

Using Alteryx to Teach Accounting in the Era of Big Data: A Case Approach

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ABSTRACT

Accounting education has undergone significant changes over the past 20 years. A curriculum that focuses on GAAP principles and ledger-based accounting rules is being quickly replaced by technology. It is necessary to develop a curriculum that enables universities to prepare students with critical job skills for entry-level accounting positions where students can competently manage big data applications. This paper provides an academic case for classroom use to enable students to acquire those skills. The STARHunter case examines the workflows associated with the audit process and allows for transactions testing, risk assessment, and forensic evaluation. This case would typically be used in an upper-division course in auditing and could be easily adapted to other accounting courses.

Keywords: Data Analytics, Auditing, Alteryx, ETL, Big Data, Forensic Accounting

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LEARNING OBJECTIVES OF CASE:

1. Understanding the importance of determining that a population of data is complete and accurate prior to its use in audit testing.
2. Interpreting big data using data analytics tools such as Alteryx to reach audit conclusions based on the issues.
3. Expanding critical thinking skills around the audit process.

INTRODUCTION:

Alteryx is a leading ETL (Extract, Transform, Load) tool that enables professionals to quickly and accurately mine large sets of data for key information. In the age of big data systems such as ERP, the accountant and auditor must be prepared to develop and design large databases to facilitate descriptive and predictive analyses. The tool that is both effective and efficient at performing this function is Alteryx Designer.

A key feature of Alteryx is its intuitive interface that enables professionals of all experience levels to quickly learn and utilize the software. The software can read many different types of file formats, most notably Microsoft Excel files (.xlsx), Microsoft Access (.accdb), and CSV files (.csv). Although there are over 100 Alteryx tools to allow for a variety of data analyses, the STARHunter case will focus on primarily 10 of these tools and demonstrate how they are operationalized in a simulated audit scenario. The complete STARHunter Alteryx application is included in the appendix.

Another key feature is the ability to blend multiple tables into one large, configured table. Select, sort, and filter tools allow for the information to be massaged into detailed reports for use by a myriad number of accounting users.

The reporting capabilities of Alteryx are particularly impressive. Summary reports can be embedded within individual workflows, and several workflows can be built off of only a few input files.

COMPANY INFORMATION:

Global Bike Incorporated (GBI) is one of the fastest-growing manufacturers and sellers of bicycles and biking accessories. Established in 1991, it was founded on the principle of a quality product for use by the average consumer. Although some of its product lines are specialized, it tends to sell more of the product to the average bicyclist. GBI has gained quite a reputation as a leading bike manufacturer within the United States.

After some time and ever increasing sales, GBI grew large and has begun to think about an IPO. This is a very large decision for a small firm. It does realize the tremendous benefit that an IPO provides and the ability to raise capital from the sale of stock.

In January of 2021, Todd Richards, the CFO of the company, has begun the process of preparing a financial report for external audit. To do this effectively, he has hired an auditing firm to test and evaluate the financial report presented by the company.

The company he has hired, STARHunter Technologies Inc., is a leading firm in audit and process mining. The partner in charge of the group is Adam Glass and he provides Todd with information on how to map the flow of transactions through an accounting system. This is needed in order to obtain an understanding of the business process and related internal controls

surrounding the process. Adam has indicated to Todd that he will rely very heavily on the AICPA Guide to Audit Analytics in process mining the business system. He will require that the GBI Controller Faith Stevenson provide a transaction log identifying all of the relevant information of the last few years of data. Such information would include the nature of the transaction, when the transaction was performed, and what the impact of the transaction was. In testing the system, Adam will want to verify that there are no variant process steps allowed in the process, which may be indicative of higher risk of financial misstatement.

Faith agrees to support the project and provide documentation of the policies and procedures used by the firm, as well as the findings and conclusions that might indicate a risk of financial misstatement. While analyzing the information provided, Adam identifies a number of outliers that need to be investigated. It appears that a number of sales orders may have been modified in order to create more revenue for a certain sales executive. GBI monitors all transactions for effective internal control with an internal sales order process that verifies that each step in the process was completed correctly. The question here is: "Was there a breach in the authorization process, and why did it occur?" Adam decides the ETL tool they will use to assist them in their audit is Alteryx, which will incorporate both the process flow and identify information relevant for the audit analysis.

AUDIT PLAN:

As a part of the audit being conducted on GBI, the auditors from STARHunter Technologies, Inc. plan to trace sales orders to related shipping documents and sales invoices for comparison of name, date, and amount of the sales order. Using their tool of choice, Alteryx Designer, to analyze large amounts of financial data, the STARHunter auditors sort the Sales Orders by highest to lowest values and observe that the values of some sales orders coming from the West territory (Territory 5) are a large amount higher than the values of the sales orders from GBI's other territories. As each of GBI's 5 sales territories are led by a Sales Vice President, the Sales VP of the West territory - Bert Gerber - is identified by the STARHunter audit team as a person of interest. Due to the auditing ideal of professional skepticism, a further investigation is conducted into the Sales Orders coming from Bert's territory.

AUDIT OBSERVATIONS:

STARHunter auditors examine the sales goals for the Sales VPs from each territory in the "Sales Executives" tab and observe that the Q3 & Q4 Sales Goals were entered into the system on 7/1/2020 by the company's Controller, Faith Stevenson (User ID 10001). Upon examination, the auditors observe that Bert Gerber, the Sales VP from the West territory, had the most drastic increase among all territory Sales VP's in his sales goal from Q1/Q2 to Q3/Q4. Connecting the dots, STARHunter auditors now believe that the high-valued sales orders from the West territory are not coincidental, and that Bert may have had motive to fabricate sales so that he could meet his new Q3/Q4 sales goal. Auditors then look at the Customer Master files in tab "Customer Master" to see information regarding Bert's customers in the West territory and observe that three customers - Shadearts, Woodbite, and Prophecycurity - have recently had their credit limits significantly increased. Upon examination of the user responsible for the credit limit increase, auditors notice that instead of the credit limits being modified by the SAP System Administrator John Reed (User ID SAP_ADMIN) (as per company policy), the limits were increased by Bert

himself. Additionally, the limits were updated very recently - not a long time after Bert was informed of his Q3/Q4 Sales Goal. This is abnormal, as the credit limits of the other customers were last modified 3 or more years ago. Placing all of their findings together through the use of Alteryx workflows and performing a combined analysis, STARHunter auditors now have sufficient evidence to conclude that Bert Gerber, the Sales Vice President from GBI's West territory, has committed financial fraud by embellishing & forging sales orders in order to meet his lofty Q3 & Q4 sales goal.

ASSESSMENT OF LEARNING

The STARHunter case was initially tested in a population of 15 graduate students who are in a Masters of Professional Accountancy program. Admission to the program requires that they have completed an undergraduate degree in accounting. This means that they would have completed at least one auditing course with some knowledge of audit methodology and risk assessment. A plan in the future is to also test this as a capstone accounting course offered to senior accounting majors.

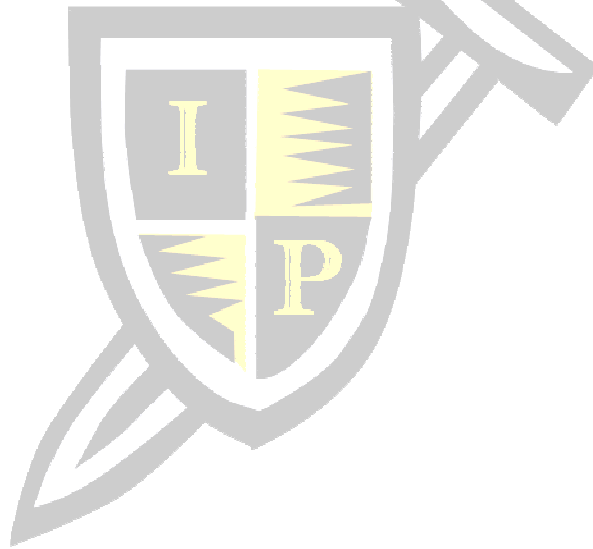
Student response to this case was very enthusiastic with an overall grading score of 86% with 100% of the students participating. Observations based on the student survey indicated a high degree of satisfaction in that they were working with leading technology used by the major firms where most students were seeking employment. Students also noted that it was easier to understand the accounting and audit applications using the technology tools employed within Alteryx. The case seemed to come alive, making the reporting process dynamic and exciting. The end product was a presentation by project teams. Each consisted of 3 students. Each team identified different issues relevant to the audit plan and audit observations. The following grading grid was used in the assessment.

Skill Goals	Objectives	How it Will Be Assessed
<p>Student's goals are:</p> <ol style="list-style-type: none"> To acquire experience using Alteryx Software to model problem solutions based on the capability of Alteryx and Tableau. To require students to think collaboratively by working in a team to determine where audit red flags exist in a financial database. 	<p>Student's objectives are:</p> <ol style="list-style-type: none"> Using simulated data provided in Microsoft Excel, design an Alteryx workflow. Identify exceptions to Accounting policy and procedures and weaknesses in internal controls. Create Alteryx/Tableau based reports identifying weaknesses in internal controls. 	<p>Student measures include:</p> <ol style="list-style-type: none"> Ability to evaluate fraudulent activity in a corporate database. Ability to navigate Microsoft Excel and Alteryx Designer to successfully complete all objectives and deliverables. Ability to explain the audit value of data analytics and present as project teams' underlying results.




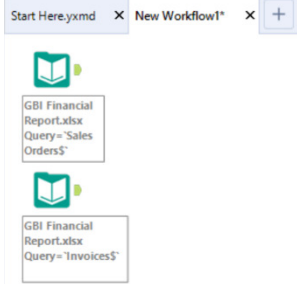



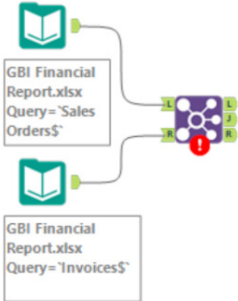
3. Use audit exception report to communicate financial weaknesses to corporate management.		
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SUGGESTED ASSIGNMENT QUESTIONS:


1. As an auditor, why is it important to follow-up with unusually large dollar- amount sales orders, and how does Alteryx make this a much simpler task rather than scanning through rows of data in Excel or financial papers?
2. After completing the Forensic Audit Investigation, we see that Bert Gerber (User ID 50001) increased three customer credit limits himself, failing to follow company policy. What action should Todd Richards (CFO) and Faith Stevenson (Controller) take after receiving this information from STARHunter auditors?
3. In what other ways/ circumstances could the use of Alteryx help a company to identify or prevent fraudulent activity?



APPENDIX A:

<p>GBI Financial Report: Excel Download</p>	<p><u>Download the GBI Financial Report from Canvas.</u></p> <ul style="list-style-type: none"> • In your Canvas Site, download the <i>GBI Financial Report</i> Excel file found under the <i>STARHunter</i> module to your desktop.
<p>Opening Alteryx Designer</p> 	<p><u>Open Alteryx on Your Computer & Upload the GBI Financial Report</u></p> <ol style="list-style-type: none"> 1. Open the Alteryx Designer application on your computer 2. If required, enter your license key to activate your Alteryx application 3. Select <i>New Workflow1</i> to open a blank workflow canvas.
<p><u>WORKFLOW 1: GBI - SALES ORDER TO INVOICE MAPPING</u></p>	
<p>The <i>Input Data Tool</i></p> 	<p><u>Use the Input Data Tool to import sheets from the GBI Financial Report into Alteryx</u></p> <ol style="list-style-type: none"> 1. Click & drag the <i>Input Data Tool</i> onto the Workflow Canvas in <u>upper-left portion</u> of the screen. 2. Click ▾ next to the <i>Connect a File or Database</i> field. Choose <i>.xlsx</i> from the <i>Files</i> tab 3. Select/Open the <i>GBI Financial Report</i> file 4. From the <i>Select a sheet</i> drop-down, select the <i>Sales Orders</i> sheet and click the <i>OK</i> icon  in the bottom right-hand side of the window 5. Repeat Steps 1-4 for the <i>Invoices</i> sheet of the <i>GBI Financial Report</i> file 
<p>The <i>Join Tool</i></p> 	<p><u>Map GBI's Sales Orders and Invoices into one repository</u></p> <ol style="list-style-type: none"> 1. Click & drag the <i>Join Tool</i> onto the Workflow Canvas to the right of the input tools from the previous step. 2. Select & drag the <i>Link Start Tab</i>  on the right of the <i>Input Tool</i> for the <i>GBI Financial Report – Sales Orders</i> file to the <i>Left Link End Tab</i>  on the upper-left side of the <i>Join tool</i>. 

The Select Tool



3. Repeat Step 2 for the **Link Start Tab** on the **Input Tool** for the **GBI Financial Report – Invoices** file and the **Right Link End Tab** on the **Join tool**.

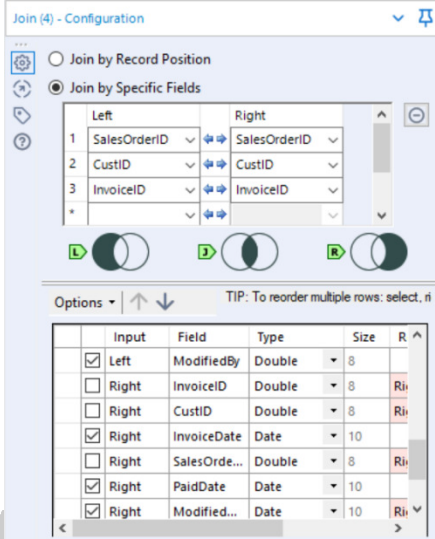
4. Select the **Join Tool** to open the **Join – Configuration** pop-up pane. Once the pop-up pane is open, ensure that the bullet point next to **Join by Specific Fields** is selected.

5. Navigate to the drop-down field under the **Left** column and select the following inputs:

- SalesOrderID
- CustID
- InvoiceID


6. From the list of all fields located in the lower-half of the **Join – Configuration** pop-up pane, scroll down until the **Right** input fields are shown. Select the box located on the left of the **Input** column to **deselect** the following fields:

- SalesOrderID
- CustID
- InvoiceID



Input	Field	Type	Size	R
<input checked="" type="checkbox"/>	Left	ModifiedBy	Double	8
<input type="checkbox"/>	Right	InvoiceID	Double	8
<input type="checkbox"/>	Right	CustID	Double	8
<input checked="" type="checkbox"/>	Right	InvoiceDate	Date	10
<input type="checkbox"/>	Right	SalesOrde...	Double	8
<input checked="" type="checkbox"/>	Right	PaidDate	Date	10
<input checked="" type="checkbox"/>	Right	Modified...	Date	10

The Select Tool



Format the data for analysis

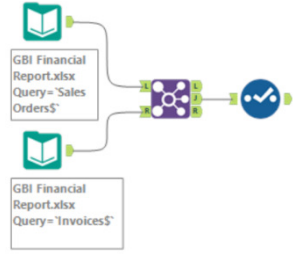
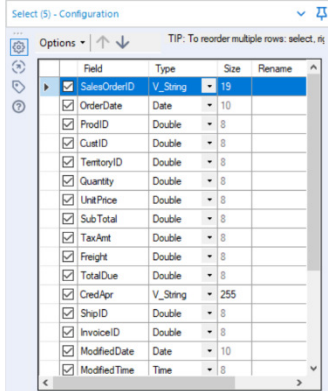
1. Place the **Select Tool** next to the **Join tool**.

2. Select and drag the **Join Link Tab** in the center-right hand side of the **Join tool** to the **Link End Tab** on the left of the **Select tool**.








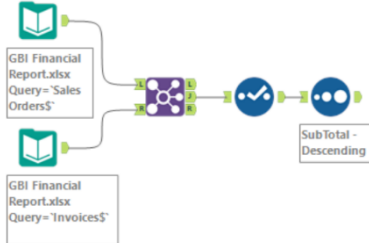
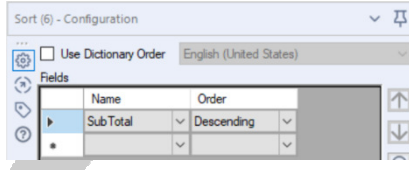
3. Open the **Select - Configuration** pane by clicking on the **Select tool**. Under the **Field** column, navigate to the **SalesOrderID** and **ModifiedBy** fields and ensure that their data type under the **Type** column is listed as **V_String**. If it is not, click **▼** and select **V_String** in the drop-down menu.

4. Locate the **CustID**, **InvoiceID**, and **Sub Total** fields under the **Field** column and ensure that their data type under the **Type** column is listed as **Double**.

5. Locate the **ModifiedDate** field under the **Field** column and ensure that its data type under the **Type** column is listed as **Date**.

Field	Type	Size	Rename
<input checked="" type="checkbox"/>	SalesOrderID	V_String	19
<input checked="" type="checkbox"/>	OrderDate	Date	10
<input checked="" type="checkbox"/>	ProdID	Double	8
<input checked="" type="checkbox"/>	CustID	Double	8
<input checked="" type="checkbox"/>	TerritoryID	Double	8
<input checked="" type="checkbox"/>	Quantity	Double	8
<input checked="" type="checkbox"/>	UnitPrice	Double	8
<input checked="" type="checkbox"/>	Sub Total	Double	8
<input checked="" type="checkbox"/>	TaxAmt	Double	8
<input checked="" type="checkbox"/>	Freight	Double	8
<input checked="" type="checkbox"/>	TotalDue	Double	8
<input checked="" type="checkbox"/>	CredApr	V_String	255
<input checked="" type="checkbox"/>	ShipID	Double	8
<input checked="" type="checkbox"/>	InvoiceID	Double	8
<input checked="" type="checkbox"/>	ModifiedDate	Date	10
<input checked="" type="checkbox"/>	ModifiedTime	Time	8

	<p>6. Locate the <i>ModifiedTime</i> field under the <i>Field</i> column and ensure that its data type under the <i>Type</i> column is listed as <i>Time</i>.</p>									
<p>The <i>Sort Tool</i> (1 of 2)</p> 	<p>Organize data in descending order</p> <ol style="list-style-type: none"> 1. Place the <i>Sort Tool</i> to the right of the <i>Select Tool</i> 2. Drag the <i>Link Start Tab</i>  of the <i>Select tool</i> to the <i>Link End Tab</i>  of the <i>Sort tool</i>. 3. Click the <i>Sort Tool</i> to open the <i>Sort – Configuration</i> pop-up pane. 4. Under the <i>Name</i> column in the <i>Sort – Configuration</i> pop-up pane, click  and select <i>Sub Total</i> 5. Under the <i>Order</i> column, click  and select <i>Descending</i> 6. Navigate to the <i>top right</i> side of the workflow canvas and click on the <i>Run</i> icon  to run the workflow. 7. Select the <i>Link Start Tab</i>  of the <i>Sort tool</i>. An interactive summary appears in the <i>Results – Sort – Output</i> window.   <table border="1" data-bbox="1015 661 1388 766"> <thead> <tr> <th>Fields</th> <th>Name</th> <th>Order</th> </tr> </thead> <tbody> <tr> <td>▶</td> <td>SubTotal</td> <td>Descending</td> </tr> <tr> <td>*</td> <td></td> <td></td> </tr> </tbody> </table>	Fields	Name	Order	▶	SubTotal	Descending	*		
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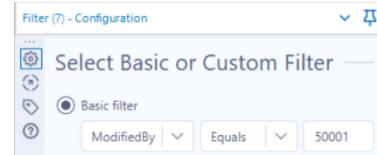
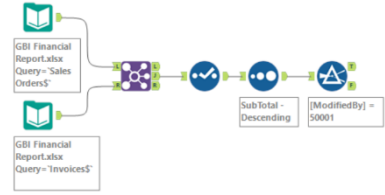


The Filter Tool



View Data Modified by an Individual User

1. Drag the **Filter Tool** to the right of the **Sort Tool**
2. Drag the **Link Start Tab** of the **Sort tool** to the **Link End Tab** of the **Filter Tool**
3. Select the **Filter Tool** to open the **Filter - Configuration** pop-up pane. Once the pop-up pane is open, ensure that the bullet point next to **Basic Filter** is selected
4. Click the **drop-down arrow** in the **Select Column...** field under the **Basic Filter** heading. From the drop-down menu, select the **ModifiedBy** option.
5. Ensure that the center field contains an **equals sign** or **"Equals"**.
6. In the blank field located to the right of the **equals sign/"Equals"**, enter the value **50001**
7. Navigate to the **top right-hand** side of the workflow canvas and click on the **Run** icon to run the workflow.
8. Select the **True Link Start Tab** on the top-right of the **Filter Tool**. The summary appears in the **Results - Filter - Out - True** window.

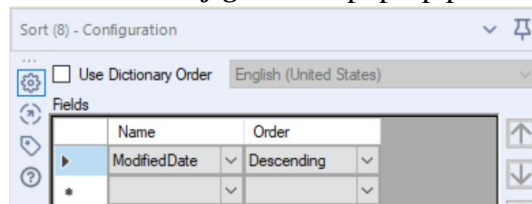
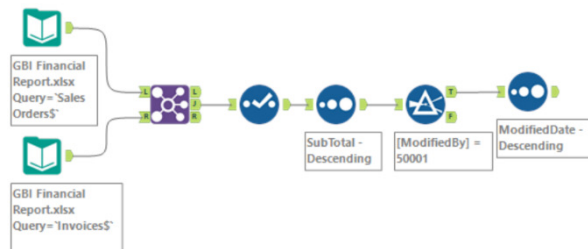




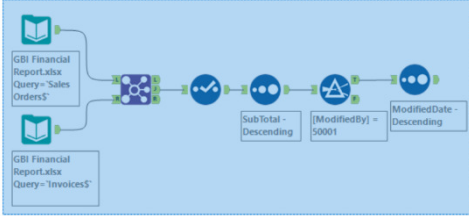
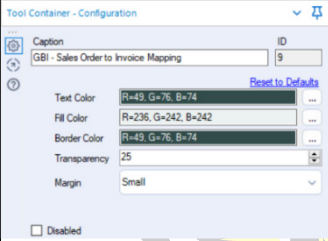
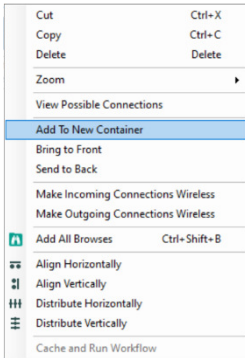
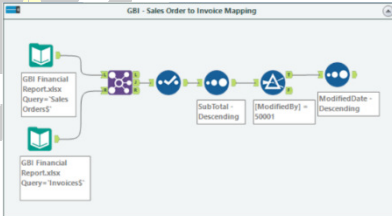
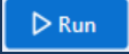

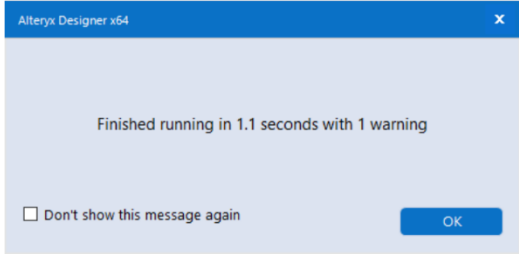
The Sort Tool (2 of 2)




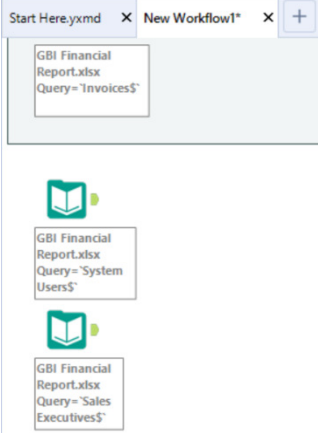






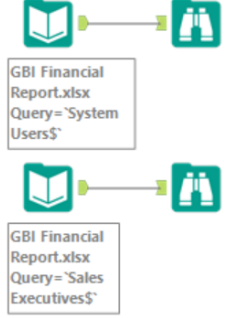



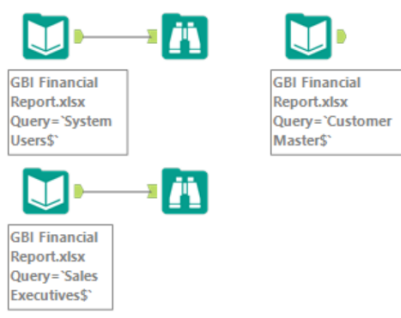

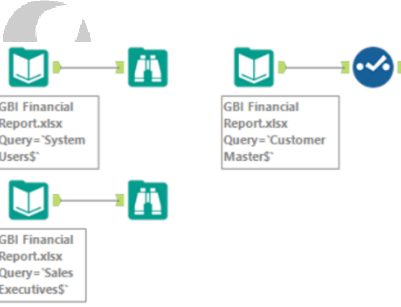
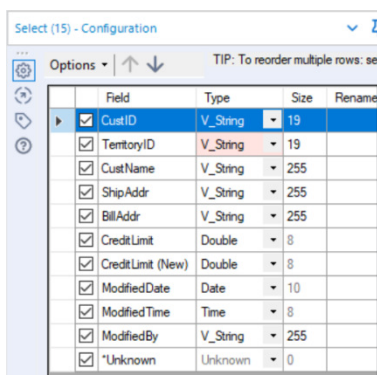

Organize the Modified Dates of the data in descending order

1. Drag a new **Sort Tool** to the right of the **Filter Tool**
2. Drag the **True Link Start Tab** on the top-right of the **Filter Tool** to the **Link End Tab** on the left of the **Sort tool**.
3. Click on the **Sort Tool** to open the **Sort - Configuration** pop-up pane.
4. Under the **Name** column in the **Sort - Configuration** pop-up pane, click and select **ModifiedDate**
5. Under the **Order** column, click and select **Descending**



	<p>6. Navigate to the <i>right</i> side of the workflow canvas and click on the Run icon  to run the workflow.</p> <p>7. Select the Link Start Tab  of the Sort tool. A summary appears in the Results – Sort – Output window in the bottom of the screen.</p>
<p>Placing the GBI - Sales Order To Invoice Mapping Workflow into a Container</p>	<p><u>Use a Container to Organize the GBI - Sales Order To Invoice Mapping Workflow</u></p> <ol style="list-style-type: none"> 1. Click and drag your cursor from the <i>top-left</i> to the <i>bottom-right corner</i> of the workflow to select the entire workflow. 2. Once the entire workflow is selected, <u>Right-click on any of the tool icons</u> to open the <i>options</i> pop-up window 3. In the <i>Options</i> pop-up window, navigate to the Add To New Container option and click on it to open the Tool Container – Configuration pop-up pane 4. In the Tool Container – Configuration pop-up pane, navigate to the Caption field and re-name the container <u>GBI – Sales Order to Invoice Mapping</u>    
<p>Run the GBI - Sales Order To Invoice Mapping Workflow</p> <p></p>	<p><u>Run the GBI – Sales Order to Invoice Mapping Workflow</u></p> <ol style="list-style-type: none"> 1. Navigate to the <i>top right-hand</i> side of the workflow canvas and click on the Run icon  to run the entire GBI – Sales Order to Invoice Mapping workflow. 
<p align="center">WORKFLOW 2: GBI FORENSIC AUDIT INVESTIGATION</p>	

<p>The Input Data Tool (1 of 2)</p> 	<p><u>Use the Input Data Tool to import sheets from the GBI Financial Report into Alteryx</u></p> <ol style="list-style-type: none"> 1. Scroll down on the workflow canvas so that you are positioned directly under the <i>GBI – Sales Order to Invoice Mapping</i> container 2. Select and drag the Input Data Tool towards the <u>upper-left</u> of the canvas under the <i>GBI – Sales Order to Invoice Mapping</i> container. 3. Click  next to Connect a File or Database. Select <i>.xlsx</i> from the <i>Files</i> tab 4. Select and open the GBI Financial Report file 5. From the <i>Select a sheet</i> drop-down, select the <i>System Users</i> sheet and click the OK icon  in the bottom right-hand side of the window 6. Repeat Steps 2-5 for the <i>Sales Executives</i> sheet of the GBI Financial Report file 
<p>The Browse Tool</p> 	<p><u>Analyze data from the GBI Financial Report</u></p> <ol style="list-style-type: none"> 1. Select and drag the Browse Tool to the <u>right-hand side</u> of the Input Tool for the <i>GBI Financial Report – System Users</i> sheet. 2. Drag the Link Start Tab  of the Input Tool for the <i>GBI Financial Report – System Users</i> sheet to the Link End Tab  of the Browse Tool 3. Select and drag another Browse Tool to the <u>right-hand side</u> of the Input Tool for the <i>GBI Financial Report – Sales Executives</i> sheet. 4. Drag the Link Start Tab  of the Input Tool for the <i>GBI Financial Report – Sales Executives</i> sheet to the Link End Tab  of the Browse Tool 5. Navigate to the <i>top right-hand side</i> of the workflow canvas and click on the Run icon  to run the workflow. 6. Click on each Browse Tool icon to view interactive summaries of the <i>System Users</i> and <i>Sales Executive</i> sheets in the Results – Browse - Input window at the bottom of the screen and the Browse – Configuration pop-up pane. 
<p>The Input Data Tool (2 of 2)</p> 	<p><u>Import sheets from the GBI Financial Report into Alteryx</u></p>

	<ol style="list-style-type: none"> 1. Navigate to the <u>right-hand side</u> of the workflow canvas so that you are positioned directly to the right of the <i>Browse Tools</i> 2. Select and drag the <i>Input Data Tool</i> towards the <u>right-hand side</u> of the <i>Browse Tools</i>. 3. Click <input type="checkbox"/> next to <i>Connect a File or Database</i>. Select <i>.xlsx</i> from the <i>Files</i> tab 4. Select the <i>GBI Financial Report</i> file and click <i>Open</i> 5. From the <i>Select a sheet</i> drop-down, select the <i>Customer Master</i> sheet and click the <i>OK</i> icon <input type="checkbox"/> at the bottom of the window 																																																
<p>The <i>Select Tool</i></p> 	<p>Format the data to be analyzed</p> <ol style="list-style-type: none"> 1. Select & drag the <i>Select Tool</i> to the right of the <i>Input Tool</i> for the <i>GBI Financial Report – Customer Master</i> sheet. 2. Drag the <i>Link Start Tab</i> <input type="checkbox"/> of the <i>Input Data Tool</i> for the <i>GBI Financial Report – Customer Master</i> sheet to the <i>Link End Tab</i> <input type="checkbox"/> of the <i>Select Tool</i> 3. Click the <i>Select tool</i> to open the <i>Select - Configuration</i> pane. Under the <i>Field</i> column, navigate to the <i>CustID</i>, <i>TerritoryID</i>, and <i>ModifiedBy</i> fields and ensure that their data type under the <i>Type</i> column is listed as <i>V_String</i>. If not, click <input type="checkbox"/> and select <i>V_String</i>. 4. Locate the <i>CreditLimit</i>, and <i>CreditLimit (New)</i> fields under the <i>Field</i> column and ensure that their data type under the <i>Type</i> column is listed as <i>Double</i>. 5. Locate the <i>ModifiedDate</i> field under the <i>Field</i> column and ensure that its data type under the <i>Type</i> column is listed as <i>Date</i>. 6. Locate the <i>ModifiedTime</i> field under the <i>Field</i> column and ensure that its data type under the <i>Type</i> column is listed as <i>Time</i>.   <table border="1" data-bbox="1047 1060 1421 1438"> <thead> <tr> <th>Field</th> <th>Type</th> <th>Size</th> <th>Rename</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> CustID</td> <td>V_String</td> <td>19</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> TerritoryID</td> <td>V_String</td> <td>19</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> CustName</td> <td>V_String</td> <td>255</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> ShipAddr</td> <td>V_String</td> <td>255</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> BillAddr</td> <td>V_String</td> <td>255</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> CreditLimit</td> <td>Double</td> <td>8</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> CreditLimit (New)</td> <td>Double</td> <td>8</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> ModifiedDate</td> <td>Date</td> <td>10</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> ModifiedTime</td> <td>Time</td> <td>8</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> ModifiedBy</td> <td>V_String</td> <td>255</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> *Unknown</td> <td>Unknown</td> <td>0</td> <td></td> </tr> </tbody> </table>	Field	Type	Size	Rename	<input checked="" type="checkbox"/> CustID	V_String	19		<input checked="" type="checkbox"/> TerritoryID	V_String	19		<input checked="" type="checkbox"/> CustName	V_String	255		<input checked="" type="checkbox"/> ShipAddr	V_String	255		<input checked="" type="checkbox"/> BillAddr	V_String	255		<input checked="" type="checkbox"/> CreditLimit	Double	8		<input checked="" type="checkbox"/> CreditLimit (New)	Double	8		<input checked="" type="checkbox"/> ModifiedDate	Date	10		<input checked="" type="checkbox"/> ModifiedTime	Time	8		<input checked="" type="checkbox"/> ModifiedBy	V_String	255		<input checked="" type="checkbox"/> *Unknown	Unknown	0	
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<p>The <i>Filter Tool</i></p> 	<p>Use the Filter Tool to View Data Modified by an Individual User</p>																																																

Placing the *GBI Forensic Audit Investigation Workflow* into a Container

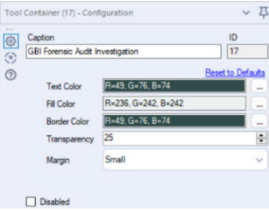
1. Drag a new **Filter Tool** next to the **Select Tool**
2. Drag the **Link Start Tab** of the **Select tool** to the **Link End Tab** of the **Filter Tool**
3. Click on the **Filter Tool** to open the **Filter - Configuration** pop-up pane. Once the pop-up pane is open, ensure that the bullet point next to **Basic Filter** **Basic filter** is selected
4. Click the **drop-down arrow** in the **Select Column...** field under the **Basic Filter** heading. From the drop-down menu, select the **ModifiedBy** option.
5. Ensure that the center field contains an **equals sign** or “**Equals**”.
6. In the blank field located to the right of the **equals sign/”Equals”**, enter the value **50001**
7. Navigate to the **top right-hand** side of the workflow canvas and click on the **Run icon** to run the workflow.
8. Select the **True Link Start Tab** of the **Filter Tool**. The summary will appear in the **Results – Filter – Out - True** window.

Organize the GBI Forensic Audit Investigation Workflow via Containers

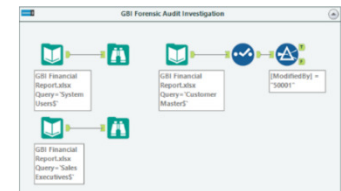
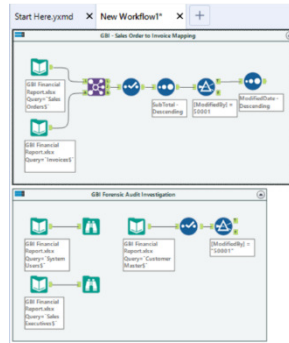
1. Click and drag your cursor from the **top-left** to the **bottom-right corner** of the workflow to select the entire workflow.
2. Once the entire workflow is selected, **Right-click on any of the tool icons** to open the **options** pop-up window
3. In the **Options** pop-up window, navigate to the **Add To New Container** option and click on it to open the **Tool Container – Configuration** pop-up pane

The image shows a workflow canvas with three 'Filter' tools. The first tool is connected to a 'Select' tool. The second tool is connected to the first. The third tool is connected to the second. A 'Run' icon is visible on the right. Below the workflow, the 'Filter (16) - Configuration' dialog is open, showing 'Basic filter' selected, 'ModifiedBy' in the dropdown, 'Equals' in the operator field, and '50001' in the value field. To the right, a context menu is open over a tool icon, with 'Add To New Container' highlighted.

4. In the *Tool Container – Configuration* pop-up pane, navigate to the *Caption* field and re-



Investigation



name the container **GBI Forensic Audit**

