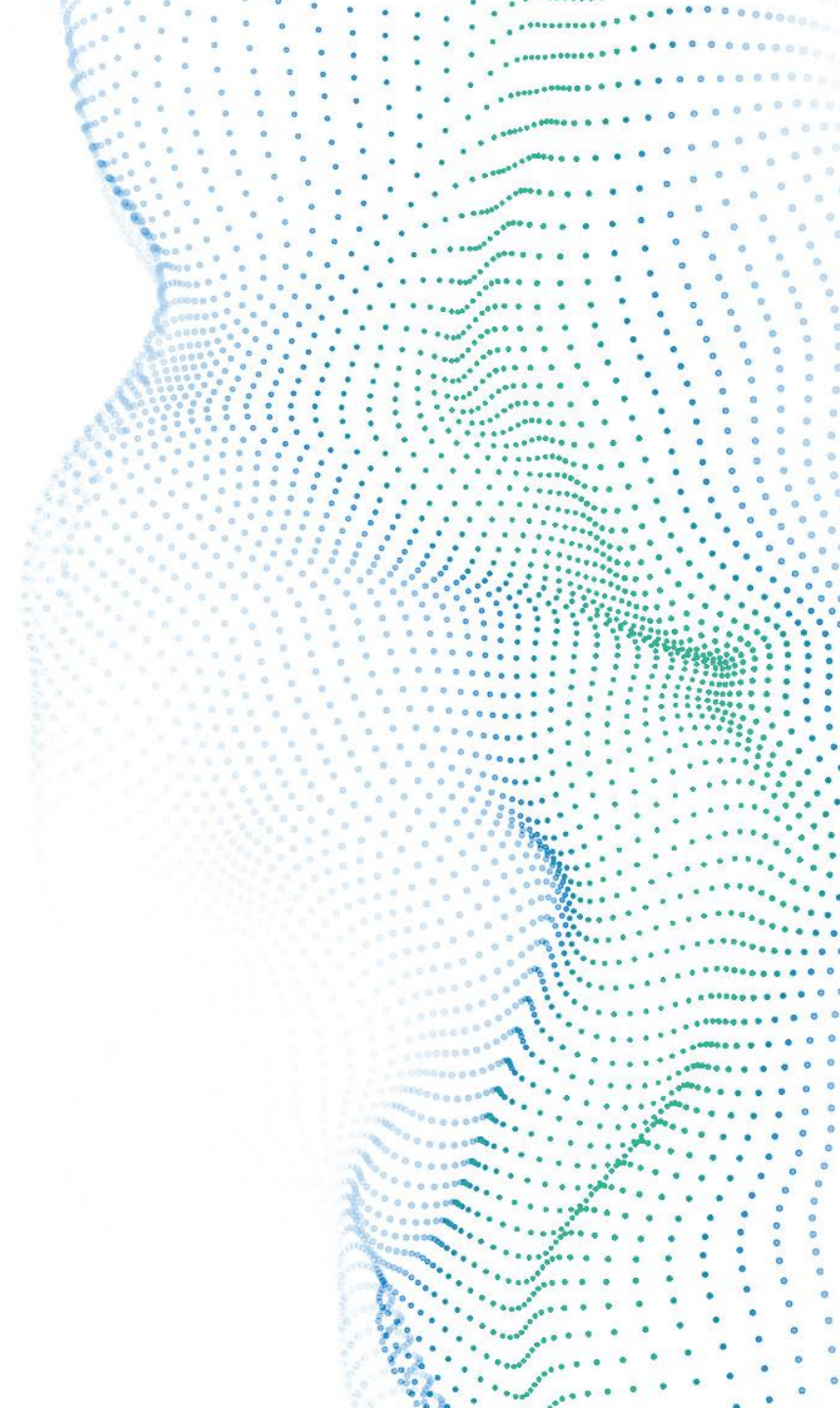




alteryx

Alteryx Core Certification Training Series



Training Series by Week

1 Reading and Writing Data

2 **Data Blending and Formatting**

3 Data Preparation

4 Transforming and Parsing Data

5 User Interface (UI), Documentation and Workflow Configuration

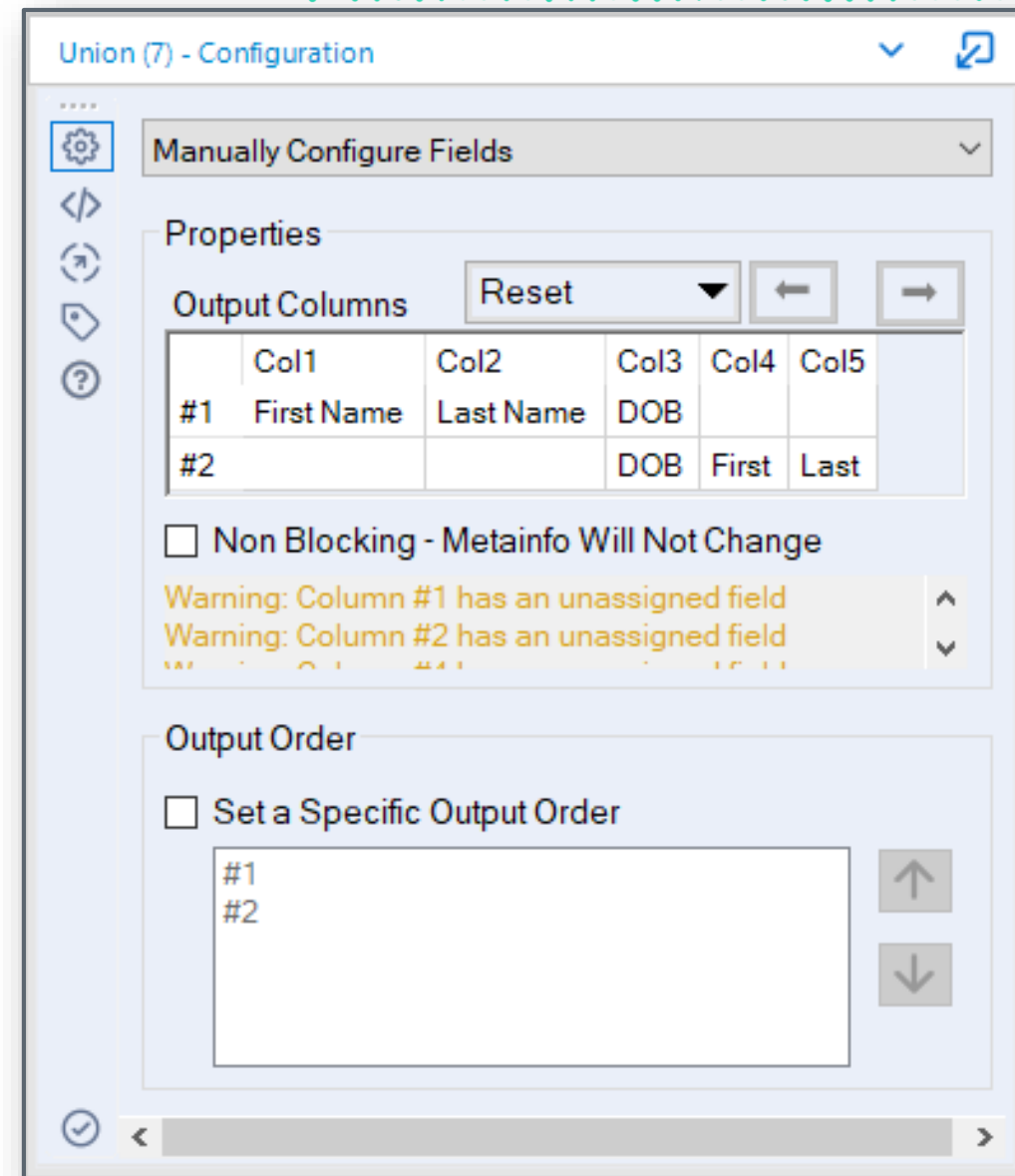
6 Core Certification Exam Preparation

Blending Data



Union Tool Overview

- Configurations
 - Auto Configuration
 - Configuration by position
 - Manual Configuration
- Treats data type as same
- First row of manual configuration determines field name



Visualizing Unions

ID	Name
12	Joe Schmoe
35	John Dear
67	Jane Doe
87	Ricky Martin

ID	Full Name
3	Ricky Bobby
42	Keyser Soze
49	Willy Wonka
87	Ricky Martin

Manually
Configured

Automatically
Configured

Automatic Configuration



ID	ID	Name	Full Name
12	12	Joe Schmoe	
35	35	John Dear	
67	67	Jane Doe	
87	87	Ricky Martin	
3	3		Ricky Bobby
42	42		Keyser Soze
49	49		Willy Wonka
87	87		Ricky Martin

Join Tool Overview

- Match by Position or Keys
- Key fields
 - Same data type on both sides of Join
 - Values must match exactly
- “Select” behavior applied to J output only

Join (13) - Configuration

Join by Record Position

Join by Specific Fields

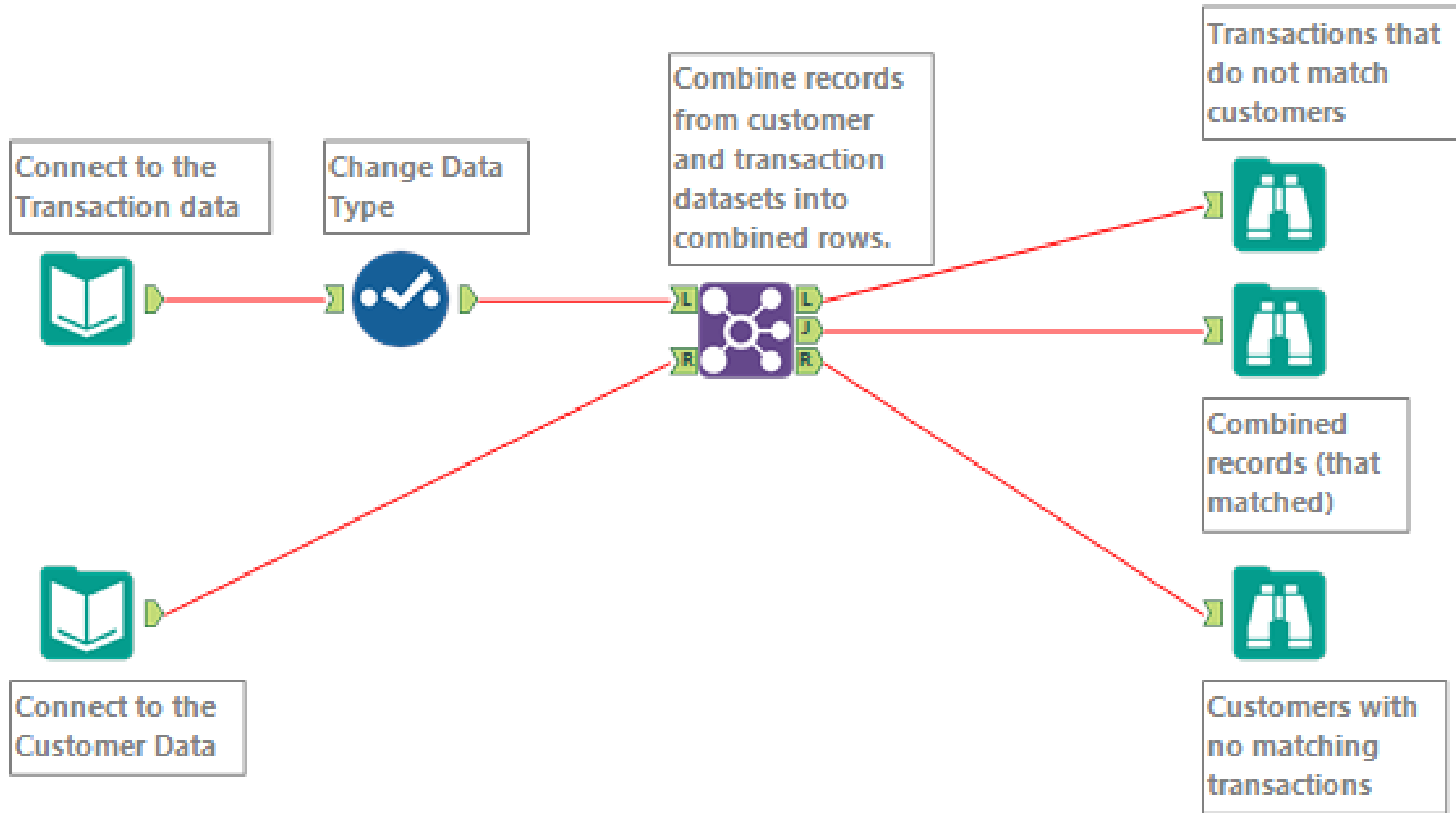
	Left		Right
1	CustomerID		CustomerID
*			

Options | ↑ ↓ TIP: To reorder multiple rows: select, right-click and drag.

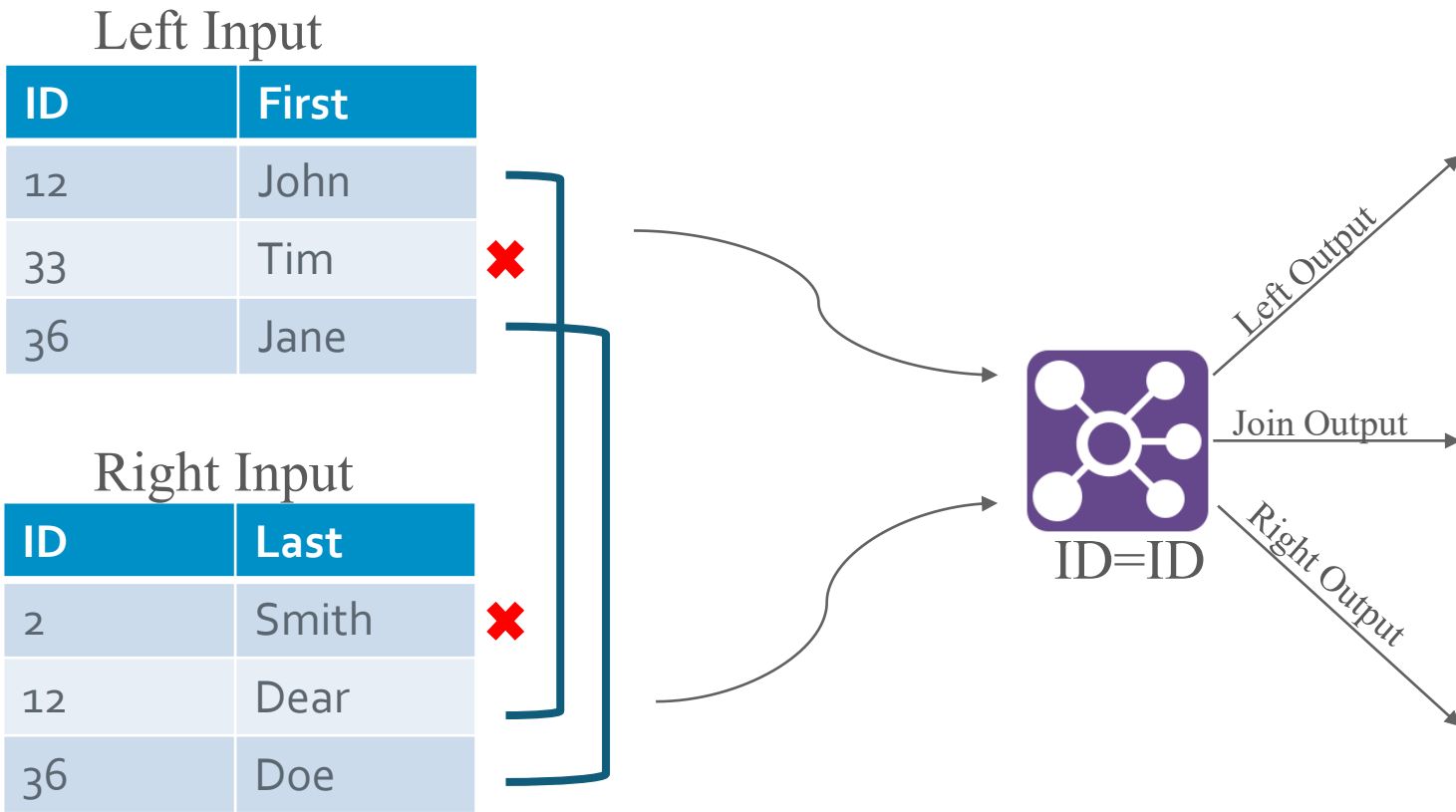
	Input	Field	Type	Size	Rename
▶	<input checked="" type="checkbox"/> Left	CustomerID	V_String	254	
	<input checked="" type="checkbox"/> Left	Store Number	V_String	254	
	<input checked="" type="checkbox"/> Left	Customer Segment	V_String	254	
	<input checked="" type="checkbox"/> Left	Responder	V_String	254	



Sample Join Workflow



Visualizing Joins



Append Fields Overview

- Typically used when needing to take specific cell information (from an unstructured report) and apply to the entire set of data

Append Fields (24) - Configuration

Options | ↑ ↓ | TIP: To reorder multiple rows: select, right-click and drag.

	Input	Field	Type	Size	Rename	Desc
▶	<input checked="" type="checkbox"/>	Target	First	V_String	11	
	<input checked="" type="checkbox"/>	Target	Last	String	11	
	<input checked="" type="checkbox"/>	Target	Prefix	V_String	12	
	<input checked="" type="checkbox"/>	Target	Gender	String	6	
	<input checked="" type="checkbox"/>	Target	Email	V_String	34	
	<input checked="" type="checkbox"/>	Target	Phone	String	14	
	<input checked="" type="checkbox"/>	Target	Cell	String	14	
	<input checked="" type="checkbox"/>	Target	Address	V_String	31	
	<input checked="" type="checkbox"/>	Target	City	V_String	26	
	<input checked="" type="checkbox"/>	Target	State	V_String	28	

Warn/Error on Too Many Records Being Generated

Error on appends of more than 16 Records



Visualizing Append Fields

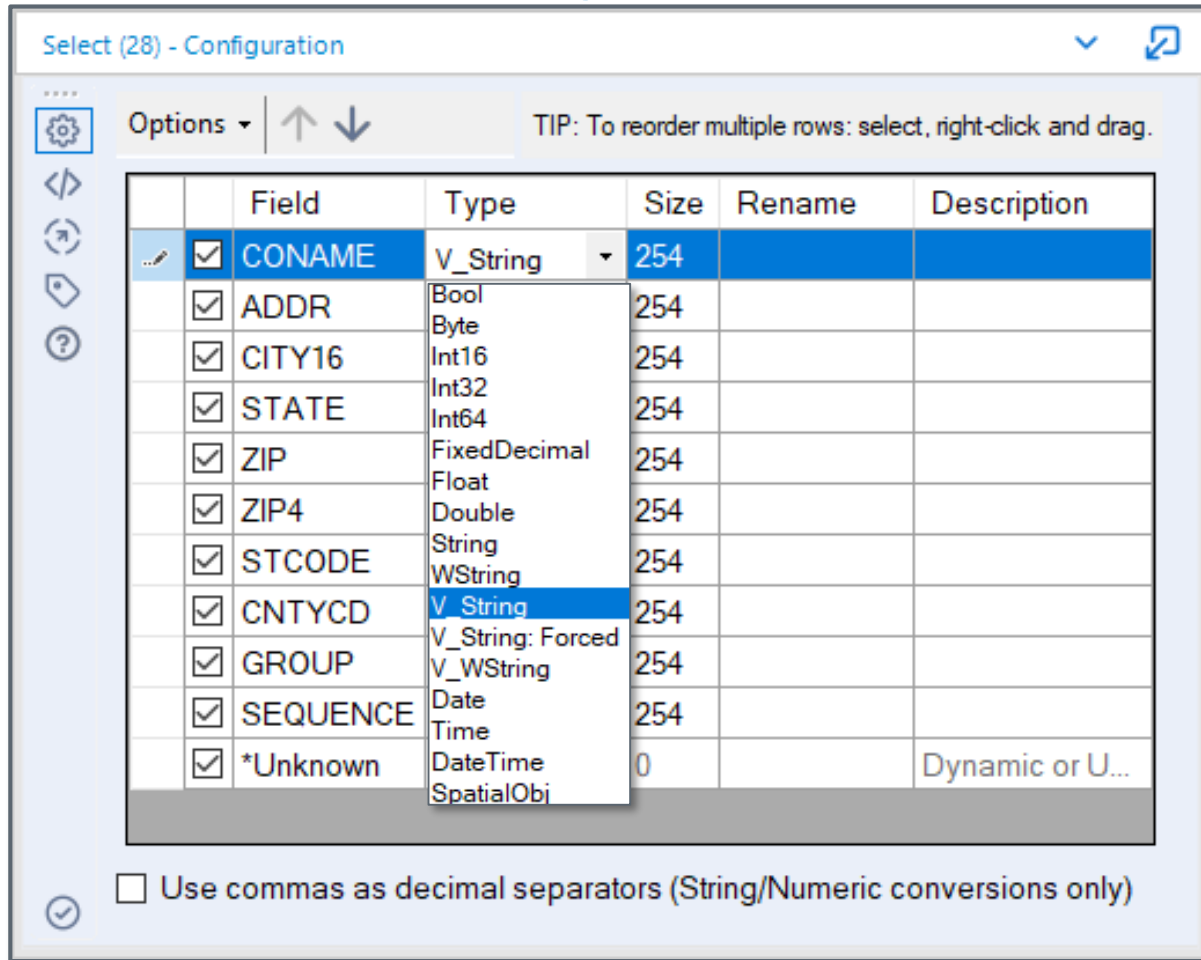
Store ID	Supply Request Qty	Location
1	150	New York
2	650	San Mateo
3	230	Denver



Warehouse Inventory Qty	Warehouse Location
900	Atlanta

Understanding and Formatting Data Types

What is a Data Type?



Select (28) - Configuration

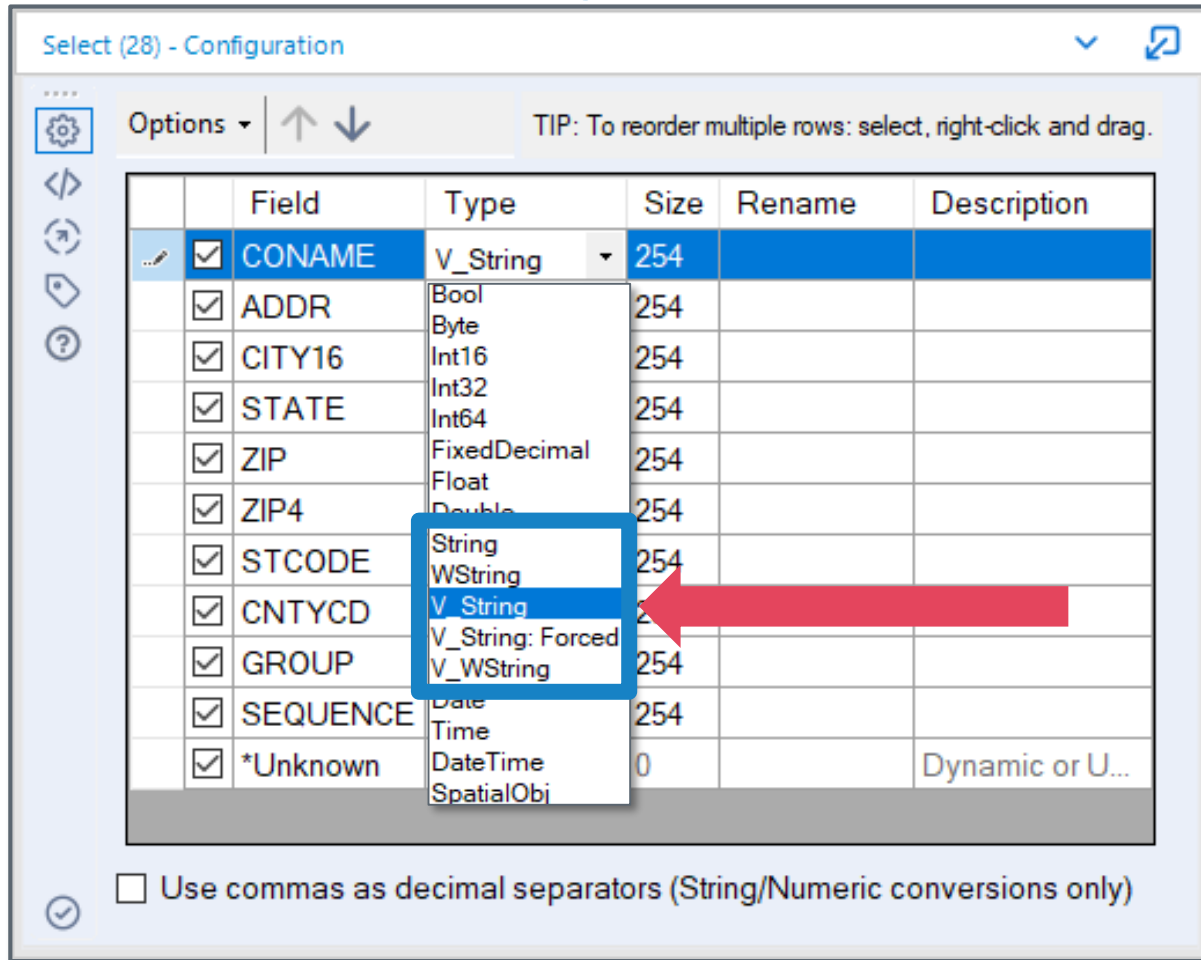
Options ▾ | ↑ ↓ | TIP: To reorder multiple rows: select, right-click and drag.

Field	Type	Size	Rename	Description
<input checked="" type="checkbox"/> CONAME	V_String	254		
<input checked="" type="checkbox"/> ADDR	Bool	254		
<input checked="" type="checkbox"/> CITY16	Byte	254		
<input checked="" type="checkbox"/> STATE	Int16	254		
<input checked="" type="checkbox"/> ZIP	Int32	254		
<input checked="" type="checkbox"/> ZIP4	Int64	254		
<input checked="" type="checkbox"/> STCODE	FixedDecimal	254		
<input checked="" type="checkbox"/> CNTYCD	Float	254		
<input checked="" type="checkbox"/> GROUP	Double	254		
<input checked="" type="checkbox"/> SEQUENCE	String	254		
<input checked="" type="checkbox"/> *Unknown	WString	0		Dynamic or U...

Use commas as decimal separators (String/Numeric conversions only)

- Strings
- Numbers
- Dates and Time
- Boolean (0 or 1; True or False)
- Spatial objects

What is a Data Type?



Select (28) - Configuration

Options ▾ | ↑ ↓ | TIP: To reorder multiple rows: select, right-click and drag.

Field	Type	Size	Rename	Description
<input checked="" type="checkbox"/> CONAME	V_String	254		
<input checked="" type="checkbox"/> ADDR	Bool	254		
<input checked="" type="checkbox"/> CITY16	Byte	254		
<input checked="" type="checkbox"/> STATE	Int16	254		
<input checked="" type="checkbox"/> ZIP	Int32	254		
<input checked="" type="checkbox"/> ZIP4	Int64	254		
<input checked="" type="checkbox"/> STCODE	FixedDecimal	254		
<input checked="" type="checkbox"/> CNTYCD	Float	254		
<input checked="" type="checkbox"/> GROUP	Double	254		
<input checked="" type="checkbox"/> SEQUENCE	Date	254		
<input checked="" type="checkbox"/> *Unknown	Time	0		Dynamic or U...

Use commas as decimal separators (String/Numeric conversions only)

- String
 - String
 - WString
 - V_String
 - V_WString

What is a Data Type?

Select (28) - Configuration

Options ▾ | ↑ ↓ | TIP: To reorder multiple rows: select, right-click and drag.

	Field	Type	Size	Rename	Description
<input checked="" type="checkbox"/>	CONAME	V_String	254		
<input checked="" type="checkbox"/>	ADDR	Byte	254		
<input checked="" type="checkbox"/>	CITY16	Int16	254		
<input checked="" type="checkbox"/>	STATE	Int32	254		
<input checked="" type="checkbox"/>	ZIP	Int64	254		
<input checked="" type="checkbox"/>	ZIP4	FixedDecimal	254		
<input checked="" type="checkbox"/>	STCODE	Float	254		
<input checked="" type="checkbox"/>	CNTYCD	Double	254		
<input checked="" type="checkbox"/>	GROUP	String	254		
<input checked="" type="checkbox"/>	SEQUENCE	WString	254		
<input checked="" type="checkbox"/>	*Unknown	V_String	254		
<input checked="" type="checkbox"/>		V_String: Forced	254		
<input checked="" type="checkbox"/>		V_WString	254		
<input checked="" type="checkbox"/>		Date	254		
<input checked="" type="checkbox"/>		Time	254		
<input checked="" type="checkbox"/>		DateTime	0		Dynamic or U...
<input checked="" type="checkbox"/>		SpatialObj			

Use commas as decimal separators (String/Numeric conversions only)

- String
- Number
 - Byte
 - Int16
 - Int32
 - Int64
 - Fixed Decimal
 - Float
 - Double

What is a Data Type?

Select (28) - Configuration

Options | TIP: To reorder multiple rows: select, right-click and drag.

Field	Type	Size	Rename	Description
<input checked="" type="checkbox"/> CONAME	V_String	254		
<input checked="" type="checkbox"/> ADDR	Bool	254		
<input checked="" type="checkbox"/> CITY16	Byte	254		
<input checked="" type="checkbox"/> STATE	Int16	254		
<input checked="" type="checkbox"/> ZIP	Int32	254		
<input checked="" type="checkbox"/> ZIP4	Int64	254		
<input checked="" type="checkbox"/> STCODE	FixedDecimal	254		
<input checked="" type="checkbox"/> CNTYCD	Float	254		
<input checked="" type="checkbox"/> GROUP	Double	254		
<input checked="" type="checkbox"/> SEQUENCE	String	254		
<input checked="" type="checkbox"/> *Unknown	WString	0		Dynamic or U...

Use commas as decimal separators (String/Numeric conversions only)

- String
- Number
- Date
 - Date
yyyy-mm-dd
 - Time
hh:mm:ss
 - DateTime
yyyy-mm-dd hh:mm:ss

What is a Data Type?

Select (28) - Configuration

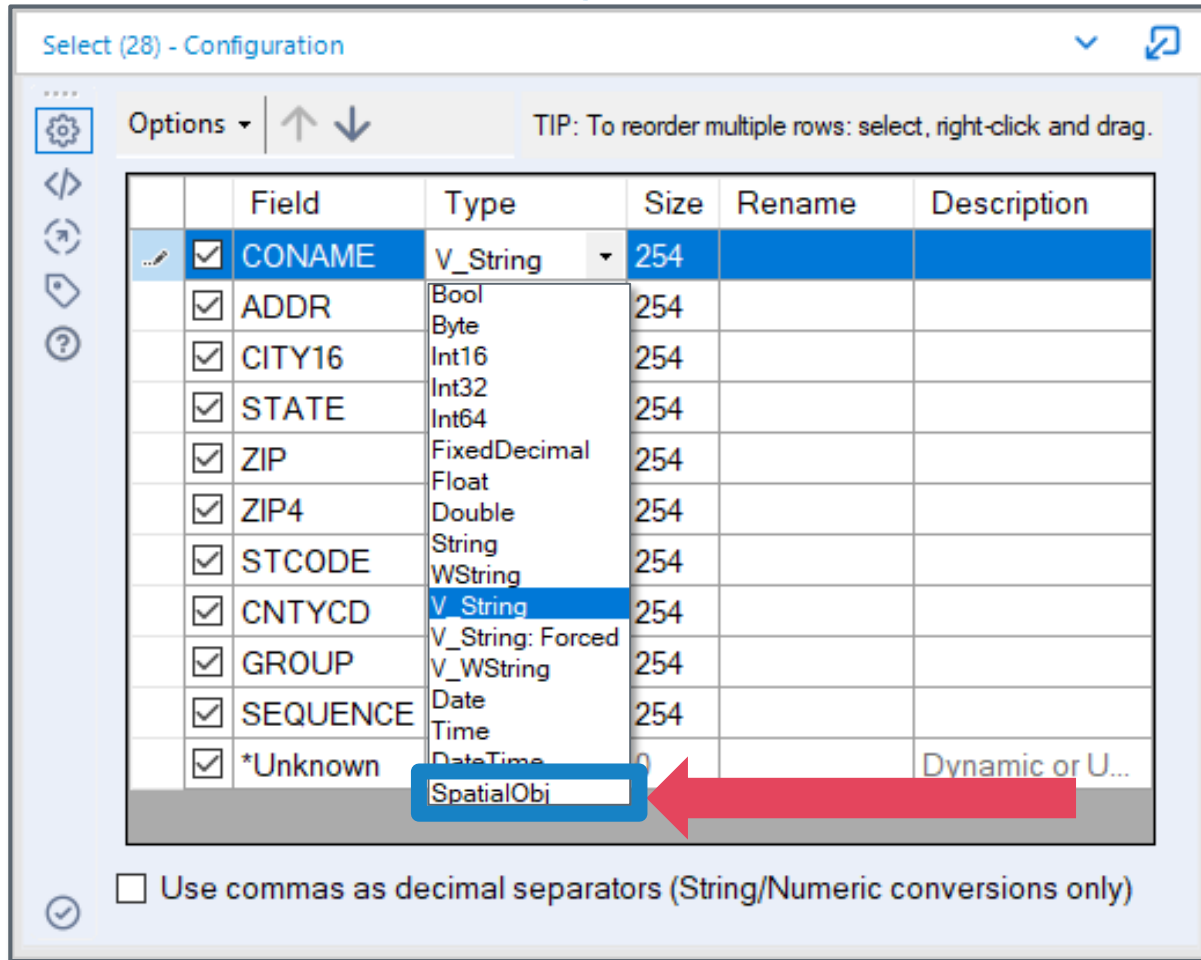
Options ▾ | ↑ ↓ | TIP: To reorder multiple rows: select, right-click and drag.

	Field	Type	Size	Rename	Description
<input checked="" type="checkbox"/>	CONAME	V_String	254		
<input checked="" type="checkbox"/>	ADDR	Bool	1		
<input checked="" type="checkbox"/>	CITY16	Byte	1		
<input checked="" type="checkbox"/>	STATE	Int16	254		
<input checked="" type="checkbox"/>	ZIP	Int32	254		
<input checked="" type="checkbox"/>	ZIP4	Int64	254		
<input checked="" type="checkbox"/>	ZIP	FixedDecimal	254		
<input checked="" type="checkbox"/>	ZIP4	Float	254		
<input checked="" type="checkbox"/>	ZIP4	Double	254		
<input checked="" type="checkbox"/>	STCODE	String	254		
<input checked="" type="checkbox"/>	STCODE	WString	254		
<input checked="" type="checkbox"/>	CNTYCD	V_String	254		
<input checked="" type="checkbox"/>	CNTYCD	V_String: Forced	254		
<input checked="" type="checkbox"/>	GROUP	V_WString	254		
<input checked="" type="checkbox"/>	SEQUENCE	Date	254		
<input checked="" type="checkbox"/>	SEQUENCE	Time	254		
<input checked="" type="checkbox"/>	*Unknown	DateTime	0		Dynamic or U...
<input checked="" type="checkbox"/>	*Unknown	SpatialObj	0		

Use commas as decimal separators (String/Numeric conversions only)

- String
- Number
- Date
- Boolean
 - 0 – False
 - 1 – True

What is a Data Type?



Select (28) - Configuration

Options ▾ | ↑ ↓ | TIP: To reorder multiple rows: select, right-click and drag.

Field	Type	Size	Rename	Description
<input checked="" type="checkbox"/> CONAME	V_String	254		
<input checked="" type="checkbox"/> ADDR	Bool	254		
<input checked="" type="checkbox"/> CITY16	Byte	254		
<input checked="" type="checkbox"/> STATE	Int16	254		
<input checked="" type="checkbox"/> ZIP	Int32	254		
<input checked="" type="checkbox"/> ZIP4	Int64	254		
<input checked="" type="checkbox"/> STCODE	FixedDecimal	254		
<input checked="" type="checkbox"/> CNTYCD	Float	254		
<input checked="" type="checkbox"/> GROUP	Double	254		
<input checked="" type="checkbox"/> SEQUENCE	String	254		
<input checked="" type="checkbox"/> *Unknown	WString	0		Dynamic or U...

Use commas as decimal separators (String/Numeric conversions only)

- String
- Number
- Date
- Boolean
- Spatial Objects

How Are Data Types Set in Designer?

- **Databases**
 - Mapped to data type and size from data source
- **Files**
 - Uses information from the file when possible
 - Evaluates for Excel and dBase
 - Sets fields from CSV, JSON, XML, etc. to String

Using Select to Change Types and Size

- **Type**

- Applied to entire column
- Non-conforming values nulled

- **Size**

- Numeric – measured in bytes
- String – length of characters

Select (28) - Configuration

Options ▾ | ↑ ↓ | TIP: To reorder multiple rows: select, right-click and drag.

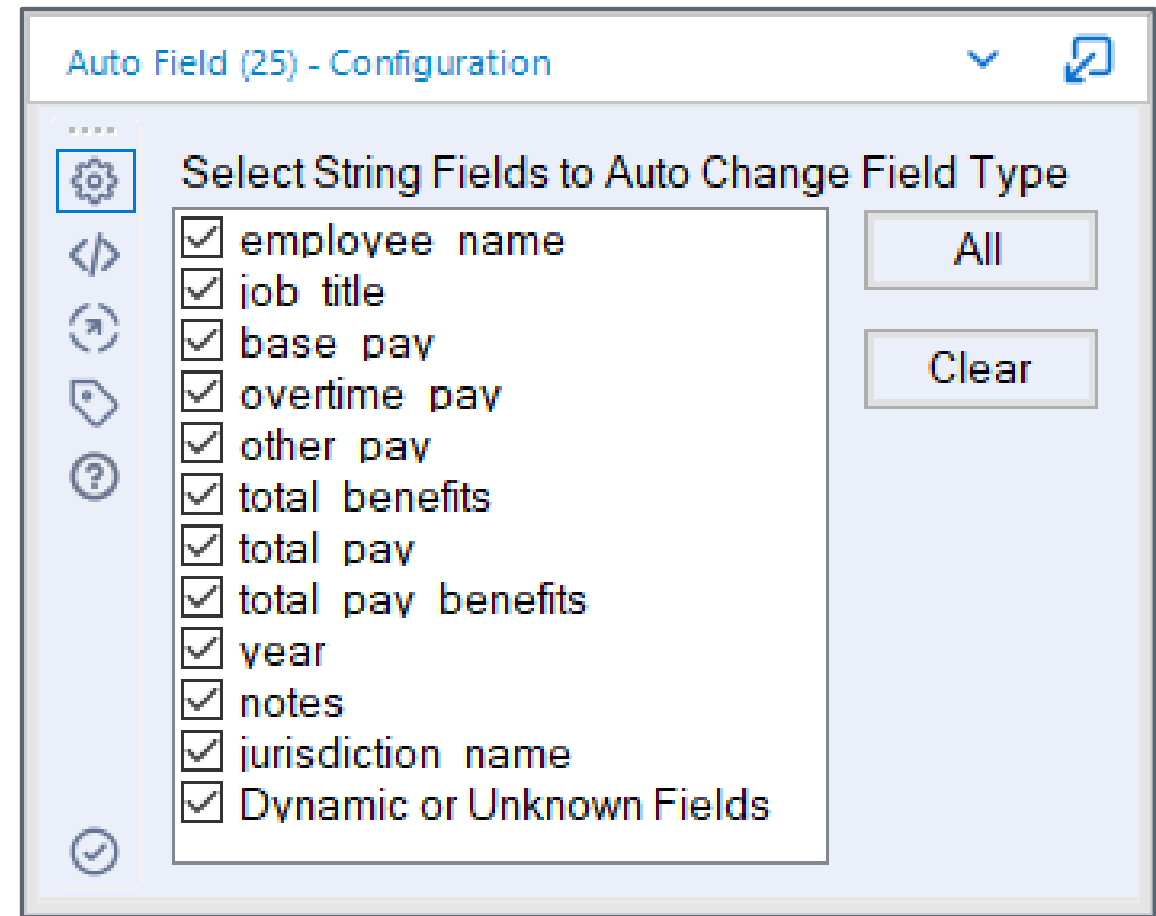
	Field	Type	Size	Rename	Description
<input checked="" type="checkbox"/>	CONAME	V_String	254		
<input checked="" type="checkbox"/>	ADDR	Bool	254		
<input checked="" type="checkbox"/>	CITY16	Byte	254		
<input checked="" type="checkbox"/>	STATE	Int16	254		
<input checked="" type="checkbox"/>	ZIP	Int32	254		
<input checked="" type="checkbox"/>	ZIP4	Int64	254		
<input checked="" type="checkbox"/>	STCODE	FixedDecimal	254		
<input checked="" type="checkbox"/>	CNTYCD	Float	254		
<input checked="" type="checkbox"/>	GROUP	String	254		
<input checked="" type="checkbox"/>	SEQUENCE	WString	254		
<input checked="" type="checkbox"/>	*Unknown	V_String	0		Dynamic or U...

Use commas as decimal separators (String/Numeric conversions only)



Auto Field Overview

- Automatically sets Types and Sizes
 - Evaluates the content
 - Sets based on values in the fields
 - Only supports incoming string fields



View Metadata in Results Window

Results Window - Incoming Field Metadata

Input Properties:

- Name
- Type
- Size
- Source



Results - Auto Field (25) - Input

11 of 11 Fields | Cell Viewer | Data Metadata

Record	Name	Type	Size	Source
1	employee_name	V_String	254	File: D:\inspire\2019\Course Development\01-in-...
2	job_title	V_String	254	File: D:\inspire\2019\Course Development\01-in-...
3	base_pay	V_String	254	File: D:\inspire\2019\Course Development\01-in-...
4	overtime_pay	V_String	254	File: D:\inspire\2019\Course Development\01-in-...
5	other_pay	V_String	254	File: D:\inspire\2019\Course Development\01-in-...
6	total_benefits	V_String	254	File: D:\inspire\2019\Course Development\01-in-...
7	total_pay	V_String	254	File: D:\inspire\2019\Course Development\01-in-...
8	total_pay_benefits	V_String	254	File: D:\inspire\2019\Course Development\01-in-...

Results Window - Incoming Field Metadata

Output Properties:

- Name
- Type
- Size
- Source



Results - Auto Field (25) - Output

11 of 11 Fields | Cell Viewer | Data Metadata

Record	Name	Type	Size	Source
1	employee_name	V_String	39	File: D:\inspire\2019\Course Development\01-in-...
2	job_title	V_String	30	File: D:\inspire\2019\Course Development\01-in-...
3	base_pay	Double	8	File: D:\inspire\2019\Course Development\01-in-...
4	overtime_pay	Double	8	File: D:\inspire\2019\Course Development\01-in-...
5	other_pay	Double	8	File: D:\inspire\2019\Course Development\01-in-...
6	total_benefits	Double	8	File: D:\inspire\2019\Course Development\01-in-...
7	total_pay	Double	8	File: D:\inspire\2019\Course Development\01-in-...
8	total_pay_benefits	Double	8	File: D:\inspire\2019\Course Development\01-in-...



Data Blending and Formatting: Alteryx Designer Training

Additional Resources

Tool Mastery Series

- Take a deeper dive into the tools on the Alteryx Community

This is a series of articles meant to give you a deeper mastery of each tool, with a write-up of its functions, options and working examples for download.

Union <https://community.alteryx.com/t5/Alteryx-Designer-Knowledge-Base/Tool-Mastery-Union/ta-p/32872>

Join <https://community.alteryx.com/t5/Alteryx-Designer-Knowledge-Base/Tool-Mastery-Join/ta-p/29814>

**Find
Replace** <https://community.alteryx.com/t5/Alteryx-Designer-Knowledge-Base/Tool-Mastery-Find-Replace/ta-p/47042>

**Append
Fields** <https://community.alteryx.com/t5/Alteryx-Designer-Knowledge-Base/Tool-Mastery-Append-Fields/ta-p/87489>

<https://community.alteryx.com/t5/Alteryx-Designer-Knowledge-Base/Tool-Mastery-Select/ta-p/29783>

**Auto
field** <https://community.alteryx.com/t5/Alteryx-Designer-Knowledge-Base/Tool-Mastery-Auto-Field/ta-p/49731>

Resources for Practice

1

ADDITIONAL EXERCISES

Download and complete the exercises for this week:

<https://community.alteryx.com/t5/Weekly-Challenge/bd-p/weeklychallenge>

2

CORE CERT. PREP GUIDE

Review and complete the Prep Guide for Core Certification:

<https://community.alteryx.com/t5/Certification/bd-p/product-certification>

3

ALTERYX COMMUNITY

Try Weekly Challenges, post your questions, search discussion forums, read Knowledge Base articles at:

<https://community.alteryx.com>



alteryx

Thank you

alteryx.com

