

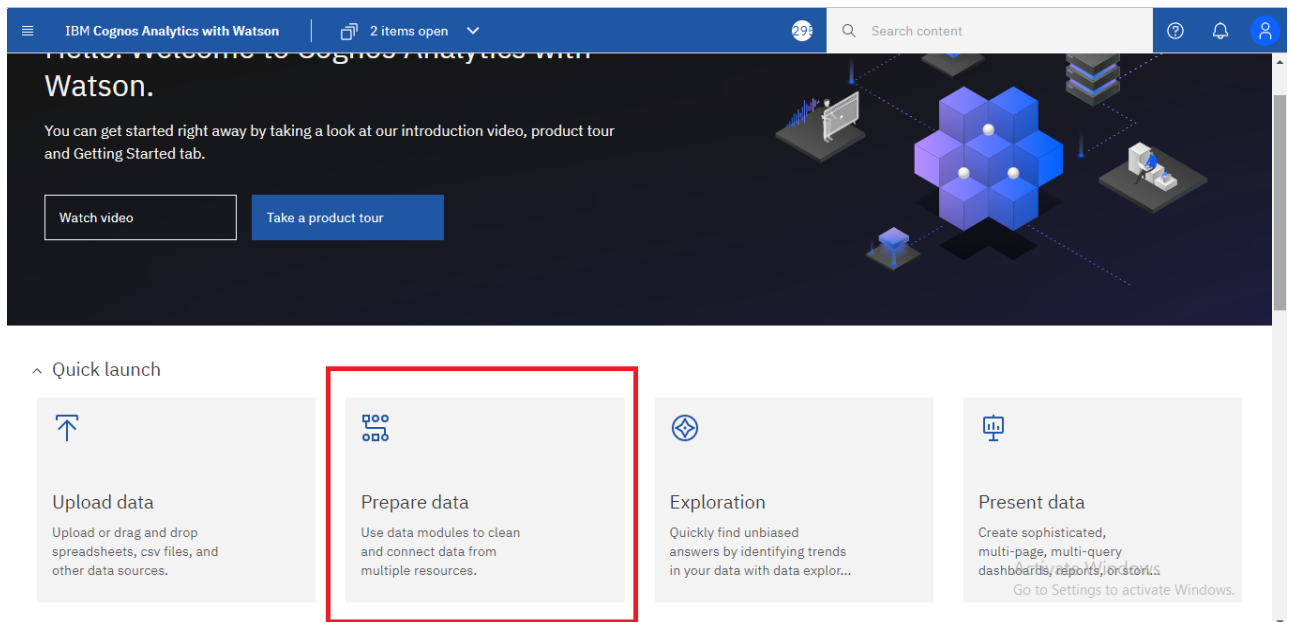
Estimation of crop yield using data analytics

SPRINT-2

Team ID:PNT2022TMID20578

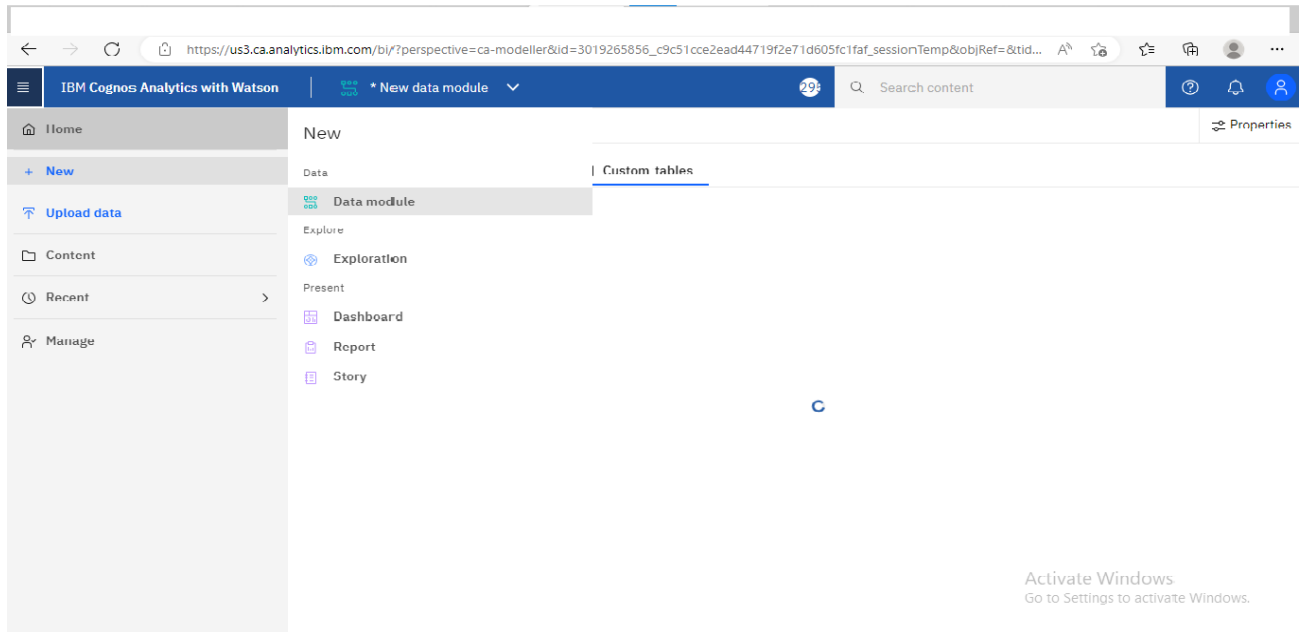
DATA PREPARATION

1. click the data prepare data icon

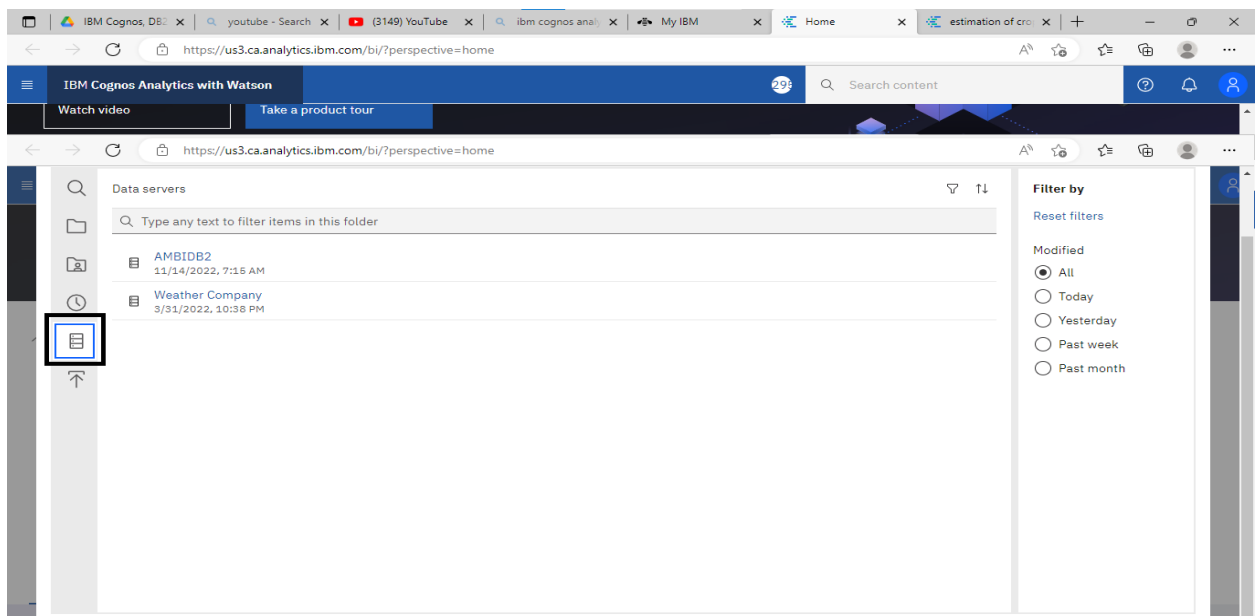


(OR)

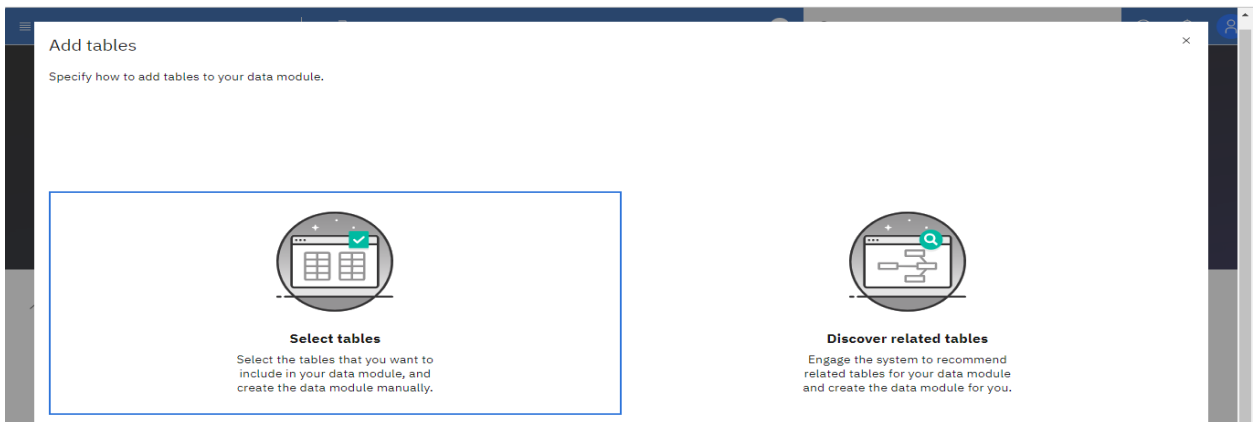
Click->New->Data module



2. select the AMBIDB2 file from the database icon and press ok.



3. In the Add tables dialog box select tables icon



4. click crop production and press ok. A dataset set will be loaded.

Available sources

- QDS10018
 - Crop
 - Crop Production**
 - Production
 - Yield

State Name	District Name	Crop Year	Season	Crop	Area
Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Areca nut	1254
Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Other Kharif pulses	2
Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Rice	102
Andaman and Nicobar Islands	NICOBARS	2000	Whole Year	Banana	176
Andaman and Nicobar Islands	NICOBARS	2000	Whole Year	Cashewnut	720
Andaman and Nicobar Islands	NICOBARS	2000	Whole Year	Coconut	1816
Andaman and Nicobar Islands	NICOBARS	2000	Whole Year	Dry ginger	36
Andaman and Nicobar Islands	NICOBARS	2000	Whole Year	Sugarcane	1
Andaman and Nicobar Islands	NICOBARS	2000	Whole Year	Sweet potato	5
Andaman and Nicobar Islands	NICOBARS	2000	Whole Year	Tapioca	40
Andaman and Nicobar Islands	NICOBARS	2001	Kharif	Areca nut	1254
Andaman and Nicobar Islands	NICOBARS	2001	Kharif	Other Kharif pulses	2

Previous Cancel **OK**

ACTIVATE WINDOWS
Go to Settings to activate Windows

5. In the **Grid view** by using the filter option, show the table in different ways.

The screenshot shows the IBM Cognos Analytics interface in Grid view. A data table is displayed with columns: State Name, District Name, Crop Year, Season, Crop, and Area. The 'Season' column is selected, and a context menu is open, showing options like 'Filter...', 'Create data group...', 'Create navigation path...', 'Split...', 'Hide from users', 'Remove', 'Format data...', 'Clean...', 'Sort descending', 'Sort ascending', and 'Properties'. The 'Filter...' option is highlighted with a red box.

State Name	District Name	Crop Year	Season	Crop	Area
Andaman and Nicobar Islands	NICOBARS	2000	Kharif		
Andaman and Nicobar Islands	NICOBARS	2000	Kharif		
Andaman and Nicobar Islands	NICOBARS	2000	Kharif		
Andaman and Nicobar Islands	NICOBARS	2001	Kharif		
Andaman and Nicobar Islands	NICOBARS	2001	Kharif		
Andaman and Nicobar Islands	NICOBARS	2001	Kharif		
Andaman and Nicobar Islands	NICOBARS	2002	Kharif		
Andaman and Nicobar Islands	NICOBARS	2003	Kharif		
Andaman and Nicobar Islands	NICOBARS	2004	Kharif	Rice	52.94
Andaman and Nicobar Islands	NICOBARS	2005	Kharif	Rice	2.09
Andaman and Nicobar Islands	NICOBARS	2010	Autumn		

6. Select required seasons and click ok

The screenshot shows the 'Filter - Season' dialog box. It contains a list of seasons with checkboxes: Autumn (checked), Kharif (checked), Rabi (unchecked), Summer (checked), Whole Year (unchecked), and Winter (unchecked). The 'OK' button is highlighted with a red box.

Filter - Season

Add a filter condition +

Search

- ☒ Autumn
- ☒ Kharif
- ☐ Rabi
- ☒ Summer
- ☐ Whole Year
- ☐ Winter

Clear all Invert

Select 'Refresh members' in the data tree to view the effect of the filter on members in the tree.

Cancel OK

7. Now the modified dataset will be shown in the Grid view

The screenshot shows the IBM Cognos Analytics interface. The top bar includes the title 'IBM Cognos Analytics with Watson', a dropdown menu for the data module 'Estimation of cr ... data module', a search bar, and user profile icons. The left sidebar shows the 'Data module' tree with 'Estimation of ...d data module' expanded, containing 'Navigation paths', 'Crop Production', 'State Name', 'District Name', 'Crop Year', 'Season', 'Crop', 'Area', and 'Production'. The 'Season' field is selected. The main area displays a grid view of the data. The grid has columns: State Name, District Name, Crop Year, Season, Crop, Area, and Production. The data rows show crop production for Andaman and Nicobar Islands, NICOBARS, and NORTH AND MIDDLE ANDAMAN across various years and seasons.

State Name	District Name	Crop Year	Season	Crop	Area	Production
Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Areca nut	1254	2000
Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Other Kharif pulses	2	1
Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Rice	102	321
Andaman and Nicobar Islands	NICOBARS	2001	Kharif	Areca nut	1254	2061
Andaman and Nicobar Islands	NICOBARS	2001	Kharif	Other Kharif pulses	2	1
Andaman and Nicobar Islands	NICOBARS	2001	Kharif	Rice	83	300
Andaman and Nicobar Islands	NICOBARS	2002	Kharif	Rice	189.2	510.84
Andaman and Nicobar Islands	NICOBARS	2003	Kharif	Rice	52	90.17
Andaman and Nicobar Islands	NICOBARS	2004	Kharif	Rice	52.94	72.57
Andaman and Nicobar Islands	NICOBARS	2005	Kharif	Rice	2.09	12.06
Andaman and Nicobar Islands	NICOBARS	2010	Autumn	Rice	3.5	10
Andaman and Nicobar Islands	NICOBARS	2010	Autumn	Sugarcane	13.4	41.75
Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Areca nut	3100	5200
Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Other Kharif pulses	668	1
Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Rice	10779	31863
Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Rice	10779	31863

8. Click->filter->clean

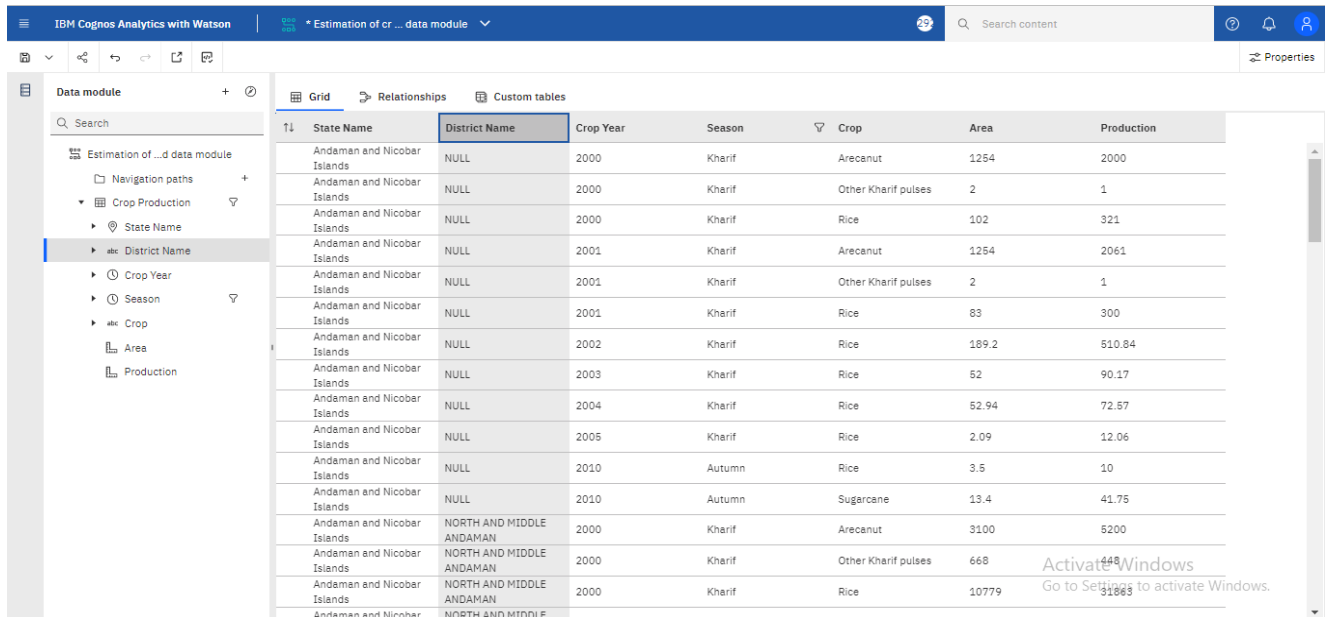
The screenshot shows the IBM Cognos Analytics interface with the 'District Name' column selected. A context menu is open over the column header, showing options: Filter..., Create data group..., Create navigation path..., Split..., Hide from users, Remove, Format data..., Clean..., Sort descending, Sort ascending, and Properties. The 'Clean...' option is highlighted. The background shows the same data grid as in the previous screenshot.

State Name	District Name	Crop Year	Season	Crop	Area	Production
Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Areca nut	1254	2000
Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Other Kharif pulses	2	1
Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Rice	102	321
Andaman and Nicobar Islands	NICOBARS	2001	Kharif	Areca nut	1254	2061
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Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Other Kharif pulses	668	1
Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Rice	10779	31863
Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Rice	10779	31863

The screenshot displays the IBM Cognos Analytics interface. On the left, a navigation pane shows a project named 'Estimation of ...d data module' with a tree structure including 'Crop Production', 'State Name', and 'District Name'. The main workspace shows a data table with columns: State Name, Area, and Production. A modal dialog titled 'Clean - District Name' is open, featuring the following options:

- Whitespace:** ☐ Trim leading and trailing whitespace
- Convert case to:** ☐ UPPERCASE, ☐ lowercase, ☒ Do not change
- Return a substring of characters:** Start (dropdown), Length (dropdown)
- Preview:** This is a preview
- NULL values:**
 - ☒ Replace this value with NULL (dropdown showing NICOBARs)
 - ☒ Replace NULL values with (text input showing NULL)
- Buttons:** Cancel, Clean

10. Now in the NICOBARS place NULL values will be changed

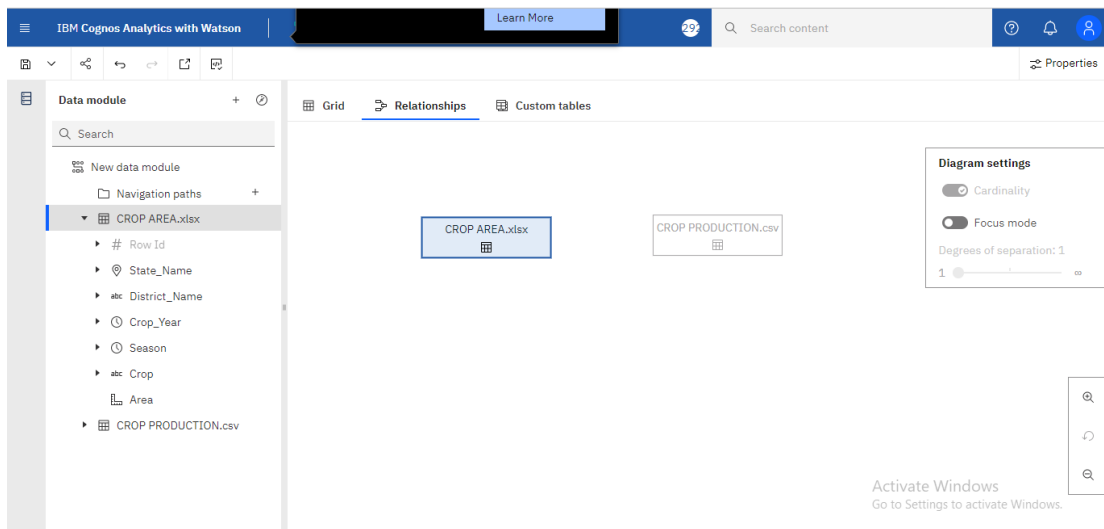


IBM Cognos Analytics with Watson | Estimation of cr ... data module

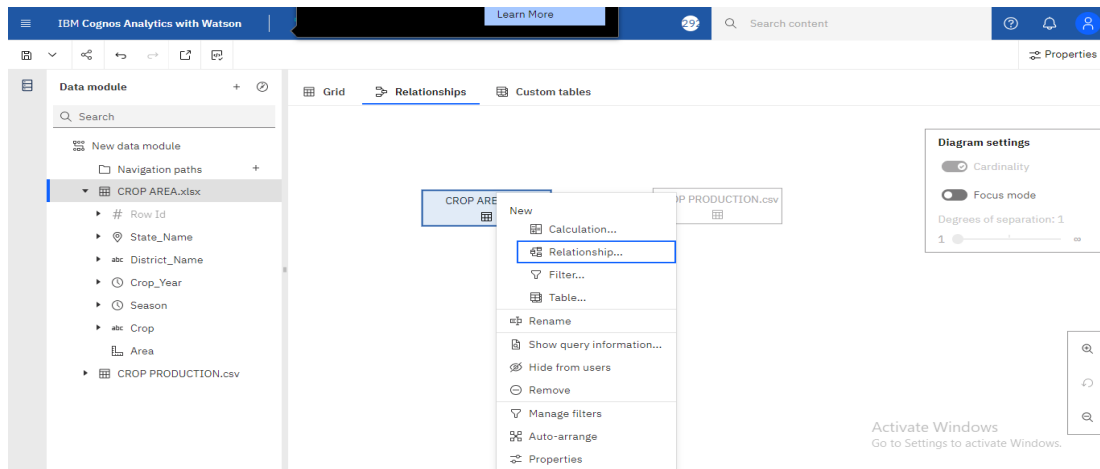
Grid Relationships Custom tables

State Name	District Name	Crop Year	Season	Crop	Area	Production
Andaman and Nicobar Islands	NULL	2000	Kharif	Areca nut	1254	2000
Andaman and Nicobar Islands	NULL	2000	Kharif	Other Kharif pulses	2	1
Andaman and Nicobar Islands	NULL	2000	Kharif	Rice	102	321
Andaman and Nicobar Islands	NULL	2001	Kharif	Areca nut	1254	2061
Andaman and Nicobar Islands	NULL	2001	Kharif	Other Kharif pulses	2	1
Andaman and Nicobar Islands	NULL	2001	Kharif	Rice	83	300
Andaman and Nicobar Islands	NULL	2002	Kharif	Rice	189.2	510.84
Andaman and Nicobar Islands	NULL	2003	Kharif	Rice	52	90.17
Andaman and Nicobar Islands	NULL	2004	Kharif	Rice	52.94	72.57
Andaman and Nicobar Islands	NULL	2005	Kharif	Rice	2.09	12.06
Andaman and Nicobar Islands	NULL	2010	Autumn	Rice	3.5	10
Andaman and Nicobar Islands	NULL	2010	Autumn	Sugarcane	13.4	41.75
Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Areca nut	3100	5200
Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Other Kharif pulses	668	1454
Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Rice	10779	31963
Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2000	Kharif	Rice	10779	31963

11. Next step is **Relationships**. Here we need two datasets to find the relation between them.

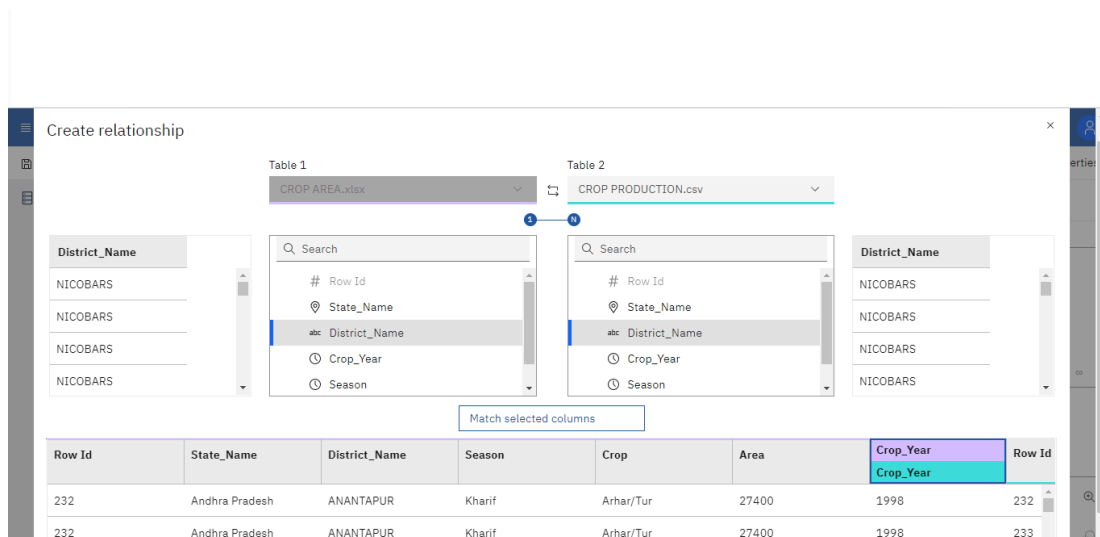


12. Select Right click->Relationship



13. From the two dataset select any one field which is similar in both the tables

Then click Matched selected columns



14. Select Full outer join, 1-to- Many, No filtering options

☐ Right outer join

☒ Full outer join

Cardinality ⓘ

☐ 1-to-1

☒ 1-to-many

☐ Many-to-1

Optimization ⓘ

☒ No filtering

☐ Unique values

☐ Range of values

☐ Unique values in a subquery

☐ Unique or range of values

Row Id

State_Name

District_Name

Crop_Year

Season

Row Id

State_Name

District_Name

Crop_Year

Season

NICOBARS

NICOBARS

NICOBARS

NICOBARS

Match selected columns

Name	District_Name	Season	Crop	Area	Crop_Year	Row Id
					Crop_Year	

Data will appear here

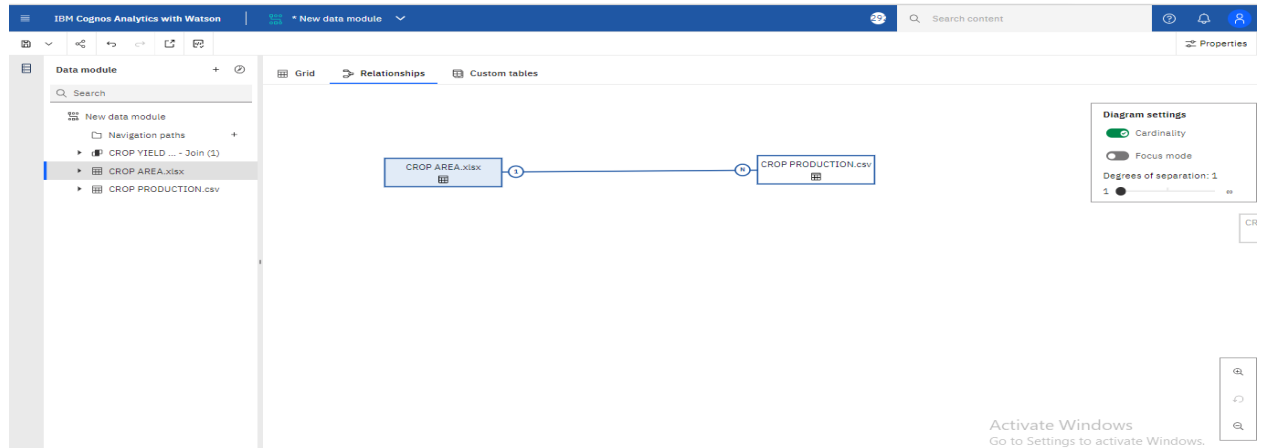
Refresh ↻

Full outer join, 1-to-many

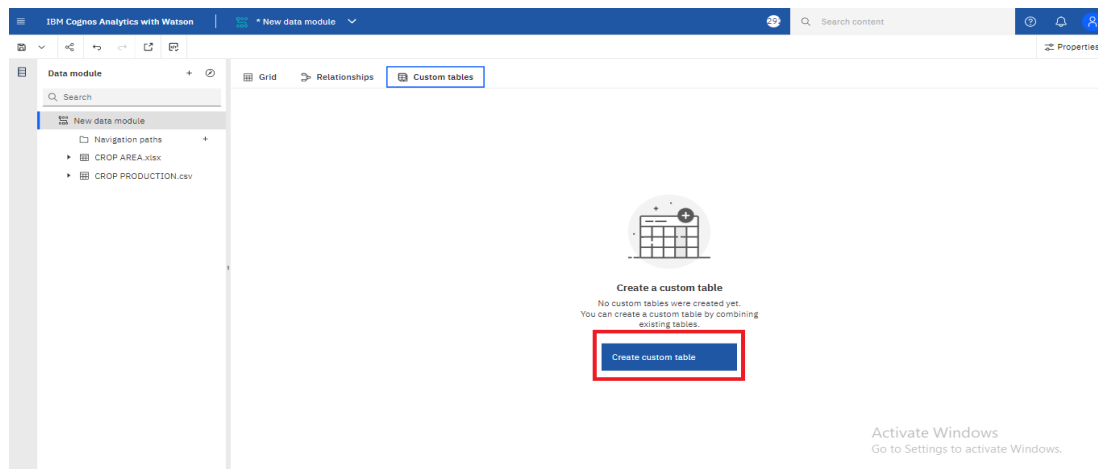
No filtering

Matched columns (1)

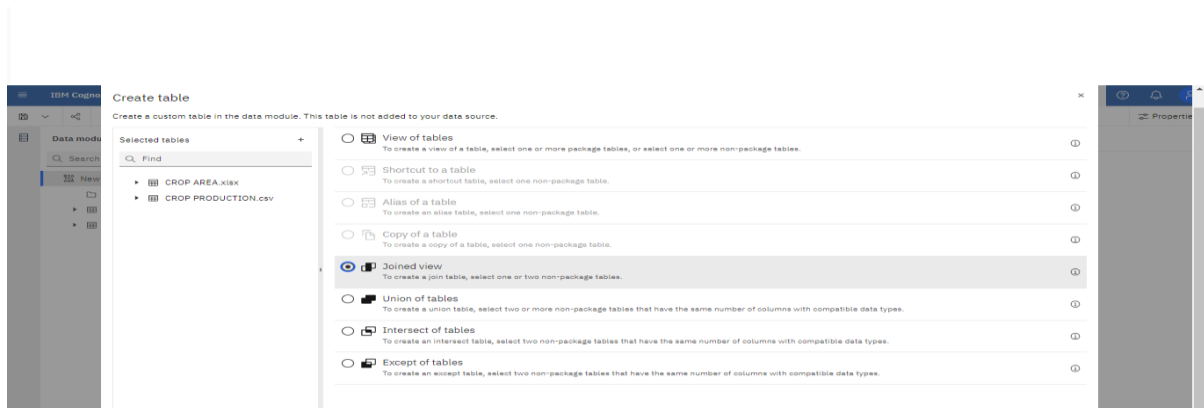
15. Now the diagrammatic relationship will be shown between crop area and crop production



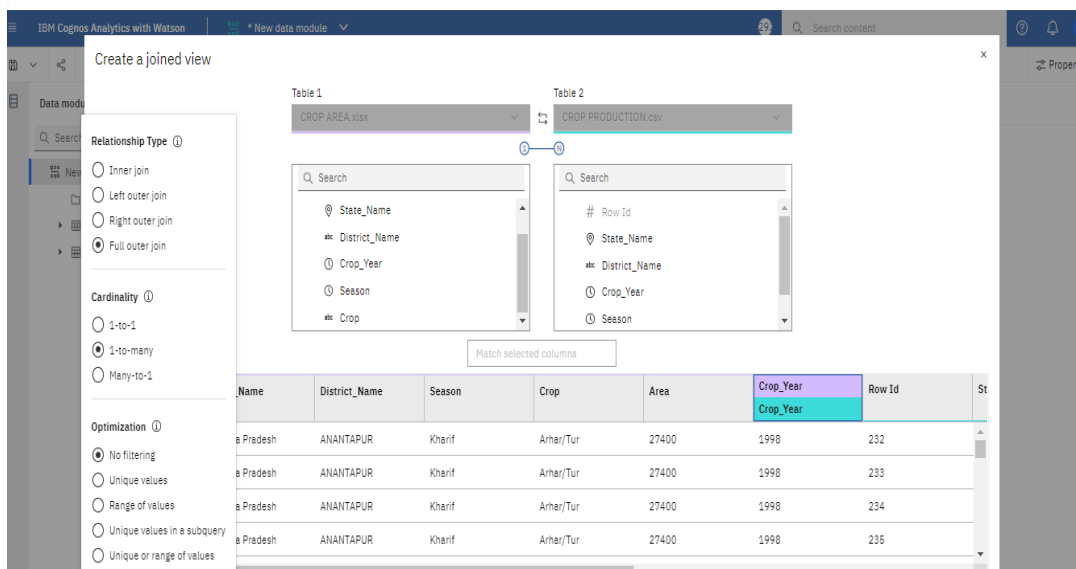
16. The last type in data module is **custom Tables**. Choose create custom table



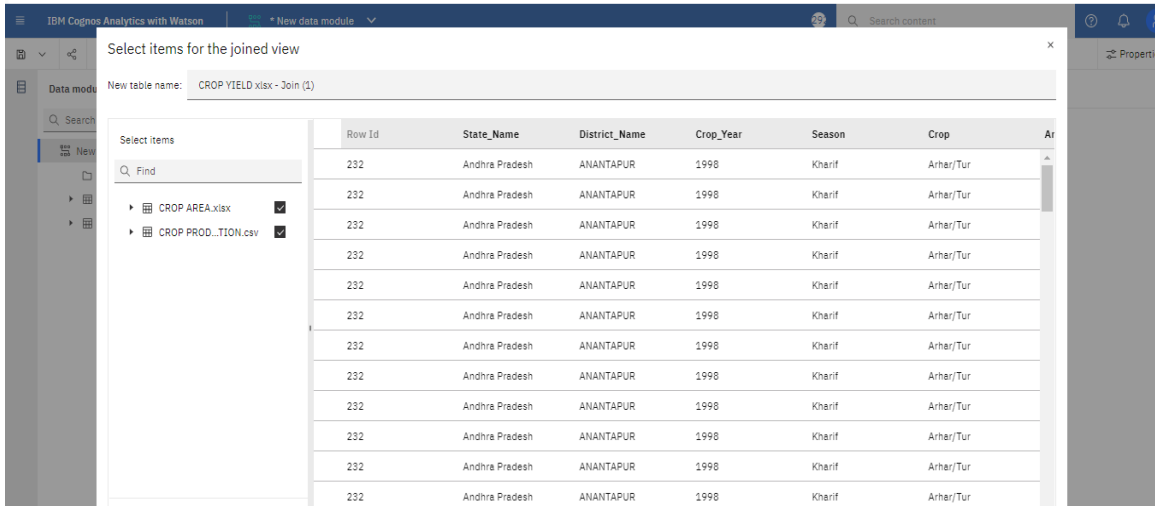
17. Select the two files and click joined view. Then press ok



18. Select the field which is similar in both tables. click matched column. now the joined view of both the tables will be displayed in a single table

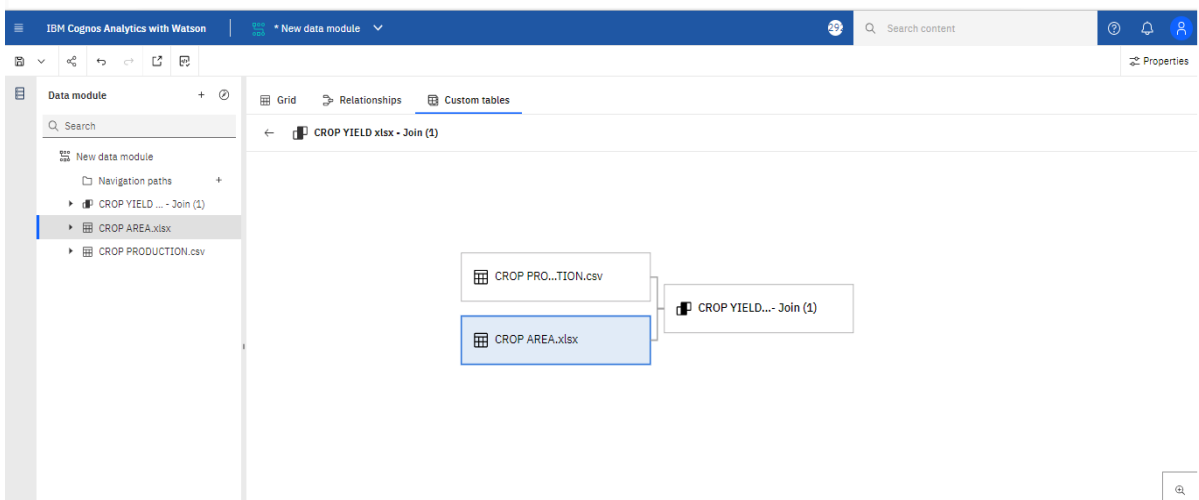


19. Give the file name as crop yield for both the files. click ok.



Row Id	State_Name	District_Name	Crop_Year	Season	Crop
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur
232	Andhra Pradesh	ANANTAPUR	1998	Kharif	Arhar/Tur

20. Now the diagrammatic representation of custom table will be displayed.



21. Rename the file and click ok.

