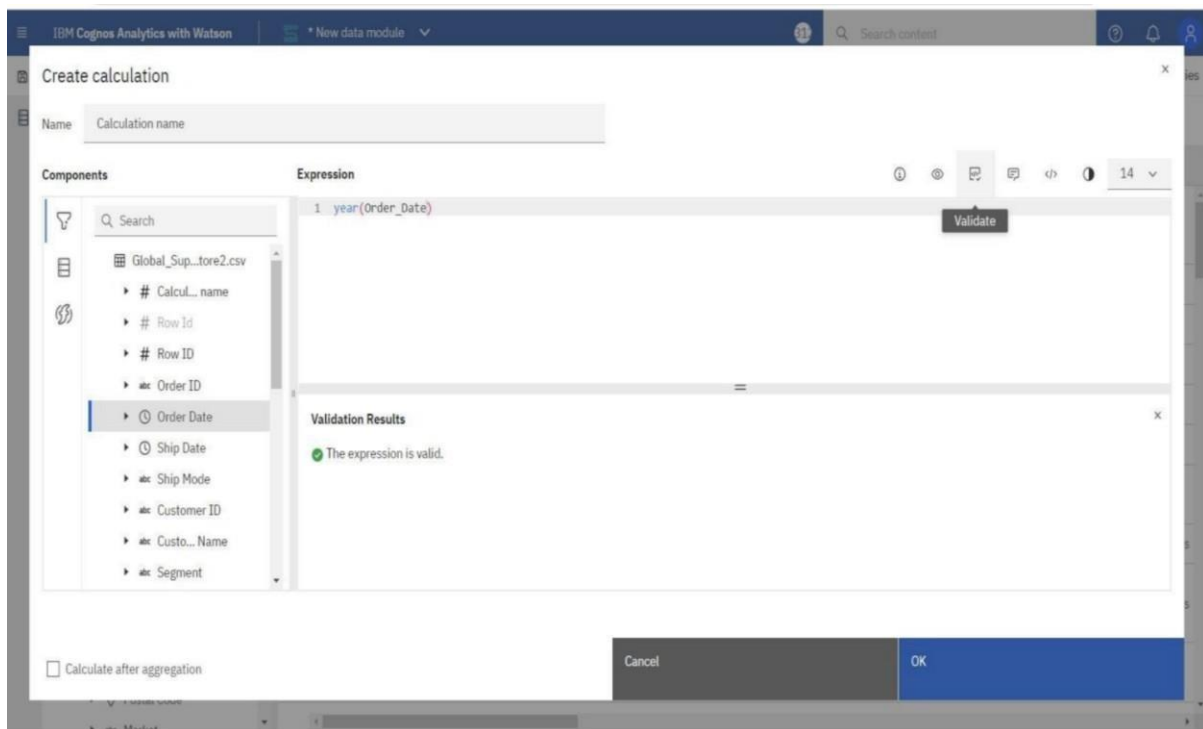
Data calculations and navigation paths:

- Once you load the data, we need to prepare the data.
- Prepare calculations of year, month, day fields and also related navigation paths.
- Create a few more calculations – Target sales, Min sales, Max sales, Middle Range sales.

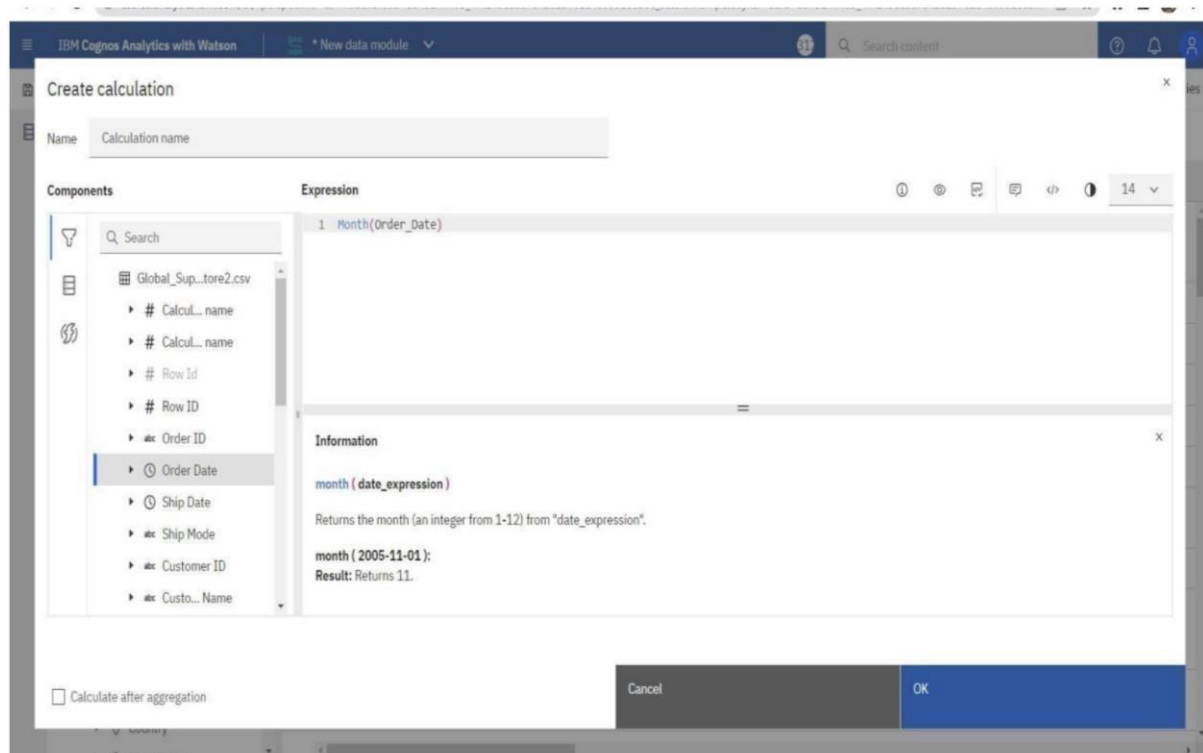
The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Data module' pane displays a tree structure with 'Global_Su...tore2.csv' selected. The main area shows a table with columns: Row ID, Order ID, Order Date, Ship Date, Ship Mode, and Customer ID. A right-click context menu is open over the table, with the 'Calculation...' option highlighted. The menu also includes options like Filter..., Folder, Table..., Show query information..., Specify column dependencies, Refresh members, Hide from users, Remove, Refresh properties..., Sort..., Rename, Cut, Copy, Manage filters, and Properties.

Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID
32298	CA-2012-124891	2012-07-31	2012-07-31	Same Day	RH-19495
26341	IN-2013-77878	2013-02-05	2013-02-07	Second Class	JR-16210
25330	IN-2013-71249	2013-10-17	2013-10-18	First Class	CR-12730
13524	ES-2013-1579342	2013-01-28	2013-01-30	First Class	KM-16375
47221	SG-2013-4320	2013-11-05	2013-11-06	Same Day	RH-9495
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30570	IN-2011-81826	2011-11-07	2011-11-09	First Class	TS-21340
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40155	CA-2014-135909	2014-10-14	2014-10-21	Standard Class	JW-15220
40936	CA-2012-116638	2012-01-28	2012-01-31	Second Class	JH-15985

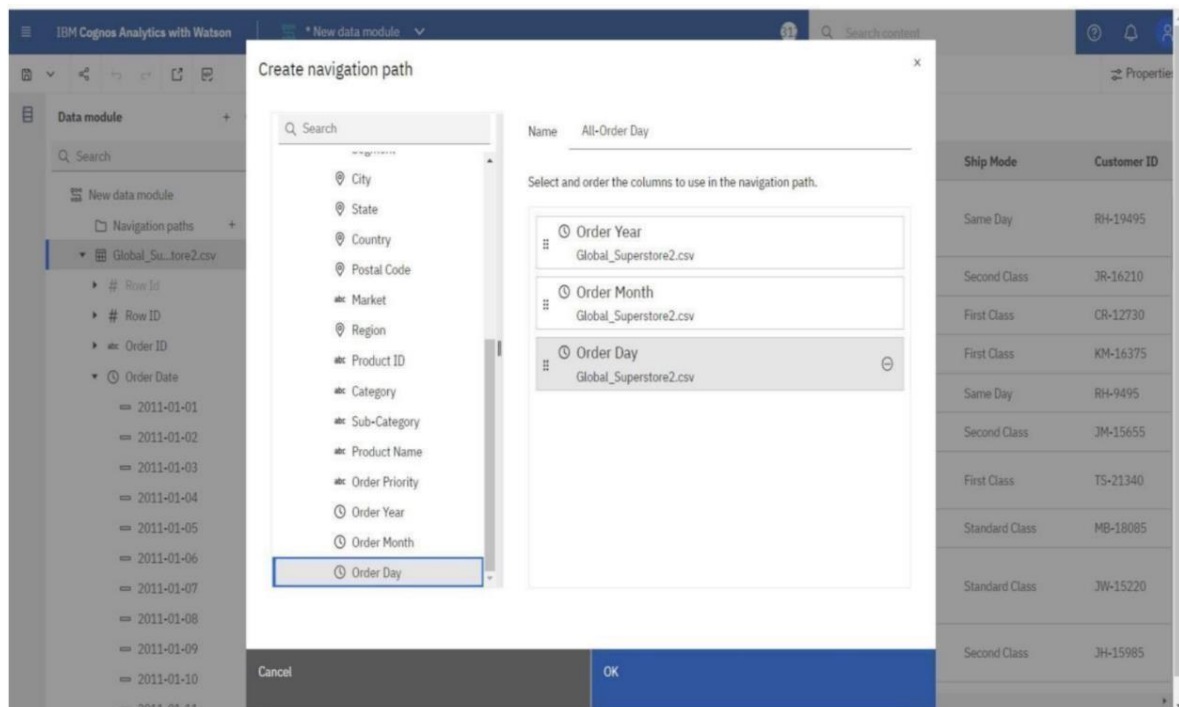
- Right click -> calculation -> type expression -> validate -> set new name as Order Year.



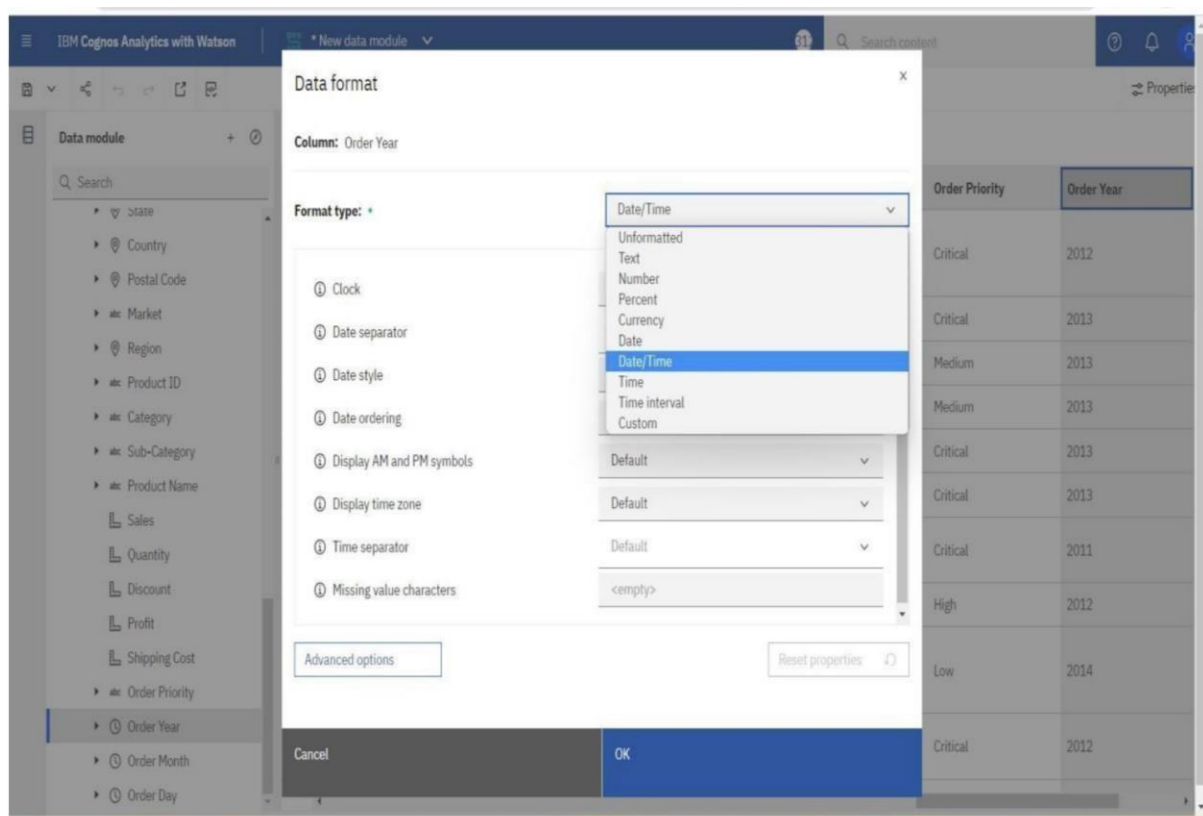
- Similarly, 'Order Month', 'Order Day' and 'All'.



- Right click on create navigation path.



- Data format -> date/Time



- Properties -> usage -> Attribute
Aggregate -> Count Distinct

Data Type -> Integer

Represents -> Time, (Year, Month , Day respectively)

Display options -> show members

This way it becomes a Numerical Data Type

The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Data module' pane lists various data sources like State, Country, Postal Code, Market, Region, Product ID, Category, Sub-Category, Product Name, Sales, Quantity, Discount, Profit, Shipping Cost, Order Priority, Order Year, Order Month, and Order Day. The 'Order Year' is selected. The main area displays a data grid with columns: Profit, Shipping Cost, Order Priority, Order Year, and Ord. The grid contains several rows of data. On the right, the 'Properties' panel is open, showing the 'General' tab. The 'Label' is set to 'Order Year'. The 'Usage' dropdown is set to 'Date', and the 'Date' dropdown is open, showing options like Year, Quarter, Season, Month, Week, Day, Hour, Minute, and Second. The 'Year' option is selected.

Profit	Shipping Cost	Order Priority	Order Year	Ord
762.1845	933.57	Critical	2012	7
-288.765	923.63	Critical	2013	2
919.971	915.49	Medium	2013	1
-96.54	910.16	Medium	2013	1
311.52	903.04	Critical	2013	1
763.275	897.35	Critical	2013	6
564.84	894.77	Critical	2011	1
996.48	878.38	High	2012	4
1906.485	867.69	Low	2014	1
-1862.3124	865.74	Critical	2012	1

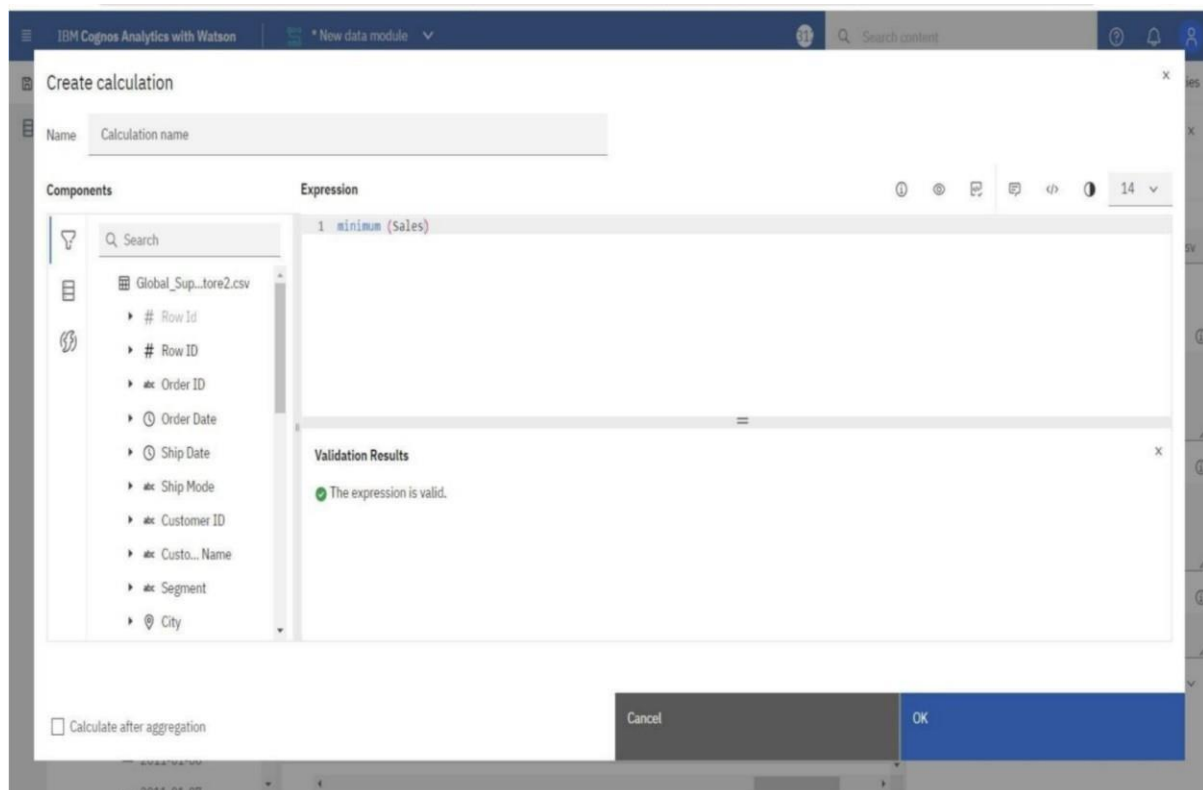
- Hence calculations for day, month and year are completed.
- Similarly calculations for Target sales, Min sales, Max sales And Middle range sales are done.

Min sales -> Minimum(sales)

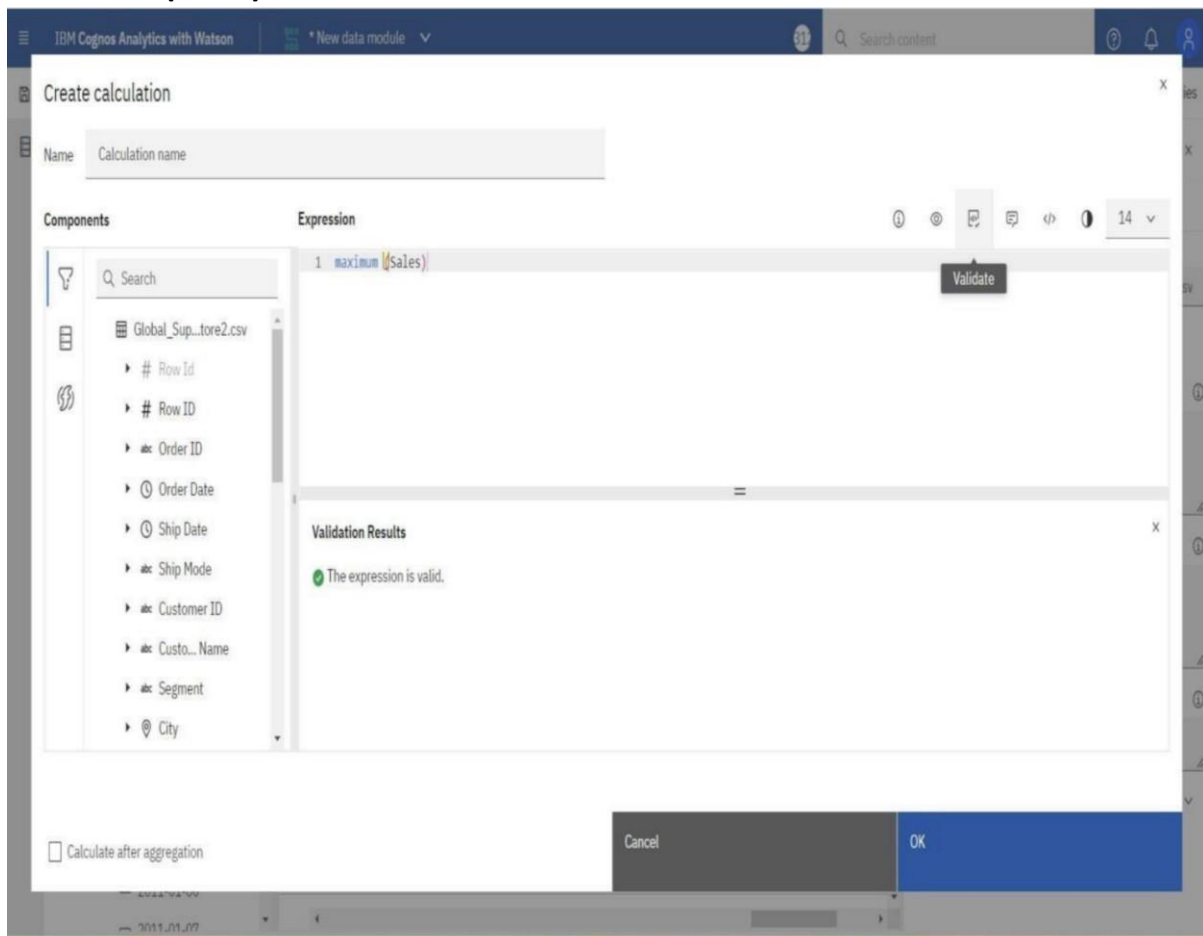
Max sales, Target sales -> Maximum(sales)

Middle range sales -> Average (sales)

Minimum(sales)



Maximum(sales)



Middle Range(sales)

