

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

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

automatically running.

View

Monarch 2025 > Monarch Classic 2025.

New



LAUNCH ALTAIR MONARCH COMPLETE

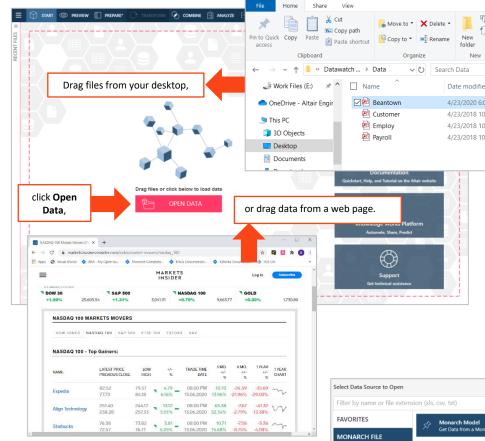
Monarch Complete provides two entry points for working with data:

- · 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.

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

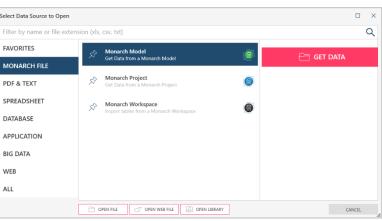
Adding Data

- 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, MSQL, 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.

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

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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.

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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
- <u>Creating Data Extraction</u>
 <u>Templates</u>
- Working with PDF Files

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.

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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.



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

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

Report metadata can help you analyze your

data and preserve data lineage.

Previewing Data

load your data.

•

• Report File Number • Report File Name Report Page Number

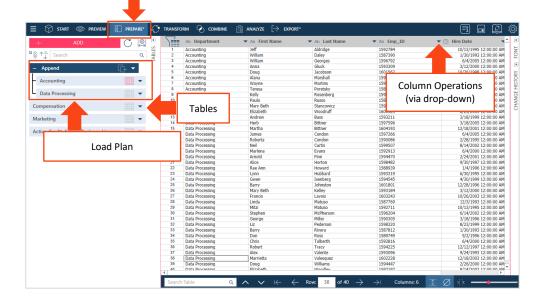
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READ MORE

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

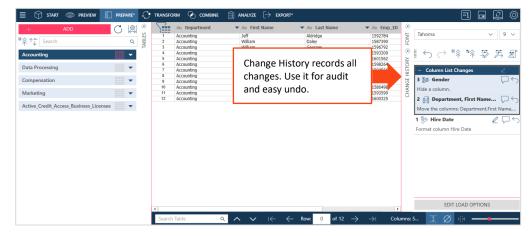
Over 80 pre-built operations and functions are available to transform and manipulate data with mouse clicks. No scripting is needed!

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.

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TRANSFORM YOUR DATA TO GET A DIFFERENT AND BETTER VIEW.

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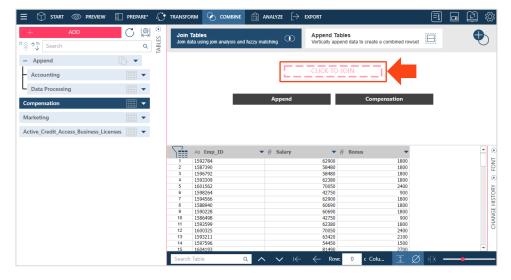
Duplicates Remove, keep or flag duplicate values

- 1. While in the Prepare window, click the 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.

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• •• • 7 Pivot

Pivot row values

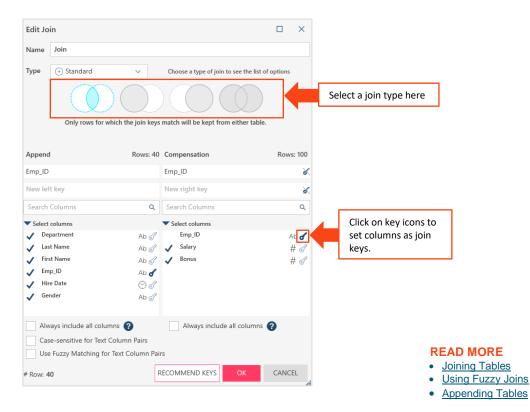
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The **Join Analysis** feature suggests the best way to join data by inspecting the data sets and applying powerful algorithms. You don't need to be a data scientist to do this.

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.



- 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.

— Join	
– Append	[+ -
- Accounting	
Data Processing	
Compensation	
Marketing	

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.

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		14	Data Processing	Bittner	Herb	1593211	3/18/1999 12:00:00 AM M 3/18/2005 12:00:00 AM M
		15	Data Processing	Bittner	Martha	1604193	12/18/2003 12:00:00 AM F
		16	Data Processing	Condon	James	1597266	6/4/2005 12:00:00 AM M
		17	Data Processing	Condon	Roberta	1590086	2/28/1995 12:00:00 AM F
		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	1598482	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	Isenberg	Gwen	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	Kelley	Mary Beth	1593184	3/12/2000 12:00:00 AM F
		27	Data Processing	Lavois	Francis	1603243	10/26/2003 12:00:00 AM M
		28	Data Processing	Matuso	Linda	1587769	12/3/1993 12:00:00 AM F
		29	Data Processing	Matuso	Mitzi	1592711	10/13/1995 12:00:00 AM F
		30	Data Processing	McPherson	Stephen	1596204	6/14/2002 12:00:00 AM M
		31	Data Processing	Miller	George	1590305	3/18/1996 12:00:00 AM M

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

- <u>Creating Summaries</u>
- Exporting Summaries

Select the table for which	you wish to create a summar	y and then click Analyze.
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lame:	Summa	iry			i	Default style:	AaBbCcDd	EDIT		Set styles		PAC	GE SETUP
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6 EXPORT

- 4. Select an export format.

5. Specify the path and file names, define export options, and then click Export.

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Only show exports from selected tab	bles	Manage	Exports	🖉 Join - Microsoft Excel	6
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		EXPORT ALL		When table exists: Overwrite PAGE SETUP	• 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.

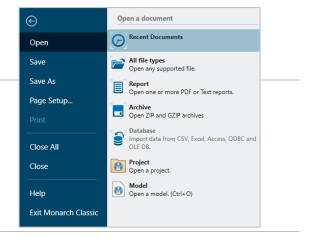
Monarch Complete works with both relational and multi-structured data and provides support for a wide range of formats, such as PDF, XML, HTML, text, spool, and ASCII files. Access data from invoices, sales reports, balance sheets, customer lists, inventory, logs, and more.

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.



- 0 X Edit Report Templates - Altair Monarch Classic Design E, × HЛ **.** Ð ? Detail Cancel New Delete Replace Auto-De Fields Template Role Detail Standard Trap ÃÑ ΒØΙΘ¬ ← → Trap Line ▼ 👯 Reset Trap Line 🌇 Reset Fields 🛒 Edit Field Detail Delete Field Append 1 ñ00 CD 4 84 onata for Solo Violin MK-42625 8.99 35.96 Append 2 Append 3 ORDER NUMBER: 536017 SHIP DATE: 04/10/10 4 Bartok, Sonata for Solo Violin 7 Mozart, Mass in C, K.427 2 Luening, Electronic Music MK-42625 420831-2 CD 611 CD 35.96 63.00 20.38 9.00 9 Scarlatti, Stabat Mater SBT 48282 53.91 DVD 5.99 ORDER NUMBER: 536039 SHIP DATE: 04/21/10 Beethoven, Pathetique Sonata, Arau Mendelssohn, War March of the Priests Pizzetti, Messa di Requiem CD 11 420153-2 5.99 8.99 9.59 SMK 47592 CHAN 8964 71.92 95.90 8 10 LP 6 Misc.. Modern Trombone Masterpieces ADA 581087 10.79 64.74 eg_CD eg_4 eg_Bartok, Sonata for Solo Viol 1 CD 4 Bartok, Sonata for Solo Violin eg_MK-42625 eg_8_99 eg_35_96 eg_536017 eg_04/10/10 e MK-42625 8.99 35.96 536017 4/10/2010 B Page 1

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/2010:01:13:430400] ·"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/2010:01:13:450400] ."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.htr
AC855931.ipt.aol.com [23/Aug/2010:01:14:51 0400] · "GET ·/ express/125x30_snpc
AC855931.ipt.aol.com [23/Aug/2010:01:14:490400] ·"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	WEELKES, 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	MOMPOU, 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	SCELSI, G.	46	VERDI, G.
WAGNER, R.				BOCCHERINI, L.
BRAHMS, J.	18	PENDERECKI, K.	48	JOPLIN, S.

Regular expression traps

To trap data using regular expressions.

Regular Expression Trap ▼ Options ▼ ← → Trap Line ▼ 🔂 Rese	et Trap Line 🛛 🔂 Reset	Fields 📑 Edit Field 🚃 Delete						
<pre>customer:\s*(?<customer>[A-Z].*)</customer></pre>								
CUSTOMER: Betty's Music Store 05/01/10 Ci Create a Field from this (10:17 Delete All Fields MSR94	01/10 CI Create a Field from this Capture Customer GE 01							
		None	•					
You can even use the Redaction Feature to replace, or mask out, field values so that onl	va	None	1					
representation of the field value is displayed an actual value.		X-over text						
		X-over non-blanks						
For example, a credit card number like 1345-8716-4432-7892		X-over digits						
in the original report can be		X-over digits except last 4						
displayed as		Replace with blanks						
XXXX-XXXX-XXXX-77892.		Consistent alias text						
Monarch Complete's advanced redaction capa		Consistent alias digits						
allow you to easily and reliably remove or obsc confidential data, such as customer information records, and employee IDs.		Pseudo bank card number	Ŧ					

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.

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ables	iano en distante e a		Report Date	Order Numbe	r Ship Date	Account Number	Contact	Customer	Postal Code	Cou
រោ	5	1	2/1/2010	536017	1/10/2010	11887	Betty Yoder	Betty's Music Store	50613	USA
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		5	2/1/2010	536039	1/21/2010	11887	Betty Yoder	Betty's Music Store	50613	US
		6	2/1/2010	536039	1/21/2010	11887	Betty Yoder	Betty's Music Store	50613	US
		7	2/1/2010	536039	1/21/2010	11887	Betty Yoder	Betty's Music Store	50613	US
		8	2/1/2010	536039	1/21/2010	11887	Betty Yoder	Betty's Music Store	50613	US
		9	2/1/2010	536039	1/21/2010	11887	Betty Yoder	Betty's Music Store	50613	US
		10	2/1/2010	536020	1/10/2010	10929		Bluegrass Records	40059	US
		11	2/1/2010	536020	1/10/2010	10929	Roberto Gil	Bluegrass Records	40059	US
		12	2/1/2010	536020	1/10/2010	10929	Roberto Gil	Bluegrass Records	40059	US
		13	2/1/2010	536020	1/10/2010	10929	Roberto Gil	Bluegrass Records	40059	US
		14	2/1/2010	536020	1/10/2010	10929		Bluegrass Records	40059	US
		15	2/1/2010	536012	1/1/2010	18635	Alain Lebon	Musique du Monde	45400	Fra
		16	2/1/2010	536012	1/1/2010	18635	Alain Lebon	Musique du Monde	45400	Fra
		17	2/1/2010	536012	1/1/2010	18635		Musique du Monde	45400	Fra
		18	2/1/2010	536012	1/1/2010	18635	Alain Lebon	Musique du Monde	45400	Fra
		19	2/1/2010	536012	1/1/2010	18635	Alain Lebon	Musique du Monde	45400	Fra
		20	2/1/2010	536012	1/1/2010	18635	Alain Lebon	Musique du Monde	45400	Fra

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.

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

- <u>Creating Data Extraction Templates</u>
- Redacting Field Values

You can go to *Table Design* and select **External**



Lookups to combine your data with information from other sources.

	Functions					
Marilla Table	User-defined					
Within Table	_WorkingDays_ComputeDaysOffInRange(,)	-				
<i>Design</i> , you	WorkingDays_ComputeNormalWorkingDaysInRange(,)	- 11				
can also	gDays_ComputeWorkingDaysInRange(,)	- 11				
select	hgDays_DateIsWorkingDayInRange(,,)					
Formula	Formula hgDays_FirstValidDateForWorkingDays()					
Fields to	Fields 1gDays_IsValidDateRangeForWorkingDays(,)					
derive						
values from	_WorkingDays_LastValidDateForWorkingDays()					
existing	Char_XL()					
fields.	Check_CC()					
Monarch	Check_NHSNumber()					
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.

Design Accept	Car	· · · · ·	a) (= <i>S</i>)											
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3	D	escription	Detail	Character	General	37		Left						
4	La	Label Detail		Character	General	11		Left						
5	U	nit Price	Detail	Numeric	General	9	2	Right						
6	A	Amount Detail		Numeric	General	8	2	Right						
7	0	rder No	Append 1	Numeric	General	9	0	Right						
8	SI	Ship Date Append 1		Date/Time	Short Date	11		Left						
9	G	ontact	Append 2	Character	General	41		Left						
10	0	ustomer	Append 3	Character	General	41		Left						
Sh	_	mplate Properties	Table Verify	Move Up	Move Down	Print	S	ave To CSV			_			
Me	dia	Quantity Description	on	Label	Unit Pri	ice Amount	Order N	o Ship Date	Cont	act				Cus
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2 CD			fass in C, K.427	420831		00 63.00		7 4/10/2010		Betty Yoder			Bet	
3 CD 4 DV	D		Electronic Music Stabat Mater	CD 611 SBT 48				7 4/10/2010 7 4/10/2010		Yoder				Bet
5 CD			n, Pathetique Sonata, Arau	420153				Betty Yoder					Bet	
6 CD			ohn, War March of the Priests	SMK 47	59 8.	99 71.92		9 4/21/2010		Yoder				Bet

4 CREATE SUMMARIES

A *summary* tabulates information on selected fields and presents the results in a one- or twodimensional 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		Amou	int				
1	France	273.64			2736.08						
2	Germany			171.80	1	1717.	86				
3	Ireland			20.90	1	209.	08				
4	Netherlands		Country		Customer		Media	1		Discount	Amount
5	Spain	1	France		Chez Rudy		CD			70.68	706.79
	uk	2					DVD			3.90	38.94
-		3					LP			4.50	44.95
7	USA	4			Subtotal Chez		Rudy			79.08	790.68
	Customer	Ja	nuary-10	Febru	ary-10	March	1-10	SUM(Ar	nount)	9.59	95.90
1	Betty's Music Store		507.64			27	0.93		778.57	101.00	1009.97
2	Big Shanty Music				274.49				274.49	2.52	25.16
3	Bluegrass Records		248.17			14	0.84		389.01	4.56	45.54
4	Canciones		379.14						379.14	117.67	1176.57
5	Chez Rudy		320.46		470.22				790.68	1.56	15.58
6	Classic Exchange				209.08				209.08	64.43	644.22
7	Das Piano		541.14			28	5.91		827.05	8.02	80.26
8	Die Harmonie				164.50				164.50	2.88	28.77
9	Die Melodie		472.83			25	3.48		726.31	76.89	768.83
10	Fandangos Records		225.88		105.39	7	4.93		406.20	273.64 47.00	2736.08 469.86
11	Hope's Sweet Notes				661.97				661.97	47.00	469.86
12	Mo Town Tunes		234.99						234.99	4.15	41.55
13	Musique du Monde		360.94		472.81	34	2.82		1176.57		

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

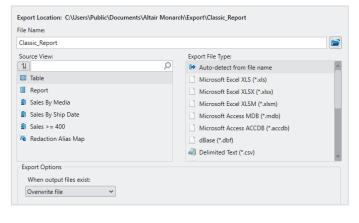
READ MORE

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 <u>https://help.altair.com/monarch.</u>
- Explore how self-service data prep and visual discovery can bridge the IT and business gap. Visit the <u>Altair website</u> or call Altair for more details.