



Boomi

Boomi Essentials

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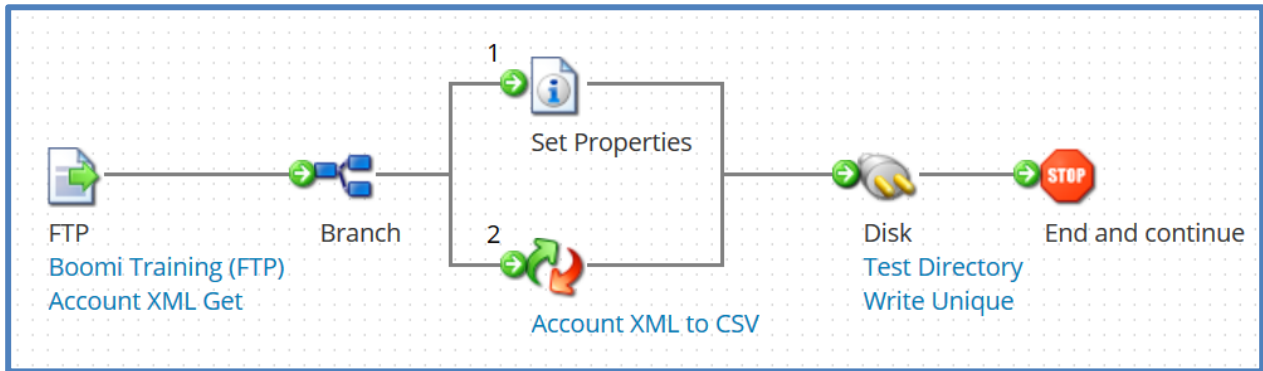


Boomi Essentials

You are a Boomi consultant with this assignment: Your customers sign up for an AtomSphere trial account by entering account and contact information in an online form. The form is sent to an FTP server in an XML format. You will build an Excel spreadsheet containing latest account data and archive it for reporting.

Below are the steps to complete the process:

1. Request account XML from the FTP data store
2. Archive a copy of the XML file on a directory
3. Format response data into CSV— flat file type
4. Archive the new CSV file on a directory



Exercise 1: Setting up Folders

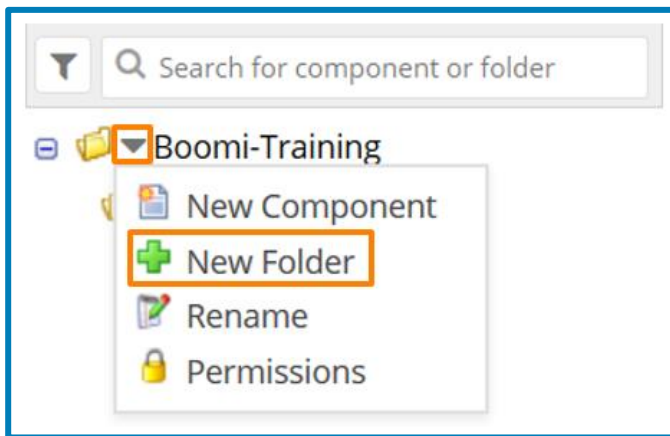
When developing a new integration project it is important to organize your Component Explorer, located in the Build Tab, by setting up folders to organize processes and components. This enables you to configure and store a unique Process containing the workflow and processing rules for your business scenario.

Create a folder within your account

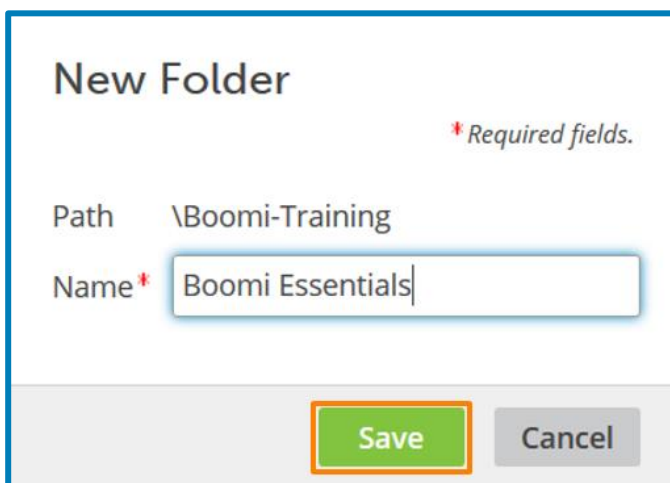
This folder houses subfolders to describe and contain your training exercises.

In the Component Explorer, click on the blue drop-down arrow next to your main account folder.

1. Choose **New Folder**.



2. Enter the Name the folder **Boomi Essentials**.



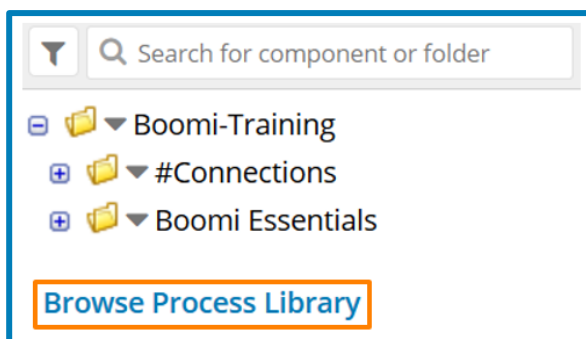
3. Click **Save**.

Exercise 2: Download Process Endpoints from the Process Library

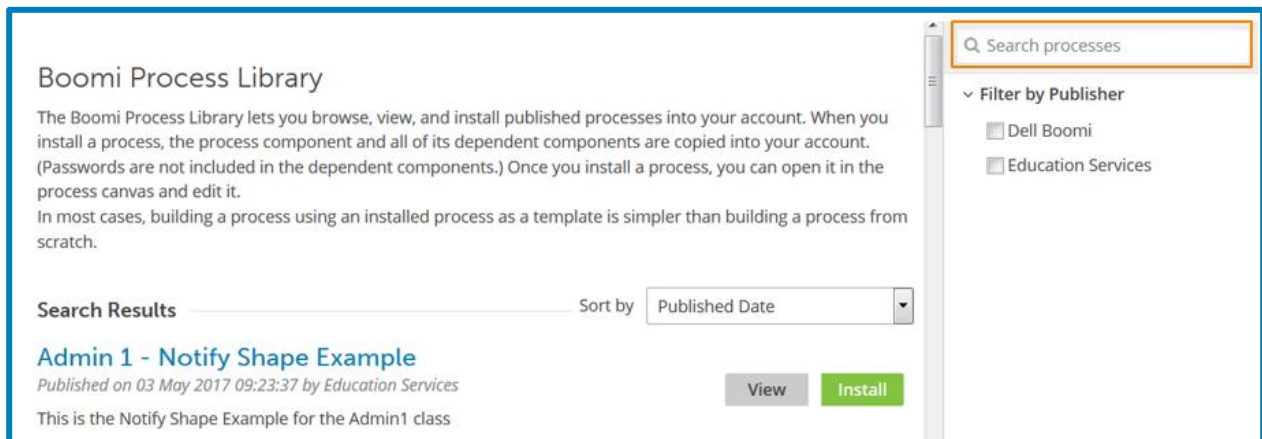
Boomi offers a way for developers to get a head start on solving common integration goals. The Process Library has various types of pre-built processes to install to complete an integration task or give yourself a solid platform to build off.

Process Library

1. Navigate to the **Component Explorer** and click on the **Browse Process Library** link at the bottom of the window.



2. The Process Library window will appear. In the upper right corner of the window, find the **Search** bar.

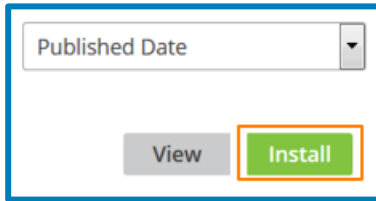


3. Type **"Boomi Essentials"** into the **Search Bar**.

Notice the items in the **Process Library** window are filtered based on your search, and the **Boomi Essentials** process should now be the only choice.

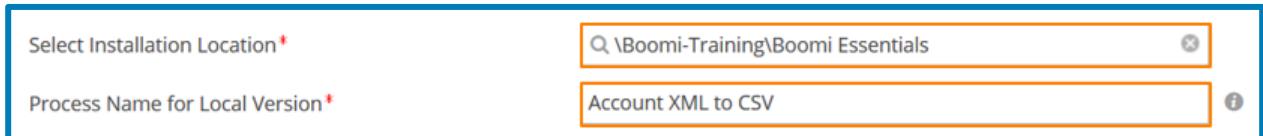
Exercise 2: Download Process Endpoints from the Process Library

4. Select the **Account XML to CSV** process from the list by clicking on the green **Install** button.



The installation screen appears where you will select the location of your new process, and will have the opportunity to rename your process as well.

5. Click in the location field where it says **Choose** and select the **Boomi Essentials** folder you created earlier.
6. Click into the **Process Name** field and enter the name: **Account XML to CSV**.



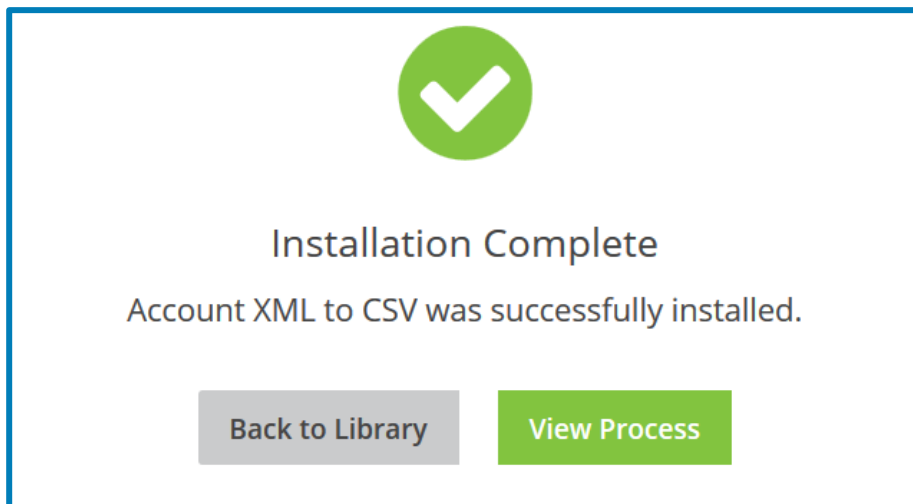
*It is best to use a naming convention to describe your process, in our class we use **Account XML to CSV**.*

7. Once entered, scroll to the bottom of the **Process Library** window and click on the green **Install** button located in the lower right corner.



The process will install into your **Component Explorer** and the following confirmation screen will display:

Exercise 2: Download Process Endpoints from the Process Library



8. You can now click on the **View Process** button to open the **Account XML to CSV** process on the build tab.

You are now ready to configure your endpoint connectors.

Exercise 3: Access the FTP Connection

This exercise accesses a reusable connection component in an integration requiring the same connectivity information. To configure the inbound documents to enter a process, set up a Start Shape. The Start Shape defines a connector containing the information to make a request to a client application or data source. By default, the Start Shape is a Connector type located in the top row of the window.

1. In the **Connector** field, choose **FTP** from the drop-down option.

This automatically uses the Action: **Get**.

Start Shape ?

The Start shape is the main shape that begins the Dell Boomi AtomSphere process flow. It is automatically added to each new process and it cannot be removed.

Type Connector Trading Partner Data Passthrough No Data

General Parameters

Display Name

Connector

Action

Connection

Operation



Each shape has an optional Display Name field. For training purposes, we will not use this field but feel free to enter your own detailed Display Name descriptions.

2. Notice the **Connection** field is filled in for you with the **Boomi Training (FTP)** connection component. It includes all the information needed to log into the FTP we've set up for this training.

Exercise 3: Access the FTP Connection

The screenshot shows a configuration window with two tabs: 'General' and 'Parameters'. Under 'Parameters', there are five fields: 'Display Name' (empty), 'Connector' (FTP), 'Action' (Get), 'Connection' (Boomi Training (FTP)), and 'Operation' (Choose...). The 'Connection' field and its pencil icon are highlighted with orange boxes.

3. You can open the **Boomi Training (FTP)** connection component by clicking on the pencil icon on the right side of the Connection component field.

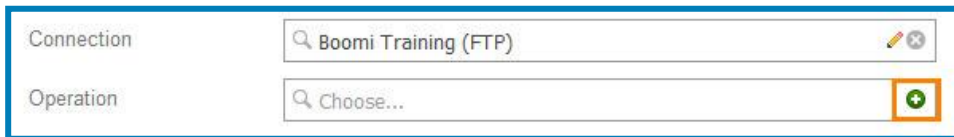
The screenshot shows the configuration page for 'Boomi Training (FTP) - FTP'. It has two tabs: 'FTP Host' and 'SSL Options'. The 'FTP Host' tab is active and contains the following fields: 'Host' (ftp.boomi.com), 'Port' (21), 'Connection Mode' (Passive), 'User Name' (boomitrain), and 'Password' (<Encrypted>). There are also links for 'Folder' and 'Add Description'.

- ✓ *Do NOT change any information in the Boomi Training (FTP) connection component or you will not successfully connect to the Boomi FTP server.*

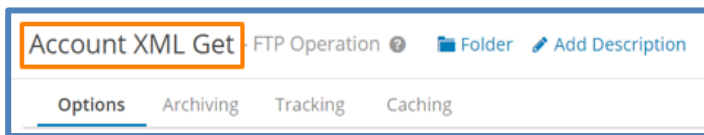
Exercise 4: Create an FTP Operation

To retrieve the Account documents (in XML format) from the FTP server, you will pair the FTP Operation with the Connection component. This defines the “how” as in “How should I retrieve documents from this connection?” Although connections are re-usable, most read operations are exclusive to a single integration because they identify the specific document set required for the process flow.

1. In the **Start Shape** connector configuration window next to **Operation**, click **Create (+)** to open a new component tab.



2. The **FTP Operation** window will appear. At the top of the screen, notice the area where you can change the Operation Name. Click in the title section and enter **Account XML Get**.



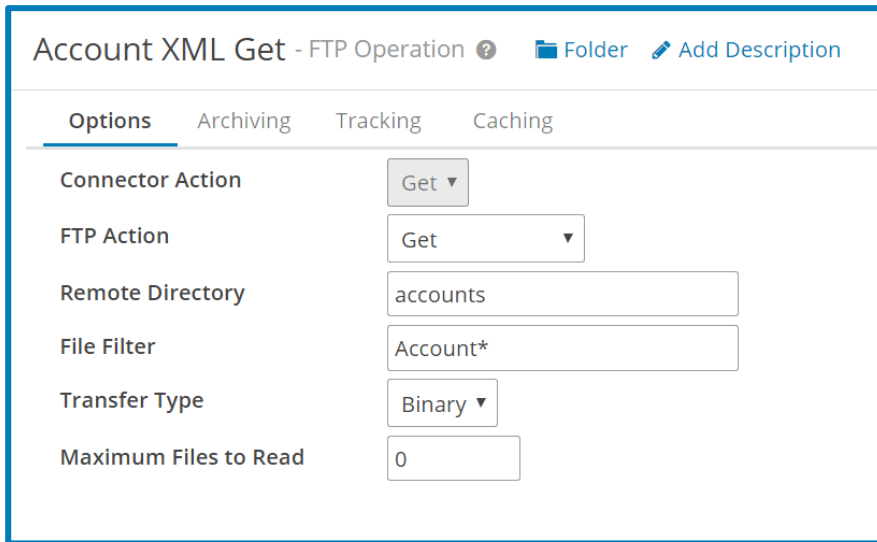
3. After naming the operation, enter the following configuration information:

FTP Action:	Get
Remote Directory:	accounts
File Filter:	Account*
Transfer Type:	Binary
Max Files to Read:	0



Pay special attention to the character case and spelling of the Remote Directory and File Filter names. Enter the names exactly as they appear in the table above.

Exercise 4: Create an FTP Operation



Account XML Get - FTP Operation ? Folder Add Description

Options Archiving Tracking Caching

Connector Action Get ▾

FTP Action Get ▾

Remote Directory accounts

File Filter Account*

Transfer Type Binary ▾

Maximum Files to Read 0

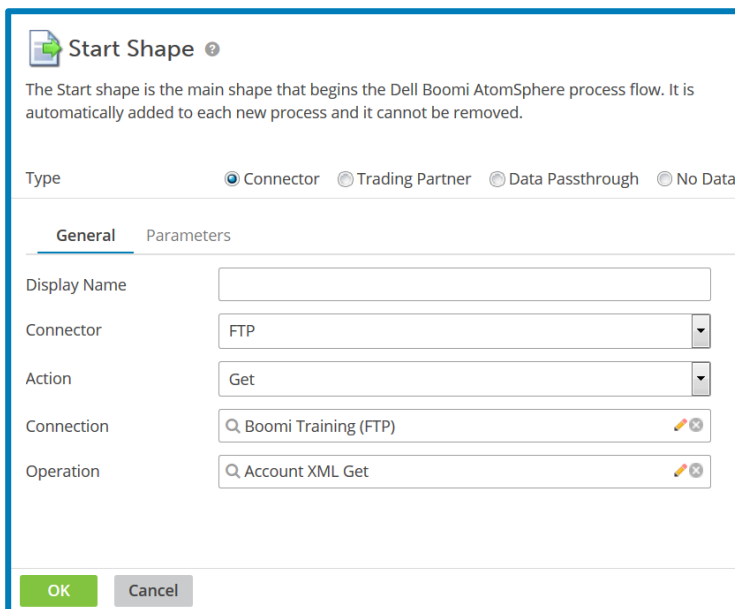


The wildcard (*) symbol filters files containing a certain character set. We are filtering all files which have a name beginning with Account (i.e. Account-1.xml, Account-2.xml, etc.).

4. At the bottom of the Process canvas, click **Save and Close**.

The Start shape connector now has the Account XML Get operation settings loaded in the configuration.

5. Click **OK**.



Start Shape ?

The Start shape is the main shape that begins the Dell Boomi AtomSphere process flow. It is automatically added to each new process and it cannot be removed.

Type Connector Trading Partner Data Passthrough No Data

General Parameters

Display Name

Connector FTP ▾

Action Get ▾

Connection Q Boomi Training (FTP) ✎ ✕

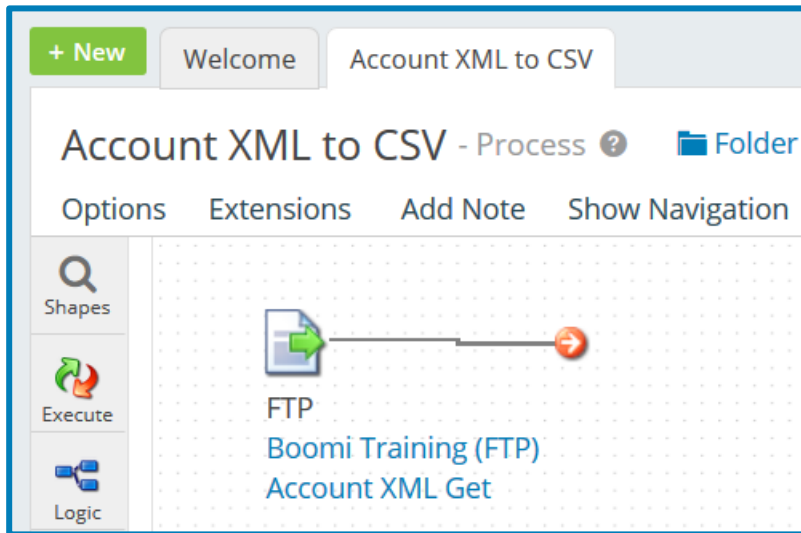
Operation Q Account XML Get ✎ ✕

OK Cancel

The **Account XML to CSV** process window shows the Start shape with the connector type (FTP),

Exercise 4: Create an FTP Operation

the configured connection (Boomi Training (FTP)), and the operation (Account XML Get).



6. Save the process once the Start shape is configured and everything will automatically be loaded into the component explorer.

Exercise 5: Access the Disk Connection

As discussed, when developing a new process it is recommended to work from the outside-in. In your last exercise you set up your Start Shape which is one end of the process. It is now time to configure the other end of the process using the Disk Connector Shape.

1. Locate the **Disk Connector** shape on the **Process Canvas** and click it to open up the **Disk Connector** shape configuration window.

Connector Shape ?

Connector shapes are used to get data into and send data out of a process. Most processes have one "get" connector and one or more "send" connectors. The Connector shape uses a combination of predefined connection and operation components to establish where and how to get or send data.

General Parameters

Display Name

Connector **Disk**

Action **Get**

Connection

Operation

2. Confirm **Disk** is selected in the Connector drop-down.
3. Confirm **Send** is selected in the Action drop-down.
4. Next to Connection, click **Create** (+) to open a new component tab.

Connector **Disk**

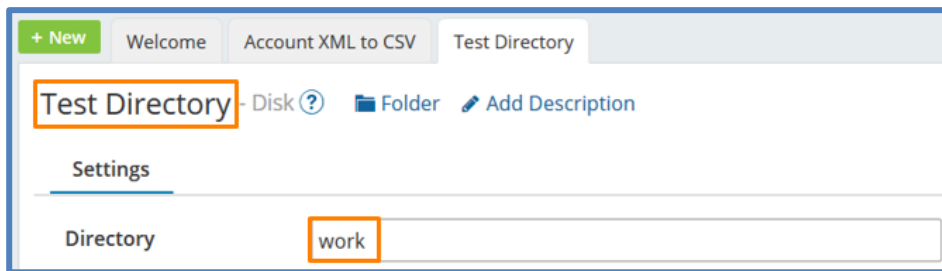
Action **Send**

Connection

Operation

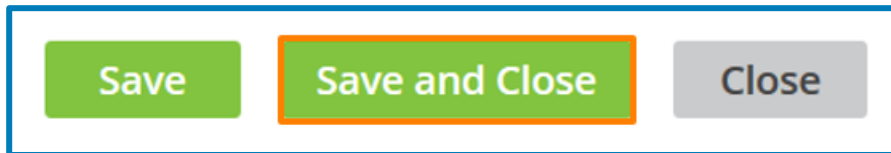
5. In the Name window, enter **Test Directory**.
6. For Directory, enter **work** as the location to save outputted files.

Exercise 5: Access the Disk Connection



- ✓ *The files for our training exercises are written to a directory on the Test Atom Cloud. The directory name is spelling and case sensitive.*

7. Click **Save and Close**.

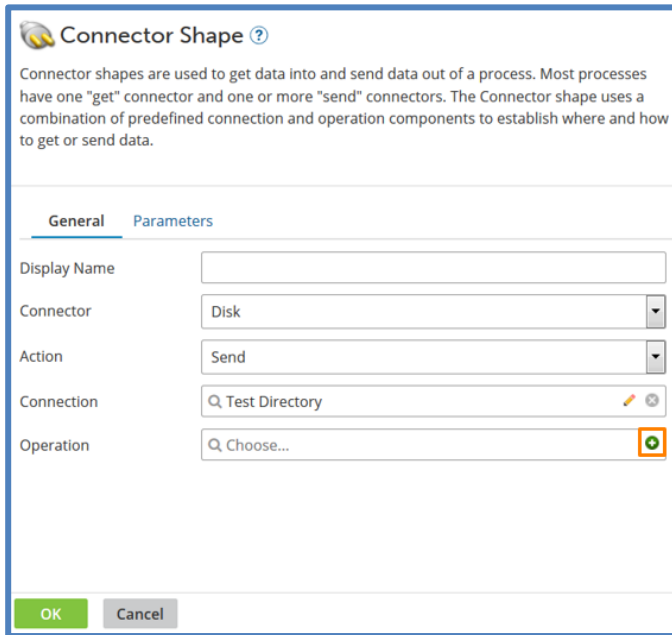


Exercise 6: Create a Disk Operation

Exercise 6: Create a Disk Operation

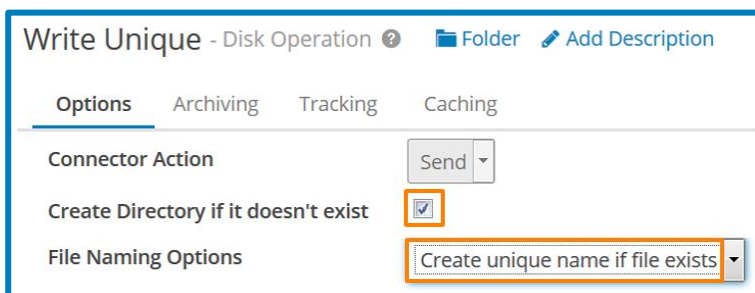
To successfully send an outbound document, pair the disk operation with the connection component to show how to build the file(s) and prevent write errors.

1. In the Connection Action window next to the Operation field, click **Create (+)** to open a new component tab.



The screenshot shows the 'Connector Shape' configuration window. It has a title bar with a question mark icon and the text 'Connector Shape ?'. Below the title bar is a paragraph of text: 'Connector shapes are used to get data into and send data out of a process. Most processes have one "get" connector and one or more "send" connectors. The Connector shape uses a combination of predefined connection and operation components to establish where and how to get or send data.' Below this text are two tabs: 'General' (selected) and 'Parameters'. Under the 'General' tab, there are five fields: 'Display Name' (empty text box), 'Connector' (dropdown menu with 'Disk' selected), 'Action' (dropdown menu with 'Send' selected), 'Connection' (text box with 'Test Directory' and a search icon), and 'Operation' (text box with 'Choose...' and a green plus icon in a square). At the bottom left are 'OK' and 'Cancel' buttons.

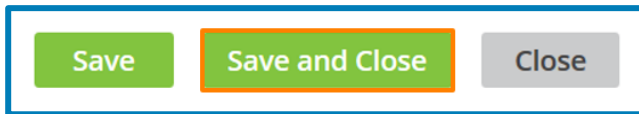
2. In the Name field, enter **Write Unique**.
For Connection Action, **Send** is automatically populated.
Check **Create Directory if it does not exist?**
From the File Naming Options drop-down, select **Create unique name if file exists**.



The screenshot shows the 'Write Unique - Disk Operation' configuration window. The title bar includes a question mark icon, the text 'Write Unique - Disk Operation ?', a folder icon, and 'Add Description'. Below the title bar are four tabs: 'Options' (selected), 'Archiving', 'Tracking', and 'Caching'. Under the 'Options' tab, there are three fields: 'Connector Action' (dropdown menu with 'Send' selected), 'Create Directory if it doesn't exist' (checkbox with a checkmark), and 'File Naming Options' (dropdown menu with 'Create unique name if file exists' selected). The 'Create Directory if it doesn't exist' checkbox and the 'File Naming Options' dropdown are highlighted with orange boxes.

3. Click **Save and Close**.

Exercise 6: Create a Disk Operation



The Connector now has the connection and operation settings loaded into the configuration.

4. Click **OK**.

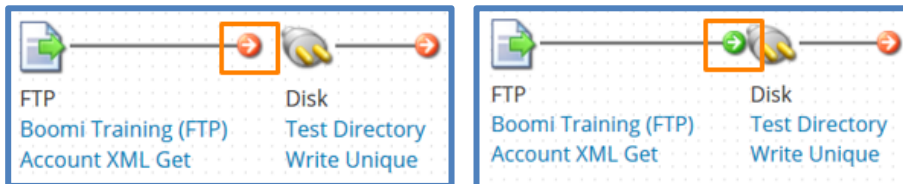
A configuration window with two tabs: 'General' and 'Parameters'. The 'Parameters' tab is active. It contains several fields: 'Display Name' (empty text box), 'Connector' (dropdown menu showing 'Disk'), 'Action' (dropdown menu showing 'Send'), 'Connection' (text box with 'Test Directory' and a search icon), and 'Operation' (text box with 'Write Unique' and a search icon). The 'Connection' and 'Operation' fields are highlighted with an orange border.

The **Account XML to CSV Process** window now shows the connector shape with the connector type (Disk), the configured connection (Test Directory), and operation (Write Unique).



5. Click and drag the **arrow** from the Start shape to the connector.

The arrow turns green when the shapes are connected.



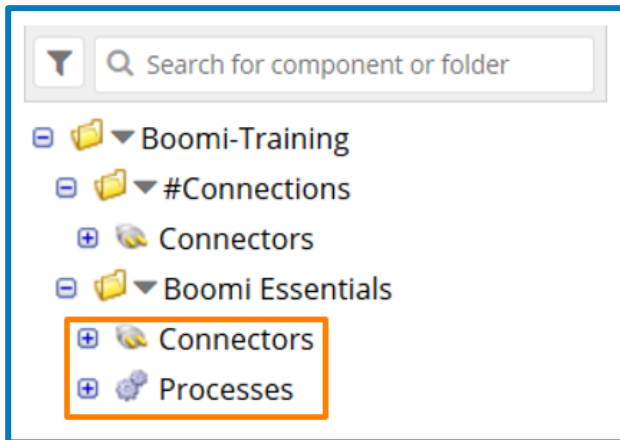
6. In the Process tab, click **Save**.

When a component is saved, a “Saved successfully” message box appears briefly in the lower-right of the process canvas.



Once the save button is pressed your connectors are automatically loaded into the component explorer.

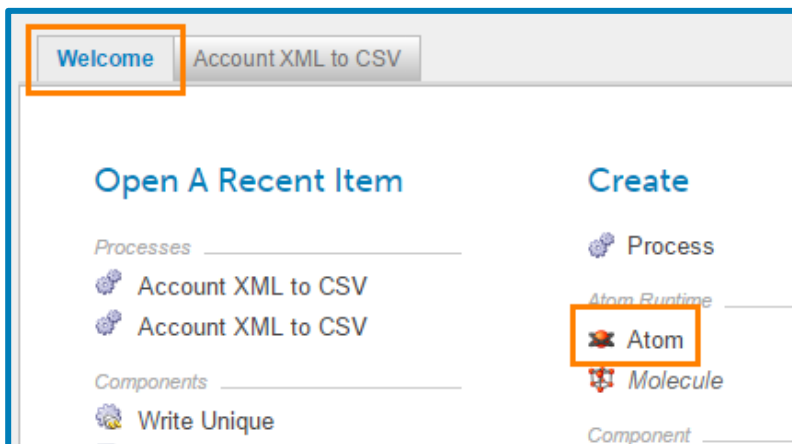
Exercise 6: Create a Disk Operation



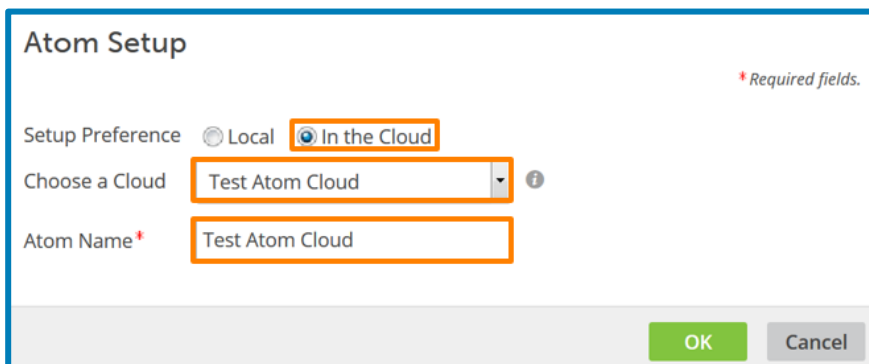
Exercise 7: Enable the Atom Cloud and the Test Atom Cloud

For our class, we will use the Test Atom Cloud test and execute our processes. We will also set up the Atom Cloud for future class use.

1. Above the Process canvas click the **Welcome** tab.
2. Under the **Create** column, click **Atom**.

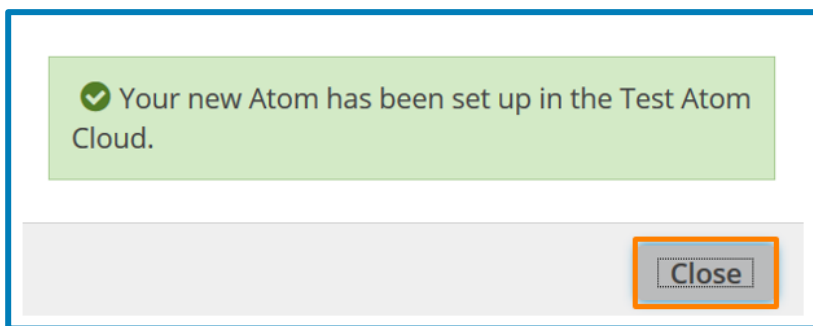


3. Select the **In the Cloud** radio button and choose **Test Atom Cloud** from the dropdown menu.
4. In the box for the Atom Name, type **Test Atom Cloud**.



5. Click **OK**.
A message confirms "Your new Atom has been set up in the Test Atom Cloud."
6. Click **Close**.

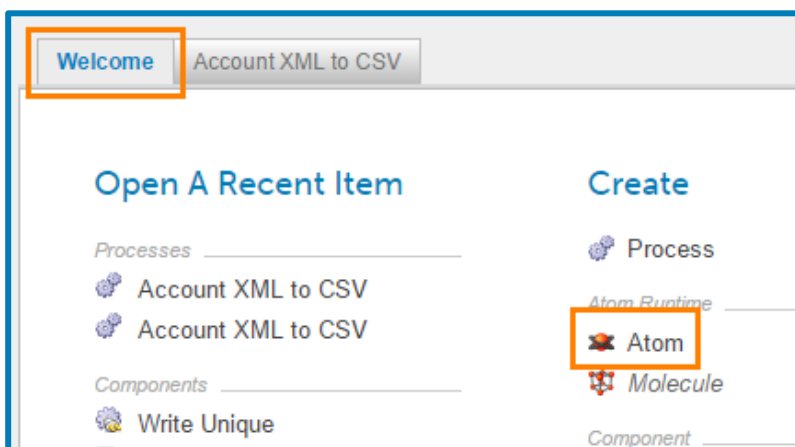
Exercise 7: Enable the Atom Cloud and the Test Atom Cloud



The Test Atom Cloud is now available for test environments.

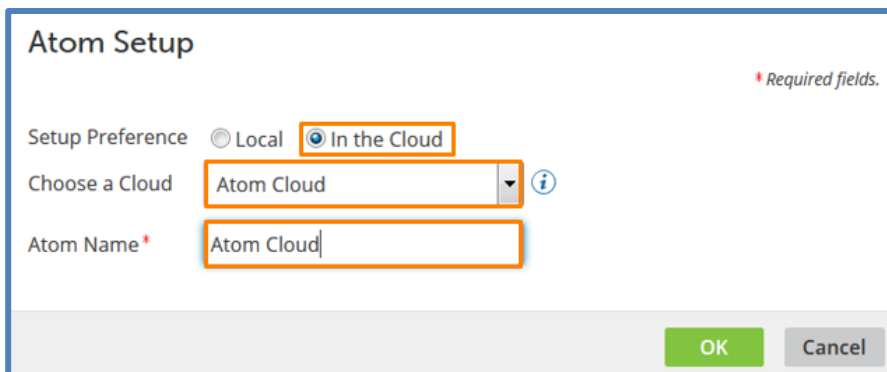
Repeat the previous steps to set up the Atom Cloud.

7. Once again, click on **Atom** to set up your new Atom.



8. Select the **In the Cloud** radio button and choose **Atom Cloud** from the drop-down menu.

9. In the box for the Atom Name, type **Atom Cloud**.

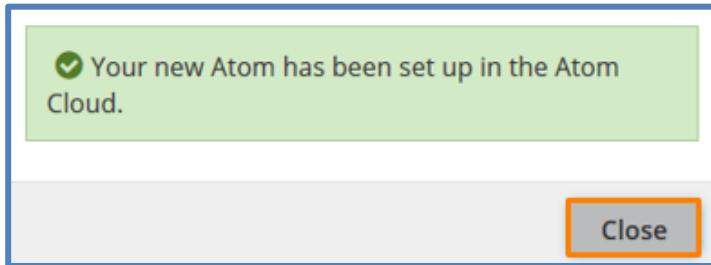


10. Click **OK**.

Exercise 7: Enable the Atom Cloud and the Test Atom Cloud

A message confirms “Your new Atom has been set up in the Atom Cloud.”

11. Click **Close**.



Exercise 8: Test the Process

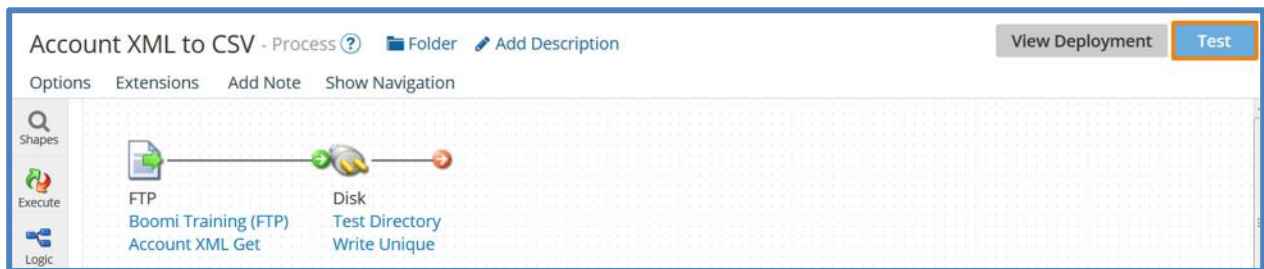
To debug process errors, use the Test Mode feature on the Build tab. This function executes and displays real-time results of the processed documents by clicking on each shape to check the logs and current data contents.

Test Mode has limited amounts of data and/or files it can filter.

The limits are 100 documents from a given connector call and 10 MB of total data.

Check the *Accounts XML to CSV* Process is loaded in the Process window

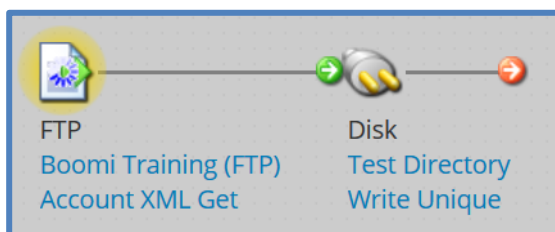
1. On the Build tab, click **Test** in the upper-right above the Process canvas.



2. Choose the **Test Atom Cloud** from the drop-down.



3. Click **Run Test**.
 - ✓ *During the test, the shape being processed has a yellow circular highlight. This helps to keep track of the process flow through the test execution run.*



After the shape has successfully completed, the circular highlight turns green and a success message displays in the lower-right of the Test Results window.

Exercise 8: Test the Process




4. To verify the file was read in successfully, click the **Connection Data** tab within the Test Results section located beneath the tested process. You can also click the **View the contents of this document** icon in the far left of the Test Results window to see the actual document.

View the contents of the generated documents in the Document Viewer.

1. In the Test Results window, click on the **Disk Connector** shape.
2. Highlight each of the files in the **Documents** window.
3. In the **Connection Data** tab, click the **View** icon to view file contents.

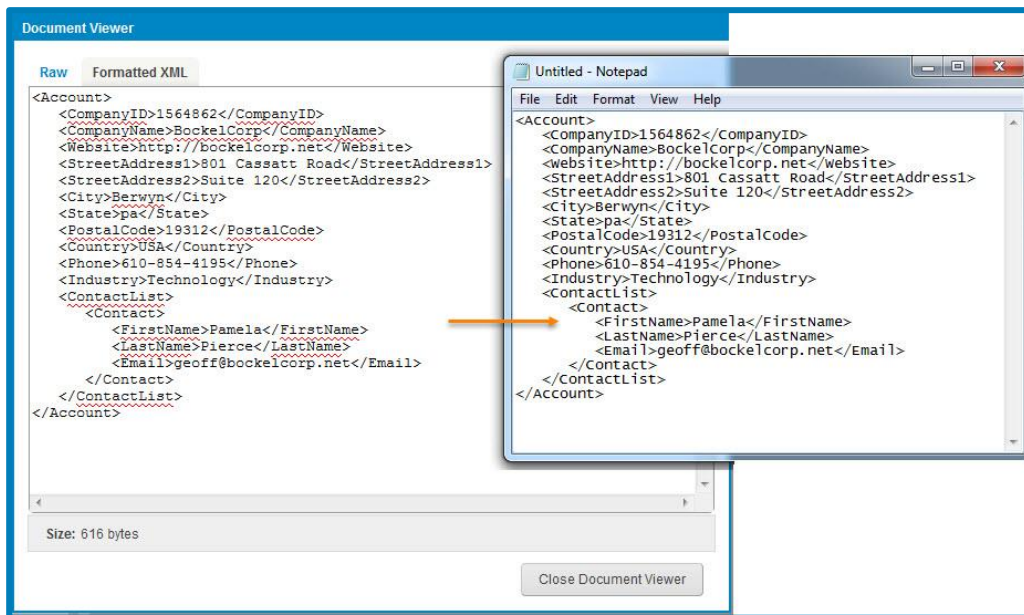
The screenshot shows the 'Process: Account XML to CSV' window. The process flow is visible at the top, with the Disk connector highlighted. Below the process flow, there are two tabs: 'Documents' and 'Test Results'. The 'Documents' tab is active, showing a table with two rows. The first row has a green checkmark in the 'View' column. The 'Test Results' tab is also visible, showing a table with a 'View' icon highlighted in the first row.

Documents		Test Results		
#		Logs	Shape Source Data	Connection Data
1	✓	View	Directory	File Name
2	✓	●	View	/mnt/Test_Atom_Cloud_Store1/clo 1497630467408.dat

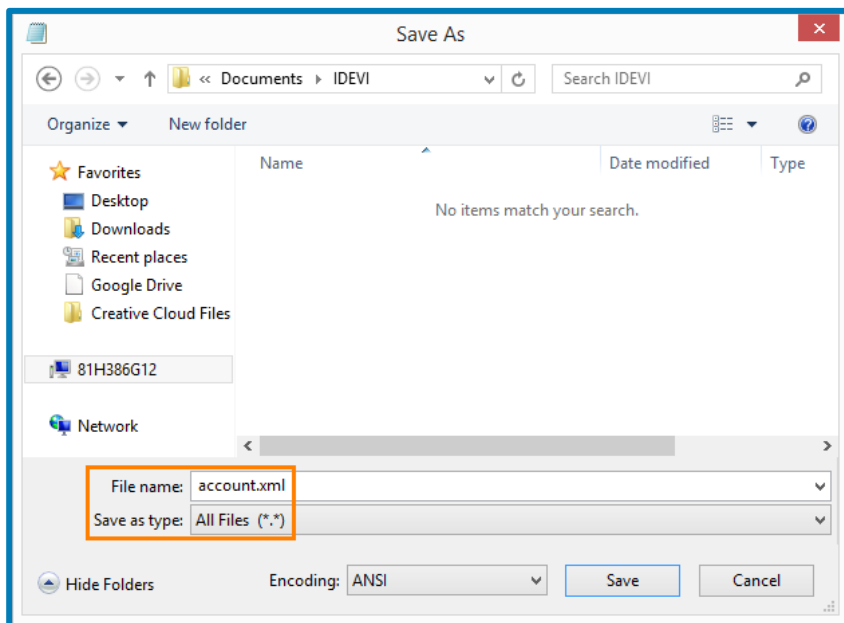
 Remember, the file is contained in the work directory of the Test Atom Cloud, so you need to use the Document Viewer to see the file contents. You do not have access to the physical directory. To save the contents of the file to your physical drive, download the file or copy and paste the contents from the Document Viewer to a text editor, such as Notepad, and save it.


4. Select and **Copy** the entire contents.
5. Open a **Text Editor**, such as Notepad, and paste the contents. We will use it later as an XML profile. The following example uses NotePad:

Exercise 8: Test the Process



6. Save the document as **account.xml** in a local directory on your computer.
7. For **Save as Type**, choose **All Files**.

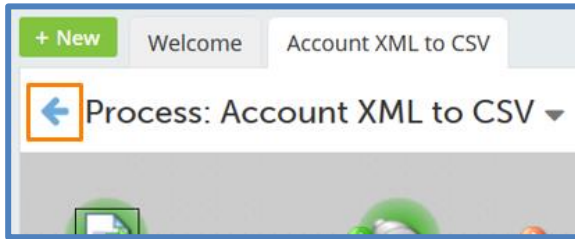


 *If using a Local Atom, the files are written to the local directory defined in the disk connector. The results are viewed by opening the files from within the specified output directory*

8. When finished, click **Close Document Viewer**, and in the upper-left corner of the Process

Exercise 8: Test the Process

canvas, click the **Return to Edit Mode** arrow icon.



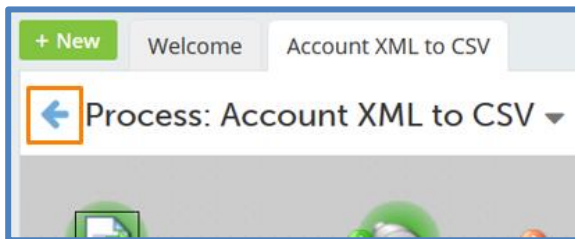
*The reason we saved the document output is to use the format of the document to structure something we call a **Profile**. You will create a **Profile** in the next activity and will reference the **account.xml** file you just created.*

Exercise 9: Create an XML Profile

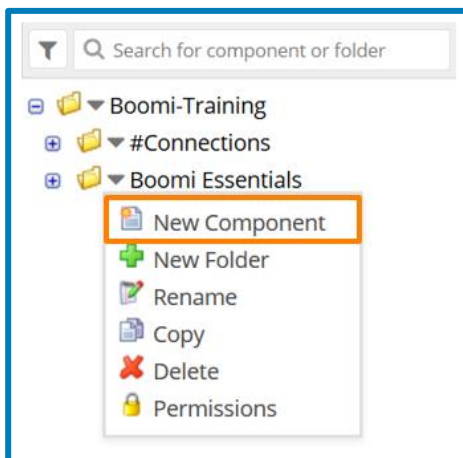
To reference data in a field structure, it's important to build a profile component to represent the expected format of the source or destination data. This enables you to perform translations, validations and to set properties to dynamically name the file for each unique document.

From the Component Explorer, create an XML Profile component in the *Boomi Essentials* folder

1. If you are not in Edit Mode on the process canvas, click the **Return to Edit Mode Arrow** in the upper-left.



2. In the Boomi Essentials folder click the blue drop-down arrow and select **New Component**.



The Create Component window expands above the Process Canvas. You need to show the component type, enter the name, and choose the destination of the New Component. Note the file path for the component is automatically populated in the destination field since you created your component through the Boomi Essentials folder.

Exercise 9: Create an XML Profile

Create Component * Required fields.

Type:

Name:

Folder:

1. For Component Type, select **Profile**.
2. For Profile Name, enter **Account XML**.
3. For File Type, select **XML**.

Create Component * Required fields.

Type:

Name:

Folder:

Profile Format:

4. Click **Create**.
The Account XML tab is selected.
5. Click **Import**.

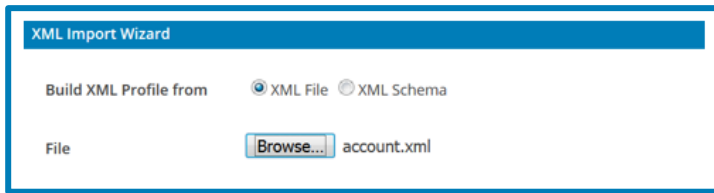
+ New | Welcome | Account XML to CSV | **Account XML**

Account XML - XML Profile ⓘ | Folder | Add Description |

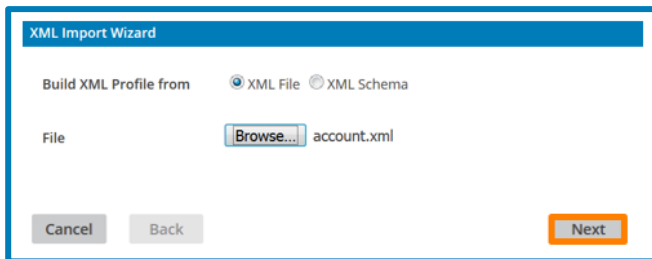
Data Elements | Types | Options

This will launch the XML Import Wizard.

Exercise 9: Create an XML Profile



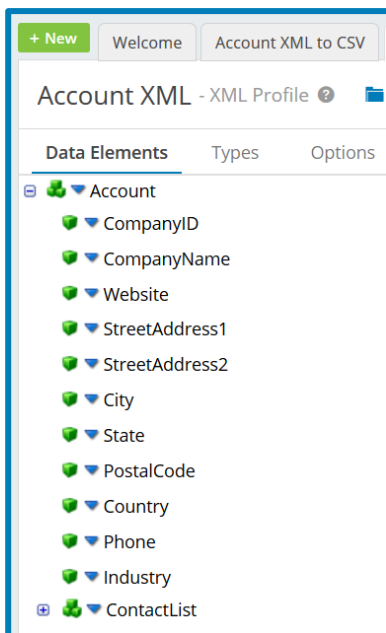
6. On **Build XML Profile from**: select **XML File**.
7. Click **Browse**, navigate to your local directory, and select the **account.xml** file saved earlier.
8. Click **Next**.



The XML Import Wizard displays the profile is loaded.

9. Click **Finish** to close the Wizard.

The list of imported fields displays.



10. Click **Save and Close**.

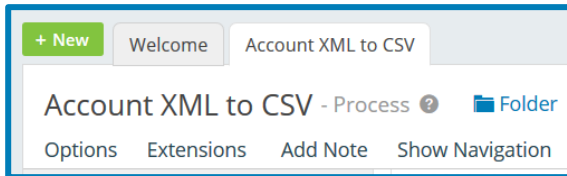
You now have an XML profile to use during our upcoming Set Properties Shape activity.

Exercise 10: Set a File Name and Test the Process

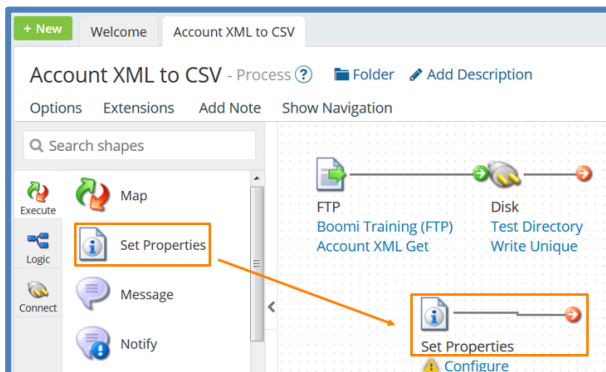
In the previous exercise, you learned how to create a profile we will use in this exercise. You will use the Set Properties shape to change the default file name into something more meaningful.

In this exercise, you will configure a Set Properties shape to change the file name using a mix of static and dynamic parameters. Remember, static values apply the same value to each document, and dynamic values reference elements in a profile to use the data in said element.

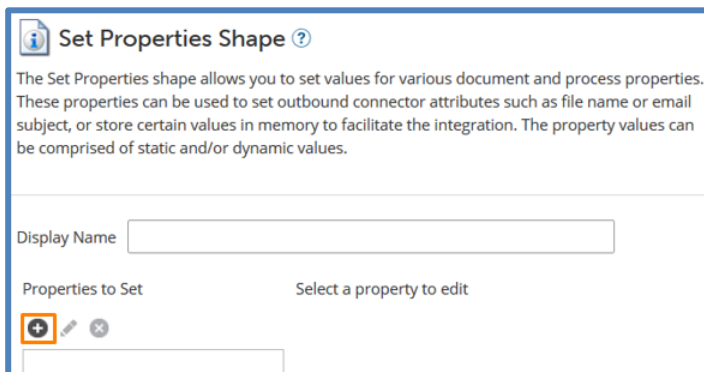
1. Navigate to the Process canvas by clicking the **Account XML to CSV** tab.



2. Click on the **Execute** Tab and drag-and-drop it on the Process Canvas.



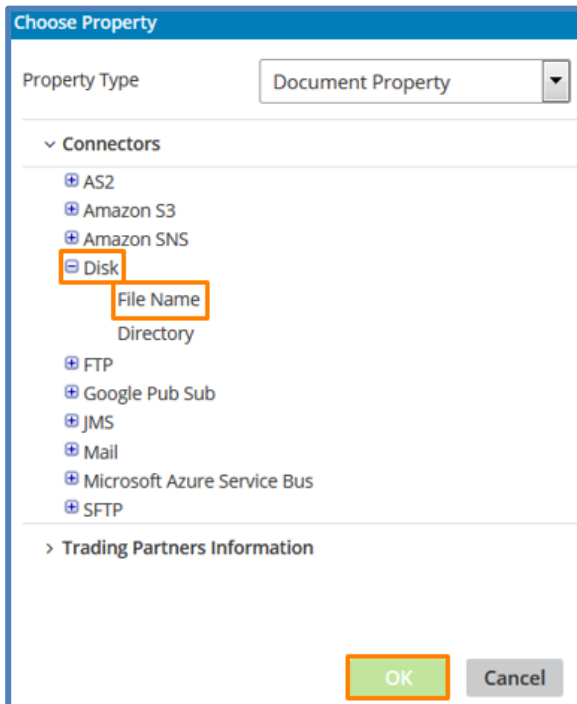
3. Click on the **Set Properties** shape to open the configuration window.
4. Click on the plus sign under the **Properties to Set** column to add a new property



The Choose Property window appears where you can choose the property you would like to set.

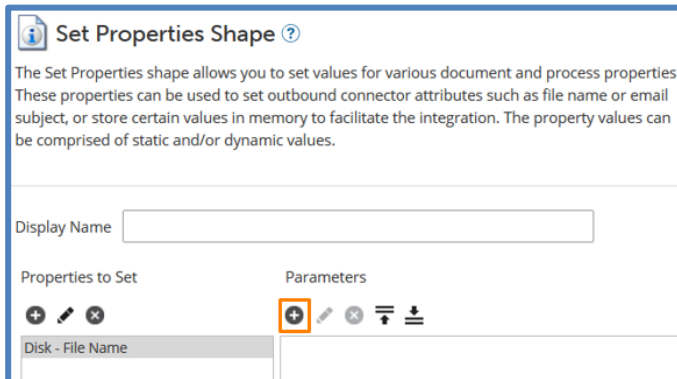
Exercise 10: Set a File Name and Test the Process

- Click the plus sign next to the **Disk** Connector option, and then choose **File Name**. Once complete, click **OK**.



Notice under the Properties to Set column it now says **Disk-File Name**.

- It is now time to set the Parameters. To do so, click on the plus sign under the **Parameters** column.



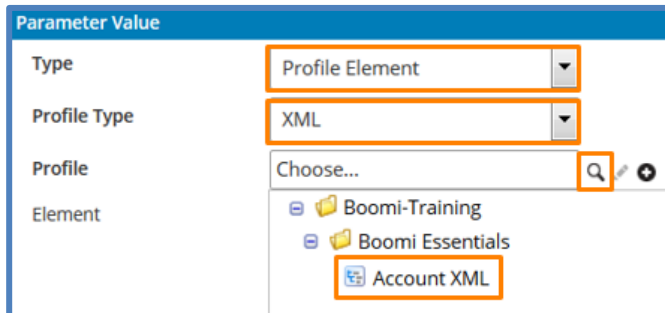
You should now see the Parameter Value window appear.

- Within the Parameter Value window, select **Profile Element** from the **Type** drop-down menu. This option allows you to choose a profile to link to for our dynamic values.
- In the **Profile Type** dropdown menu, select **XML**.

Exercise 10: Set a File Name and Test the Process

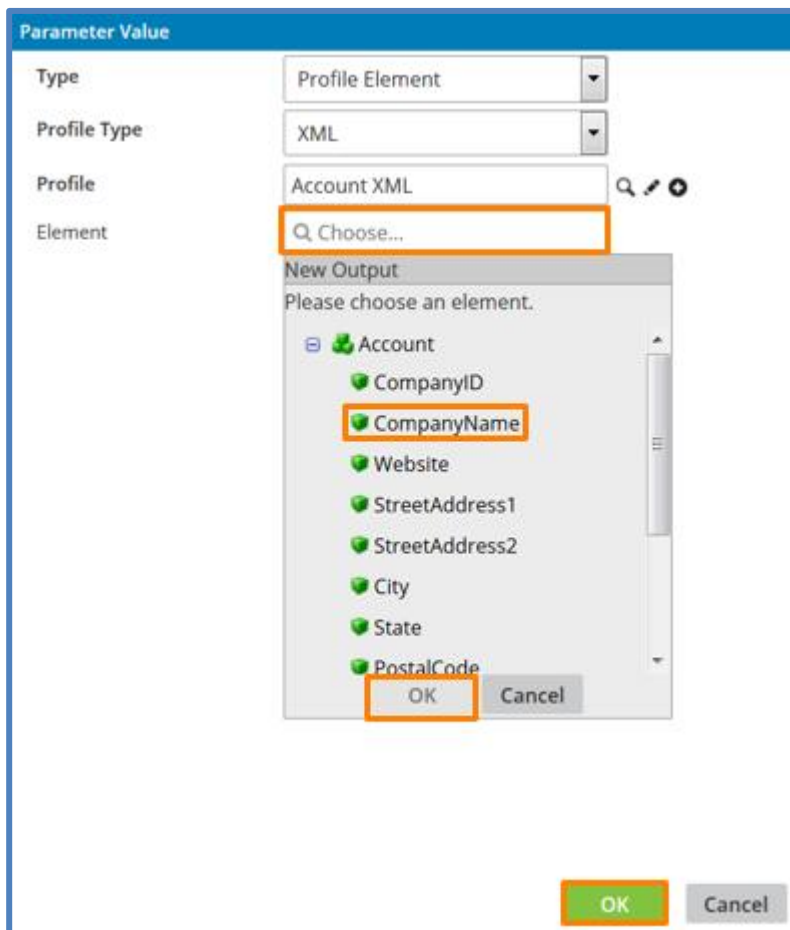
This option filters out any non-XML profiles from the following **Profile** field.

9. Click the **Magnifying Glass** icon to search your component explorer for your desired profile. Click the **Account XML** profile you created earlier.



10. Click within the Element field where it says **Choose** to select an element from your Account XML profile. Select **CompanyName** and click the **Grey OK**.

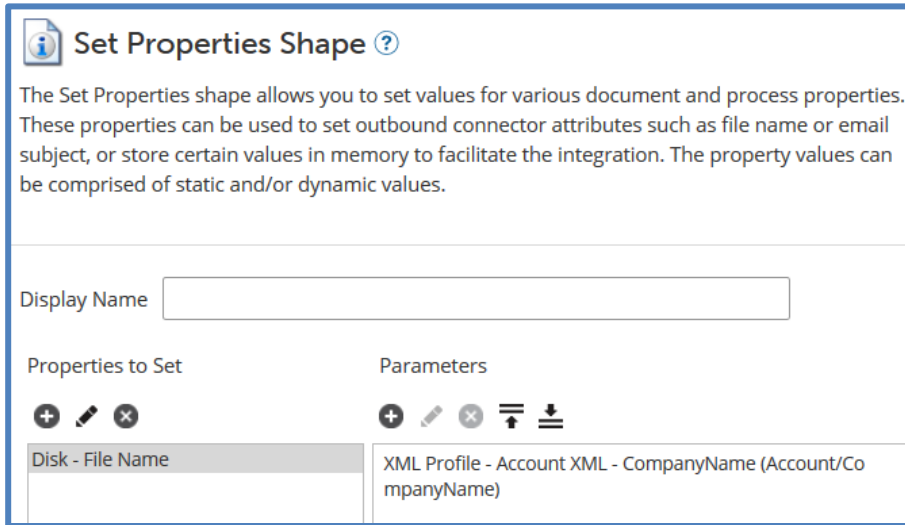
11. Then, click the **Green OK**.



It will return to the Set Properties Shape configuration window to review both the Properties to Set

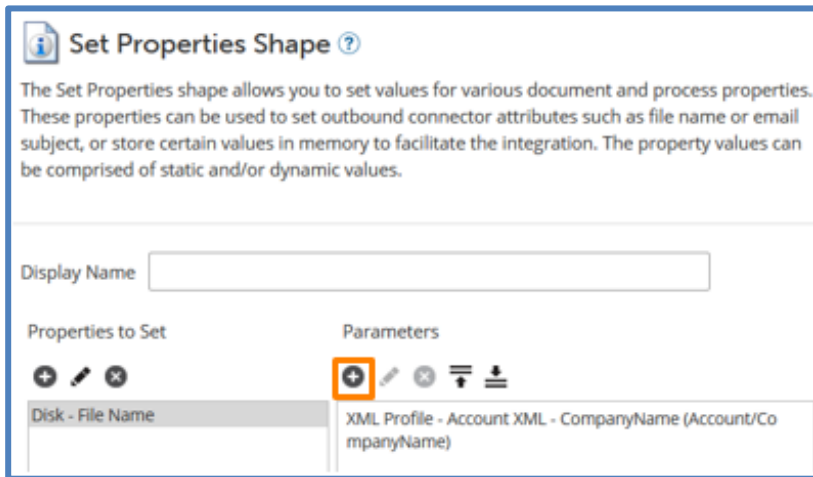
Exercise 10: Set a File Name and Test the Process

column and the Parameters column look like the image below.



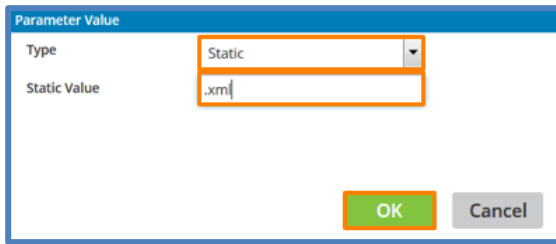
Now that you have set a dynamic document property, the filename of each document passing through this shape reflects the data flowing through the CompanyName field from your Account XML profile. We will now add a static value of “.xml” to the end of the filename.

12. To add a static value to your existing filename, you do not need to add a new Property to Set. You only need to add another parameter to the existing property. To do so, click on the plus sign under the Parameters column.



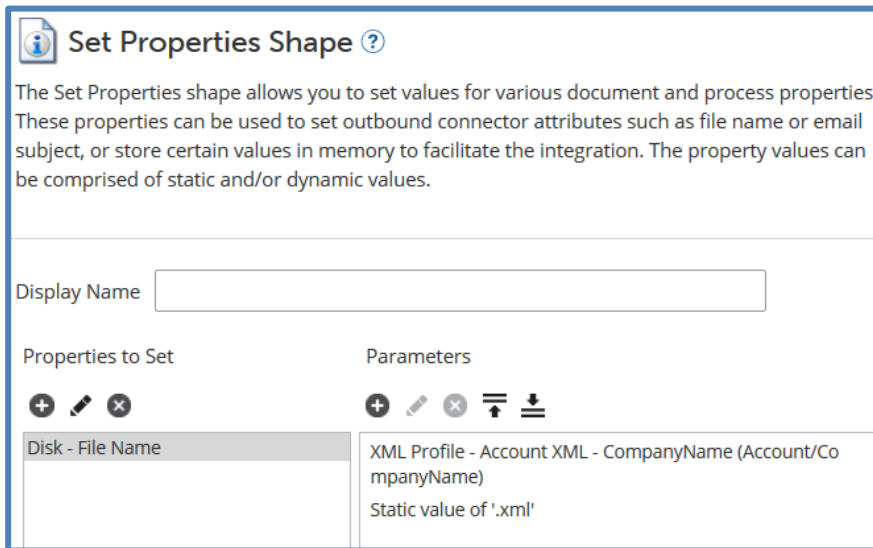
13. In the Parameter Value window keep the default Type of **Static** and type **.xml** into the Static value field. Once complete, click **OK**.

Exercise 10: Set a File Name and Test the Process



The image shows a 'Parameter Value' dialog box. It has a 'Type' dropdown menu set to 'Static' and a 'Static Value' text field containing '.xml'. There are 'OK' and 'Cancel' buttons at the bottom right.

The completed Set Properties Shape looks like the image shown below:



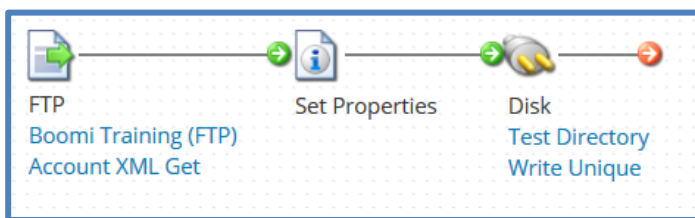
The image shows the 'Set Properties Shape' configuration window. It has a title bar with an information icon and a question mark. Below the title is a description: 'The Set Properties shape allows you to set values for various document and process properties. These properties can be used to set outbound connector attributes such as file name or email subject, or store certain values in memory to facilitate the integration. The property values can be comprised of static and/or dynamic values.' Below the description is a 'Display Name' text field. There are two main sections: 'Properties to Set' and 'Parameters'. The 'Properties to Set' section has a list with 'Disk - File Name' selected. The 'Parameters' section has a list with 'XML Profile - Account XML - CompanyName (Account/CompanyName)' and 'Static value of '.xml''. There are various icons for adding, deleting, and sorting items in both sections.

14. Click OK to return back to the process canvas once the Set Properties Shape has been configured correctly.

Now the Set Properties Shape is complete, and it is time to insert it into your process to verify the filename has changed.

15. First, detach your Start Shape from your Disk Connector shape.
16. Then, connect the Start Shape to your Set Properties Shape.
17. Finally, connect your Set Properties Shape to your Disk Connector Shape.

The end result should look like the image below:



Exercise 10: Set a File Name and Test the Process

18. Run the process in test mode and view the results. You will be able to verify the file name has changed by clicking on your Disk Connector Shape in test mode.
19. Then, select a document in the Documents Tab.
20. Select Connection Data in the Test Results Tab
21. Look for the file name under the File Name Column.

The filename should match the file name noted in the following image.

The screenshot displays the Boomi Process Designer interface for a process named "Process: Account XML to CSV". The workflow consists of three shapes: "FTP" (Boomi Training (FTP) Account XML Get), "Set Properties", and "Disk" (Test Directory Write Unique). The "Disk" shape is highlighted with an orange box. Below the workflow, the "Documents" tab shows two documents, with the first document (ID 1) selected and highlighted with an orange box. The "Test Results" tab is active, showing a table with columns for "Logs", "Shape Source Data", "Connection Data", "View", "Directory", and "File Name". The "Connection Data" column is highlighted with an orange box. The "File Name" column shows the value "BockelCorp.xml", which is also highlighted with an orange box. The "Directory" column shows the path "/mnt/Test_Atom_Cloud_Store1/cloud/bod/accounts/it".



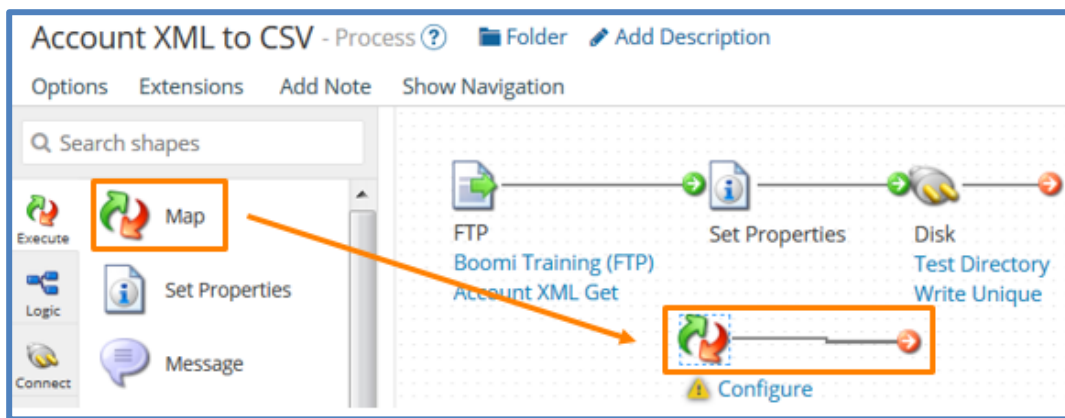
It is important to understand the parameter order. The name is built from top to bottom in the parameter list, so our name is "CompanyName.xml", with the file extension is last in the list.

Exercise 11: Create a Map and Source Profile

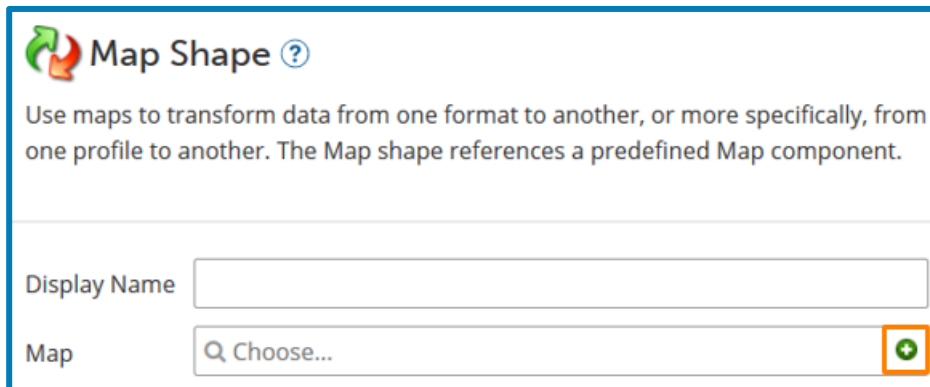
The archive workflow is now created to store the original XML documents with a unique filename, so now you need to create a data map to translate the source XML content to a CSV type. The map component is used to convert between different document types and applications at the field-level.

1. Open the **Account XML to CSV** Process.
2. Drag and drop a **Map** shape on the Process canvas.

The Map Properties window opens automatically. Place the Map shape below the process path.

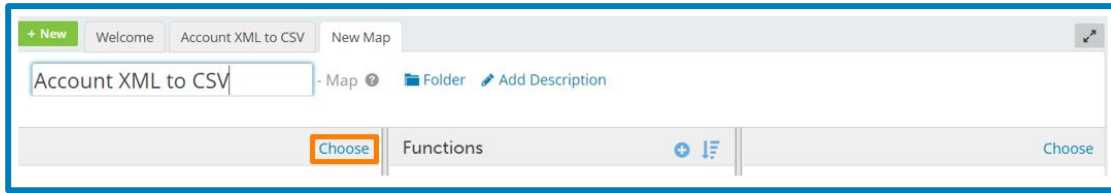


3. In the Map Properties window, click the **Create a new component** button (+) to open a new map.

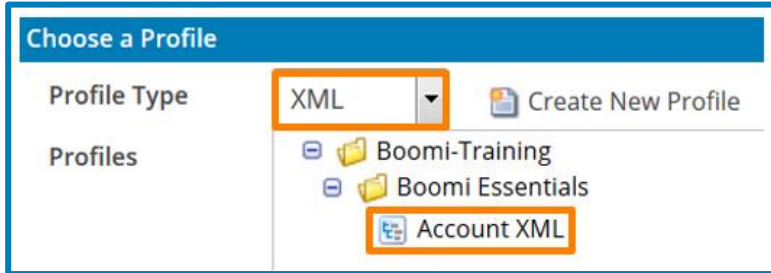


4. In Name, enter **Account XML to CSV**.
5. In the left mapping pane, click the **Choose** to choose the source profile.

Exercise 11: Create a Map and Source Profile

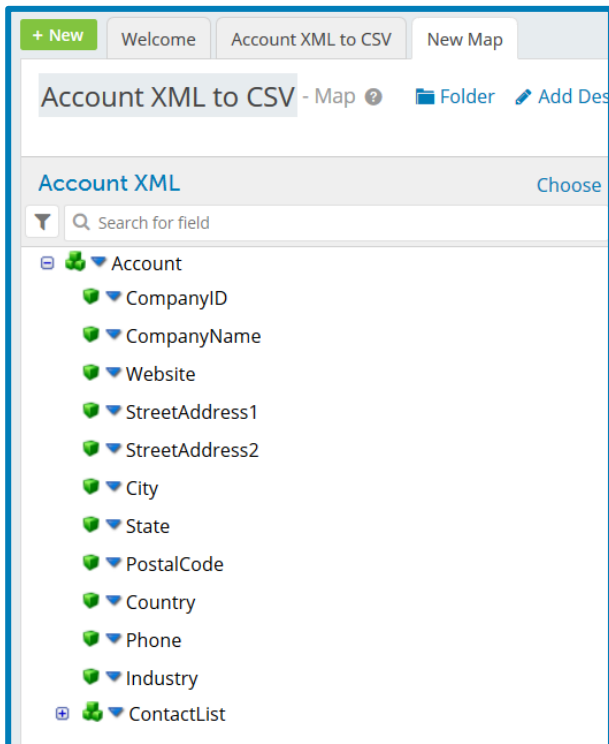


The **Choose a Profile** window opens.



6. For Profile Type, select **XML**.
7. Select the **Account XML** profile created earlier.
8. Click **OK**.

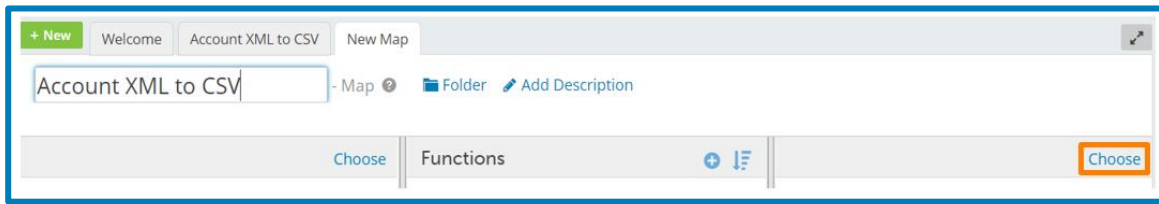
The generated field list appears in the left mapping window.



Exercise 12: Create a Flat File Destination Profile

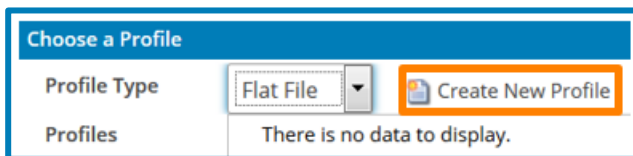
You have created the map to handle the translation piece of the process and now need to configure a profile component to define the field structure of the destination data. The Flat File Profile supports the creation and parsing of multiple record types within a single file. This exercise demonstrates how to create a new profile from within the mapping and how to manually build a field set with a comma delimiter.

1. In the right mapping pane, click **Choose** to create the destination profile.

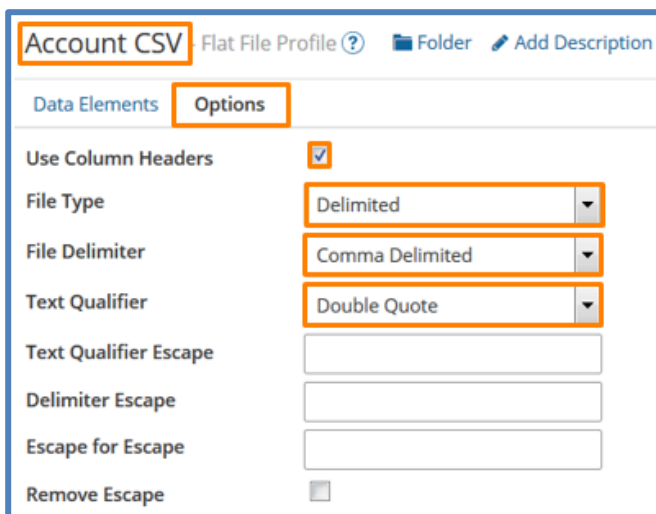


The **Choose a Profile** window opens.

2. For Profile Type, select **Flat File**.
3. Click the **Create New Profile** link.



4. In the Flat File Profile Name field, enter **Account CSV**.
5. Click the **Options** tab.



Exercise 12: Create a Flat File Destination Profile

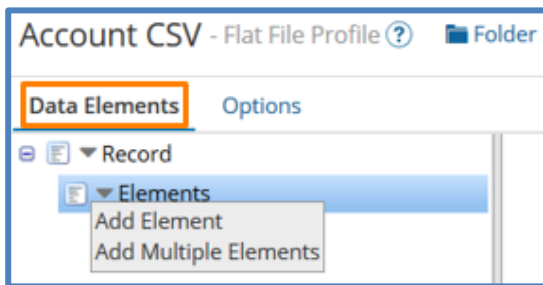
- Configure the following options:

Use Column Headers:	Checked
File Type:	Delimited
File Delimiter:	Comma Delimited
Text Qualifier:	Double Quote

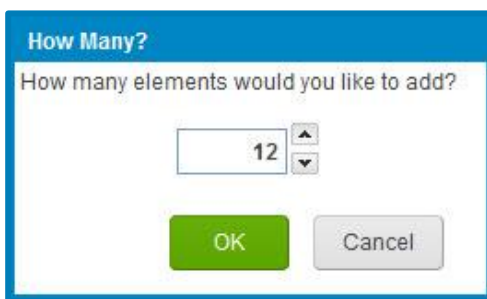


A double quote text qualifier is used to handle data belonging to a particular field containing a comma but is not meant to be interpreted as a separate data element. This is surrounded by double quotes. For example, "123 Adams Road, Suite 400" ignores the comma so the entire address is commented to the address field.

- Click the **Data Elements** tab.
- Next to **Elements**, click the blue drop-down arrow and then select **Add Multiple Elements**.



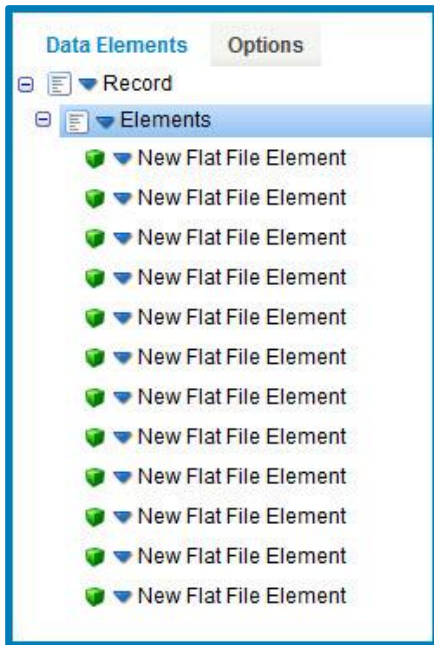
- When prompted for the number of elements, enter **12**, then click **OK**.
 - ✓ In addition to entering the number, use the up/down arrows next to the entry field to increment a single digit.



- Click **OK**.

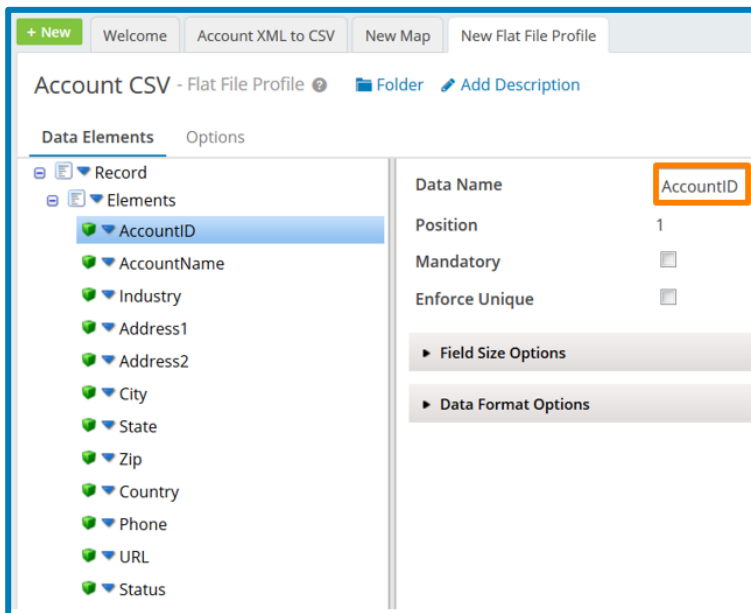
The flat file data elements are ready to be populated.

Exercise 12: Create a Flat File Destination Profile



Rename each of the *New Flat File Element* elements

1. Click on the first **New Flat File Element**.
An options panel opens on the right.
2. For the first element, in the **Data Name** field, type **AccountID**.
The name updates automatically in the Data Elements list on the left.

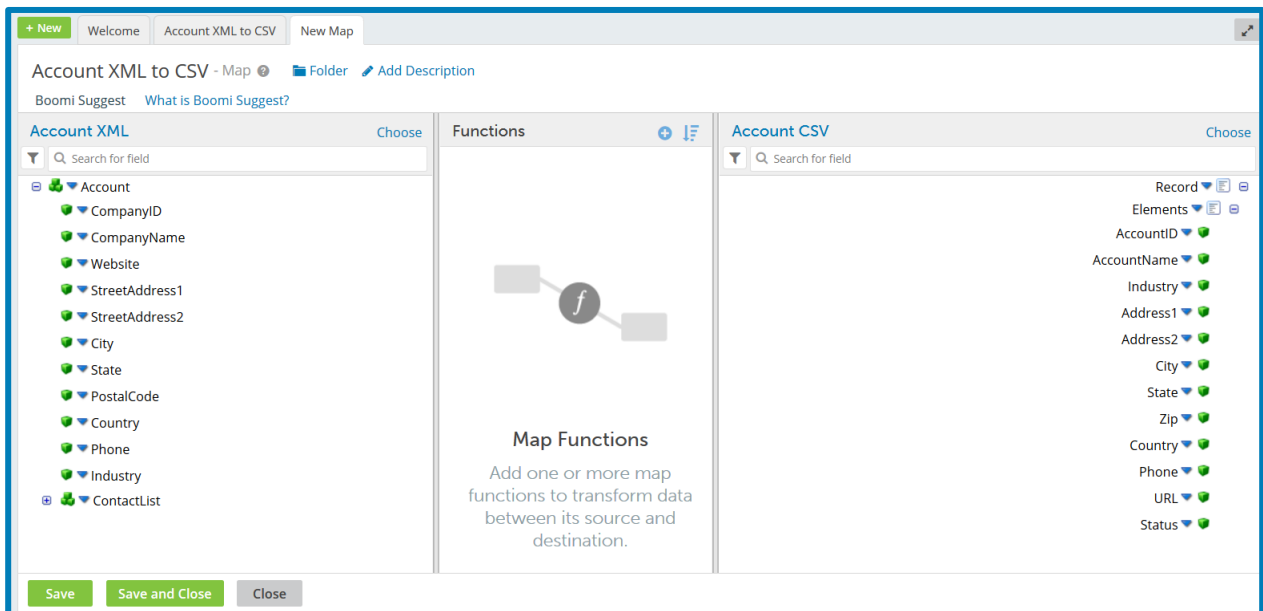


Exercise 12: Create a Flat File Destination Profile

- After entering **AccountID** as the first element, name the remaining **New Flat File Elements** using these field names:

AccountName
Industry
Address1
Address2
City
State
Zip
Country
Phone
URL
Status

- Click **Save and Close**.
- On the **Map** screen's right mapping window, next to **Elements**, click the **Expand (+)** icon to expand the element list to view the entered file elements.




- Click **Save**.

Exercise 13: Map Fields

Both sides of the mapping interface are now populated with a field list. To map the fields, either link the fields using either auto-mapping or manually dragging and dropping source field names (on the left) to matching destination field names (on the right) to form mapping links.

1. Click on the **StreetAddress1** element and drag it to the **Address1** element to drop it. The destination element highlights in green to verify it is selected.
2. Continue dragging and dropping until all the elements are mapped, or use **Boomi Suggest**.



 **Boomi Suggest** provides a quick alternative to manual mapping by offering mapping suggestions based on thousands of mappings logged in the Boomi community.

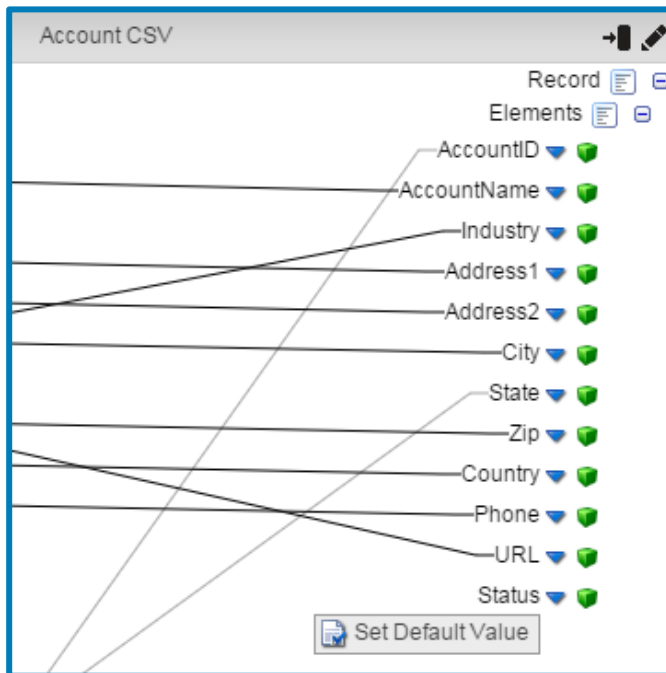
3. Complete mapping the fields either manually or by using Boomi Suggest and verify the fields are mapped correctly.
- ✓ *Boomi Suggest may not suggest the correct mapping of a field, so you **must** verify all mappings completed with the tool to make sure the mapping is correct. You can always manually map or un-map a field.*

SOURCE	DESTINATION
CompanyID	AccountID
CompanyName	AccountName
Website	URL
StreetAddress1	Address1
StreetAddress2	Address2
City	City
State	State
PostalCode	Zip
Country	Country
Phone	Phone
Industry	Industry

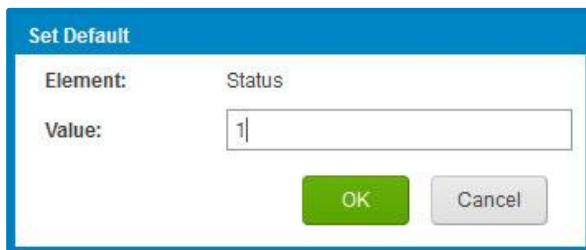
4. In the Account CSV Records next to the Status field name, click the blue drop-down arrow and

Exercise 13: Map Fields

select **Set Default Value**.

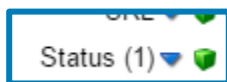


5. For Value, enter 1.




6. Click **OK**.

The Status field name changes to Status (1) showing the default value entered.



✓ Assume the outbound CSV document for this scenario requires the Status is auto-set to 1 for reporting purposes.

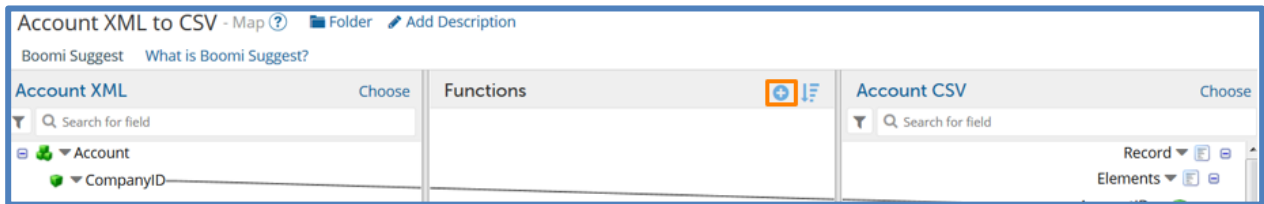
 The Default Value is displayed in the outbound data when the destination element is null, blank, or unmapped.

7. Click **Save**.

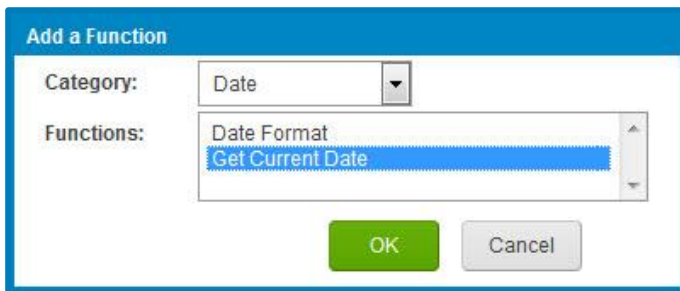
Exercise 14: Add Get Current Date Map Function

When building integrations between different applications and resources, many fields need adjustments to meet destination system/vendor specifications. The map function library offers several ways to apply conversion logic to fields being mapped. These include use cases where information is not present in the source data. This exercise shows how to do a date/time lookup at runtime so a report can be built containing the execution date.

1. In the **Function** (middle) window, click the plus sign to add a new function.

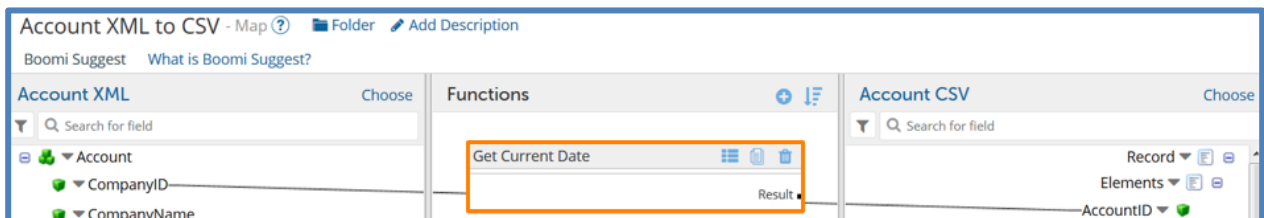


2. From the drop-down next to **Category**, select **Date**.
3. Highlight **Get Current Date** and then click **OK**.



The Get Current Date function opens in the Functions window. The value **Result** holds the current date retrieved from the function.

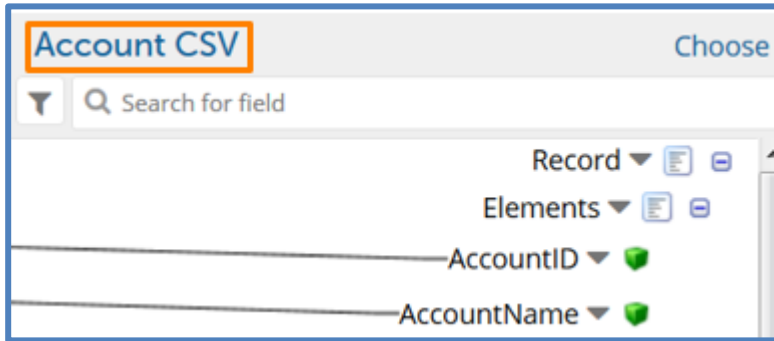
To map the result to an right field in our Account CSV destination profile, create a new field to house this data.



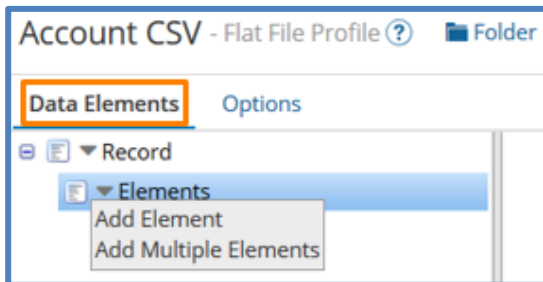
To add a new field to the destination profile

Exercise 14: Add Get Current Date Map Function

1. In the Account CSV destination pane, click the **Account CSV** title to edit the profile.



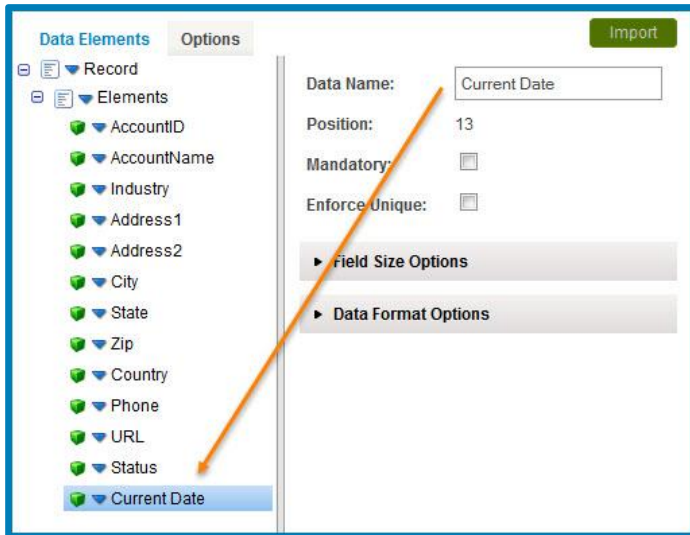
2. Click the blue down-down arrow next to **Elements**, then select **Add Element**.



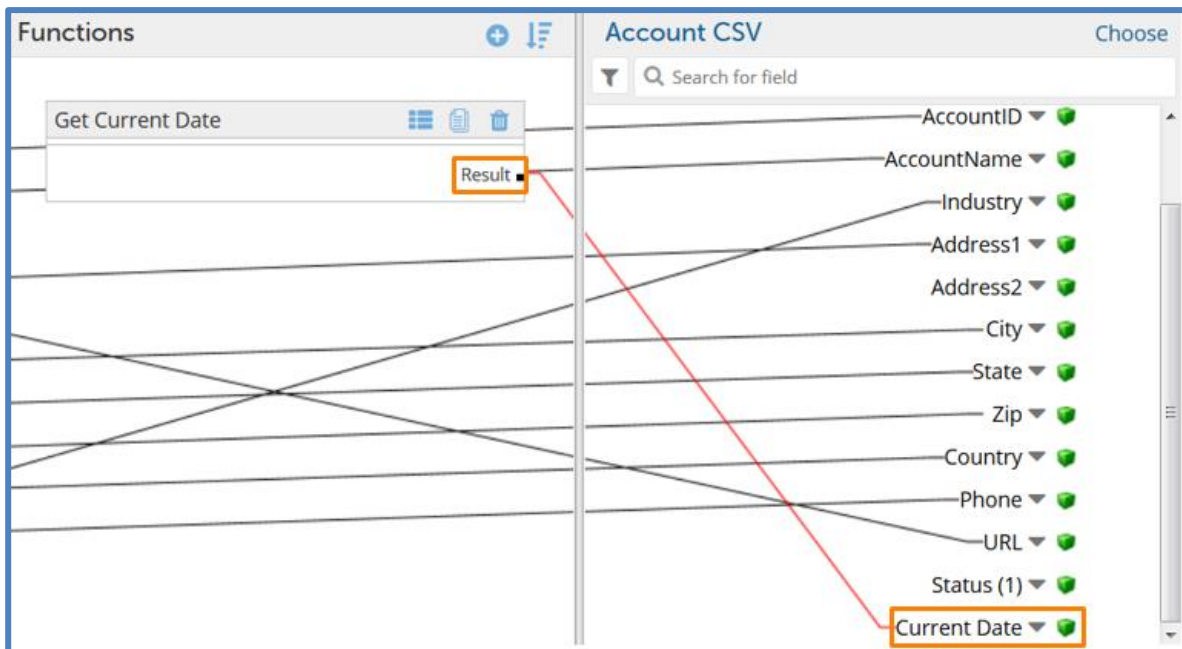
The list of Data Elements expands

3. At the bottom of the list, click on **New Flat File Element**.
A new pane opens to the right.
4. In the **Data Name** field, enter **Current Date**.
Notice as the Data Name is entered, the corresponding element name changes.

Exercise 14: Add Get Current Date Map Function




5. Click **Save and Close**.
6. Expand the **Elements** list and note the new **Current Date** field.
7. Map the **Get Current Date** result to the **Current Date** field.





8. Click **Save and Close**.
9. Click **OK** to close the Map Properties pane.

Exercise 14: Add Get Current Date Map Function

 **Map Shape** ?

Use maps to transform data from one format to another, or more specifically, from one profile to another. The Map shape references a predefined Map component.

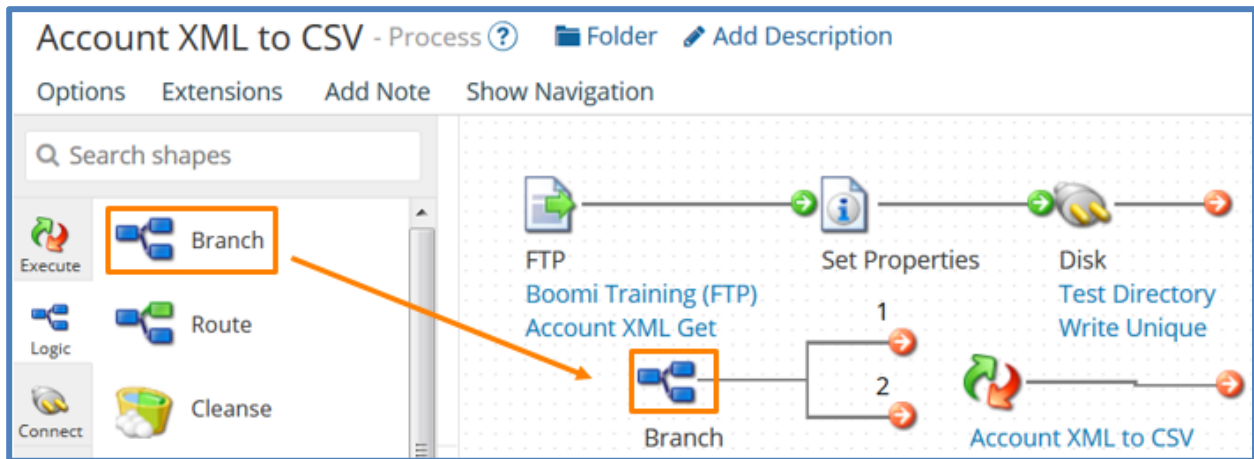
Display Name

Map  

Exercise 15: Add a Branch Shape to Manage the Process Flow


Although all main components are on the Process canvas, they are not organized to execute in the proper order. The goal of the integration is to archive the XML and translate it into a CSV type. To execute these actions sequentially, use the Branch shape to organize new paths so they process in incremental order.

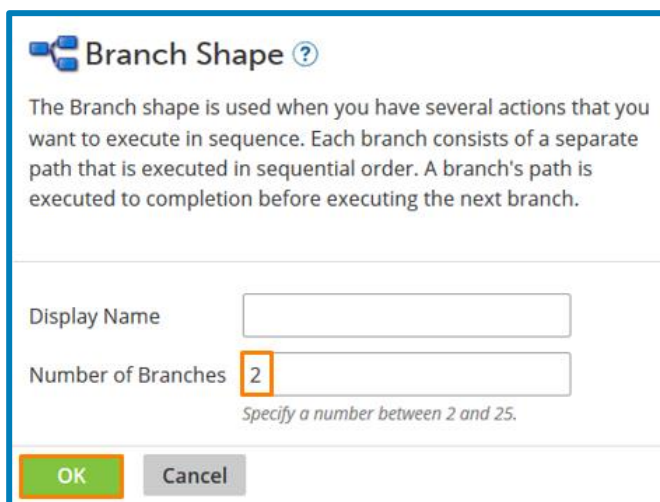
1. Drag and drop a **Branch** shape from the shapes palette onto the **Process** canvas.



The Branch Properties window opens.

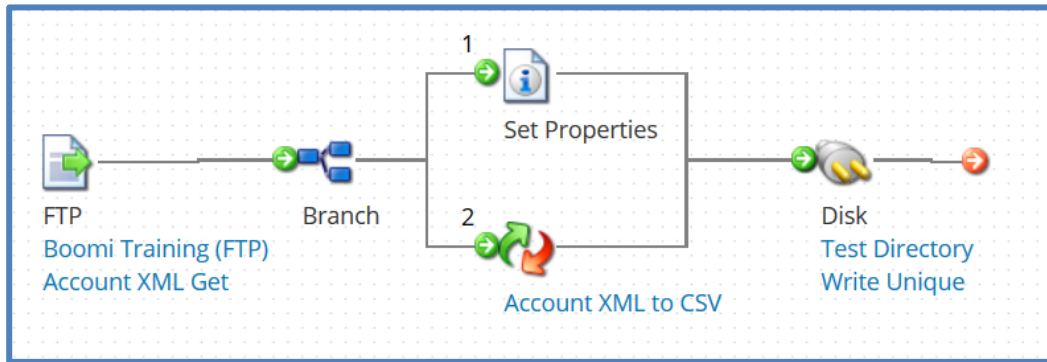
2. Set the **Number of Branches** to 2.

 *The maximum number of branch steps is 25, however, a majority are between 2 and 6.*



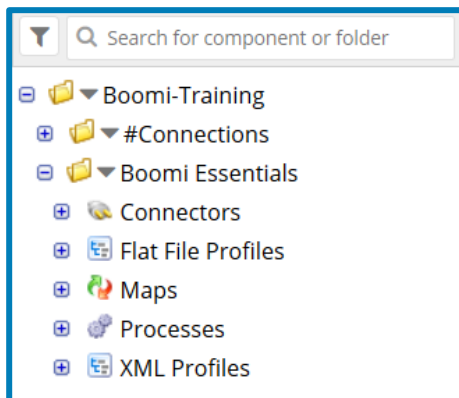
Exercise 15: Add a Branch Shape to Manage the Process Flow

3. Click **OK**.
4. On the **Process** canvas, connect the **Start** shape to the **Branch** shape.
Connect **branch 1** to the **Set Properties** shape.
Connect **branch 2** to the **Map** shape.
Connect both the **Set Properties** shape and **Map** shape to the **disk connector**.



5. Click **Save**.

The component explorer now has additional components:



6. Test your Process

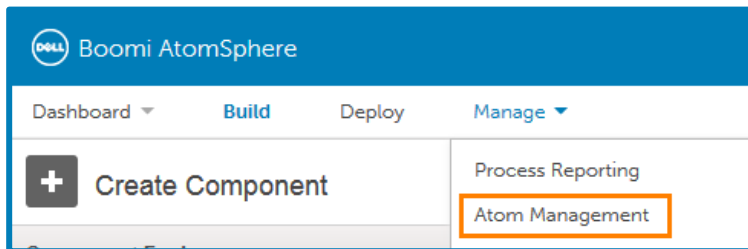
Documents		Test Results		
#		Logs	Shape Source Data	Connection Data
1	✓		View	Directory
2	✓	●	View	Directory
				File Name
				BockelCorp1.xml
				1497645533762.dat

Notice each document now produces two file names. One is set by the Set Properties Shape, and the other is the default .dat filename.

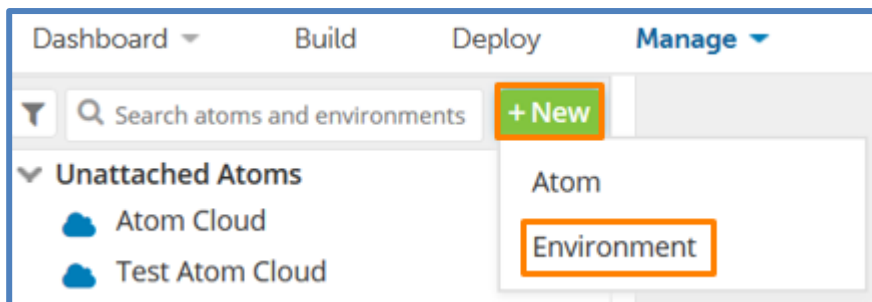
Exercise 16: Create an Environment and Attach an Atom

To deploy a process, you must first attach it to an existing environment which has an Atom attached. You will create a **Training** environment and attach it to the Test Atom Cloud.

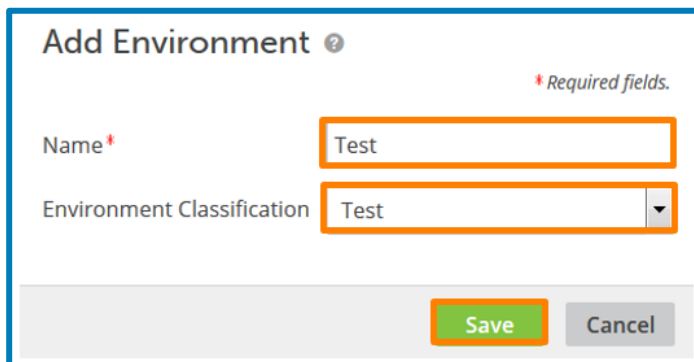
1. Goto **Manage** and select **Atom Management**.



2. Click on **New** and then **environment** to create a new environment.

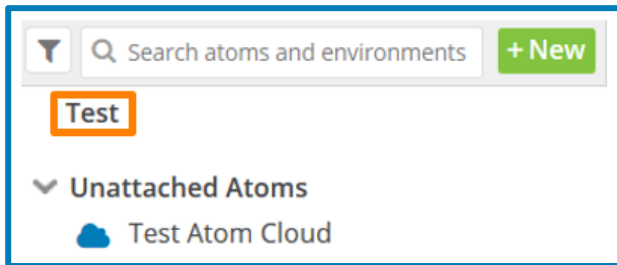


3. Name the environment **Test** with an Environment Classification of **Test**. Click **Save** to finish creating the environment.

A screenshot of the 'Add Environment' form in the Boomi AtomSphere web interface. The form has two input fields: 'Name' and 'Environment Classification'. The 'Name' field contains the text 'Test'. The 'Environment Classification' field is a dropdown menu with 'Test' selected. Below the form are 'Save' and 'Cancel' buttons. The 'Save' button is highlighted with an orange box.

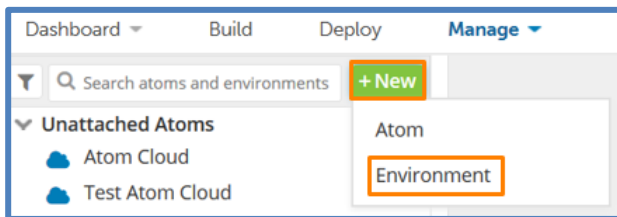
The Test environment is displayed.

Exercise 16: Create an Environment and Attach an Atom

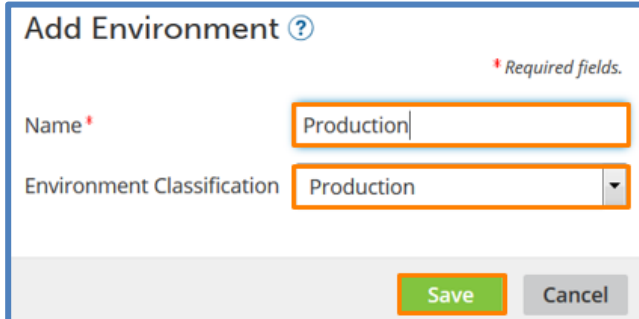


Repeat these steps again to make a second environment: the Production Environment.

4. Click the +New button and select Environment from the drop-down list.

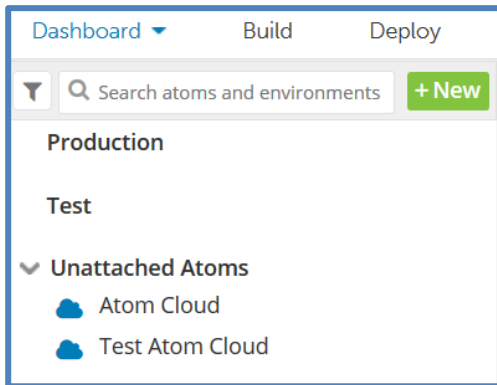


5. Name the environment **Production** with an Environment Classification of **Production**. Click **Save** to finish creating the environment.

A screenshot of the 'Add Environment' form. The title is 'Add Environment' with a question mark icon. Below the title, there is a red asterisk and the text '* Required fields.'. There are two input fields: 'Name' and 'Environment Classification'. The 'Name' field contains the text 'Production' and is highlighted with an orange box. The 'Environment Classification' field is a dropdown menu with 'Production' selected and is also highlighted with an orange box. At the bottom of the form, there are two buttons: a green 'Save' button and a grey 'Cancel' button.

6. Once complete, your environments should appear in your Manage tab like the image below.

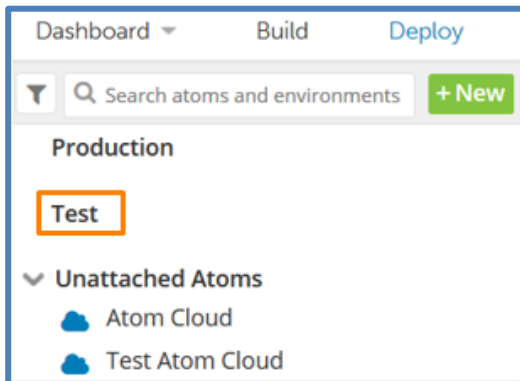
Exercise 16: Create an Environment and Attach an Atom



There is no limit to the number of environments you can create. It is a best practice to create a development environment for development and testing and a production environment for live executions. Typically, after creating and testing a process in development, the process is promoted to production.

Attach the Test Atom Cloud

7. Click on the **Test environment**.



8. Click in the **Attachments field** and select the **Test Atom Cloud** from the drop down.

Exercise 16: Create an Environment and Attach an Atom

The screenshot shows the configuration page for an environment named 'Test'. It includes sections for Information, Configuration, and Administration. In the Configuration section, the 'Roles' field is set to 'Unrestricted'. The 'Attachments' field is highlighted with an orange border and contains the text 'Test Atom Cloud'. Below the configuration fields, there are links for 'Environment Extensions' and 'Delete Environment'.

The **Test Atom Cloud** is attached to the **Test** environment as shown in the image below.

This is a close-up of the 'Attachments' field from the previous screenshot. It shows a dropdown menu with 'Test Atom Cloud' selected and a small 'x' icon to the right of the text.

9. Next, attach the **Atom Cloud** to the **Production** environment.

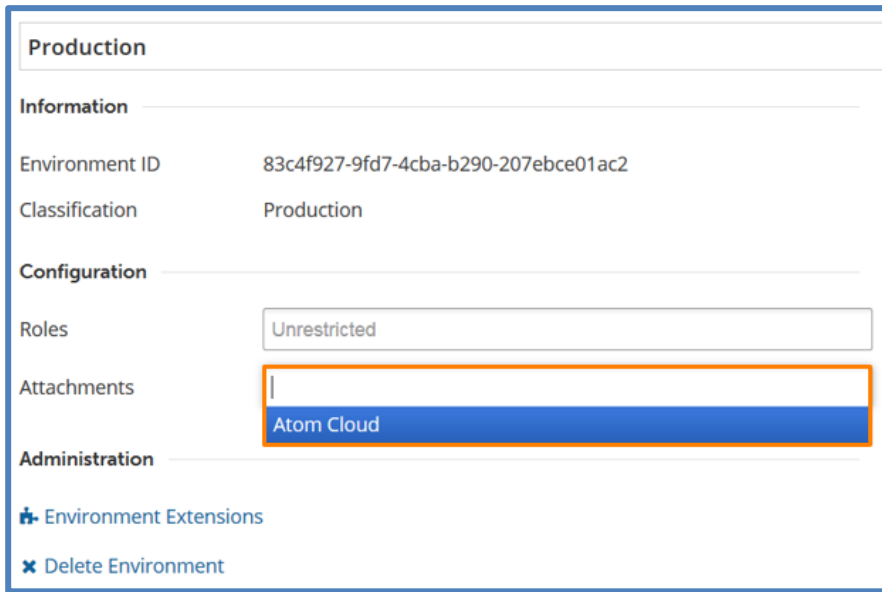
Attach the Test Atom Cloud

10. Select the Production Environment from the Atom Management list.

The screenshot shows the 'Atom Management' interface. At the top, there are tabs for 'Dashboard', 'Build', and 'Deploy'. Below the tabs is a search bar with the text 'Search atoms and environments' and a '+ New' button. The 'Production' environment is highlighted with an orange box. Below it, there is a 'Test' environment and a section for 'Unattached Atoms' which includes an 'Atom Cloud' icon and label.

11. Click in the **Attachments field** and select the **Atom Cloud** from the drop down.

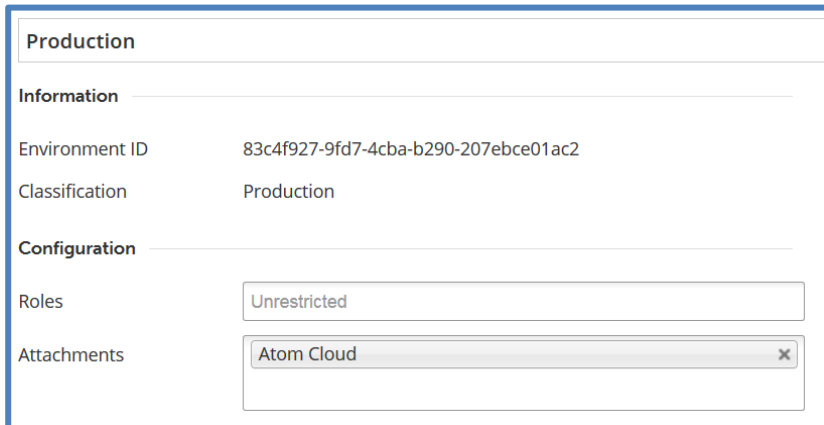
Exercise 16: Create an Environment and Attach an Atom



The screenshot shows the configuration page for a 'Production' environment. It is divided into sections: Information, Configuration, and Administration. Under Information, the Environment ID is '83c4f927-9fd7-4cba-b290-207ebce01ac2' and the Classification is 'Production'. Under Configuration, the Roles dropdown is set to 'Unrestricted'. The Attachments section is highlighted with an orange border, and a dropdown menu is open, showing 'Atom Cloud' as the selected option. At the bottom, there are links for 'Environment Extensions' and 'Delete Environment'.

Production	
Information	
Environment ID	83c4f927-9fd7-4cba-b290-207ebce01ac2
Classification	Production
Configuration	
Roles	Unrestricted
Attachments	Atom Cloud
Administration	
+ Environment Extensions	
x Delete Environment	

The **Atom Cloud** is attached to the **Production** environment as shown in the image below.

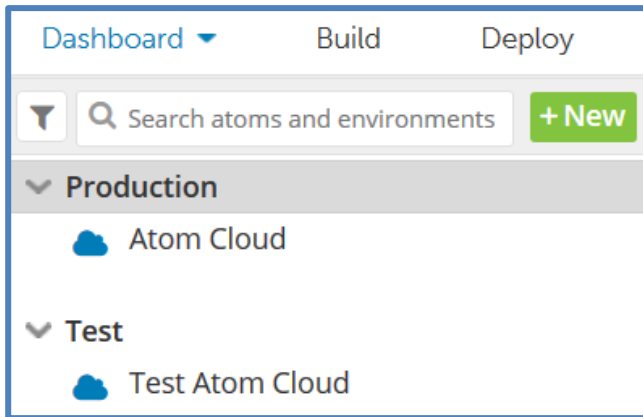


This screenshot shows the same 'Production' environment configuration page, but now the 'Atom Cloud' attachment is fully visible in the Attachments section. The dropdown menu is closed, and 'Atom Cloud' is listed as an attached item with a close button (x) on the right.

Production	
Information	
Environment ID	83c4f927-9fd7-4cba-b290-207ebce01ac2
Classification	Production
Configuration	
Roles	Unrestricted
Attachments	Atom Cloud x

You should now see the **Atom Cloud** under the **Production Environment** and the **Test Atom Cloud** under the **Test Environment**.

Exercise 16: Create an Environment and Attach an Atom



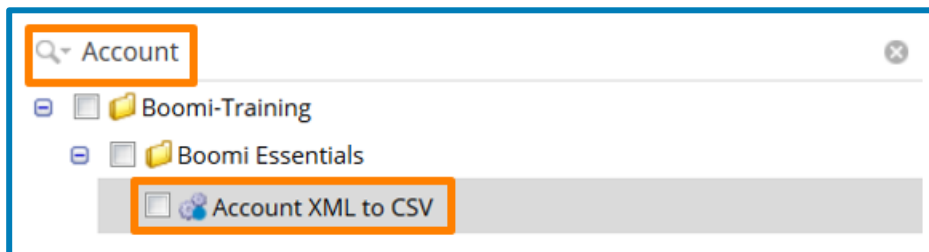
Exercise 17: Deploy the Process

The Deploy tab is a process control panel that enables you to manage process versions and to officially embed a process version in an Atom or Atoms to provide automation. To execute a process or to schedule a process to run at a particular interval, you must first deploy it. In this exercise you deploy your Account XML to CSV process so you can later track live activity on the Process Reporting tab.

1. Click the **Deploy** tab.

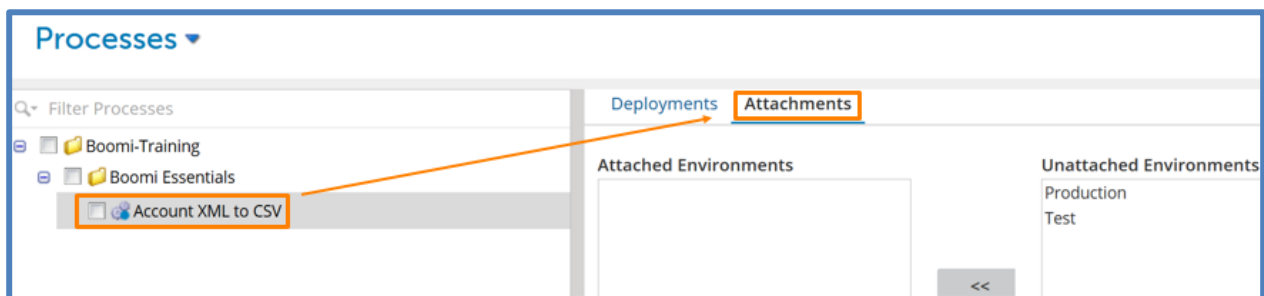


2. In the **Processes** window, highlight the **Account XML to CSV** process.
 - ✓ To quickly find your process, type *Account* in the search bar so only processes with the keyword appear. Do NOT check the box before the process because you need to attach an Environment to this process first, ONLY highlight the process.



3. Click the **Attachments** tab.

The Attachments tab is where you attach an environment to a process and displays regardless of whether the process is attached to a specific environment.

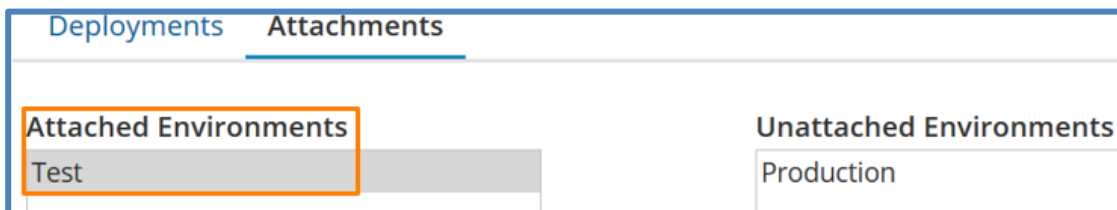


4. In the **Unattached Environments** window, highlight **Test**, then click << (**Attach selected Environments**).

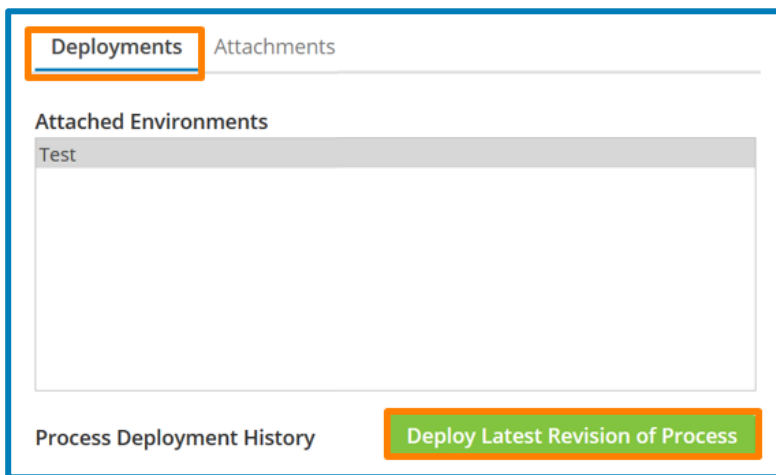
Exercise 17: Deploy the Process



This moves the Production environment from the Unattached pane to the Attached pane.



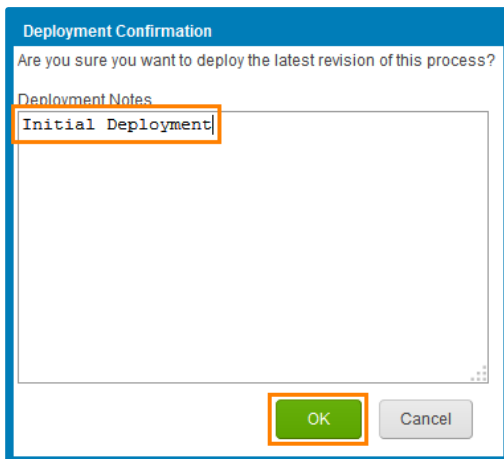
5. Click the **Deployments** tab and make sure the Production environment is highlighted.
6. In the bottom-right of the **Deployments** window, click **Deploy Latest Revision of Process**.





7. In the Deployment Confirmation pop-up, for the Deployment Notes enter **Initial Deployment**, then click **OK**.

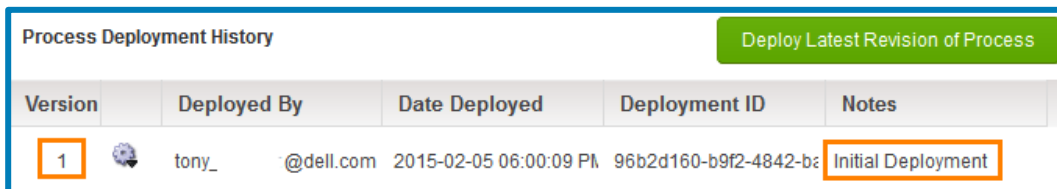
The new Version 1 record appears in the Process Deployment History table. Your Deployment Note appears in the Notes column.

Exercise 17: Deploy the Process



A dialog box titled "Deployment Confirmation" with a blue header. The text inside asks, "Are you sure you want to deploy the latest revision of this process?". Below this is a text area labeled "Deployment Notes" containing the text "Initial Deployment". At the bottom right, there are two buttons: "OK" (highlighted with a green border) and "Cancel".

-  *Deployment Notes makes tracking deployment changes easier as you release additional versions. Deploying a process does NOT put the process into active production. After you deploy a process, you need to execute it either manually (**Manage > Process Reporting**) or through a schedule (**Manage > Atom Management**).*
-  *Upon Deployment, AtomSphere audits your account to make sure you have enough connection licenses to deploy this process into production. If you do not have the enough available licenses you will receive an error message.*



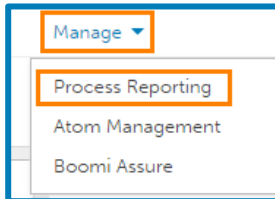
A table titled "Process Deployment History" with a green button "Deploy Latest Revision of Process" in the top right corner. The table has five columns: Version, Deployed By, Date Deployed, Deployment ID, and Notes. The first row contains the following data: Version 1, Deployed By tony_@dell.com, Date Deployed 2015-02-05 06:00:09 PM, Deployment ID 96b2d160-b9f2-4842-b2, and Notes Initial Deployment. The "1" in the Version column and "Initial Deployment" in the Notes column are highlighted with orange boxes.

Version	Deployed By	Date Deployed	Deployment ID	Notes
1	tony_@dell.com	2015-02-05 06:00:09 PM	96b2d160-b9f2-4842-b2	Initial Deployment

Exercise 18: Execute the Process

Now the Initial Deployment of our process is complete, we need to execute the process manually. We will use the Process Reporting tab to start the Execution manually.

1. Navigate to the **Manage Tab**, and select **Process Reporting** from the drop-down menu



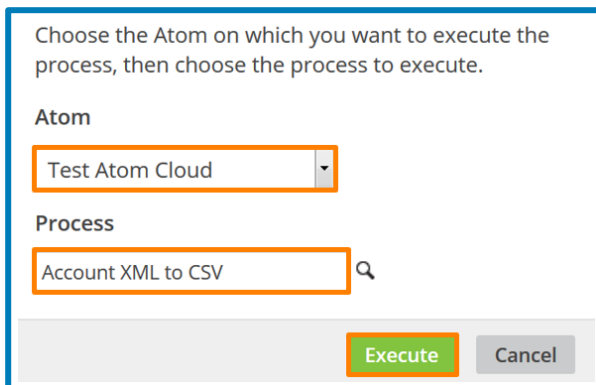
The **Process Reporting** page defaults to the **Executions** view. From here, you can see the recent executions of all deployed processes on your account. You also can manually execute your process.

2. To **Execute** your deployed process, simply click on the green **Execute Process** button in the upper right side of the **Process Reporting** window.



A drop-down menu will appear to allow you to select the Process you want to execute and the Atom to run it.

3. Select **Test Atom** for the Atom field, and **Account XML to CSV** for the process.



4. Click the green **Execute** button to run the process through an execution.

Exercise 18: Execute the Process

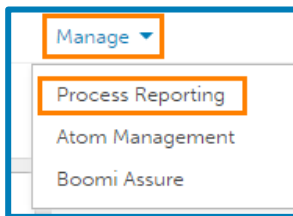
- ✓ *Once you execute your process, you can refresh the table to see the status of your process. Once completed, it will give a final status of the process and tell you of any errors it came across along the way.*



Exercise 19: Track Live Executions in Process Reporting

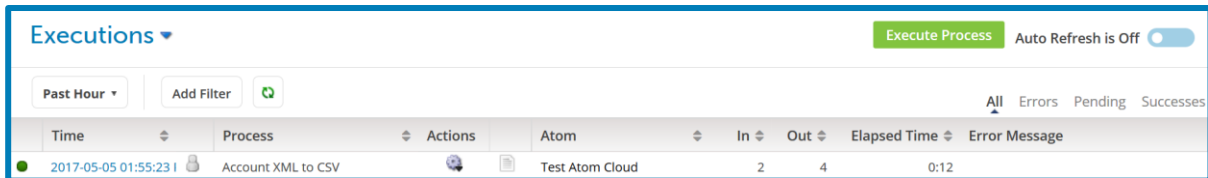
Process Reporting is a search console for accessing information about executed processes. You can view statistics about the execution to see how documents have succeeded, failed, and/or react against connectors and process shapes in an elapsed timeframe. In this exercise, review some key information about the latest executions for the **Account XML to CSV** process.

1. Click the **Manage** → **Process Reporting** tab.

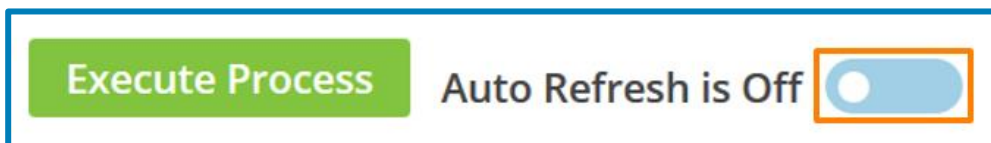


2. In the Executions view, note the process execution instances and monitor the Process Reporting until the execution record with inbound and outbound data displays.

✓ You may need to click **Refresh** to see new process executions logged.

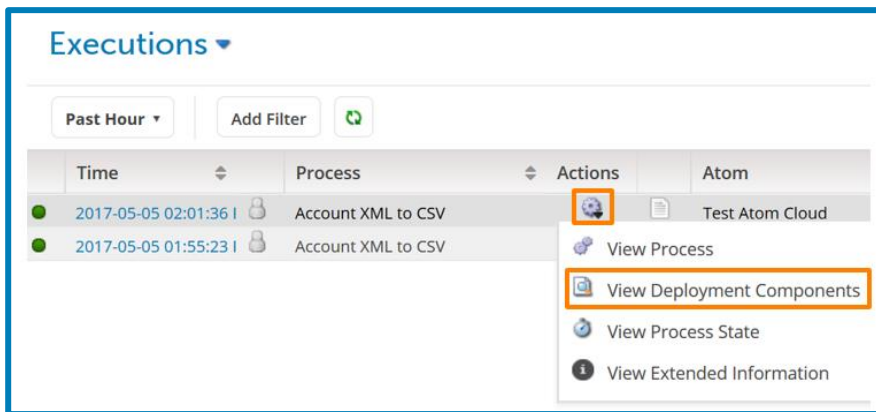


3. Turn on **Auto Refresh** to automatically refresh the execution records every minute.



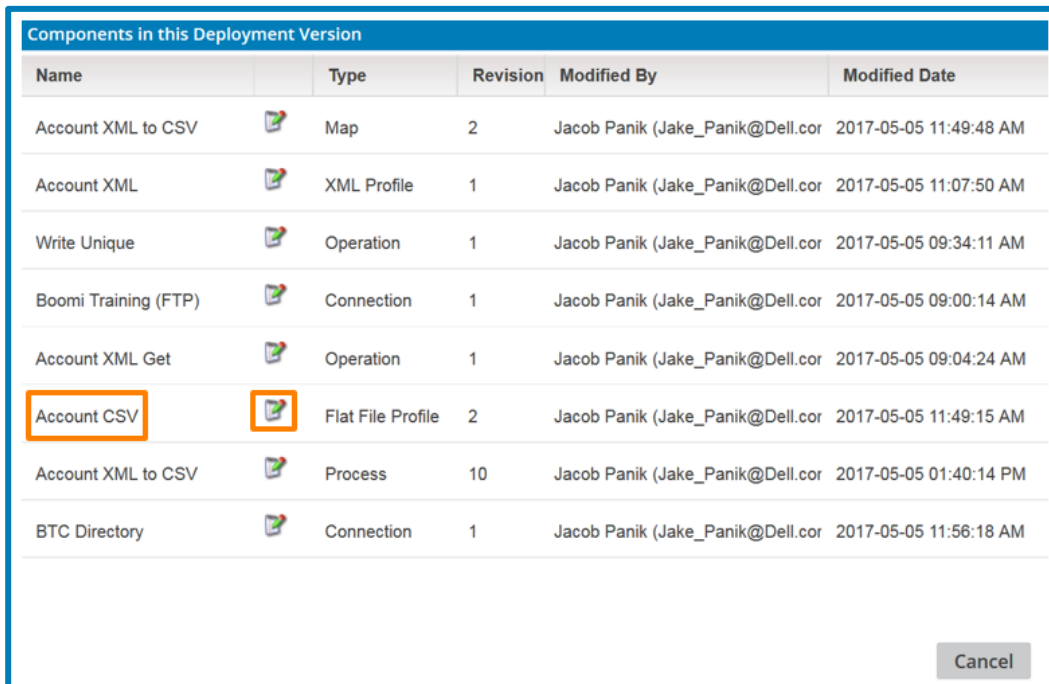
4. Click the **Actions** button and then select **View Deployment Components**.

Exercise 19: Track Live Executions in Process Reporting

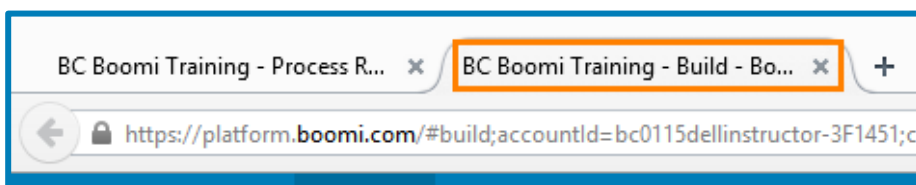


- Next to the **Account CSV** profile, click the **View/Edit** button.

A new browser tab or window will open displaying the direct component instance.



- Once you viewed the component instance, close its tab or window to return to the **View Deployed Components** window.





Exercise 19: Track Live Executions in Process Reporting

The component revision number from the **Components in this Deployment Version** table corresponds to the component revision number in the Revision History. You can view the specific component configuration the Atom is executing and reporting on the Manage tab.

Components in this Deployment Version					
Name	Type	Revision	Modified By	Modified Date	
Account XML to CSV	Map	2	Jacob Panik (Jake_Panik@Dell.cor	2017-05-05 11:49:48 AM	
Account XML	XML Profile	1	Jacob Panik (Jake_Panik@Dell.cor	2017-05-05 11:07:50 AM	
Write Unique	Operation	1	Jacob Panik (Jake_Panik@Dell.cor	2017-05-05 09:34:11 AM	
Boomi Training (FTP)	Connection	1	Jacob Panik (Jake_Panik@Dell.cor	2017-05-05 09:00:14 AM	
Account XML Get	Operation	1	Jacob Panik (Jake_Panik@Dell.cor	2017-05-05 09:04:24 AM	
Account CSV	Flat File Profile	2	Jacob Panik (Jake_Panik@Dell.cor	2017-05-05 11:49:15 AM	
Account XML to CSV	Process	10	Jacob Panik (Jake_Panik@Dell.cor	2017-05-05 01:40:14 PM	
BTC Directory	Connection	1	Jacob Panik (Jake_Panik@Dell.cor	2017-05-05 11:56:18 AM	

Cancel

- Click **Cancel** to return to the Process Reporting window.
- Highlight the first execution record and then click on the **View Process Logs** icon.

Time	Process	Actions	Atom	In	Out	Elapsed Time
2017-05-05 02:01:36 I	Account XML to CSV		Test Atom Cloud	2	4	0:07
2017-05-05 01:55:23 I	Account XML to CSV		Test Atom Cloud	2	4	0:12

- Note the details in the **Show Log** pane, then click **Cancel** to return to the Process Reporting window.

Exercise 19: Track Live Executions in Process Reporting

Show Log					
Minimum Status to Show: INFO					Save Logs
Time	Level	Shape	Ext Info	Message	Details
2017-05-05 02:01:42 PM	INFO	initializing...		Executing Process Account XML to CSV	
2017-05-05 02:01:42 PM	INFO	Start	Boomi Training (FTP): ftp C	Executing Start Shape	
2017-05-05 02:01:43 PM	INFO	Start	Boomi Training (FTP): ftp C	2 document(s) found for processing.	
2017-05-05 02:01:43 PM	INFO	Start	Boomi Training (FTP): ftp C	Shape executed successfully in 886 ms.	
2017-05-05 02:01:43 PM	INFO	Branch		Executing Branch Shape with 2 document(s).	
2017-05-05 02:01:43 PM	INFO	Branch		Shape executed successfully in 0 ms.	
2017-05-05 02:01:43 PM	INFO	Document Properties		Executing Set Properties Shape with 2 docun	
2017-05-05 02:01:43 PM	INFO	Document Properties		Shape executed successfully in 62 ms.	
2017-05-05 02:01:43 PM	INFO	Connector	BTC Directory: disk Conne	Executing Connector Shape with 2 document	
2017-05-05 02:01:43 PM	INFO	Connector	BTC Directory: disk Conne	Shape executed successfully in 85 ms.	
2017-05-05 02:01:43 PM	INFO	Map	Account XML to CSV	Executing Map with 2 document(s).	
2017-05-05 02:01:43 PM	INFO	Map	Account XML to CSV	Shape executed successfully in 93 ms.	
2017-05-05 02:01:43 PM	INFO	Connector	BTC Directory: disk Conne	Executing Connector Shape with 2 document	
2017-05-05 02:01:43 PM	INFO	Connector	BTC Directory: disk Conne	Shape executed successfully in 79 ms.	
2017-05-05 02:01:44 PM	INFO	cleanup...		Process execution completed normally.	

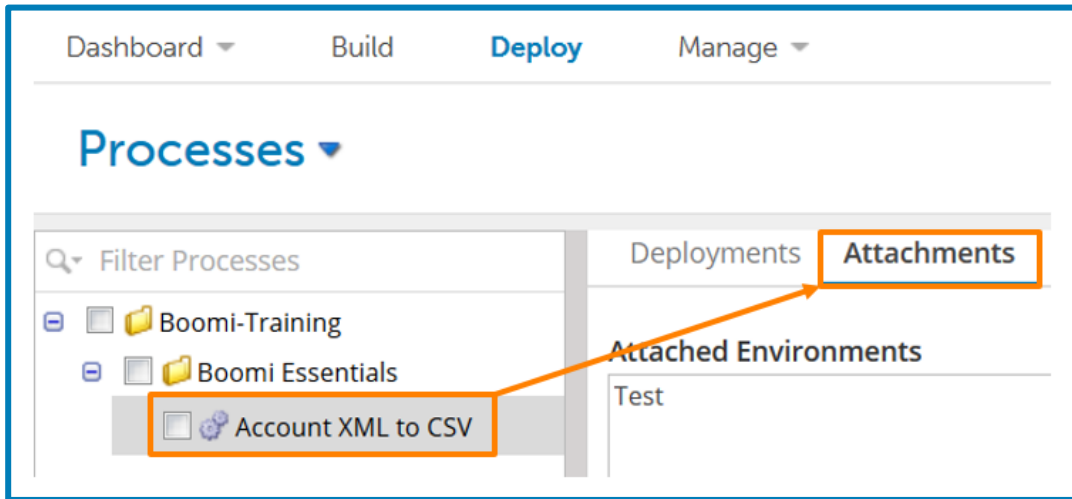


Exercise 20: Detach Environment

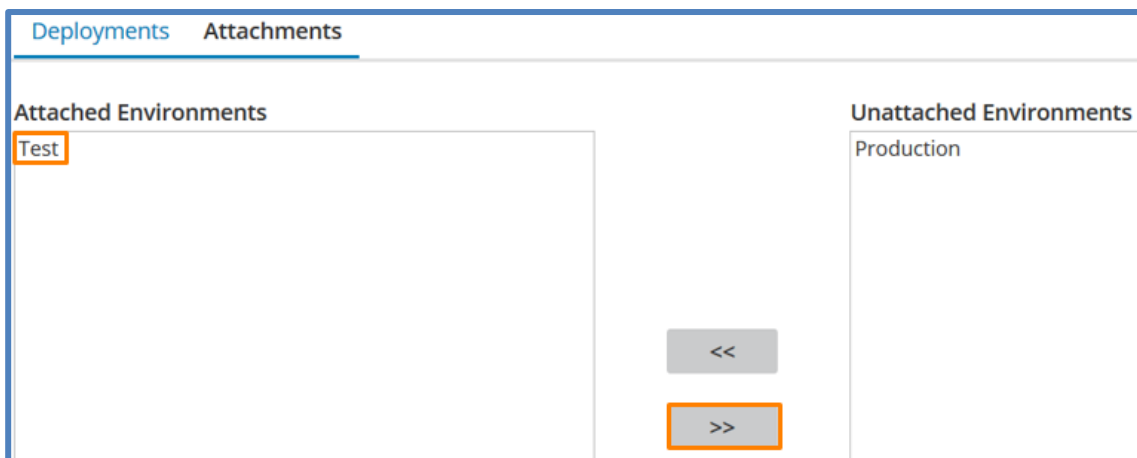
A Boomi best practice is detach the environment from the process when training is complete. This ensures the process isn't running unnecessarily.

To detach an environment

10. Click on the **Deploy** tab, highlight the process then select the **Attachments** tab.



11. Select the Attached environment, then click on the **Detach Selected Environment >>** button.



The environment appears in the Unattached Environments list.

Exercise 20: Detach Environment

Unattached Environments
Production
Test

Your Boomi process is now un-deployed from the Test Environment.