

# Project Development Phase

## Sprint - 1

Team ID	PNT2022TMID45059
Project Name	Project - Retail Store Stock Inventory Analytics

## SPRINT-1

- Data Collection
- Data Preparation

## Data Collection:

### 1. Download the Dataset

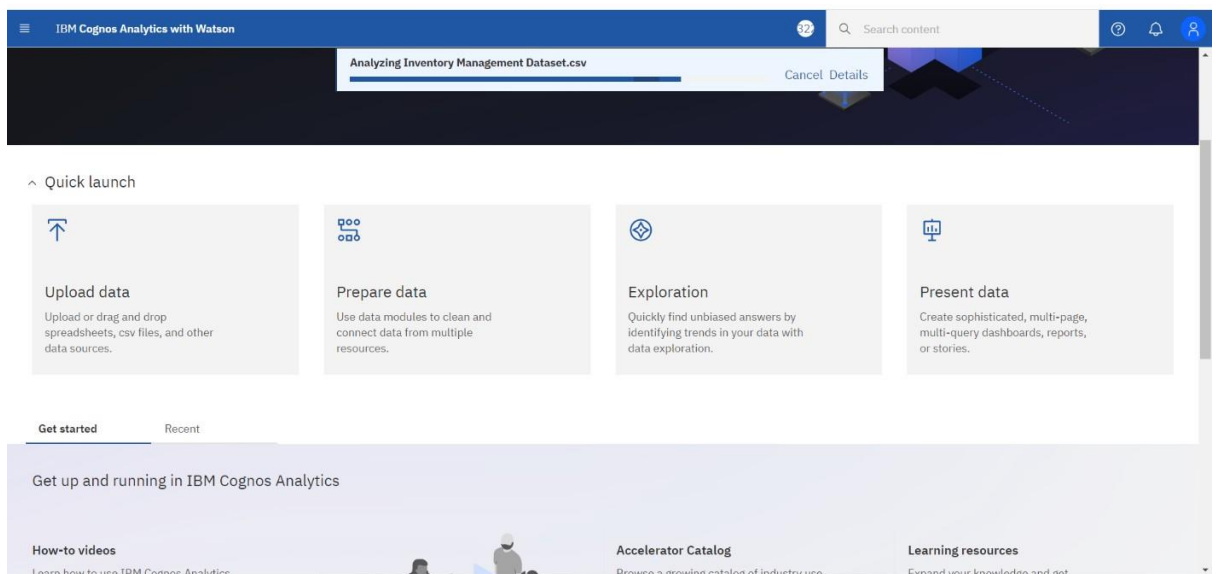
Dataset link -

<https://drive.google.com/file/d/1awFIKJ9LildnNHwGLcsqNDbbwshFHRw/view>

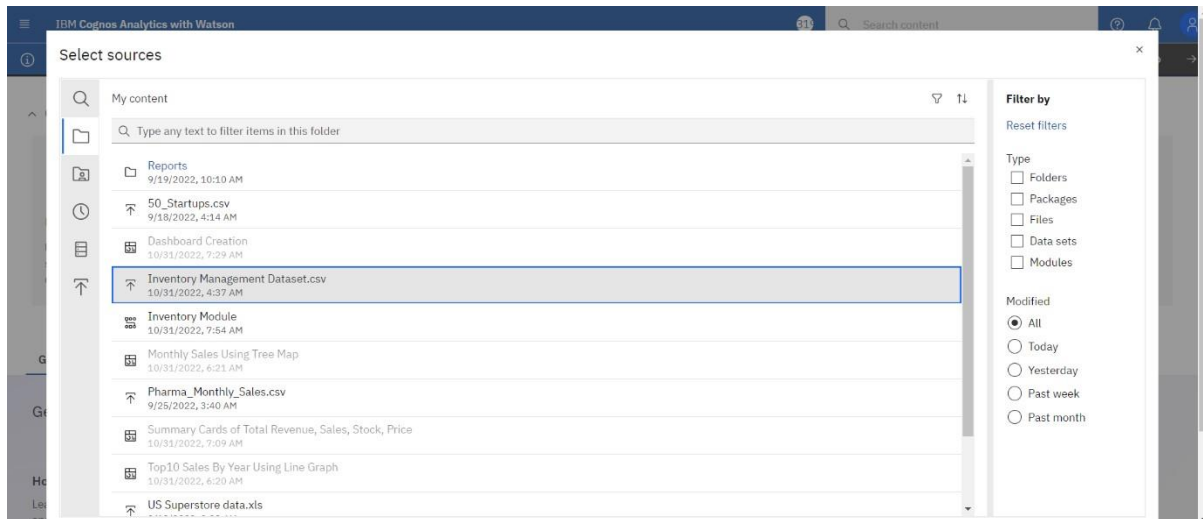
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	data	venda	estoque	preco																		
2	#####	0	4972	1.29																		
3	#####	70	4902	1.29																		
4	#####	59	4843	1.29																		
5	#####	93	4750	1.29																		
6	#####	96	4654	1.29																		
7	#####	145	4509	1.29																		
8	#####	179	4329	1.29																		
9	#####	321	4104	1.29																		
10	#####	125	4459	1.09																		
11	#####	88	5043	1.09																		
12	#####	188	5239	1.09																		
13	#####	121	5118	1.09																		
14	#####	134	4984	1.09																		
15	#####	80	4904	1.09																		
16	#####	82	4822	1.09																		
17	#####	94	4728	1.19																		
18	#####	159	4464	1.19																		
19	#####	199	4265	1.19																		
20	#####	104	4161	1.19																		
21	#####	70	4091	1.19																		
22	#####	127	3964	1.09																		
23	#####	96	3868	1.09																		
24	#####	75	3793	1.09																		
25	#####	198	3595	1.09																		
26	#####	168	3427	1.09																		
27	#####	125	3302	1.09																		
28	#####	86	3216	1.09																		
29	#####	222	2994	0.99																		

### 2. Load the Dataset

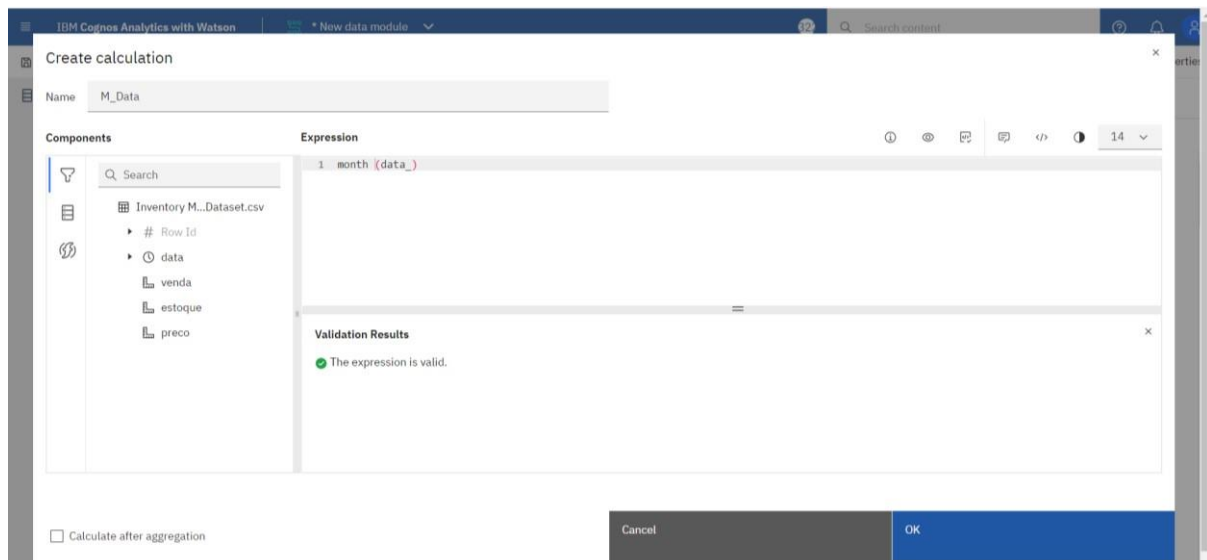
Tool Used: IBM Cognos



## Data Preparation:



## Month Data(M\_Data):



The screenshot shows the 'Data module' view in IBM Cognos Analytics. The 'Grid' tab is selected, showing a table with columns: Row Id, Year, Sales, Stock, and Price. The table contains 15 rows of data.

Row Id	Year	Sales	Stock	Price
1	2014-01-01	0	4972	1.29
2	2014-01-02	70	4902	1.29
3	2014-01-03	59	4843	1.29
4	2014-01-04	93	4750	1.29
5	2014-01-05	96	4654	1.29
6	2014-01-06	145	4509	1.29
7	2014-01-07	179	4329	1.29
8	2014-01-08	321	4104	1.29
9	2014-01-09	125	4459	1.09
10	2014-01-10	88	5043	1.09
11	2014-01-11	188	5239	1.09
12	2014-01-12	121	5118	1.09
13	2014-01-13	134	4984	1.09
14	2014-01-14	80	4904	1.09
15	2014-01-15	82	4822	1.09

## Revenue Data:

Create calculation

Name

Revenue

Components

Search

Inventory M...Dataset.csv

- M\_Data
- # Row Id
- Year
- Sales
- Stock
- Price

Expression

1 venda\*preco

Validation Results

The expression is valid.

Calculate after aggregation

Cancel

OK

IBM Cognos Analytics with Watson							
New data module							
Data module							
Grid							
Revenue	M_Data	Row Id	Year	Sales	Stock	Price	
0	1	1	2014-01-01	0	4972	1.29	
90.3	1	2	2014-01-02	70	4902	1.29	
76.11	1	3	2014-01-03	59	4843	1.29	
119.97	1	4	2014-01-04	93	4750	1.29	
123.84	1	5	2014-01-05	96	4654	1.29	
187.05	1	6	2014-01-06	145	4509	1.29	
230.91	1	7	2014-01-07	179	4329	1.29	
414.09000000000003	1	8	2014-01-08	321	4104	1.29	
136.25	1	9	2014-01-09	125	4459	1.09	
95.92	1	10	2014-01-10	88	5043	1.09	
204.92000000000002	1	11	2014-01-11	188	5239	1.09	
131.89000000000001	1	12	2014-01-12	121	5118	1.09	
146.06	1	13	2014-01-13	134	4984	1.09	
87.2	1	14	2014-01-14	80	4904	1.09	
89.38000000000001	1	15	2014-01-15	82	4822	1.09	

## Year Data:

IBM Cognos Analytics with Watson							
New data module							
Data module							
Grid							
Revenue	M_Data	Row Id	Year	Sales	Stock	Price	
0	1	1	2014-01-01	0	4972	1.29	
90.3	1	2	2014-01-02	70	4902	1.29	
76.11	1	3	2014-01-03	59	4843	1.29	
119.97	1	4	2014-01-04	93	4750	1.29	
123.84	1	5	2014-01-05	96	4654	1.29	
187.05	1	6	2014-01-06	145	4509	1.29	
230.91	1	7	2014-01-07	179	4329	1.29	
414.09000000000003	1	8	2014-01-08	321	4104	1.29	
136.25	1	9	2014-01-09	125	4459	1.09	
95.92	1	10	2014-01-10	88	5043	1.09	
204.92000000000002	1	11	2014-01-11	188	5239	1.09	
131.89000000000001	1	12	2014-01-12	121	5118	1.09	
146.06	1	13	2014-01-13	134	4984	1.09	
87.2	1	14	2014-01-14	80	4904	1.09	
89.38000000000001	1	15	2014-01-15	82	4822	1.09	

## Stock Data:

IBM Cognos Analytics with Watson

New data module

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Search content

Properties

Data module

Search

New data module

Navigation paths

Inventory M...ataset.csv

Revenue

# M\_Data

# Row Id

Year

Sales

Stock

Price

Grid

Relationships

Custom tables

	Revenue	M_Data	Row Id	Year	Sales	Stock	Price
0	1	1	2014-01-01	0	4972	1.29	
90.3	1	2	2014-01-02	70	4902	1.29	
76.11	1	3	2014-01-03	59	4843	1.29	
119.97	1	4	2014-01-04	93	4750	1.29	
123.84	1	5	2014-01-05	96	4654	1.29	
187.05	1	6	2014-01-06	145	4509	1.29	
230.91	1	7	2014-01-07	179	4329	1.29	
414.09000000000003	1	8	2014-01-08	321	4104	1.29	
136.25	1	9	2014-01-09	125	4459	1.09	
95.92	1	10	2014-01-10	88	5043	1.09	
204.92000000000002	1	11	2014-01-11	188	5239	1.09	
131.89000000000001	1	12	2014-01-12	121	5118	1.09	
146.06	1	13	2014-01-13	134	4984	1.09	
87.2	1	14	2014-01-14	80	4904	1.09	
89.38000000000001	1	15	2014-01-15	82	4822	1.09	

## Sales Data:

IBM Cognos Analytics with Watson

New data module

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Search content

Properties

## Price Data:

IBM Cognos Analytics with Watson | \* New data module

Search content

Properties

Data module

Search

- New data module
  - Navigation paths
    - Inventory M...ataset.csv
      - Revenue
      - # M\_Data
      - # Row Id
      - Year
      - Sales
      - Stock
      - Price

Grid Relationships Custom tables

TI	M_Data	Row Id	Year	Sales	Stock	Price
1	1	1	2014-01-01	0	4972	1.29
1	1	2	2014-01-02	70	4902	1.29
1	1	3	2014-01-03	59	4843	1.29
1	1	4	2014-01-04	93	4750	1.29
1	1	5	2014-01-05	96	4654	1.29
1	1	6	2014-01-06	145	4509	1.29
1	1	7	2014-01-07	179	4329	1.29
00000000003	1	8	2014-01-08	321	4104	1.29
1	1	9	2014-01-09	125	4459	1.09
1	1	10	2014-01-10	88	5043	1.09
00000000002	1	11	2014-01-11	188	5239	1.09
00000000001	1	12	2014-01-12	121	5118	1.09
1	1	13	2014-01-13	134	4984	1.09
1	1	14	2014-01-14	80	4904	1.09
00000000001	1	15	2014-01-15	82	4822	1.09

## Month Format Data:

IBM Cognos Analytics with Watson | \* New data module

Search content

Properties

Data module

Search

- New data module
  - Navigation paths
    - Inventory M...ataset.csv
      - Revenue
      - # M\_Data
      - # Row Id
      - Year
      - Sales
      - Stock
      - Price

Data format

Column: M\_Data

Format type: Date

① Date separator: /

① Date style: Short

① Date ordering: Default

① Missing value characters: <empty>

Advanced options

Reset properties

Cancel OK

IBM Cognos Analytics with Watson | \* New data module

Search content

Properties

Data module

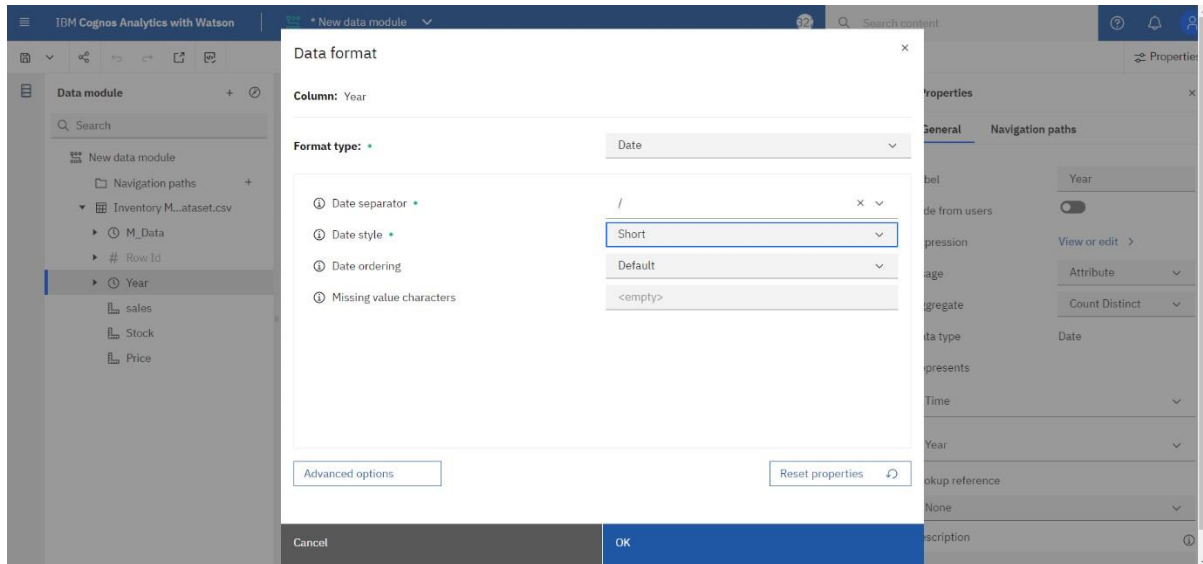
Search

- New data module
  - Navigation paths
    - Inventory M...ataset.csv
      - Revenue
      - # M\_Data
      - # Row Id
      - Year
      - Sales
      - Stock
      - Price

Grid Relationships Custom tables

TI	Revenue	M_Data	Row Id	Year	sales	Stock	Price
0	1	1	1	1/1/14	0	4972	1
90.3	1	2	2	1/2/14	70	4902	1
76.11	1	3	3	1/3/14	59	4843	1
119.97	1	4	4	1/4/14	93	4750	1
123.84	1	5	5	1/5/14	96	4654	1
187.05	1	6	6	1/6/14	145	4509	1
230.91	1	7	7	1/7/14	179	4329	1
414.09000000000003	1	8	8	1/8/14	321	4104	1
136.25	1	9	9	1/9/14	125	4459	1
95.92	1	10	10	1/10/14	88	5043	1
204.92000000000002	1	11	11	1/11/14	188	5239	1
121.00000000000001	1	12	12	1/12/14	121	5118	1

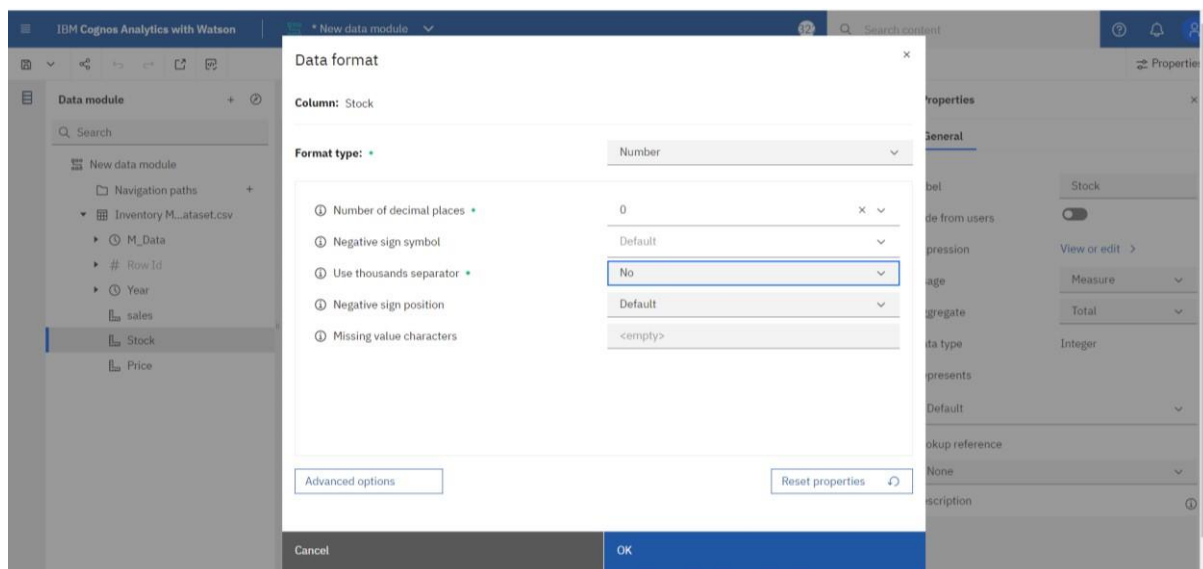
## Year Format Data:



The screenshot shows the 'Grid' view of the data table. The table has 8 columns: Revenue, M\_Data, Row Id, Year, sales, Stock, and Price. The 'Year' column is highlighted. The data is as follows:

Revenue	M_Data	Row Id	Year	sales	Stock	Price
0	1	1	1/1/14	0	4972	1
90.3	1	2	1/2/14	70	4902	1
76.11	1	3	1/3/14	59	4843	1
119.97	1	4	1/4/14	93	4750	1
123.84	1	5	1/5/14	96	4654	1
187.05	1	6	1/6/14	145	4509	1
230.91	1	7	1/7/14	179	4329	1
414.09000000000003	1	8	1/8/14	321	4104	1
136.25	1	9	1/9/14	125	4459	1
95.92	1	10	1/10/14	88	5043	1
204.92000000000002	1	11	1/11/14	188	5239	1
131.00000000000001	1	12	1/12/14	131	5110	1

## Stock Format Data:



IBM Cognos Analytics with Watson | \* New data module | Search content | Properties

Data module

Search

- New data module
  - Navigation paths
  - Inventory M...ataset.csv
    - Revenue
    - M\_Data
    - Row Id
    - Year
    - sales
    - Stock
    - Price

Revenue	M_Data	Row Id	Year	sales	Stock	Price
0	1	1	1/1/14	0	4972	1
90.3	1	2	1/2/14	70	4902	1
76.11	1	3	1/3/14	59	4843	1
119.97	1	4	1/4/14	93	4750	1
123.84	1	5	1/5/14	96	4654	1
187.05	1	6	1/6/14	145	4509	1
230.91	1	7	1/7/14	179	4329	1
414.09000000000003	1	8	1/8/14	321	4104	1
136.25	1	9	1/9/14	125	4459	1
95.92	1	10	1/10/14	88	5043	1
204.92000000000002	1	11	1/11/14	188	5239	1
131.00000000000001	1	12	1/12/14	131	5110	1

## Sales Format Data:

IBM Cognos Analytics with Watson | \* New data module | Search content | Properties

Data module

Search

- New data module
  - Navigation paths
  - Inventory M...ataset.csv
    - Revenue
    - M\_Data
    - Row Id
    - Year
    - sales
    - Stock
    - Price

Data format

Column: sales

Format type: Number

Number of decimal places: 0

Negative sign symbol: Default

Use thousands separator: No

Negative sign position: Default

Missing value characters: <empty>

Advanced options

Reset properties

Cancel OK

IBM Cognos Analytics with Watson | \* New data module | Search content | Properties

Data module

Search

- New data module
  - Navigation paths
  - Inventory M...ataset.csv
    - Revenue
    - M\_Data
    - Row Id
    - Year
    - sales
    - Stock
    - Price

Revenue	M_Data	Row Id	Year	sales	Stock	Price
0	1	1	1/1/14	0	4972	1
90.3	1	2	1/2/14	70	4902	1
76.11	1	3	1/3/14	59	4843	1
119.97	1	4	1/4/14	93	4750	1
123.84	1	5	1/5/14	96	4654	1
187.05	1	6	1/6/14	145	4509	1
230.91	1	7	1/7/14	179	4329	1
414.09000000000003	1	8	1/8/14	321	4104	1
136.25	1	9	1/9/14	125	4459	1
95.92	1	10	1/10/14	88	5043	1
204.92000000000002	1	11	1/11/14	188	5239	1
131.00000000000001	1	12	1/12/14	131	5110	1

## Price Format Data:

The screenshot shows the IBM Cognos Analytics interface with the 'Data format' dialog open for the 'Price' column. The dialog is titled 'Data format' and has a close button (X) in the top right corner. The 'Column:' field is set to 'Price'. The 'Format type:' dropdown is set to 'Number'. Below this, there are several settings:

- Number of decimal places: 0
- Negative sign symbol: Default
- Use thousands separator: No
- Negative sign position: Default
- Missing value characters: <empty>

At the bottom of the dialog, there are buttons for 'Advanced options', 'Reset properties', 'Cancel', and 'OK'.

The screenshot shows the IBM Cognos Analytics interface with a data table displayed. The table has the following columns: M\_Data, Row Id, Year, sales, Stock, and Price. The data is as follows:

M_Data	Row Id	Year	sales	Stock	Price
1	1	1/1/14	0	4972	1
1	2	1/2/14	70	4902	1
1	3	1/3/14	59	4843	1
1	4	1/4/14	93	4750	1
1	5	1/5/14	96	4654	1
1	6	1/6/14	145	4509	1
1	7	1/7/14	179	4329	1
00000000003	8	1/8/14	321	4104	1
1	9	1/9/14	125	4459	1
1	10	1/10/14	88	5043	1
00000000002	11	1/11/14	188	5239	1
00000000001	12	1/12/14	123	5110	1

## Revenue Format Data:

The screenshot shows the IBM Cognos Analytics interface with the 'Data format' dialog open for the 'Revenue' column. The dialog is titled 'Data format' and has a close button (X) in the top right corner. The 'Column:' field is set to 'Revenue'. The 'Format type:' dropdown is set to 'Number'. Below this, there are several settings:

- Number of decimal places: 0
- Negative sign symbol: Default
- Use thousands separator: No
- Negative sign position: Default
- Missing value characters: <empty>

At the bottom of the dialog, there are buttons for 'Advanced options', 'Reset properties', 'Cancel', and 'OK'.



Revenue	M_Data	Row Id	Year	Sales	Stock	Price
0	1	1	1/1/14	0	4972	1
90	1	2	1/2/14	70	4902	1
76	1	3	1/3/14	59	4843	1
120	1	4	1/4/14	93	4750	1
124	1	5	1/5/14	96	4654	1
187	1	6	1/6/14	145	4509	1
231	1	7	1/7/14	179	4329	1
414	1	8	1/8/14	321	4104	1
136	1	9	1/9/14	125	4459	1
96	1	10	1/10/14	88	5043	1
205	1	11	1/11/14	188	5239	1
132	1	12	1/12/14	121	5118	1
146	1	13	1/13/14	134	4984	1
87	1	14	1/14/14	80	4904	1
89	1	15	1/15/14	82	4822	1

## Year Properties:

Revenue	M_Data	Row Id	Year	sales
0	1	1	1/1/14	0
90	1	2	1/2/14	70
76	1	3	1/3/14	59
120	1	4	1/4/14	93
124	1	5	1/5/14	96
187	1	6	1/6/14	145
231	1	7	1/7/14	179
414	1	8	1/8/14	321
136	1	9	1/9/14	125
96	1	10	1/10/14	88
205	1	11	1/11/14	188

**Properties**

**General**

Label: Year

Hide from users: ☐

Expression: View or edit >

Usage: Attribute

Aggregate: Count Distinct

Data type: Date

Represents: Time

Year: Year

Lookup reference: None

## Sales Properties:

M_Data	Row Id	Year	sales
1	1	1/1/14	0
1	2	1/2/14	70
1	3	1/3/14	59
1	4	1/4/14	93
1	5	1/5/14	96
1	6	1/6/14	145
1	7	1/7/14	179
1	8	1/8/14	321
1	9	1/9/14	125
1	10	1/10/14	88
1	11	1/11/14	188

**Properties**

**General**

Label: sales

Hide from users: ☐

Expression: View or edit >

Usage: Measure

Aggregate: Total

Data type: Integer

Represents: Default

Lookup reference: None

Description:

## Stock Properties:

The screenshot shows the IBM Cognos Analytics interface with the 'Inventory Module' selected. The 'Data module' pane on the left shows the 'Stock' table selected. The main grid displays data for the 'Stock' table, with columns: Row Id, Year, sales, and Stock. The 'Properties' pane on the right shows the 'General' tab for the 'Stock' table.

Row Id	Year	sales	Stock
1	1/1/14	0	4972
2	1/2/14	70	4902
3	1/3/14	59	4843
4	1/4/14	93	4750
5	1/5/14	96	4654
6	1/6/14	145	4509
7	1/7/14	179	4329
8	1/8/14	321	4104
9	1/9/14	125	4459
10	1/10/14	88	5043
11	1/11/14	188	5239

Properties: General

- Label: Stock
- Hide from users: ☐
- Expression: View or edit >
- Usage: Measure
- Aggregate: Total
- Data type: Integer
- Represents: Default
- Lookup reference: None
- Description:

## Price Properties:

The screenshot shows the IBM Cognos Analytics interface with the 'Inventory Module' selected. The 'Data module' pane on the left shows the 'Price' table selected. The main grid displays data for the 'Price' table, with columns: Year, sales, Stock, and Price. The 'Properties' pane on the right shows the 'General' tab for the 'Price' table.

Year	sales	Stock	Price
1/1/14	0	4972	1
1/2/14	70	4902	1
1/3/14	59	4843	1
1/4/14	93	4750	1
1/5/14	96	4654	1
1/6/14	145	4509	1
1/7/14	179	4329	1
1/8/14	321	4104	1
1/9/14	125	4459	1
1/10/14	88	5043	1
1/11/14	188	5239	1

Properties: General

- Label: Price
- Hide from users: ☐
- Expression: View or edit >
- Usage: Measure
- Aggregate: Total
- Data type: Decimal
- Represents: Default
- Lookup reference: None
- Description:

## Revenue Properties:

The screenshot shows the IBM Cognos Analytics interface with the 'Inventory Module' selected. The 'Data module' pane on the left shows the 'Revenue' table selected. The main grid displays data for the 'Revenue' table, with columns: Revenue, M\_Data, Row Id, Year, and sales. The 'Properties' pane on the right shows the 'General' tab for the 'Revenue' table.

Revenue	M_Data	Row Id	Year	sales
0	1	1	1/1/14	0
90	1	2	1/2/14	70
76	1	3	1/3/14	59
120	1	4	1/4/14	93
124	1	5	1/5/14	96
187	1	6	1/6/14	145
231	1	7	1/7/14	179
414	1	8	1/8/14	321
136	1	9	1/9/14	125
96	1	10	1/10/14	88
205	1	11	1/11/14	188

Properties: General

- Label: Revenue
- Hide from users: ☐
- Expression: View or edit >
- Usage: Measure
- Calculate after aggregation: ☐
- Aggregate: Total
- Data type: Decimal
- Represents: Default
- Lookup reference: None
- Description:

## M\_Data Properties:

The screenshot displays the IBM Cognos Analytics interface. The top navigation bar includes the text "IBM Cognos Analytics with Watson", a dropdown menu for "Inventory Module", a search bar, and user profile icons. The main workspace is divided into three sections: a left-hand "Data module" pane, a central "Grid" view, and a right-hand "Properties" pane.

The "Data module" pane on the left shows a hierarchical tree structure. The "Inventory Module" is expanded, revealing "Navigation paths", "Inventory M...ataset.csv", "Revenue", and "M\_Data". The "M\_Data" item is currently selected and highlighted with a blue border.

The central "Grid" view displays a table with the following columns: "Revenue", "M\_Data", "Row Id", "Year", and "sales". The table contains 12 rows of data, with the first row having values 0, 1, 1, 1/1/14, and 0 respectively. The "M\_Data" column consistently contains the value 1 across all rows.

The "Properties" pane on the right is open to the "General" tab. It shows the following configuration for the selected "M\_Data" table:

- Label:** M\_Data
- Hide from users:** A toggle switch is turned off.
- Expression:** View or edit >
- Usage:** Attribute (selected from a dropdown)
- Aggregate:** Count Distinct (selected from a dropdown)
- Data type:** Integer
- Represents:** Time (selected from a dropdown)
- Month:** (selected from a dropdown)
- Description:** (with an information icon)

Revenue	M_Data	Row Id	Year	sales
0	1	1	1/1/14	0
90	1	2	1/2/14	70
76	1	3	1/3/14	59
120	1	4	1/4/14	93
124	1	5	1/5/14	96
187	1	6	1/6/14	145
231	1	7	1/7/14	179
414	1	8	1/8/14	321
136	1	9	1/9/14	125
96	1	10	1/10/14	88
205	1	11	1/11/14	188
122	1	12	1/12/14	121