

# Experiment 3

Perform the task of blending and analyzing of data using Alteryx. i.e. joining two or more data sources, splitting a string column and analyzing data based on a column.

## Joining Data Sources

1. Relevant data is contained in two different input files.
2. Drag a new Input Tool onto the canvas. In the Configuration window on the left, click the Connect a File or Database drop down browse to the TutorialDataAddresses.yxdb file in \Alteryx\Samples\en\SampleData\
3. Drag a Join tool onto the canvas so the T output anchor of the Filter tool connects to the L input anchor of the Join tool. Click and drag the Input Data tool's output anchor to the R input anchor of the Join tool.

Blend and Analyze Data:

	UserID	Phone	Mobile	Address
1	100	(848)-809-8046	(585)-522-1296	1302 Plompetorenburg
2	101	89166350	72371248	1019 Pyykelunden
3	102	(372)-422-2558	(961)-090-4452	1643 Herbert Street
4	103	06-549-578	046-879-65-72	4940 Korkeanenkatu
5	104	0894-810043	0175-1740989	8092 Eichenweg
6	105	306-564-6777	003-118-4527	4692 Flagert Ave
7	106	01-89-34-69-72	06-69-36-74-80	3248 Rue Du Moulin
8	107	(037)-102-9753	(627)-210-1056	3459 Rue Louis-garnand
9	108	(262)-540-1189	(530)-021-3636	5483 Rue Pierre-dellone
10	109	955-784-857	676-419-431	3305 Avenida De Andaluz
11	110	07-821-749	044-646-27-02	2811 Esplanadi
12	111	01562 748088	0740-614-633	9101 Church Street
13	112	(870)-290-0028	(750)-459-4922	2850 Te Iivings Drive
14	113	(271)-817-4159	(024)-676-3602	7574 Avondale Ave
15	114	908-506-7426	330-916-0069	3244 Dahlhouse Ave
16	115	(88) 0346-3878	(79) 1568-0664	5396 Rua Virna E Quatro
17	116	017684 89104	0786-526-869	7393 Orange Road
18	117	(594)-546-1609	(619)-406-8463	7159 Ranchview Dr
19	118	(488)-250-7533	(812)-051-7922	7782 Victoria Street
20	119	018974 15480	0799-069-079	5420 Alexander Road
21	120	0233-6704761	0172-8125706	5897 Godfreisträße
22	121	05-189-166	047-185-30-25	4894 Oivallankatu
23	122	07-110-703	043-649-02-53	7761 Satakannankatu
24	123	02-534-795	043-285-33-85	2160 Fredrikinkatu
25	124	03-805-170	047-216-31-88	5012 Rautanenkatu
26	125	0857-2605197	0178-8515184	7776 Schillerstraße
27	126	(852)-513-1498	(900)-838-0973	8660 Frederick Street
28	127	06-430-972	045-308-86-28	4922 Hämeenkatu
29	128	(978)-406-0576	(170)-728-3070	7523 Cavendish Drive

4. Click the Join tool to access it's configuration window. Verify that Join by Specific Fields is selected. Then select UserID with both the Left and Right drop downs. In the table, find the UserID that has Right\_UserID in the Rename column and deselect the field to stop the data from passing through the Join tool.

Alttery Designer v16 - 31 Joining Data Sources.yxd

File Edit View Options Help

Search for tools, help, and resources

Input Data Output Data Text Input Cleaning Filter Join Append Sort Join Append Summarize Comment

Join (Join) - Configuration

Join by Record Position  
Join by Specific Fields

Left: UserID  
Right: UserID

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

Input	Field	Type	Size	Reorder
Left	UserID	Int32	4	
Left	First Name	V_String	12	
Left	Last Name	V_String	19	
Left	Prefix	V_String	12	
Left	Gender	String	16	
Left	Birth Date	DateTime	19	
Left	Registration Email	V_String	35	
Left	Registration Date/Time	DateTime	19	
Left	Country	String	2	
Left	Full Name	V_String	35	
Right	UserID	Int32	4	Right
Right	Phone	String	16	
Right	Mobile	String	14	
Right	Address	V_String	38	
Right	City	V_String	30	
Right	State	V_String	28	
Right	Zip	String	8	
Right	Unknown	Unknown	0	

Blend and Analyze Data:

Results - Join (Join) - In - Left

0 of 0 Fields | Cell Viewer | 0 records displayed

No data available. (Use Ctrl+R to run the workflow.)

- Run the workflow to see the results in the Results window. Click between the L (Left), J (Joined), and R (Right) results pages or corresponding tool anchors to see which records were and were not joined.

Alttery Designer v16 - 31 Joining Data Sources.yxd

File Edit View Options Help

Search for tools, help, and resources

Input Data Output Data Text Input Cleaning Filter Join Append Sort Join Append Summarize Comment

Join (Join) - Configuration

Join by Record Position  
Join by Specific Fields

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Input	Field	Type	Size	Reorder
Left	UserID	Int32	4	
Left	First Name	V_String	12	
Left	Last Name	V_String	19	
Left	Prefix	V_String	12	
Left	Gender	String	16	
Left	Birth Date	DateTime	19	
Left	Registration Email	V_String	35	
Left	Registration Date/Time	DateTime	19	
Left	Country	String	2	
Left	Full Name	V_String	35	
Right	UserID	Int32	4	Right
Right	Phone	String	16	
Right	Mobile	String	14	
Right	Address	V_String	38	
Right	City	V_String	30	
Right	State	V_String	28	
Right	Zip	String	8	
Right	Unknown	Unknown	0	

Blend and Analyze Data:

Results - Join (Join) - Out - Left

10 of 10 Fields | Cell Viewer | 0 records displayed

Record #	UserID	First Name	Last Name	Prefix	Gender	Birth Date	Registration Email	Registration Date/Time	Country	Full Name
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Altair Designer 9.6 - St. Johning Data Sources.yrmd

Blend and Analyze Data:

Join (Inner) - Configuration

Join by Record Position

Join by Specific Fields

Left: UserID, Right: UserID

Options: TIP: To render multiple rows: select, right-click any

Input Field Type Size Row

Input	Field	Type	Size	Row
Left	UserID	Int32	4	1
Left	First Name	V_String	12	2
Left	Last Name	V_String	19	3
Left	Prefix	V_String	12	4
Left	Gender	String	16	5
Left	Birth Date	DateTime	19	6
Left	Registration Email	V_String	35	7
Left	Registration Date/Time	DateTime	19	8
Left	Country	String	2	9
Left	Full Name	V_String	35	10
Right	UserID	Int32	4	11
Right	Phone	String	16	12
Right	Mobile	String	14	13
Right	Address	V_String	38	14
Right	City	V_String	30	15
Right	State	V_String	28	16
Right	Zip	String	8	17
Right	Unknown	Unknown	0	18

Results - Join (Inner) - Join

16 of 16 Fields - Cell Viewer - 580 records displayed

Record #	UserID	First Name	Last Name	Prefix	Gender	Birth Date	Registration Email	Registration Date/Time	Country	Full Name	Phone	Mobile	Address
1	113	Cassandra	Murray	Mrs	Female	1961-08-16 22:00:04	cassandra.murray@example.com	2008-08-12 22:00:00	US	Cassandra Murray	(271)-817-4159	(624)-676-3602	7574 Avondale Ave
2	117	Isaac	Fisher	Mr	Male	1989-12-27 18:58:20	isaac.fisher@example.com	2007-03-28 02:55:53	US	Isaac Fisher	(984)-546-1609	(819)-406-6463	7199 Ranchview Dr
3	130	Tomothy	Simpson	Mr	Male	1992-07-03 01:32:51	tomothy.simpson@example.com	2005-10-17 23:55:53	US	Tomothy Simpson	(940)-474-1279	(807)-040-4087	8239 Avondale Ave
4	166	Linda	Peck	Mrs	Female	1993-04-14 14:58:43	linda.peck@example.com	2019-10-12 09:39:29	US	Linda Peck	(610)-275-7187	(233)-432-6063	7623 W 9th St
5	168	Noelle	Collins	Miss	Female	1989-06-08 08:50:35	noelle.collins@example.com	2011-08-12 09:55:17	US	Noelle Collins	(274)-184-1238	(262)-725-6558	7102 Royal Ln
6	169	Terry	Olson	Mr	Male	1956-06-07 22:36:15	terry.olson@example.com	2008-12-01 07:31:30	US	Terry Olson	(980)-610-8286	(984)-078-4479	5934 Lakeshore Rd
7	178	Tom	Rogers	Mr	Male	1963-05-24 14:39:54	tom.rogers@example.com	2019-05-28 10:15:23	US	Tom Rogers	(646)-391-8052	(934)-420-7376	8791 E Pecan St
8	191	Mae	Carroll	Miss	Female	1956-04-19 09:50:25	mae.carroll@example.com	2004-11-19 03:50:11	US	Mae Carroll	(929)-716-4321	(342)-884-6486	4788 E Little York Rd
9	216	Marcus	Howard	Mr	Male	1974-03-26 05:40:05	marcus.howard@example.com	2011-04-07 13:17:59	US	Marcus Howard	(683)-400-2357	(247)-911-6592	5365 Rolling Green Rd
10	233	Ricardo	Simmons	Mr	Male	1993-06-17 18:19:21	ricardo.simmons@example.com	2006-05-08 20:52:09	US	Ricardo Simmons	(169)-239-9828	(951)-627-2878	9167 Bruce St

Altair Designer 9.6 - St. Johning Data Sources.yrmd

Blend and Analyze Data:

Join (Inner) - Configuration

Join by Record Position

Join by Specific Fields

Left: UserID, Right: UserID

Options: TIP: To render multiple rows: select, right-click any

Input Field Type Size Row

Input	Field	Type	Size	Row
Left	UserID	Int32	4	1
Left	First Name	V_String	12	2
Left	Last Name	V_String	19	3
Left	Prefix	V_String	12	4
Left	Gender	String	16	5
Left	Birth Date	DateTime	19	6
Left	Registration Email	V_String	35	7
Left	Registration Date/Time	DateTime	19	8
Left	Country	String	2	9
Left	Full Name	V_String	35	10
Right	UserID	Int32	4	11
Right	Phone	String	16	12
Right	Mobile	String	14	13
Right	Address	V_String	38	14
Right	City	V_String	30	15
Right	State	V_String	28	16
Right	Zip	String	8	17
Right	Unknown	Unknown	0	18

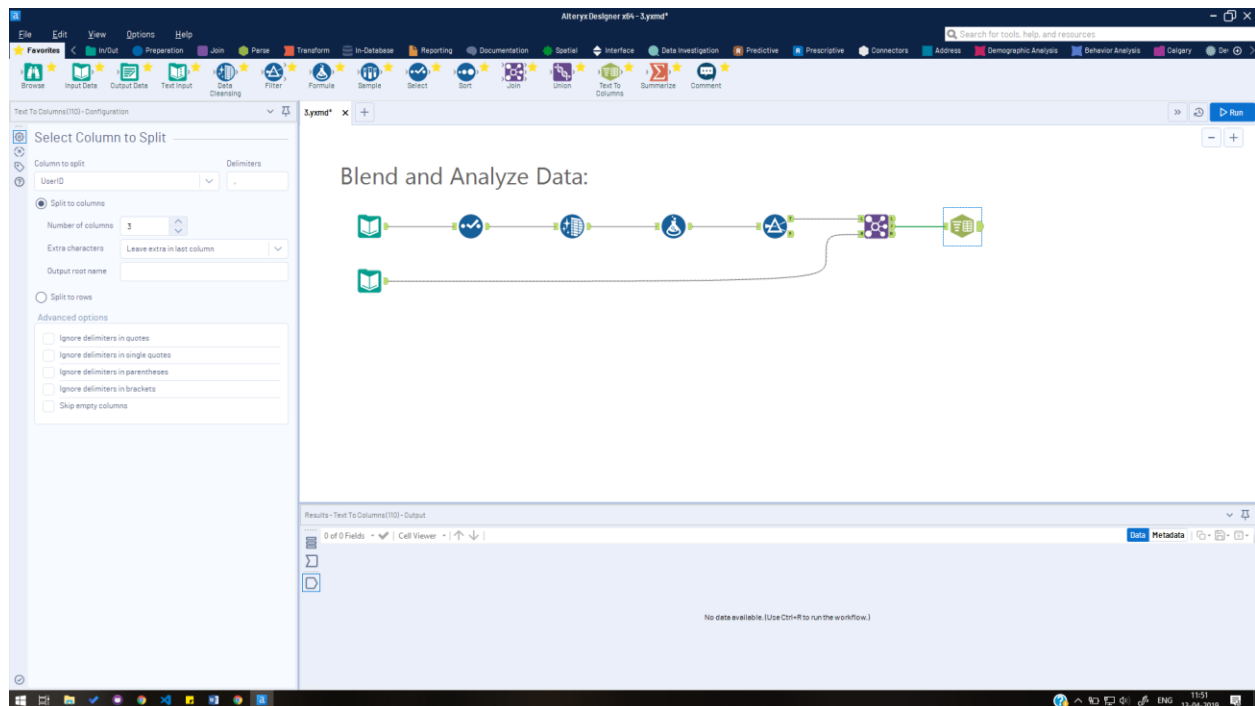
Results - Join (Inner) - Right

7 of 7 Fields - Cell Viewer - \*7,500 of 8,127 records displayed (partial results)

Record #	UserID	Phone	Mobile	Address	City	State	Zip
1	100	(845)-809-8046	(985)-822-1296	1302 Pompateneburg	Suzhen	Pennsylvania	78801
2	101	89166590	72371248	1019 Fyrelunden	Linhup	Sjælland	44888
3	102	(372)-422-2558	(981)-090-4402	1643 Herbert Street	Palmerston North	Marlborough	17919
4	103	06-549-9718	046-979-63-72	4940 Korkeasuomenkatu	Padaajoki	Northern Savonia	24752
5	104	0984-9100040	0173-1740269	9002 Eichenweg	Erfurt	Hessen	56992
6	105	306-564-6777	003-118-4527	4882 Regent Ave	Sherbrooke	Prince Edward Island	68179
7	106	01-88-34-69-72	06-69-36-74-80	3248 Rue Du Moulin	Caen	Savoie	70375
8	107	(037)-102-9753	(827)-218-1195	3493 Rue Louis-gérard	St-saphorin-sur-morges	Jura	3140
9	108	(262)-040-1189	(570)-021-3635	5483 Rue Pierre-dejeux	Rennes Vél	Neuchâtel	1509
10	109	955-784-657	676-419-431	3305 Avenida De Andalucía	Valladolid	Castilla La Mancha	52297

## Splitting a String Column

1. A column contains data that needs to be manipulated separately.
2. Drag a Text to Columns tool onto the canvas so the J output anchor of the Join tool connects to the input anchor of the Text to Columns tool.



3. In the Configuration window on the left, use the Column to split drop down to select Mobile. In the Delimiters text box, replace the default ",", with a "-".
4. Verify that Split to Columns is selected. Change # of Columns from the default "3" to "2".
5. Run the workflow to see the results in the Results window. The original column is split into two new columns. Mobile1 contains the area code, and Mobile 2 contains the seven-digit phone number.

**Text To Columns[10] - Configuration**

Select Column to Split

Column to split: Mobile

Delimiters: -

Split to columns

Number of columns: 2

Extra characters: Leave extra in last column

Output root name: Mobile

Split to rows

Advanced options

☐ Ignore delimiters in quotes

☐ Ignore delimiters in single quotes

☐ Ignore delimiters in parentheses

☐ Ignore delimiters in brackets

☐ Skip empty columns

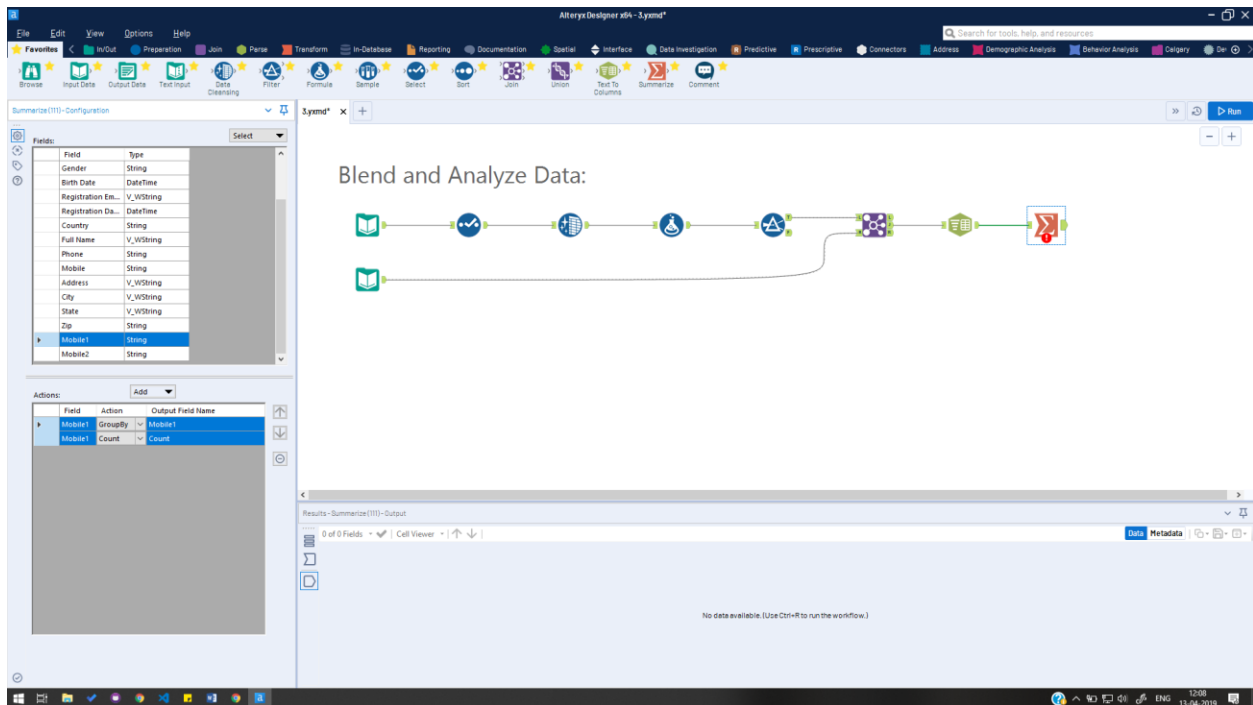
**Blend and Analyze Data:**

18 of 18 Fields | Cell Viewer | 580 records displayed

Record #	Date	Registration Email	Registration Date/Time	Country	Full Name	Phone	Mobile	Address	City	State	Zip	Mobile1	Mobile2
1	16 220004	cassandra.murray@example.com	2008-08-12 22:50:08	US	Cassandra Murray	(271)-817-4159	(924)-676-3602	7574 Avondale Ave	Anaheim	Iowa	49218	(546)-676-3602	(546)-676-3602
2	27 185820	isaac.fisher@example.com	2007-03-28 02:35:53	US	Isaac Fisher	(394)-546-1609	(616)-496-8463	7159 Ranchview Dr	Lakeview	Massachusetts	58487	(616)-496-8463	(616)-496-8463
3	03 013251	tomothy.simpson@example.com	2005-10-17 23:55:53	US	Tomothy Simpson	(340)-474-1279	(807)-940-4087	6239 Avondale Ave	Grand Prairie	North Carolina	97309	(807)-940-4087	(807)-940-4087
4	14 145640	linda.vech@example.com	2015-10-12 09:38:29	US	Linda Vech	(470)-275-7187	(231)-432-8463	7825 91 8th St	Lafayette	New Mexico	90242	(231)-432-8463	(231)-432-8463
5	08 085035	noelle.collins@example.com	2011-08-12 09:35:17	US	Noelle Collins	(274)-184-1238	(262)-725-6558	7102 Royal Ln	Wichita Falls	Maine	86433	(262)-725-6558	(262)-725-6558
6	07 223615	terry.chan@example.com	2005-12-03 07:31:30	US	Terry Chan	(980)-610-8286	(994)-078-4479	1834 Lakeshore Rd	Washington	Illinois	12665	(994)-078-4479	(994)-078-4479
7	24 143954	tom.rogers@example.com	2015-05-28 10:15:23	US	Tom Rogers	(846)-591-8952	(846)-620-7876	6791 E Pecan St	Elizabeth	Ohio	51027	(846)-620-7876	(846)-620-7876
8	19 095035	mike.carroll@example.com	2004-11-19 03:50:11	US	Mike Carroll	(920)-756-4521	(845)-884-6466	6788 E Little York Rd	Masonry	Louisiana	39084	(845)-884-6466	(845)-884-6466
9	26 054005	marcus.howard@example.com	2011-04-07 13:17:59	US	Marcus Howard	(883)-400-2357	(247)-911-4592	5385 Rolling Green Rd	Ei Cajon	Tennessee	48135	(247)-911-4592	(247)-911-4592
10	17 181921	ricardo.simmmons@example.com	2006-05-08 20:52:09	US	Ricardo Simmons	(169)-239-8828	(951)-627-2678	9167 Bruce St	Boston	Massachusetts	61066	(951)-627-2678	(951)-627-2678

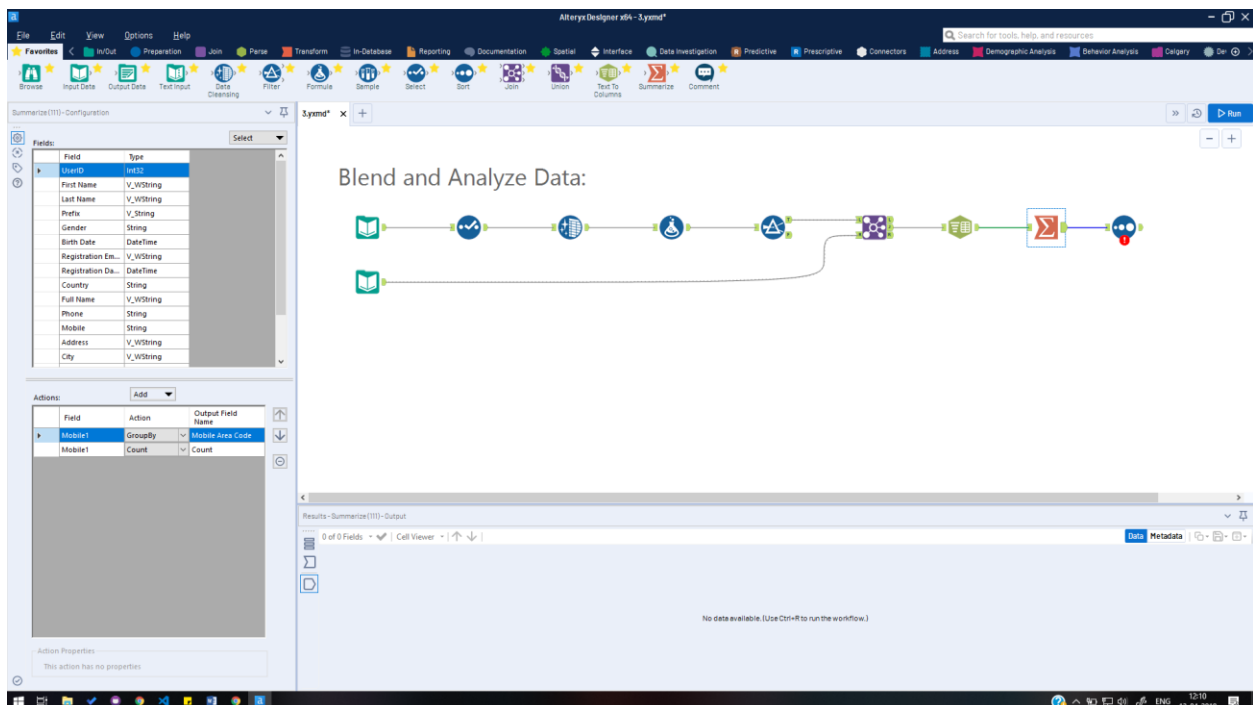
## Analyzing Data based on a Column

1. A column contains data with repeated values, and knowing the repetitions of the values is useful.
2. Drag a Summarize tool to the canvas and connect it to the Text to Columns tool.
3. In the Configuration window on the left, select Mobile1 under Field. Click the Add drop down and choose Group By to add a row to the Actions list. With Mobile1 still selected, click the Add drop down and choose Count.



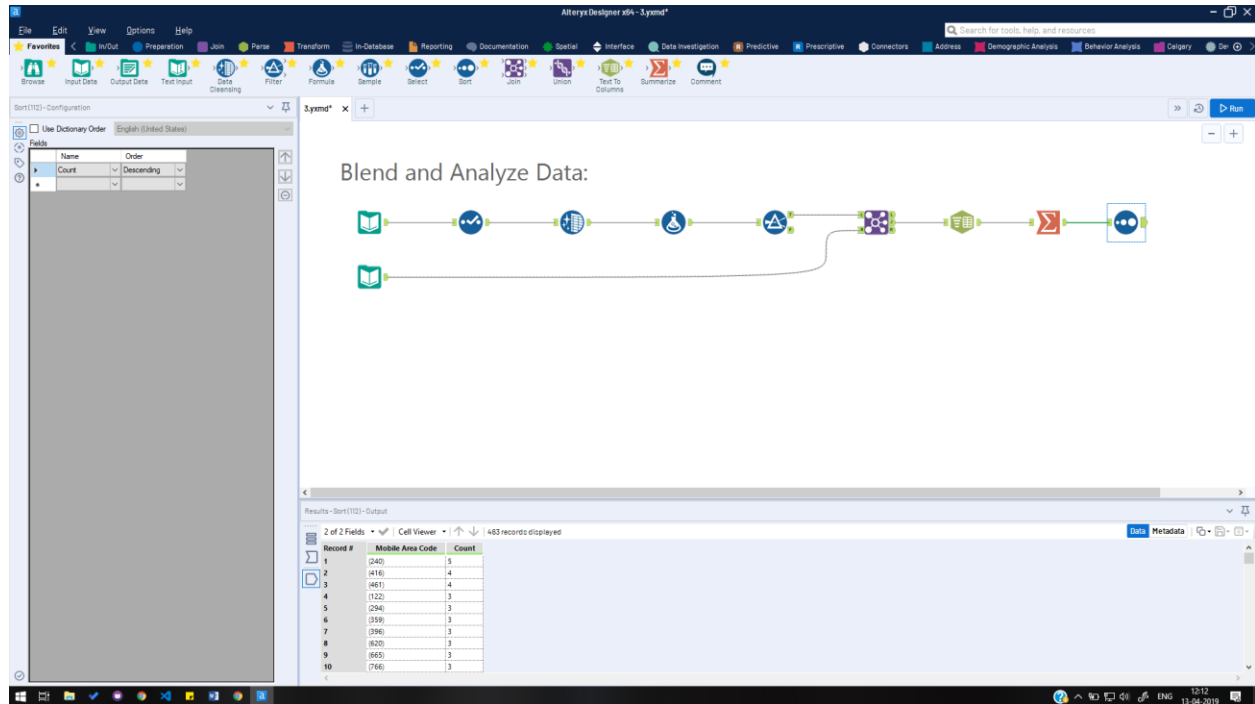
4. Under Actions, click the Output Field Name text box to change Mobile1 to Mobile Area Code.

5. Drag a Sort tool onto the canvas and connect it to the Summarize tool.



6. In the Configuration window on the left, use the Name drop down to select Count. Use the Order drop down to select Descending.

- Run the workflow to see the results in the Results window. The results now contain only two columns: Mobile Area Code and Count. The data is sorted by the number of people with the same area code, beginning with the highest number.



Blend and Analyze Data:

Record #	Mobile Area Code	Count
1	(240)	5
2	(416)	4
3	(481)	4
4	(122)	3
5	(294)	3
6	(359)	3
7	(396)	3
8	(627)	3
9	(665)	3
10	(766)	3