

LAUNCH ALTAIR MONARCH COMPLETE

Monarch Complete provides two entry points for working with data:

- **Monarch Classic** is a **table-centric** application that allows you to open and combine multiple data sources, and perform simple to more complex data preparation functions.
- **Monarch Data Prep Studio** is a **report-centric** application that provides a fast and easy way to clean and prepare your data. It includes more than 80 pre-built functions designed specifically for data preparation, and allows easy report discovery via automatic parsing and data extraction.

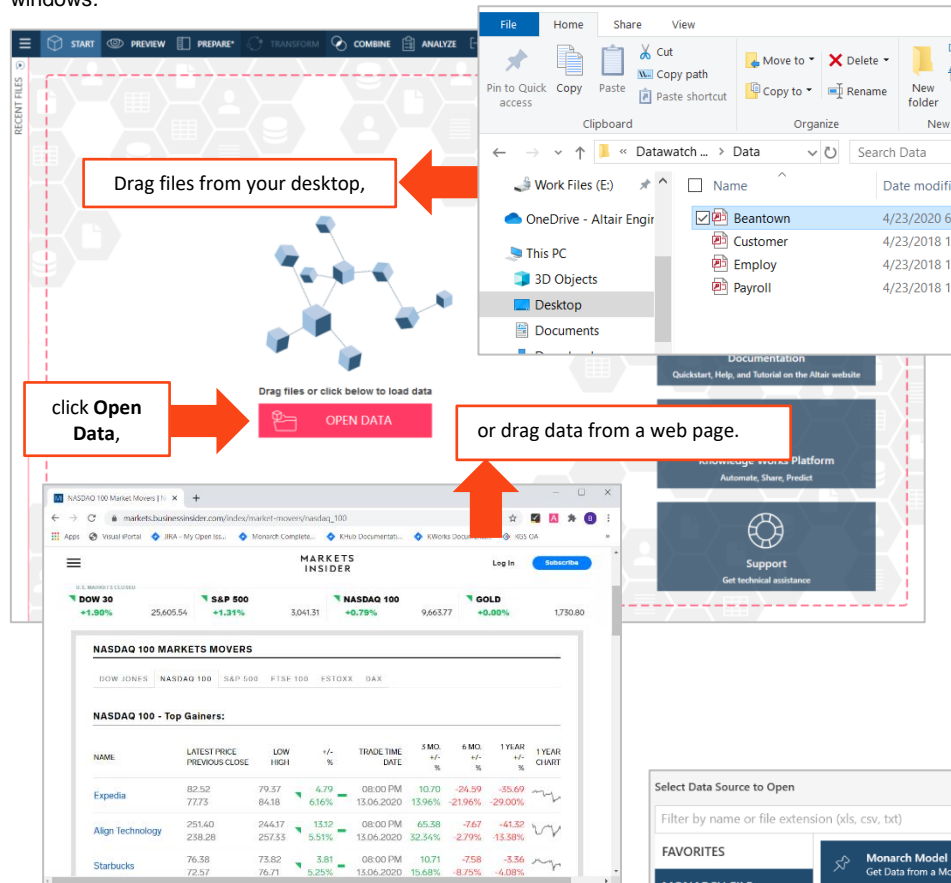
To run Altair Monarch Data Prep Studio, go to **Start > All Programs > Altair Monarch 2025 > Monarch Data Prep Studio 2025**. The application displays the *Start Page*, with the Getting Started video automatically running.

To run Altair Monarch Classic, go to **Start > All Programs > Altair Monarch 2025 > Monarch Classic 2025**.

WORKING WITH DATA PREP STUDIO

1 ACQUIRE DATA

Click the **Open Data** button to select a file or connect to a data source. You can also load your data directly by dragging and dropping files into the *Start*, *Preview*, *Prepare*, or *Combine* windows.



Altair Monarch Data Prep Studio was designed for ordinary people to do extraordinary things with data. After simply dropping a file onto the prep canvas, your data become instantly available in the form of rows and columns.

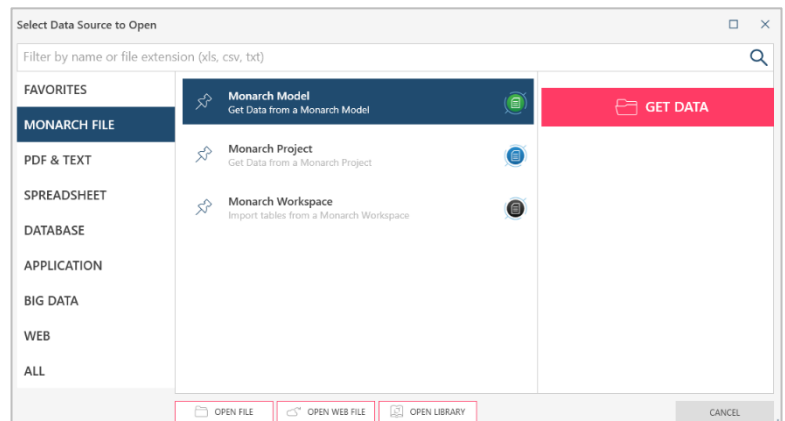
READ MORE

- [Adding Data](#)
- [Working with Data Sources](#)
- [Working with Recent Data Sources](#)

UNIQUE DATA SOURCE? NO PROBLEM.

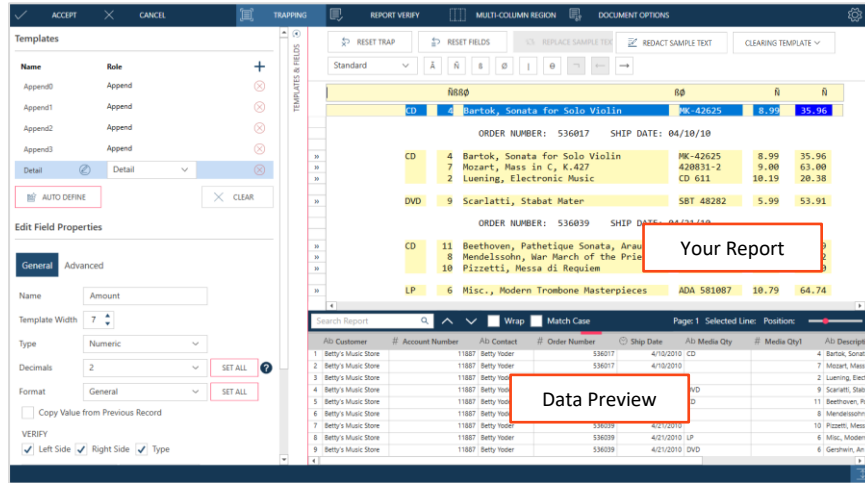
Monarch Data Prep Studio allows you to access almost all types of data, including databases, spreadsheets, and even multi-structured data trapped in existing report files, PDFs, web pages, log files, and much more.

Use out-of-the-box connectivity tools to connect to all major relational databases, Hadoop, MSOL, Salesforce, and more.



IS YOUR SOURCE A PDF OR PRN DOCUMENT? CREATE A MODEL FOR IT.

If your data source is a document or report (e.g., PDF or PRN), you are brought to the Report Design window. Click the **Auto Define** button to automatically identify the columns and rows of your data source and build a table.

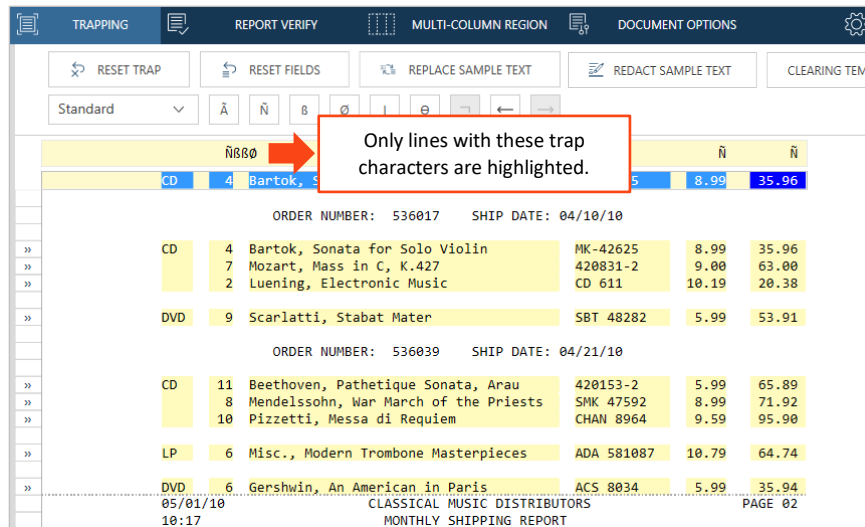


The drag-and-drop feature and powerful Auto Define button of Data Prep Studio make this product different from others. These unique features allow you to automatically identify appropriate rows and columns of data or select only the data you need on screen. With the distinct features of Data Prep Studio, you no longer need scripting skills to prepare your data and access information trapped in PDF reports, log files, JSON, TXT, and more! Similar interfaces are provided to extract data from Excel worksheets with multiple levels of detail and text-heavy PDF files.

READ MORE

- [Working with Report Design](#)
- [Creating Data Extraction Templates](#)
- [Working with PDF Files](#)

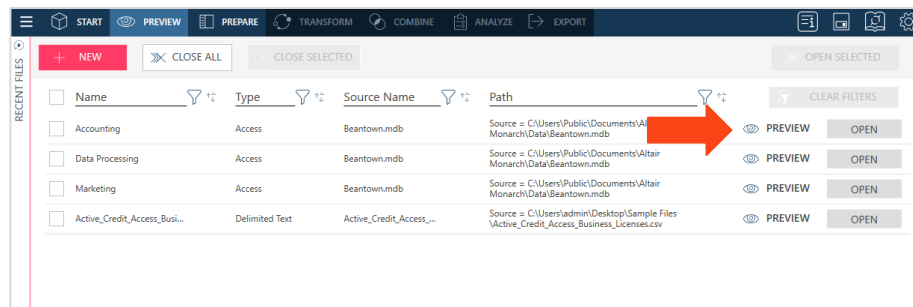
You can also directly trap the fields you want to include on the screen. Preview your table as it gets defined.



This extremely useful functionality is unique to Data Prep Studio. Now you can access the information trapped in reports in various formats, including PDF, JSON, TXT, and more!

2 PREVIEW DATA

After a data source has been selected or a document has been prepared, you are brought to the Preview window.



The Preview function allows you to review the information and check the quality of the data before loading these into the Monarch Data Prep Studio workspace.

Quickly determine if:

- your table has enough rows for you to work with,
- the column values are meaningful, and
- there are nulls or blanks.

To preview the data found in a table you want to open, click the **PREVIEW** button below the table name.

If your data source is in TXT or PDF format, you can include report metadata when you load your data.

Report metadata refer to information about a report, which includes the following:

- Report File Number
- Report File Name
- Report Page Number
- Report Line Number
- Report Column Number
- PDF Producer
- Report Page Count

Report metadata can help you analyze your data and preserve data lineage.

READ MORE

- [Previewing Data](#)

3 LOAD SELECTED TABLES

From the *Preview* window, you can

- **Continue adding data to your workspace.** Click the **Add** button found in the Preview and Prepare windows.
- **Load your data and perform actual preparation work.** Select the tables you want to work with and then click **Load Selected Tables**.



4 PREP YOUR DATA

START PREPARING DATA.

All tables that are loaded or defined via Report Design, Excel Worksheet Design, or PDF Table Extractor are made available in the *Prepare* window. This window is where all data prep and transformation operations are done.

In the *Preview* window, you can:

- show and review statistics
- edit columns (e.g., change name, format, and data type)
- move, rename, delete, hide, or copy columns
- sort and filter column values
- clean up the data (remove spaces, remove blanks or nulls)
- extract strings
- replace values
- split or combine values

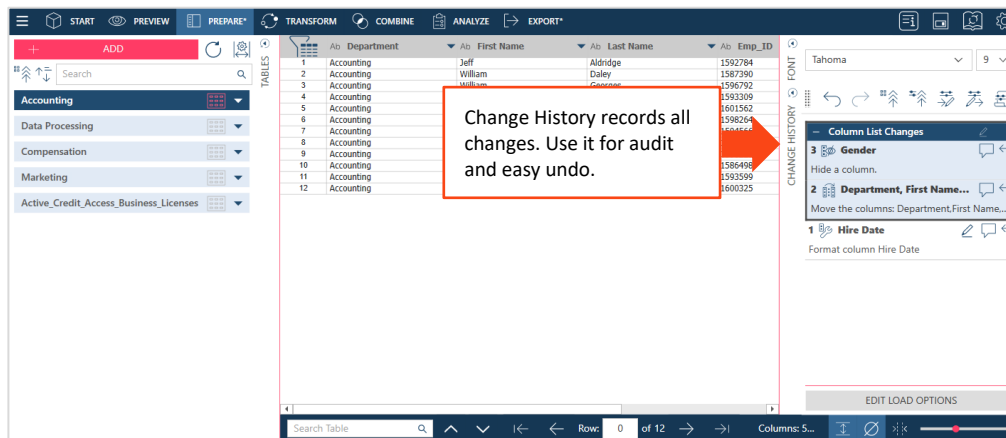
Over 80 pre-built operations and functions are available to transform and manipulate data with mouse clicks. No scripting is needed!

READ MORE

- [Preparing Data](#)
- [Column Operations](#)

From the *Prepare* window, select a table and then work with its columns to prepare them for further visualization or analytics.

TRACK CHANGES SO YOU CAN REVERSE THEM OR APPLY TO OTHER TABLES.



Monarch Data Prep Studio tracks all prep operations you carry out on a table and records these in the Change History panel. Use Change History to review and audit all operations. You can also use it to undo any operation(s) you have carried out.

TRANSFORM YOUR DATA TO GET A DIFFERENT AND BETTER VIEW.

1. While in the Prepare window, click the **TRANSFORM** button and select a transform.

2. Do one of the following:

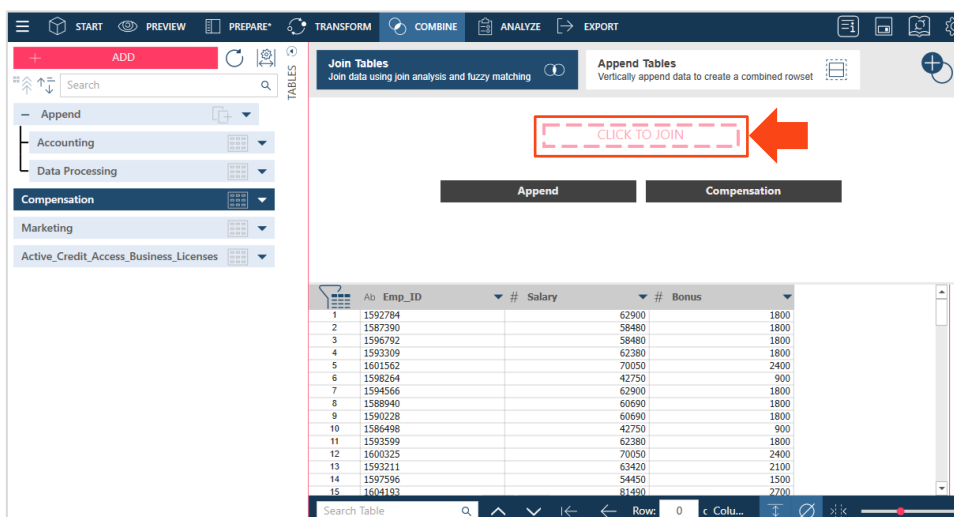
- sort one or more columns
- transpose rows and columns
- flag/remove duplicates
- create summaries by grouping columns
- determine and remove duplicate records
- remove all empty rows
- pivot/unpivot your table to get different summaries



The Transform Data feature allows you to create new tables.

COMBINE AND CONSOLIDATE TO ENRICH YOUR DATA.

1. While in the Prepare window, click on the **COMBINE** button to display the Combine stage.
2. Do one of the following:
 - Drag a table from the *Table List* panel to the *Drag a Table* box
 - Drop a table from a location on your machine (e.g., from your desktop or local/network drive) to the *Drag a Table* box.
3. Select a second table following the same procedure in Step 2.
4. Select **CLICK TO JOIN** to display the *Join Configuration* dialog.



Join disparate data in multiple ways, including left outer, right outer, full outer, and inner joins.

The **Join Analysis** feature suggests the best way to join data by inspecting the data sets and applying powerful algorithms. You don't need to be a data scientist to do this.

Monarch Data Prep Studio also supports fuzzy matching, with which you can match key values that are not 100% identical but are similar. For example, you can set fuzzy matching tolerance levels to match Connecticut and Conecticut or Smith and Smyth.

If tables have an identical structure, you can easily append them to consolidate your data. The **Append Helper** is available to append records even if they are not 100% identical.

Edit Join

Name: Join

Type: Standard Choose a type of join to see the list of options

Only rows for which the join keys match will be kept from either table.

Append Rows: 40 Compensation Rows: 100

Emp_ID Emp_ID

New left key New right key

Search Columns Search Columns

Select columns

Department Ab Emp_ID Ab

Last Name Ab Salary

First Name Ab Bonus

Emp_ID Ab

Hire Date

Gender Ab

Always include all columns ?

Case-sensitive for Text Column Pairs

Use Fuzzy Matching for Text Column Pairs

Row: 40

RECOMMEND KEYS OK CANCEL

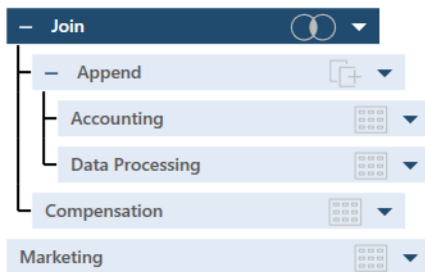
Select a join type here

Click on key icons to set columns as join keys.

READ MORE

- [Joining Tables](#)
- [Using Fuzzy Joins](#)
- [Appending Tables](#)

5. Select a join type and set join fields to complete the definition.
6. Continue to join tables as necessary. You can create multiple join sequences.



Load Plan Visualization provides you with a hierarchical view of all of the operations performed on a table. You can easily view, for instance, the tables that have been used to produce a join result.

5 CREATE SUMMARIES FOR DEEPER ANALYSIS

Summaries provide a broader view of your data.

Home

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Accounting

Data Processing

Compensation

Marketing

Active_Credit_Access_Business_Licenses

Summary: No Summary

+

+

+

Summary Drill Level

Filter: No Filter

Active Measure:

?

+

+

+

Sort: No Sort

	Ab	Department	Ab	Last Name	Ab	First Name	Ab	Emp_ID	Ab	Hire Date
1	Accounting	Aldridge	Jeff	1592784					10/13/1995 12:00:00 AM	M
2	Accounting	Daley	William	1587390					1/30/1993 12:00:00 AM	M
3	Accounting	Georges	William	1596792					6/4/2005 12:00:00 AM	M
4	Accounting	Gluck	Anna	1593309					3/12/2000 12:00:00 AM	F
5	Accounting	Jacobson	Doug	1601562					10/26/1998 12:00:00 AM	M
6	Accounting	Marshall	Alana	1598264					11/18/2003 12:00:00 AM	F
7	Accounting	Martins	Wayne	1594566					4/12/2001 12:00:00 AM	M
8	Accounting	Poretsky	Teresa	1589940					1/4/1996 12:00:00 AM	F
9	Accounting	Rosenberg	Kelly	1590228					9/2/1997 12:00:00 AM	F
10	Accounting	Russo	Paula	1586498					1/5/1993 12:00:00 AM	F
11	Accounting	Stancovici	Mary Beth	1593599					10/11/1997 12:00:00 AM	F
12	Accounting	Woodruff	Elizabeth	1600325					6/23/2003 12:00:00 AM	F
13	Data Processing	Bass	Andrew	1593211					3/18/1999 12:00:00 AM	M
14	Data Processing	Blitner	Herb	1597996					3/18/2005 12:00:00 AM	M
15	Data Processing	Blitner	Martha	1604153					12/18/2001 12:00:00 AM	F
16	Data Processing	Condon	James	1597266					6/4/2005 12:00:00 AM	M
17	Data Processing	Condon	Robert	1590086					2/28/1995 12:00:00 AM	M
18	Data Processing	Curtis	Neil	1599507					8/14/2002 12:00:00 AM	M
19	Data Processing	Evans	Marlena	1592913					6/4/2000 12:00:00 AM	F
20	Data Processing	Finn	Arnold	1594470					2/24/2001 12:00:00 AM	M
21	Data Processing	Horton	Alice	1598462					9/30/1997 12:00:00 AM	F
22	Data Processing	Howard	Rae Ann	1588939					1/4/1996 12:00:00 AM	F
23	Data Processing	Hubbard	Lynn	1593319					6/30/1995 12:00:00 AM	F
24	Data Processing	Joelberg	Owen	1594545					4/30/1999 12:00:00 AM	F
25	Data Processing	Johnston	Barry	1601801					12/28/1996 12:00:00 AM	M
26	Data Processing	Kalley	Mary Beth	1593184					3/12/2000 12:00:00 AM	F
27	Data Processing	Lewis	Francis	1603243					10/26/2003 12:00:00 AM	M
28	Data Processing	Matuso	Linda	1587769					12/7/1993 12:00:00 AM	F
29	Data Processing	Matuso	Mtzi	1592711					10/13/1995 12:00:00 AM	F
30	Data Processing	McPherson	Stephan	1596204					6/14/2002 12:00:00 AM	M
31	Data Processing	Miller	George	1590305					3/18/1996 12:00:00 AM	M

Search Table

Row: 0 of 40

Columns: 8

A summary tabulates information for selected fields and presents the results in a one- or two-dimensional matrix, thereby allowing a deeper analysis of your data.

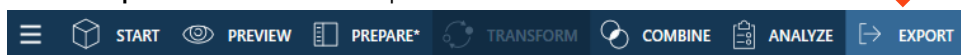
READ MORE

- [Creating Summaries](#)
- [Exporting Summaries](#)

Select the table for which you wish to create a summary and then click **Analyze**.

6 EXPORT

1. Go to the *Prepare* window.
2. Select the table you want to export.
3. Select **Export Data** from the Data Prep Studio toolbar.



4. Select an export format.
5. Specify the path and file names, define export options, and then click Export.

Once you're done preparing your data, you can easily export to many different formats, including Microsoft Power BI and IBM Cognos Analytics, and other Altair products, such as Altair Knowledge Hub, Altair Knowledge Studio, and Altair Panopticon.

READ MORE

- [Exporting Data](#)

Your prepped data are exported, ready to be fed into other applications.

WORKING WITH MONARCH CLASSIC

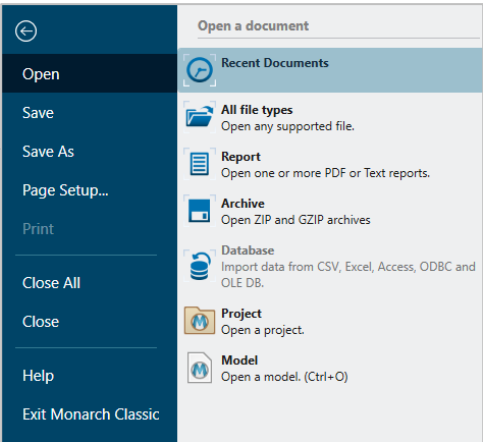
To launch Altair Monarch Classic, select **Start > All Programs > Altair Monarch 2025 > Monarch Classic 2025**.

1 OPEN A FILE

Go to **File > Open** to open a file.

Monarch Complete works with both relational and multi-structured data and provides support for a wide range of formats, such as PDF, XML, HTML, text, spool, and ASCII files. Access data from invoices, sales reports, balance sheets, customer lists, inventory, logs, and more.

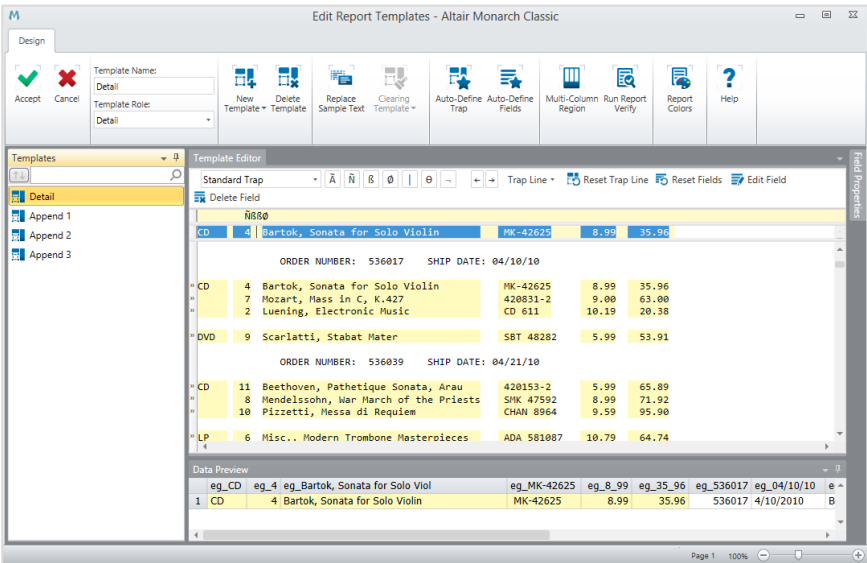
The system is easy to use, allowing you to quickly select any data source and automatically convert it into structured data for analysis.



2 DEFINE DATA EXTRACTION TEMPLATES

After opening a report, Monarch Complete brings you to **Report View**. Switch to **Report Design** view to define **data extraction templates**.

Define traps like you do in *Data Prep Studio Advanced Mode*. When defining traps in *Classic Mode*, you have better control over trapping specific lines because the *Template Editor* allows you to define template levels to match your report hierarchy.



You can also use specialized trapping techniques, including the following:

- Floating traps

To trap data that do not have a constant position on the page. For instance, the date and time field in the report below do not have a fixed position.

```
ezvl-30ppp187.epix.net---[23/Aug/2010:01:13:43--0400] .\"GET-/images/find.gif:H
ezvl-30ppp187.epix.net---[23/Aug/2010:01:13:44--0400] .\"GET-/images/newdiscuss
202.112.36.196---[23/Aug/2010:01:18:22--0400] .\"GET-/img/anim_thumbtack.gif:HT
ezvl-30ppp187.epix.net---[23/Aug/2010:01:13:45--0400] .\"GET-/images/spot.gif:H
ezvl-30ppp187.epix.net---[23/Aug/2010:01:14:14--0400] .\"GET-/search/index.html
AC855931.ipt.aol.com---[23/Aug/2010:01:14:45--0400] .\"GET-/express/search_1.htm
AC855931.ipt.aol.com---[23/Aug/2010:01:14:51--0400] .\"GET-/express/125x30_snpoc
AC855931.ipt.aol.com---[23/Aug/2010:01:14:49--0400] .\"GET-/img/anim_thumbtack.
202.112.36.196---[23/Aug/2010:01:18:22--0400] .\"GET-/img/anim_thumbtack.gif:HT
202.112.36.196---[23/Aug/2010:01:18:22--0400] .\"GET-/img/anim_thumbtack.gif:HT
```

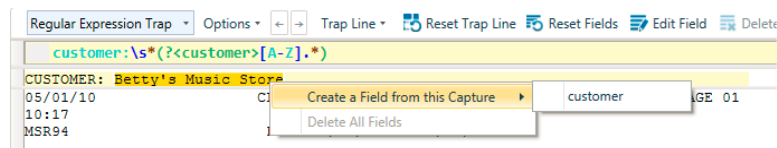
- Multi-column regions

To trap and extract data from reports with multiple, adjacent columns of data on each page.

PACHELBEL, J.	1 MOZART, W.A	31 WEELES, T.
GRIEG, E.	2 GERSHWIN, G.	32 GINASTERA, A.
HOLST, G.	3 CHOPIN, F.	33 BRIDGE, F.
ORFF, C.	4 MUSSORGSKY, M.	34 BYRD, W.
SCHUMANN, R.	5 RACHMANINOV, S.	35 SWEELINCK, J.P
LISZT, F.	6 BRIAN, H.	36 MACHAUT, G.d
BACH, J.S	7 SOR, F.	37 LUZZASCHI, L.
PAGANINI, N.	8 RHEINBERGER, J.G	38 DES PREZ, J.
HANDEL, G.F	9 ANGELO, G.	39 BIBER, H.I
BERLIOZ, H.	10 ENESCO, G.	40 BRITTEN, B.
SAINT-SAENS, C.	11 MOMFOU, F.	41 DAVIES, P.M
SHOSTAKOVICH, D.	12 ISAAC, H.	42 RAVEL, M.
RIMSKY-KORSAKOV, N.	13 HINDEMITH, P.	43 ADAMS, J.
BEETHOVEN, L.v	14 SOLER, P.A	44 JANEQUIN, C.
BERNSTEIN, L.	15 CARULLI, F.	45 RAMEAU, J.P
TCHAIKOVSKY, P.I	16 SCESLI, G.	46 VERDI, G.
WAGNER, R.	17 SESSIONS, R.	47 BOCCHERINI, L.
BRAHMS, J.	18 FENDERECKI, K.	48 JOPLIN, S.

- Regular expression traps

To trap data using regular expressions.



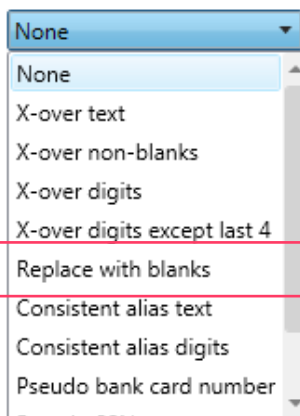
You can even use the **Redaction Feature** to replace, or mask out, field values so that only a representation of the field value is displayed and not the actual value.

For example, a credit card number like **1345-8716-4432-7892**

in the original report can be displayed as

XXXX-XXXX-XXXX-77892.

Monarch Complete's advanced redaction capabilities allow you to easily and reliably remove or obscure confidential data, such as customer information, medical records, and employee IDs.



Easily and reliably remove or obscure confidential data, such as customer information, medical records, and employee IDs, with Monarch Complete's intuitive redaction capabilities. This feature allows you to safely distribute reports to partners and customers, even in heavily regulated industries, such as healthcare and financial services, without compromising customer and employee privacy.

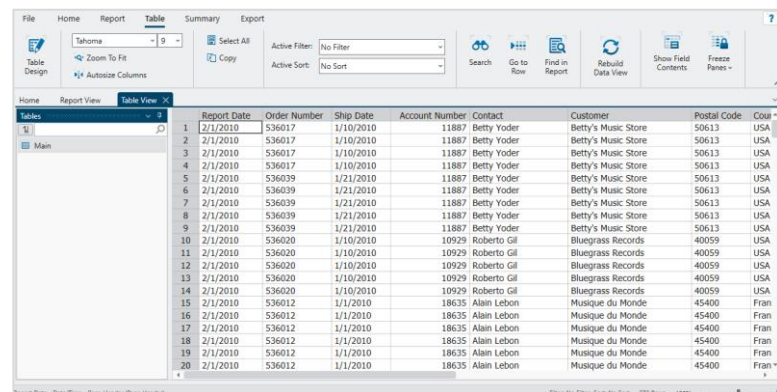
READ MORE

- [Creating Data Extraction Templates](#)
- [Redacting Field Values](#)

This feature allows you to safely distribute reports to partners and customers, even in heavily regulated industries, such as healthcare and financial services, without compromising customer and employee privacy.

3 TRANSFORM YOUR DATA IN TABLE VIEW

Table View displays fields extracted from a report or imported from a database.



Just select your new data source, set linking columns, and you're all set.

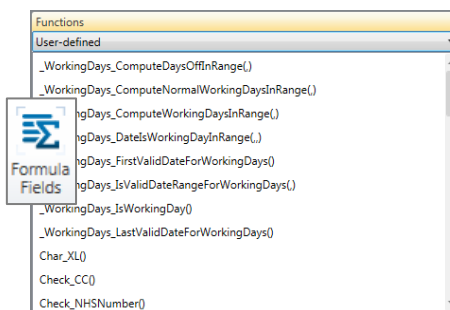
Define as many lookups as you need to consolidate information and enrich your view.

You can go to **Table Design** and select **External Lookups** to combine your data with information from other sources.



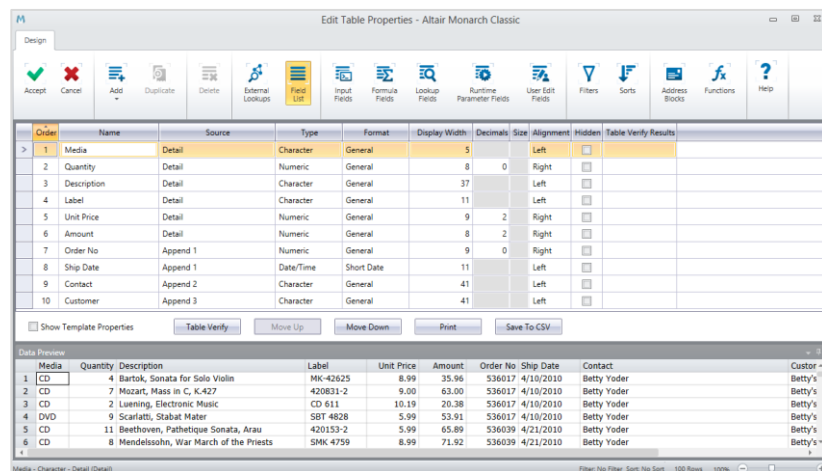
Within **Table Design**, you can also select **Formula Fields** to derive values from existing fields.

Monarch Complete has more than 80 pre-built functions that speed up the transformation of your data into consistent, clean analysis-ready information.



Monarch Classic's *Field List* view allows you to easily keep track of fields. You can set the field alignment, hide fields, or even change the data type.

All changes carried out here are automatically cascaded to all summaries that use the table.



4 CREATE SUMMARIES

A *summary* tabulates information on selected fields and presents the results in a one- or two-dimensional matrix. Monarch Complete provides options that let you sort the summary, add subtotals, and format your summary report for easier viewing.

In *Summary View*, you can even drill-up or drill-down to focus on specific totals.

	Country	Discount	Amount			
1	France	273.64	2736.08			
2	Germany	171.80	1717.86			
3	Ireland	20.90	209.08			
4	Netherlands					
5	Spain	1	France	Chez Rudy	CD	70.68
6	UK	2			DVD	3.90
7	USA	3			LP	4.50
		4	Subtotal Chez Rudy			79.08
	Customer	January-10	February-10	March-10	SUM(Amount)	9.59
1	Betty's Music Store	507.64	---	270.93	778.57	101.00
2	Big Shanty Music	---	274.49	---	274.49	2.52
3	Bluegrass Records	248.17	---	140.84	389.01	4.56
4	Canciones	379.14	---	---	379.14	117.67
5	Chez Rudy	320.46	470.22	---	790.68	1.56
6	Classic Exchange	---	209.08	---	209.08	64.42
7	Das Piano	541.14	---	285.91	827.05	8.02
8	Die Harmonie	---	164.50	---	164.50	2.88
9	Die Melodie	472.83	---	253.48	726.31	76.89
10	Fandangos Records	225.88	105.39	74.93	406.20	273.64
11	Hope's Sweet Notes	---	661.97	---	661.97	47.00
12	Mo Town Tunes	234.99	---	---	234.99	4.19
13	Musique du Monde	360.94	472.81	342.82	1176.57	

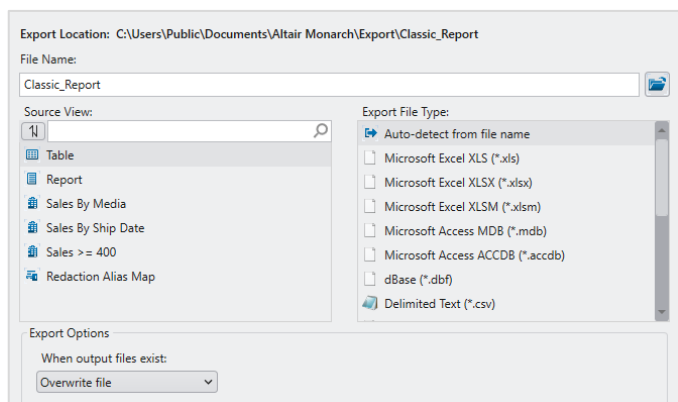
You can create different summaries using the same data to get different views of the information.

READ MORE

- [Summary View](#)
- [Summary Design](#)

5 EXPORT YOUR DATA

Go to *Export Design* to create and run exports. You can export your report, table, or your summaries (you can export one or all summary levels) to various file formats.



6 SAVE AND REUSE

Once saved, models and projects can be re-used each time a new version of your report or data become available. Just load the new files and then run your exports again to produce fresh versions of your output.

NEXT STEPS

- Use Monarch Complete's comprehensive documentation to help you prep your data. The Help and Learning Guide files are installed with the product and are available online at <https://help.altair.com/monarch>.
- Explore how self-service data prep and visual discovery can bridge the IT and business gap. Visit the [Altair website](#) or call Altair for more details.