

PROJECT DEVELOPMENT PHASE

SPRINT -2

| | |
|--------------|---------------------------------------|
| Date | 07 November 2022 |
| Team ID | PNT2022TMID01950 |
| Project Name | Project - Global Sales Data Analytics |

Dataset:

| Global Superstore2 | | | | | | | | | | | | | | |
|---|----------|-----------------|------------|----------------|-------------|-------------------------|-------------|-------------|----------------|-------------|-------------|----------------|------------|--|
| Search (Alt+Q) | | | | | | | | | | | | | | |
| Swagata Swarna | | | | | | | | | | | | | | |
| Comments Share | | | | | | | | | | | | | | |
| File Home Insert Page Layout Formulas Data Review View Help | | | | | | | | | | | | | | |
| Calibri 11 A A Wrap Text Merge & Center General Conditional Formatting Format as Table Cell Styles Insert Delete Format Cells Sort & Filter Find & Select Editing | | | | | | | | | | | | | | |
| U16 | | | | | | | | | | | | | | |
| Row ID | Order ID | Order Date | Ship Date | Ship Mode | Customer ID | Customer Segment | City | State | Country | Postal Code | Market | Region | Product ID | |
| 1 | 32298 | CA-2012-124891 | 31-07-2012 | Same Day | RH-19495 | Rick Hansel Consumer | New York | New York | United States | 10024 US | East | TEC-AC-100030 | | |
| 2 | 26341 | IN-2013-77878 | 05-02-2013 | Second Class | JR-16210 | Justin Ritte Corporate | Wollongong | New South | Australia | APAC | Oceania | FUR-CH-100035 | | |
| 3 | 25330 | IN-2013-71249 | 17-10-2013 | First Class | CR-12730 | Craig Reite Consumer | Brisbane | Queensland | Australia | APAC | Oceania | TEC-PH-100046 | | |
| 4 | 13524 | ES-2013-1579342 | 28-01-2013 | First Class | KM-16375 | Katherine H Home Office | Berlin | Berlin | Germany | EU | Central | TEC-PH-100045 | | |
| 5 | 47221 | SG-2013-4320 | 05-11-2013 | Same Day | RH-9495 | Rick Hansel Consumer | Dakar | Dakar | Senegal | Africa | Africa | TEC-SHA-10000 | | |
| 6 | 22732 | IN-2013-42360 | 28-06-2013 | Second Class | JM-15655 | Jim Mitchu Corporate | Sydney | New South | Australia | APAC | Oceania | TEC-PH-100000 | | |
| 7 | 30570 | IN-2011-81826 | 07-11-2011 | First Class | TS-21340 | Toby Swinc Consumer | Porirua | Wellington | New Zealand | APAC | Oceania | FUR-CH-100044 | | |
| 8 | 31192 | IN-2012-86369 | 14-04-2012 | Standard Class | MB-18085 | Mick Brown Consumer | Hamilton | Waikato | New Zealand | APAC | Oceania | FUR-CH-100029 | | |
| 9 | 40155 | CA-2014-135909 | 14-10-2014 | Standard Class | JW-15220 | Jane Waco Corporate | Sacramento | California | United States | 95823 US | West | OFF-BI-1000352 | | |
| 10 | 40936 | CA-2012-116638 | 28-01-2012 | Second Class | JH-15985 | Joseph Holl Consumer | Concord | North Caro | United States | 28027 US | South | FUR-TA-100001 | | |
| 11 | 34577 | CA-2011-102988 | 05-04-2011 | Second Class | GM-14695 | Greg Maxw Corporate | Alexandria | Virginia | United States | 22304 US | South | OFF-SU-100028 | | |
| 12 | 28879 | ID-2012-28402 | 19-04-2012 | First Class | AJ-10780 | Anthony Ja Corporate | Kabul | Kabul | Afghanistan | APAC | Central Asi | FUR-TA-100018 | | |
| 13 | 45794 | SA-2011-1830 | 27-12-2011 | Second Class | MM-7260 | Magdelene Consumer | Jizan | Jizan | Saudi Arabia | EMEA | EMEA | TEC-CS-100017 | | |
| 14 | 4132 | MX-2012-130015 | 13-11-2012 | Same Day | VF-21715 | Vicky Freyn Home Office | Toledo | Parana | Brazil | LATAM | South | FUR-CH-100020 | | |
| 15 | 27704 | IN-2013-73951 | 06-06-2013 | Second Class | PF-19120 | Peter Fullen Consumer | Mudanjiang | Heilongjian | China | APAC | North Asia | OFF-AP-100035 | | |
| 16 | 13779 | ES-2014-5099955 | 31-07-2014 | Second Class | BP-11185 | Ben Peterm Corporate | Paris | Ile-de-Fran | France | EU | Central | OFF-AP-100004 | | |
| 17 | 36178 | CA-2014-143567 | 03-11-2014 | Second Class | TP-21175 | Thomas Bo Corporate | Henderson | Kentucky | United States | 42420 US | South | TEC-AC-100041 | | |
| 18 | 12069 | ES-2014-1651774 | 08-09-2014 | Standard Class | PJ-18835 | Patrick Jon Corporate | Prato | Tuscany | Italy | EU | South | OFF-AP-100045 | | |
| 19 | 22096 | IN-2014-11763 | 31-01-2014 | First Class | JS-15685 | Jim Sink Corporate | Townsville | Queensland | Australia | APAC | Oceania | TEC-CO-100008 | | |
| 20 | 49463 | TZ-2014-8190 | 05-12-2014 | Second Class | RH-9555 | Ritsa Hight Consumer | Uvinza | Kigoma | Tanzania | Africa | Africa | OFF-KIT-100040 | | |
| 21 | 46630 | PL-2012-7820 | 08-08-2012 | First Class | AB-600 | Ann Blume Corporate | Bytom | Silesia | Poland | EMEA | EMEA | FUR-HON-1000 | | |
| 22 | 31784 | CA-2011-154627 | 29-10-2011 | First Class | SA-20830 | Sue Ann Re Consumer | Chicago | Illinois | United States | 60610 US | Central | TEC-PH-100013 | | |
| 23 | 21586 | IN-2011-44803 | 02-05-2011 | First Class | JK-15325 | Jason Klam Corporate | Suzhou | Anhui | China | APAC | North Asia | FUR-CH-100000 | | |
| 24 | 13528 | ES-2013-2860574 | 27-02-2013 | Second Class | LB-16795 | Laurel Belt Home Office | Edinburgh | Scotland | United Kingdom | EU | North | OFF-AP-100035 | | |
| 25 | 1570 | US-2014-133193 | 31-07-2014 | First Class | NP-18325 | Naresj Pate Consumer | Juarez | Chihuahua | Mexico | LATAM | North | TEC-PH-100041 | | |
| 26 | 3484 | MX-2014-165309 | 05-09-2014 | First Class | VD-21670 | Valerie Dor Consumer | Soyapango | San Salvad | El Salvador | LATAM | Central | FUR-TA-100028 | | |
| 27 | 30191 | IN-2011-10286 | 17-12-2011 | First Class | PB-19210 | Phillip Brey Corporate | Taipei | Taipei City | Taiwan | APAC | North Asia | FUR-TA-100047 | | |
| 28 | 11645 | ES-2011-4699764 | 14-03-2011 | Second Class | EB-14110 | Eugene Bar Consumer | Leipzig | Saxony | Germany | EU | Central | OFF-AP-100045 | | |
| 29 | 37311 | CA-2013-159016 | 11-03-2013 | First Class | KF-16285 | Karen Fergi Home Office | Los Angeles | California | United States | 90008 US | West | TEC-PH-100028 | | |

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. The main content area features a welcome message and a 'Watch video' button. A file explorer window is open, showing the 'Global_Superstore2.csv' file being selected for upload. Below the welcome message, there are four steps: 'Upload data', 'Prepare data', 'Exploration', and 'Present data'. The 'Upload data' step is highlighted, indicating the current stage of the process.

IBM Cognos Analytics with Watson

1 item open

Search content

Hello. Welcome to Watson.

You can get started right away with the 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

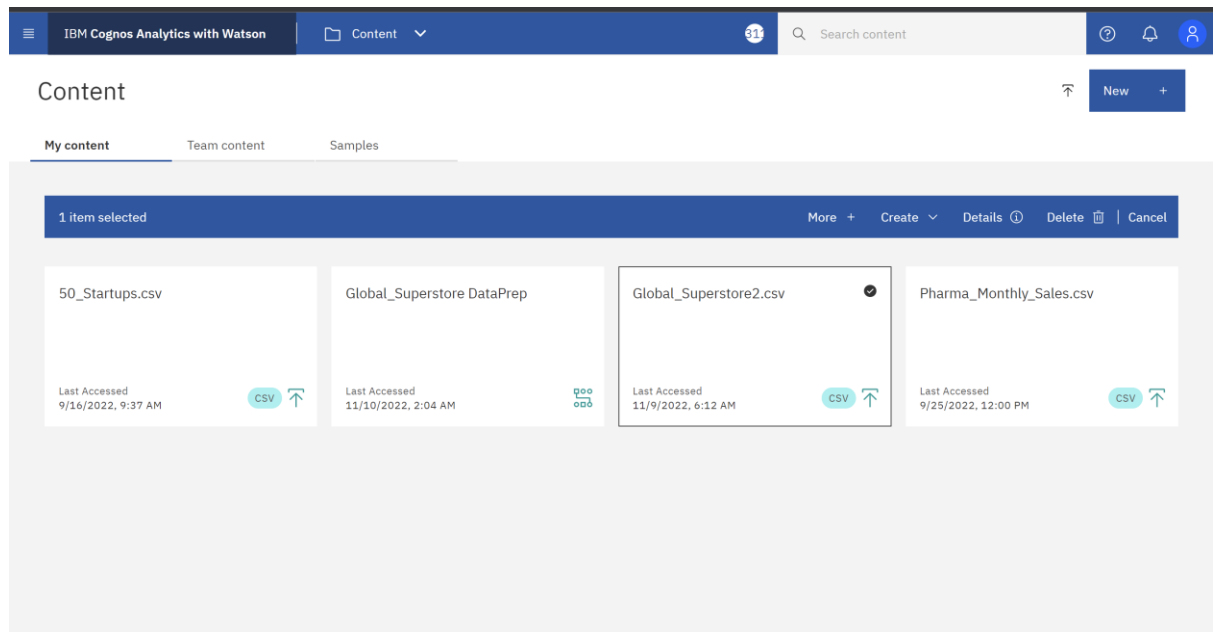
Dismiss More info

Get started Recent

| Item Name | Last Accessed | Icon |
|------------------------------------|----------------------|-------|
| Global_Superstore DataPrep | 11/10/2022, 12:37 AM | 📄 |
| Global_Superstore2.csv | 11/9/2022, 6:12 AM | CSV 📄 |
| Pharma_sales_dashboard | 10/6/2022, 11:15 PM | 📊 |
| Template: "Pharma_sales_dashboard" | 9/26/2022, 9:03 AM | 📄 |
| Pharma_Monthly_Sales.csv | 9/25/2022, 12:00 PM | CSV 📄 |
| Area | 9/16/2022, 12:02 PM | 📊 |
| scatter | 9/16/2022, 11:59 AM | 📊 |
| Radial | 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. Below the navigation bar, a maintenance message states: 'Maintenance: Scheduled maintenance completed. Click More Info for details and to subscribe to future events'. The main area displays a data grid for the 'Global_Superstore2.csv' file. The grid has columns: Row ID, Order ID, Order Date, Ship Date, Ship Mode, and Customer ID. The left sidebar shows a list of fields for the data module, including Row ID, Order ID, Order Date, Ship Date, Ship Mode, Customer ID, Customer Name, Segment, City, State, Country, and Postal Code.

| 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 | Second 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

Dismiss More info

Properties

Data module

Grid Relationships Custom tables

Search

Order ID Order Date Ship Date Ship Mode Customer ID

Filter...

Create data group...

Create navigation path...

Split...

Hide from users

Remove

Format data...

Clean...

Sort descending

Sort ascending

Properties

| 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-2013-10-18 | 2013-10-18 | 2013-10-18 | First Class | CR-12730 |
| 4 | 13524 | ES-2013-01-30 | 2013-01-30 | 2013-01-30 | First Class | KM-16375 |
| 5 | 47221 | SG-2013-11-06 | 2013-11-06 | 2013-11-06 | Same Day | RH-9495 |
| 6 | 22732 | IN-2013-07-01 | 2013-07-01 | 2013-07-01 | Second Class | JM-15655 |
| 7 | 30570 | IN-2011-11-09 | 2011-11-09 | 2011-11-09 | First Class | TS-21340 |
| 8 | 31192 | IN-2012-04-14 | 2012-04-14 | 2012-04-18 | Standard Class | MB-18085 |
| 9 | 40155 | CA-2014-10-14 | 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 |

IBM Cognos Analytics with Watson | New data module

Search content

Properties

Data module

Search

Order ID Order Date Ship Date Ship Mode Customer ID

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

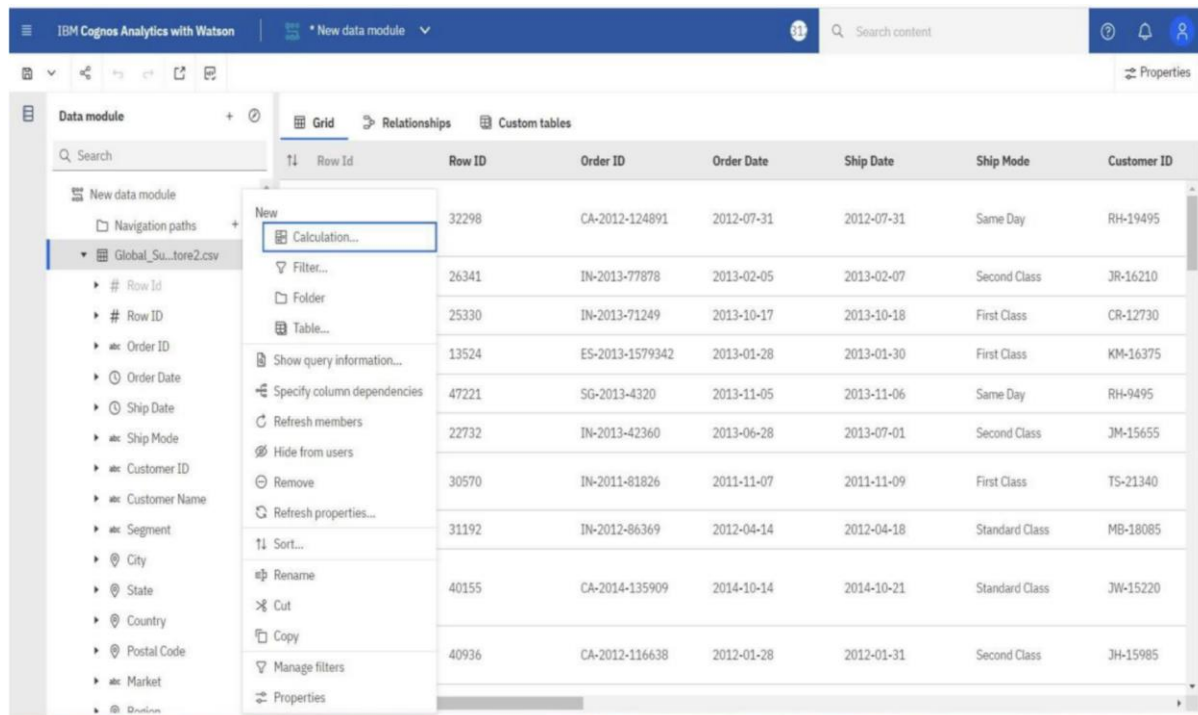
Cancel OK

| 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 |

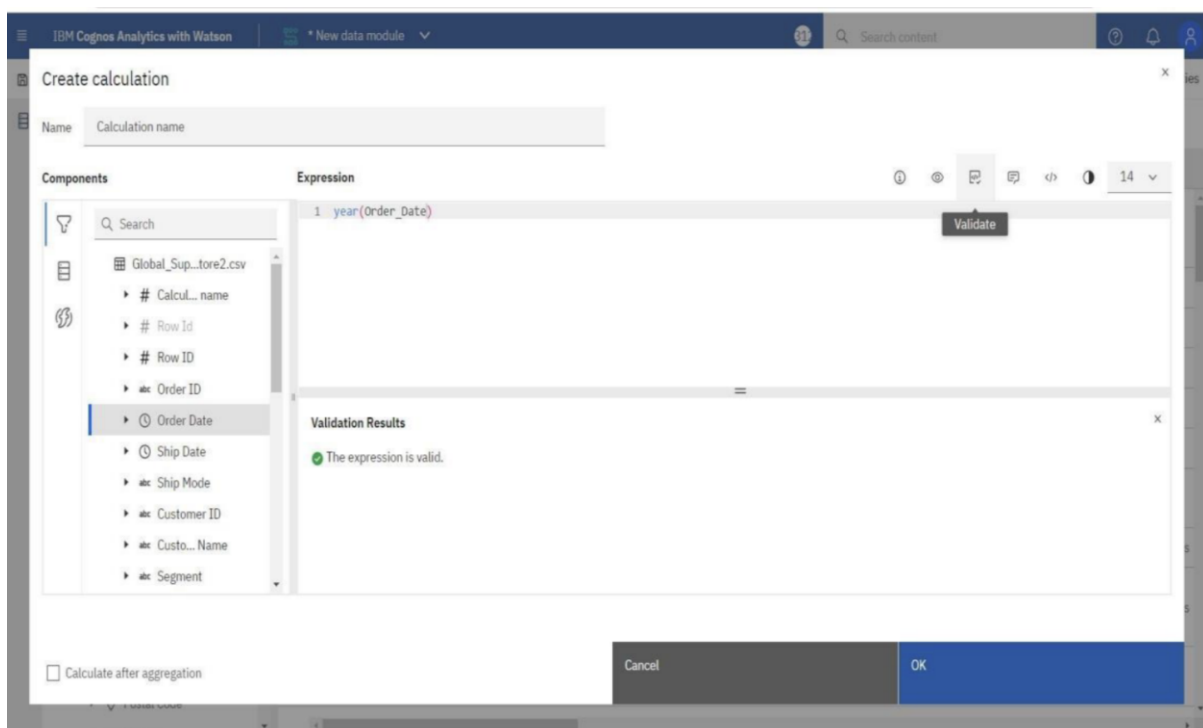
- Once cleaned save the data.

Data calculations and navigation paths:

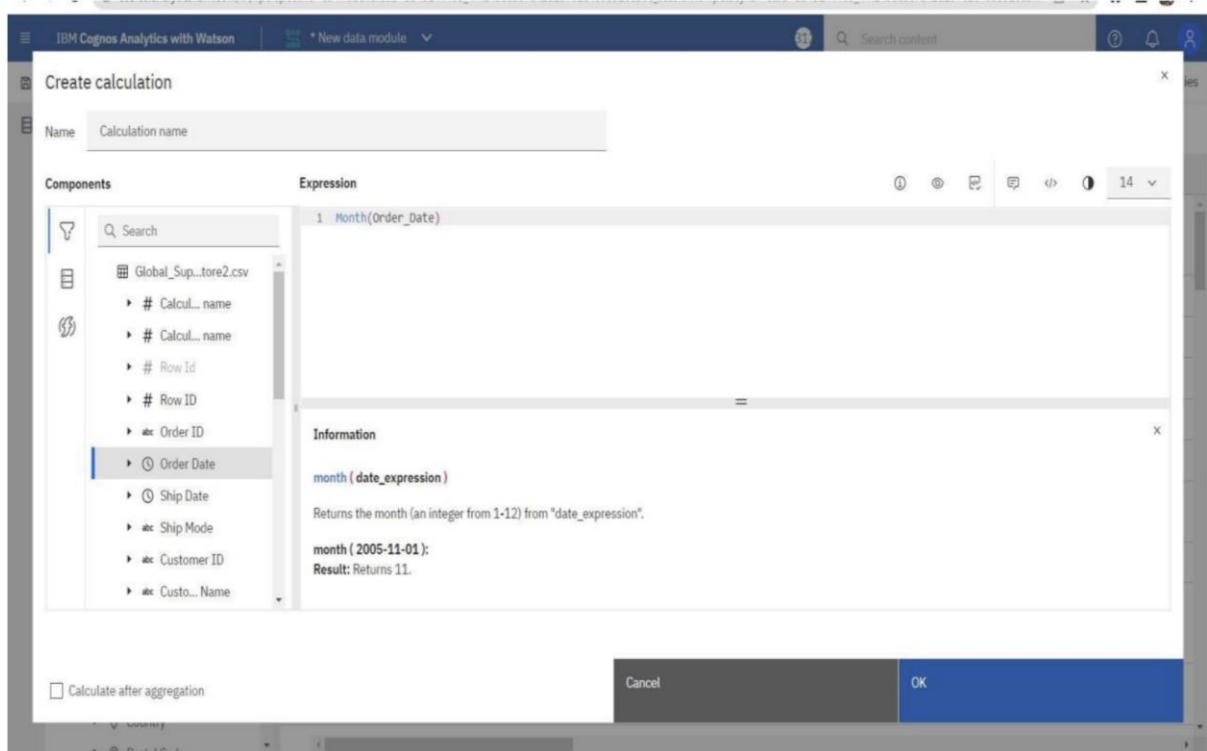
- Once you load the data, we need to prepare the data.
- Prepare calculations of year, month, day fields and also related navigation paths.
- Create a few more calculations – Target sales, Min sales, Max sales, Middle Range sales.



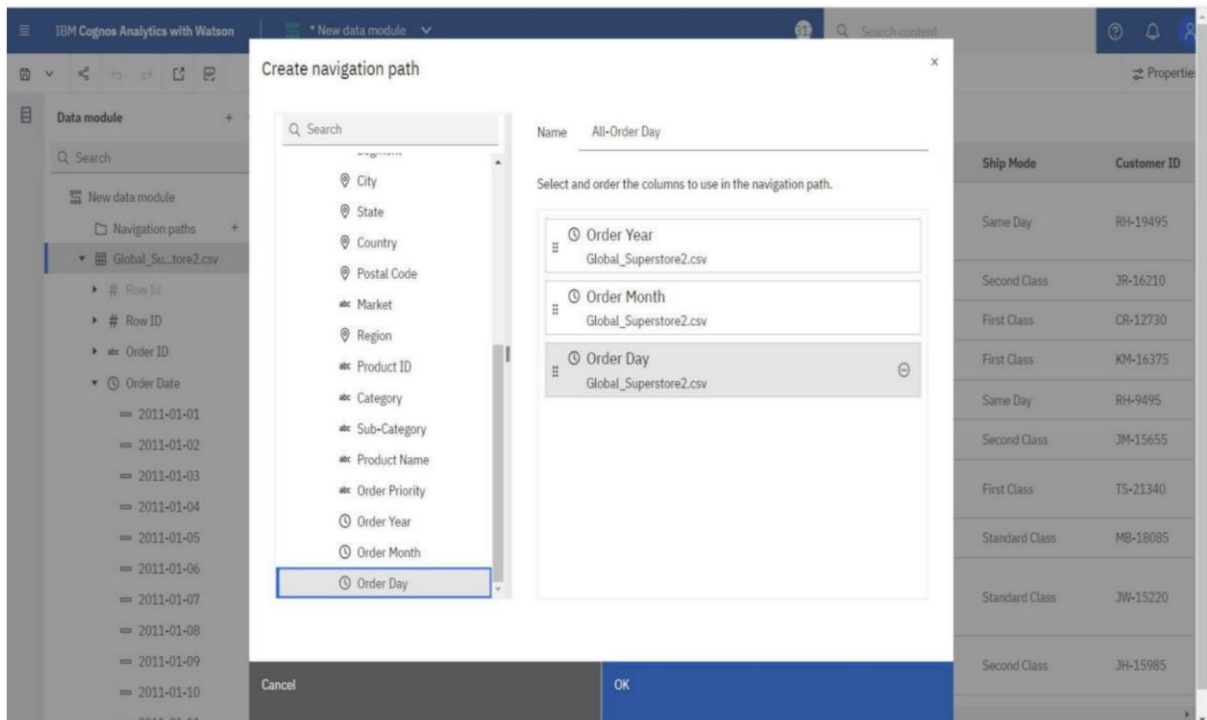
- Right click -> calculation -> type expression -> validate -> set new name as Order Year.



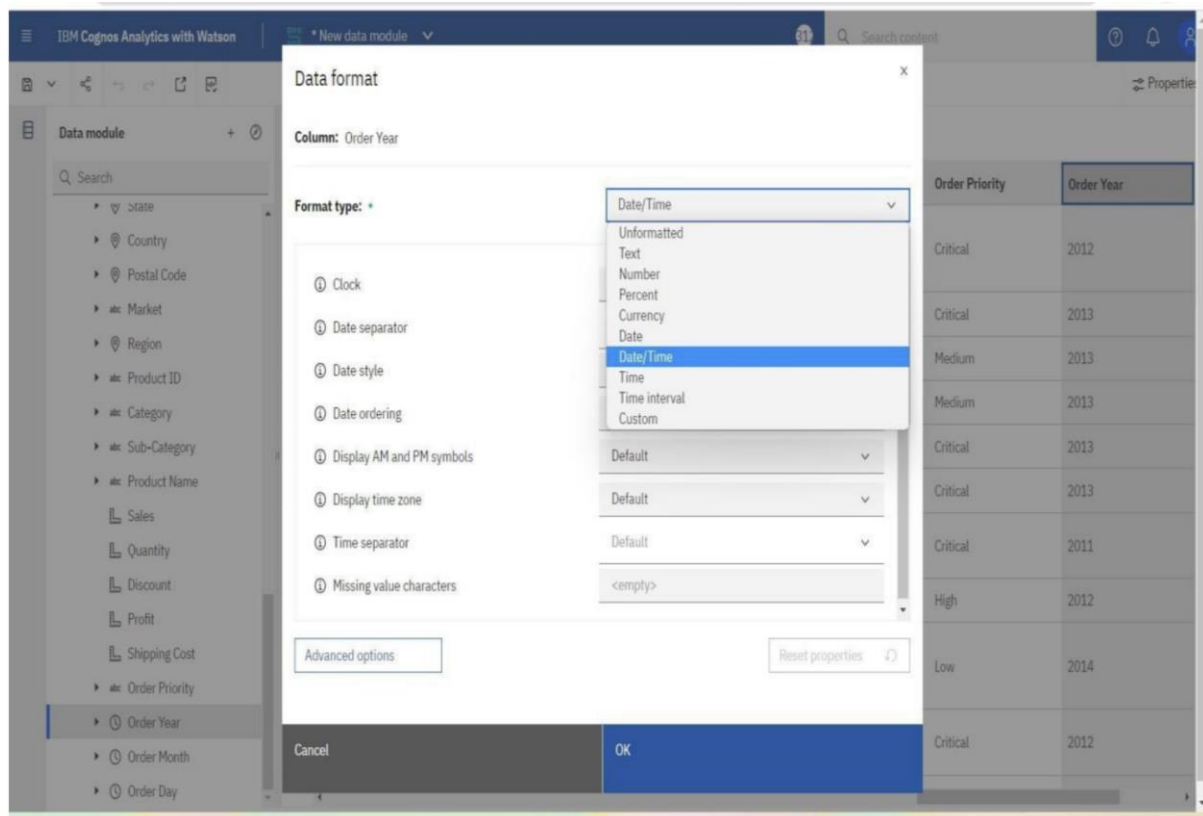
- Similarly, 'Order Month', 'Order Day' and 'All'.



- Right click on create navigation path.



- Data format -> date/Time



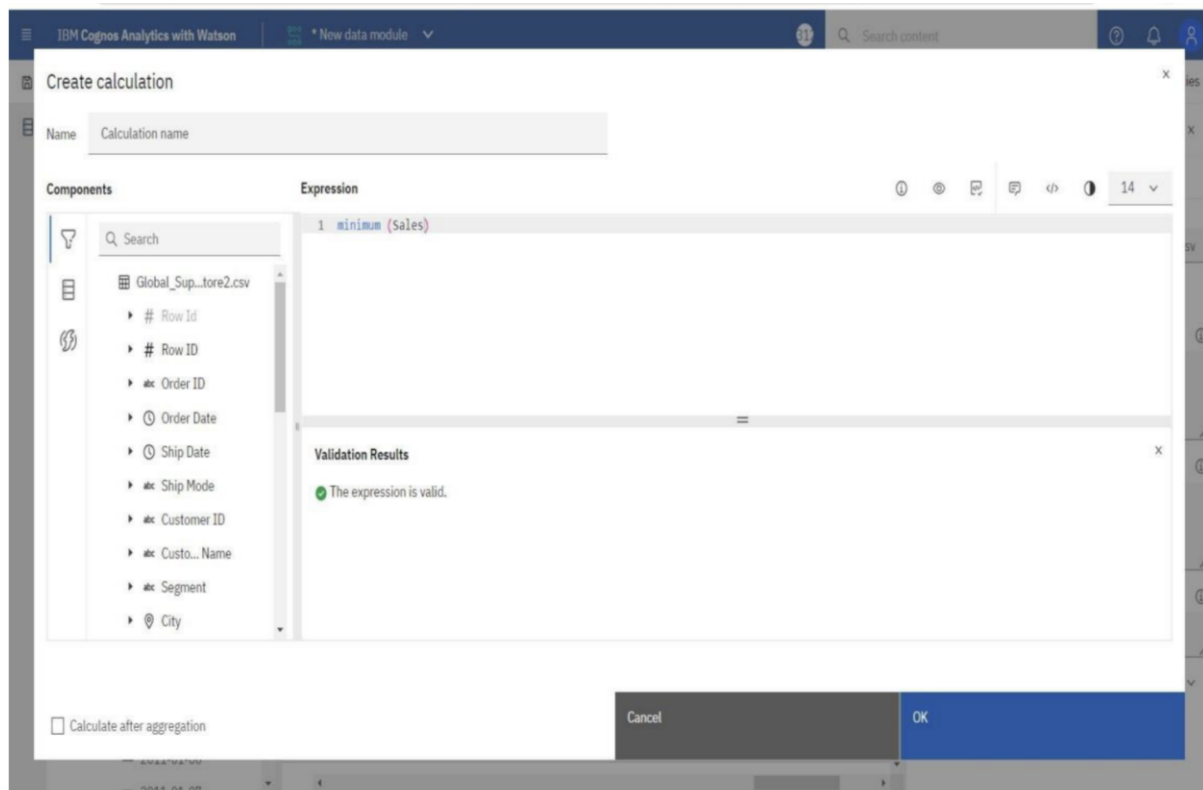
- Properties -> usage -> Attribute
- Aggregate -> Count Distinct
- Data Type -> Integer
- Represents -> Time, (Year, Month , Day respectively)
- Display options -> show members
- This way it becomes a Numerical Data Type

The screenshot displays the IBM Cognos Analytics interface. On the left, the 'Data module' pane shows a search bar and a list of data fields 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. The 'Order Year' field is selected. The main area shows a 'Grid' view of data with columns: Profit, Shipping Cost, Order Priority, Order Year, and Ord. The data rows show various values for these fields across different years (2011, 2012, 2013, 2014). On the right, the 'Properties' panel is open, showing the 'General' tab for the 'Order Year' field. It includes options for 'Label', 'Hide from users', 'Expression', and 'Usage'. The 'Usage' dropdown is open, showing options: Date, Year, Quarter, Season, Month, Week, Day, Hour, Minute, and Second. The 'Year' option is selected.

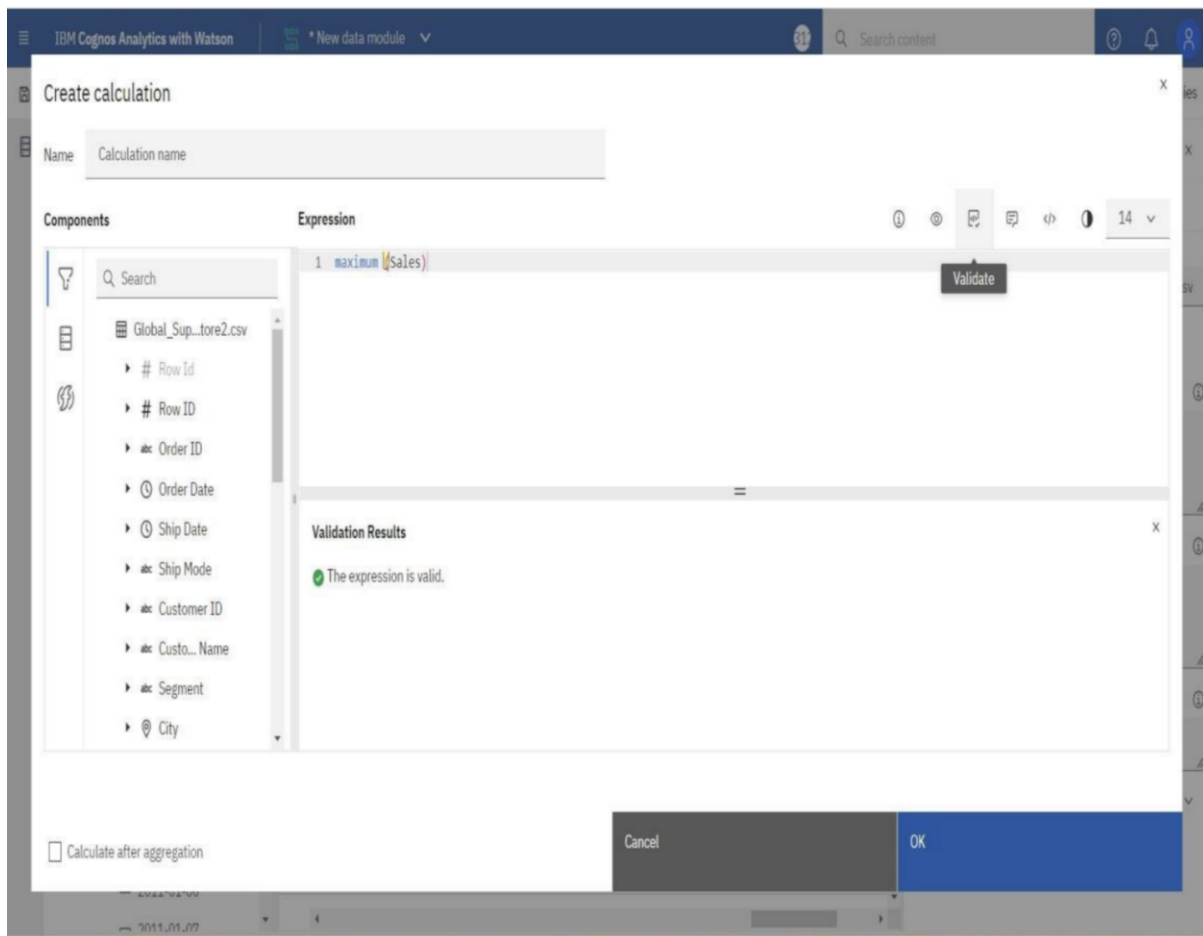
| Profit | Shipping Cost | Order Priority | Order Year | Ord |
|------------|---------------|----------------|------------|-----|
| 762.1845 | 933.57 | Critical | 2012 | 7 |
| -288.765 | 923.63 | Critical | 2013 | 2 |
| 919.971 | 915.49 | Medium | 2013 | 1 |
| -96.54 | 910.16 | Medium | 2013 | 1 |
| 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)

Minumum(sales)



Maximum(sales)



Middle Range(sales)

The screenshot shows the 'Create calculation' dialog box in IBM Cognos Analytics. The dialog has a title bar with 'IBM Cognos Analytics with Watson' and a search bar. Below the title bar, there's a 'Name' field with the placeholder text 'Calculation name'. The main area is divided into two panes: 'Components' on the left and 'Expression' on the right. The 'Components' pane shows a list of fields from the 'Global_Sup...tore2.csv' dataset, including '# Row Id', '# Row ID', 'Order ID', 'Order Date', 'Ship Date', 'Ship Mode', 'Customer ID', 'Custo... Name', 'Segment', and 'City'. The 'Expression' pane shows the expression '1 average (Sales)' with a 'Validate' button. Below the expression, there's a 'Validation Results' section that says 'The expression is valid.' with a green checkmark. At the bottom of the dialog, there's a checkbox labeled 'Calculate after aggregation' and two buttons: 'Cancel' and 'OK'.

IBM Cognos Analytics with Watson

* New data module

Search content

Create calculation

Name Calculation name

Components

Search

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