



## Uploading the dataset:

The screenshot displays the IBM Cognos Analytics with Watson interface. The top navigation bar includes the logo, a search bar, and user profile icons. A central banner area contains a welcome message and a 'Watch video' button. Below this, four main workflow steps are listed: 'Upload data', 'Prepare data', 'Exploration', and 'Present data'. An 'Open' file dialog box is overlaid on the 'Upload data' section, showing the selection of 'Global\_Superstore2.csv' from the 'project de...' directory. The bottom section of the interface, titled 'Recent', shows a grid of recently accessed items, including 'Global\_Superstore DataPrep', 'Global\_Superstore2.csv', 'Pharma\_sales\_dashboard', 'Template: "Pharma\_sales\_dashboard"', 'Pharma\_Monthly\_Sales.csv', 'Area', 'scatter', and 'Radial'. Each item card displays the last accessed time and a status icon (e.g., CSV, dashboard, or template).

IBM Cognos Analytics with Watson | 1 item open

Hello. Welcome to Watson.

You can get started right away and Getting Started tab.

Watch video

Quick launch

Upload data  
Upload or drag and drop spreadsheets, csv files, and other data sources.

Prepare data  
Use data modules to clean and connect data from multiple resources.

Exploration  
Quickly find unbiased answers by identifying trends in your data with data exploration.

Present data  
Create sophisticated, multi-page, multi-query dashboards, reports, or stories.

Maintenance: Scheduled maintenance completed. Click More Info for details and to subscribe to future events

Dismiss More info

Get started Recent

Global\_Superstore DataPrep  
Last Accessed 11/10/2022, 12:37 AM

Global\_Superstore2.csv  
Last Accessed 11/9/2022, 6:12 AM

Pharma\_sales\_dashboard  
Last Accessed 10/6/2022, 11:15 PM

Template: "Pharma\_sales\_dashboard"  
Last Accessed 9/26/2022, 9:03 AM

Pharma\_Monthly\_Sales.csv  
Last Accessed 9/25/2022, 12:00 PM

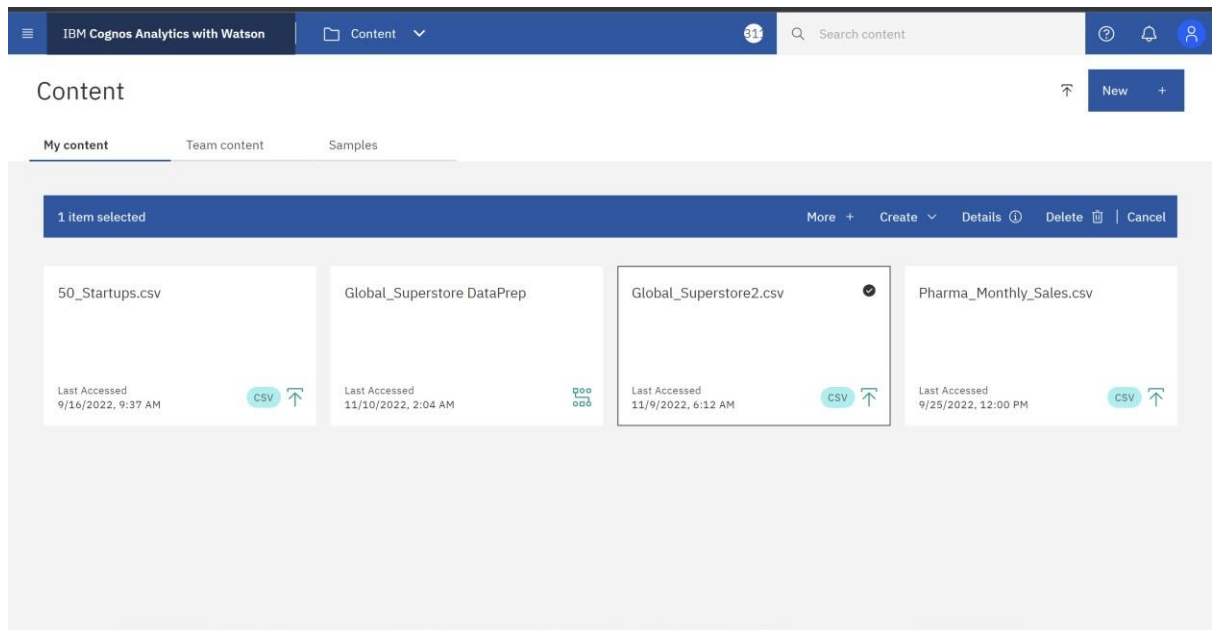
Area  
Last Accessed 9/16/2022, 12:02 PM

scatter  
Last Accessed 9/16/2022, 11:59 AM

Radial  
Last Accessed 9/16/2022, 11:54 AM

## 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. A maintenance message is displayed: 'Maintenance: Scheduled maintenance completed. Click More Info for details and to subscribe to future events'. The 'Data module' section has tabs for 'Grid', 'Relationships', and 'Custom tables'. The 'Grid' tab is active, showing a data table with the following columns: Row ID, Order ID, Order Date, Ship Date, Ship Mode, and Customer ID. The left sidebar shows the file structure with 'Global\_Superstore2.csv' selected. The data table contains 10 rows of data.

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

IBM Cognos Analytics with Watson | \* New data module

Maintenance: Scheduled maintenance completed. Click More Info for details and to subscribe to future events

Search content

Properties

Data module

Grid Relationships Custom tables

Search

Order ID

Order Date

Ship Date

Ship Mode

Customer ID

Customer Name

Segment

City

State

Country

Postal Code

Market

Region

Product ID

Category

Sub-Category

Row ID	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID
1	32298	CA-2012-116638	2012-07-31	2012-07-31	Same Day	RH-19495
2	26341	IN-2013-116638	2013-02-07	2013-02-07	Second Class	JR-16210
3	25330	IN-2013-116638	2013-10-18	2013-10-18	First Class	CR-12730
4	13524	ES-2013-116638	2013-01-30	2013-01-30	First Class	KM-16375
5	47221	SG-2013-116638	2013-11-06	2013-11-06	Same Day	RH-9495
6	22732	IN-2013-116638	2013-07-01	2013-07-01	Second Class	JM-15655
7	30570	IN-2011-116638	2011-11-09	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-15985

Filter...

- Create data group...
- Create navigation path...
- Split...
- Hide from users
- Remove
- Format data...
- Clean...
- Sort descending
- Sort ascending
- Properties

IBM Cognos Analytics with Watson | \* New data module

Search content

Properties

Data module

Grid Relationships Custom tables

Search

Order ID

Order Date

Ship Date

Ship Mode

Customer ID

Customer Name

Segment

City

State

Country

Postal Code

Market

Region

Product ID

Category

Sub-Category

Product Name

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

Ship Mode	Customer ID
Same Day	RH-19495
Second Class	JR-16210
First Class	CR-12730
First Class	KM-16375
Same Day	RH-9495
Second Class	JM-15655
First Class	TS-21340
Standard Class	MB-18085
Standard Class	JW-15220
Second Class	JH-15985

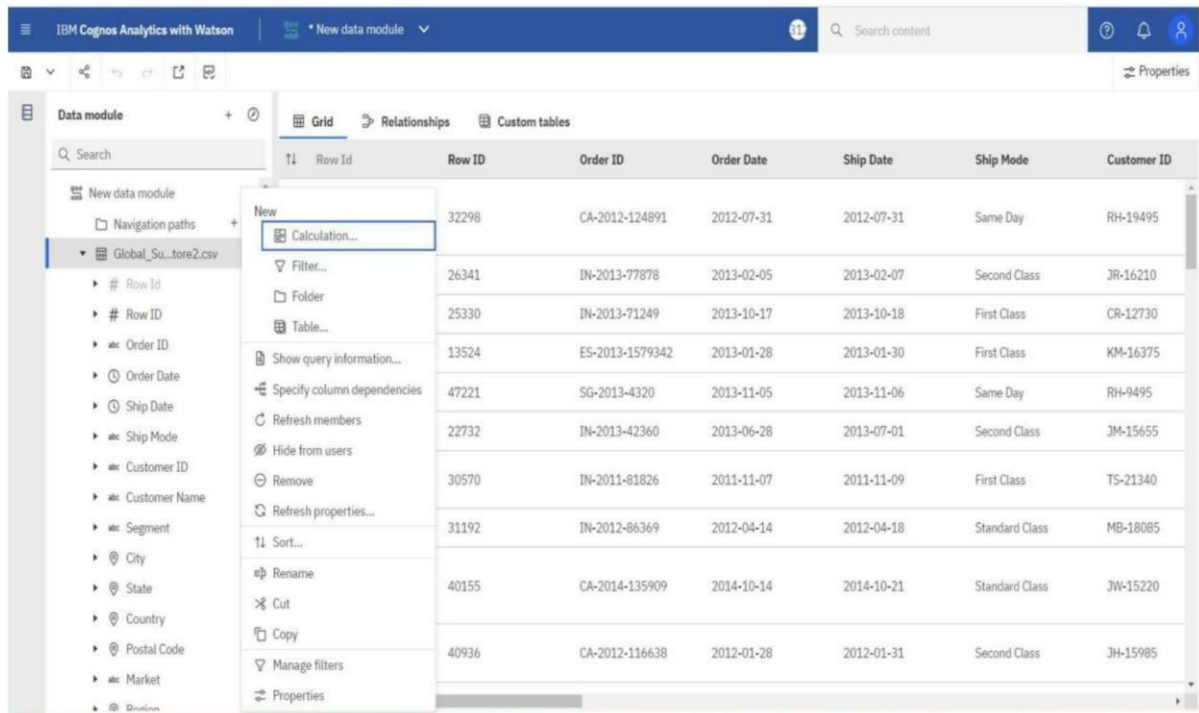
Once cleaned save the data.

## Data calculations and navigation paths:

Once you load the data, we need to prepare the data.

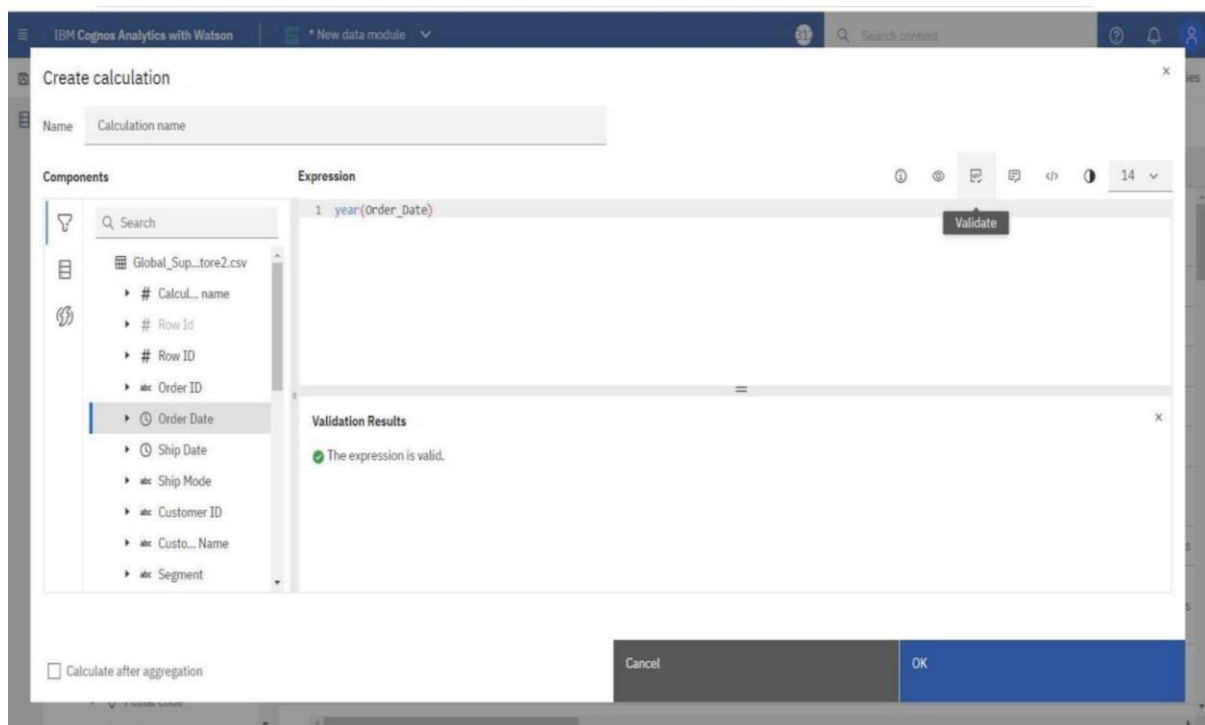
Prepare calculations of year, month, day fields and also related navigation paths.

Create a few more calculations – Target sales, Min sales, Max sales, Middle Range sales.



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
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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
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22732	IN-2013-42360	2013-06-28	2013-07-01	Second Class	JM-15655
30570	IN-2011-81826	2011-11-07	2011-11-09	First Class	TS-21340
31192	IN-2012-86369	2012-04-14	2012-04-18	Standard Class	MB-18085
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.



Create calculation

Name: Calculation name

Components

- Global\_Su...tore2.csv
  - # Calcul... name
  - # Row Id
  - # Row ID
  - # Order ID
  - # Order Date
  - # Ship Date
  - # Ship Mode
  - # Customer ID
  - # Custo... Name
  - # Segment

Expression: 1 year(Order\_Date)

Validate

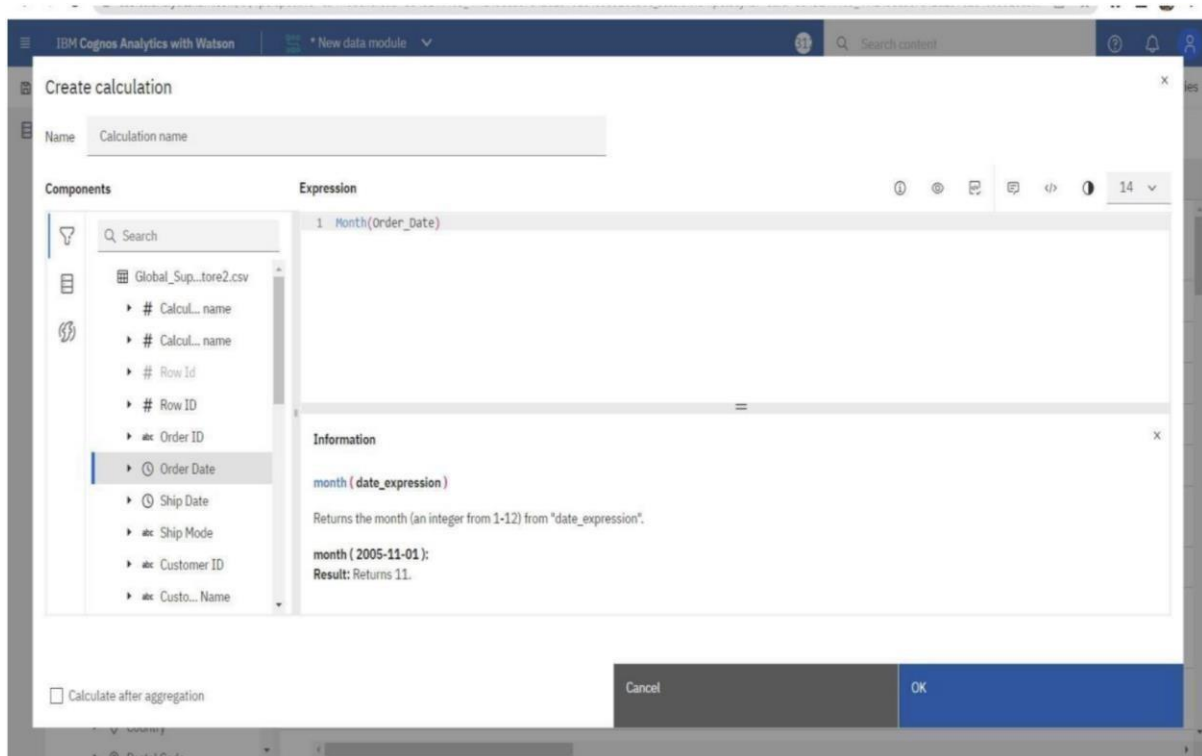
Validation Results

The expression is valid.

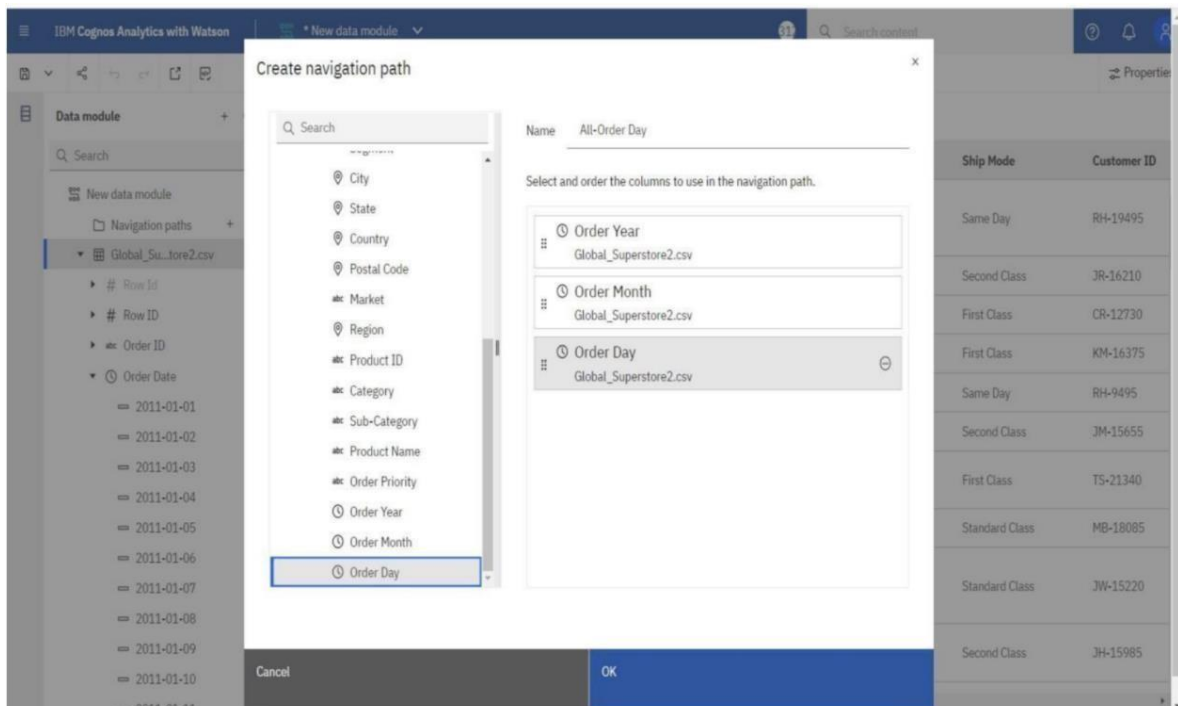
☐ Calculate after aggregation

Cancel OK

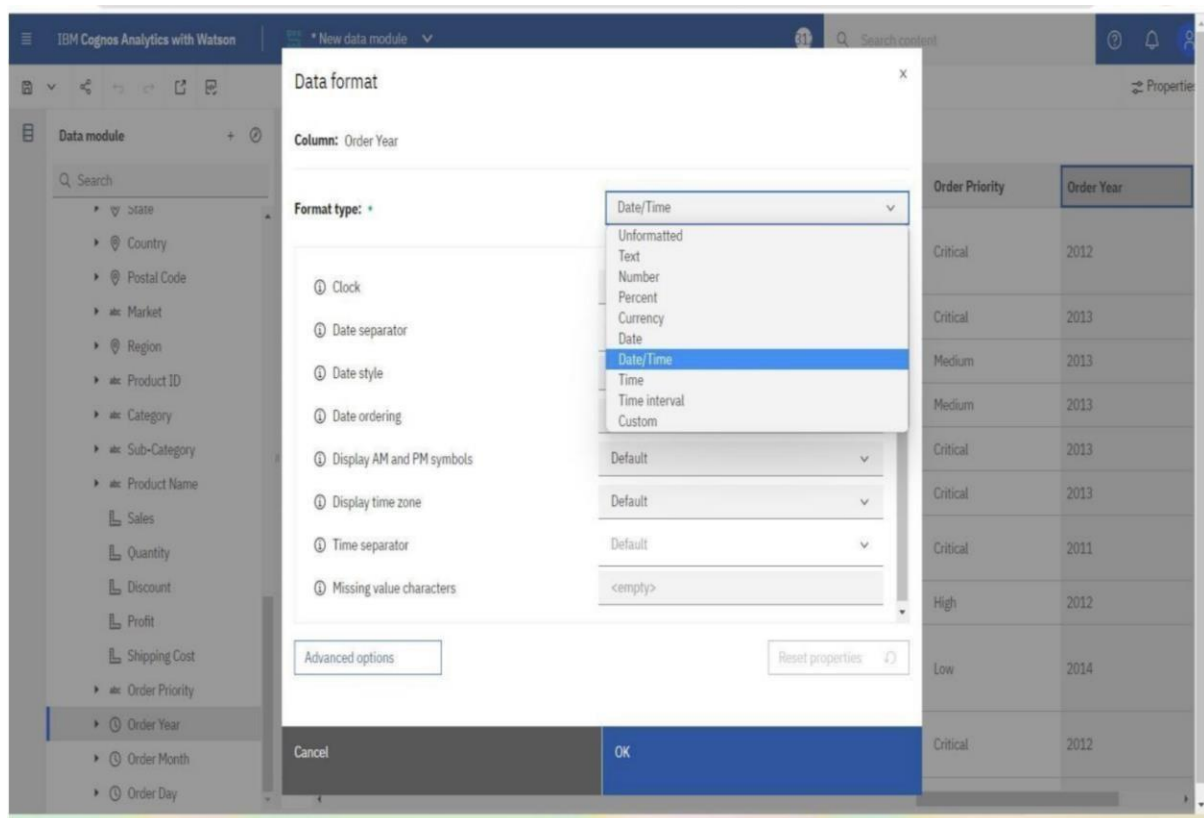
Similarly, 'Order Month', 'Order Day' and 'All'.



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 with Watson interface. The top bar includes the logo, a search bar, and user profile icons. The main workspace is divided into three sections: a left sidebar for the 'Data module', a central 'Grid' view, and a right 'Properties' panel.

**Data module sidebar:** Contains a search bar and a list of data sources including 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.

**Grid view:** Displays a table with columns: Profit, Shipping Cost, Order Priority, Order Year, and an unlabeled column. The data rows are as follows:

Profit	Shipping Cost	Order Priority	Order Year	
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

**Properties panel:** The 'General' tab is active, showing the 'Order Year' property. The 'Usage' dropdown is open, displaying a list of date components: Date, Year, Quarter, Season, Month, Week, Day, Hour, Minute, and Second. The 'Year' option is selected.

Hence calculations for day , month and year are completed.

Similarly calculations for Target sales, Min sales, Max sales And Middle range sales are done.

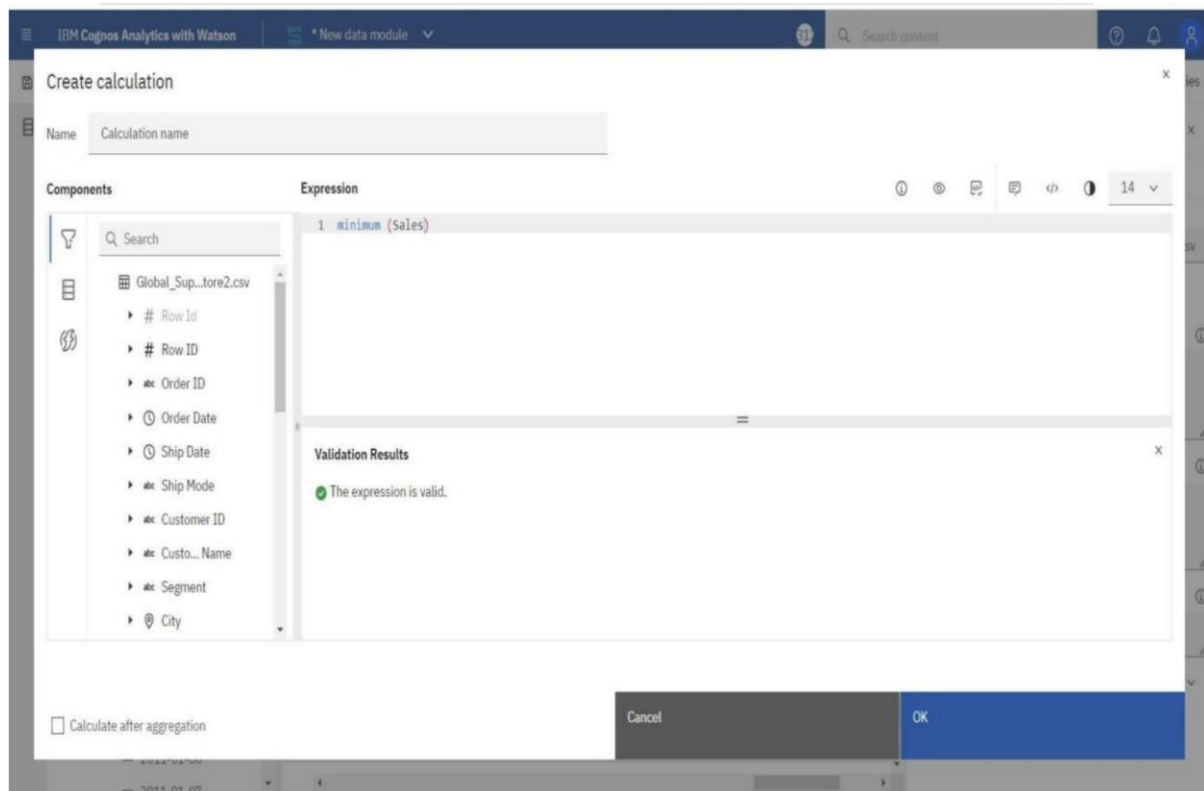
Min sales -> Minimum(sales)

Max sales, Target sales -> Maximum(sales)

Middle range sales -> Average (sales)



## Minumum(sales)



## Maximum(sales)

IBM Cognos Analytics with Watson

\* New data module

Search content

### Create calculation

Name: Calculation name

Components

- Global\_Sup...tore2.csv
  - # Row Id
  - # Row ID
  - abc Order ID
  - Order Date
  - Ship Date
  - Ship Mode
  - Customer ID
  - Custo... Name
  - Segment
  - City

Expression

1 maximum({Sales})

Validate

Validation Results

The expression is valid.

☐ Calculate after aggregation

Cancel OK

## Middle Range(sales)

The screenshot shows the 'Create calculation' dialog in IBM Cognos Analytics. The 'Name' field is labeled 'Calculation name'. The 'Components' pane on the left lists fields from the 'Global\_Sup...tore2.csv' dataset, including Row ID, Order ID, Order Date, Ship Date, Ship Mode, Customer ID, Customer Name, Segment, and City. The 'Expression' field contains the formula `1 average (Sales)`. A 'Validate' button is located to the right of the expression. Below the expression field, a 'Validation Results' panel displays a green checkmark and the message 'The expression is valid.' At the bottom, there is a checkbox for 'Calculate after aggregation' and 'Cancel' and 'OK' buttons.

IBM Cognos Analytics with Watson

\* New data module

Search content

### Create calculation

Name: Calculation name

Components

- Global\_Sup...tore2.csv
  - Row ID
  - Row ID
  - Order ID
  - Order Date
  - Ship Date
  - Ship Mode
  - Customer ID
  - Custo... Name
  - Segment
  - City

Expression

1 average (Sales)

Validate

Validation Results

The expression is valid.

☐ Calculate after aggregation

Cancel OK